GRE DECEMBER 2021

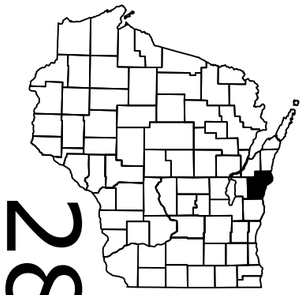
PROJECT ID: 1227-12-71
WITH: 1227-12-72 & 1227-12-73

COUNTY: MANITOWOC

ORDER OF SHEETS

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

TOTAL SHEETS = 374



28

N

DESIGN DESIGNATION

A.A.D.T.	2022	=	20,230
A.A.D.T.	2042	=	22,520
D.H.V.		=	2,860
D.D.		=	58/42
T. (A.A.D.T)		=	20.6%
DESIGN SPEED		=	70 MPH
ESALS		=	12,000,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (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

MANITOWOC - GREEN BAY

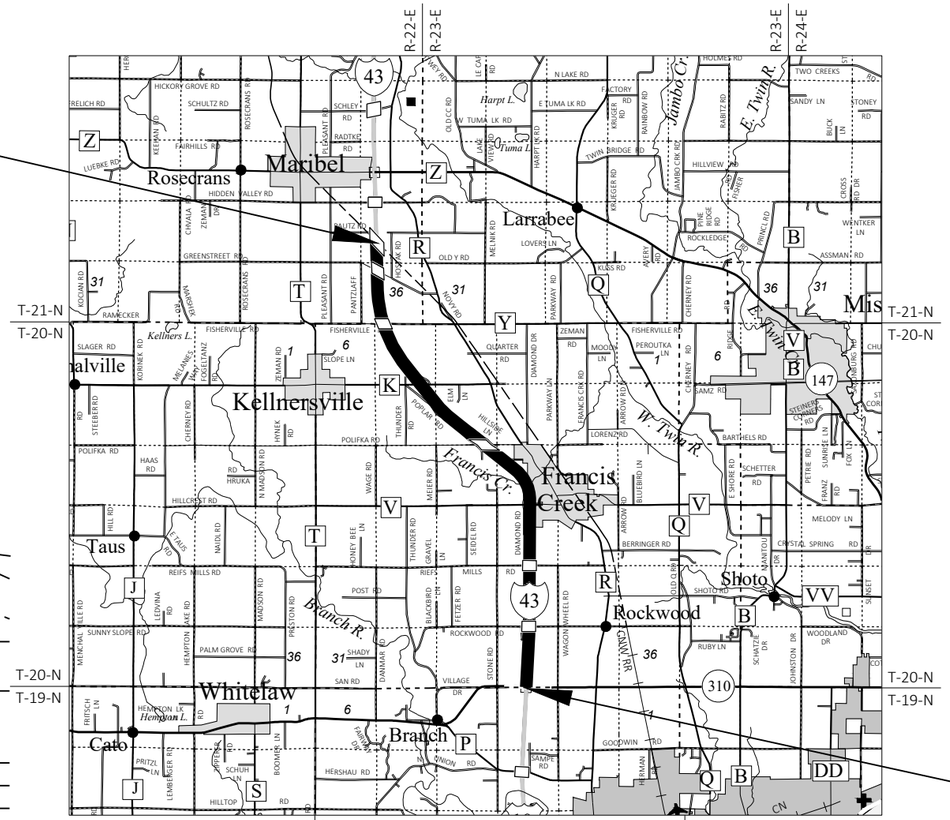
STH 310 - DEVIL'S RIVER STATE TRAIL

IH 43

MANITOWOC COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1227-12-71	WISC 2022104	1

STATE PROJECT NUMBER
1227-12-71



END PROJECT
STA 1604'NB'+57.64
Y = 362,003.226
X = 201,320.826

BEGIN PROJECT
STA 1167'NB'+61.56
Y = 323,437.735
X = 214,402.325

LAYOUT
SCALE 0 2.5 MI

TOTAL NET LENGTH OF CENTERLINE = 8.276 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MANITOWOC COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION
Designer	J. MATERNOSKI
Project Manager	B. HAEN
Regional Examiner	
Regional Supervisor	D. SEGERSTROM

APPROVED FOR THE DEPARTMENT
DATE: 9/15/21 Brian Haen (Signature)

E

FILE NAME : C:\WISDOT\DESIGN\C3D\12271200\SHEETSPLAN\1227-12-71\010101-TI.DWG PLOT DATE : 7/28/2021 1:36 PM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME :

GENERAL NOTES

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

THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
PERMANENT SIGNING
DETOUR

DNR LIAISON

MATT SCHAEVE
DNR NORTHEAST REGIONAL HEADQUARTERS
2984 SHAWANO AVE.
GREEN BAY, WI 54313
(920) 366-1544
matthew.schaeve@wisconsin.gov

MANITOWOC COUNTY HIGHWAY COMMISSIONER

MARC HOLSEN
MANITOWOC CO. HIGHWAY DEPT.
3500 STH 310
MANITOWOC, WI 54220
(920) 683-4353
marc.holsen@co.manitowoc.wi.us

NE REGION SURVEY COORDINATOR

CORMAC MCINNIS, RLS
944 VANDERPERREN WAY
GREEN BAY, WI 54304
(920)492-5638
cormac.mcinnis@dot.wi.gov

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE	O-2	2-6	6 & OVER	O-2	2-6	6 & OVER	O-2	2-6	6 & OVER	O-2	2-6	6 & OVER
ROW CROPS	0.08 0.22	0.16 0.30	0.22 0.38	0.12 0.26	0.20 0.34	0.27 0.44	0.15 0.30	0.24 0.37	0.33 0.50	0.19 0.34	0.28 0.41	0.38 0.56
MEDIAN STRIP TURF	0.19 0.24	0.20 0.26	0.24 0.30	0.19 0.25	0.22 0.28	0.26 0.33	0.20 0.26	0.23 0.30	0.30 0.37	0.20 0.27	0.25 0.32	0.30 0.40
SIDE STRIP TURF			0.25 0.32			0.27 0.34			0.28 0.36			0.30 0.38
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 = 85.16 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.20 ACRES

UTILITIES CONTACTS

AT&T WISCONSIN - COMMUNICATION LINE
VICTORIA KASSAB
205 S JEFFERSON ST
GREEN BAY, WI 54301
(920) 401-7512
VK352K@ATT.COM

CENTURYLINK - COMMUNICATION LINE
JASON BUSSE
3235 INTERTECH DR SUITE 600
BROOKFIELD, WI 53045
(715) 415-3214, (414) 224-6713
JASON.BUSSE@LUMEN.COM

FRONTIER COMMUNICATIONS OF WI LLC - COMMUNICATION LINE
RUSS RYAN
118 DIVISION ST
PLYMOUTH, WI 53073
(920) 583-3275
RUSSELL.W.RYAN@FTR.COM

PAETEC COMMUNICATIONS, LLC - COMMUNICATION LINE
ERIC BECKER
314 N DANZ AVE
GREEN BAY, WI 54302-3526
(920) 461-9825
ERIC.BECKER@WINDSTREAM.COM

COMCAST - COMMUNICATION LINE
BEN UELAND
4255 LEXINGTON AVE N STE 100
ARDEN HILLS, MN 55126
(612) 462-7911
BENJAMIN_UELAND@CABLE.COMCAST.COM

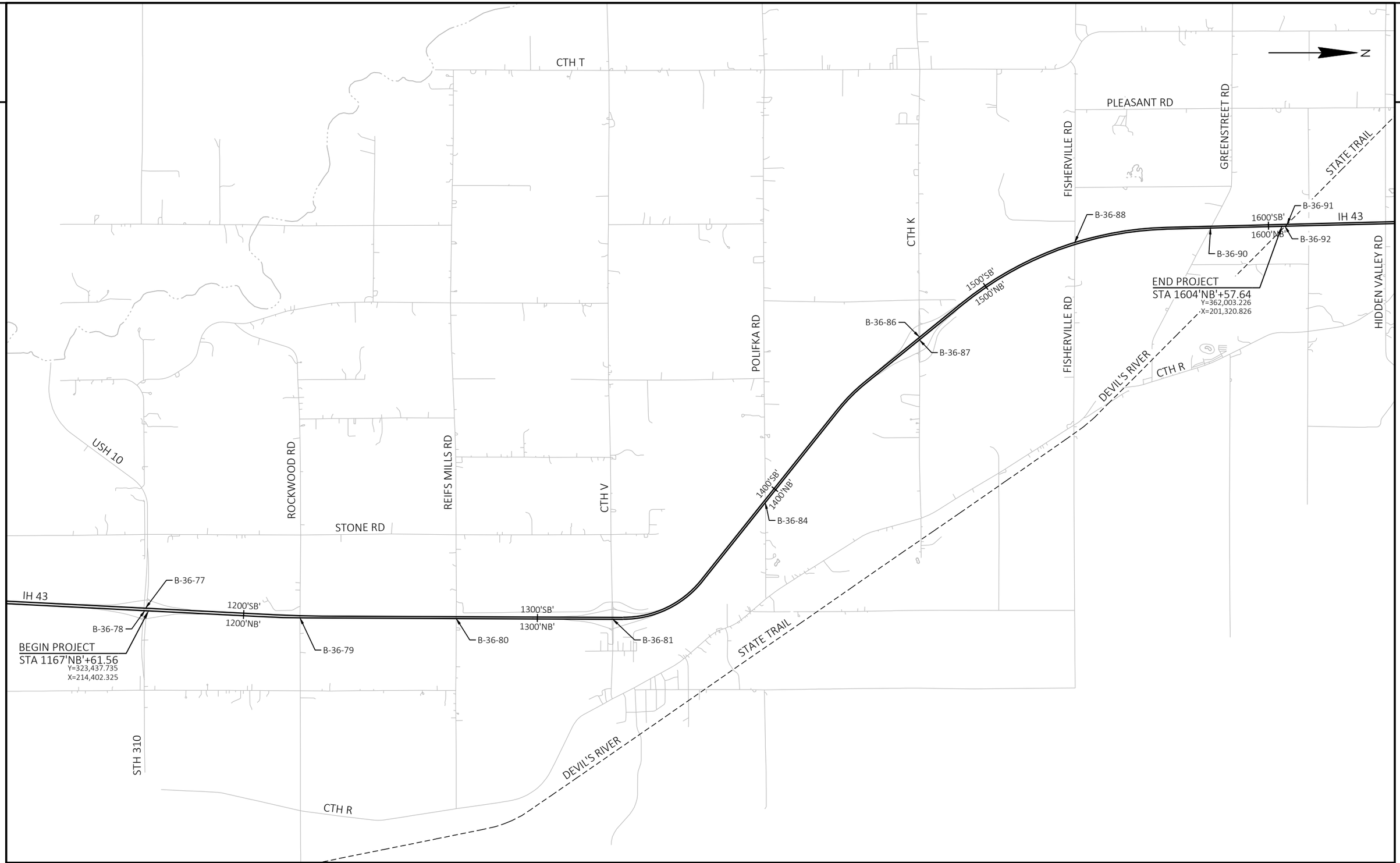
WISCONSIN PUBLIC SERVICE CORPORATION - GAS/PETROLEUM
JOEL SAWICKI
800 COLUMBUS ST
P.O. BOX 236
TWO RIVERS, WI 54241-0236
(920) 657-1862
JOEL.SAWICKI@WISCONSINPUBLICSERVICE.COM

ATC MANAGEMENT, INC. - ELECTRICITY TRANSMISSION
CHRIS DAILEY
P.O. BOX 47
WAUKESHA, WI 53187
(262) 506-6884
CDAILEY@ATCLLC.COM

WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRICITY
CHARLES WINDUS
2850 S ASHLAND AVE
GREEN BAY, WI 54307
(920) 606-1141, (920) 617-5281
CHARLES.WINDUS@WISCONSINPUBLICSERVICE.COM

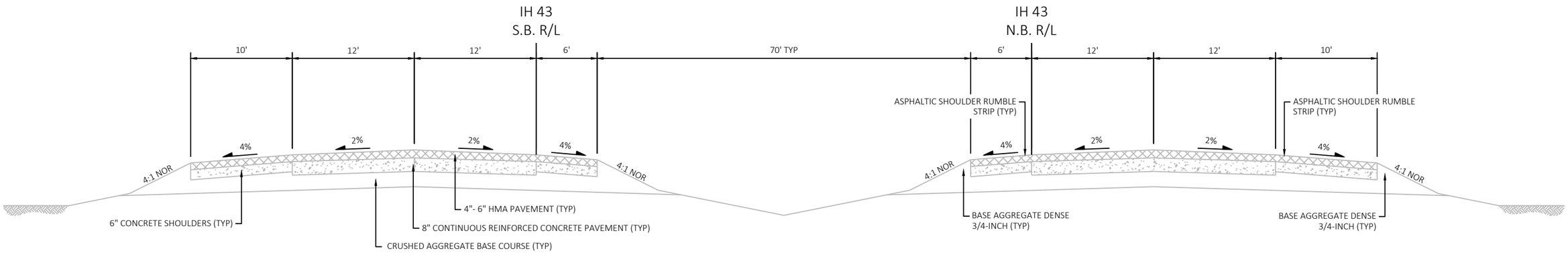
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

2



PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PROJECT OVERVIEW	SHEET 3	E

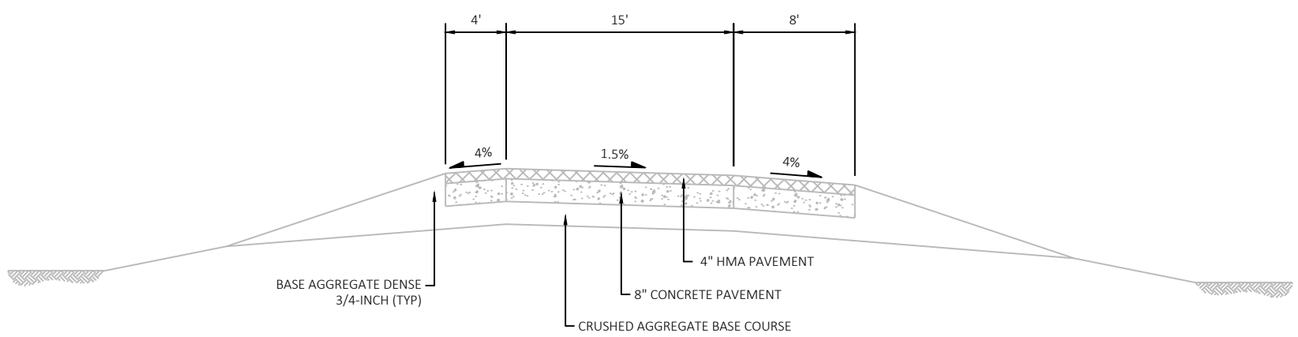
FILE NAME : C:\WISDOT\DESIGN\C3D\12271200\SHEETSPLAN\1227-12-71\020201-PO.DWG
LAYOUT NAME - 020201-po
PLOT DATE : 6/16/2021 8:00 AM
PLOT BY : MATERNOSKI, JORDAN D
PLOT NAME :
PLOT SCALE : 1 IN:3000 FT
WISDOT/CADDS SHEET 42



ASPHALT OVERLAYS 4" TOTAL THICKNESS AT EDGE OF TRAVEL LANES
CONCRETE TRAVEL LANES SLOPED AT 1.5 %
SUBGRADE SLOPED AT 1.5 %
CONCRETE SHOULDERS SLOPED AT 4.0 %

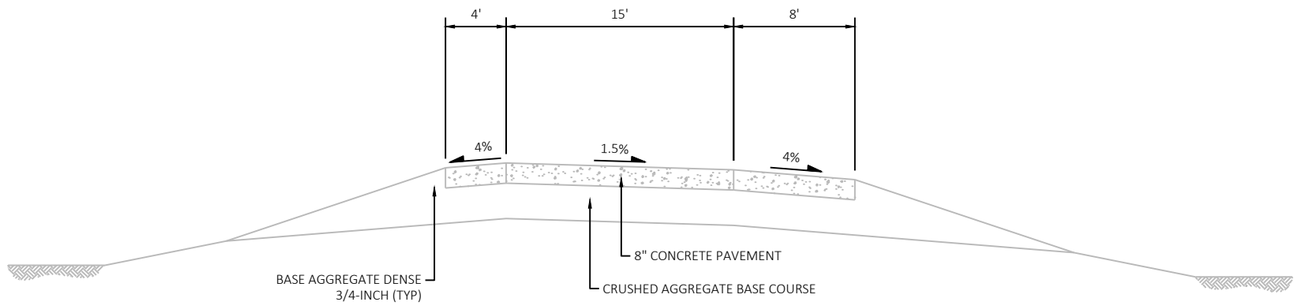
EXISTING TYPICAL SECTION IH 43

STA 1167'NB'+61 TO STA 1604'NB'+58



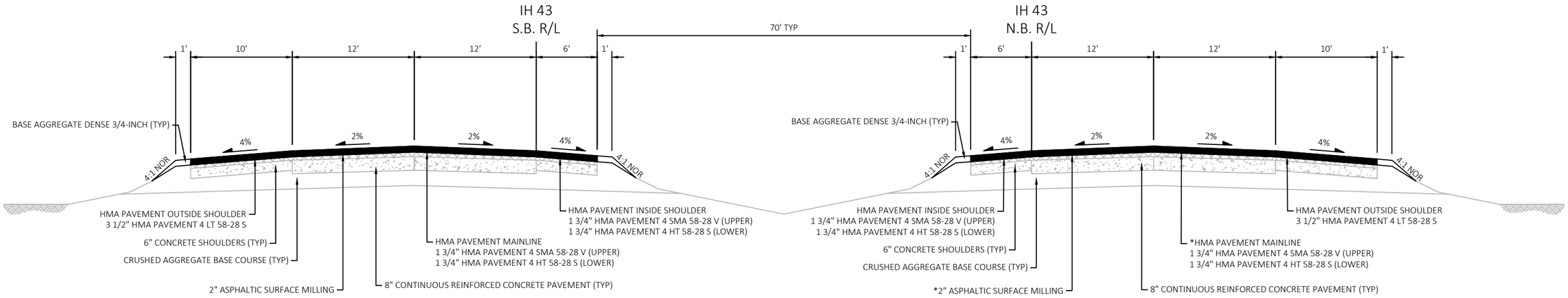
EXISTING TYPICAL SECTION FOR IH 43 RAMPS

STH 310



EXISTING TYPICAL SECTION FOR IH 43 RAMPS

CTH K & CTH V



FINISHED TYPICAL SECTION IH 43

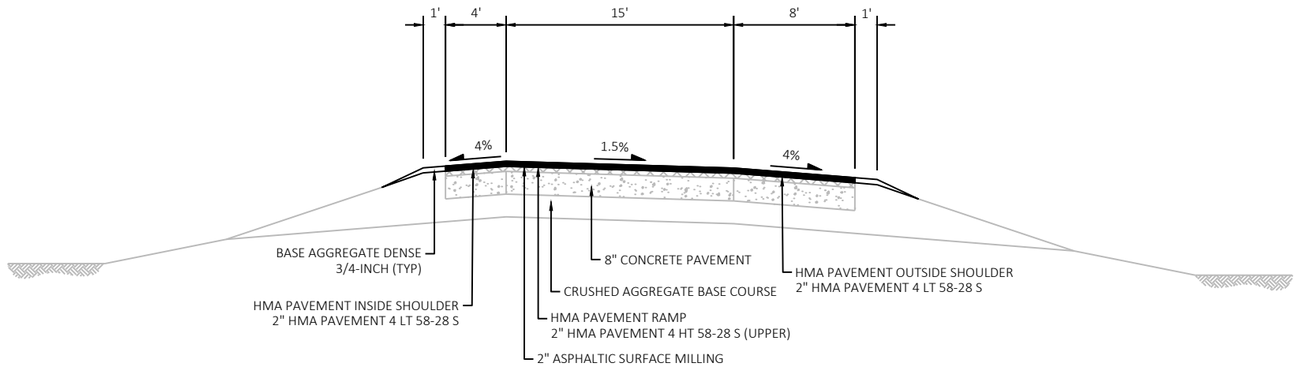
STA 1167'NB'+61 TO STA 1604'NB'+58

*FROM STA 1280'NB'+26 TO STA 1308'NB'+01
APPLY THE FOLLOWING:

DO NOT MILL EXISTING CONCRETE IN RIGHT TRAVEL LANE. MILL ALL ASPHALT ON SHOULDERS AND LEFT TRAVEL LANES TO A DEPTH OF 1 3/4".

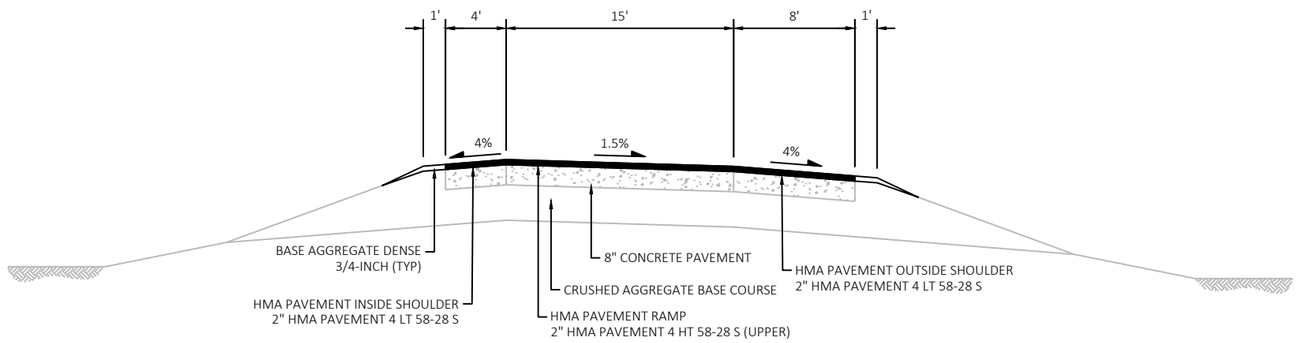
APPLY 1 3/4" HMA PAVEMENT 4 SMA 58-28 V OVER EXISTING CONCRETE PAVEMENT.

2



FINISHED TYPICAL SECTION FOR IH 43 RAMPS

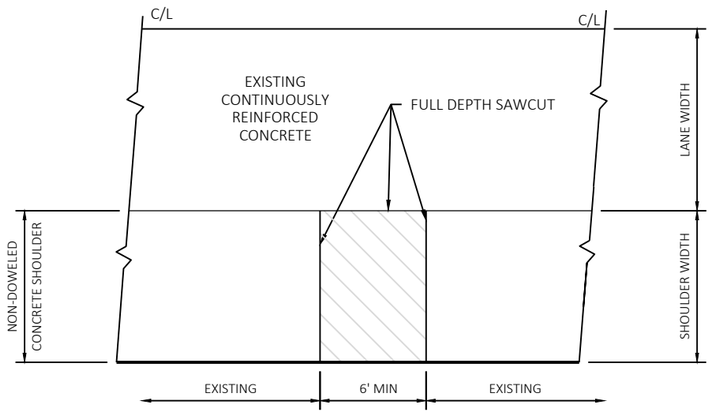
STH 310



FINISHED TYPICAL SECTION FOR IH 43 RAMPS

CTH K
CTH V

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 6	E



PLAN VIEW

FULL DEPTH CONCRETE PAVEMENT REMOVAL

SHOULDER ONLY

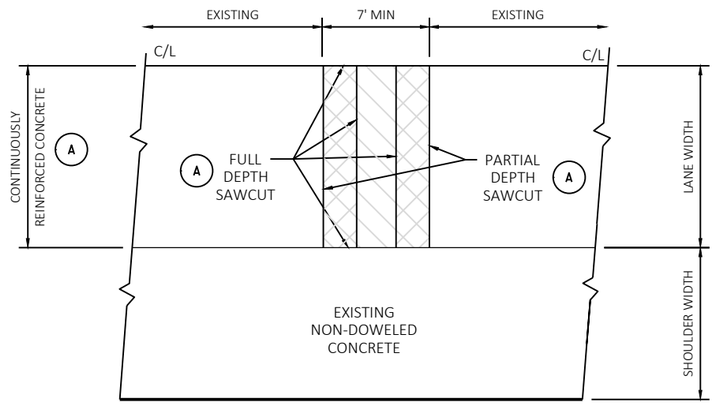
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. THE DEPARTMENT WILL NOT MEASURE CUTS TO REDUCE REMOVAL SLABS TO A WIDTH LESS THAN 7 FEET.

PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS OVERLAID AFTER REPAIRING.

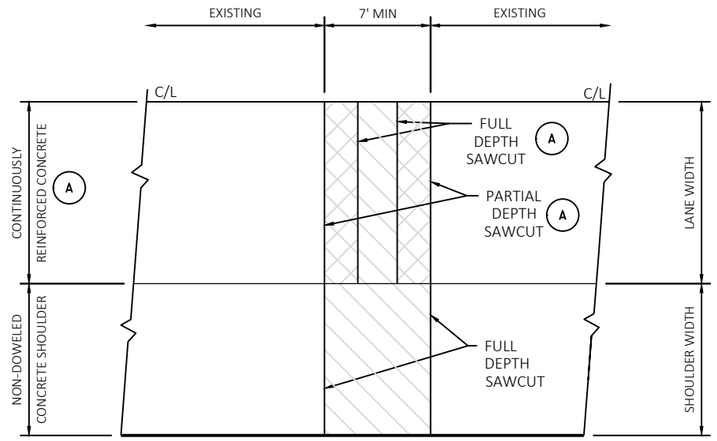
(A) REFER TO SDD CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT.



PLAN VIEW

FULL DEPTH CONCRETE PAVEMENT REMOVAL

MAINLINE ONLY

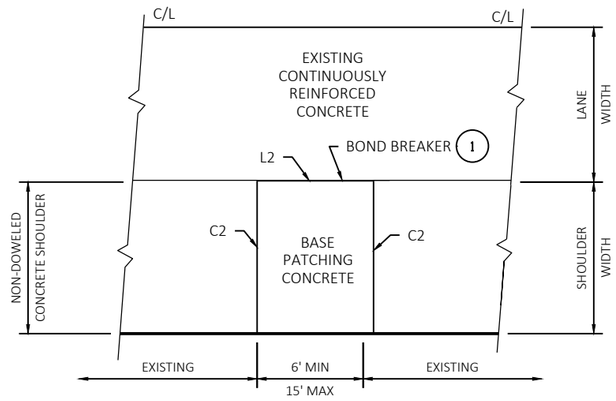


PLAN VIEW

FULL DEPTH CONCRETE PAVEMENT REMOVAL

MAINLINE AND SHOULDER REPAIR

2



PLAN VIEW

SHOULDER BASE PATCH

15' MAXIMUM LENGTH

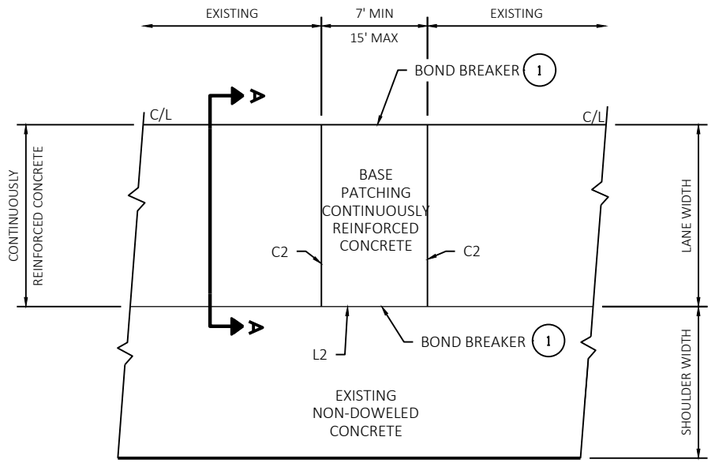
GENERAL NOTES

DO NOT INSTALL DOWELS IN EXISTING NON-DOWELED CONCRETE PAVEMENT.

DO NOT SEAL OR FILL JOINTS.

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SHOULDER BASE PATCHES UP TO 15 FEET IN LENGTH.

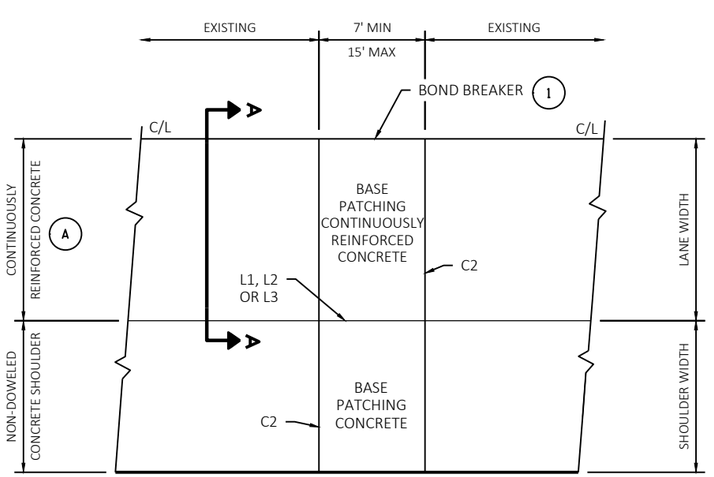
(A) REFER TO CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT.



PLAN VIEW

MAINLINE BASE PATCH

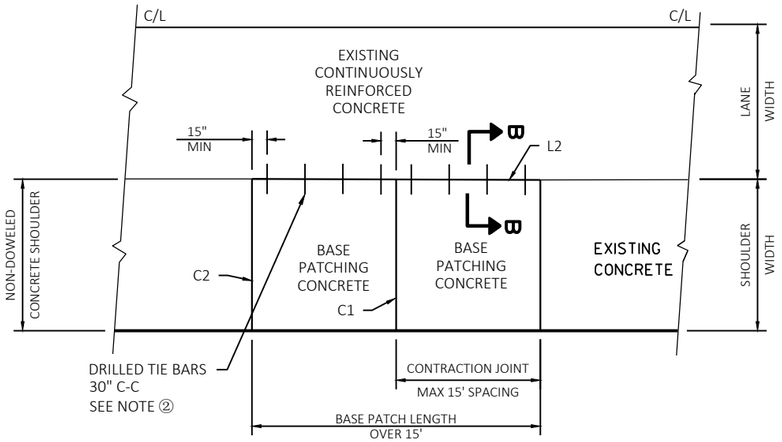
15' MAXIMUM LENGTH



PLAN VIEW

MAINLINE AND SHOULDER BASE PATCH

15' MAXIMUM LENGTH



PLAN VIEW

SHOULDER BASE PATCH

GREATER THAN 15' IN LENGTH

NOTES

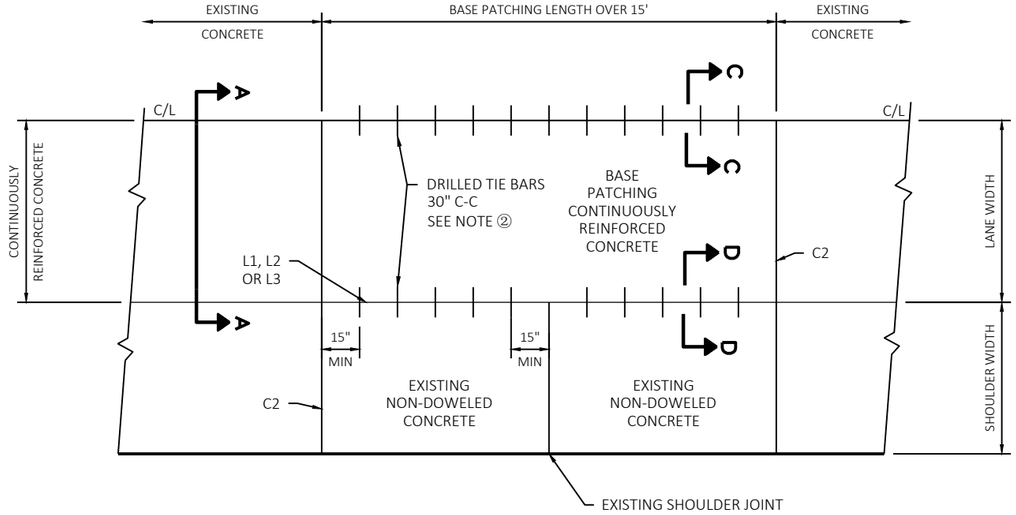
DO NOT INSTALL DOWELS IN EXISTING NON-DOWELED CONCRETE PAVEMENTS.

DRILLED TIE BARS ARE 12" NO. 6 BAR SPACED AT 30" C-C INTO EXISTING CONCRETE. TIE BARS PLACED IN NEW CONCRETE ARE 30" N0. 4 BARS SPACED AT 36". DRILLED TIE BARS WILL BE PAID UNDER THE DRILLED TIE BAR ITEM. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

DO NOT SEAL OR FILL JOINTS.

WITH THE APPROVAL OF THE ENGINEER, FOR SHOULDER PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

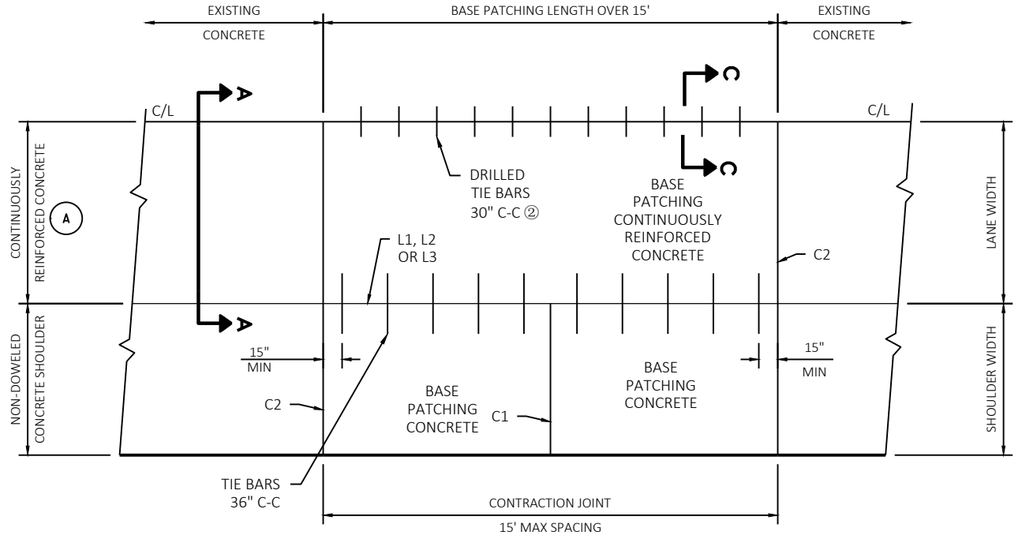
(A) REFER TO CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT.



PLAN VIEW

MAINLINE BASE PATCH

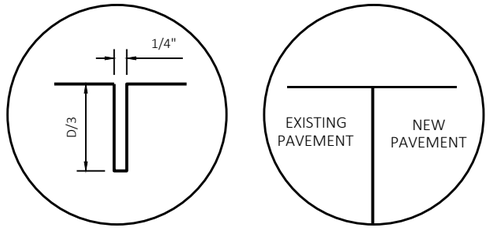
GREATER THAN 15' IN LENGTH



PLAN VIEW

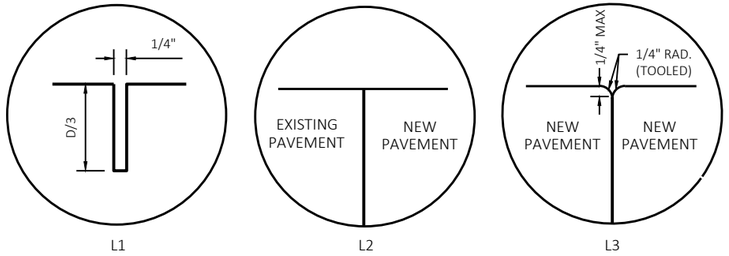
MAINLINE AND SHOULDER BASE PATCH

GREATER THAN 15' IN LENGTH



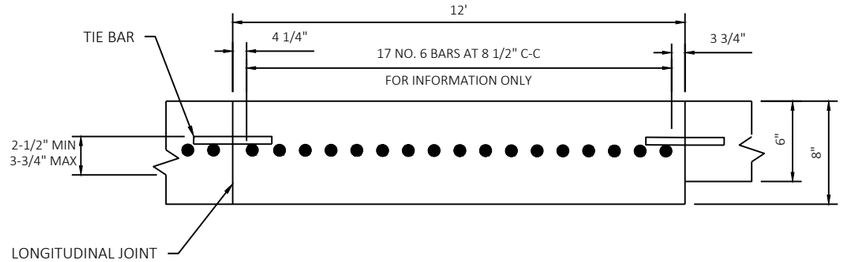
C1 C2

TRANSVERSE JOINTS



L1 L2 L3

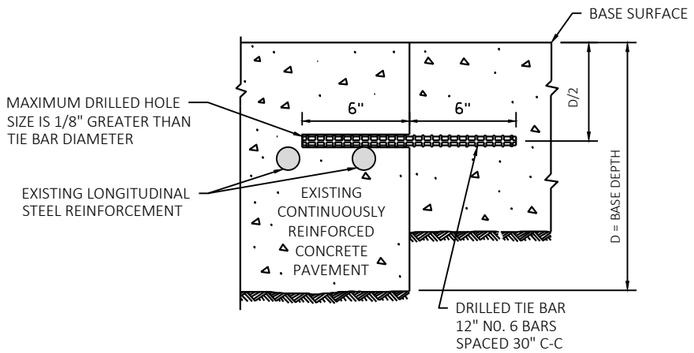
LONGITUDINAL JOINTS



SECTION A-A

EXISTING LONGITUDINAL STEEL PLACEMENT IN CRCP REPAIRS

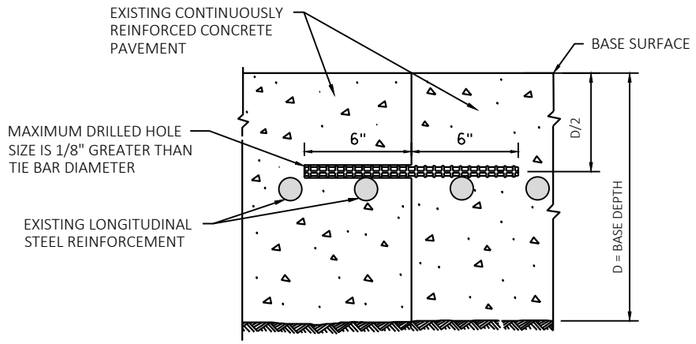
FOR INFORMATION ONLY



SECTION B-B

DRILLED TIE BAR

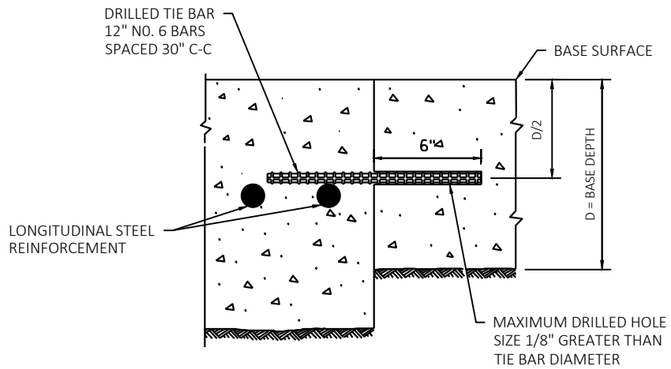
MAINLINE-SHOULDER



SECTION C-C

DRILLED TIE BAR

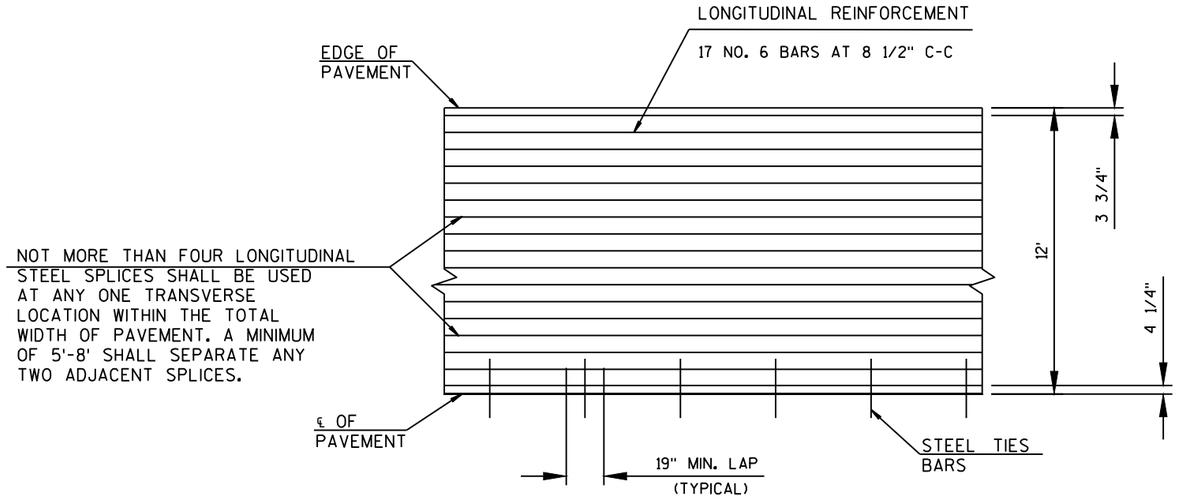
MAINLINE-MAINLINE



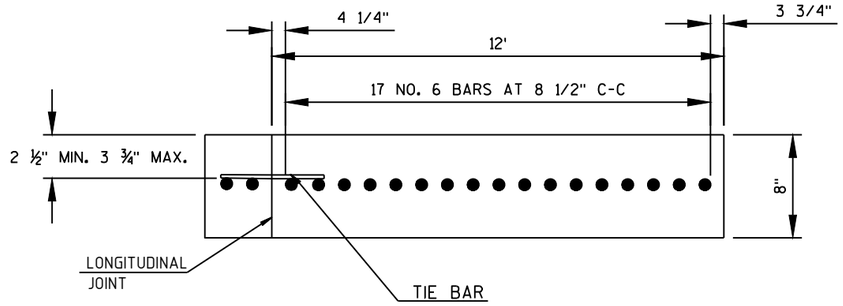
SECTION D-D

DRILLED TIE BAR

MAINLINE-SHOULDER



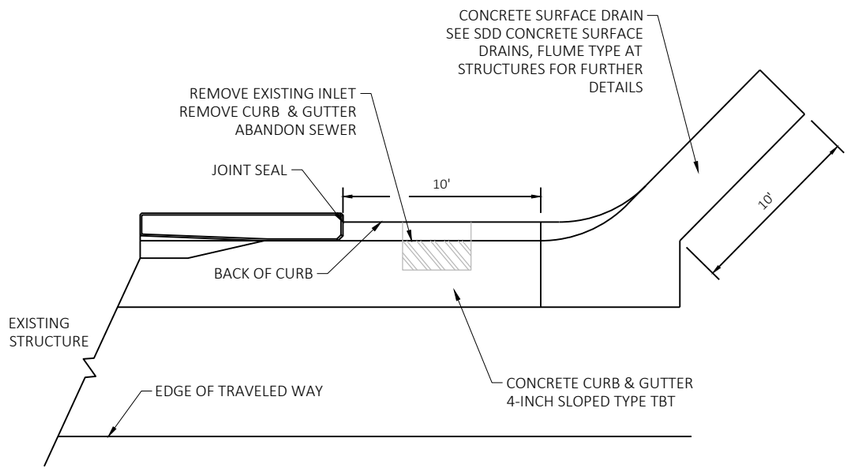
REINFORCEMENT STEEL PLACEMENT



LONGITUDINAL CENTERLINE JOINT DETAIL

CONTINUOUSLY REINFORCED CONCRETE LONGITUDINAL BAR SPACING

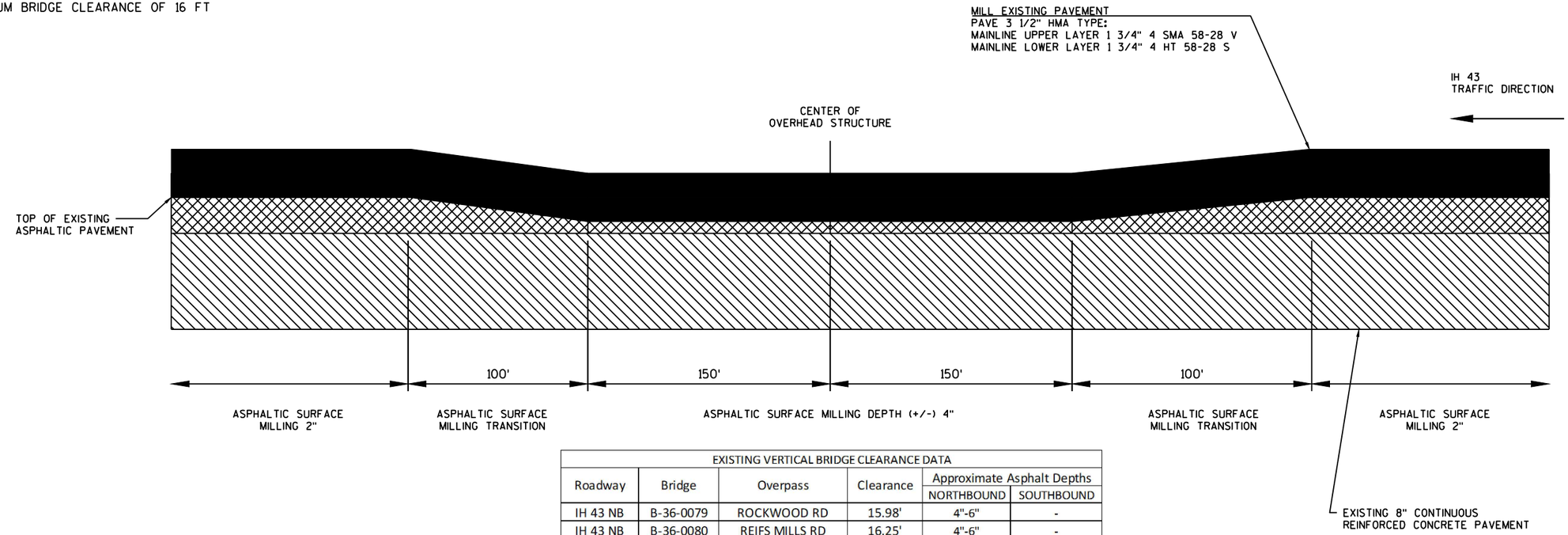
NOTE: SEE STANDARD DETAIL FOR MORE INFORMATION



CONCRETE SURFACE DRAIN AT STRUCTURES WITHOUT BEAMGUARD

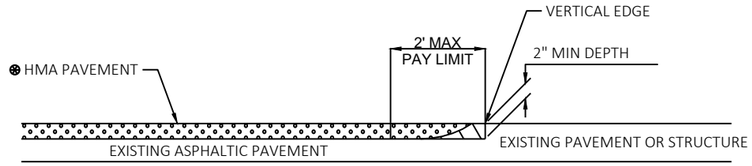
NOTES

MAINTAIN MINIMUM BRIDGE CLEARANCE OF 16 FT



EXISTING VERTICAL BRIDGE CLEARANCE DATA					
Roadway	Bridge	Overpass	Clearance	Approximate Asphalt Depths	
				NORTHBOUND	SOUTHBOUND
IH 43 NB	B-36-0079	ROCKWOOD RD	15.98'	4"-6"	-
IH 43 NB	B-36-0080	REIFS MILLS RD	16.25'	4"-6"	-
IH 43 SB	B-36-0080	REIFS MILLS RD	16.35'	-	4"-6"
IH 43 NB	B-36-0081	CTH V	16.3'	4"-6"	-
IH 43 NB	B-36-0084	POLIFKA RD	16.36'	4"-6"	-
IH 43 SB	B-36-0088	FISHERVILLE RD	16.26'	-	4"-6"

IH 43 PAVING DETAIL AT OVERHEAD STRUCTURES



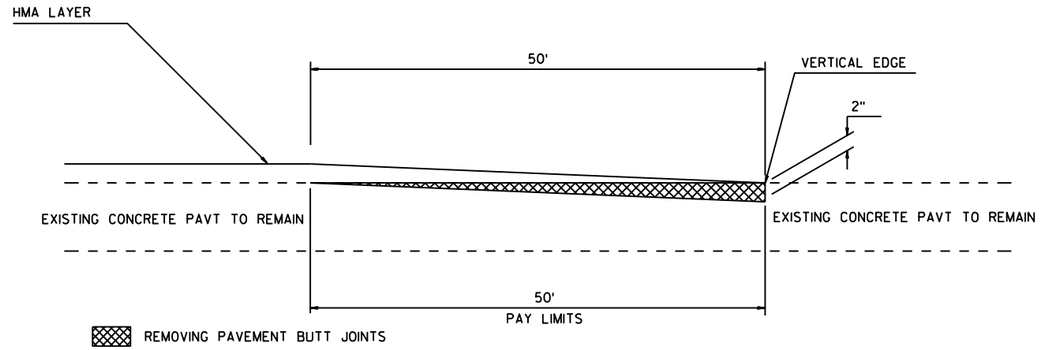
⊛ SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

REMOVING ASPHALTIC SURFACE, MILLING

REMOVE ASPHALTIC SURFACE WEDGE AT BUTT JOINT TO CREATE VERTICAL EDGE

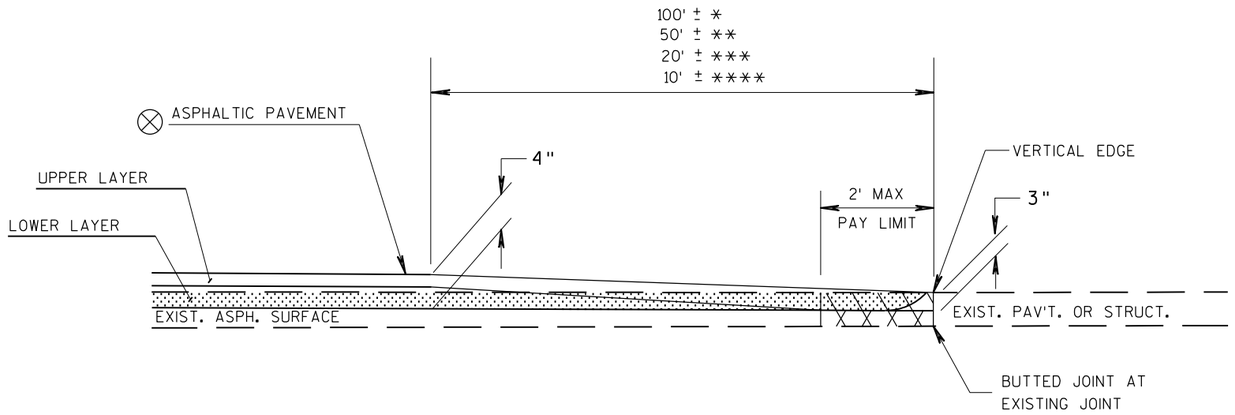
BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)

STH 310 RAMPS



REMOVING PAVEMENT BUTT JOINT DETAIL

CTH V RAMPS
CTH K RAMPS



⊗ SEE TYPICAL CROSS SECTION FOR THICKNESS OF INDIVIDUAL LAYERS

REMOVING ASPHALTIC SURFACE, MILLING

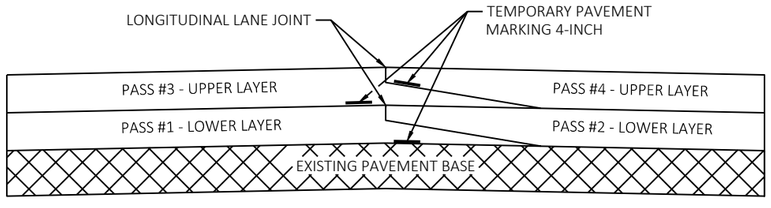
REMOVING ASPHALTIC SURFACE, BUTT JOINTS (FULL DEPTH REMOVAL OPTIONAL)

ASPHALTIC WEDGING (FULL DEPTH REMOVAL OPTION)

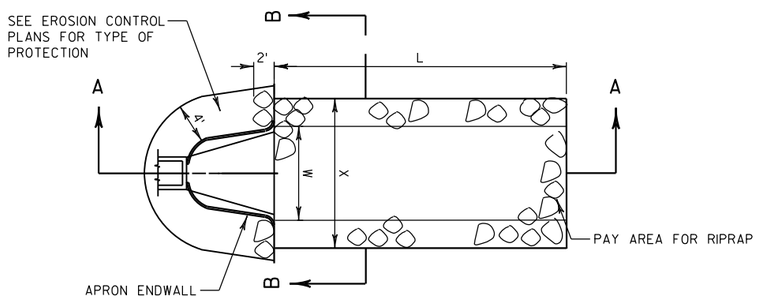
BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS

* IH 43 MAINLINE
** IH 43 RAMPS & STATE & COUNTY HIGHWAYS
*** SIDEROADS
**** PRIVATE ENTRANCES

2



PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS



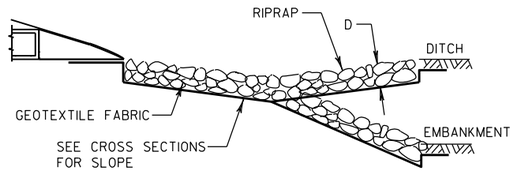
PLAN VIEW

L = 3 x W (NOR.) OR 10' MIN. OR AS INDICATED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

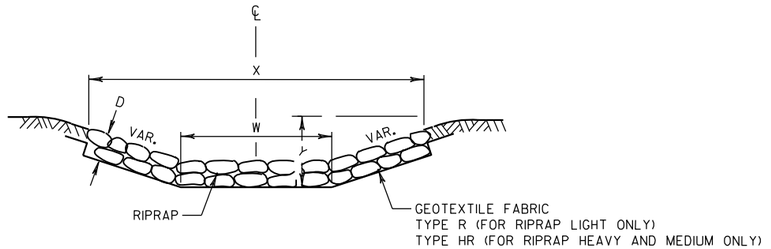
D = 12" FOR RIPRAP LIGHT
18" FOR RIPRAP MEDIUM
24" FOR RIPRAP HEAVY

X = W+(2 X (PIPE DIAMETER))

Y = 0' FOR TYPICAL CULVERT DISCHARGE INTO DITCH
12" FOR CULVERT DISCHARGE DOWN EMBANKMENT SLOPE



SECTION A-A

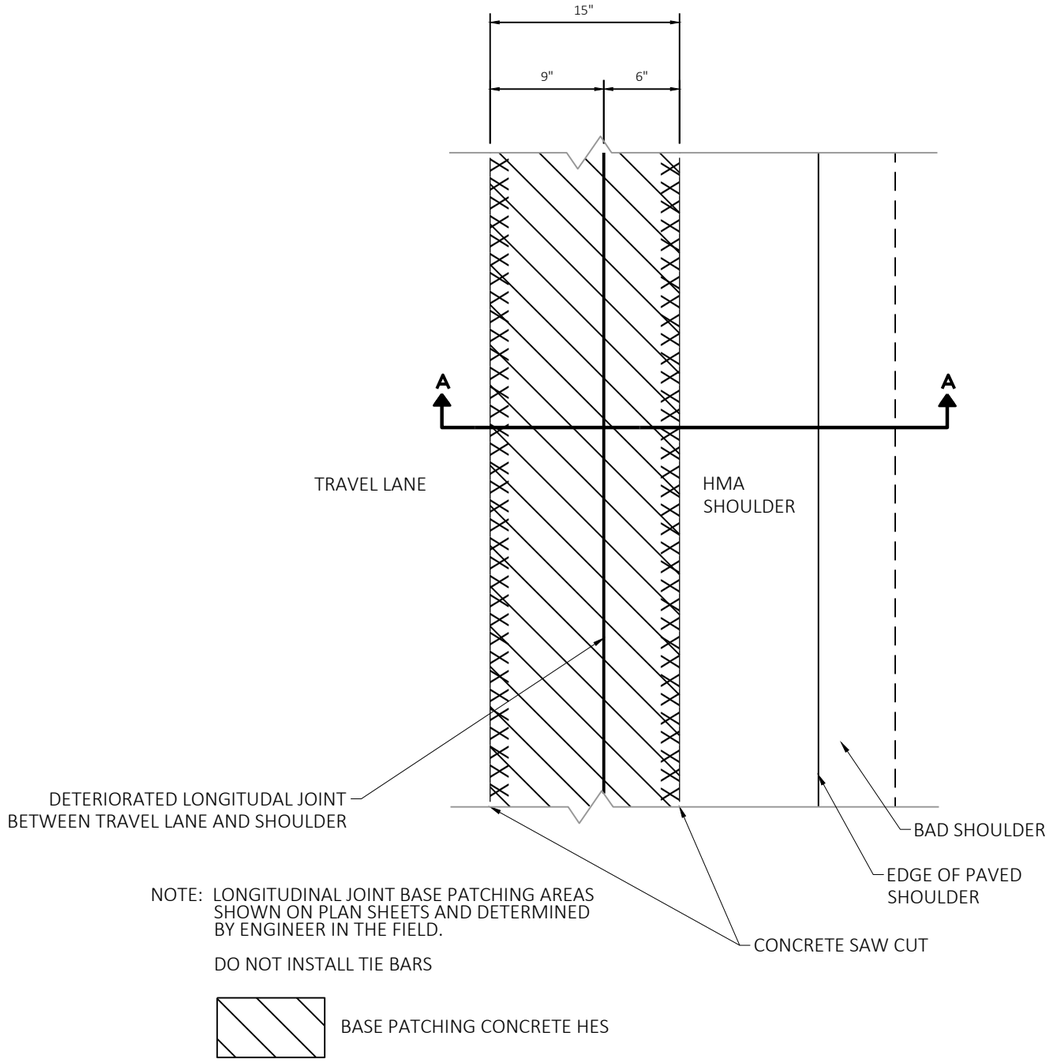


SECTION B-B

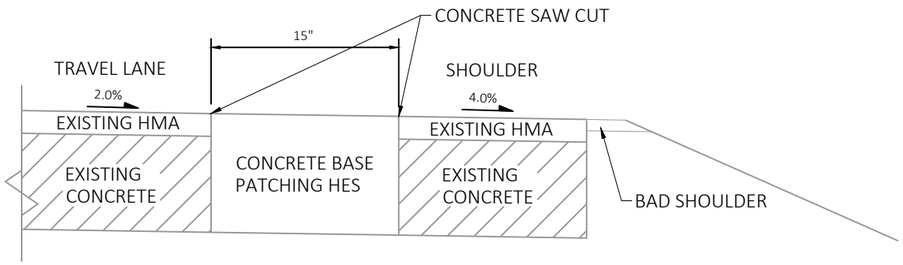
RIPRAP AND GEOTEXTILE FABRIC DETAIL AT APRON ENDWALLS

SEE EROSION CONTROL PLAN FOR LOCATIONS

2

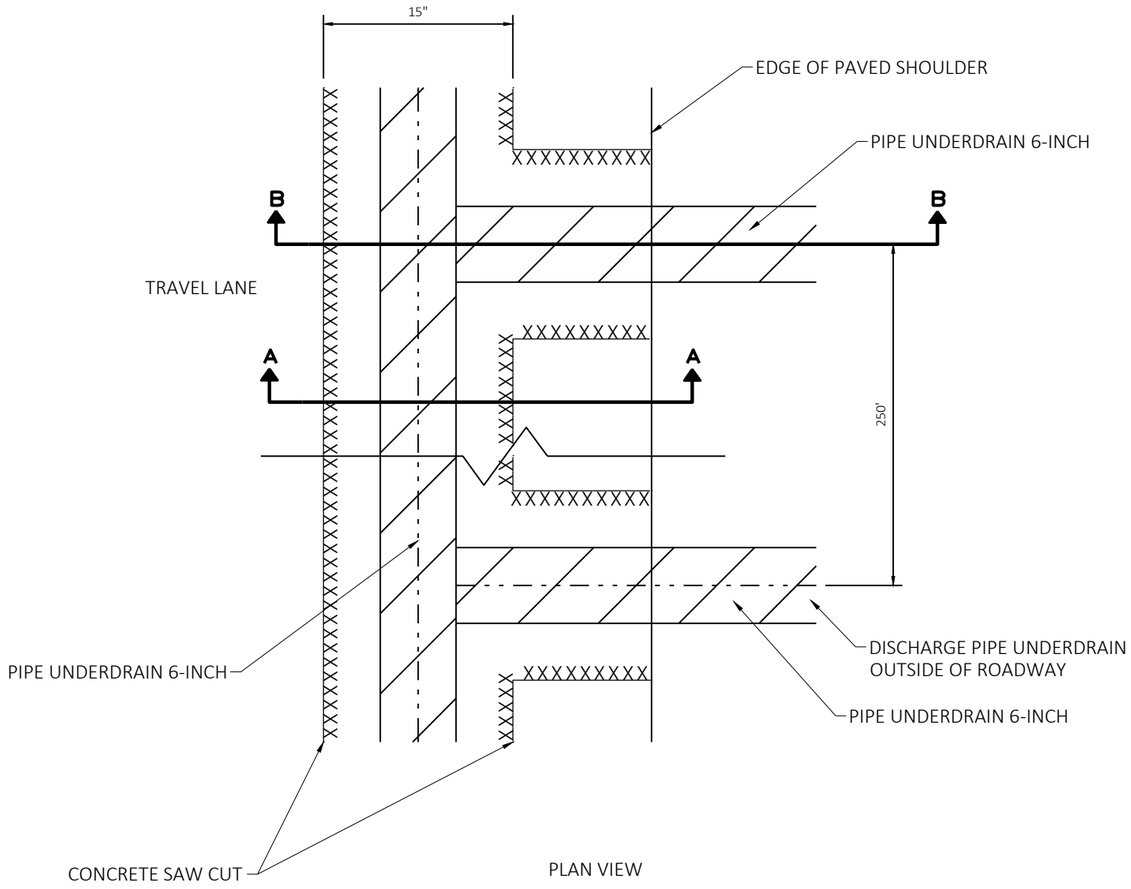


PLAN VIEW



SECTION VIEW A-A

BASE PATCHING SHOULDER LONGITUDINAL JOINT

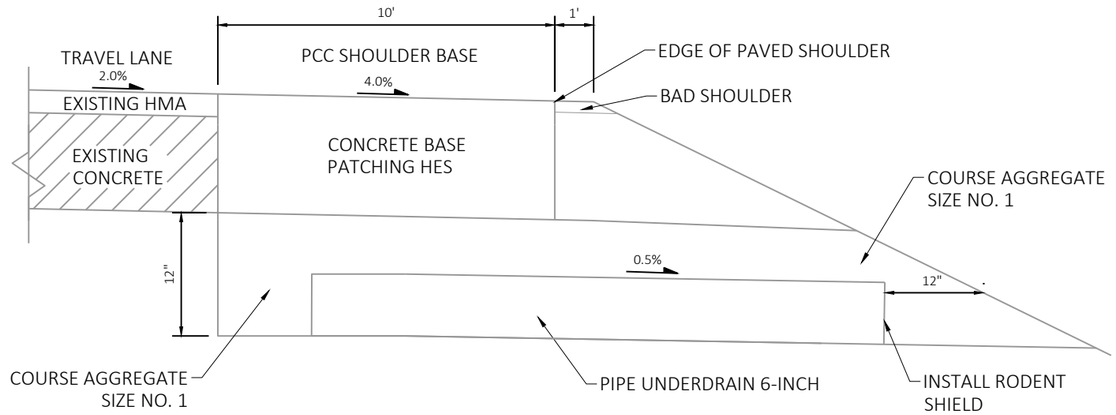


PLAN VIEW

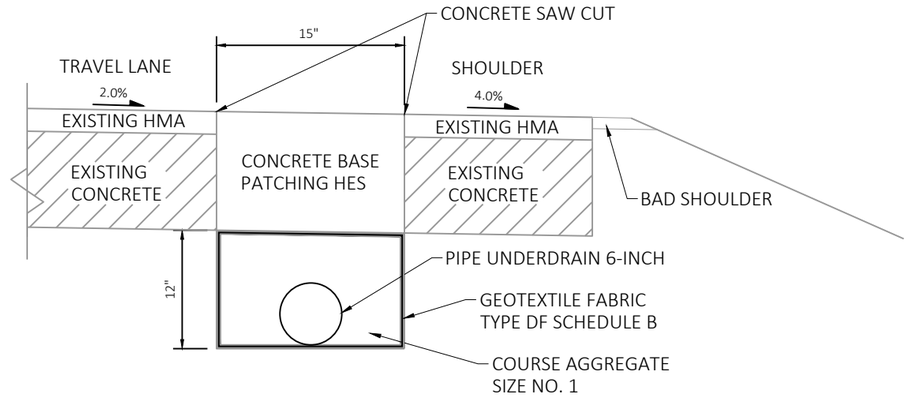
NOTE: ENGINEER TO DETERMINE THE LOCATIONS
IN THE FIELD TO PLACE PIPE UNDERDRAIN

REFER TO THE FOLLOWING SDD'S
EDGEDRAIN OUTLET AND OUTFALL MARKERS
EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
EDGEDRAIN AND BASE AGGREGATE OPEN GRADED

REFER TO SPV.0090 PIPE UNDERDRAIN (6-INCH) WITH
GEOTEXTILE FABRIC AND AGGREGATE



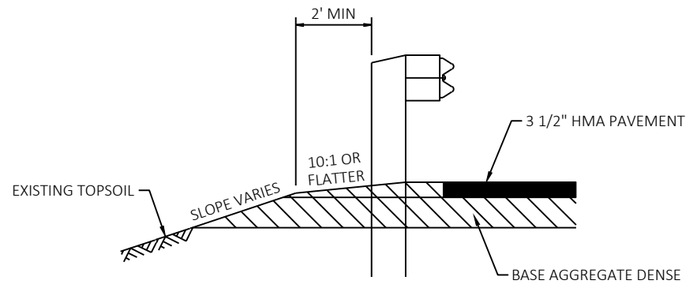
SECTION VIEW B-B



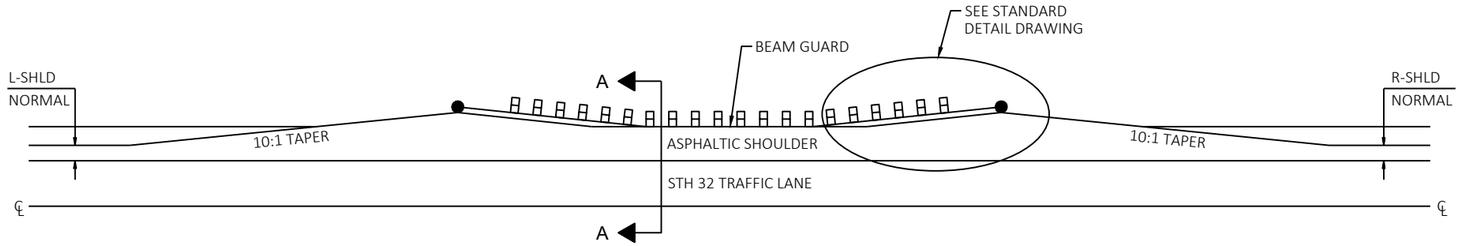
SECTION VIEW A-A

PIPE UNDERDRAIN FOR LONGITUDINAL JOINT BASE PATCH AREAS

2



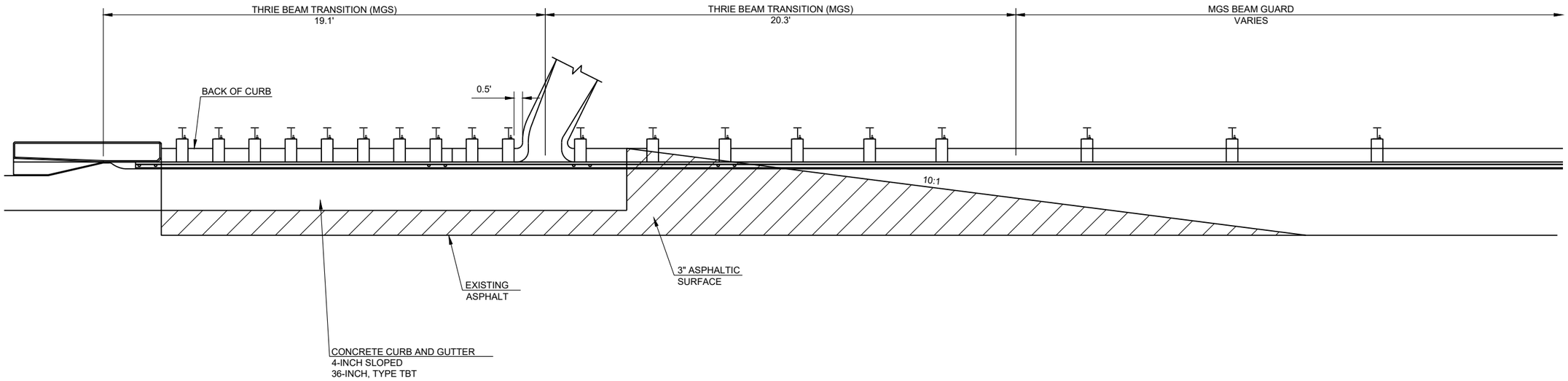
SECTION A-A



DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CONSTRUCTION DETAILS	SHEET 17	E

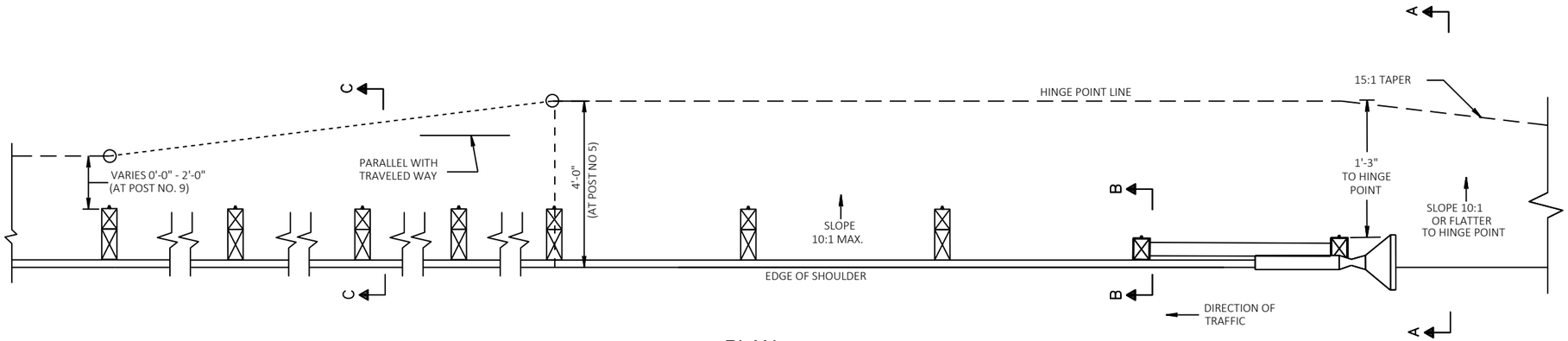
2



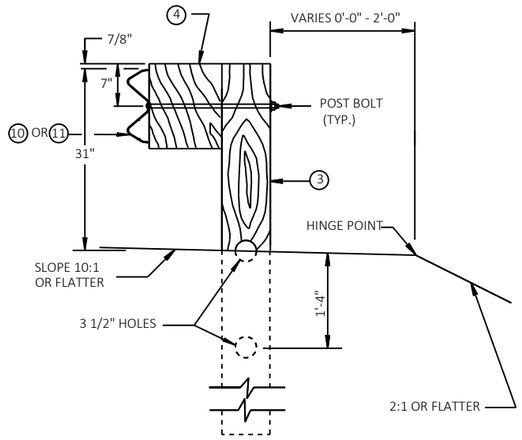
CONCRETE SURFACE DRAIN DETAIL AT OVERPASSES

NOTE:
LAYOUT GUARDRAIL POST LOCATIONS BEFORE POURING CONCRETE CURB AND GUTTER TO LOCATE THE EXACT LOCATION OF THE SURFACE DRAIN.

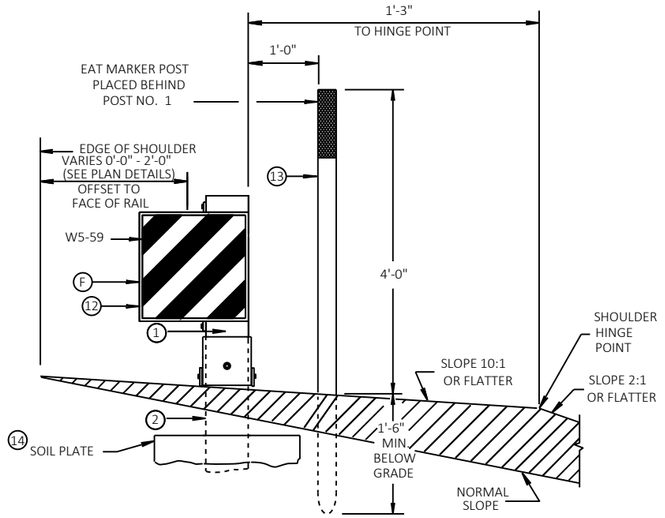
2



PLAN



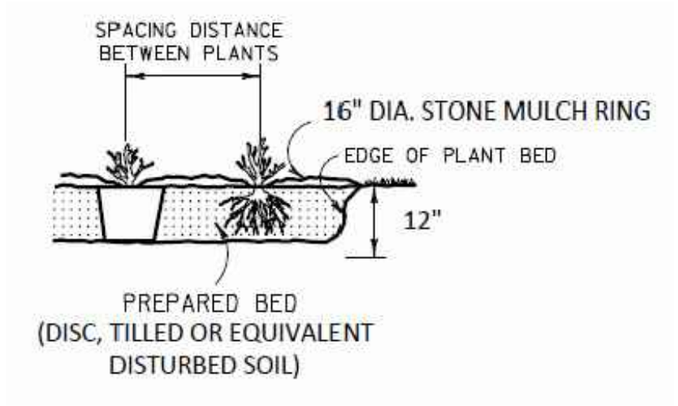
SECTION C-C
TYPICAL AT POST NOS. 3-9



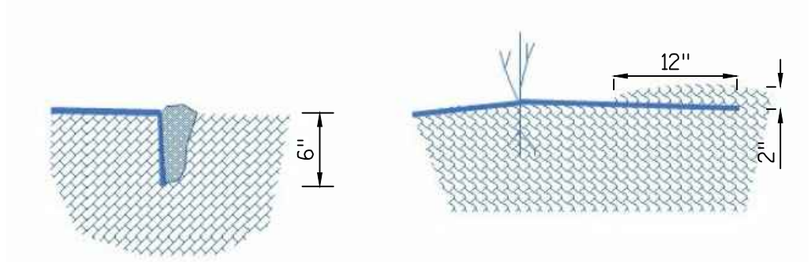
SECTION A-A
TYPICAL AT POST NO. 1 *

NOTE:
SEE SDD "MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)" FOR OTHER DETAILS AND NOTES.

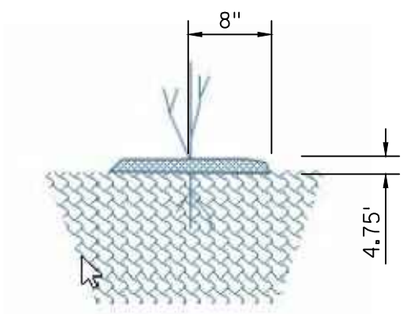
MIDWEST GUARDRAIL SYSTEM EAT AT OVERPASSES



PLANTING BED DETAIL



FABRIC EDGE DETAIL



GRAVEL RING DETAIL

Planting Process Expectations

ENDANGERED SPECIES EXPECTATIONS

- MOWING MUST BEGIN THE FIRST WEEK OF APRIL, TO A MAX HEIGHT OF 6-INCHES.
- MOWING MUST BE MAINTAINED UP TO THE DATE OF INSTALL TO PREVENT NESTING OF ENDANGERED SPECIES.
- CONTRACTOR WILL TAKE GREAT CARE TO WATCH FOR, AND REMOVE, ANY TURTLES FOUND WITHIN THE LIMITS OF THE PROJECT SITE FOR THE DURATION OF THE PROJECT.

INITIAL PLANTING

1. IF REQURIED PER THE PLAN SET CLEAR AND GRUB WOODY VEGETATION.
2. APPLY HERBICIDE TO PLANTING SITE TO KILL EXISTING WEEDS.
    - APPLY MINIMUM DAYS PRIOR TO CULTIVATING SITE BASED ON MANUFACTURERS APPLICATION INSTRUCTIONS
    - APPLICATOR MUST BE CERTIFIDED AND LICENSED
2. MOW AND MAINTAIN SITE TO A HEIGHT NO MORE THAN 6-INCHES.
3. WITHIN 7 DAYS OF SEEDLING STOCK INSTALLATION PREPARE PLANTING BED BY DISCING, TILLING OR EQUIVALENT PROCESS.
    - MINIMUM SOIL DISTURBANCE TO BE 12-INCHES DEPTH AND 12-INCHES WIDTH PER ROW. SEE DETIAL.
4. APPLY PRE-EMERGENT HERBICIDE TO THE PLANTING BED.
    - MINIMUM DAYS PRIOR TO PLANTING THE SEEDLING STOCK SITE BASED ON MANUFACTURERS APPLICATION INSTRUCTIONS
    - APPLICATOR MUST BE CERTIFIDED AND LICENSED
5. SOAK SEEDLING STOCK ROOTS 1 TO 24 HOURS PRIOR TO PLANTING.
6. PLANT SEEDLING STOCK AND INSTALL SPECIFIED WEED BARRIER FABRIC OR EQUIVANT. PICK FROM TWO OPTIONS.

HAND PLANTING OPTION	MACHINE PLANTING OPTION
A. PLACE SPECIFIED WEED BARRIER FABRIC OR EQUIVILANT. SEE STEP 7 FOR MORE DETAILS. B. HAND PLANT SEEDLING STOCK THOURGH THE FABRIC	A. MACHINE PLANT SEEDLING STOCK WITH PULL BEHIND PLANTER B. PLACE SPECIFIED WEED BARRIER FABRIC OR EQUIVILANT. SEE STEP 7 FOR MORE DETAILS.

7. FABRIC INSTALLATION SHALL FOLLOW THESE GUIDELINES
    - INSTALLATION SHALL BE THE WIDTH OF THE PLANTING BED, UNLESS APPROVED BY THE PROJECT ENGINEER.
    - ALL PLANTS SHOULD INSTALLED BE 1.5-FEET FROM ALL EDGES OF THE FABRIC.
    - WHEN CUTTING HOLES IN THE FABRIC INDIVIDUAL SLITS SHALL BE LARGE ENOUGH TO PULL THE SHRUB THROUGH AND NO MORE. EXCESS SPACE LEADS TO WEED COMPETION.
    - STAPLES SHALL BE PLACED ACCORDING TO MANUFACTURER'S RECOMMENDATION.
    - CONTRACTOR SHALL SECURE THE OUTSIDE EDGE OF FABRIC BY EITHER CREATEING A 2-INCHE SOIL BERM ON THE OUTSIDE ONE FOOT OF FABRIC OR DEPRESS 6-INCHES OF OUTSIDE EDGE BELOW THE NATURAL GRADE TO PREVENT LIFTING. SEE DETAIL.
8. INSTALL PEA GRAVEL LANDSCAPE MULCH ON TOP OF FABRIC AROUND EACH PLANT HOLE. SEE DETAIL.
    - PEA GRAVEL MULCH SHALL BE USED TO PREVENT WEED GROWTH IN THE CUT SLITS MADE IN THE FABRIC.
    - SWEEP AND/OR BLOW ANY SOIL, STRAW MULCH, OR OTHER DEBRIS OFF THE TOP OF THE FABRIC PRIOR TO THE PLACEMENT OF THE PEA GRAVEL MULCH.
    - APPLY MULCH AT A 2-INCH DEPTH AS PER THE LIVING SNOW FENCE LAYOUT DETAIL SHEET.
    - USE ¾ INCH CRUSHED AND SCREENED STONE CHIPS IN PLACE OF THE PEA GRAVEL FOR STEEP SLOPES. STONE CHIPS MUST NOT BE LIMESTONE.

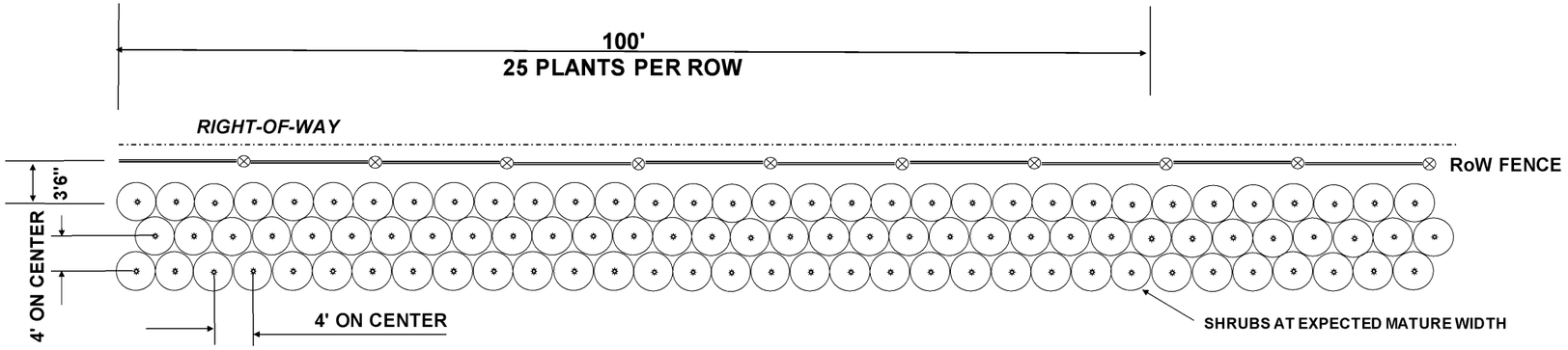
REPLACING DEAD SEEDLING STOCK (EACH SPRING FOLLOWING INTIAL PLANTING)

1. MOW OUTSIDE EDGES OF WEED FABRIC TO A HEIGHT NO MORE THAN 6"
2. APPLY PRE-EMERGENT TO OUTSIDE EDGES AND EXPOSED SOIL IN FABRIC OPENING.
3. REMOVE ANY DEAD PLANT
4. CREATE A DISTURBED SOIL STATE TO A DEPTH OF 12-INCHES
5. INSTALL SEEDLING STOCK REPLACEMENTS
6. BEGIN CARE CYCLE MAINTENANCE

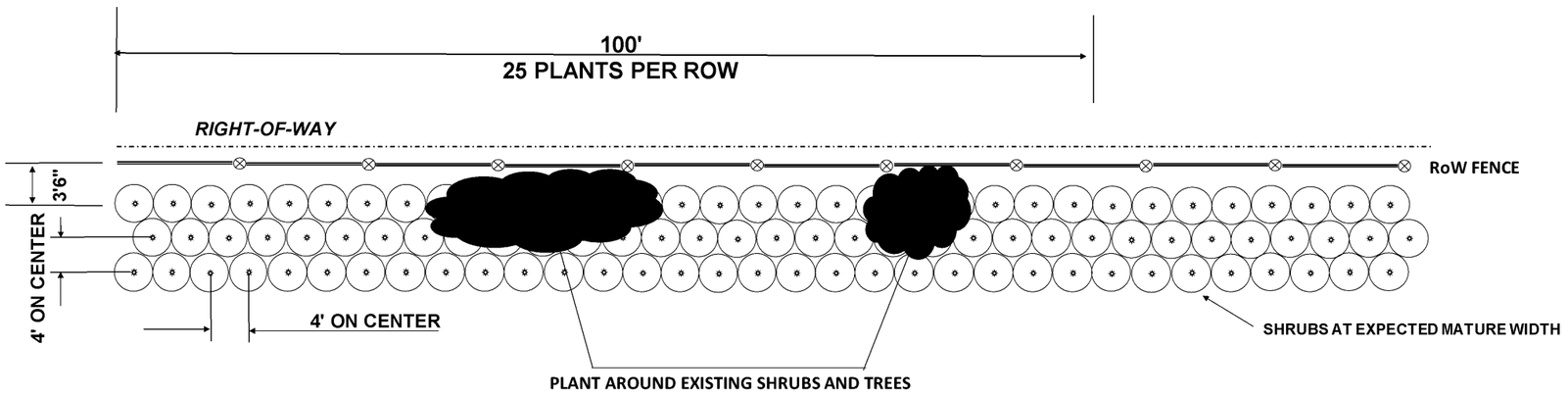
CARE CYCLE MAINTENANCE

1. TO BE PERFORMED AT A MINIMUM OF EVERY TWO WEEKS, TO A MAX OF 13 TOTAL CARE CYCLES PER GROWING SEASON
2. CONTROL WEEDS
    - HAND PULL WEEDS
    - SELECTIVE HERBICIDE TREATMENT WITH CAUTION
    - WEED EATERS/WHACKERS ARE NOT RECOMMENDED DUE HIGH POTENTIAL OF DAMAGE TO SEEDLINGS
3. WATER AS NEEDED
4. MOW SEVERAL TIMES IN THE SEASON TO CONTROL ENCROACHMENT OF UNWANTED VEGETATION.
    - OUTSIDE EDGES OF PLANTING AREA BY 3 TO 5-FEET
5. SUBMIT CARE CYCLE REPORTS EVERY CARE EVENT

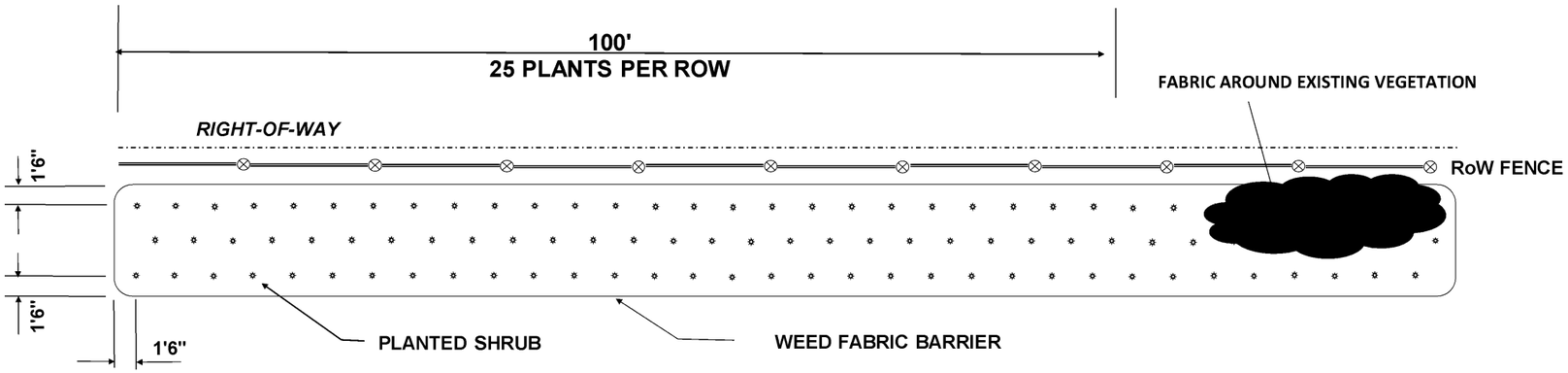
PLANT BED DETAILS



SHRUB DETAIL 1



SHRUB DETAIL 2



SHRUB DETAIL 3

GENERAL

WEED BARRIER LIMITS- WEED BARRIER IS TO EXTEND BEYOND THE OUTER PLANTS TO A MINIMUM DISTANCE OF 1.5'.

BASE LINE-IF A BASE LINE IS SHOWN, AT LEAST THE FIRST ROW OF PLANTS SHALL FOLLOW THE LINE.

PLANTING-SHRUBS ARE TO BE PLANTED IN INDIVIDUAL HOLES OR IN CONTINUOUS TRENCH AS SPECIFIED ON THE "PLANT DATA CHART." IF PLANTED IN A TRENCH, THE TRENCH SHALL BE AS DEEP AND AS WIDE AS THAT SPECIFIED FOR INDIVIDUAL HOLES ON THE "PLANT DATA CHART." EXCESS EXCAVATED MATERIAL MAY BE DISPOSED OF BETWEEN THE HOLES OR TRENCH IF IN THE JUDGEMENT OF THE ENGINEER IT DOES NOT CAUSE EROSION OR DAMAGE PROBLEMS. IF THIS IS DONE, PLANT ELEVATIONS WILL BE ADJUSTED ACCORDINGLY AND THE ENTIRE BED AREA WILL BE RAKED OR OTHERWISE FINISHED TO PRODUCE A UNIFORM SURFACE CONFORMING THE ORIGINAL SHAPE AND CONTOUR. THE ENTIRE BED AREA SHALL BE PLANTED.

NOTES:
1. ALL PLANTINGS TO BE INSTALLED PARALLEL TO RIGHT OF WAY FENCE.
2. MAINTAIN CONTINUOUS LINEAR PLANTINGS WITHOUT OPENINGS OR GAPS, WHERE POSSIBLE.
3. WEED FABRIC SHRUB BEDS TO LIMITS INDICATED ON DETAIL PLAN SHEETS.

PLANT DATA CHART

SYMBOL	COMMON NAME	SCIENTIFIC NAME	TYPE	AVE MATURE HEIGHT	SIZE (CAL OR HT) WHEN PLANTED	ROOT ZONE MODE	MINIMUM SIZE					BRACE OR GUY	FERT. UNITS REQ'D	RODENT PROTCT REQ'D	MULCH RING DIAM.	PLT BED DTL
							BALL/POT		ROOT SPREAD	PLANT HOLE						
							DIAM.	DEPTH		DIAM.	DEPTH					
	DECIDUOUS SHRUBS															
RO	Red Osier Dogwood	Cornus sericea	2S	10'	12-18"	BR*	9"	6"		**	6"	NO	2	NO	NO	BED
AF	American Hazelnut (Filbert)	Corylus americana	3S	8'	12-18"	BR*	9"	6"		**	6"	NO	2	NO	NO	BED
CN	Common Ninebark	Physocarpus opulifolius	3S	8'	12-18"	BR*	9"	6"		**	6"	NO	2	NO	NO	BED

BR: Bare Root

B&B: Balled and Burlapped

CG: Container Grown

* Container Grown (CG) may be substituted

**Width based on size of equipment: 6" Powered Auger, Pull behind planter, or Spade

2

LEGEND

xxxxxxxxx SAW CUT

N

USH 10

STRUCTURE B-36-77

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

1167+70.9'NB'

1168+10.4'NB'

END CONCRETE CURB AND GUTTER
STA. 1168+15.9'SB'

REMOVE EXISTING
GUARDRAIL

POST NO. 9
1171+97.7'SB'

POST NO. 5
1172+22.7'SB'

POST NO. 1
1172+47.7'SB'

1171+94.7'SB'

STA. 1173+38.3'SB'

4'

15:1

MGS THRIE BEAM
TRANSITION-39.40'

MGS GUARDRAIL 3
387.5'

MGS GUARDRAIL
TERMINAL EAT-53.125'

IH 43 SOUTHBOUND

MGS THRIE BEAM
TRANSITION-39.40'

MGS GUARDRAIL 3
275.0'

MGS GUARDRAIL
TERMINAL EAT-53.125'

1168'SB' 1169'SB' 1170'SB' 1171'SB' 1172'SB' 1173'SB'

4'

END CONCRETE CURB AND GUTTER
STA. 1168+16.0'SB'

1167+70.9'NB'

1168+10.4'NB'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

REMOVE EXISTING
GUARDRAIL

1170+85.4'SB'

POST NO. 9
1170+88.4'SB'

POST NO. 5
1171+13.4'SB'

4'

15:1

POST NO. 1
1171+38.5'SB'

STA. 1172+07.5'SB'

1168'NB' 1169'NB' 1170'NB' 1171'NB' 1172'NB' 1173'NB'

IH 43 NORTHBOUND

STH 310

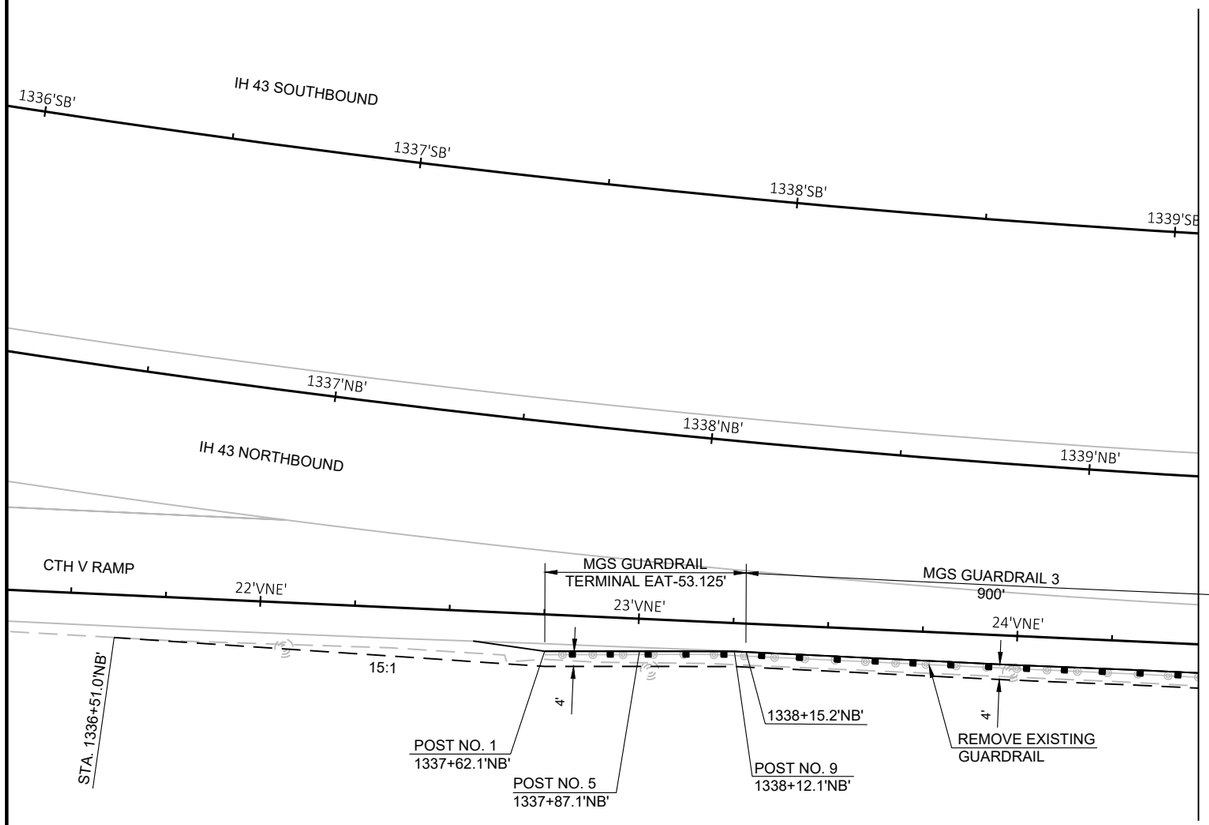
STRUCTURE B-36-78

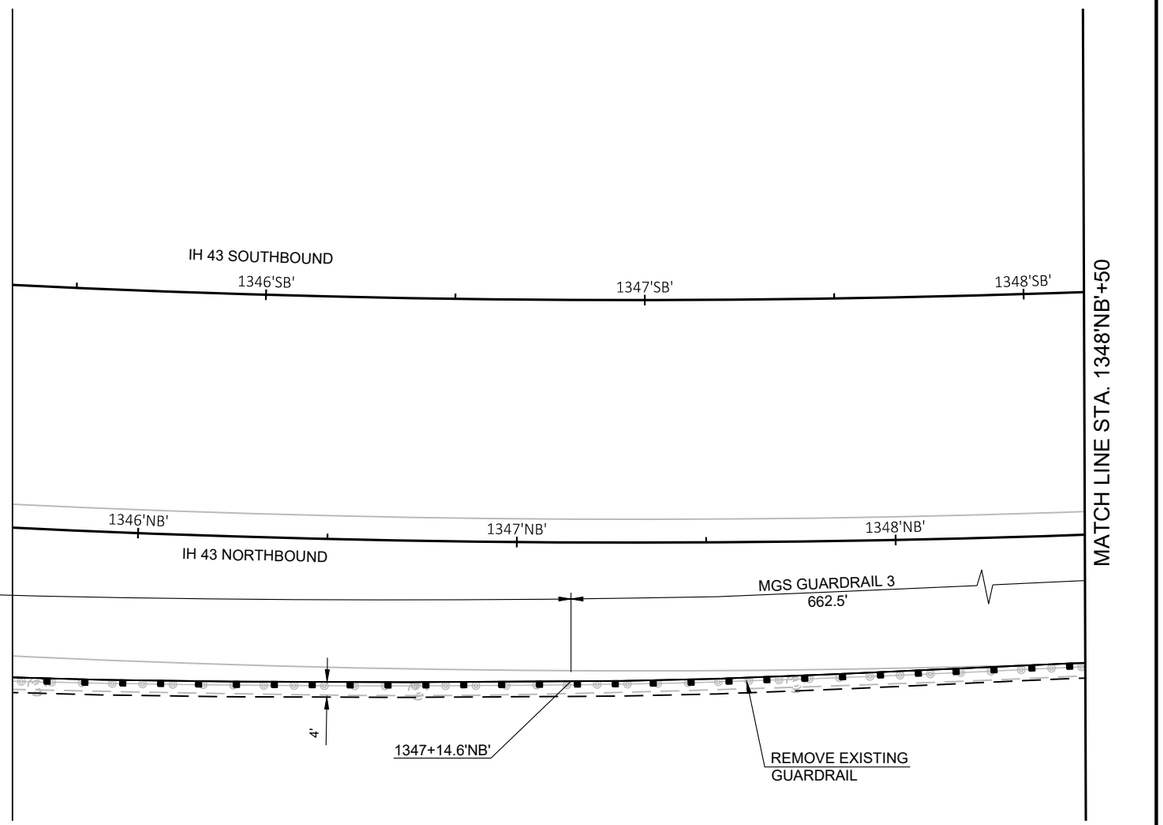
GUARDRAIL DETAIL
IH 43 SOUTHBOUND
STA. 1167+70.9'SB' - STA. 1173+38.3'SB'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 23	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021201_PD.DWG
LAYOUT NAME - 021201_pd
PLOT DATE : 7/12/2021 2:34 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2





GUARDRAIL DETAIL
IH 43 EXIT FROM CTH V
STA. 1336+50.0'NB' - STA. 1353+85.3'NB'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 24	E

2

2

N

MATCH LINE STA. 1348'NB'+50

IH 43 SOUTHBOUND

1349'SB'

1350'SB'

1351'SB'

1352'SB'

1353'SB'

IH 43 SOUTHBOUND

1354'SB'

1349'NB'

1350'NB'

1351'NB'

1352'NB'

1353'NB'

1354'NB'

IH 43 NORTHBOUND

IH 43 NORTHBOUND

MGS GUARDRAIL 3
662.5'

REMOVE EXISTING
GUARDRAIL

4'

15:1

1353'NB'+70.4

STA. 1353+85.3'NB'

OH

OH

OH

GUARDRAIL DETAIL

IH 43 EXIT FROM CTH V

STA. 1336+50.0'NB' - STA. 1353+85.3'NB'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 25	E

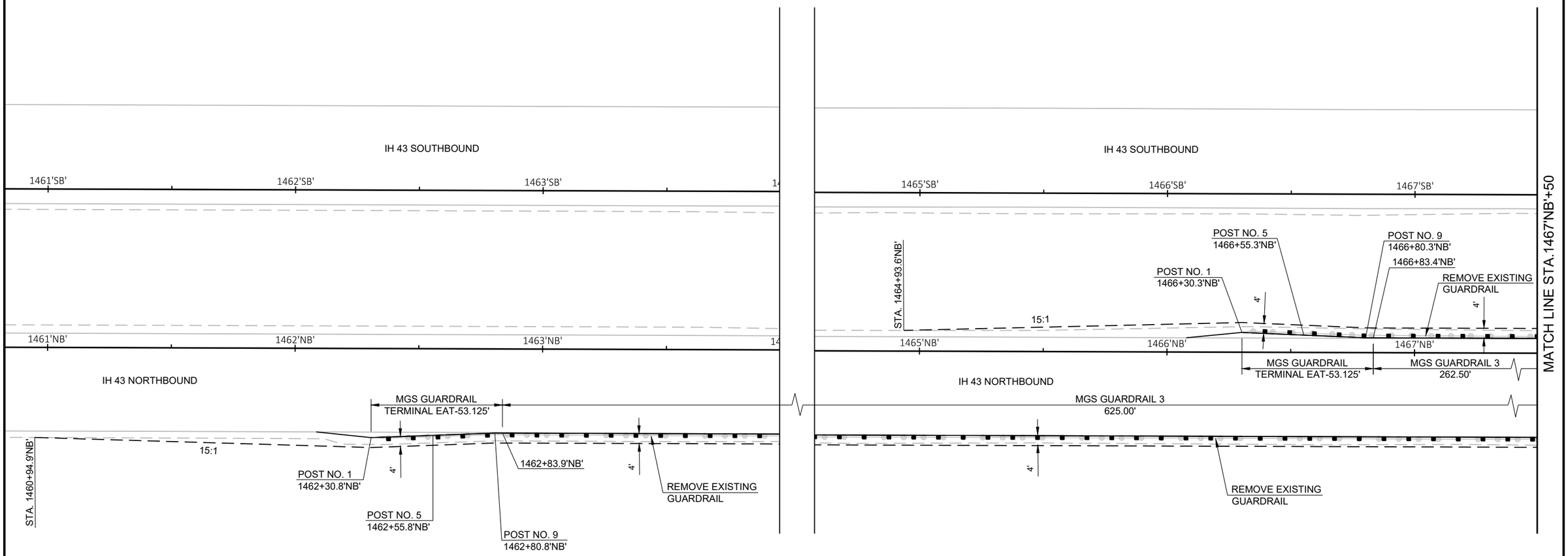
FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021201_PD.DWG
LAYOUT NAME - 021203_pd

PLOT DATE : 7/12/2021 2:34 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

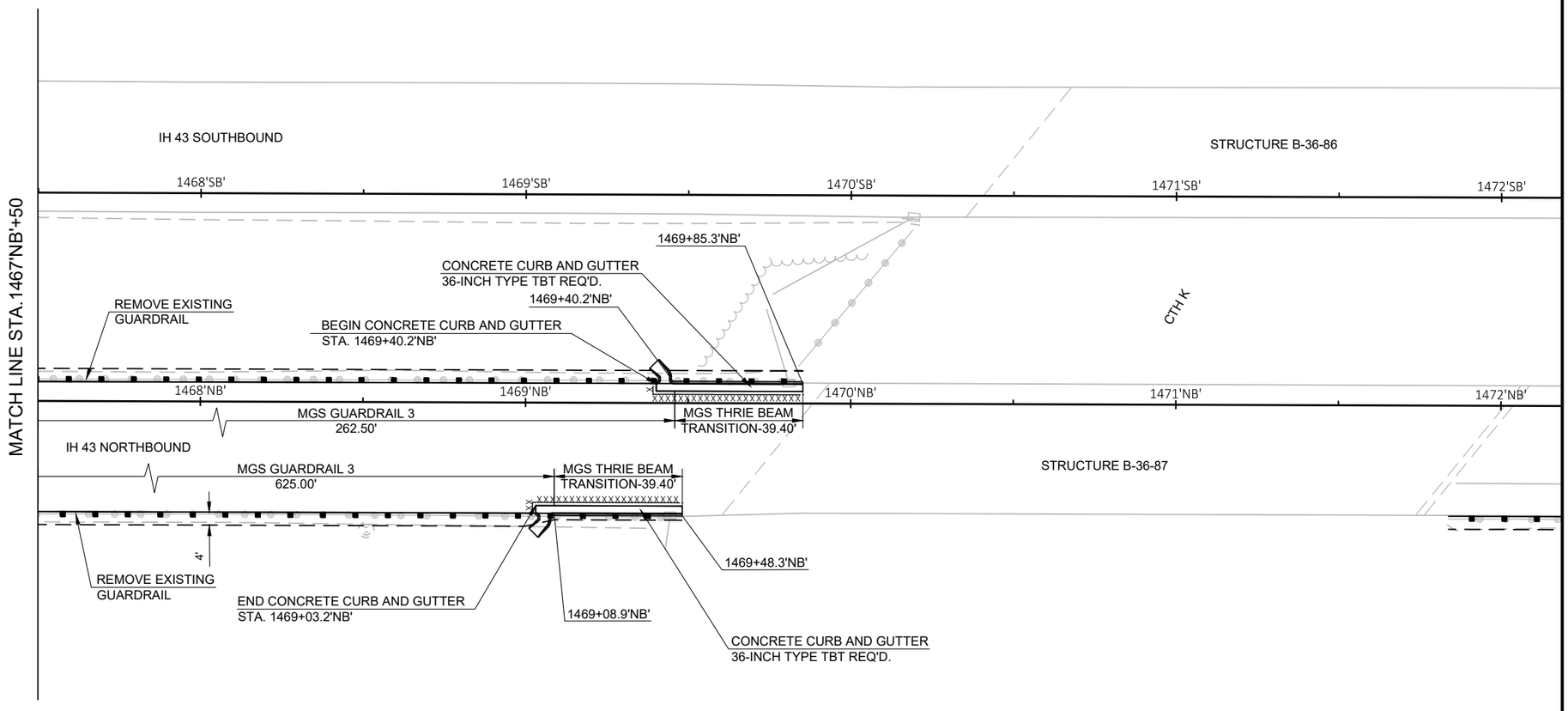


GUARDRAIL DETAIL
IH 43 NORTHBOUND
STA. 1460+94.9'NB' - STA. 1469+85.3'NB'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 26	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021201_PD.DWG
LAYOUT NAME - 021204_pd
PLOT DATE : 7/12/2021 2:34 PM
PLOT BY : VERVILLE, PHILLIP
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



GUARDRAIL DETAIL
IH 43 NORTHBOUND
STA. 1460+94.9'NB' - STA. 1469+85.3'NB'

LEGEND

xxxxxxxxx SAW CUT

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 27	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021201_PD.DWG
LAYOUT NAME - 021205_pd
PLOT DATE : 7/12/2021 2:34 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

2

N

STRUCTURE B-36-86

IH 43 SOUTHBOUND

1472'SB' 1473'SB' 1474'SB' 1475'SB' 1476'SB' 1477'SB'

CTH K

1472'NB' 1473'NB' 1474'NB' 1475'NB' 1476'NB' 1477'NB'

MGS THRIE BEAM TRANSITION-8.15'

IH 43 NORTHBOUND

MGS GUARDRAIL 3
400.0'

1471+92.0'NB'

1471+83.8'NB'

4'

REMOVE EXISTING GUARDRAIL

15:1

STA. 1476+33.8'NB'

STA. 1475+92.0'NB'

MGS GUARDRAIL TERMINAL TYPE 2 REQ'D.

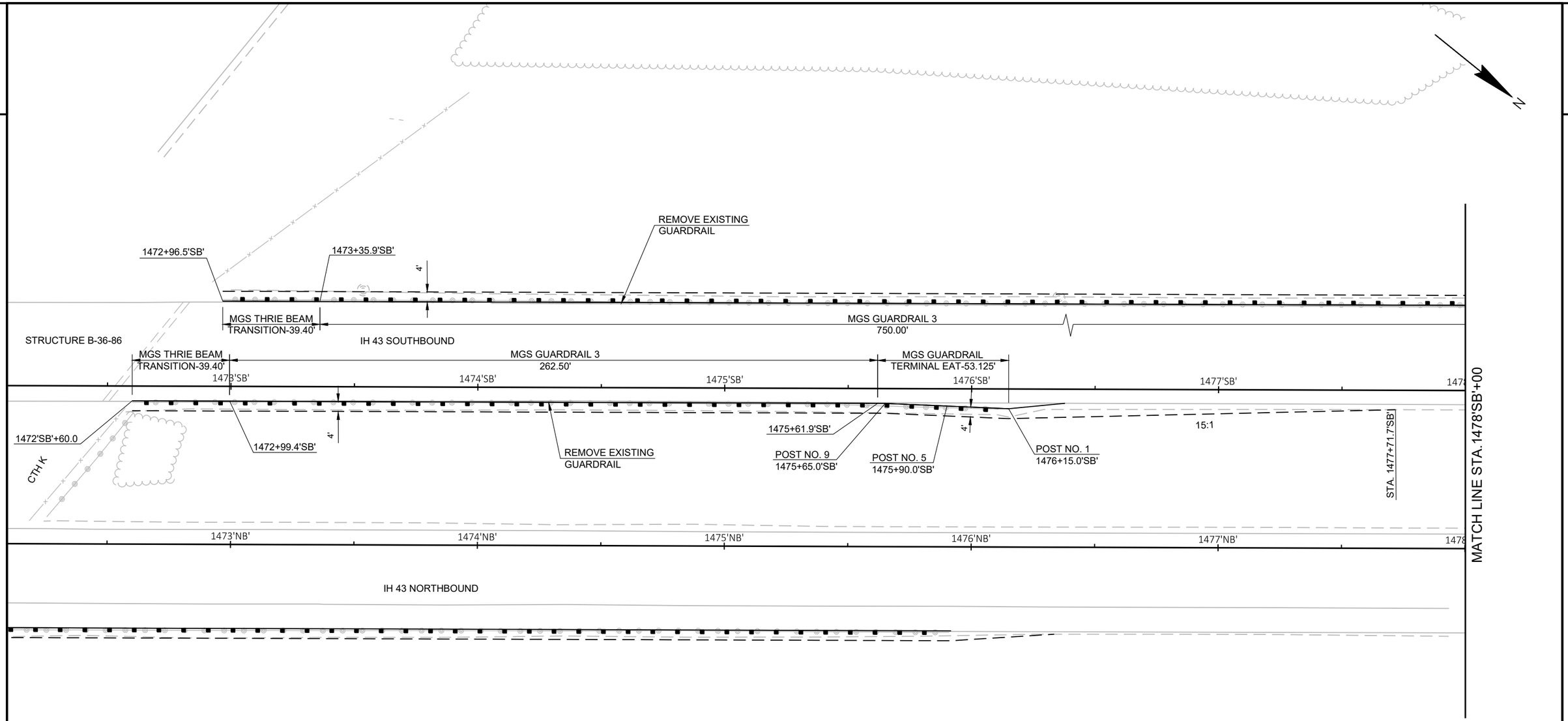
GUARDRAIL DETAIL

IH 43 NORTHBOUND

STA. 1471+83.8'NB' - STA. 1476+33.8'NB'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 28	E

2

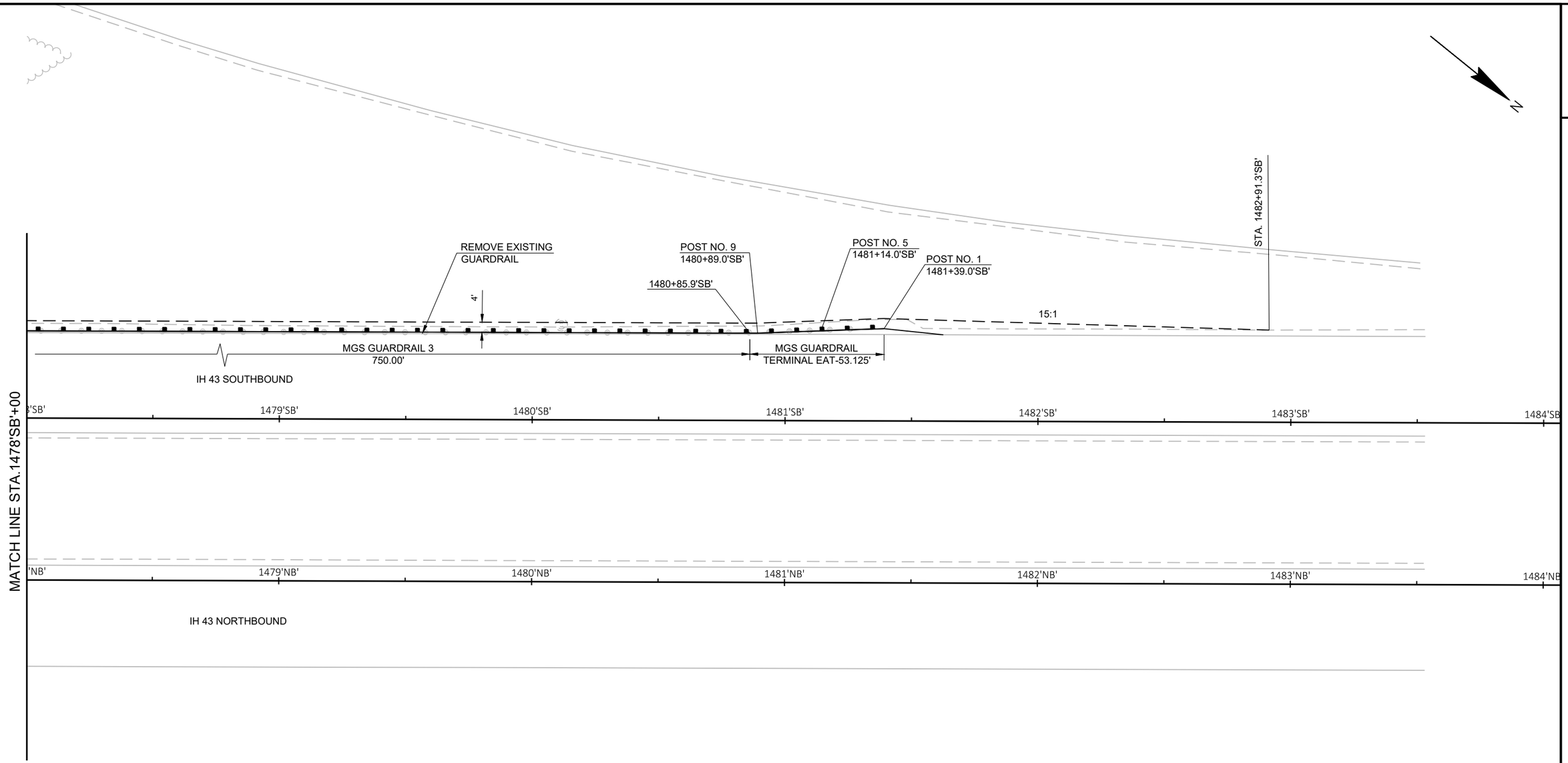


GUARDRAIL DETAIL
IH 43 SOUTHBOUND
STA. 1472+60.0'SB' - STA. 1481+39.0'SB'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 29	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021201_PD.DWG
LAYOUT NAME - 021207_pd
PLOT DATE : 7/12/2021 2:35 PM
PLOT BY : VERVILLE, PHILLIP
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



GUARDRAIL DETAIL
IH 43 SOUTHBOUND
STA. 1472+60.0'SB' - STA. 1482+91.3'SB'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 30	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021201_PD.DWG
LAYOUT NAME - 021208_pd
PLOT DATE : 7/12/2021 2:35 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

N

IH 43 SOUTHBOUND

1599'SB' 1600'SB' 1601'SB' 1602'SB' 1603'SB' 1604'SB' 1605'SB

CONSTRUCTION LIMITS
STA. 1598+83.6'NB'

STA. 1601+04.1'NB'

15:1

4'

POST NO. 1
1601+23.8'NB'

POST NO. 5
1601+48.8'NB'

POST NO. 9
1601+73.8'NB'

1601+76.9'NB'

REMOVE EXISTING
GUARDRAIL

4'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

1604'NB'+14.5

BEGIN CONCRETE CURB AND GUTTER
STA. 1604+08.8'NB'

1604+53.9'NB'

DEVIL'S RIVER TRAIL

1599'NB' 1600'NB' 1601'NB' 1602'NB' 1603'NB' 1604'NB' 1605'NB

MGS GUARDRAIL
TERMINAL EAT-53.125'

MGS GUARDRAIL 3
237.50'

MGS THRIE BEAM
TRANSITION-39.40'

IH 43 NORTHBOUND

MGS GUARDRAIL
TERMINAL EAT-53.125'

MGS GUARDRAIL 3
325.00'

MGS THRIE BEAM
TRANSITION-39.40'

STRUCTURE B-36-92

STA. 1598+83.6'NB'

15:1

4'

1600+40.4'NB'

REMOVE EXISTING
GUARDRAIL

4'

BEGIN CONCRETE CURB AND GUTTER
STA. 1603+59.7'NB'

1603+65.4'NB'

POST NO. 1
1599+87.3'NB'

POST NO. 5
1600+12.3'NB'

POST NO. 9
1600+37.3'NB'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

1604+04.8'NB'

GUARDRAIL DETAIL
IH 43 NORTHBOUND
STA. 1598+83.6'NB' - STA. 1604+53.9'NB'

LEGEND

xxxxxxxxx SAW CUT

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 31	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021201_PD.DWG
LAYOUT NAME - 021209_pd
PLOT DATE : 7/12/2021 2:35 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

2

N

ROCKWOOD ROAD

STRUCTURE B-36-79

IH 43 SOUTHBOUND

1218'SB'

1219'SB'

1220'SB'

STEEL THRIE BEAM
BULLNOSE TERMINAL END

PAY LIMIT FOR STEEL
THRIE BEAM-62.5'

REMOVE EXISTING
GUARDRAIL

STEEL THRIE BEAM
BULLNOSE TERMINAL END

POST # 5
1218+46.0'SB'

POST # 12
1218+83.5'SB'

POST # 12
1219+45.9'SB'

POST # 5
1219+83.4'SB'

SIGN

CENTERLINE OF PIERS

SIGN

POST # 5
1218+48.5'NB'

POST # 12
1218+86.1'NB'

POST # 12
1219+48.6'NB'

POST # 5
1219+86.2'NB'

REMOVE EXISTING
GUARDRAIL

1218'NB'

1219'NB'

1220'NB'

IH 43 NORTHBOUND

ROCKWOOD ROAD

GUARDRAIL DETAIL
STRUCTURE B-36-79 IH 43
STA. 1218+32.7'NB' - STA. 1220+02.0'NB'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 32	E

2

2

N

REIFS MILLS ROAD

STRUCTURE B-36-80

15'RM'

IH 43 SOUTHBOUND

1271'SB'

1272'SB'

1273'SB'

1274'SB'

OH

STEEL THRIE BEAM
BULLNOSE TERMINAL END

PAY LIMIT FOR STEEL
THRIE BEAM-62.5'

STEEL THRIE BEAM
BULLNOSE TERMINAL END

POST # 12
1272+02.5'SB'

POST # 5
1271+65.0'SB'

POST # 12
1272+65.0'SB'

REMOVE EXISTING
GUARDRAIL

POST # 5
1273+02.5'SB'

SIGN

CENTERLINE OF PIERS

SIGN

POST # 5
1271+65.0'NB'

POST # 12
1272+02.5'NB'

REMOVE EXISTING
GUARDRAIL

POST # 5
1273+02.5'NB'

POST # 12
1272+65.0'NB'

1271'NB'

1272'NB'

1273'NB'

1274'NB'

16'RM'

IH 43 NORTHBOUND

REIFS MILLS ROAD

GUARDRAIL DETAIL

STRUCTURE B-36-80 IH 43

STA. 1271+49.2'NB' - STA. 1273+18.3'NB'

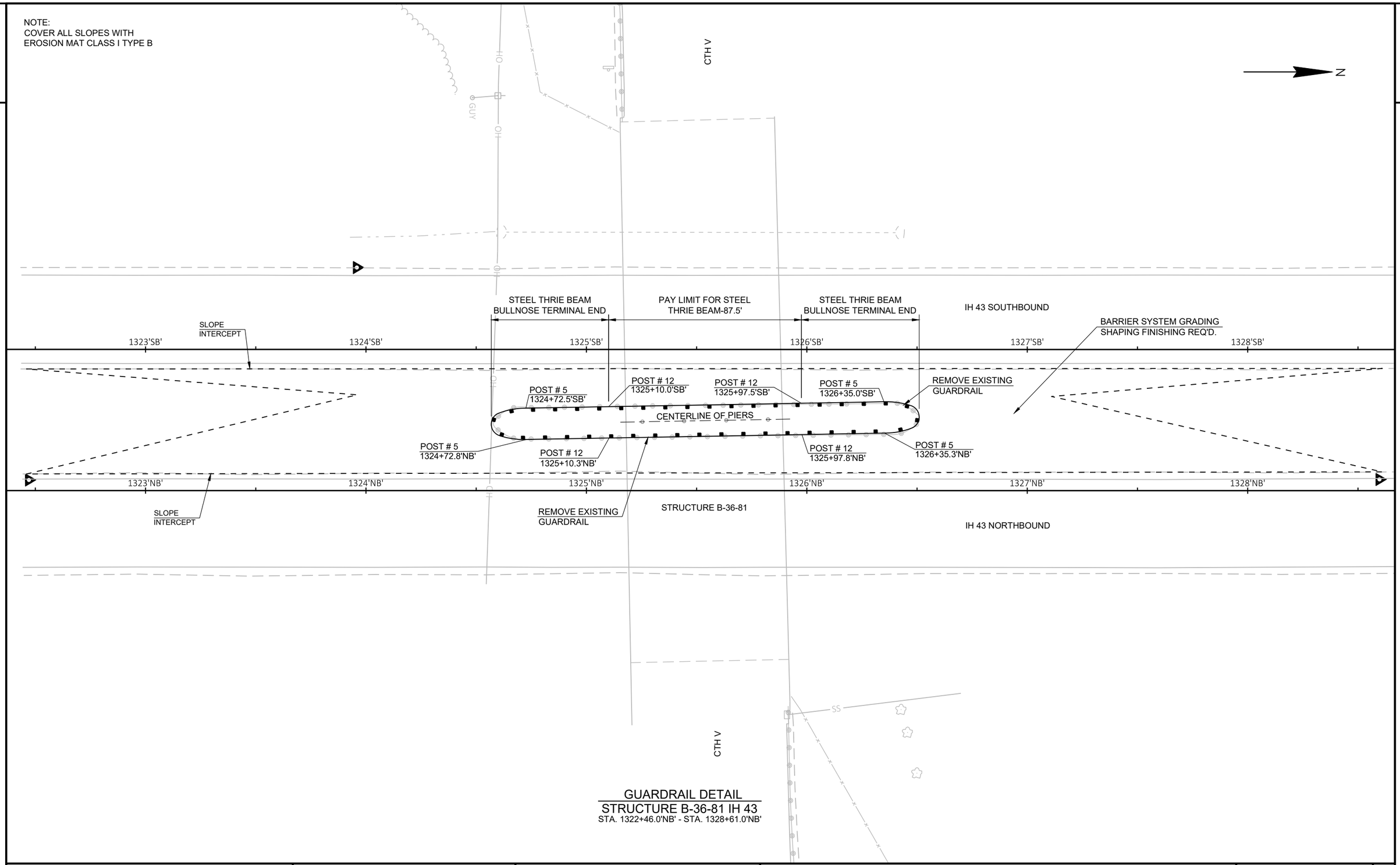
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 33	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021210_PD.DWG
LAYOUT NAME - 021211_pd

PLOT DATE : 7/12/2021 2:35 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

NOTE:
COVER ALL SLOPES WITH
EROSION MAT CLASS I TYPE B



GUARDRAIL DETAIL
STRUCTURE B-36-81 IH 43
STA. 1322+46.0'NB' - STA. 1328+61.0'NB'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 34	E

2

N

POLIFKA ROAD

IH 43 SOUTHBOUND

STRUCTURE B-36-84

1393'SB' 1394'SB' 1395'SB' 1396'SB'

STEEL THRIE BEAM
BULLNOSE TERMINAL END

PAY LIMIT FOR STEEL
THRIE BEAM-75.0'

STEEL THRIE BEAM
BULLNOSE TERMINAL END

POST # 12
1394+34.9'SB'

POST # 5
1393+97.4'SB'

POST # 12
1395+09.9'SB'

POST # 5
1395+47.4'SB'

CENTERLINE OF PIERS

SIGN

SIGN

FO

FO

POST # 5
1393+97.5'NB'

POST # 12
1394+35.0'NB'

POST # 5
1395+47.5'NB'

POST # 12
1395+10.0'NB'

1393'NB' 1394'NB' 1395'NB' 1396'NB'

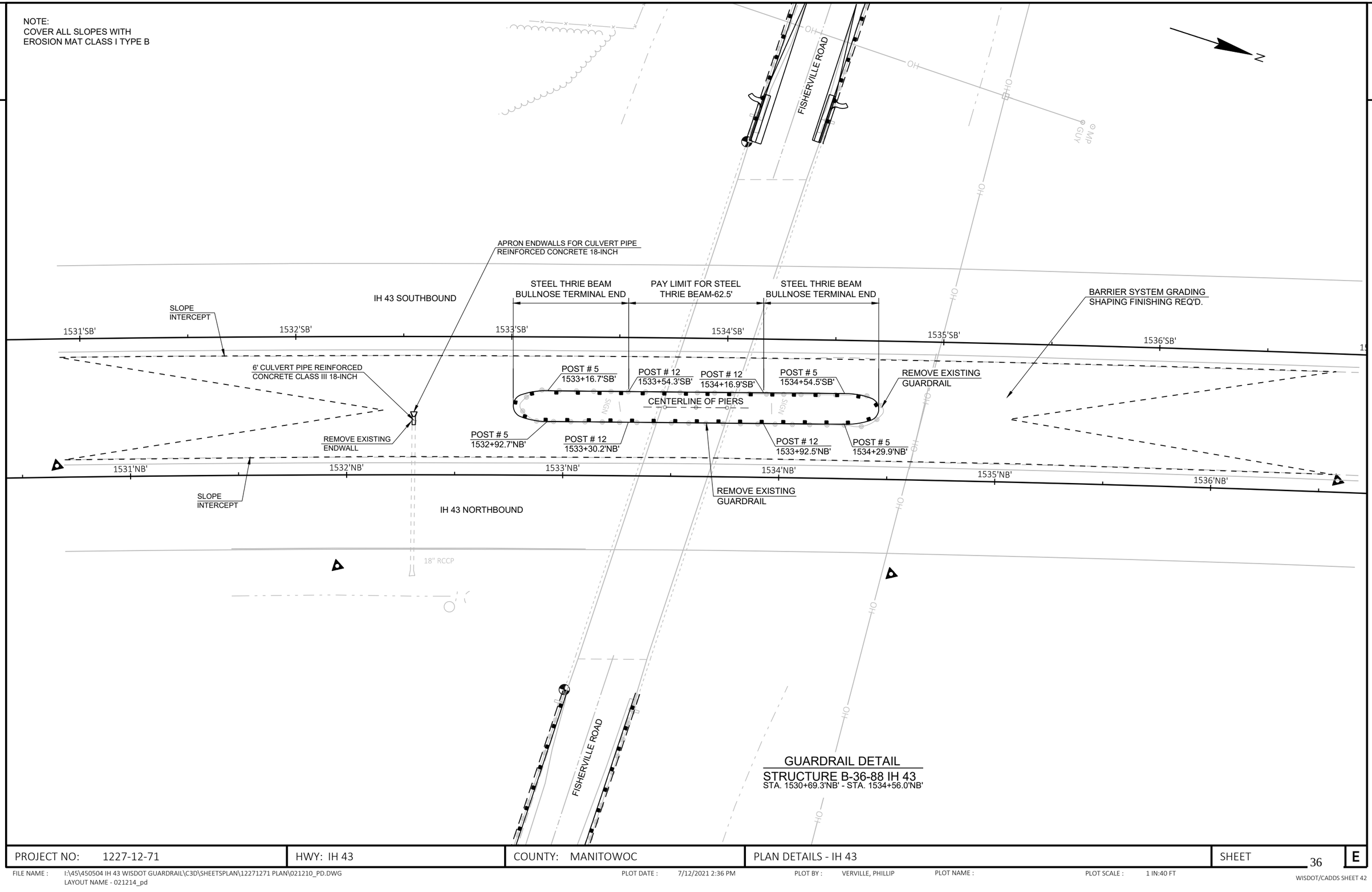
IH 43 NORTHBOUND

POLIFKA ROAD

GUARDRAIL DETAIL
STRUCTURE B-36-84 IH 43
STA. 1393+81.6'NB' - STA. 1395+63.3'NB'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 35	E

NOTE:
COVER ALL SLOPES WITH
EROSION MAT CLASS I TYPE B



PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 36	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021210_PD.DWG
LAYOUT NAME - 021214_pd
PLOT DATE : 7/12/2021 2:36 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

N

GREENSTREET ROAD

STRUCTURE B-36-90

IH 43 SOUTHBOUND

1579'SB' 1580'SB' 1581'SB' 1582'SB'

STEEL THRIE BEAM BULLNOSE TERMINAL END

PAY LIMIT FOR STEEL THRIE BEAM-62.5'

STEEL THRIE BEAM BULLNOSE TERMINAL END

POST # 12 1580+13.7'SB'

POST # 5 1579+76.2'SB'

REMOVE EXISTING GUARDRAIL

POST # 12 1580+76.2'SB'

POST # 5 1581+13.7'SB'

SIGN

CENTERLINE OF PIERS

SIGN

POST # 5 1579+76.2'NB'

POST # 12 1580+13.7'NB'

REMOVE EXISTING GUARDRAIL

POST # 5 1581+13.7'NB'

POST # 12 1580+76.2'NB'

1579'NB' 1580'NB' 1581'NB' 1582'NB'

IH 43 NORTHBOUND

GREENSTREET ROAD

GUARDRAIL DETAIL

STRUCTURE B-36-90 IH 43

STA. 1579+60.4'NB' - STA. 1581+29.5'NB'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 37	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021210_PD.DWG
LAYOUT NAME - 021215_pd

PLOT DATE : 7/12/2021 2:36 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

2

N

IH 43 SOUTHBOUND

STA. 11+20.3'RK''

15:1

POST NO. 1
12+07.2'RK'

POST NO. 5
12+32.2'RK'

POST NO. 9
12+57.2'RK'

12+60.3'RK'

REMOVE EXISTING
GUARDRAIL

12+85.3'RK'

13+24.7'RK'

4"

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS GUARDRAIL 3
25.00'

MGS THRIE BEAM TRANSITION
39.40'

STRUCTURE B-36-79

ROCKWOOD RD

12'RK'

13'RK'

14'RK'

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS GUARDRAIL 3
62.50'

MGS THRIE BEAM TRANSITION
39.40'

15:1

POST NO. 1
11+69.7'RK'

POST NO. 5
11+94.7'RK'

POST NO. 9
12+19.7'RK'

12+22.8'RK'

REMOVE EXISTING
GUARDRAIL

12+85.3'RK'

13+24.7'RK'

4"

STA. 11+46.6'RK

CANARY LANE

GUY

POST

GUARDRAIL DETAIL
B-36-79 ROCKWOOD ROAD
STA. 11+20.3'RK' - STA. 13+24.7'RK'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - ROCKWOOD ROAD	SHEET 38	E

2

2

LEGEND

xxxxxxxxx SAW CUT

N

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

STRUCTURE B-36-79

CONCRETE SURFACE
DRAIN REQ'D.

END CONCRETE CURB AND GUTTER
STA. 16+20.5'RK'

3" ASPHALTIC
SURFACE REQ'D.

REMOVE EXISTING
GUARDRAIL

POST NO. 9
16+77.9'RK'

15+97.9'RK'

16+37.3'RK'

16+74.8'RK'

STA. 16+87.2'RK'

POST NO. 5
17+02.9'RK'

POST NO. 1
17+27.9'RK'

STA. 18+09.8'RK'

2'

2'

4'

15:1

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
37.50'

MGS GUARDRAIL TERMINAL EAT
53.125'

16'RK'

17'RK'

18'RK'

ROCKWOOD RD

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
37.50'

MGS GUARDRAIL TERMINAL EAT
53.125'

2'

2'

4'

15:1

16+37.3'RK'

16+74.8'RK'

STA. 16+84.2'RK'

REMOVE EXISTING
GUARDRAIL

POST NO. 1
17+27.9'RK'

POST NO. 5
17+02.9'RK'

STA. 18+03.1'RK'

3" ASPHALTIC
SURFACE REQ'D.

POST NO. 9
16+77.9'RK'

END CONCRETE CURB AND GUTTER
STA. 16+20.5'RK'

15+97.9'RK'

CONCRETE SURFACE
DRAIN REQ'D.

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

GUARDRAIL DETAIL
B-36-79 ROCKWOOD ROAD
STA. 15+97.9'RK' - STA. 18+09.8'RK'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - ROCKWOOD ROAD	SHEET 39	E

2

N

STA. 12+34.5'SB'

15:1

POST NO. 1
13+03.3'RM'

POST NO. 5
13'+28.3RM'

REMOVE EXISTING
GUARDRAIL

POST NO. 9
1353.3'RM'

13+56.4'RM'

13+93.9'RM'

14+33.3'RM'

4'

2'

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS GUARDRAIL 3 K
37.50'

MGS THRIE BEAM TRANSITION
39.40'

12'RM'

REIFS MILLS RD

13'RM'

14'RM'

STRUCTURE
B-36-80

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS GUARDRAIL 3 K
37.50'

MGS THRIE BEAM TRANSITION
39.40'

15:1

STA. 12+19.6'RM'

4'

2'

POST NO. 1
13+03.4'RM'

POST NO. 5
13+28.4'RM'

POST NO. 9
13+53.4'RM'

13+56.5'RM'

13+94.0'RM'

14+33.4'RM'

REMOVE EXISTING
GUARDRAIL

GUARDRAIL DETAIL
B-36-80 REIFS MILLS ROAD
STA. 12+19.6'RM' - STA. 14+33.4'RM'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - REIFS MILLS ROAD	SHEET 40	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021216_PD.DWG
LAYOUT NAME - 021218_pd

PLOT DATE : 7/12/2021 2:36 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

LEGEND

.xxxxxxxxx. SAW CUT

N

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

CONCRETE SURFACE
DRAIN REQ'D.

END CONCRETE CURB AND GUTTER
STA. 17+10.8'RM'

3" ASPHALTIC
SURFACE REQ'D.

16+88.2'RM'

17+27.6'RM'

STA. 17+59.4'RM'

17+65.2'RM'

POST NO. 9
17+68.3'RM'

REMOVE EXISTING
GUARDRAIL

POST NO. 5
17+93.3'RM'

POST NO. 1
18+18.3'RM'

STA. 18+90.7'RM'

2'

2'

4'

10:1

15:1

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
37.50'

MGS GUARDRAIL TERMINAL EAT
53.125'

17'RM'

18'RM'

REIFS MILLS RD

19'RM'

STRUCTURE
B-36-80

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
37.50'

MGS GUARDRAIL TERMINAL EAT
53.125'

10:1

2'

2'

4'

15:1

16+88.3'RM'

17+27.7'RM'

STA. 17+52.9'RM'

17+68.3'RM'

17+65.2'RM'

POST NO. 5
17+93.3'RM'

POST NO. 1
18+18.3'RM'

STA. 18+87.3'RM'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

3" ASPHALTIC
SURFACE REQ'D.

END CONCRETE CURB AND GUTTER
STA. 17+10.8'RM'

CONCRETE SURFACE
DRAIN REQ'D.

ADJUST CONCRETE FLUME TO
AVOID DRAINAGE INTO POWER POLE

REMOVE EXISTING
GUARDRAIL

OH GUY

GUARDRAIL DETAIL
B-36-80 REIFS MILLS ROAD
STA. 16+88.2'RM' - STA. 18+90.7'RM'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - REIFS MILLS ROAD	SHEET 41	E

2

2

N

STA. 13+10.5'PO'

POST NO. 1
13+57.5'PO'

REMOVE EXISTING
GUARDRAIL

POST NO. 5
13+82.5'PO'

POST NO. 9
14+07.5'PO'

14+10.6'PO'

14+50.0'PO'

15:1

4'

2'

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS THRIE BEAM TRANSITION
39.40'

STRUCTURE B-36-84

POLIFKA RD

13'PO'

14'PO'

15'PO'

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS GUARDRAIL 3 K
37.50'

MGS THRIE BEAM TRANSITION
39.40'

STA. 13+07.1'PO'

15:1

4'

2'

POST NO. 1
13+69.8'PO'

POST NO. 5
13+94.8'PO'

POST NO. 9
14+19.8'PO'

14+22.9'PO'

14+60.4'PO'

14+99.8'PO'

REMOVE EXISTING
GUARDRAIL

IN LANE RD

GUARDRAIL DETAIL
B-36-84 POLIFKA ROAD
STA. 13+07.1'PO' - STA. 14+99.8'PO'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - POLIFKA ROAD	SHEET 42	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021216_PD.DWG
LAYOUT NAME - 021220_pd

PLOT DATE : 7/12/2021 2:36 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

LEGEND

xxxxxxxxx SAW CUT

N

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

CONCRETE SURFACE
DRAIN REQ'D.

END CONCRETE CURB AND GUTTER
STA. 19+05.1'PO'

3" ASPHALTIC
SURFACE REQ'D.

REMOVE EXISTING
GUARDRAIL

18+82.5'PO'

19+21.9'PO'

STA. 19+51.2'PO'

2'

2'

10:1

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
187.50'

STRUCTURE B-36-84

POLIFKA RD

18'PO'

19'PO'

20'PO'

MATCHLINE STA. 20+25'PO'

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
587.45'

10:1

19+61.0'PO'

STA. 19+90.2'PO'

2'

2'

19+21.6'PO'

3" ASPHALTIC
SURFACE REQ'D.

END CONCRETE CURB AND GUTTER
STA. 19+44.2'PO'

CONCRETE SURFACE
DRAIN REQ'D.

REMOVE EXISTING
GUARDRAIL

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

SIGN

IH 43 SOUTHBOUND

IH 43 NORTHBOUND

GUARDRAIL DETAIL
B-36-84 POLIFKA ROAD
STA. 18+82.5'PO' - STA. 26+75.2'PO'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - POLIFKA ROAD	SHEET 43	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021216_PD.DWG
LAYOUT NAME - 021221_pd

PLOT DATE : 7/12/2021 2:36 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

N

MATCHLINE STA. 20+25'PO'

MATCHLINE STA. 23+25'PO'

STA. 11+23.3'HI'

STA. 11+16.0'HI'

15:1

PCC: 11+13.77

MGS GUARDRAIL
SHORT RADIUS TERMINAL

11'HI'

HILLSIDE LN

15:1

MGS GUARDRAIL
SHORT RADIUS TERMINAL

MGS GUARDRAIL
SHORT RADIUS-79.1'

MGS GUARDRAIL
SHORT RADIUS-104.7'

20+37.5'HI'

REMOVE EXISTING
GUARDRAIL

21+09.4'HI'

2'

22+59.9'HI'

REMOVE EXISTING
GUARDRAIL

22+99.8'HI'

2'

MGS GUARDRAIL 3 K
187.50'

MGS GUARDRAIL 3 K
187.50'

POLIFKA RD

21'PO'

22'PO'

23'PO'

MGS GUARDRAIL 3 K
587.50'

2'

2'

REMOVE EXISTING
GUARDRAIL

GUARDRAIL DETAIL
B-36-84 POLIFKA ROAD
STA. 18+82.5'PO' - STA. 26+75.2'PO'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS POLIFKA ROAD	SHEET 44	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021216_PD.DWG
LAYOUT NAME - 021222_pd

PLOT DATE : 7/12/2021 2:36 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

N

MATCHLINE STA. 23+25'PO'

REMOVE EXISTING GUARDRAIL

2'

MGS GUARDRAIL 3 K
187.50'

STA. 24+40.4'PO'

POST NO. 9
24+43.5'PO'

REMOVE EXISTING GUARDRAIL

POST NO. 5
24+68.5'PO'

POST NO. 1
24+93.5'PO'

STA. 25+10.3'PO'

4'

15:1

MGS GUARDRAIL TERMINAL EAT
53.125'

25'PO'

26'PO'

POLIFKA RD

MGS GUARDRAIL 3 K
587.50'

2'

REMOVE EXISTING GUARDRAIL

MGS GUARDRAIL TERMINAL EAT
53.125'

4'

15:1

STA. 25+48.5'PO'

POST NO. 9
25+51.6'PO'

POST NO. 5
25+76.6'PO'

POST NO. 1
26+01.6'PO'

STA. 25+75.2'PO'

OH

T

FO

GUARDRAIL DETAIL
B-36-84 POLIFKA ROAD
STA. 18+82.5'PO' - STA. 26+75.2'PO'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - POLIFKA ROAD	SHEET 45	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021216_PD.DWG
LAYOUT NAME - 021223_pd

PLOT DATE : 7/12/2021 2:37 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

LEGEND

xxxxxxxxx SAW CUT

N

OH

GUY

CONSTRUCTION LIMITS
STA. 13+35.8'FI'

STA. 14+25.7'FI'

15:1

POST NO. 1
15+02.6'FI'

POST NO. 5
15+27.6'FI'

POST NO. 9
15+52.6'FI'

REMOVE EXISTING
GUARDRAIL

STA. 15+55.7'FI'

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS GUARDRAIL 3 K
275.0'

MGS THRIE BEAM TRANSITION
39.40'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.
BEGIN CONCRETE CURB
AND GUTTER
STA. 18+47.6'FI'

CONCRETE SURFACE
DRAIN REQ'D.

STRUCTURE B-36-88

STA. 18+04.3'FI'

18+30.7'FI'

18+70.1'FI'

3" ASPHALTIC
SURFACE REQ'D.

REMOVE EXISTING
GUARDRAIL

10:1

2'

FISHERVILLE RD

14'FI'

15'FI'

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS GUARDRAIL 3 K
375.0'

MGS THRIE BEAM TRANSITION
39.40'

STA. 13+35.8'FI'

15:1

POST NO. 1
14+11.9'FI'

POST NO. 5
14+36.9'FI'

POST NO. 9
14+61.9'FI'

STA. 14+65.0'FI'

REMOVE EXISTING
GUARDRAIL

10:1

REMOVE EXISTING
GUARDRAIL

18+40.0'FI'

3" ASPHALTIC
SURFACE REQ'D.

STA. 18+04.0'FI'

18+79.4'FI'

2'

BEGIN CONCRETE CURB AND GUTTER
STA. 18+56.9'FI'

CONCRETE SURFACE
DRAIN REQ'D.

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

GUARDRAIL DETAIL
B-36-88 FISHERVILLE ROAD
STA. 13+35.8'FI' - STA. 18+79.4'FI

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - FISHERVILLE ROAD	SHEET 46	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021216_PD.DWG
LAYOUT NAME - 021224_pd

PLOT DATE : 7/12/2021 2:37 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

N

OH

21+38.6'FI'

21+78.0'FI'

REMOVE EXISTING GUARDRAIL

2'

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
625.0'

22'FI'

REMOVE EXISTING GUARDRAIL

STA. 28+03.0'FI'

POST NO. 9
28+06.1'FI'

POST NO. 5
28+31.1'FI'

POST NO. 1
28+56.1'FI'

2'

4'

15:1

STA. 29+24.1'FI'

MGS GUARDRAIL TERMINAL EAT
53.125'

28'FI'

29'FI'

FISHERVILLE RD

STRUCTURE
B-36-88

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
625.0'

21+48.2'FI'

21+87.6'FI'

2'

REMOVE EXISTING GUARDRAIL

MGS GUARDRAIL TERMINAL EAT
53.125'

2'

STA. 28+12.6'FI'

POST NO. 9
28+15.7'FI'

POST NO. 5
28+40.7'FI'

POST NO. 1
28+65.7'FI'

4'

15:1

STA. 29+47.9'FI'

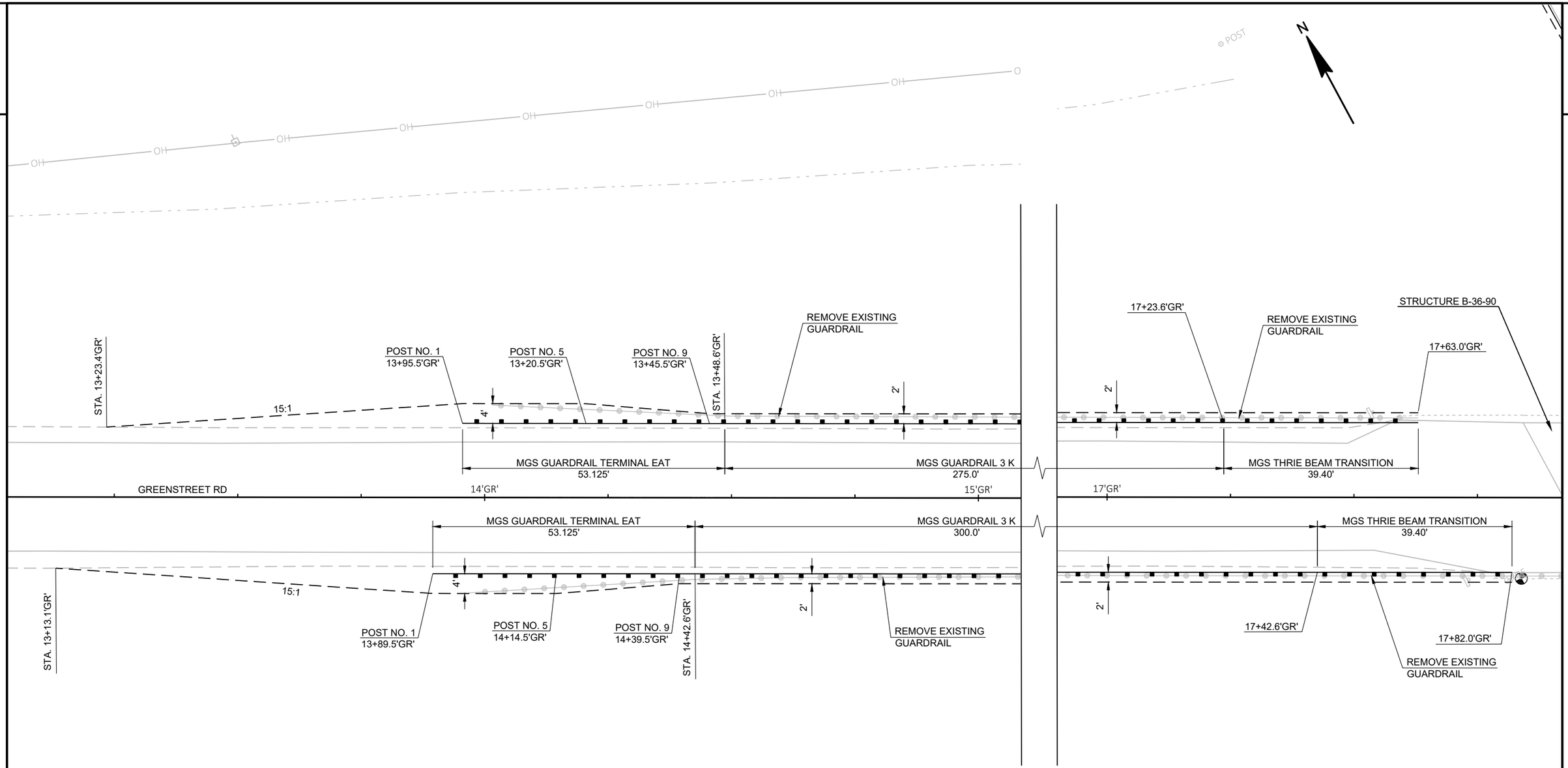
REMOVE EXISTING GUARDRAIL

GUARDRAIL DETAIL
B-36-88 FISHERVILLE ROAD
STA. 21+38.6'FI' - STA. 29+47.9'FI

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - FISHERVILLE ROAD	SHEET 47	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021216_PD.DWG
LAYOUT NAME - 021225_pd
PLOT DATE : 7/12/2021 2:37 PM
PLOT BY : VERVILLE, PHILLIP
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2



GUARDRAIL DETAIL
B-36-90 GREENSTREET RD
STA. 13+13.1'GR' - STA. 17+82.0'GR'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - GREENSTREET ROAD	SHEET 48	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\021216_PD.DWG
LAYOUT NAME - 021226_pd

PLOT DATE : 7/12/2021 2:37 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

LEGEND

.xxxxxxxxx. SAW CUT

N

OH OH OH OH OH OH OH

SS

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

CONCRETE SURFACE
DRAIN REQ'D.

END CONCRETE CURB AND GUTTER
STA. 25+75.8'GR'

3" ASPHALTIC
SURFACE REQ'D.

20+53.2'GR'

2'

20+92.6'GR'

STA. 21+25.3'GR'

REMOVE EXISTING
GUARDRAIL

10:1

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
425.00'

21'GR'

REMOVE EXISTING
GUARDRAIL

STA. 25+17.6'GR'

POST NO. 9
25+20.7'GR'

POST NO. 5
25+45.7'GR'

POST NO. 1
25+70.7'GR'

15:1

STA. 26+49.8'GR'

MGS GUARDRAIL TERMINAL EAT
53.125'

GREENSTREET RD

25'GR'

26'GR'

STRUCTURE B-36-90

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
400.00'

10:1

20+73.2'GR'

2

21+12.6'GR'

3" ASPHALTIC
SURFACE REQ'D.

STA. 21+40.7'GR'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

CONCRETE SURFACE
DRAIN REQ'D.

REMOVE EXISTING
GUARDRAIL

END CONCRETE CURB AND GUTTER
STA. 20+95.8'GR'

MGS GUARDRAIL TERMINAL EAT
53.125'

15:1

STA. 25+14.7'GR'

POST NO. 9
25+17.8'GR'

POST NO. 5
25+42.8'GR'

POST NO. 1
25+67.8'GR'

STA. 26+34.0'GR'

REMOVE EXISTING
GUARDRAIL

OH

OH

GUARDRAIL DETAIL
B-36-90 GREENSTREET RD
STA. 20+53.2'GR' - STA. 26+49.8'GR'

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - GREENSTREET ROAD	SHEET 49	E

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

USH 10

125 'TN'

REMOVING FENCE (TYP)

STH 310 NW RAMP 'TNW' R/L

15 'TNW'

STH 310 NW RAMP

20 'TNW'

SALVAGE RAIL

IH 43 'SB' R/L

B-36-78

1165 'SB'

1170 'SB'

IH 43 SB

1175 'SB'

PIER PIER

1165 'NB'

1170 'NB'

IH 43 NB

1175 'NB'

B-36-78

IH 43 'NB' R/L

130 'TN'

BEGIN PROJECT
STA 1167'NB'+61.56
Y=323,437.735
X=214,402.325

20 'TNE'

STH 310 NE RAMP

15 'TNE'

STH 310 NE RAMP 'TNE' R/L

REMOVING FENCE (TYP)

STH 310

2

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 50	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-71\022001-EC_RM.DWG
LAYOUT NAME - 022001-ec_rm
PLOT DATE : 10/14/2021 11:44 AM
PLOT BY : MATERNOSKI, JORDAN D
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

SALVAGE RAIL

REMOVING FENCE (TYP)

IH 43 'SB' R/L

SALVAGE RAIL

1215 'SB'

IH 43 SB

1220 'SB'

1225 'SB'

REMOVING APRON ENDWALL

15" RK

1215 'NB'

IH 43 NB

1220 'NB'

1225 'NB'

B-36-79

IH 43 'NB' R/L

SALVAGE RAIL

REMOVING FENCE (TYP)

ROCKWOOD RD

OHP

GUY

POST

BLDG

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 51	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-71\022001-EC_RM.DWG
LAYOUT NAME - 022002-ec_rm

PLOT DATE : 10/14/2021 11:44 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

2

REMOVING FENCE (TYP)

IH 43 'SB' R/L

CONCRETE COLLARS FOR PIPE

1230 'SB'

1235 'SB'

IH 43 SB

1240 'SB'

1230 'NB'

1235 'NB'

IH 43 NB

1240 'NB'

IH 43 'NB' R/L

REMOVING FENCE (TYP)

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 52	E

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

SALVAGE RAIL

REMOVING FENCE (TYP)

SALVAGE RAIL

IH 43 'SB' R/L

1265 'SB' | IH 43 SB | 1270 'SB' | 15' RM | 1275 'SB' | 1280 'SB'

1265 'NB' | IH 43 NB | 1270 'NB' | 1275 'NB' | 1280 'NB'

B-36-80

IH 43 'NB' R/L

SALVAGE RAIL

REMOVING FENCE (TYP)

REIFS MILLS RD

20' RM

2

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 53	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-71\022001-EC_RM.DWG
LAYOUT NAME - 022004-ec_rm

PLOT DATE : 10/14/2021 11:44 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

2

REMOVING FENCE (TYP)

IH 43 'SB' R/L

'SB' | 1285 'SB' | IH 43 SB | 1290 'SB' | 1295 'SB'

'NB' | 1285 'NB' | IH 43 NB | 1290 'NB' | 1295 'NB'

RIPRAP MEDIUM

IH 43 'NB' R/L

REMOVING FENCE (TYP)

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 54	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-71\022001-EC_RM.DWG
LAYOUT NAME - 022005-ec_rm

PLOT DATE : 10/14/2021 11:44 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

REMOVING FENCE (TYP)

REMOVING APRON ENDWALL

CTH V SW RAMP

20 'VSW'

CTH V SW RAMP 'VSW' R/L

15 'VSW'

CTH V NW RAMP

CTH V NW RAMP 'VNW' R/L

15 'VNW'

IH 43 'SB' R/L

1315 'SB' 1320 'SB' IH 43 SB 1325 'SB' 1330 'SB'

SALVAGE RAIL

20 'V'

1315 'NB' 1320 'NB' IH 43 NB 1325 'NB' 1330 'NB'

IH 43 'NB' R/L

REMOVING APRON ENDWALL

B-36-81

REMOVING APRON ENDWALL

CTH V SE RAMP 'VSE' R/L

15 'VSE'

CTH V SE RAMP

20 'VSE'

REMOVING FENCE (TYP)

CTH V

CTH V NE RAMP 'VNE' R/L

15 'VNE'

CTH V NE RAMP

25 'V'

2

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 55	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-71\022001-EC_RM.DWG
LAYOUT NAME - 022006-ec_rm

PLOT DATE : 10/14/2021 11:44 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

N

REMOVING FENCE (TYP)

25 'VNW'

1340 'SB'

IH 43 SB

1345 'SB'

IH 43 'SB' R/L

1350 'SB'

1340 'NB'

IH 43 NB

1345 'NB'

1350 'NB'

IH 43 'NB' R/L

SALVAGE RAIL (START)

REMOVING FENCE (TYP)

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 56	E

2

2

N

REMOVING FENCE (TYP)

RIPRAP MEDIUM

1350 'SB'

1355 'SB'

IH 43 'SB' R/L

IH 43 SB

1365 'SB'

1350 'NB'

1355 'NB'

IH 43 NB

1360 'NB'

1365 'NB'

SALVAGE RAIL (END)

IH 43 'NB' R/L

REMOVING FENCE (TYP)

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 57	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-71\022001-EC_RM.DWG
LAYOUT NAME - 022008-ec_rm

PLOT DATE : 10/14/2021 11:44 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

POLIFKA RD

SALVAGE RAIL

REMOVING FENCE (TYP)

15' PO

CONCRETE COLLARS FOR PIPE

IH 43 'SB' R/L

SALVAGE RAIL

1385 'SB'

1390 'SB'

IH 43 SB

1395 'SB'

1400 'SB'

REMOVING APRON ENDWALL

1385 'NB'

1390 'NB'

IH 43 NB

1395 'NB'

1400 'NB'

IH 43 'NB' R/L

B-36-84

20' PO

SALVAGE RAIL

REMOVING FENCE (TYP)

15'HI'

25' PO

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 58	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-71\022001-EC_RM.DWG
LAYOUT NAME - 022009-ec_rm

PLOT DATE : 10/14/2021 11:44 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

REMOVING FENCE (TYP)

20 'KSW'

CTH K SW RAMP

CTH K SW RAMP 'KSW' R/L

15 'KSW'

N

IH 43 'SB' R/L

1460 'SB'

IH 43 SB

1465 'SB'

1470 'SB'

B-36-87

1460 'NB'

IH 43 NB

1465 'NB'

1470 'NB'

IH 43 'NB' R/L

SALVAGE RAIL

15 'KSE'

CTH K SE RAMP

REMOVING FENCE (TYP)

20 'KSE'

CTH K SE RAMP 'KSE' R/L

CTH K

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 59	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-71\022001-EC_RM.DWG
LAYOUT NAME - 022010-ec_rm

PLOT DATE : 10/14/2021 11:44 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

N

REMOVING FENCE (TYP)

CTH K NW RAMP

15 'KNW'

CTH K NW RAMP 'KNW' R/L

SALVAGE RAIL

IH 43 'SB' R/L

1475 'SB'

1480 'SB'

IH 43 SB

1485 'SB'

B-36-86

1475 'NB'

1480 'NB'

IH 43 NB

1485 'NB'

IH 43 'NB' R/L

SALVAGE RAIL

20'KNE'

CTH K NE RAMP 'KNE' R/L

CTH K NE RAMP

15'KNE'

REMOVING FENCE (TYP)

LEGEND

- SLOPE INTERCEPT
- XXXXXXXXX SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 60	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-71\022001-EC_RM.DWG
LAYOUT NAME - 022011-ec_rm

PLOT DATE : 10/14/2021 11:44 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

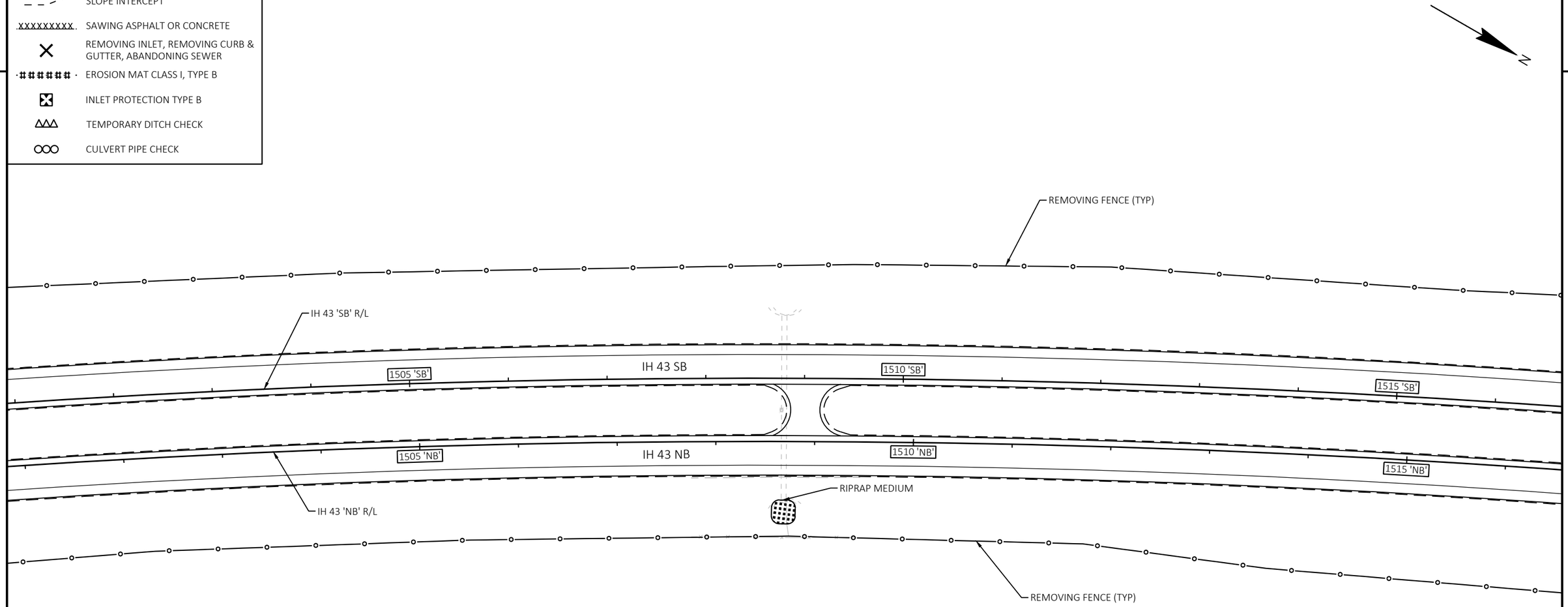
WISDOT/CADDS SHEET 42

2

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK



PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 61	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-71\022001-EC_RM.DWG
LAYOUT NAME - 022012-ec_rm

PLOT DATE : 10/14/2021 11:45 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

SALVAGE RAIL TO STA 14+02 RT

SALVAGE RAIL TO STA 14+93 LT

FISHERVILLE RD

SALVAGE RAIL

REMOVING FENCE (TYP)

IH 43 'SB' R/L

SALVAGE RAIL

REMOVING APRON ENDWALL

1535 'SB'

1540 'SB'

IH 43 SB

1545 'SB'

20 FT

1535 'NB'

1540 'NB'

IH 43 NB

1545 'NB'

B-36-88

IH 43 'NB' R/L

REMOVING APRON ENDWALL

REMOVING FENCE (TYP)

REMOVING APRON ENDWALL

FISHERVILLE RD

SALVAGE RAIL

SALVAGE RAIL TO STA 28+76 RT

SALVAGE RAIL TO STA 28+59 LT

25 FT

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

SALVAGE RAIL TO STA 13+97 RT

15GR

GREENSTREET RD

SALVAGE RAIL

REMOVING FENCE (TYP)

IH 43 'SB' R/L

SALVAGE RAIL

1575 'SB'

IH 43 SB

1580 'SB'

1585 'SB'

1575 'NB'

IH 43 NB

1580 'NB'

1585 'NB'

IH 43 'NB' R/L

20GR

B-36-90

SALVAGE RAIL

REMOVING FENCE (TYP)

GREENSTREET RD

SALVAGE RAIL TO STA 25+61 RT

SALVAGE RAIL TO STA 25+65 LT

5'GR

2

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 63	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-71\022001-EC_RM.DWG
LAYOUT NAME - 022014-ec_rm

PLOT DATE : 10/14/2021 11:45 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

REMOVING FENCE

IH 43 'SB' R/L

1600 'SB'

1605 'SB'

B-36-91

1610 'SB'

IH 43 SB

DEVIL'S RIVER STATE TRAIL

1600 'NB'

1605 'NB'

B-36-92

1610 'NB'

IH 43 NB

IH 43 'NB' R/L

REMOVING FENCE

DEVIL'S RIVER STATE TRAIL

2

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 64	E

2

STH 310

EXIT 154

10 WEST 310
Two Rivers
Appleton

E1-5
108" X 30"
2

E4-1A
252" X 132"
1

125
15
20
130
15
20
25

1165 1170 1175 1180 1185 1190

1165 1170 1175 1180 1185 1190

11

11

N

10 EAST
AHEAD

E3-1
132" X 78"
4

HOSPITAL
EXIT 154

E10-61
144" X 54"
3

1200 1205 1210 1215 1220 1225

1200 1205 1210 1215 1220 1225

11

11

11

5

ROCKWOOD RD

5

Francis Creek 2
Maribel 8
Green Bay 27

E8-1
216" X 84"

N

SIGNING NOTES

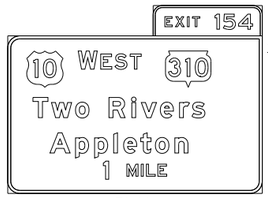
ACTUAL SIZE/NUMBER/LENGTH/WEIGHT OF STEEL SUPPORTS/REINFORCEMENT/CONCRETE BASES ARE TO BE DETERMINED BY CONTRACTOR, BASED ON FIELD CONDITIONS, FINAL GRADE AND SIGN LOCATION FOLLOW SIGN DETAIL A-PLATES A3-1, A3-2, A3-3, A4-1 FOR CONSTRUCTION AND FABRICATION

LEGEND

STEEL POSTS

SIGN-REMOVE AND REPLACE

PROJECT NO: 1227-12-71	HWY: IH-43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 65 E



E1-5
108' X 30'
7

E1-1A
216' X 162'
6

1230 1235 1240 1245 1250 1255

1230 1235 1240 1245 1250 1255

E1-5
108' X 30'
9

8

E1-1A
252' X 156'

SIGNING NOTES

ACTUAL SIZE/NUMBER/LENGTH/WEIGHT OF STEEL SUPPORTS/REINFORCEMENT/CONCRETE BASES ARE TO BE DETERMINED BY CONTRACTOR, BASED ON FIELD CONDITIONS, FINAL GRADE AND SIGN LOCATION FOLLOW SIGN DETAIL A-PLATES A3-1, A3-2, A3-3, A4-1 FOR CONSTRUCTION AND FABRICATION

1260 1265 1270 1275 1280 1285

1260 1265 1270 1275 1280 1285

15

REIFS MILLS RD

20

LEGEND

STEEL POSTS

SIGN-REMOVE AND REPLACE

PROJECT NO: 1227-12-71	HWY:IH-43	COUNTY:MANITOWOC	PERMANENT SIGNING	SHEET 66 E

2

N

1290 1295 1300 1305 1310 1315 1320

1290 1295 1300 1305 1310 1315 1320

15

15

11

EXIT 157

V

Mishicot

Francis Creek

E4-1A
276'-X-126'
10

E1-5
108'-X-30'
11

20

15

1325 1330 1335 1340 1345 1350

1325 1330 1335 1340 1345 1350

20

CTH V

20

15

20

EXIT 157

V

Mishicot

Francis Creek

E4-1A
276'-X-126'
12

E1-5
108'-X-30'
13

25

20

15

20

SIGNING NOTES

ACTUAL SIZE/NUMBER/LENGTH/WEIGHT OF STEEL SUPPORTS/REINFORCEMENT/CONCRETE BASES ARE TO BE DETERMINED BY CONTRACTOR, BASED ON FIELD CONDITIONS, FINAL GRADE AND SIGN LOCATION FOLLOW SIGN DETAIL A-PLATES A3-1, A3-2, A3-3, A4-1 FOR CONSTRUCTION AND FABRICATION

LEGEND

STEEL POSTS

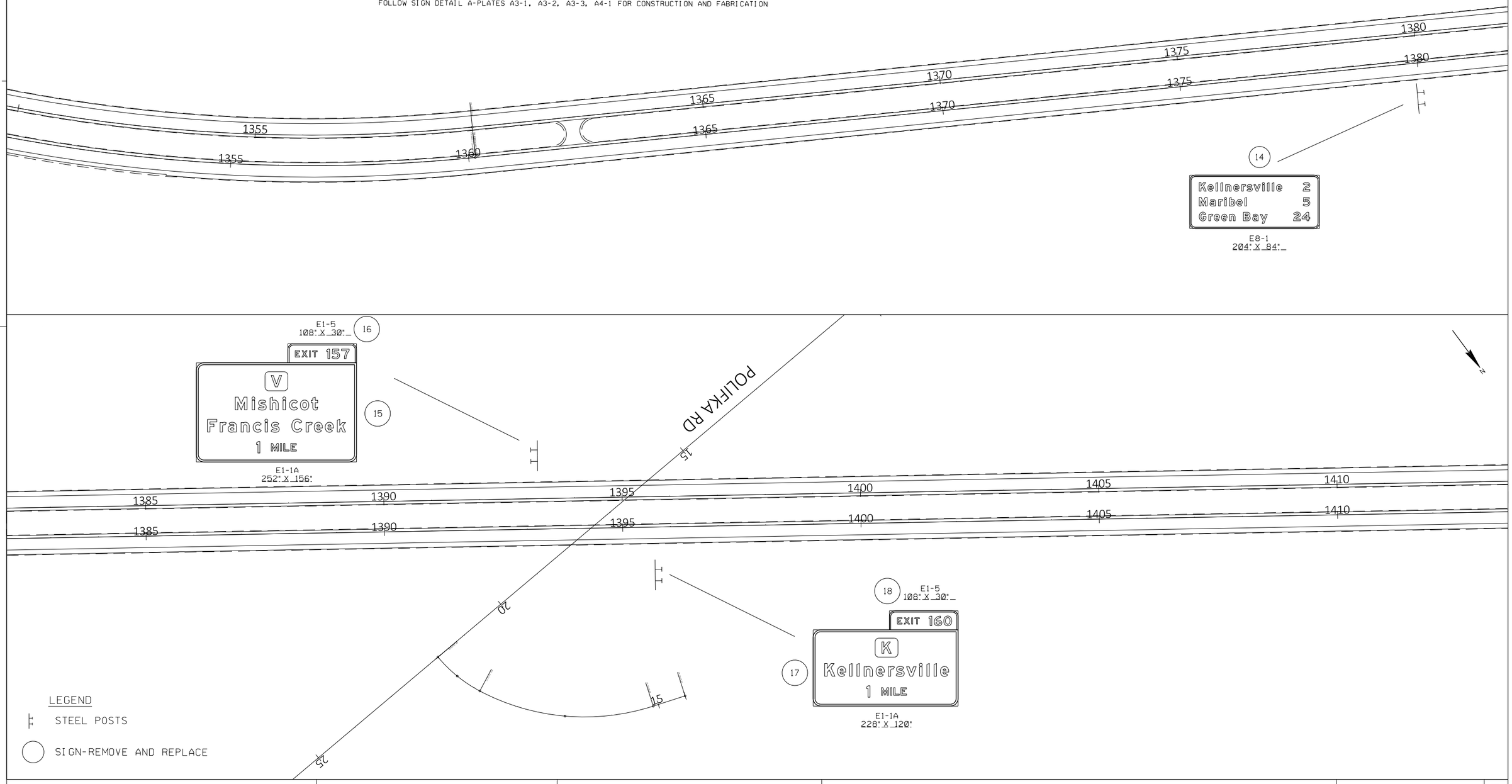
SIGN-REMOVE AND REPLACE

N

PROJECT NO: 1227-12-71	HWY:IH-43	COUNTY:MANITOWOC	PERMANENT SIGNING	SHEET 67 E

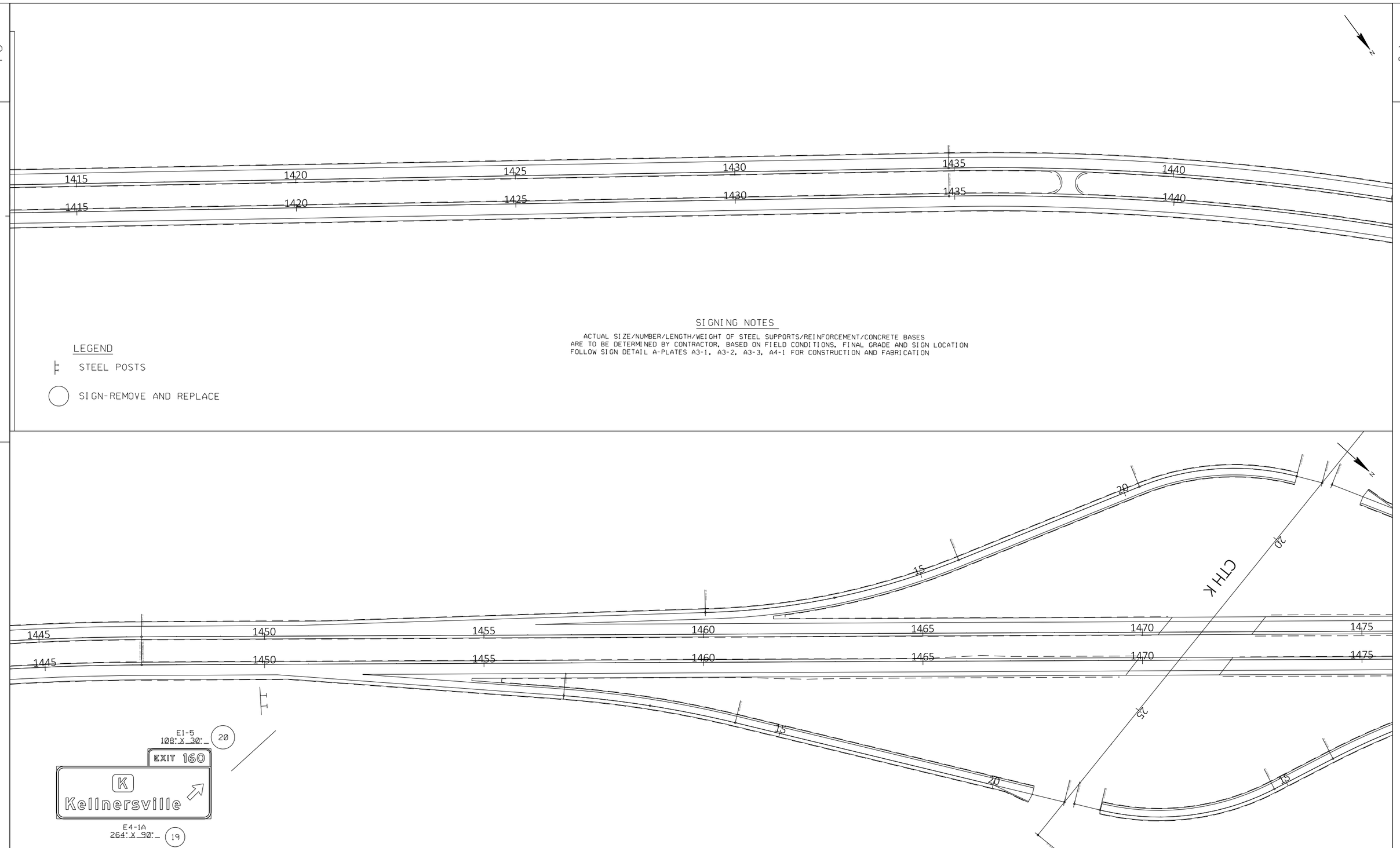
SIGNING NOTES

ACTUAL SIZE/NUMBER/LENGTH/WEIGHT OF STEEL SUPPORTS/REINFORCEMENT/CONCRETE BASES ARE TO BE DETERMINED BY CONTRACTOR, BASED ON FIELD CONDITIONS. FINAL GRADE AND SIGN LOCATION FOLLOW SIGN DETAIL A-PLATES A3-1, A3-2, A3-3, A4-1 FOR CONSTRUCTION AND FABRICATION



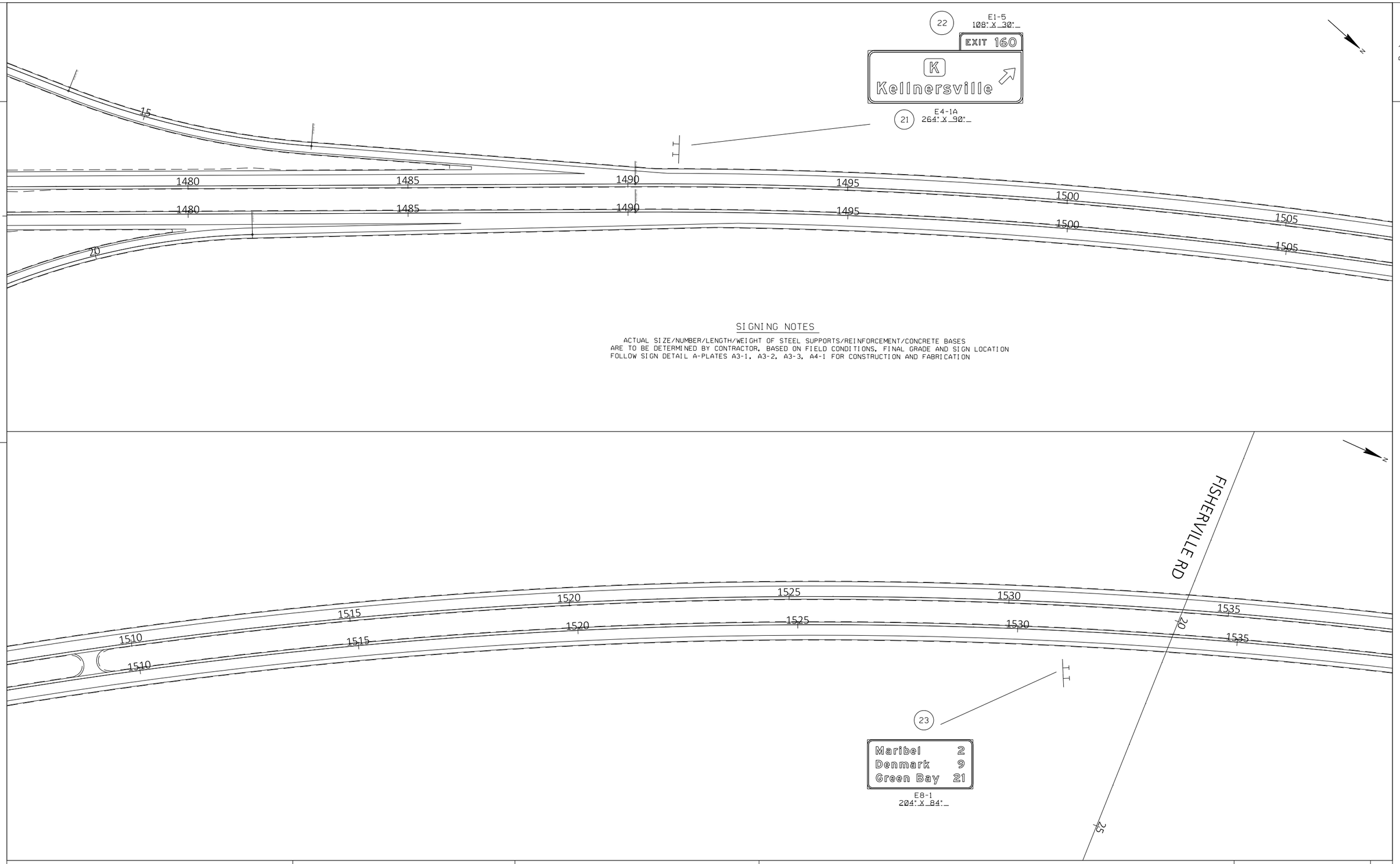
PROJECT NO: 1227-12-71	HWY: IH-43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 68 E

FILE NAME :$$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : _____ PLOT SCALE : $$.....plotscale.....$$



PROJECT NO: 1227-12-71	HWY:IH-43	COUNTY:MANITOWOC	PERMANENT SIGNING	SHEET 69 E

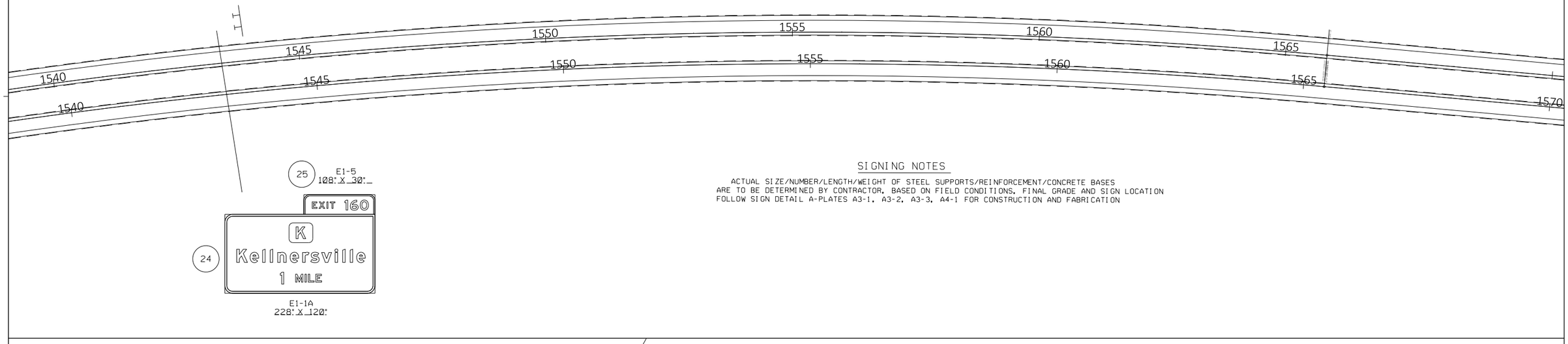
FILE NAME :$$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : _____ PLOT SCALE : $$.....plotscale.....$$



SIGNING NOTES

ACTUAL SIZE/NUMBER/LENGTH/WEIGHT OF STEEL SUPPORTS/REINFORCEMENT/CONCRETE BASES ARE TO BE DETERMINED BY CONTRACTOR, BASED ON FIELD CONDITIONS, FINAL GRADE AND SIGN LOCATION FOLLOW SIGN DETAIL A-PLATES A3-1, A3-2, A3-3, A4-1 FOR CONSTRUCTION AND FABRICATION

2



25 E1-5 108" X 30"

EXIT 160

K

Kellnersville

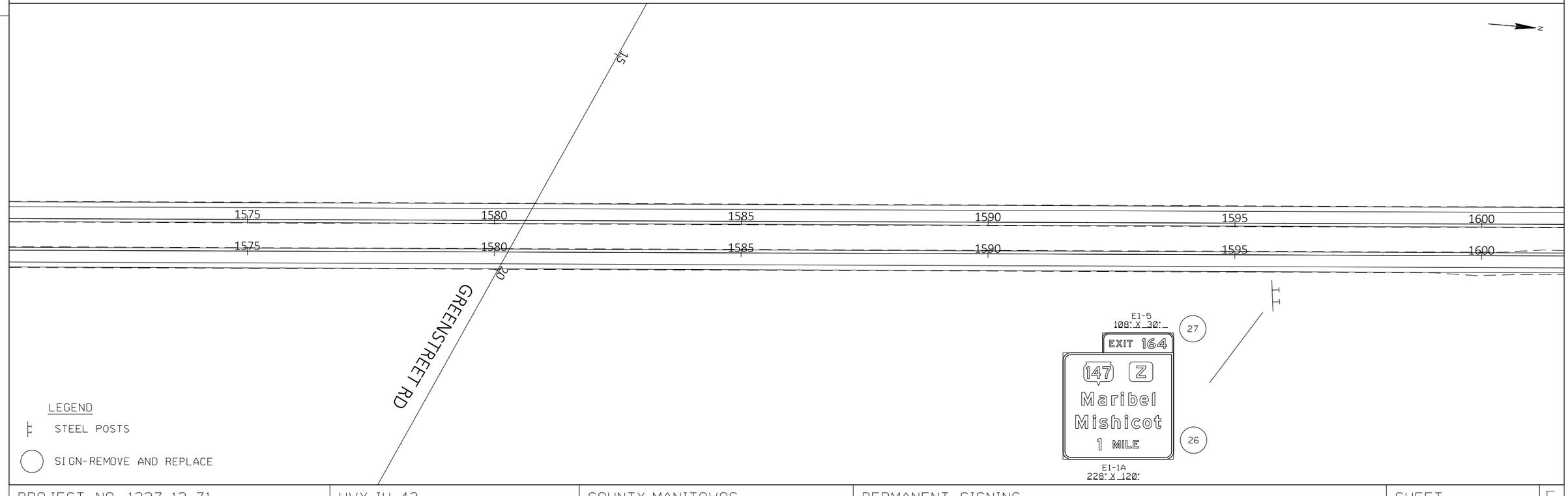
1 MILE

24

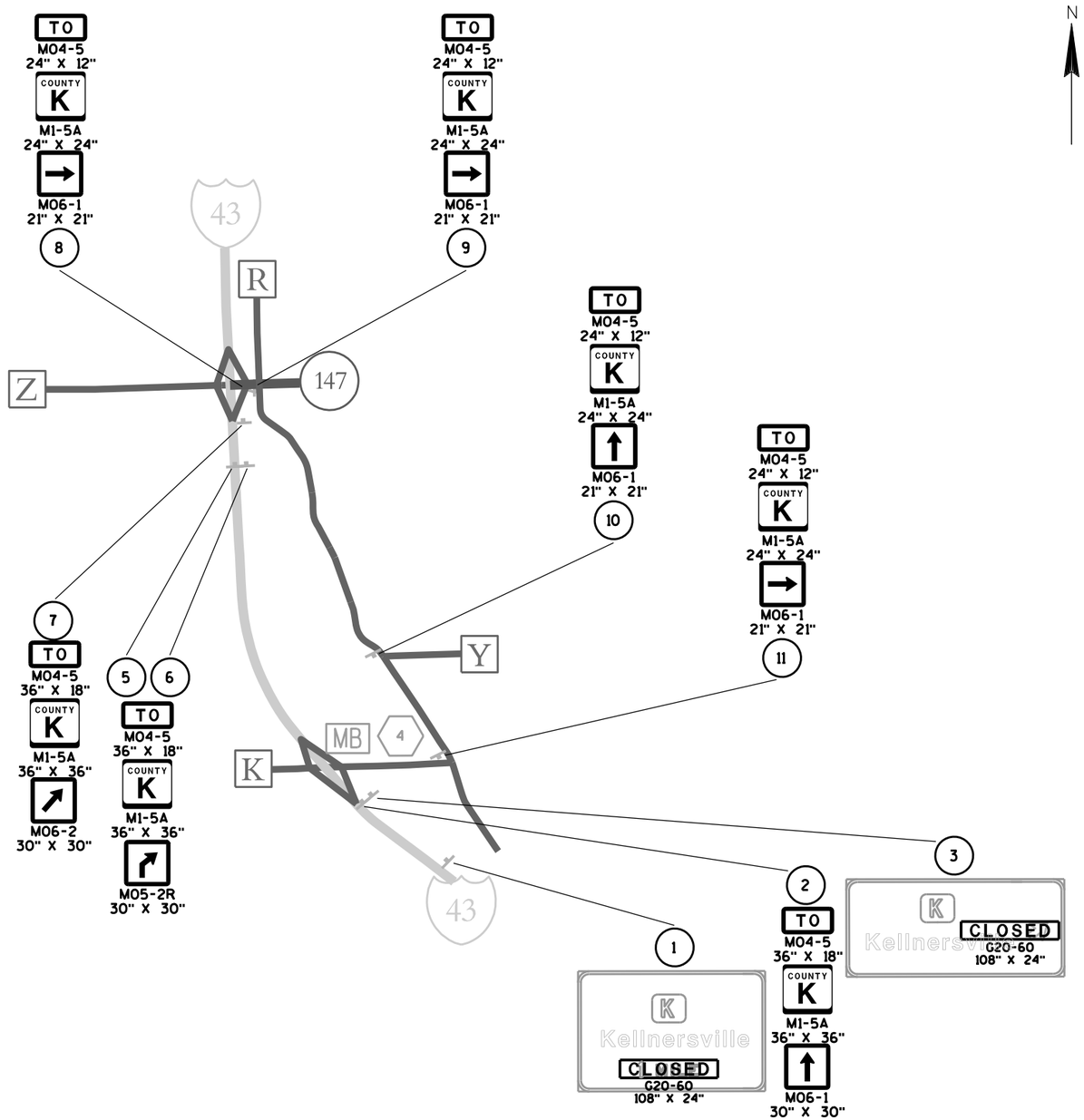
E1-1A 228" X 120"

SIGNING NOTES

ACTUAL SIZE/NUMBER/LENGTH/WEIGHT OF STEEL SUPPORTS/REINFORCEMENT/CONCRETE BASES ARE TO BE DETERMINED BY CONTRACTOR, BASED ON FIELD CONDITIONS, FINAL GRADE AND SIGN LOCATION FOLLOW SIGN DETAIL A-PLATES A3-1, A3-2, A3-3, A4-1 FOR CONSTRUCTION AND FABRICATION



2



LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- MB (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

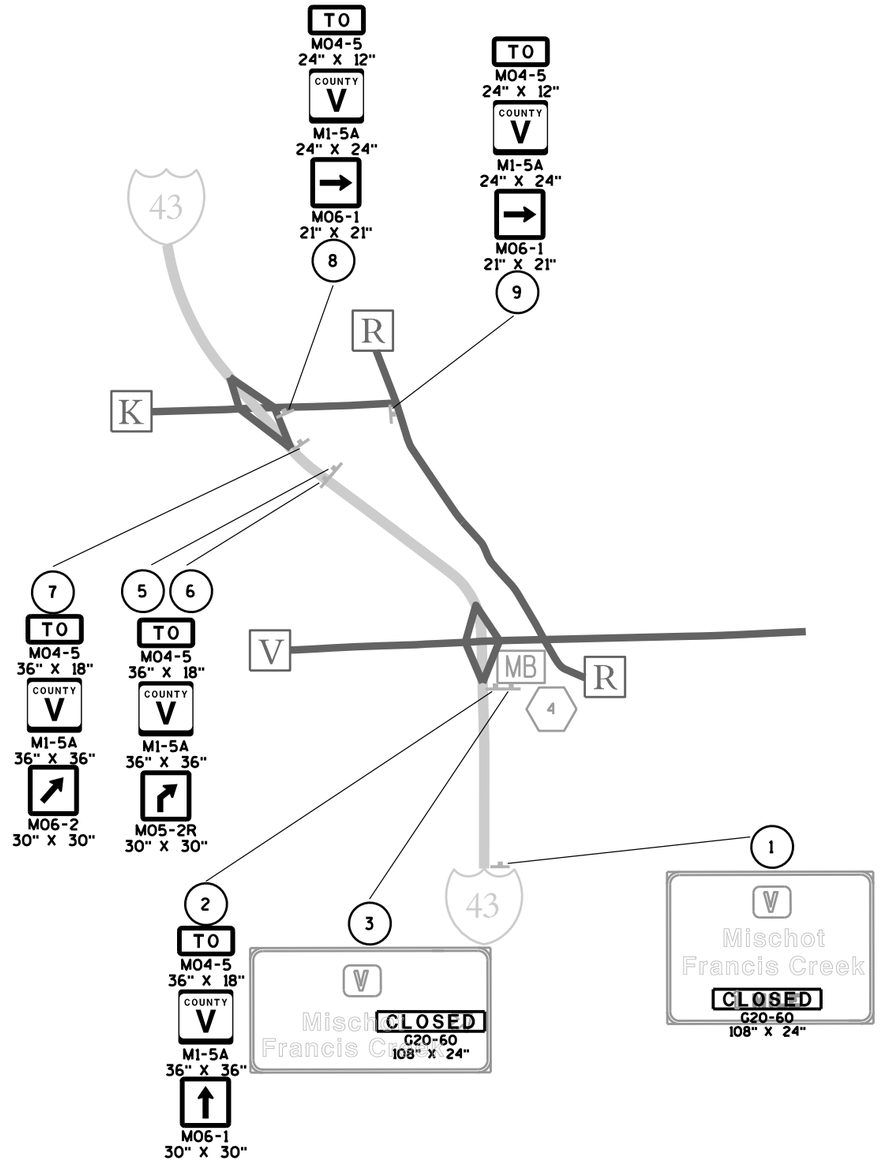
PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - 43 NB OFF-RAMP TO K	SHEET E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$
WISDOT/CADDS SHEET 42

2

N



LEGEND

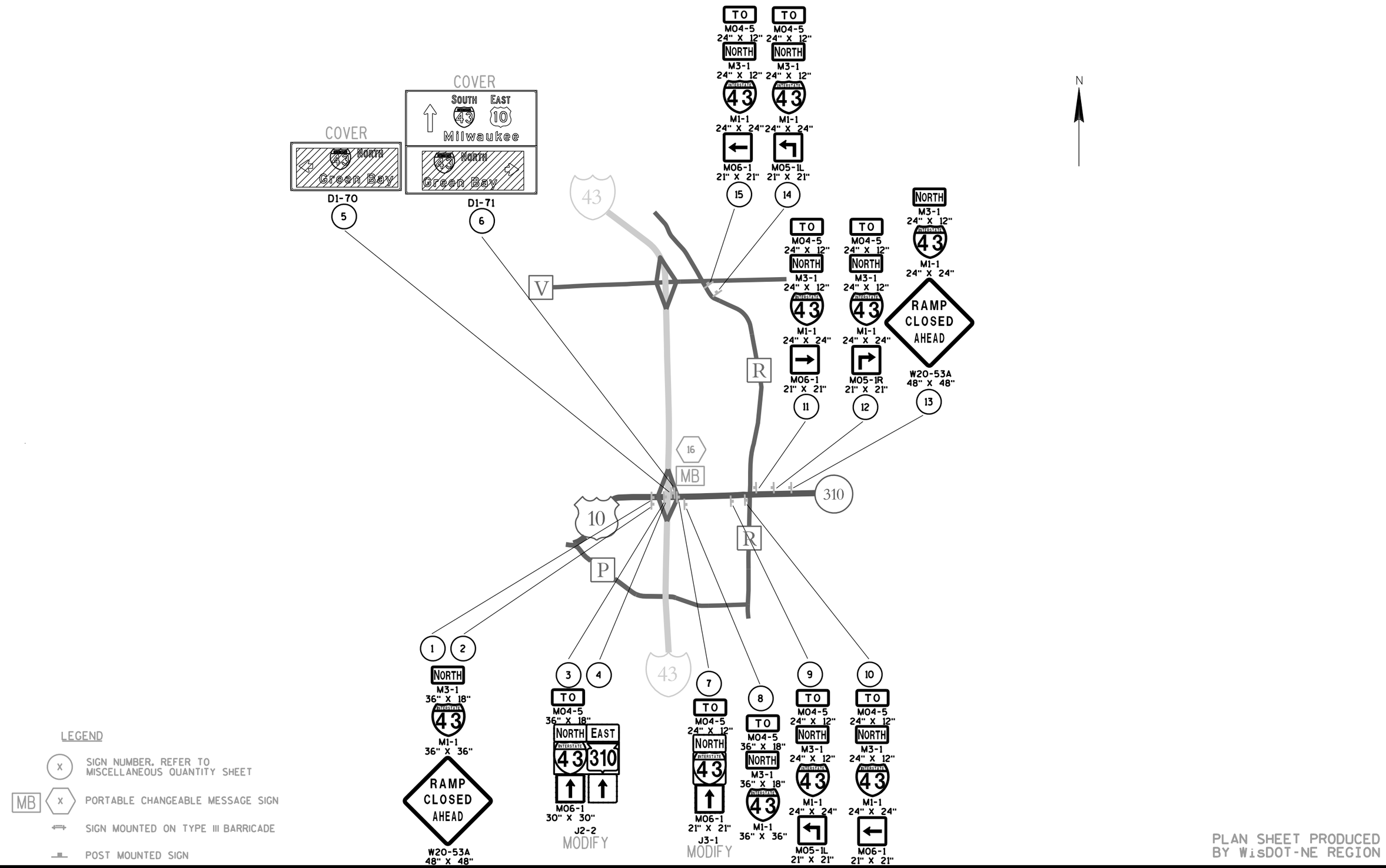
- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- MB (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - I-43 NB OFF-RAMP TO V	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

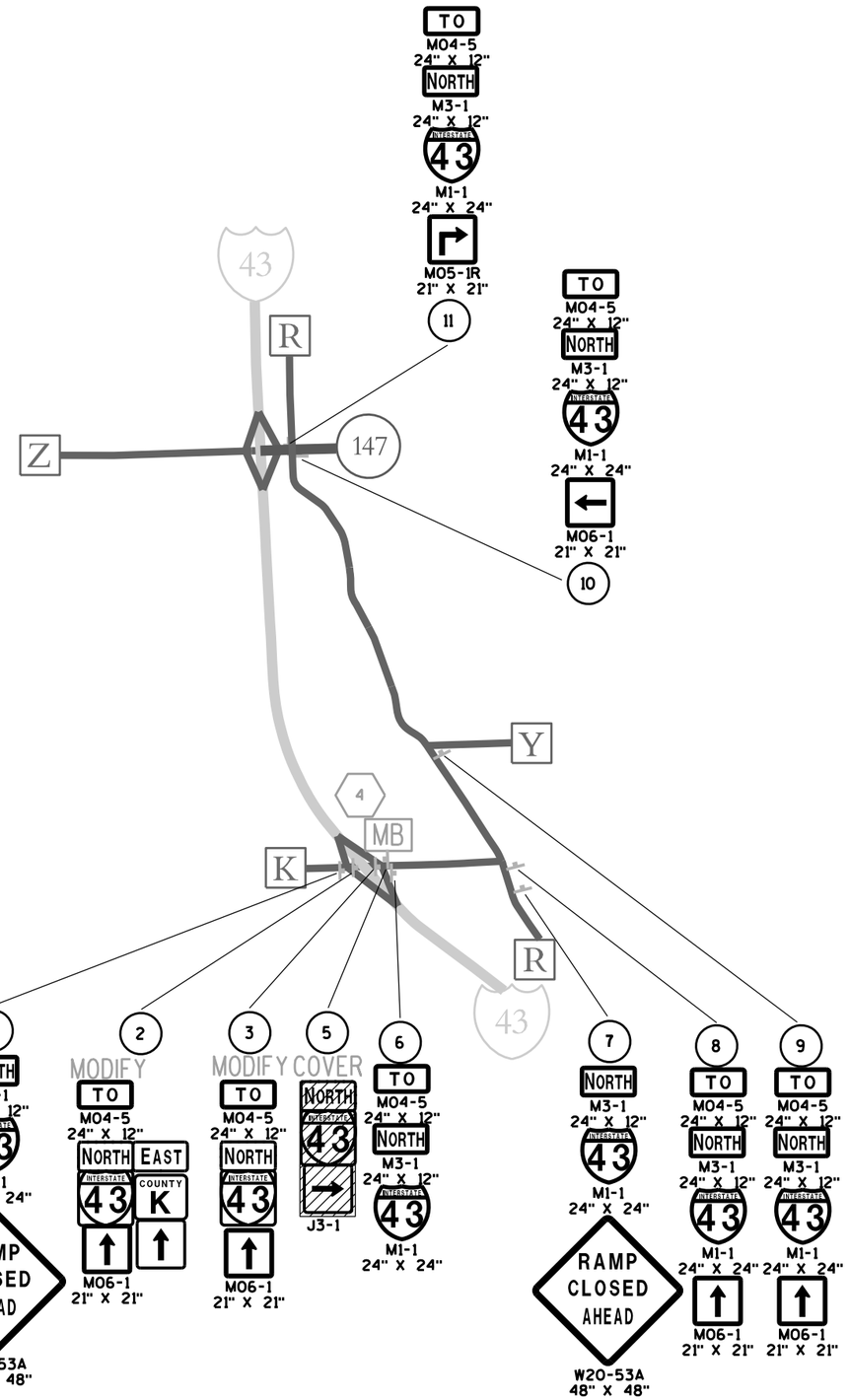
2



PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - US 10-STH 310 TO 43 NB ON-RAMP	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

2



N

LEGEND

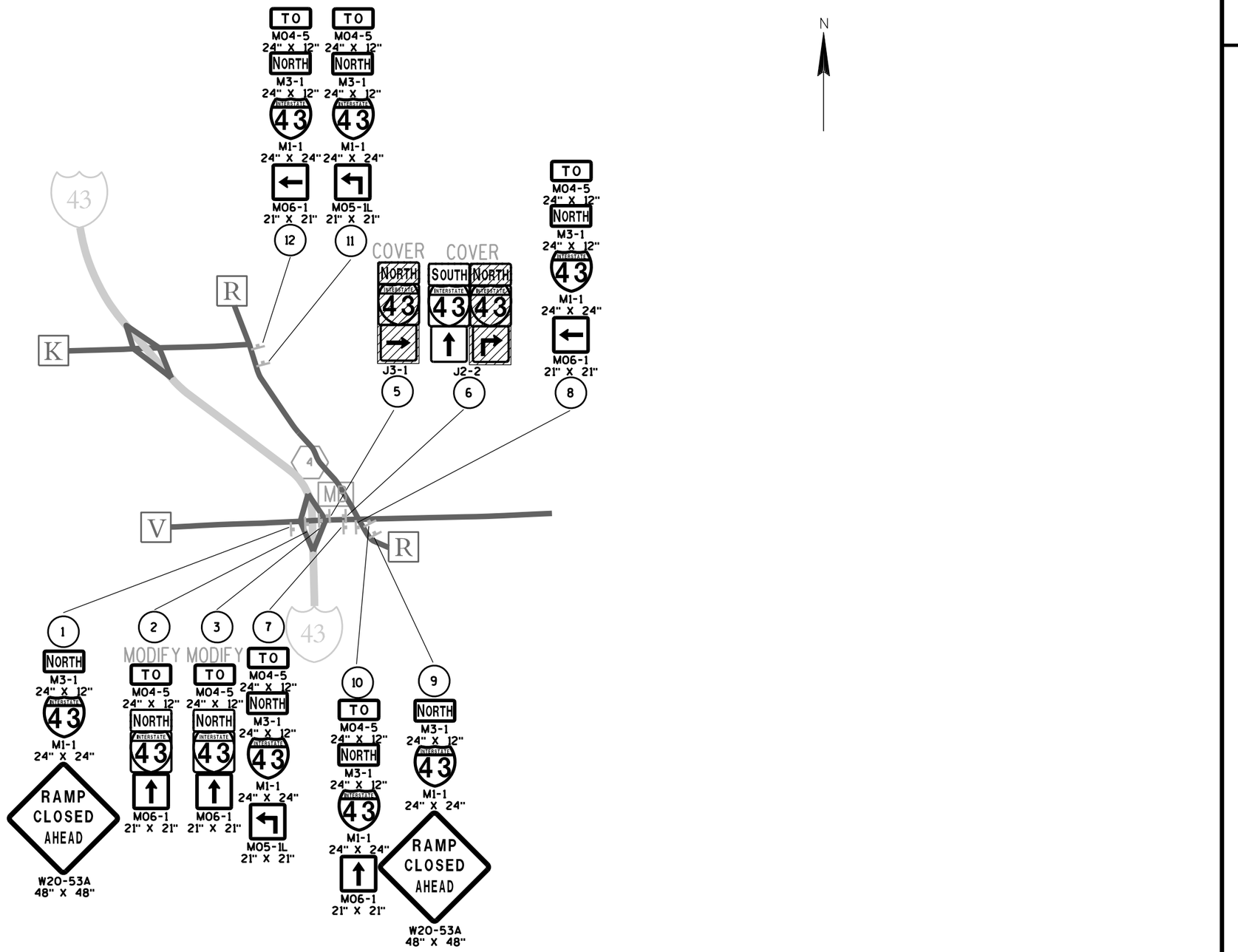
- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- MB (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - CTH K TO 43 NB ON-RAMP	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 42



LEGEND

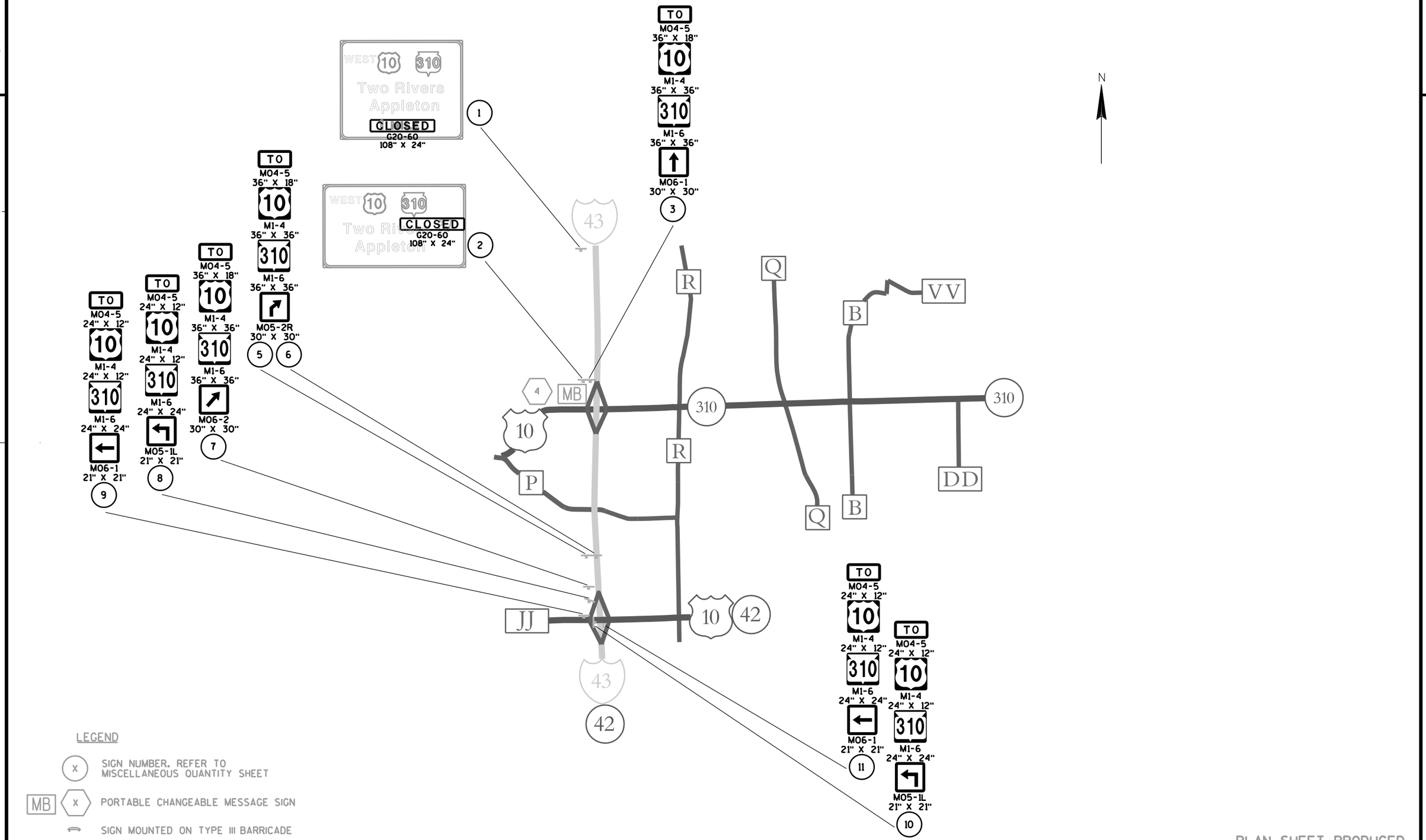
- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- MB (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - CTH V TO 43 NB ON-RAMP	SHEET E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

2



LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- MB (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

PLAN SHEET PRODUCED BY WisDOT-NE REGION

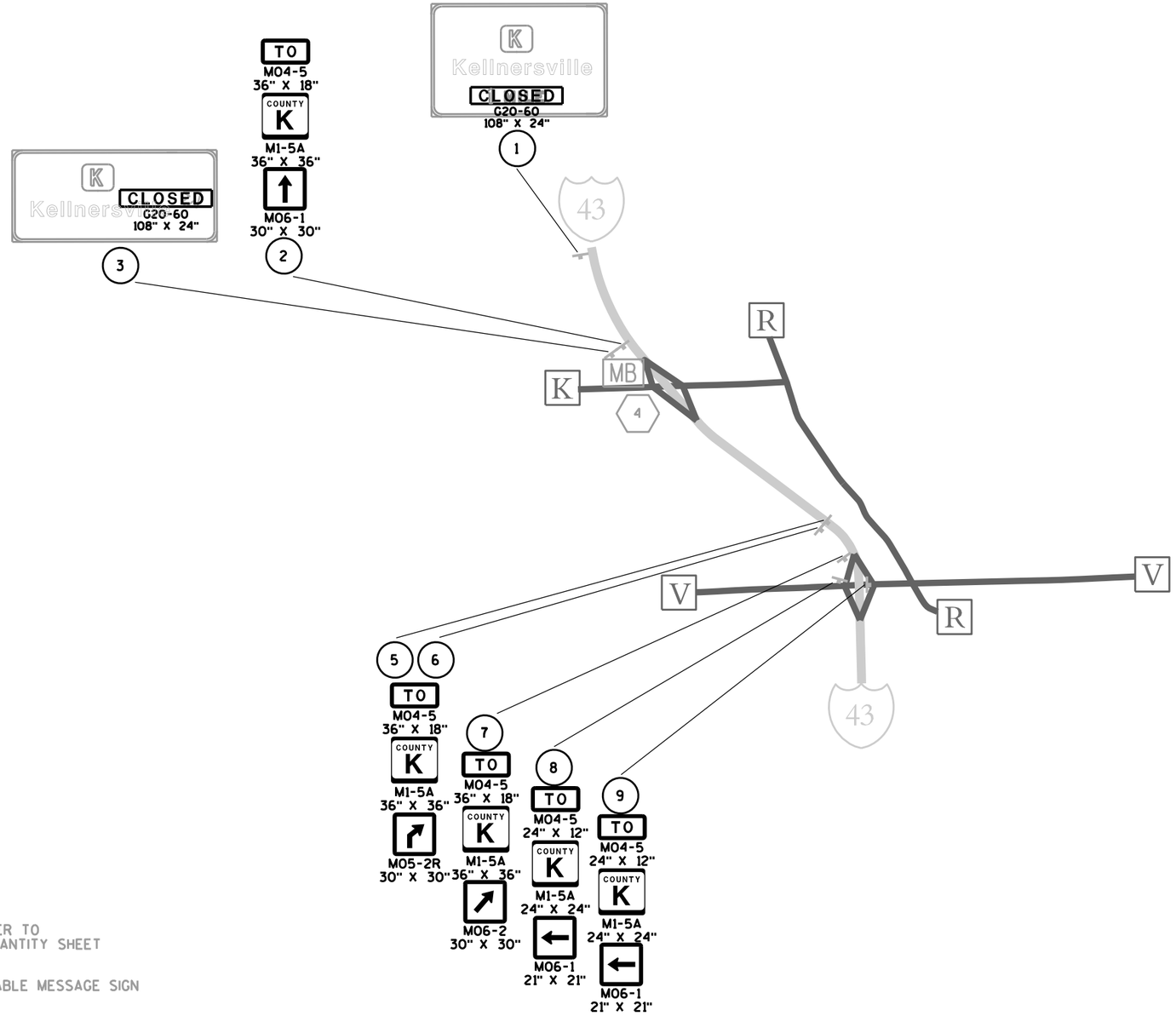
PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - 43 SB OFF-RAMP TO 10/310	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 42

2

N



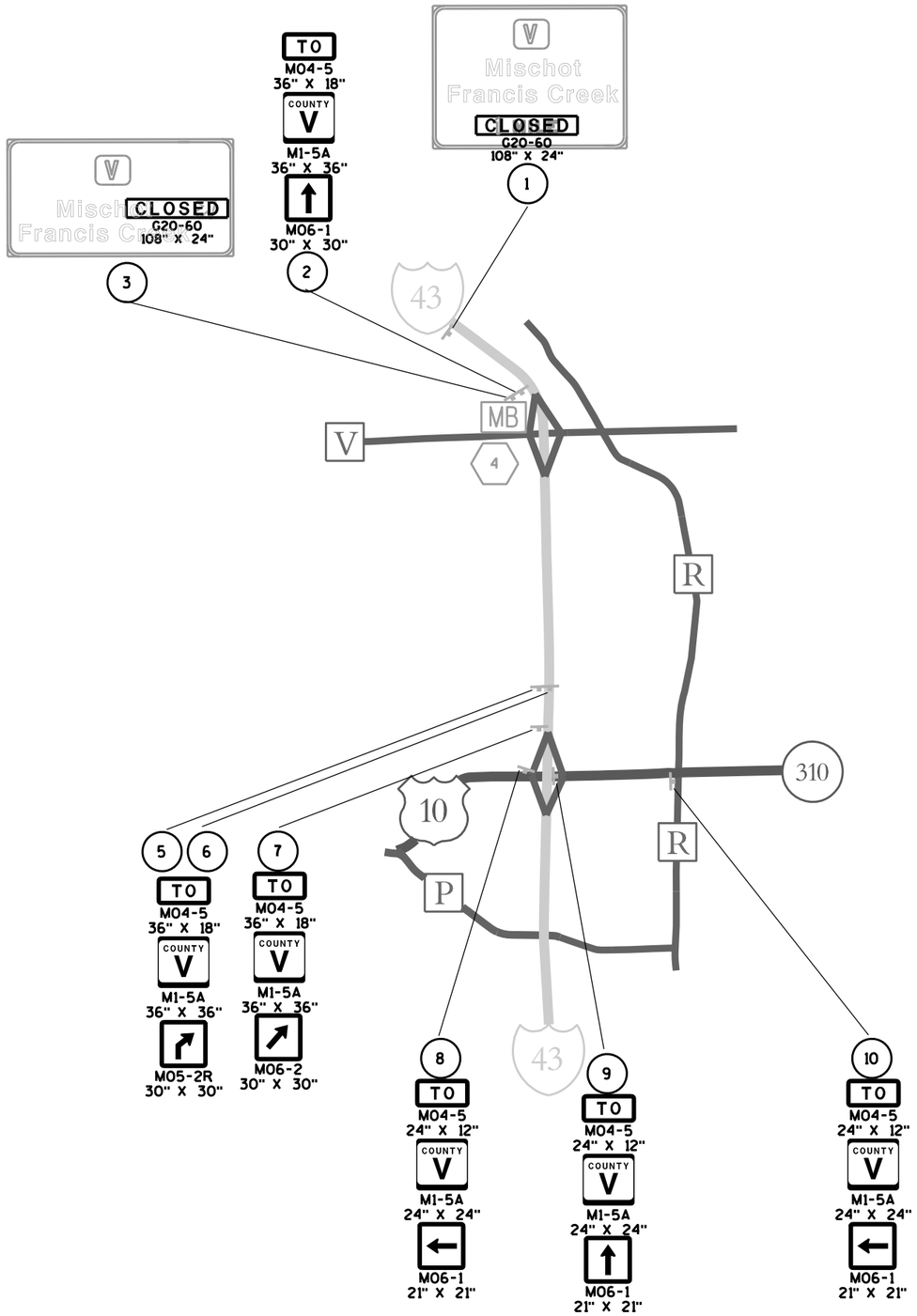
LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- MB (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - 43 SB OFF-RAMP TO K	SHEET 78	E

2



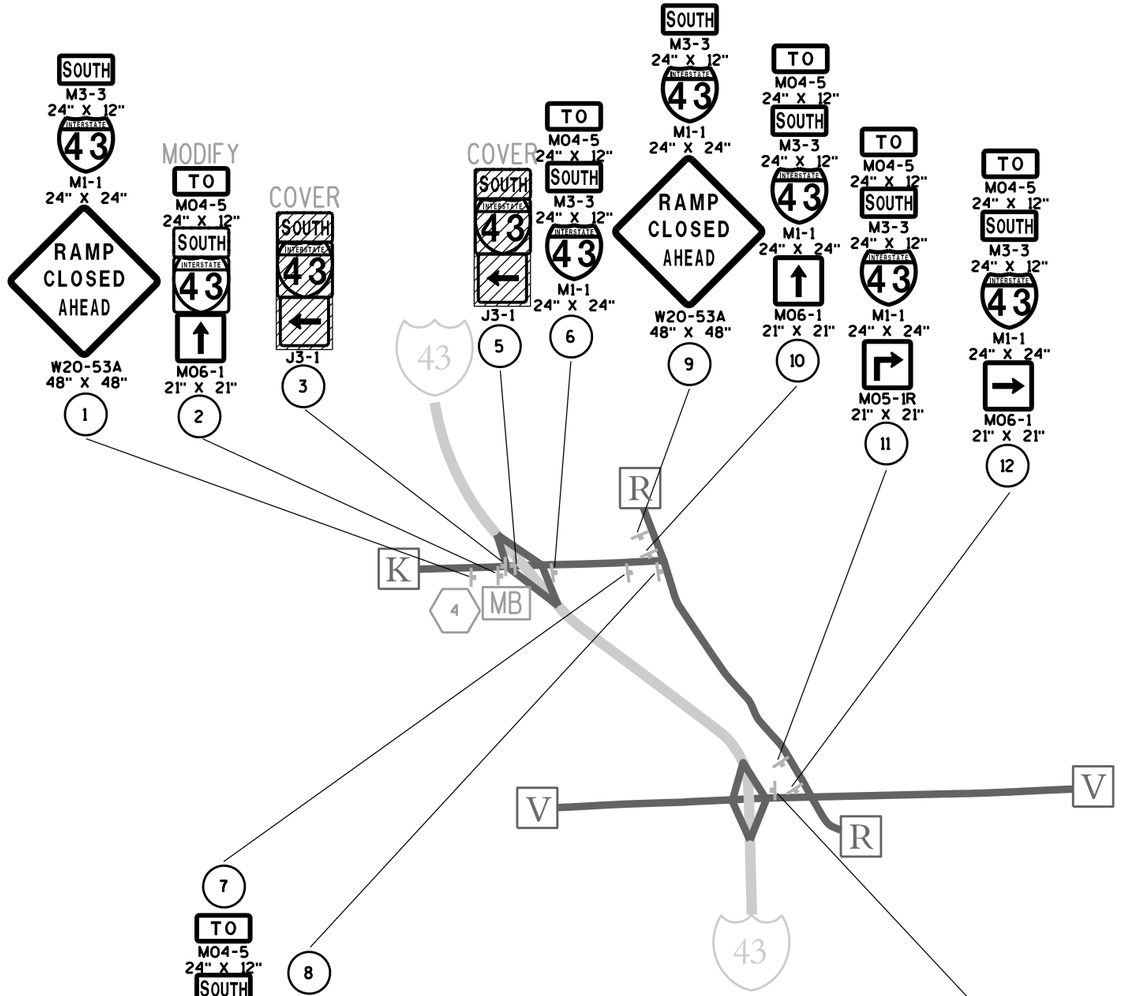
N

LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- MB (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - 43 SB OFF-RAMP TO V	SHEET 79	E



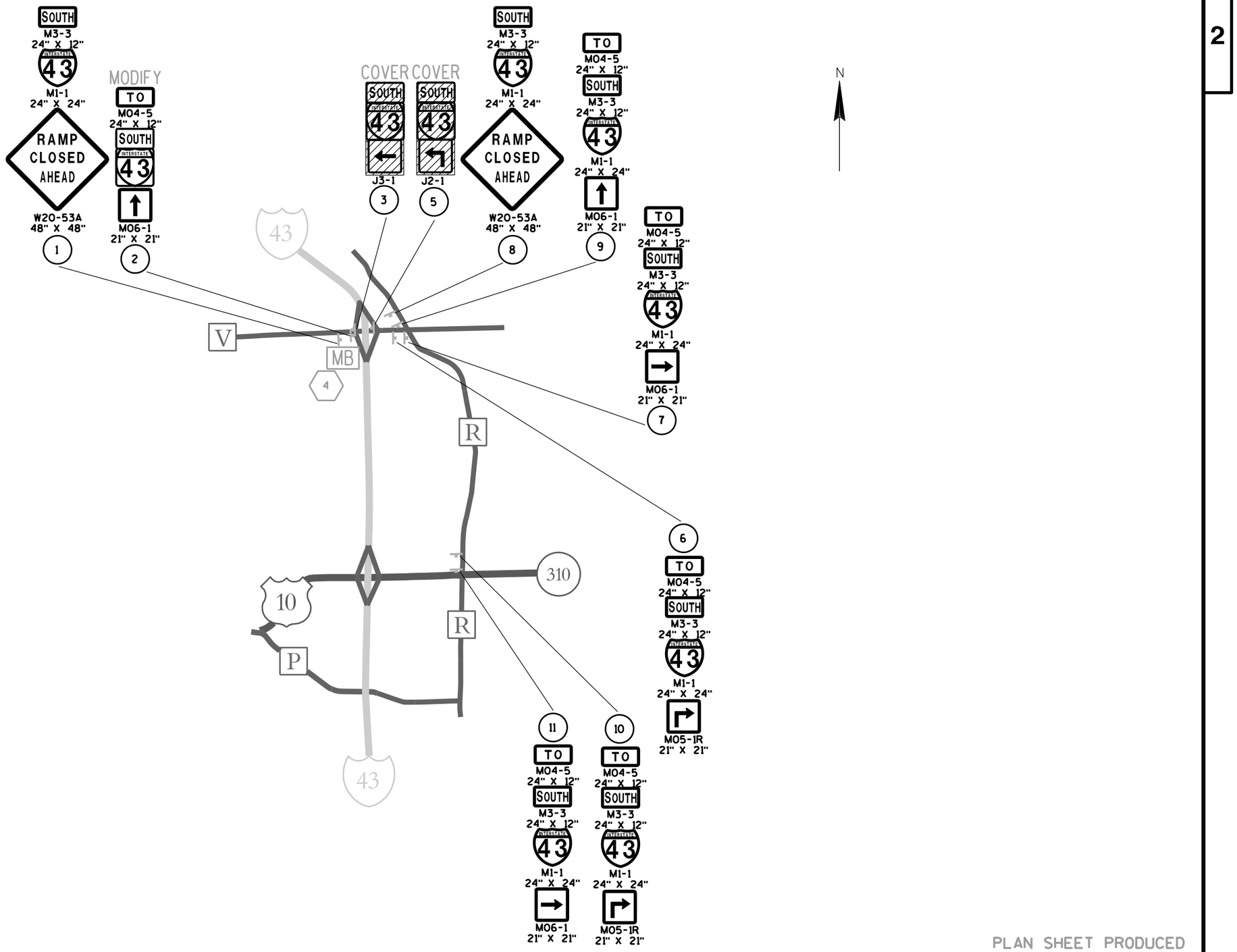
LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- MB (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - CTH K TO 43 SB ON-RAMP	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$



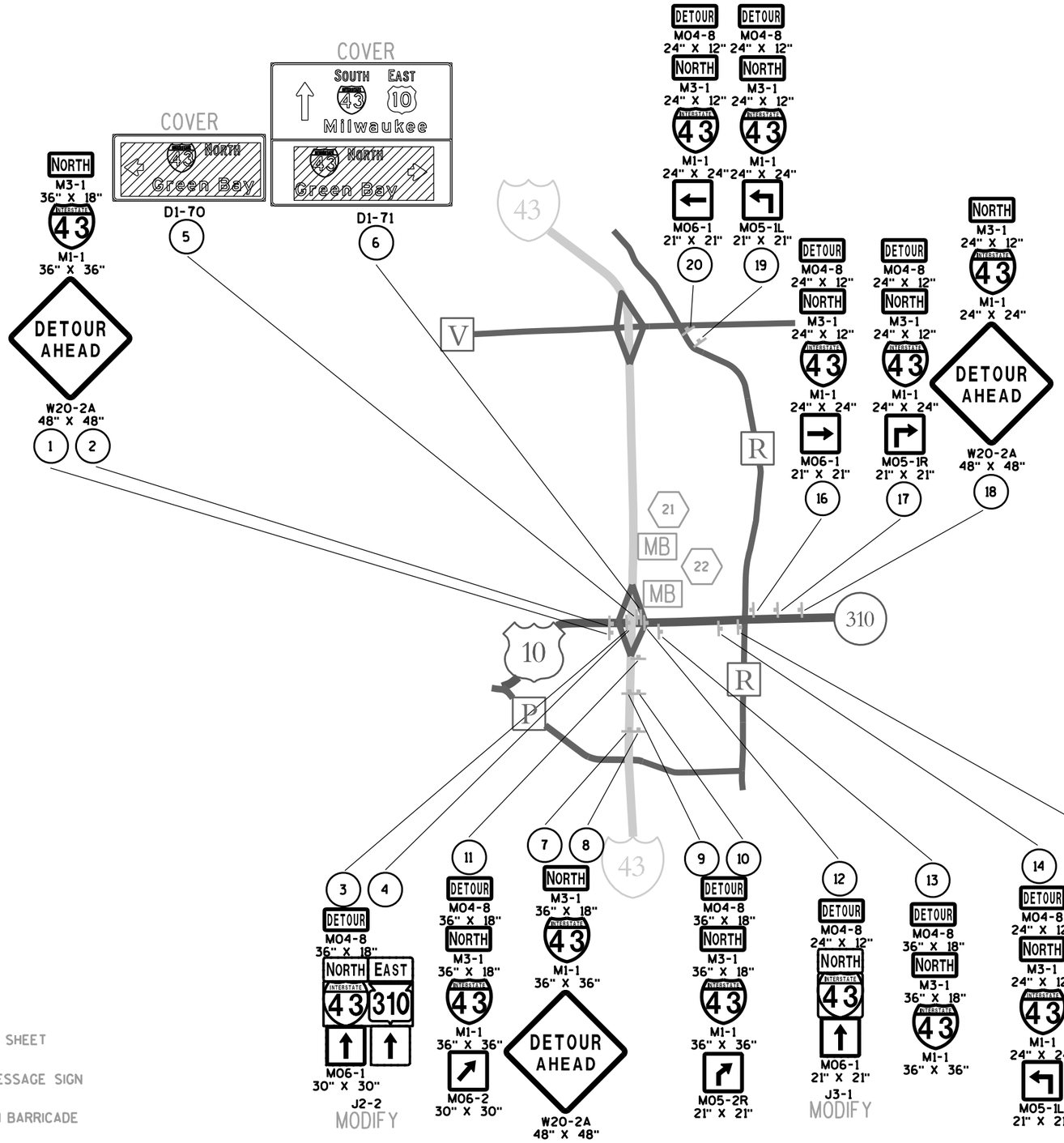
LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- MB (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - CTH V ON-RAMP TO 43 SB	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



LEGEND

- (X) SIGN NUMBER, REFER TO MISCELLANEOUS QUANTITY SHEET
- MB (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - I-43 NB MAINLINE CLOSURE	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

1227-12-71

Line	Item	Item Description	Unit	Total	Qty
0004	203.0220	Removing Structure (structure) 01. B-36-0079	EACH	1.000	1.000
0006	204.0105	Removing Pavement Butt Joints	SY	1,373.000	1,373.000
0010	204.0110	Removing Asphaltic Surface	SY	263.000	263.000
0012	204.0115	Removing Asphaltic Surface Butt Joints	SY	129.000	129.000
0014	204.0120	Removing Asphaltic Surface Milling	SY	408,465.000	408,465.000
0016	204.0126.S	Removing Asphaltic Longitudinal Notched Wedge Joint Milling	LF	87,032.000	87,032.000
0018	204.0150	Removing Curb & Gutter	LF	170.000	170.000
0020	204.0170	Removing Fence	LF	87,432.000	87,432.000
0022	204.0220	Removing Inlets	EACH	22.000	22.000
0026	204.0291.S	Abandoning Sewer	CY	25.000	25.000
0028	204.9060.S	Removing (item description) 01. Apron Endwall	EACH	11.000	11.000
0030	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1227-12-71	LS	1.000	1.000
0034	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	7.000	7.000
0036	213.0100	Finishing Roadway (project) 01. 1227-12-71	EACH	1.000	1.000
0040	305.0110	Base Aggregate Dense 3/4-Inch	TON	13,781.000	13,781.000
0042	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	280.000	280.000
0044	390.0303	Base Patching Concrete	SY	3,336.000	3,336.000
0046	390.0403	Base Patching Concrete Shes	SY	44.000	44.000
0048	416.0610	Drilled Tie Bars	EACH	4,153.000	4,153.000
0050	416.0620	Drilled Dowel Bars	EACH	9,038.000	9,038.000
0052	416.1010	Concrete Surface Drains	CY	6.400	6.400
0054	450.4000	HMA Cold Weather Paving	TON	4,000.000	4,000.000
0056	455.0605	Tack Coat	GAL	50,533.000	50,533.000
0058	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0060	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0062	460.0115.S	HMA Pavement Test Strips Volumetrics	EACH	1.000	1.000
0064	460.0120.S	HMA Pavement Test Strips Density	EACH	1.000	1.000
0066	460.2000	Incentive Density HMA Pavement	DOL	33,250.000	33,250.000
0068	460.2005	Incentive Density PWL HMA Pavement	DOL	26,480.000	26,480.000
0070	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	69,965.000	69,965.000
0072	460.2010	Incentive Air Voids HMA Pavement	DOL	34,910.000	34,910.000
0074	460.5224	HMA Pavement 4 LT 58-28 S	TON	21,867.000	21,867.000
0076	460.7224	HMA Pavement 4 HT 58-28 S	TON	34,901.000	34,901.000
0078	460.8624	HMA Pavement 4 SMA 58-28 V	TON	30,077.000	30,077.000
0080	460.9000.S	Material Transfer Vehicle 01. 1227-12-71	EACH	1.000	1.000
0084	465.0105	Asphaltic Surface	TON	41.000	41.000
0086	465.0400	Asphaltic Shoulder Rumble Strips	LF	168,295.000	168,295.000
0088	502.0100	Concrete Masonry Bridges	CY	39.000	39.000
0092	502.3200	Protective Surface Treatment	SY	835.000	835.000
0094	502.3205	Pigmented Surface Sealer Reseal	SY	2,634.000	2,634.000
0096	502.3210	Pigmented Surface Sealer	SY	50.000	50.000
0102	503.0170	Prestressed Girder Type I 70-Inch	LF	121.000	121.000
0104	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	9,420.000	9,420.000
0106	506.2610	Bearing Pads Elastomeric Laminated	EACH	2.000	2.000
0108	509.0301	Preparation Decks Type 1	SY	145.000	145.000
0110	509.0302	Preparation Decks Type 2	SY	60.000	60.000
0112	509.0500	Cleaning Decks	SY	835.000	835.000
0116	509.1500	Concrete Surface Repair	SF	269.000	269.000
0118	509.2000	Full-Depth Deck Repair	SY	6.000	6.000

1227-12-71

Line	Item	Item Description	Unit	Total	Qty
0120	509.2500	Concrete Masonry Overlay Decks	CY	75.000	75.000
0124	516.0500	Rubberized Membrane Waterproofing	SY	3.000	3.000
0134	520.8000	Concrete Collars for Pipe	EACH	3.000	3.000
0136	522.0118	Culvert Pipe Reinforced Concrete Class III 18-Inch	LF	6.000	6.000
0138	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	7.000	7.000
0140	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	4.000	4.000
0142	531.1100	Concrete Masonry Ancillary Structures Type NS	CY	38.200	38.200
0144	531.1140	Steel Reinforcement HS Ancillary Structures Type NS	LB	5,932.000	5,932.000
0146	531.2024	Drilling Shaft 24-Inch	LF	319.000	319.000
0148	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	50.000	50.000
0150	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	500.000	500.000
0152	606.0200	Riprap Medium	CY	15.100	15.100
0162	614.0010	Barrier System Grading Shaping Finishing	EACH	2.000	2.000
0164	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	12.000	12.000
0166	614.0230	Steel Thrie Beam	LF	825.000	825.000
0168	614.0920	Salvaged Rail	LF	14,753.000	14,753.000
0170	614.2300	MGS Guardrail 3	LF	5,188.000	5,188.000
0172	614.2330	MGS Guardrail 3 K	LF	4,525.000	4,525.000
0174	614.2350	MGS Guardrail Short Radius	LF	184.000	184.000
0176	614.2500	MGS Thrie Beam Transition	LF	1,111.000	1,111.000
0178	614.2610	MGS Guardrail Terminal EAT	EACH	29.000	29.000
0180	614.2620	MGS Guardrail Terminal Type 2	EACH	2.000	2.000
0182	614.2630	MGS Guardrail Short Radius Terminal	EACH	2.000	2.000
0184	616.0100	Fence Woven Wire (height) 01. 4-FT	LF	87,432.000	87,432.000
0186	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1227-12-71	EACH	1.000	1.000
0190	619.1000	Mobilization	EACH	0.520	0.520
0192	624.0100	Water	MGAL	141.000	141.000
0194	625.0500	Salvaged Topsoil	SY	265.000	265.000
0196	628.1905	Mobilizations Erosion Control	EACH	16.000	16.000
0198	628.1910	Mobilizations Emergency Erosion Control	EACH	8.000	8.000
0200	628.2004	Erosion Mat Class I Type B	SY	265.000	265.000
0204	628.7504	Temporary Ditch Checks	LF	80.000	80.000
0206	628.7555	Culvert Pipe Checks	EACH	5.000	5.000
0208	628.7570	Rock Bags	EACH	25.000	25.000
0210	629.0210	Fertilizer Type B	CWT	0.330	0.330
0212	630.0130	Seeding Mixture No. 30	LB	7.100	7.100
0214	630.0500	Seed Water	MGAL	6.200	6.200
0216	632.0101	Trees (species) (size) (root) 01. American Hazelnut, 12"-18", BR	EACH	4,517.000	4,517.000
0218	632.0101	Trees (species) (size) (root) 02. Common Ninebark, 12"-18", BR	EACH	4,517.000	4,517.000
0220	632.0101	Trees (species) (size) (root) 03. Red Osier Dogwood, 12"-18", BR	EACH	4,517.000	4,517.000
0222	632.9101	Landscape Planting Surveillance and Care Cycles	EACH	26.000	26.000
0224	633.5200	Markers Culvert End	EACH	11.000	11.000
0228	635.0200	Sign Supports Structural Steel HS	LB	25,811.000	25,811.000
0230	637.1220	Signs Type I Reflective SH	SF	3,127.500	3,127.500
0234	638.2601	Removing Signs Type I	EACH	16.000	16.000
0238	638.3100	Removing Structural Steel Sign Supports	EACH	32.000	32.000
0240	642.5201	Field Office Type C	EACH	1.000	1.000
0242	643.0300	Traffic Control Drums	DAY	114,892.000	114,892.000
0244	643.0420	Traffic Control Barricades Type III	DAY	8,984.000	8,984.000

1227-12-71

Line	Item	Item Description	Unit	Total	Qty
0246	643.0705	Traffic Control Warning Lights Type A	DAY	17,968.000	17,968.000
0248	643.0715	Traffic Control Warning Lights Type C	DAY	18,236.000	18,236.000
0250	643.0800	Traffic Control Arrow Boards	DAY	376.000	376.000
0252	643.0900	Traffic Control Signs	DAY	20,089.000	20,089.000
0256	643.0920	Traffic Control Covering Signs Type II	EACH	11.000	11.000
0260	643.1050	Traffic Control Signs PCMS	DAY	105.000	105.000
0262	643.1205.S	Basic Traffic Queue Warning System	DAY	230.000	230.000
0264	643.5000	Traffic Control	EACH	0.500	0.500
0266	645.0120	Geotextile Type HR	SY	96.000	96.000
0268	646.1020	Marking Line Epoxy 4-Inch	LF	160.000	160.000
0270	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	197,311.000	197,311.000
0272	646.1555	Marking Line Grooved Contrast Permanent Tape 4-Inch	LF	21,862.000	21,862.000
0274	646.3020	Marking Line Epoxy 8-Inch	LF	230.000	230.000
0276	646.3555	Marking Line Grooved Contrast Permanent Tape 8-Inch	LF	9,745.000	9,745.000
0278	646.5420	Marking Aerial Enforcement Bar Epoxy	EACH	32.000	32.000
0288	649.0105	Temporary Marking Line Paint 4-Inch	LF	221,048.000	221,048.000
0292	650.8000	Construction Staking Resurfacing Reference	LF	103,547.000	103,547.000
0294	650.9910	Construction Staking Supplemental Control (project) 01. 1227-12-71	LS	1.000	1.000
0300	690.0150	Sawing Asphalt	LF	734.000	734.000
0302	690.0250	Sawing Concrete	LF	69,808.000	69,808.000
0304	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000
0306	740.0440	Incentive IRI Ride	DOL	66,260.000	66,260.000
0308	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,050.000	1,050.000
0310	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	2,880.000	2,880.000
0312	SPV.0060	Special 01. Cleaning and Painting Bearings	EACH	44.000	44.000
0314	SPV.0070	Special 01. Bridge Deck Crack Sealing	GAL	14.120	14.120
0316	SPV.0090	Special 01. Joint Sealing	LF	1,080.000	1,080.000
0318	SPV.0090	Special 02. Pipe Underdrain (6-Inch) With Geotextile Fabric And Aggregate	LF	1,456.000	1,456.000
0320	SPV.0180	Special 01. Base Patching Concrete HES	SY	2,063.000	2,063.000
0322	SPV.0180	Special 02. Continuously Reinforced Concrete Repair HES	SY	4,232.000	4,232.000
0324	SPV.0180	Special 03. Continuously Reinforced Concrete Repair SHES	SY	226.000	226.000

REMOVING PAVEMENT

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	REMARKS
0010	IH 43 NB	1167'NB'+62	-	1604'NB'+58	LT/RT	-	-	-	198,503	NB MAINLINE & SHOULDERS
0010	IH 43 NB	1167'NB'+62	-	1167'NB'+64	LT/RT	-	-	13	-	
0010	IH 43 NB	1167'NB'+67	-	1167'NB'+82	LT	-	5	-	-	
0010	IH 43 NB	1167'NB'+67	-	1167'NB'+82	RT	-	5	-	-	
0010	IH 43 NB	1193'NB'+03	-	1193'NB'+86	LT	-	-	-	344	MEDIAN TURNAROUND
0010	IH 43 NB	1298'NB'+15	-	1298'NB'+72	LT	-	-	-	221	MEDIAN TURNAROUND
0010	IH 43 NB	1361'NB'+95	-	1362'NB'+63	LT	-	-	-	223	MEDIAN TURNAROUND
0010	IH 43 NB	1437'NB'+28	-	1437'NB'+95	LT	-	-	-	237	MEDIAN TURNAROUND
0010	IH 43 NB	1469'NB'+86	-	1469'NB'+88	LT/RT	-	-	12	-	
0010	IH 43 NB	1469'NB'+03	-	1469'NB'+48	RT	-	10	-	-	
0010	IH 43 NB	1469'NB'+40	-	1469'NB'+85	LT	-	10	-	-	
0010	IH 43 NB	1472'NB'+02	-	1472'NB'+04	LT/RT	-	-	12	-	
0010	IH 43 NB	1508'NB'+63	-	1509'NB'+22	LT	-	-	-	230	MEDIAN TURNAROUND
0010	IH 43 NB	1603'NB'+60	-	1604'NB'+05	RT	-	10	-	-	
0010	IH 43 NB	1604'NB'+09	-	1604'NB'+54	LT	-	10	-	-	
0010	IH 43 NB	1604'NB'+56	-	1604'NB'+58	LT/RT	-	-	13	-	
0010	IH 43 SB	1167'SB'+63	-	1605'SB'+23	LT/RT	-	-	-	200,644	SB MAINLINE & SHOULDERS
0010	IH 43 SB	1167'SB'+64	-	1167'SB'+66	LT/RT	-	-	13	-	
0010	IH 43 SB	1167'SB'+71	-	1168'SB'+16	LT	-	10	-	-	
0010	IH 43 SB	1167'SB'+71	-	1168'SB'+16	RT	-	10	-	-	
0010	IH 43 SB	1470'SB'+05	-	1470'SB'+25	RT	-	7		-	
0010	IH 43 SB	1470'SB'+39	-	1470'SB'+41	LT/RT	-	-	12	-	
0010	IH 43 SB	1472'SB'+54	-	1472'SB'+56	LT/RT	-	-	12	-	
0010	IH 43 SB	1604'SB'+94	-	1605'SB'+09	RT	-	5	-	-	
0010	IH 43 SB	1605'SB'+21	-	1605'SB'+23	LT/RT	-	-	13	-	
0010	IH 43 SB	1605'SB'+29	-	1605'SB'+44	LT	-	5	-	-	
0010	STH 310 NE RAMP	10'TNE'+37	-	10'TNE'+39	LT/RT	-	-	19	-	
0010	STH 310 NW RAMP	10'TNW'+38	-	10'TNW'+40	LT/RT	-	-	10	-	
0010	STH 310 NE RAMP	10'TNE'+37	-	21'TNE'+46	LT/RT	-	-	-	3,408	RAMP & SHOULDERS
0010	STH 310 NW RAMP	10'TNW'+38	-	24'TNW'+12	LT/RT	-	-	-	4,655	RAMP & SHOULDERS
0010	CTH V SE RAMP	19'VSE'+96	-	20'VSE'+49	LT/RT	192	-	-	-	
0010	CTH V SW RAMP	21'VSW'+65	-	22'VSW'+15	LT/RT	150	-	-	-	
0010	CTH V NE RAMP	10'VNE'+75	-	11'VNE'+25	LT/RT	150	-	-	-	
0010	CTH V NW RAMP	10'VNW'+95	-	11'VNW'+45	LT/RT	207	-	-	-	
0010	CTH K SE RAMP	20'KSE'+42	-	20'KSE'+92	LT/RT	188	-	-	-	
				PROJECT SUBTOTAL		**887**	**87**	**129**	**408,465**	

REMOVING CURB & GUTTER

CATEGORY	ROADWAY	STATION	OFFSET	204.0150 REMOVING CURB & GUTTER LF
0010	IH 43 NB	1167'NB'+73	RT	8
0010	IH 43 NB	1167'NB'+73	LT	8
0010	IH 43 NB	1469'NB'+44	RT	8
0010	IH 43 NB	1469'NB'+81	LT	8
0010	IH 43 NB	1604'NB'+01	RT	8
0010	IH 43 NB	1604'NB'+49	LT	8
0010	IH 43 SB	1167'SB'+75	RT	8
0010	IH 43 SB	1167'SB'+75	LT	8
0010	IH 43 SB	1470'SB'+18	RT	10
0010	IH 43 SB	1605'SB'+03	RT	8
0010	IH 43 SB	1605'SB'+51	LT	8
0010	ROCKWOOD RD	16'RK'+03	RT	8
0010	ROCKWOOD RD	16'RK'+03	LT	8
0010	REIFS MILLS RD	16'RM'+94	RT	8
0010	REIFS MILLS RD	16'RM'+94	LT	8
0010	POLIFKA RD	18'PO'+98	LT	8
0010	POLIFKA RD	19'PO'+28	RT	8
0010	FISHERVILLE RD	18'FI'+63	LT	8
0010	FISHERVILLE RD	18'FI'+71	RT	8
0010	GREENSTREET RD	20'GR'+59	LT	8
0010	GREENSTREET RD	20'GR'+78	RT	8
		PROJECT TOTAL		**170**

REMOVING FENCE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0170 REMOVING FENCE LF
0010	IH 43 NB	1167'NB'+62	-	1604'NB'+58	RT	43,461
0010	IH 43 SB	1167'SB'+63	-	1605'SB'+23	LT	43,971
				PROJECT TOTAL		**87,432**

REMOVING PAVEMENT (CONTINUED)

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
0010	CTH K SW RAMP	23'KSW'+51	-	24'KSW'+01	LT/RT	151	-	-	-
0010	CTH K NE RAMP	10'KNE'+61	-	11'KNE'+11	LT/RT	150	-	-	-
0010	CTH K NW RAMP	10'KNW'+75	-	11'KNW'+25	LT/RT	185	-	-	-
0010	ROCKWOOD RD	15'RK'+98	-	16'RK'+87	LT	-	22	-	-
0010	ROCKWOOD RD	15'RK'+98	-	16'RK'+84	RT	-	22	-	-
0010	REIFS MILLS RD	16'RM'+88	-	17'RM'+59	LT	-	18	-	-
0010	REIFS MILLS RD	16'RM'+88	-	17'RM'+53	RT	-	13	-	-
0010	POLIFKA RD	18'PO'+83	-	19'PO'+51	LT	-	14	-	-
0010	POLIFKA RD	19'PO'+22	-	19'PO'+90	RT	-	18	-	-
0010	FISHERVILLE RD	18'FI'+04	-	18'FI'+70	LT	-	12	-	-
0010	FISHERVILLE RD	18'FI'+04	-	18'FI'+79	RT	-	23	-	-
0010	GREENSTREET RD	20'GR'+53	-	21'GR'+25	LT	-	19	-	-
0010	GREENSTREET RD	20'GR'+73	-	21'GR'+41	RT	-	15	-	-
				PROJECT SUBTOTAL		**486**	**176**	**0**	**0**
				PROJECT TOTAL		**1,373**	**263**	**129**	**408,465**

PREPARE FOUNDATION FOR ASPHALTIC PAVING

CATEGORY	PROJECT	211.0100 PREPARE FOUNDATION FOR ASPHALTIC PAVING LS	REMARKS
0010	1227-12-71	1	STA 1167'NB'+62 - STA 1604'NB'+58 STA 1167'SB'+63 - STA 1605'SB'+23
	PROJECT TOTAL	**1**	

SALVAGE RAIL

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	614.0920 SALVAGE RAIL LF
0010	IH 43 NB	1218'NB'+38	-	1220'NB'+06	LT	350
0010	IH 43 NB	1271'NB'+55	-	1273'NB'+23	LT	352
0010	IH 43 NB	1324'NB'+57	-	1326'NB'+50	LT	400
0010	IH 43 NB	1337'NB'+55	-	1353'NB'+67	RT	1,632
0010	IH 43 NB	1393'NB'+86	-	1395'NB'+66	LT	376
0010	IH 43 NB	1462'NB'+27	-	1469'NB'+49	RT	722
0010	IH 43 NB	1466'NB'+30	-	1469'NB'+89	LT	359
0010	IH 43 NB	1471'NB'+85	-	1475'NB'+95	RT	411
0010	IH 43 NB	1532'NB'+81	-	1534'NB'+49	LT	351
0010	IH 43 NB	1579'NB'+57	-	1581'NB'+26	LT	350
0010	IH 43 NB	1599'NB'+85	-	1605'NB'+10	RT	425
0010	IH 43 NB	1601'NB'+22	-	1604'NB'+55	LT	333
0010	IH 43 SB	1167'SB'+71	-	1171'SB'+44	RT	373
0010	IH 43 SB	1167'SB'+68	-	1172'SB'+59	LT	490
0010	IH 43 SB	1472'SB'+64	-	1476'SB'+22	RT	358
0010	IH 43 SB	1472'SB'+91	-	1481'SB'+47	LT	856
0010	ROCKWOOD RD	12'RK'+01	-	13'RK'+25	RT	123
0010	ROCKWOOD RD	12'RK'+01	-	13'RK'+25	LT	124
0010	ROCKWOOD RD	15'RK'+98	-	17'RK'+22	LT	125
0010	ROCKWOOD RD	15'RK'+98	-	17'RK+22	RT	125
0010	REIFS MILLS RD	13'RM'+07	-	14'RM'+33	LT	126
0010	REIFS MILLS RD	13'RM'+09	-	14'RM'+34	RT	125
0010	REIFS MILLS RD	16'RM'+88	-	18'RM'+15	RT	126
0010	REIFS MILLS RD	16'RM'+88	-	18'RM'+15	LT	127
0010	POLIFKA RD	13'PO'+24	-	14'PO'+50	LT	127
0010	POLIFKA RD	13'PO'+76	-	15'PO'+00	RT	124
0010	POLIFKA RD	18'PO'+82	-	21'PO'+51	LT	328
0010	POLIFKA RD	19'PO'+21	-	25'PO'+50	RT	628
0010	POLIFKA RD	21'PO'+75	-	25'PO'+01	LT	354
0010	FISHERVILLE RD	14'FI'+02	-	18'FI'+79	RT	478
0010	FISHERVILLE RD	14'FI'+93	-	18'FI'+70	LT	377
0010	FISHERVILLE RD	21'FI'+38	-	28'FI'+59	LT	721
0010	FISHERVILLE RD	21'FI'+48	-	28'FI'+77	RT	729
0010	GREENSTREET RD	13'GR'+96	-	17'GR'+84	RT	388
0010	GREENSTREET RD	14'GR'+02	-	17'GR'+64	LT	362
0010	GREENSTREET RD	20'GR'+53	-	25'GR'+65	LT	512
0010	GREENSTREET RD	20'GR'+75	-	25'GR'+61	RT	486
					PROJECT TOTAL	**14,753**

REMOVING INLETS & ABANDONING SEWER

CATEGORY	ROADWAY	STATION	OFFSET	204.0220 REMOVING INLETS EACH	204.0291.S ABANDONING SEWER CY
0010	IH 43 NB	1167'NB'+73	RT	1	0.6
0010	IH 43 NB	1167'NB'+73	LT	1	0.6
0010	IH 43 NB	1469'NB'+44	RT	1	0.7
0010	IH 43 NB	1469'NB'+81	LT	1	1.5
0010	IH 43 NB	1604'NB'+01	RT	1	0.9
0010	IH 43 NB	1604'NB'+49	LT	1	1.9
0010	IH 43 SB	1167'SB'+75	RT	1	0.6
0010	IH 43 SB	1167'SB'+75	LT	1	0.6
0010	IH 43 SB	1470'SB'+18	RT	2	1.5
0010	IH 43 SB	1605'SB'+03	RT	1	1.9
0010	IH 43 SB	1605'SB'+51	LT	1	0.9
0010	ROCKWOOD RD	16'RK'+03	RT	1	0.8
0010	ROCKWOOD RD	16'RK'+03	LT	1	0.7
0010	REIFS MILLS RD	16'RM'+94	RT	1	0.9
0010	REIFS MILLS RD	16'RM'+94	LT	1	0.9
0010	POLIFKA RD	18'PO'+88	LT	1	1.8
0010	POLIFKA RD	19'PO'+28	RT	1	1.8
0010	FISHERVILLE RD	18'FI'+63	LT	1	1.8
0010	FISHERVILLE RD	18'FI'+71	RT	1	1.8
0010	GREENSTREET RD	20'GR'+59	LT	1	1.8
0010	GREENSTREET RD	20'GR'+78	RT	1	1.0
			PROJECT TOTAL	**22**	**25.0**

REMOVING APRON ENDWALL

CATEGORY	ROADWAY	STATION	OFFSET	204.9060.S REMOVING APRON ENDWALL EACH
0010	IH 43 NB	1324'NB'+23	LT	1
0010	IH 43 NB	1396'NB'+51	RT	1
0010	IH 43 NB	1532'NB'+30	RT	1
0010	IH 43 NB	1532'NB'+31	LT	1
0010	IH 43 NB	1545'NB'+66	RT	1
0010	IH 43 SB	1220'SB'+65	LT	1
0010	CTH V SW RAMP	14'VSW'+90	LT & RT	4
0010	CTH V SE RAMP	13'VSE'+08	RT	1
		PROJECT TOTAL		**11**

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA
0010	IH 43 NB	1337'NB'+40	-	1338'NB'+15	RT	1
0010	IH 43 NB	1462'NB'+08	-	1462'NB'+80	RT	1
0010	IH 43 NB	1466'NB'+06	-	1466'NB'+80	LT	1
0010	IH 43 NB	1599'NB'+65	-	1600'NB'+37	RT	1
0010	IH 43 NB	1600'NB'+98	-	1601'NB'+76	LT	1
0010	IH 43 SB	1170'SB'+85	-	1171'SB'+65	RT	1
0010	IH 43 SB	1171'SB'+95	-	1172"SB'+90	LT	1
0010	IH 43 SB	1480'SB'+85	-	1481'SB'+65	RT	1
0010	IH 43 SB	1475'SB'+65	-	1476'SB'+40	LT	1
				PROJECT TOTAL		**7**

BASE AGGREGATE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
0010	IH 43 NB	1167'NB'+62	-	1604'NB'+58	LT/RT	5,550	80	56.3
0010	IH 43 SB	1167'SB'+63	-	1605'SB'+23	LT/RT	5,546	40	55.9
0010	STH 310 NE RAMP	10'TNE'+00	-	25'TNE'+24	LT/RT	85	-	0.9
0010	STH 310 NW RAMP	10'TNW'+00	-	24'TNW'+12	LT/RT	89	-	0.9
0010	CTH V SE RAMP	10'VSE'+00	-	21'VSE'+31	LT/RT	97	-	1.0
0010	CTH V SW RAMP	10'VSW'+00	-	22'VSW'+84	LT/RT	80	-	0.8
0010	CTH V NE RAMP	10'VNE'+00	-	24'VNE'+88	LT/RT	85	-	0.9
0010	CTH V NW RAMP	10'VNW'+00	-	25'VNW'+57	LT/RT	95	-	1.0
0010	CTH K SE RAMP	10'KSE'+00	-	21'KSE'+67	LT/RT	100	-	1.0
0010	CTH K SW RAMP	10'KSW'+00	-	24'KSW'+62	LT/RT	97	-	1.0
0010	CTH K NE RAMP	10'KNE'+00	-	23'KNE'+61	LT/RT	89	-	0.9
0010	CTH K NW RAMP	10'KNW'+00	-	18'KNW'+86	LT/RT	88	-	0.9
0010	ROCKWOOD RD	11'RK'+20	-	13'RK'+25	LT	30	-	0.3
0010	ROCKWOOD RD	11'RK'+46	-	13'RK'+25	RT	25	-	0.3
0010	ROCKWOOD RD	15'RK'+98	-	18'RK'+03	RT	65	16	0.8
0010	ROCKWOOD RD	15'RK'+98	-	18'RK'+10	LT	90	16	1.1
0010	REIFS MILLS RD	12'RM'+19	-	14'RM'+33	RT	90	-	0.9
0010	REIFS MILLS RD	12'RM'+34	-	14'RM'+33	LT	30	-	0.3
0010	REIFS MILLS RD	16'RM'+88	-	18'RM'+87	RT	40	16	0.6
0010	REIFS MILLS RD	16'RM'+88	-	18'RM'+91	LT	50	16	0.7
0010	POLIFKA RD	13'PO'+07	-	15'PO'+00	RT	45	-	0.5
0010	POLIFKA RD	13'PO'+10	-	14'PO'+50	LT	25	-	0.3
0010	POLIFKA RD	18'PO'+82	-	21'PO'+50	LT	60	16	0.8
0010	POLIFKA RD	19'PO'+21	-	26'PO'+75	RT	175	16	1.9
0010	POLIFKA RD	21'PO'+90	-	25'PO'+10	LT	65	-	0.7
0010	HILLSIDE LN	10'HI'+41	-	11'HI'+16	LT	15	-	0.2
0010	HILLSIDE LN	10'HI'+41	-	11'HI'+23	RT	20	-	0.2
0010	FISHERVILLE RD	13'FI'+36	-	18'FI'+79	RT	80	16	1.0
0010	FISHERVILLE RD	14'FI'+26	-	18'FI'+70	LT	80	16	1.0
0010	FISHERVILLE RD	21'FI'+38	-	29'FI'+24	LT	130	-	1.3
0010	FISHERVILLE RD	21'FI'+48	-	29'FI'+48	RT	230	-	2.3
0010	GREENSTREET RD	13'GR'+13	-	17'GR'+82	RT	105	-	1.1
0010	GREENSTREET RD	13'GR'+23	-	17'GR'+63	LT	90	-	0.9
0010	GREENSTREET RD	20'GR'+53	-	26'GR'+50	LT	130	16	1.5
0010	GREENSTREET RD	20'GR'+73	-	26'GR'+34	RT	110	16	1.3
					PROJECT TOTAL	**13,781**	**280**	**141**

BASE PATCHING CONCRETE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	390.0303 BASE PATCHING CONCRETE SY	390.0403 BASE PATCHING CONCRETE SHES SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	690.0150 SAWING CONCRETE LF	SPV.0180.01 BASE PATCHING CONCRETE HES SY	SPV.0180.02 CONTINUOUSLY REINFORCED CONCRETE REPAIR HES SY	SPV.0180.03 CONTINUOUSLY REINFORCED CONCRETE REPAIR SHES SY	REMARKS
0010	IH 43 NB	1167'NB'+62	-	1220'NB'+46	LT/RT	-	-	116	-	4,056	153	288	15	PROJECT LIMITS - MILE 156
0010	IH 43 NB	1220'NB'+46	-	1273'NB'+26	LT/RT	-	-	258	-	3,560	42	459	24	MILE 156 - MILE 157
0010	IH 43 NB	1273'NB'+26	-	1326'NB'+06	LT/RT	7	-	132	-	1,811	28	180	10	MILE 157 - MILE 158
0010	IH 43 NB	1326'NB'+06	-	1378'NB'+86	LT/RT	-	-	121	-	1,260	-	182	10	MILE 158 - MILE 159
0010	IH 43 NB	1378'NB'+86	-	1431'NB'+66	LT/RT	-	-	39	-	1,017	42	53	3	MILE 159 - MILE 160
0010	IH 43 NB	1431'NB'+66	-	1484'NB'+46	LT/RT	3	-	45	-	3,664	194	140	8	MILE 160 - MILE 161
0010	IH 43 NB	1484'NB'+46	-	1537'NB'+26	LT/RT	3	-	168	-	11,465	669	239	13	MILE 161 - MILE 162
0010	IH 43 NB	1537'NB'+26	-	1590'NB'+06	LT/RT	-	-	54	-	5,310	316	117	6	MILE 162 - MILE 163
0010	IH 43 NB	1590'NB'+06	-	1604'NB'+58	LT/RT	4	-	23	-	550	-	110	6	MILE 163 - PROJECT LIMITS
0010	IH 43 SB	1167'SB'+63	-	1220'SB'+44	LT/RT	3	-	112	-	1,420	-	196	10	PROJECT LIMITS - MILE 156
0010	IH 43 SB	1220'SB'+44	-	1273'SB'+26	LT/RT	-	-	168	-	1,956	-	282	15	MILE 156 - MILE 157
0010	IH 43 SB	1273'SB'+26	-	1326'SB'+06	LT/RT	-	-	144	-	1,912	-	271	14	MILE 157 - MILE 158
0010	IH 43 SB	1326'SB'+06	-	1378'SB'+86	LT/RT	3	-	96	-	1,568	43	149	8	MILE 158 - MILE 159
0010	IH 43 SB	1378'SB'+86	-	1431'SB'+66	LT/RT	-	-	63	-	663	-	106	6	MILE 159 - MILE 160
0010	IH 43 SB	1431'SB'+66	-	1484'SB'+46	LT/RT	3	-	132	-	4,447	194	241	13	MILE 160 - MILE 161
0010	IH 43 SB	1484'SB'+46	-	1537'SB'+52	LT/RT	13	-	156	-	1,956	-	272	15	MILE 161 - MILE 162
0010	IH 43 SB	1537'SB'+52	-	1590'SB'+06	LT/RT	5	-	123	-	1,666	-	280	15	MILE 162 - MILE 163
0010	IH 43 SB	1590'SB'+06	-	1605'SB'+23	LT/RT	-	-	18	-	596	-	115	6	MILE 163 - PROJECT LIMITS
0010	STH 310 NE RAMP	10'TNE'+00	-	25'TNE'+24	LT/RT	264	3	168	833	1,169	11	-	-	
0010	STH 310 NW RAMP	10'TNW'+00	-	24'TNW'+12	LT/RT	209	3	132	660	924	8	-	-	
0010	CTH V SE RAMP	10'VSE'+00	-	21'VSE'+31	LT/RT	152	2	50	300	476	6	-	-	
0010	CTH V SW RAMP	10'VSW'+00	-	22'VSW'+84	LT/RT	222	3	112	570	831	9	-	-	
0010	CTH V	16'V'+00	-	24'V'+00	LT/RT	124	2	78	342	512	5	-	-	
0010	CTH V NE RAMP	10'VNE'+00	-	24'VNE'+88	LT/RT	137	2	57	360	538	5	-	-	
0010	CTH V NW RAMP	10'VNW'+00	-	25'VNW'+57	LT/RT	170	2	83	240	462	7	-	-	
0010	CTH K SE RAMP	10'KSE'+00	-	21'KSE'+67	LT/RT	231	3	123	690	976	9	-	-	
0010	CTH K SW RAMP	10'KSW'+00	-	24'KSW'+62	LT/RT	362	5	216	1,110	1,574	14	-	-	
0010	CTH K	18'K'+00	-	28'K'+00	LT/RT	471	6	340	1,160	1,909	19	-	-	
0010	CTH K NE RAMP	10'KNE'+00	-	23'KNE'+61	LT/RT	164	2	78	420	630	7	-	-	
0010	CTH K NW RAMP	10'KNW'+00	-	18'KNW'+86	LT/RT	351	5	206	1,174	1,510	13	-	-	
0010	UNDISTRIBUTED					435	6	542	1,179	9,058	269	552	29	
				PROJECT SUBTOTAL		**3,336**	**44**	**4,153**	**9,038**	***69,446**	**2,063**	**4,232**	**226**	
				PROJECT TOTAL		**3,336**	**44**	**4,153**	**9,038**	**69,808**	**2,063**	**4,232**	**226**	

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE**

3

ASPHALTIC SHOULDER RUMBLE STRIPS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF
0010	IH 43 NB	1167'NB'+62	-	1604'NB'+58	LT/RT	83,943
0010	IH 43 SB	1167'SB'+63	-	1605'SB'+23	LT/RT	84,352
				PROJECT TOTAL		**168,295**

CONCRETE SURFACE DRAINS

CATEGORY	ROADWAY	STATION	OFFSET	416.1010 CONCRETE SURFACE DRAINS CY
0010	IH 43 NB	1167'NB'+85	LT	0.35
0010	IH 43 NB	1167'NB'+85	RT	0.35
0010	IH 43 NB	1469'NB'+06	RT	0.35
0010	IH 43 NB	1469'NB'+43	LT	0.35
0010	IH 43 NB	1603'NB'+62	RT	0.35
0010	IH 43 NB	1604'NB'+11	LT	0.35
0010	IH 43 SB	1168'SB'+13	LT	0.35
0010	IH 43 SB	1168'SB'+14	LT	0.35
0010	IH 43 SB	1470'SB'+05	RT	0.35
0010	IH 43 SB	1604'SB'+96	RT	0.35
0010	IH 43 SB	1605'SB'+44	LT	0.35
0010	ROCKWOOD RD	16'RK'+17	RT	0.25
0010	ROCKWOOD RD	16'RK'+17	LT	0.25
0010	REIFS MILLS RD	17'RM'+07	LT	0.25
0010	REIFS MILLS RD	17'RM'+07	RT	0.25
0010	POLIFKA RD	19'PO'+02	LT	0.25
0010	POLIFKA RD	19'PO'+41	RT	0.25
0010	FISHERVILLE RD	18'FI'+51	LT	0.25
0010	FISHERVILLE RD	18'FI'+60	RT	0.25
0010	GREENSTREET RD	20'GR'+72	LT	0.25
0010	GREENSTREET RD	20'GR'+73	RT	0.25
			PROJECT TOTAL	**6.4**

ASPHALTIC SURFACE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	465.0105 ASPHALTIC SURFACE TON
0010	IH 43 NB	1469'NB'+03	-	1469'NB'+48	LT	2
0010	IH 43 NB	1469'NB'+40	-	1469'NB'+85	LT	2
0010	IH 43 NB	1603'NB'+60	-	1604'NB'+05	RT	2
0010	IH 43 NB	1604'NB'+09	-	1604'NB'+54	LT	2
0010	IH 43 SB	1167'SB'+71	-	1168'SB'+16	LT	2
0010	IH 43 SB	1167'SB'+71	-	1168'SB'+16	RT	2
0010	ROCKWOOD RD	15'RK'+98	-	16'RK'+87	LT	4
0010	ROCKWOOD RD	15'RK'+98	-	16'RK'+84	RT	4
0010	REIFS MILLS RD	16'RM'+88	-	17'RM'+59	LT	3
0010	REIFS MILLS RD	16'RM'+88	-	17'RM'+53	RT	2
0010	POLIFKA RD	18'PO'+83	-	19'PO'+51	LT	2
0010	POLIFKA RD	19'PO'+22	-	19'PO'+90	RT	3
0010	FISHERVILLE RD	18'FI'+04	-	18'FI'+70	LT	2
0010	FISHERVILLE RD	18'FI'+04	-	18'FI'+79	RT	4
0010	GREENSTREET RD	20'GR'+53	-	21'GR'+25	LT	3
0010	GREENSTREET RD	20'GR'+73	-	21'GR'+41	RT	2
				PROJECT TOTAL		**41**

DRAINAGE ITEMS

CATEGORY	ROADWAY	STATION	OFFSET	520.8000 CONCRETE COLLARS FOR PIPE EACH	522.0118 CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	633.5200 MARKERS CULVERT END EACH
0010	IH 43 NB	1234'NB'+28	LT	1	-	-	-	-
0010	IH 43 NB	1324'NB'+23	LT	-	-	1	-	1
0010	IH 43 NB	1387'NB'+18	LT	1	-	-	-	-
0010	IH 43 NB	1396'NB'+51	RT	-	-	1	-	1
0010	IH 43 NB	1532'NB'+30	RT	-	-	1	-	1
0010	IH 43 NB	1532'NB'+31	LT	1	6	1	-	1
0010	IH 43 NB	1545'NB'+66	RT	-	-	1	-	1
0010	IH 43 SB	1220'SB'+65	LT	-	-	1	-	1
0010	CTH V SW RAMP	14'VSW'+90	LT & RT	-	-	-	4	4
0010	CTH V SE RAMP	13'VSE'+08	RT	-	-	1	-	1
			PROJECT TOTAL	**3**	**6**	**7**	**4**	**11**

3

HMA ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0126.S REMOVING ASPHALTIC LONGITUDINAL NOTCHED WEDGE JOINT MILLING LF	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	460.0105.S HMA PAVEMENT PWL TEST STRIP VOLUMETRICS EACH	460.0110.S HMA PAVEMENT PWL TEST STRIP DENSITY EACH	460.0115.S HMA PAVEMENT TEST STRIP VOLUMETRICS EACH	460.0120.S HMA PAVEMENT TEST STRIP DENSITY EACH	460.9000.S.01 MATERIAL TRANSFER VEHICLE 1227-12-71 EACH	HMA PAVEMENT 4 SMA 58-28 V		HMA PAVEMENT 4 LT 58-28 S		HMA PAVEMENT 4 HT 58-28 S				REMARKS
														460.8624 TON	INCENTIVE DENSITY HMA TON*	460.5224 TON	INCENTIVE DENSITY HMA TON*	460.7224 TON	INCENTIVE DENSITY PWL TON**	INCENTIVE AIR VOIDS TON***	INCENTIVE DENSITY HMA PAVEMENT LONGITUDINAL JOINTS LF****	
0010	IH 43 NB	1167'NB'+62	-	1604'NB'+58	LT/RT	43,484	1,500	14,738	1	1	1	1	1	12,247	12,247	-	-	13,095	13,095	13,095	43,696	MAINLINE
0010	IH 43 NB	1167'NB'+62	-	1604'NB'+58	LT/RT	-	500	9,268	-	-	-	-	-	2,841	2,841	9,939	9,939	3,131	-	3,131	-	SHOULDERS
0010	IH 43 NB	1193'NB'+03	-	1193'NB'+86	LT	-	-	41	-	-	-	-	-	-	-	71	71	-	-	-	-	MEDIAN
0010	IH 43 NB	1298'NB'+15	-	1298'NB'+72	LT	-	-	27	-	-	-	-	-	-	-	46	46	-	-	-	-	MEDIAN
0010	IH 43 NB	1361'NB'+95	-	1362'NB'+63	LT	-	-	27	-	-	-	-	-	-	-	46	46	-	-	-	-	MEDIAN
0010	IH 43 NB	1437'NB'+28	-	1437'NB'+95	LT	-	-	28	-	-	-	-	-	-	-	49	49	-	-	-	-	MEDIAN
0010	IH 43 NB	1508'NB'+63	-	1509'NB'+22	LT	-	-	28	-	-	-	-	-	-	-	47	47	-	-	-	-	MEDIAN
0010	IH 43 SB	1167'SB'+63	-	1605'SB'+23	LT/RT	43,548	1,500	11,387	-	-	-	-	-	12,144	12,144	-	-	13,383	13,383	13,383	43,760	MAINLINE
0010	IH 43 SB	1167'SB'+63	-	1605'SB'+23	LT/RT	-	500	12,821	-	-	-	-	-	2,845	2,845	10,050	10,050	3,135	-	3,135	-	SHOULDERS
0010	STH 310 NE RAMP	10'TNE'+37	-	21'TNE'+46	LT/RT	-	-	140	-	-	-	-	-	-	-	-	-	244	-	244	-	MAINLINE
0010	STH 310 NE RAMP	10'TNE'+37	-	21'TNE'+46	LT/RT	-	-	99	-	-	-	-	-	-	-	172	172	-	-	-	-	SHOULDERS
0010	STH 310 NW RAMP	10'TNW'+38	-	24'TNW'+12	LT/RT	-	-	148	-	-	-	-	-	-	-	-	-	257	-	257	-	MAINLINE
0010	STH 310 NW RAMP	10'TNW'+38	-	24'TNW'+12	LT/RT	-	-	103	-	-	-	-	-	-	-	178	178	-	-	-	-	SHOULDERS
0010	CTH V SE RAMP	10'VSE'+00	-	20'VSE'+49	LT/RT	-	-	126	-	-	-	-	-	-	-	-	-	220	-	220	-	MAINLINE
0010	CTH V SE RAMP	10'VSE'+00	-	20'VSE'+49	LT/RT	-	-	95	-	-	-	-	-	-	-	166	166	-	-	-	-	SHOULDERS
0010	CTH V SW RAMP	10'VSW'+00	-	22'VSW'+15	LT/RT	-	-	96	-	-	-	-	-	-	-	-	-	167	-	167	-	MAINLINE
0010	CTH V SW RAMP	10'VSW'+00	-	22'VSW'+15	LT/RT	-	-	77	-	-	-	-	-	-	-	134	134	-	-	-	-	SHOULDERS
0010	CTH V NE RAMP	10'VNE'+74	-	21'VNE"+73	LT/RT	-	-	105	-	-	-	-	-	-	-	-	-	183	-	183	-	MAINLINE
0010	CTH V NE RAMP	10'VNE'+74	-	21'VNE"+73	LT/RT	-	-	84	-	-	-	-	-	-	-	147	147	-	-	-	-	SHOULDERS
0010	CTH V NW RAMP	10'VNW'+95	-	23'VNW'+29	LT/RT	-	-	130	-	-	-	-	-	-	-	-	-	227	-	227	-	MAINLINE
0010	CTH V NW RAMP	10'VNW'+95	-	23'VNW'+29	LT/RT	-	-	94	-	-	-	-	-	-	-	163	163	-	-	-	-	SHOULDERS
0010	CTH K SE RAMP	10'KSE'+00	-	20'KSE'+92	LT/RT	-	-	140	-	-	-	-	-	-	-	-	-	244	-	244	-	MAINLINE
0010	CTH K SE RAMP	10'KSE'+00	-	20'KSE'+92	LT/RT	-	-	104	-	-	-	-	-	-	-	180	180	-	-	-	-	SHOULDERS
0010	CTH K SW RAMP	11'KSW+53	-	24'KSW'+02	LT/RT	-	-	122	-	-	-	-	-	-	-	-	-	213	-	213	-	MAINLINE
0010	CTH K SW RAMP	11'KSW+53	-	24'KSW'+02	LT/RT	-	-	97	-	-	-	-	-	-	-	170	170	-	-	-	-	SHOULDERS
0010	CTH K NE RAMP	10'KNE'+61	-	22'KNE'+11	LT/RT	-	-	111	-	-	-	-	-	-	-	-	-	193	-	193	-	MAINLINE
0010	CTH K NE RAMP	10'KNE'+61	-	22'KNE'+11	LT/RT	-	-	88	-	-	-	-	-	-	-	155	155	-	-	-	-	SHOULDERS
0010	CTH K NW RAMP	10'KNW'+75	-	18'KNW'+86	LT/RT	-	-	120	-	-	-	-	-	-	-	-	-	209	-	209	-	MAINLINE
0010	CTH K NW RAMP	10'KNW'+75	-	18'KNW'+86	LT/RT	-	-	89	-	-	-	-	-	-	-	154	154	-	-	-	-	SHOULDERS
		PROJECT TOTAL				**87,032**	**4,000**	**50,533**	**1**	**1**	**1**	**1**	**1**	**30,077**	**30,077**	**21,867**	**21,867**	**34,901**	**26,478**	**34,901**	**87,456**	

* Tonnage is eligible for Incentive Density HMA Pavement 460.2000.
** Tonnage is eligible for Incentive Density PWL HMA Pavement 460.2005.
*** Tonnage is eligible for Incentive Air Voids HMA Pavement 460.2010.
**** LF is eligible for Incentive Density HMA Pavement Longitudinal Joints 460.2007.

CONCRETE CURB & GUTTER

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF
0010	IH 43 NB	1167'NB'+75		1167'NB'+85	LT	10	-
0010	IH 43 NB	1167'NB'+75		1167'NB'+85	RT	10	-
0010	IH 43 NB	1469'NB'+03	-	1469'NB'+48	RT	-	45
0010	IH 43 NB	1469'NB'+40	-	1469'NB'+85	LT	-	45
0010	IH 43 NB	1603'NB'+60	-	1604'NB'+05	RT	-	45
0010	IH 43 NB	1604'NB'+09	-	1604'NB'+54	LT	-	45
0010	IH 43 SB	1167'SB'+71	-	1168'SB'+16	LT	-	45
0010	IH 43 SB	1167'SB'+71	-	1168'SB'+16	RT	-	45
0010	IH 43 SB	1470'SB'+05	-	1470'SB'+15	RT	10	-
0010	IH 43 SB	1604'SB'+96	-	1605'SB'+06	RT	10	-
0010	IH 43 SB	1605'SB'+44	-	1605'SB'+54	LT	10	-
0010	ROCKWOOD RD	15'RK'+98	-	16'RK'+21	LT	-	23
0010	ROCKWOOD RD	15'RK'+98	-	16'RK'+21	RT	-	23
0010	REIFS MILLS RD	16'RM'+88	-	17'RM'+11	LT	-	23
0010	REIFS MILLS RD	16'RM'+88	-	17'RM'+11	RT	-	23
0010	POLIFKA RD	18'PO'+83	-	19'PO'+05	LT	-	23
0010	POLIFKA RD	19'PO'+22	-	19'PO'+44	RT	-	23
0010	FISHERVILLE RD	18'FI'+48	-	18+70.0	LT	-	23
0010	FISHERVILLE RD	18'FI'+57	-	18+79.4	RT	-	23
0010	GREENSTREET RD	20'GR'+53	-	20+75.8	LT	-	23
0010	GREENSTREET RD	20'GR'+73	-	20+95.8	RT	-	23
				PROJECT TOTAL		**50**	**500**

RIPRAP MEDIUM AND GEOTEXTILE TYPE HR

CATEGORY	ROADWAY	STATION	OFFSET	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
0010	IH 43 NB	1167'NB'+85	LT	0.65	4
0010	IH 43 NB	1167'NB'+85	RT	0.65	4
0010	IH 43 NB	1288'NB'+65	RT	0.65	4
0010	IH 43 NB	1469'NB'+06	RT	0.65	4
0010	IH 43 NB	1469'NB'+43	LT	0.65	4
0010	IH 43 NB	1508'NB'+71	RT	0.65	4
0010	IH 43 NB	1603'NB'+62	RT	0.65	4
0010	IH 43 NB	1604'NB'+11	LT	0.65	4
0010	IH 43 SB	1168'SB'+13	LT	0.65	4
0010	IH 43 SB	1168'SB'+14	RT	0.65	4
0010	IH 43 SB	1362'SB'+65	LT	0.65	4
0010	IH 43 SB	1470'SB'+05	RT	0.65	4
0010	IH 43 SB	1604'SB'+96	RT	0.65	4
0010	IH 43 SB	1605'SB'+44	LT	0.65	4
0010	ROCKWOOD RD	16'RK'+17	RT	0.60	4
0010	ROCKWOOD RD	16'RK'+17	LT	0.60	4
0010	REIFS MILLS RD	17'RM'+07	LT	0.60	4
0010	REIFS MILLS RD	17'RM'+07	RT	0.60	4
0010	POLIFKA RD	19'PO'+02	LT	0.60	4
0010	POLIFKA RD	19'PO'+41	RT	0.60	4
0010	FISHERVILLE RD	18'FI'+51	LT	0.60	4
0010	FISHERVILLE RD	18'FI'+60	RT	0.60	4
0010	GREENSTREET RD	20'GR'+72	LT	0.60	4
0010	GREENSTREET RD	20'GR'+73	RT	0.60	4
		PROJECT TOTAL		**15.10**	**96**

3

3

BARRIER SYSTEM GRADING SHAPING AND FINISHING

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	614.0010 BARRIER SYSTEM GRADING SHAPING AND FINISHING EACH	*EROSION MAT CLASS 1 TYPE B SY	*EXCAVATION COMMON CY	*BORROW CY	*SEED WATER MGAL	*TOPSOIL SY	*FERTILIZER TYPE B CWT	*SEEDING MIXTURE #30 LB
0010	IH 43 NB	1322'NB'+43	-	1328'NB'+69	LT	1	3,310	85	205	75	3,310	2.1	65
0010	IH 43 NB	1530'NB'+69	-	1536'NB'+68	LT	1	3,170	30	115	75	3,170	2.0	60
0010	UNDISTRIBUTED					-	1,620	-	-	-	-	-	-
				PROJECT TOTAL		2	**	**	**	**	**	**	**

NOTES:
*ITEMS & QUANTITIES LISTED FOR BID INFORMATION ONLY
**COMMON, BORROW, TOPSOIL, SEED, WATER, AND FERTILIZER ITEMS FOR RESTORATION OF DISTURBED AREAS ADJACENT TO BULLNOSE AREAS PAID UNDER "BARRIER SYSTEM GRADING SHAPING AND FINISHING" ITEM.

FENCE WOVEN WIRE 4-FT

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	616.0100 FENCE WOVEN WIRE 4-FT LF
0010	IH 43 NB	1167'NB'+62	-	1604'NB'+58	RT	43,461
0010	IH 43 SB	1167'SB'+63	-	1605'SB'+23	LT	43,971
				PROJECT TOTAL		**87,432**

MOBILIZATIONS EROSION CONTROL

CATEGORY	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	1227-12-71	16	8
	PROJECT TOTAL	**16**	**8**

GUARDRAIL ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.2300 MGS GUARDRAIL 3 LF	614.2330 MGS GUARDRAIL 3 K LF	614.2350 MGS GUARDRAIL SHORT RADIUS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH	614.2630 MGS GUARDRAIL SHORT RADIUS TERMINAL EACH
0010	IH 43 NB	1218'NB'+33	-	1220'NB'+02	LT	2	125	-	-	-	-	-	-	-
0010	IH 43 NB	1324'NB'+57	-	1326'NB'+51	LT	2	175	-	-	-	-	-	-	-
0010	IH 43 NB	1271'NB'+49	-	1273'NB'+18	LT	2	125	-	-	-	-	-	-	-
0010	IH 43 NB	1337'NB'+62	-	1353'NB'+70	RT	-	-	1,575	-	-	-	1	1	-
0010	IH 43 NB	1393'NB'+82	-	1395'NB'+63	LT	2	150	-	-	-	-	-	-	-
0010	IH 43 NB	1466'NB'+30	-	1469'NB'+85	LT	-	-	263	-	-	39	1	-	-
0010	IH 43 NB	1462'NB'+31	-	1469'NB'+48	RT	-	-	625	-	-	39	1	-	-
0010	IH 43 NB	1471'NB'+84		1475'NB'+91	RT	-	-	400	-	-	8	-	1	-
0010	IH 43 NB	1532'NB'+77	-	1534'NB'+46	LT	2	125	-	-	-	-	-	-	-
0010	IH 43 NB	1579'NB'+60	-	1581'NB'+30	LT	2	125	-	-	-	-	-	-	-
0010	IH 43 NB	1599'NB'+87	-	1604'NB'+05	RT	-	-	325	-	-	39	1	-	-
0010	IH 43 NB	1601'NB'+24	-	1604'NB'+54	LT	-	-	238	-	-	39	1	-	-
0010	IH 43 SB	1167'SB'+71	-	1171'SB'+39	RT	-	-	275	-	-	39	1	-	-
0010	IH 43 SB	1167'SB'+71	-	1172'SB'+48	LT	-	-	388	-	-	39	1	-	-
0010	IH 43 SB	1472'SB'+60	-	1476'SB'+15	RT	-	-	263	-	-	39	1	-	-
0010	IH 43 SB	1472'SB'+97	-	1481'SB'+39	LT	-	-	750	-	-	39	1	-	-
0010	ROCKWOOD RD	11'RK'+70	-	13'RK'+25	RT	-	-	63	-	-	39	1	-	-
0010	ROCKWOOD RD	12'RK'+07	-	13'RK'+25	LT	-	-	25	-	-	39	1	-	-
0010	ROCKWOOD RD	15'RK'+98	-	17'RK'+28	RT	-	-	-	38	-	39	1	-	-
0010	ROCKWOOD RD	15'RK'+98	-	17'RK'+28	LT	-	-	-	38	-	39	1	-	-
0010	REIFS MILLS RD	13'RM'+03	-	14'RM'+33	LT	-	-	-	38	-	39	1	-	-
0010	REIFS MILLS RD	13'RM'+03	-	14'RM'+33	RT	-	-	-	38	-	39	1	-	-
0010	REIFS MILLS RD	16'RM'+88	-	18'RM'+18	LT	-	-	-	38	-	39	1	-	-
0010	REIFS MILLS RD	16'RM'+88	-	18'RM'+18	RT	-	-	-	38	-	39	1	-	-
0010	POLIFKA RD	13'PO'+58	-	14'PO'+50	LT	-	-	-	-	-	39	1	-	-
0010	POLIFKA RD	13'PO'+70	-	15'PO'+00	RT	-	-	-	38	-	39	1	-	-
0010	POLIFKA RD	18'PO'+83	-	21'PO'+09	LT	-	-	-	188	-	39	-	-	-
0010	POLIFKA RD	19'PO'+22	-	26'PO'+02	RT	-	-	-	588	-	39	1	-	-
0010	POLIFKA RD	22'PO'+60	-	24'PO'+94	LT	-	-	-	188	-	-	1	-	-
0010	HILLSIDE LN	10'HI'+20	-	11'HI'+07	LT	-	-	-	-	79	-	-	-	1
0010	HILLSIDE LN	10'HI'+14	-	11'HI'+03	RT	-	-	-	-	105	-	-	-	1
0010	FISHERVILLE RD	14'FI'+12	-	18'FI'+79	RT	-	-	-	375	-	39	1	-	-
0010	FISHERVILLE RD	15'FI'+03	-	18'FI'+70	LT	-	-	-	275	-	39	1	-	-
0010	FISHERVILLE RD	21'FI'+39	-	28'FI'+56	LT	-	-	-	625	-	39	1	-	-
0010	FISHERVILLE RD	21'FI'+48	-	28'FI'+66	RT	-	-	-	625	-	39	1	-	-
0010	GREENSTREET RD	13'GR'+90	-	17'GR'+82	RT	-	-	-	300	-	39	1	-	-
0010	GREENSTREET RD	13'GR'+96	-	17'GR'+63	LT	-	-	-	275	-	39	1	-	-
0010	GREENSTREET RD	20'GR'+53	-	25'GR'+71	LT	-	-	-	425	-	39	1	-	-
0010	GREENSTREET RD	20'GR'+73	-	25'GR'+68	RT	-	-	-	400	-	39	1	-	-
				PROJECT TOTAL		**12**	**825**	**5,188**	**4,525**	**184**	**1,111**	**29**	**2**	**2**

3

EROSION CONTROL SUMMARY

CATEGORY	ROADWAY	STATION	OFFSET	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH
0010	IH 43 NB	1322'NB'+43	LT	30	-	10
0010	IH 43 NB	1530'NB'+69	LT	30	-	10
0010	IH 43 NB	1532'NB'+31	LT	-	3	-
0010	UNDISTRIBUTED			20	2	5
		PROJECT TOTAL		80	5	25

FIELD OFFICE

CATEGORY	PROJECT	642.5201 FIELD OFFICE TYPE C EACH
0010	1227-12-71	1
	PROJECT TOTAL	**1**

RESTORATION SUMMARY

CATEGORY	ROADWAY	STATION	OFFSET	625.0500 SALVAGED TOPSOIL SY	628.2004 EROSION MAT CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0500 SEED WATER MGAL	REMARKS
0010	IH 43 NB	1167'NB'+85	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1167'NB'+85	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1234'NB'+28	LT	10	10	0.01	0.3	0.23	MEDIAN INLET
0010	IH 43 NB	1288'NB'+65	RT	5	5	0.01	0.1	0.12	RIPRAP AREA
0010	IH 43 NB	1387'NB'+18	LT	10	10	0.01	0.3	0.23	MEDIAN INLET
0010	IH 43 NB	1396'NB'+51	RT	10	10	0.01	0.3	0.23	ENDWALL
0010	IH 43 NB	1469'NB'+06	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1469'NB'+43	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1508'NB'+71	RT	5	5	0.01	0.1	0.12	RIPRAP AREA
0010	IH 43 NB	1532'NB'+30	RT	10	10	0.01	0.3	0.23	ENDWALL
0010	IH 43 NB	1545'NB'+66	RT	10	10	0.01	0.3	0.23	ENDWALL
0010	IH 43 NB	1603'NB'+62	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1604'NB'+11	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1168'SB'+13	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1168'SB'+14	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1220'SB'+65	LT	10	10	0.01	0.3	0.23	ENDWALL
0010	IH 43 SB	1362'SB'+65	LT	5	5	0.01	0.1	0.12	RIPRAP AREA
0010	IH 43 SB	1470'SB'+05	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1604'SB'+96	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1605'SB'+44	LT	5	5	0.01	0.1	0.12	FLUME
0010	CTH V SW RAMP	14'VSW'+90	LT	20	20	0.03	0.5	0.47	ENDWALL
0010	CTH V SW RAMP	14'VSW'+90	RT	20	20	0.03	0.5	0.47	ENDWALL
0010	CTH V SE RAMP	13'VSE'+08	RT	10	10	0.01	0.3	0.23	ENDWALL
0010	ROCKWOOD RD	16'RK'+17	RT	5	5	0.01	0.1	0.12	FLUME
0010	ROCKWOOD RD	16'RK'+17	LT	5	5	0.01	0.1	0.12	FLUME
0010	REIFS MILLS RD	17'RM'+07	LT	5	5	0.01	0.1	0.12	FLUME
0010	REIFS MILLS RD	17'RM'+07	RT	5	5	0.01	0.1	0.12	FLUME
0010	POLIFKA RD	19'PO'+02	LT	5	5	0.01	0.1	0.12	FLUME
0010	POLIFKA RD	19'PO'+41	RT	5	5	0.01	0.1	0.12	FLUME
0010	FISHERVILLE RD	18'FI'+51	LT	5	5	0.01	0.1	0.12	FLUME
0010	FISHERVILLE RD	18'FI'+60	RT	5	5	0.01	0.1	0.12	FLUME
0010	GREENSTREET RD	20'GR'+72	LT	5	5	0.01	0.1	0.12	FLUME
0010	GREENSTREET RD	20'GR'+73	RT	5	5	0.01	0.1	0.12	FLUME
0010	UNDISTRIBUTED			35	35	0.04	0.9	0.81	
		PROJECT SUBTOTAL		**265**	**265**	**0.33**	**7.1**	**6.20**	

3

3

LIVING SNOW FENCE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	632.0101.01 TREES AMERICAN HAZELNUT 12-18" EACH	632.0101.02 TREES COMMON NINEBARK 12-18" EACH	632.0101.03 TREES RED OSIER DOGWOOD 12-18" EACH	632.9101 LANDSCAPING PLANTING SURVEILLANCE AND CARE CYCLES EACH
0010	IH 43 SB	1167'SB'+63	-	1605'SB'+23	LT	-	-	-	26
0010	IH 43 SB	1213'SB'+84	-	1218'SB'+85	LT	127	127	127	-
0010	IH 43 SB	1219'SB'+77	-	1234'SB'+41	LT	365	365	365	-
0010	IH 43 SB	1257'SB'+61	-	1271'SB'+64	LT	351	351	351	-
0010	IH 43 SB	1362'SB'+98	-	1395'SB'+74	LT	816	816	816	-
0010	IH 43 SB	1397'SB'+71	-	1428'SB'+25	LT	763	763	763	-
0010	IH 43 SB	1447'SB'+18	-	1470'SB'+07	LT	588	588	588	-
0010	IH 43 SB	1489'SB'+33	-	1502'SB'+70	LT	337	337	337	-
0010	IH 43 SB	1566'SB'+17	-	1570'SB'+94	LT	344	344	344	-
0010	IH 43 SB	1582'SB'+14	-	1594'SB'+18	LT	301	301	301	-
0010	STH 310 NW RAMP	10'TNW'+91	-	17'TNW'+61	LT	166	166	166	-
0010	CTH V SW RAMP	17'VSW'+27	-	21'VSW'+25	LT	100	100	100	-
0010	CTH V NW RAMP	11'VNW'+40	-	22'VNW'+01	LT	259	259	259	-
				PROJECT TOTAL		**4,517**	**4,517**	**4,517**	**26**

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE I

SIGN NO.	LOCATION	SIGN CODE	W X H	638.2601 REMOVING SIGNS TYPE I EACH	638.3100 REMOVING STRUCTURAL STEEL SUPPORTS EACH	637.1220 SIGNS TYPE I REFLECTIVE TYPE SH S.F.	TYPE/SIZE OF STEEL AND BASES	531.1100 CONCRETE MASONRY ANC. STR TYPE NS CY*	531.1140 STEEL REINF. HS ANC. STRUCTURES TYPE NS LB*	531.2024 DRILLING SHAFT 24-INCH LF*	635.0200 SIGN SUPPORTS STRUCT. STEEL HIGH-STRENGTH LB*	INFO ONLY - POST LENGTH TO BE VERIFIED BY CONTRACTOR POST NO. 1 LENGTH (ROAD SIDE) FT	POST NO. 2 LENGTH (DITCH) FT	POST NO. 3 LENGTH (MIDDLE) FT	REMARKS
1	IH 43 SB, N. OF STH 310	E4-1A	252" X 132"	1	2	231.0	3-w12x26	3.6	540	30	2,348	23.0	25.5	24.3	
2	"	E1-5	108" X 30"			22.5									MOUNT ABOVE SIGN 1
3	"	E10-61	144" X 54"	1	2	54.0	2-w6x15	1.6	142	13	627	16.0	16.0		
4	"	E3-1	132" X 78"	1	2	71.5	2-w8x18	1.8	204	15	811	17.9	17.9		
5	IH 43 NB, N. OF STH 310	E8-1	216" X 84"	1	2	126.0	2-w10x22	2.0	302	17	1,005	15.0	18.5		
6	IH 43 SB, N. OF STH 310	E1-1A	216" X 162"	1	2	243.0	3-w12x26	3.6	540	30	2,582	26.0	28.5	27.3	
7	"	E1-5	108" X 30"			22.5									MOUNT ABOVE SIGN 6
8	IH 43 NB, S. OF REIFS MILLS RD	E1-1A	252" X 156"	1	2	273.0	2-w12x26	2.4	360	20	1,721	26.0	28.5		
9	"	E1-5	120" X 30"			25.0									MOUNT ABOVE SIGN 8
10	IH 43 NB, S. OF CTH V	E4-1A	276" X 126"	1	2	241.5	3-w12x26	2.4	540	20	2,348	23.0	25.5	24.3	
11	"	E1-5	108" X 30"			22.5									MOUNT ABOVE SIGN 10
12	IH 43 SB, N. OF CTH V	E4-1A	276" X 126"	1	2	241.5	3-w12x26	2.4	540	20	2,348	23.0	25.5	24.3	
13	"	E1-5	108" X 30"			22.5									MOUNT ABOVE SIGN 12
14	IH 43 NB, N. OF CTH V	E8-1	204" X 84"	1	2	119.0	2-w10x22	2.0	302	17	1,005	15.0	18.5		
15	IH 43 SB, S. OF POLIFKA RD	E1-1A	252" X 156"			273.0	2-w12x26	2.4	360	20	1,721	26.0	28.5		
16	"	E1-5	108" X 30"	1	2	22.5									MOUNT ABOVE SIGN 15
17	IH 43 NB, N. OF POLIFKA RD	E1-1A	228" X 120"	1	2	190.0	2-w12x26	2.4	360	20	1,721	26.0	28.5		
18	"	E1-5	108" X 30"			22.5									MOUNT ABOVE SIGN 15
19	IH 43 NB, S. OF CTH K	E4-1A	264" X 90"	1	2	165.0	2-w12x26	2.4	360	20	1,565	23.0	25.5		
20		E1-5	108" X 30"			22.5									MOUNT ABOVE SIGN 19
21	IH 43 SB, N. OF CTH K	E4-1A	264" X 90"	1	2	165.0	2-w12x26	2.4	360	20	1,565	23.0	25.5		
22		E1-5	108" X 30"			22.5									MOUNT ABOVE SIGN 21
23	IH 43 NB, S. OF FISHERVILLE RD	E8-1	180" X 84"	1	2	105.0	2-w10x22	2.0	302	17	1,005	15.0	18.5		
24	IH 43 SB, N. OF FISHERVILLE RD	E1-1A	228" X 120"	1	2	190.0	2-w12x26	2.4	360	20	1,721	26.0	28.5		
25		E1-5	108" X 30"			22.5									MOUNT ABOVE SIGN 24
26	IH 43 NB, N. OF GREENSTREET RD	E1-1A	168" X 162"	1	2	189.0	2-w12x26	2.4	360	20	1,721	26.0	28.5		
27		E1-5	108" X 30"			22.5									MOUNT ABOVE SIGN 26
PROJECT TOTALS				**16**	**32**	**3127.5**		**38.2**	**5932**	**319**	**25811**				

*THESE QUANTITIES ARE ESTIMATES.
ACTUAL SIZE/NUMBER/LENGTH/WEIGHT OF STEEL SUPPORTS/REINFORCEMENT/CONCRETE BASES
ARE TO BE DETERMINED BY CONTRACTOR, BASED ON SURVEY OF FIELD CONDITIONS, FINAL GRADE AND SIGN LOCATION.
SURVEY REQUIRED FOR DETERMINATION IS THE RESPONSIBILITY OF THE CONTRACTOR, INCIDENTAL TO THE CONTRACT.
FOLLOW SIGN DETAIL A-PLATES - A3-1, A3-2, A3-3, A4-1

TRAFFIC CONTROL DETOUR SIGN SUMMARY - STH 310 ON-RAMP TO I-43 NB RAMP CLOSURE

LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO .OF CYCLES	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
STH 310 ON-RAMP TO I-43 NB									
US 10, W. OF I-43, PLACE 1000' W. OF I-43 SB RAMP INTERSECTION IN MEDIAN	M 3-1	36"X18"	1	12	12				
"	M 1-1	36"X36"	1	12	12				43
"	W 20-2A	48"X48"	1	12	12				
US 10, W. OF I-43, PLACE 1000' W. OF I-43 SB RAMP INTERSECTION ON RIGHT SHOULDER	M 3-1	36"X18"	1	12	12				
"	M 1-1	36"X36"	1	12	12				43
"	W 20-2A	48"X48"	1	12	12				
US 10, BETWEEN RAMP INTERSECTIONS, MODIFY EXISTING J2-2 SIGN AS SHOWN	MO 4-5	36"X18"	1	12	12				
"	MO 6-1	30"X30"	1	12	12				AHEAD
US 10, BETWEEN RAMP INTERSECTIONS, MODIFY EXISTING J2-2 SIGN AS SHOWN	MO 4-5	36"X18"	1	12	12				
"	MO 6-1	30"X30"	1	12	12				AHEAD
US 10, AT I-43 NB, COVER EXISTING D1-70 SIGN AS SHOWN							1	1	COVER ENTIRE SIGN
US 10, AT I-43 NB, COVER EXISTING D1-71 SIGN AS SHOWN							1	1	COVER BOTTOM PORTION OF SIGN
US 10, AT I-43 NB, MODIFY EXISTING J3-1 SIGN AS SHOWN	MO 4-5	24"X12"	1	12	12				
"	MO 6-1	21"X21"	1	12	12				AHEAD
STH 310, E. OF I-43, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-5	36"X18"	1	12	12				
"	M 3-1	36"X18"	1	12	12				
"	M 1-1	36"X36"	1	12	12				43
STH 310, W. OF CTH R, PLACE 750' W. OF CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12				
"	M 3-1	24"X12"	1	12	12				
"	M 1-1	24"X24"	1	12	12				43
"	MO 5-1L	21"X21"	1	12	12				
STH 310, AT CTH R, PLACE RIGHT OF EXISTING J13-1 SIGN AT CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12				
"	M 3-1	24"X12"	1	12	12				
"	M 1-1	24"X24"	1	12	12				43
"	MO 6-1	21"X21"	1	12	12				LEFT
STH 310, AT CTH R, PLACE RIGHT OF EXISTING J13-1 SIGN AT CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12				
"	M 3-1	24"X12"	1	12	12				
"	M 1-1	24"X24"	1	12	12				43
"	MO 6-1	21"X21"	1	12	12				RIGHT
STH 310, E. OF CTH R, PLACE 750' E. OF CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12				
"	M 3-1	24"X12"	1	12	12				
"	M 1-1	24"X24"	1	12	12				43
"	MO 5-1R	21"X21"	1	12	12				
STH 310, E. OF CTH R, PLACE 1000' W. OF CTH R INTERSECTION ON RIGHT SHOULDER	M 3-1	24"X12"	1	12	12				
"	M 1-1	24"X24"	1	12	12				43
"	W 20-2A	48"X48"	1	12	12				
CTH R, S. OF CTH V, PLACE 750' S. OF CTH V INTERSECTION	MO 4-5	24"X12"	1	12	12				
"	M 3-1	24"X12"	1	12	12				
"	M 1-1	24"X24"	1	12	12				43
"	MO 5-1L	21"X21"	1	12	12				
CTH R, AT CTH V, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH V INTERSECTION	MO 4-5	24"X12"	1	12	12				
"	M 3-1	24"X12"	1	12	12				
"	M 1-1	24"X24"	1	12	12				43
"	MO 6-1	21"X21"	1	12	12				LEFT
STH 310 ON-RAMP TO I-43 NB, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1			7			PLACE IN ADVANCE OF CLOSURE
PAGE SUBTOTALS			43		504	7		2	
310 ON-RAMP TO 43 NB CLOSURE TOTALS			**43**		***504**	***7**		***2**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

TRAFFIC CONTROL DETOUR SIGN SUMMARY - I-43 SB OFF-RAMP TO STH 310-10 CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	REMARKS
	I-43 SB OFF-RAMP TO STH 310-10							
1	I-43 SB, N. OF STH 310, PLACE ON EXISTING TYPE I GROUND MOUNT SIGN	G 20-60	108"X24"	1	12	12		
2	I-43 SB, AT STH 310, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN AT EXIT	MO 4-5	36"X18"	1	12	12		
	"	M 1-4	36"X36"	1	12	12		10
	"	M 1-6	36"X36"	1	12	12		310
	"	MO 6-1	30"X30"	1	12	12		AHEAD
3	I-43 SB, AT STH 310, PLACE ON EXISITNG TYPE I GROUND MOUNT SIGN	G 20-60	108"X24"	1	12	12		
4	I-43 SB OFF-RAMP TO STH 310-10, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1			7	PLACE IN ADVANCE OF CLOSURE
5	I-43 SB, N. OF STH 42/JJ, PLACE 1000' N. OF STH 42/JJ EXIT RAMP ON RIGHT SHOULDER	MO 4-5	36"X18"	1	12	12		
	"	M 1-4	36"X36"	1	12	12		10
	"	M 1-6	36"X36"	1	12	12		310
	"	MO 5-2R	30"X30"	1	12	12		
6	I-43 SB, N. OF STH 42/JJ, PLACE 1000' N. OF STH 42/JJ EXIT RAMP IN MEDIAN	MO 4-5	36"X18"	1	12	12		
	"	M 1-4	36"X36"	1	12	12		10
	"	M 1-6	36"X36"	1	12	12		310
	"	MO 5-2R	30"X30"	1	12	12		
7	I-43 SB, AT STH 43/JJ, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-5	36"X18"	1	12	12		
	"	M 1-4	36"X36"	1	12	12		10
	"	M 1-6	36"X36"	1	12	12		310
	"	MO 6-2	30"X30"	1	12	12		TILT RIGHT
8	I-43 SB OFF-RAMP TO STH 42/JJ, PLACE 600' PRIOR TO RAMP INTERSECTION	MO 4-5	24"X12"	1	12	12		
	"	M 1-4	24"X24"	1	12	12		10
	"	M 1-6	24"X24"	1	12	12		310
	"	MO 5-1L	24"X24"	1	12	12		
9	I-43 SB OFF-RAMP TO STH 42/JJ, AT STH 42/JJ, PLACE RIGHT OF EXISTING R1-1 SIGN	MO 4-5	24"X12"	1	12	12		
	"	M 1-4	24"X24"	1	12	12		10
	"	M 1-6	24"X24"	1	12	12		310
	"	MO 6-1	24"X24"	1	12	12		LEFT
10	STH 42/JJ, BETWEEN RAMPS, PLACE RIGHT OF EXISTING J2-1 SIGN ON RIGHT SHOULDER	MO 4-5	24"X12"	1	12	12		
	"	M 1-4	24"X24"	1	12	12		10
	"	M 1-6	24"X24"	1	12	12		310
	"	MO 5-1L	24"X24"	1	12	12		
11	STH 42/JJ, AT I-43 NB, PLACE IN MEDIAN AT I-43 NB RAMP INTERSECTION	MO 4-5	24"X12"	1	12	12		
	"	M 1-4	24"X24"	1	12	12		10
	"	M 1-6	24"X24"	1	12	12		310
	"	MO 6-1	24"X24"	1	12	12		LEFT
	PAGE SUBTOTALS			35		408	7	
	I-43 SB OFF-RAMP TO 310-10 CLOSURE TOTALS			**35**		***408**	***7**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY - CTH V ON-RAMP TO I-43 SB CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
	CTH V ON-RAMP TO I-43 SB									
1	CTH V, W. OF I-43 SB, PLACE 1000' W. OF I-43 SB RAMP INTERSECTION	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	W 20-2A	48"X48"	1	12	12				
2	CTH V, AT I-43 SB, MODIFY EXISTING J3-1 SIGN AS SHOWN AT I-43 SB RAMP INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	MO 6-1	21"X21"	1	12	12				AHEAD
3	CTH V, AT I-43 SB, COVER EXISTING J3-1 SIGN AS SHOWN AT I-43 SB RAMP INTERSECTION							1	1	COVER ENTIRE SIGN
4	CTH V ON-RAMP TO I-43 SB, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1			7			PLACE IN ADVANCE OF CLOSURE
5	CTH V, BETWEEN I-43 RAMPS, COVER EXISTING J2-1 SIGN AS SHOWN							1	1	COVER ENTIRE SIGN
6	CTH V, W. OF CTH R, PLACE 750' W. OF CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 5-1R	21"X21"	1	12	12				
7	CTH V, W. OF CTH R, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				RIGHT
8	CTH R, N. OF CTH V, PLACE 1000' N. OF CTH V INTERSECTION	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	W 20-2A	48"X48"	1	12	12				
9	CTH R, AT CTH V, PLACE RIGHT OF EXISTING J3-2 SIGN AT CTH V INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				AHEAD
10	CTH R, N. OF STH 310, PLACE 750' N. OF STH 310 RAB INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 5-1R	21"X21"	1	12	12				
11	CTH R, AT STH 310, PLACE 100' N. OF STH 310 RAB INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				RIGHT
	PAGE SUBTOTALS			29		336	7		2	
	CTH V ON-RAMP TO 43 SB CLOSURE TOTALS			**29**		***336**	***7**		***2**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY - I-43 SB OFF-RAMP TO CTH V CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	REMARKS
	I-43 SB OFF-RAMP TO CTH V							
1	I-43 SB, N. OF CTH V, PLACE ON EXISTING TYPE I GROUND MOUNT SIGN AS SHOWN	G 20-60	108"X24"	1	12	12		
2	I-43 SB, AT CTH V, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		V
	"	MO 6-1	30"X30"	1	12	12		
3	I-43 SB, AT CTH V, PLACE ON EXISTING TYPE I GROUND MOUNT SIGN AS SHOWN	G 20-60	108"X24"	1	12	12		
4	I-43 SB OFF-RAMP TO CTH V, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1			7	PLACE IN ADVANCE OF CLOSURE
5	I-43 SB, N. OF US 10-310, PLACE 1000' N. OF US 10-310 RAMP ON RIGHT SHOULDER	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		V
	"	MO 5-2R	30"X30"	1	12	12		
6	I-43 SB, N. OF US 10-310, PLACE 1000' N. OF US 10-310 RAMP IN MEDIAN	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		V
	"	MO 5-2R	30"X30"	1	12	12		
7	I-43 SB, AT US 10-310, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		V
	"	MO 6-2	30"X30"	1	12	12		TILT RIGHT
8	I-43 SB OFF-RAMP TO US 10-310, AT US 10-310, PLACE RIGHT OF EXISTING R1-1 SIGN AT RAMP INTERSECTION	MO 4-5	24"X12"	1	12	12		
	"	M 1-5A	24"X24"	1	12	12		V
	"	MO 6-1	21"X21"	1	12	12		LEFT
9	US 10-310, AT I-43 NB, PLACE ON RIGHT SHOULDER AT I-43 NB RAMP INTERSECTION	MO 4-5	24"X12"	1	12	12		
	"	M 1-5A	24"X24"	1	12	12		V
	"	MO 6-1	21"X21"	1	12	12		AHEAD
10	STH 310, AT CTH R, PLACE RIGHT OF EXISTING J13-1 SIGN AT CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12		
	"	M 1-5A	24"X24"	1	12	12		V
	"	MO 6-1	21"X21"	1	12	12		LEFT
	PAGE SUBTOTALS			24		276	7	
	I-43 SB OFF-RAMP TO V CLOSURE TOTALS			**24**		***276**	***7**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY - CTH V ON-RAMP TO I-43 NB CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
	CTH V ON-RAMP TO I-43 NB									
1	CTH V, W. OF I-43 SB RAMP, PLACE 1000' W. OF I-43 SB RAMP INTERSECTION	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	W 20-2A	48"X48"	1	12	12				
2	CTH V, BETWEEN I-43 RAMPS, MODIFY EXISTING J2-1 SIGN AS SHOWN	MO 4-5	24"X12"	1	12	12				
	"	MO 6-1	21"X21"	1	12	12				AHEAD
3	CTH V, AT I-43 NB RAMP, MODIFY EXISTING J3-1 SIGN AS SHOWN	MO 4-5	24"X12"	1	12	12				
	"	MO 6-1	21"X21"	1	12	12				AHEAD
4	CTH V ON-RAMP TO I-43 NB, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1			7			PLACE IN ADVANCE OF CLOSURE
5	CTH V, AT I-43 NB RAMP, COVER EXISTING J3-1 SIGN AS SHOWN							1	1	COVER ENTIRE SIGN
6	CTH V, E. OF I-43, COVER EXISTING J2-2 SIGN AS SHOWN							1	1	COVER "NORTH 43 ADV RT"
7	CTH V, W. OF CTH R, PLACE 750' W. OF CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 5-1L	21"X21"	1	12	12				
8	CTH V, AT CTH R, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				LEFT
9	CTH R, S. OF CTH V, PLACE 1000' S. OF CTH V INTERSECTION	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	W 20-2A	48"X48"	1	12	12				
10	CTH R, AT CTH V, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH V INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				AHEAD
11	CTH R, S. OF CTH K, PLACE 750' S. OF CTH K INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 5-1L	21"X21"	1	12	12				
12	CTH R, AT CTH K, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH K INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				LEFT
	PAGE SUBTOTALS			31		360	7		2	
	CTH V TO 43 NB RAMP CLOSURE TOTALS			**31**		***360**	***7**		***2**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

3

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY - I-43 NB OFF-RAMP TO CTH V CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	REMARKS
	I-43 NB OFF-RAMP TO CTH V							
1	I-43 NB, S. OF CTH V, PLACE ON EXISTING TYPE I GROUND MOUNT SIGN AS SHOWN	G 20-60	108"X24"	1	12	12		
2	I-43 NB, AT CTH V, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		V
	"	MO 6-1	30"X30"	1	12	12		AHEAD
3	I-43 NB, AT CTH V, PLACE ON EXISTING TYPE I GROUND MOUNT SIGN AS SHOWN	G 20-60	108"X24"	1	12	12		
4	I-43 NB OFF-RAMP TO CTH V, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1			7	PLACE IN ADVANCE OF CLOSURE
5	I-43 NB, S. OF CTH K, PLACE 1000' S. OF CTH K EXIT RAMP IN MEDIAN	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		V
	"	MO 5-2R	30"X30"	1	12	12		
6	I-43 NB, S. OF CTH K, PLACE 1000' S. OF CTH K EXIT RAMP ON RIGHT SHOULDER	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		V
	"	MO 5-2R	30"X30"	1	12	12		
7	I-43 NB, AT CTH K EXIT RAMP, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		
	"	MO 6-2	30"X30"	1	12	12		TILT RIGHT
8	I-43 NB OFF-RAMP TO CTH K, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH K INTERSECTION	MO 4-5	24"X12"	1	12	12		
	"	M 1-5A	24"X24"	1	12	12		V
	"	MO 6-1	21"X21"	1	12	12		RIGHT
9	CTH K, AT CTH R, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12		
	"	M 1-5A	24"X24"	1	12	12		V
	"	MO 6-1	21"X21"	1	12	12		RIGHT
	PAGE SUBTOTALS			21		240	7	
	43 NB OFF-RAMP TO V CLOSURE TOTALS			**21**		***240**	***7**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

TRAFFIC CONTROL DETOUR SIGN SUMMARY - CTH K ON-RAMP TO I-43 SB CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
	CTH K ON-RAMP TO I-43 SB									
1	CTH K, W. OF I-43, PLACE 1000' W. OF I-43 SB RAMP INTERSECTION	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	W 20-2A	48"X48"	1	12	12				
2	CTH K, AT I-43 SB, MODIFY EXISTING J3-1 SIGN AS SHOWN AT I-43 SB RAMP INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	MO 6-1	21"X21"	1	12	12				AHEAD
3	CTH K, AT I-43 SB, COVER EXISTING J3-1 SIGN AS SHOWN AT I-43 SB RAMP INTERSECTION							1	1	COVER ENTIRE SIGN
4	CTH K ON-RAMP TO I-43 SB, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1			7			PLACE IN ADVANCE OF CLOSURE
5	CTH K, AT I-43 SB, COVER EXISTING J3-1 SIGN AS SHOWN AT I-43 SB RAMP INTERSECTION							1	1	COVER ENTIRE SIGN
6	CTH K, E. OF I-43, PLACE RIGHT OF EXISTING M1-5A SIGN E. OF I-43	MO 4-5	24"X12"	1	12	12				
	"	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
7	CTH K, W. OF CTH R, PLACE 750' W. OF CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 5-1L	21"X21"	1	12	12				
8	CTH K, AT CTH R, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				RIGHT
9	CTH R, N. OF CTH K, PLACE 1000' N. OF CTH K INTERSECTION	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	W 20-2A	48"X48"	1	12	12				
10	CTH R, AT CTH K, PLACE RIGHT OF EXISITNG J3-2 SIGN AT CTH K INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				AHEAD
11	CTH R, N. OF CTH V, PLACE 750' N. OF CTH V INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 5-1R	21"X21"	1	12	12				
12	CTH R, AT CTH V, PLACE RIGHT OF EXISTING J3-2 SIGN AT CTH V INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				RIGHT
13	CTH V, AT I-43 NB, PLACE RIGHT OF EXISTING J3-1 SIGN AT I-43 NB RAMP INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-3	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				AHEAD
	PAGE SUBTOTALS			36		420	7		2	
	CTH K ON-RAMP TO 43 SB CLOSURE TOTALS			**36**		***420**	***7**		***2**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY - I-43 SB OFF-RAMP TO CTH K CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	REMARKS
	I-43 SB OFF-RAMP TO CTH K							
1	I-43 SB, N. OF CTH K, PLAE ON EXISTING TYPE I GROUND MOUNT SIGN AS SHOWN	G 20-60	108"X24"	1	12	12		
2	I-43 SB, AT CTH K, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		K
	"	MO 6-1	30"X30"	1	12	12		AHEAD
3	I-43 SB, AT CTH K, PLACE ON EXISTING TYPE I GROUND MOUNT SIGN AS SHOWN	G 20-60	108"X24"	1	12	12		
4	I-43 SB OFF-RAMP TO CTH K, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1			7	PLACE IN ADVANCE OF CLOSURE
5	I-43 SB, N. OF CTH V, PLACE 1000' N. OF CTH V RAMP IN MEDIAN	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		K
	"	MO 5-2R	30"X30"	1	12	12		
6	I-43 SB, N. OF CTH V, PLACE 1000' N. OF CTH V RAMP ON RIGHT SHOULDER	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		K
	"	MO 5-2R	30"X30"	1	12	12		
7	I-43 SB, AT CTH V, PLACE LEFT OF EXISTING TYPE I SIGN AT CTH V RAMP	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		K
	"	MO 6-2	30"X30"	1	12	12		TILT RIGHT
8	I-43 SB OFF-RAMP TO CTH V, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH V RAMP INTERSECTION	MO 4-5	24"X12"	1	12	12		
	"	M 1-5A	24"X24"	1	12	12		5
	"	MO 6-1	21"X21"	1	12	12		LEFT
9	CTH V, AT I-43 NB, PLACE IN MEDIAN AT I-43 NB RAMP INTERSECTION	MO 4-5	24"X12"	1	12	12		
	"	M 1-5A	24"X24"	1	12	12		K
	"	MO 6-1	21"X21"	1	12	12		LEFT
	PAGE SUBTOTALS			21		240	7	
	I-43 SB OFF-RAMP TO K CLOSURE TOTALS			**21**		***240**	***7**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

TRAFFIC CONTROL DETOUR SIGN SUMMARY - CTH K ON-RAMP TO I-43 NB CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO .OF CYCLES	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
	CTH K ON-RAMP TO I-43 NB									
1	CTH K, W. OF I-43, PLACE 1000' W. OF I-43 SB RAMP INTERSECTION	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	W 20-2A	48"X48"	1	12	12				
2	CTH K, BETWEEN I-43 RAMPS, MODIFY EXISTING J2-2 SIGN AS SHOWN	MO 4-5	24"X12"	1	12	12				
	"	MO 6-1	21"X21"	1	12	12				AHEAD
3	CTH K, AT I-43 NB RAMP, MODIFY EXISTING J3-1 SIGN AS SHOWN	MO 4-5	24"X12"	1	12	12				
	"	MO 6-1	21"X21"	1	12	12				AHEAD
4	CTH K ON-RAMP TO I-43 NB, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1			7			PLACE IN ADVANCE OF CLOSURE
5	CTH K, AT I-43 NB RAMP, COVER EXISTING J3-1 SIGN AS SHOWN							1	1	COVER ENTIRE SIGN
6	CTH K, E. OF I-43, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-5	24"X12"	1	12	12				
	"	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
7	CTH R, S. OF CTH K, PLACE 1000' S. OF CTH K INTERSECTION	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	W 20-2A	48"X48"	1	12	12				
8	CTH R, AT CTH K, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH K INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				AHEAD
9	CTH R, S. OF CTH Y, PLACE 150' S. OF CTH Y INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				AHEAD
10	CTH R, AT STH 147, PLACE RIGHT OF EXISTING R1-1 SIGN AT STH 147 INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 6-1	21"X21"	1	12	12				LEFT
11	STH 147, W. OF CTH R, PLACE 100' W. OF CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12				
	"	M 3-1	24"X12"	1	12	12				
	"	M 1-1	24"X24"	1	12	12				43
	"	MO 5-1L	21"X21"	1	12	12				
	PAGE SUBTOTALS			30		348	7		1	
	K ON-RAMP TO 43 NB CLOSURE TOTALS			**30**		***348**	***7**		***1**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY - I-43 NB OFF-RAMP TO CTH K CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	REMARKS
	I-43 NB OFF-RAMP TO CTH K							
1	I-43 NB, S. OF CTH K, PLACE ON EXISTING TYPE I GROUND MOUNT SIGN AS SHOWN	G 20-60	108"X24"	1	12	12		
2	I-43 NB, AT CTH K EXIT RAMP, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		K
	"	MO 6-1	30"X30"	1	12	12		AHEAD
3	I-43 NB, AT CTH K EXIT RAMP, PLACE ON EXISTING TYPE I GROUND MOUNT SIGN AS SHOWN	G 20-60	108"X24"	1	12	12		
4	I-43 NB OFF-RAMP TO CTH K, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1			7	PLACE IN ADVANCE OF CLOSURE
5	I-43 NB, S. OF STH 147, PLACE 1000' S. OF STH 147 OFF-RAMP IN MEDIAN	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		K
	"	MO 5-2R	30"X30"	1	12	12		
6	I-43 NB, S. OF STH 147, PLACE 1000' S. OF STH 147 OFF-RAMP ON RIGHT SHOULDER	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		K
	"	MO 5-2R	30"X30"	1	12	12		
7	I-43 NB, AT STH 147 EXIT RAMP, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-5	36"X18"	1	12	12		
	"	M 1-5A	36"X36"	1	12	12		K
	"	MO 6-2	30"X30"	1	12	12		TILT RIGHT
8	I-43 NB OFF-RAMP TO STH 147, AT RAMP INTERSECTION, PLACE RIGHT OF EXISTING R1-1 SIGN	MO 4-5	24"X12"	1	12	12		
	"	M 1-5A	24"X24'	1	12	12		K
	"	MO 6-1	21"X21"	1	12	12		RIGHT
9	STH 147, AT CTH R, PLACE RIGHT OF EXISTING J13-1 SIGN AT CTH R INTERSECTION	MO 4-5	24"X12"	1	12	12		
	"	M 1-5A	24"X24'	1	12	12		K
	"	MO 6-1	21"X21"	1	12	12		RIGHT
10	CTH R, N. OF CTH Y, PLACE 150' N. OF CTH Y INTERSECTION	MO 4-5	24"X12"	1	12	12		
	"	M 1-5A	24"X24'	1	12	12		K
	"	MO 6-1	21"X21"	1	12	12		AHEAD
11	CTH R, AT CTH K, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH K INTERSECTION	MO 4-5	24"X12"	1	12	12		
	"	M 1-5A	24"X24'	1	12	12		K
	"	MO 6-1	21"X21"	1	12	12		RIGHT
	PAGE SUBTOTALS			27		312	7	
	43 NB TO CTH K CLOSURE TOTALS			**27**		***312**	***7**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

TRAFFIC CONTROL DETOUR SIGN SUMMARY - I-43 NB FULL CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 2 DAYS	643.0900 SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
	I-43 NB FULL CLOSURE									
1	US 10, W. OF I-43, PLACE 1000' W. OF I-43 SB RAMP INTERSECTION IN MEDIAN	M 3-1	36"X18"	1	2	2				
	"	M 1-1	36"X36"	1	2	2				43
	"	W 20-2A	48"X48"	1	2	2				
2	US 10, W. OF I-43, PLACE 1000' W. OF I-43 SB RAMP INTERSECTION ON RIGHT SHOULDER	M 3-1	36"X18"	1	2	2				
	"	M 1-1	36"X36"	1	2	2				43
	"	W 20-2A	48"X48"	1	2	2				
3	US 10, BETWEEN RAMP INTERSECTIONS, MODIFY EXISTING J2-2 SIGN AS SHOWN	MO 4-8	36"X18"	1	2	2				
	"	MO 6-1	30"X30"	1	2	2				AHEAD
4	US 10, BETWEEN RAMP INTERSECTIONS, MODIFY EXISTING J2-2 SIGN AS SHOWN	MO 4-8	36"X18"	1	2	2				
	"	MO 6-1	30"X30"	1	2	2				AHEAD
5	US 10, AT I-43 NB, COVER EXISTING D1-70 SIGN AS SHOWN							1	1	COVER ENTIRE SIGN
6	US 10, AT I-43 NB, COVER EXISTING D1-71 SIGN AS SHOWN							1	1	COVER BOTTOM PORTION OF SIGN
7	I-43 NB, S. OF STH 310, PLACE 1/2 MILE S. OF STH 310 OFF-RAMP IN MEDIAN	M 3-1	36"X18"	1	2	2				
	"	M 1-1	36"X36"	1	2	2				43
	"	W 20-2A	48"X48"	1	2	2				
8	I-43 NB, S. OF STH 310, PLACE 1/2 MILE S. OF STH 310 OFF-RAMP ON RIGHT SHOULDER	M 3-1	36"X18"	1	2	2				
	"	M 1-1	36"X36"	1	2	2				43
	"	W 20-2A	48"X48"	1	2	2				
9	I-43 NB, S. OF STH 310, PLACE 1/4 MILE S. OF STH 310 OFF-RAMP IN MEDIAN	MO 4-8	36"X18"	1	2	2				
	"	M 3-1	36"X18"	1	2	2				
	"	M 1-1	36"X36"	1	2	2				43
	"	MO 5-2R	30"X30"	1	2	2				
10	I-43 NB, S. OF STH 310, PLACE 1/4 MILE S. OF STH 310 OFF-RAMP ON RIGHT SHOULDER	MO 4-8	36"X18"	1	2	2				
	"	M 3-1	36"X18"	1	2	2				
	"	M 1-1	36"X36"	1	2	2				43
	"	MO 5-2R	30"X30"	1	2	2				
11	I-43 NB, AT STH 310, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN AT STH 310 EXIT	MO 4-8	36"X18"	1	2	2				
	"	M 3-1	36"X18"	1	2	2				43
	"	M 1-1	36"X36"	1	2	2				
	"	MO 6-2	30"X30"	1	2	2				TILT RIGHT
12	US 10, AT I-43 NB, MODIFY EXISTING J3-1 SIGN AS SHOWN	MO 4-8	24"X12"	1	2	2				
	"	MO 6-1	21"X21"	1	2	2				AHEAD
	PAGE SUBTOTALS			30		60	0		2	

ALL QUANTITIES SHOWN ON THIS PAGE ARE UNDER CATEGORY 0041

TRAFFIC CONTROL DETOUR SIGN SUMMARY - I-43 NB FULL CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 2 DAYS	643.0900 SIGNS DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
13	STH 310, E. OF I-43, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-8	36"X18"	1	2	2				
	"	M 3-1	36"X18"	1	2	2				
	"	M 1-1	36"X36"	1	2	2				43
14	STH 310, W. OF CTH R, PLACE 750' W. OF CTH R INTERSECTION	MO 4-8	24"X12"	1	2	2				
	"	M 3-1	24"X12"	1	2	2				
	"	M 1-1	24"X24"	1	2	2				43
	"	MO 5-1L	21"X21"	1	2	2				
15	STH 310, AT CTH R, PLACE RIGHT OF EXISTING J13-1 SIGN AT CTH R INTERSECTION	MO 4-8	24"X12"	1	2	2				
	"	M 3-1	24"X12"	1	2	2				
	"	M 1-1	24"X24"	1	2	2				43
	"	MO 6-1	21"X21"	1	2	2				LEFT
16	STH 310, AT CTH R, PLACE RIGHT OF EXISTING J13-1 SIGN AT CTH R INTERSECTION	MO 4-8	24"X12"	1	2	2				
	"	M 3-1	24"X12"	1	2	2				
	"	M 1-1	24"X24"	1	2	2				43
	"	MO 6-1	21"X21"	1	2	2				RIGHT
17	STH 310, E. OF CTH R, PLACE 750' E. OF CTH R INTERSECTION	MO 4-8	24"X12"	1	2	2				
	"	M 3-1	24"X12"	1	2	2				
	"	M 1-1	24"X24"	1	2	2				43
	"	MO 5-1R	21"X21"	1	2	2				
18	STH 310, E. OF CTH R, PLACE 1000' W. OF CTH R INTERSECTION ON RIGHT SHOULDER	M 3-1	24"X12"	1	2	2				
	"	M 1-1	24"X24"	1	2	2				43
	"	W 20-2A	48"X48"	1	2	2				
19	CTH R, S. OF CTH V, PLACE 750' S. OF CTH V INTERSECTION	MO 4-8	24"X12"	1	2	2				
	"	M 3-1	24"X12"	1	2	2				
	"	M 1-1	24"X24"	1	2	2				43
	"	MO 5-1L	21"X21"	1	2	2				
20	CTH R, AT CTH V, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH V INTERSECTION	MO 4-8	24"X12"	1	2	2				
	"	M 3-1	24"X12"	1	2	2				
	"	M 1-1	24"X24"	1	2	2				43
	"	MO 6-1	21"X21"	1	2	2				LEFT
21	I-43 NB, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1			7			PLACE IN ADVANCE OF CLOSURE
22	STH 310 ON-RAMP TO I-43 NB, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1			7			PLACE IN ADVANCE OF CLOSURE
	PAGE SUBTOTALS			32		60	14		0	
	43 NB FULL CLOSURE TOTALS			**62**		***120**	***14**		***2**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

ALL QUANTITIES SHOWN ON THIS PAGE ARE UNDER CATEGORY 0041

TRAFFIC CONTROL SUMMARY

CATEGORY	LOCATION	DURATION DAYS	643.0300 TRAFFIC CONTROL DRUMS EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS EACH	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONROL SIGNS EACH	643.0900 TRAFFIC CONROL SIGNS DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.1205.S BASIC TRAFFIC QUEUE WARNING SYSTEM EACH	643.1205.S BASIC TRAFFIC QUEUE WARNING SYSTEM DAY	REMARKS
0010	ROCKWOOD RD	8	28	224	-	-	-	-	-	-	-	-	11	88	-	-	-	-	BEAMGUARD
0010	ROCKWOOD RD	30	13	390	14	420	28	840	-	-	-	-	15	450	2	14	-	-	SIDE ROAD CLOSURE
0010	REIFS MILLS RD	8	28	224	-	-	-	-	-	-	-	-	11	88	-	-	-	-	BEAMGUARD
0010	POLIFKA RD	11	38	418	-	-	-	-	-	-	-	-	11	121	-	-	-	-	BEAMGUARD
0010	FISHERVILLE RD	11	38	418	-	-	-	-	-	-	-	-	11	121	-	-	-	-	BEAMGUARD
0010	GREENSTREET RD	11	38	418	-	-	-	-	-	-	-	-	11	121	-	-	-	-	BEAMGUARD
0010	STH 310 NE RAMP	94	34	3,196	2	188	4	376	24	2,256	-	-	7	658	-	-	-	-	LANE CLOSURE
0010	STH 310 NW RAMP	94	10	940	2	188	4	376	8	752	-	-	5	470	-	-	-	-	LANE CLOSURE
0010	CTH V SE RAMP	94	10	940	2	188	4	376	8	752	-	-	5	470	-	-	-	-	LANE CLOSURE
0010	CTH V NE RAMP	94	34	3,196	2	188	4	376	24	2,256	-	-	7	658	-	-	-	-	LANE CLOSURE
0010	CTH V NW RAMP	94	10	940	2	188	4	376	8	752	-	-	5	470	-	-	-	-	LANE CLOSURE
0010	CTH V SW RAMP	94	34	3,196	2	188	4	376	24	2,256	-	-	7	658	-	-	-	-	LANE CLOSURE
0010	CTH K SE RAMP	94	10	940	2	188	4	376	8	752	-	-	5	470	-	-	-	-	LANE CLOSURE
0010	CTH K NE RAMP	94	34	3,196	2	188	4	376	24	2,256	-	-	7	658	-	-	-	-	LANE CLOSURE
0010	CTH K NW RAMP	94	10	940	2	188	4	376	8	752	-	-	5	470	-	-	-	-	LANE CLOSURE
0010	CTH K SW RAMP	94	34	3,196	2	188	4	376	24	2,256	-	-	7	658	-	-	-	-	LANE CLOSURE
0010	STH 310 NE RAMP	12	-	-	4	48	8	96	-	-	-	-	1	12	-	-	-	-	RAMP CLOSURE
0010	STH 310 NW RAMP	12	-	-	4	48	8	96	-	-	-	-	1	12	-	-	-	-	RAMP CLOSURE
0010	CTH V SE RAMP	12	-	-	4	48	8	96	-	-	-	-	1	12	-	-	-	-	RAMP CLOSURE
0010	CTH V NE RAMP	12	-	-	4	48	8	96	-	-	-	-	1	12	-	-	-	-	RAMP CLOSURE
0010	CTH V NW RAMP	12	-	-	4	48	8	96	-	-	-	-	1	12	-	-	-	-	RAMP CLOSURE
0010	CTH V SW RAMP	12	-	-	4	48	8	96	-	-	-	-	1	12	-	-	-	-	RAMP CLOSURE
0010	CTH K SE RAMP	12	-	-	4	48	8	96	-	-	-	-	1	12	-	-	-	-	RAMP CLOSURE
0010	CTH K NE RAMP	12	-	-	4	48	8	96	-	-	-	-	1	12	-	-	-	-	RAMP CLOSURE
0010	CTH K NW RAMP	12	-	-	4	48	8	96	-	-	-	-	1	12	-	-	-	-	RAMP CLOSURE
0010	CTH K SW RAMP	12	-	-	4	48	8	96	-	-	-	-	1	12	-	-	-	-	RAMP CLOSURE
0010	IH 43 NB MAINLINE	94	490	46,060	33	3,102	66	6,204	17	1,598	2	188	52	4,888	1	7	1	115	LANE CLOSURE
0010	IH 43 SB MAINLINE	94	490	46,060	33	3,102	66	6,204	17	1,598	2	188	52	4,888	-	-	1	115	LANE CLOSURE
	PROJECT SUBTOTAL		**114,892**		**8,984**		**17,968**		**18,236**		**376**		***16,525**		***21**		**230**		
	PROJECT TOTAL		**114,892**		**8,984**		**17,968**		**18,236**		**376**		**20,089**		**105**		**230**		

*** ADDITIONAL QUANTITY SHOWN ELSEWHERE**

3

PAVEMENT MARKING SUMMARY

CATEGORY	ROADWAY	STATION	TO	STATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE SOLID LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH WHITE SOLID LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH YELLOW SOLID LF	646.1555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH WHITE 12.5' LINE, 37.5' GAP LF	646.3020 MARKING LINE EPOXY 8-INCH WHITE SOLID LF	646.3555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH WHITE SOLID LF	646.5420 MARKING AERIAL ENFORCEMENT BAR EPOXY WHITE SOLID EACH	REMARKS
0010	IH 43 NB	1167'NB'+62	-	1604'NB'+58	-	38,821	43,696	10,921	-	-	-	MAINLINE
0010	IH 43 NB	1328'NB'+62	-	1328'NB'+62	-	-	-	-	-	-	2	
0010	IH 43 NB	1335'NB'+21	-	1335'NB'+21	-	-	-	-	-	-	2	
0010	IH 43 NB	1341'NB'+79	-	1341'NB'+79	-	-	-	-	-	-	2	
0010	IH 43 NB	1541'NB'+67	-	1541'NB'+67	-	-	-	-	-	-	2	
0010	IH 43 NB	1548'NB'+27	-	1548'NB'+27	-	-	-	-	-	-	2	
0010	IH 43 NB	1554'NB'+87	-	1554'NB'+87	-	-	-	-	-	-	2	
0010	IH 43 NB	1561'NB'+48	-	1561'NB'+48	-	-	-	-	-	-	2	
0010	IH 43 NB	1568'NB'+09	-	1568'NB'+09	-	-	-	-	-	-	2	
0010	IH 43 SB	1167'SB'+63	-	1605'SB'+23	-	39,873	43,754	10,941	-	-	-	MAINLINE
0010	IH 43 SB	1328'SB'+60	-	1328'SB'+60	-	-	-	-	-	-	2	
0010	IH 43 SB	1335'SB'+22	-	1335'SB'+22	-	-	-	-	-	-	2	
0010	IH 43 SB	1341'SB'+85	-	1341'SB'+85	-	-	-	-	-	-	2	
0010	IH 43 SB	1541'SB'+95	-	1541'SB'+95	-	-	-	-	-	-	2	
0010	IH 43 SB	1548'SB'+54	-	1548'SB'+54	-	-	-	-	-	-	2	
0010	IH 43 SB	1555'SB'+13	-	1555'SB'+13	-	-	-	-	-	-	2	
0010	IH 43 SB	1561'SB'+72	-	1561'SB'+72	-	-	-	-	-	-	2	
0010	IH 43 SB	1567'SB'+90	-	1567'SB'+90	-	-	-	-	-	-	2	
0010	STH 310 NE RAMP	10'TNE'+00	-	25'TNE'+24	-	2,356	1,033	-	-	1,428	-	RAMP & GORE
0010	STH 310 NW RAMP	10'TNW'+00	-	24'TNW'+12	-	1,633	1,102	-	-	700	-	RAMP & GORE
0010	CTH V SE RAMP	10'VSE'+00	-	21'VSE'+31	-	1,694	1,194	-	-	640	-	RAMP & GORE
0010	CTH V SW RAMP	10'VSW'+00	-	22'VSW'+84	-	2,223	984	-	-	1,393	-	RAMP & GORE
0010	CTH V	16'V'+00	-	24'V'+00	100	-	-	-	80	-	-	
0010	CTH V NE RAMP	10'VNE'+00	-	24'VNE'+88	-	2,269	1,048	-	-	1,234	-	RAMP & GORE
0010	CTH V NW RAMP	10'VNW'+00	-	25'VNW'+57	-	1,662	1,189	-	-	598	-	RAMP & GORE
0010	CTH K SE RAMP	10'KSE'+00	-	21'KSE'+67	-	1,743	1,256	-	-	599	-	RAMP & GORE
0010	CTH K SW RAMP	10'KSW'+00	-	24'KSW'+62	-	2,338	1,193	-	-	1,185	-	RAMP & GORE
0010	CTH K	18'K'+00	-	28'K'+00	60	-	-	-	150	-	-	
0010	CTH K NE RAMP	10'KNE'+00	-	23'KNE'+61	-	2,405	1,094	-	-	1,352	-	RAMP & GORE
0010	CTH K NW RAMP	10'KNW'+00	-	18'KNW'+86	-	1,619	1,132	-	-	616	-	RAMP & GORE
				PROJECT TOTAL	**160**	**197,311**		**21,862**	**230**	**9,745**	**32**	

3

3

TEMPORARY PAVEMENT MARKING

CATEGORY	ROADWAY	STATION	TO	STATION	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH WHITE 4' SKIPS LF	WHITE SOLID LF	YELLOW SOLID LF	REMARKS
0010	IH 43 NB	1167'NB'+62	-	1604'NB'+58	3,495	-	-	CENTERLINE SKIPS ON LOWER LAYER
0010	IH 43 SB	1167'SB'+63	-	1605'SB'+23	3,501	-	-	CENTERLINE SKIPS ON LOWER LAYER
0010	IH 43 NB	1167'NB'+62	-	1604'NB'+58	3,495	54,541	49,321	SKIPS AND EDGELINES ON UPPER LAYER
0010	IH 43 SB	1167'SB'+63	-	1605'SB'+23	3,501	53,840	49,354	SKIPS AND EDGELINES ON UPPER LAYER
				PROJECT TOTAL		**221,048**		

CONSTRUCTION STAKING

CATEGORY	ROADWAY	STATION	TO	STATION	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF
0010	IH 43 NB	1167'NB'+62	-	1604'NB'+58	43,696
0010	IH 43 SB	1167'SB'+63	-	1605'SB'+23	43,754
0010	STH 310 NE RAMP	10'TNE'+00	-	25'TNE'+24	1,747
0010	STH 310 NW RAMP	10'TNW'+00	-	24'TNW'+12	1,453
0010	CTH V SE RAMP	10'VSE'+00	-	21'VSE'+31	1,514
0010	CTH V SW RAMP	10'VSW'+00	-	22'VSW'+84	1,681
0010	CTH V NE RAMP	10'VNE'+00	-	24'VNE'+88	1,665
0010	CTH V NW RAMP	10'VNW'+00	-	25'VNW'+57	1,488
0010	CTH K SE RAMP	10'KSE'+00	-	21'KSE'+67	1,555
0010	CTH K SW RAMP	10'KSW'+00	-	24'KSW'+62	1,785
0010	CTH K NE RAMP	10'KNE'+00	-	23'KNE'+61	1,770
0010	CTH K NW RAMP	10'KNW'+00	-	18'KNW'+86	1,439
				PROJECT TOTAL	**103,547**

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

CATEGORY	LOCATION	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL LS
0010	1227-12-71	1
	PROJECT TOTAL	**1**

3

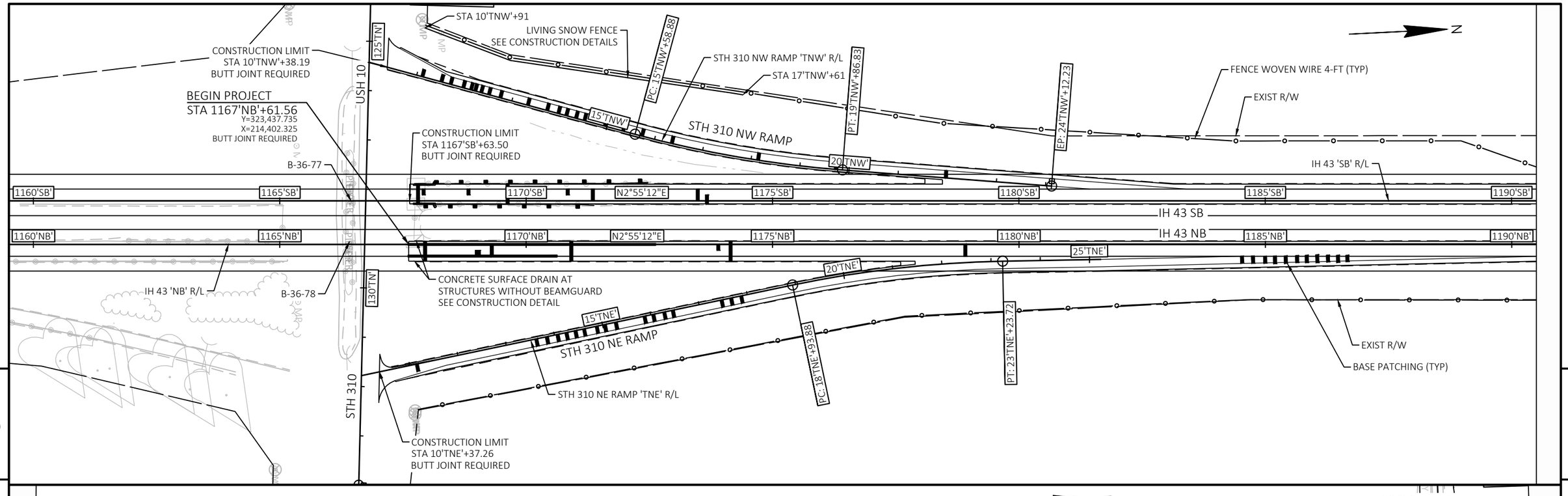
SAWING PAVEMENT

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
0010	IH 43 NB	1167'NB'+67	-	1167'NB'+82	LT	-	16
0010	IH 43 NB	1167'NB'+67	-	1167'NB'+82	RT	-	16
0010	IH 43 NB	1469'NB'+03	-	1469'NB'+48	RT	-	47
0010	IH 43 NB	1469'NB'+40	-	1469'NB'+85	LT	-	47
0010	IH 43 NB	1603'NB'+60	-	1604'NB'+05	RT	-	47
0010	IH 43 NB	1604'NB'+09	-	1604'NB'+54	LT	-	47
0010	IH 43 SB	1167'SB'+71	-	1168'SB'+16	LT	-	47
0010	IH 43 SB	1167'SB'+71	-	1168'SB'+16	RT	-	47
0010	IH 43 SB	1470'SB'+05	-	1470'SB'+25	RT	-	16
0010	IH 43 SB	1604'SB'+94	-	1605'SB'+09	RT	-	16
0010	IH 43 SB	1605'SB'+29	-	1605'SB'+44	LT	-	16
0010	ROCKWOOD RD	15'RK'+98	-	16'RK'+87	LT	90	-
0010	ROCKWOOD RD	15'RK'+98	-	16'RK'+84	RT	87	-
0010	REIFS MILLS RD	16'RM'+88	-	17'RM'+59	LT	72	-
0010	REIFS MILLS RD	16'RM'+88	-	17'RM'+53	RT	65	-
0010	POLIFKA RD	18'PO'+83	-	19'PO'+51	LT	69	-
0010	POLIFKA RD	19'PO'+22	-	19'PO'+90	RT	69	-
0010	FISHERVILLE RD	18'FI'+04	-	18'FI'+70	LT	66	-
0010	FISHERVILLE RD	18'FI'+04	-	18'FI'+79	RT	76	-
0010	GREENSTREET RD	20'GR'+53	-	21'GR'+25	LT	72	-
0010	GREENSTREET RD	20'GR'+73	-	21'GR'+41	RT	68	-
				PROJECT SUBTOTAL		**734**	***362**
				PROJECT TOTAL		**734**	**69,808**

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE**

PIPE UNDERDRAIN, FABRIC, AND AGGREGATE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	SPV.0090.02 PIPE UNDERDRAIN (6-INCH) WITH GEOTEXTILE FABRIC AND AGGREGATE LF	REMARKS
0010	IH 43 NB	1167'NB'+62	-	1220'NB'+46	LT/RT	132	PROJECT LIMITS - MILE 156
0010	IH 43 NB	1220'NB'+46	-	1273'NB'+26	LT/RT	36	MILE 156 - MILE 157
0010	IH 43 NB	1273'NB'+26	-	1326'NB'+06	LT/RT	24	MILE 157 - MILE 158
0010	IH 43 NB	1378'NB'+86	-	1431'NB'+66	LT/RT	36	MILE 159 - MILE 160
0010	IH 43 NB	1431'NB'+66	-	1484'NB'+46	LT/RT	169	MILE 160 - MILE 161
0010	IH 43 NB	1484'NB'+46	-	1537'NB'+26	LT/RT	579	MILE 161 - MILE 162
0010	IH 43 NB	1537'NB'+26	-	1590'NB'+06	LT/RT	274	MILE 162 - MILE 163
0010	IH 43 SB	1326'SB'+06	-	1378'SB'+86	LT/RT	38	MILE 158 - MILE 159
0010	IH 43 SB	1431'SB'+66	-	1484'SB'+46	LT/RT	168	MILE 160 - MILE 161
				PROJECT TOTAL		**1,456**	



PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 115 E

FILE NAME : C:\WISDOT\DESIGN\C3D\1227200\SHEETSPLAN\1227-12-71\050201-PN.DWG
LAYOUT NAME - 050201-pn

PLOT DATE : 6/16/2021 8:04 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

MATCH LINE 1221+00

EQUATION

STA AHEAD = 1226+80.76'SB'
STA BACK = 1226+77.22'SB'

PT: 1226'SB'+80.76

FENCE WOVEN WIRE 4-FT (TYP)

LIVING SNOW FENCE
SEE CONSTRUCTION DETAILS

BASE PATCHING (TYP)

STA 1234'SB'+41

EXIST R/W

IH 43 'SB' R/L

1225'SB' 1230'SB' 1235'SB' N0°15'17"E 1240'SB' 1245'SB' 1250'SB'

IH 43 SB

IH 43 NB

1225'NB' 1230'NB' 1235'NB' N0°15'17"E 1240'NB' 1245'NB' 1250'NB'

IH 43 'NB' R/L

PT: 1221'NB'+63.17

CONCRETE COLLARS FOR PIPE

EXIST R/W

MATCH LINE 1251+50

5

'+67.36

MATCH LINE 1251+50

STA 1257'SB'+61

EXIST R/W

LIVING SNOW FENCE
SEE CONSTRUCTION DETAILS

STA 1271'SB'+64

IH 43 'SB' R/L

1255'SB' 1260'SB' N0°15'17"E 1265'SB' 1270'SB' 15'RM 1275'SB' 1280'SB'

IH 43 SB

IH 43 NB

1255'NB' 1260'NB' N0°15'17"E 1265'NB' 1270'NB' 1275'NB' 1280'NB'

IH 43 'NB' R/L

B-36-80

BASE PATCHING (TYP)

FENCE WOVEN WIRE 4-FT (TYP)

EXIST R/W

REIFS MILLS RD

20'RM

MATCH LINE 1282+00

5

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 116	E

FILE NAME : C:\WISDOT\DESIGN\C3D\12271200\SHEETSPLAN\1227-12-71\050201-PN.DWG
LAYOUT NAME - 050202-pn

PLOT DATE : 6/16/2021 8:05 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:200 FT

MATCH LINE 1282+00

MATCH LINE 1312+50

5

5

EXIST R/W

FENCE WOVEN WIRE 4-FT (TYP)

BASE PATCHING (TYP)

IH 43 'SB' R/L

1285'SB' N0°15'17"E 1290'SB' 1295'SB' 1300'SB' 1305'SB' 1310'SB'

IH 43 SB

1285'NB' N0°15'17"E 1290'NB' 1295'NB' 1300'NB' 1305'NB' 1310'NB'

IH 43 NB

IH 43 'NB' R/L

RIPRAP MEDIUM

EXIST R/W

N

EXIST R/W

APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH

STA 17'VSW'+27

LIVING SNOW FENCE SEE CONSTRUCTION DETAILS

STA 21'VSW'+25

CTH V SW RAMP

20'VSW'

15'VSW'

PT: 13'VSW'+64.88

CTH V SW RAMP 'VSW' R/L

CONSTRUCTION LIMIT STA 22'VSW'+14.99 BUTT JOINT REQUIRED

N0°15'17"E 1315'SB' 1320'SB' 1325'SB'

IH 43 'SB' R/L

N0°15'17"E 1315'NB' 1320'NB' IH 43 NB IH 43 SB 1325'NB'

IH 43 'NB' R/L

CTH V SE RAMP 'VSE' R/L

PT: 15'VSE'+52.41

15'VSE'

EXIST R/W

APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH

CONSTRUCTION LIMIT STA 20'VSE'+49.20 BUTT JOINT REQUIRED

B-36-81

CTH V

20'V'

PI: 20'V'+28.62

CONSTRUCTION LIMIT STA 10'VNW'+95.56 BUTT JOINT REQUIRED

STA 11'VNW'+40

FENCE WOVEN WIRE 4-FT (TYP)

CTH V NW RAMP 'VNW' R/L

CTH V NW RAMP

15'VNW'

LIVING SNOW FENCE SEE CONSTRUCTION DETAILS

STA 22'VNW'+01D

PCC: 21'VNW'+31.49

BASE PATCHING (TYP)

SLOPE INTERCEPT (TYP)

PC: 1329'SB'+15.68

PC: 15'VNW'+23.69

20'VNW'

CURVE 2 'SB'

25'VNW'

1330'SB' 1335'SB' 1340'SB'

1330'NB' 1335'NB' 1340'NB'

PC: 1329'NB'+15.67

CTH V NE RAMP 'VNE' R/L

20'VNE'

CTH V NE RAMP

15'VNE'

CONSTRUCTION LIMIT STA 10'VNE'+74.75 BUTT JOINT REQUIRED

CURVE 2 'NB'

MATCH LINE 1343+00

CURVE 2 'NB'
PI STA = 1345+78.98'NB'
Y = 341249.340
X = 214695.530
DELTA = 51°38'20"
D = 1°40'00"
T = 1663.31'
L = 3098.33'
R = 3437.75'
PC STA = 1329+15.67'NB'
Y = 339586.046
X = 214688.134
PT STA = 1360+14.00'NB'
Y = 342287.407
X = 213395.907
BK = N00°15'17.1"E
AH = N51°23'02.7"W
SE = 5% +-

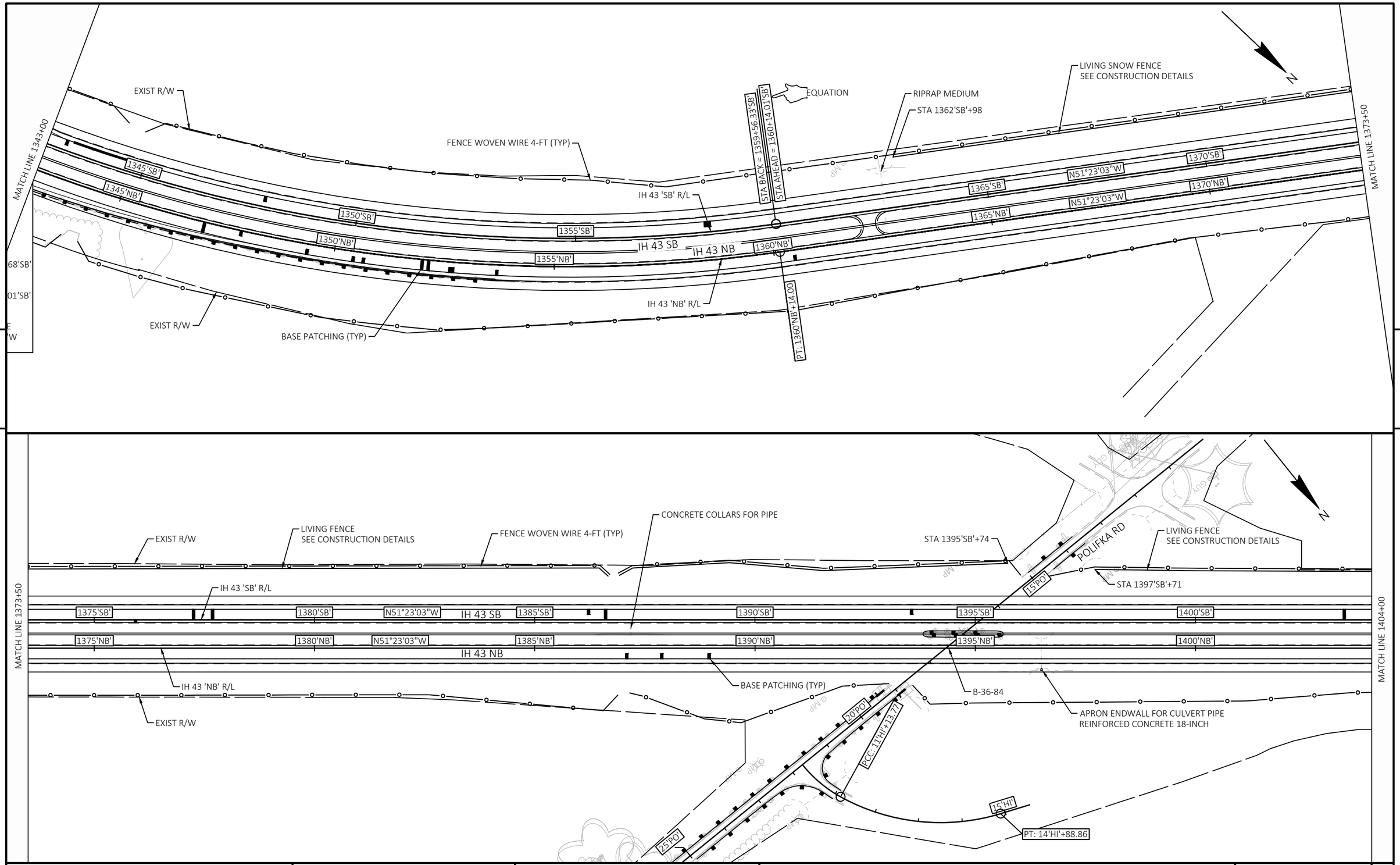
CURVE 2 'SB'
PI STA = 1345+48.02'SB'
Y = 341218.660
X = 214631.390
DELTA = 51°38'20"
D = 1°41'54"
T = 1632.35'
L = 3040.65'
R = 3373.75'
PC STA = 1329+15.68'SB'
Y = 339586.331
X = 214624.132
PT STA = 1360+14.01'SB'
Y = 342237.401
X = 213355.962
BK = N00°15'17.1"E
AH = N51°23'02.7"W
SE = 5% +-

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 117	E

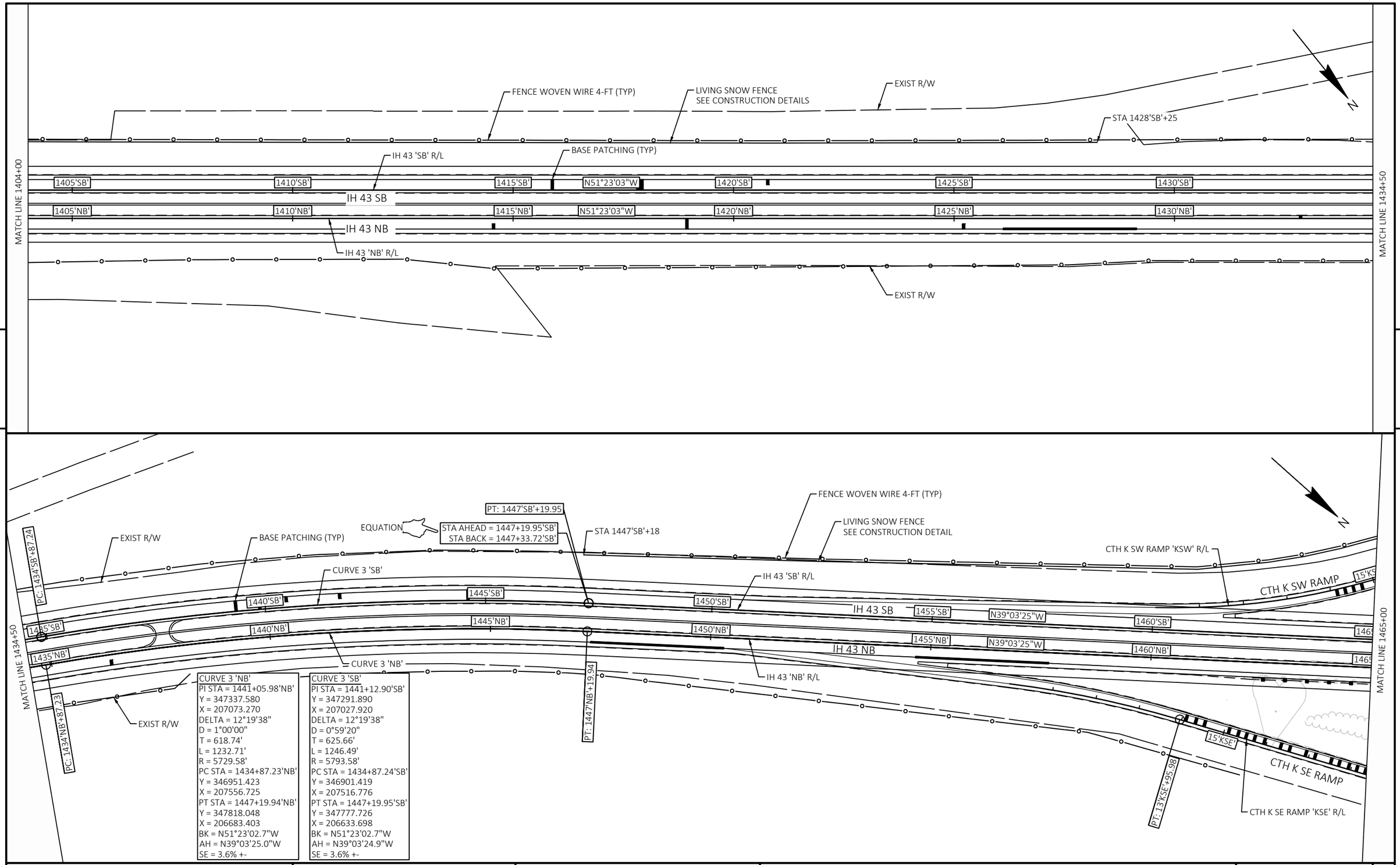
FILE NAME : C:\WISDOT\DESIGN\C3D\12271200\SHEETSPLAN\1227-12-71\050201-PN.DWG
LAYOUT NAME - 050203-pn

PLOT DATE : 6/16/2021 8:06 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44



PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 118	E



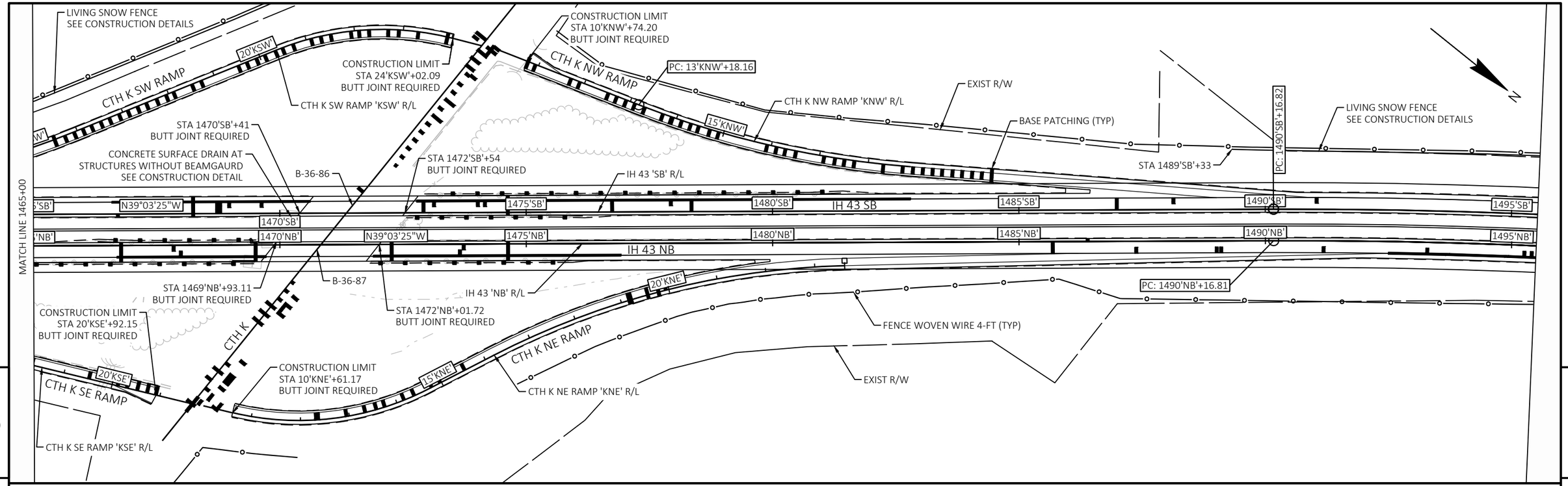
CURVE 3 'NB'	CURVE 3 'SB'
PI STA = 1441+05.98'NB'	PI STA = 1441+12.90'SB'
Y = 347337.580	Y = 347291.890
X = 207073.270	X = 207027.920
DELTA = 12°19'38"	DELTA = 12°19'38"
D = 1°00'00"	D = 0°59'20"
T = 618.74'	T = 625.66'
L = 1232.71'	L = 1246.49'
R = 5729.58'	R = 5793.58'
PC STA = 1434+87.23'NB'	PC STA = 1434+87.24'SB'
Y = 346951.423	Y = 346901.419
X = 207556.725	X = 207516.776
PT STA = 1447+19.94'NB'	PT STA = 1447+19.95'SB'
Y = 347818.048	Y = 347777.726
X = 206683.403	X = 206633.698
BK = N51°23'02.7"W	BK = N51°23'02.7"W
AH = N39°03'25.0"W	AH = N39°03'24.9"W
SE = 3.6% +-	SE = 3.6% +-

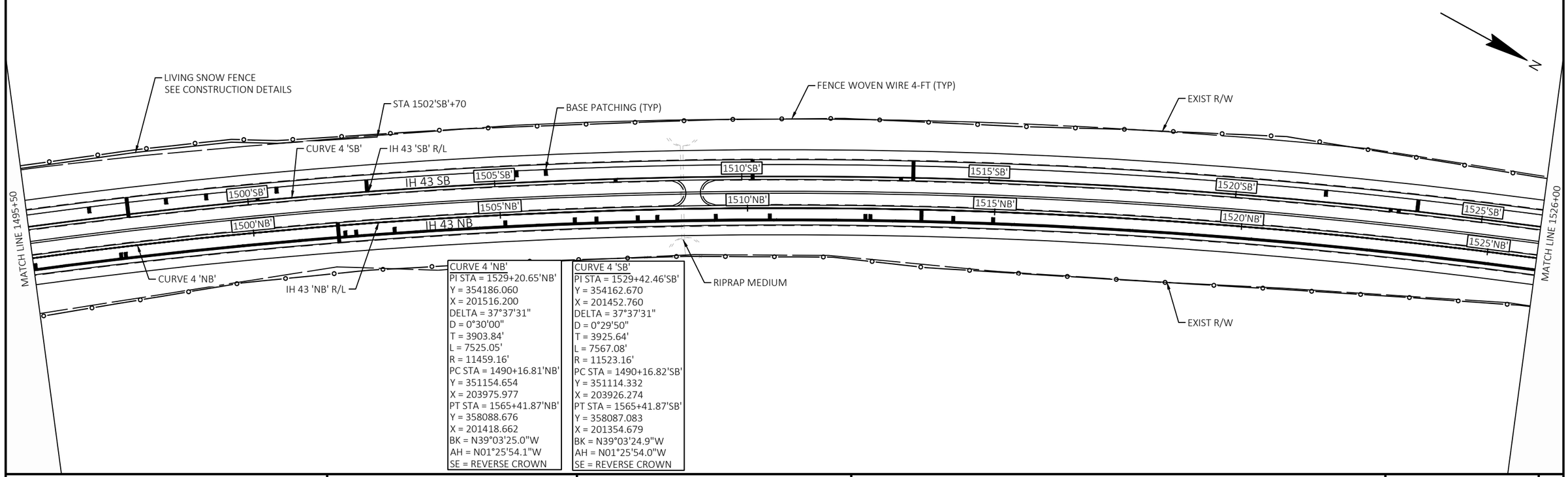
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 119	E

FILE NAME : C:\WISDOT\DESIGN\C3D\12271200\SHEETSPLAN\1227-12-71\050201-PN.DWG
LAYOUT NAME - 050205-pn

PLOT DATE : 6/16/2021 8:09 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

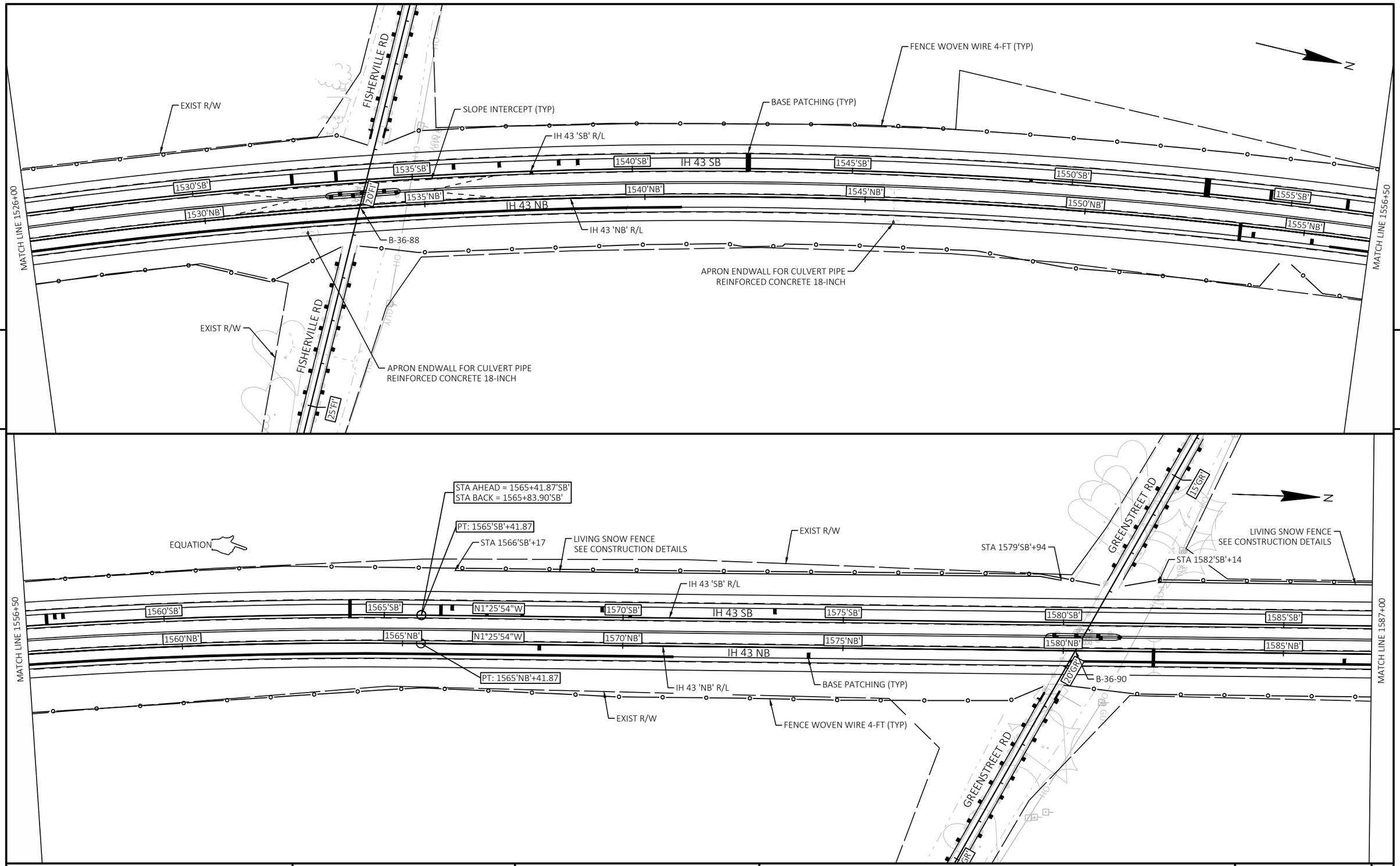




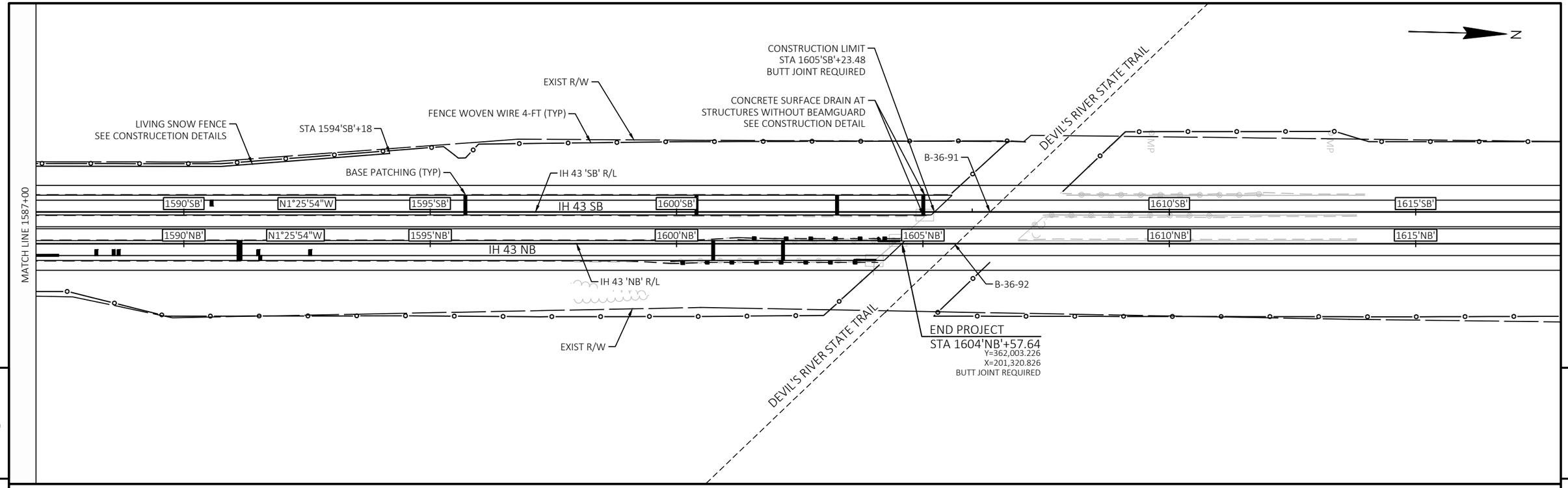
CURVE 4 'NB'
PI STA = 1529+20.65'NB'
Y = 354186.060
X = 201516.200
DELTA = 37°37'31"
D = 0°30'00"
T = 3903.84'
L = 7525.05'
R = 11459.16'
PC STA = 1490+16.81'NB'
Y = 351154.654
X = 203975.977
PT STA = 1565+41.87'NB'
Y = 358088.676
X = 201418.662
BK = N39°03'25.0"W
AH = N01°25'54.1"W
SE = REVERSE CROWN

CURVE 4 'SB'
PI STA = 1529+42.46'SB'
Y = 354162.670
X = 201452.760
DELTA = 37°37'31"
D = 0°29'50"
T = 3925.64'
L = 7567.08'
R = 11523.16'
PC STA = 1490+16.82'SB'
Y = 351114.332
X = 203926.274
PT STA = 1565+41.87'SB'
Y = 358087.083
X = 201354.679
BK = N39°03'24.9"W
AH = N01°25'54.0"W
SE = REVERSE CROWN

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 120	E



PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 121	E



PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 122	E

FILE NAME : C:\WISDOT\DESIGN\C3D\12271200\SHEETSPLAN\1227-12-71\050201-PN.DWG
LAYOUT NAME - 050208-pn

PLOT DATE : 6/16/2021 8:11 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:200 FT

Standard Detail Drawing List

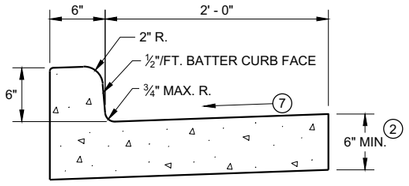
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D15-05A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08D15-05B	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08D15-05C	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13A07-02	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE
13C14-07C	BASE PATCHING CONCRETE
13C19-03	HMA LONGITUDINAL JOINTS
14B26-04A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04F	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04G	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04H	STEEL THRIE BEAM BULLNOSE TERMINAL
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-03A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03D	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03E	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03F	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03G	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B53-01A	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01B	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01C	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01D	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01E	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01F	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01G	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01H	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01I	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE

6

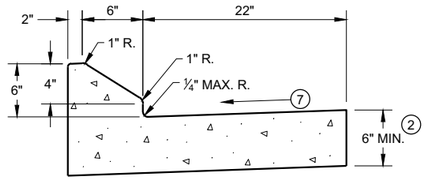
Standard Detail Drawing List

15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C08-20B	PAVEMENT MARKING (TURN LANES)
15C08-20C	PAVEMENT MARKING (TURN LANES)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C14-04	AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS
15C31-04A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15C31-04C	PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP
15D12-09D	TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM
15D15-05A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05B	TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-04	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D40-02B	TRAFFIC CONTROL, FULL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER
15D40-02D	TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER

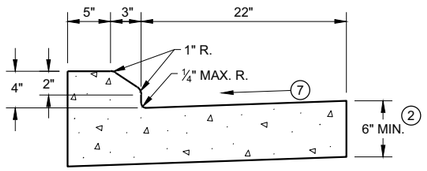
6



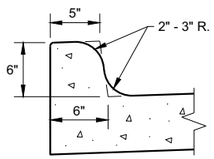
TYPES A[1] & D



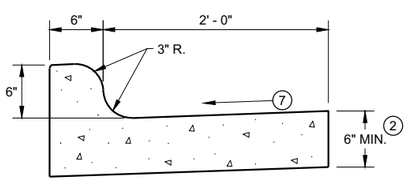
6" SLOPED CURB TYPES G[1] & J



4" SLOPED CURB TYPES G[1] & J

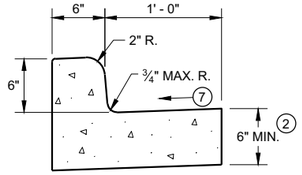


TYPES K[1] & L
(OPTIONAL CURB SHAPE)



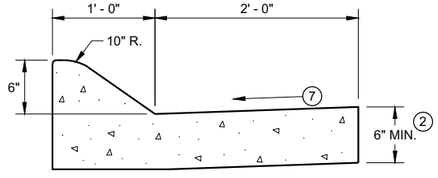
TYPES K[1] & L

CONCRETE CURB AND GUTTER 30"



TYPES A[1] & D

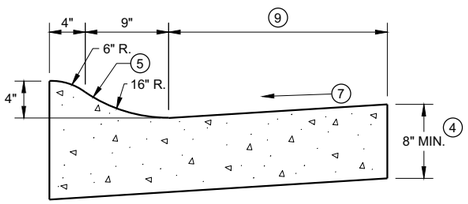
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A[1] & D

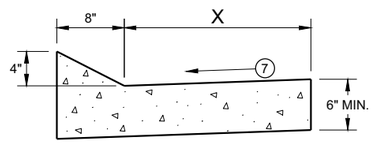
4" SLOPED CURB TYPES A[1] & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R[1] & T

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

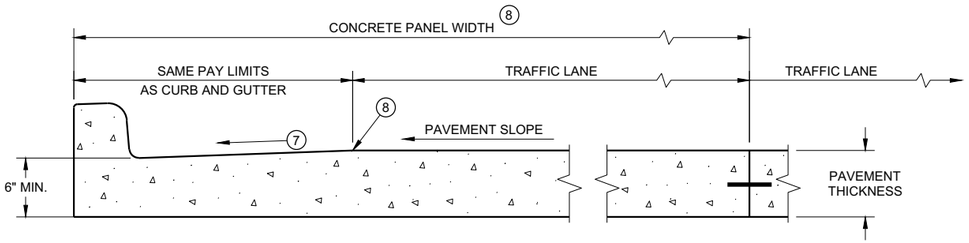


TYPES TBT & TBTT[1]

CONCRETE CURB AND GUTTER

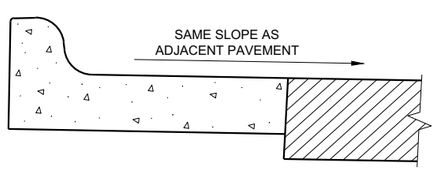
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

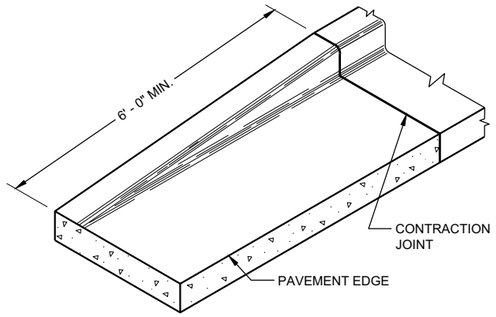
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

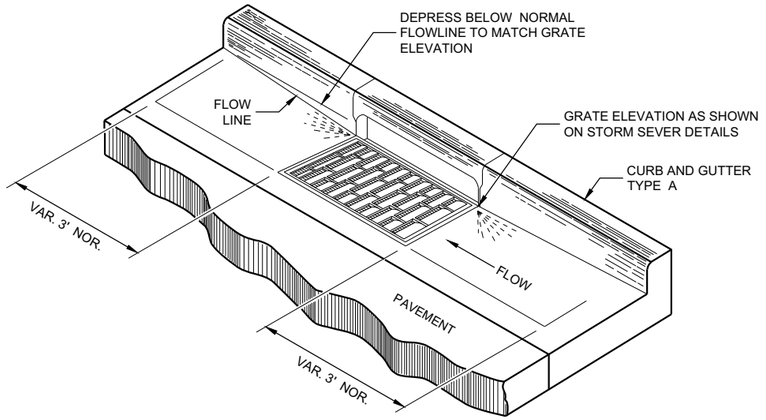
1. TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
3. USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH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

CONCRETE CURB AND GUTTER

6
SDD 08D01 - 22a



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.

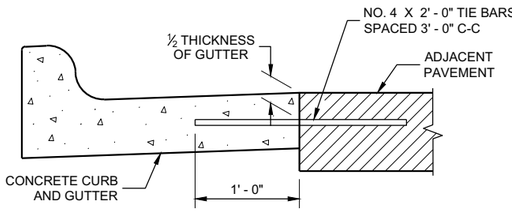
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

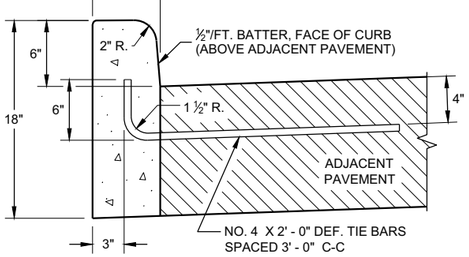
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(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.

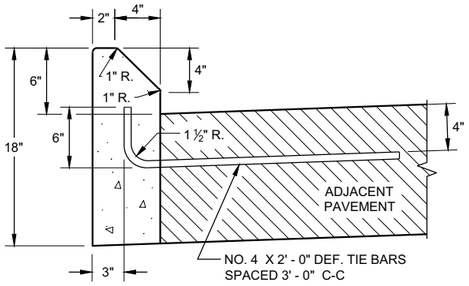
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

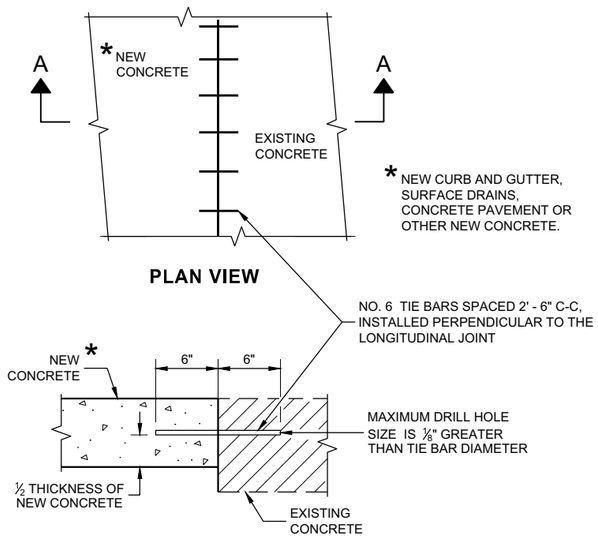


TYPES A (1) & D

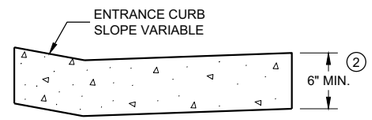


TYPES G (1) & J

CONCRETE CURB



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 2021 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6

SDD 08D01 - 22b

6

SDD 08D01 - 22b

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)

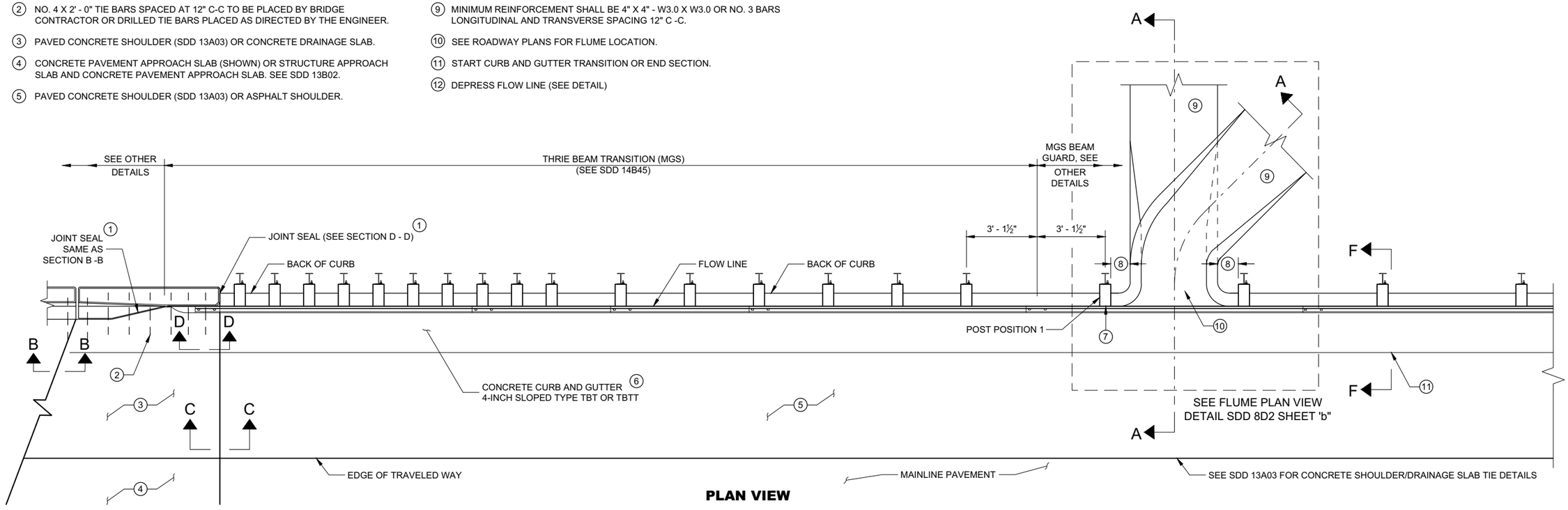
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

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

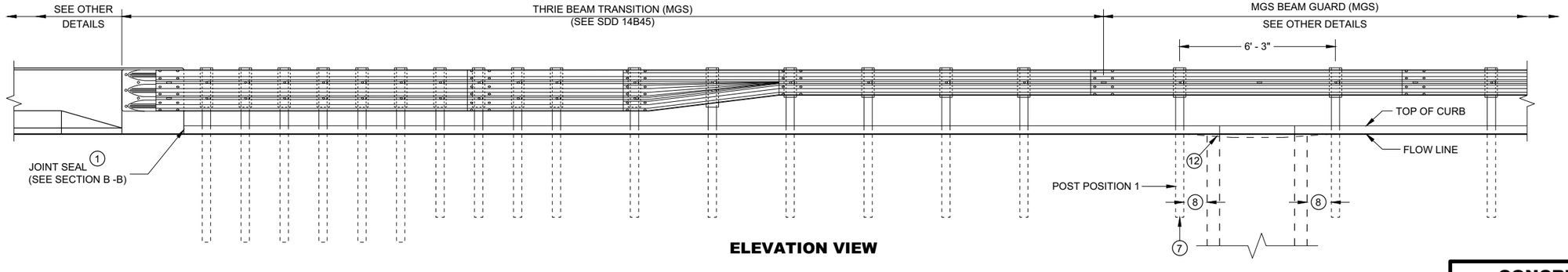
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

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

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



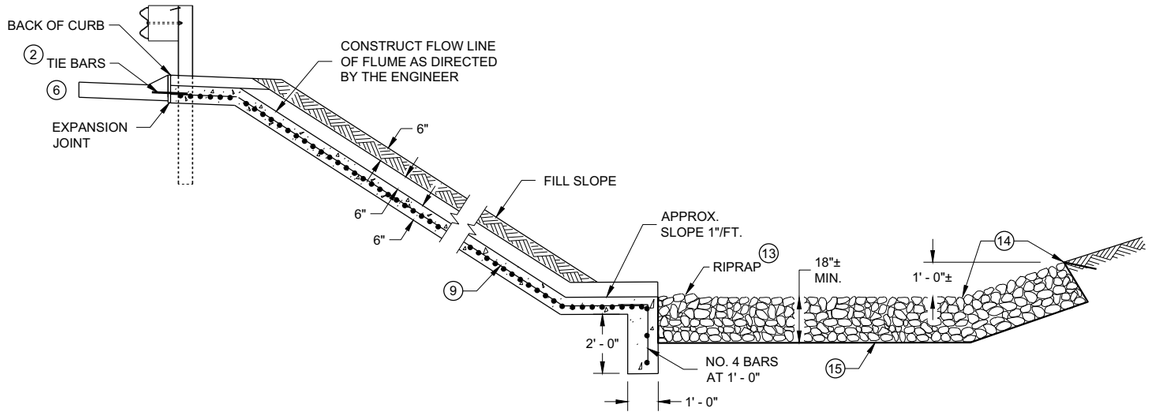
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

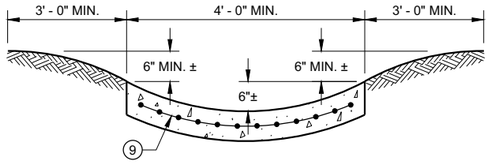
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 07a

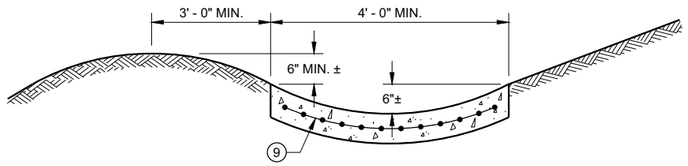
SDD 08D02 - 07a



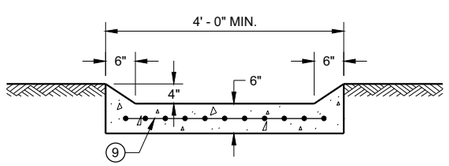
SECTION A - A



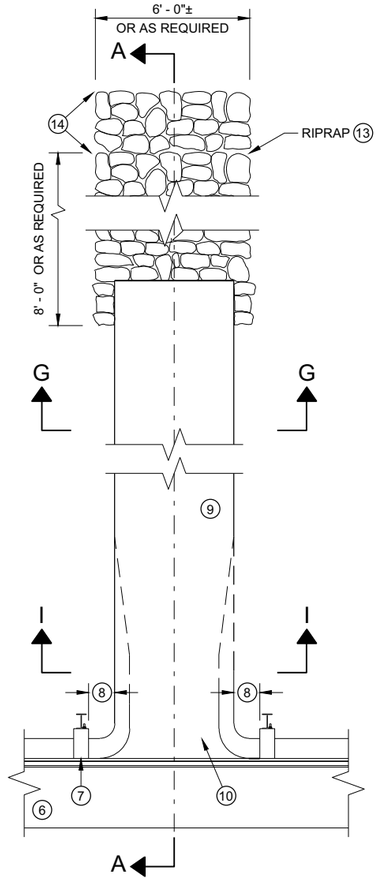
SECTION G - G



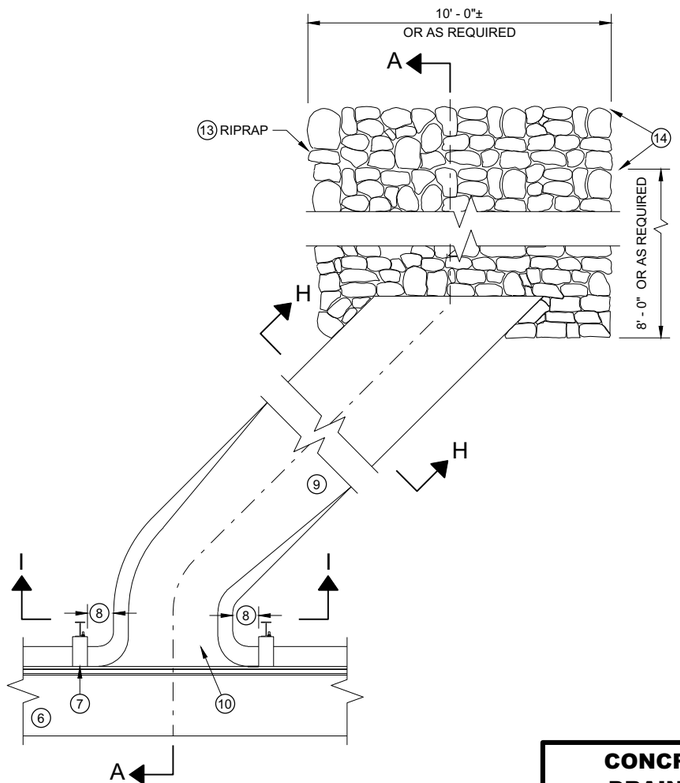
SECTION H - H



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.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

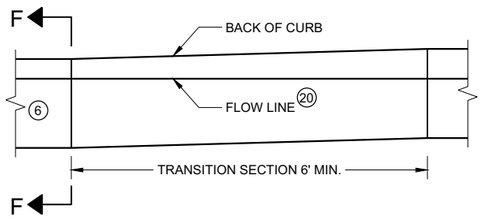
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

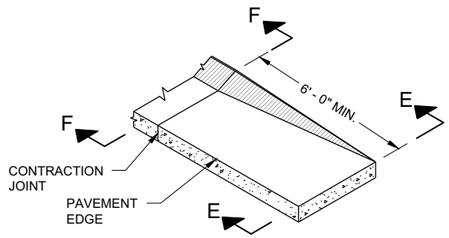
SDD 08D02 - 07b

6

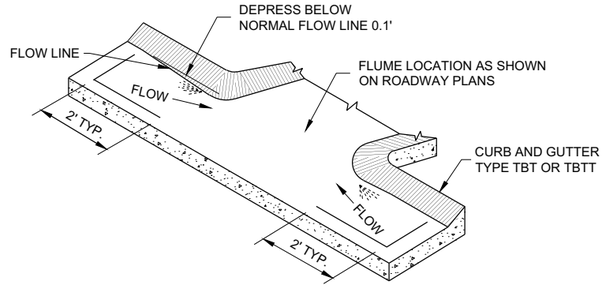
SDD 08D02 - 07b



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.

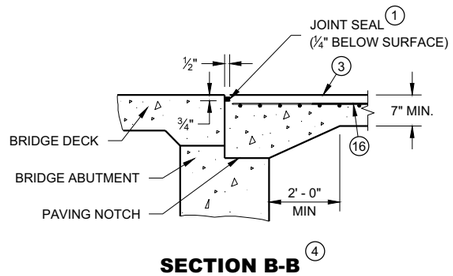
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

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

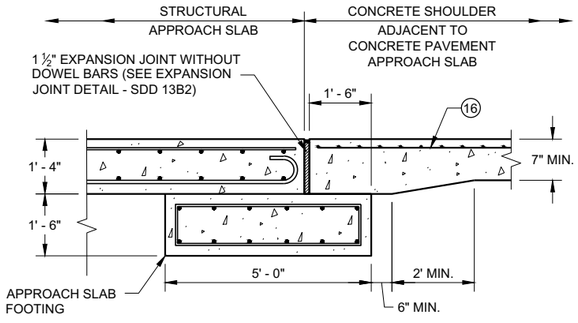
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

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

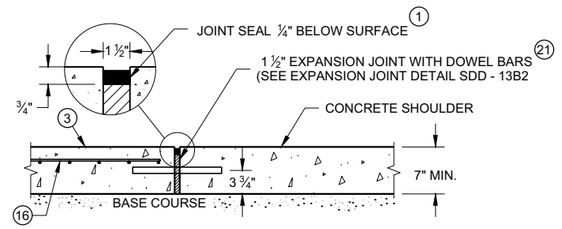
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



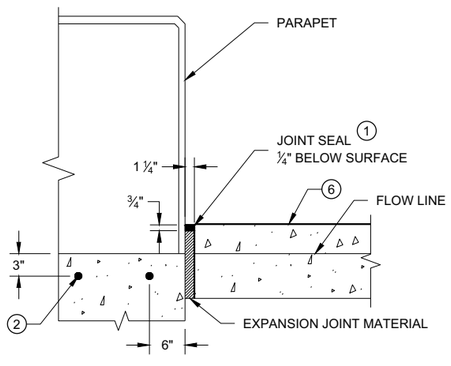
SECTION B-B (4)



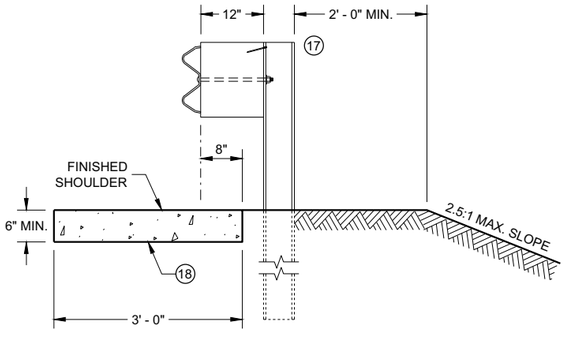
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



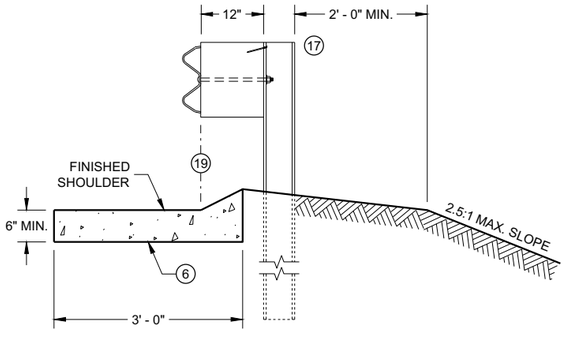
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



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

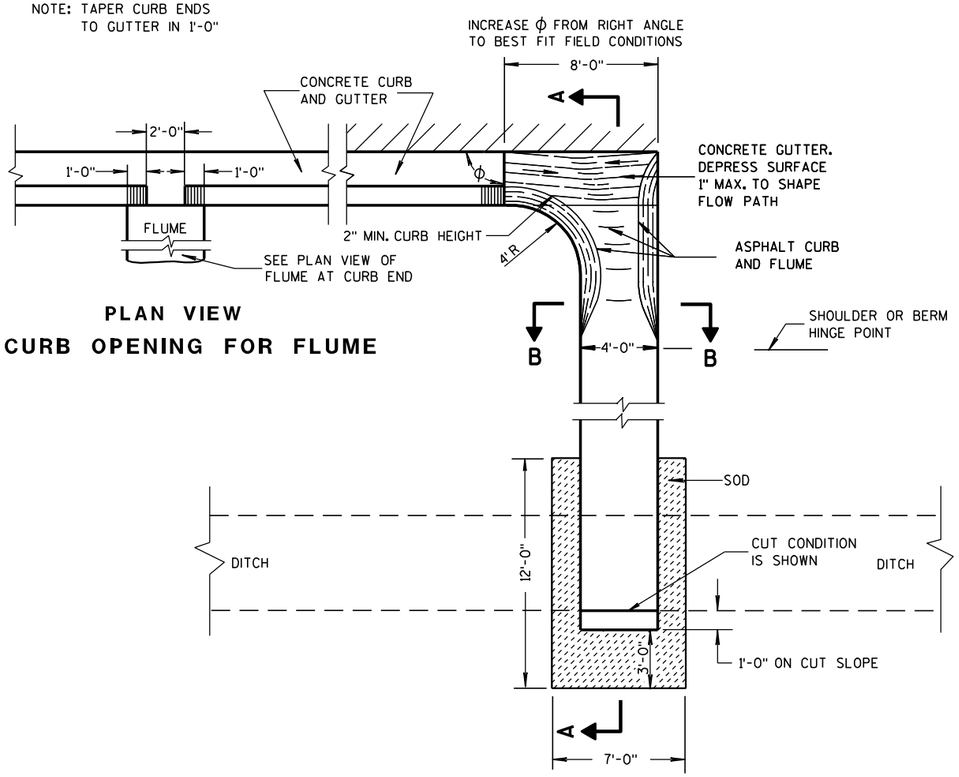
SDD 08D02 - 07c

SDD 08D02 - 07c

6

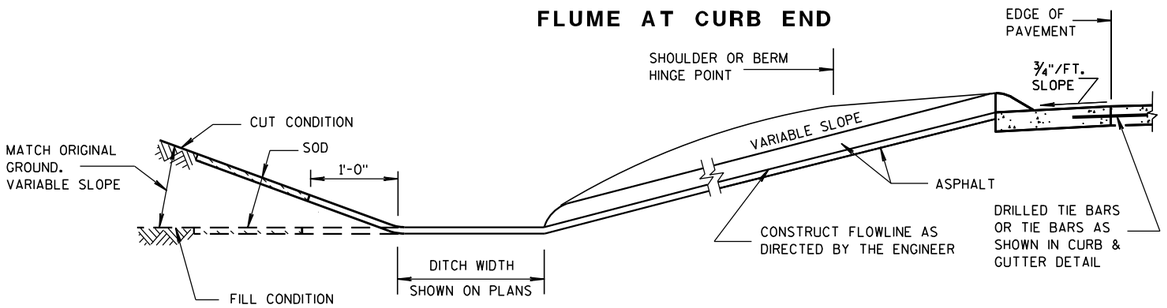
6

ASPHALTIC FLUME

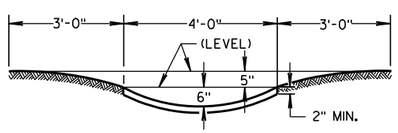


PLAN VIEW
CURB OPENING FOR FLUME

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.

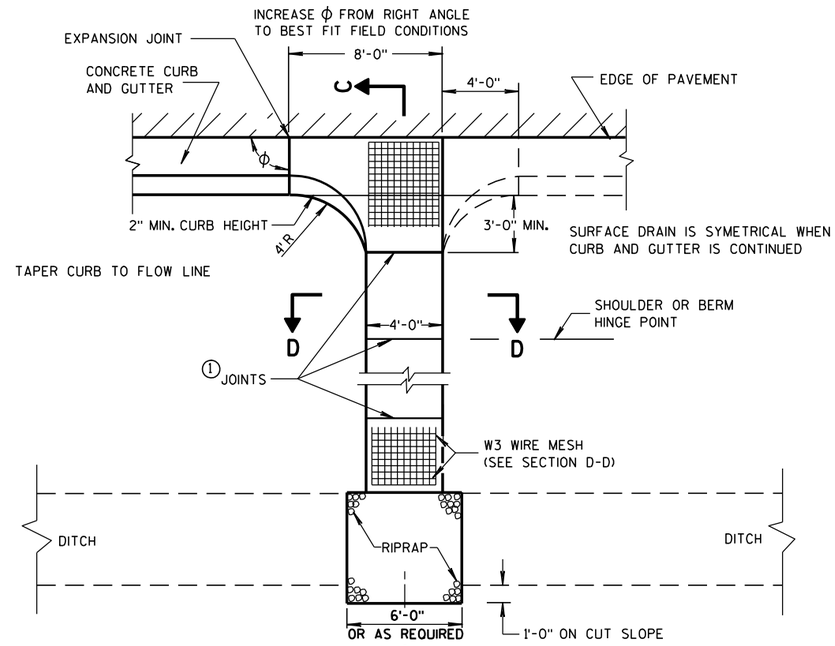
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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.

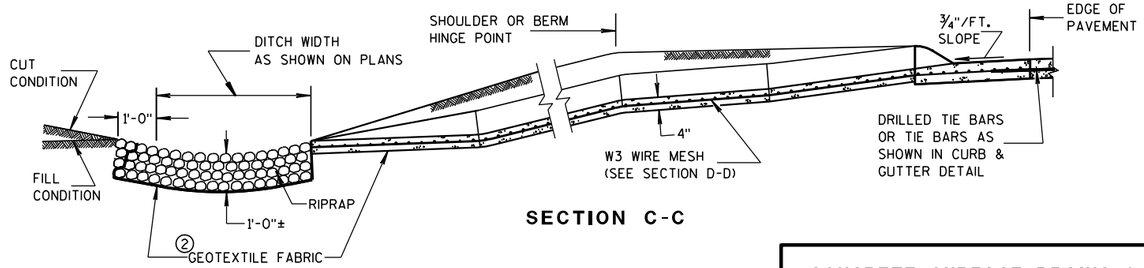
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

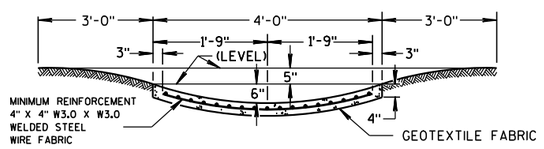
③ CONCRETE SURFACE DRAIN



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
130
MENT
FHWA

GENERAL NOTES

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

(1) UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

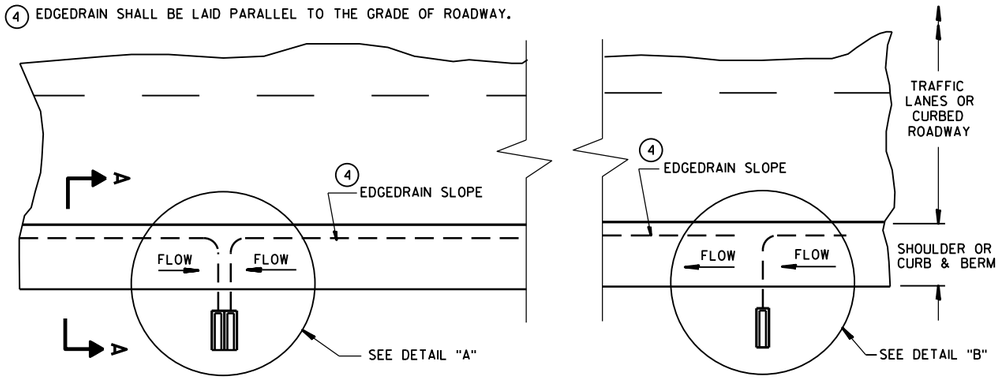
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.

(2) MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

(3) EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.

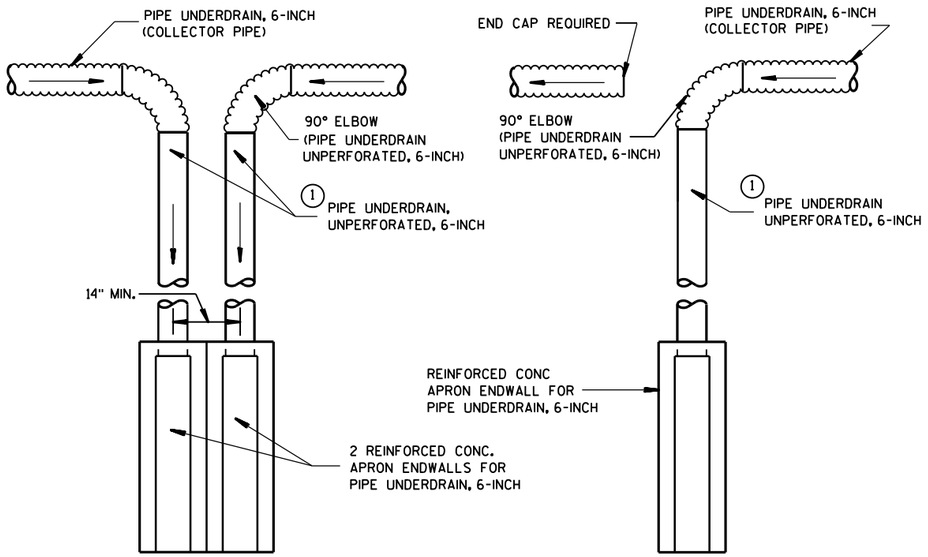
(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



PLAN VIEW

ROADWAY WITH SHOULDERS OR CURBS

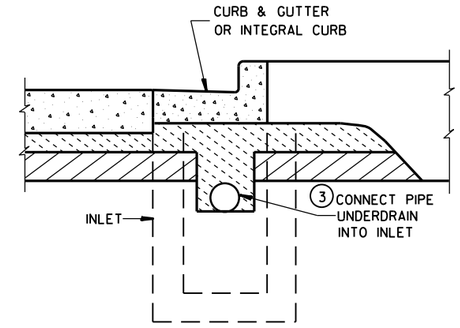
(EDGEDRAIN OUTLETS TO ROADSIDE)(2)



DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

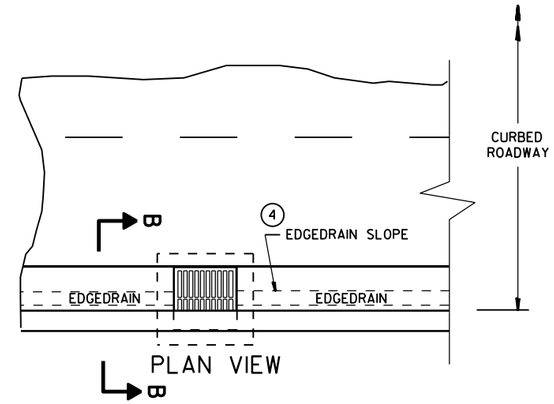
DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



SECTION B-B

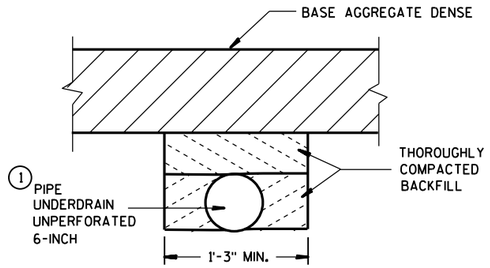
URBAN CROSS SECTION



PLAN VIEW

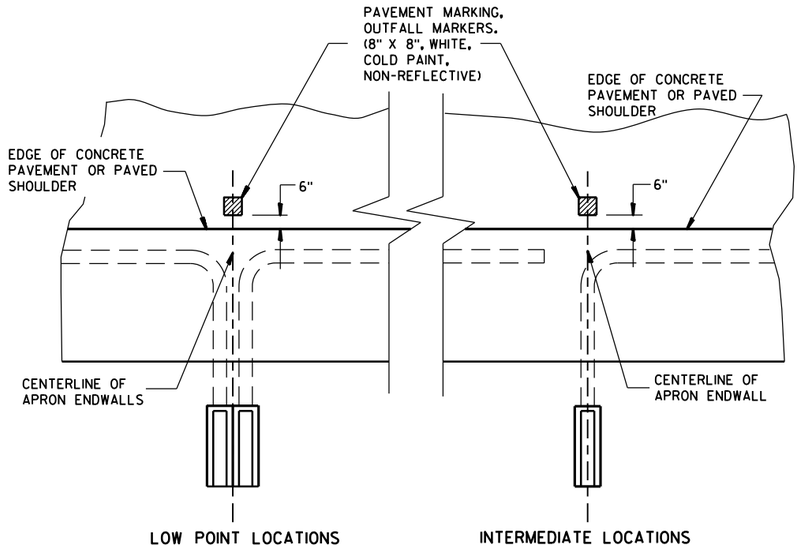
ROADWAY WITH CURBS

(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



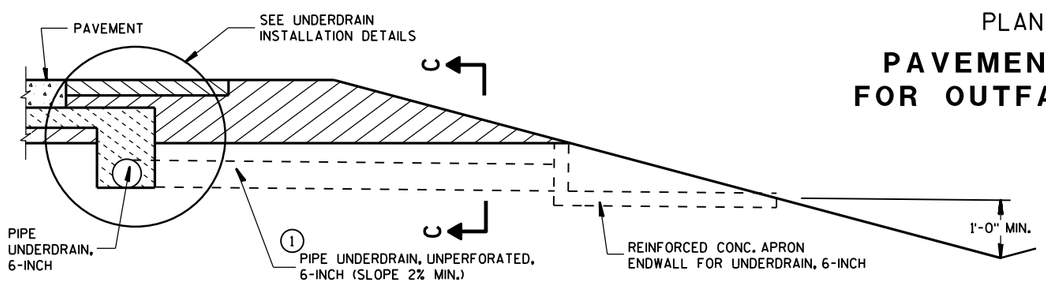
SECTION C-C

(TRENCH FOR OUTFALL PIPE)



PLAN VIEW

PAVEMENT MARKING FOR OUTFALL MARKERS



SECTION A-A

RURAL CROSS SECTION

EDGEDRAIN OUTLET AND OUTFALL MARKERS

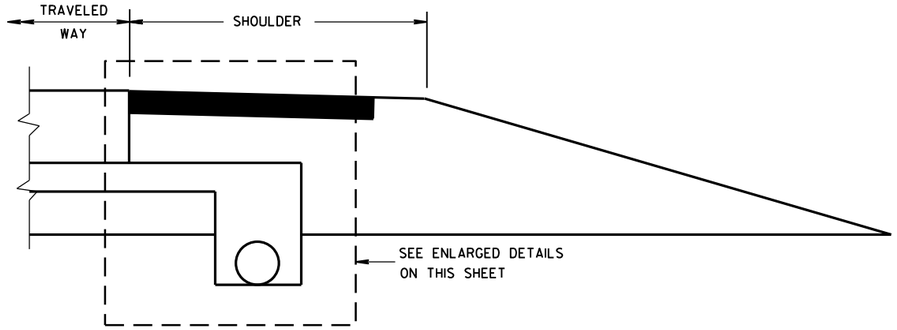
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 15-5a

6

S.D.D. 8 D 15-5a



RURAL CROSS SECTION

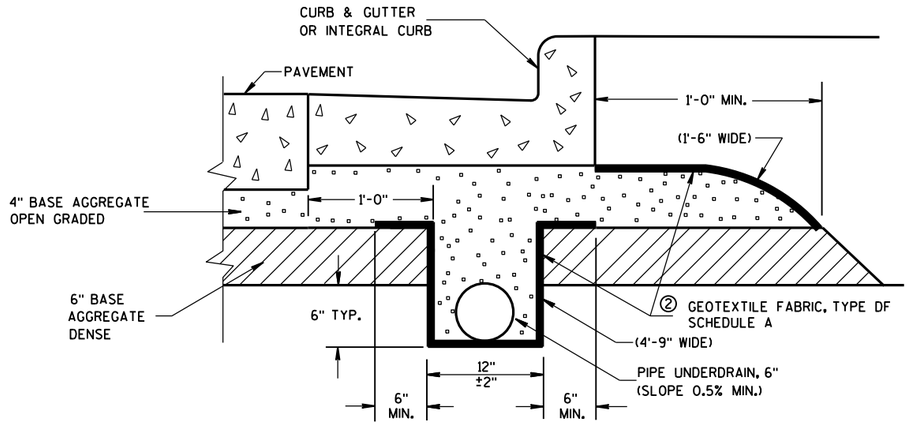
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

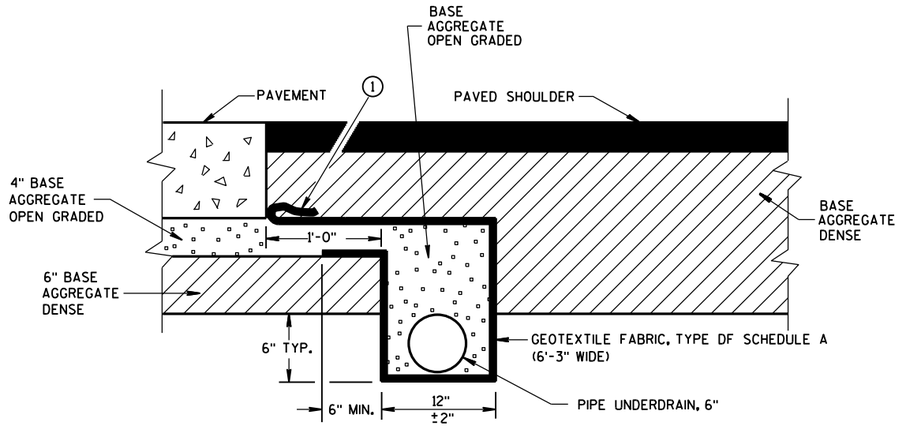
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

① FOLD OVER EXCESS GEOTEXTILE FABRIC AT THIS LOCATION.

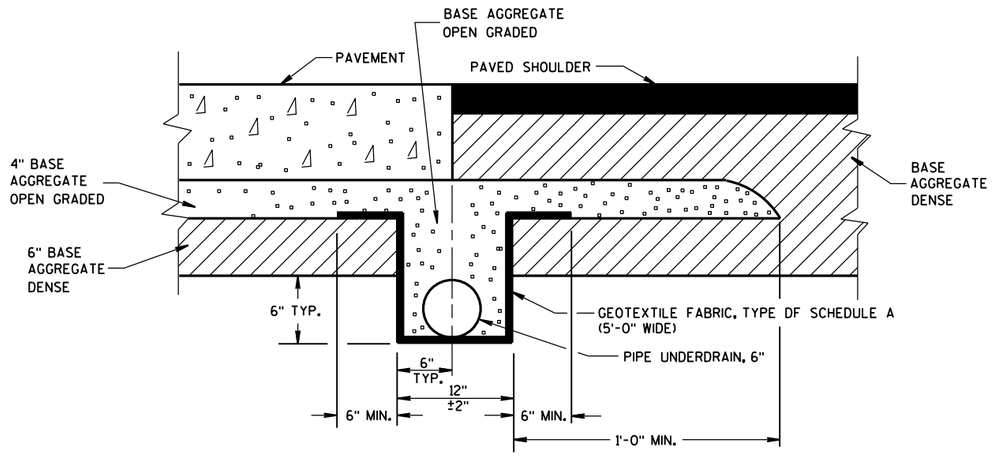
② TOTAL FABRIC WIDTH IS 6'-3" FOR PAYMENT.



EDGEDRAIN IN URBAN ROADWAY



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



PRE-PAVING INSTALLATION ALTERNATE

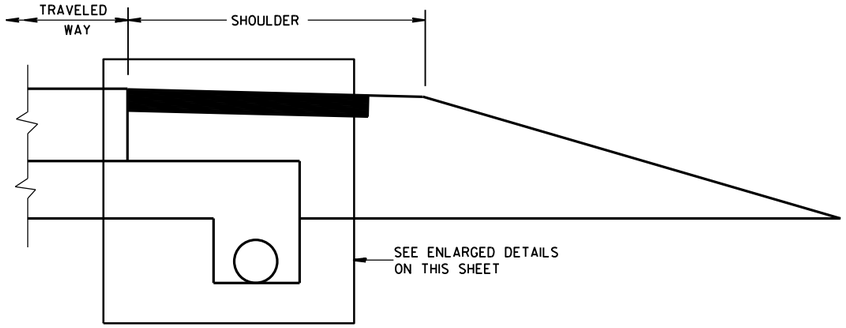
EDGEDRAIN IN RURAL ROADWAY

EDGEDRAIN AND BASE AGGREGATE OPEN GRADED

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPE
FHWA

6
S.D.D. 8 D 15-5b

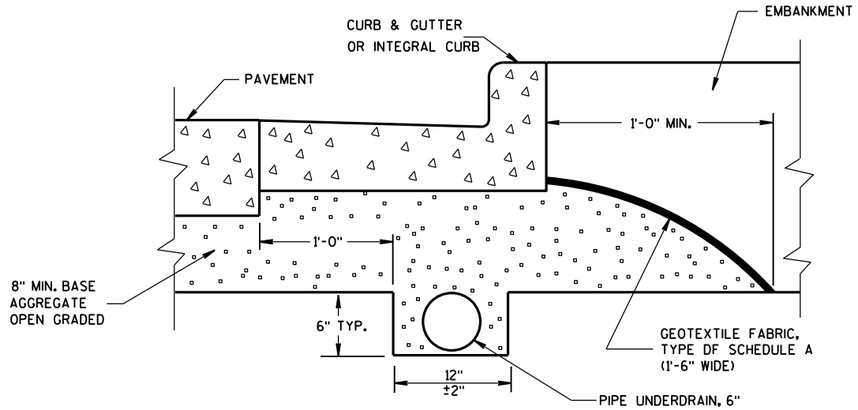


RURAL CROSS SECTION

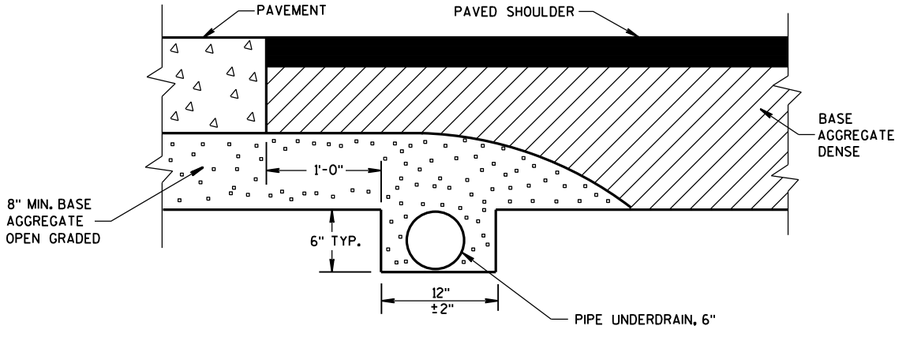
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

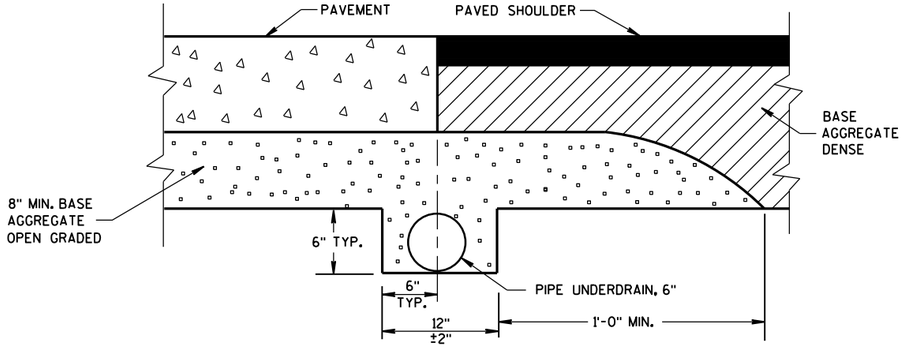
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.



EDGEDRAIN IN URBAN ROADWAY



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



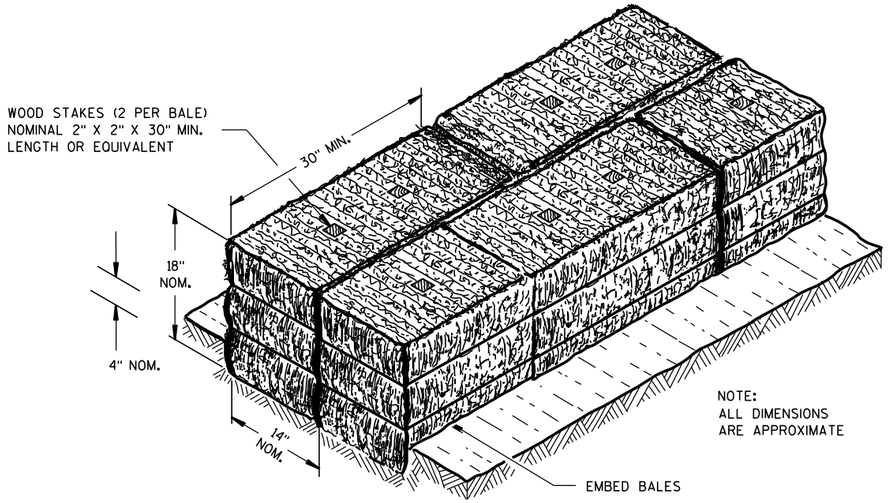
PRE-PAVING INSTALLATION ALTERNATIVE

EDGEDRAIN IN RURAL ROADWAY

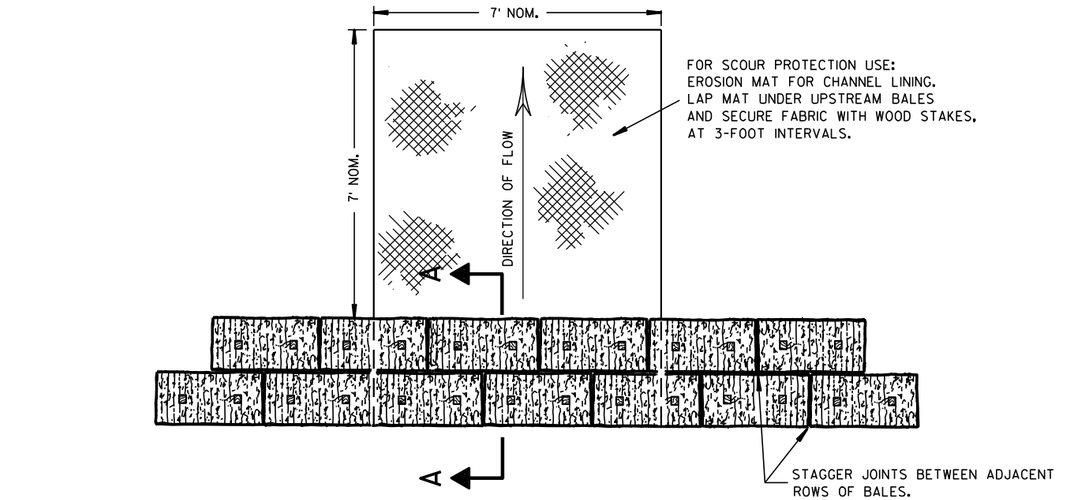
6

EDGEDRAIN AND BASE AGGREGATE OPEN GRADED	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
Sept. 2015	/S/ Peter Kemp, P.E.
DATE	PAVEMENT SUPE
FHWA	

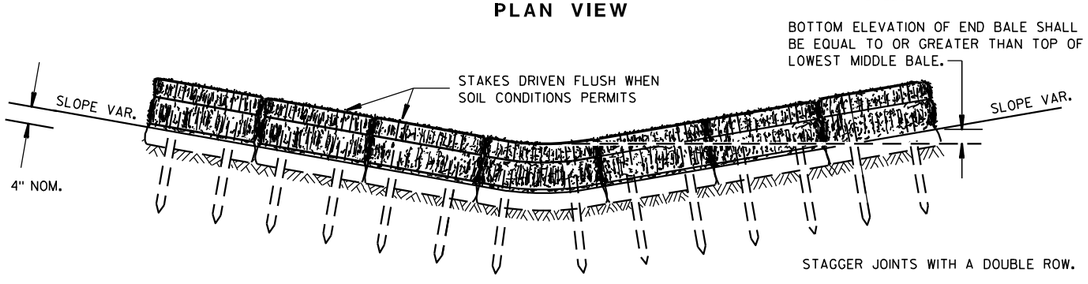
S.D.D. 8 D 15-5c



SECTION A-A



PLAN VIEW



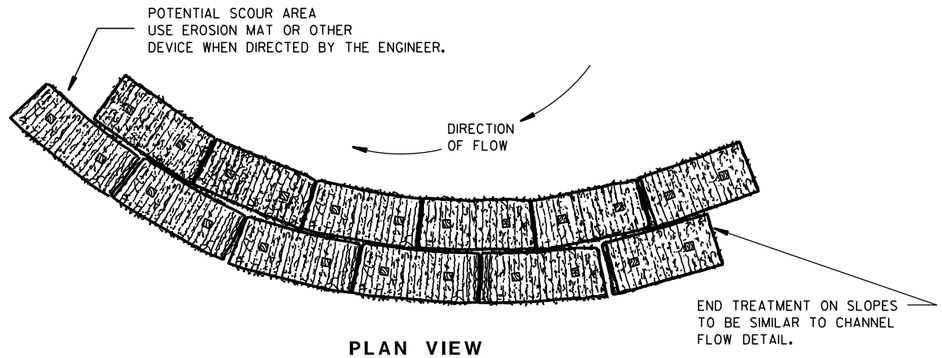
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

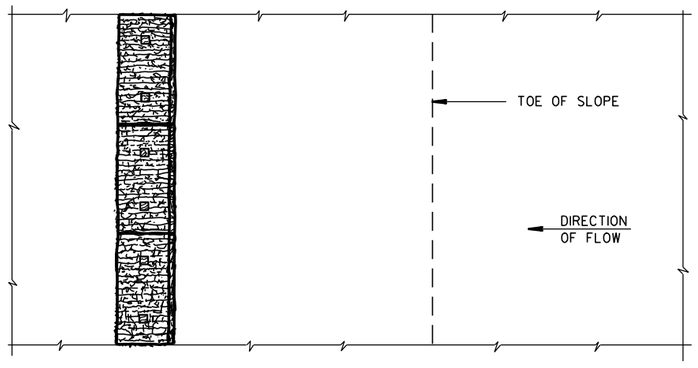
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

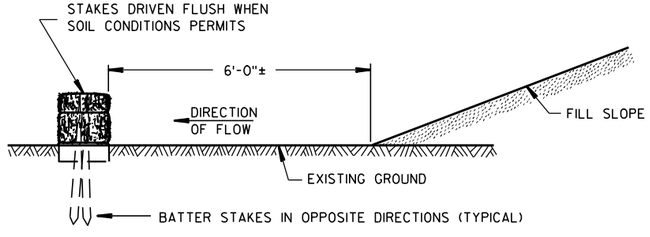


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

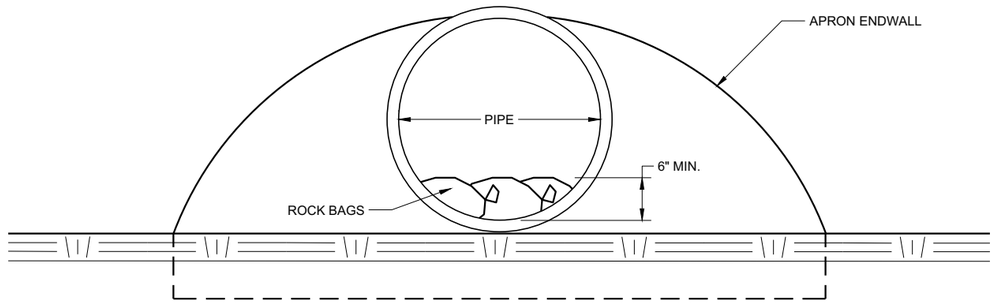
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

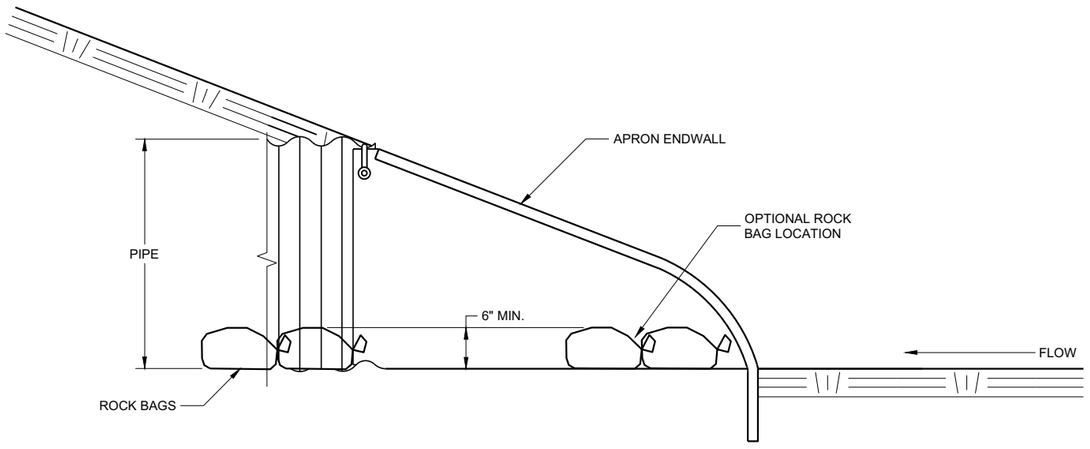
FHWA

6

S.D.D. 8 E 8-3



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

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

6

SDD 08E15 - 01

METAL APRON ENDWALLS

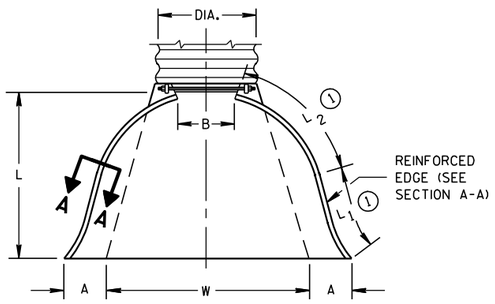
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

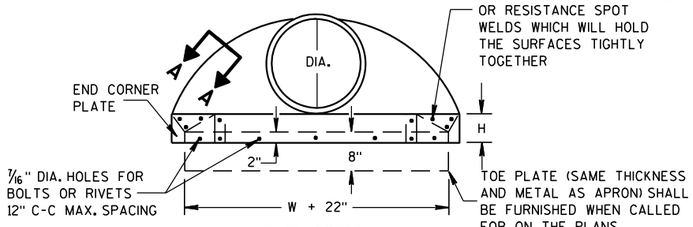
REINFORCED CONCRETE APRON ENDWALLS

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

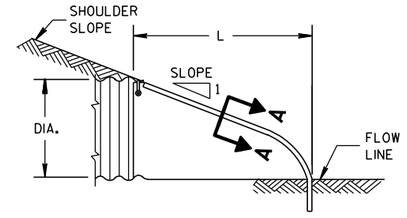
*MINIMUM
**MAXIMUM



PLAN VIEW

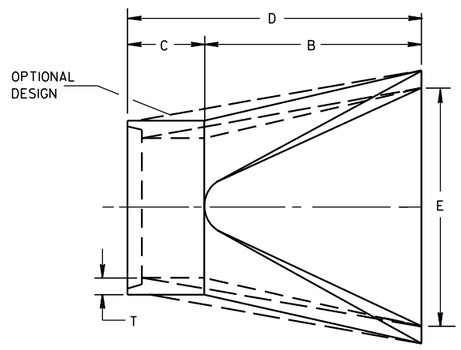


END VIEW

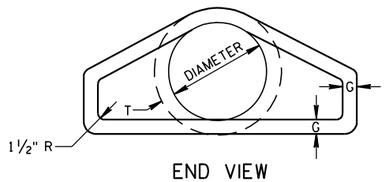


SIDE ELEVATION

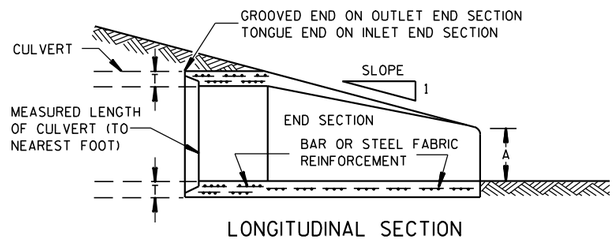
METAL ENDWALLS



PLAN

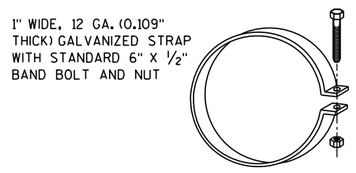


END VIEW



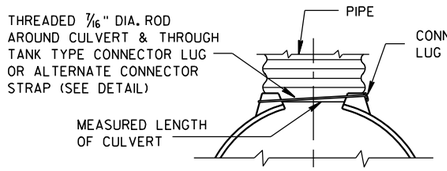
LONGITUDINAL SECTION

CONCRETE ENDWALLS

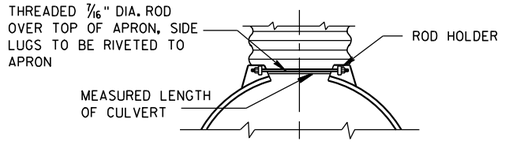


ALTERNATE FOR TYPE 1 CONNECTION

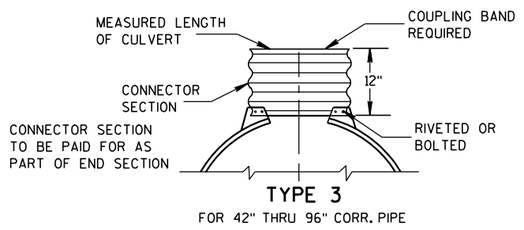
END SECTION CONNECTOR STRAP



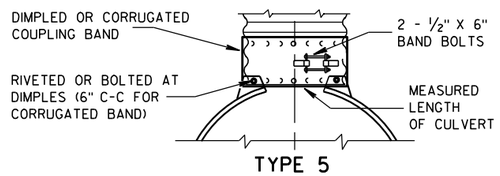
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

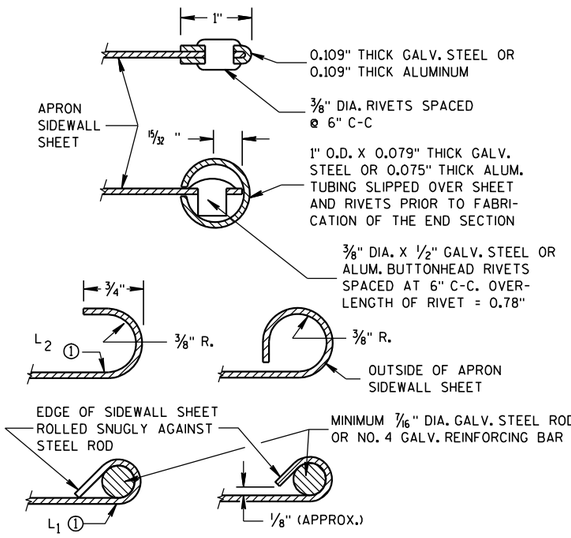
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

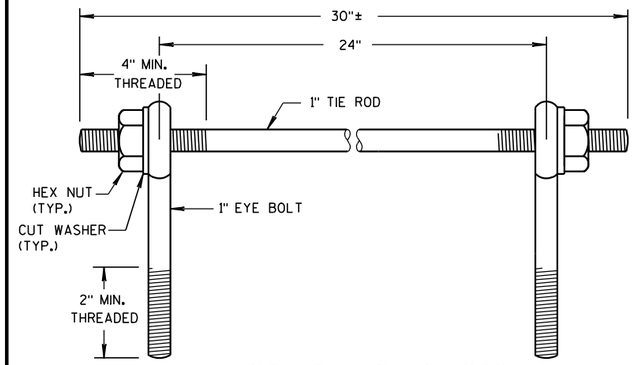
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

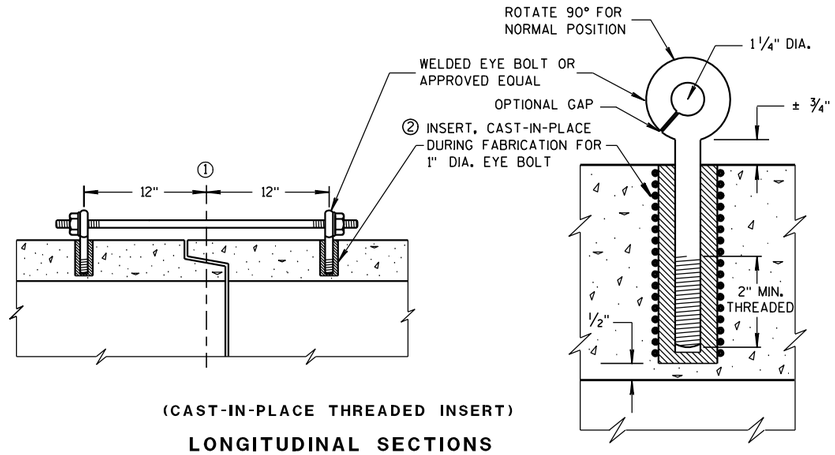
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

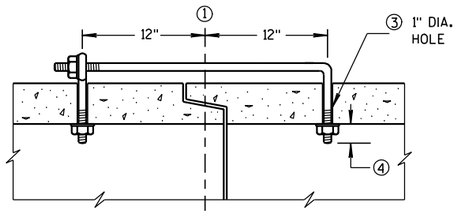
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

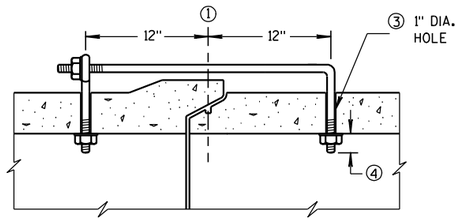
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

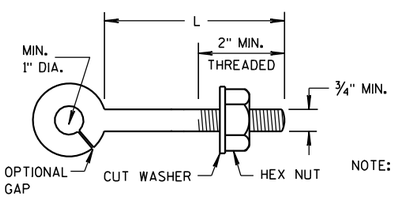


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

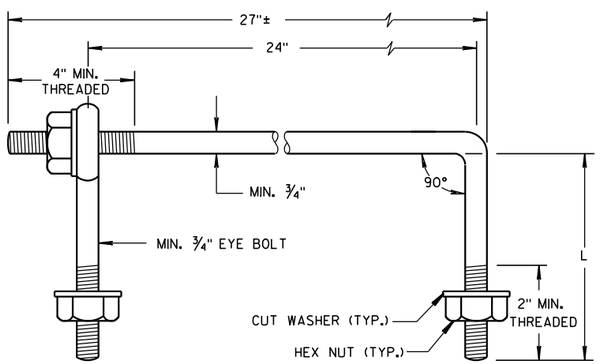
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

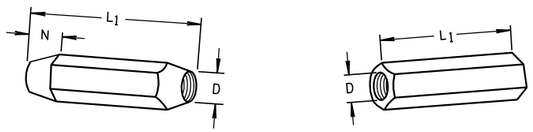
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

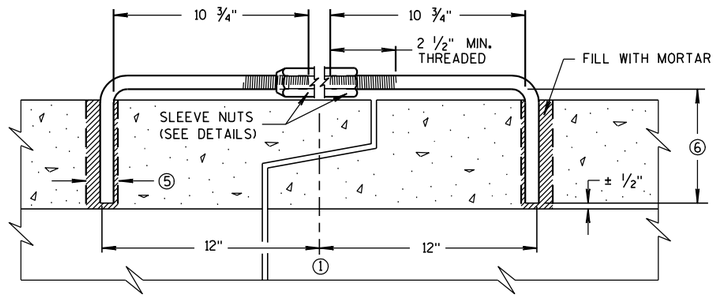
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

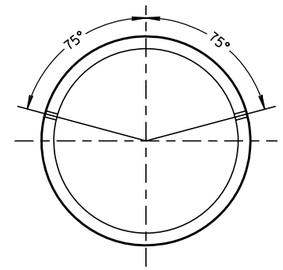
SLEEVE NUTS



LONGITUDINAL SECTION

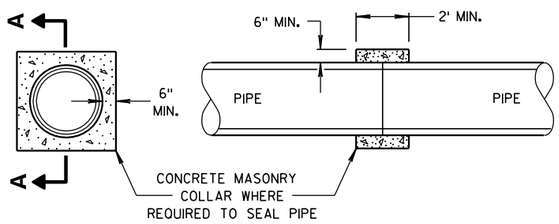
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

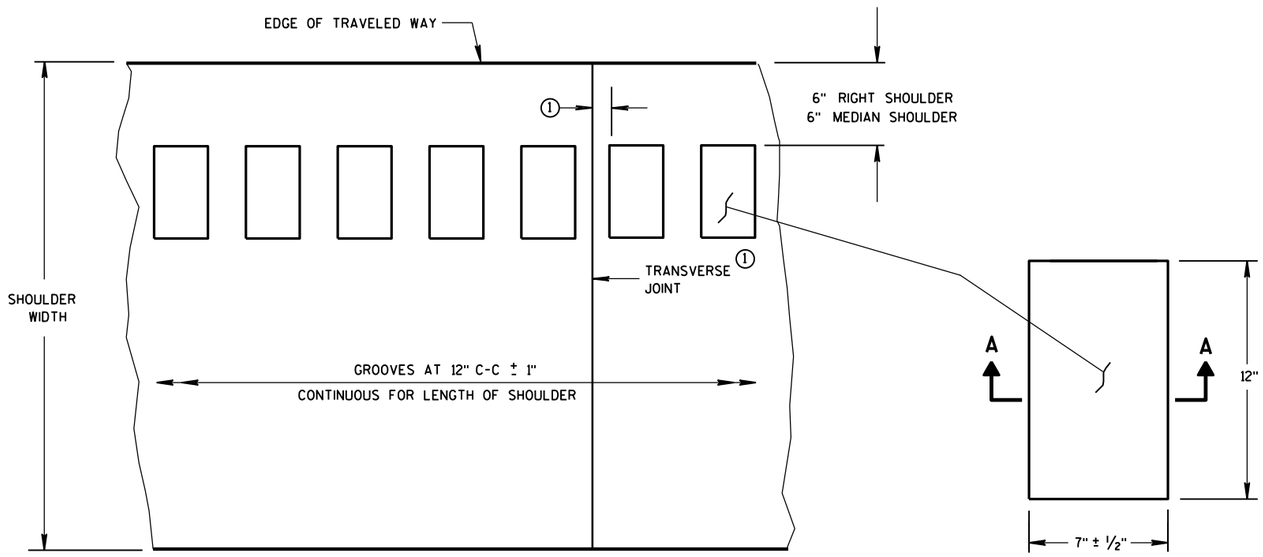
APPROVED
6/5/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
137
FHWA

6

S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

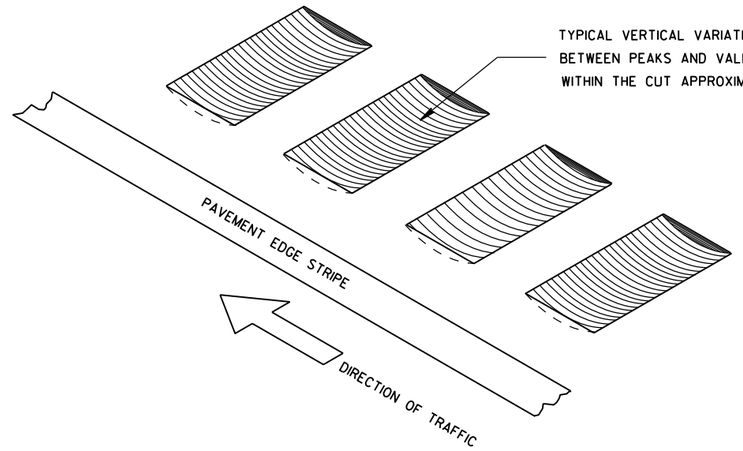
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

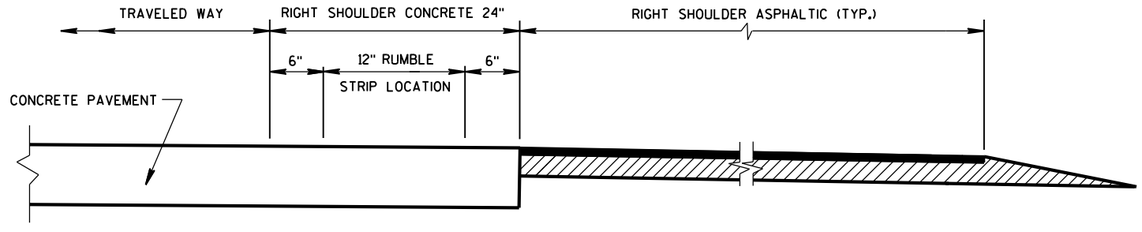
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

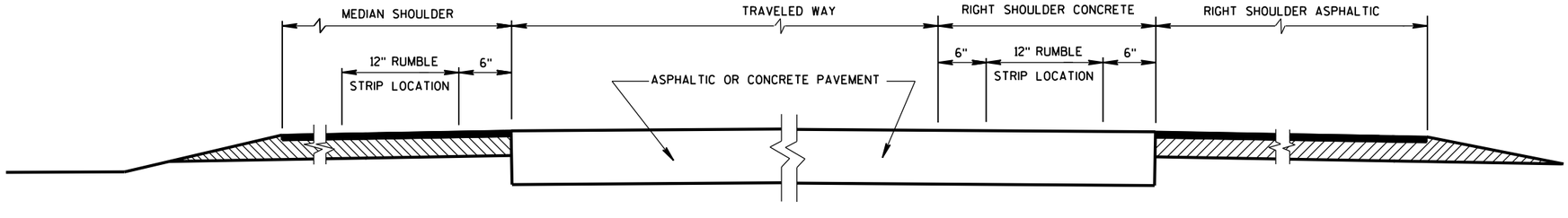
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



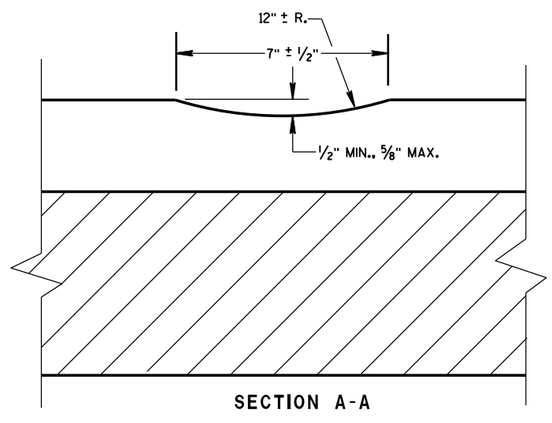
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

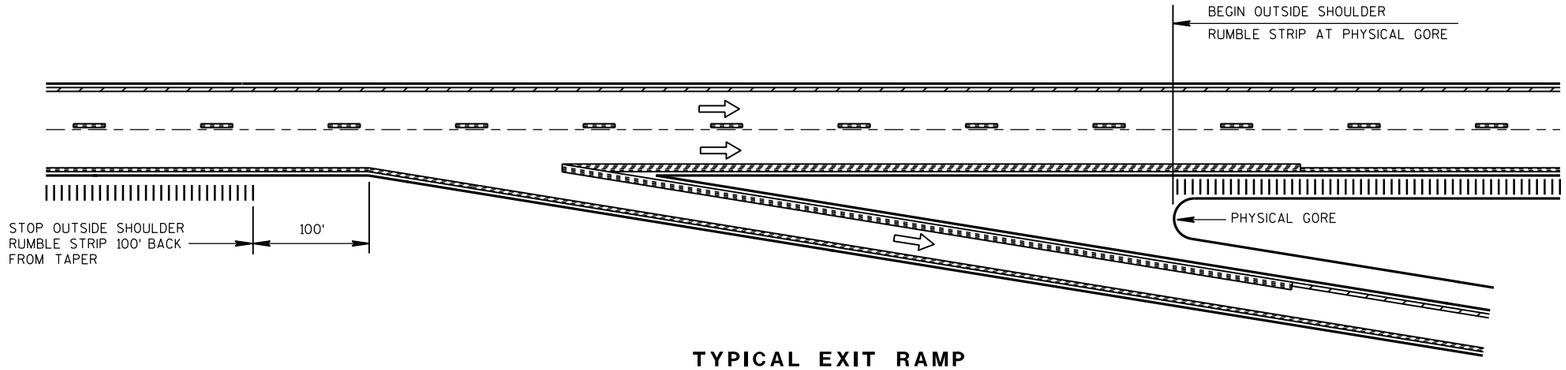
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



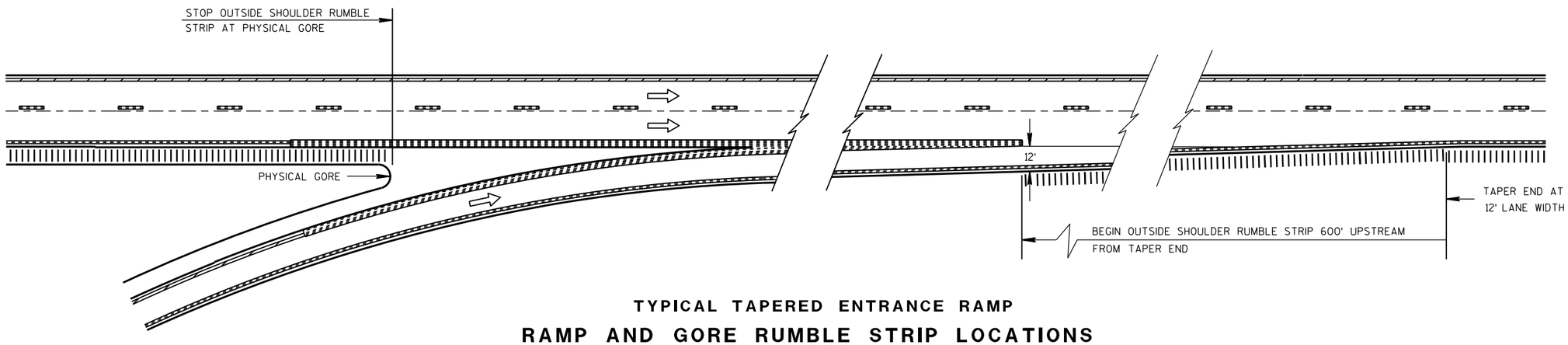
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

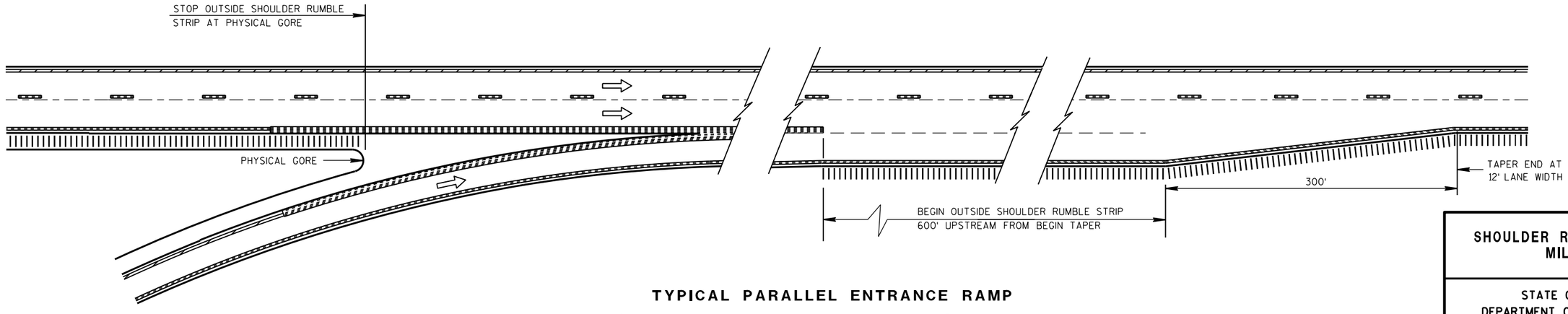
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/2012
DATE

/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER

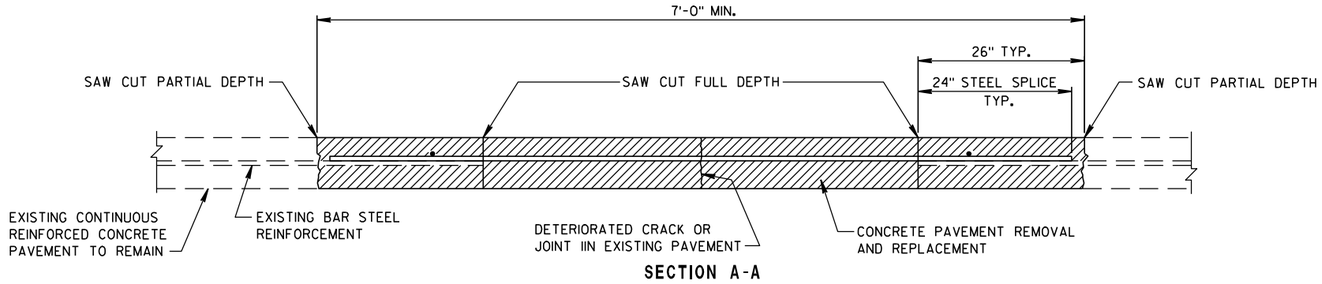
FHWA

6

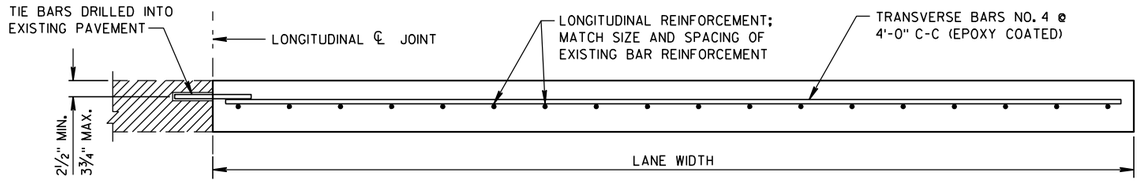
S.D.D. 13 A 5-5b

6

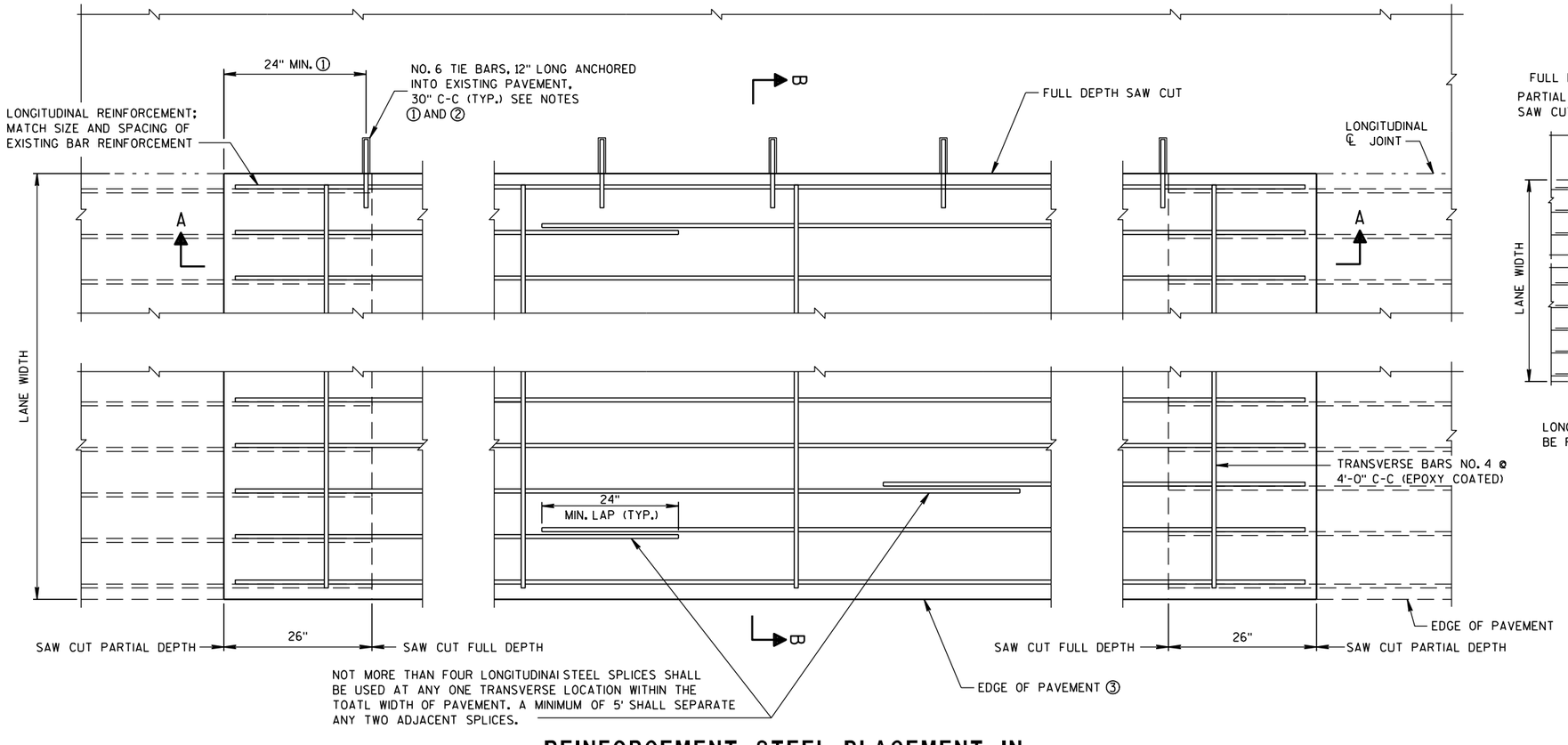
S.D.D. 13 A 5-5b



SECTION A-A



SECTION B-B



REINFORCEMENT STEEL PLACEMENT IN CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPLACEMENT

GENERAL NOTES

PLACE ALL BAR STEEL REINFORCEMENT AT MID PAVEMENT DEPTH UNLESS OTHERWISE NOTED.

PAY FOR THE TRANSVERSE AND LONGITUDINAL JOINT SAW CUT AS LINEAR FEET OF "SAWING CONCRETE".

WHEN THE PASSING AND TRAVELING LANES ARE TO BE REPLACED, REPLACE THE PASSING LANE FIRST.

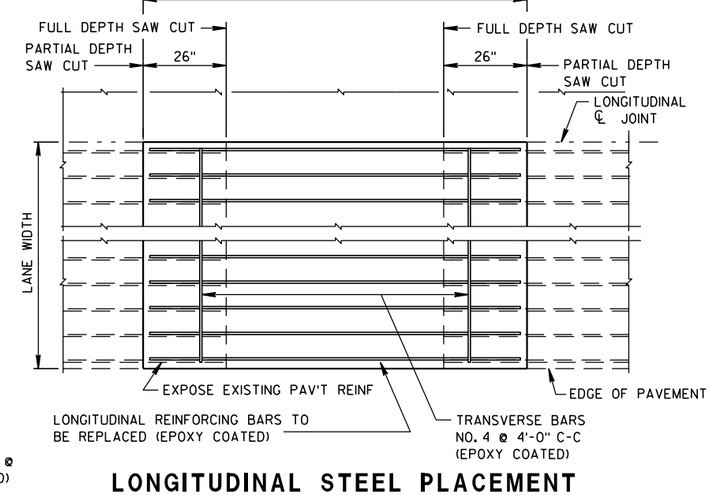
ADD TRANSVERSE STEEL BARS TO REPAIRS GREATER THAN 6'IN LENGTH, USE NO. 4 BARS PLACED TRANSVERSELY AND SPACED 4'C-C. PAYMENT SHALL BE INCIDENTAL TO "CONCRETE PAVEMENT CONTINUOUS REINFORCEMENT".

TIE ALL CONCRETE PAVEMENT REPAIRS WHICH ARE GREATER THAN 15'IN LENGTH, AND ARE ADJACENT TO EXISING CONCRETE PAVEMENT, TO THE EXISTING PAVEMENT USING TIE BARS. DETAILS FOR TIE BAR CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND STANDARD DETAIL DRAWINGS.

① PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

② ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

③ SAW CUT THE LONGITUDINAL EDGE JOINT IF THE ADJACENT SHOULDER IS CONCRETE.



LONGITUDINAL STEEL PLACEMENT IN CRCP REPAIRS

PLAN VIEW

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/1/2011 — DATE

/S/ Deb Bischoff — PAVEMENT POLICY & DE NEER

FHWA

6

S.D.D. 13 A 7-2

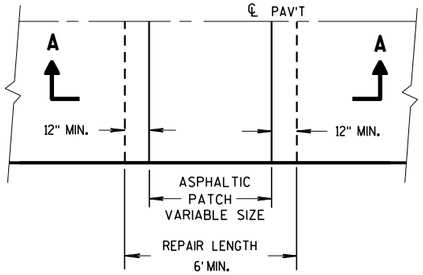
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

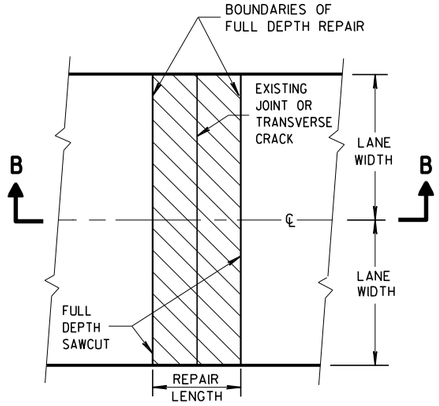
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

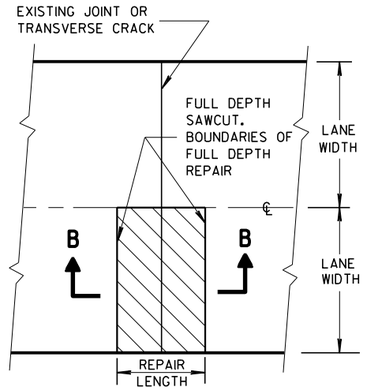
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

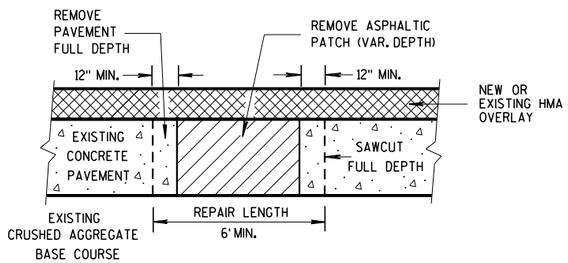


PLAN VIEW
(DOUBLE LANE REPAIR)



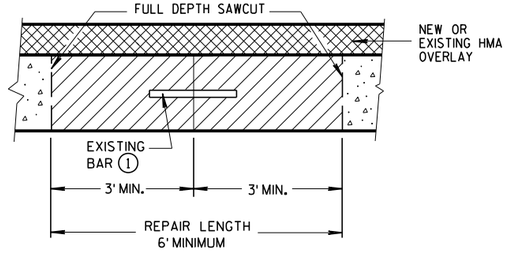
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

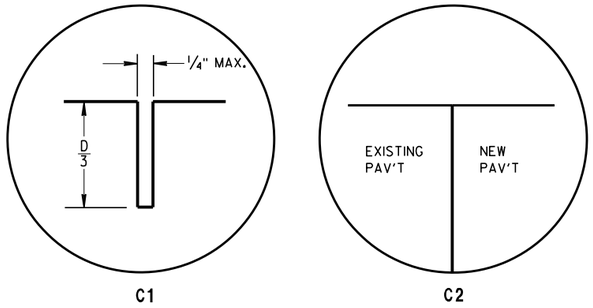
6

6

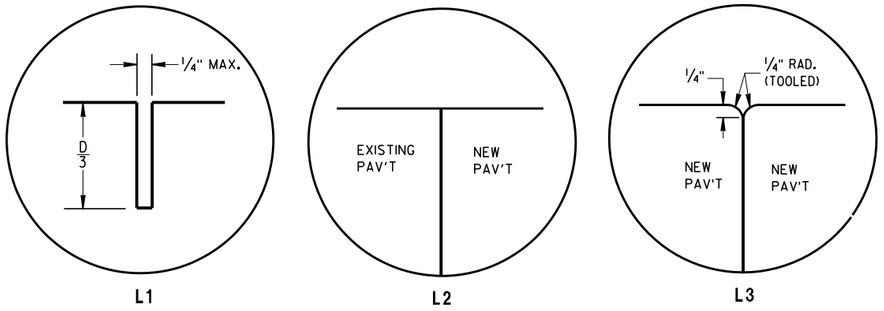
S.D.D. 13 C 14-7a

S.D.D. 13 C 14-7a

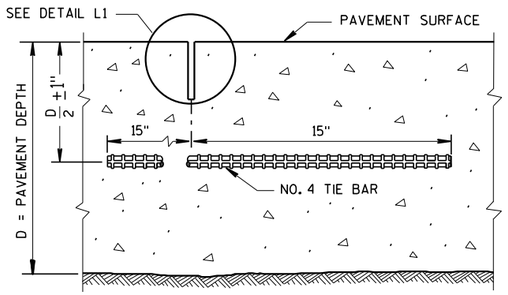
BASE PATCHING CONCRETE



TRANSVERSE JOINTS

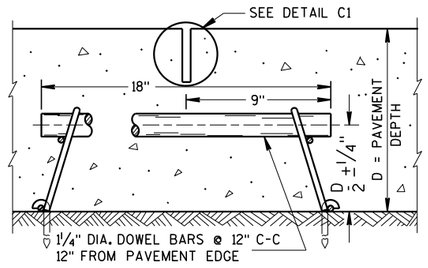


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

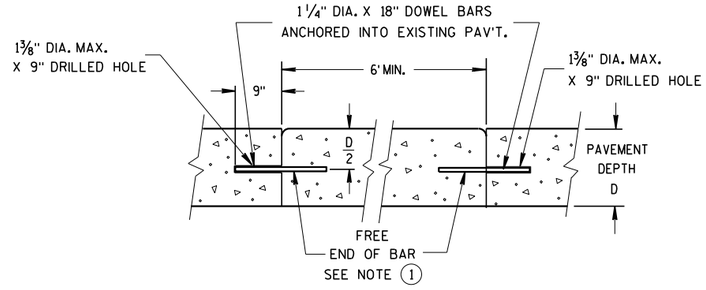
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

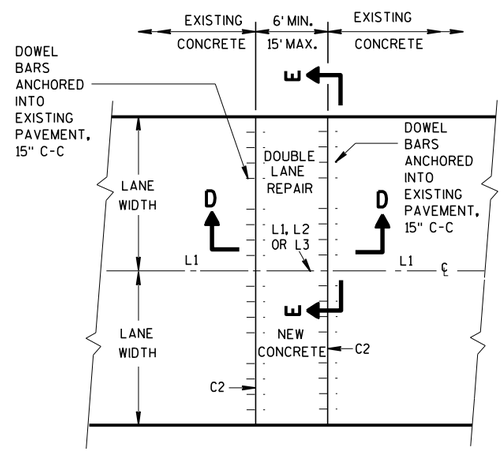
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

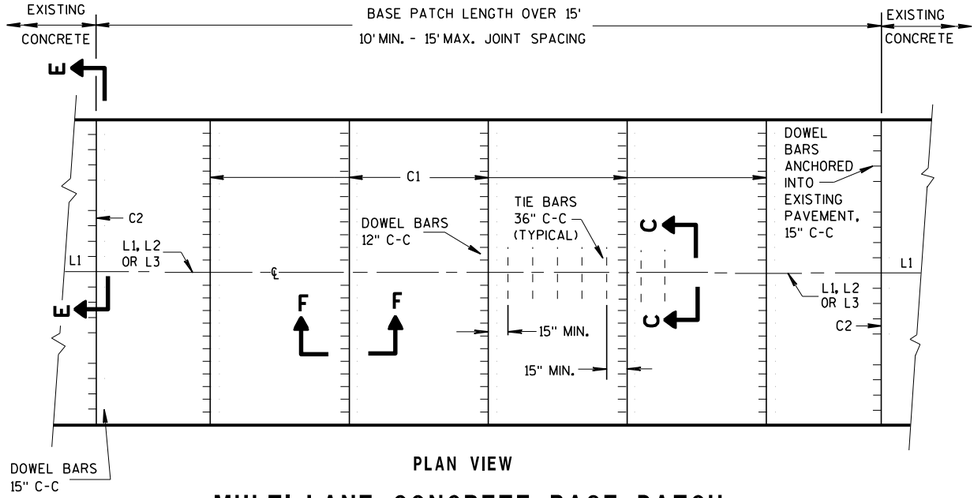


SECTION D-D



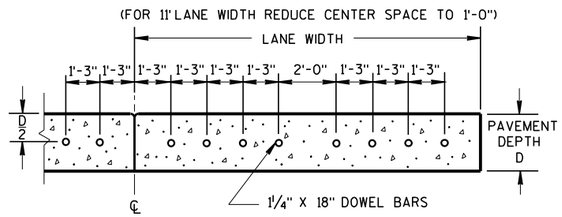
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

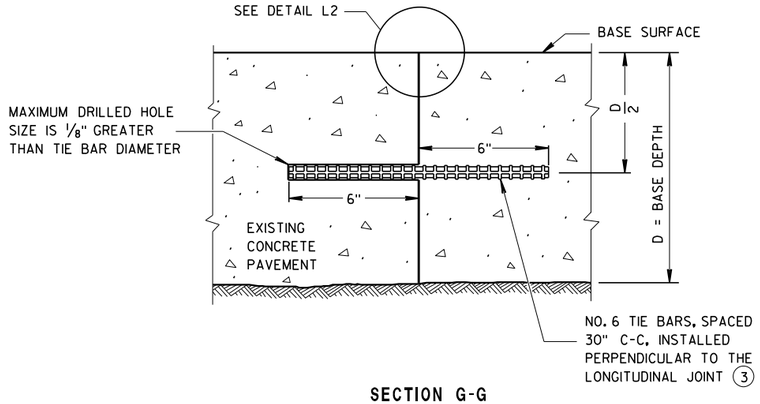


SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

6
S.D.D. 13 C 14-7b



SECTION G-G

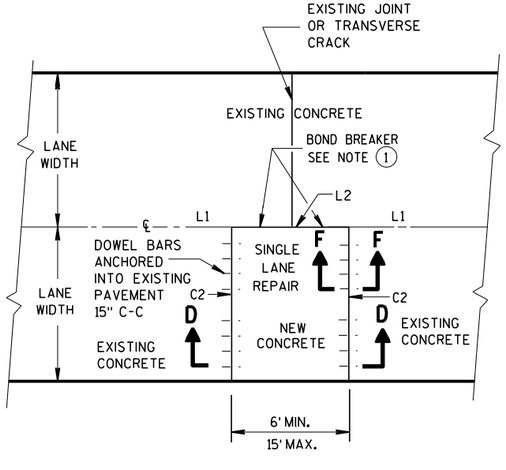
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

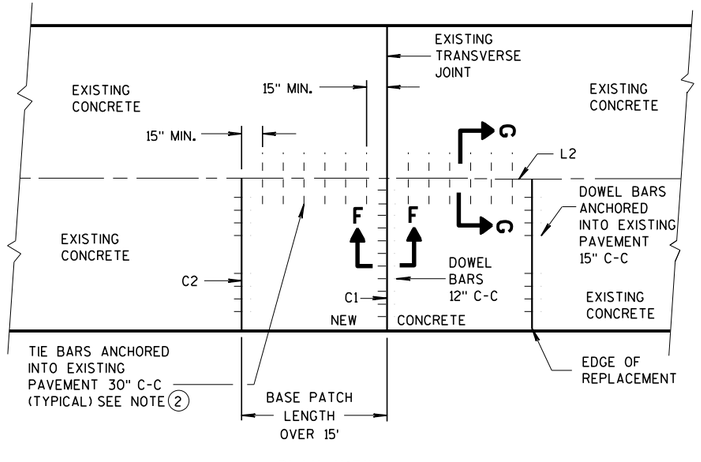
(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(3) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

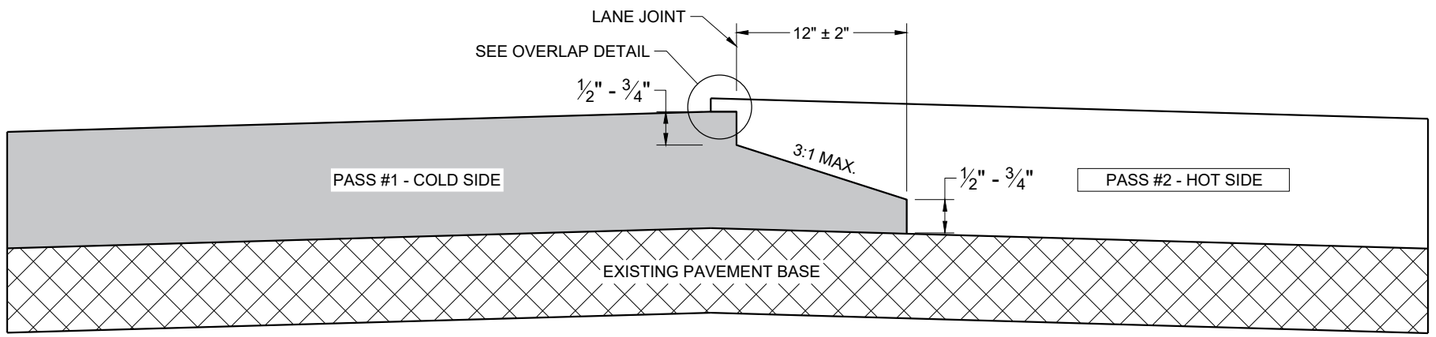
BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

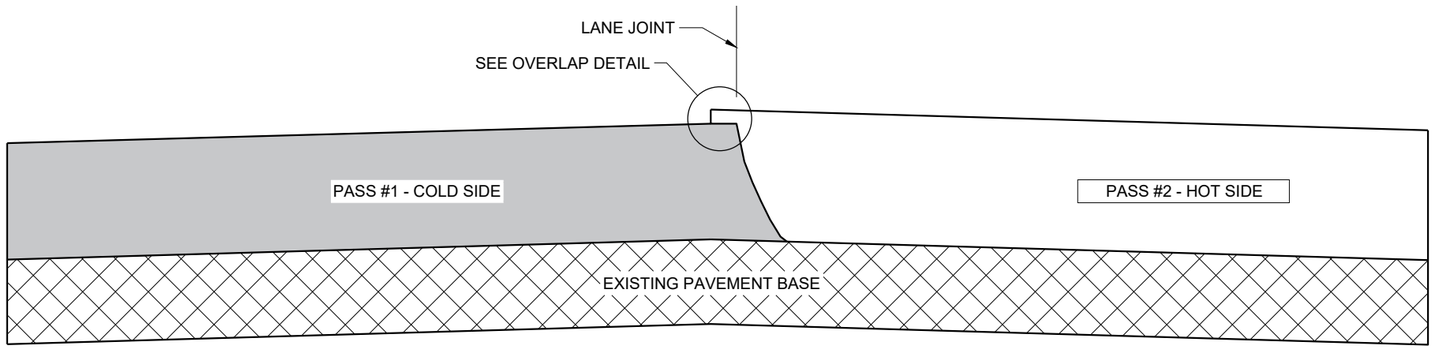
APPROVED
March 2018 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUPERVISOR
FHWA

6

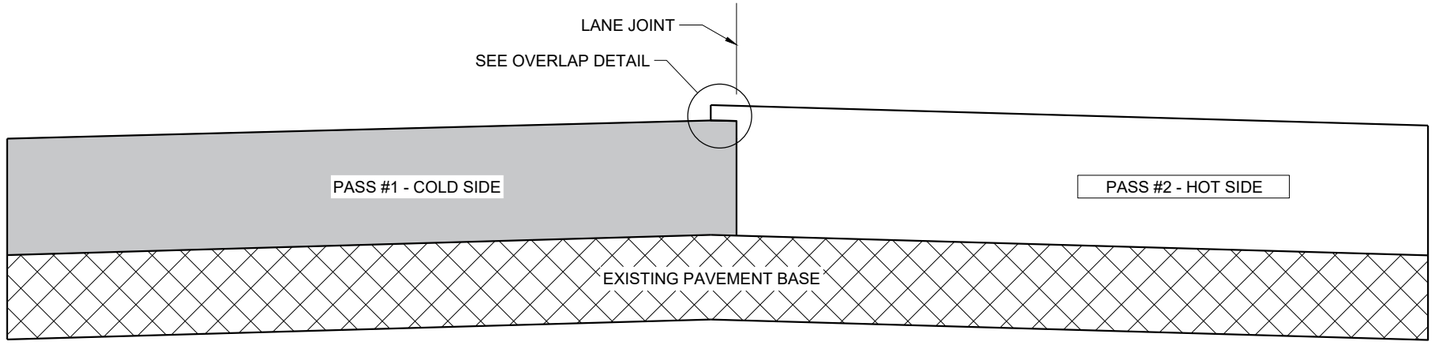
S.D.D. 13 C 14-7c



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

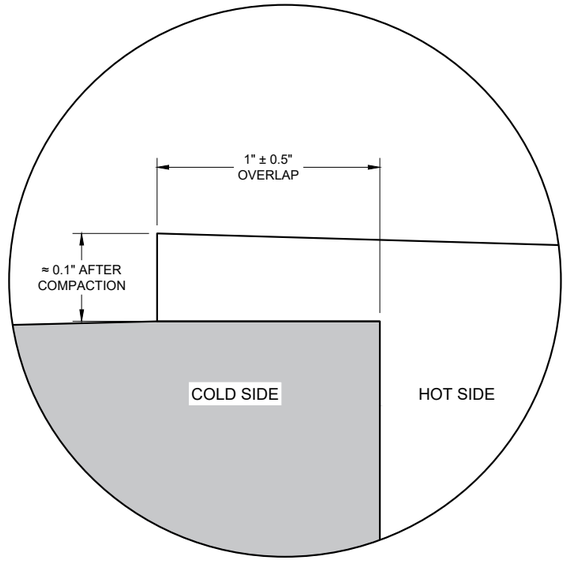
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

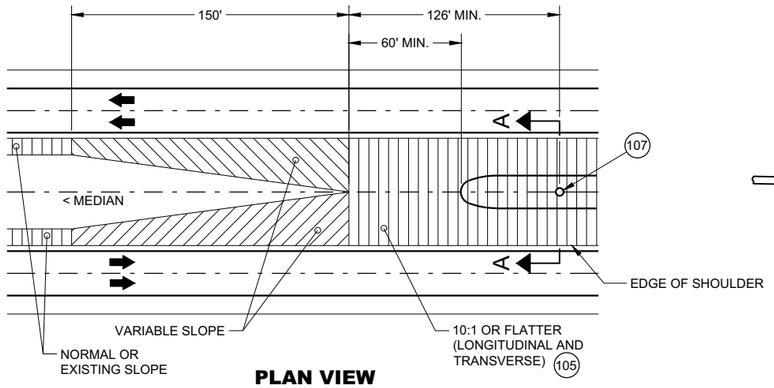
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

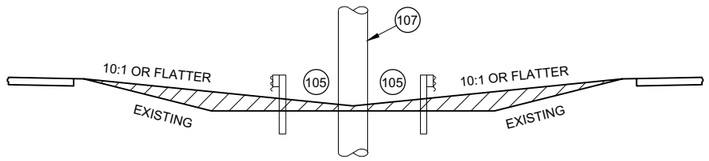
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



PLAN VIEW
GRADING AT BULLNOSE
(ALL INSTALLATIONS)



SECTION A -A
MEDIAN GRADING
(ALL INSTALLATIONS)

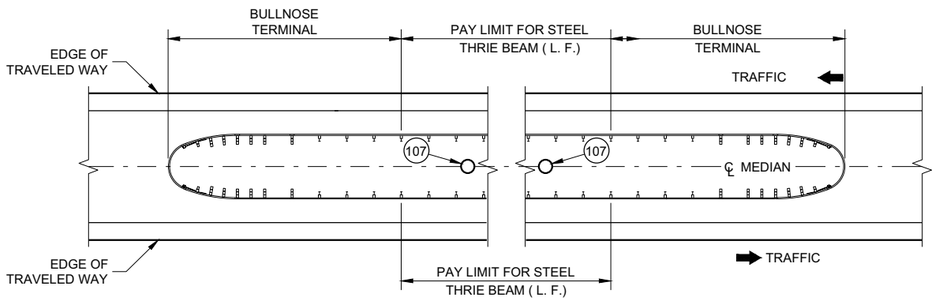
GENERAL NOTES

THRIE BEAM RAILS MAY NEED TO BE FIELD BENT TO FIT THE LOCATION.

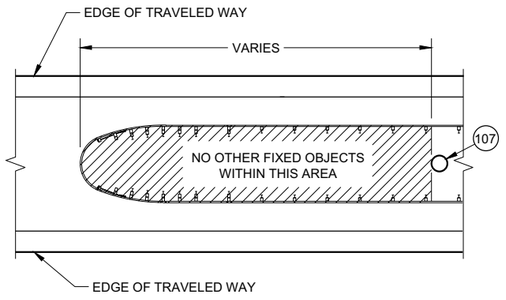
SEE STANDARD DETAIL DRAWINGS 14B26 SHEETS a-h.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½". MINIMUM DIAMETER OF THE ROCK REMOVAL IS 12" DIAMETER

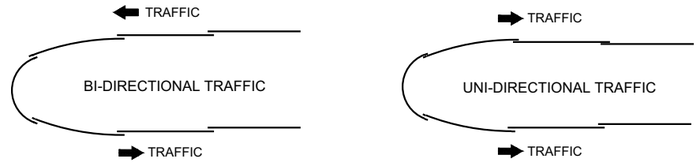
- E1 UNBENT STANDARD THRIE BEAM RAIL B1 (POST 8 TO POST 10 AND POST 10 TO POST 12)
- E2 SLOTTED THRIE BEAM RAIL E1 (POST 1 TO POST 1)
- E3 SLOTTED THRIE BEAM RAIL B3 (POST 5 TO POST 8)
- E4 SLOTTED THRIE BEAM RAIL E4 (POST 1 TO POST 5)
- 5 BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.
- (100) DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.
- (101) U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
- (102) NOSE CABLE WITH SWAGGED END BUTTONS.
- (103) NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
- (104) THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.
- (105) MINIMUM WORKING WIDTH 4' - 2".
- (106) MAX. WIDTH OF SYSTEM IS 14' - 2 ½" MEASURED FROM THE BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.
- (107) FIXED OBJECT OR OTHER HAZARD.
- (108) PLAN IS TO PROVIDE STATION OFFSET TO CENTER OF POST 5 IN PLANS.



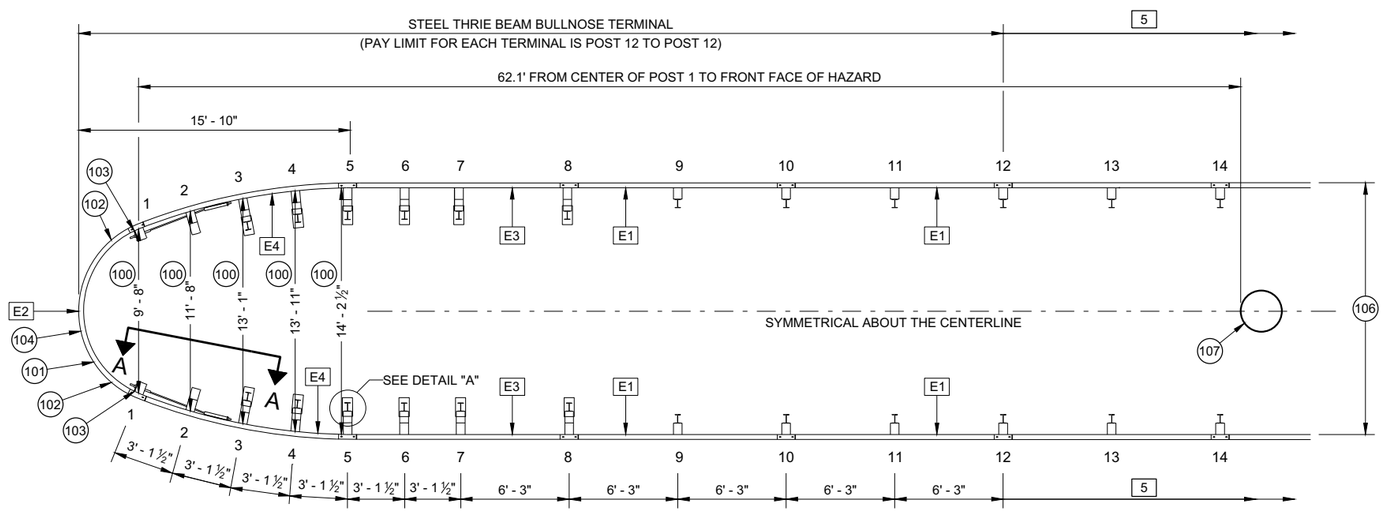
MEDIAN HAZARD PROTECTION PAY LIMITS



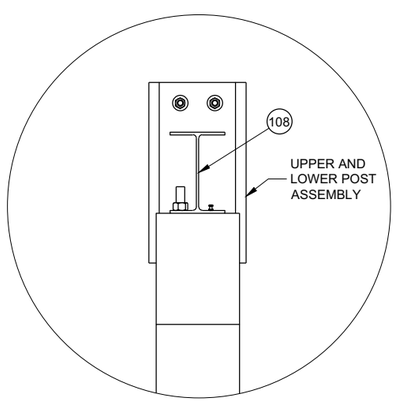
HAZARD FREE AREA
INSIDE BULLNOSE



LAPPING DETAIL



PLAN VIEW
TYPICAL BULLNOSE LAYOUT



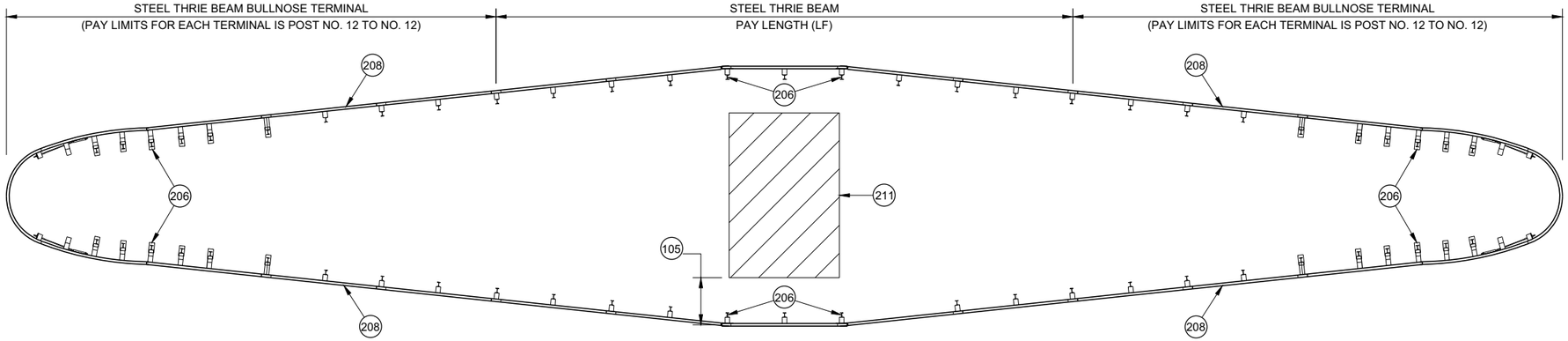
DETAIL "A"

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B26 - 04a

SDD 14B26 - 04a



VARIABLE WIDTH BULLNOSE

GENERAL NOTES

200 6' - 3" ASYMMETRICAL 10-GAUGE W-BEAM TO THRIE BEAM GUARD TRANSITION. SEE SDD 14B45 FOR MORE INFORMATION.

201 W-BEAM RAIL. SEE SDD 14B42 FOR MORE INFORMATION.

202 SEE POST NO. 9 AND ALL STEEL THRIE BEAM POST BEYOND DETAIL.

203 SEE SDD 14B42 FOR INSTALLATION INFORMATION.

204 SEE SDD 14B45 FOR INSTALLATION DETAILS. REPLACE ASYMMETRICAL W-BEAM TO THRIE BEAM TRANSITION AND W-BEAM RAIL WITH E1. PAY FOR MODIFIED THRIE BEAM TRANSITION.

205 CONCRETE BARRIER OR BRIDGE RAIL.

206 SEE PLAN FOR STATION AND OFFSET TO CENTER OF POST.

207 SEE PLAN FOR STATION AND OFFSET TO CENTER OF SPLICE.

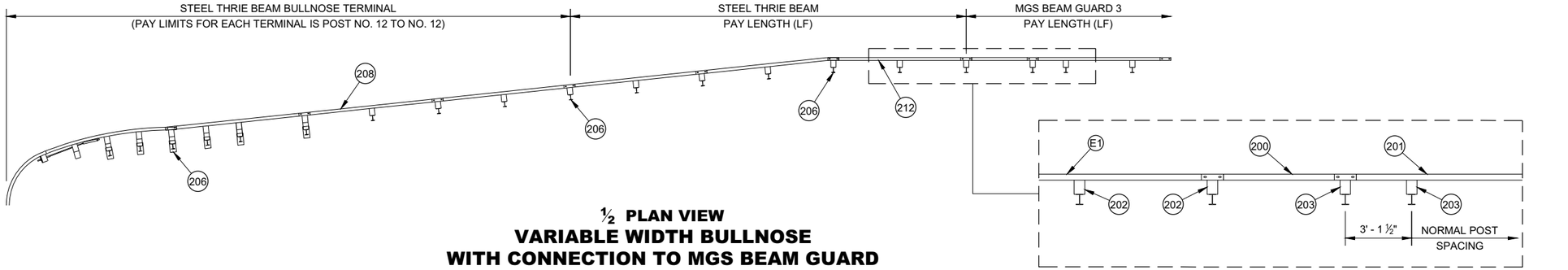
208 SEE PLAN FOR FLARE RATE.

209 A MINIMUM OF 25 FT OF THRIE BEAM TANGENT BEFORE TRANSITIONING TO BEAM GUARD OR THRIE BEAM TRANSITION.

210 NOT ALL BULLNOSE HARDWARE SHOWN. SEE OTHER SHEETS IN 14B26.

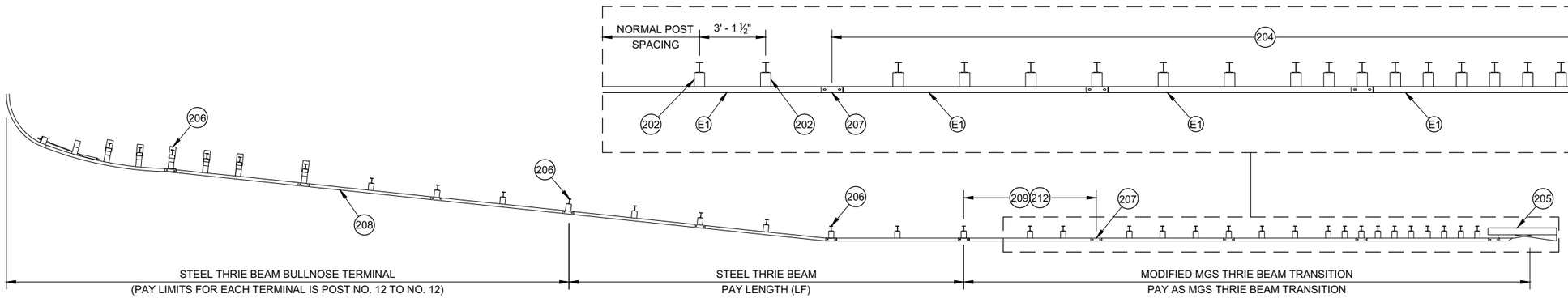
211 WIDER HAZARD TO BE SHIELDED.

212 TRANSITION RAIL HEIGHT TO 31" OVER THE LENGTH OF A 12' - 6" BEAM SECTION.



½ PLAN VIEW

VARIABLE WIDTH BULLNOSE WITH CONNECTION TO MGS BEAM GUARD



½ PLAN VIEW

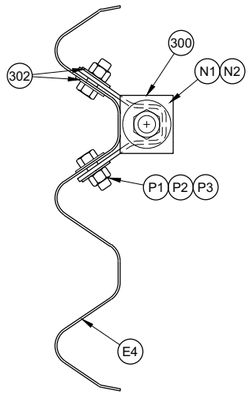
VARIABLE WIDTH BULLNOSE WITH CONNECTION TO RIGID BARRIER

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

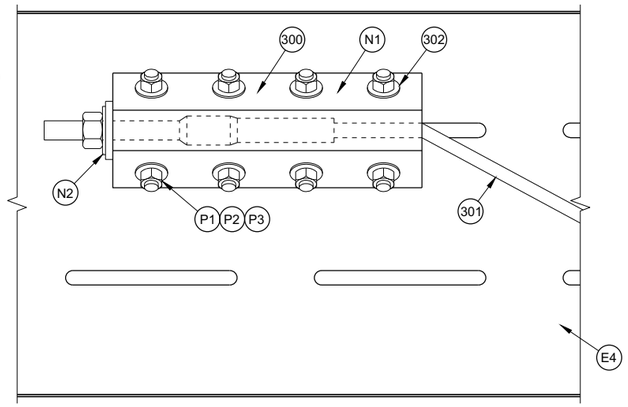
6

SDD 14B26 - 04b

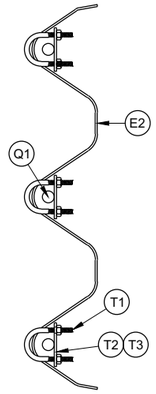


PROFILE VIEW

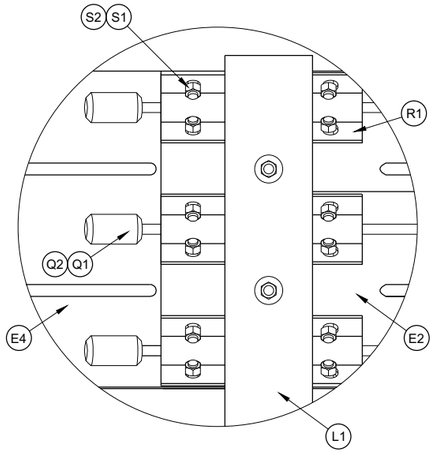
CABLE ANCHOR ASSEMBLY CONNECTION



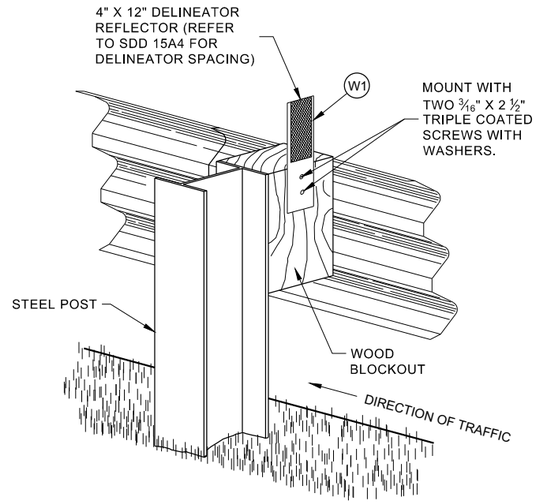
CABLE ANCHOR ASSEMBLY



NOSE CABLE RETAINING CLIP

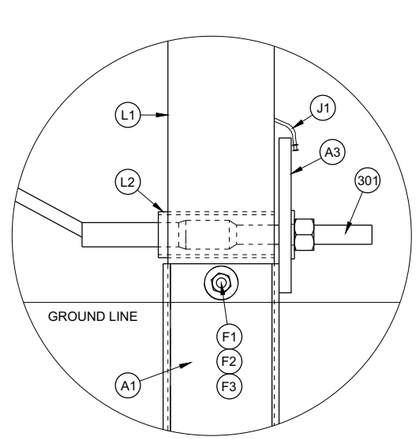


DETAIL "A"

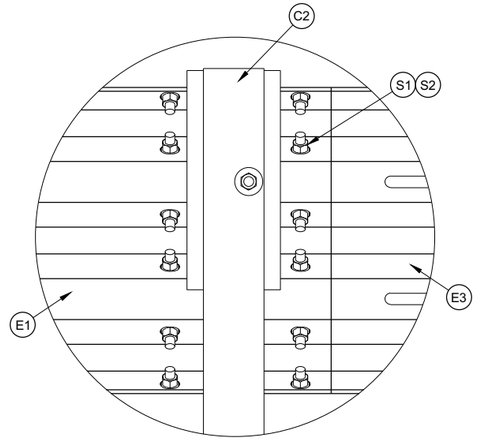


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

CROSS SECTION A - A



DETAIL "B"



DETAIL "C"
THRIE BEAM SPLICE

GENERAL NOTES

(300) SEE ANCHOR BRACKET ASSEMBLY DETAIL.

(301) SEE ANCHOR CABLE ASSEMBLY DETAIL

(302) ONE WASHER BETWEEN BOLT HEAD AND RAIL AND BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

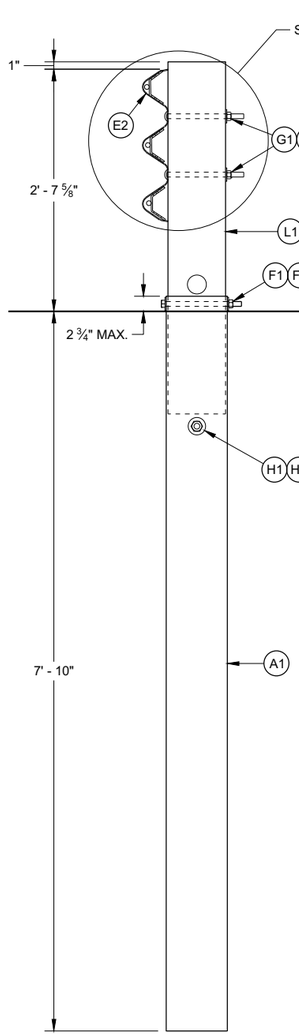
(303) ONE WASHER BETWEEN BOLD HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

STEEL THRIE BEAM BULLNOSE TERMINAL

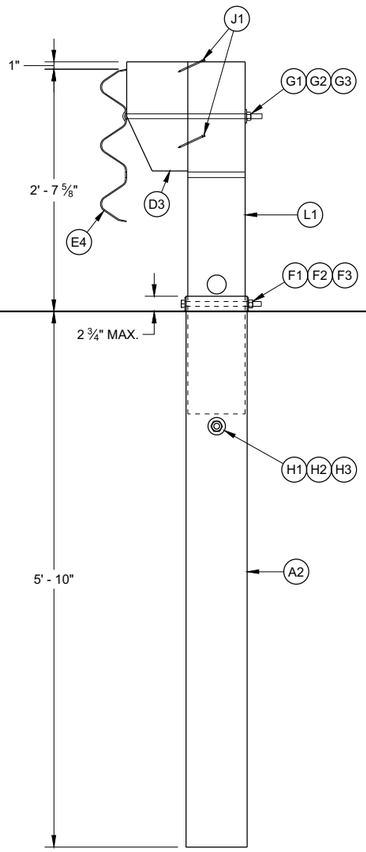
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

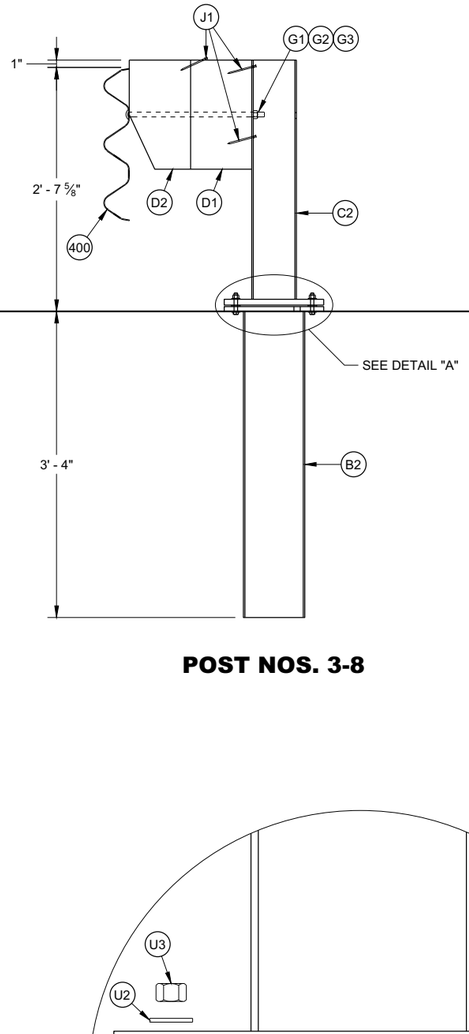
SDD 14B26 - 04c



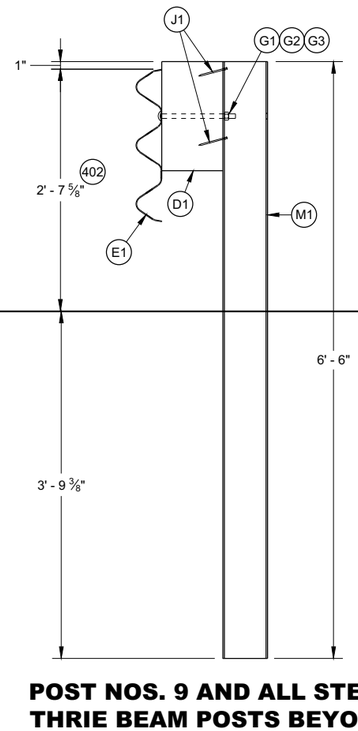
POST NO. 1



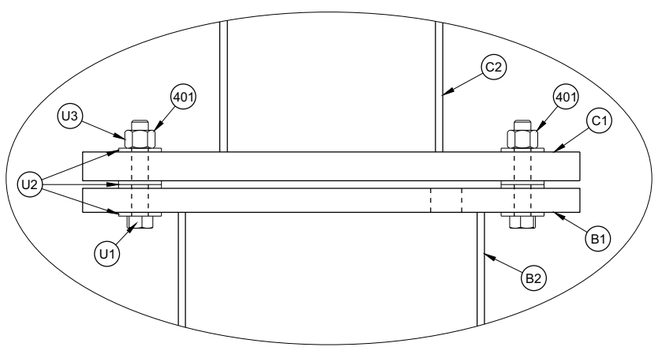
POST NO. 2



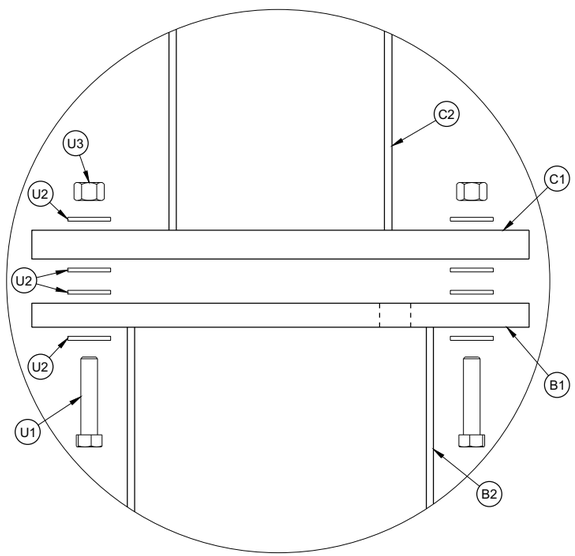
POST NOS. 3-8



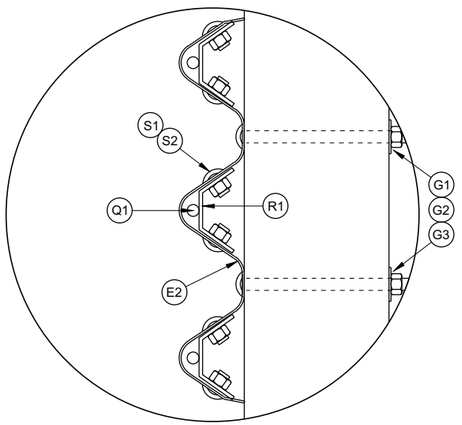
POST NOS. 9 AND ALL STEEL THRIE BEAM POSTS BEYOND



DETAIL "A"



EXPLODED VIEW
DETAIL "A"



DETAIL "B"

GENERAL NOTES

400 RAIL CAN BE E3 OR E4 DEPENDING ON POST LOCATION.

401 TORQUE BOLD BETWEEN 60-75 FT-LB

402 HEIGHT WILL VARY WITHIN HEIGHT TRANSITION TO OTHER HARDWARE. SEE NOTE 213, SHEET "b".

STEEL THRIE BEAM BULLNOSE TERMINAL

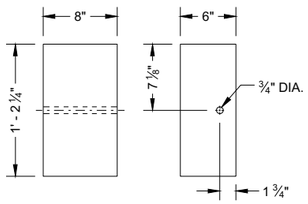
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B26 - 04d

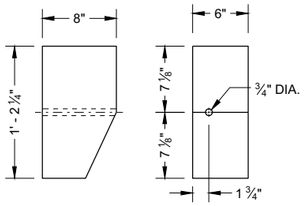
6

SDD 14B26 - 04d



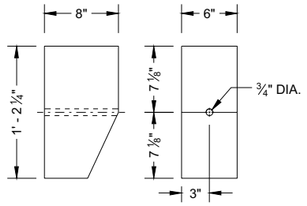
ELEVATION PROFILE

BLOCKOUT (D1)



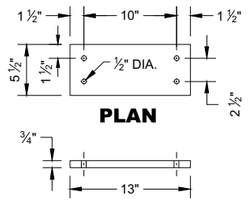
ELEVATION PROFILE

BLOCKOUT (D2)



ELEVATION PROFILE

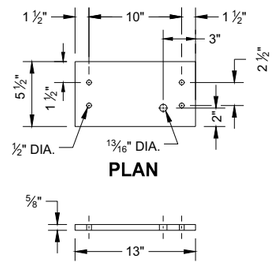
BLOCKOUT (D3)



PLAN

PROFILE

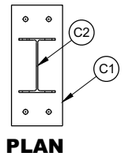
UPPER SHEAR PLATE (C1)



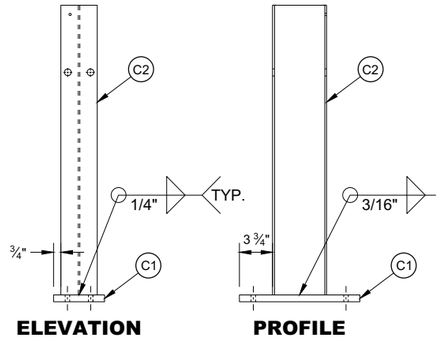
PLAN

PROFILE

LOWER SHEAR PLATE (B1)

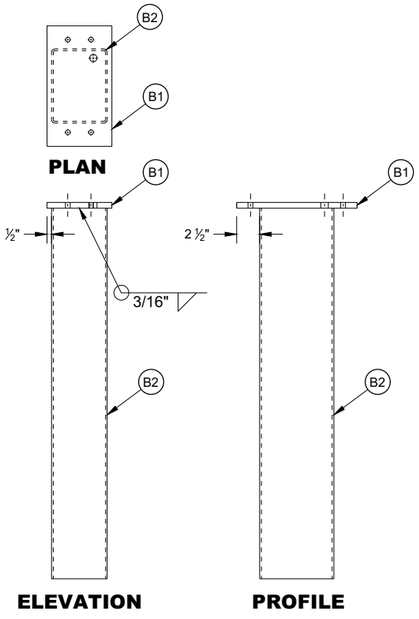


PLAN



ELEVATION PROFILE

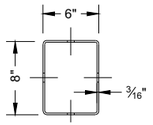
UPPER POST ASSEMBLY



PLAN

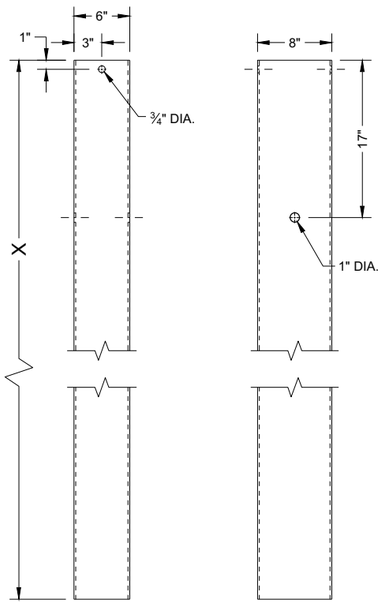
ELEVATION PROFILE

LOWER POST ASSEMBLY



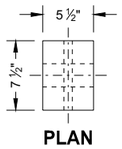
PLAN

PART	LENGTH "X"
A1	8' - 0"
A2	6' - 0"
B2	3' - 6"

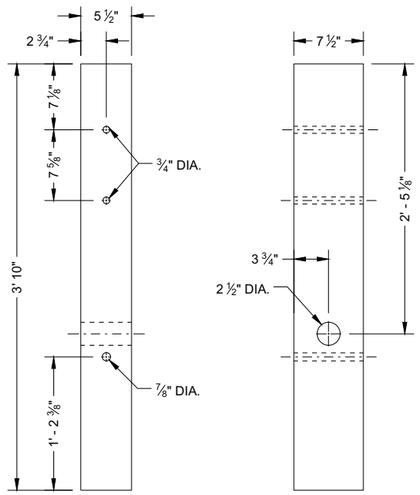


ELEVATION PROFILE

FOUNDATION TUBE

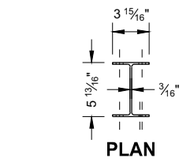


PLAN

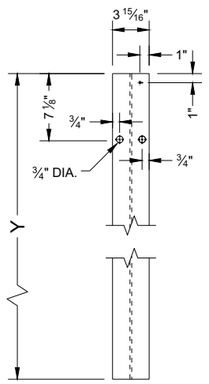


ELEVATION PROFILE

BCT POST (L1)



PLAN



ELEVATION

POST

PART	LENGTH "Y"
M1	6' - 6"
M2	5' - 8 5/8"
C2	2' - 8 5/8"

STEEL THRIE BEAM BULLNOSE TERMINAL

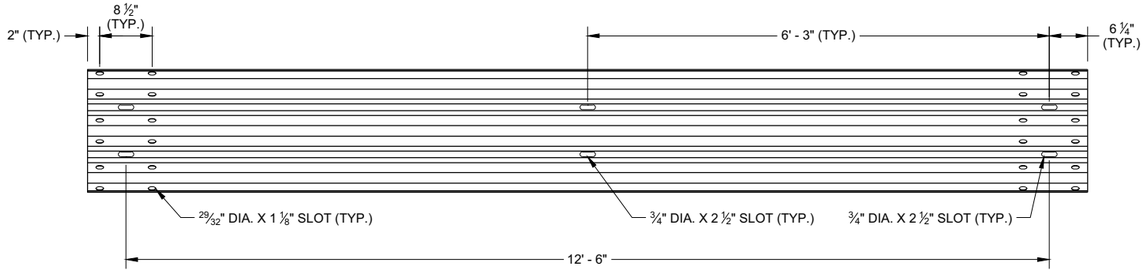
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

6

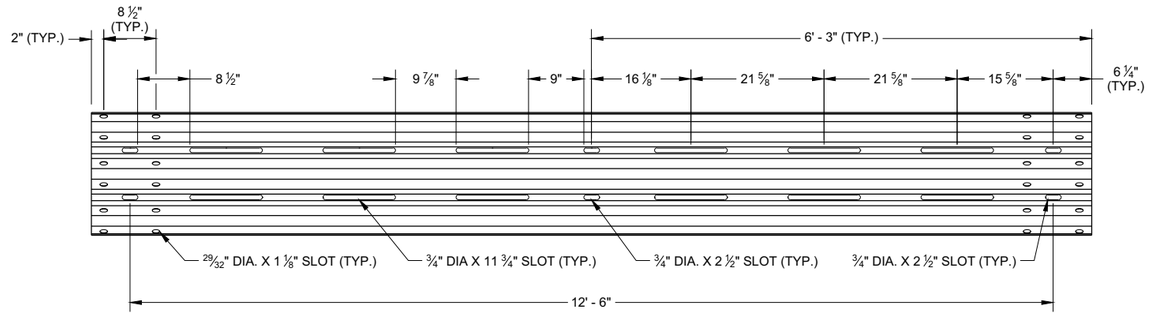
SDD 14B26 - 04e

6

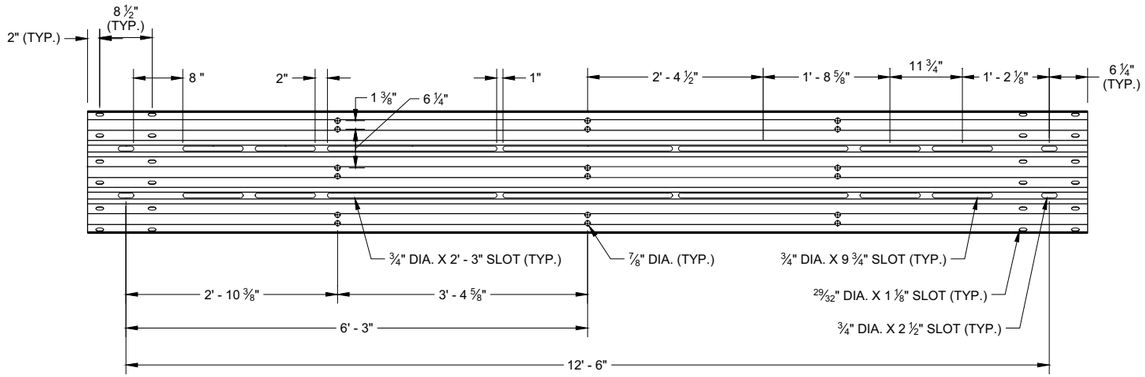
SDD 14B26 - 04e



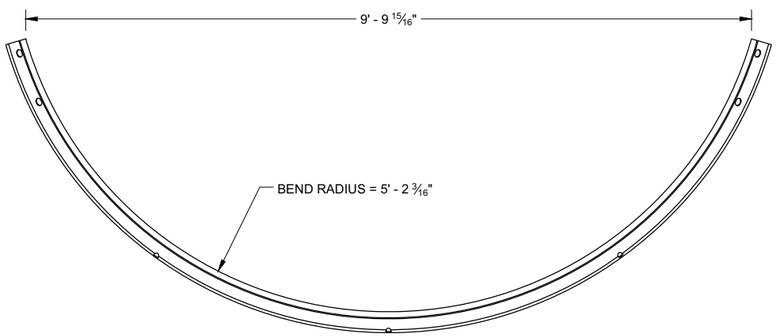
SLOTTED THRIE BEAM RAIL E1



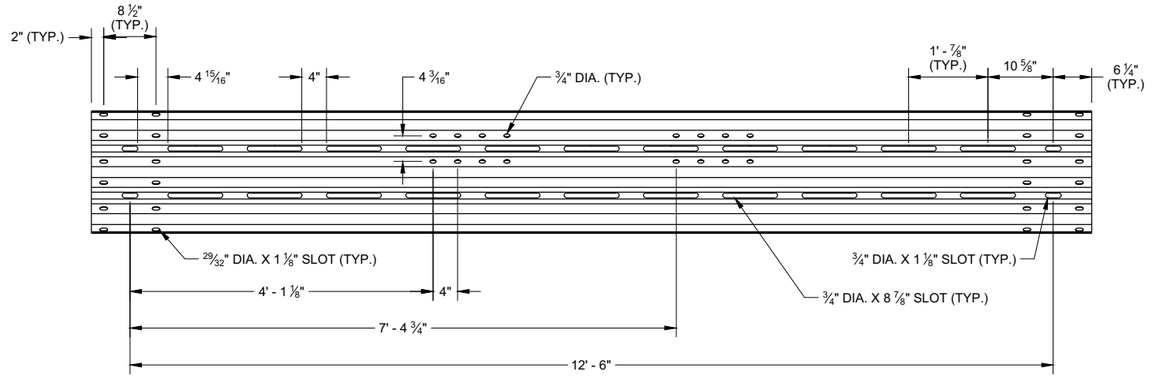
SLOTTED THRIE BEAM RAIL E3



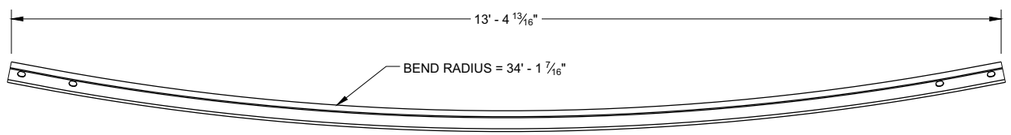
ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E2



PLAN VIEW
SLOTTED THRIE BEAM RAIL E2



ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E4



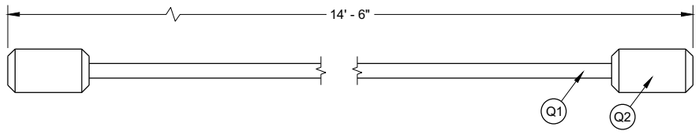
PLAN VIEW
SLOTTED THRIE BEAM RAIL E4

STEEL THRIE BEAM BULLNOSE TERMINAL

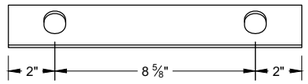
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

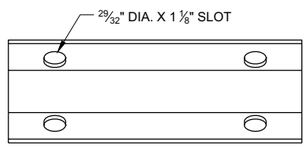
SDD 14B26 - 04f



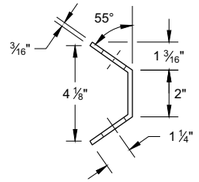
NOSE CABLE AND SWAGE BUTTON



PLAN VIEW

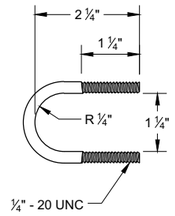


ELEVATION VIEW

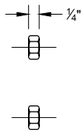


PROFILE VIEW

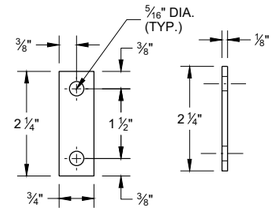
NOSE CABLE ANCHOR (R1)



U - BOLT (T1)

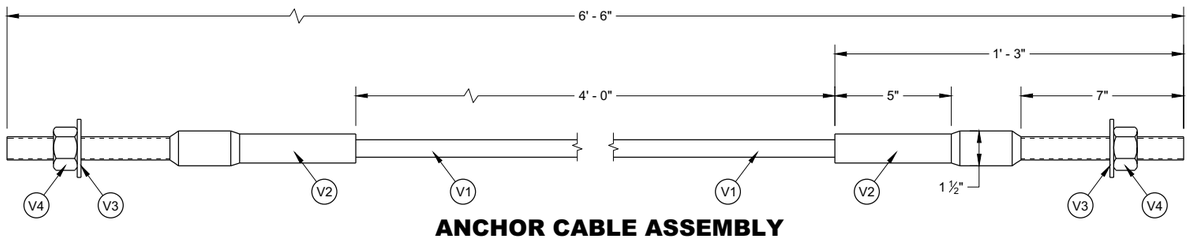


U - BOLT NUT (T3)

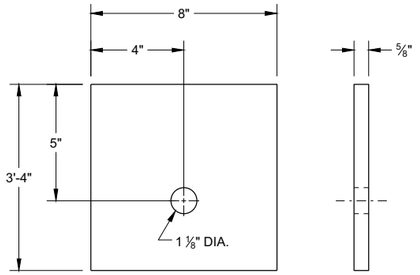


ELEVATION VIEW **PROFILE VIEW**

U - BOLT PLATE WASHER (T2)

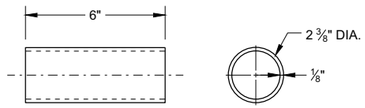


ANCHOR CABLE ASSEMBLY



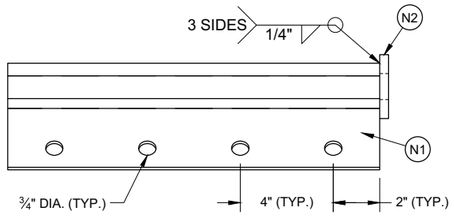
ELEVATION VIEW **PROFILE VIEW**

BCT BEARING PLATE (A3)

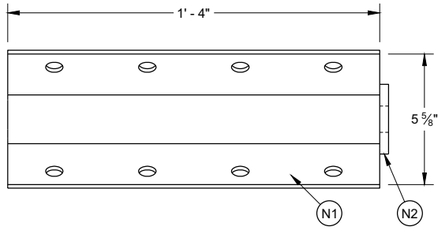


ELEVATION VIEW **PROFILE VIEW**

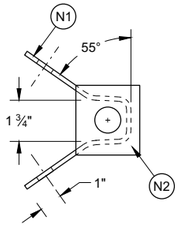
BCT POST SLEEVE (L2)



PLAN VIEW

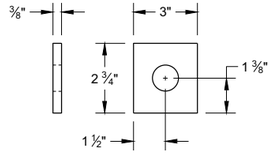


ELEVATION VIEW



PROFILE VIEW

ANCHOR BRACKET ASSEMBLY (N1)



ANCHOR BRACKET END PLATE (N2)

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B26 - 04g

BILL OF MATERIALS LIST

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
A1	LONG FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A2	FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A3	BEARING PLATE AT POST	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
B1	LOWER SLIP POST ASSEMBLY - PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
B2	LOWER SLIP POST ASSEMBLY - TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
C1	UPPER SLIP POST ASSEMBLY - PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
C2	UPPER SLIP POST ASSEMBLY - POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
D1	BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D2	TAPERED BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D3	TAPERED BLOCK FOR BCT POST - WOOD	WISDOT SPEC. 614
E1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E2	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
E3	THRIE BEAM RAIL - PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E4	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
F1	5/8" DIA. HEX HEAD GROUND STRUT AND YOKE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
F2	5/8" DIA. GROUND STRUT AND YOKE BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
F3	GROUND STRUT AND YOKE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
G1	5/8 " DIA. POST BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G2	POST BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G3	POST BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
H1	7/8" DIA. SOIL TUBE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD 7/8" ASTM A563DH OR SAE J995 GRADE 5
H2	SOIL TUBE BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 7/8" ASTM F844 TYPE 1 (HARDEN WASHER ONLY)
H3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD 7/8" ASTM A563DH OR SAE J995 GRADE 5
J1	16D DOUBLE HEAD NAIL	ASTM A153 HOT DIPPED CLASS D DOUBLE HEAD ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)
L1	BCT TIMBER POST	WISDOT SPEC. 614 S4S FINISH ON 4 SIDE
L2	BCT POST SLEEVE	AASHTO M111/ASTM A123 2 3/8" OD ASTM 53 GRADE B
M1	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
M2	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
N1	ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
N2	ANCHOR BRACKET - BEARING PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
P1	5/8" DIA. ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
P2	ANCHOR BRACKET BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
P3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
Q1	5/8" DIA. NOSE CABLE	6X19 AASTHO M30 / ASTM A741 XIPS INDEPENDENT WIRE CORE (IWRC) PR 6X25 XIPS, IWRC NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
Q2	NOSE CABLE-SWAGE BUTTON	COLD TUFF BUTTON, S-409 SIZE NO. 12 STOCK NUMBER 1040395 OR ANY OTHER SIMILAR SIZED WAGED-GRIP-BUTTON FERRULES. ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FIELD SWAGED PER MANUFACTURERS RECOMMENDATION. NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
R1	NOSE CABLE ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
S1	5/8" DIA. SPLICE BOLT - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
S2	SPLICE - BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD 5/8" ASTM A563DH OR SAE J995 GRADE 5
T1	1/4" DIA. NOSE CABLE - U BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
T2	U-BOLT - PLATE WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
T3	U-BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
U1	7/16" DIA. SLIP POST ASSEMBLY - BREAKAWAY BOLT	ASTM A153 OR B695 CLASS 55 OR F2329 UNC FULLY THREADED HEX HEAD TAP BOLT ASTM A449 OR SAE J429 GRADE 5
U2	7/16" DIA. SLIP POST ASSEBLY - BREAKAWAY BOLT - WASHER	ASTM F436 TYPE I (HARDEN TYPICALLY USED WITH STEEL) GALV. AASHTO M111/ASTM A 123 OR GALV. HOT DIP. TO POST BOLT CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 55, F2329
U3	SLIP POST ASSEBLY - BREAKAWAY BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / STM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
V1	U-BOLT - PLATE WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
V2	ANCHOR CABLE-SWAGE FITTING	UNC ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FACTORY SWAGED. MIN. BREAKING STRENGTH OF 42.7 KIPS. ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."
V3	1" DIA. ANCHOR CABLE-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
V4	1" DIA. ANCHOR CABLE-NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
W1	REFLECTOR	SEE SDD 15A4

6

6

SDD 14B26 - 04h

SDD 14B26 - 04h

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

August 2020
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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

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

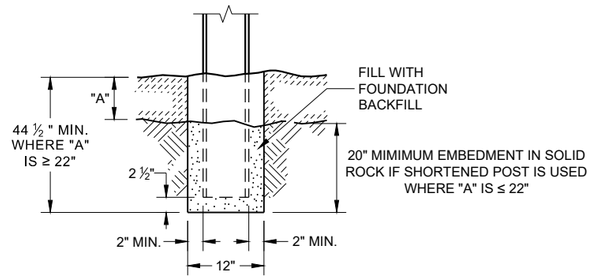
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

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

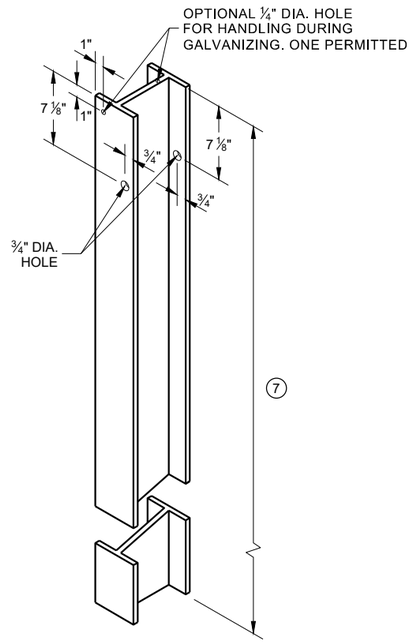
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

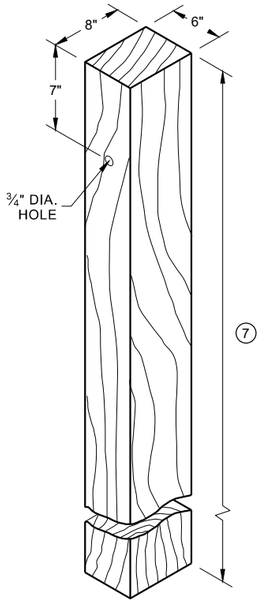
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



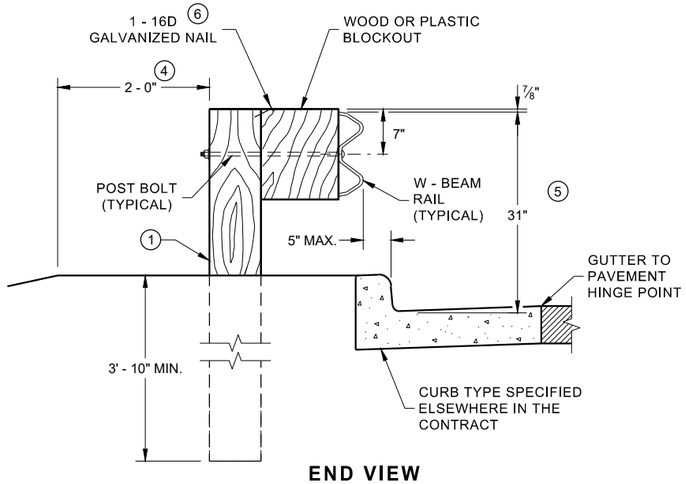
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



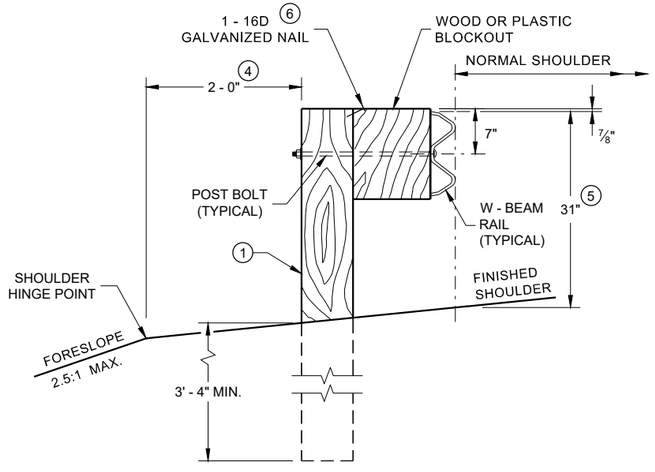
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



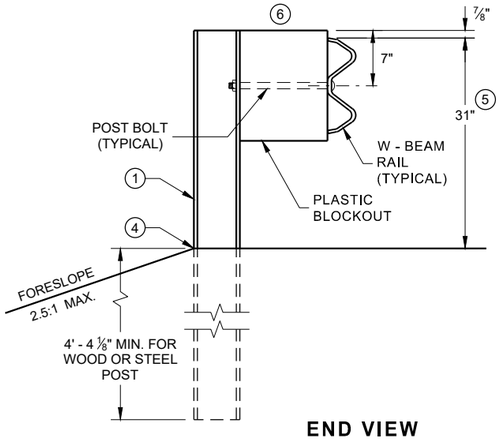
WOOD POST (6" X 8") NOMINAL (1)



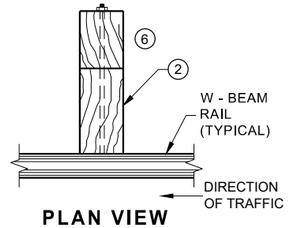
END VIEW
LOCATED ALONG A CURBED ROADWAY



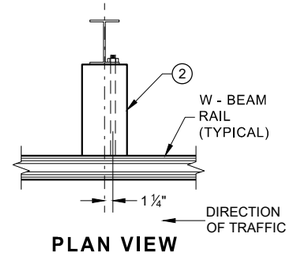
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



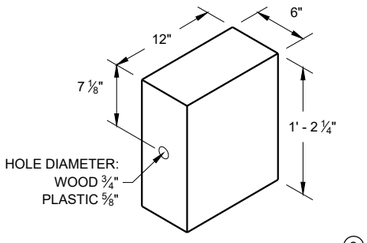
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

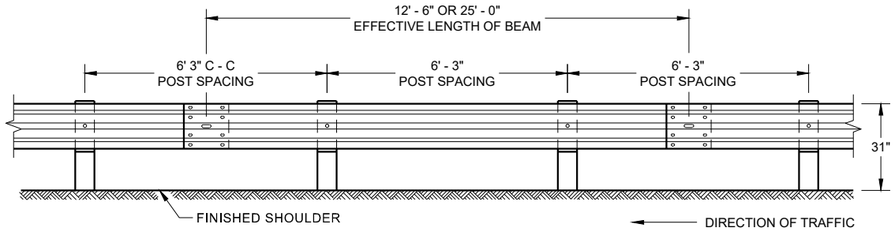
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

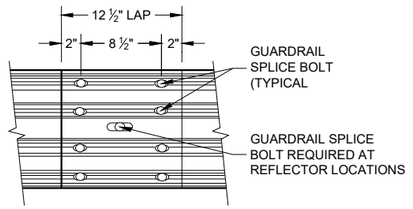
SDD 14B42 - 07a

6

SDD 14B42 - 07a



FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
MID-SPAN BEAM SPLICE

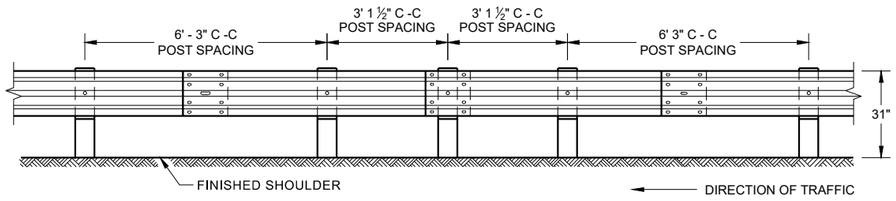
GENERAL NOTES

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

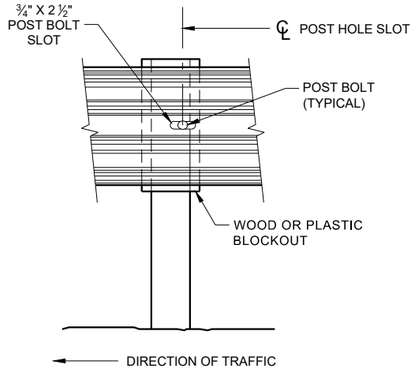
(9) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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.

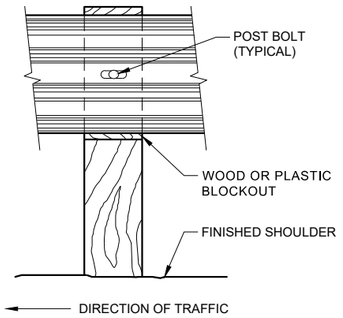
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



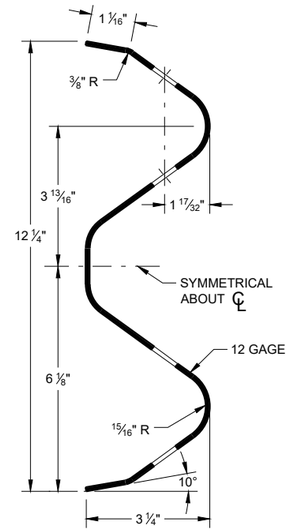
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



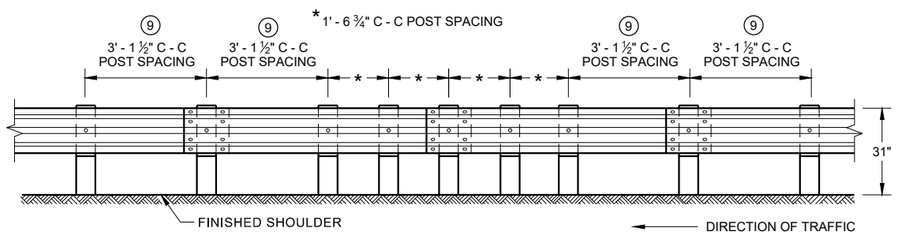
FRONT VIEW AT STEEL POST



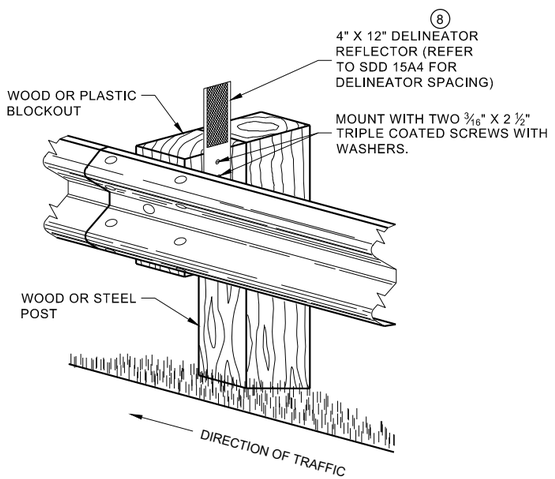
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



FRONT VIEW
QUARTER POST SPACING (QS)



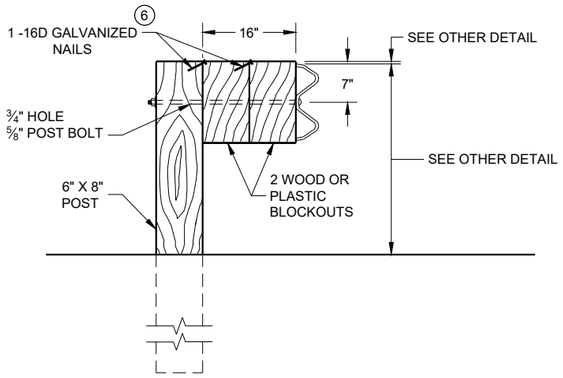
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b

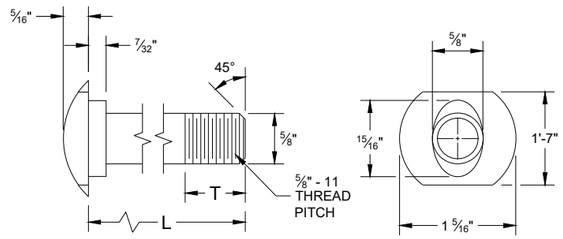


DETAIL FOR 16" BLOCKOUT DEPTH

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

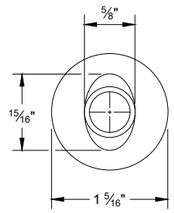
NOTE:

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

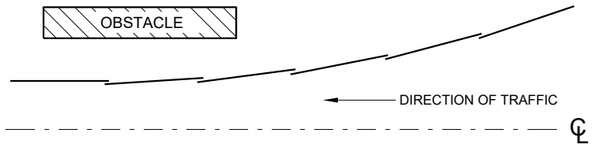


POST BOLT TABLE

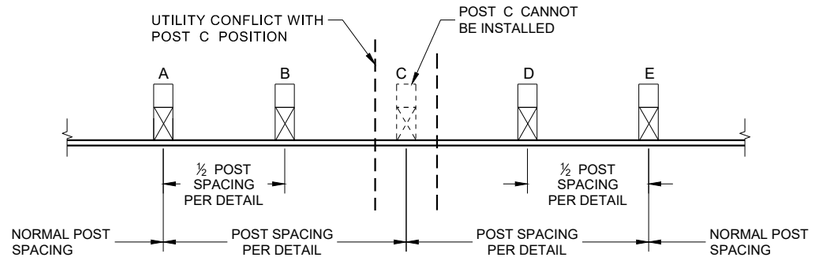
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



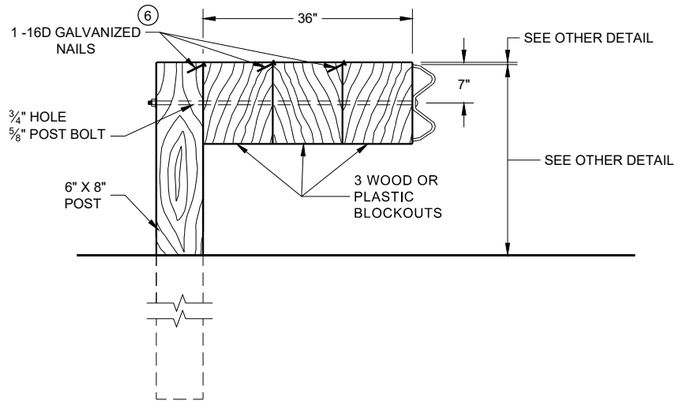
ALTERNATE BOLT HEAD



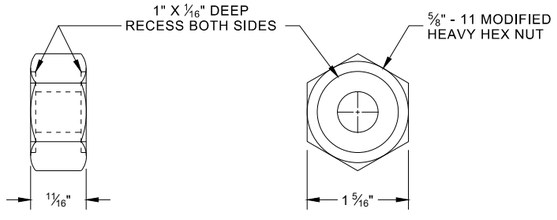
PLAN VIEW
BEAM LAPPING DETAIL



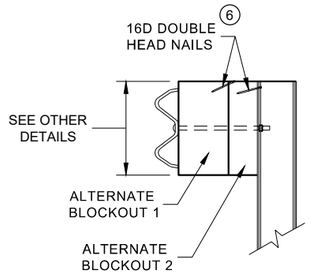
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



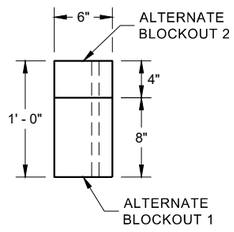
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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

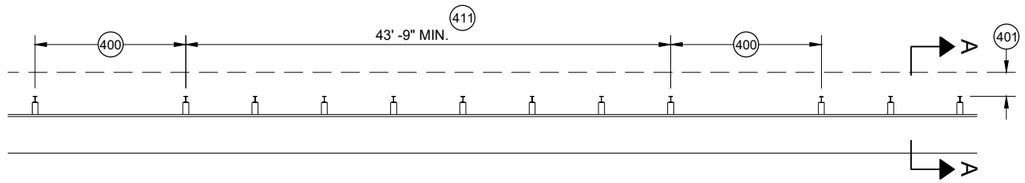
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

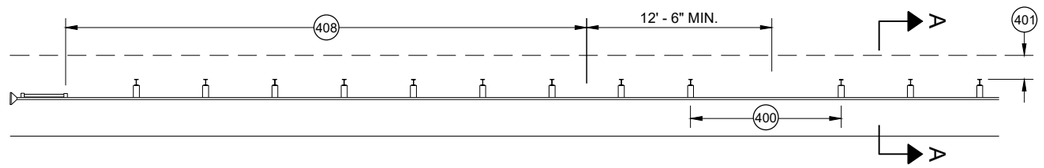
6

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

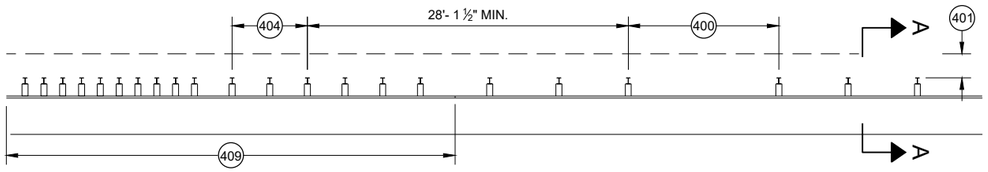
SDD 14B42 - 07c



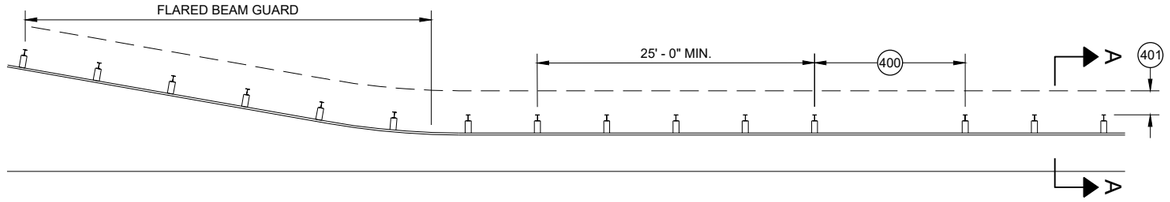
MISSING POST IN MGS GUARDRAIL



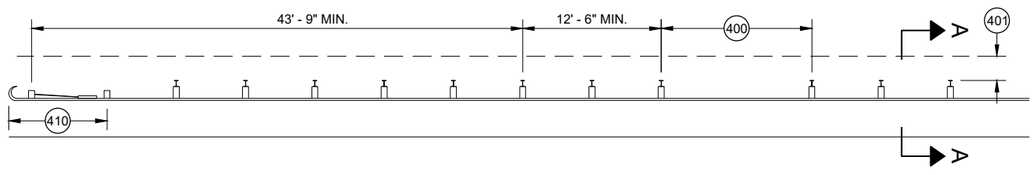
MISSING POST IN MGS GUARDRAIL NEAR EAT



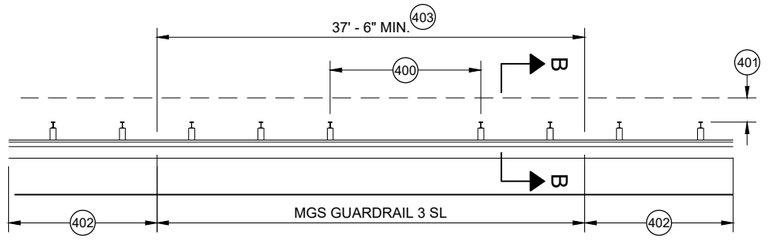
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

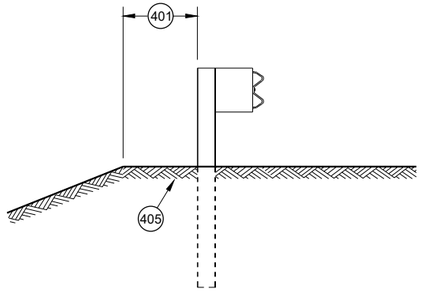


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

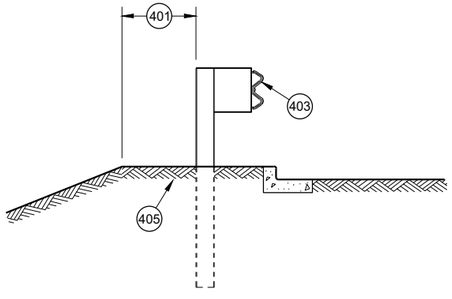


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

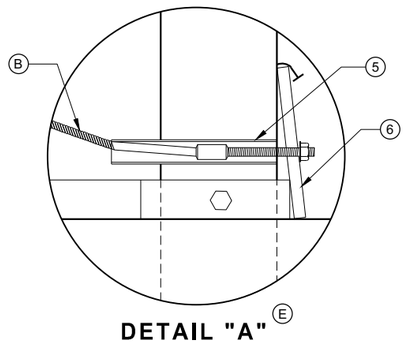
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

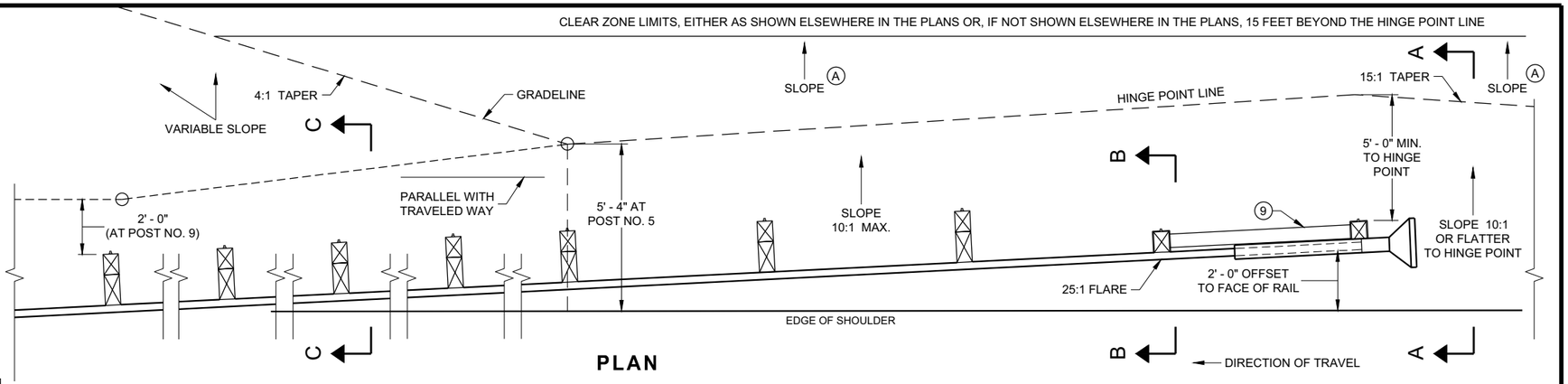
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

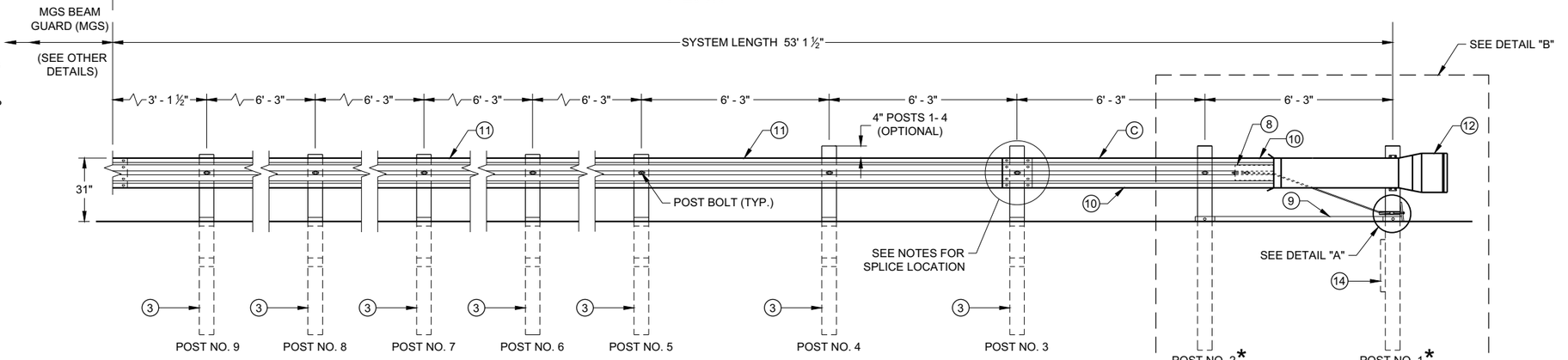
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



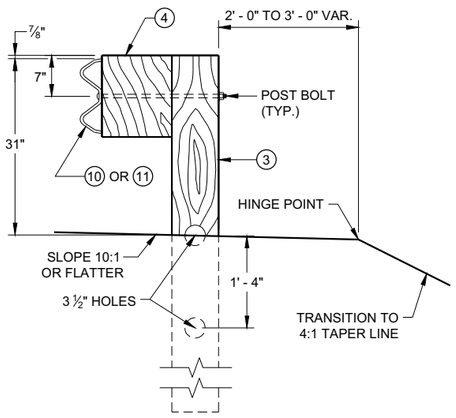
DETAIL "A" (E)



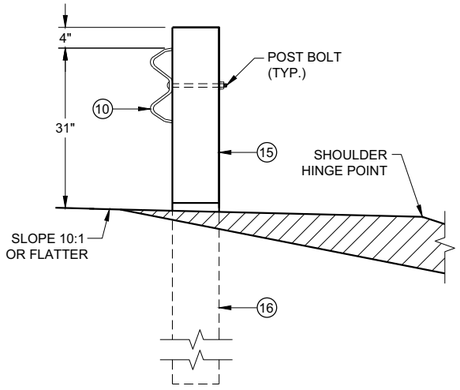
PLAN



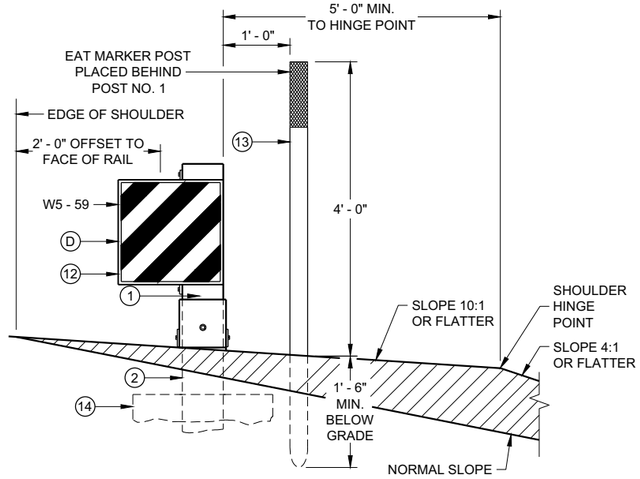
ELEVATION



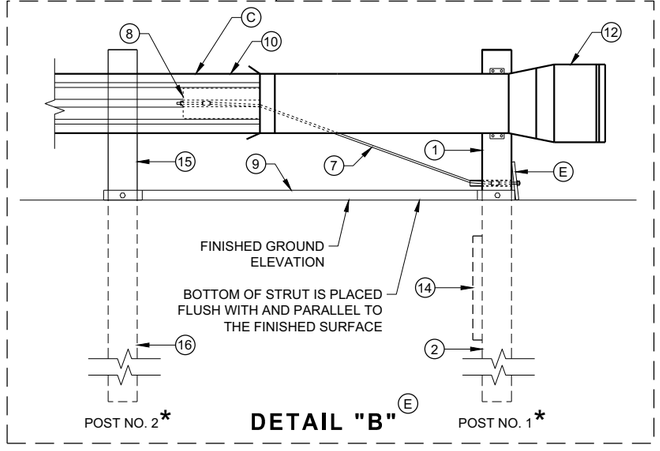
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



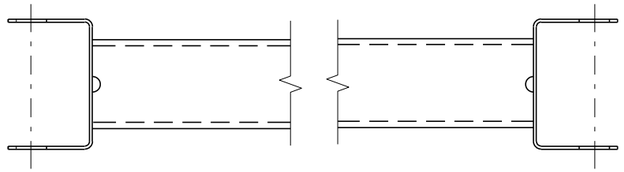
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

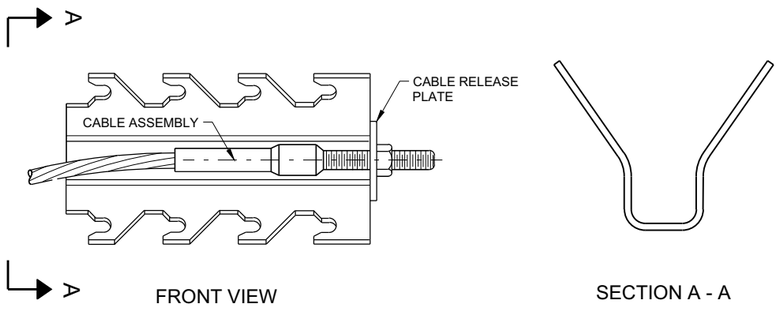
SDD 14B44 - 04a



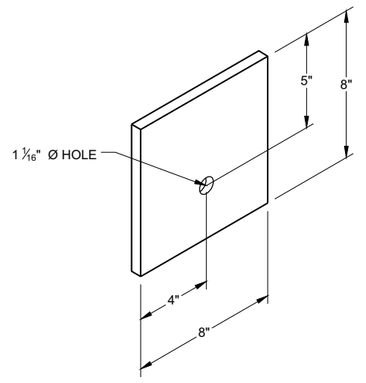
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

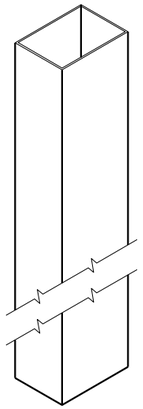
6

SDD 14B44 - 04b

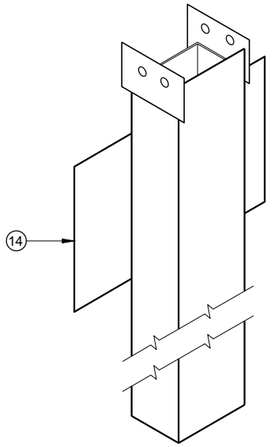
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

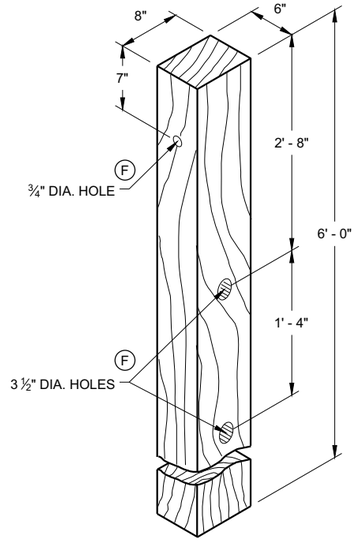
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



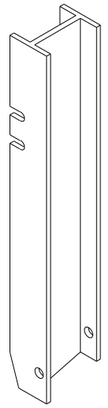
UPPER POST NO. 1 (1) (E)



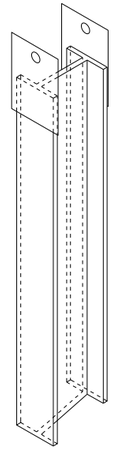
LOWER POST NO. 1 (2) (E)



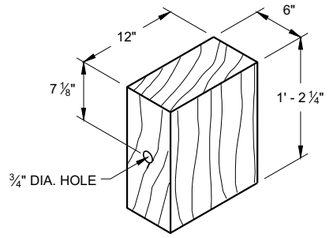
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



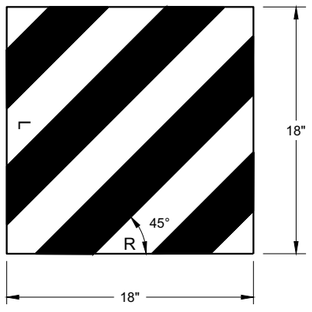
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

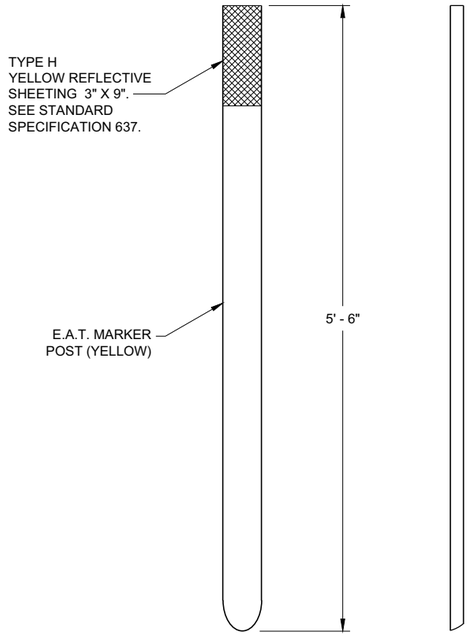


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



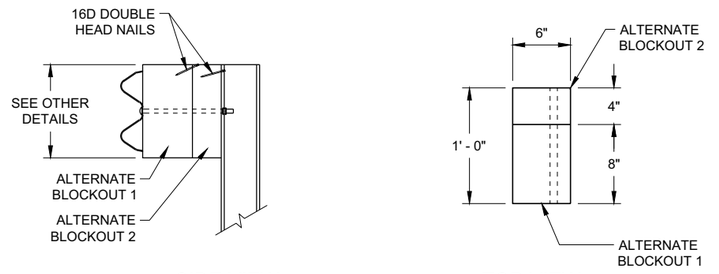
W5 - 59

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)

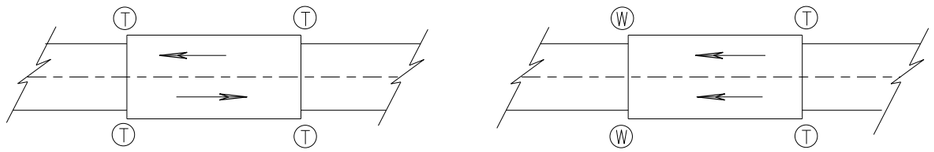
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

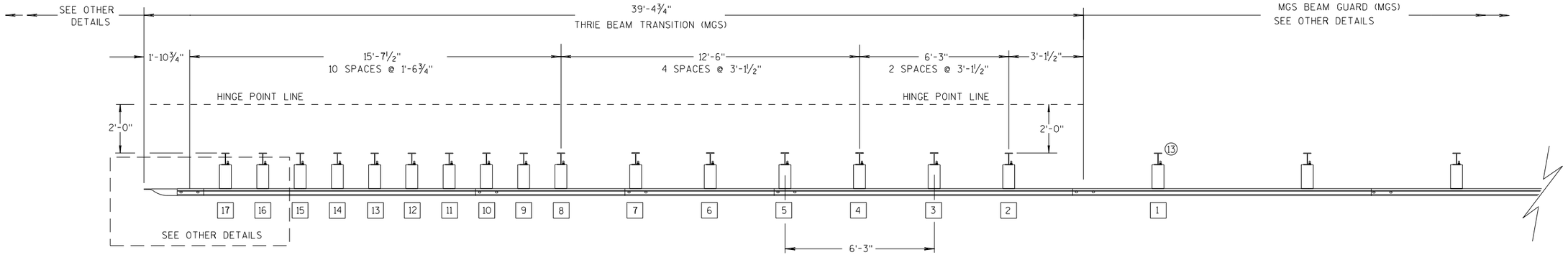
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

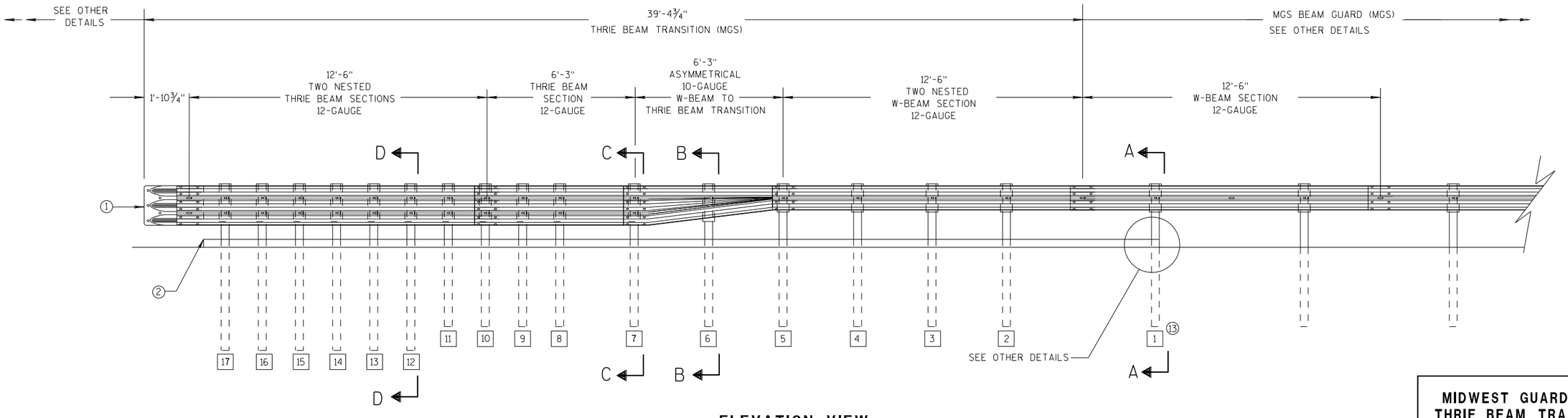
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

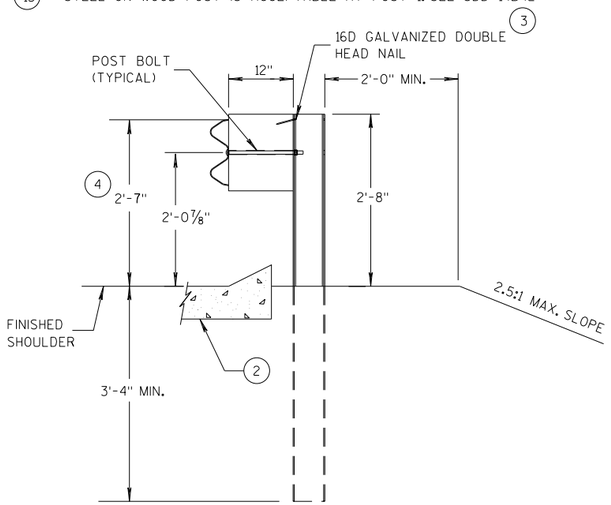
GENERAL NOTES

(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.

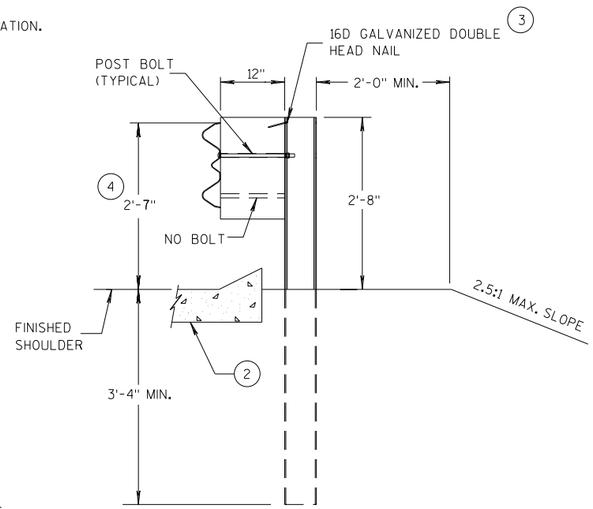
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



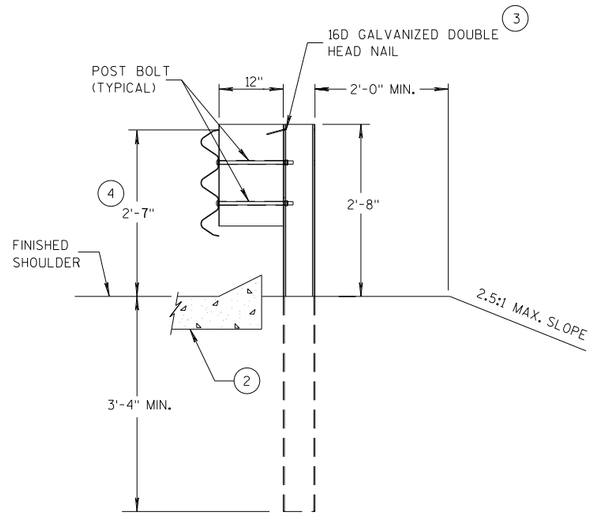
SECTION A-A (13)

POSTS 1-5



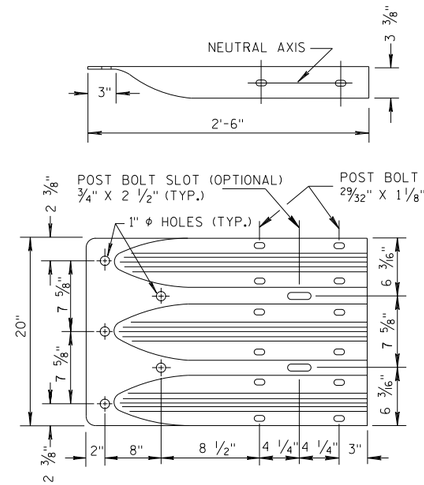
SECTION B-B

POST 6

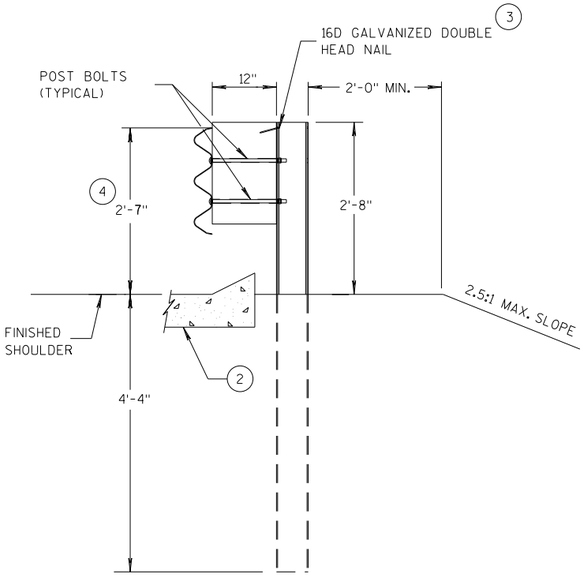


SECTION C-C

POSTS 7-11

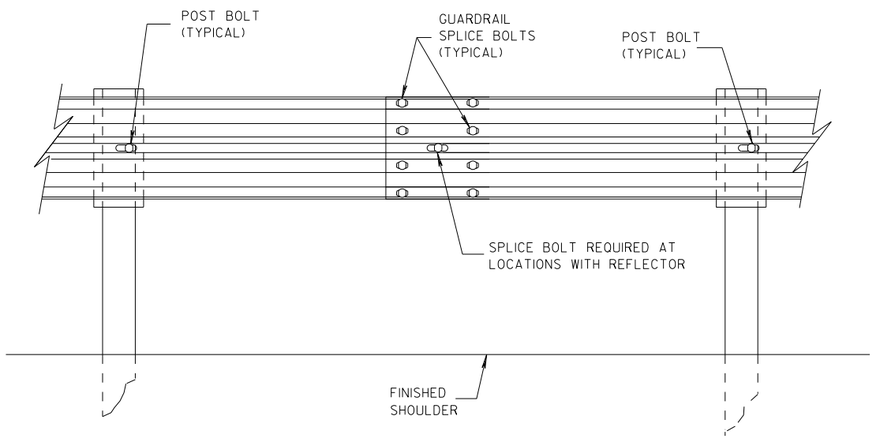


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

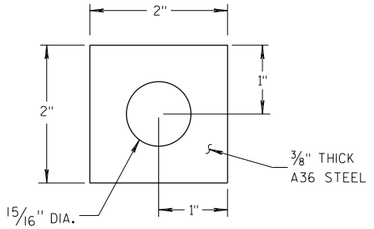
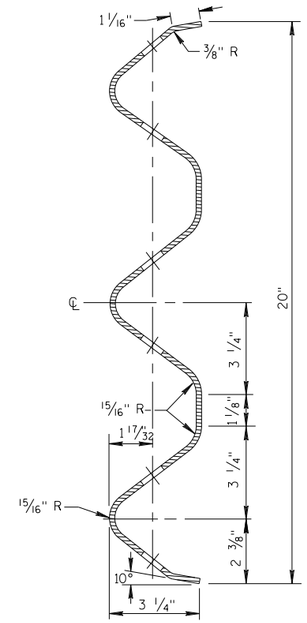


PLATE WASHER DETAIL

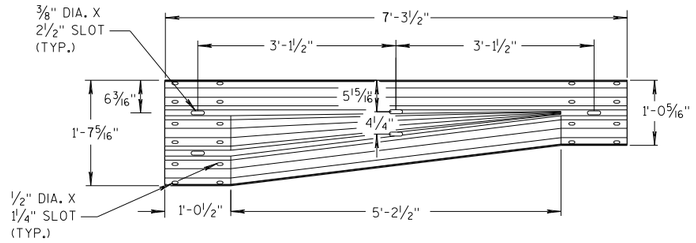


SECTION THRU THRIE BEAM RAIL ELEMENT

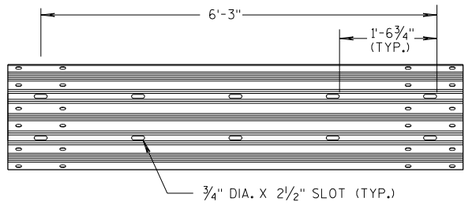
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

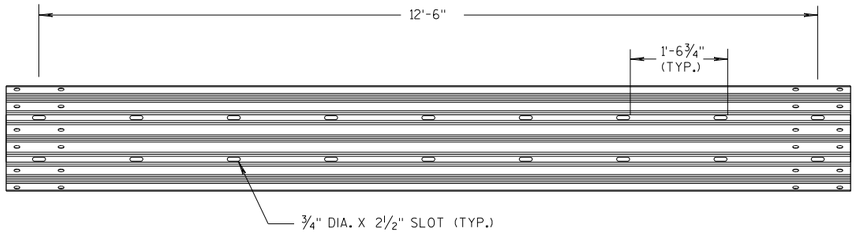
6
S.D.D. 14 B 45-5b



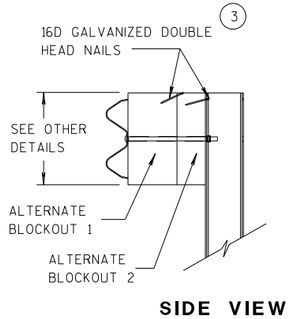
W-BEAM TO THRIE BEAM TRANSITION SECTION



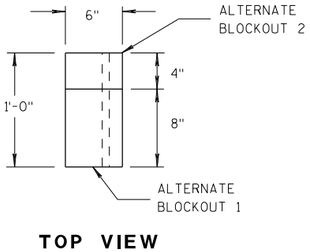
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

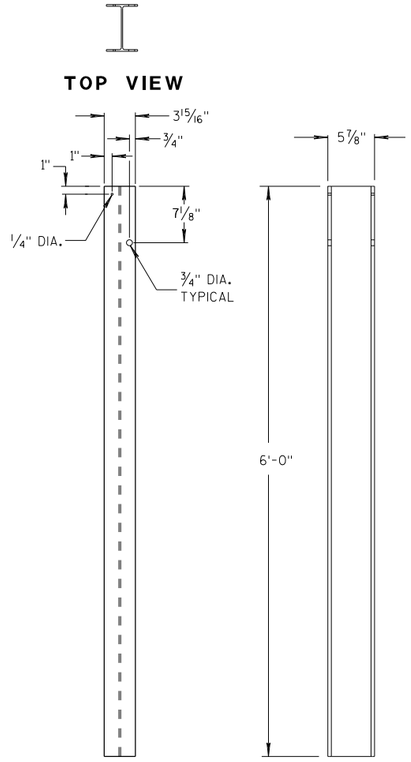


SIDE VIEW



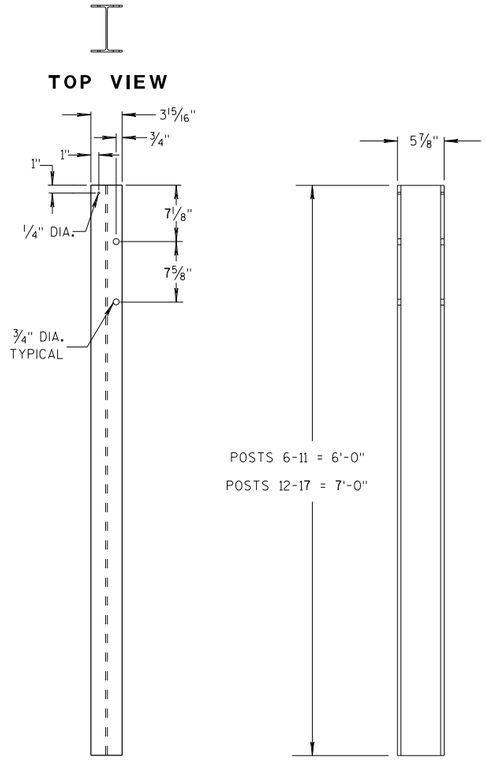
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



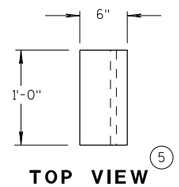
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

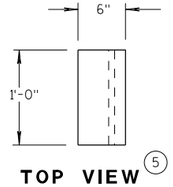


FRONT VIEW SIDE VIEW

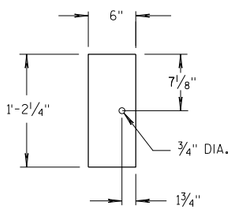
STEEL POSTS 6-17



TOP VIEW (5)

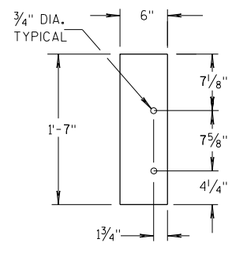


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

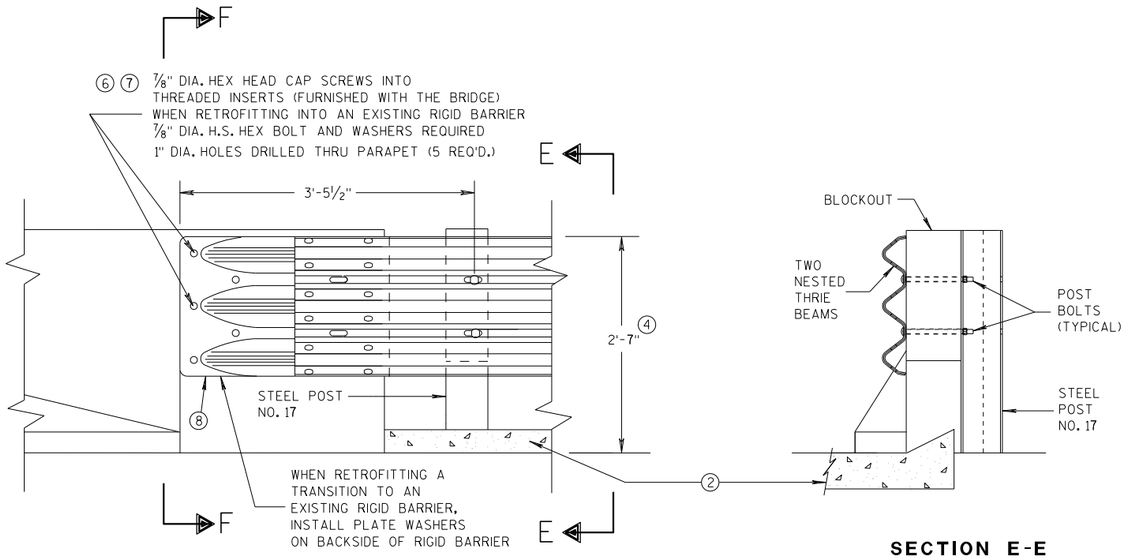
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

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.

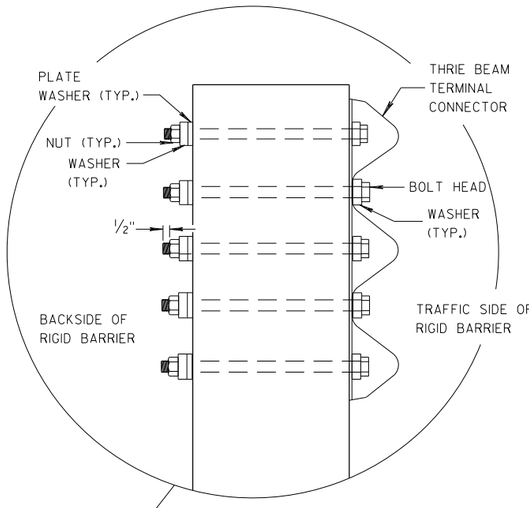
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

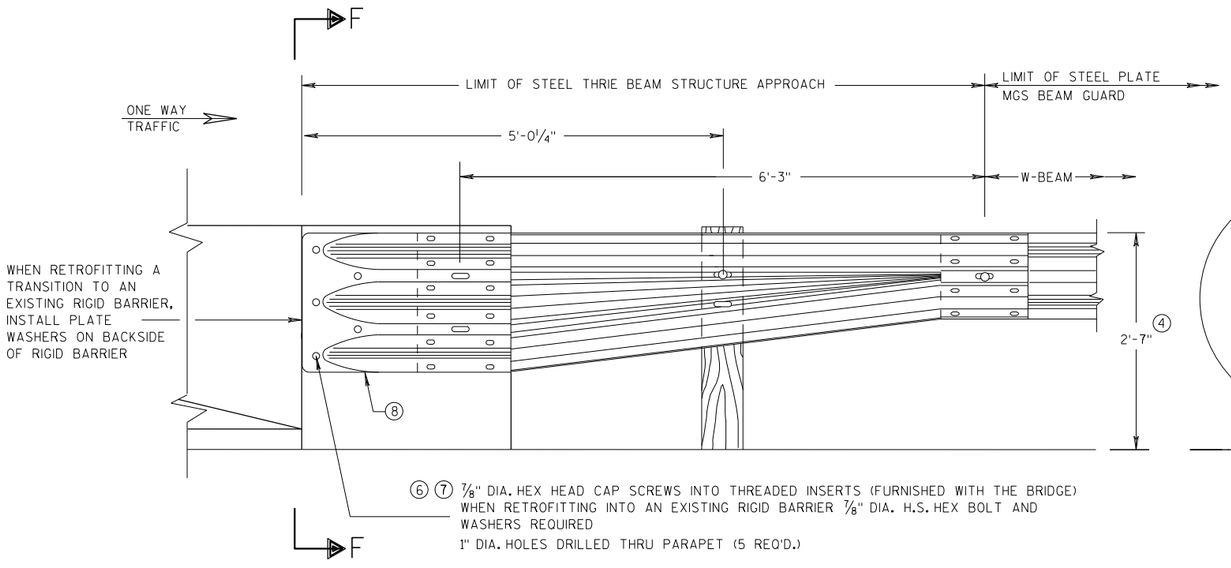
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

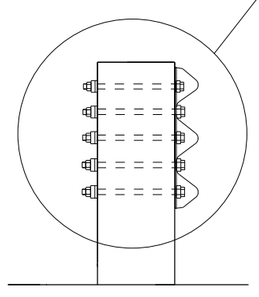
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

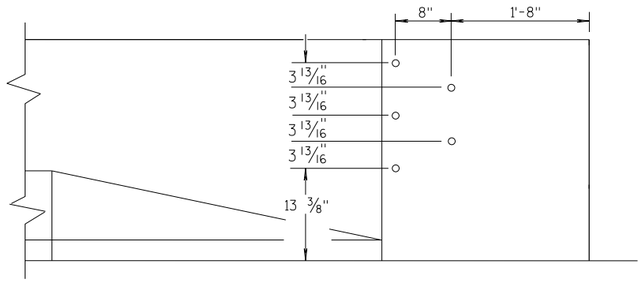




FRONT VIEW



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 SUPERVIS NT
FHWA

6

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

6

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

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.

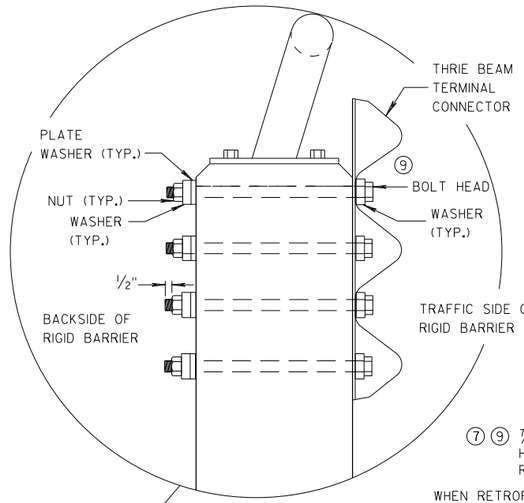
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

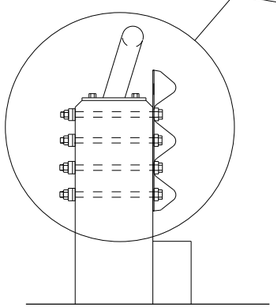
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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.

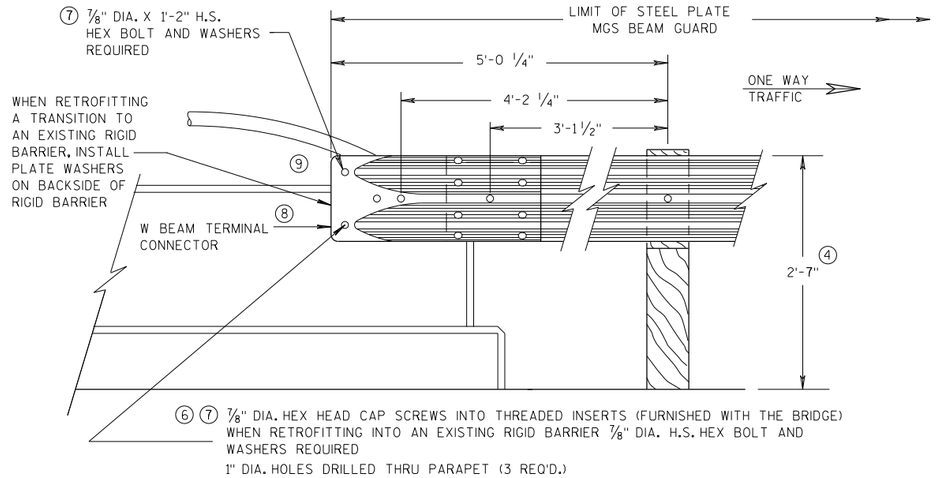
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





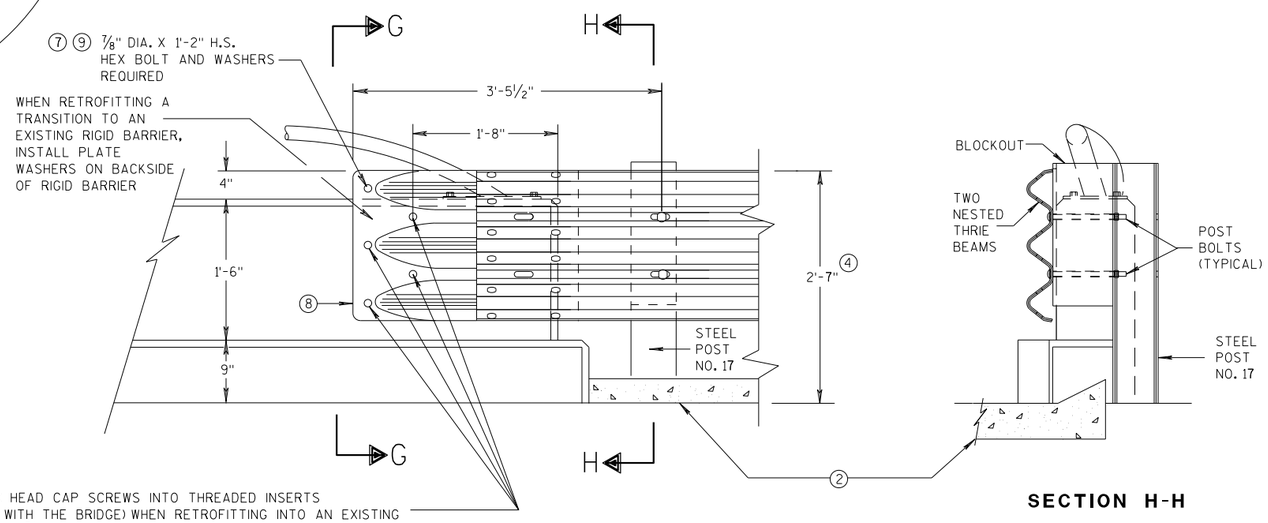
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

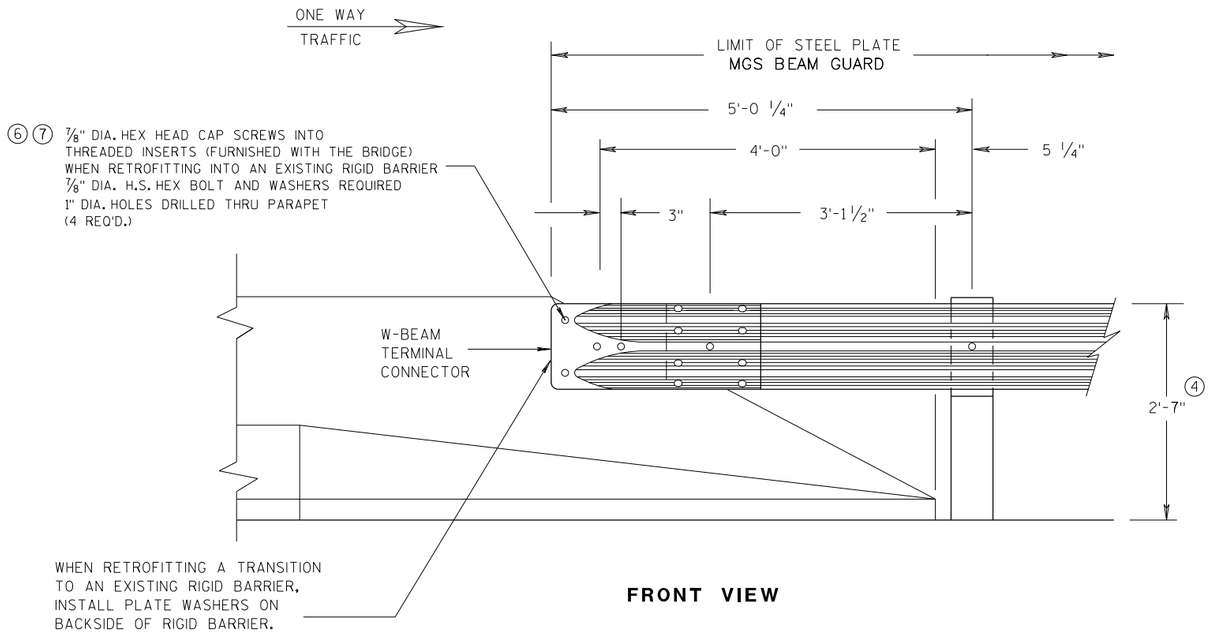
APPROVED
07/2018 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVIS NT
FHWA

6

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

6

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



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

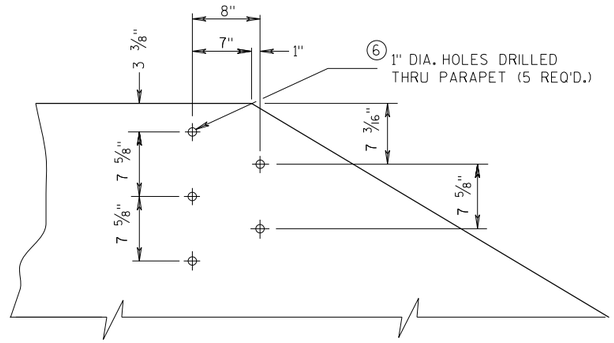
GENERAL NOTES

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

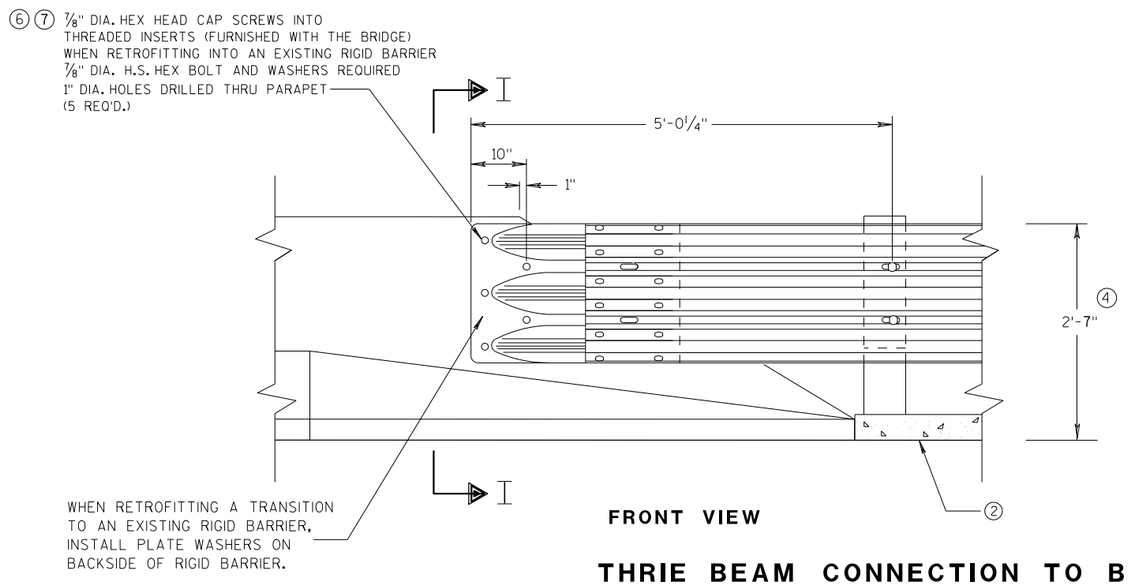
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

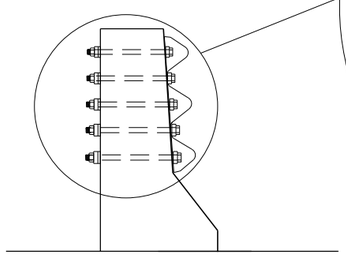
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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



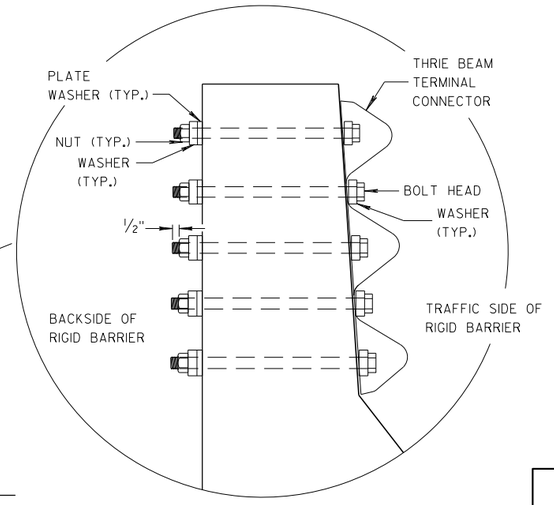
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

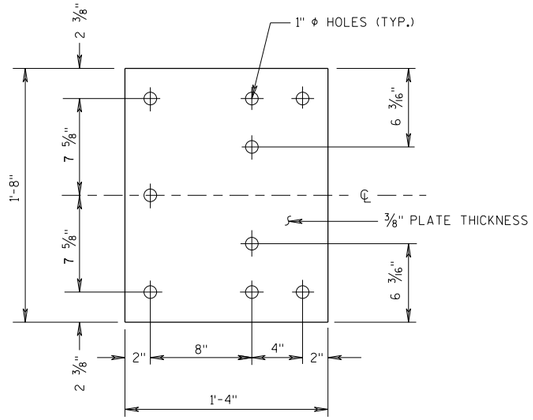
APPROVED
07/2018 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS [illegible] UNIT SUPERVI[illegible]ENT
FHWA

6

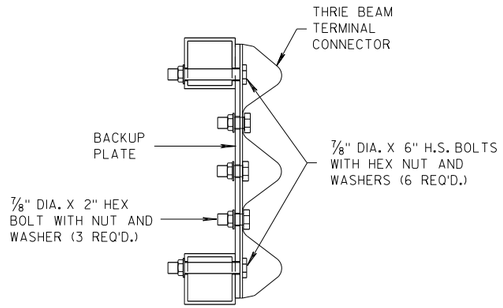
S.D.D. 14 B 45-5f

6

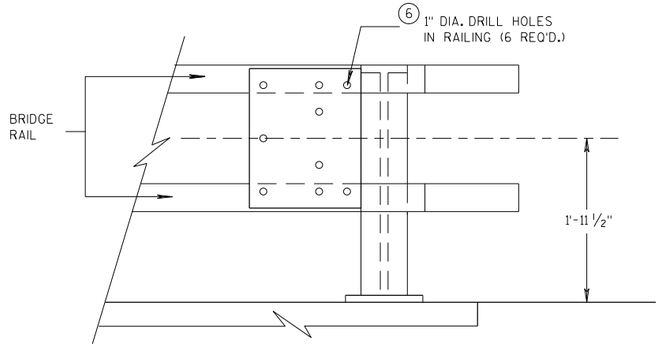
S.D.D. 14 B 45-5f



BACK-UP PLATE DETAIL



SECTION J-J

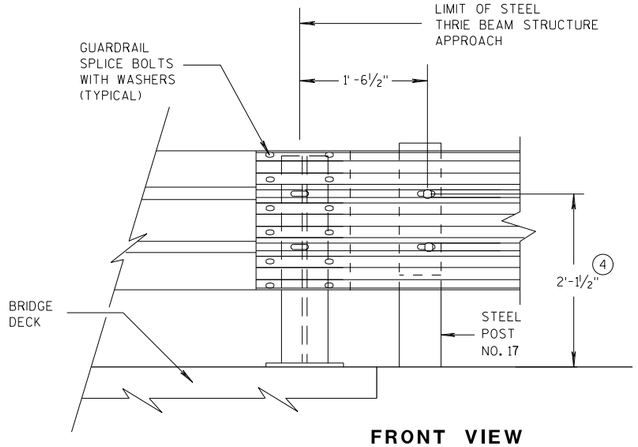


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

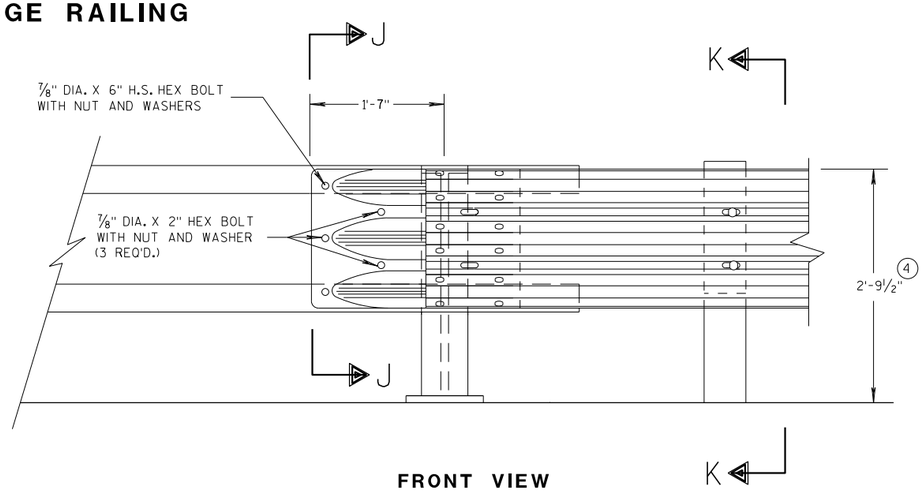
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

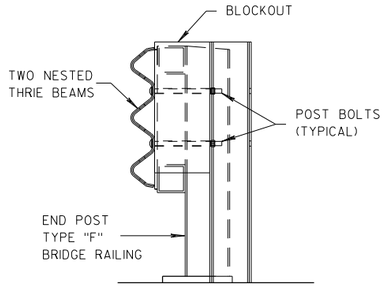


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE
FHWA

/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

6

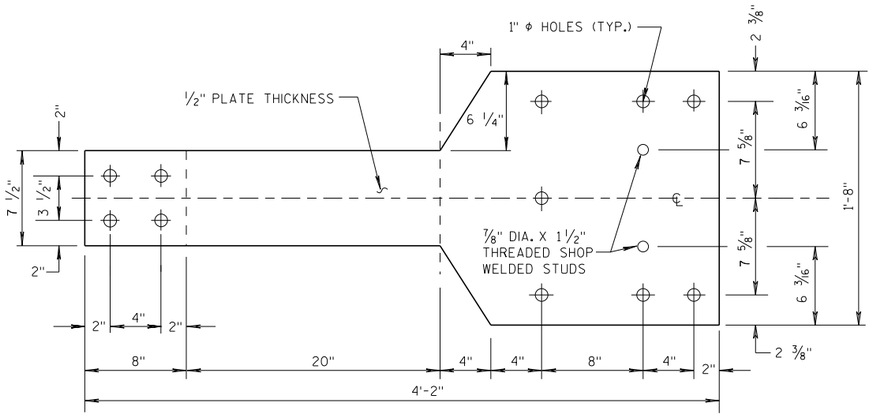
S.D.D. 14 B 45-5g

6

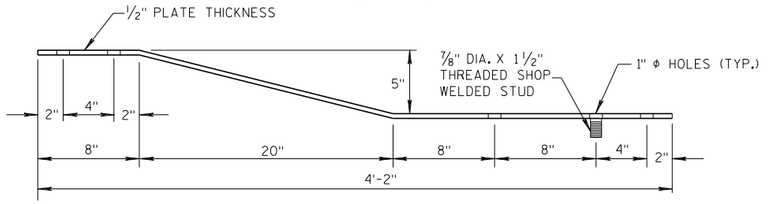
S.D.D. 14 B 45-5g

GENERAL NOTES

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

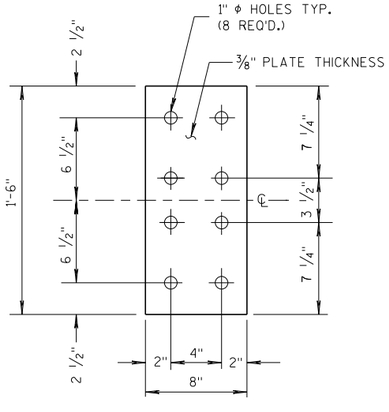


FRONT VIEW



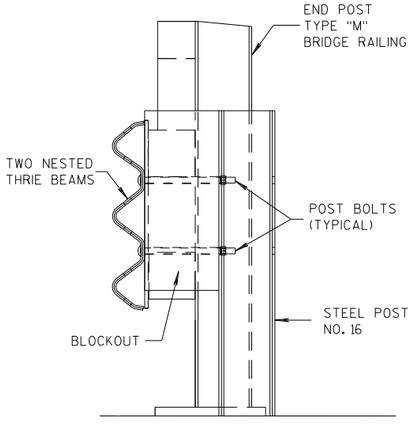
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

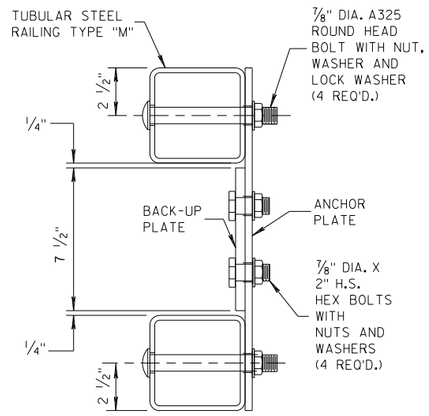


FRONT VIEW

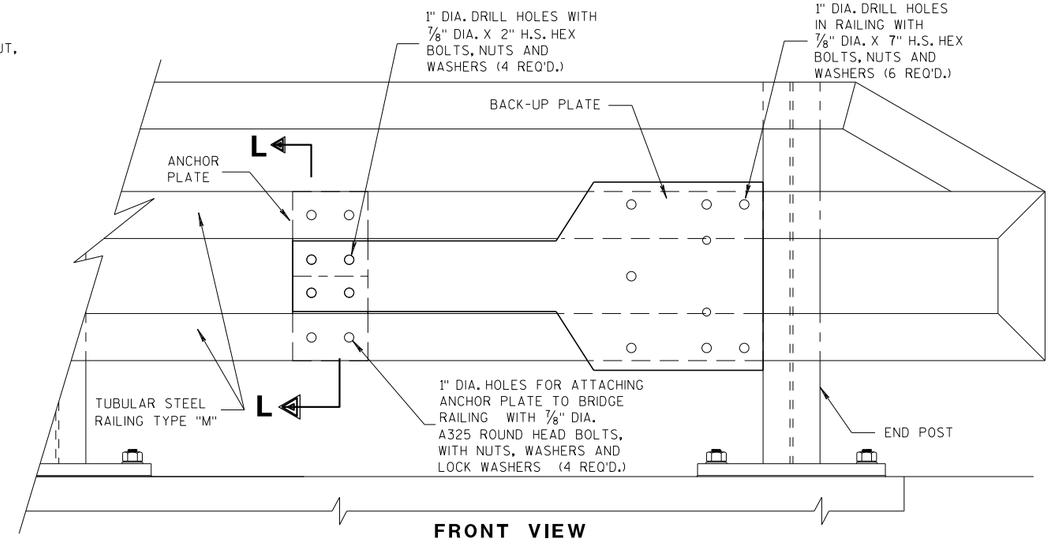
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

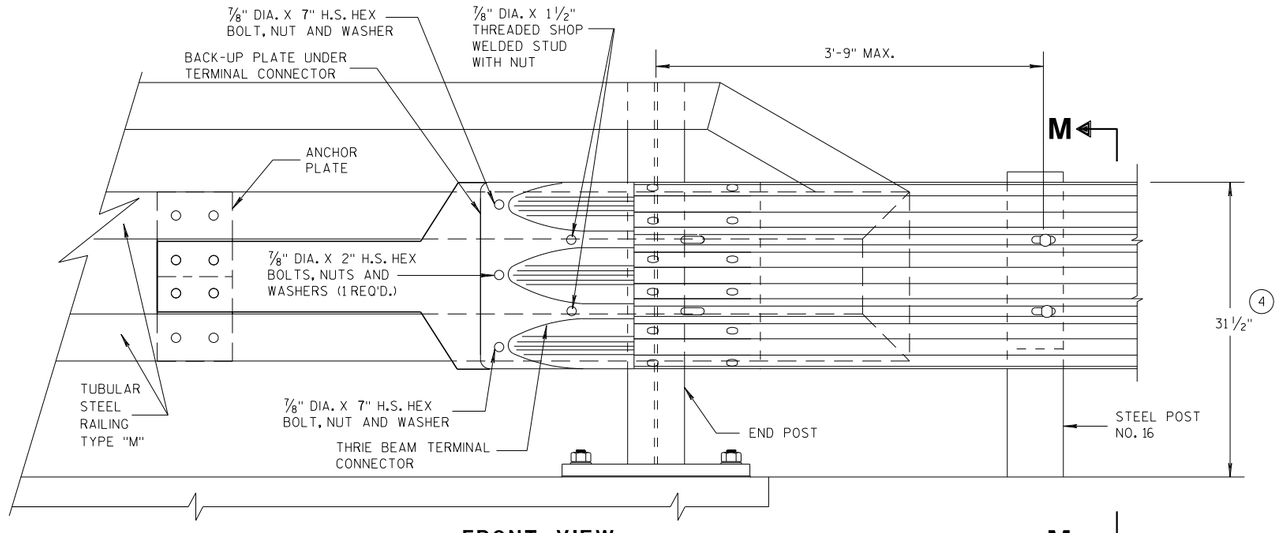


SECTION L-L

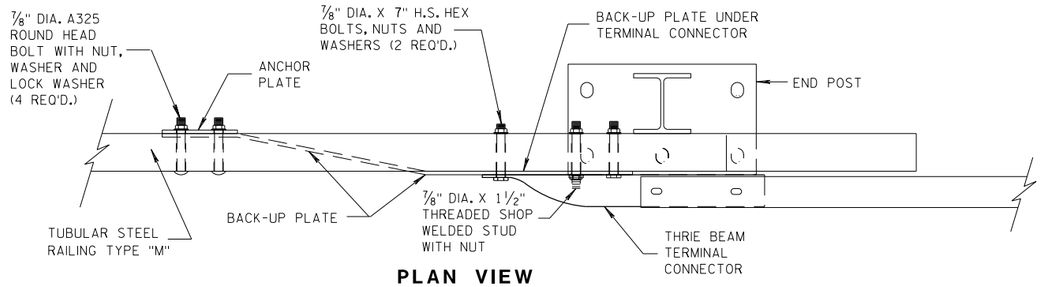


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

6

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

6

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

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

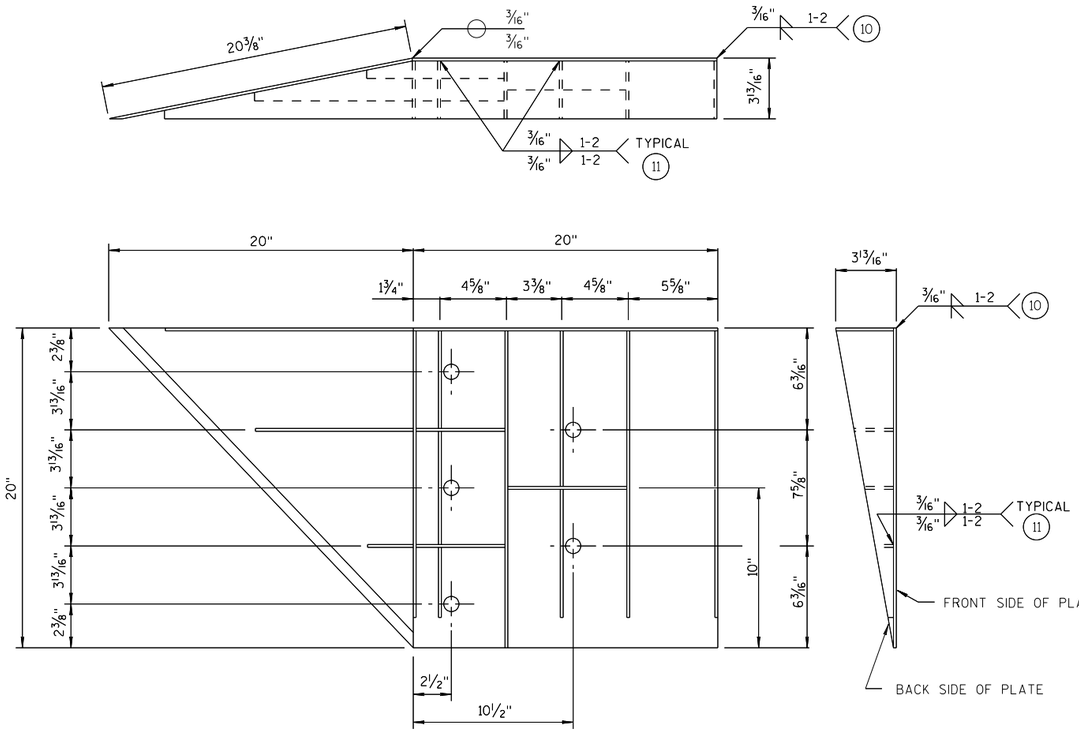
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

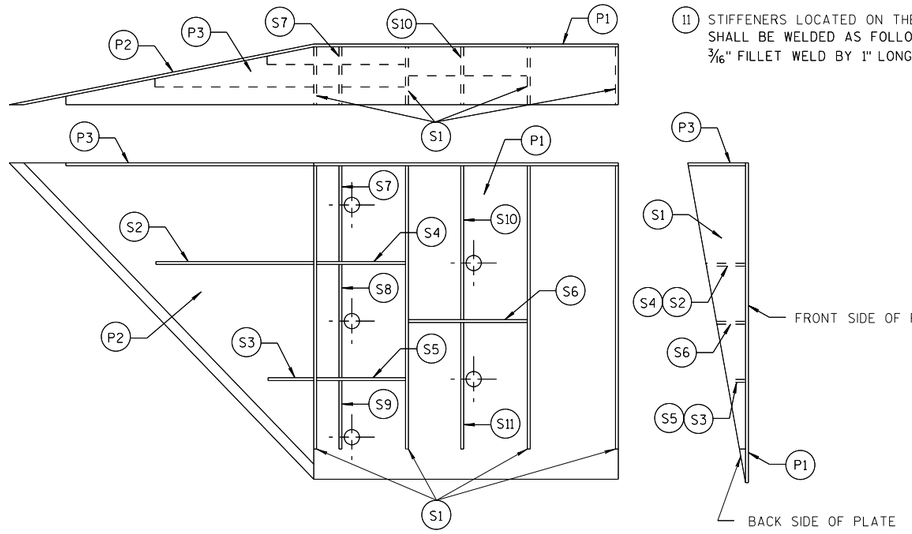


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

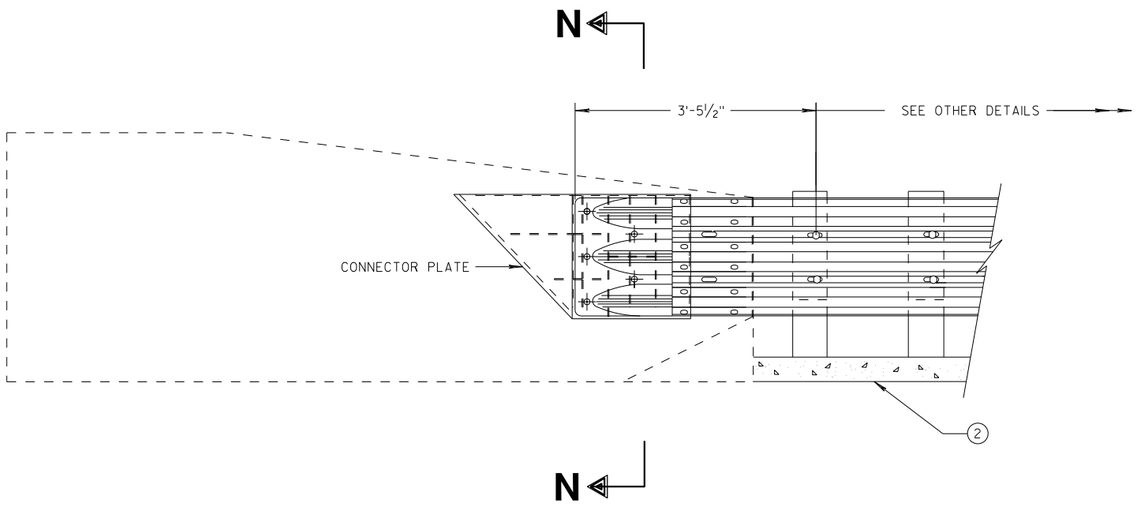
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

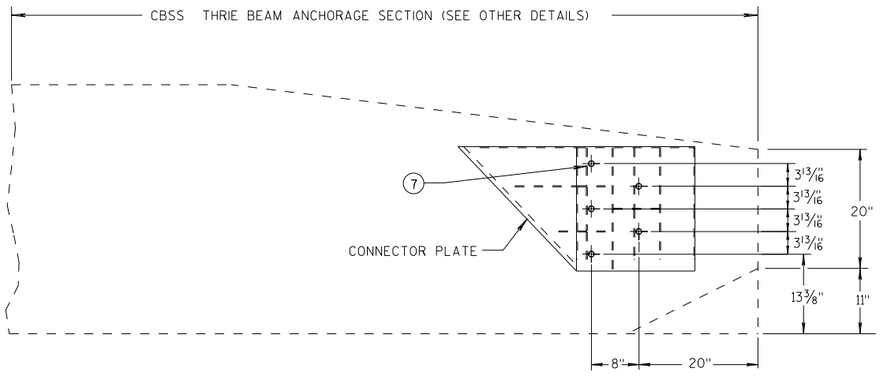
/S/ Rodney Taylor
ROADWAY STANDARDS I
UNIT SUPERVI

6

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



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



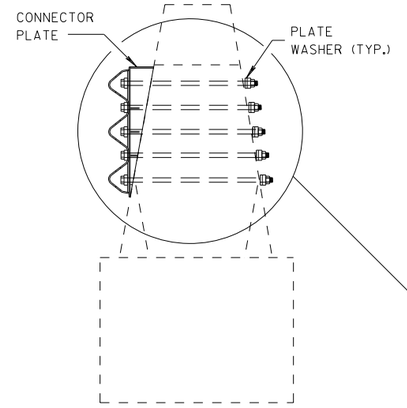
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

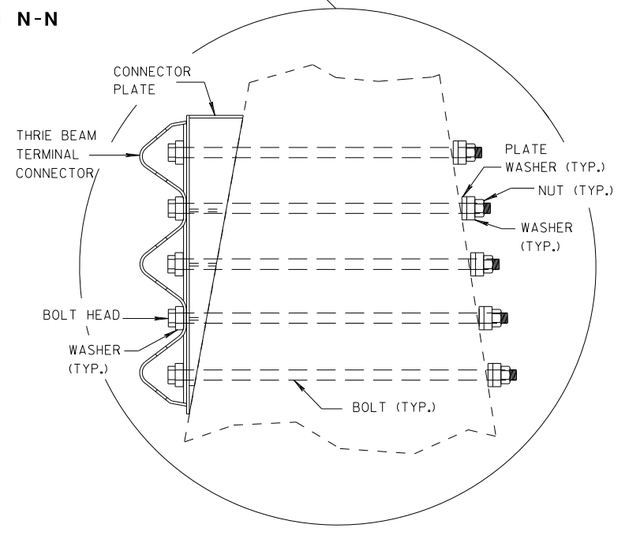
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

(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.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

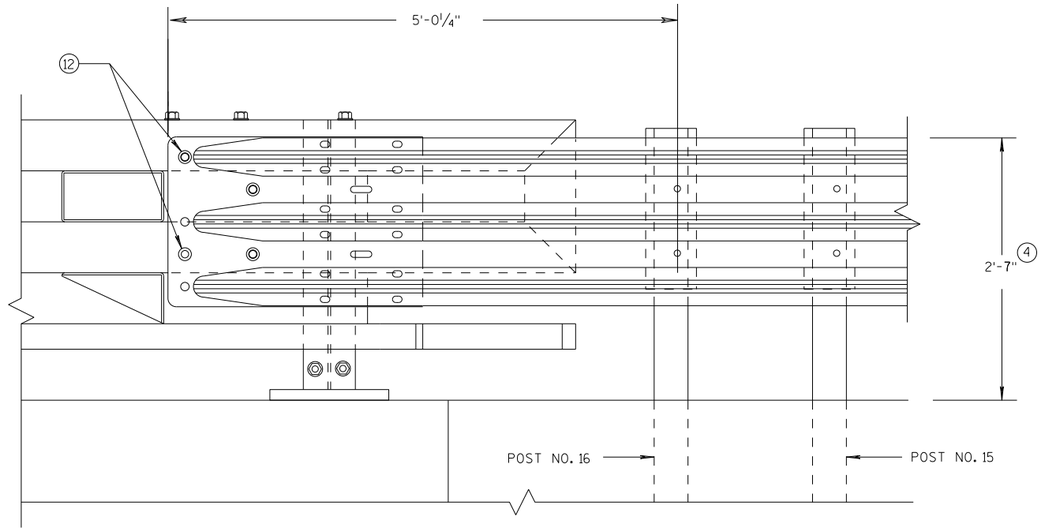
/S/ Rodney Taylor
ROADWAY STANDARDS DI
UNIT SUPERVIS

6

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

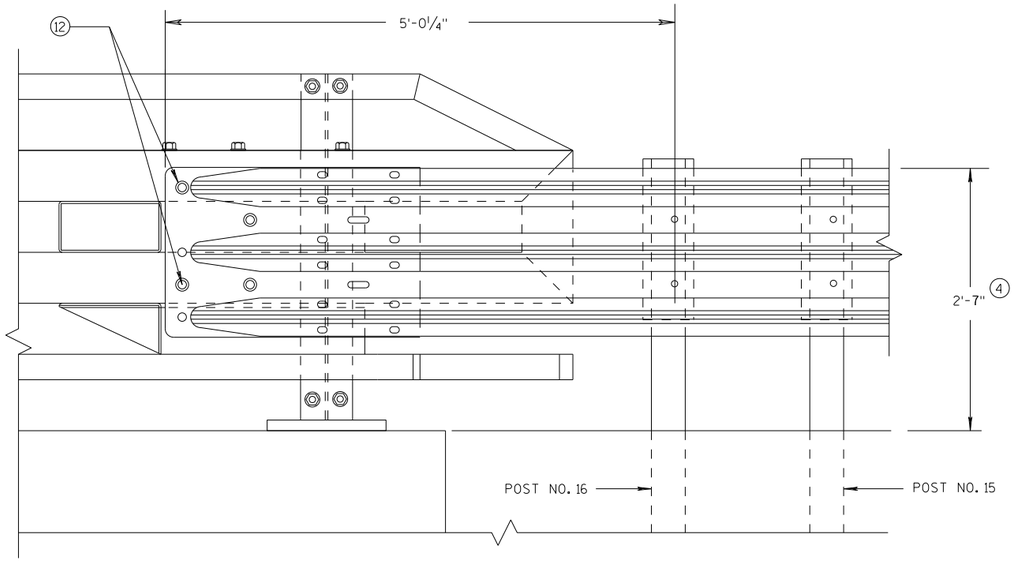
6

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



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

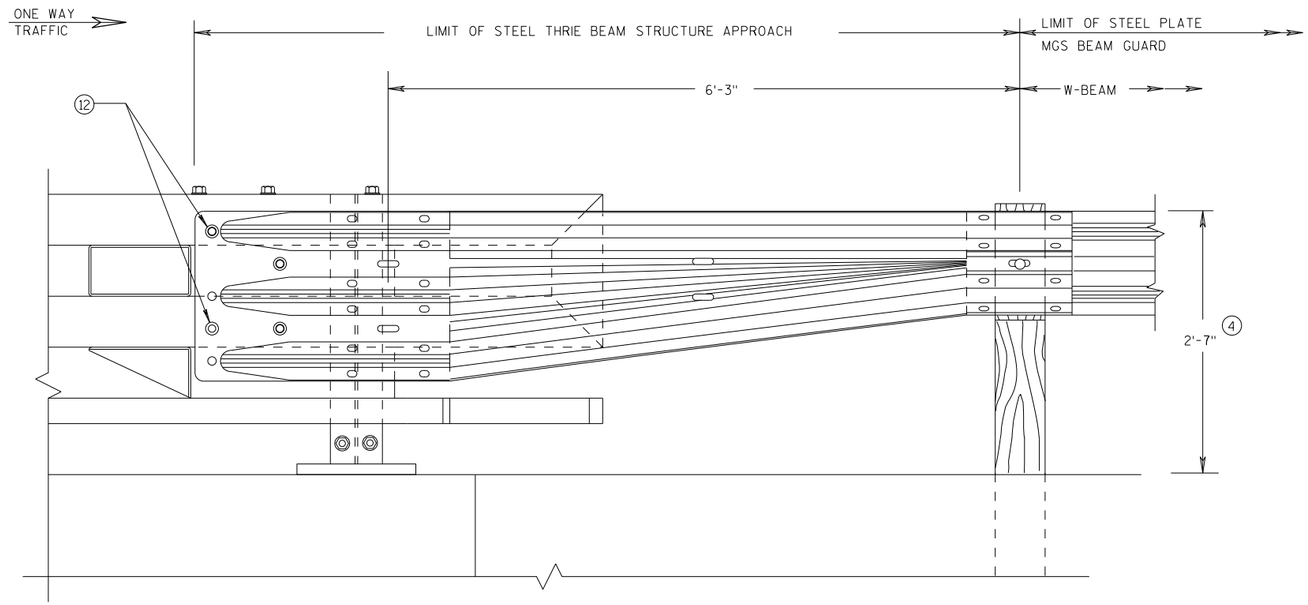
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS
NT
FHWA

6

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

6

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



FRONT VIEW

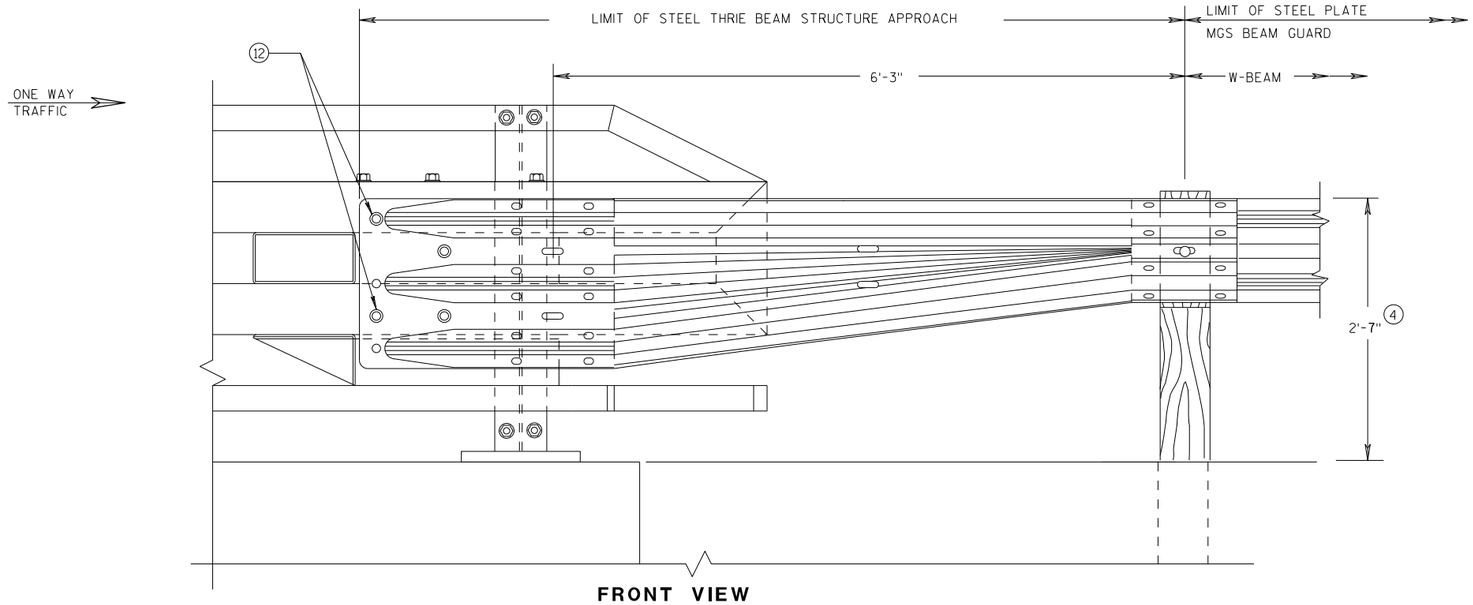
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(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
7/2018 DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS

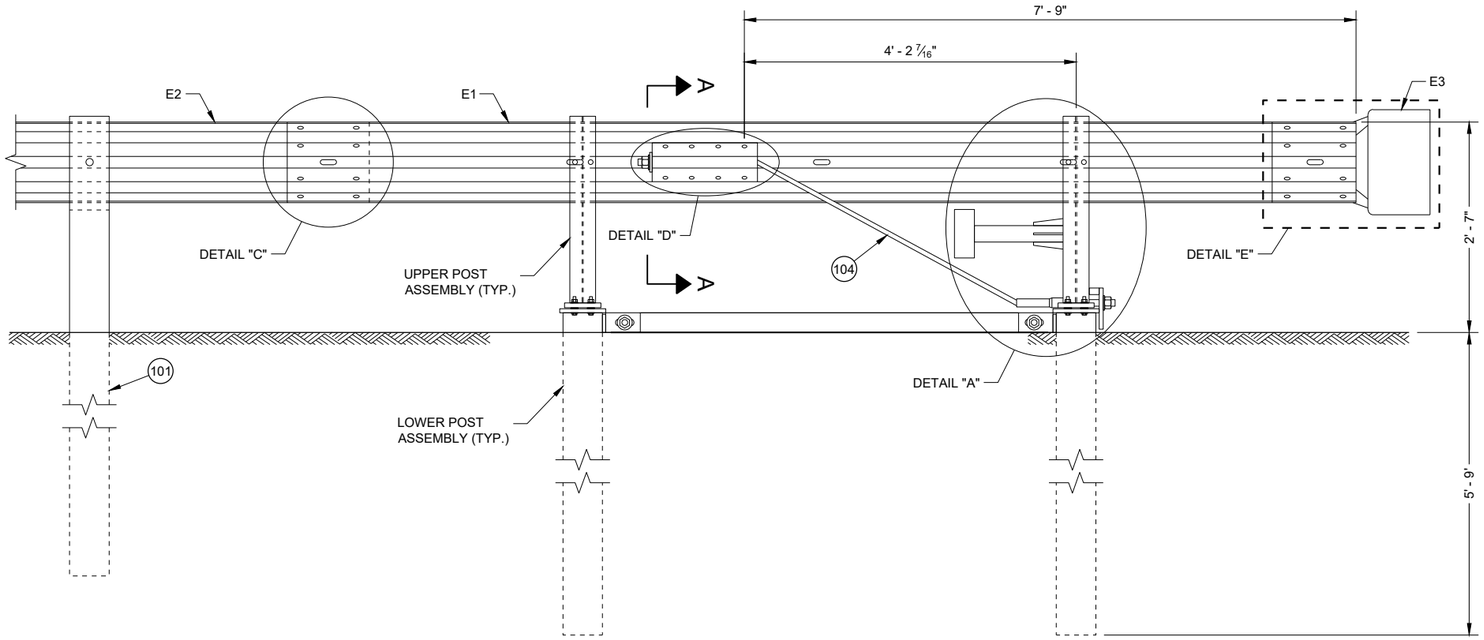
NT

6

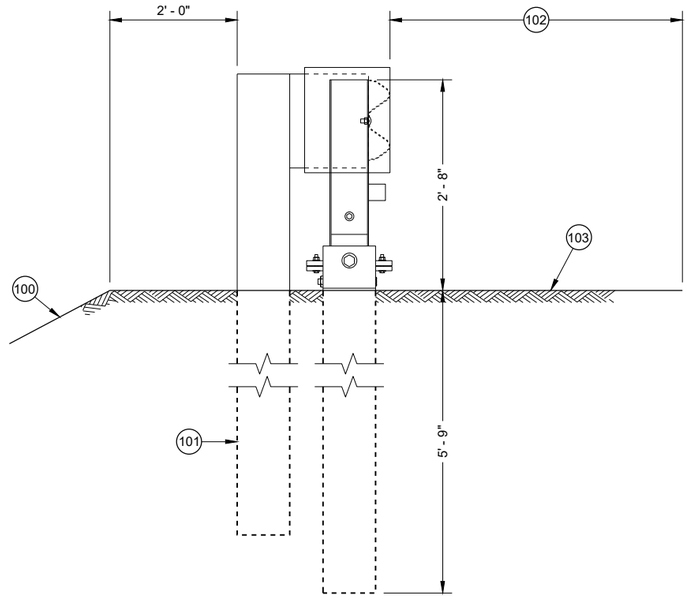
S.D.D. 14 B 45-5L

6

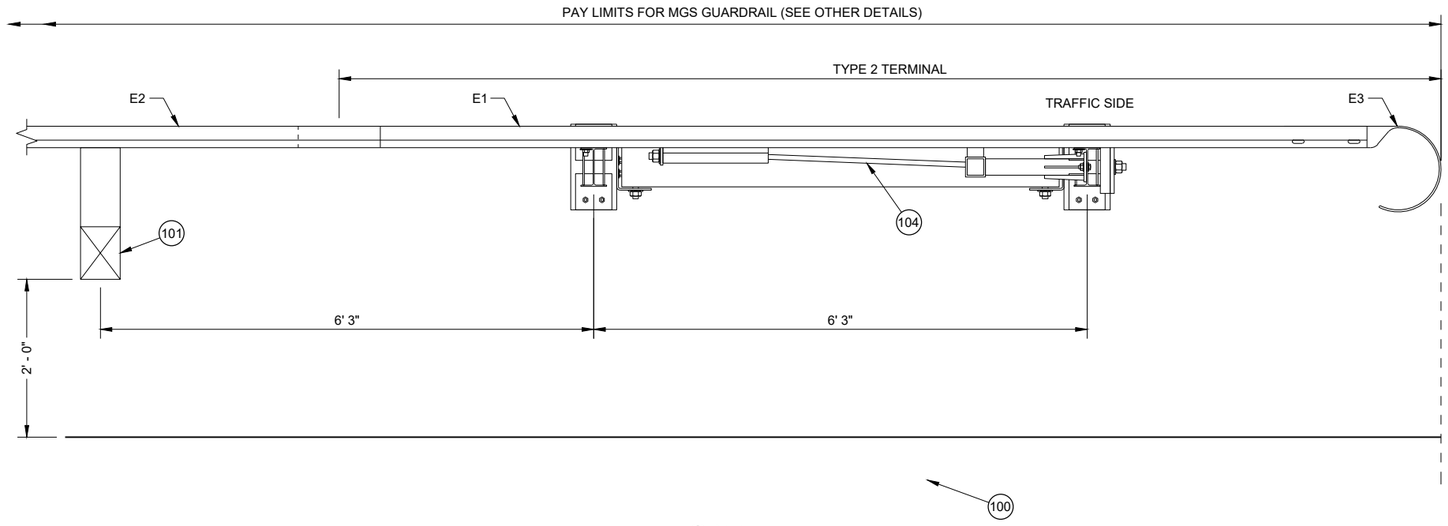
S.D.D. 14 B 45-5L



BACK VIEW
TYPE 2 TERMINAL



SIDE VIEW
TYPE 2 TERMINAL



TOP VIEW
TYPE 2 TERMINAL

GENERAL NOTES

(100) MAXIMUM SLOPE IS 2.5:1.

(101) SEE SDD 14B42 FOR MORE INFORMATION.

(102) SHOULDER

(103) MAXIMUM SLOPE IS 10:1.

(104) AFTER ASSEMBLY, CABLE IS TO BE TIGHTENED WITHOUT TWISTING THE CABLE.

MIDWEST GUARDRAIL SYSTEM (MGS)
TYPE 2 TERMINAL

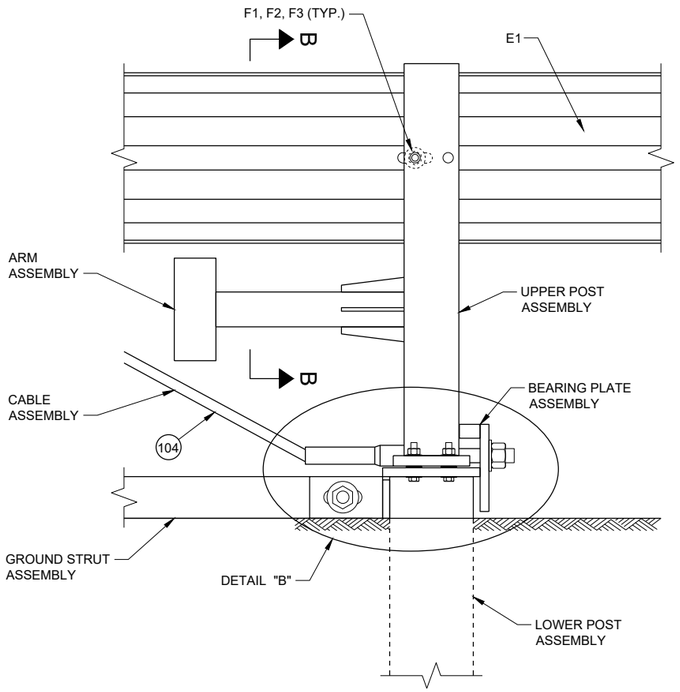
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

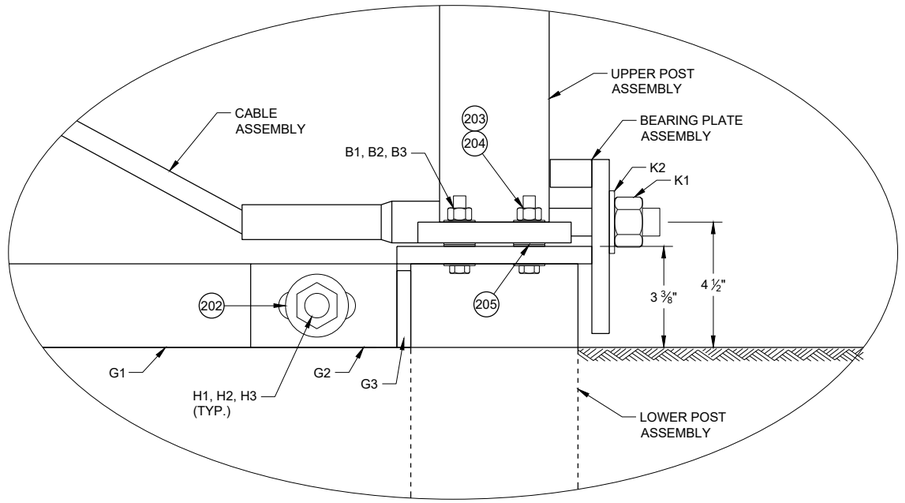
6

SDD 14B47 - 03a

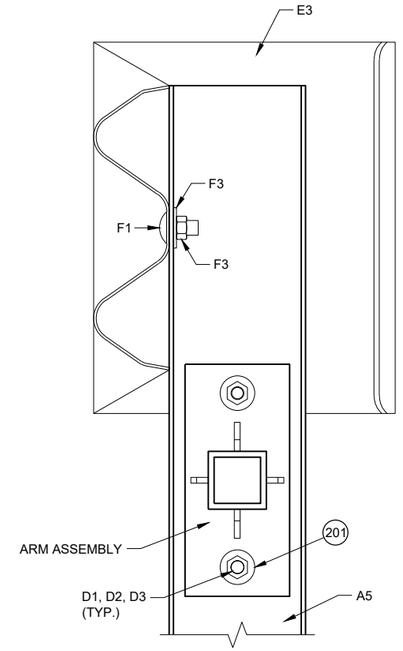
SDD 14B47 - 03a



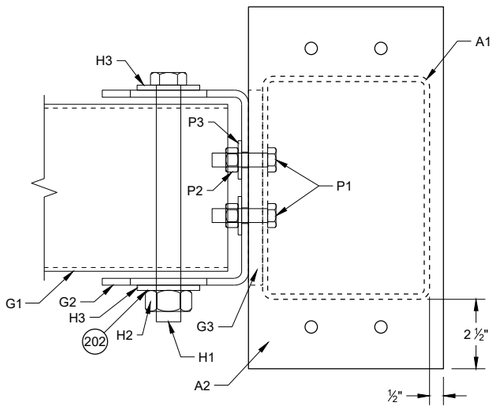
DETAIL "A"



DETAIL "B"

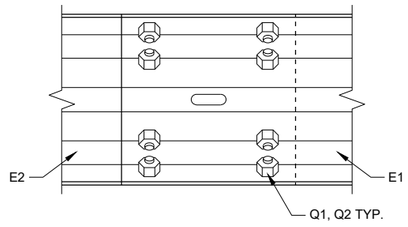


SECTION B - B

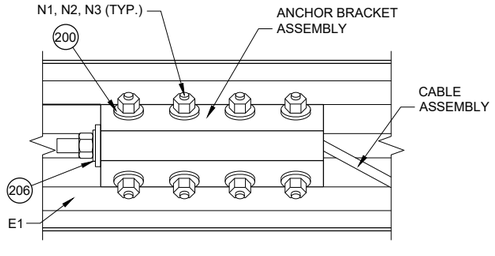


TOP VIEW

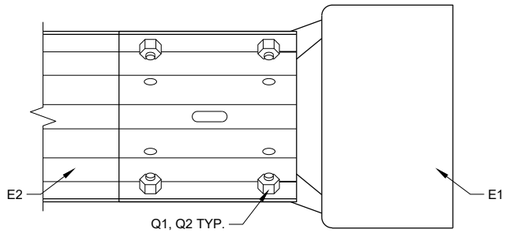
GROUND STRUT CONNECTION DETAIL



DETAIL "C"



DETAIL "D"



DETAIL "E"

GENERAL NOTES

(200) INSTALL ONE WASHER UNDER BOLT HEAD AND RAIL AND ON WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

(201) INSTALL ONE WASHER UNDER BOLT HEAD AND UPPER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND ARM PLATE.

(202) INSTALL ONE WASHER UNDER BOLT HEAD AND GROUND STRUT CONNECTOR AND ONE WASHER BETWEEN NUT AND GROUND STRUT CONNECTOR.

(203) INSTALL ONE WASHER UNDER BOLT HEAD AND LOWER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND UPPER POST ASSEMBLY.

(204) TORQUE VALUE IS BETWEEN 60 - 75 FT-LB.

(205) TWO WASHERS BETWEEN UPPER AND LOWER POST ASSEMBLY.

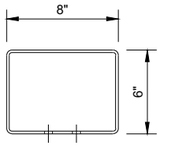
(206) INSTALL ONE WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

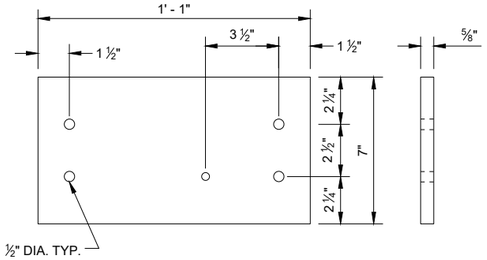
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

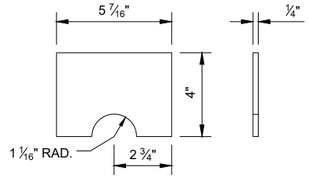
SDD 14B47 - 03b



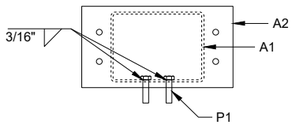
TOP VIEW



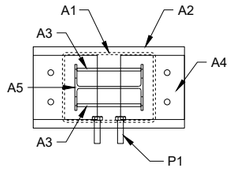
LOWER PLATE (A2)

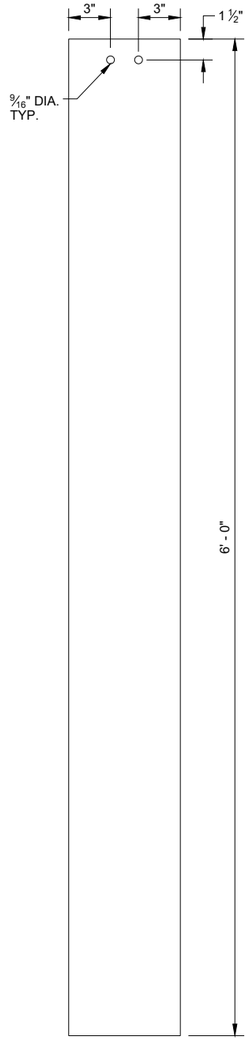


POST GUSSET (A3)



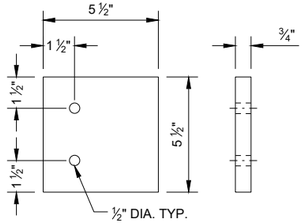
PLAN VIEW



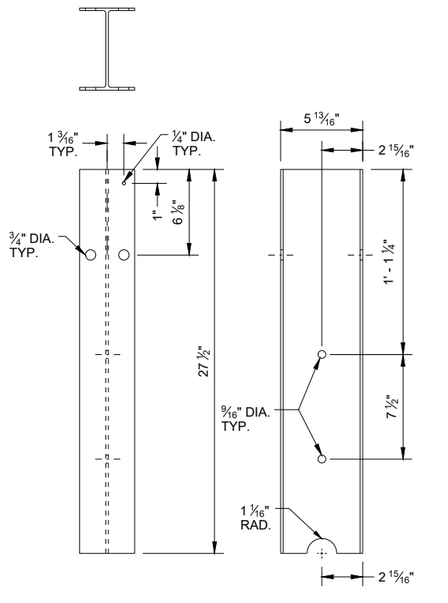


SIDE VIEW

FOUNDATION TUBE (A1)

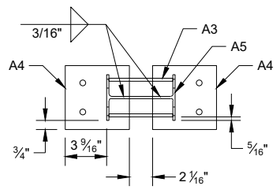


UPPER PLATE (A4)

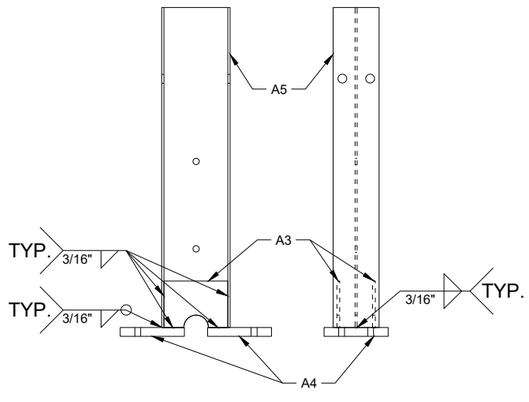


FRONT VIEW SIDE VIEW

TYPE 2 POST (A5)

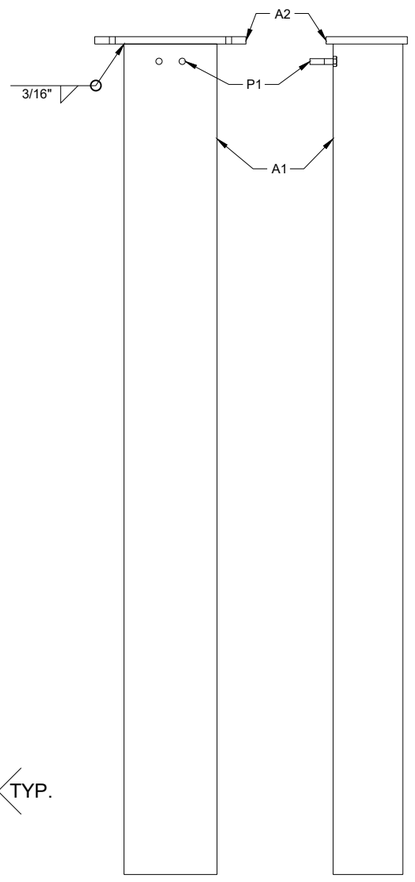


PLAN VIEW



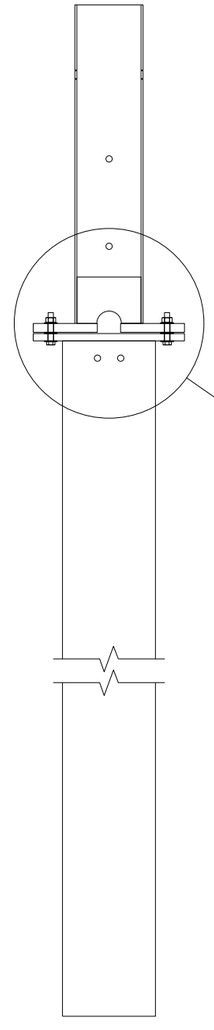
SIDE VIEW FRONT VIEW

UPPER POST ASSEMBLY

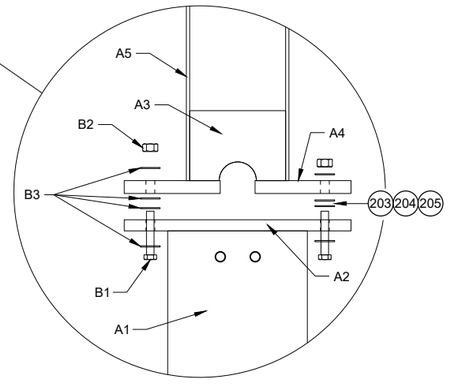


FRONT VIEW SIDE VIEW

LOWER POST ASSEMBLY



ASSEMBLED POST



POST CONNECTION DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

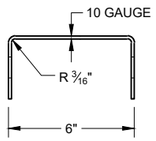
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

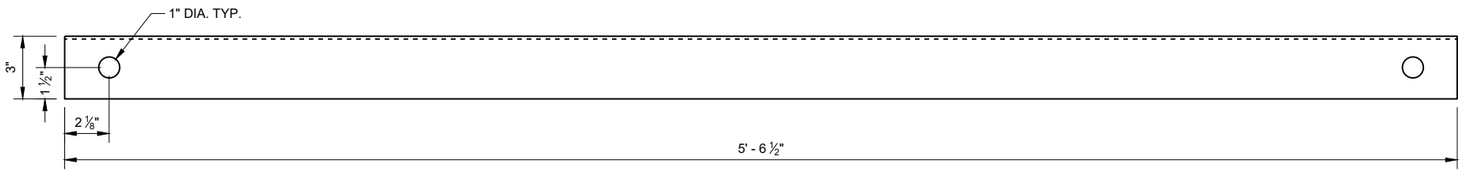
SDD 14B47 - 03c

6

SDD 14B47 - 03c

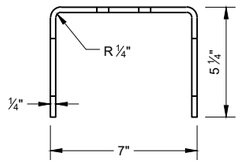


SIDE VIEW

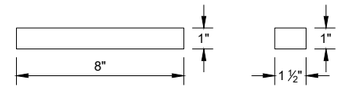


FRONT VIEW

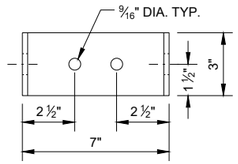
GROUND STRUT CHANNEL (G1)



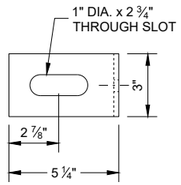
TOP VIEW



BEARING PLATE FLANGE (L2)

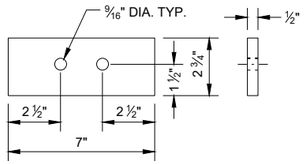


FRONT VIEW

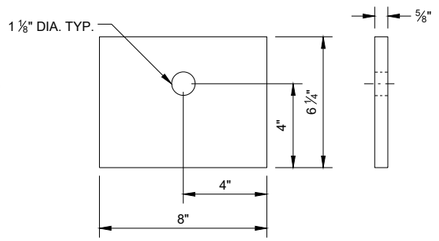


SIDE VIEW

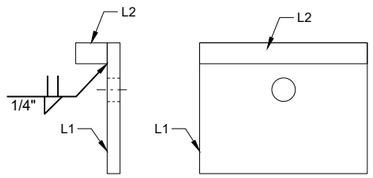
GROUND STRUT CONNECTOR (G2)



GROUND STRUT PLATE (G3)



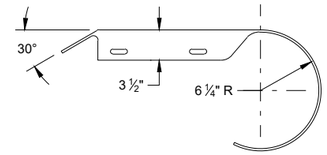
BEARING PLATE (L1)



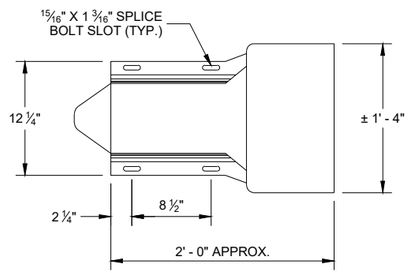
SIDE VIEW

FRONT VIEW

BEARING PLATE ASSEMBLY

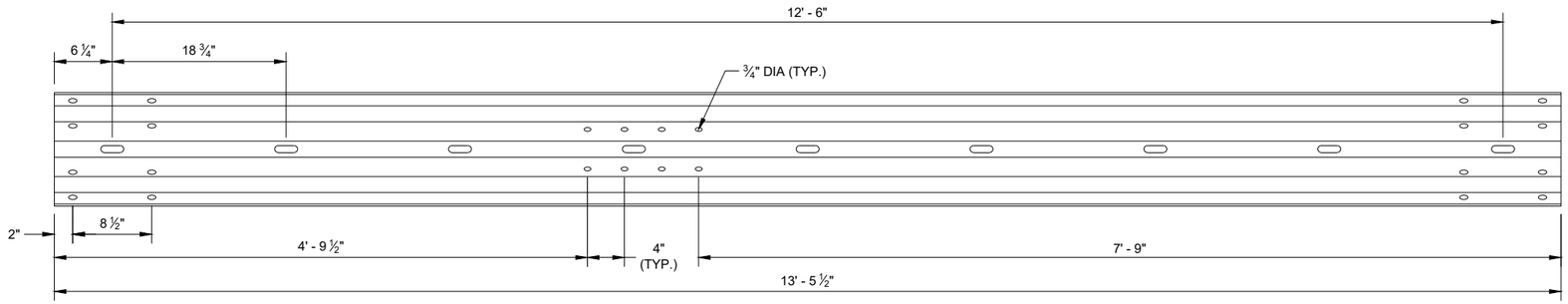


PLAN VIEW

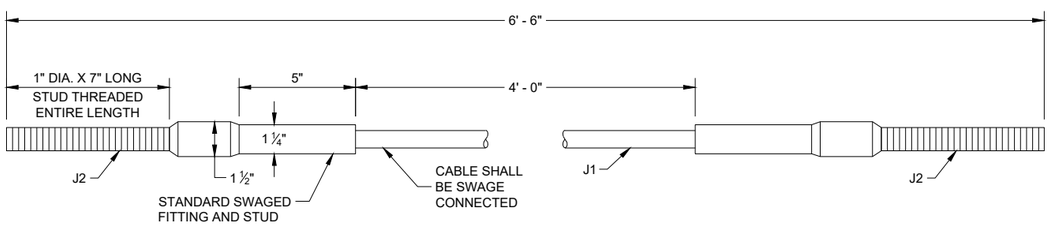


ELEVATION VIEW

ROUNDED BUFFER END (E3)



TYPE 2 GUARDRAIL (E1)



CABLE ASSEMBLY

6

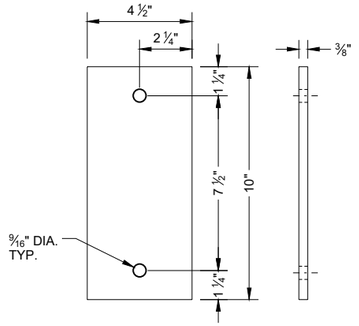
6

SDD 14B47 - 03d

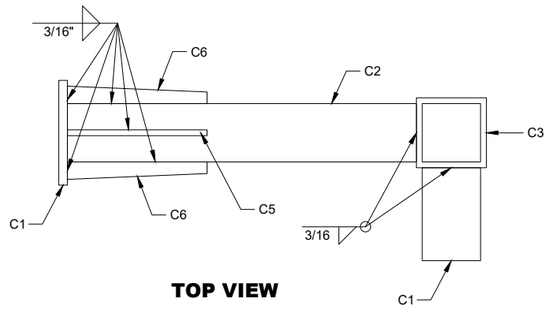
SDD 14B47 - 03d

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

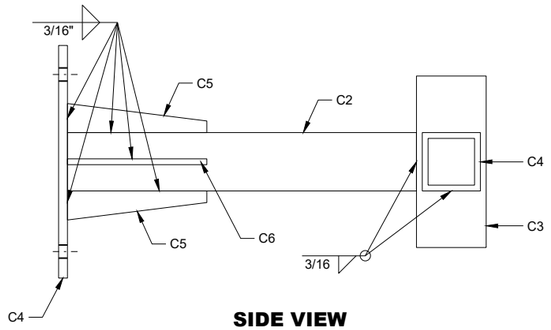
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



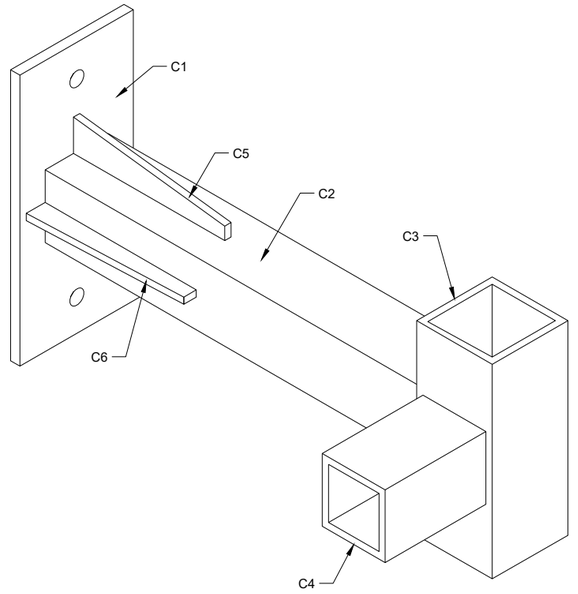
ARM PLATE (C1)



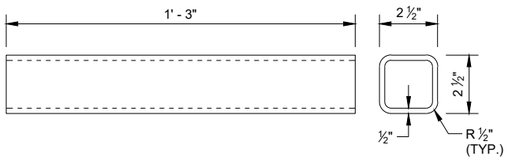
TOP VIEW
ARM ASSEMBLY



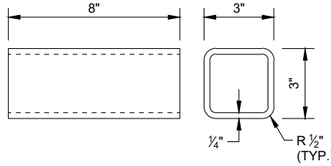
SIDE VIEW
ARM ASSEMBLY



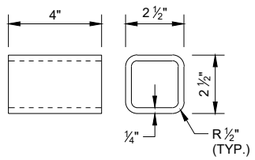
ISOMETRIC VIEW
ARM ASSEMBLY



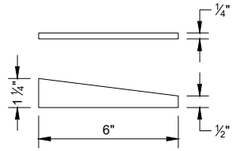
ARM TUBE 1 (C2)



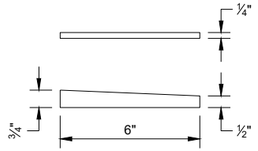
ARM TUBE 2 (C3)



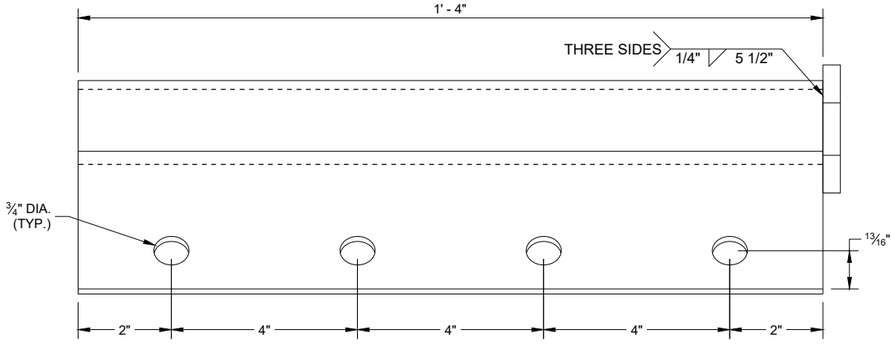
ARM TUBE 3 (C4)

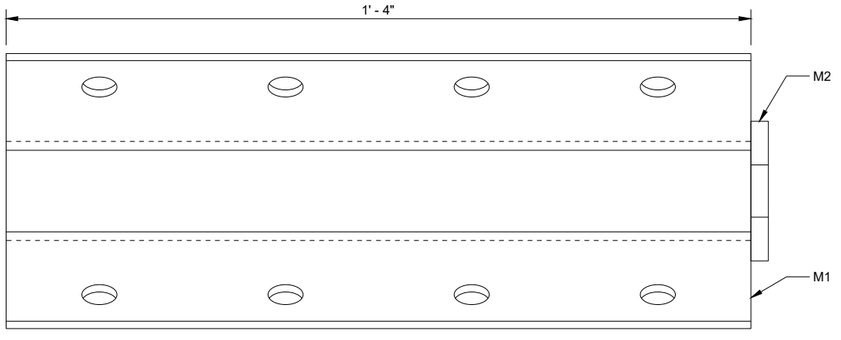


ARM GUSSET PLATE 1 (C5)

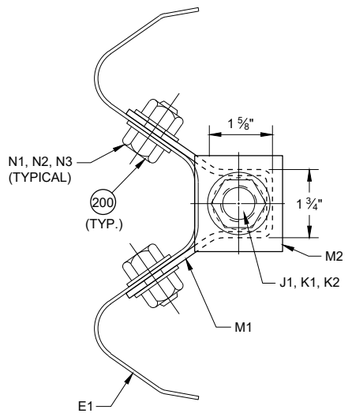


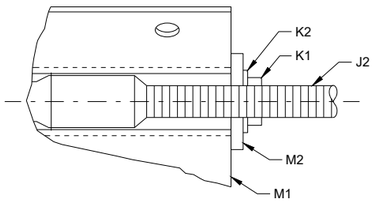
ARM GUSSET PLATE 2 (C6)



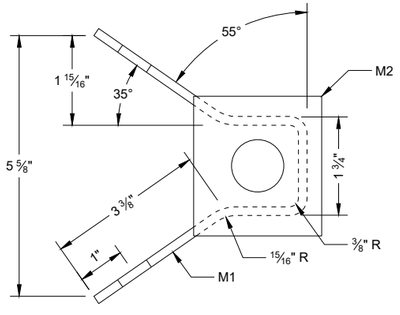


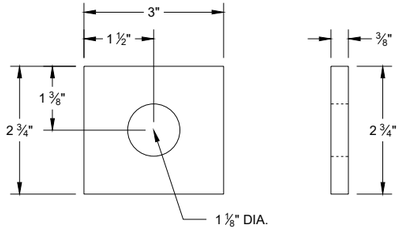
ANCHOR BRACKET (M1, M2)





SECTION A - A





ANCHOR BRACKET BEARING PLATE (M2)

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B47 - 03e

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	TYPE 2 FOUNDATION TUBE	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x 3/16"
A2	LOWER PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	5/8" THICKNESS
A3	POST GUSSET	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
A4	UPPER PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/4" THICKNESS
A5	TYPE 2 POST	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	
B1	BREAKAWAY BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED . PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	7/16" DIA.
B2	BREAKAWAY BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	7/16" DIA.
B3	BREAKAWAY BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
C1	ARM ASSEMBLY PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/8" THICKNESS
C2	ARM ASSEMBLY TUBE 1	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x 3/16"
C3	ARM ASSEMBLY TUBE 2	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 3" x 3" x 1/4"
C4	ARM ASSEMBLY TUBE 3	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 2 1/2" x 2 1/2" X 1/4"
C5	ARM ASSEMBLY GUSSET PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
C6	ARM ASSEMBLY GUSSET PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
D1	ARM ASSEMBLY BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	1/2" DIA.
D2	ARM ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	1/2" DIA.
D3	ARM ASSEMBLY NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1/2" DIA.
E1	TYPE 2 GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E2	BEAM GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E3	BEAM GUARD ROUNDED BUFFER END	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
F1	POST BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	5/8" DIA.
F2	POST BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	5/8" DIA.
F3	POST BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
G1	GROUND STRUT CHANNEL	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/2" x 11 3/4" x 10 GAUGE
G2	GROUND STRUT CONNECTOR	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
G3	GROUND STRUT PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/2" THICKNESS

6

6

SDD 14B47 - 03f

SDD 14B47 - 03f

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
H1	GROUND STRUT BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	7/8" DIA.
H2	GROUND STRUT BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	7/8" DIA.
H3	GROUND STRUT BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
J1	BCT CABLE	AASHTO M30 / ASTM A741 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN. BREAKING STRENGTH OF 42.7 KIPS	**3/4" DIA.**
J2	BCT CABLE	UNC 1" ASTM A576 GRADE 1035 SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. MIN BREAKING STRENGTH OF 42.7 KIPS ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."	
K1	CABLE ASSEMBLY NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1" DIA.
K2	CABLE ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1	1" DIA.
L1	BEARING PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	5/8" THICKNESS
L2	BEARING PLATE FLANGE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1" THICKNESS
M1	BEAM GUARD ANCHOR BRACKET	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	
M2	BEAM GUARD ANCHOR END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/8" THICKNESS
N1	ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	5/8" DIA.
N2	ANCHOR BRACKET BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	5/8" DIA.
N3	ANCHOR BRACKET BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 /ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
P1	FOUNDATION TUBE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 /ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1/2" DIA.
P2	FOUNDATION TUBE WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 7/8" ASTM F844 TYPE 1 (HARDENED WASHER ONLY)	1/2" DIA.
P3	FOUNDATION TUBE NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
Q1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
Q2	SPLICE NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	5/8" DIA.

6

6

SDD 14B47 - 03g

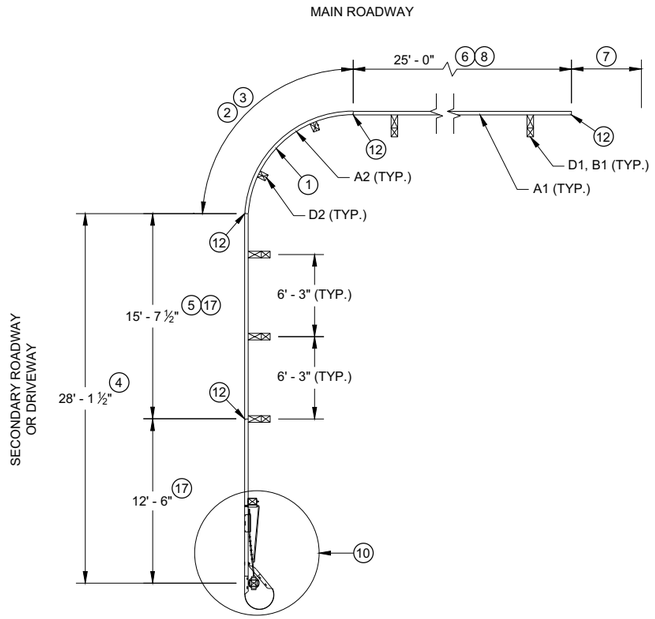
SDD 14B47 - 03g

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

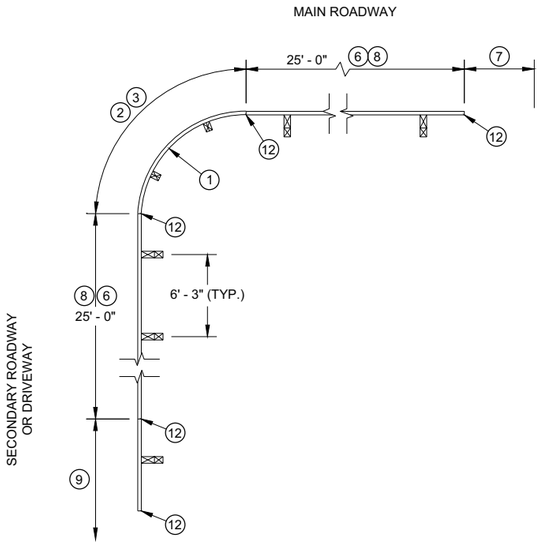
APPROVED
August 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA



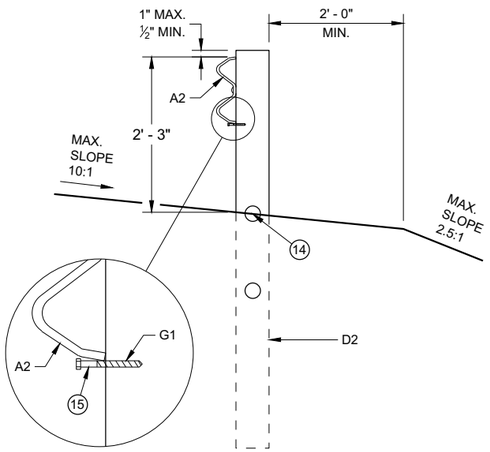
PLAN VIEW

SHORT RADIUS BEAM GUARD WITH SHORT RADIUS TERMINAL ON SECONDARY ROAD OR DRIVEWAY

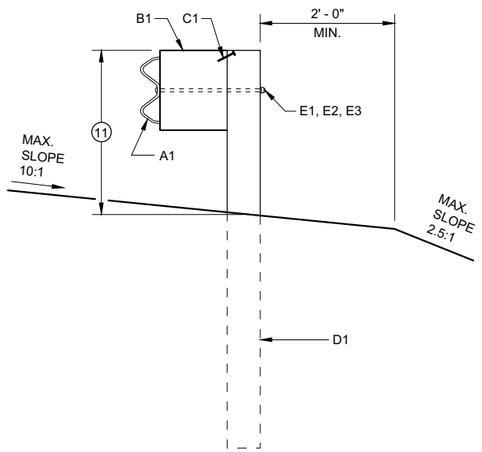


PLAN VIEW

SHORT RADIUS BEAM GUARD WITH EAT, ADDITIONAL BEAM GUARD OR TRANSITION TO RIGID BARRIER ON SECONDARY ROAD OR DRIVEWAY



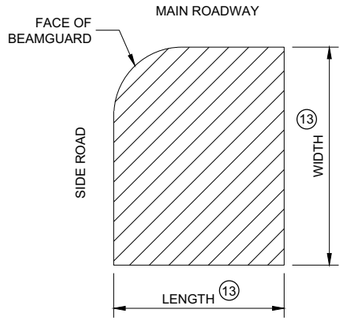
CONTROLLED RELEASE TERMINAL POST (CRT) IN RADIUS



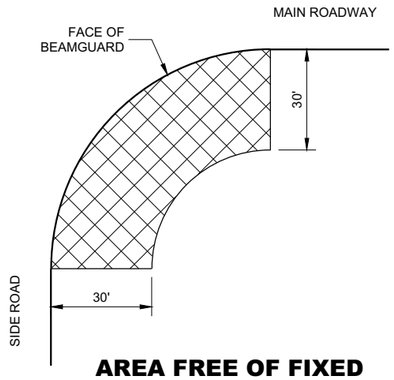
BEAM GUARD POSTS IN HEIGHT TRANSITION

TABLE FOR RADIUS OF 32' AND LESS

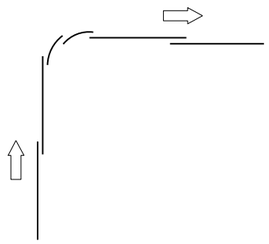
RADIUS (FT)	LENGTH (FT)	WIDTH (FT)
8	25	15
16	30	15
24	40	20
32	50	30



AREA FREE OF FIXED OBJECTS FOR RADIUS 32' AND LESS (16)



AREA FREE OF FIXED OBJECTS FOR RADIUS GREATER THAN 32'



LAP SPLICE DETAIL

GENERAL NOTES

SEE PLANS FOR OTHER BARRIER SYSTEM AND LOCATION SPECIFICS.

SEE SDD 14B42 FOR MORE INFORMATION ON BEAM GUARD INSTALLATION, PARTS, MATERIALS, AND INSTALLATION INFORMATION.

GALVANIZE PARTS AFTER FABRICATION.

WELDING TO FOLLOW CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI / AWS D1.1.

UNLESS NOTED OTHERWISE, ALL PLATES ARE FLAT AND FREE OF WARP.

UNLESS NOTED OTHERWISE, ALL EDGES ARE SMOOTH, STRAIGHT AND VERTICAL.

ALL CUTS AND HOLES, EXCEPT IN BEAM GUARD RAIL ARE TO BE MACHINED OR MACHINE FLAME CUT.

UNLESS NOTED OTHERWISE, CUT OR PROVIDE BOLTS THAT ARE ¼" TO ½" BEYOND THE NUT.

DRAWINGS ARE NOT TO SCALE.

(1) RADIUS MEASURE FROM INSIDE OF RAIL. LENGTH OF BEAM GUARD SHORT RADIUS GUARD MEASURED ALONG TRAFFIC SIDE OF RAIL. RADIUS BETWEEN 8 FEET TO 150 FEET. SEE PLAN FOR REQUIRED RADIUS. BEAM GUARD RAIL IN RADIUS IS SHOP BENT. ODD RAIL LENGTH OR FIELD CUTS MAY BE REQUIRED.

(2) CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE USED IN THE RADIUS. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE SPACED 6' - 3". SEE PLAN FOR NUMBER OF CONTROLLED RELEASE (CRT) POSTS.

(3) WITHIN RADIUS BEAM GUARD RAILS ARE NOT BOLTED TO POSTS. BEAM GUARD RAIL IS RESTED ON TOP OF LAG SCREW.

(4) MINIMUM LENGTH OF BEAM GUARD ALONG SIDE ROAD OR DRIVEWAY TO INSTALL SHORT RADIUS TERMINAL. BEAM GUARD IS PAID WITH BEAM GUARD ITEM.

(5) ODD LENGTH OF BEAM GUARD REQUIRED TO INSTALL SHORT RADIUS TERMINAL.

(6) MINIMUM AMOUNT OF BEAM GUARD TO BE INSTALLED PRIOR TO TRANSITION TO RIGID BARRIER. ADDITIONAL BEAM GUARD, OR EAT. BEAM GUARD PAID FOR WITH BEAM GUARD ITEM. SEE PLANS FOR MORE DETAIL.

(7) BEAM GUARD, EAT, OR TRANSITION TO RIGID BARRIER. SEE PLAN.

(8) TOP OF BEAM GUARD BY THE RADIUS IS 27". HEIGHT OF BEAM GUARD IS 31" BY TRANSITION TO RIGID BARRIER, ADDITIONAL BEAM GUARD OR EAT.

(9) ADDITIONAL BEAM GUARD, EAT OR TRANSITION TO RIGID BARRIER. BEAM GUARD SHOWN. SEE PLAN FOR DETAILS.

(10) SHORT RADIUS TERMINAL (SEE OTHER DETAILS).

(11) HEIGHT VARIES. SEE NOTE (8) AND (8).

(12) BEAM GUARD RAIL SPLICE LOCATION. SPLICE LOCATION REQUIRES PART F1 AND F2. SEE SDD 14B42 FOR DETAILS.

(13) SEE TABLE FOR VALUES.

(14) MAXIMUM HEIGHT FOR CENTER OF HOLE IS ¾" ABOVE FINISHED GROUND ±1".

(15) DRILL POST $^{15}/_{64}$" DIA. PILOT HOLE. DO NOT HAMMER LAG SCREW INTO POST.

(16) SMALL SIGNS ON BREAKAWAY HARDWARE ARE ACCEPTABLE.

(17) TOP OF RAIL HEIGHT IS 27" WHEN USING A SHORT RADIUS TERMINAL (CRT).

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

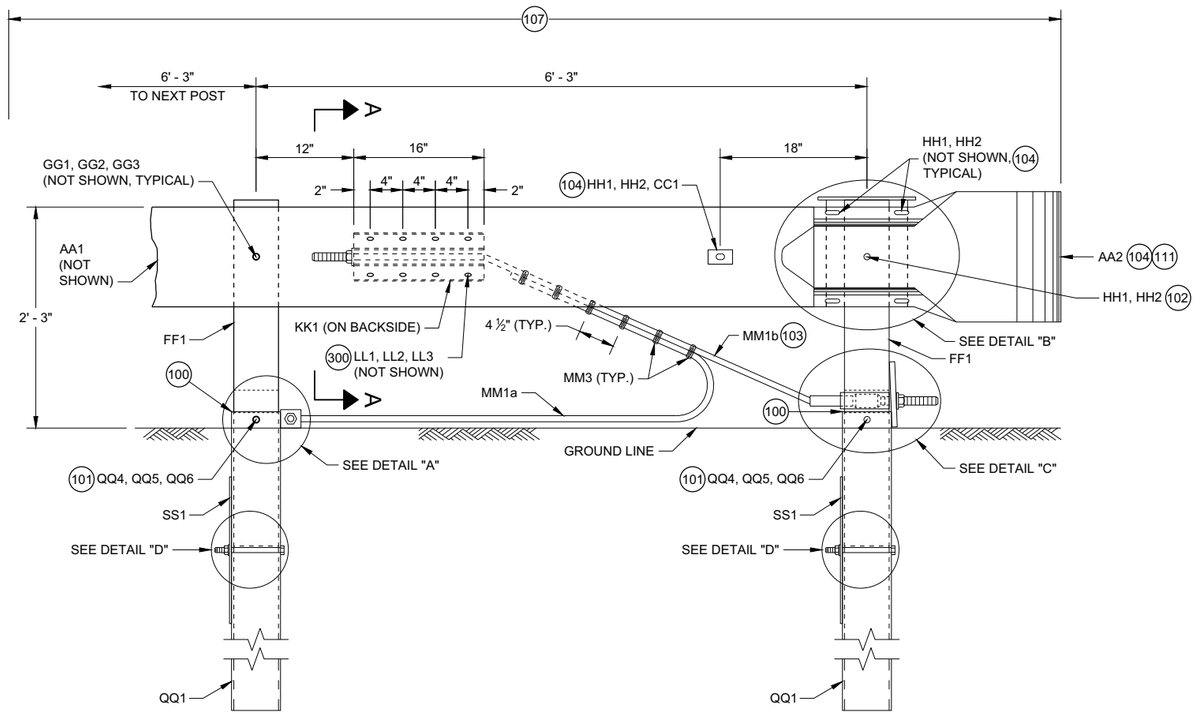
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B53 - 01a

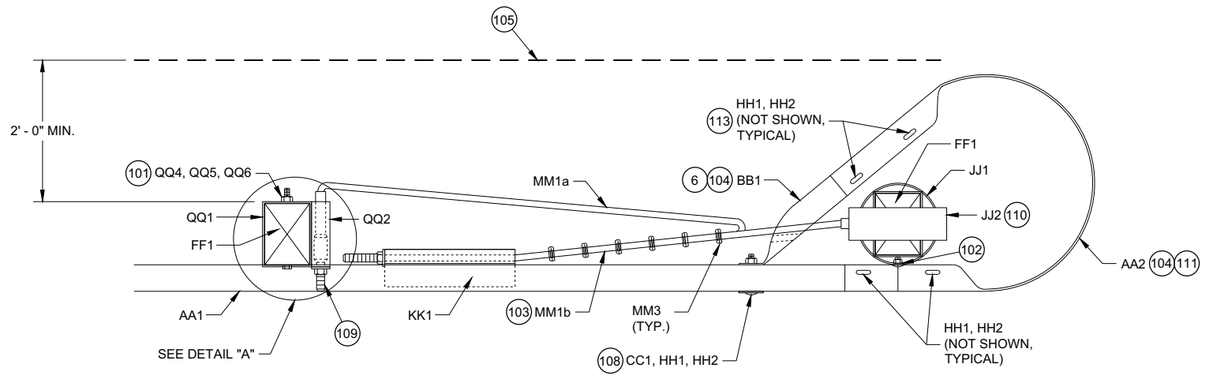
6

SDD 14B53 - 01a



PROFILE VIEW

SHORT RADIUS TERMINAL



TOP VIEW

SHORT RADIUS TERMINAL

GENERAL NOTES

100 TOP OF FOUNDATION TUBE 2 INCHES MAXIMUM ABOVE FINISHED GROUND.

101 WASHERS REQUIRED BETWEEN BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

102 SPLICE BOLT AND NUT CONNECTS BEAM GUARD RAIL, W-BEAM SECTION BUFFER, AND STEEL PIPE ASSEMBLY. NO WASHER REQUIRED. SEE DETAIL "B".

103 CABLE IS TAUT.

104 ADJUST AA2 AND BB1 TO FIT.

105 BREAK POINT OF SHOULDER.

106 TACK WELD CABLE CONNECTOR TUBE PLATE TO CABLE CONNECTION TUBE. SEE DETAIL "A" PROFILE VIEW.

107 PAY LIMIT FOR BEAM GUARD.

108 SQUARE WASHER BETWEEN HEAD OF BOLT AND TRAFFIC FACE OF BEAM GUARD. ROUND WASHER REQUIRED BETWEEN NUT AND BB1.

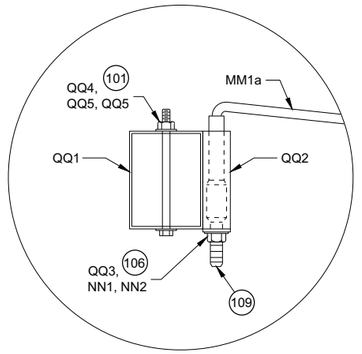
109 CUT OR PROVIDE THREADED STUD THAT IS FLUSH WITH FACE OF BEAM GUARD RAIL KK1 (PLUS OR MINUS ½" TOLERANCE). DEBURR AFTER CUTTING.

110 SEE STEEL PIPE ASSEMBLY DETAILS.

111 ATTACH UU2 WITH UU3. SHOP APPLY UU1 TO UU2.

112 FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA1 TO AA2.

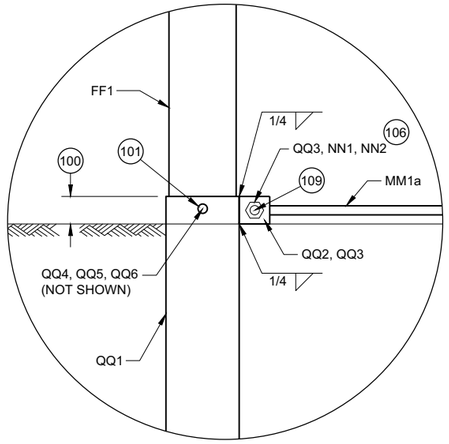
113 FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA2 TO BB1.



TOP VIEW

DETAIL "A"

(WOOD BREAKAWAY AND BEAM GUARD RAIL POSTS NOT SHOWN)



PROFILE VIEW

DETAIL "A"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

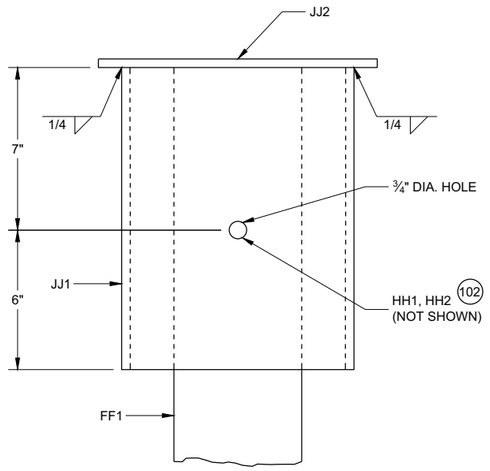
SDD 14B53 - 01b

6

SDD 14B53 - 01b

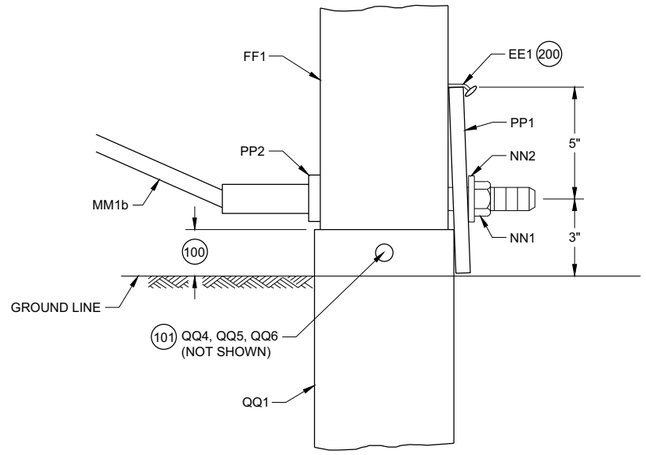
GENERAL NOTES

(200) TWO (2) NAILS SPACED 4 INCHES CENTER TO CENTER.



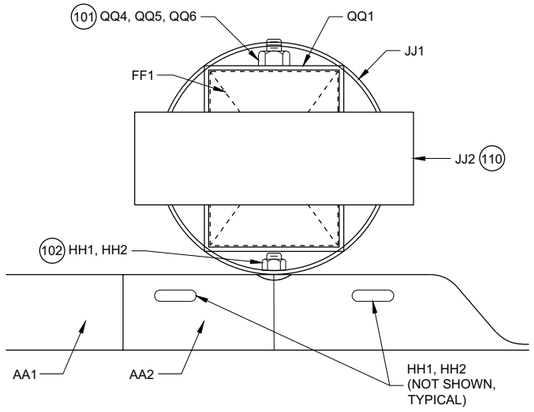
PROFILE VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY
(BEAM GUARD AND W BEAM END SECTION NOT SHOWN)



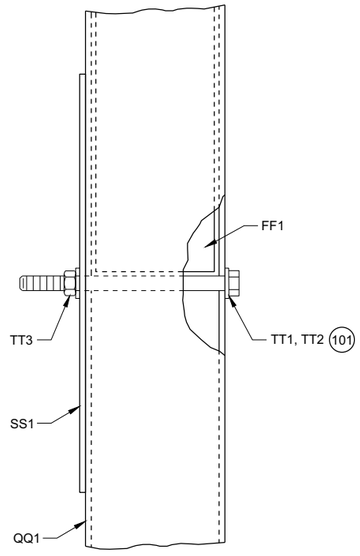
PROFILE VIEW

DETAIL "C"



PLAN VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY



PROFILE VIEW

DETAIL "D"

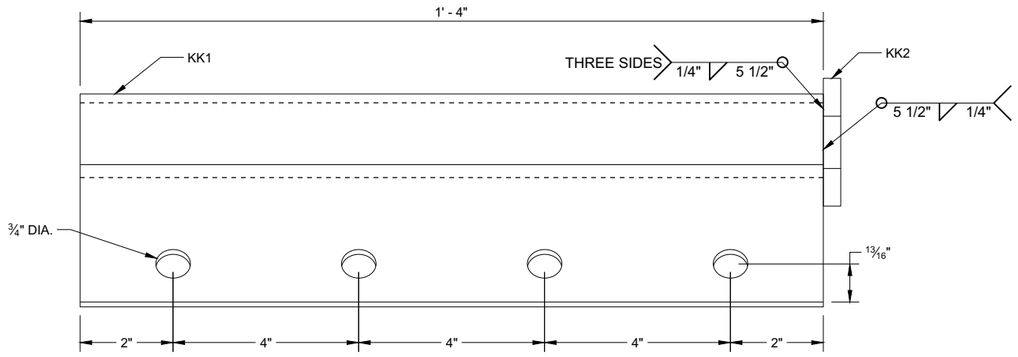
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

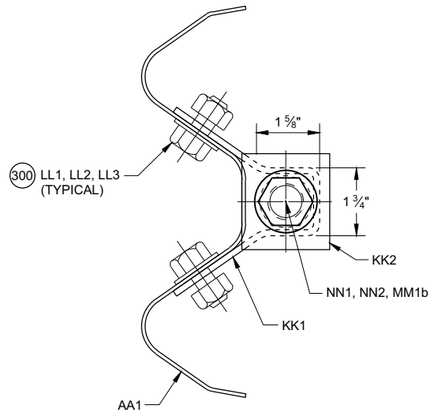
6

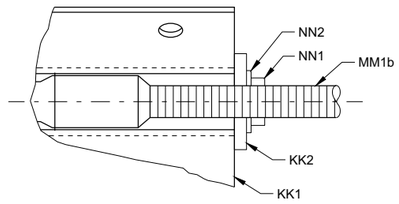
SDD 14B53 - 01c

GENERAL NOTES

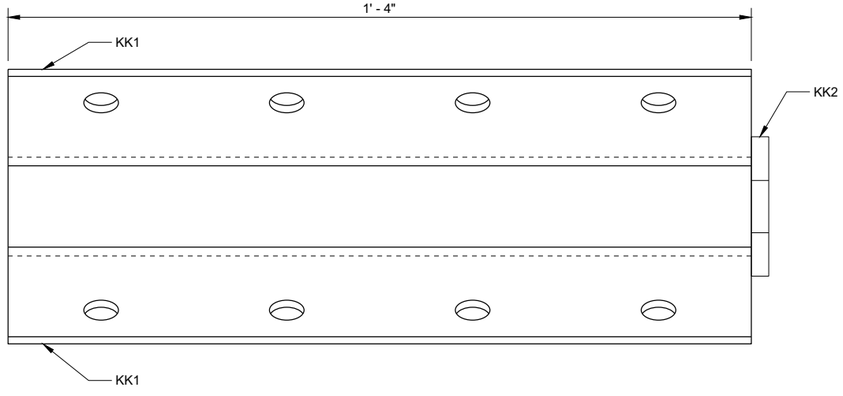
(300) WASHERS REQUIRED BETWEEN BOLT HEAD AND BEAM GUARD RAIL AND BETWEEN NUT AND ANCHOR BRACKET. EIGHT (8) LL1 AND LL3 REQUIRED. SIXTEEN (16) LL2 REQUIRED.

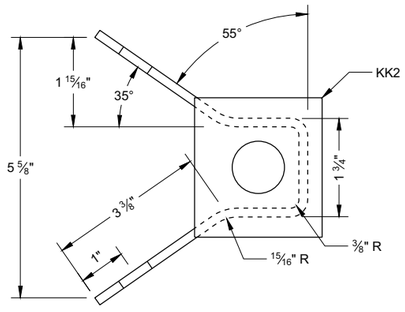




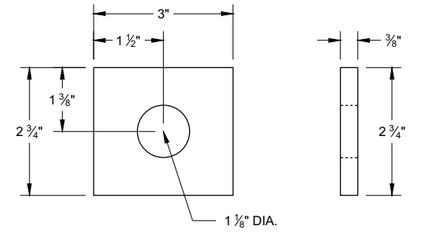


SECTION A - A





ANCHOR BRACKET (KK1, KK2)



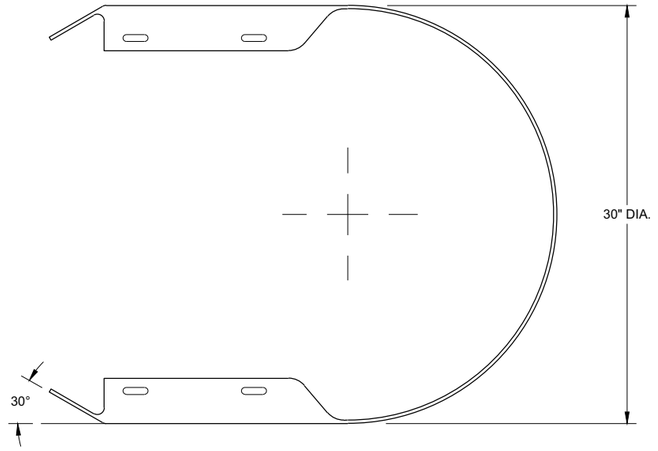
ANCHOR BRACKET BEARING PLATE (KK2)

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

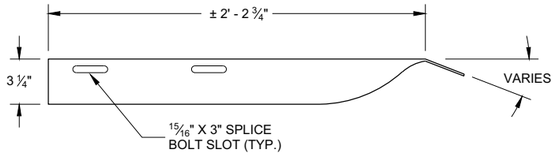
GENERAL NOTES

(400) CROSS SECTION OF PART IS TO FIT OVER AA1 .

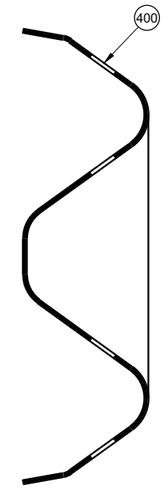
(401) CROSS SECTION OF PART IS TO FIT OVER OR UNDER AA1 .



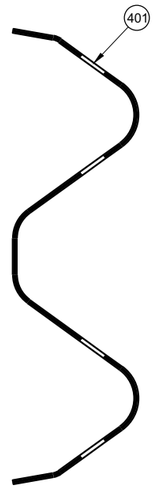
TOP VIEW



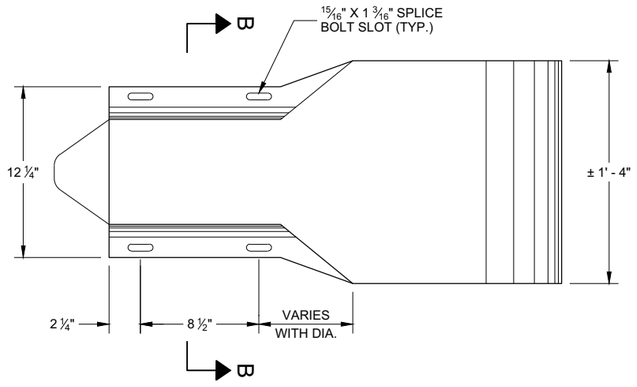
TOP VIEW



SECTION B -B

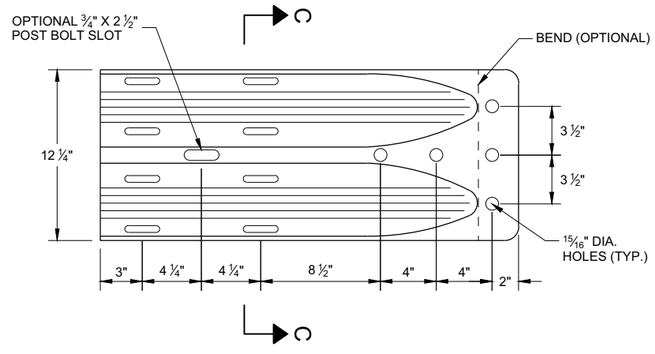


SECTION C -C



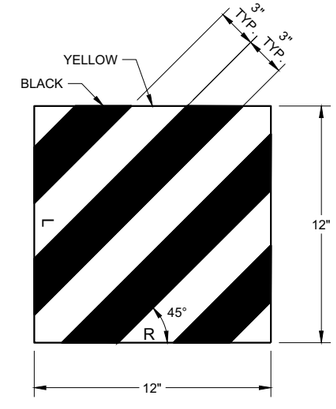
PROFILE VIEW

W BEAM
END SECTION BUFFER (AA2)



PROFILE VIEW

W BEAM
TERMINAL CONNECTOR (BB1)



REFLECTIVE SHEETING (UU1, UU2)

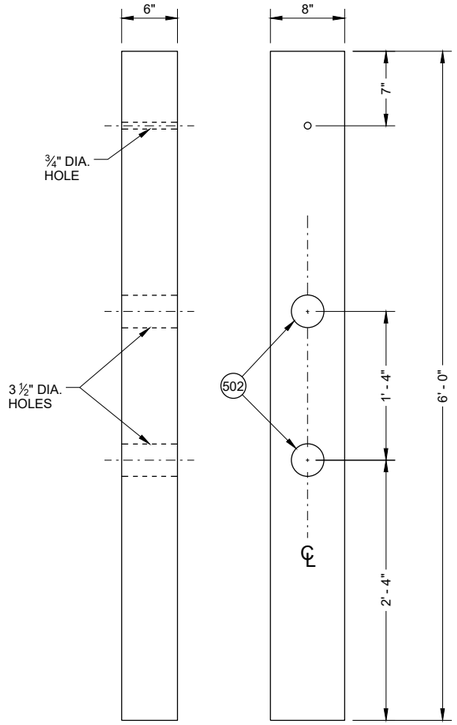
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

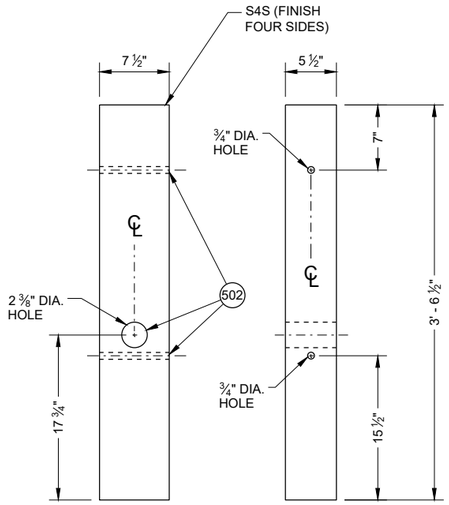
SDD 14B53 - 01e

SDD 14B53 - 01e



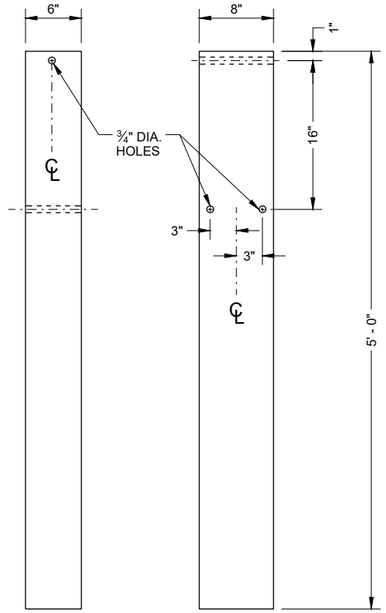
FRONT VIEW SIDE VIEW

CONTROLLED RELEASE POST (CRT) (DD2)



FRONT VIEW SIDE VIEW

WOOD BREAKAWAY POST (FF1)



FRONT VIEW SIDE VIEW

FOUNDATION TUBE (QQ1) (500)

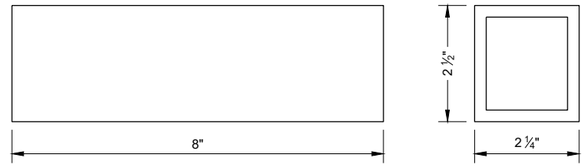
GENERAL NOTES

(500) SEE DETAIL "D" FOR LOCATION AND ATTACHMENT OF SS1.

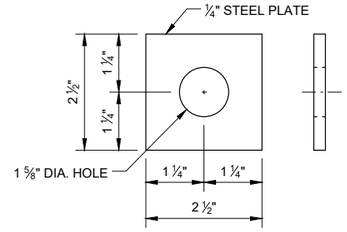
(501) FOR MM1a THREADED STUD ONLY REQUIRED ON ONE END. SWAGED FITTING REQUIRED.

(502) LOCATE HOLES ON THE CENTERLINE OF THE SIDE OF THE POST.

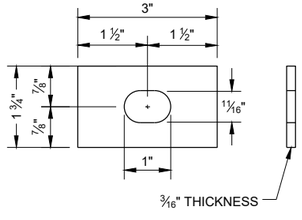
(503) MM1a MAY HAVE ONE THREADED STUD 4 INCHES LONG. SEE NOTE (109).



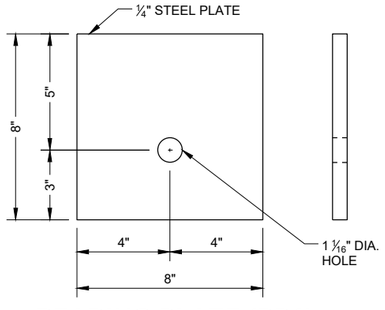
FOUNDATION TUBE - ANCHOR CABLE TUBE (QQ2)



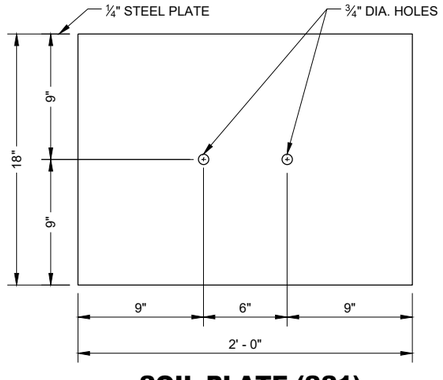
ANCHOR CABLE TUBE END PLATE (QQ3)



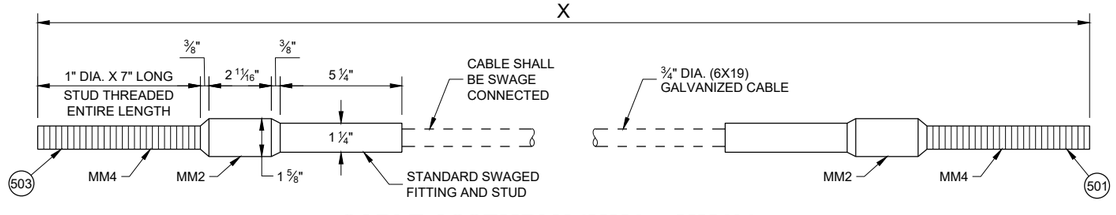
RECTANGULAR PLATE WASHER (CC1)



BEARING PLATE (PP1)



SOIL PLATE (SS1)



CABLE ASSEMBLY (MM1a, MM1b)

"X" LENGTH

MM1b	9' - 0"
MM1b	6' - 8"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B53 - 01f

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	BEAM GUARD RAIL	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
A2	BEAM GUARD RAIL - SHOP BENT	INDICATE ON BACK OF RAIL THE RADIUS THAT RAIL WAS BENT TO. SHOP BEND RADIUS IS TO THE NEAREST FOOT. FOLLOW AASHTO M180 ON HOW TO MARK RADIUS INFORMATION.	
		AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
B1	BLOCK - WOOD	WISDOT SPEC. 614	SEE SDD 14B42
C1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEAD)	
D1	POST-STRONG POST-WOOD	WISDOT SPEC. 614	SEE SDD 14B42
D2	POST-CRT-WOOD	WISDOT SPEC. 614	
E1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
E2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	5/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
E3	POST BOLT - NUT	AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
F1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
F2	SPLICE BOLT - NUT	ASTM A563 GRADE A	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
G1	LAG SCREW	ASTM A308 GRADE A ASTM A153 CLASS D	1/2" DIA. 6" LONG
H1	DELINEATOR - BEAM GUARD		SEE SDD 14B42 FOR MORE INFORMATION
H2	DELINEATION - SHEETING	YELLOW OR WHITE	
		WISDOT SPEC 637 TYPE SH	
		APPROVED PRODUCT LIST	
J1	FOUNDATION BACKFILL	STANDARD SPEC. 614	
AA1	BEAM GUARD RAIL - PUNCHED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
AA2	BEAM GUARD RAIL - END SECTION BUFFER	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
BB1	BEAM GUARD RAIL - TERMINAL CONNECTOR MODIFIED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
CC1	SHORT RADIUS - SQUARE WASHER	AASHTO M180	
		GALV. AASHTO M111 / ASTM A123	
EE1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)	
FF1	POST - BCT - WOOD	S4S FINISH ON 4 SIDES	
		WISDOT SPEC. 614	
GG1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	3/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		UNC	
GG2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	3/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C/ASTM A153 CLASS C / ASTM F2329	

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

SDD 14B53 - 01g

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
GG3	POST BOLT - NUT	ASTM A563 GRADE A	⅜" DIA. SEE 14B42 FOR GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
HH1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180 HEAD GEOMETRY	
HH2	SPLICE BOLT - NUT	ASTM A563 GRADE A	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
JJ1	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	10" O.D.
JJ2	TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS ⅜" X 4" X 1' - 0"
		GALV. AASHTO M111 / ASTM A123	
KK1	ANCHOR BRACKET	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
KK2	ANCHOR BRACKET - BEARING PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
LL1	ANCHOR BRACKET - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	⅝" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
LL2	ANCHOR BRACKET - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	⅝" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
LL3	ANCHOR BRACKET - NUT	ASTM A563 GRADE A	⅝" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
MM1a	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM1b	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM2	ANCHOR CABLE - SWAGE FITTING	ASTM A576 GRADE 1035	
		SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. WITH A BREAKING STRENGTH 40,000 LBS.	
		GALV. AASHTO M111 / ASTM A123	
		ASME B30.26 FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING INTO CONNECTION: NAME OF MANUFACTURER OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE.	
MM3	WIRE ROPE CABLE CLAMPS	FF-C-450D TYPE 1 CLASS 1	¾"
		ASTM A153 HOT DIP CLASS D	
MM4	ANCHOR CABLE - SWAGE FITTING - STUD	ASTM F3125 GRADE A325 TYPE 1 OR SAE GRADE 5 OR ASTM A449 TYPE 1 HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
NN1	ANCHOR CABLE - NUT	ASTM A563 GRADE A	1" DIA.
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
NN2	ANCHOR CABLE - NUT - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	1" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
PP1	BEARING PLATE AT POST	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
PP2	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	2" DIA. x 6" LONG
QQ1	FOUNDATION TUBE	ASTM A500 GRADE B	8" X 6" X 3/16"
		GALV. AASHTO M111 / ASTM A123	
QQ2	SHORT RADIUS - FOUNDATION TUBE - ANCHOR CABLE - TUBE	ASTM A500 GRADE B	DIMENSIONS 2 1/2" X 2 1/4" X 1/4" X 8"
		GALV. AASHTO M111 / ASTM A123	
QQ3	SHORT RADIUS - SOIL TUBE - ANCHOR CABLE - TUBE - END PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS 2 1/2" X 2 1/2" X 1/4"
		GALV. AASHTO M111 / ASTM A123	
QQ4	GROUND STRUT AND YOKE - BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
		ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	
		UNC	
QQ5	GROUND PLATE AND YOKE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
QQ6	GROUND STRUT AND YOKE - NUT	HEAVY HEX	5/8 DIA.
		UNC	
		ASTM A563 GRADE A	
		OVER TAPPED NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
SS1	SOIL PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / A123	
TT1	SOIL PLATE - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	5/8 DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
TT2	SOIL PLATE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
TT3	SOIL PLATE - NUT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
UU1	OBJECT MARKER - SHEETING	MUTCD / WISDOT OBJECT MARKER TYPE 3	PATTERN AND COLOR FOR SHEETING. SHEETING TYPE FOR MARKER.
		WISDOT SPEC 637 TYPE F	
		APPROVED PRODUCT LIST	
UU2	OBJECT MARKER - ALUMINUM PLATE	WISDOT SPEC 637 ALUMINUM PLATE	MATERIAL AND THICKNESS OF MATERIALS
UU3	OBJECT MARKER - SCREWS	STAINLESS SELF-TAPPING SCREWS	
VV1	FOUNDATION BACKFILL	WISDOT SPEC 614	

6

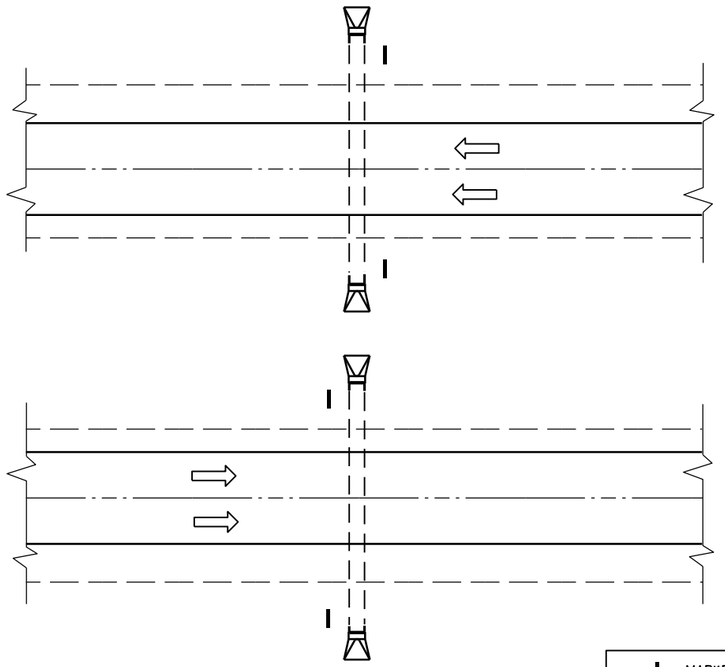
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

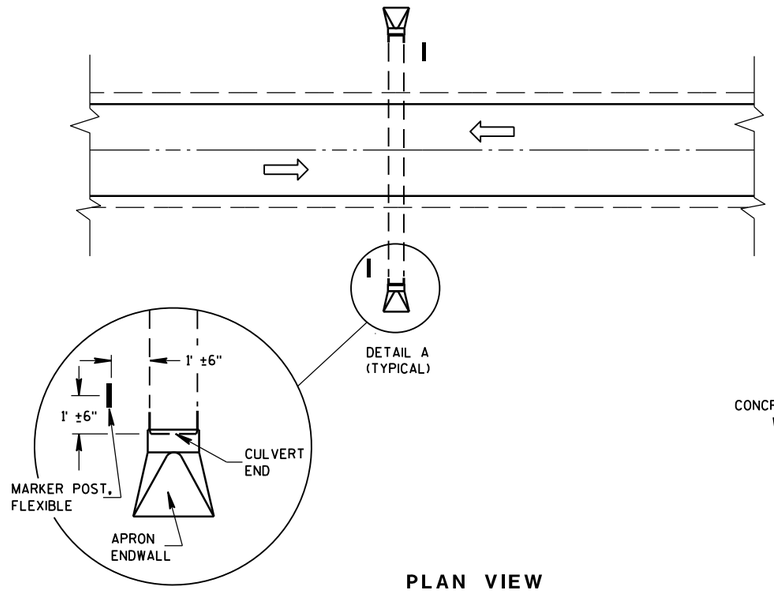
FHWA

SDD 14B53 - 01i



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

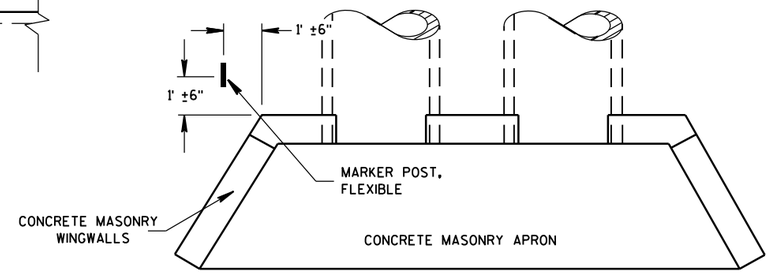
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

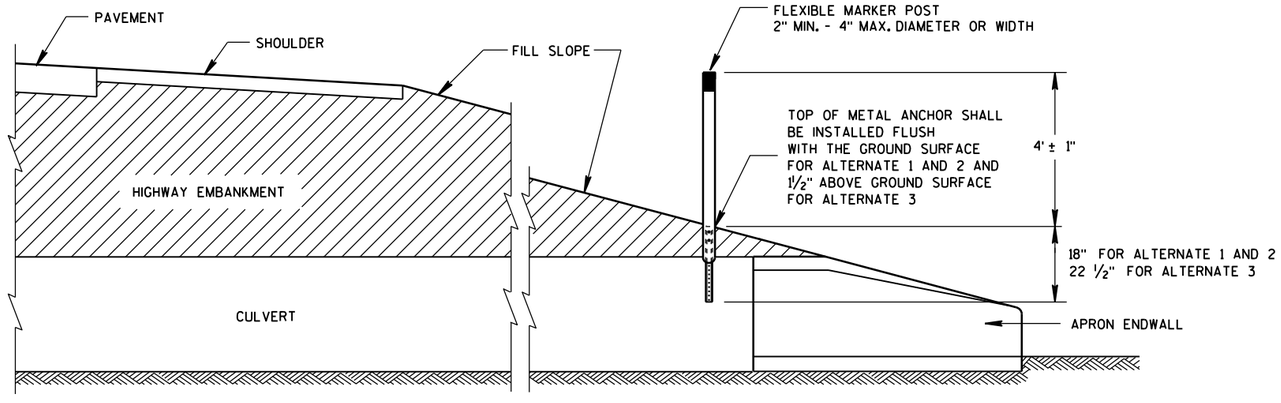
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

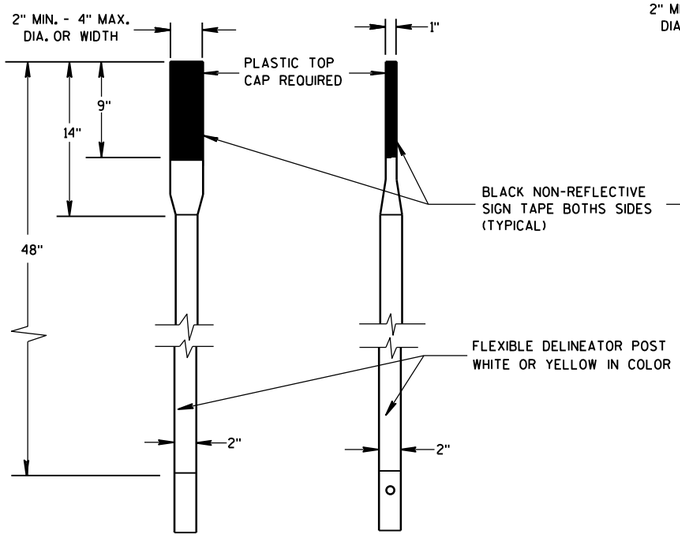
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

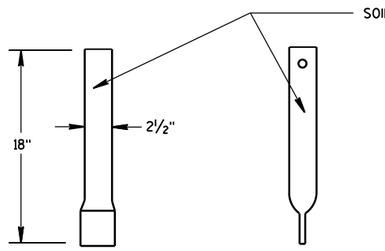
6

S.D.D. 15 A 3-2a

6

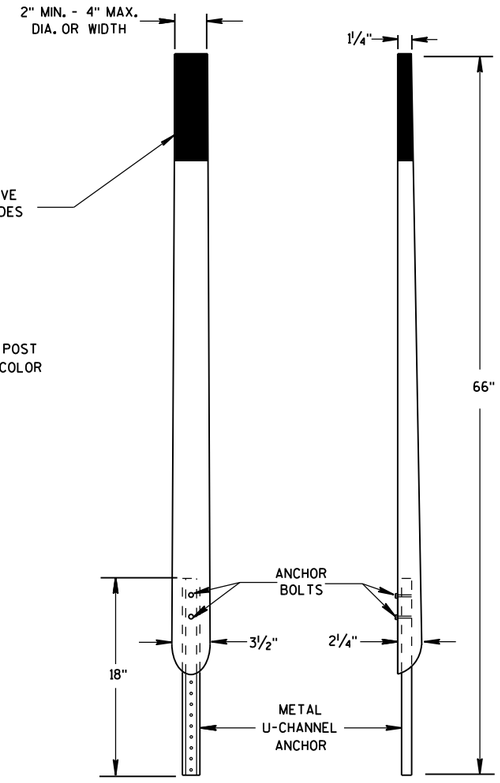
S.D.D. 15 A 3-2a





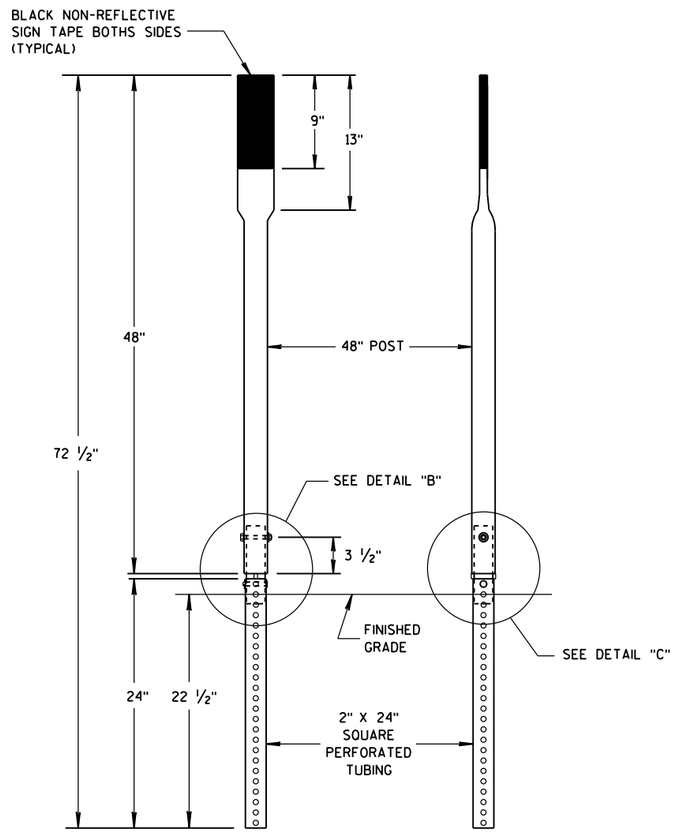
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

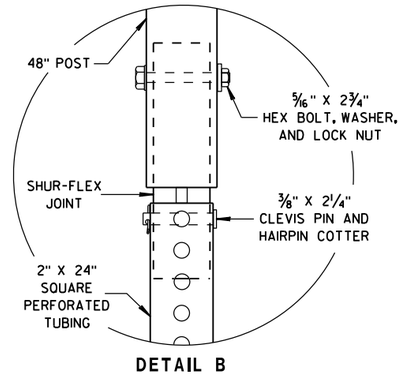
ALTERNATE 2



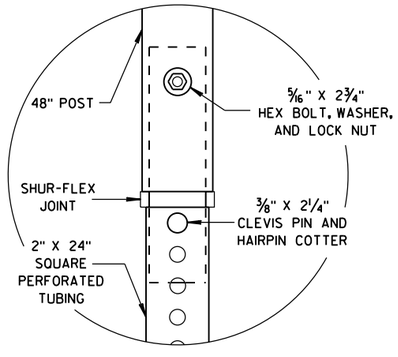
FRONT VIEW SIDE VIEW

ALTERNATE 3

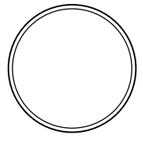
FLEXIBLE MARKER POSTS



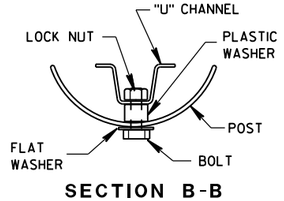
DETAIL B



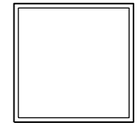
DETAIL C



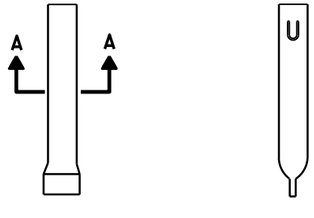
SECTION A-A



SECTION B-B

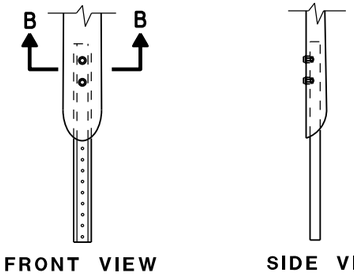


SECTION C-C



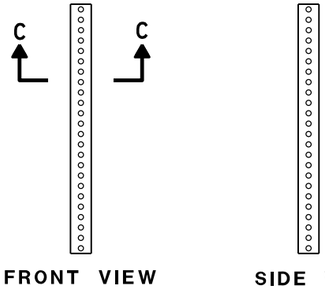
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

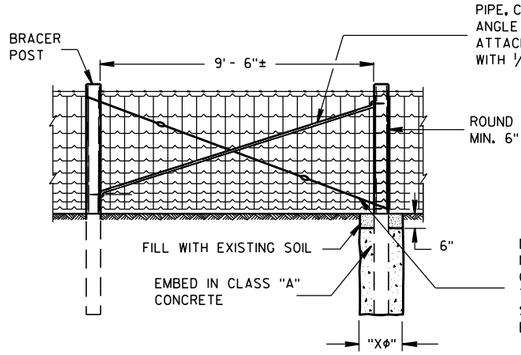
S.D.D. 15 A 3-2b

6

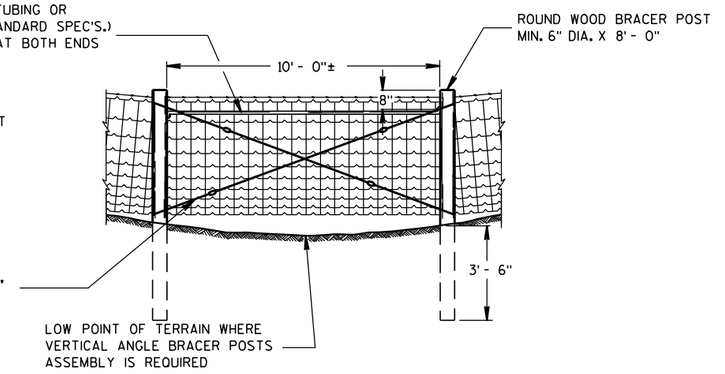
S.D.D. 15 A 3-2b

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

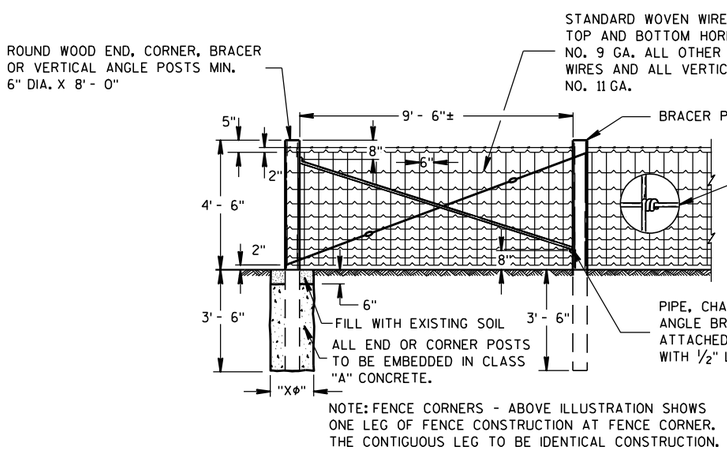
GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

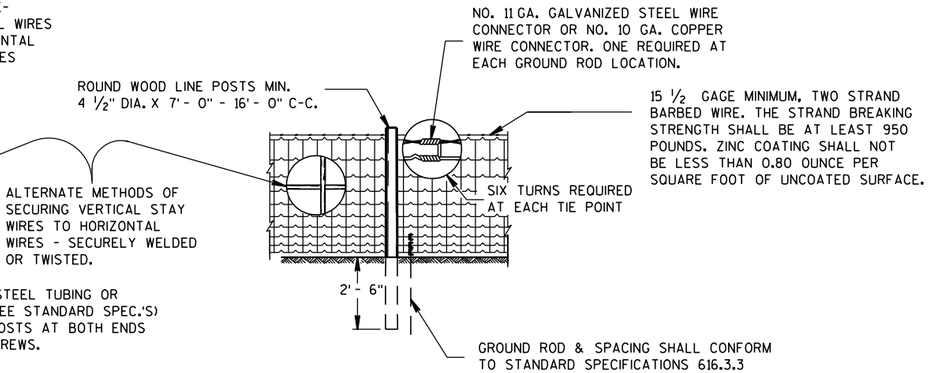
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



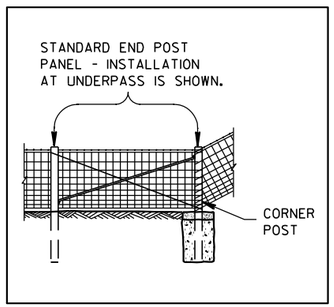
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

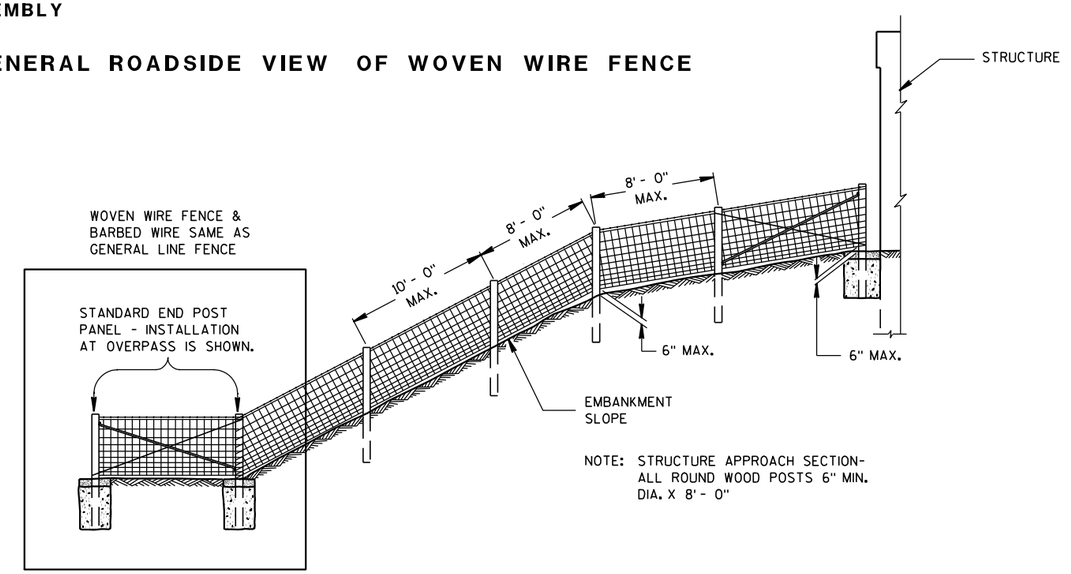


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

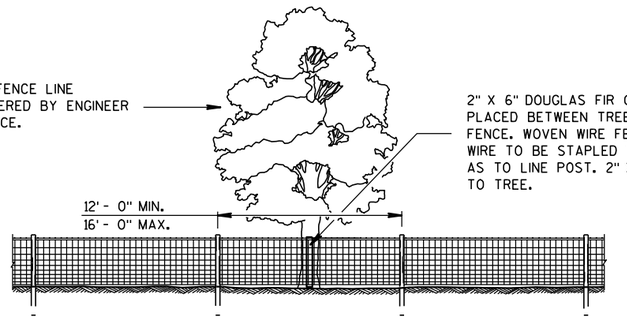
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

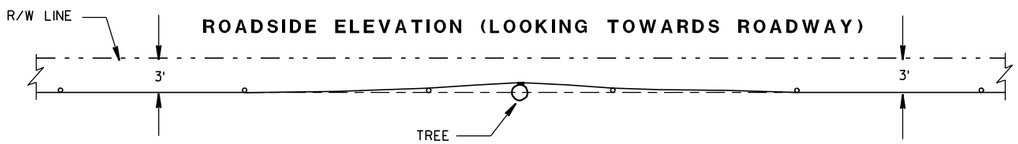
S.D.D. 15 B 1-8a

NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.

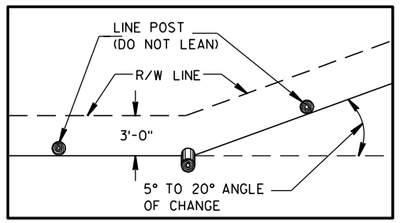


ROADSIDE ELEVATION (LOOKING TOWARDS ROADWAY)

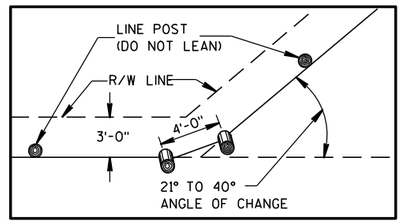


PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



PLAN VIEW
SINGLE POST CORNER

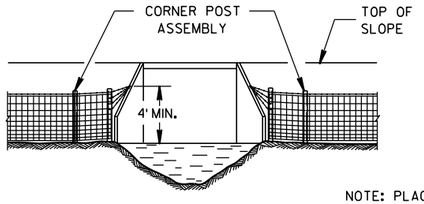


PLAN VIEW
DOUBLE POST CORNER

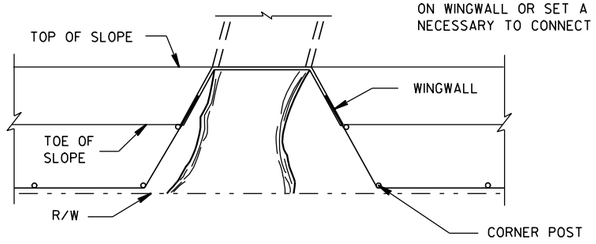
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

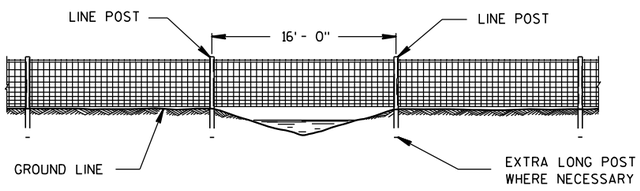
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



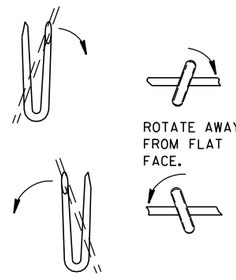
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS

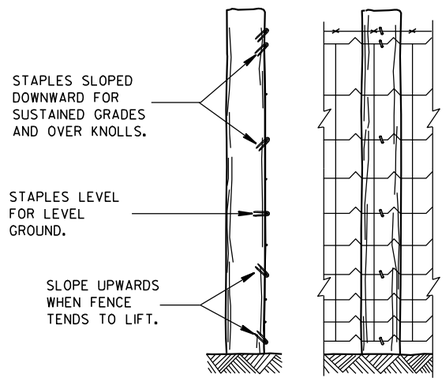


FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



LINE POST

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.

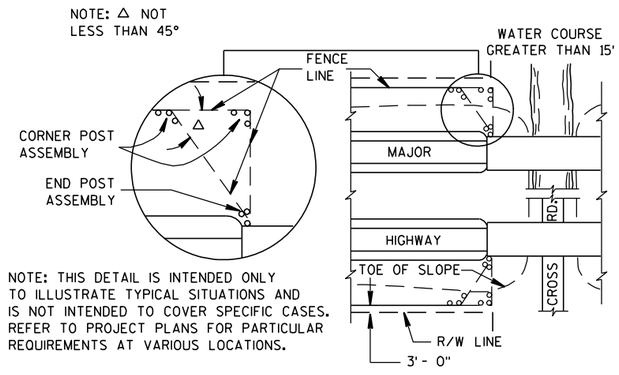


END ELEVATION

FARM SIDE ELEVATION

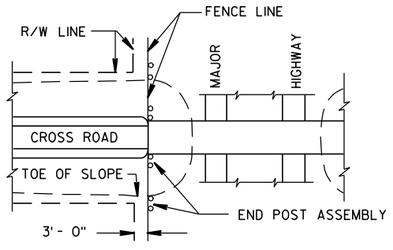
FENCE MOUNTING DETAIL

NOTE: △ NOT LESS THAN 45°



NOTE: THIS DETAIL IS INTENDED ONLY TO ILLUSTRATE TYPICAL SITUATIONS AND IS NOT INTENDED TO COVER SPECIFIC CASES. REFER TO PROJECT PLANS FOR PARTICULAR REQUIREMENTS AT VARIOUS LOCATIONS.

PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH



PLAN VIEW
MAJOR HIGHWAY UNDERPASS

FENCE LOCATION AT STRUCTURES

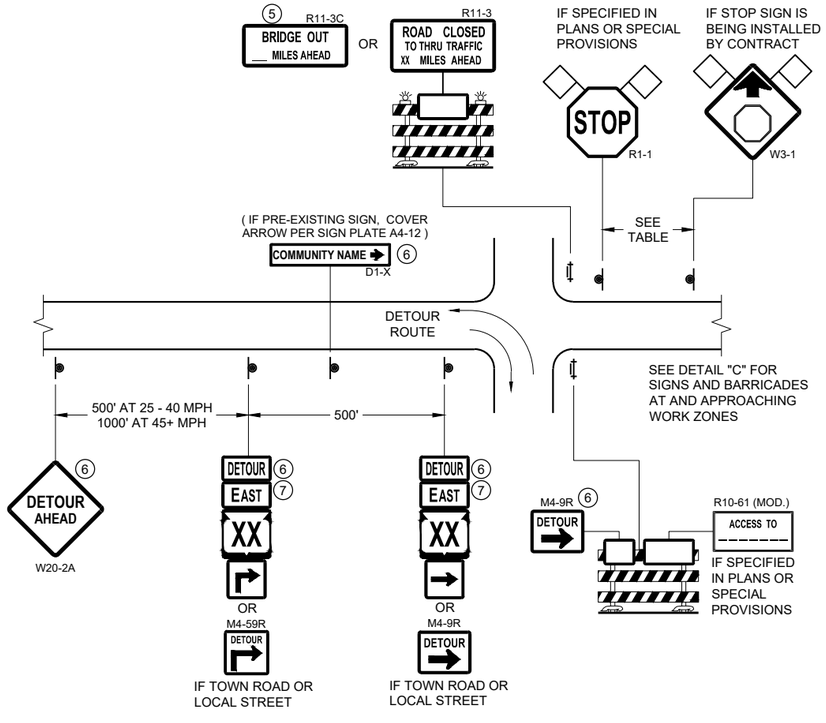
FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible]
ENGINEER
FHWA

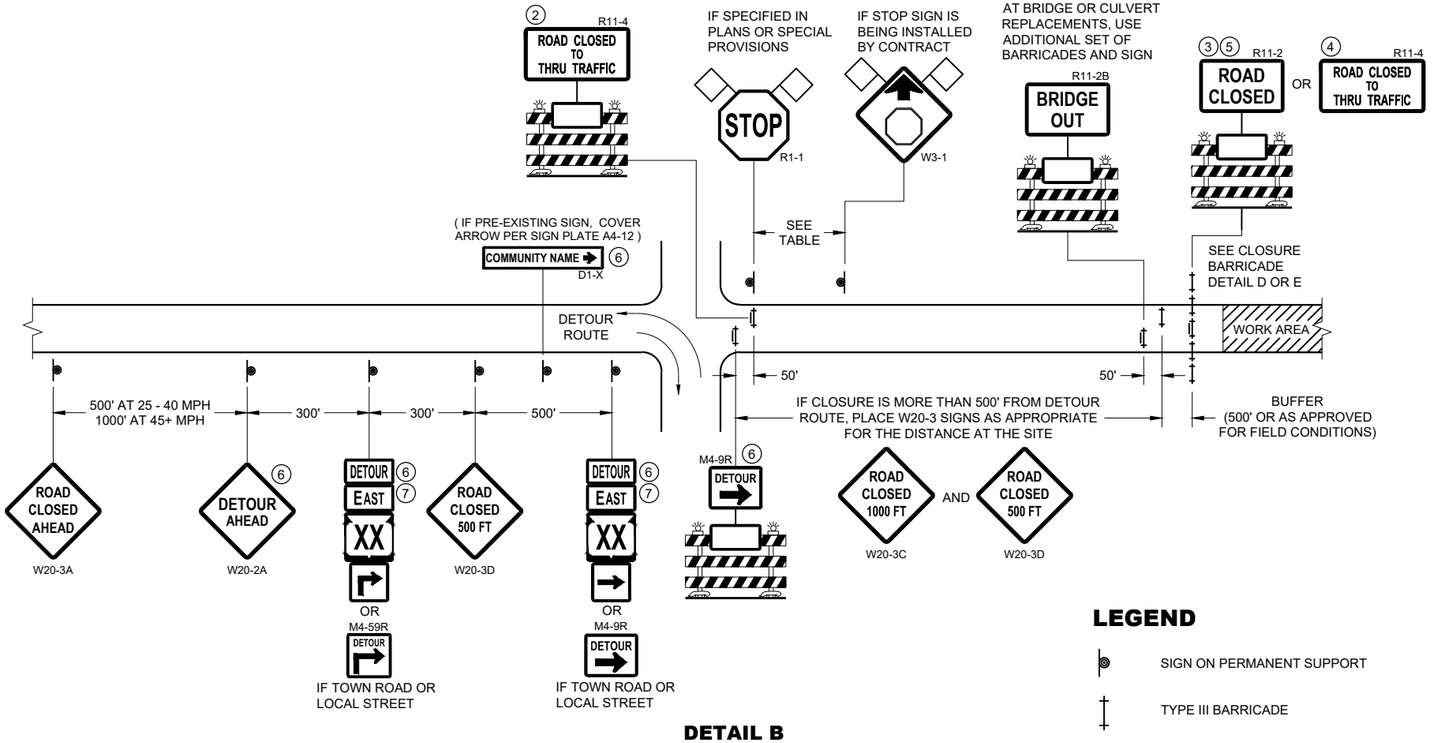
6

S.D.D. 15 B 1-8b



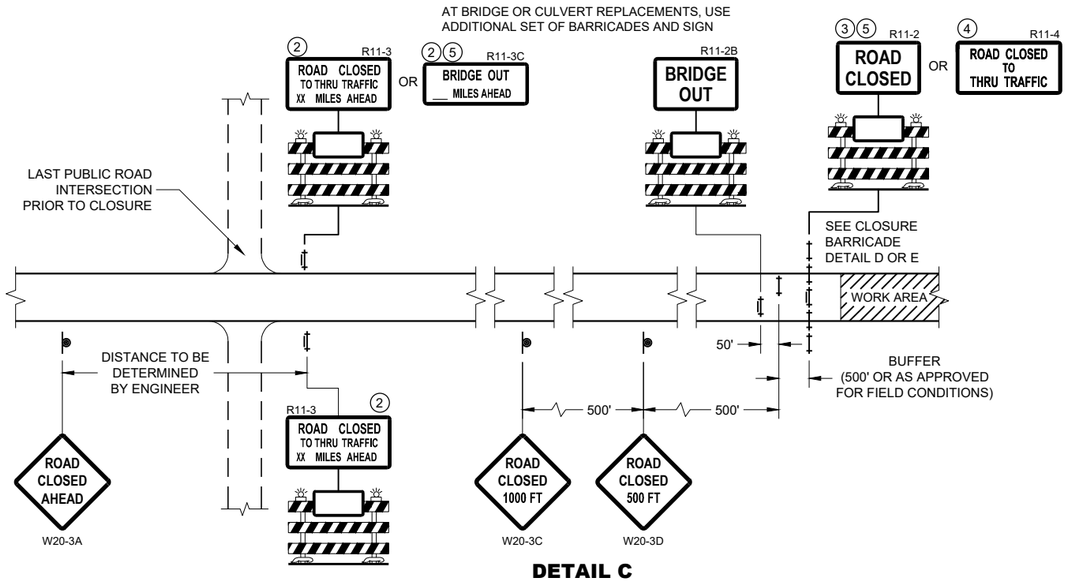
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

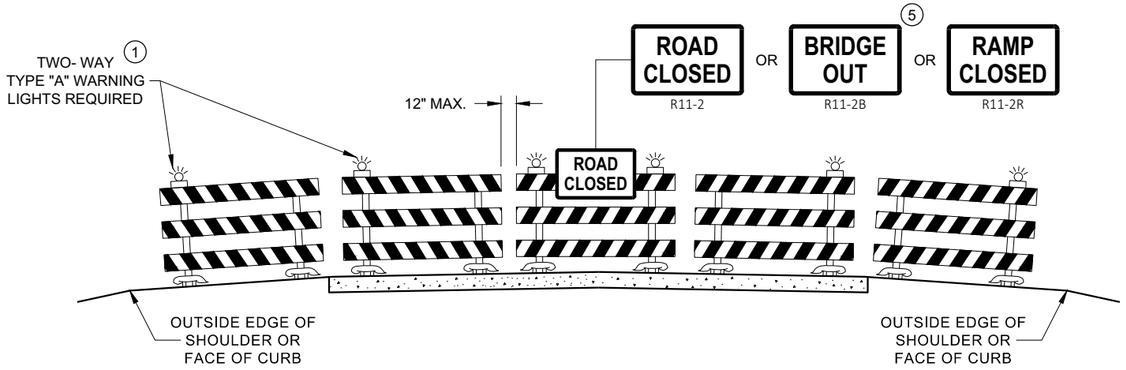
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

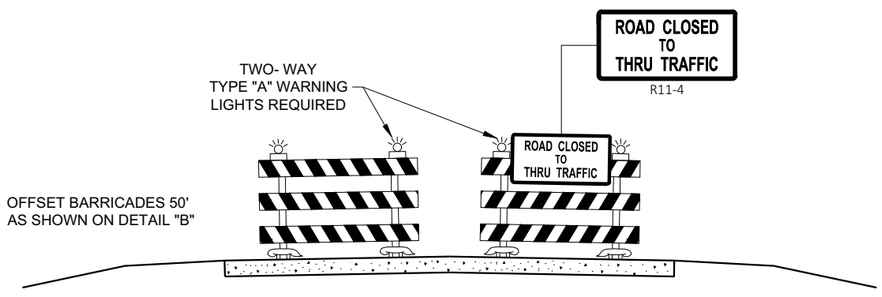
FHWA

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.

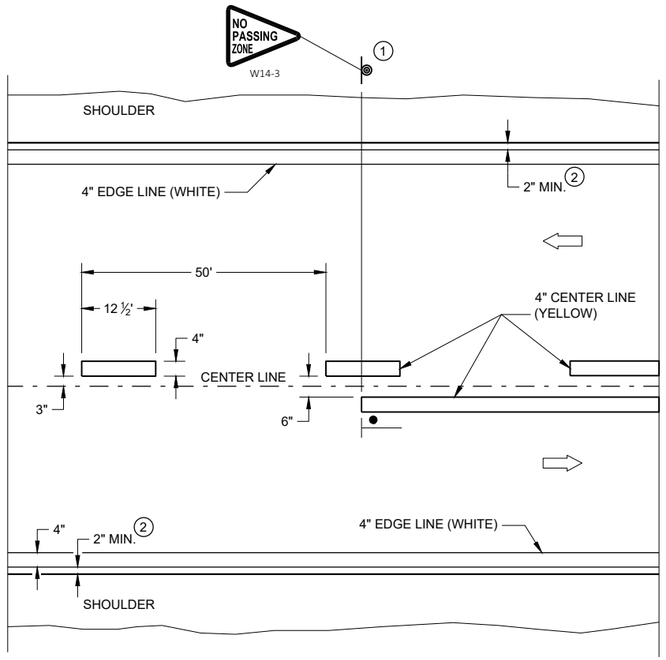
BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

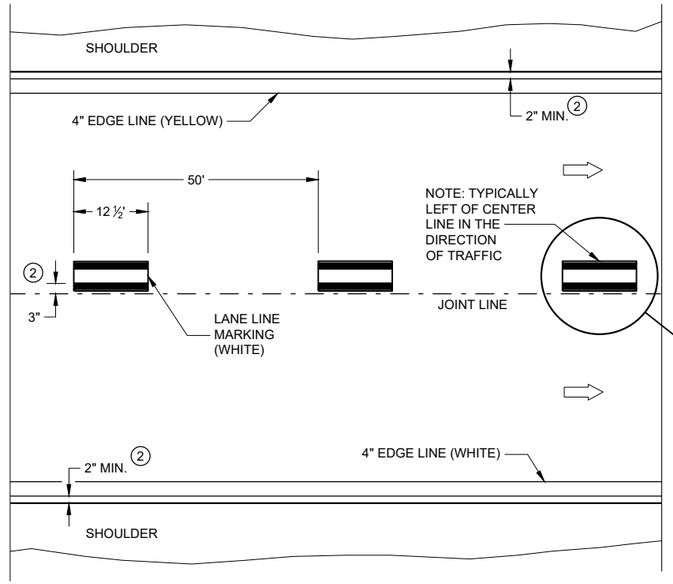
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 08b



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

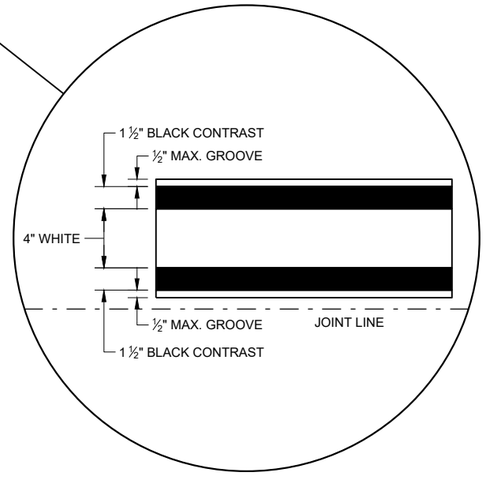
GENERAL NOTES

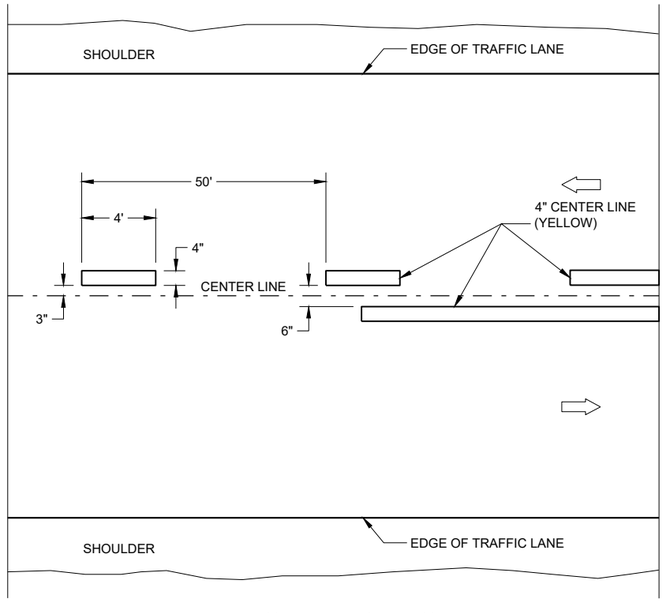
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

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

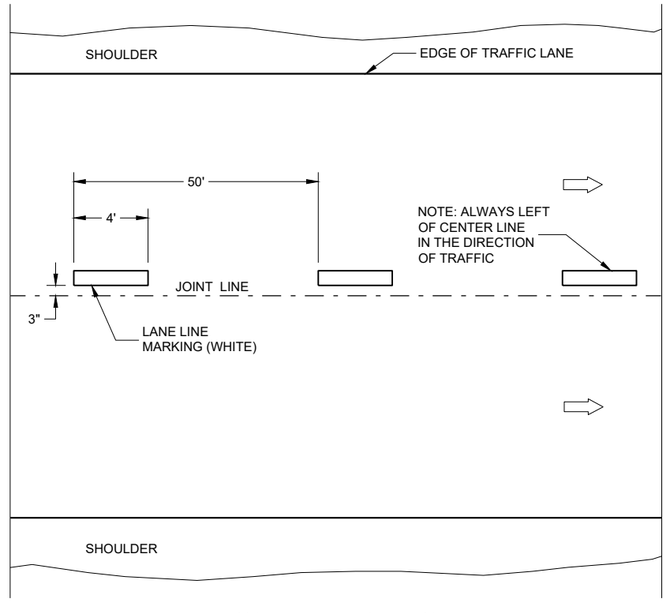
LEGEND

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC





TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

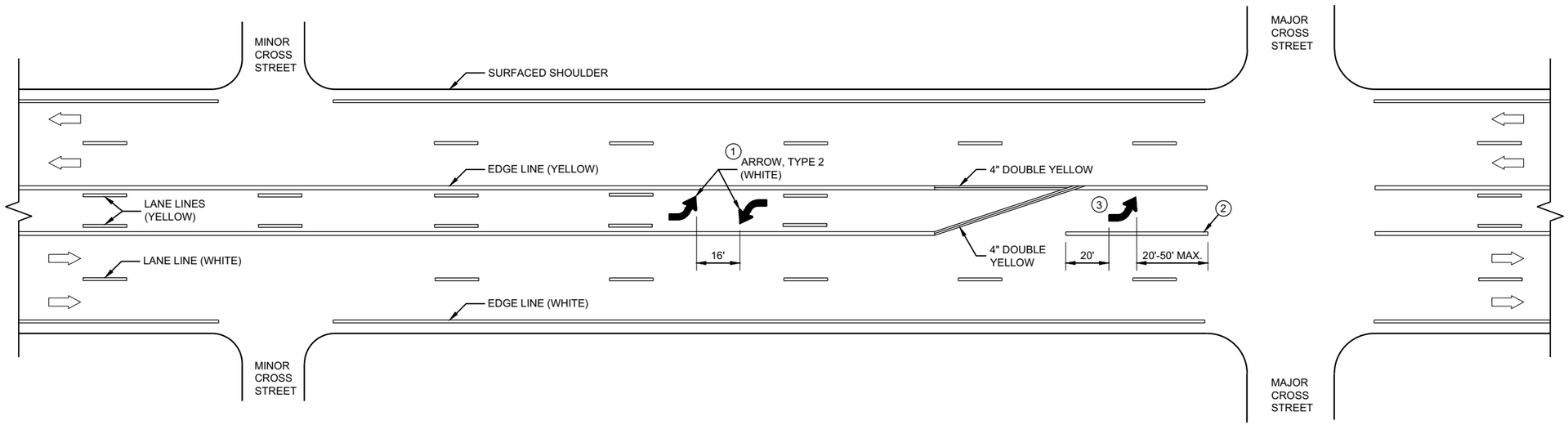
SDD 15C08 - 20a

SDD 15C08 - 20a

GENERAL NOTES

1. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
2. 8" WHITE
3. TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (TURN LANES)

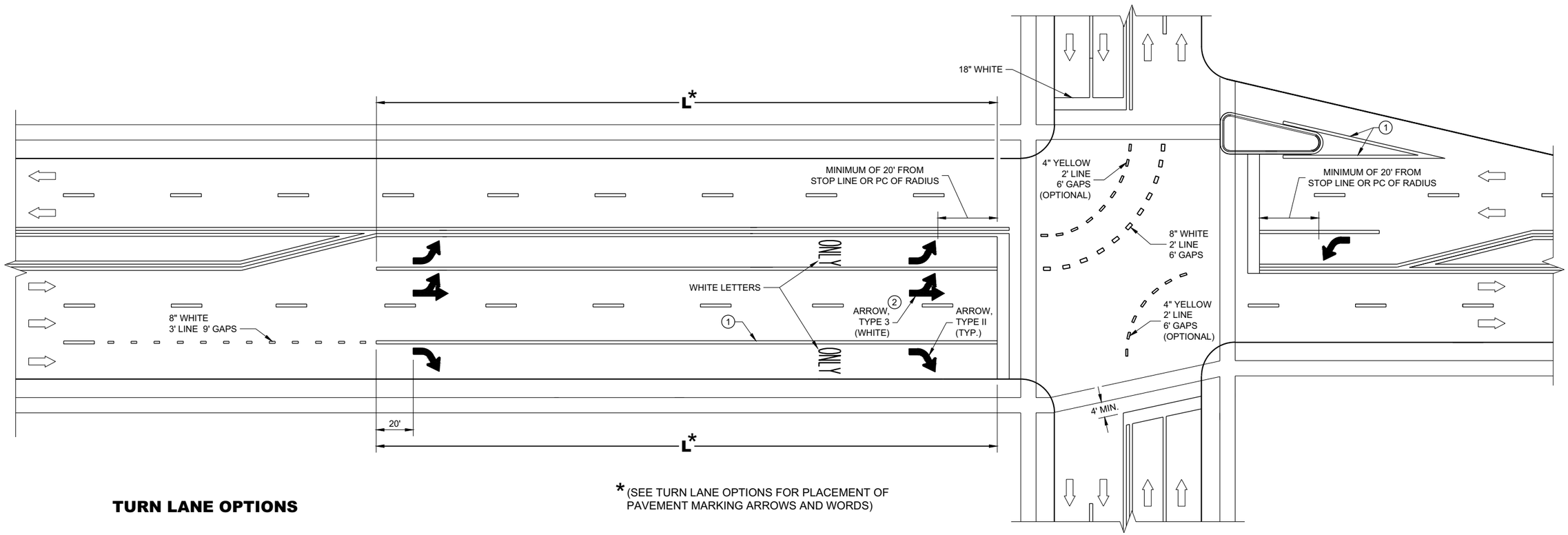
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15C08 - 20b

6

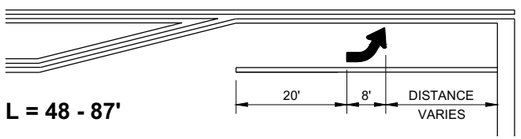
SDD 15C08 - 20b



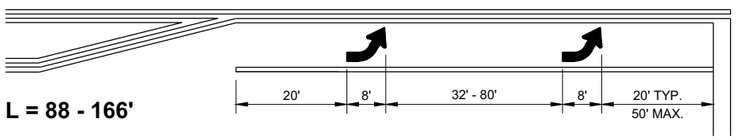
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

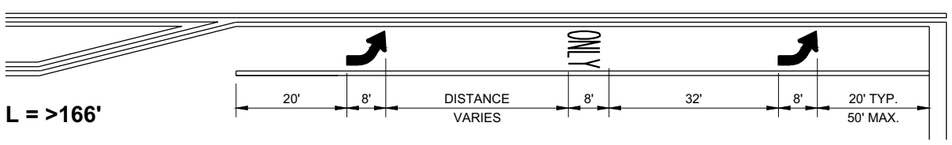
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

1. 8" WHITE
2. QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

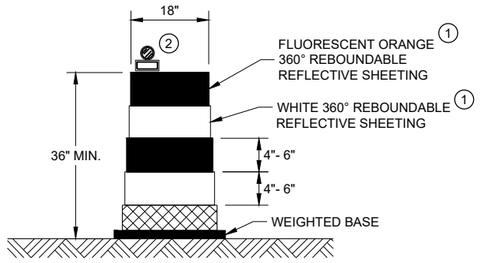
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

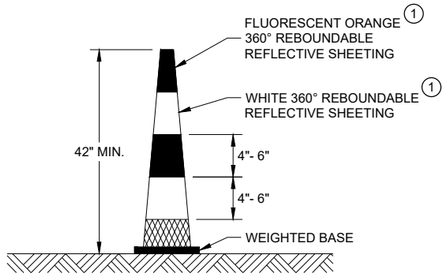
SDD 15C08 - 20c

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.

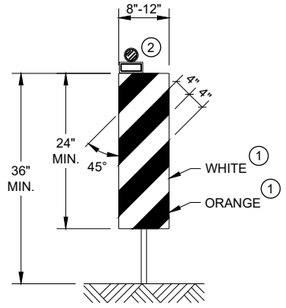


DRUM



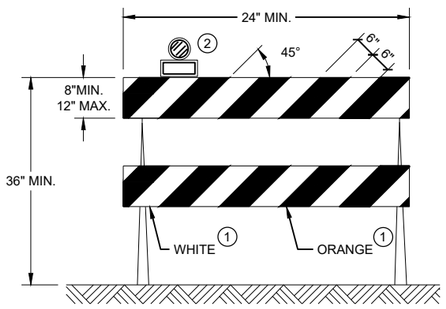
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



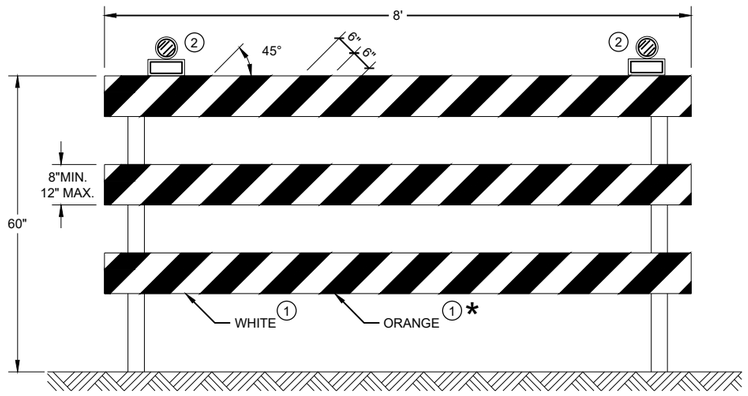
VERTICAL PANEL

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
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD15C11 - 09b

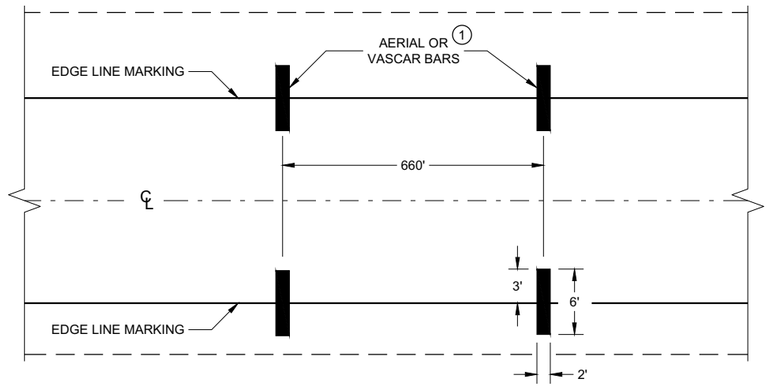
6

SDD15C11 - 09b

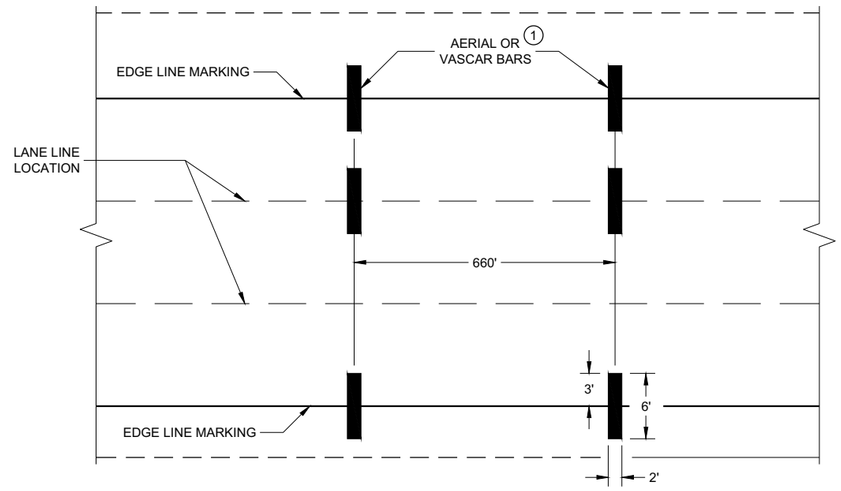
GENERAL NOTES

(1) PLACE TWO TO FIVE AERIAL OR VASCAR BARS AT 660 FOOT SPACING.

A CAR CAN BE PROVIDED BY THE WISCONSIN STATE PATROL FOR TRAFFIC CONTROL.



TYPICAL FOR TWO WAY OR ONE WAY TRAFFIC



TYPICAL FOR MULTILANE TRAFFIC

SPEED ENFORCEMENT ZONE WITH AERIAL OR VASCAR BARS

AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
February 2021 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MAR ENGINEER

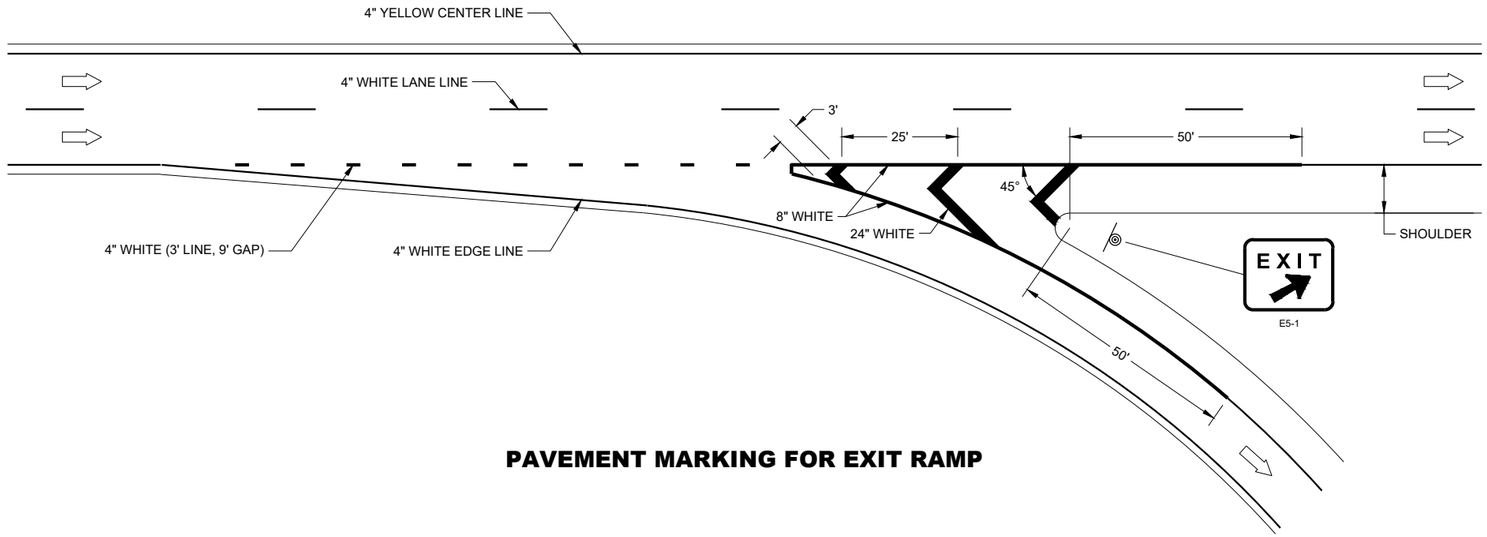
FHWA

6

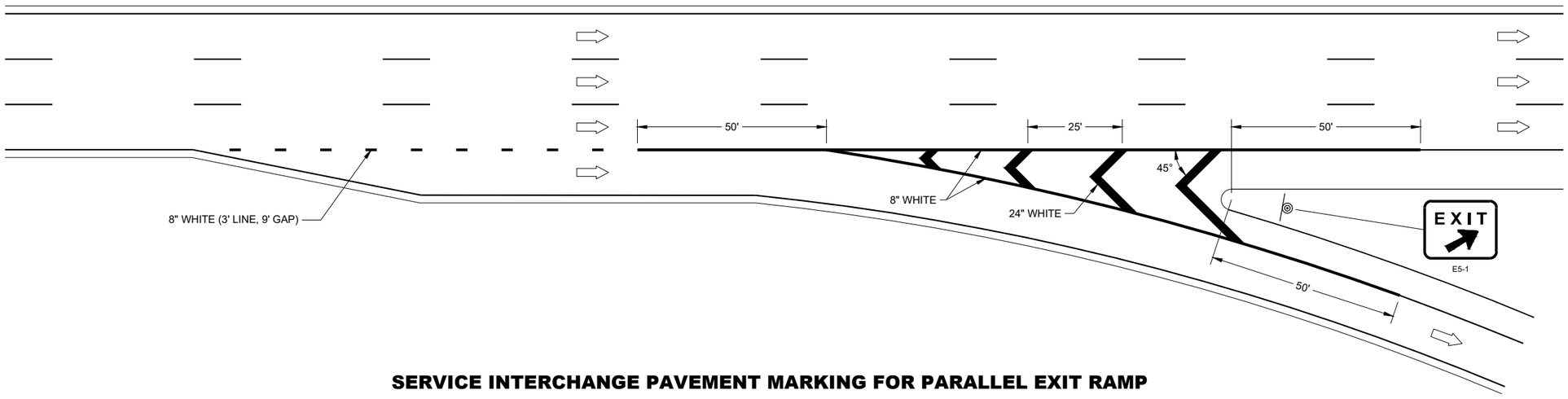
SDD 15C14 - 04

6

SDD 15C14 - 04



PAVEMENT MARKING FOR EXIT RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAVEL

6

SDD 15C31 - 04a

PAVEMENT MARKING, EXIT RAMP AND PARALLEL EXIT RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

SDD 15C31 - 04a

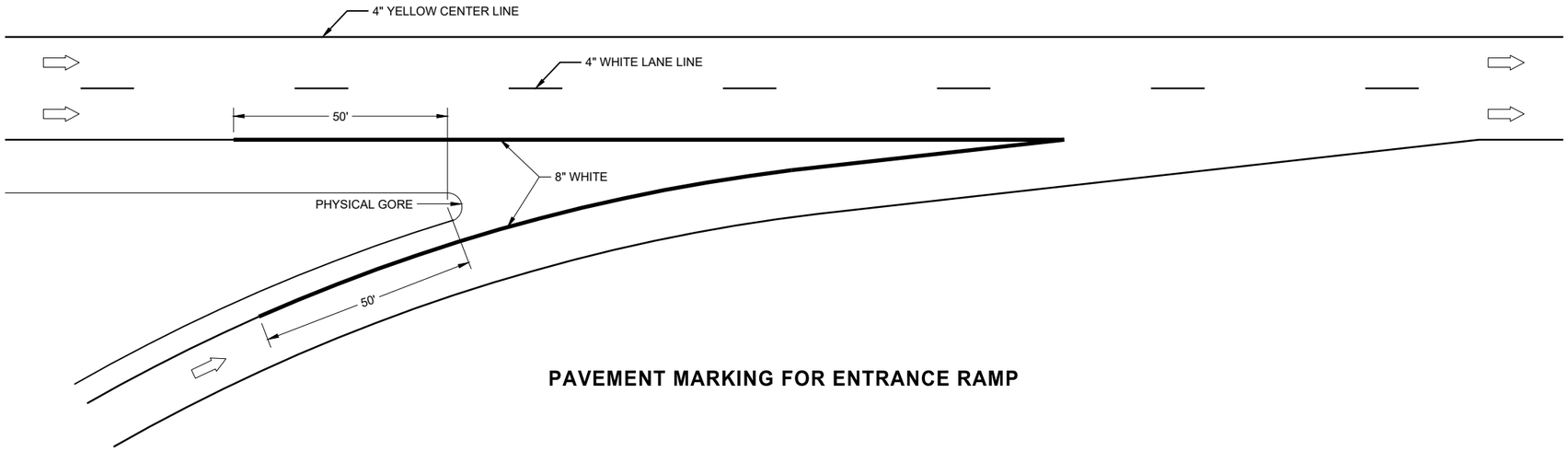
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

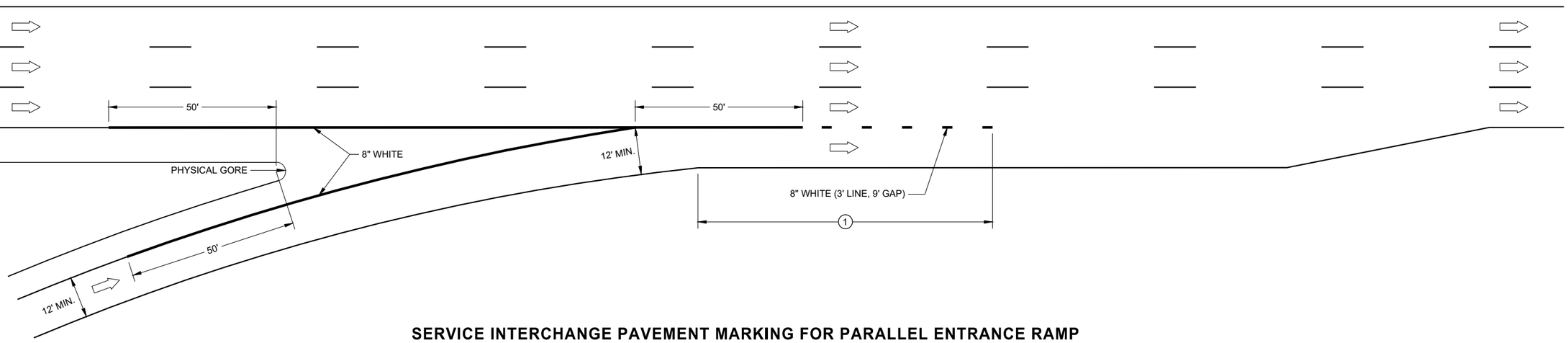
(1) ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

LEGEND

DIRECTION OF TRAVEL



PAVEMENT MARKING FOR ENTRANCE RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP

6

6

SDD 14C31 - 04c

SDD 14C31 - 04c

PAVEMENT MARKING, ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD
- (S) PORTABLE TRAFFIC SENSOR (PTS)
- FBS FLASHING BEACON SIGN

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED SIGNS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

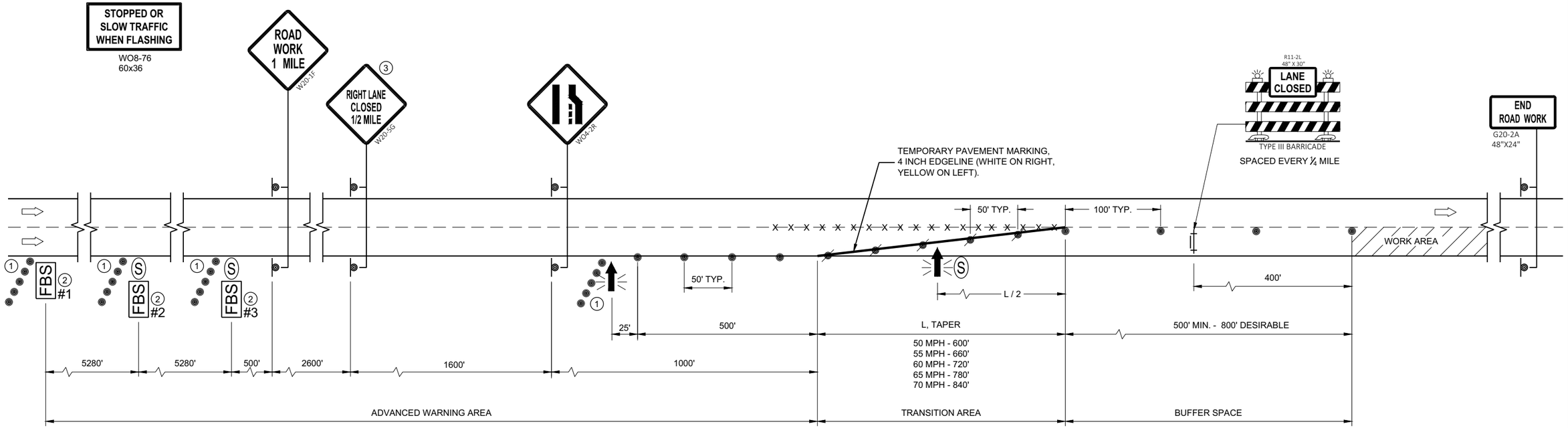
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON THE FBS, ARROW BOARD OR OTHER TRAILER DEVICES.

1. 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
2. IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE FBS ON BOTH SIDES OF THE ROADWAY.
3. IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.



TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

201

6

SDD 15D12 - 09d

6

SDD 15D12 - 09d

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

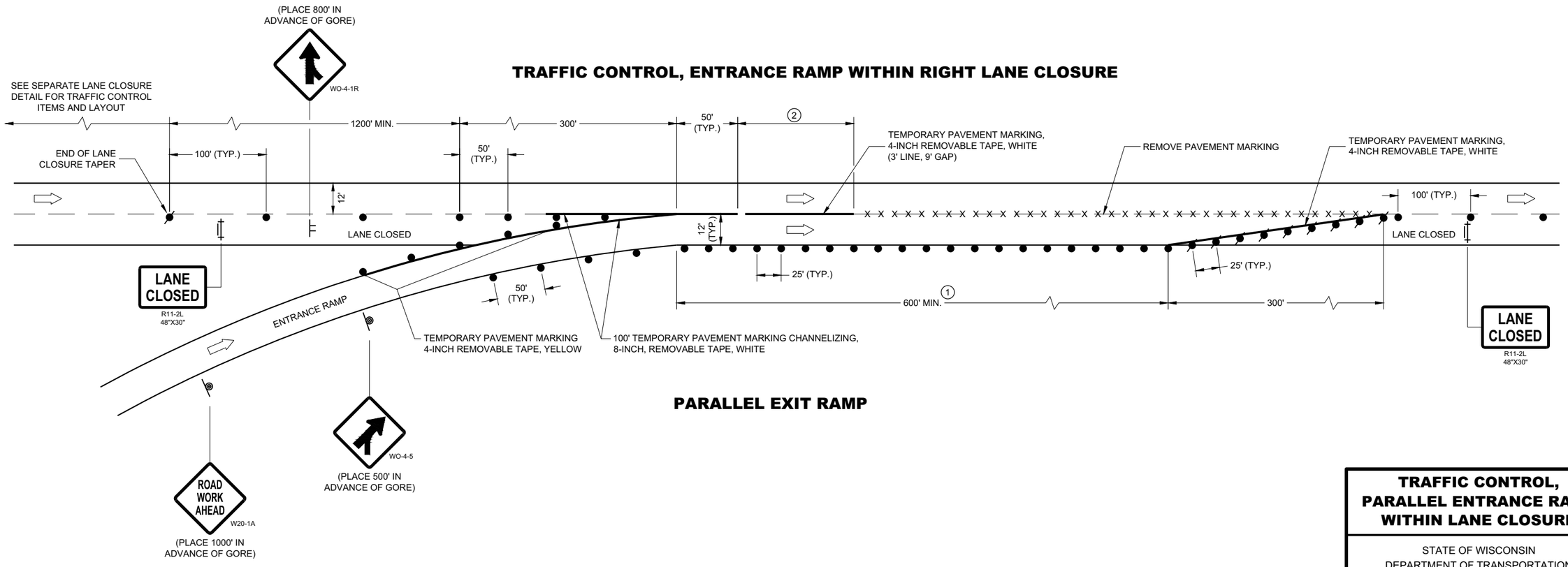
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

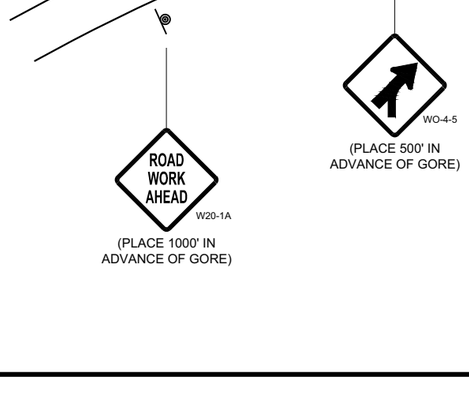
(1) EXTEND THE LENGTH OF THE MERGE ARE IF THE ENTERING (DESIGN) SPEED IS LESS THAN 50MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY MARKING AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE



PARALLEL EXIT RAMP



TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D15 - 05a

SDD 15D15 - 05a

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS /OR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

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.

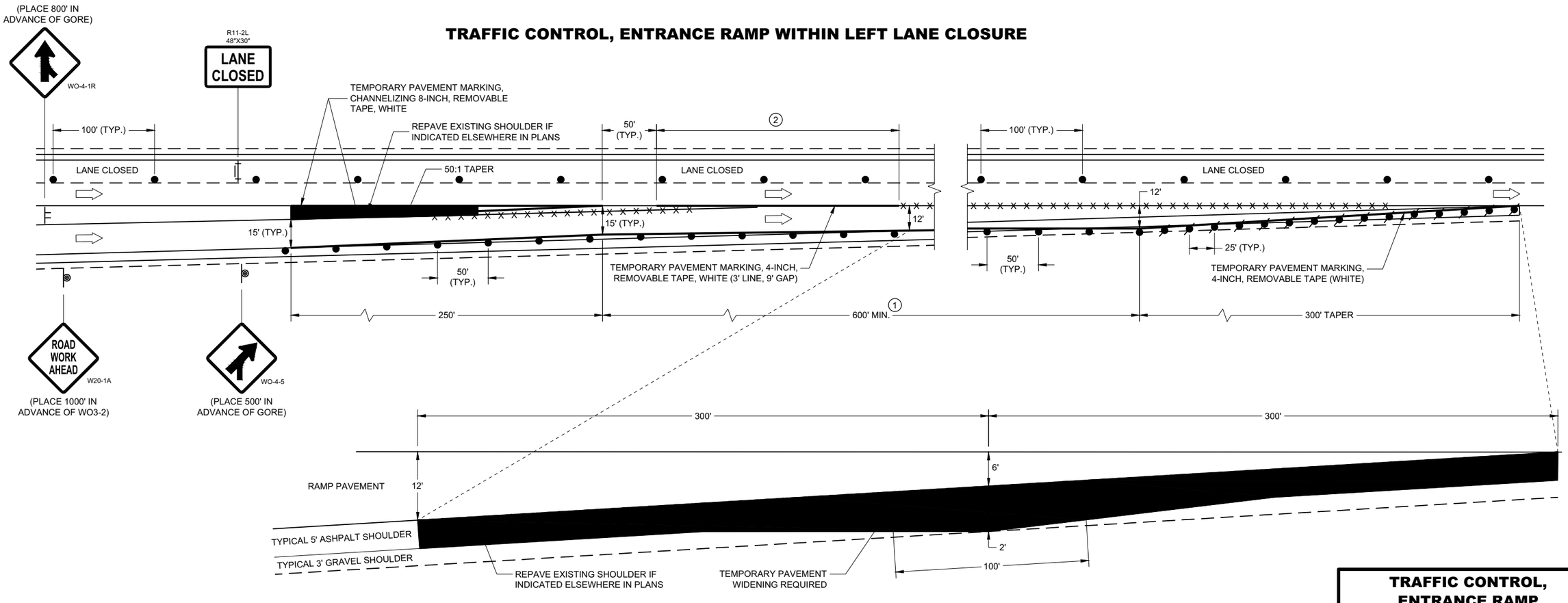
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) EXTEND THE LENGTH OF THE MERGE AREA IF THE ENTERING (DESIGN) SPEED OF THE RAMP IS LESS THAN 50 MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY MARKING AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LEFT LANE CLOSURE



TEMPORARY PAVEMENT DETAIL

(EXISTING RAMP DIMENSIONS MAY VARY, ADJUST TEMPORARY PAVEMENT ACCORDINGLY)

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D15 - 05b

SDD15D15 - 05b

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

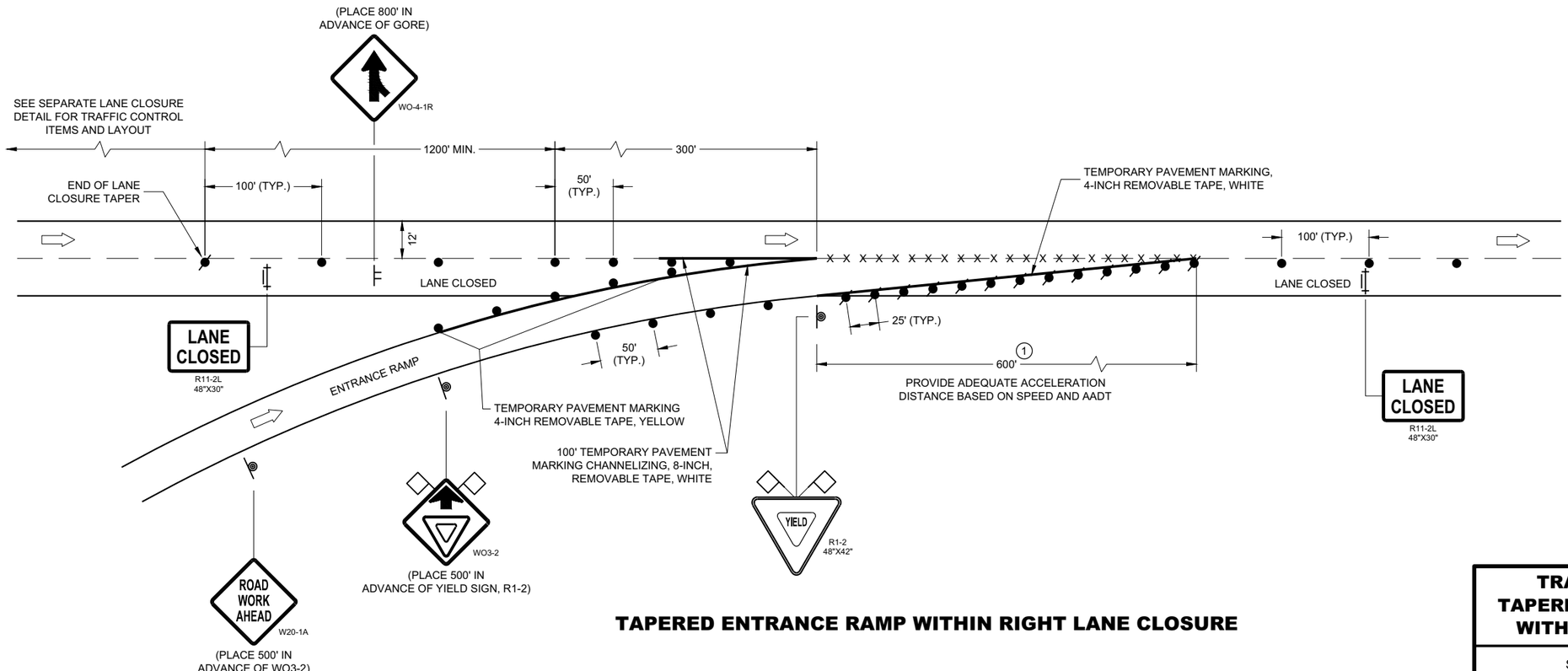
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.



TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D15 - 05c

6

SDD 15D15 - 05c

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

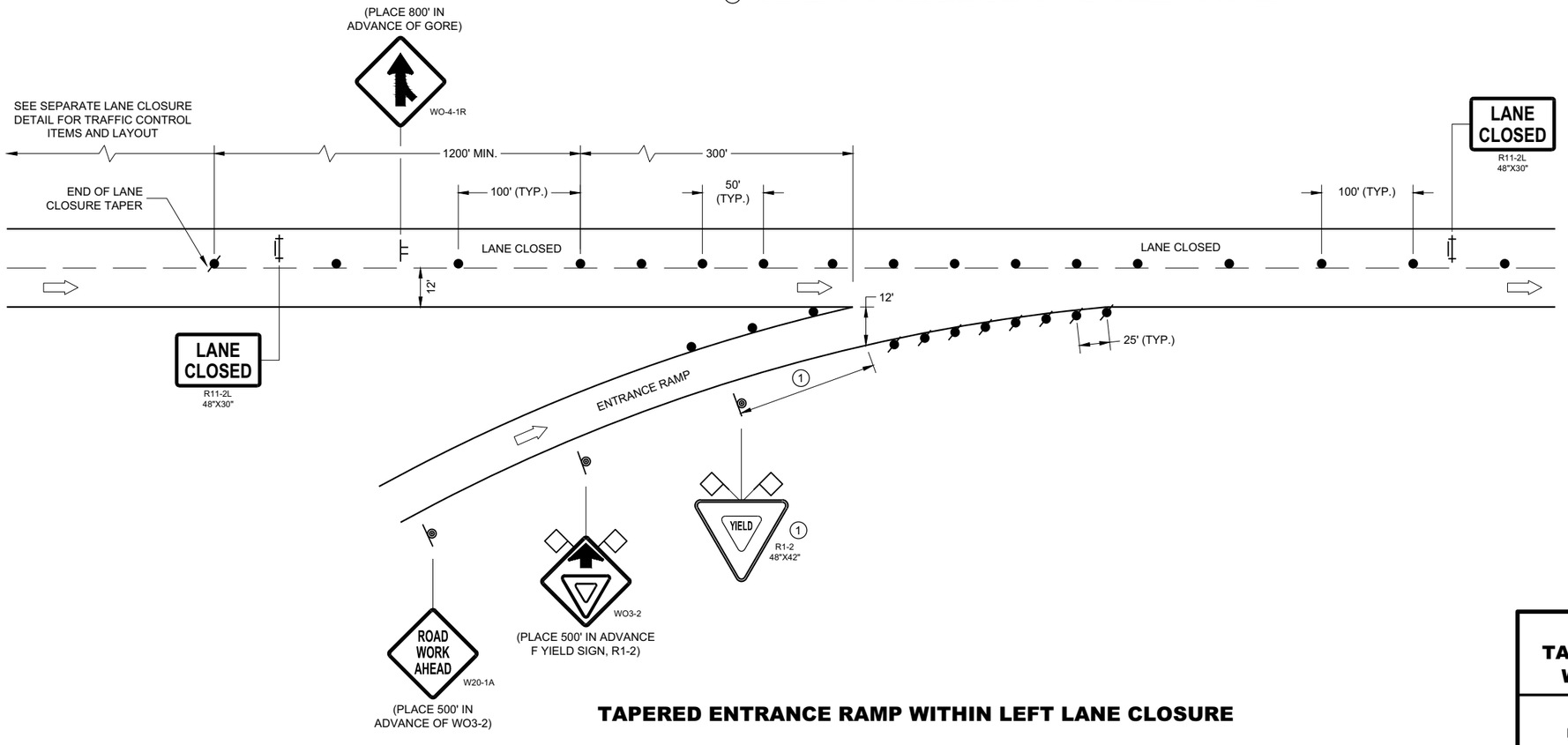
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) PLACE YIELD SIGN TO PROVIDE ADEQUATE SIGHT DISTANCE AND ACCELERATION DISTANCE.



TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D15 - 05d

6

SDD15D15 - 05d

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

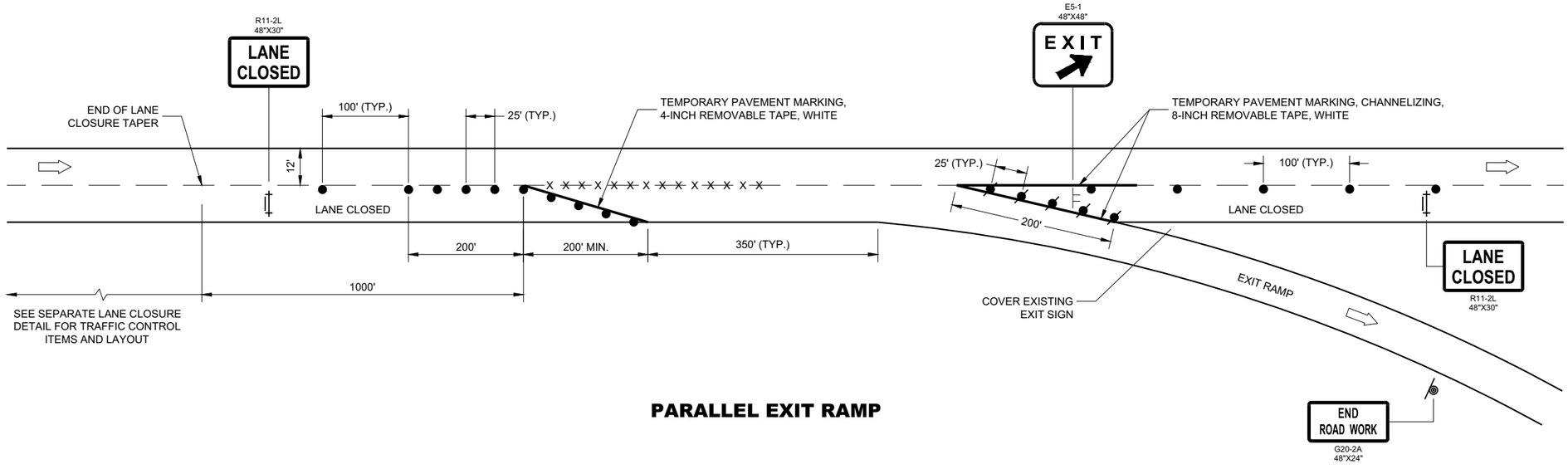
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.



PARALLEL EXIT RAMP

TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEE

FHWA

6

SDD 15D15 - 05e

6

SDD15D15 - 05e

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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.

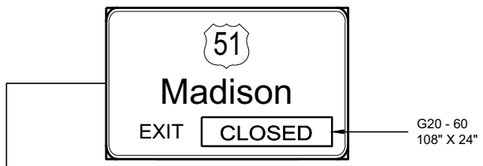
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

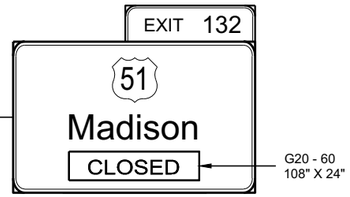
WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

* W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



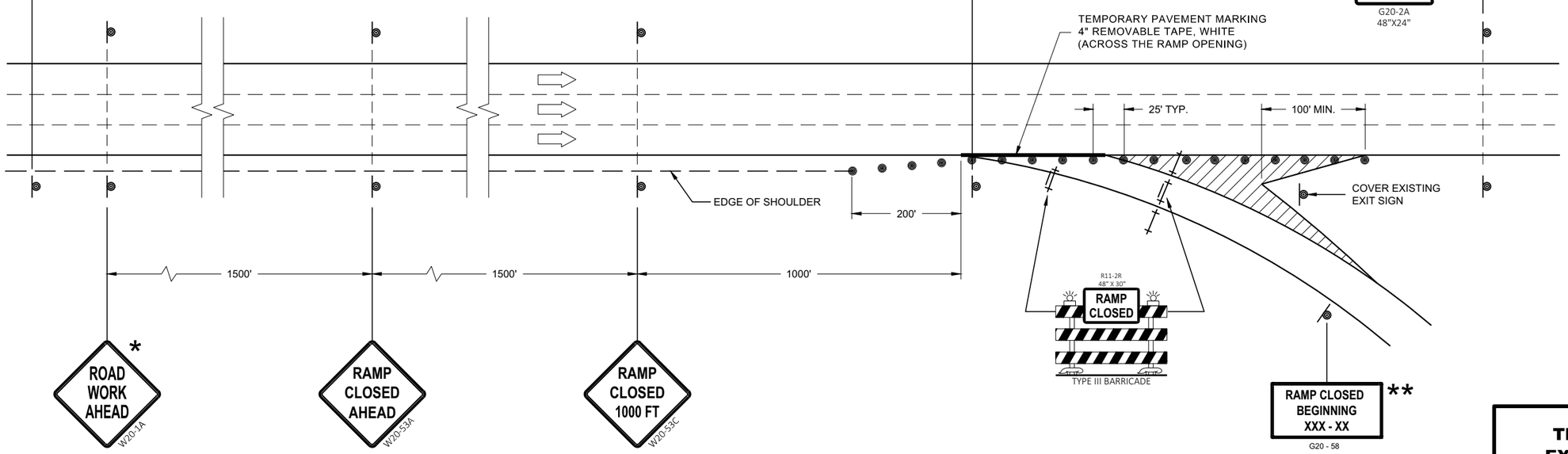
OR



PLACE SIGN G20 - 60 OVER MILEAGE ON EXISTING E1 - 1A SIGN

COVER ARROW ON EXISTING E4 - 1 SIGN (COVERING SIGNS TYPE I)

G20 - 61
120 ' X 30"



OR

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Andrew Heidtke
ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 15D16 - 04

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

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

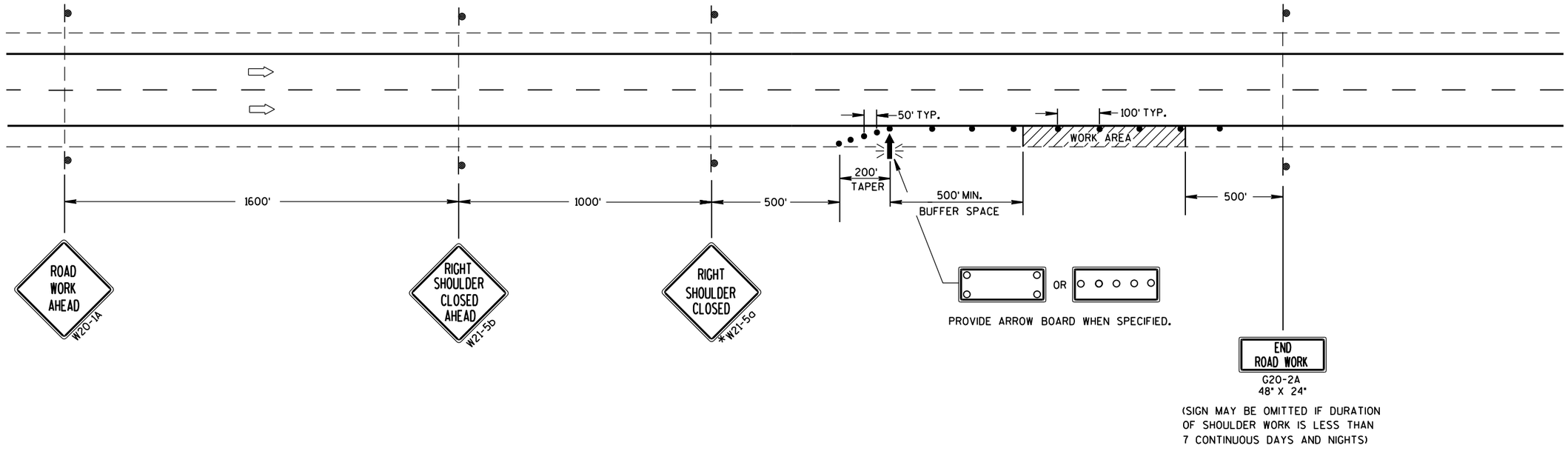
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

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

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

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

FHWA

6

S.D.D. 15 D 27-3

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

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

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

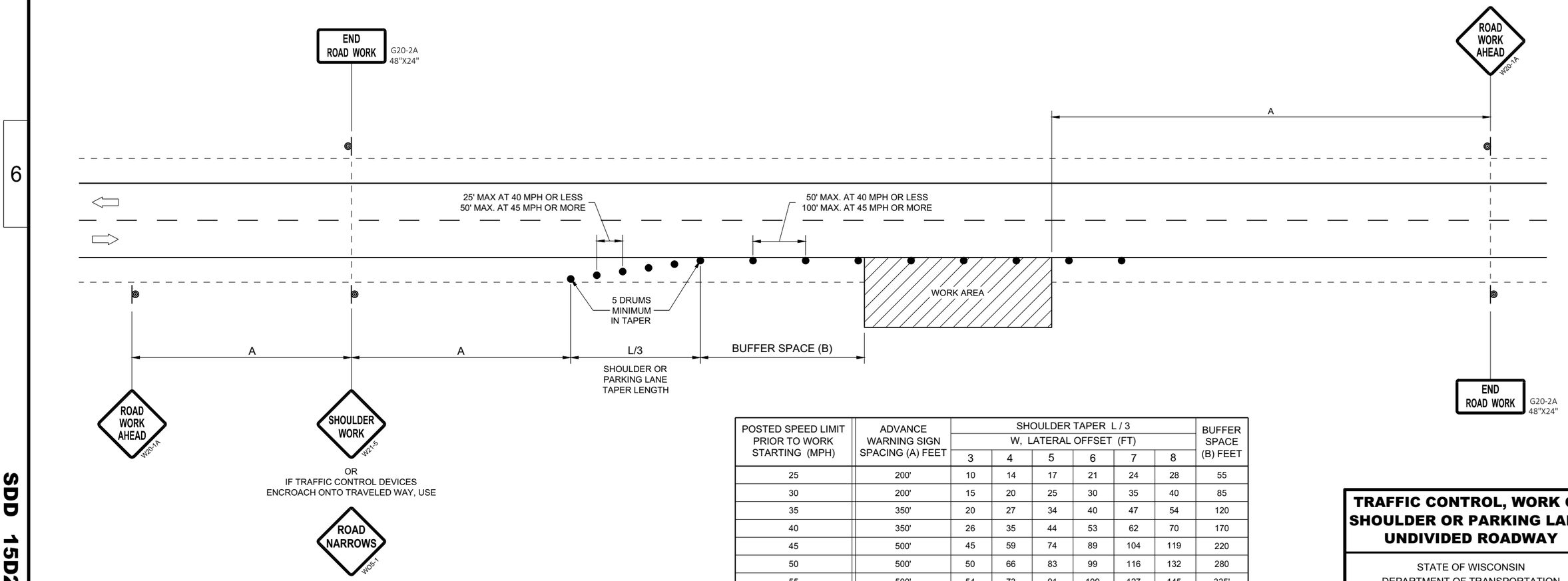
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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

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



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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

SDD 15D28 - 04

SDD 15D28 - 04

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE "A" WARNING LIGHT (FLASHING)

DIRECTION OF TRAFFIC

WORK AREA

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

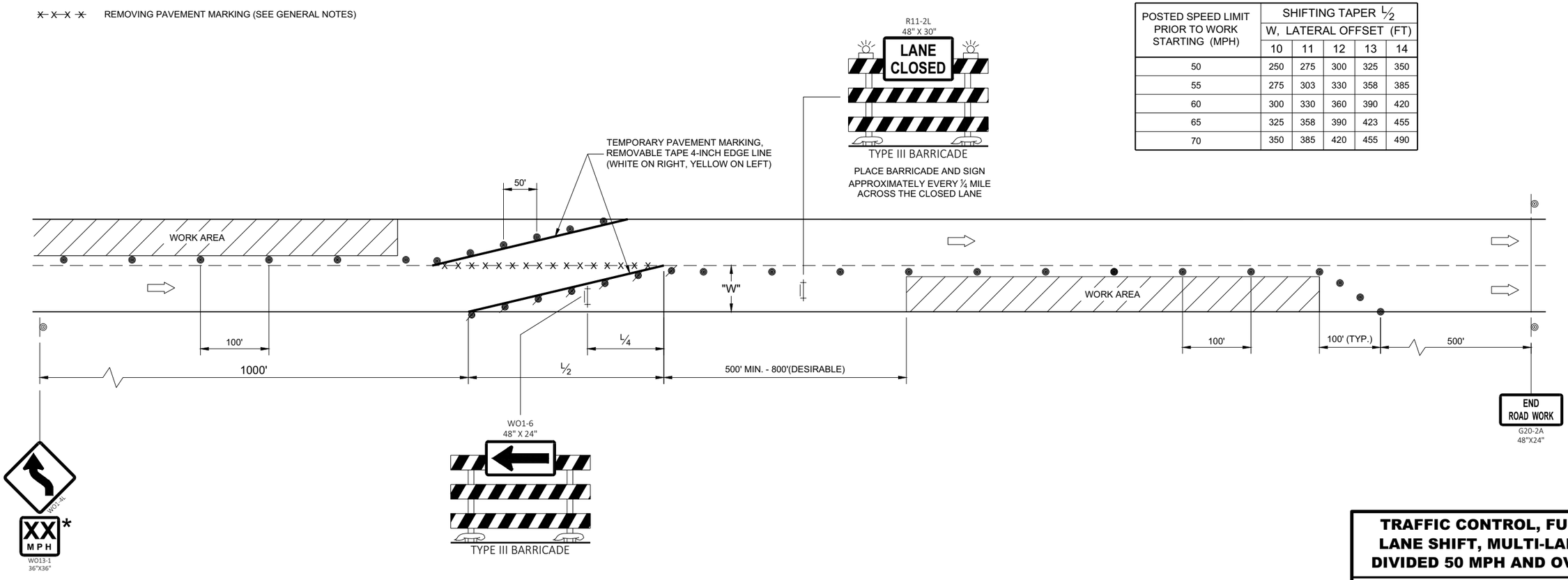
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)				
	10	11	12	13	14
50	250	275	300	325	350
55	275	303	330	358	385
60	300	330	360	390	420
65	325	358	390	423	455
70	350	385	420	455	490



TRAFFIC CONTROL, FULL LANE SHIFT, MULTI-LANE DIVIDED 50 MPH AND OVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D40 - 02b

SDD 15D40 - 02b

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA
- REMOVE PAVEMENT MARKING

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

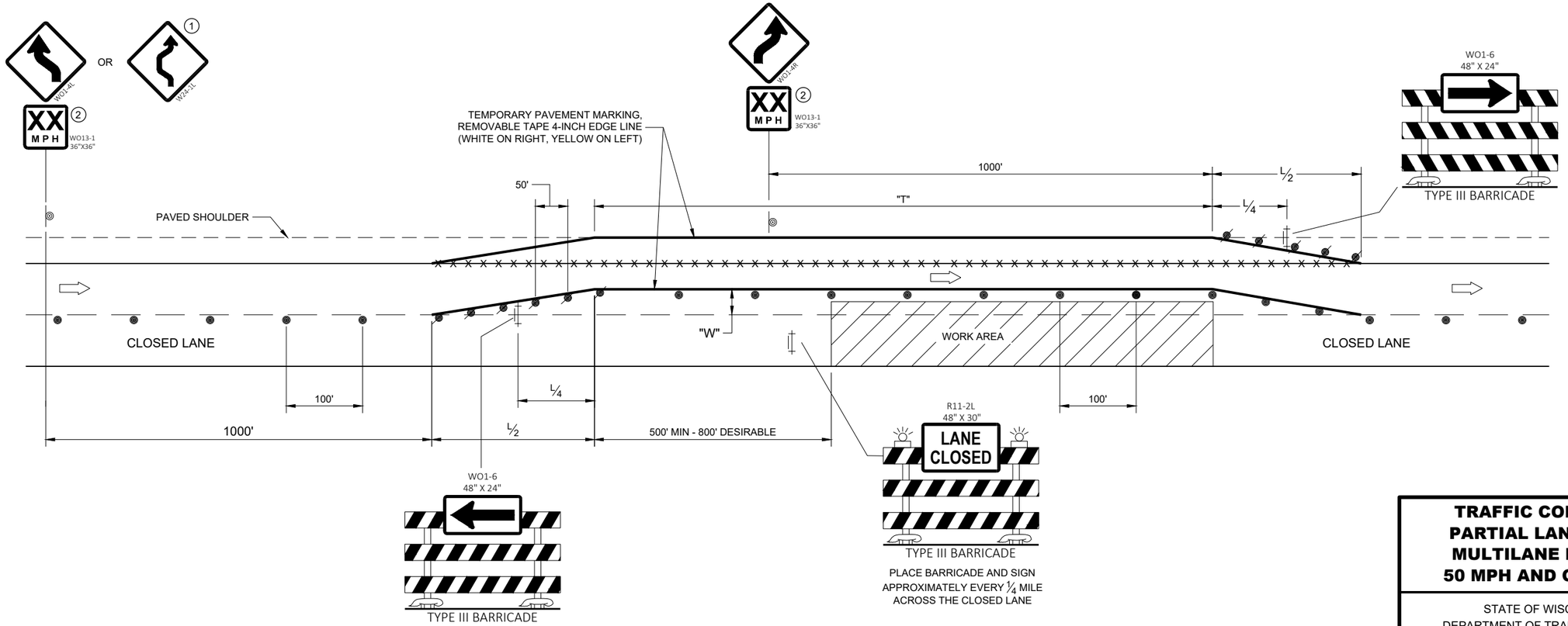
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

(1) USE ONLY WHEN T<600', OMIT WO1-4R.

(2) IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)								
	1	2	3	4	5	6	7	8	9
50	25	50	75	100	125	150	175	200	225
55	28	55	83	110	138	165	193	220	248
60	30	60	90	120	150	180	210	240	270
65	33	65	98	130	163	195	228	260	293
70	35	70	105	140	175	210	245	280	315



PLACE BARRICADE AND SIGN APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE

TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6

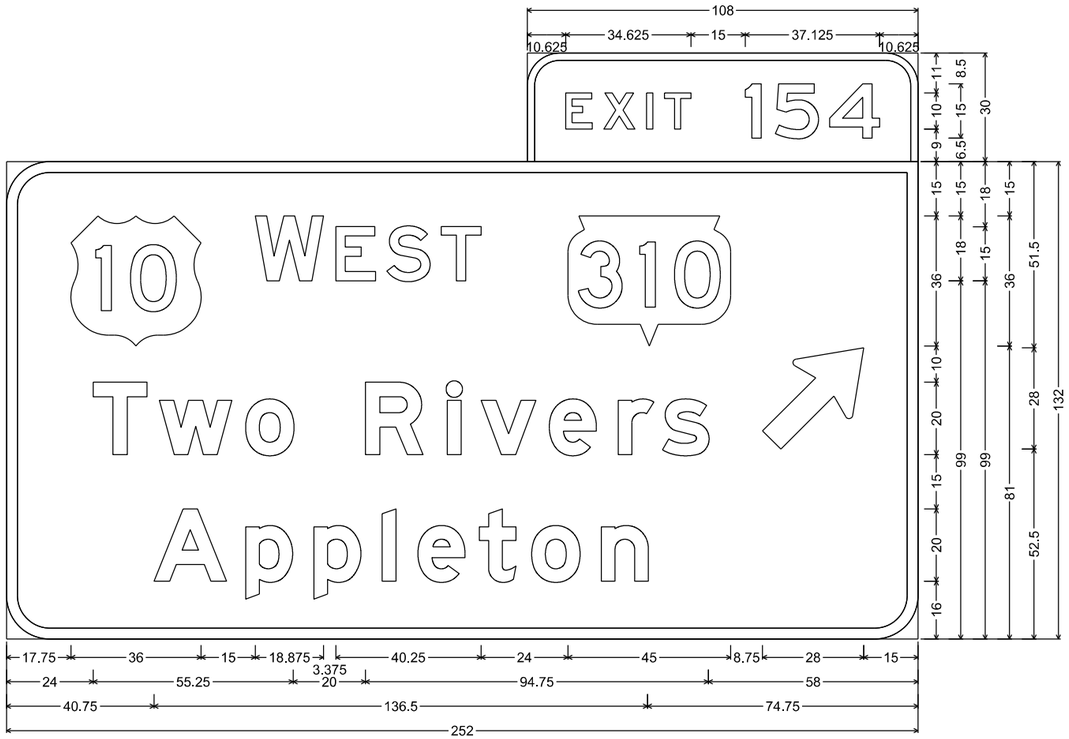
SDD 15D40 - 02d

6

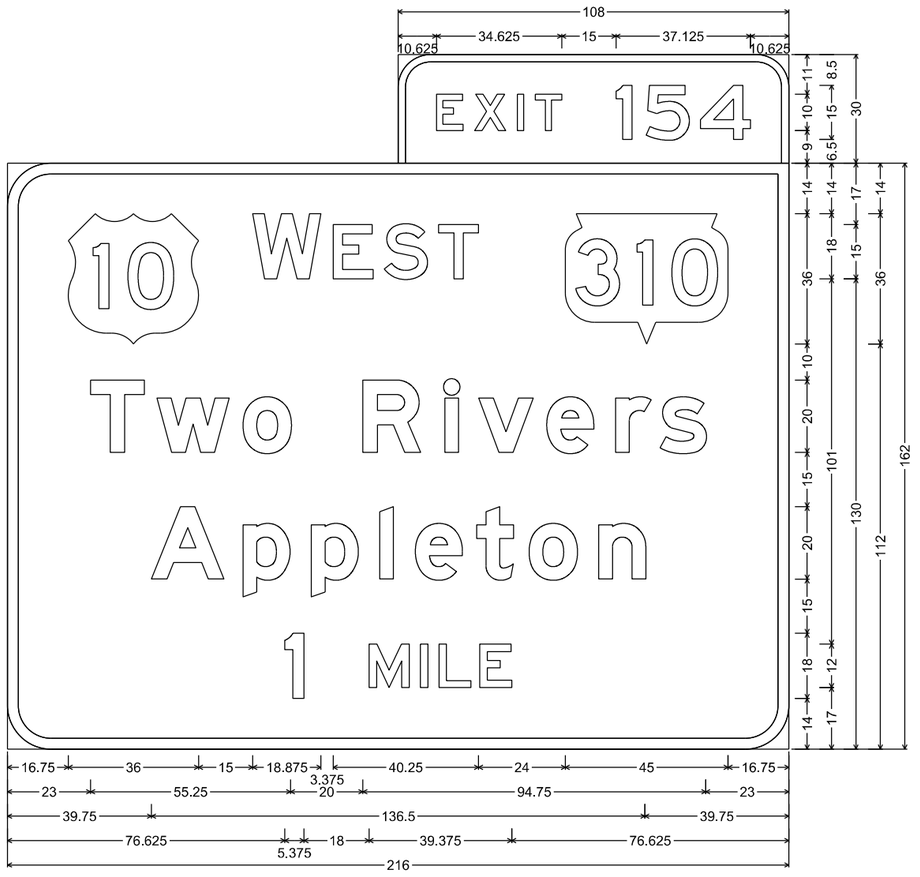
SDD 15D40 - 02d

NOTES

1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E



E1-5P; 9.000" Radius, 2.000" Border
E4-1A; 12.000" Radius, 3.000" Border



E1-5P; 9.000" Radius, 2.000" Border
E1-1A; 12.000" Radius, 3.000" Border

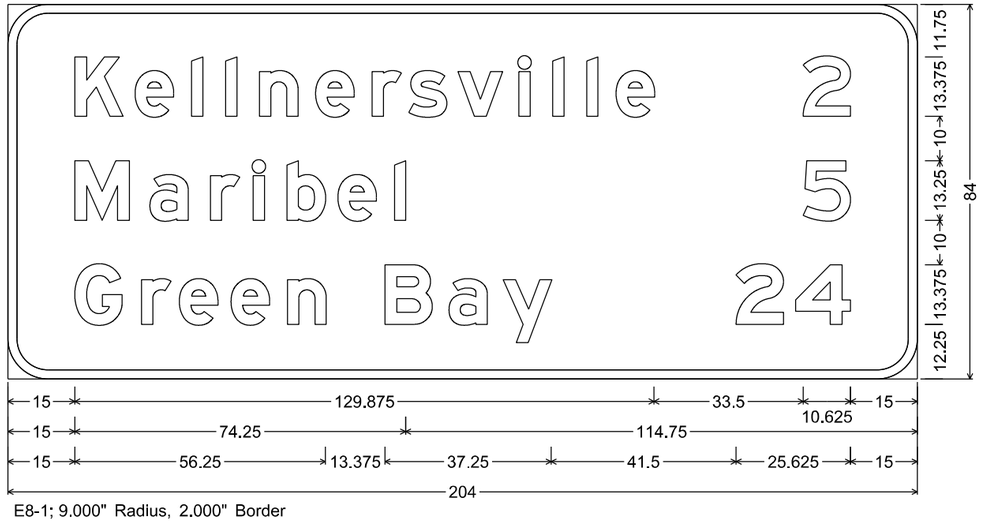
7

7

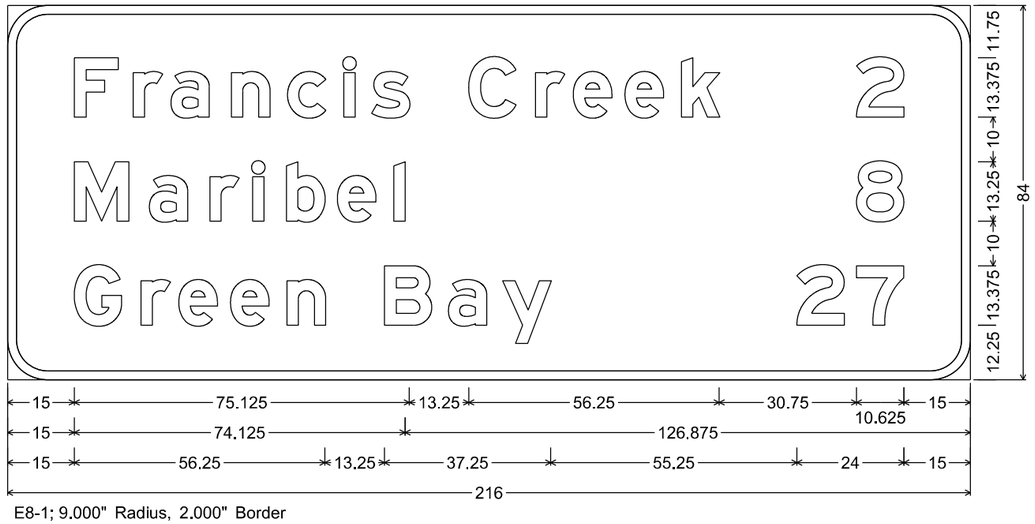
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 212	E

NOTES

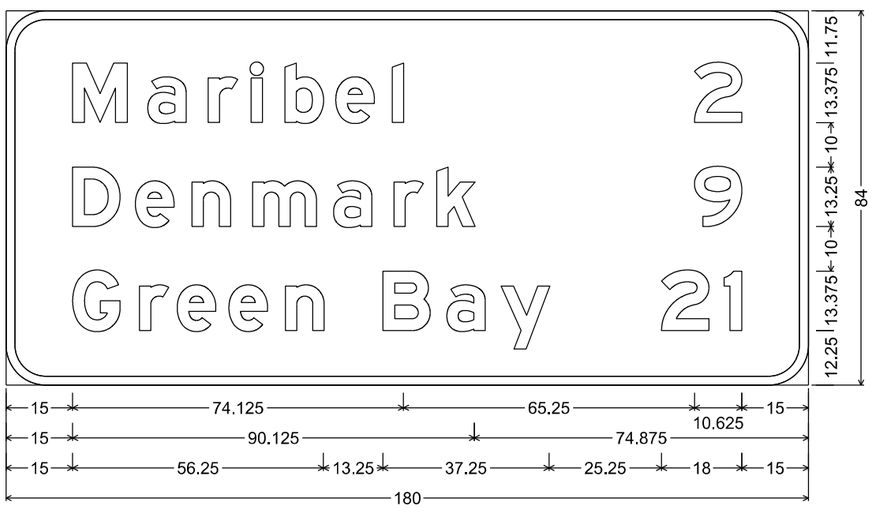
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E



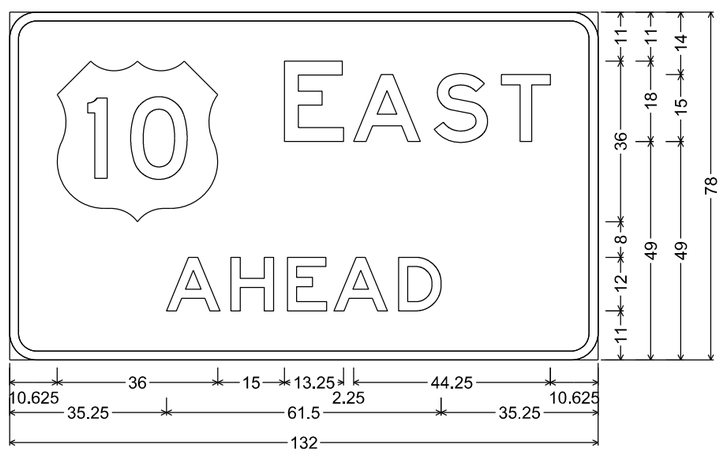
E8-1; 9.000" Radius, 2.000" Border



E8-1; 9.000" Radius, 2.000" Border



E8-1; 9.000" Radius, 2.000" Border



6.000" Radius, 2.000" Border

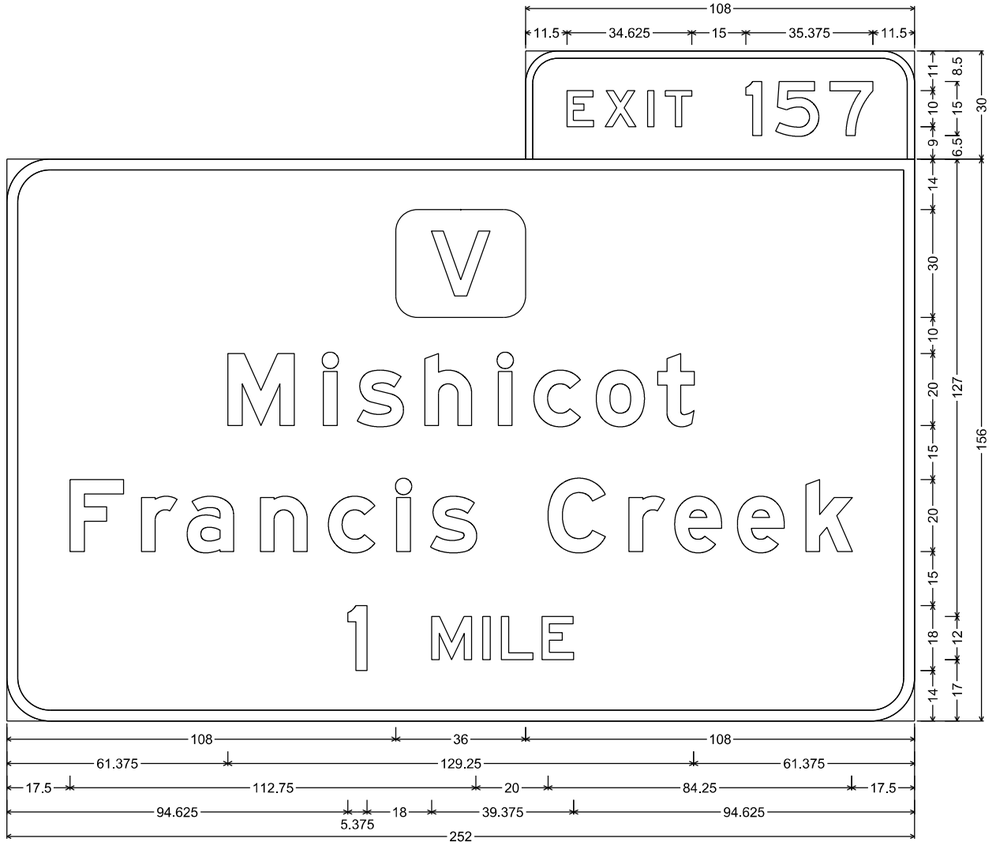
7

7

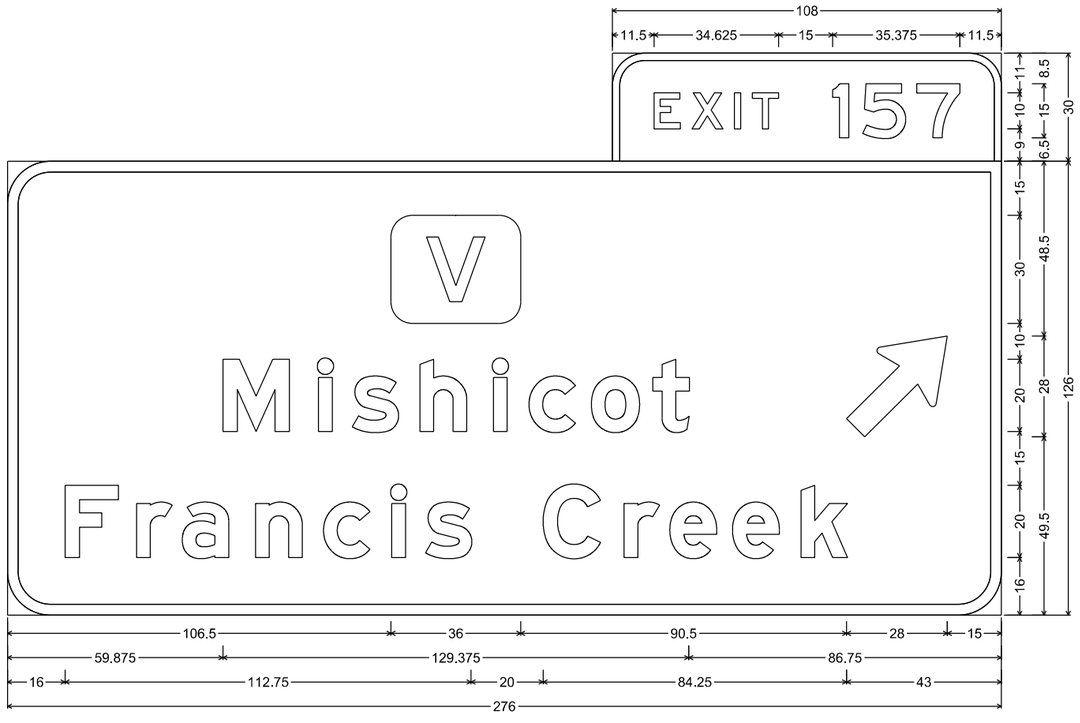
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 213	E

NOTES

1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E



E1-5P; 9.000" Radius, 2.000" Border
E1-1A; 12.000" Radius, 3.000" Border



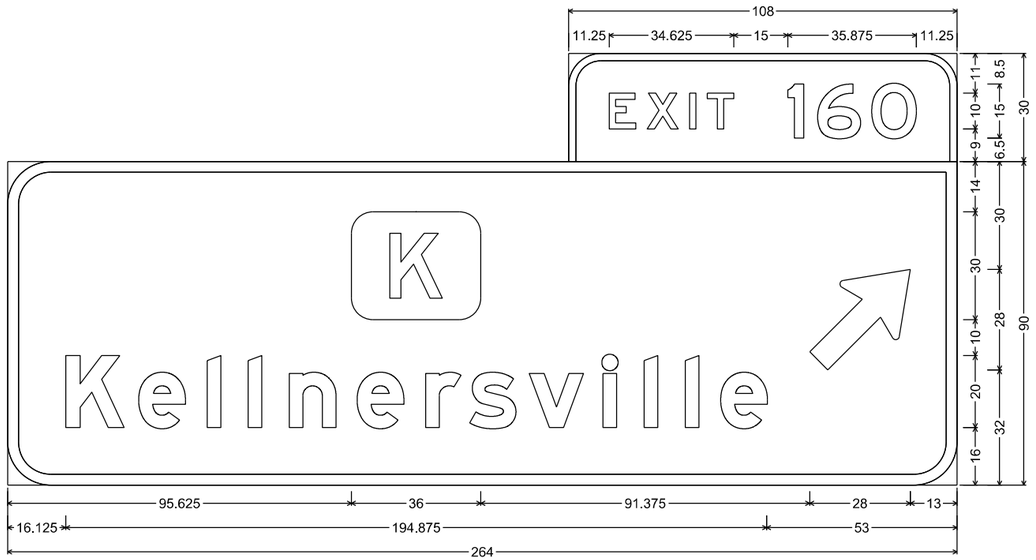
E1-5P; 9.000" Radius, 2.000" Border
E4-1A;12.000" Radius, 3.000" Border

7

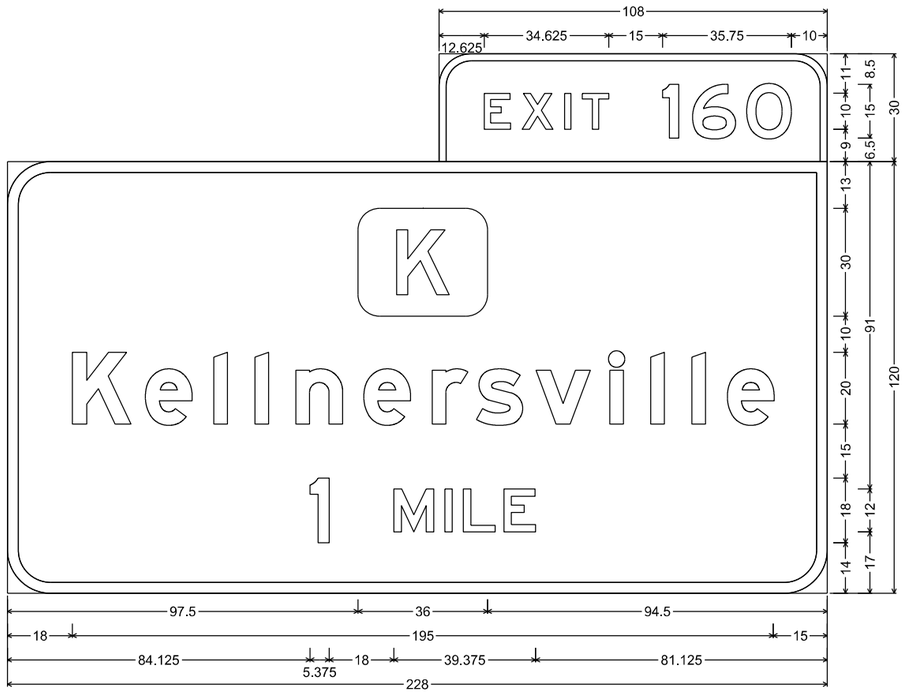
7

NOTES

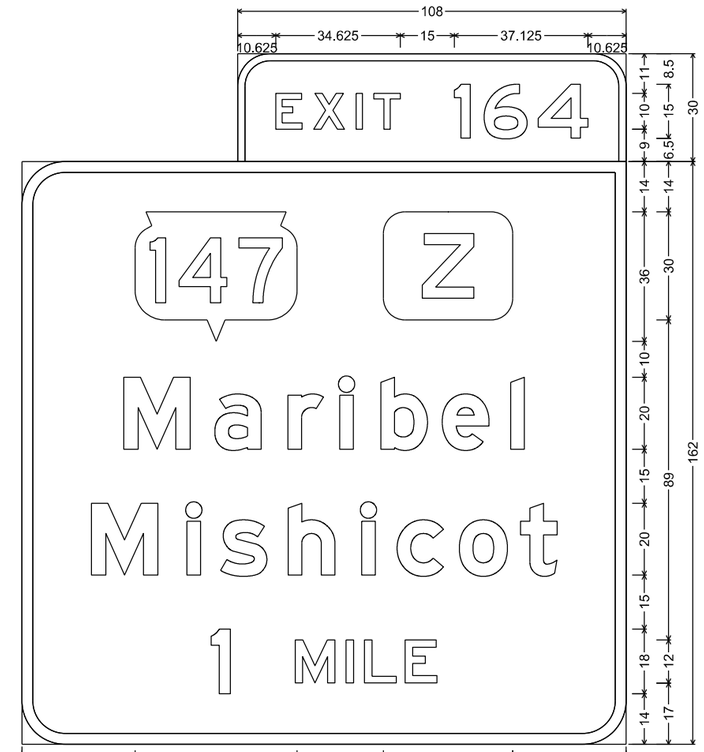
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E



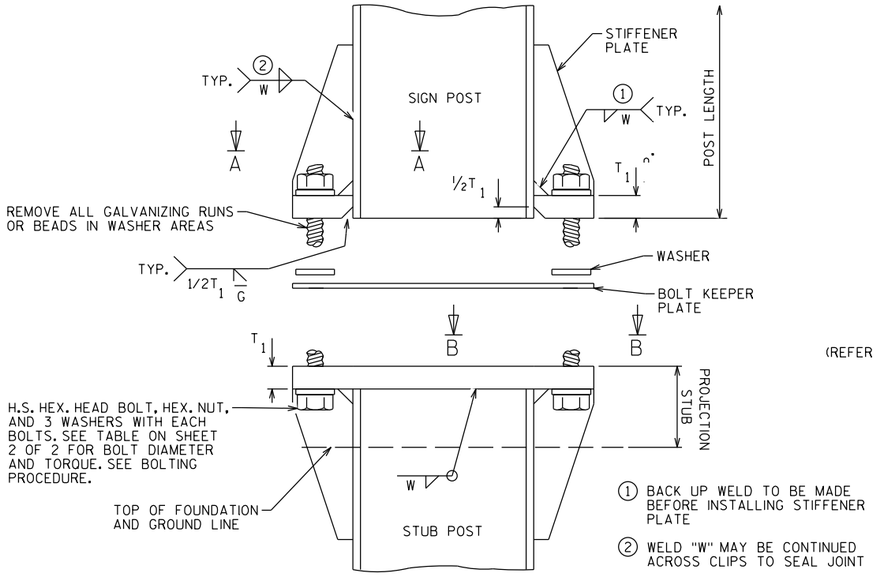
E1-5P; 9.000" Radius, 2.000" Border
E4-1A; 12.000" Radius, 3.000" Border



E1-5P; 9.000" Radius, 2.000" Border
E1-1A; 12.000" Radius, 3.000" Border



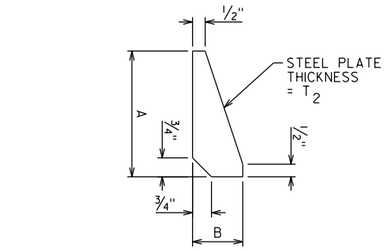
E1-5P; 9.000" Radius, 2.000" Border
E1-1A; 12.000" Radius, 3.000" Border



① BACK UP WELD TO BE MADE BEFORE INSTALLING STIFFENER PLATE

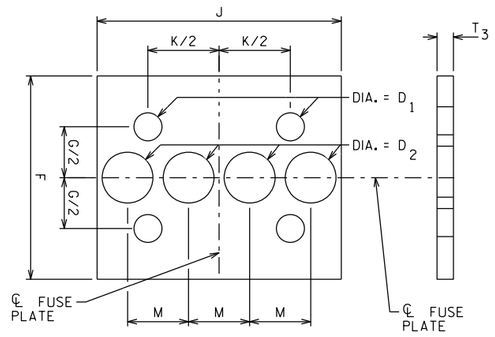
② WELD "W" MAY BE CONTINUED ACROSS CLIPS TO SEAL JOINT

SIGN POST & STUB POST ELEVATION



STIFFENER PLATE DETAIL

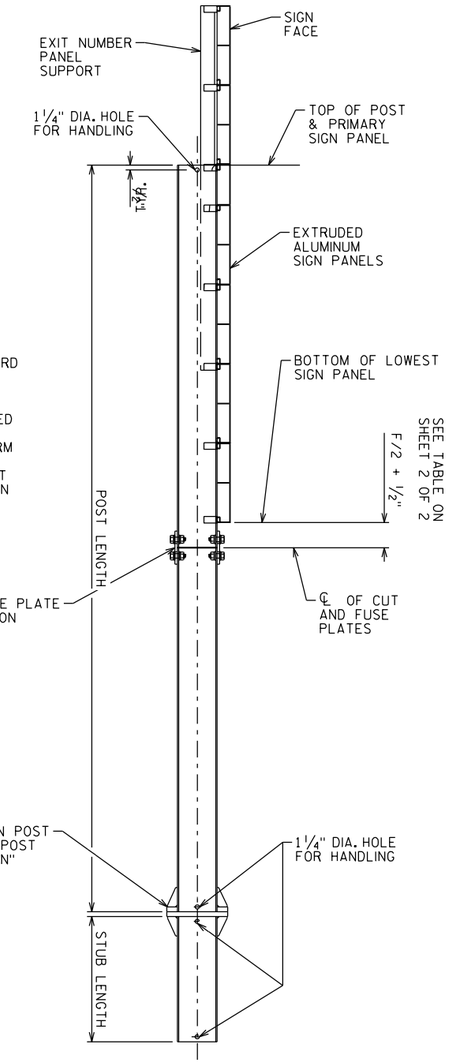
(REFER TO TABLE ON SHEET 2 OF 2 FOR DIMENSIONS)



PERFORMED FUSE PLATE DETAIL

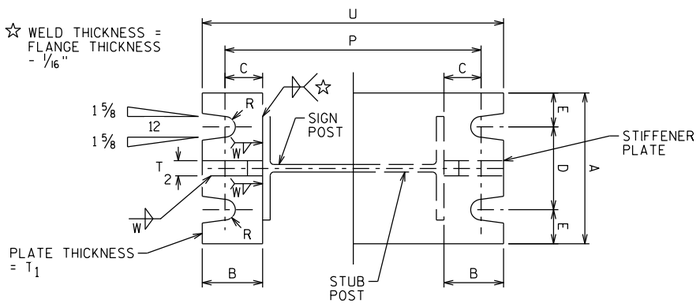
USE H.S. HEX HEAD BOLTS, HEX HEAD NUT AND FLAT WASHER UNDER NUT. INSTALL BOLTS PER THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION SECTION 506.3.12.3.

ALL HOLES SHALL BE DRILLED, SUB-PUNCHED AND REAMED. ALL PLATE CUTS SHALL PREFERABLY BE SAW CUTS. HOWEVER, FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND. METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE PERMITTED. STEEL FUSE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36. ASTM A572 GRADE 50 OR ASTM A588 MAY BE SUBSTITUTED FOR A36 AT THE OPTION OF THE FABRICATOR. MILL TEST REPORTS SHALL BE SUBMITTED FOR FUSE PLATES. STEEL USED SHALL HAVE AN ULTIMATE TENSILE STRENGTH NOT TO EXCEED 80 KSI.



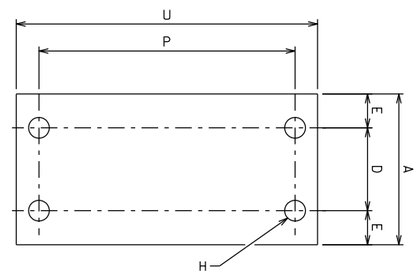
POST DETAIL

☆ WELD THICKNESS = FLANGE THICKNESS - 1/16"



SECTION A-A

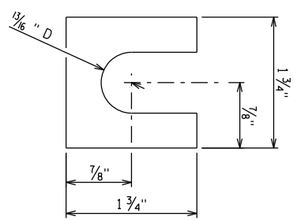
SECTION B-B



H = BOLT DIA. + 1/8"

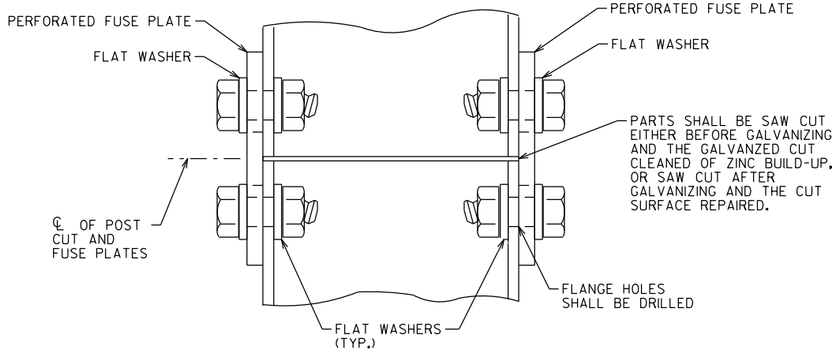
BOLT KEEPER PLATE DETAIL

30 GA GALVANIZED SHEET STEEL



SHIM DETAIL

FURNISH TWO .012"± THICK AND TWO .032"± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO ASTM B36.



FUSE PLATE CONNECTION DETAIL

BOLTING PROCEDURE FOR BASE CONNECTION

1. ASSEMBLE SIGN POST, BOLT KEEPER PLATE, AND STUB POST WITH BOLTS AND THREE FLAT WASHERS PER BOLT AS SHOWN.
2. SHIM AS REQUIRED TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING, LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH A 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS.
5. LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PERSCRIBED TORQUE. (SEE TABLE FOR PERSCRIBED TORQUE). DO NOT OVER-TIGHTEN.
6. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

DRAWN BY	PLANS CK'D.

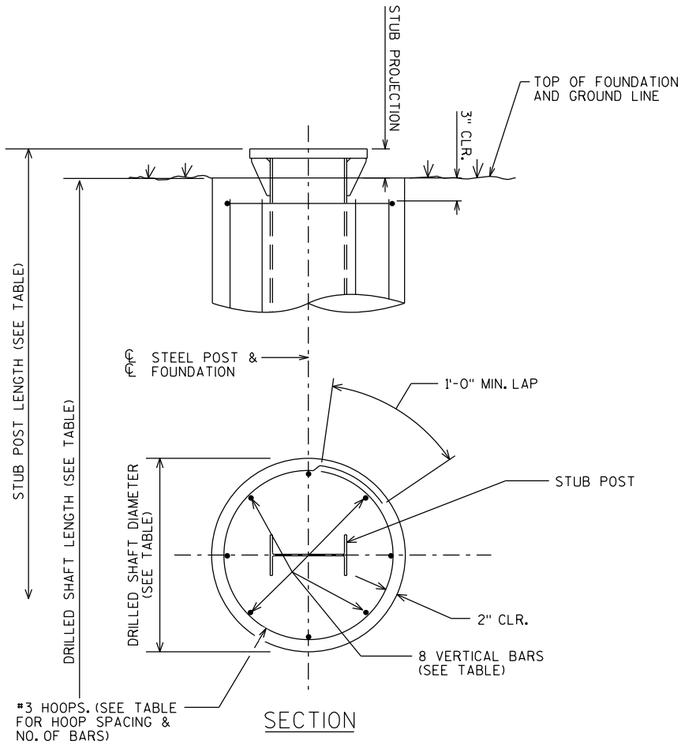
CONNECTION & FOUNDATION DETAILS 1 OF 2

SHEET A3-1.20

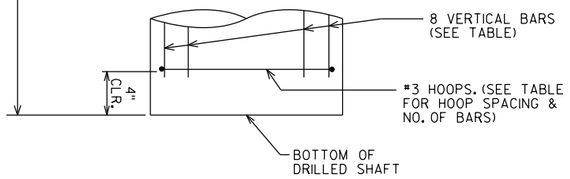
216

7

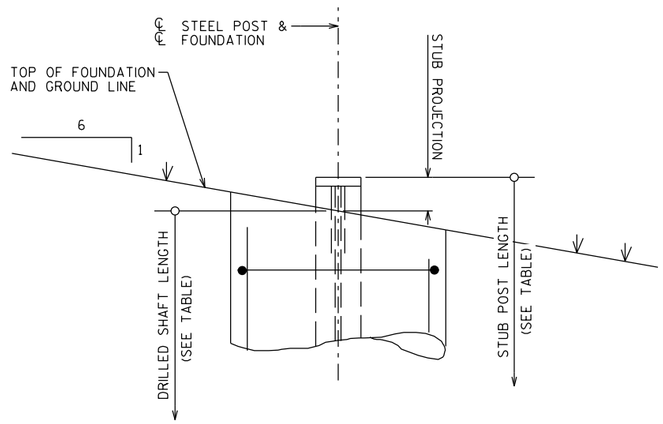
7



SECTION



FOUNDATION DETAIL



SHAFT PLACEMENT

FOUNDATION DATA TABLE

POST SHAPE	STUB LENGTH	STUB PROJECTION	DRILLED SHAFT DIAMETER	DRILLED SHAFT LENGTH	VERTICAL BARS		HOOPS		CONCRETE VOLUME ◆	TOTAL REINF. WEIGHT ◆
					SIZE	LENGTH	MAX SPA.	NO.		
W6X15	2'-6"	3"	24"	6'-6"	#5	5'-11"	10"	9	0.8 CY	71 LB
W8X18	2'-6"	3"	24"	7'-6"	#6	6'-11"	12"	8	0.9 CY	102 LB
W8X21	3'-0"	2½"	24"	8'-0"	#6	7'-5"	12"	9	1.0 CY	110 LB
W10X22	3'-0"	2½"	24"	8'-6"	#7	7'-11"	12"	9	1.0 CY	151 LB
W12X26	3'-0"	2½"	24"	10'-0"	#7	9'-5"	12"	11	1.2 CY	180 LB

◆ QUANTITIES SHOWN ARE FOR ONE DRILLED SHAFT

BASE CONNECTION & FUSE PLATE DATA TABLE

POST SHAPE	WEIGHT PER FOOT	BASE CONNECTION DATA: BOLT SIZE & TORQUE	A	B	C	D	E	T1	T2	W	R	BOLT KEEPER PLATE DATA: P	U	PERFORATED FUSE PLATE DATA: F	G	J	K	M	D1	D2	T3	BOLT DIA.	WGT. EA. LBS	BOLT LENGTH	V ◪
W6X15	15 LB	⅝" DIA. X 4" 36 TO 38 FT-LB	5"	2"	1¼"	2¾"	1⅛"	1¼"	½"	¼"	11/32"	8½"	10"	5"	2½"	6"	3½"	1½"	11/16"	1¼"	⅜"	⅝"	2.4	2	73.0 LB
W8X18	18 LB											10⅝"	12⅛"	5"	2½"	5¼"	2¾"	1¼"	11/16"	1 1/16"	⅜"	⅝"	2.0	2	83.0 LB
W8X21	21 LB	¾" DIA. X 4¾" 62 TO 63 FT-LB	6"	2¼"	1⅜"	3½"	1¼"	1½"	¾"	5/16"	13/32"	11"	12¾"	5½"	2½"	5¼"	2¾"	1¼"	13/16"	1"	½"	¾"	3.1	2¼"	124.0 LB
W10X22	22 LB											12⅞"	14⅝"	6"	3"	5¾"	2¾"	1⅜"	13/16"	1⅛"	½"	¾"	3.9	2¼"	134.0 LB
W12X26	26 LB											15"	16¾"	6"	3"	6½"	3½"	1⅝"	13/16"	1 5/16"	½"	¾"	4.5	2¼"	152.0 LB

◪ TOTAL STRUCTURAL CARBON STEEL WEIGHT FOR ONE POST = V + (POST LENGTH X POST WEIGHT PER FOOT)

"V" INCLUDES STUB POST, BASE PLATES, STIFFENER PLATES, PERFORATED FUSE PLATES, BOLTS, NUTS, AND WASHERS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED

MATERIALS SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506, UNLESS NOTED OTHERWISE.

FABRICATION SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506.

ALL POST, POST STUBS & ATTACHMENTS SHALL BE ASTM A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123.

THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST, FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.

H.S. BOLTS, WASHERS, & NUTS SHALL BE A325 GALVANIZED.

FOUNDATION MATERIAL PROPERTIES

CONCRETE MASONRY	F'C = 3,500 P.S.I.
BAR STEEL REINFORCEMENT (UNCOATED), GRADE 60	FY = 60,000 P.S.I.

DESIGN DATA

DESIGN CONFORMS TO AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS 1ST EDITION 2015 (WITH 2017 & 2018 INTERIM REVISIONS).

DEAD LOADS (DL):

- STEEL POST SELF WEIGHT
- SIGN PANEL WEIGHT = 3 PSF

WIND LOADS (WL):

WIND LOADS WERE APPLIED TO THE PROJECTED AREAS OF THE SIGN PANELS AND THE STEEL SIGN POSTS.

- BASIC WIND SPEED = 76 MPH
- MEAN RECURRANCE INTERVAL (MRI) = 10 YEARS
- HEIGHT & EXPOSURE FACTOR = 1.00
- DIRECTIONALITY FACTOR = 0.85
- GUST EFFECT FACTOR = 1.14

WIND LOAD CASES:

- WL CASE 1: 1.0 X NORMAL WIND
- WL CASE 2: 1.0 X TRANSVERSE WIND
- WL CASE 3: 0.75 X NORMAL WIND + 0.75 X TRANSVERSE WIND

LOAD COMBINATIONS:

LOAD COMBINATION	TYPE	DL FACTOR	WL FACTOR
STRENGTH I	GRAVITY	1.25	-
EXTREME I	WIND	1.10	1.0
		0.9	1.0
SERVICE I	DEFLECTION	1.0	1.0

FOUNDATION DESIGN DATA

THE FOUNDATION DESIGN ASSUMED COHESIONLESS SOILS (LOOSE SAND) ABOVE THE WATER TABLE WITH THE FOLLOWING PROPERTIES:

- SOIL UNIT WEIGHT = 115 PCF
- ANGLE OF INTERNAL FRICTION = 24 DEGREES
- SOIL MODULUS PARAMETER = 25 LB/IN3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

DRAWN BY | PLANS CK'D.

CONNECTION & FOUNDATION DETAILS 2 OF 2

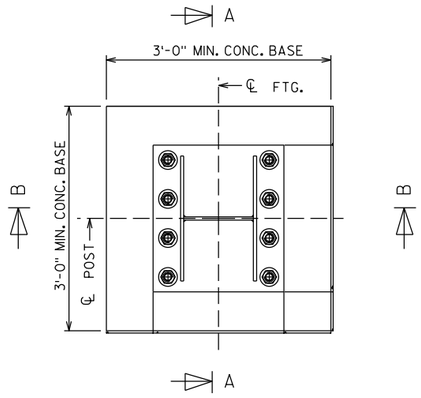
SHEET A3-1.20

217

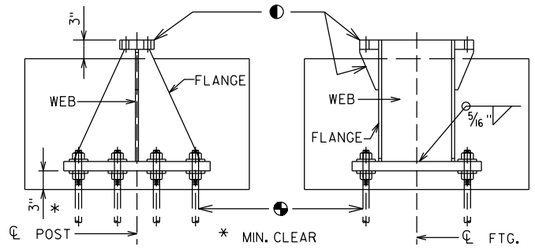
7

7

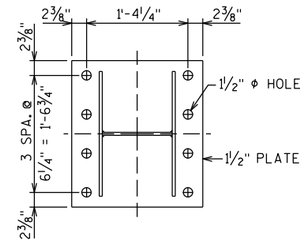
STUB AND ADHESIVE ANCHOR DETAILS



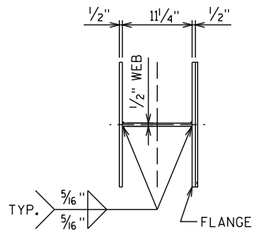
STUB SECTION



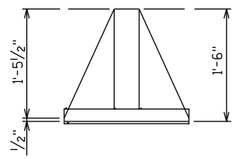
SECTION A-A SECTION B-B



BASE PLATE



STUB



FLANGE

◐ SEE BASE CONNECTION DETAILS ON "CONNECTIONS & FOUNDATION DETAILS" SHEETS.

◔ ADHESIVE ANCHORS 1¼-INCHES. ALLOWABLE PULL OUT CAPACITY = 15 KIPS. EMBED 1'-3" INTO ROCK.

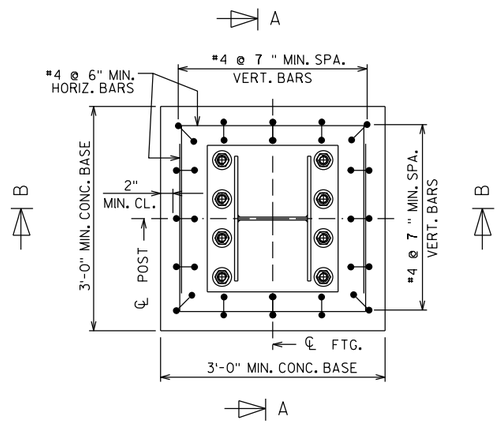
GENERAL NOTES:

QUANTITIES PER BASE:
REINFORCING STEEL = 62 LB
CONCRETE = 0.6 CY
STRUCTURAL STEEL = 335 LB

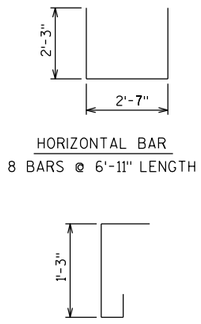
ALL MATERIALS, EXCEPT FOR ANCHOR ROD, NUTS, AND WASHERS, SHALL BE ASTM A709 GRADE 50. ALL MATERIALS TO BE GALVANIZED AFTER FABRICATION.

IF ROCK IS ENCOUNTERED PRIOR TO REACHING THE MINIMUM DRILLED SHAFT EMBEDMENT DEPTH DEFINED ON THE FOUNDATION DATA TABLE OF THE "CONNECTIONS & FOUNDATION DETAILS 2 OF 2" SHEET, THE CONTRACTOR SHALL INSTALL A TEST ADHESIVE ANCHOR AND DETERMINE THE PULL-OUT CAPACITY. IF THE FIELD TEST RESULTS IN A PULL-OUT CAPACITY GREATER THAN OR EQUAL TO 15 KIPS, THE CONTRACTOR MAY INSTALL THE ALTERNATE CONCRETE BASE AND BREAK-WAY STUB PER THE DETAILS ON THIS SHEET.

CONCRETE BASE DETAILS

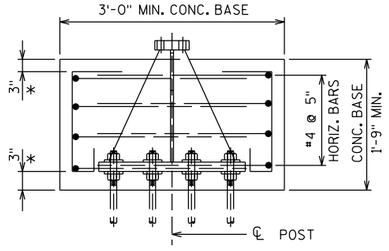


CONCRETE BASE PLAN

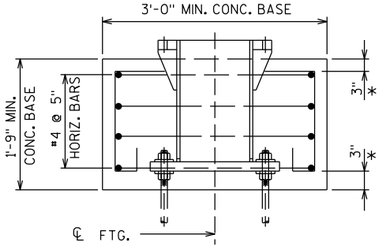


HORIZONTAL BAR
8 BARS @ 6'-11" LENGTH

VERTICAL BARS
16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED



SECTION A-A



SECTION B-B

* MIN. CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

DRAWN BY	PLANS CK'D.

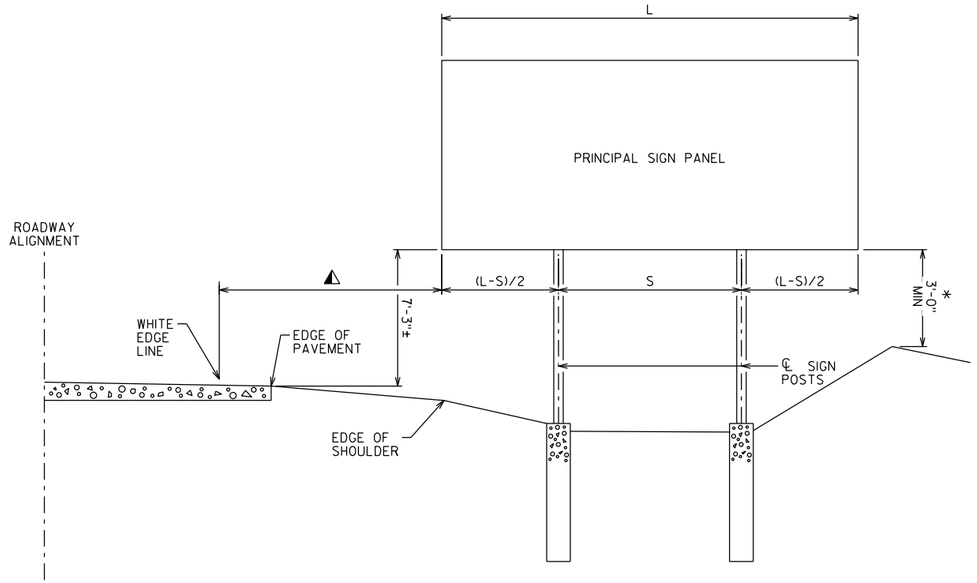
ALTERNATE BREAK-AWAY BASE ON ROCK

SHEET A3-1M.2

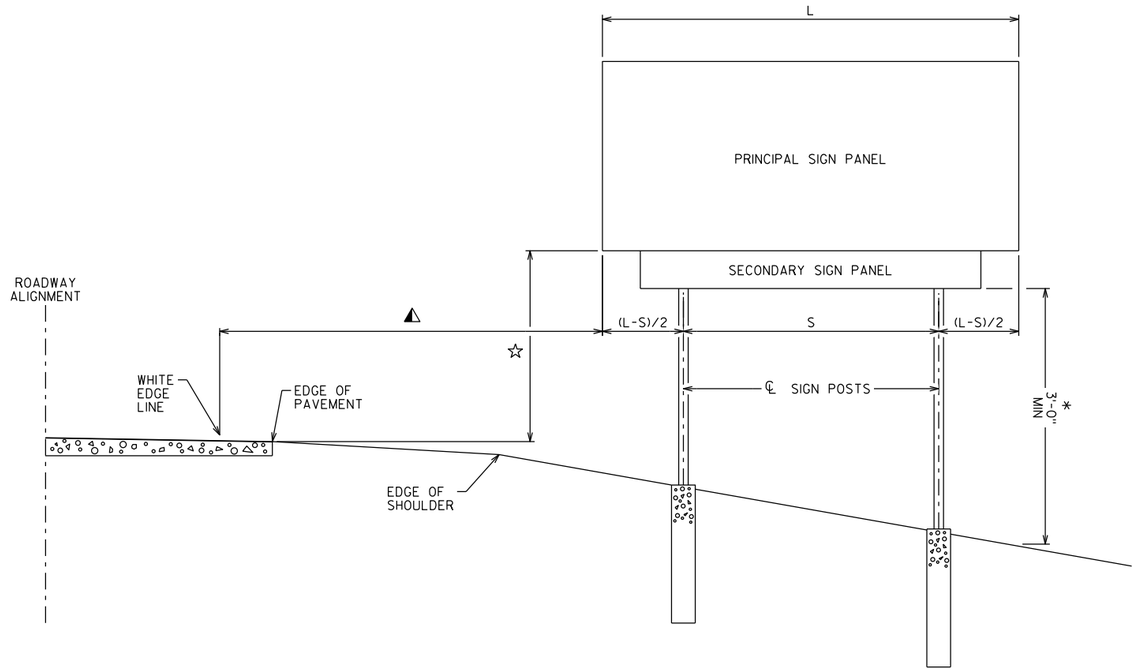
218

7

7



INSTALLATION WITHOUT SECONDARY SIGN



INSTALLATION WITH SECONDARY SIGN

TYPE 1 SIGN INSTALLATION NOTES:

FOR A 2-POST INSTALLATION, "S" EQUALS 3L/5, BUT SHALL NOT BE LESS THAN 6'-0".

FOR A 3-POST INSTALLATION, "S" EQUALS 5L/7, BUT SHALL NOT BE LESS THAN 12'-0". THE SPACING BETWEEN ANY TWO POSTS SHALL NOT BE LESS THAN 6'-0".

◭ UNLESS NOTED IN THE PLANS, THE SIGN OFFSET DISTANCE SHALL BE A MINIMUM OF 17'-6" FROM THE WHITE EDGE LINE, DESIRABLE 30'-0".

THE ± TOLERANCE SHOWN ON THIS SHEETS IS 3".

THE VERTICAL SIGN HEIGHT CLEARANCES SHOWN ON THIS SHEET ARE MEASURED FROM THE BOTTOM OF THE SIGN PANEL TO THE NEAR EDGE OF PAVEMENT.

☆ THE VERTICAL CLEARANCE SHALL BE 8'-3"± WHEN THE SECONDARY SIGN HEIGHT IS 3'-0" OR LESS. FOR SECONDARY SIGN HEIGHTS LARGER THAN 3'-0", THE VERTICAL CLEARANCE TO THE BOTTOM OF THE SECONDARY SIGN PANEL SHALL BE 5'-3"±.

* THE VERTICAL SIGN GROUND CLEARANCE ON RIGHT END OF SIGN SHALL BE A MINIMUM OF 3'-0"±.

POST LENGTHS SHOWN IN THE MISCELLANEOUS QUANTITIES ARE ESTIMATED LENGTHS. THE CONTRACTOR SHALL VERIFY POST LENGTHS AT THE TIME OF FINAL GRADING.

REFER TO THE TRAFFIC ENGINEERING OPERATIONS AND SAFETY MANUAL FOR FURTHER GUIDANCE ON MINIMUM VERTICAL CLEARANCE REQUIREMENTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

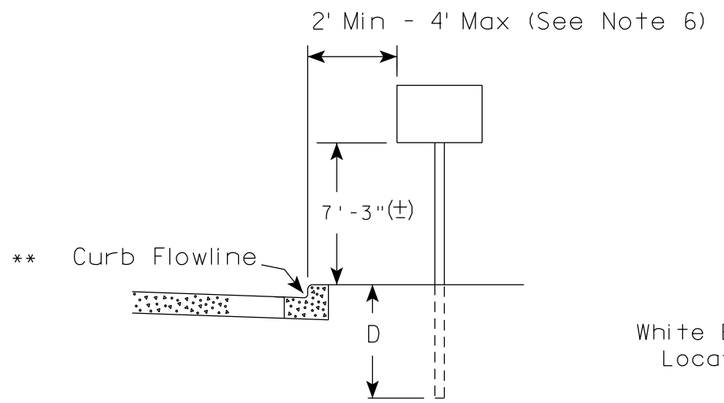
DRAWN BY | PLANS CK'D.

TYPICAL TYPE I SIGN INSTALLATION

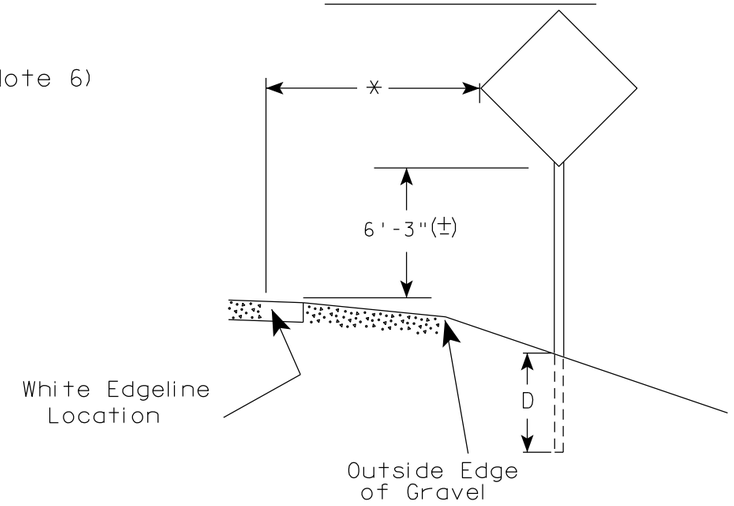
SHEET A4-1.10

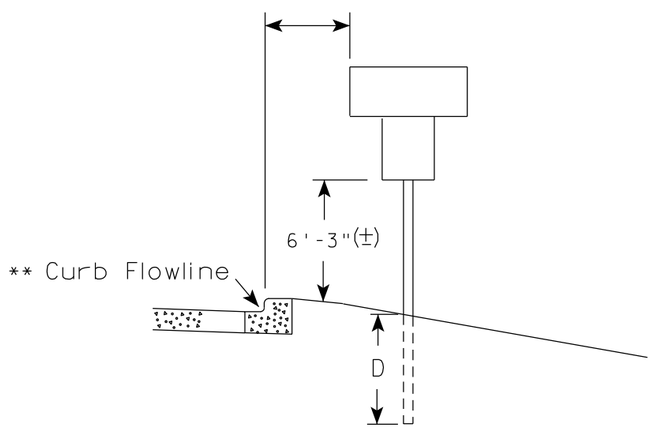
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 219 E

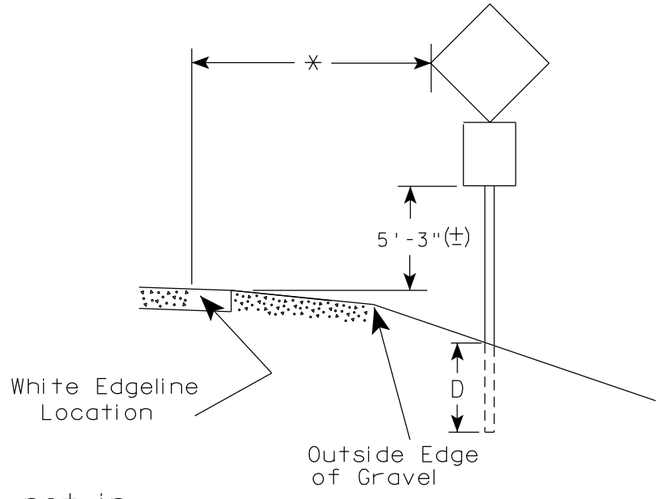
URBAN AREA



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.

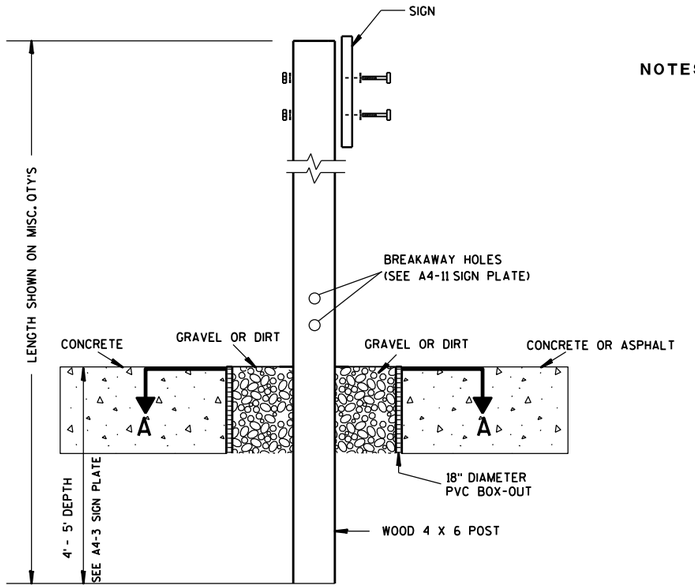
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

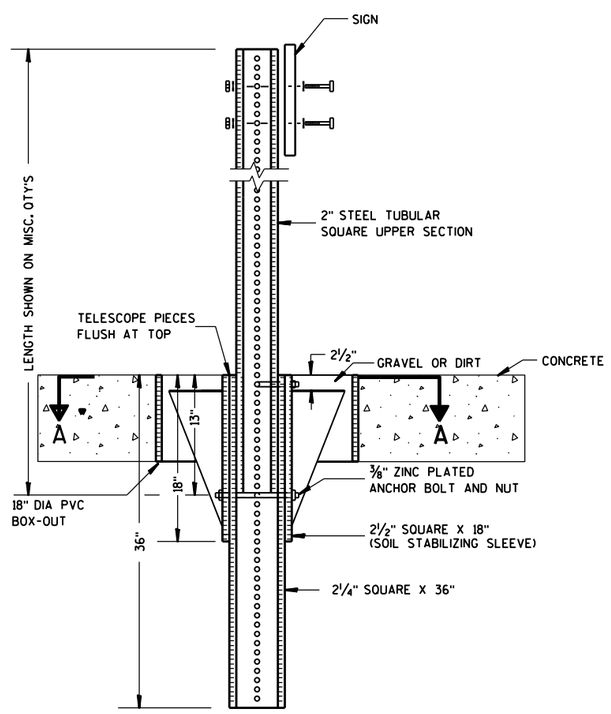
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 220	E



ELEVATION VIEW

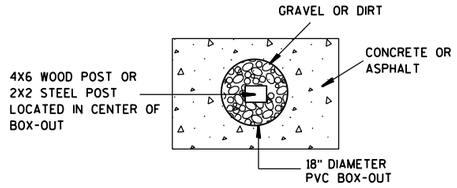
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

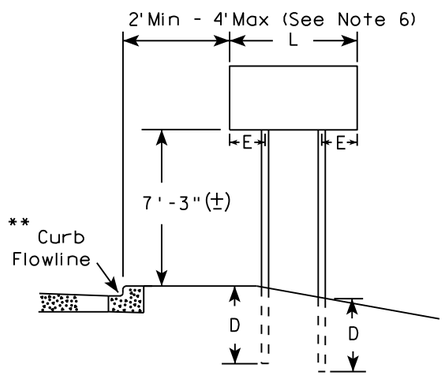
APPROVED Matthew R Rauch
for State Traffic Engineer

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

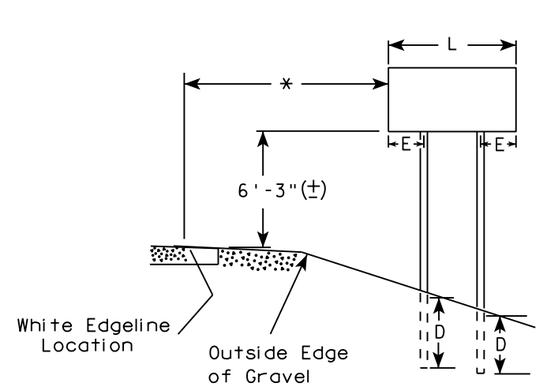
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

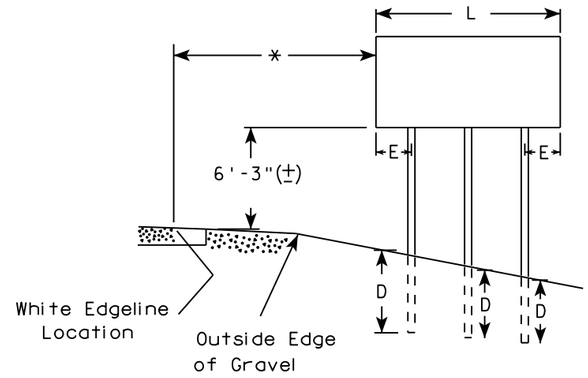
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

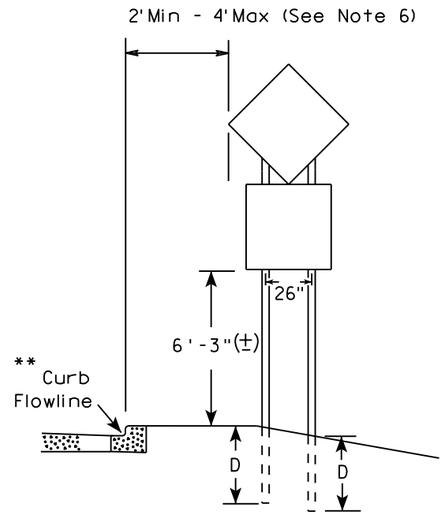
URBAN AREA



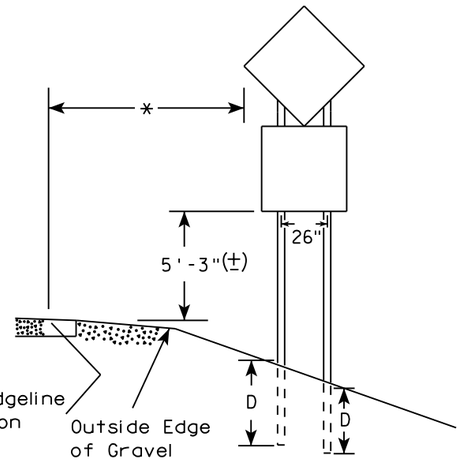
RURAL AREA (See Note 3)







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

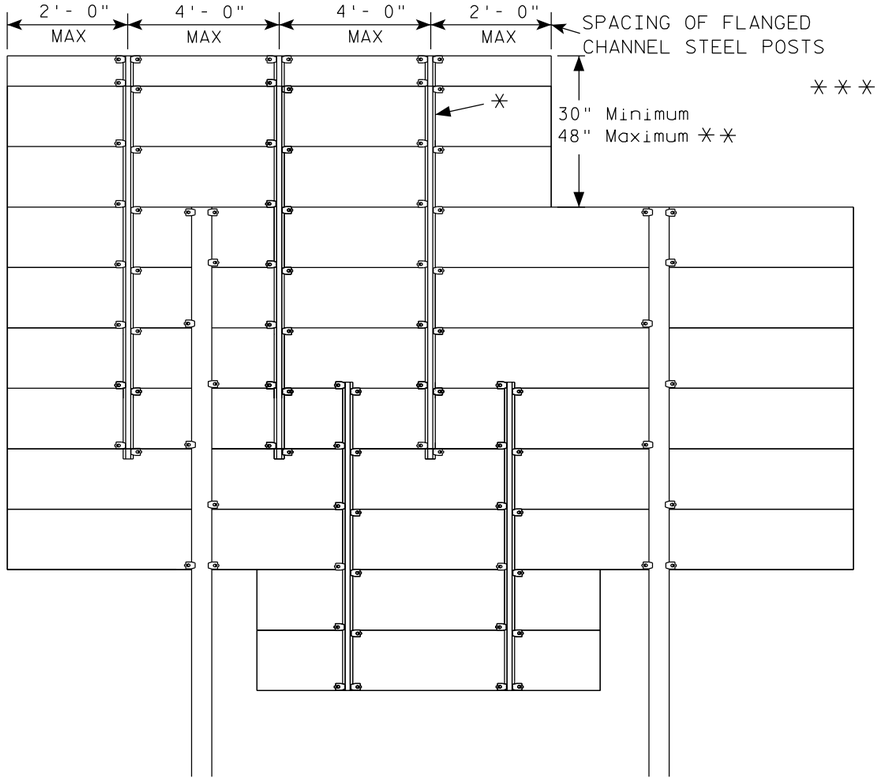
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 222	E

GROUND MOUNTED SIGN



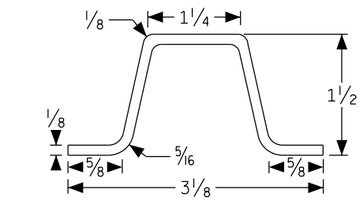
✳=2.00 lb/ft AND 4.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

✳✳=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

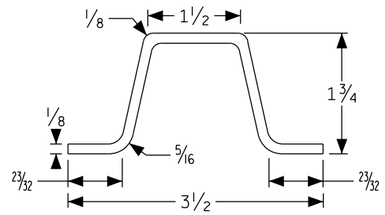
✳✳✳ THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 15 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 15 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAILS

NOT TO SCALE

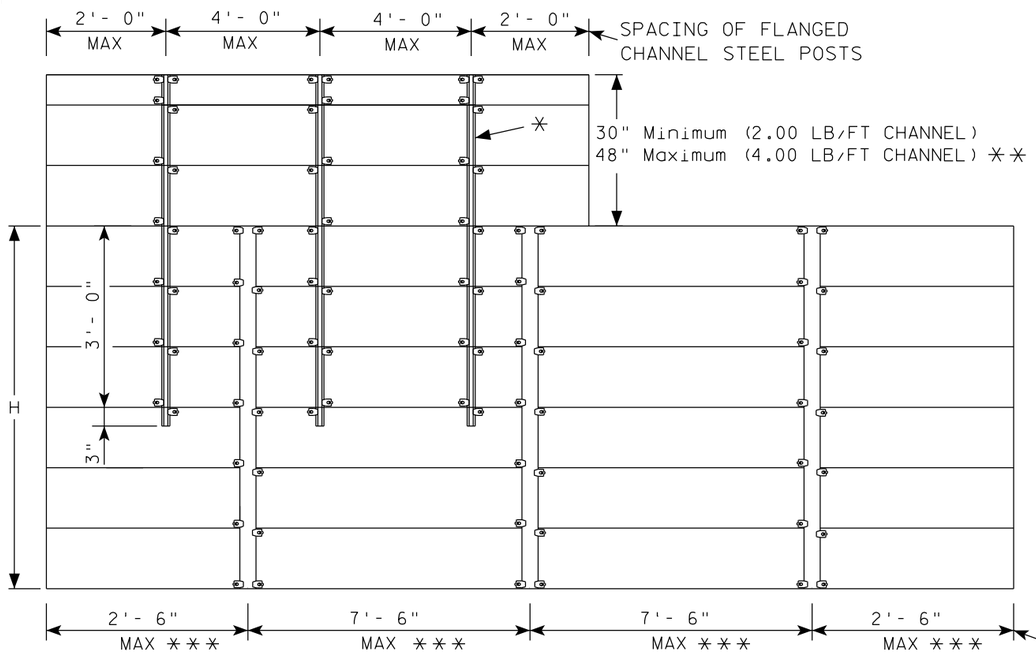


2.00 LB/FT CHANNEL



4.00 LB/FT CHANNEL

SIGN BRIDGE MOUNTED SIGN



SPACING OF ALUMINUM SIGN SUPPORTS 5" X 3.5" X 3.7 LBS./ft.

GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

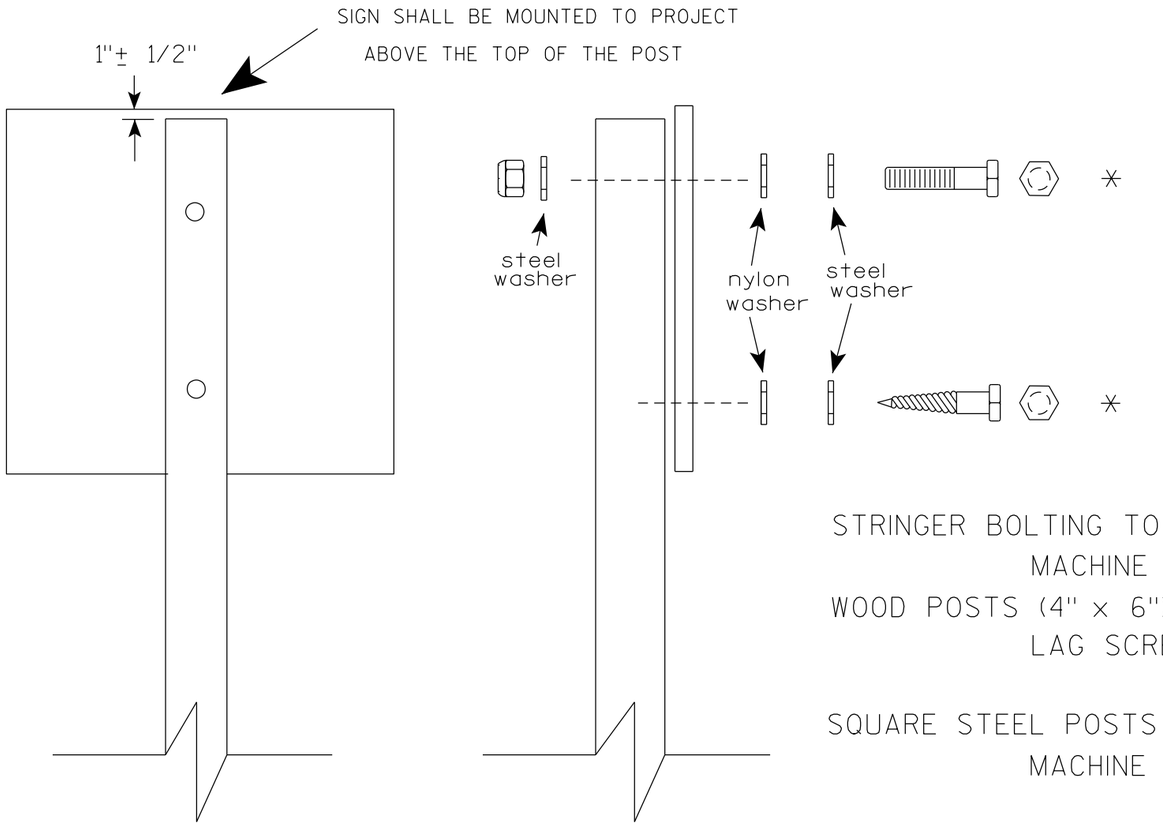
   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/07/20 PLATE NO. A4-6.12



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

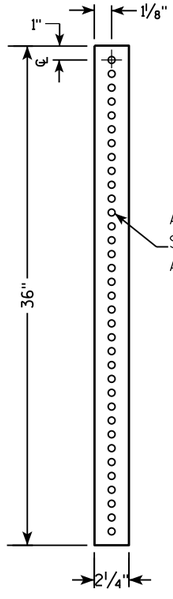
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

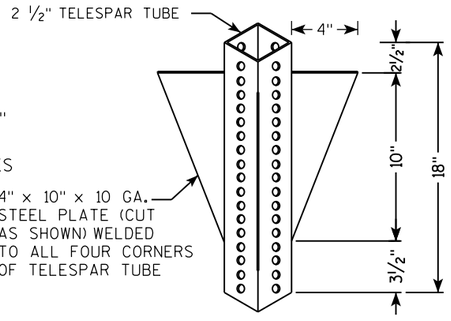
SHEET NO: 224 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

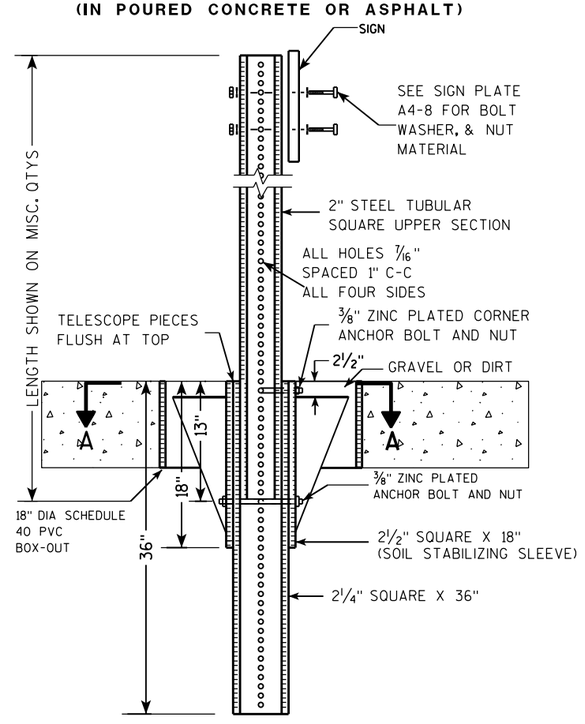
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



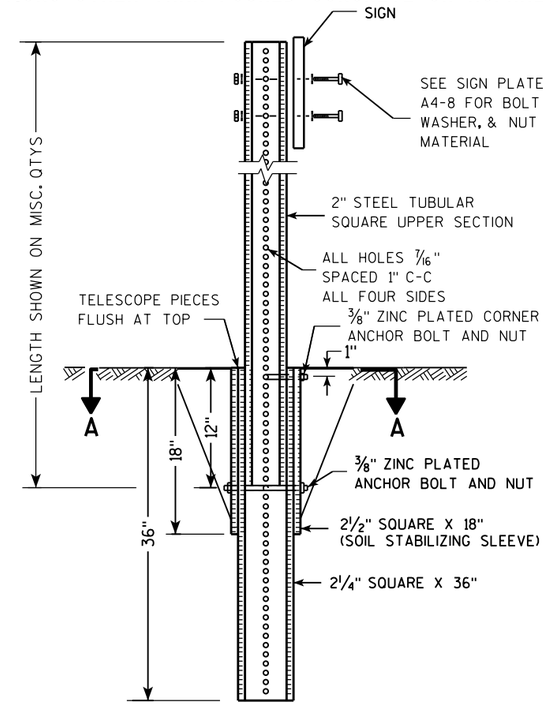
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

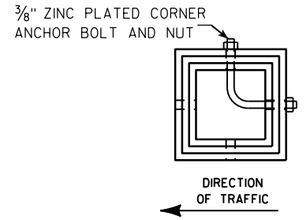


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

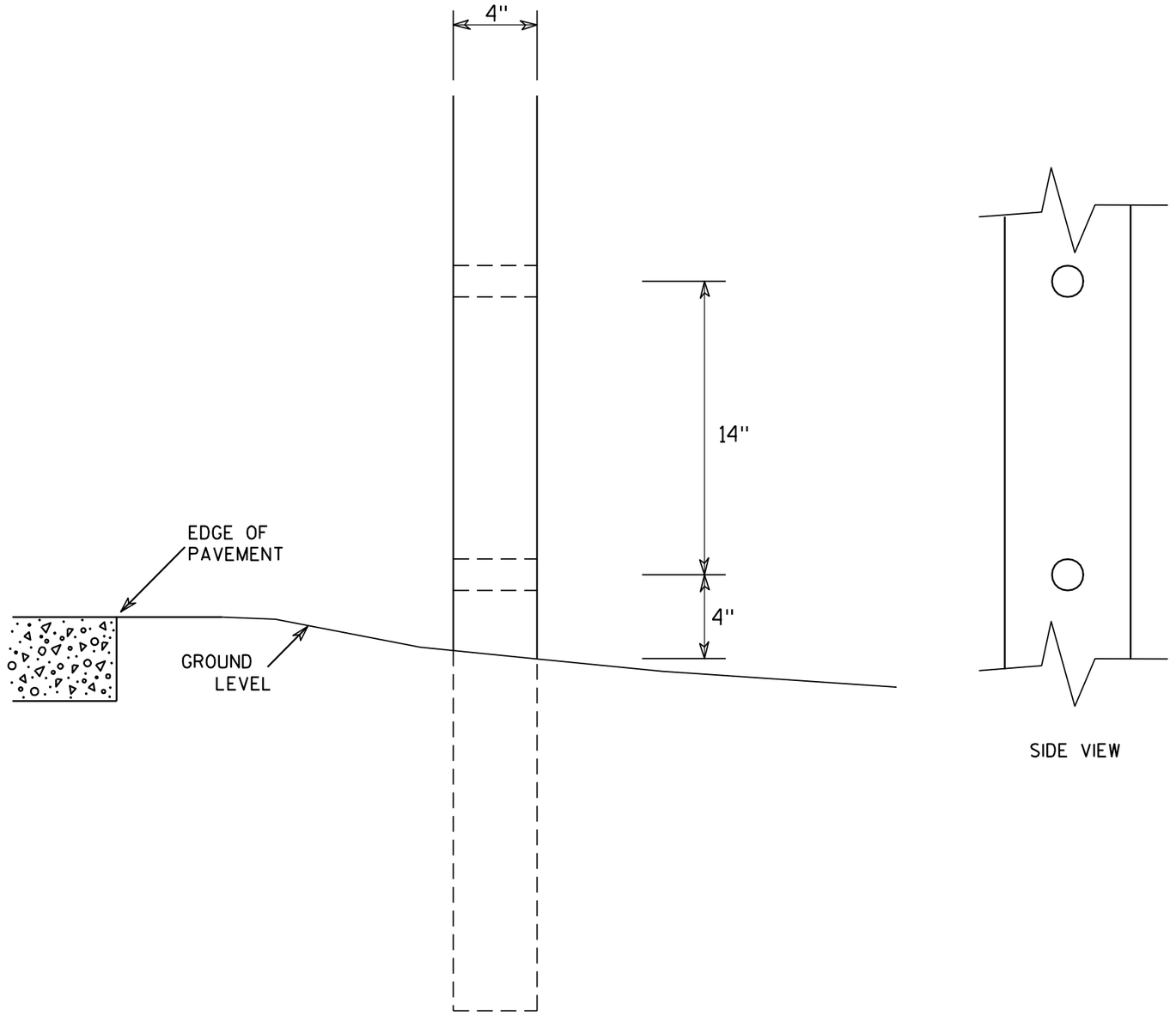
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 225 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

7

4 X 6 WOOD POST MODIFICATIONS

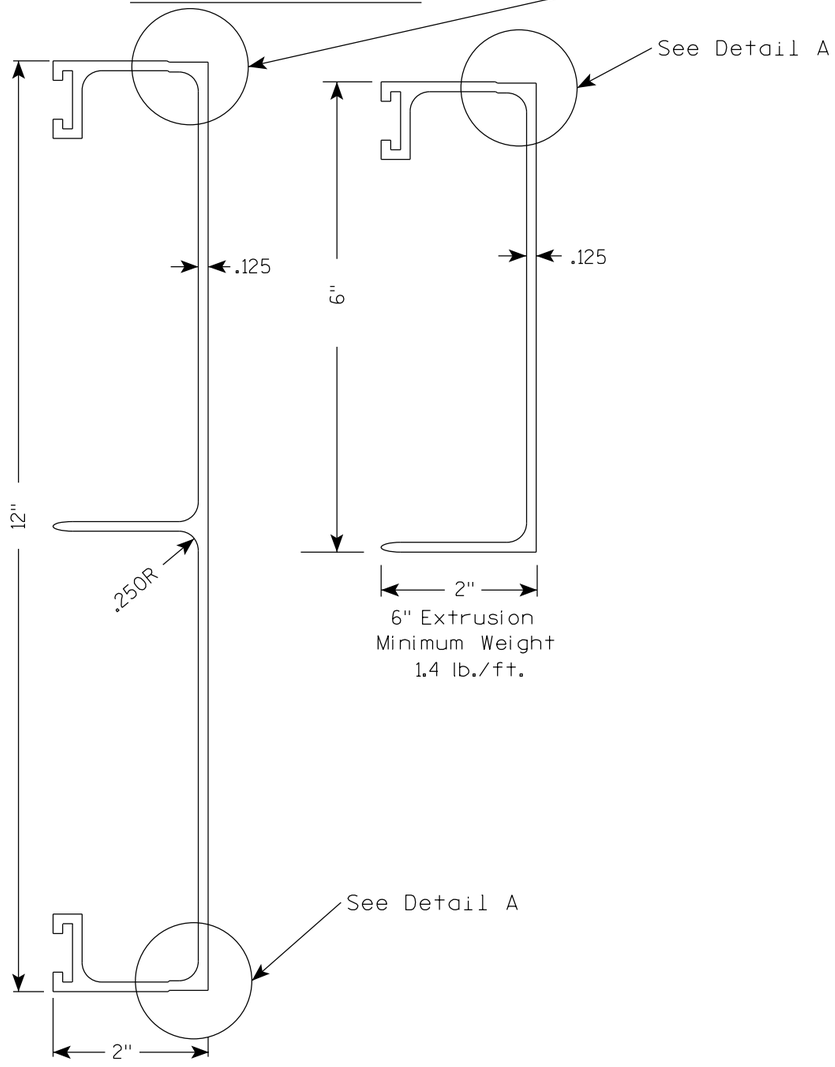
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 226	E

Extruded Shape

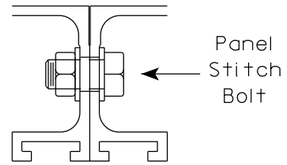


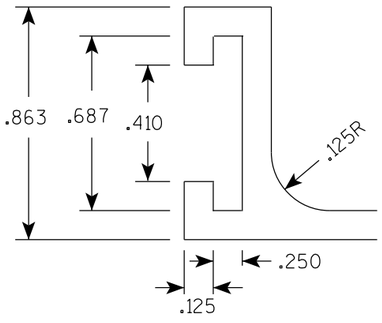
Hardware

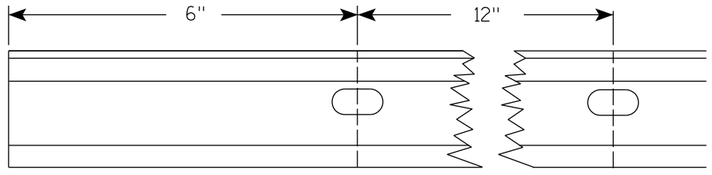
STITCH BOLT, WASHER & NUT

The hardware includes:

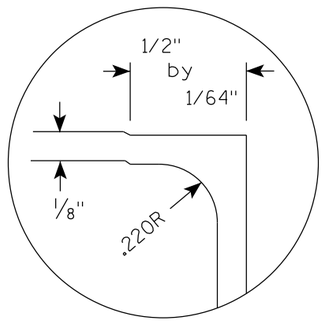
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy







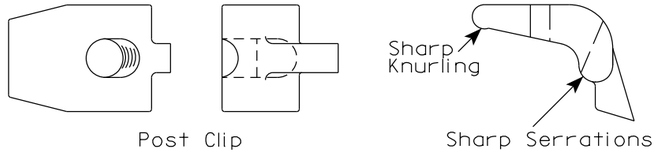
Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

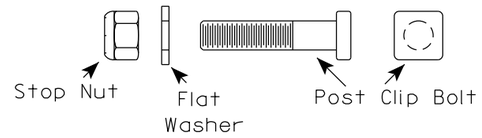


DETAIL A (EDGE WRAP JOINT)

POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.
4. Edge wrapping of sign sheeting required on all extrusions joints shown in Detail A.

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

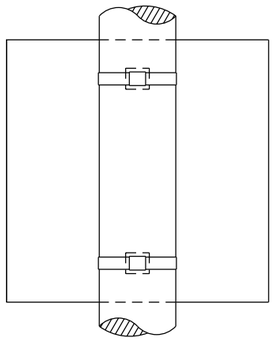
DATE 1/07/20 PLATE NO. A5-2.10

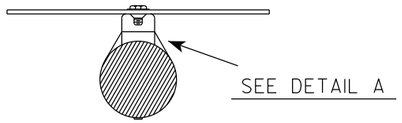
PROJECT NO:

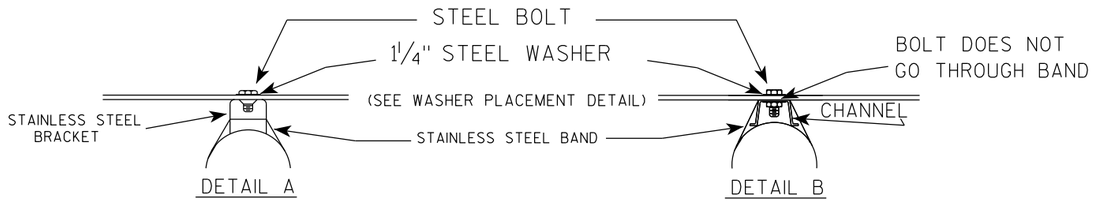
SHEET NO: 227 E

BANDING

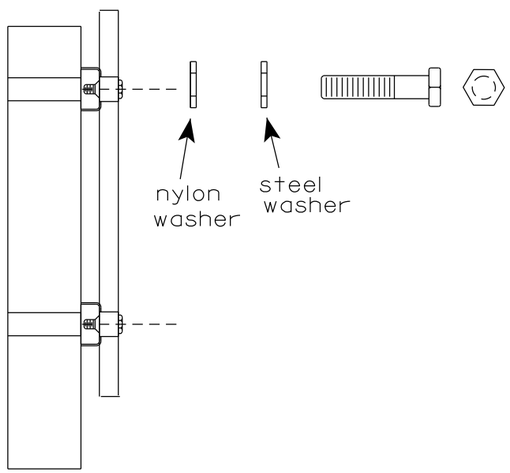
SINGLE SIGN







WASHER PLACEMENT

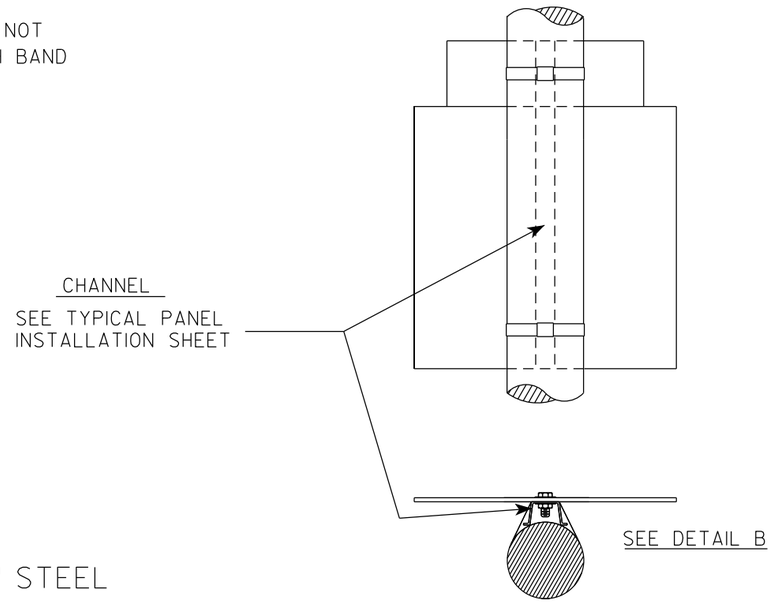


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 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



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

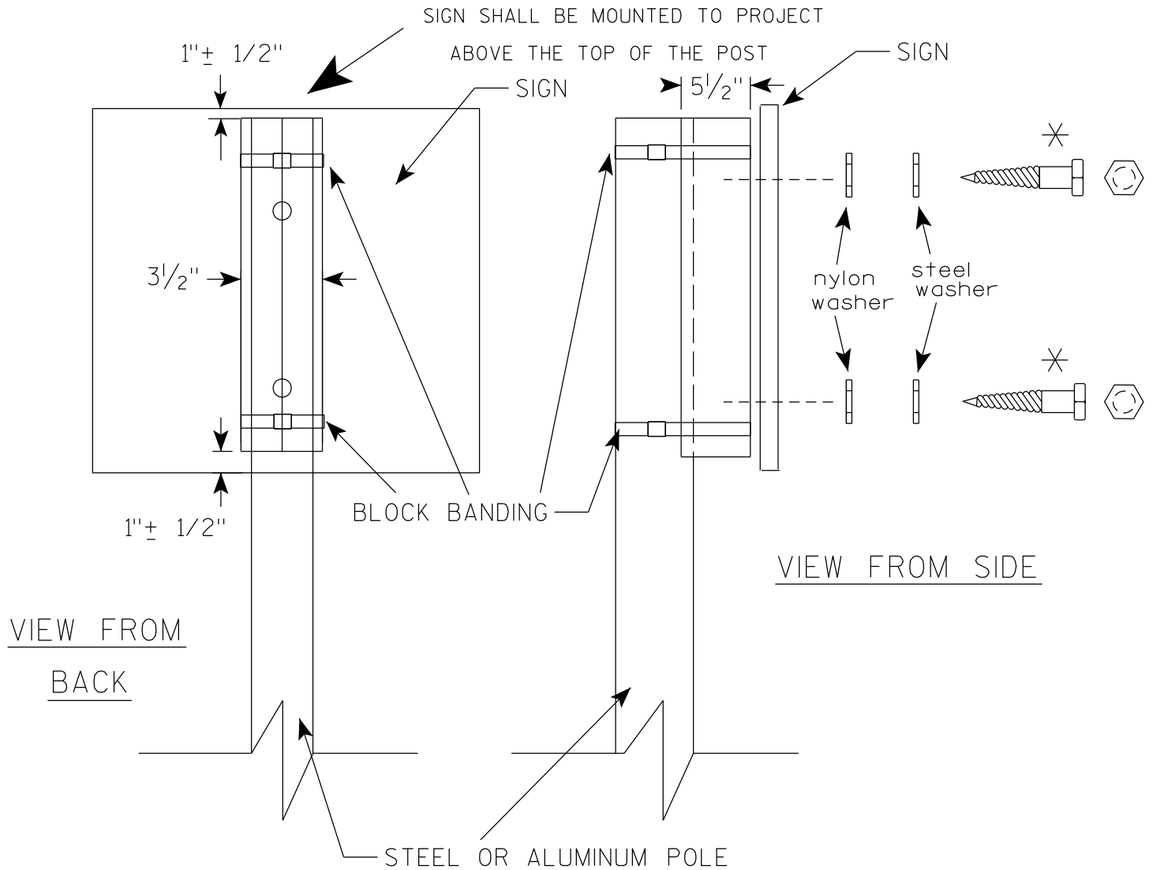
DATE 6/10/19 PLATE NO. A5-9.4

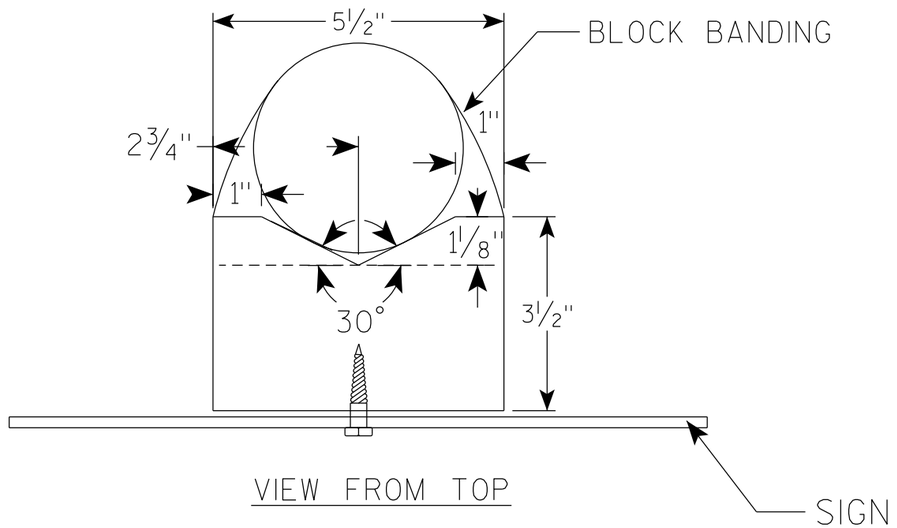
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 228	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





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"

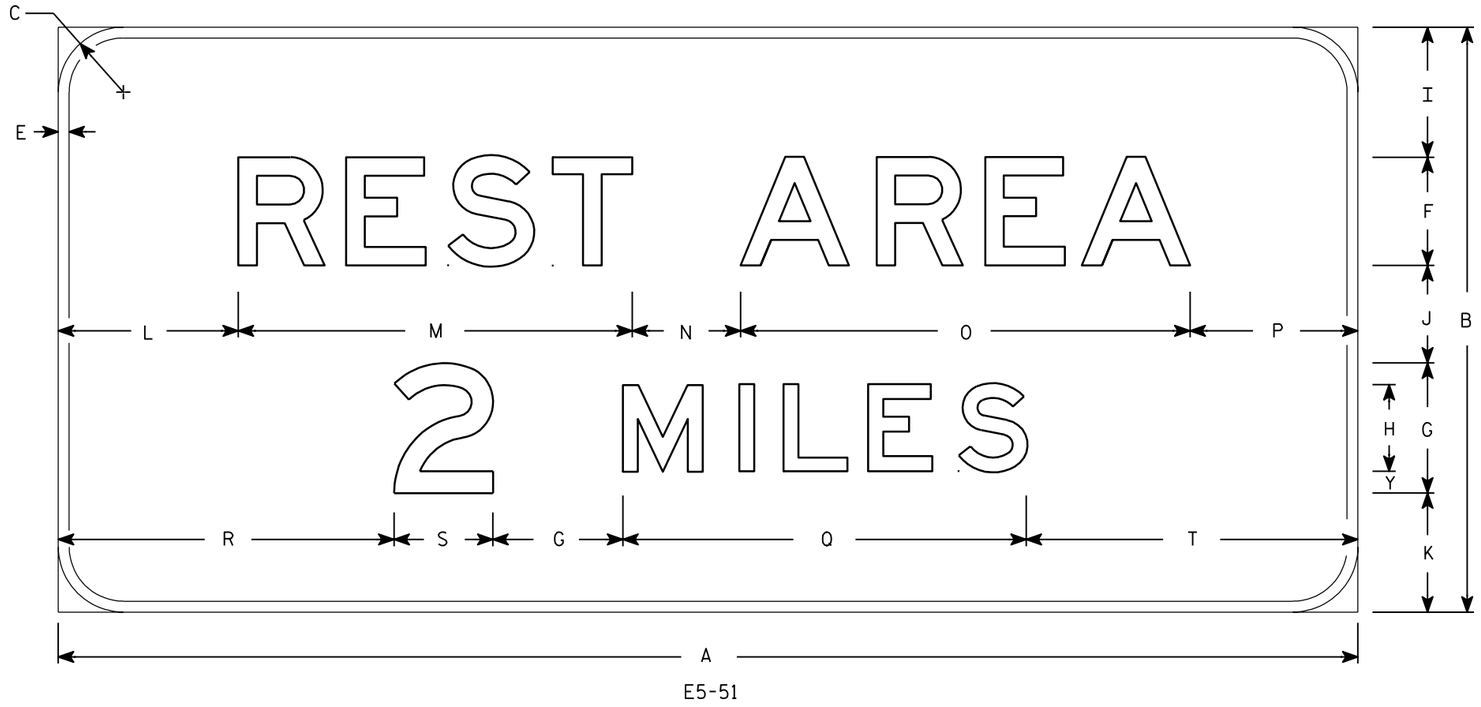
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

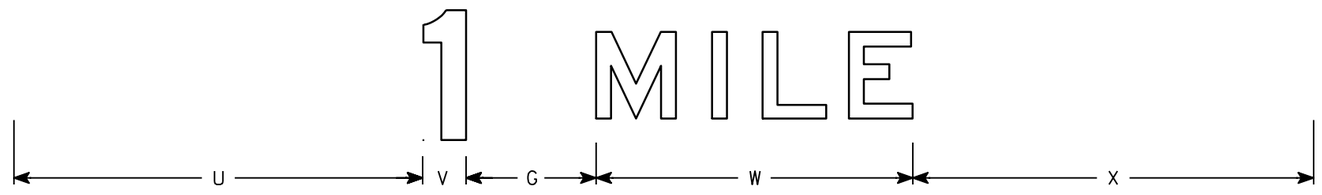
APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:				SHEET NO: 229	E



E5-51



NOTES

1. Sign is Type I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Blue
   Message - White
3. Message Series - E
4. Substitute appropriate numeral and adjust spacing to achieve proper balance.

Metric equivalent for this sign is:

SIZE	
1	
2	
3	
4	3000 mm X 1350 mm
5	3600 mm X 1500 mm

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.	Area m2
1																												
2																												
3																												
4	120	54	6		1	10	12	8	12	9	11	16 5/8	36 3/8	10	41 1/2	15 1/2	37 1/4	31	9 1/8	30 5/8	37 3/4	4	29 1/4	37	2		45.0	4.05
5	144	60	6		2	12	15	10	12	10	11	19 3/4	44 3/4	12	49 1/2	18	46 1/4	36	11	35 3/4	44	4 7/8	36 1/4	43 7/8	2 1/2		60.0	5.40

STANDARD SIGN
E5-51

WISCONSIN DEPT OF TRANSPORTATION

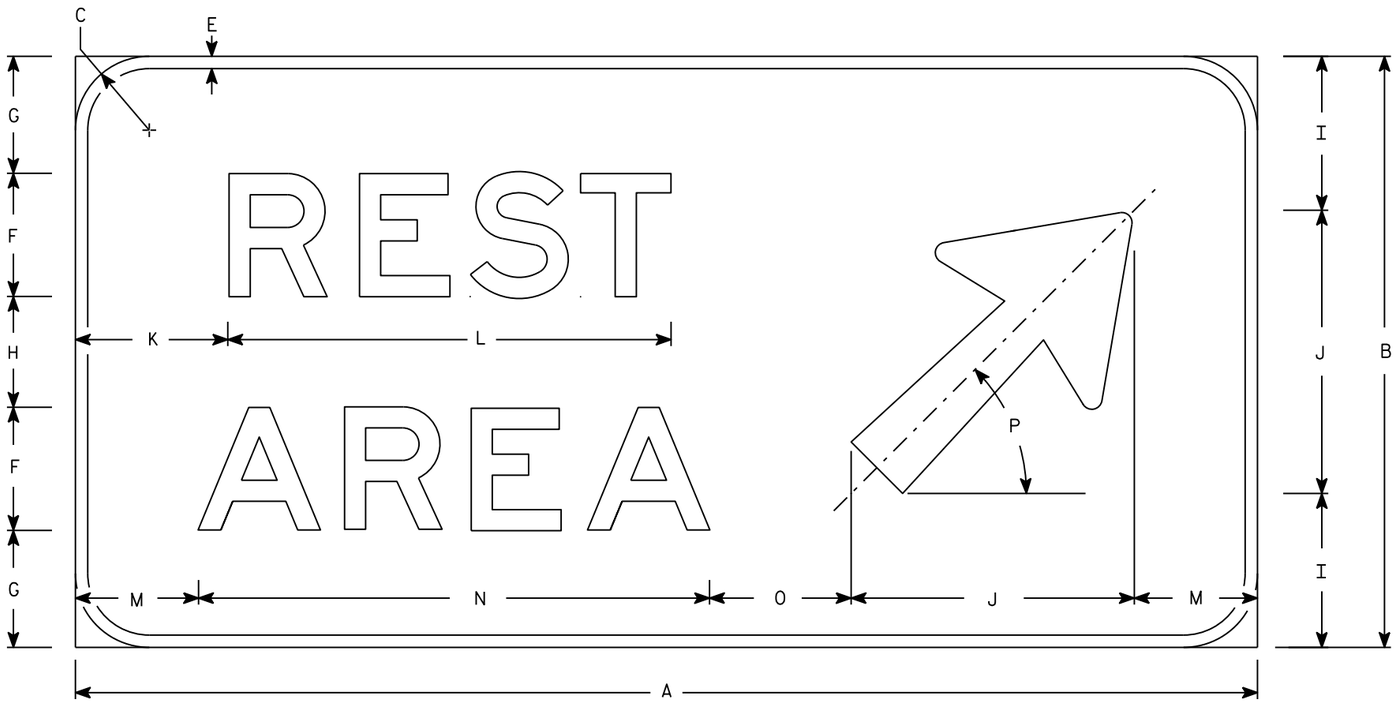
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 12/8/08 PLATE NO. E5-51.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 230	E

NOTES

1. Sign is Type I - Type SH Reflective
2. Color:
   Background - Blue
   Message - White
3. Message Series - E
4. Arrow is standard Interstate Type A.



E5-52

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	144	54	6		2	15	8	8	13	28	20 1/4	62	16 1/4	68	15 1/2	45°											54.0
5	144	54	6		2	15	8	8	13	28	20 1/4	62	16 1/4	68	15 1/2	45°											54.0

STANDARD SIGN
E5-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/23/17 PLATE NO. E5-52.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 231 | E

7

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - E
4. Material shall be .040 aluminmum

G20-60

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	108	24				12	6	14 7/8	78 1/4																		18.0
5																											

STANDARD SIGN
G20-60

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/15 PLATE NO G20-60.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\G2060.DGN PLOT DATE : 13-MAY-2015 08:46 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 20.431338:1.000000
WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - E

G20-61

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	120	30	6		2	12	9	21	78 1/4	20 3/4																	25.0
5																											

STANDARD SIGN
G20-61

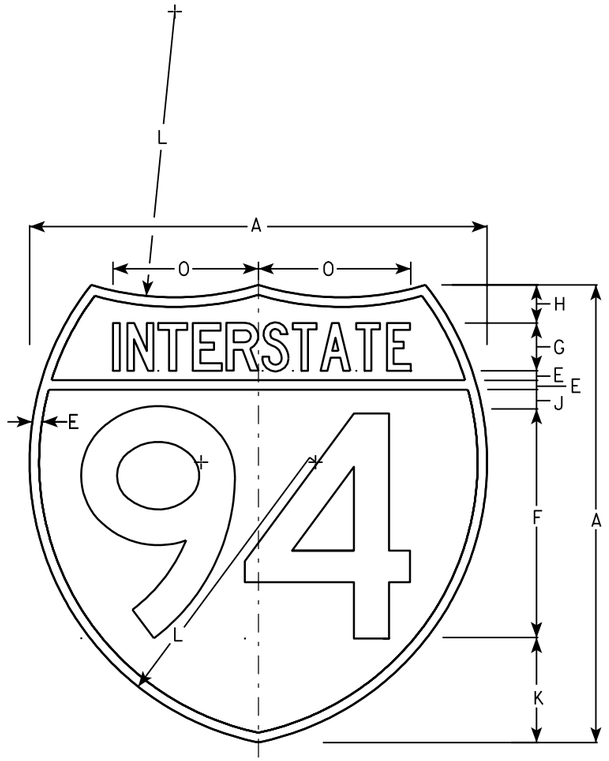
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

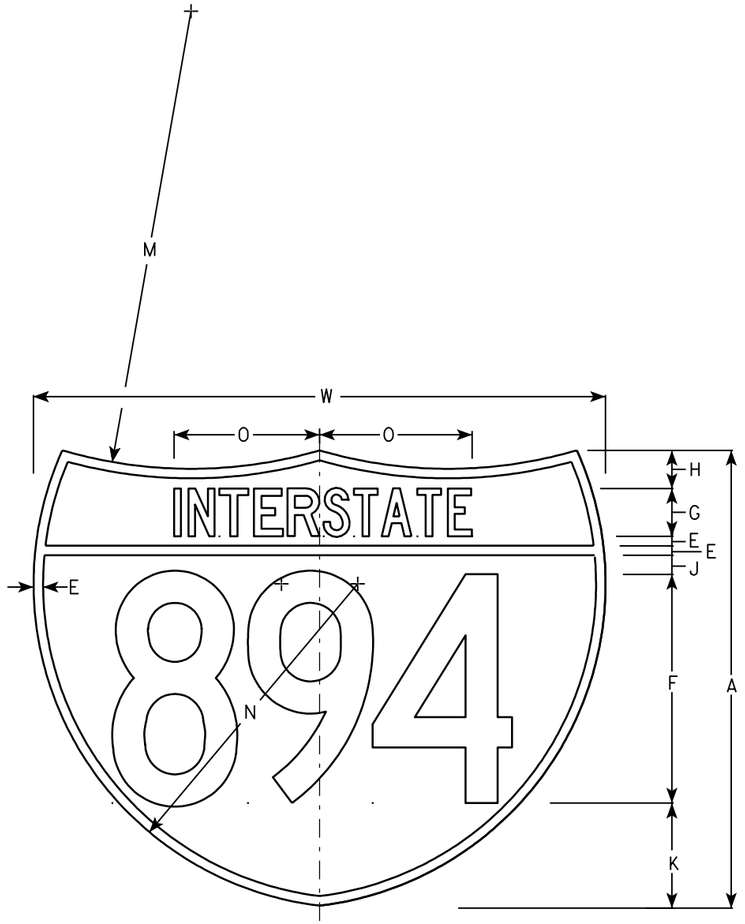
DATE 5/07/15 PLATE NO G20-61.1

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\G2061.DGN PLOT DATE : 07-MAY-2015 13:47 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 20.431338:1.000000
WISDOT/CADDS SHEET 42



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

7

7

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

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	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

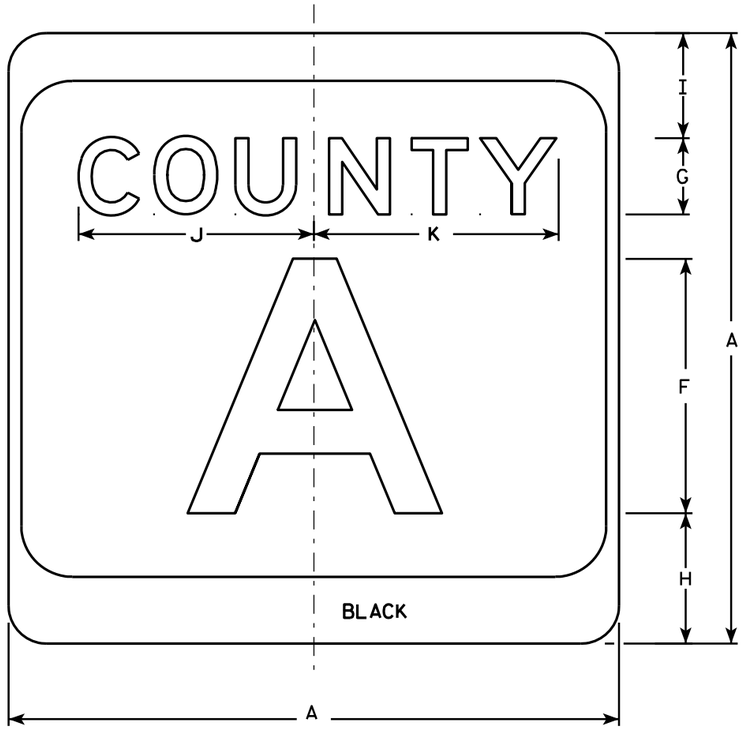
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

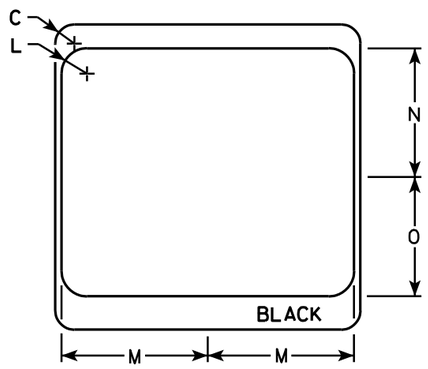
APPROVED Matthew R Rauch
for State Traffic Engineer

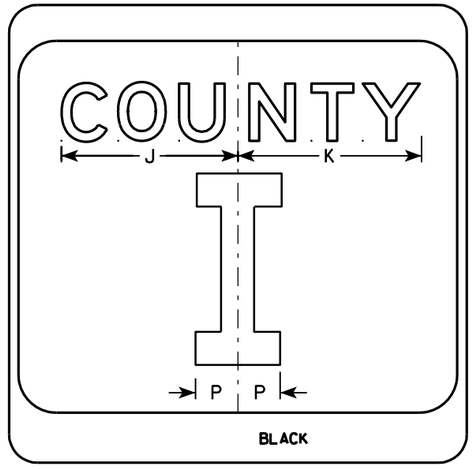
DATE 08/23/05 PLATE NO. M1-1.8

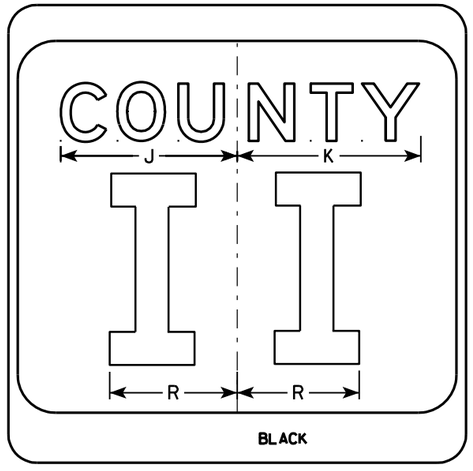
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 234	E



M1-5A







NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

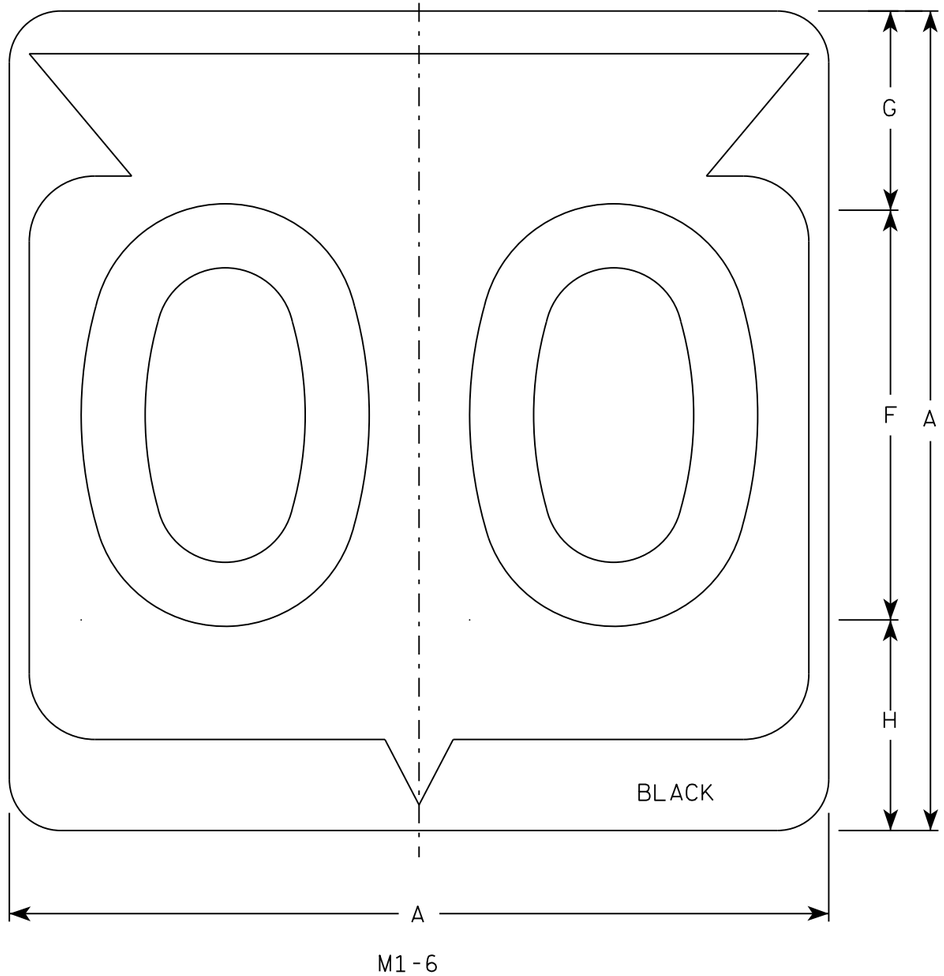
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

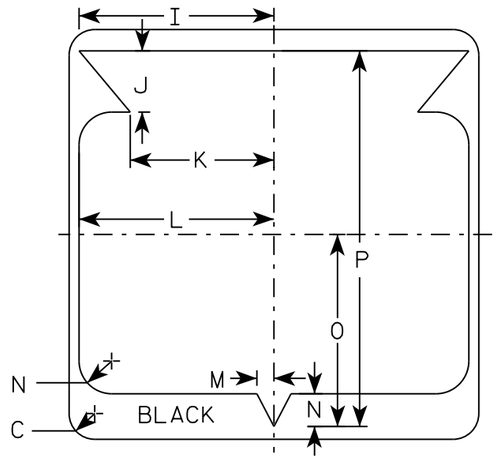
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 235	E



M1-6

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

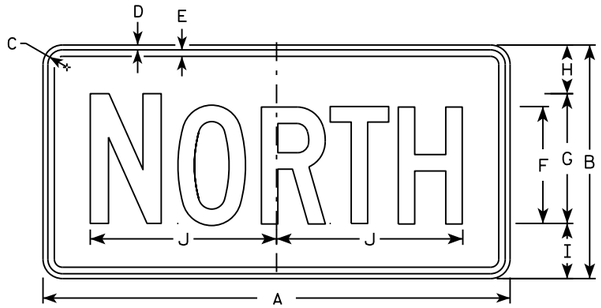
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

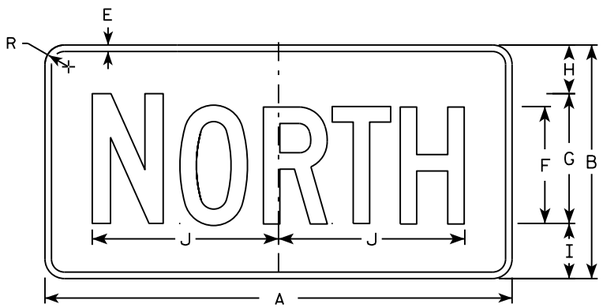
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 236 E



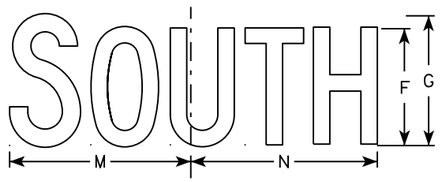
M3-1
MM3-1
MP3-1



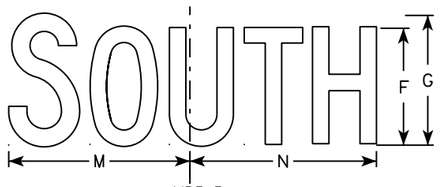
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

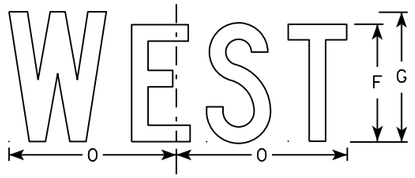
MB3-2
MK3-2
MN3-2



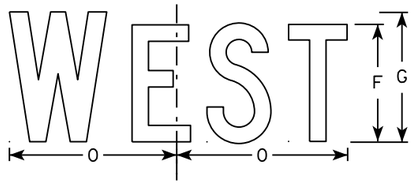
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

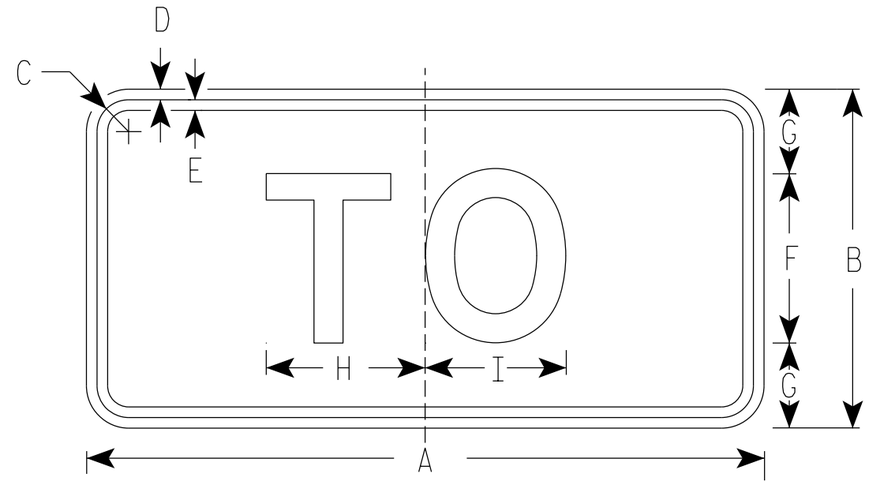
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

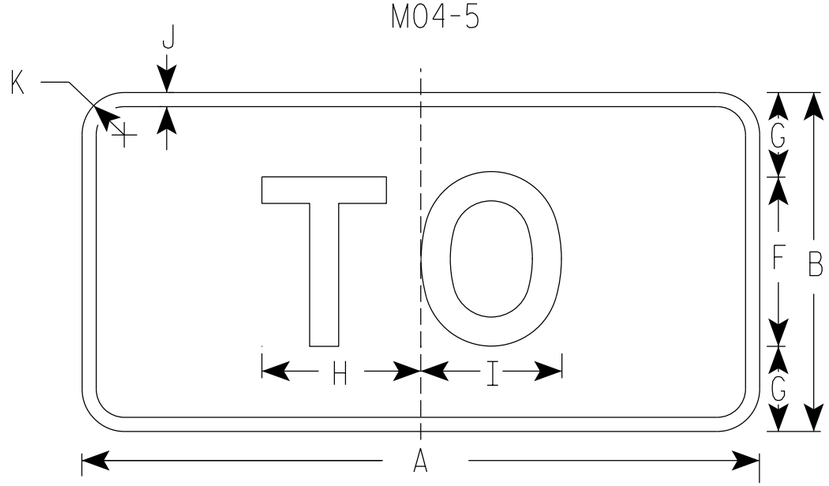
DATE 10/15/15 PLATE NO M3-1.14

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-5
MM4-5
MP4-5
M04-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

   M04-5 Background - Orange Type F Reflective
   Message - Black

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

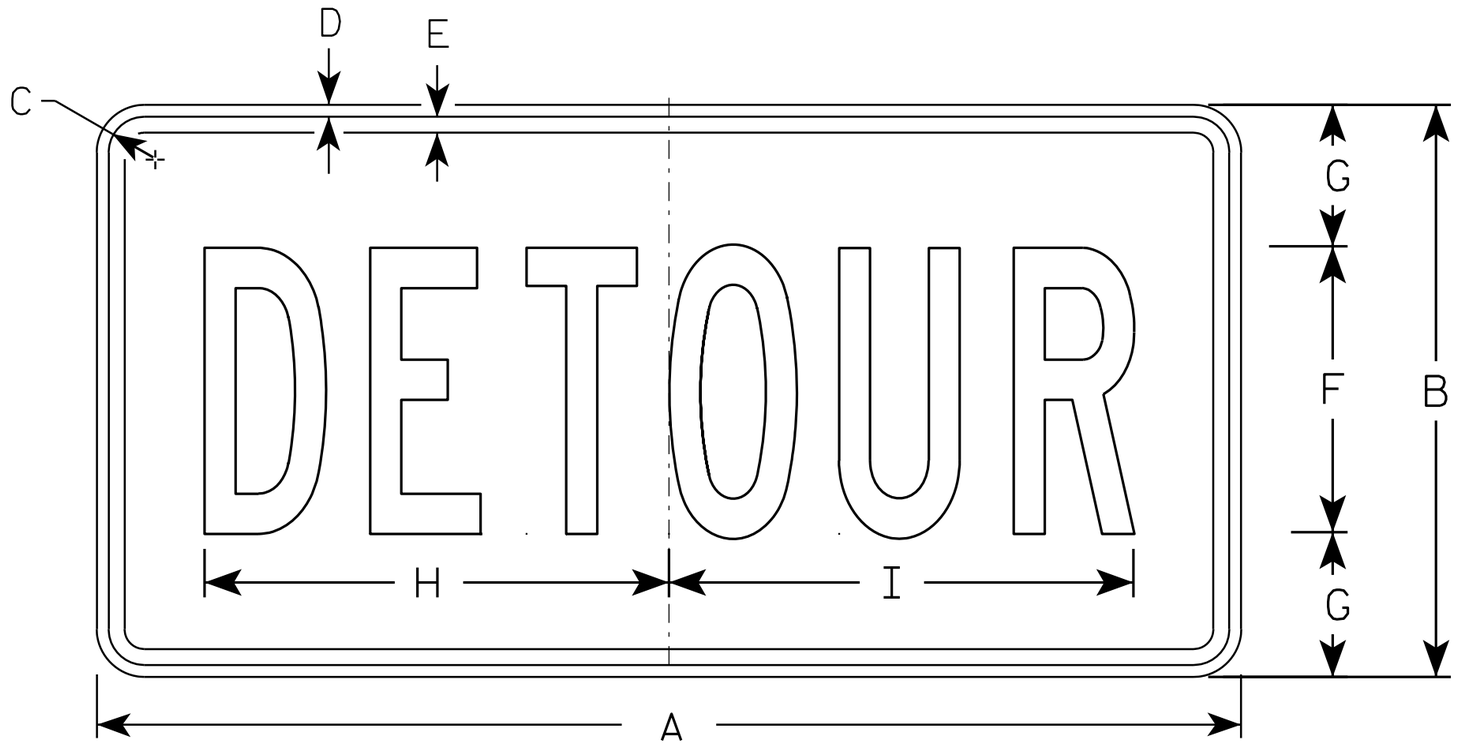
STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/7/19 PLATE NO. M4-5.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 238 | E



M4-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

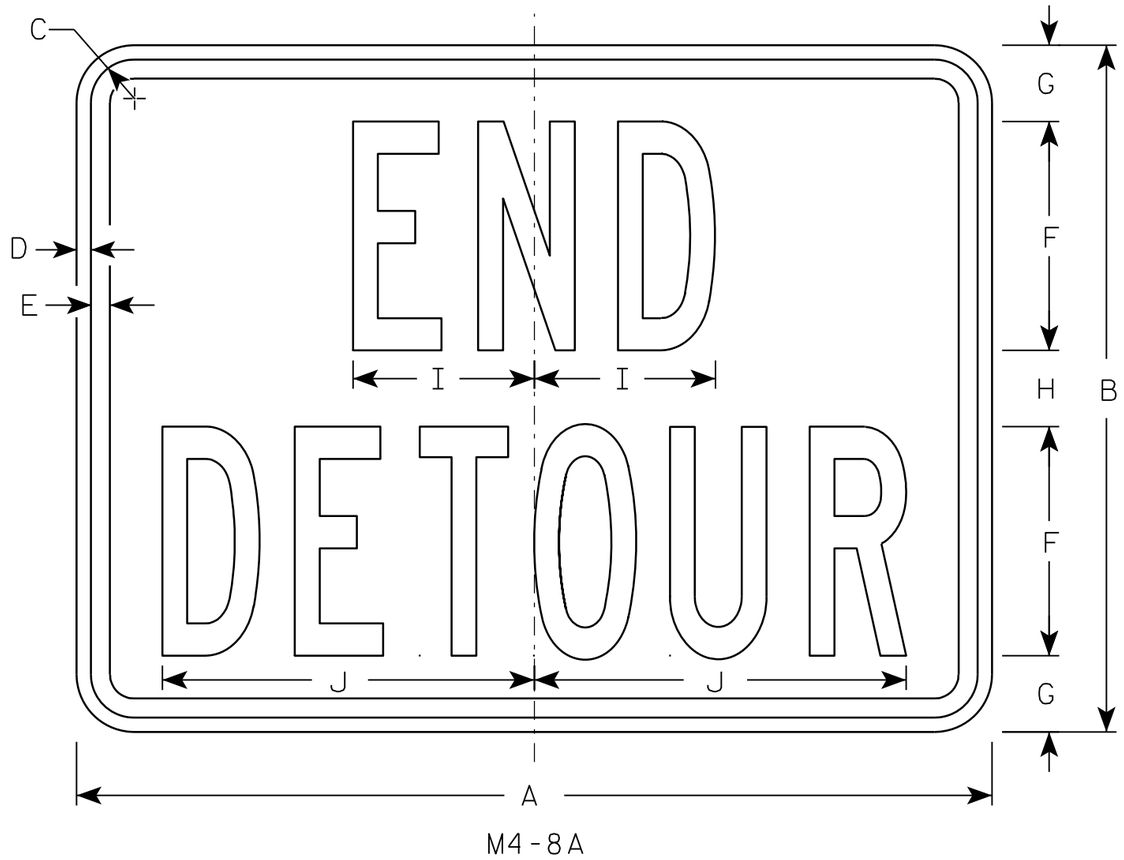
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 239	E



M4-8A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

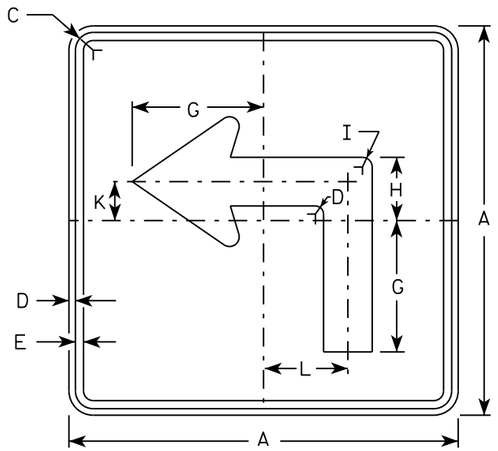
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

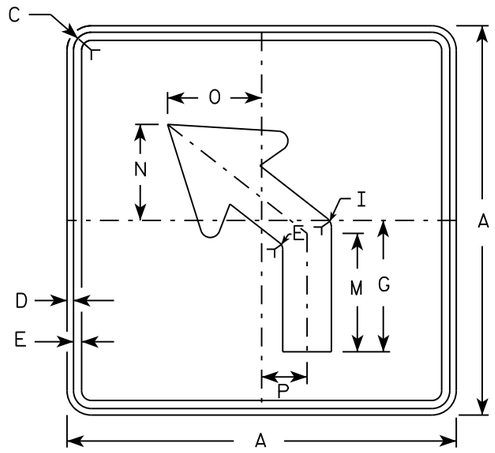
APPROVED Matthew R Rauch
for State Traffic Engineer

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

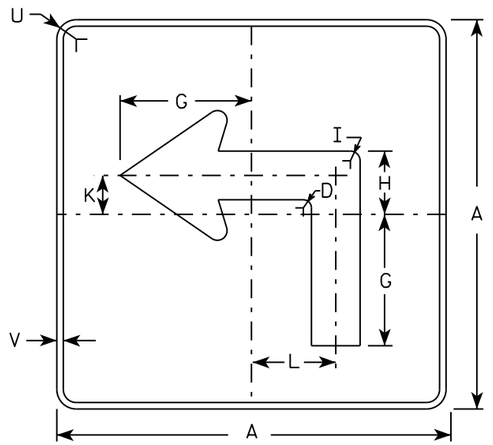
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 240	E



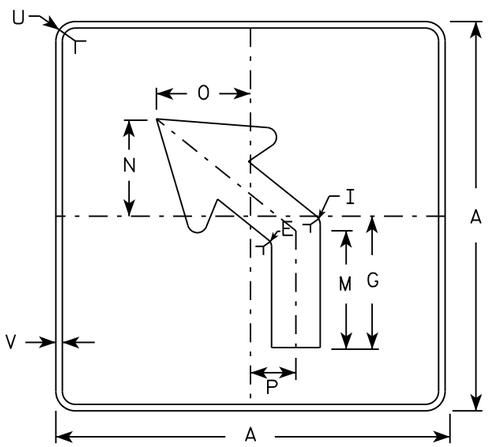
M5-1L
MM5-1L
MO5-1L
MP5-1L



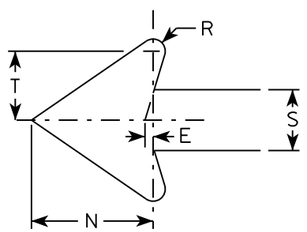
M5-2L
MM5-2L
MO5-2L
MP5-2L



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



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



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

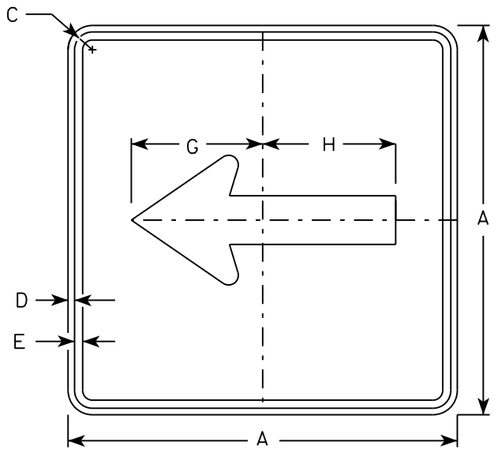
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

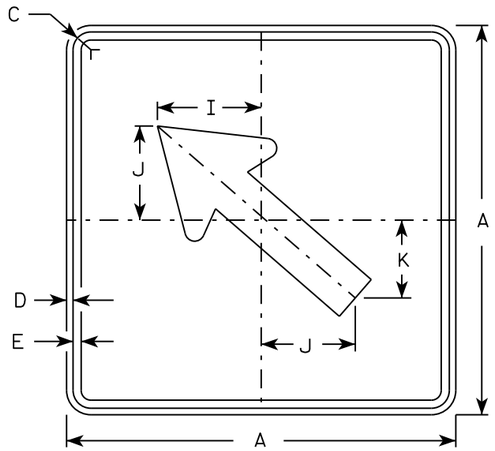
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



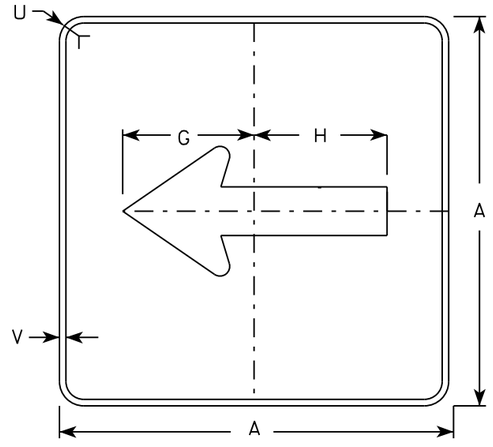
M6-1
MM6-1
MO6-1
MP6-1



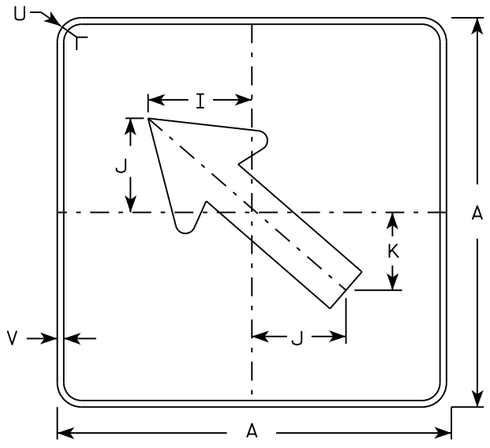
M6-2
MM6-2
MO6-2
MP6-2

NOTES

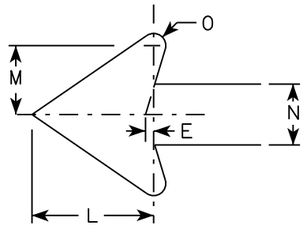
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background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



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



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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

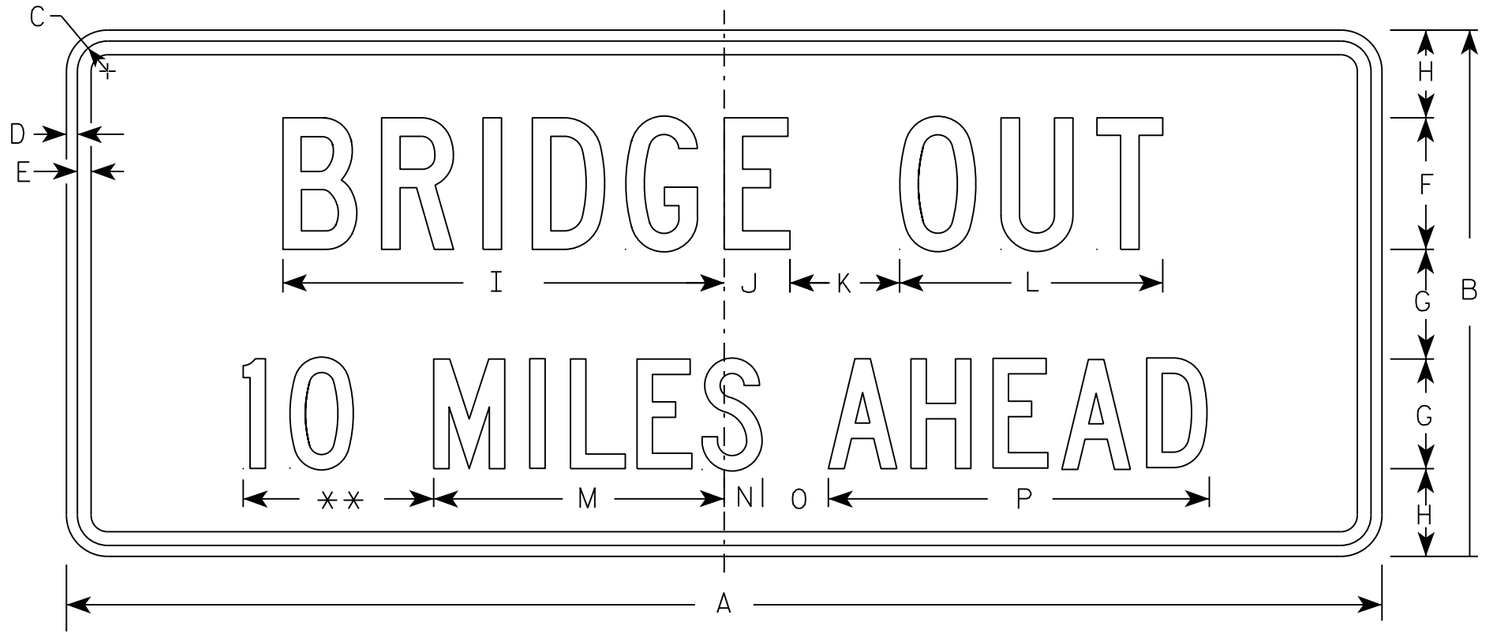
DATE 10/15/15 PLATI 242 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000

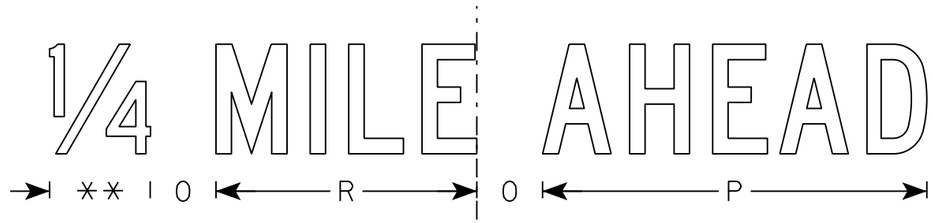
NOTES

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



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/28/16 PLATE NO. R11-3C.3

PROJECT NO:

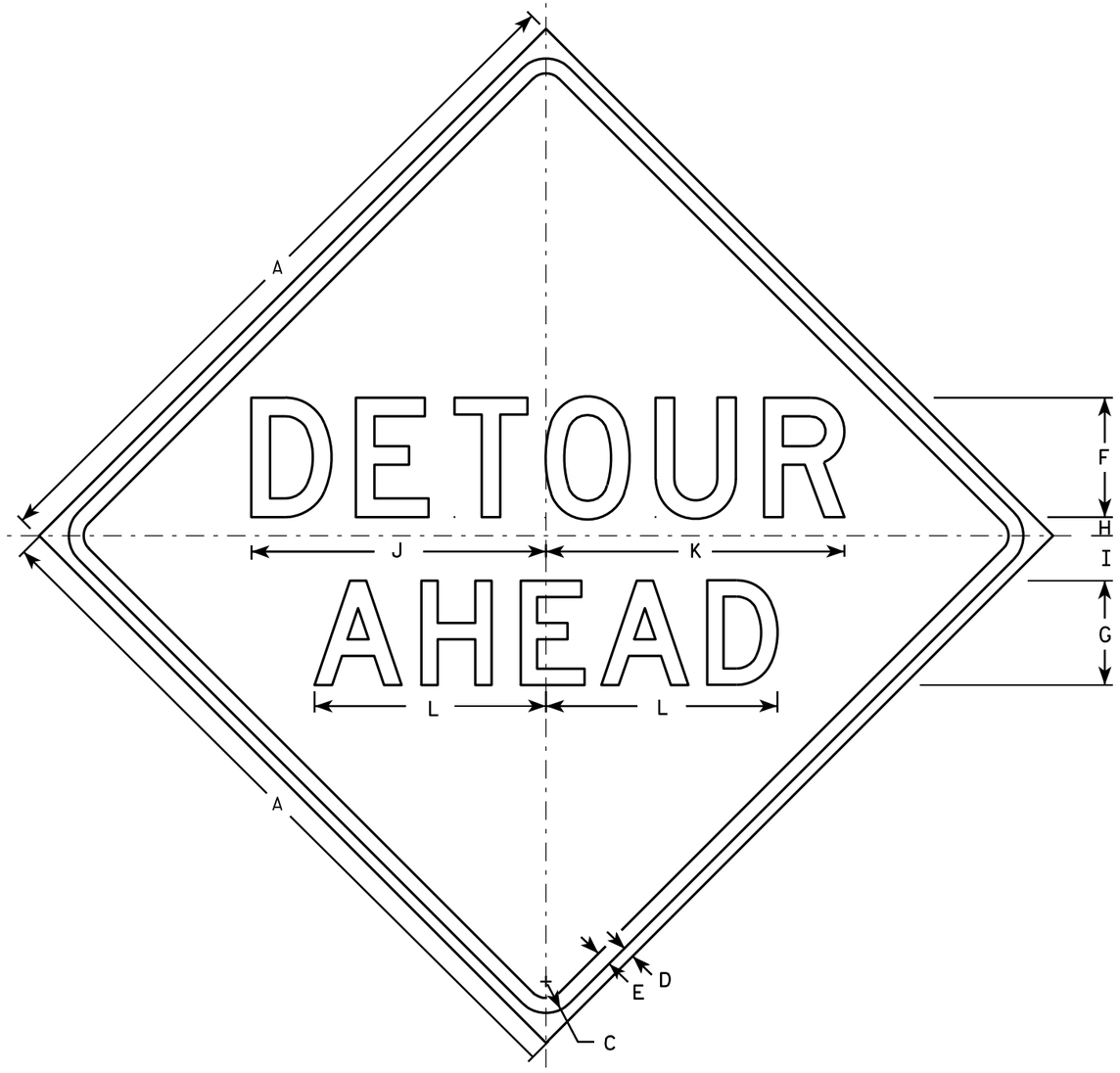
SHEET NO: 243 E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R113C.DGN PLOT DATE : 15-MAR-2017 15:33 PLOT BY : $$...plotuser...$$

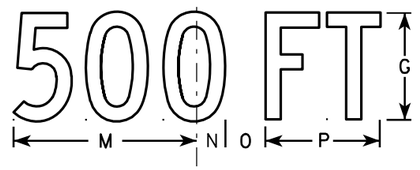
WISDOT/CADDS SHEET 42

7

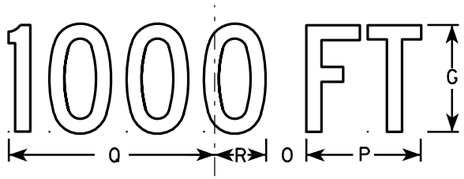
7



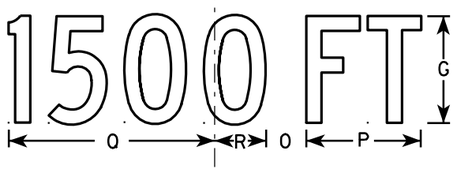
W20-2A



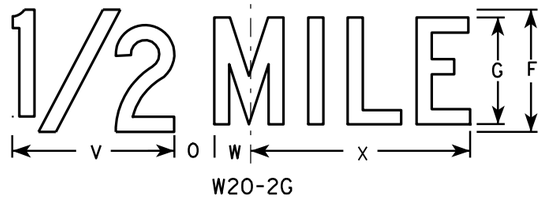
W20-2D



W20-2C



W20-2B



W20-2G

W20-2F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 244	E

STATE PROJECT NUMBER

1227-12-71

TOTAL ESTIMATED QUANTITIES

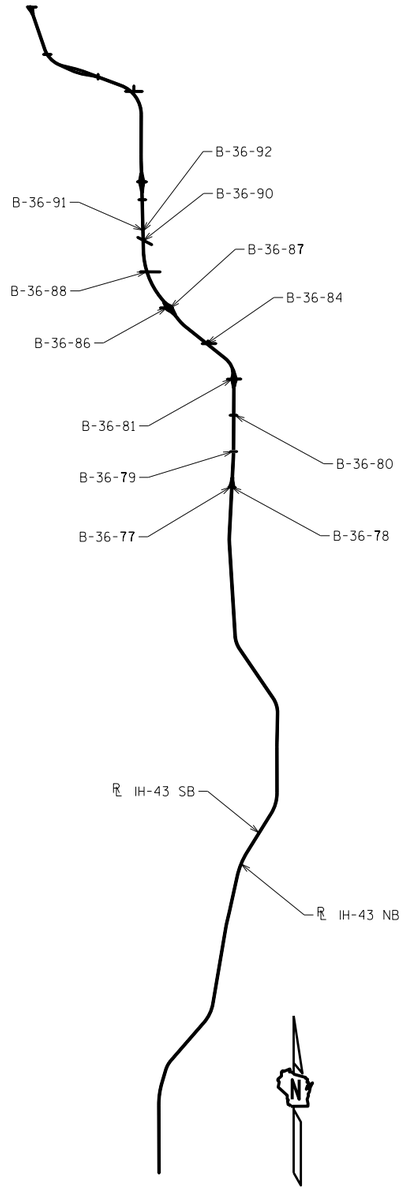
BID ITEM NUMBER	BID ITEMS	UNIT	B-36-77	B-36-78	B-36-79	B-36-80	B-36-81	B-36-84	B-36-86	B-36-87	B-36-88	B-36-90	B-36-91	B-36-92	TOTALS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	213	213	112	209	214	369	214	208	237	256	197	192	2,634
509.1500	CONCRETE SURFACE REPAIR	SF	50	30	8	---	---	---	30	---	10	---	20	21	169
SPV.0060	CLEANING AND PAINTING BEARINGS	EACH	10	10	---	8	---	8	---	---	8	---	---	---	44
SPV.0070	BRIDGE DECK CRACK SEALING	GAL	2.20	2.20	---	1.56	---	2.66	1.93	---	1.61	---	---	1.96	14.12
SPV.0090	JOINT SEALING	LF	80	80	60	60	136	96	102	102	64	68	116	116	1,080

SUMMARY OF CATEGORY NUMBERS

STRUCTURE ID	CATEGORY NUMBER
B-36-77	0020
B-36-78	0030
B-36-79	0040
B-36-80	0050
B-36-81	0060
B-36-84	0070
B-36-86	0080
B-36-87	0090
B-36-88	0100
B-36-90	0110
B-36-91	0120
B-36-92	0130

SUMMARY OF LOCATIONS

STRUCTURE ID	MUNICIPALITY	LOCATION
B-36-77	MANITOWOC RAPIDS	IH-32 SB OVER USH 10 WB / STH 310
B-36-78	MANITOWOC RAPIDS	IH-32 NB OVER USH 10 WB / STH 310
B-36-79	KOSSUTH	ROCKWOOD ROAD OVER IH-43
B-36-80	KOSSUTH	REIFS MILL ROAD OVER IH-43
B-36-81	KOSSUTH	V HILLCREST ROAD OVER IH-43
B-36-84	KOSSUTH	POLIFKA ROAD OVER IH-43
B-36-86	KOSSUTH	IH-43 SB OVER K
B-36-87	KOSSUTH	IH-43 NB OVER K
B-36-88	KOSSUTH	FISCHERVILLE ROAD / CTH Y OVER IH-43
B-36-90	COOPERSTOWN	GREENSTREET ROAD OVER IH-43
B-36-91	COOPERSTOWN	IH-43 SB OVER CNW RR
B-36-92	COOPERSTOWN	IH-43 NB OVER CNW RR



LOCATION MAP

LIST OF DRAWINGS

1. BRIDGE REPAIR SUMMARY
2. B-36-77/78/79 & B-36-80/81 REPAIRS
3. B-36-84/86/87 & B-36-88/90 REPAIRS
4. B-36-91 & B-36-92 REPAIRS

STRUCTURE DESIGN CONTACTS:

DOMINIQUE BECHLE (608) 261-8205
JOHN SENDOR (608) 266-5163

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED DMB 10/05/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-VARIOUS

MANITOWOC COUNTY IH-43 BRIDGE REPAIRS

COUNTY	TOWN/CITY/VILLAGE
MANITOWOC	VARIES

DESIGN SPEC.
N/A - REHABILITATION

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
DMB	JJS	DMB	JJS

BRIDGE REPAIR SUMMARY

SHEET 1 OF 4

245

I.D. 1227-12-00 DATE: MAY 2021

SCALE = 10800.00

8

8

STATE PROJECT NUMBER

1227-12-71

B-36-77 REPAIR SUMMARY

IH-43 SB OVER USH 10 WB / STH 310

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	213	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	50	ESTIMATED REPAIR AREAS ARE LOCATED ON THE EXISTING WEST PARAPET; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	10	CLEAN AND PAINT EXISTING ABUTMENT EXPANSION BEARINGS; 5 BEARINGS PER ABUTMENT
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	2.20	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISTING CRACKING = 1,388 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	80	SEAL THE EXISTING STRIP SEAL EXPANSION JOINTS AT EACH ABUTMENT; 40 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-78 REPAIR SUMMARY

IH-43 NB OVER USH 10 WB / STH 310

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	213	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	30	ESTIMATED REPAIR AREAS ARE LOCATED ON THE EXISTING WEST PARAPET; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	10	CLEAN AND PAINT EXISTING ABUTMENT EXPANSION BEARINGS; 5 BEARINGS PER ABUTMENT
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	2.20	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISTING CRACKING = 1,388 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	80	SEAL THE EXISTING STRIP SEAL EXPANSION JOINTS AT EACH ABUTMENT; 40 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-79 REPAIR SUMMARY

ROCKWOOD ROAD OVER IH-43

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	112	APPLY TO ROADSIDE AND TOP FACE FOR FULL LENGTH OF NORTH PARAPET ONLY, INCLUDING NORTH PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	8	ESTIMATED REPAIR AREAS ARE LOCATED AT EAST & WEST ABUTMENTS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	60	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 30 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-80 REPAIR SUMMARY

REIFS MILL ROAD OVER IH-43

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	209	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	8	CLEAN AND PAINT EXISTING ABUTMENT EXPANSION BEARINGS; 4 BEARINGS PER ABUTMENT
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	1.56	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISTING CRACKING = 985 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	60	SEAL THE EXISTING STRIP SEAL EXPANSION JOINTS AT EACH ABUTMENT; 30 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-81 REPAIR SUMMARY

V HILLCREST ROAD OVER IH-43

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	214	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
SPV.0090.01	JOINT SEALING	LF	136	SEAL THE EXISTING STRIP SEAL EXPANSION JOINTS AT EACH ABUTMENT; 68 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-36-VARIOUS

DRAWN BY DMB | PLANS CK'D. JJS

B-36-77/78/79 & B-36-80/81 REPAIRS

SHEET 2

246

SCALE = 12.00

STATE PROJECT NUMBER

1227-12-71

B-36-84 REPAIR SUMMARY

POLIFKA ROAD OVER IH-43

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	369	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	8	CLEAN AND PAINT EXISTING ABUTMENT EXPANSION BEARINGS; 4 BEARINGS PER ABUTMENT
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	2.66	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISTING CRACKING = 1,679 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	96	SEAL THE EXISTING EXPANSION JOINTS AT EACH ABUTMENT; 48 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-86 REPAIR SUMMARY

IH-43 SB OVER K

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	214	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	30	ESTIMATED REPAIR AREAS ARE LOCATED ON EXISTING EAST & WEST PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	1.93	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISTING CRACKING = 1,218 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	102	SEAL THE EXISTING STRIP SEAL EXPANSION JOINTS AT EACH ABUTMENT; 51 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-87 REPAIR SUMMARY

IH-43 NB OVER K

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	208	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
SPV.0090.01	JOINT SEALING	LF	102	SEAL THE EXISTING STRIP SEAL EXPANSION JOINTS AT EACH ABUTMENT; 51 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-88 REPAIR SUMMARY

FISCHERVILLE ROAD / CTH Y OVER IH-43

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	237	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	10	ESTIMATED REPAIR AREAS ARE LOCATED ON THE EXISTING NORTH PARAPET; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	8	CLEAN AND PAINT EXISTING ABUTMENT EXPANSION BEARINGS; 4 BEARINGS PER ABUTMENT
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	1.61	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISTING CRACKING = 1,016 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	64	SEAL THE EXISTING STRIP SEAL EXPANSION JOINTS AT EACH ABUTMENT; 32 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

8

B-36-90 REPAIR SUMMARY

GREENSTREET ROAD OVER IH-43

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	256	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
SPV.0090.01	JOINT SEALING	LF	68	SEAL THE EXISTING EXPANSION JOINTS AT EACH ABUTMENT; 34 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-36-VARIOUS

DRAWN BY DMB | PLANS CK'D. JJS

B-36-84/86/87 & B-36-88/90 REPAIRS

SHEET 3

247

SCALE = 12.00

STATE PROJECT NUMBER
1227-12-71

B-36-91 REPAIR SUMMARY

IH-43 SB OVER CNW RR

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	197	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	20	ESTIMATED REPAIR AREAS ARE LOCATED ON EXISTING EAST & WEST PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	116	SEAL THE EXISTING STRIP SEAL EXPANSION JOINTS AT EACH ABUTMENT; 58 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-92 REPAIR SUMMARY

IH-43 NB OVER CNW RR

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	192	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	21	ESTIMATED REPAIR AREAS ARE LOCATED ON EXISTING EAST & WEST PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	1.96	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISTING CRACKING = 1,237 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	116	SEAL THE EXISTING STRIP SEAL EXPANSION JOINTS AT EACH ABUTMENT; 58 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-36-VARIOUS

DRAWN BY DMB | PLANS CK'D. JJS

B-36-91
& B-36-92
REPAIRS

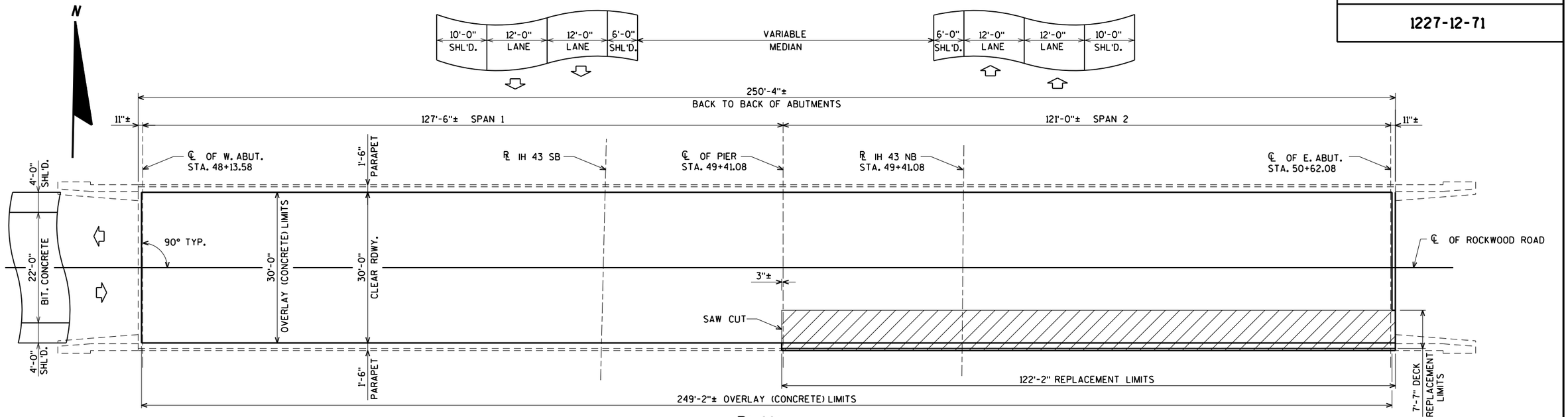
SHEET 4

248

SCALE = 12.00

STATE PROJECT NUMBER

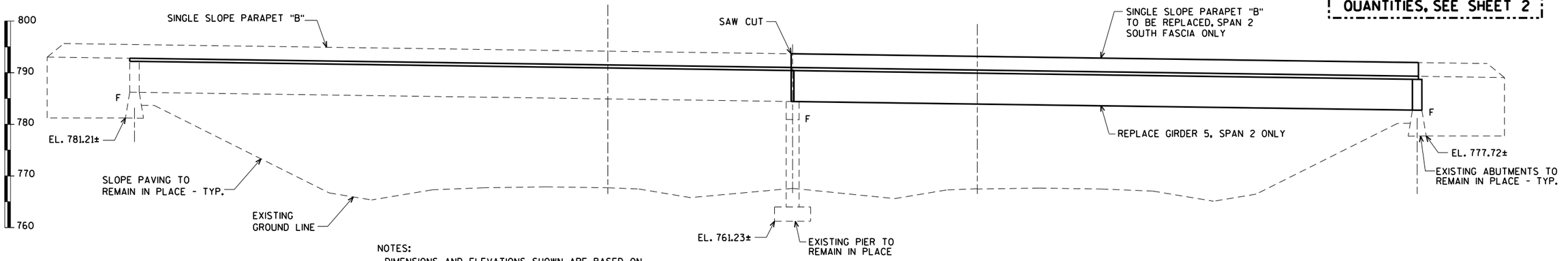
1227-12-71



PLAN

TWO-SPAN 70" PRESTRESSED CONCRETE GIRDER BRIDGE
REPAIR AND CONCRETE OVERLAY

FOR TYPICAL SECTION, GENERAL NOTES, AND QUANTITIES, SEE SHEET 2



NOTES:

DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1INCH DEEP SAW CUT, UNLESS SPECIFIED OTHERWISE.

ELEVATION

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 0.70
OPERATING RATING FACTOR: 1.44
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY SUPERSTRUCTURE	f'_c =	4,000 p.s.i.
BAR STEEL REINFORCEMENT (GRADE 60)	f_y =	60,000 p.s.i.
70" PRESTRESSED GIRDERS, CONCRETE	f'_c =	6,000 p.s.i.
STRANDS - 0.5" DIA. WITH ULTIMATE TENSILE STRENGTH OF	=	270,000 p.s.i.

TRAFFIC DATA:

IH 43	ROCKWOOD ROAD
A.A.D.T. = 22,300 (2022)	A.A.D.T. = 300 (2022)
R.D.S. = 70 M.P.H.	R.D.S. = 50 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTION, QUANTITIES, AND NOTES
3. 70" PRESTRESSED GIRDER DETAILS
4. SUPERSTRUCTURE
5. SUPERSTRUCTURE PLAN
6. SUPERSTRUCTURE DIAPHRAGM DETAILS
7. SINGLE SLOPE PARAPET "B"

WISCONSIN
ARLEN E. BEAUDETTE
E-36829
EAU CLAIRE, WI
PROFESSIONAL ENGINEER
10/13/2021

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

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

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ SDR 10/13/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-79

ROCKWOOD ROAD OVER IH 43

COUNTY	TOWN ~~CITY/VILLAGE~~
MANITOWOC	KOSSUTH

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JCK	ZSS	CLP	AEB

GENERAL PLAN

SHEET 1 OF 7
249

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

I.D.

DATE:

10/1/2021
PENTABLE:Wisdot_shd.tbl

I:±42±45-0504.00 - Rockwood RD over IH 43 Rehab±Structure±450504 gp.dgn

8

8

STATE PROJECT NUMBER

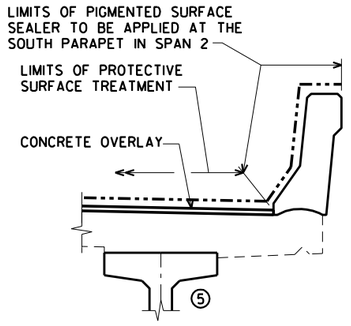
1227-12-71

TOTAL ESTIMATED QUANTITIES

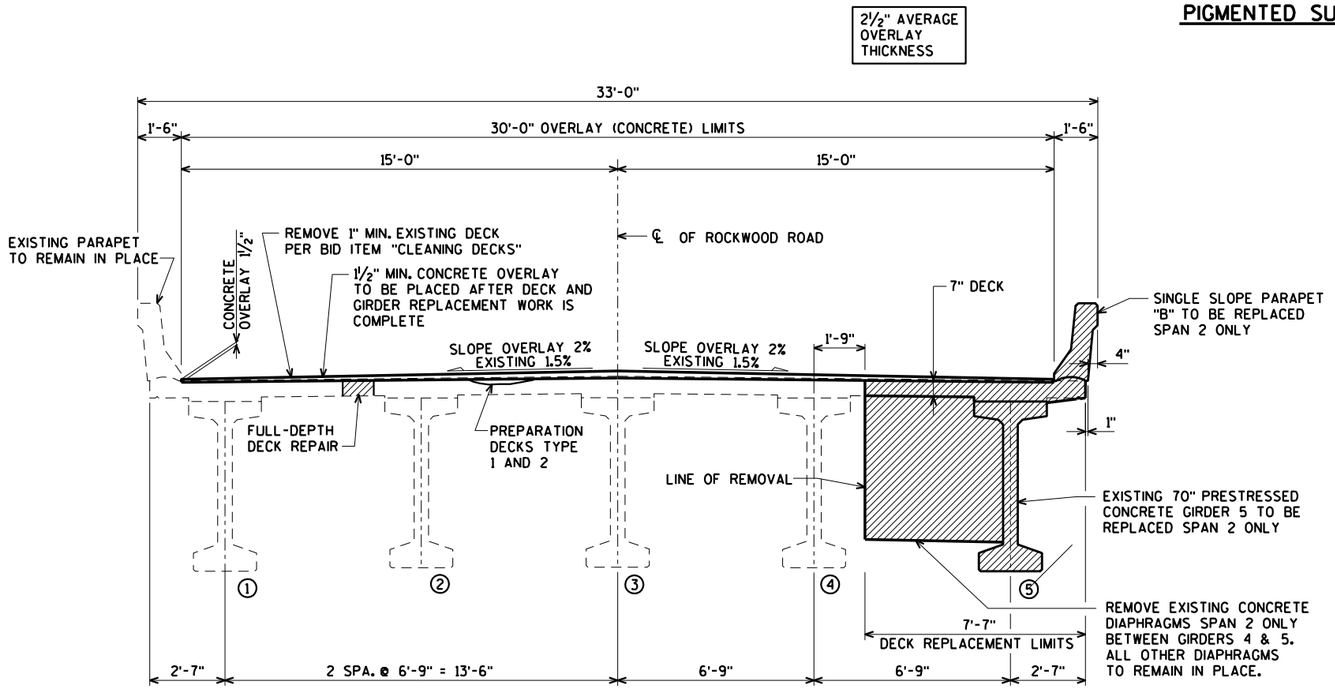
	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	203.0220	REMOVING STRUCTURE B-36-79	EACH	1
	502.0100	CONCRETE MASONRY BRIDGES	CY	39
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	835
	502.3210	PIGMENTED SURFACE SEALER	SY	50
	503.0128	PRESTRESSED GIRDER TYPE I 70-INCH	LF	121
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	9,420
	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	2
	509.0301	PREPARATION DECKS TYPE 1	SY	145
	509.0302	PREPARATION DECKS TYPE 2	SY	60
	509.0500	CLEANING DECKS	SY	835
⊗	509.1500	CONCRETE SURFACE REPAIR	SF	100
	509.2000	FULL DEPTH DECK REPAIR	SY	6
▲	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	75
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3
		NON-BID ITEMS		
		FILLER		

▲ BID ITEM INCLUDES CONCRETE FOR 1½" MIN. OVERLAY, PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL DEPTH DECK REPAIR.

⊗ UNDISTRUBUTED FOR GIRDERS, ABUTMENTS, AND PIER AS DIRECTED BY THE ENGINEER IN THE FIELD.



PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAIL



TYPICAL SECTION THRU BRIDGE

SHOWING REMOVAL

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS ARE BASED ON ORIGINAL STRUCTURE PLANS.

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

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

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT UNLESS SHOWN OR NOTED OTHERWISE.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

CONCRETE FOR DIAPHRAGMS SHALL BE PLACED WITH THE DECK CONCRETE. NO OPTIONAL CONSTRUCTION JOINT WILL BE PERMITTED.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

CONCRETE OVERLAY WILL BE PLACED AFTER DECK AND GIRDER REPLACEMENT WORK IS COMPLETE.

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

THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE DEPTH OF 2½", WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

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

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". AVERAGE EXPECTED OVERLAY THICKNESS IS 2½". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

ANY EXCAVATION AND BACKFILL NECESSARY TO COMPLETE THE OVERLAY AND OTHER REPAIR WORK AT THE ABUTMENTS IS CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS". BACKFILL TO BE "BACKFILL STRUCTURE TYPE A".

SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

THE AVERAGE OVERLAY THICKNESS IS BASED ON THE MINIMUM OVERLAY THICKNESS PLUS ½-INCH TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

PREPARATION DECKS TYPE 1 AND TYPE 2, CONCRETE SURFACE REPAIR, AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND DETERMINED BY THE ENGINEER IN THE FIELD. DECK PREPARATION AND FULL DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

SEALING CONCRETE OVERLAY CRACKS WITHIN 7 DAYS OF CURE COMPLETION IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CLEAN AND FILL EXISTING LONGITUDINAL AND TRANSVERSE CRACKS WITH PENETRATING EPOXY AS DIRECTED BY THE FIELD ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER PREPARATION DECK BID ITEMS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-79

DRAWN BY CLP | PLANS CK'D. JCK

TYPICAL SECTION, QUANTITIES, AND NOTES

SHEET 2 OF 7
250

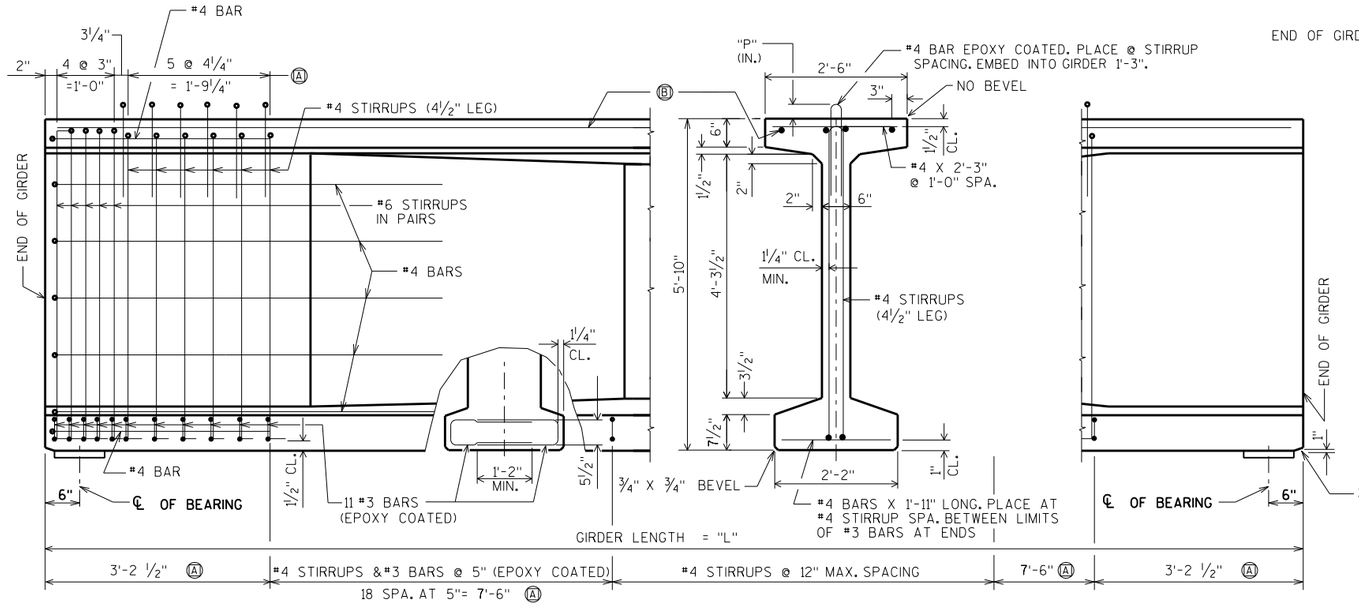
ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

10/13/2021
PENTABLE:BReau_shd_util.tbl

8

8

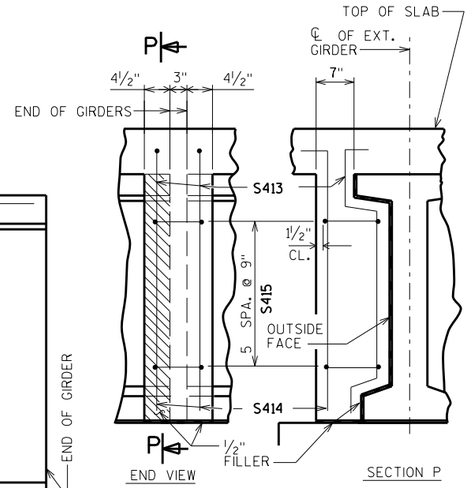
I:±42±45-0504.00 - Rockwood RD over IH 43 Rehab±Structure±450504 gp.dgn



SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END.

Ⓑ 4 # BARS, FULL LENGTH



PILASTER DETAILS AT PIERS

NOTE: ENTIRE EXISTING PILASTER AT SOUTH END OF PIER TO BE REMOVED AND REPLACED. SALVAGE AND REUSE EXISTING VERTICAL REINFORCEMENT LOCATED OUTSIDE OF TYPICAL LINE OF REMOVAL.

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

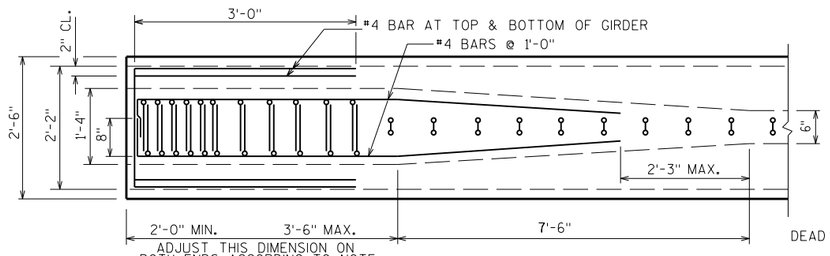
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

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

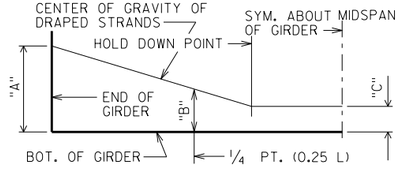
PRESTRESSING STRANDS SHALL BE (0.5" DIA.)- 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER.

BEND EACH END OF #4 STIRRUPS 4½", #7 STIRRUP 12".

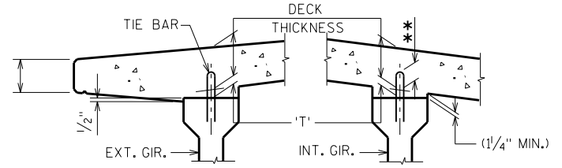
ON MULTIPLE SPAN STRUCTURES, SET THE END BLOCK LENGTHS OF GIRDERS RESTING ON THE SAME PIER TO ± 2". ON SIMPLE SPANS, SET THE END BLOCK LENGTH ON BOTH GIRDER ENDS TO ± 2".



TOP VIEW OF GIRDER Ⓐ



DRAPED STRAND PROFILE



DECK HAUNCH DETAIL

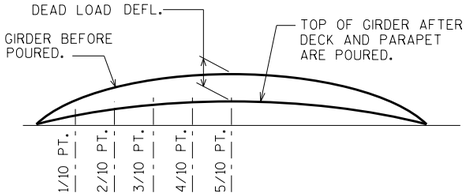
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

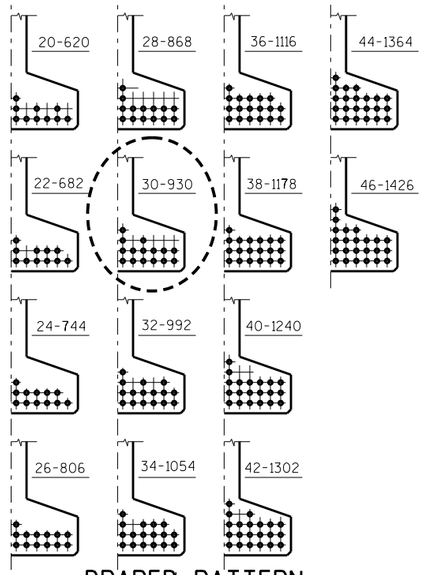
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

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

NOTE: AN AVERAGE HAUNCH ('T') OF 2½" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

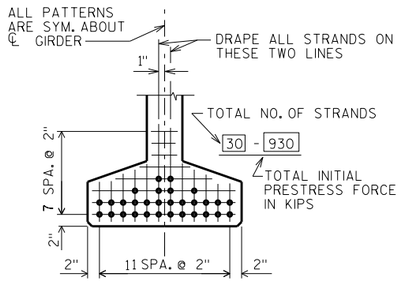


DEAD LOAD DEFLECTION DIAGRAM



DRAPED PATTERN

0.5"ϕ STRANDS



TYP STRAND PATTERN

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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.)	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳
2	5	121'-0½"	0.4	0.7	1.0	1.1	1.2	6000	6	0.5	30	4800	51	16½	19½	5		

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-79

DRAWN BY CLP | PLANS CK'D. JCK

70" PRESTRESSED GIRDER DETAILS

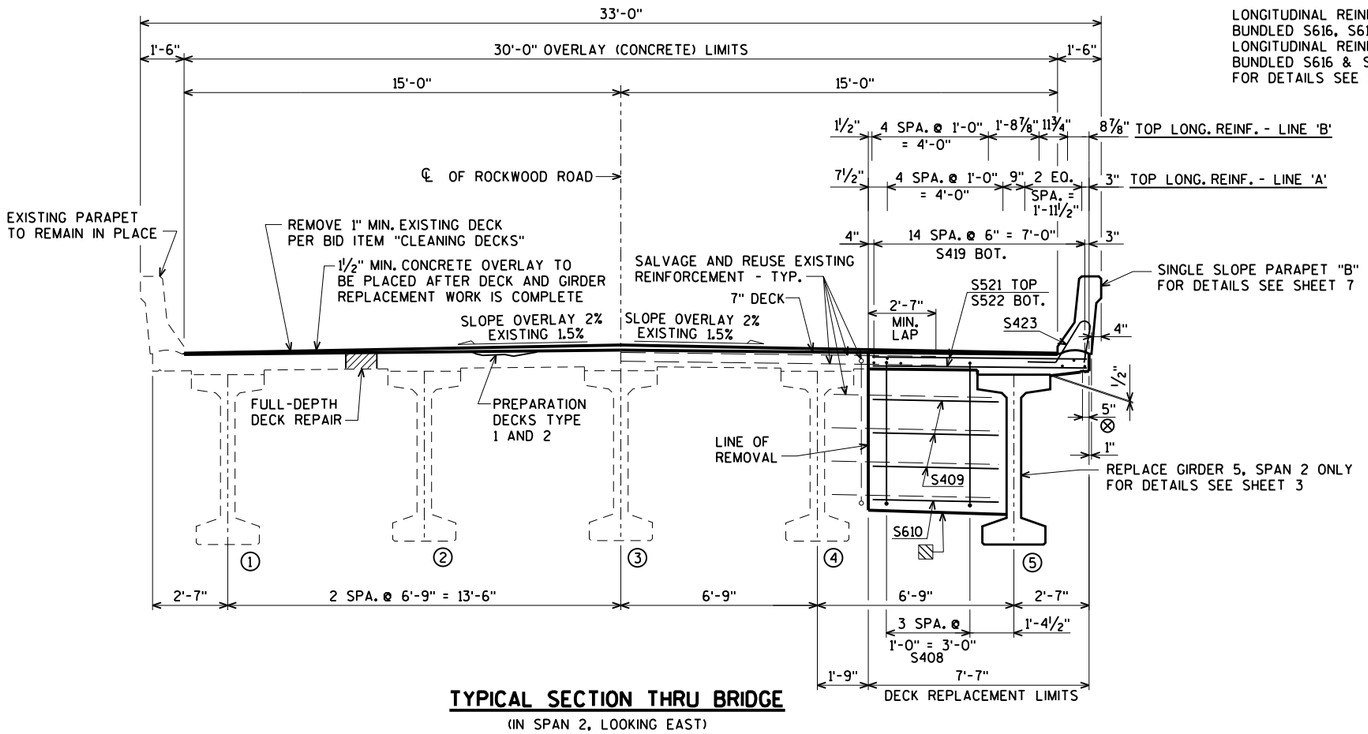
SHEET 3 OF 7
251

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

$PRFNAME$
I:±42±45-0504.00 - Rockwood RD over IH 43 Rehab±Structure±450504 70 gdr.dgn

STATE PROJECT NUMBER

1227-12-71



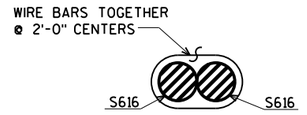
TYPICAL SECTION THRU BRIDGE

(IN SPAN 2, LOOKING EAST)

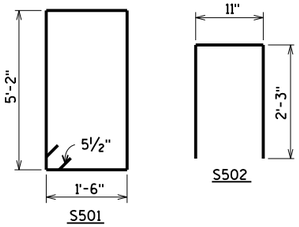
LONGITUDINAL REINFORCEMENT LINE 'A' CONSISTS OF BUNDLED S616, S617, S618, & S419 BARS.
LONGITUDINAL REINFORCEMENT LINE 'B' CONSISTS OF BUNDLED S616 & S617 BARS.
FOR DETAILS SEE SHEET 5.

⊗ ¾" V - GROOVE REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

▨ REMOVE EXISTING CONCRETE DIAPHRAGMS SPAN 2 ONLY BETWEEN GIRDERS 4 & 5. ALL OTHER DIAPHRAGMS TO REMAIN IN PLACE.



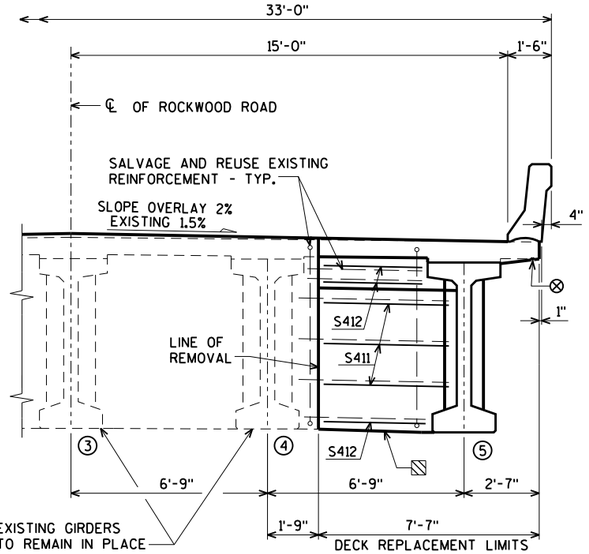
BUNDLING DETAIL



BILL OF BARS

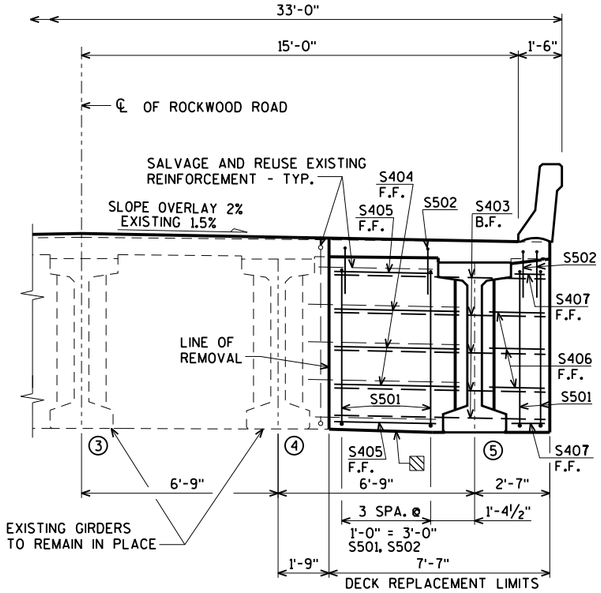
BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	9,420* COATED LOCATION
S501	X	6	13-9	X			ABUT. DIAPH. VERT.
S502	X	6	5-2	X			ABUT. DIAPH. VERT.
S403	X	7	7-3				ABUT. DIAPH. HORIZ. B.F.
S404	X	3	4-0				ABUT. DIAPH. HORIZ. F.F.
S405	X	2	3-4				ABUT. DIAPH. HORIZ. F.F.
S406	X	3	1-7				ABUT. DIAPH. HORIZ. F.F.
S407	X	2	1-0				ABUT. DIAPH. HORIZ. F.F.
S408	X	4	11-0	X			IN-SPAN DIAPH. VERT.
S409	X	12	4-5				IN-SPAN DIAPH. HORIZ.
S610	X	4	4-5				IN-SPAN DIAPH. HORIZ.
S411	X	3	4-0				PIER DIAPH. HORIZ.
S412	X	4	3-5				PIER DIAPH. HORIZ.
S413	X	2	7-0	X			PIER PILASTER VERT.
S414	X	2	6-4	X			PIER PILASTER VERT.
S415	X	6	3-8	X			PIER PILASTER HORIZ.
S616	X	30	24-9		X		DECK LONG. TOP
S617	X	15	39-3				DECK LONG. TOP
S618	X	7	39-3				DECK LONG. TOP
S419	X	7	26-0				DECK LONG. TOP
S420	X	45	41-7				DECK LONG. BOT.
S521	X	243	7-3				DECK TRANS. TOP
S522	X	242	7-3				DECK TRANS. BOT.
S423	X	163	4-3	X			PARAPET VERT.
S424	X	163	4-10	X			PARAPET VERT.
S525	X	15	42-6				PARAPET HORIZ.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



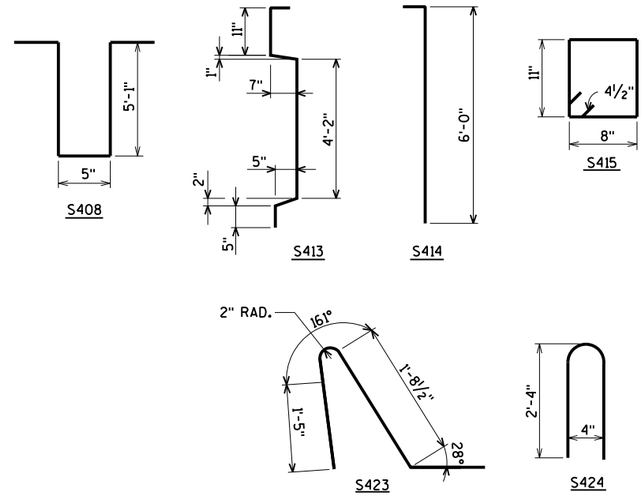
TYPICAL SECTION AT PIER

(LOOKING EAST)



TYPICAL SECTION AT ABUTMENT

(LOOKING EAST)



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-79

DRAWN BY CLP | PLANS CK'D. JCK

SUPERSTRUCTURE

SHEET 4 OF 7
252

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

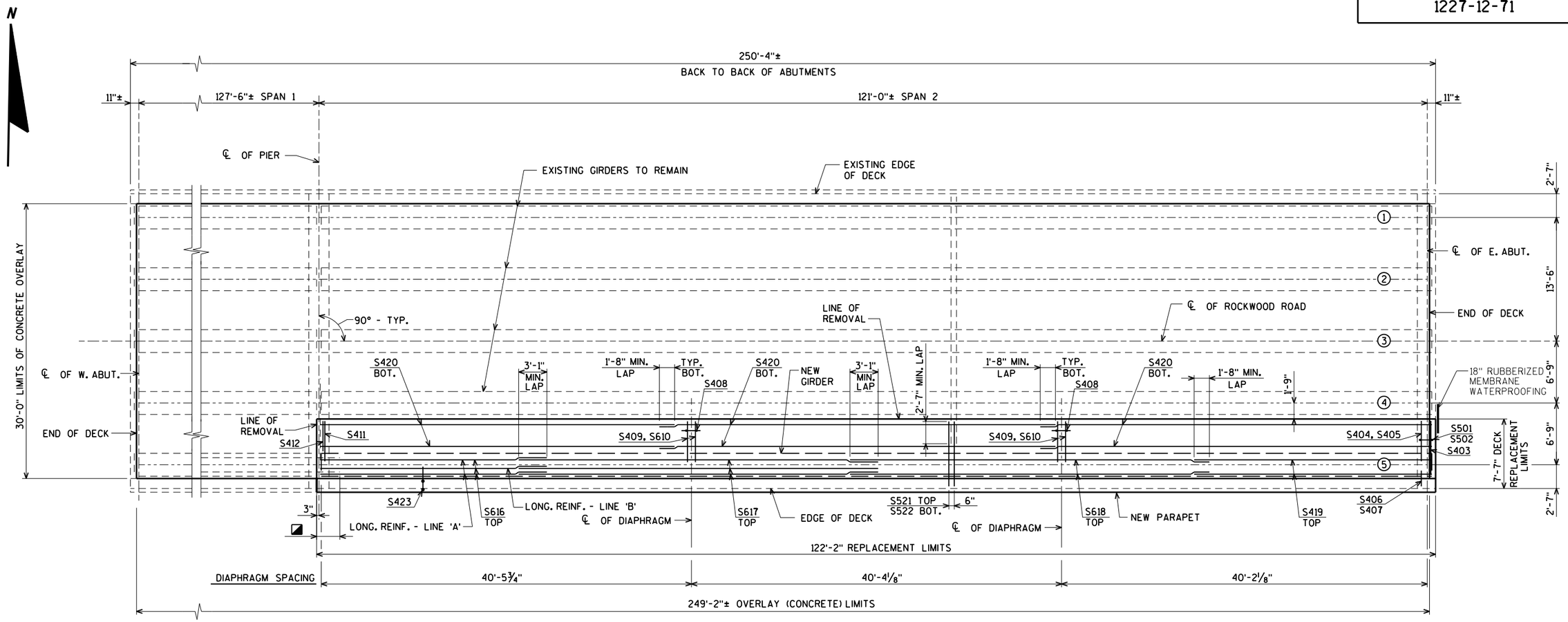
8

8

10/1/2021
PENTABLE:Wisdot_shd.tbl

I:±42±45-0504.00 - Rockwood RD over IH 43 Rehab±Structure±450504 sup.dgn

STATE PROJECT NUMBER
1227-12-71



PLAN

◪ 4'-5" MIN. LAP TOP LONGITUDINAL REINFORCEMENT
1'-8" MIN. LAP BOTTOM LONGITUDINAL REINFORCEMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-79

DRAWN BY CLP | PLANS CK'D. JCK

SUPERSTRUCTURE PLAN

SHEET 5 OF 7
253

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

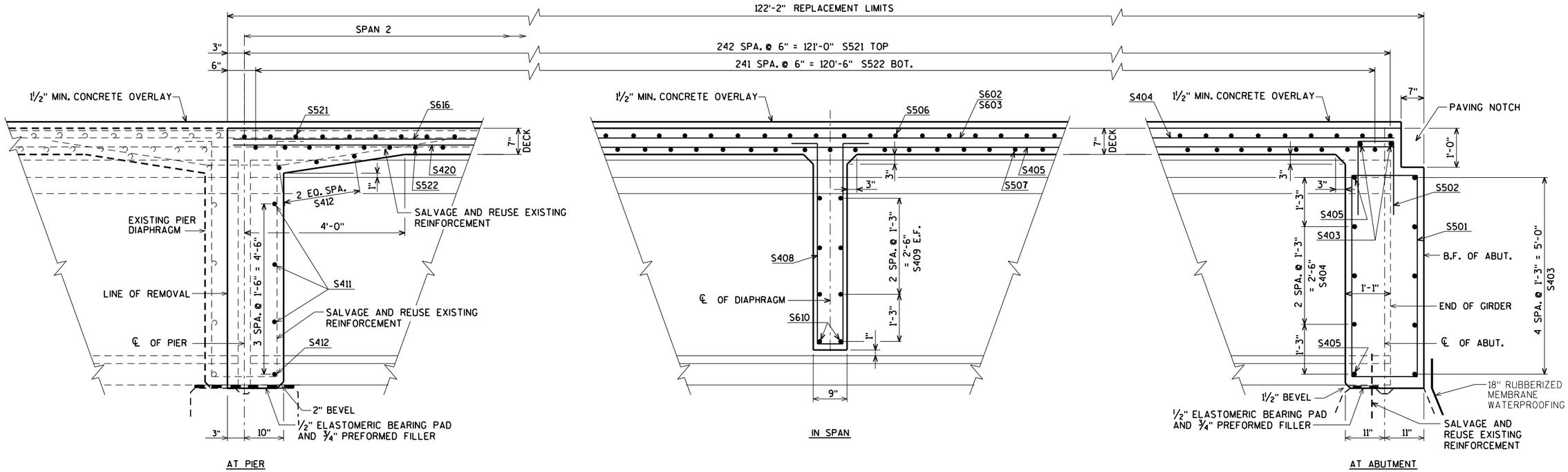
10/1/2021
PENTABLE:Wisdot_shd.tbl

8

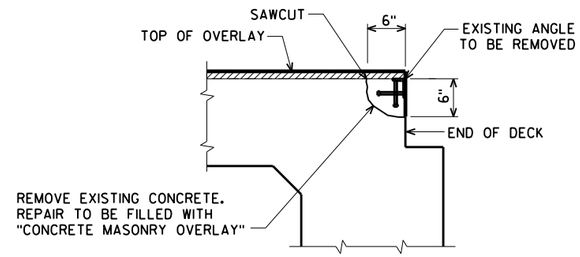
8

STATE PROJECT NUMBER

1227-12-71



PART LONGITUDINAL SECTION



SECTION AT END OF DECK

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-79

DRAWN BY CLP | PLANS CK'D. JCK

SUPERSTRUCTURE DIAPHRAGM DETAILS

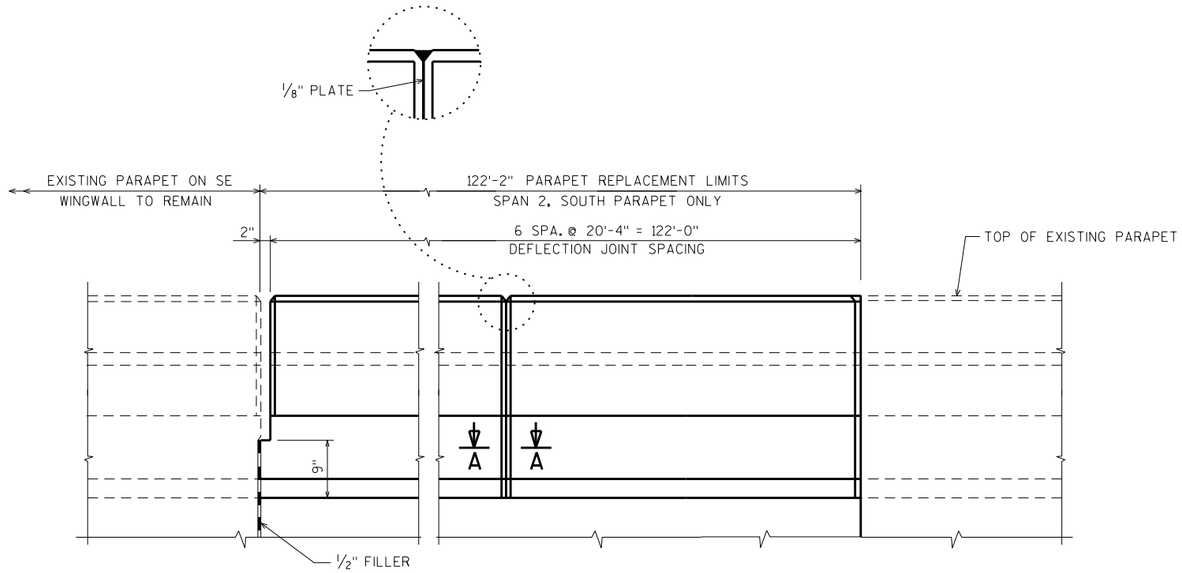
SHEET 6 OF 7
254

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

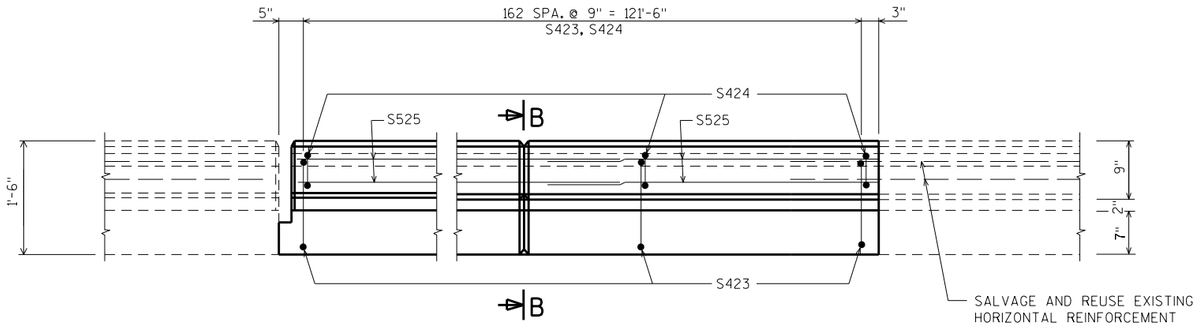
8

8

10/1/2021
PENTABLE:Wisdot_shd.tbl

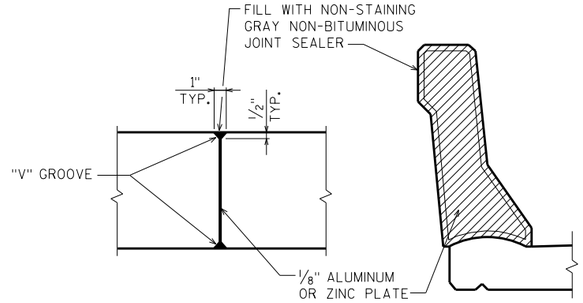


INSIDE ELEVATION

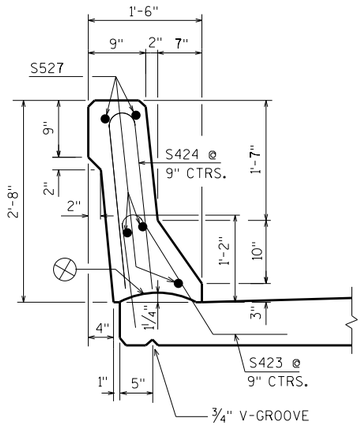


PLAN

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



SECTION A SECTION B



SECTION THRU PARAPET ON BRIDGE

MATCH EXISTING PARAPET EDGES

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-79

DRAWN BY CLP | PLANS CK'D. JCK

SINGLE SLOPE PARAPET "B"

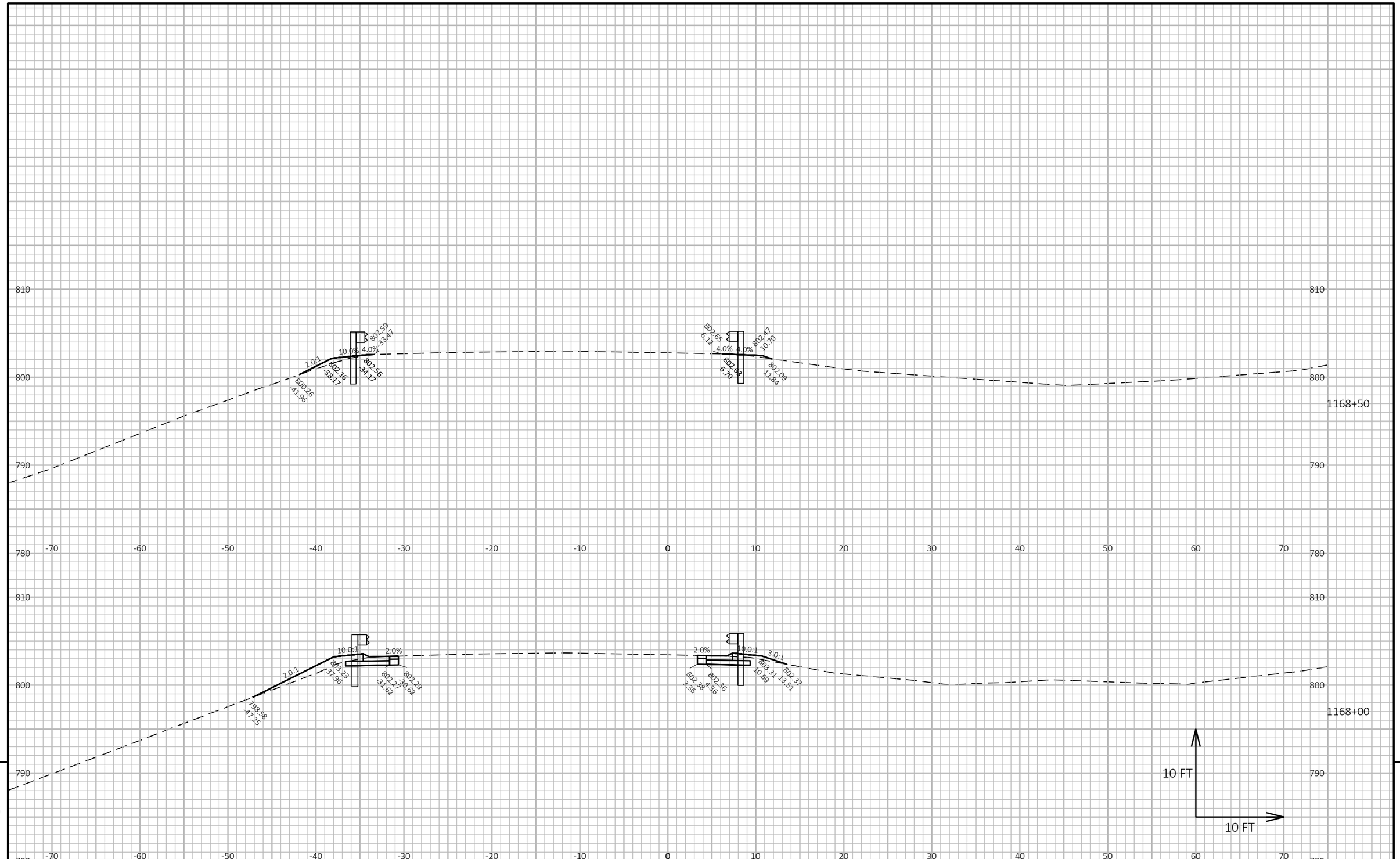
SHEET 7 OF 7
255

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

$PRFNAME$
I:\42-45-0504.00 - Rockwood RD over IH 43 Rehab\Structure\450504 par B.dgn

8

8

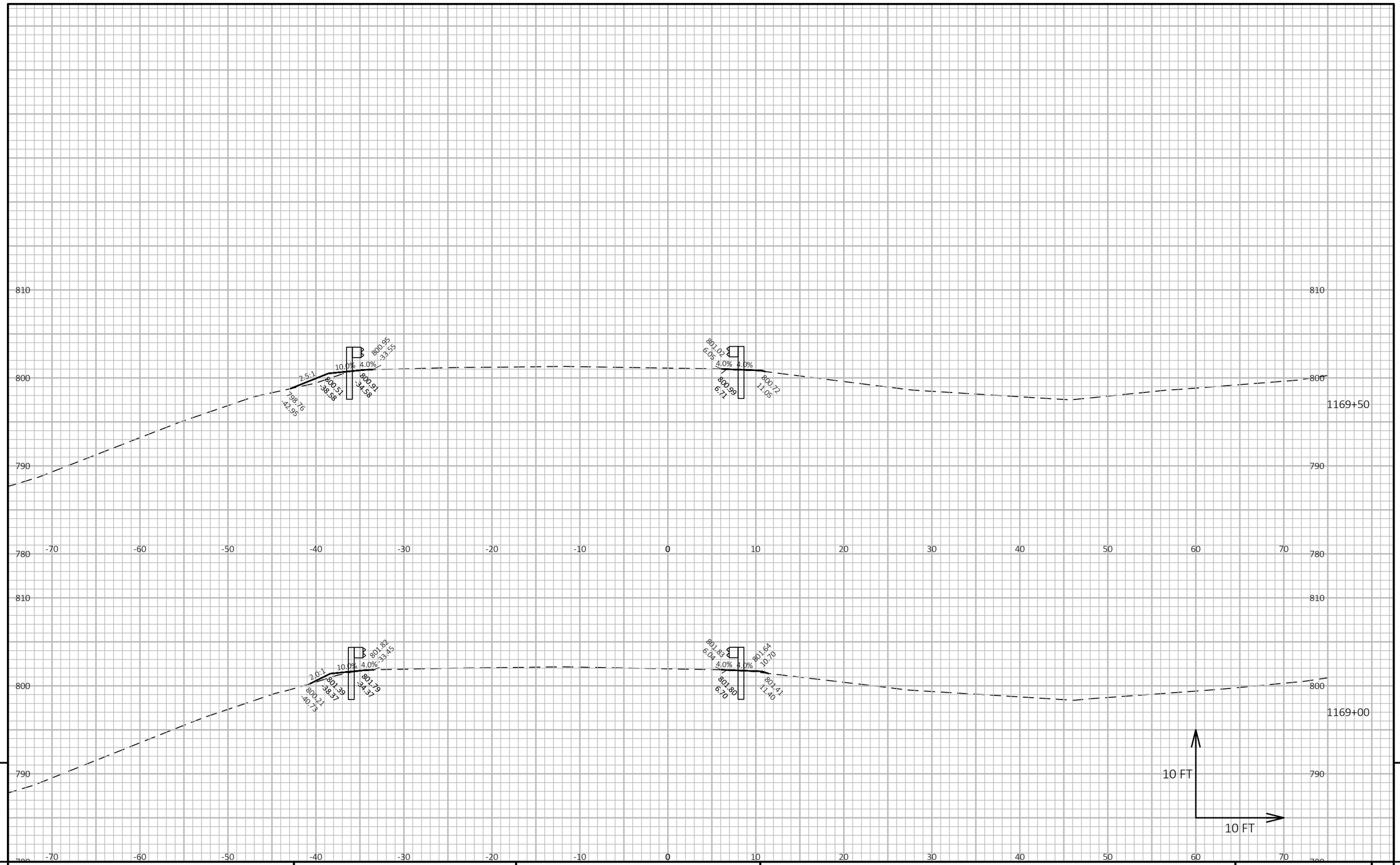


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT USH 10	SHEET 256	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ USH 10 1

PLOT DATE : 6/14/2021 9:59 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

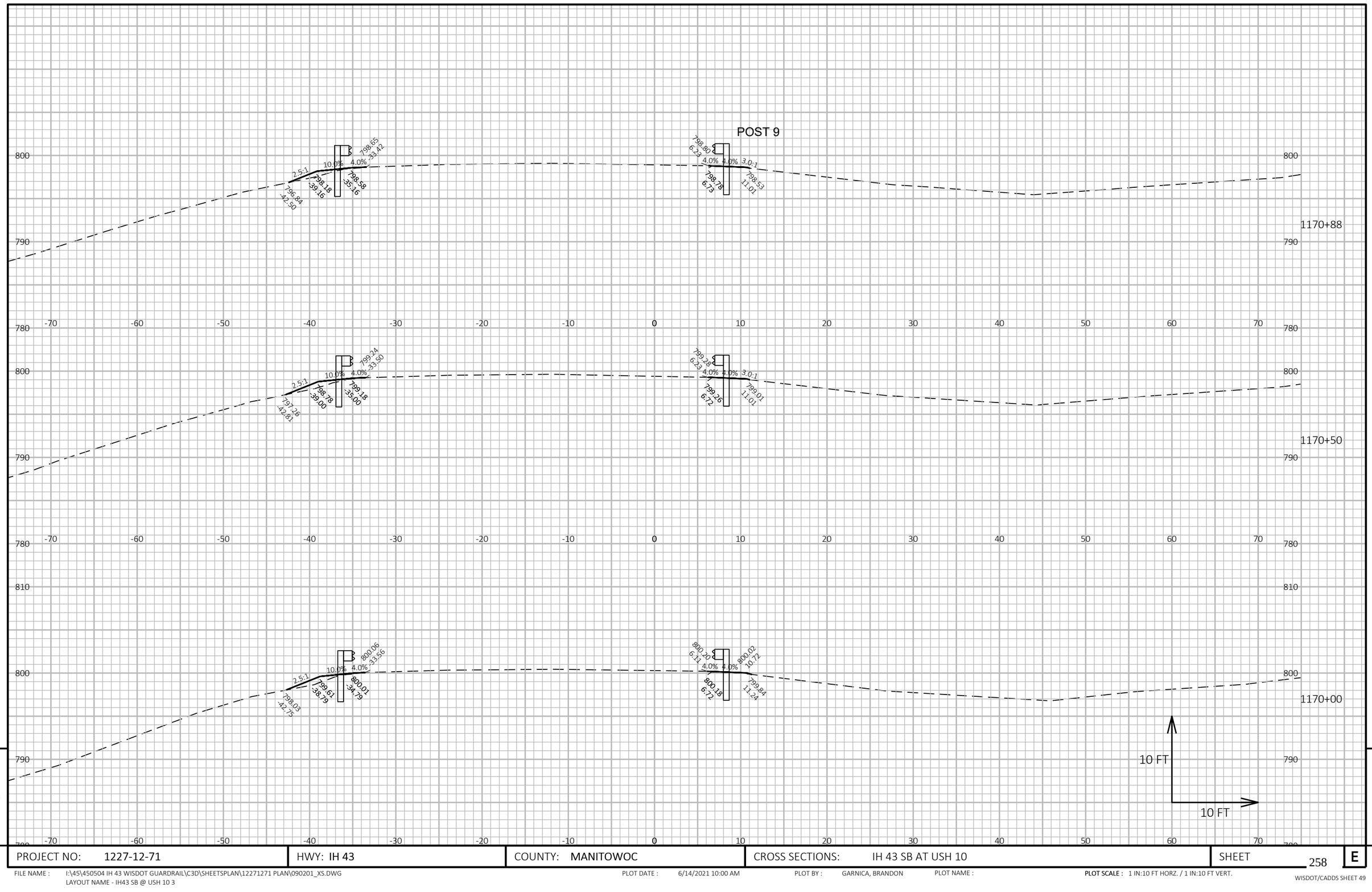
WISDOT/CADDS SHEET 49



PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT USH 10	SHEET 257	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ USH 10 2

PLOT DATE : 6/14/2021 9:59 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

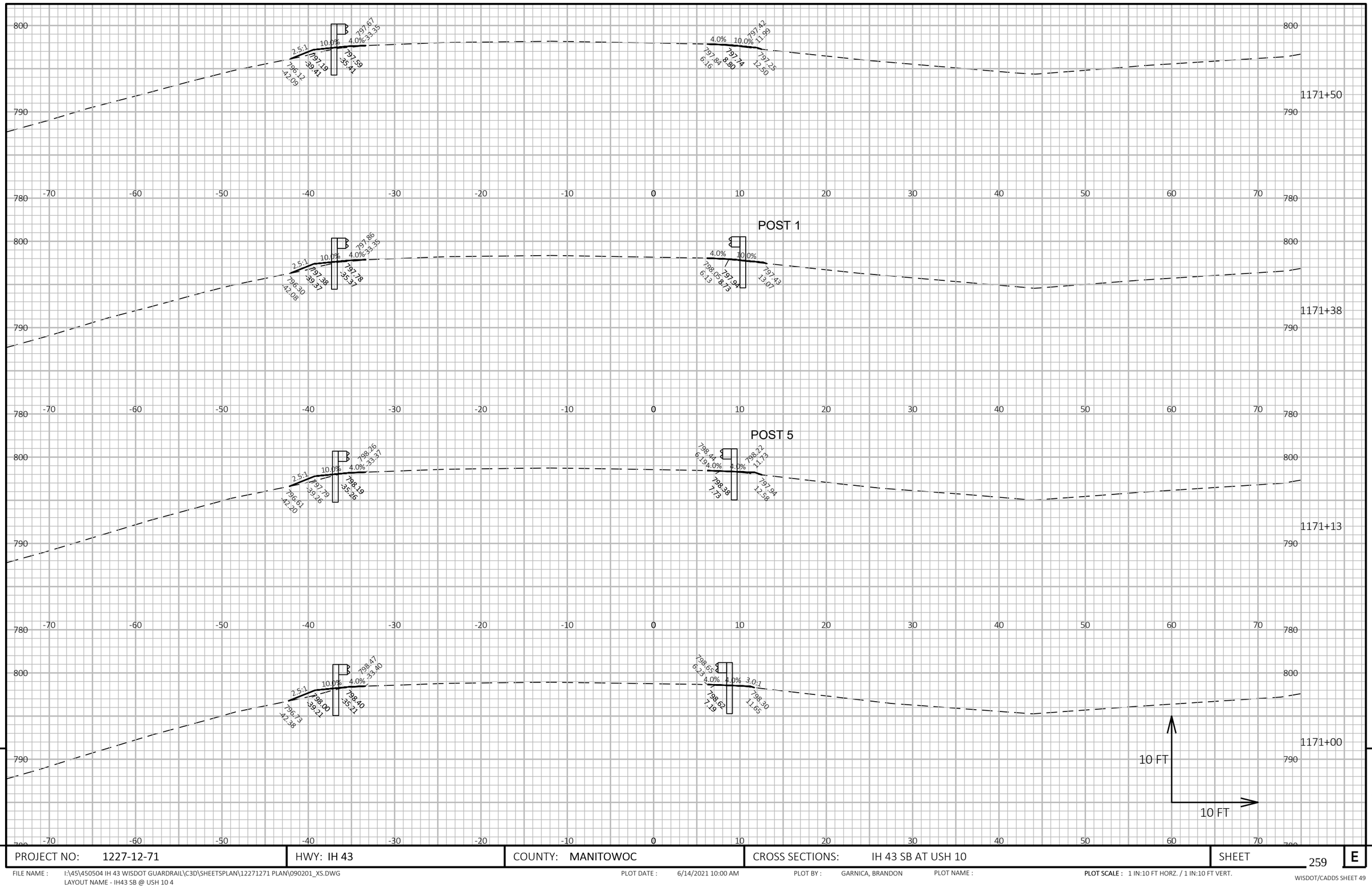


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT USH 10	SHEET 258	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ USH 10 3

PLOT DATE : 6/14/2021 10:00 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

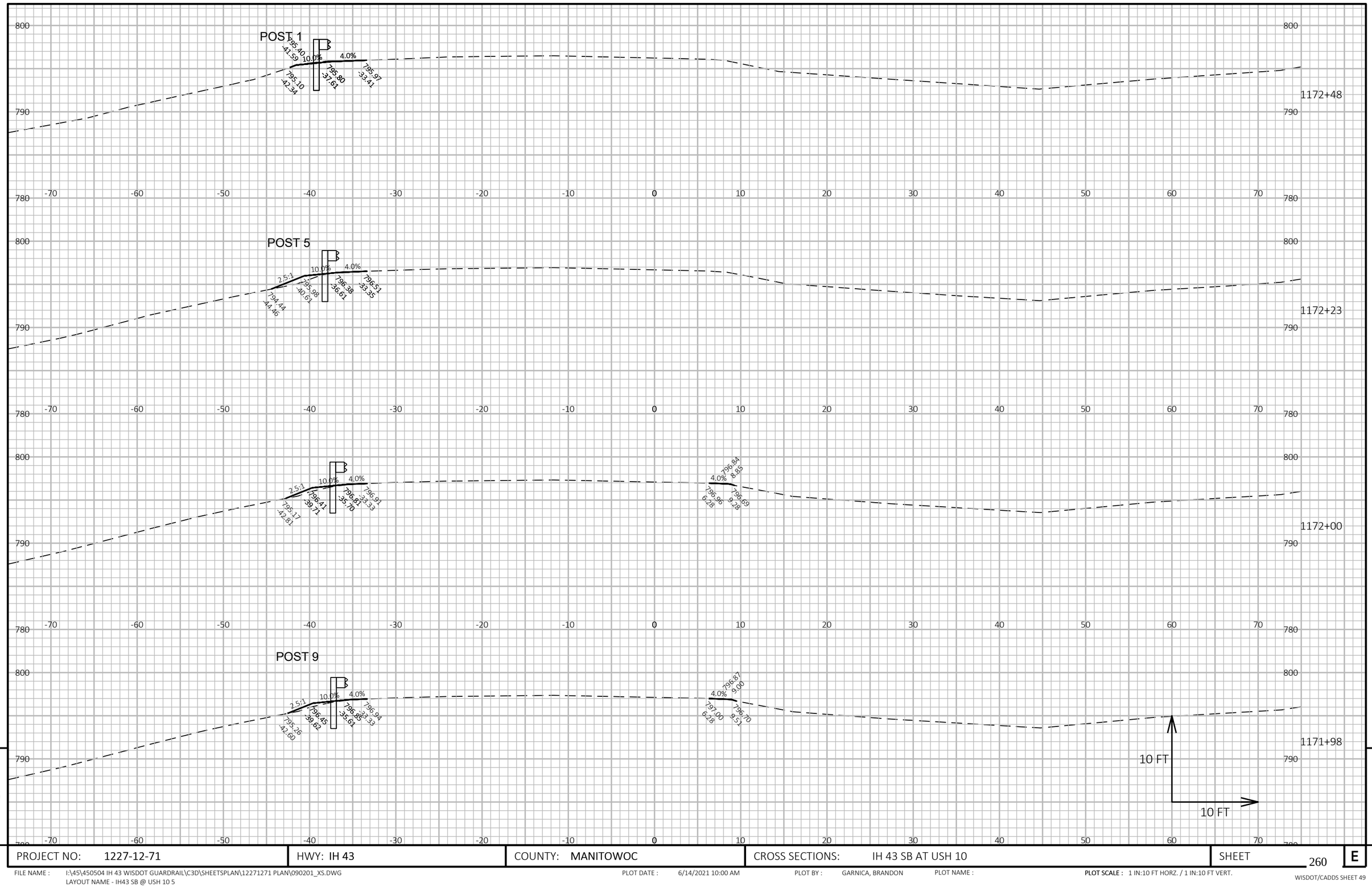
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT USH 10	SHEET 259	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ USH 10 4

PLOT DATE : 6/14/2021 10:00 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

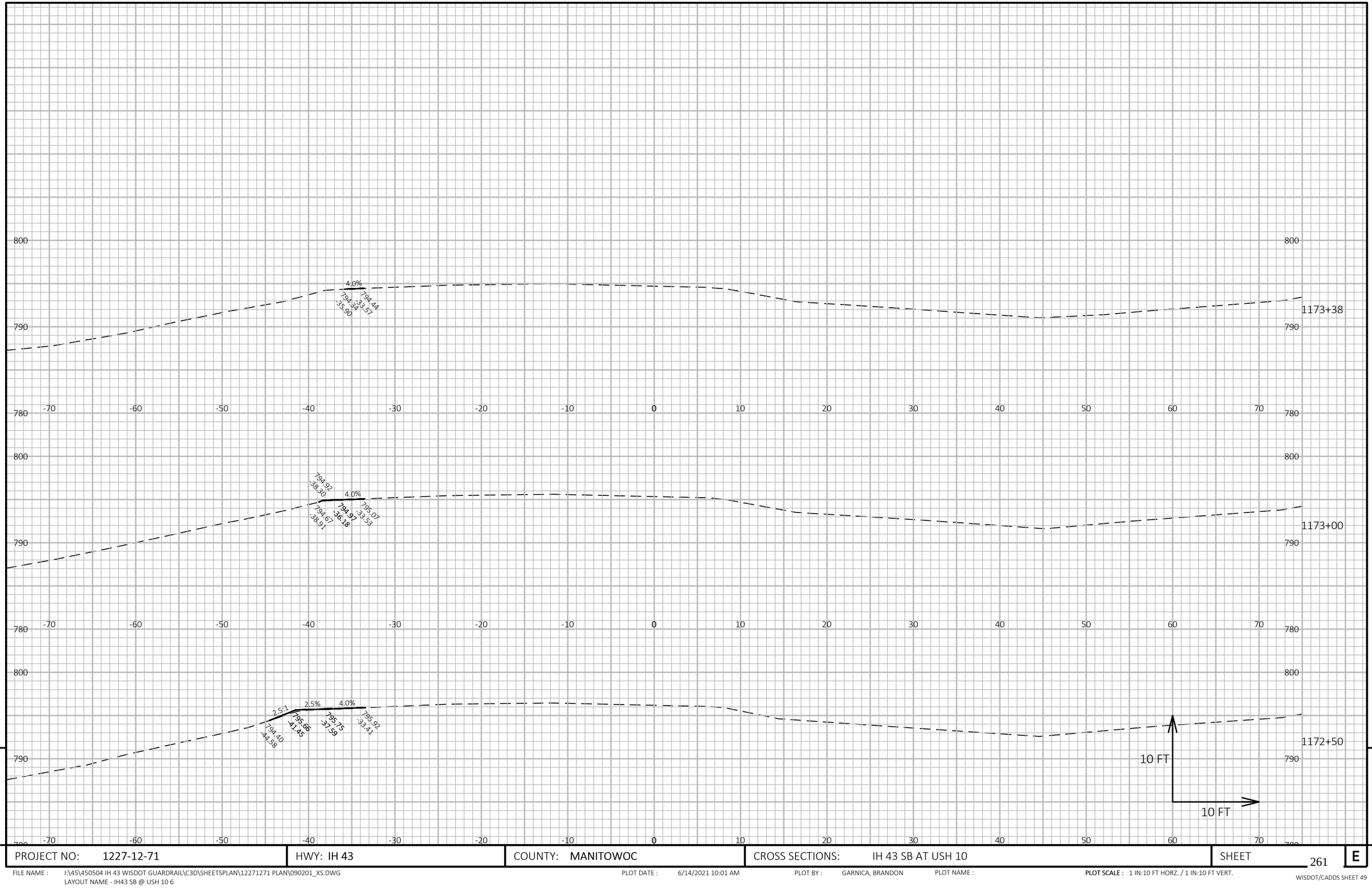
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT USH 10	SHEET 260	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ USH 10 5

PLOT DATE : 6/14/2021 10:00 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

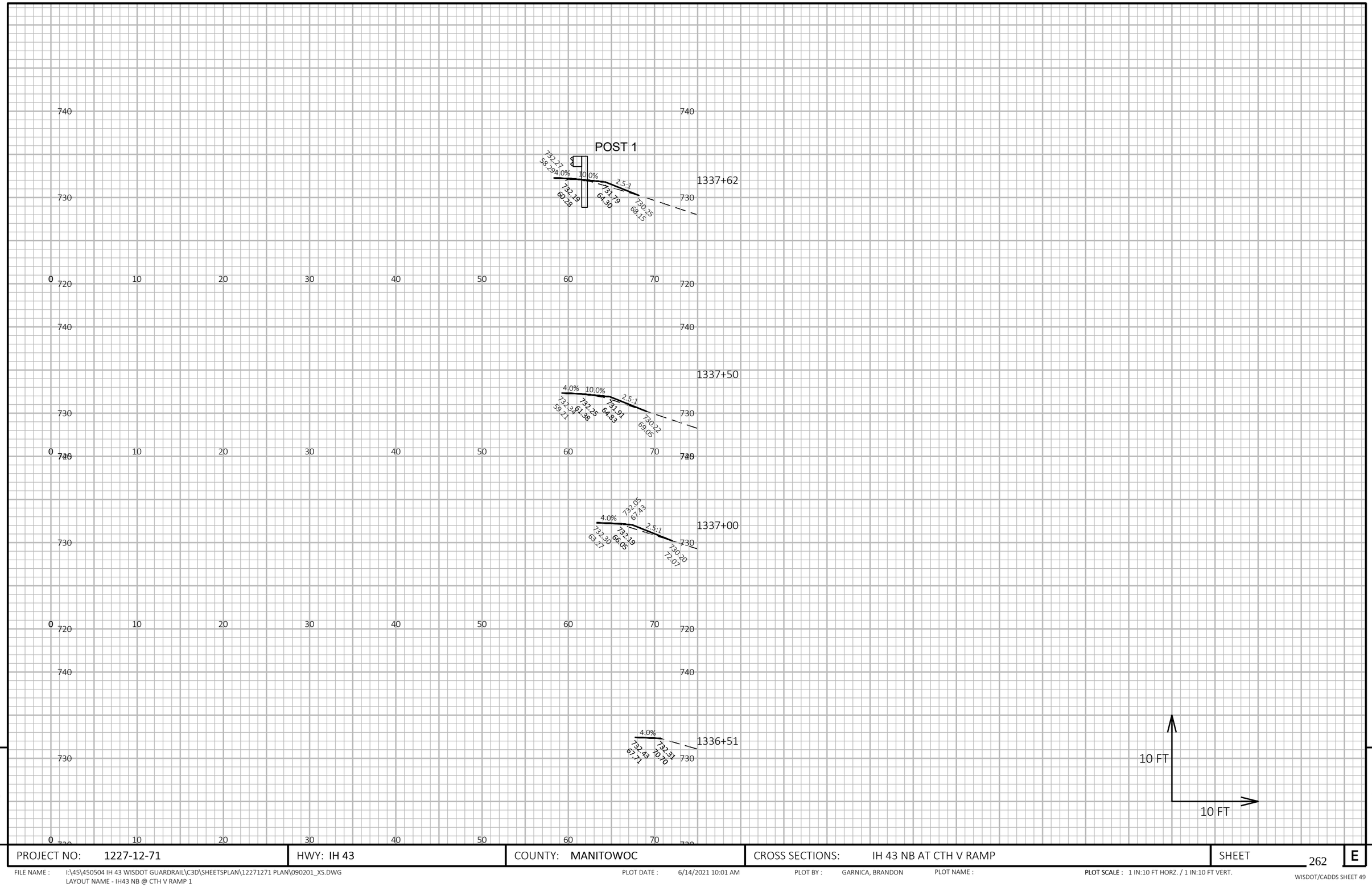
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT USH 10	SHEET 261	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ USH 10 6

PLOT DATE : 6/14/2021 10:01 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

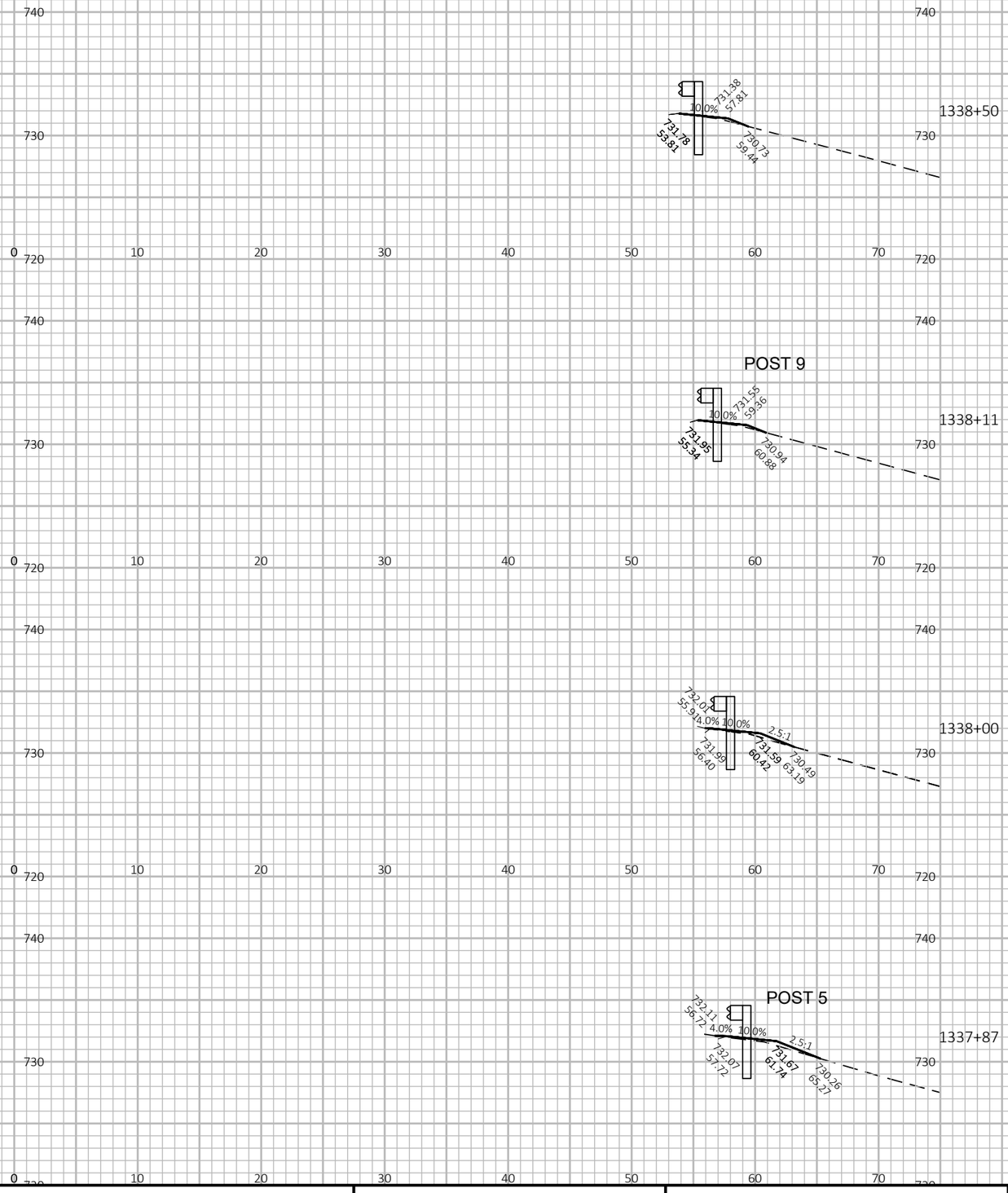
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH V RAMP	SHEET 262	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH V RAMP 1

PLOT DATE : 6/14/2021 10:01 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

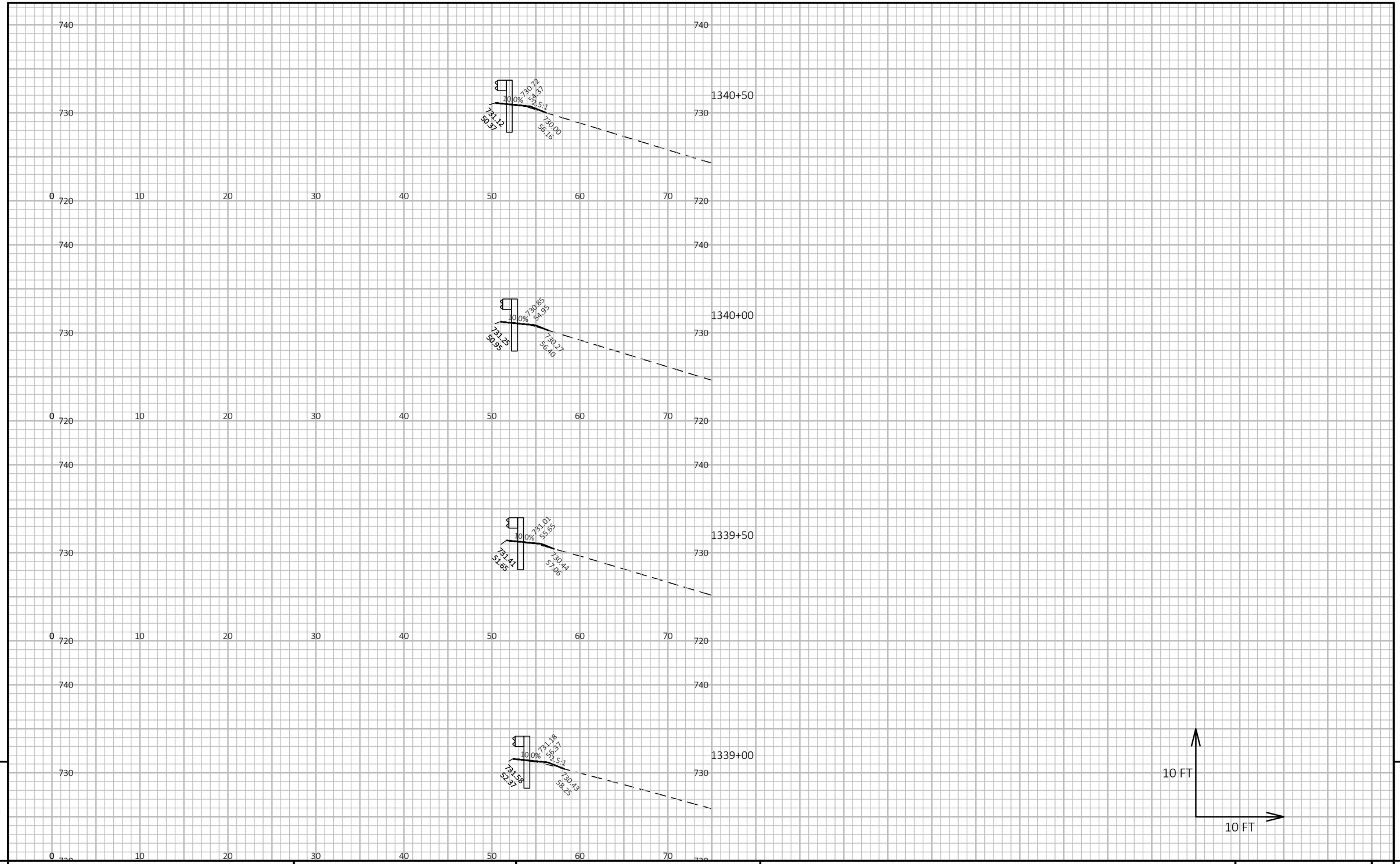
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH V RAMP	SHEET 263	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH V RAMP 2

PLOT DATE : 6/14/2021 10:01 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

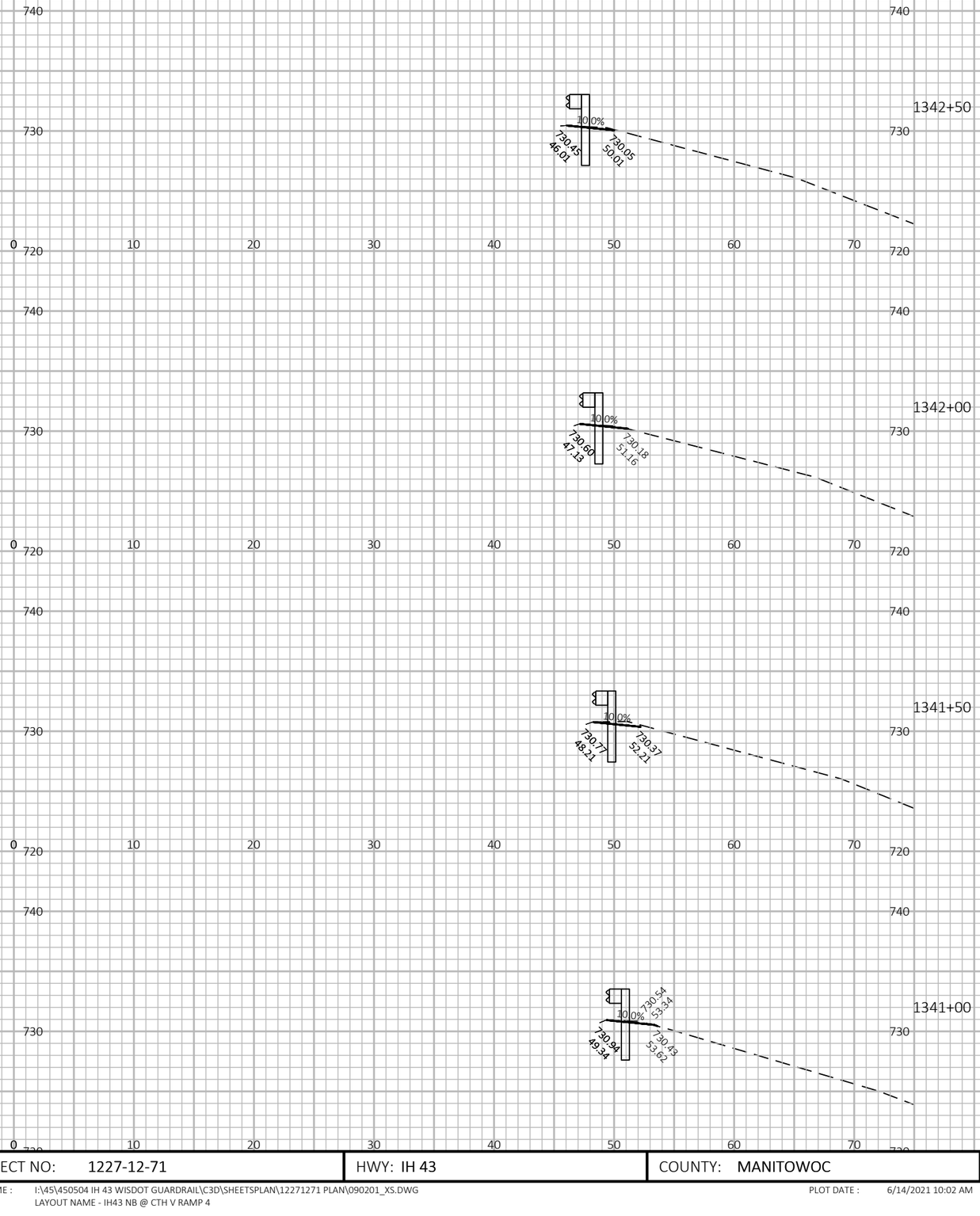
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH V RAMP	SHEET 264	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH V RAMP 3

PLOT DATE : 6/14/2021 10:01 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

9

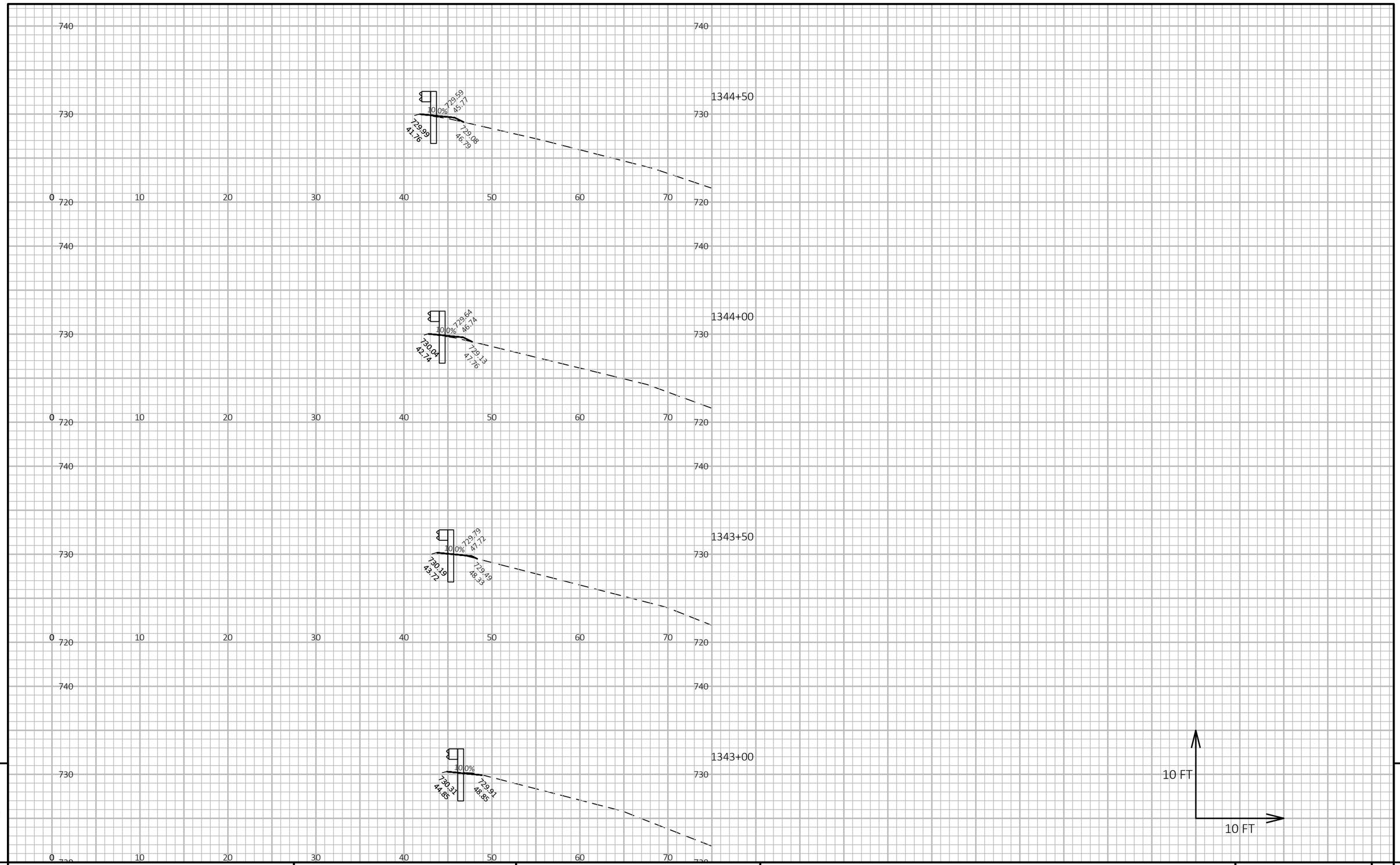
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH V RAMP	SHEET 265	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH V RAMP 4

PLOT DATE : 6/14/2021 10:02 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



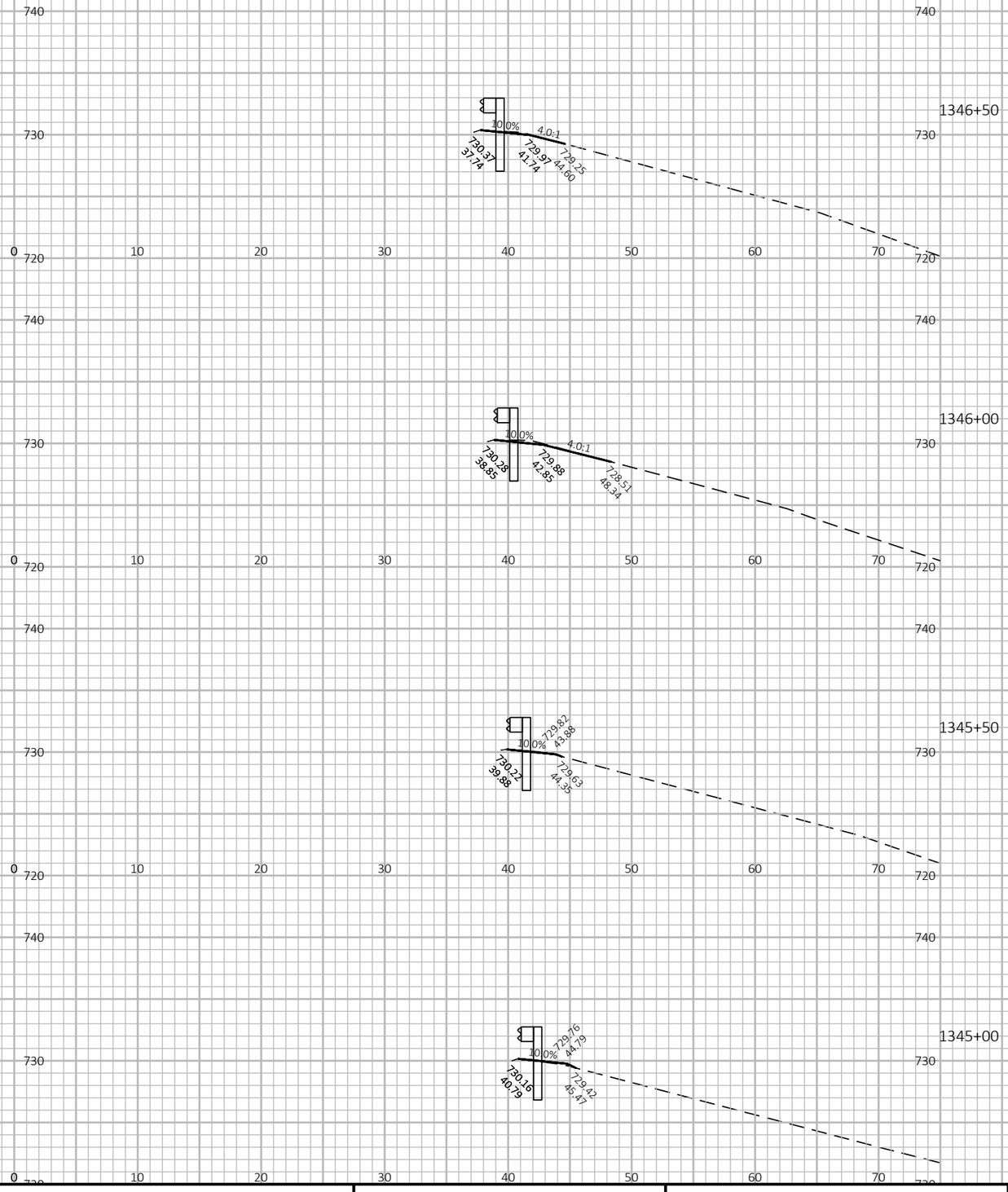
9

9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH V RAMP	SHEET 266	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH V RAMP 5

PLOT DATE : 6/14/2021 10:02 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

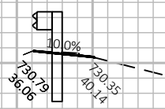
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH V RAMP	SHEET 267	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH V RAMP 6

PLOT DATE : 6/14/2021 10:02 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

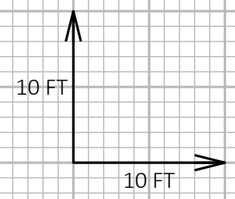
WISDOT/CADDS SHEET 49

740
730
720
710
740
730
720
710
740
730
720
710
0 10 20 30 40 50 60 70
0 10 20 30 40 50 60 70



1347+50

1347+00



9

9

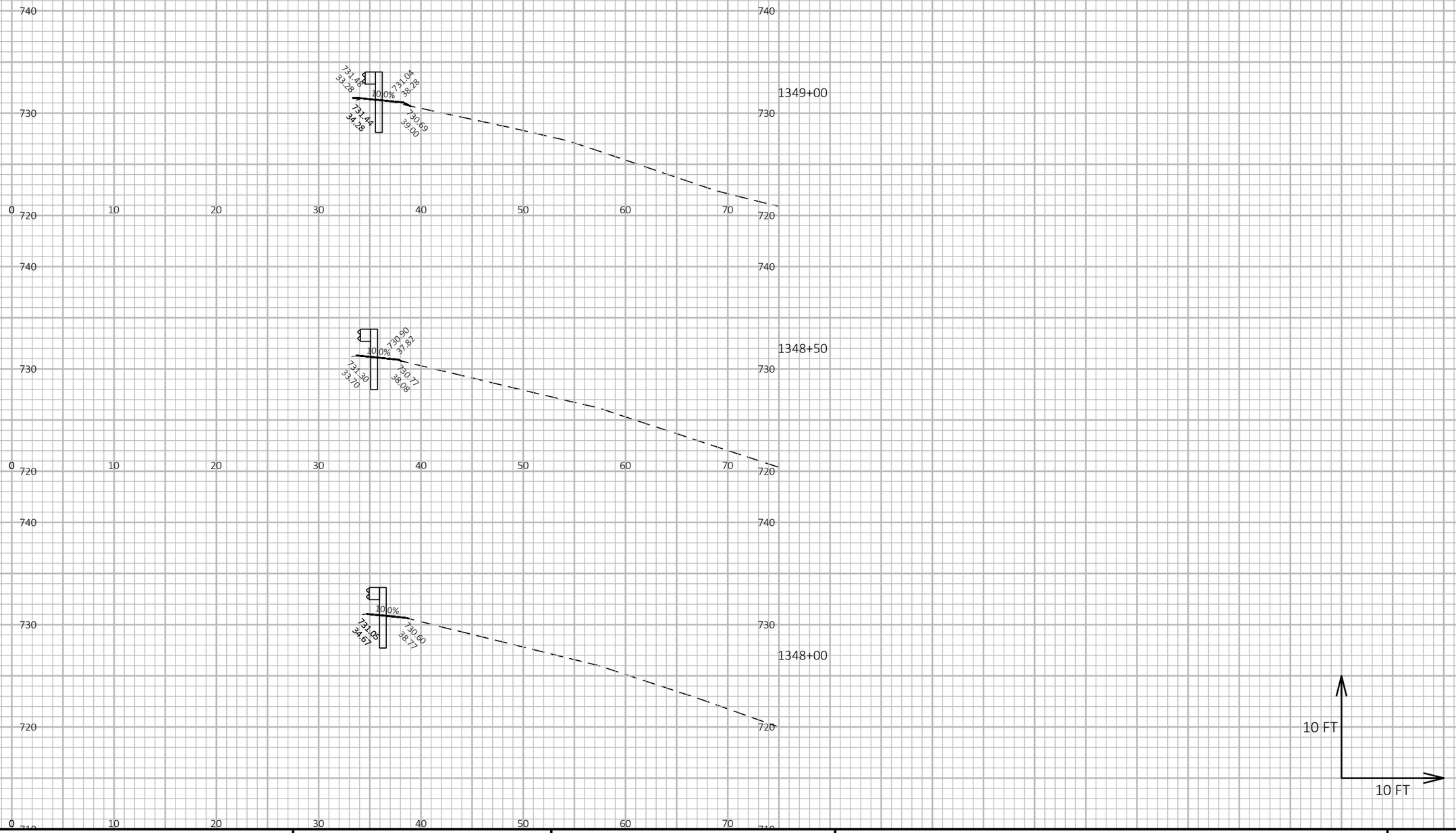
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH V RAMP	SHEET 268	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH V RAMP 7

PLOT DATE : 6/14/2021 10:03 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

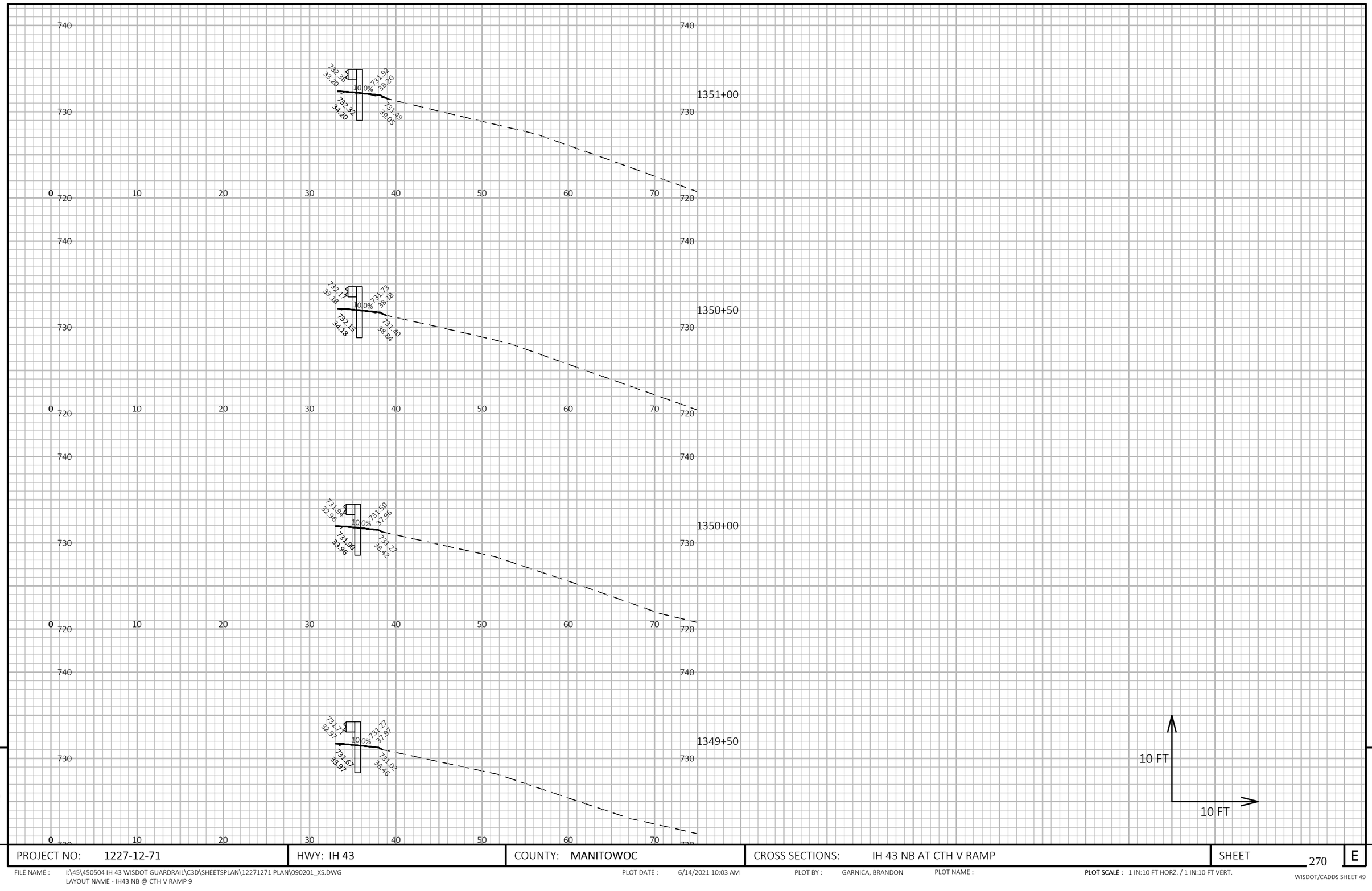
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH V RAMP	SHEET 269	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH V RAMP 8

PLOT DATE : 6/14/2021 10:03 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

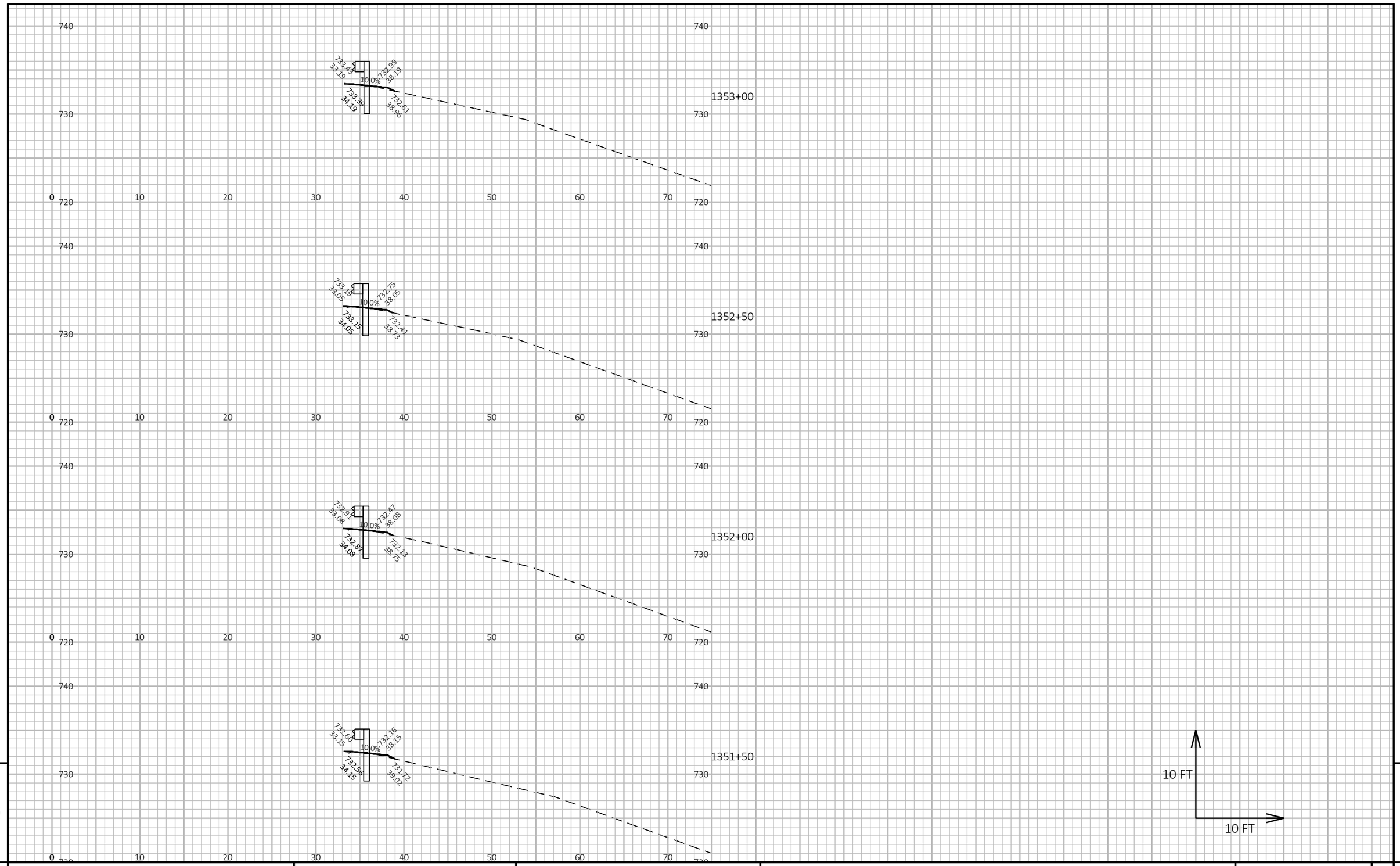
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH V RAMP	SHEET 270	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH V RAMP 9

PLOT DATE : 6/14/2021 10:03 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

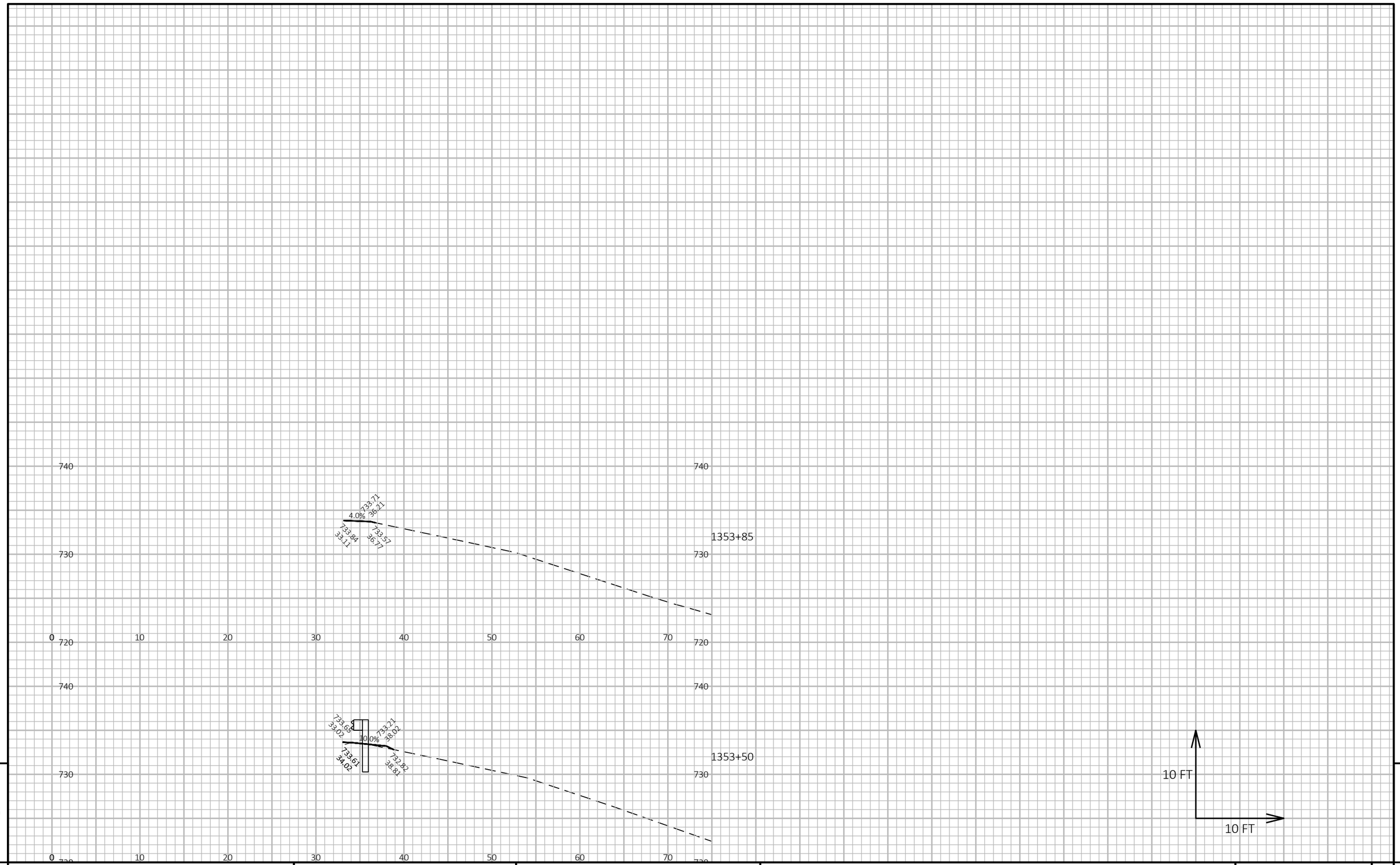
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH V RAMP	SHEET 271	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH V RAMP 10

PLOT DATE : 6/14/2021 10:04 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

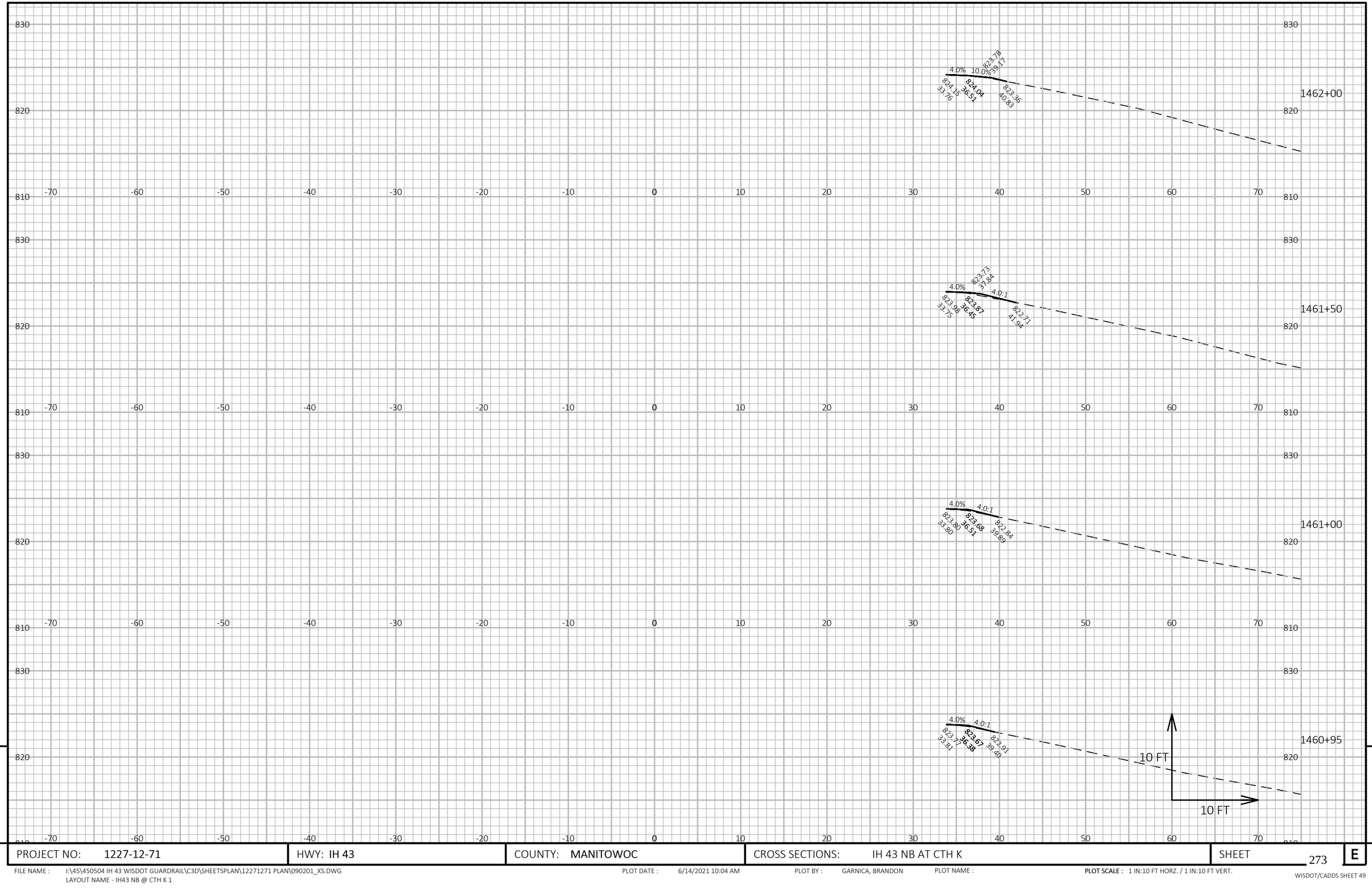
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH V RAMP	SHEET 272	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH V RAMP 11

PLOT DATE : 6/14/2021 10:04 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

9

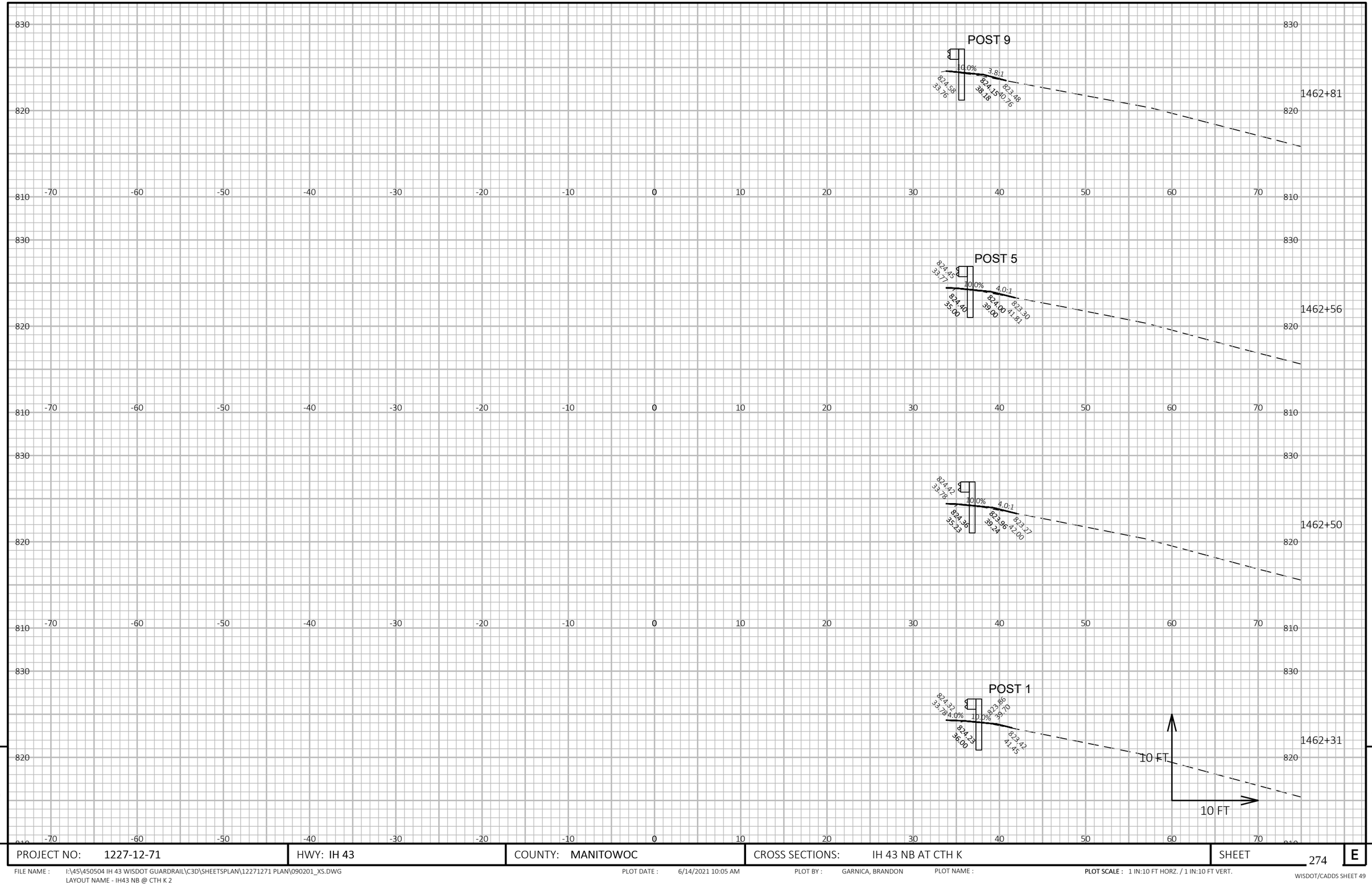
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH K	SHEET 273	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH K 1

PLOT DATE : 6/14/2021 10:04 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

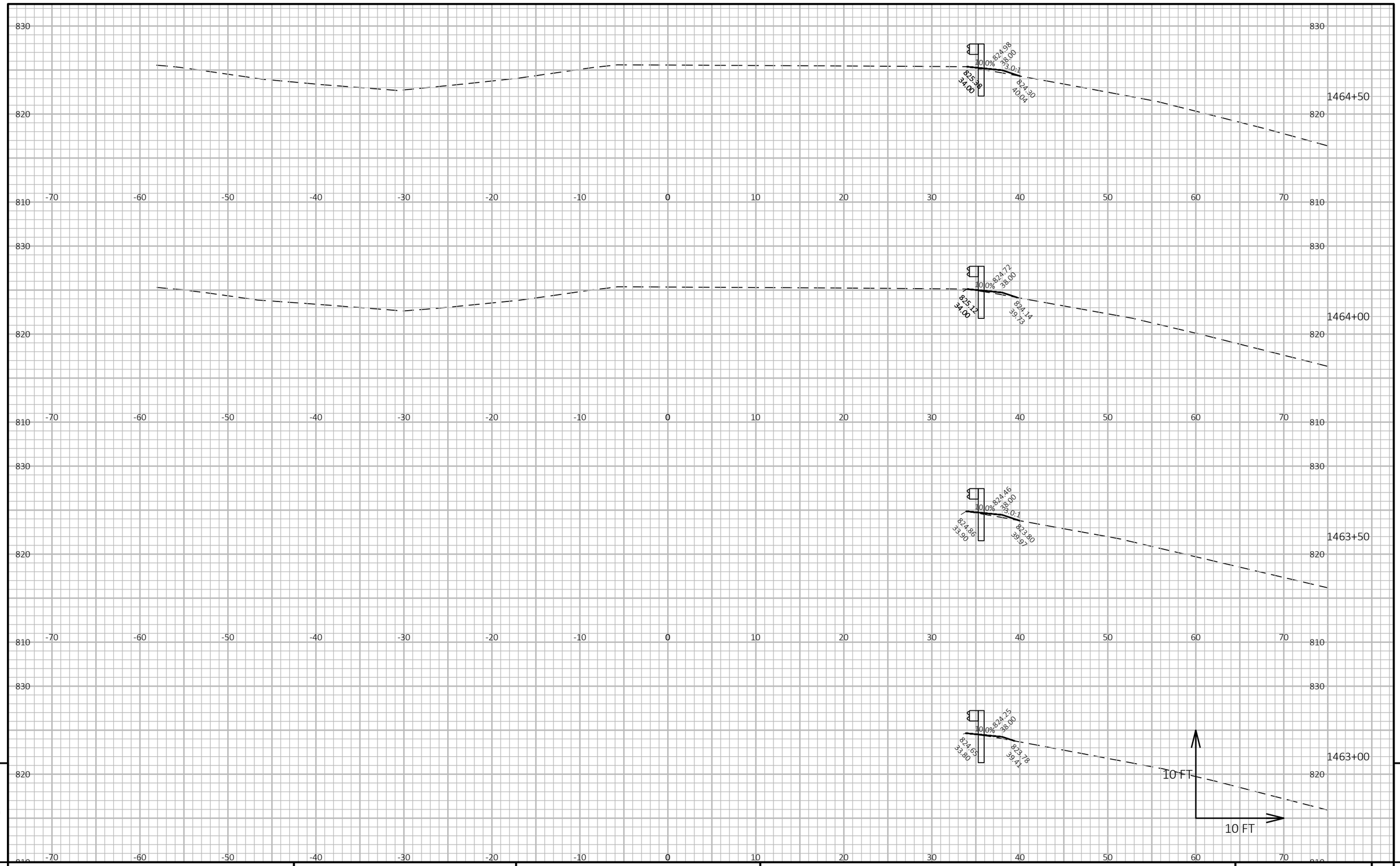
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH K	SHEET 274	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH K 2

PLOT DATE : 6/14/2021 10:05 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

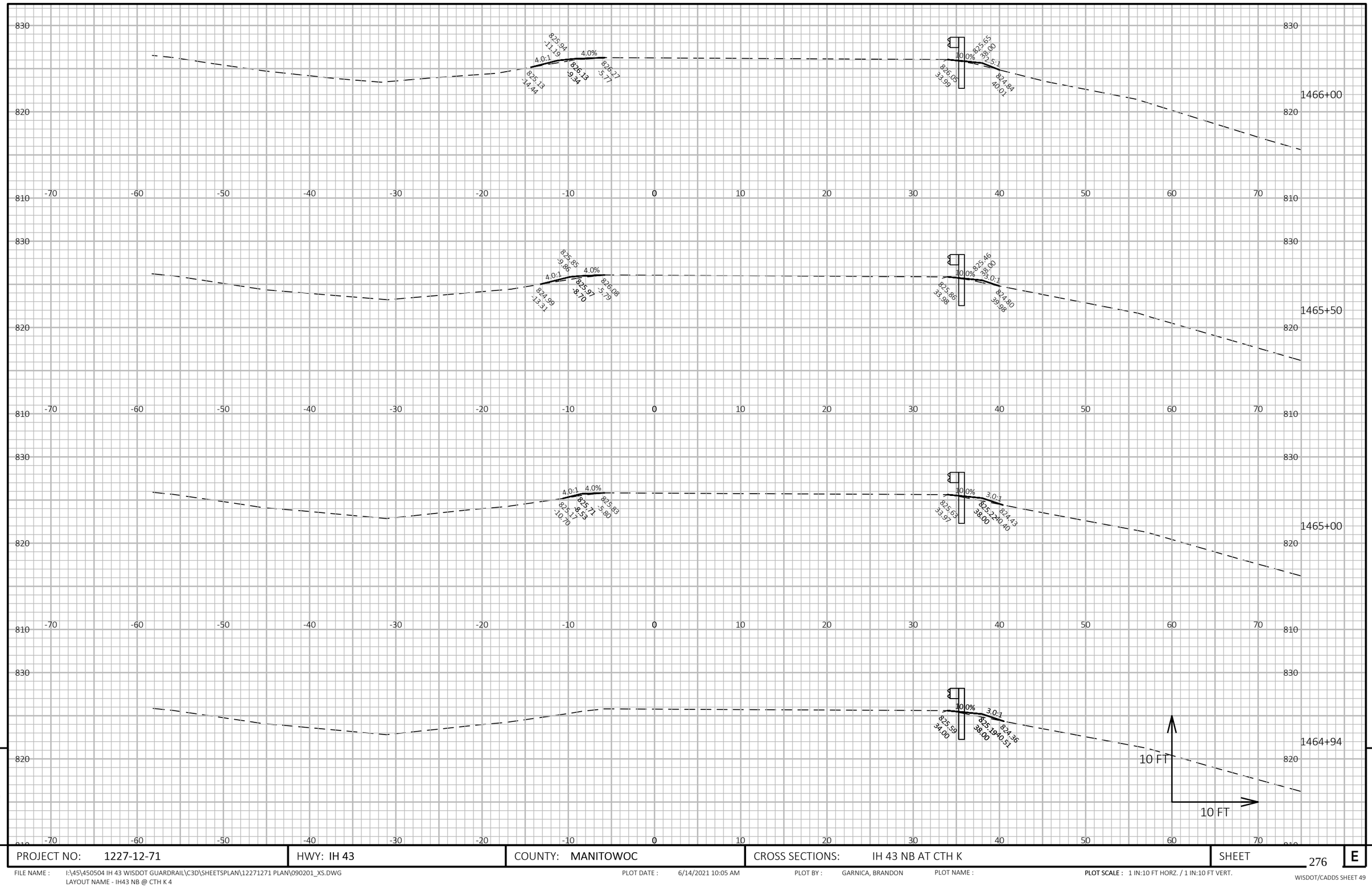
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH K	SHEET 275	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH K 3

PLOT DATE : 6/14/2021 10:05 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

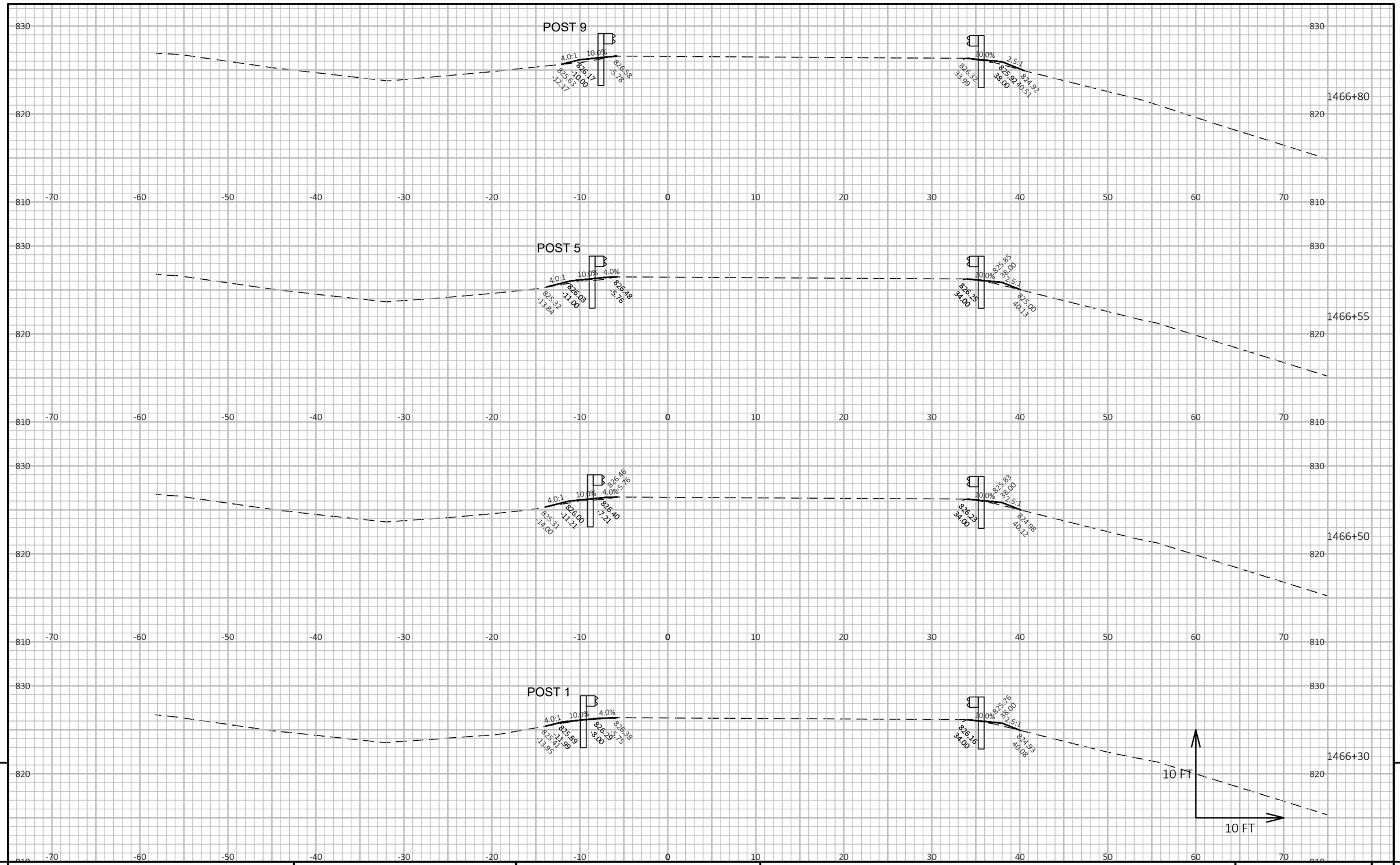


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH K	SHEET 276	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH K 4

PLOT DATE : 6/14/2021 10:05 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

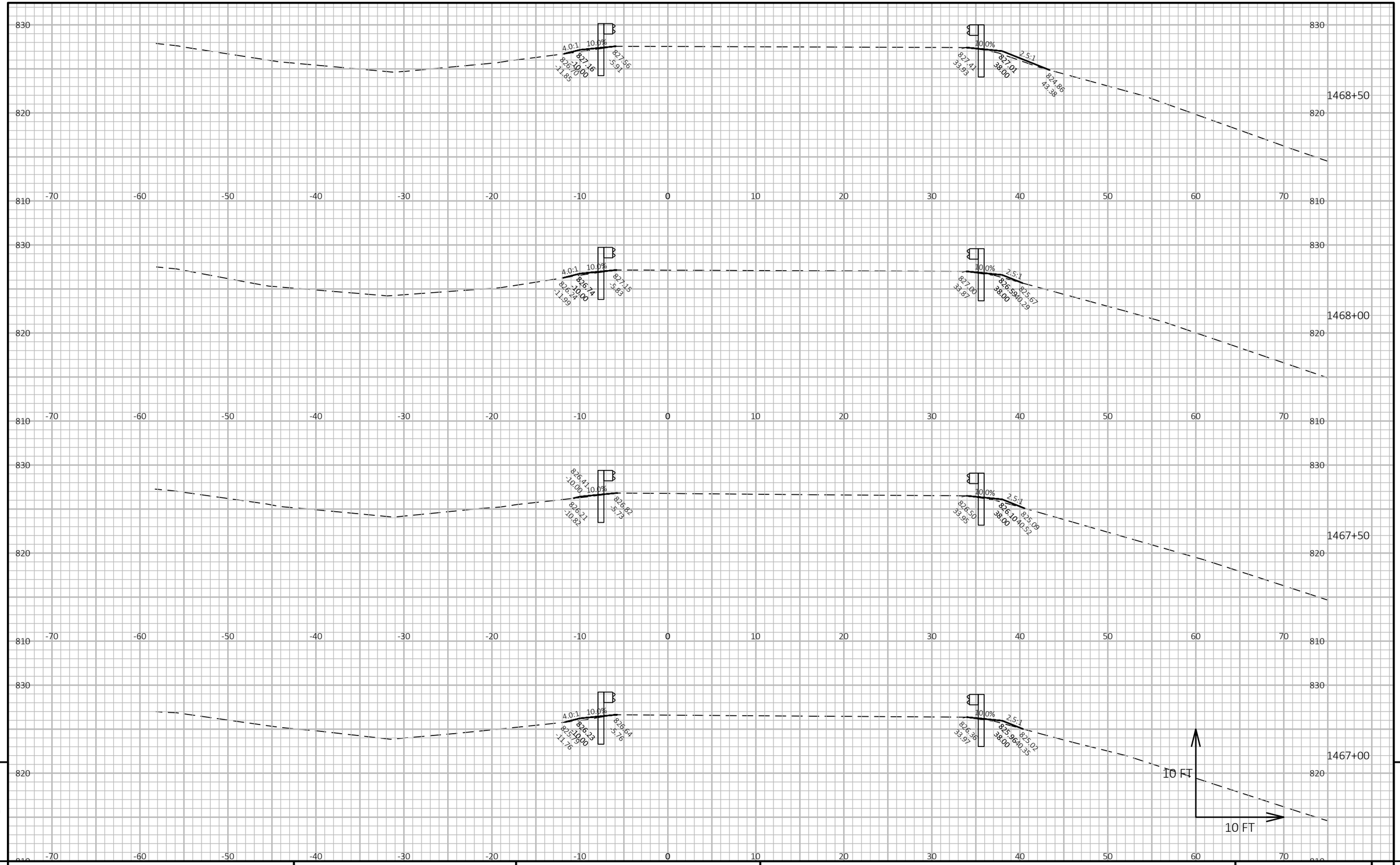
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH K	SHEET 277	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH K 5

PLOT DATE : 6/14/2021 10:06 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

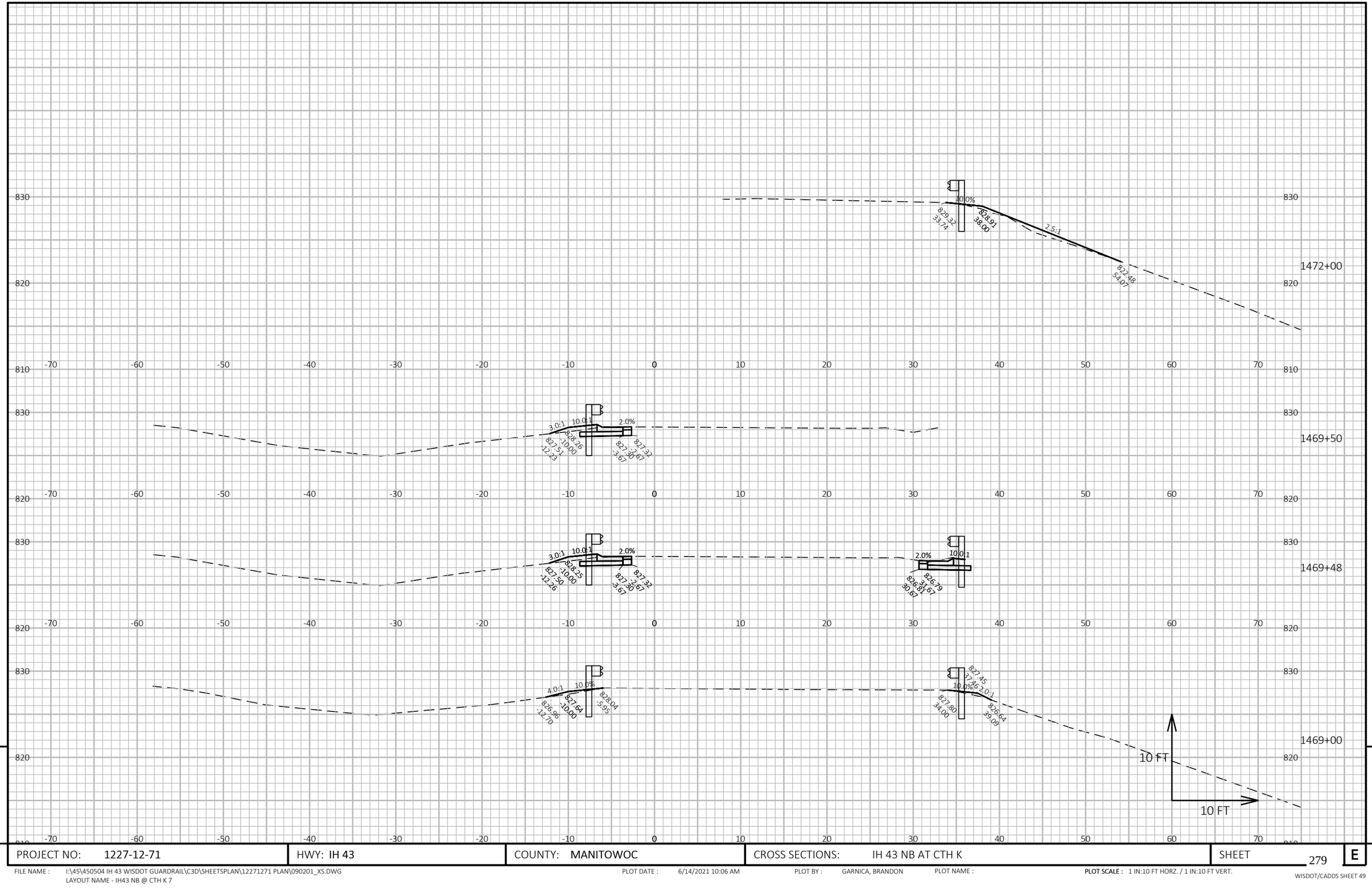
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH K	SHEET 278	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH K 6

PLOT DATE : 6/14/2021 10:06 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

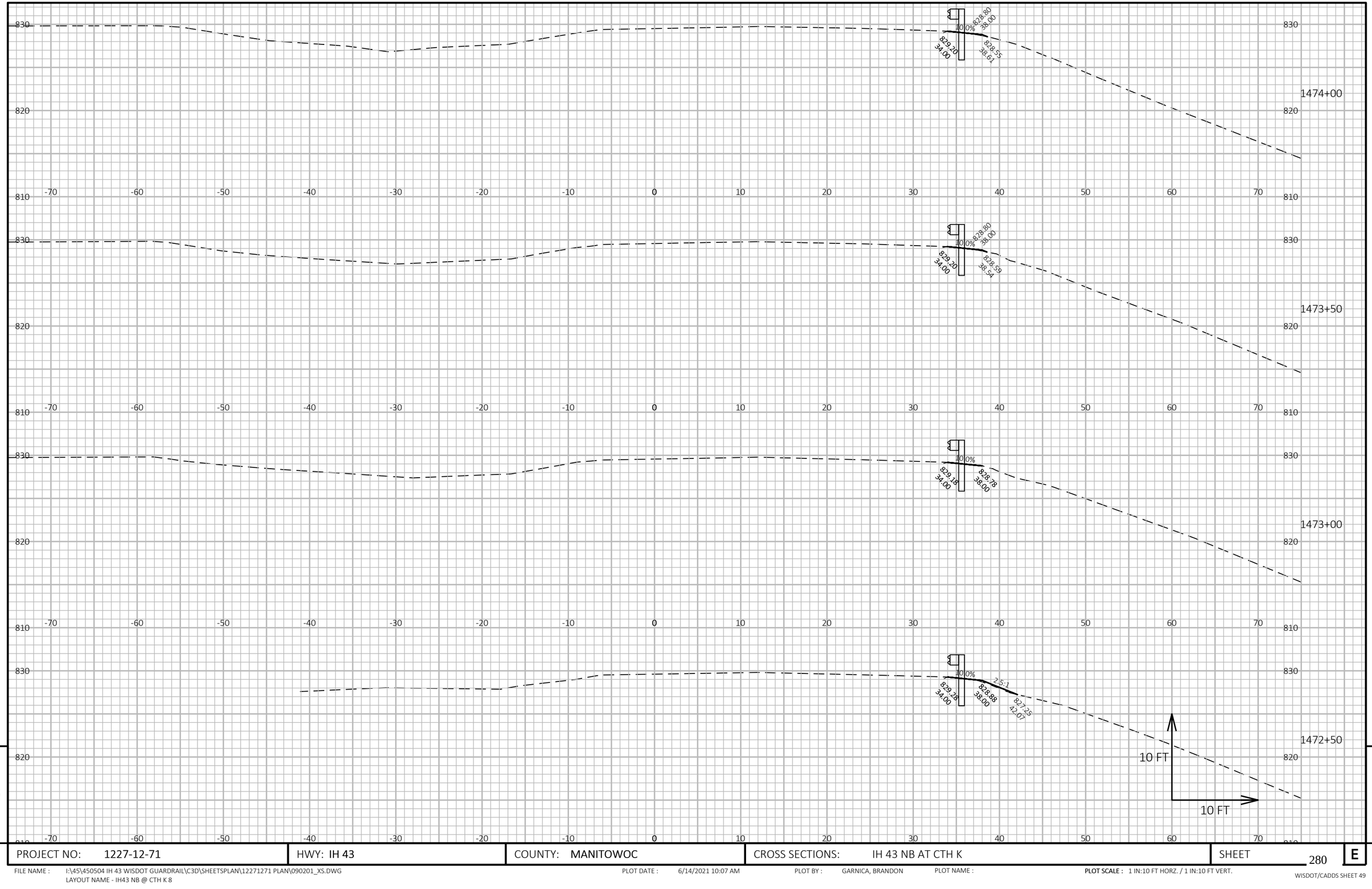


9 9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH K	SHEET 279	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH K 7

PLOT DATE : 6/14/2021 10:06 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

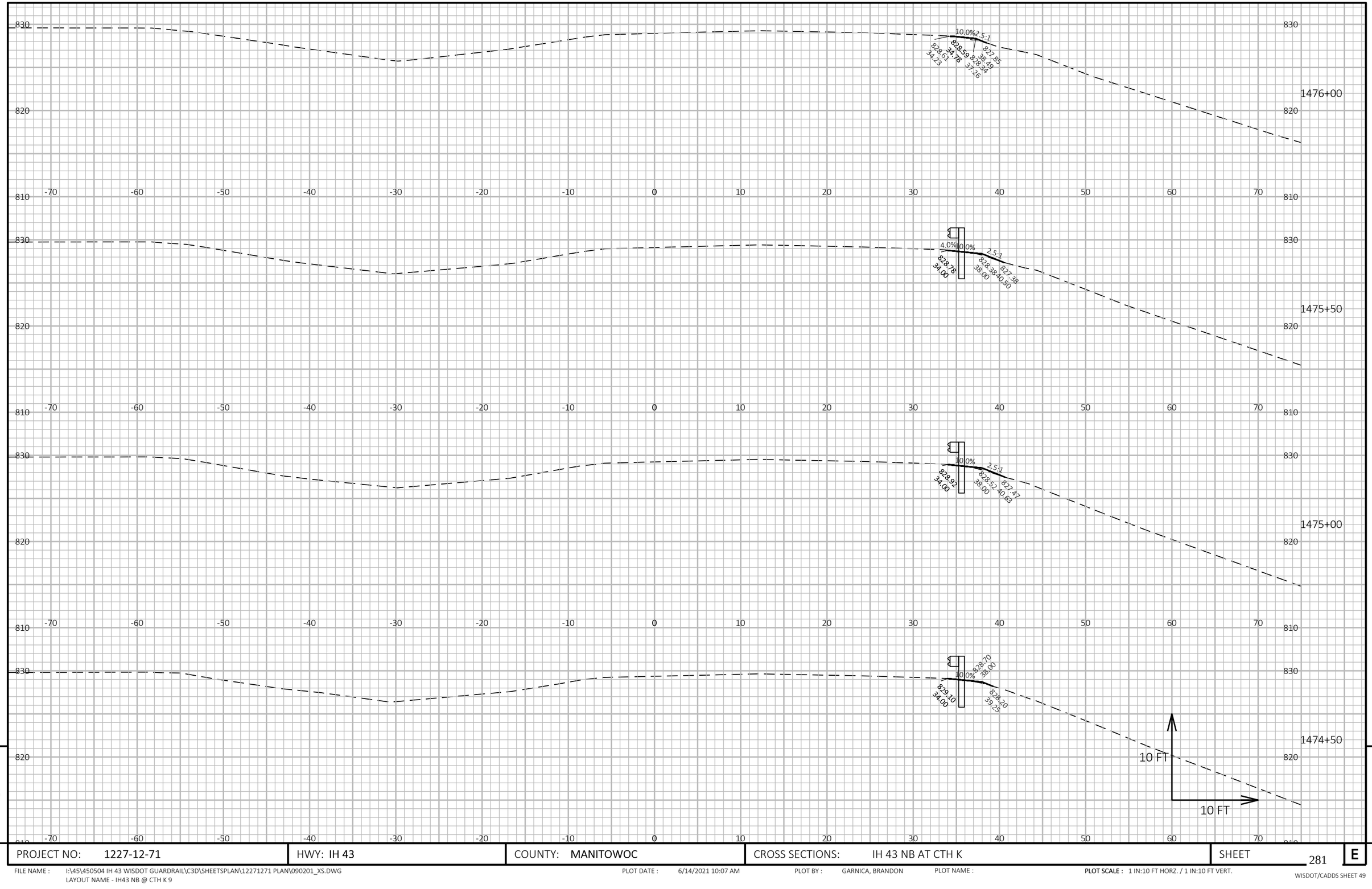
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH K	SHEET 280	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH K 8

PLOT DATE : 6/14/2021 10:07 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

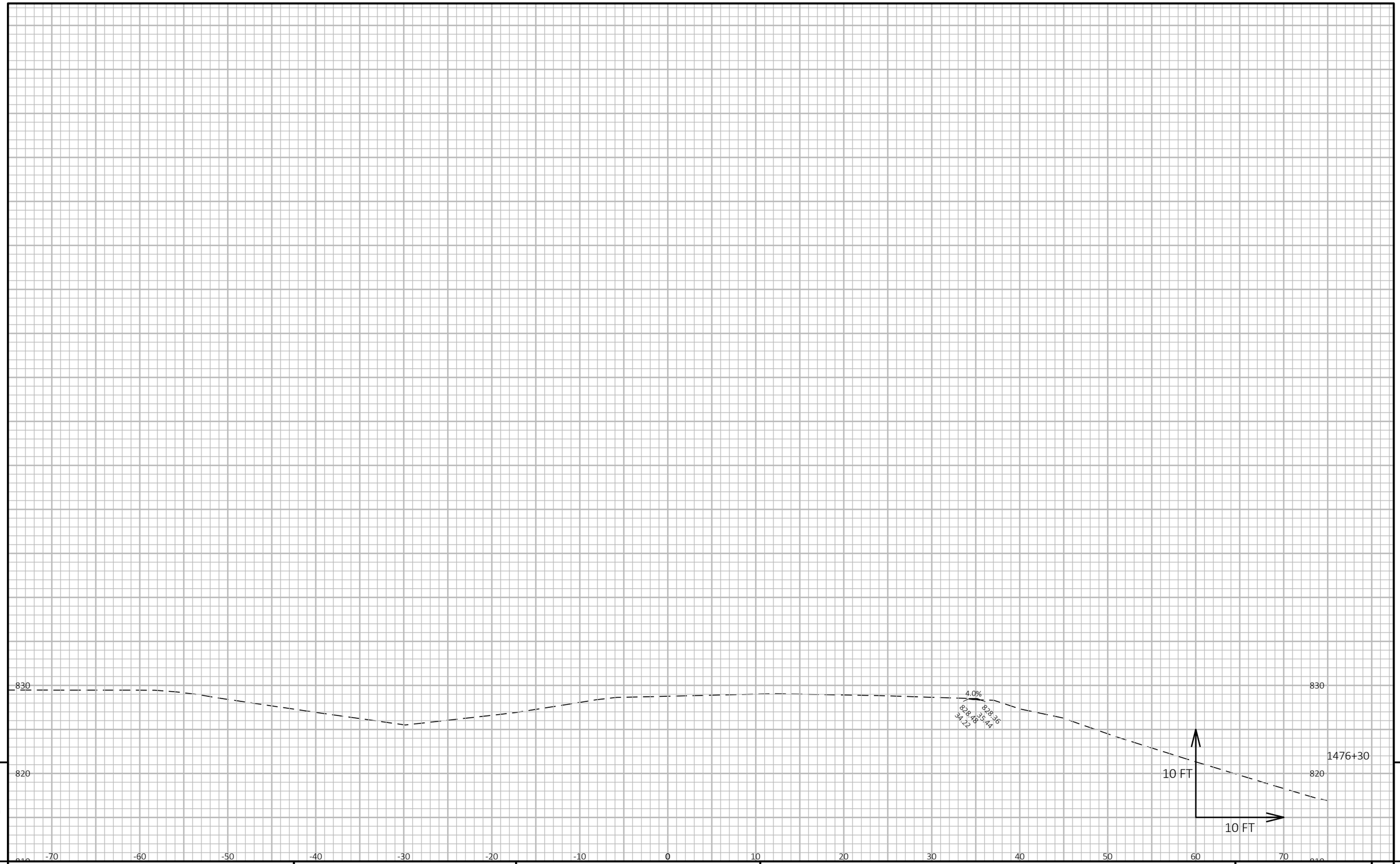
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH K	SHEET 281	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH K 9

PLOT DATE : 6/14/2021 10:07 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

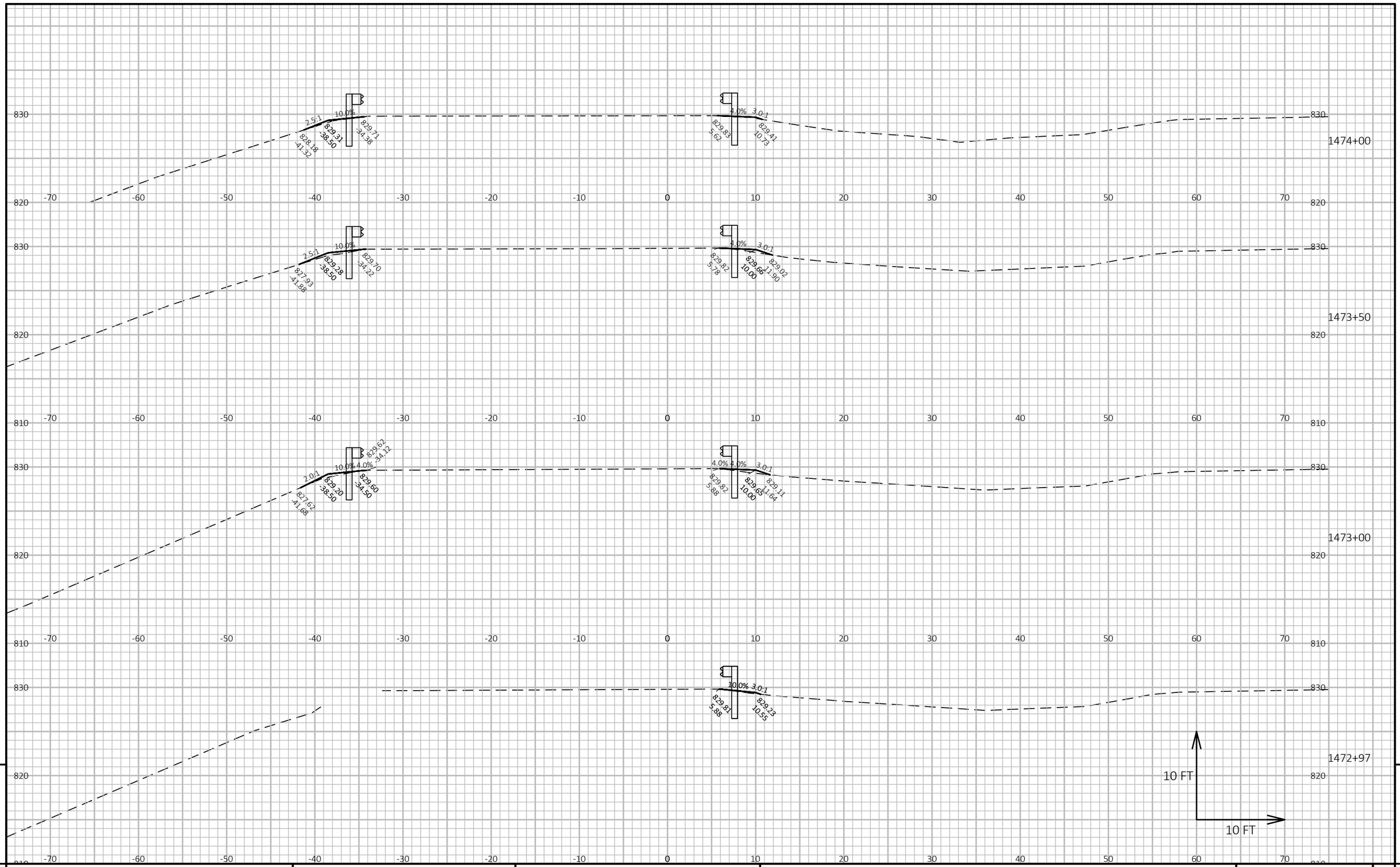
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH K	SHEET 282	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH K 10

PLOT DATE : 6/14/2021 10:07 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

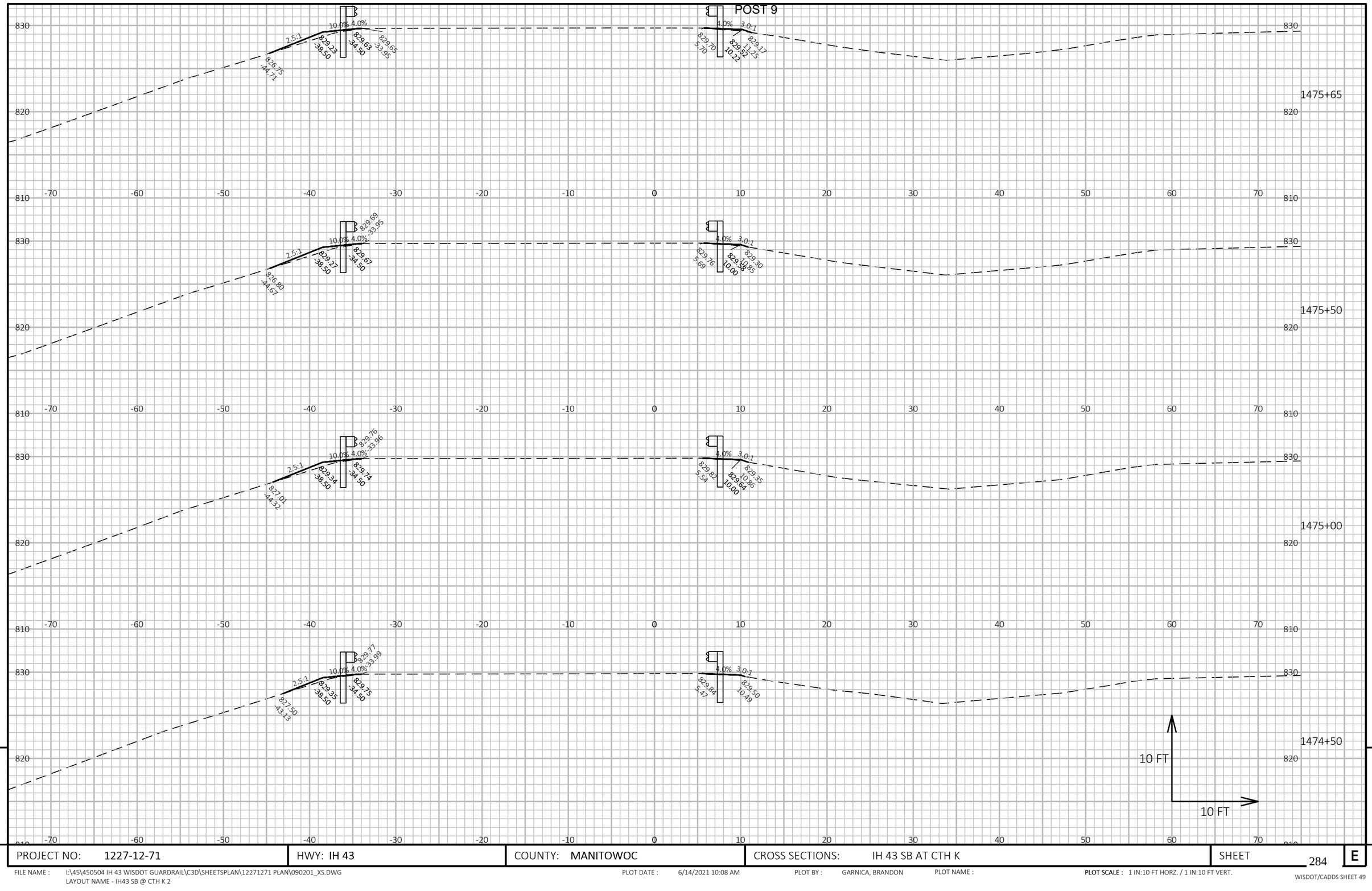


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH K	SHEET 283	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ CTH K 1

PLOT DATE : 6/14/2021 10:08 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

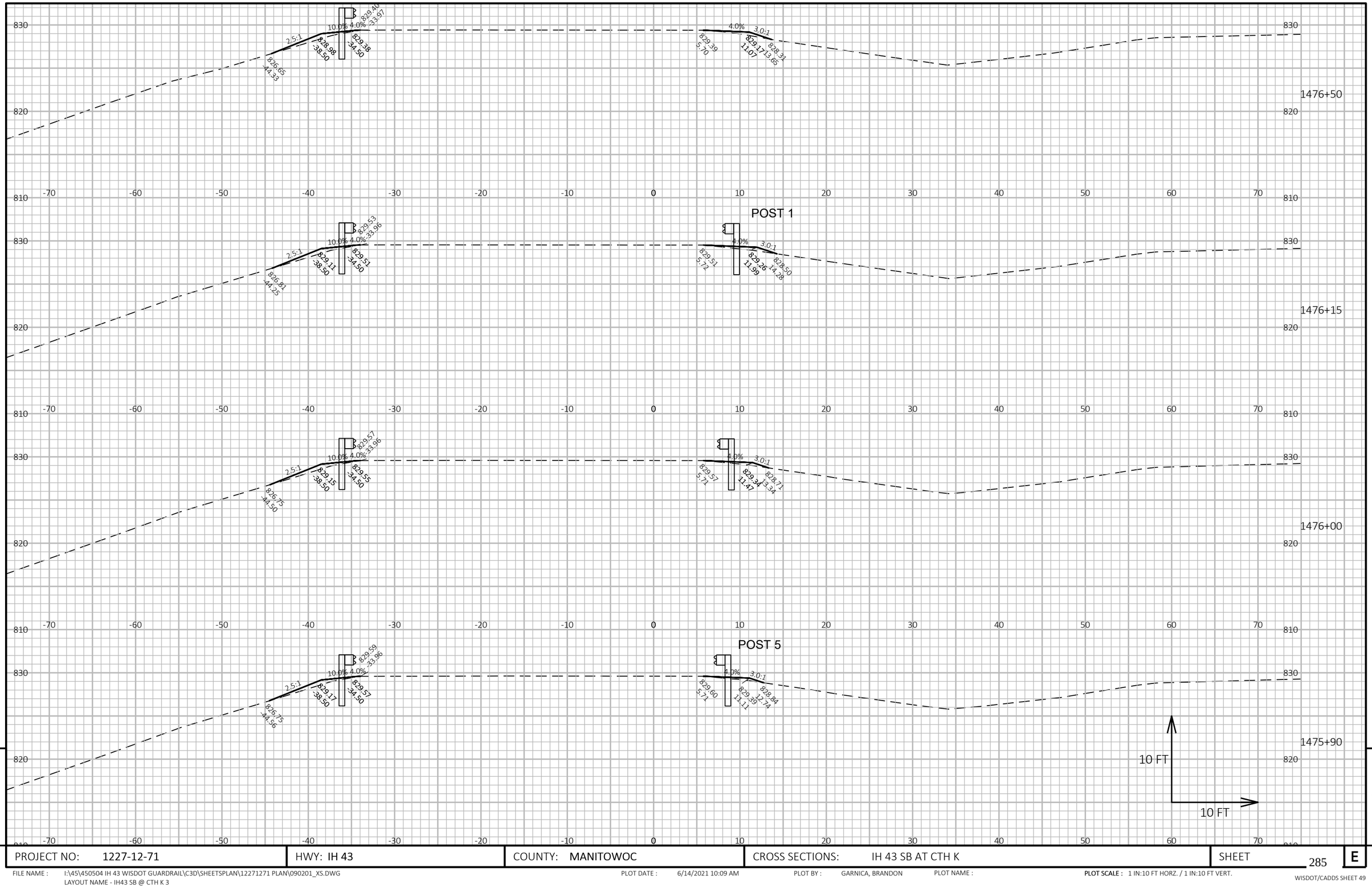
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH K	SHEET 284	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ CTH K 2

PLOT DATE : 6/14/2021 10:08 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

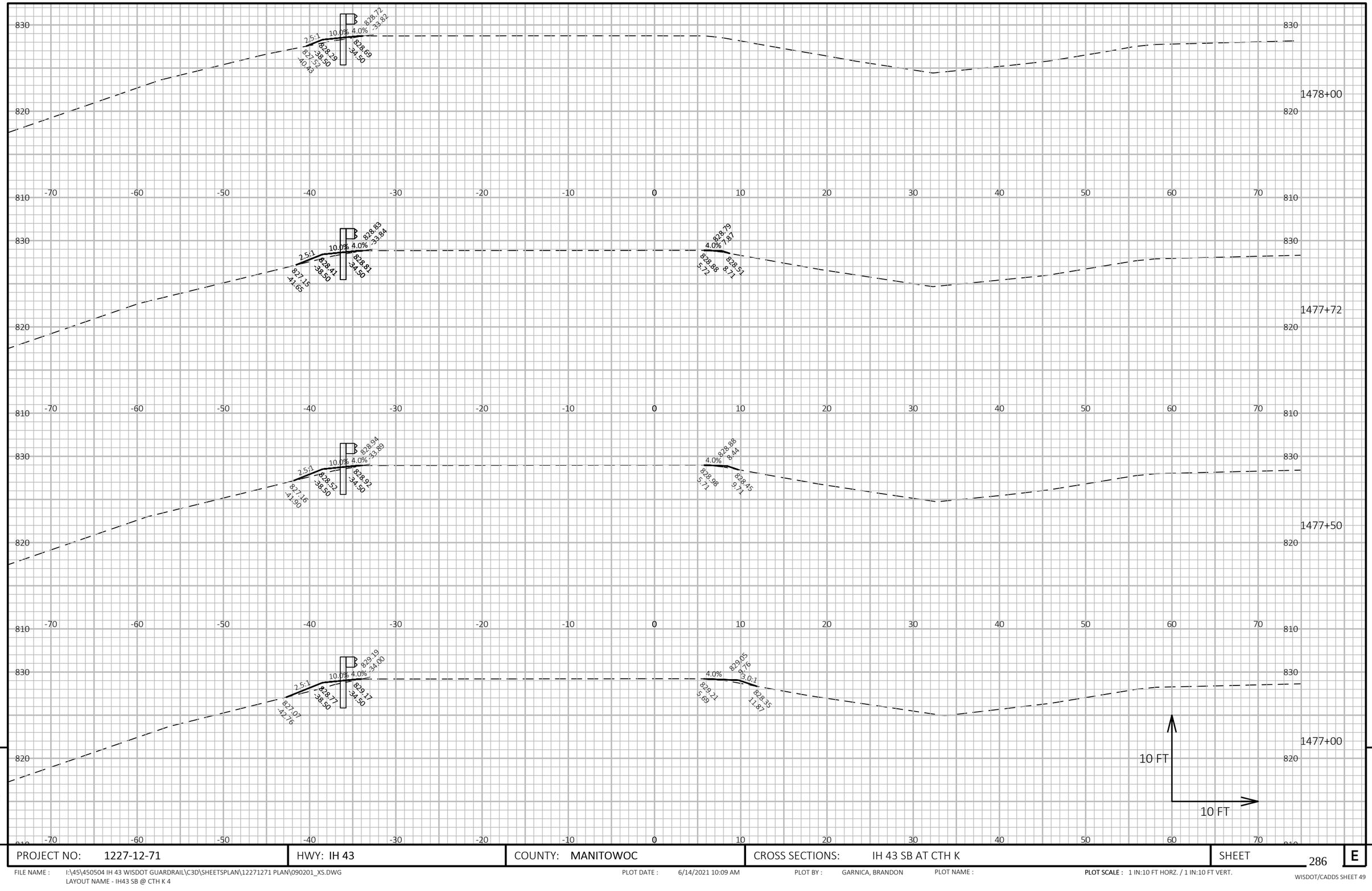


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH K	SHEET 285	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ CTH K 3

PLOT DATE : 6/14/2021 10:09 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

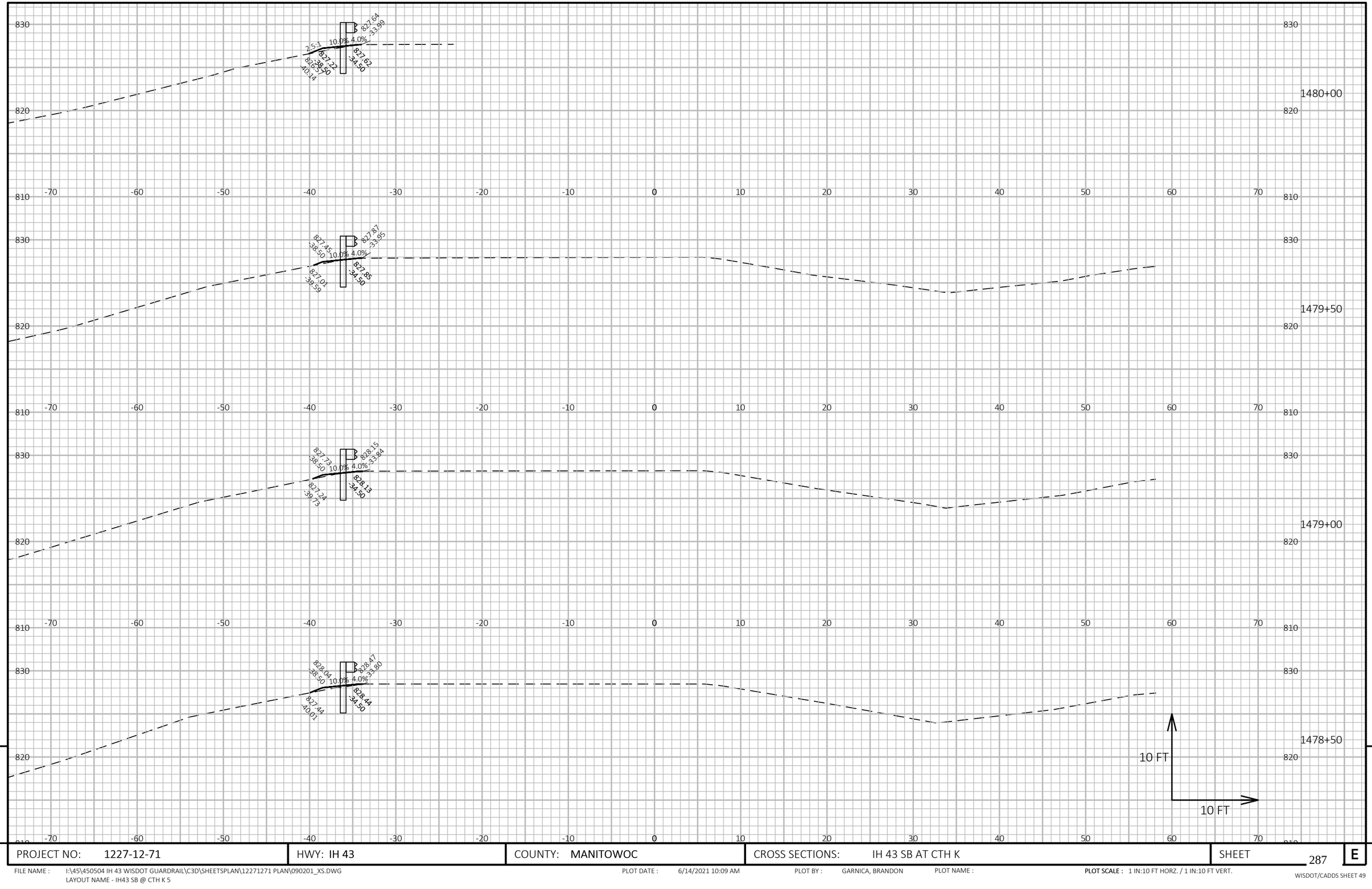
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH K	SHEET 286	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ CTH K 4

PLOT DATE : 6/14/2021 10:09 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH K	SHEET 287	E

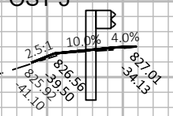
9

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ CTH K 5

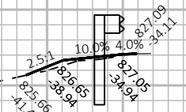
PLOT DATE : 6/14/2021 10:09 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

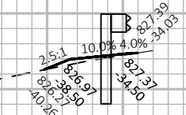
WISDOT/CADDS SHEET 49

POST 5



POST 9





1481+14

1481+00

1480+89

1480+50

10 FT

10 FT

9

9

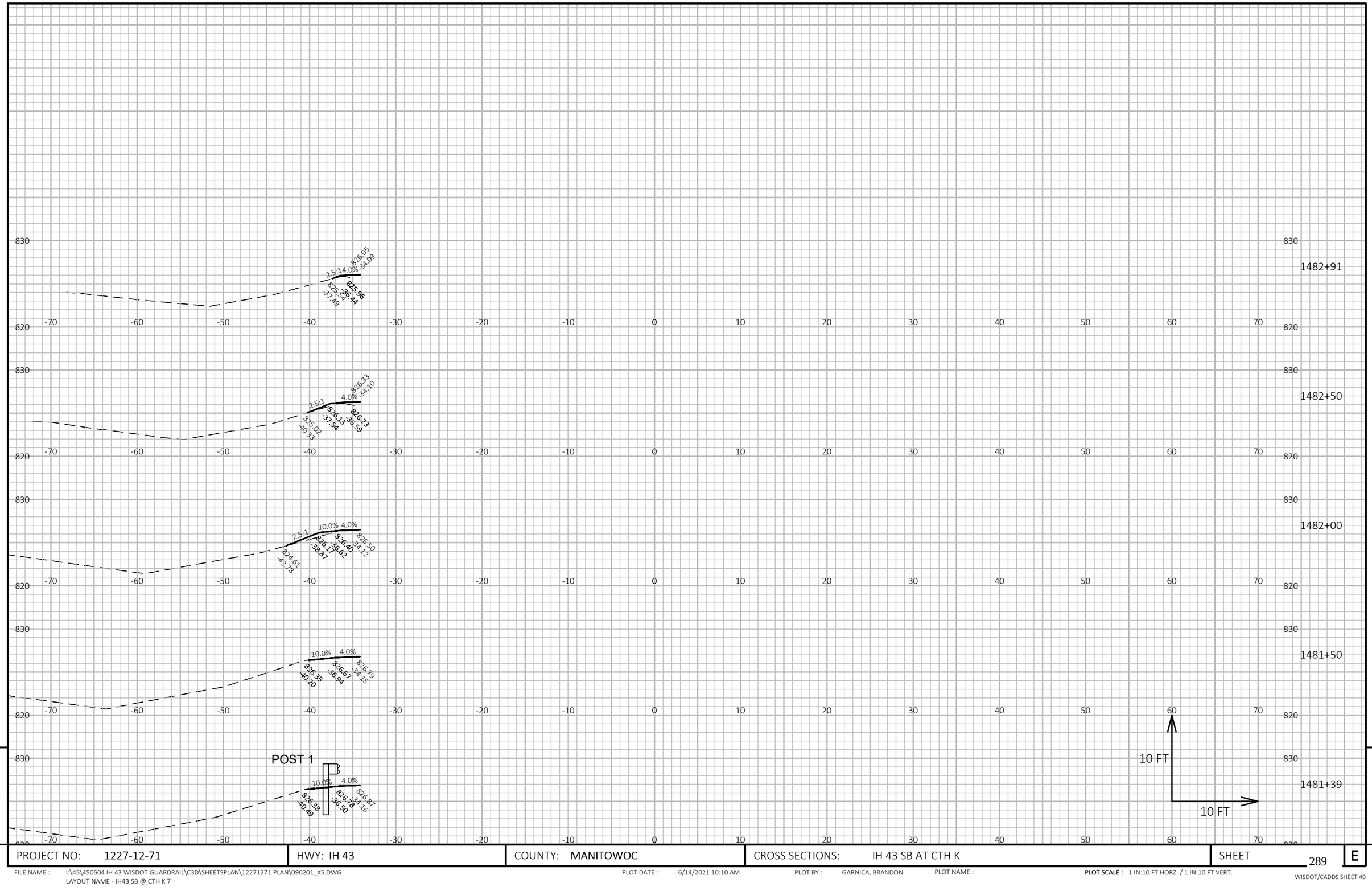
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH K	SHEET 288	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ CTH K 6

PLOT DATE : 6/14/2021 10:10 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

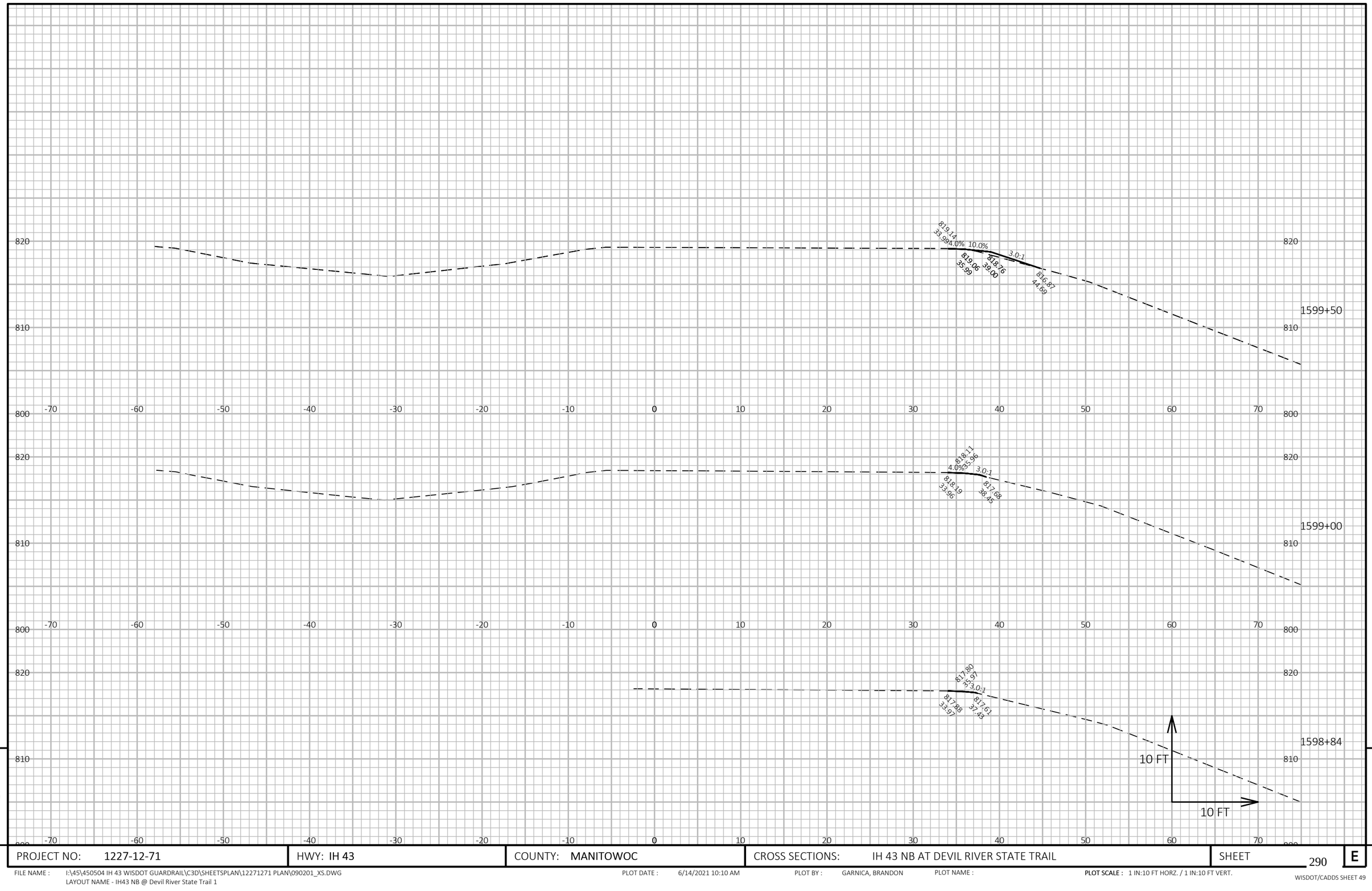


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH K	SHEET 289	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ CTH K 7

PLOT DATE : 6/14/2021 10:10 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



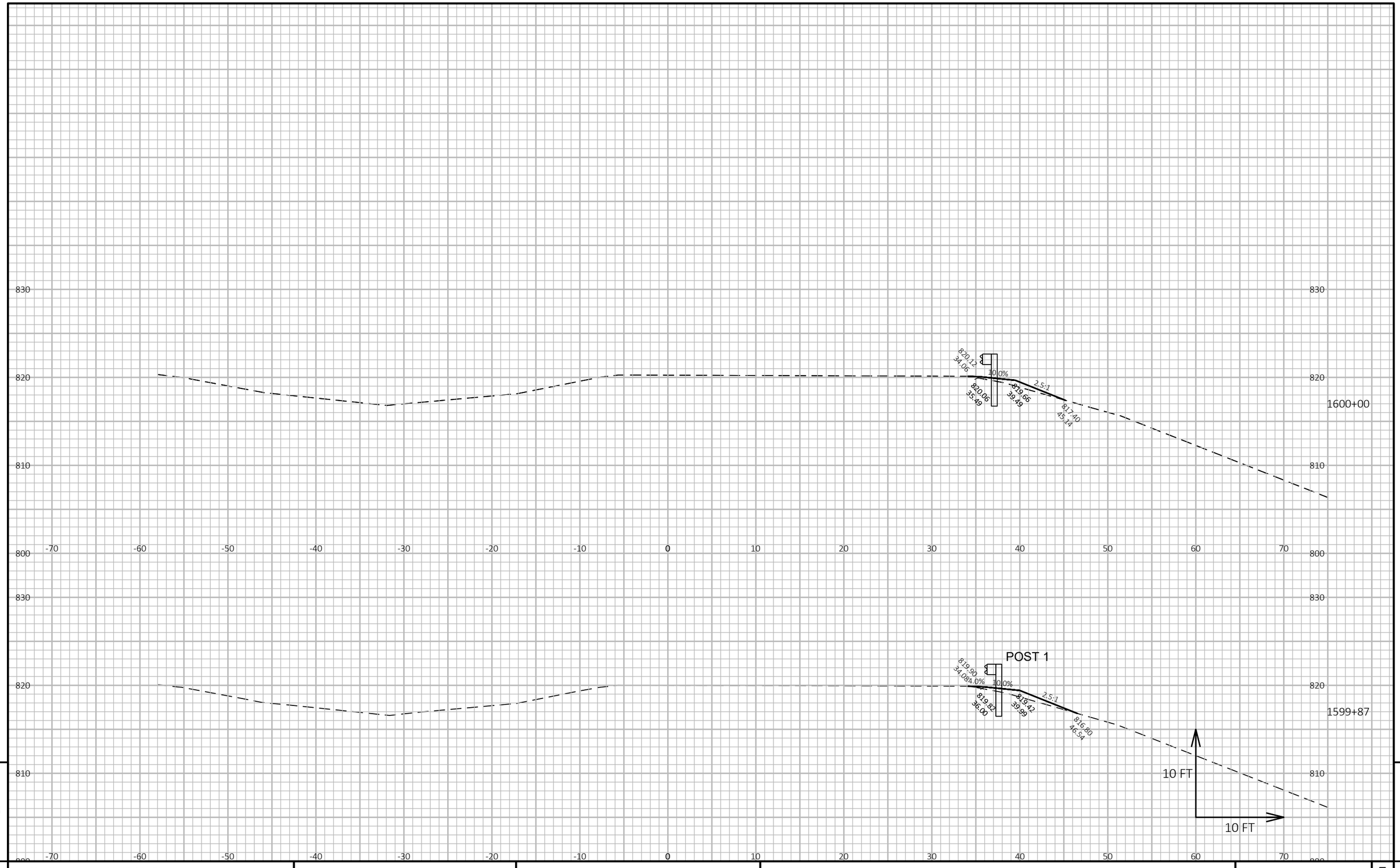
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVIL RIVER STATE TRAIL	SHEET 290	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 1

PLOT DATE : 6/14/2021 10:10 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

9 9



9

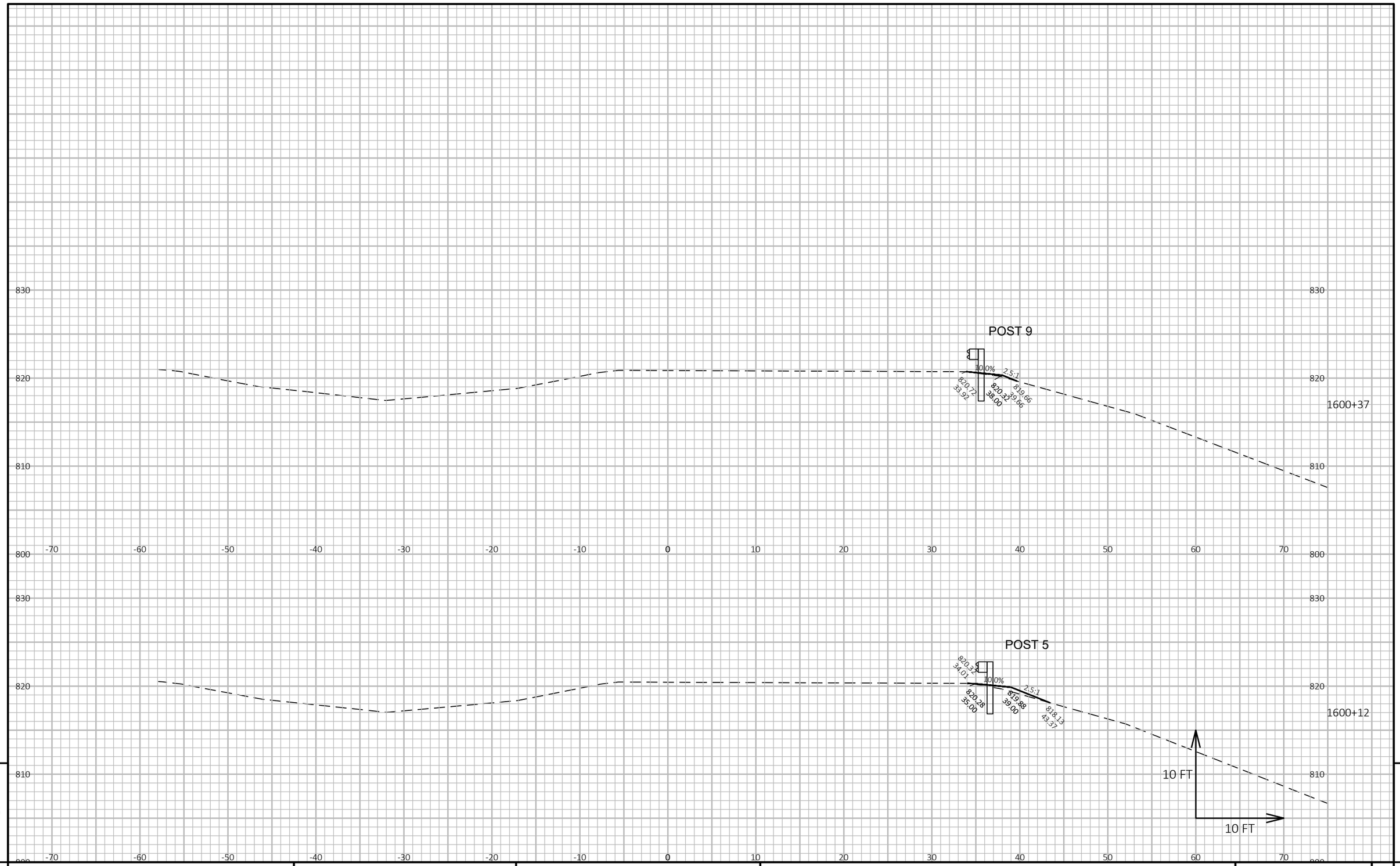
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVIL RIVER STATE TRAIL	SHEET 291	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 2

PLOT DATE : 6/14/2021 10:11 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

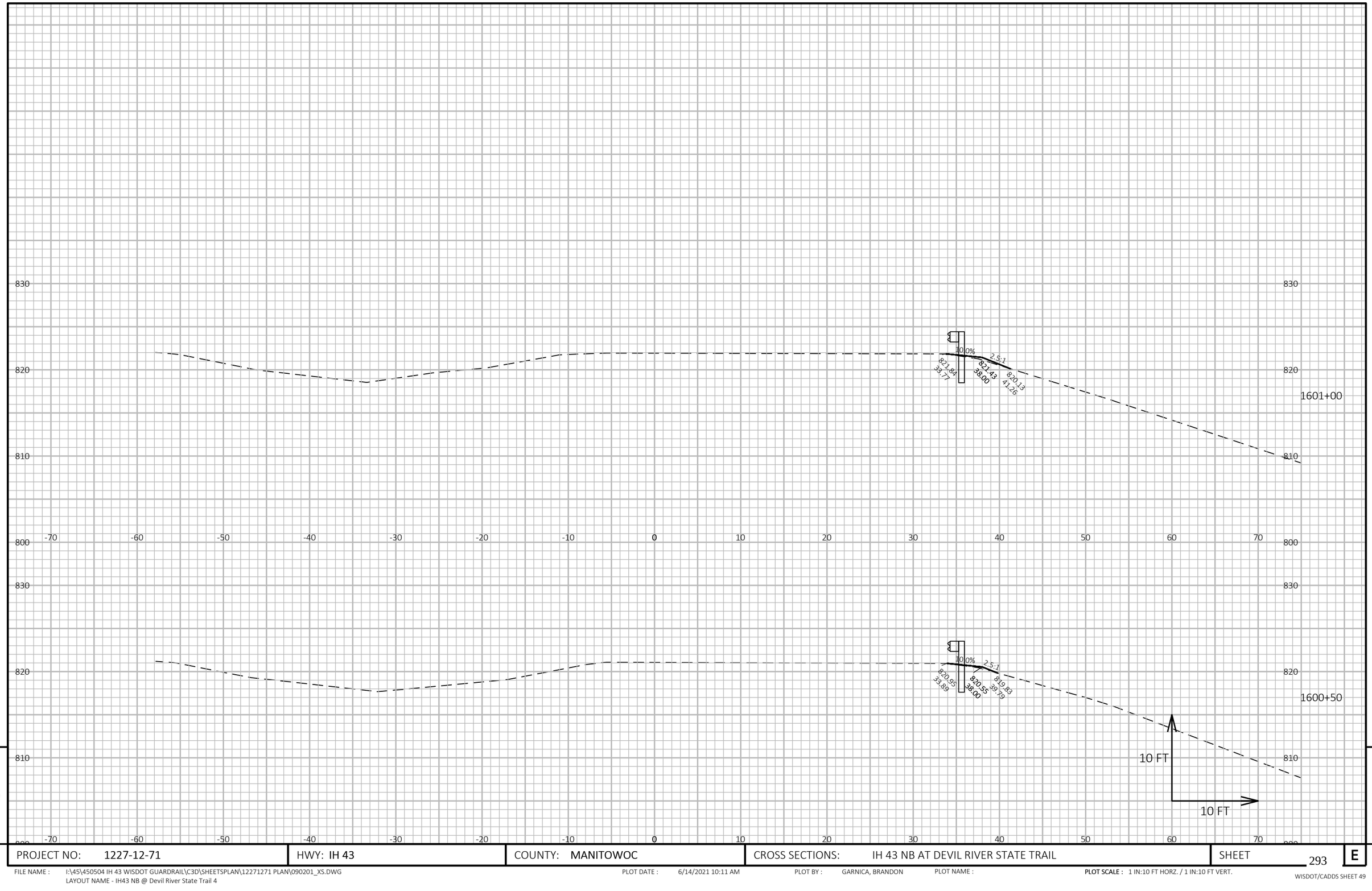
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVIL RIVER STATE TRAIL	SHEET 292	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 3

PLOT DATE : 6/14/2021 10:11 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

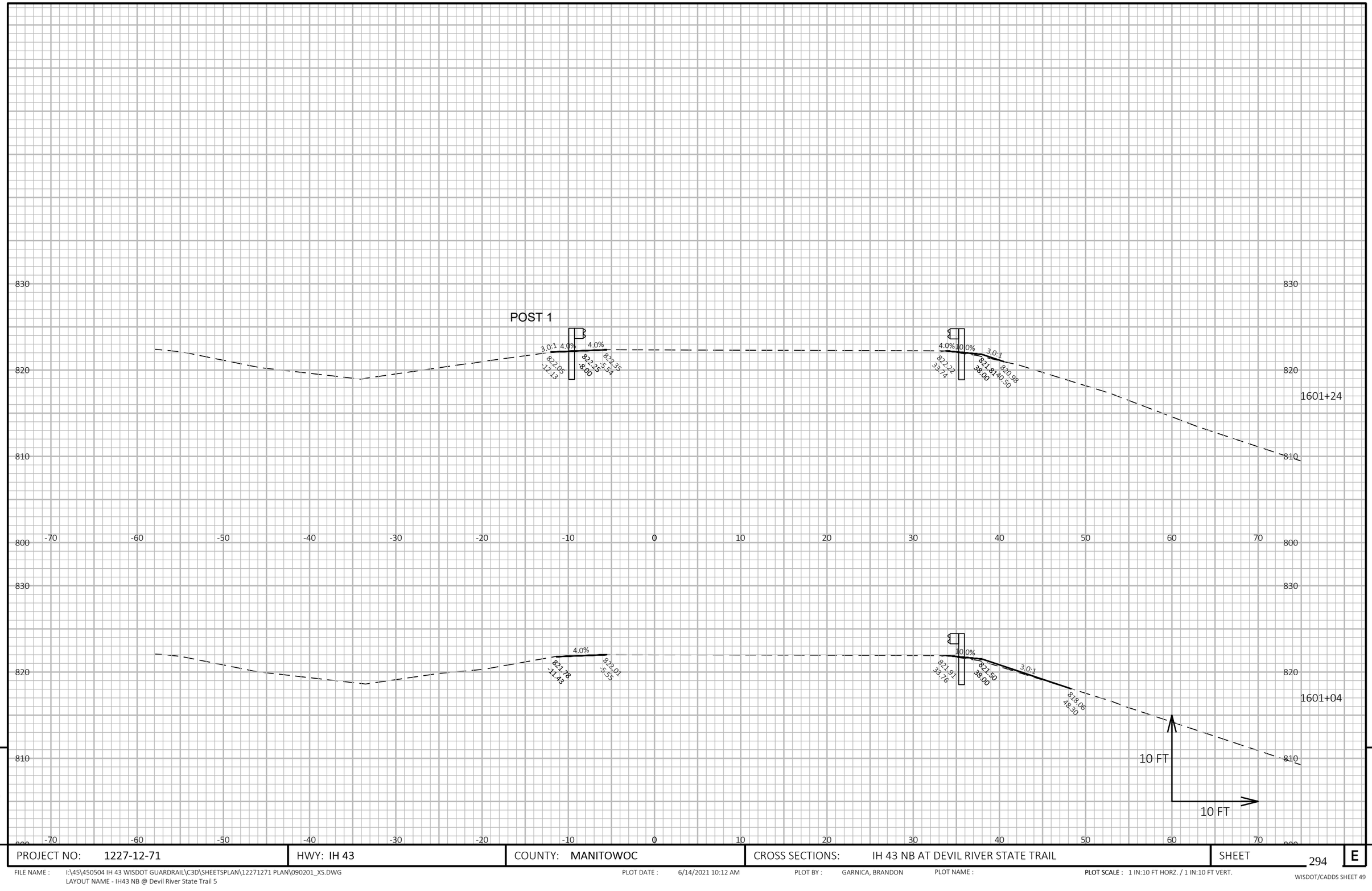
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVIL RIVER STATE TRAIL	SHEET 293	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 4

PLOT DATE : 6/14/2021 10:11 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

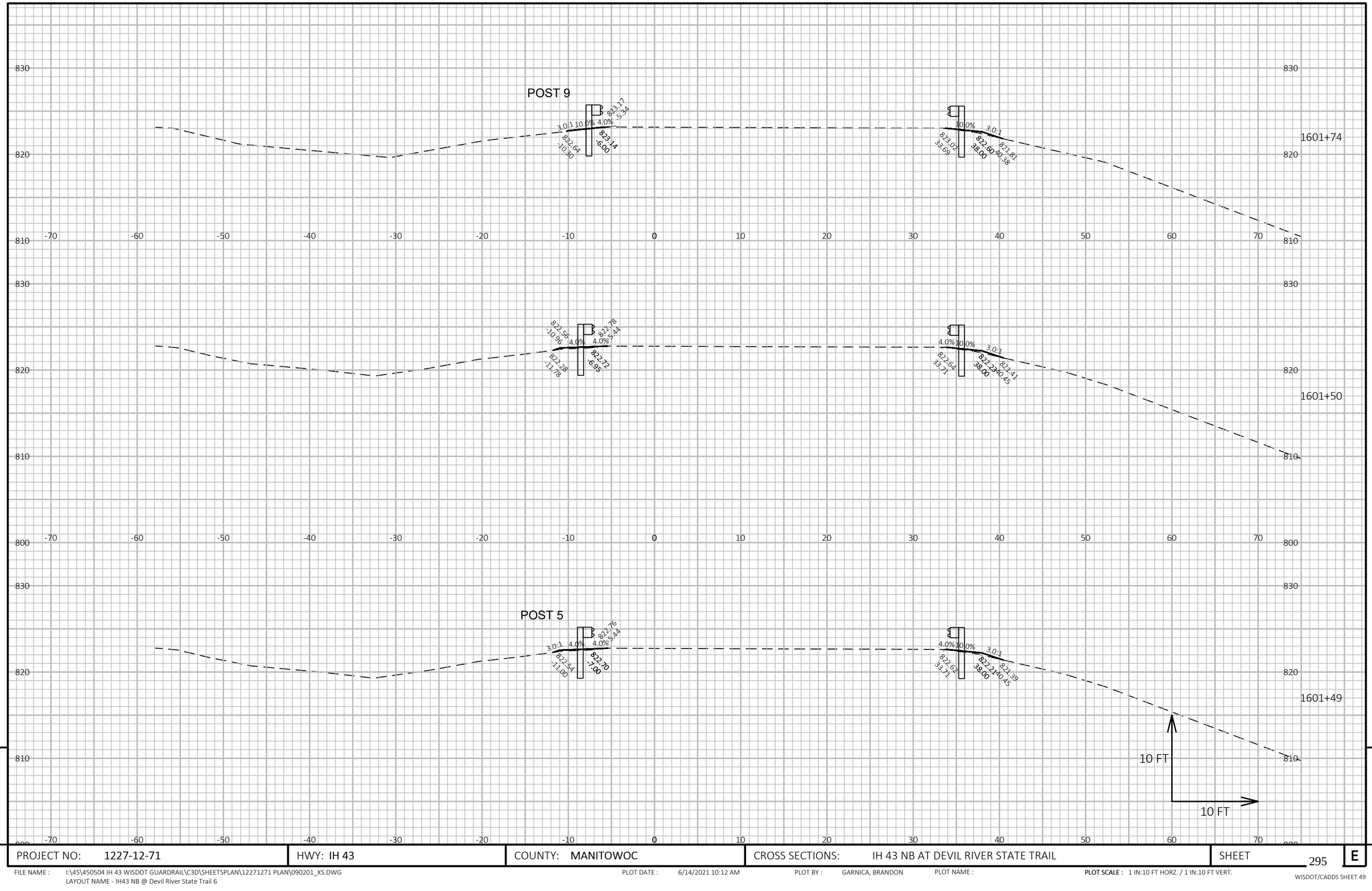
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVIL RIVER STATE TRAIL	SHEET 294	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 5

PLOT DATE : 6/14/2021 10:12 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

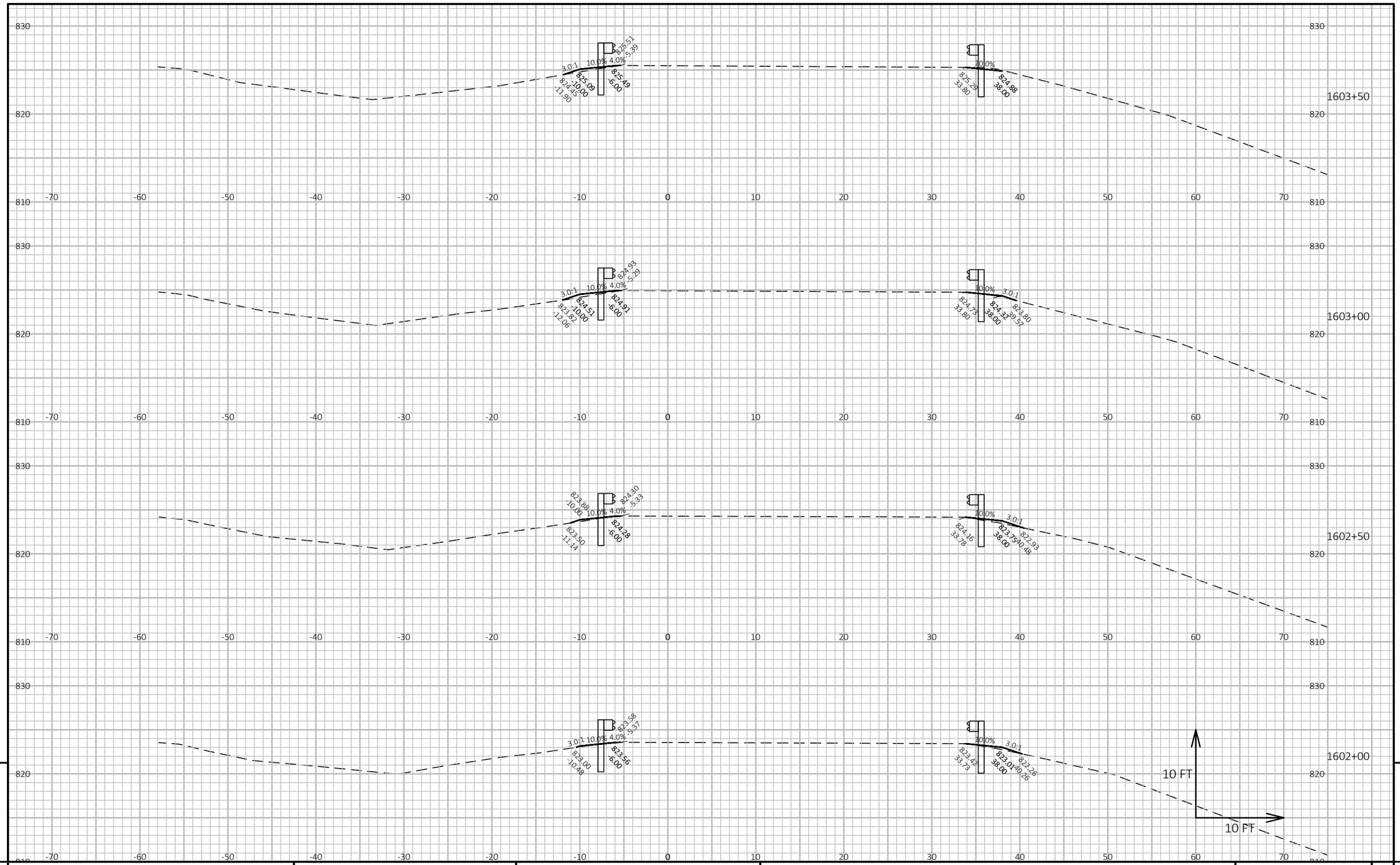


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVIL RIVER STATE TRAIL	SHEET 295	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 6

PLOT DATE : 6/14/2021 10:12 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

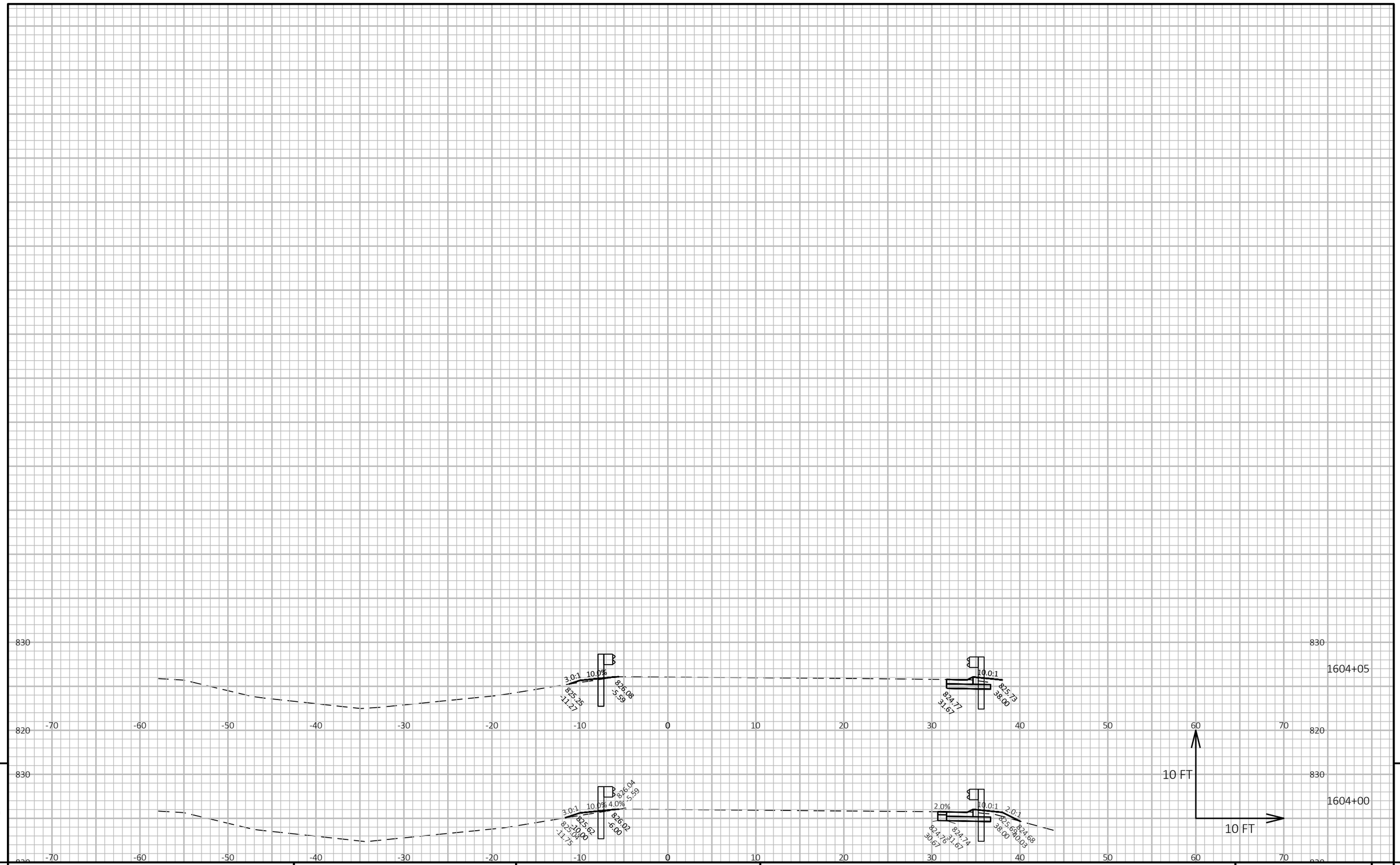


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVIL RIVER STATE TRAIL	SHEET 296 E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 7

PLOT DATE : 6/14/2021 10:12 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

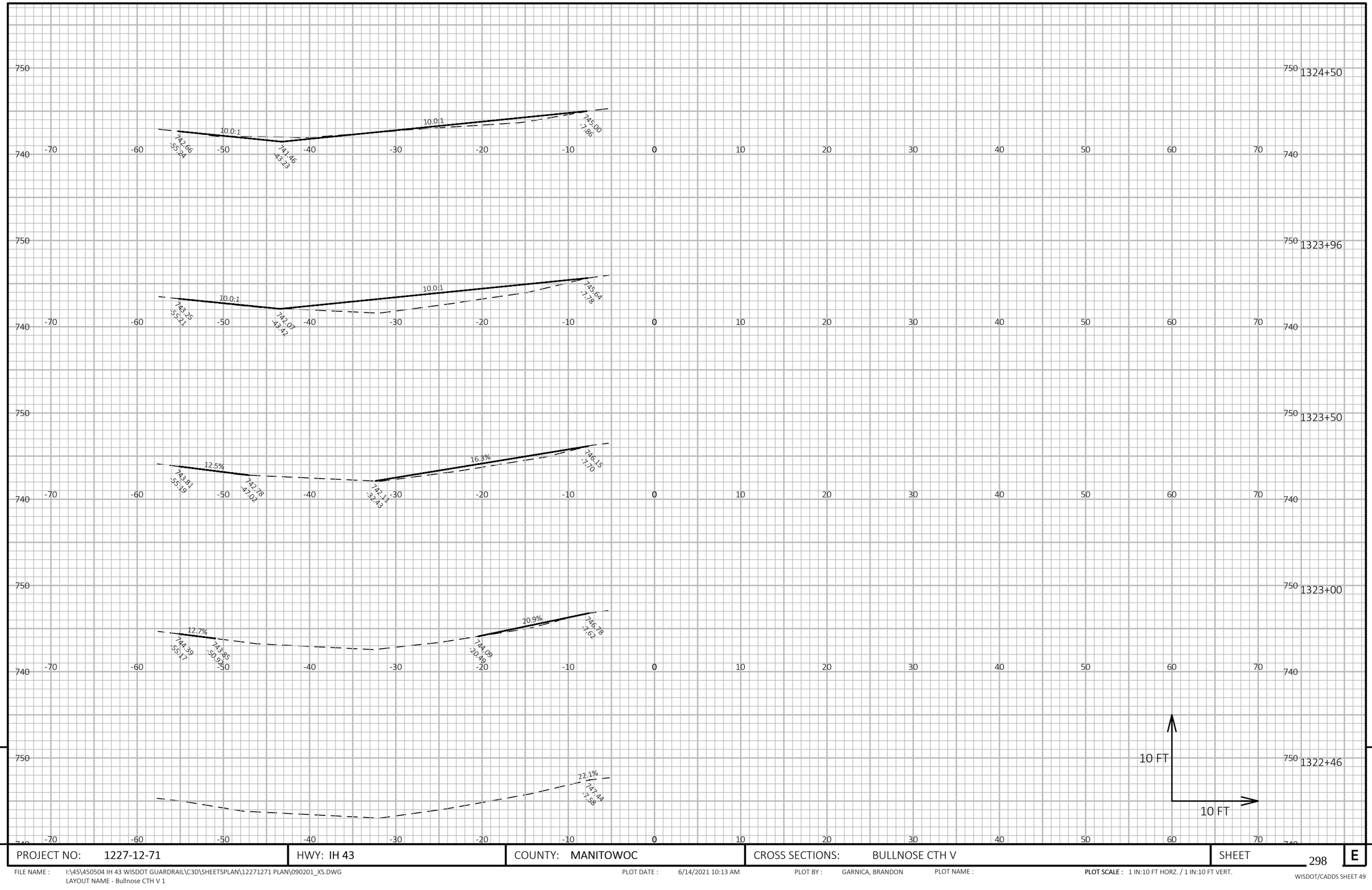


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVIL RIVER STATE TRAIL	SHEET 297 E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 8

PLOT DATE : 6/14/2021 10:13 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



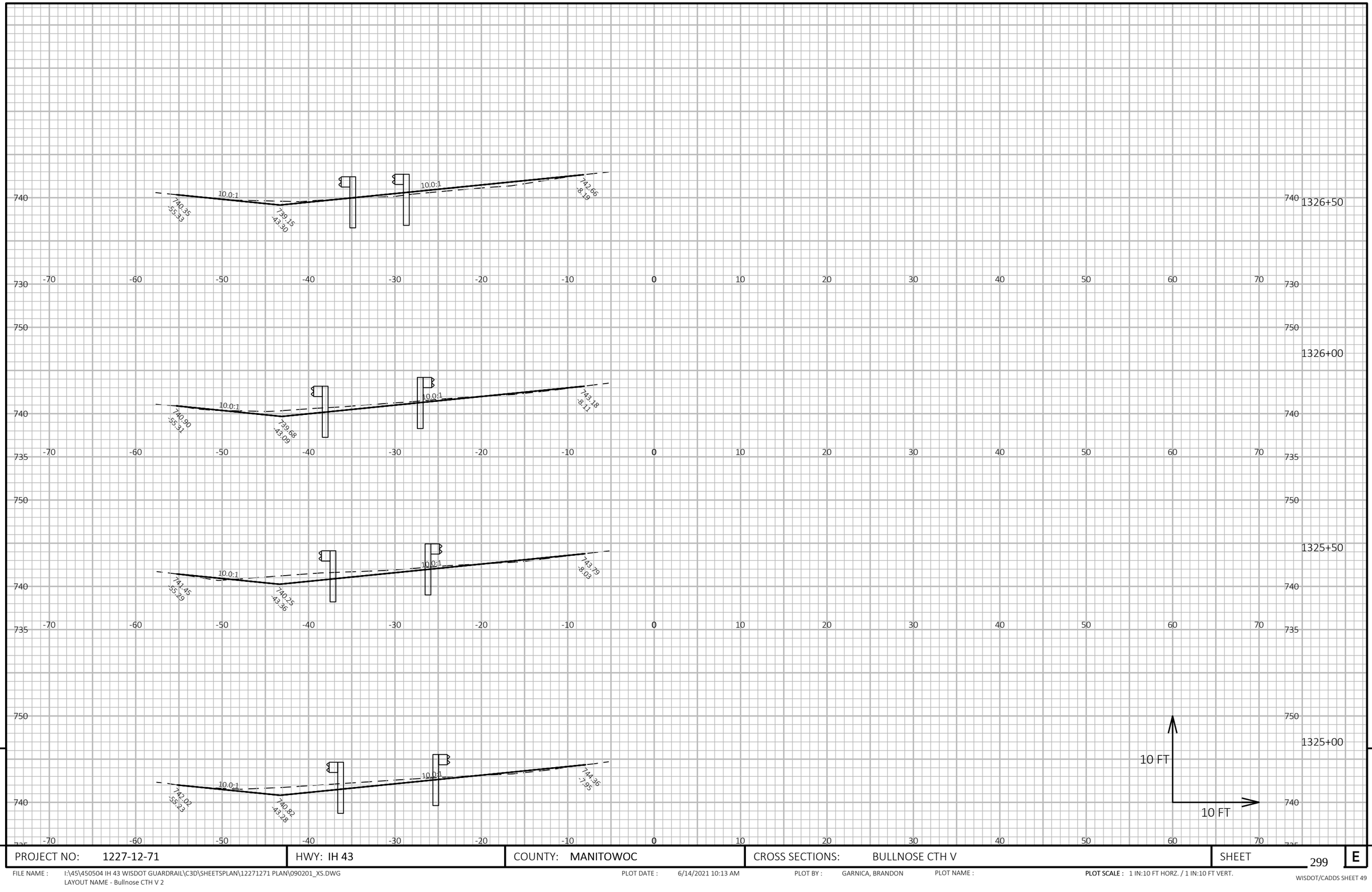
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE CTH V	SHEET 298	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - Bullnose CTH V 1

PLOT DATE : 6/14/2021 10:13 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

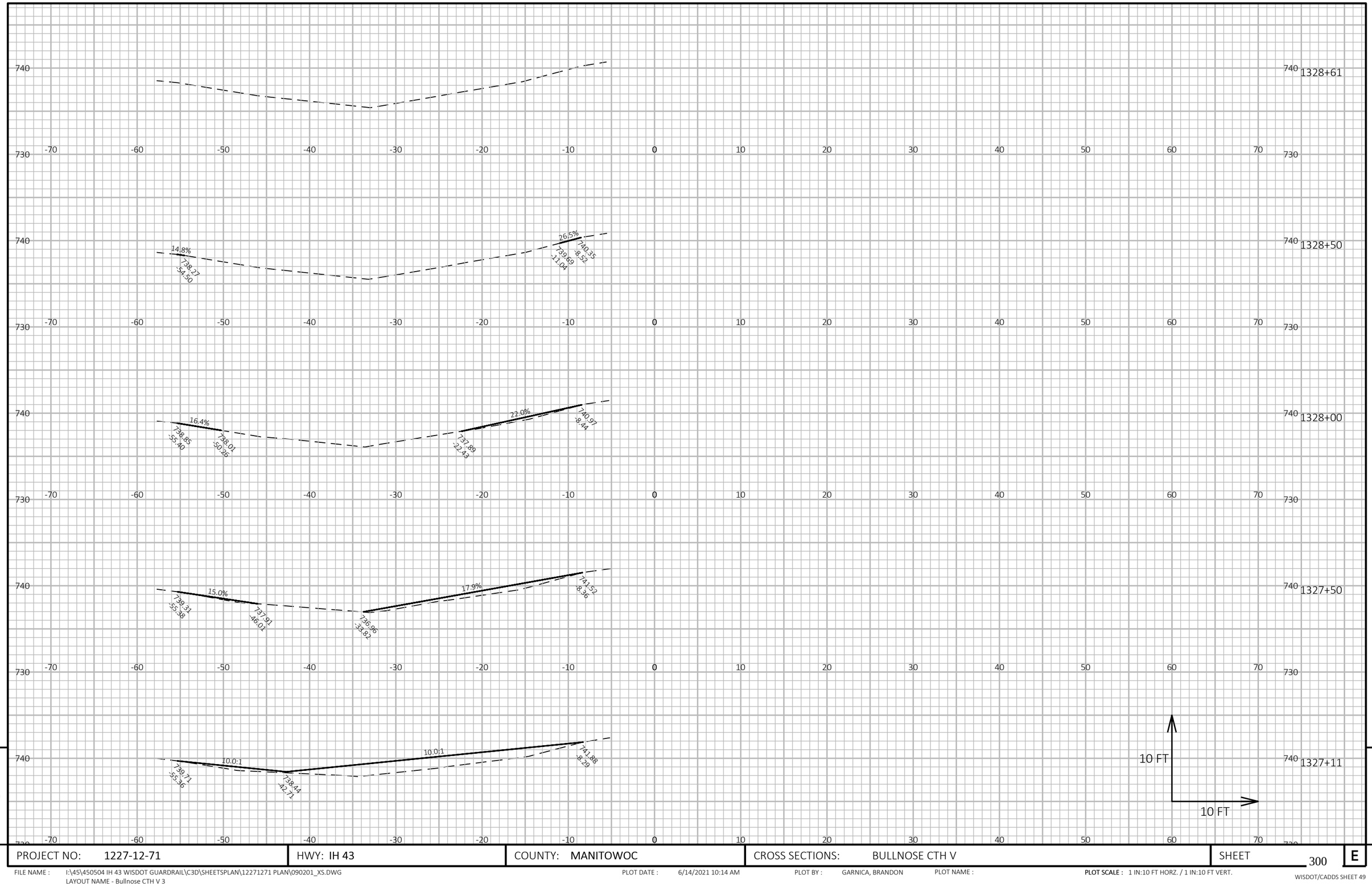
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE CTH V	SHEET 299	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - Bullnose CTH V 2

PLOT DATE : 6/14/2021 10:13 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



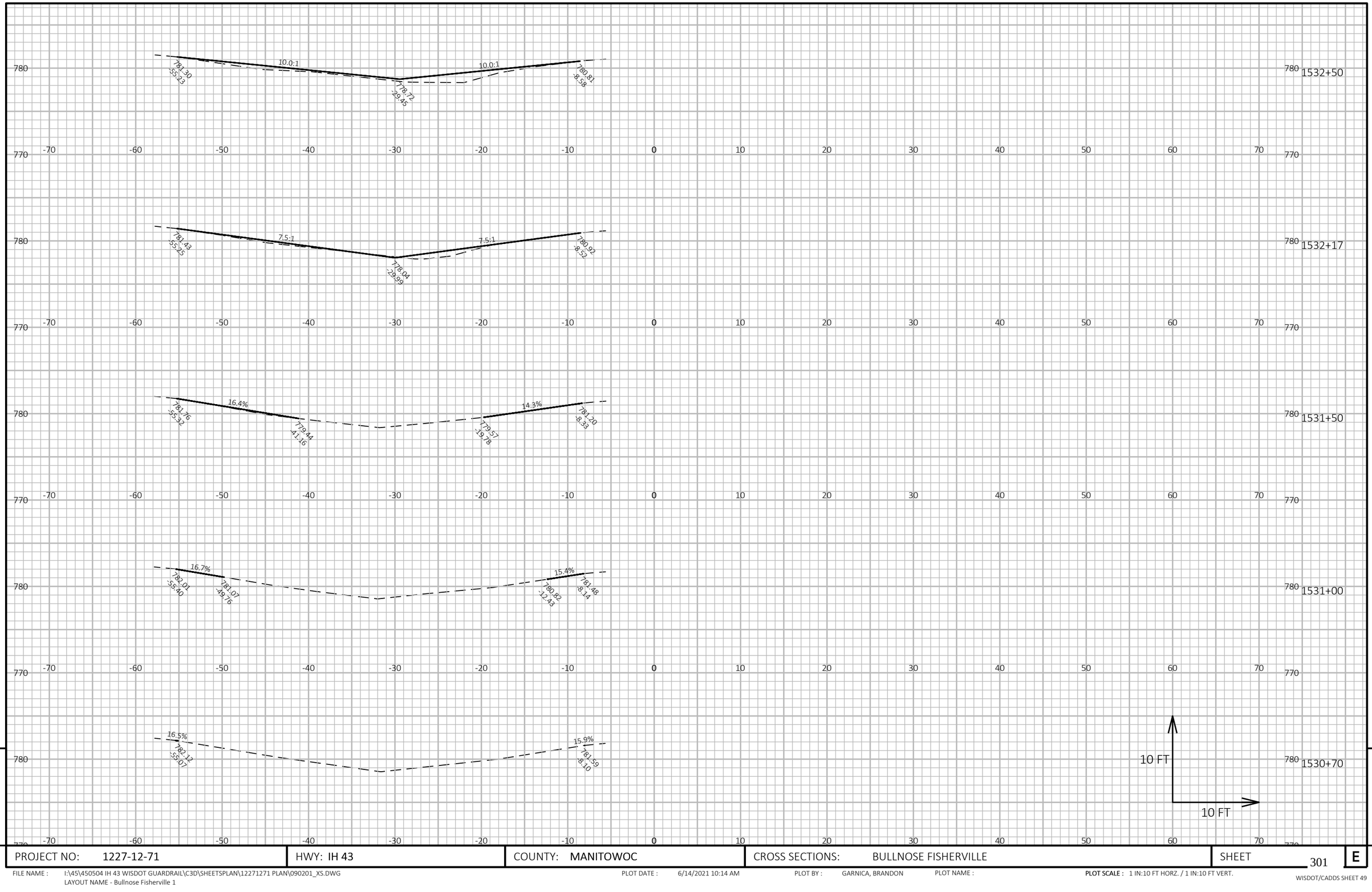
9

9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE CTH V	SHEET 300	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - Bullnose CTH V 3

PLOT DATE : 6/14/2021 10:14 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

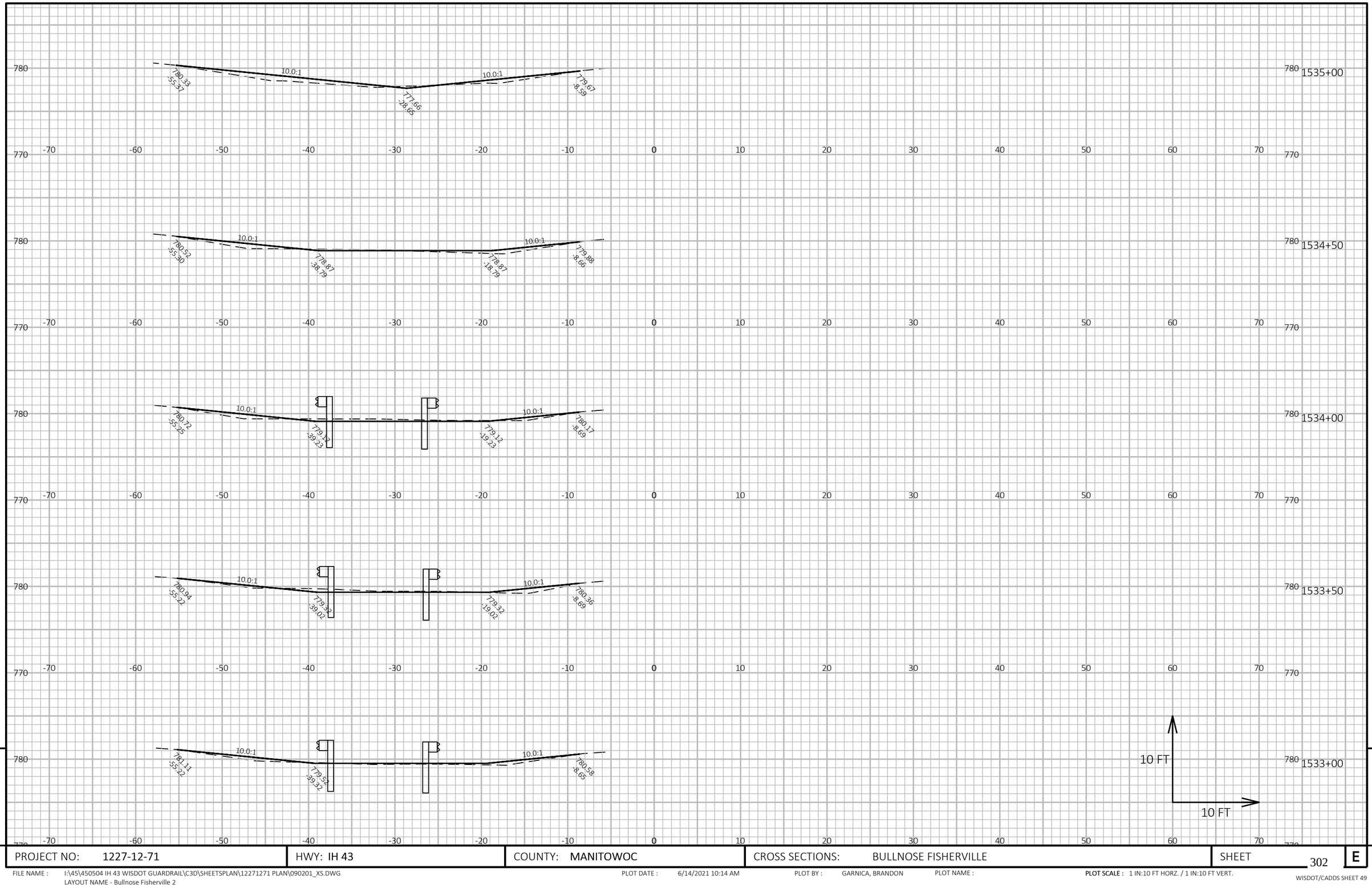
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE FISHERVILLE	SHEET 301	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - Bullnose Fisherville 1

PLOT DATE : 6/14/2021 10:14 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

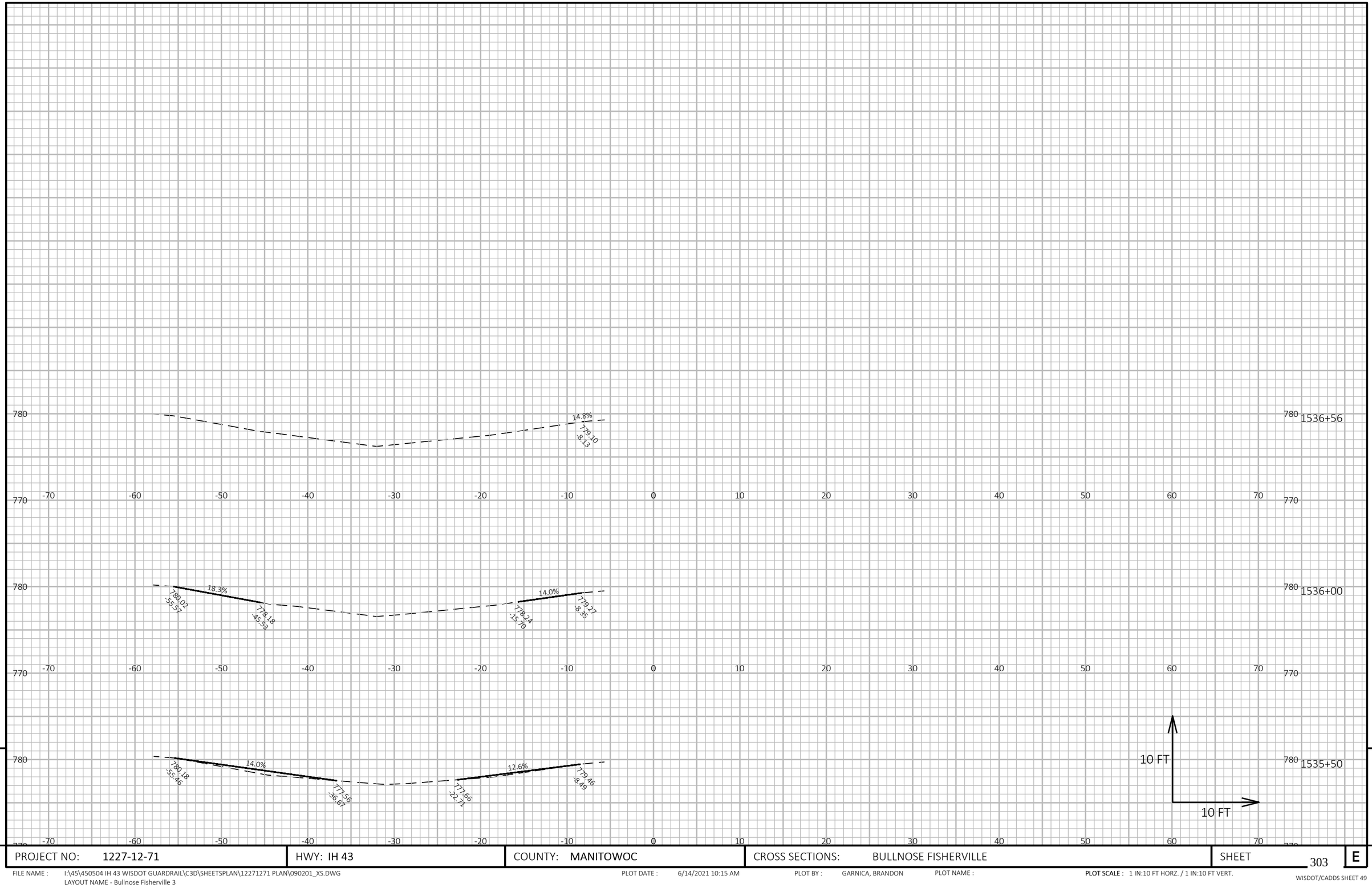
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE FISHERVILLE	SHEET 302	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - Bullnose Fisherville 2

PLOT DATE : 6/14/2021 10:14 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

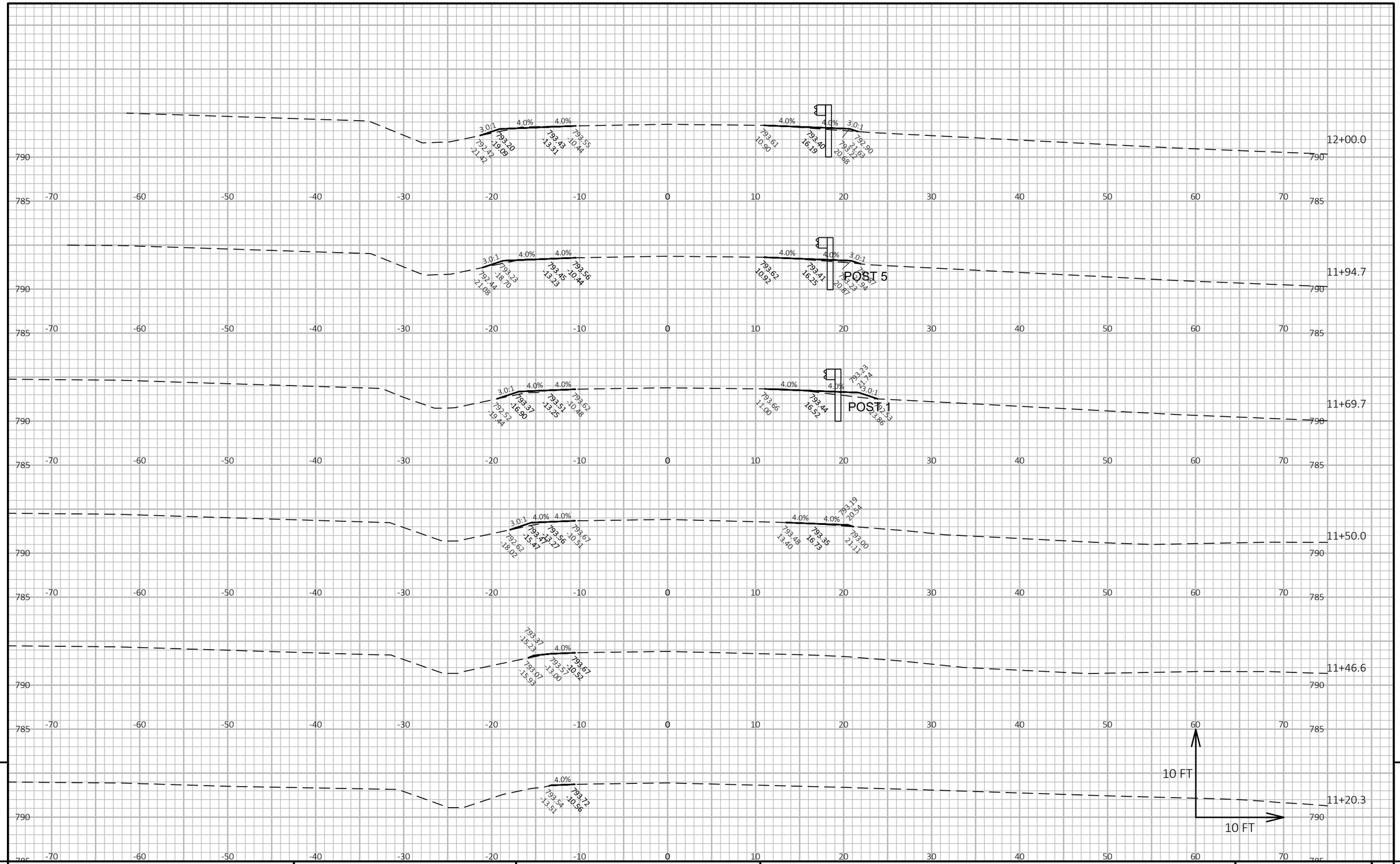
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE FISHERVILLE	SHEET 303	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090201_XS.DWG
LAYOUT NAME - Bullnose Fisherville 3

PLOT DATE : 6/14/2021 10:15 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

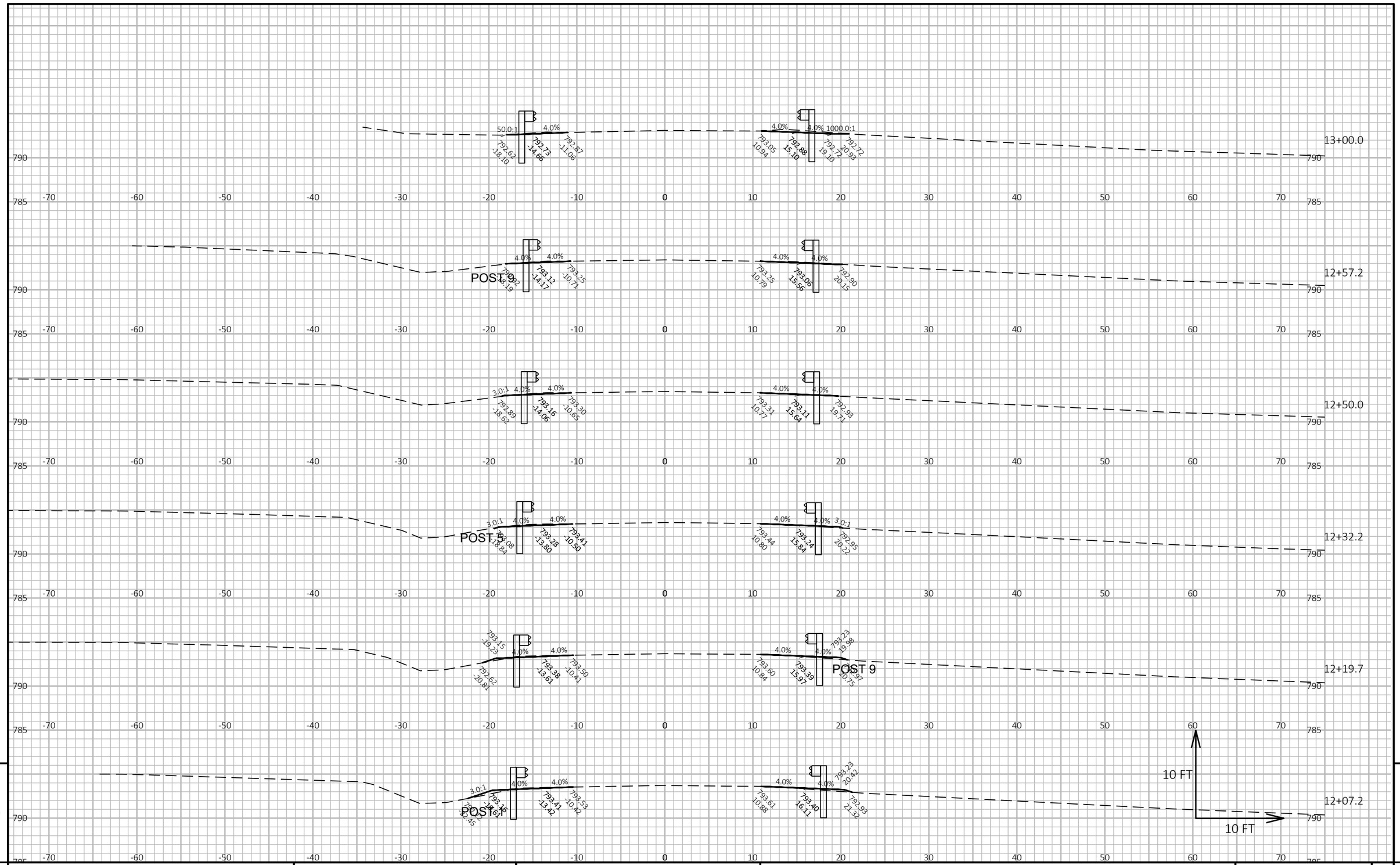


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ROCKWOOD ROAD	SHEET 304	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Rockwood WB 1

PLOT DATE : 6/14/2021 10:15 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



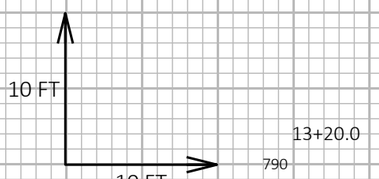
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ROCKWOOD ROAD	SHEET 305 E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Rockwood WB 2

PLOT DATE : 6/14/2021 10:16 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

790

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

790

9

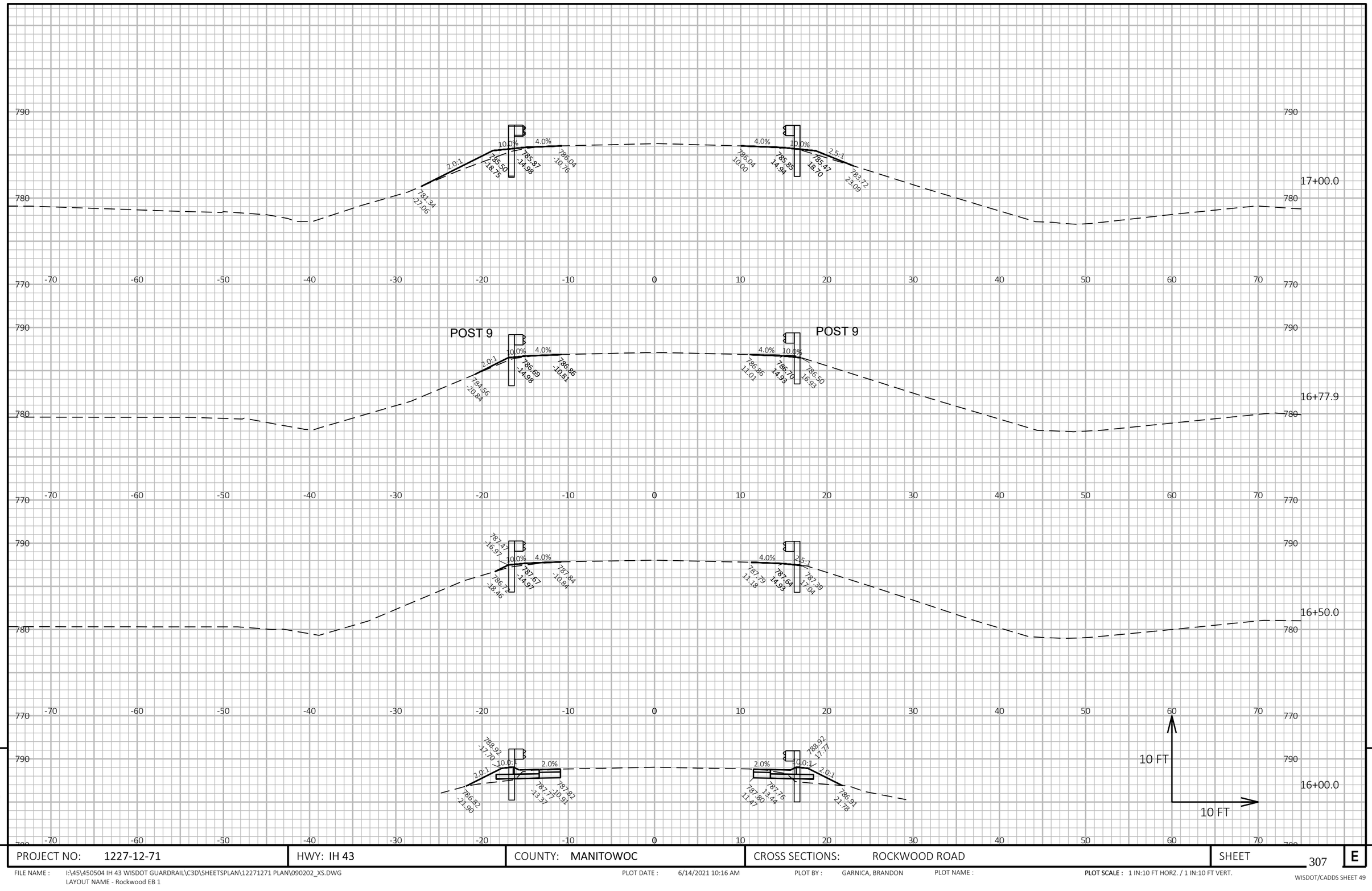
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ROCKWOOD ROAD	SHEET 306	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Rockwood WB 3

PLOT DATE : 6/14/2021 10:16 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

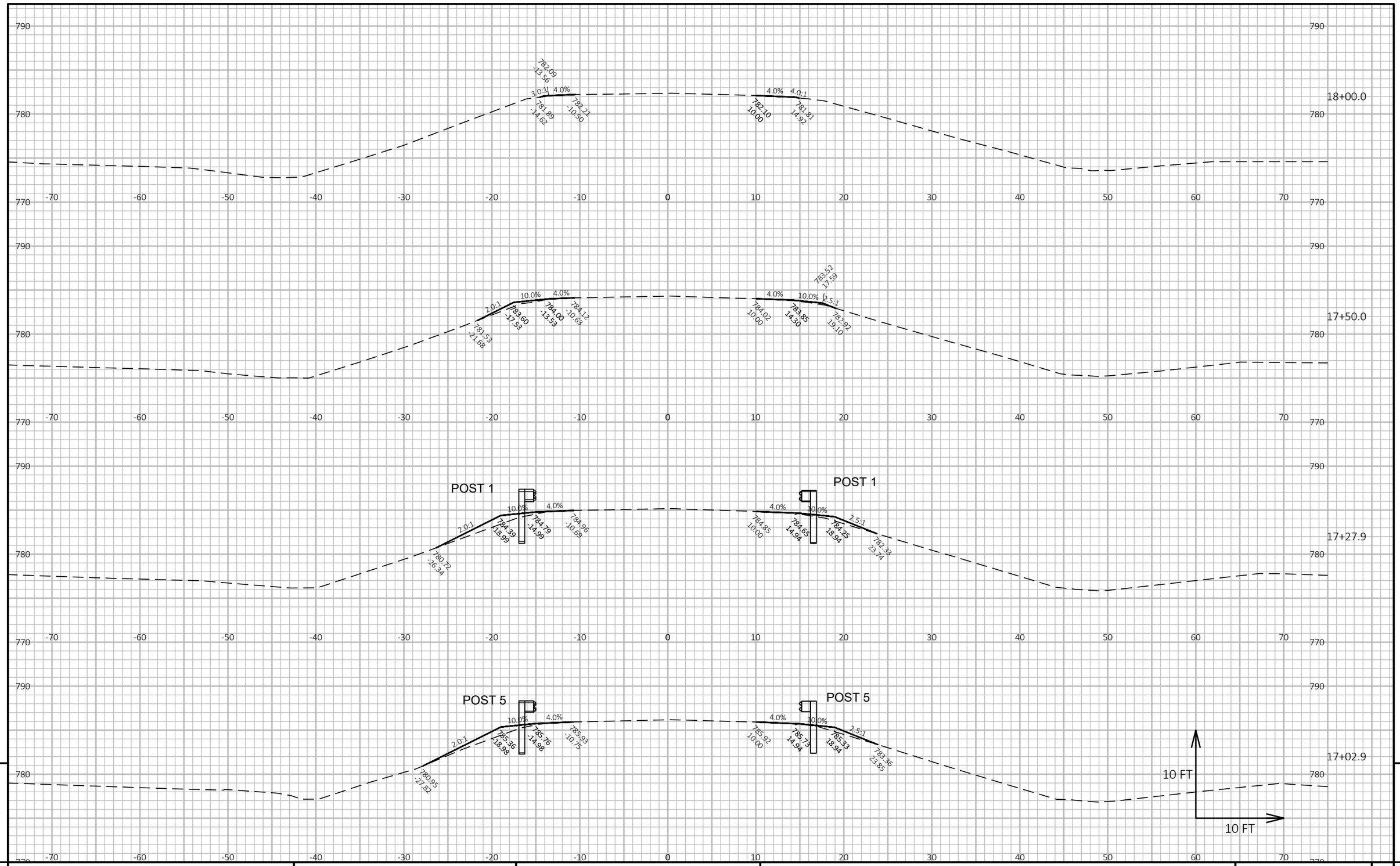
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ROCKWOOD ROAD	SHEET 307	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Rockwood EB 1

PLOT DATE : 6/14/2021 10:16 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

9

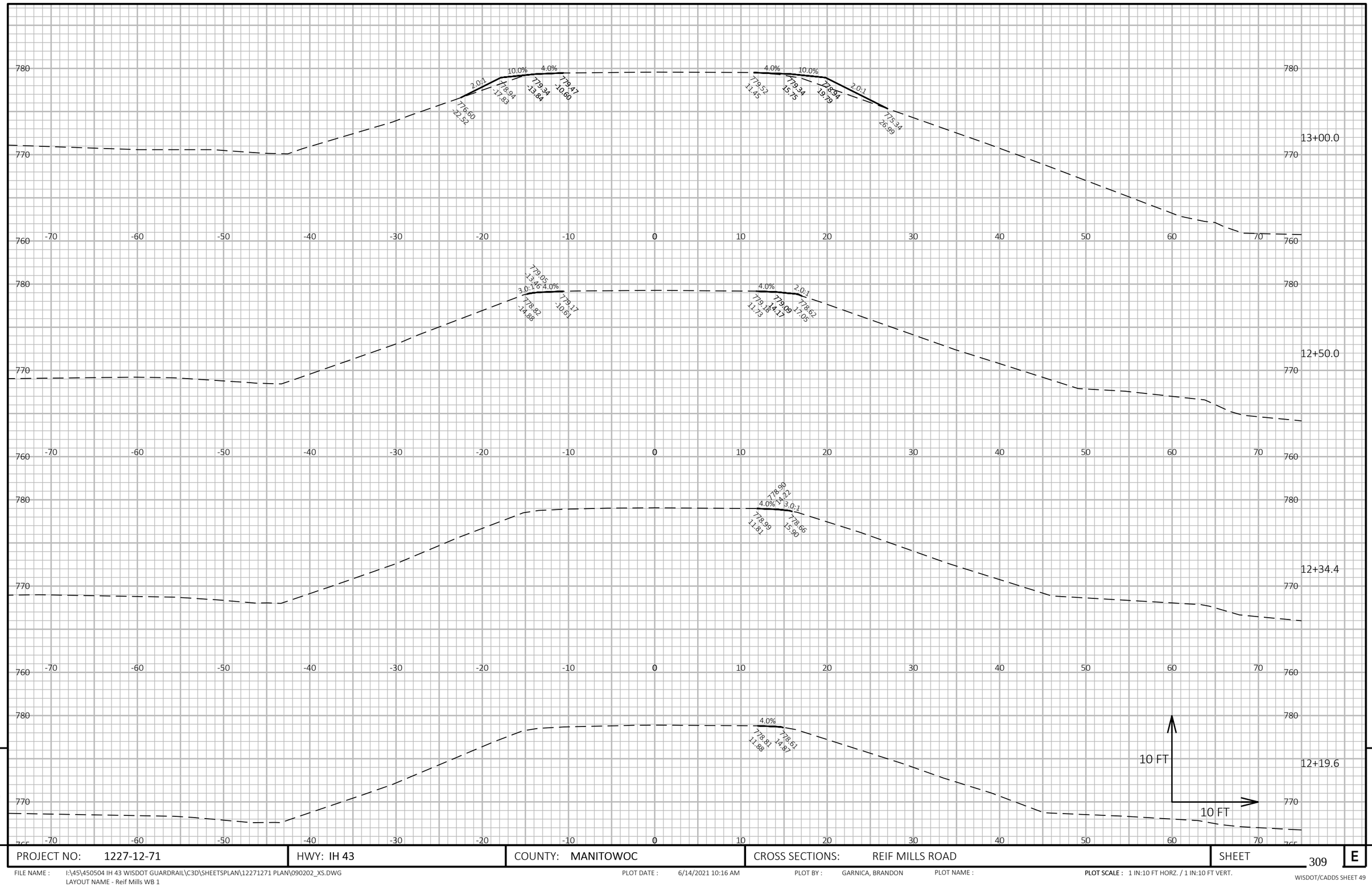
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ROCKWOOD ROAD	SHEET 308	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Rockwood EB 2

PLOT DATE : 6/14/2021 10:16 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



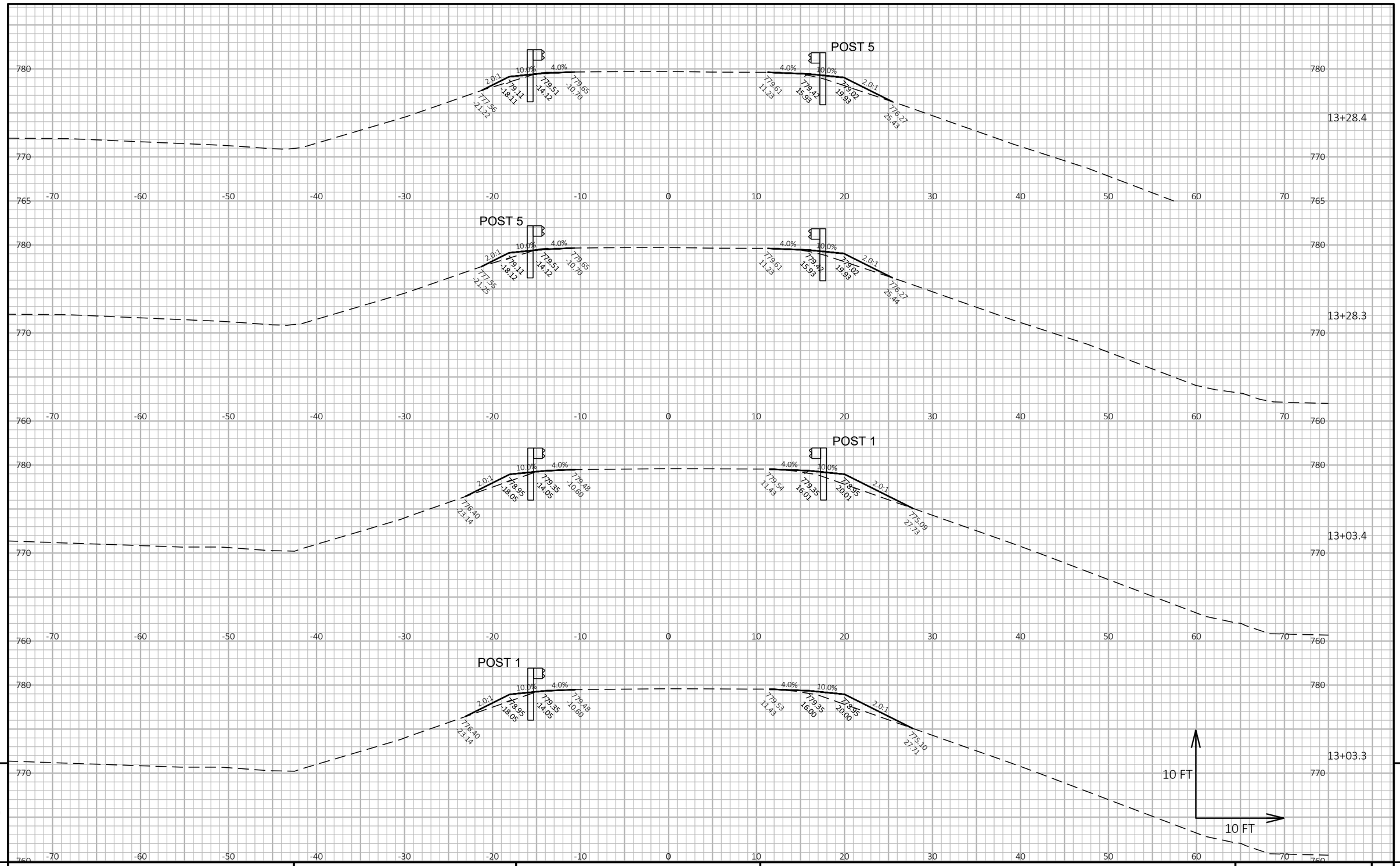
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: REIF MILLS ROAD	SHEET 309	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Reif Mills WB 1

PLOT DATE : 6/14/2021 10:16 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

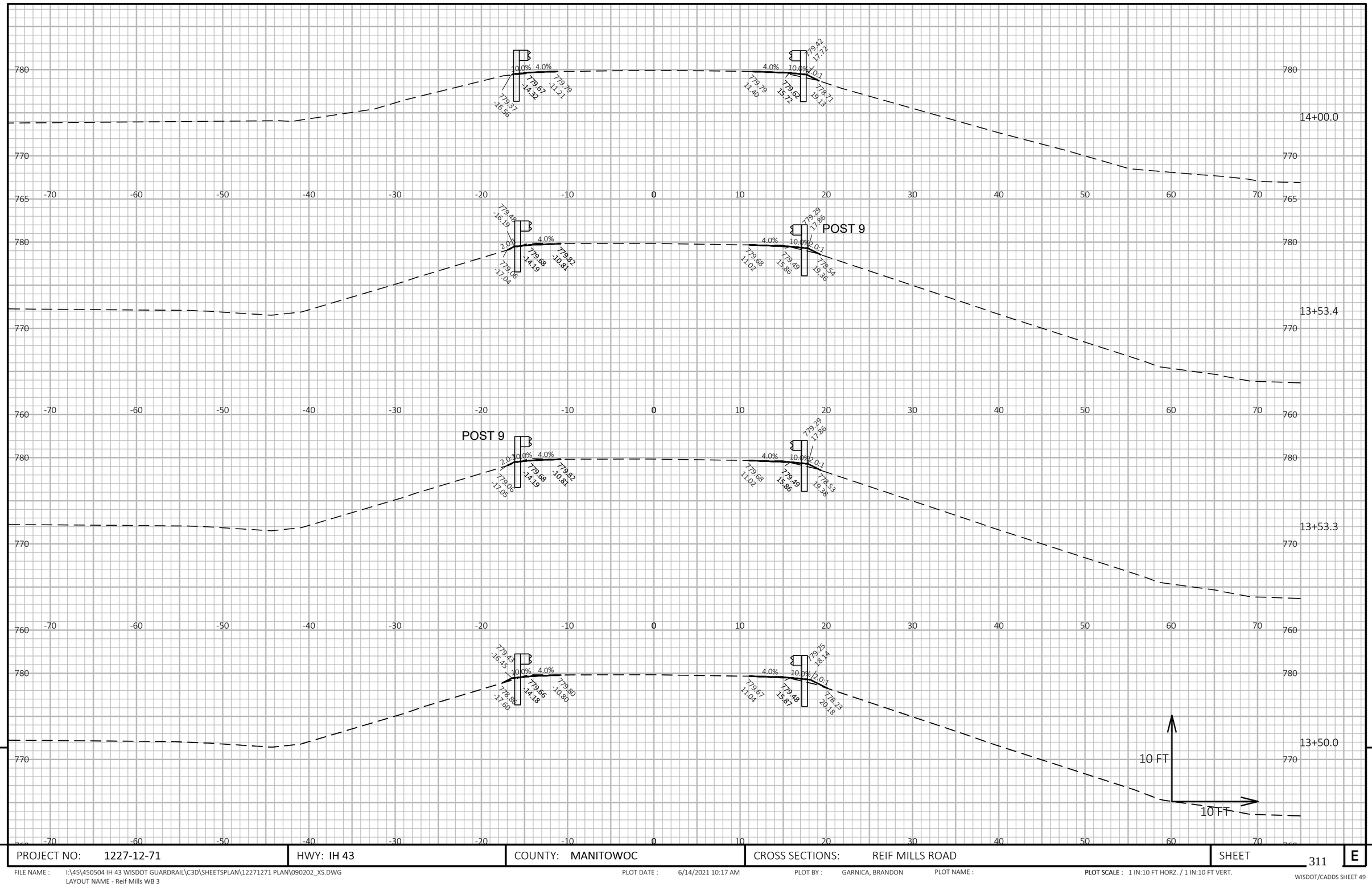
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: REIF MILLS ROAD	SHEET 310	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Reif Mills WB 2

PLOT DATE : 6/14/2021 10:17 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

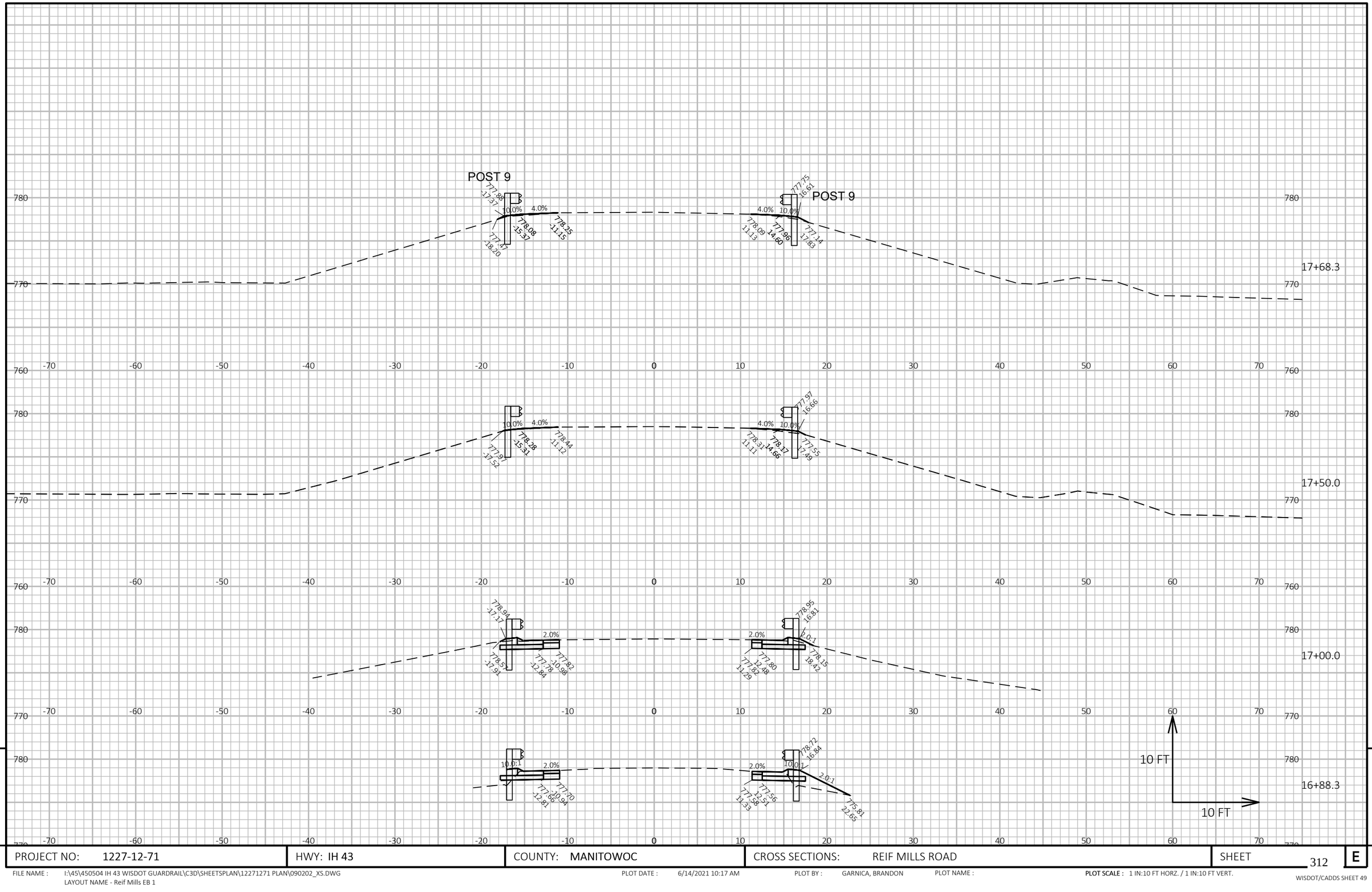
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: REIF MILLS ROAD	SHEET 311	E

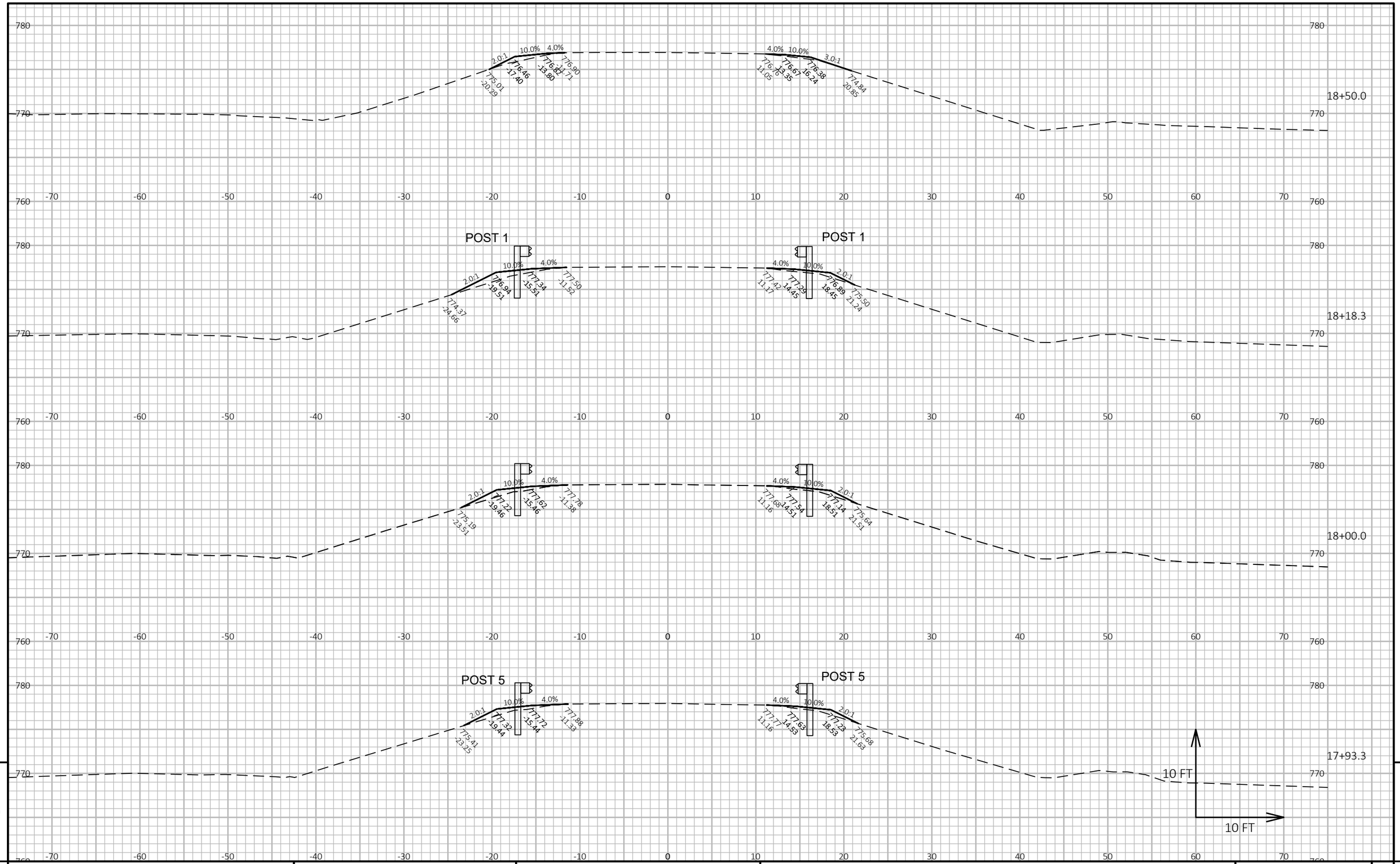
FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Reif Mills WB 3

PLOT DATE : 6/14/2021 10:17 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49


POST 9
777.88
-17.37
10.0%
4.0%
778.08
-15.37
778.25
-11.15
777.47
-18.20
POST 9
777.75
16.61
4.0%
10.0%
778.09
-11.13
777.96
14.60
777.14
17.83
17+68.3
780
770
760
-70
-60
-50
-40
-30
-20
-10
0
10
20
30
40
50
60
70
778.28
-15.31
778.44
-11.12
777.97
-17.52
777.97
16.66
778.31
-11.11
778.37
14.66
777.55
17.46
17+50.0
778.94
-17.17
2.0%
778.57
-17.91
777.78
-12.84
777.82
-10.98
778.95
16.81
2.0:1
777.80
12.48
778.15
18.42
777.82
11.29
17+00.0
10.0:1
777.66
-12.81
777.70
-10.94
778.72
16.84
777.56
12.51
775.81
22.65
777.58
11.33
16+88.3
10 FT
10 FT
9
9
PROJECT NO: 1227-12-71
HWY: IH 43
COUNTY: MANITOWOC
CROSS SECTIONS: REIF MILLS ROAD
SHEET 312
E
FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Reif Mills EB 1
PLOT DATE : 6/14/2021 10:17 AM
PLOT BY : GARNICA, BRANDON
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



9

9

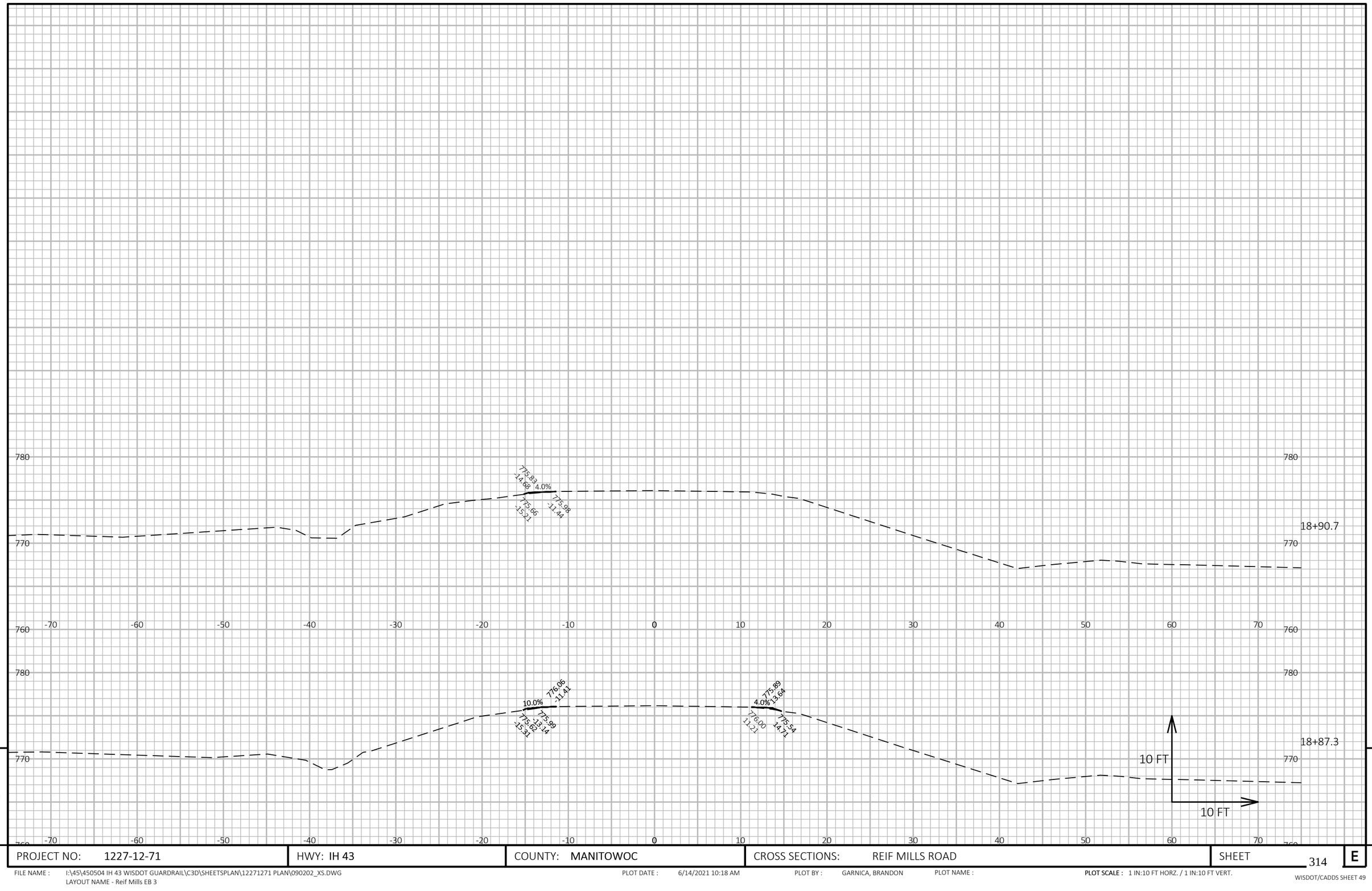
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: REIF MILLS ROAD	SHEET 313	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Reif Mills EB 2

PLOT DATE : 6/14/2021 10:17 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

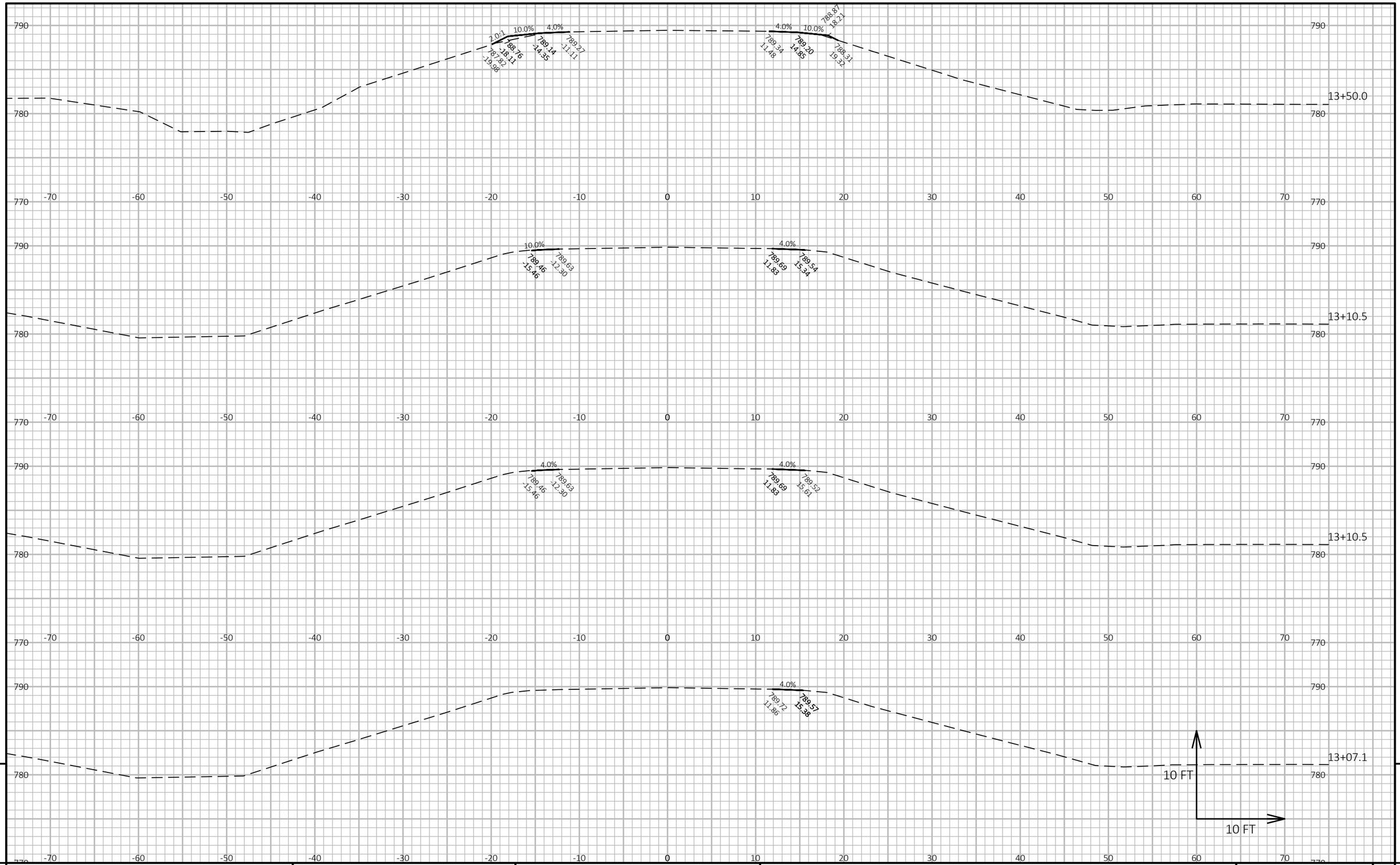
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: REIF MILLS ROAD	SHEET 314	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Reif Mills EB 3

PLOT DATE : 6/14/2021 10:18 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

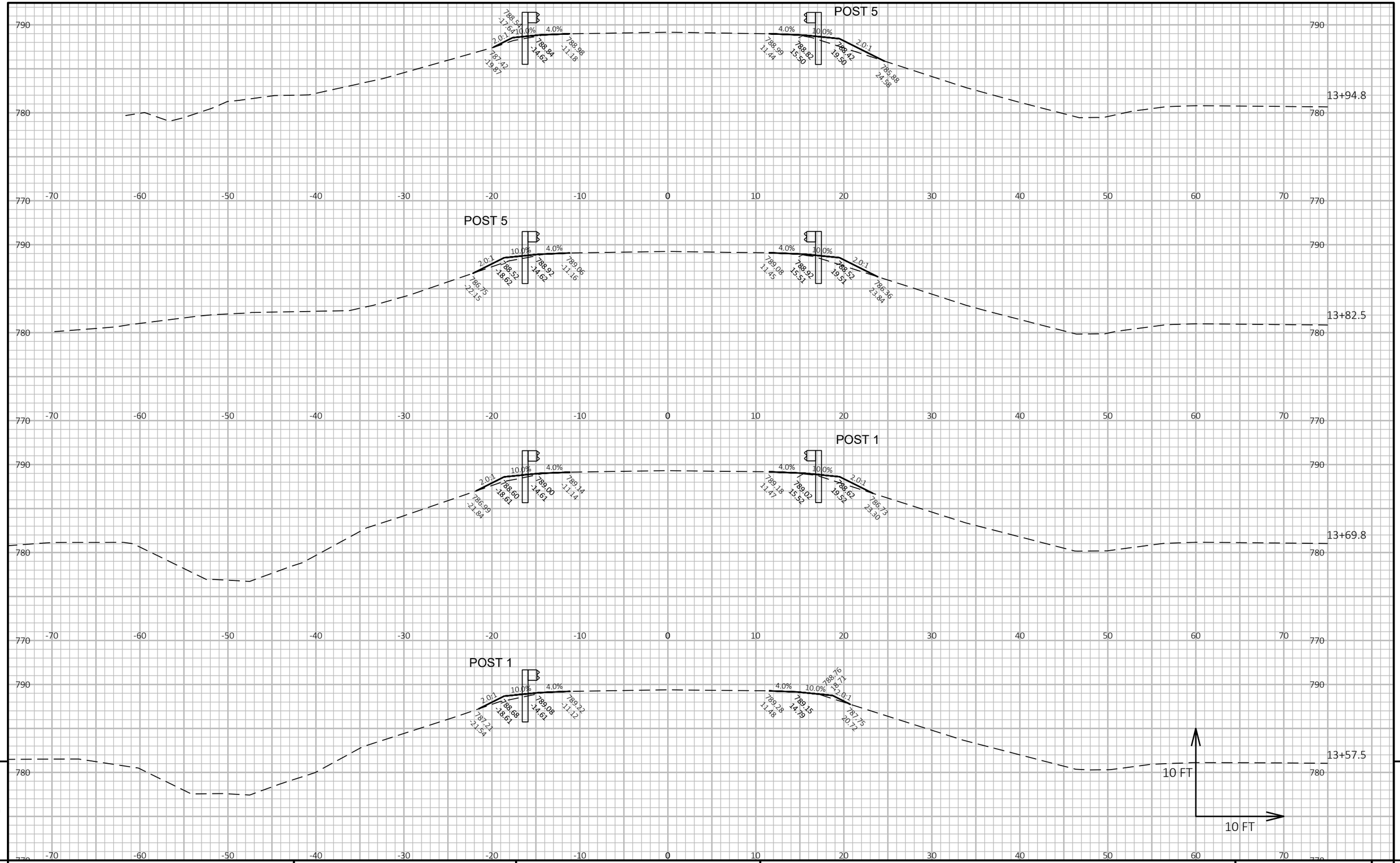
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 315	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka WB 1

PLOT DATE : 6/14/2021 10:18 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

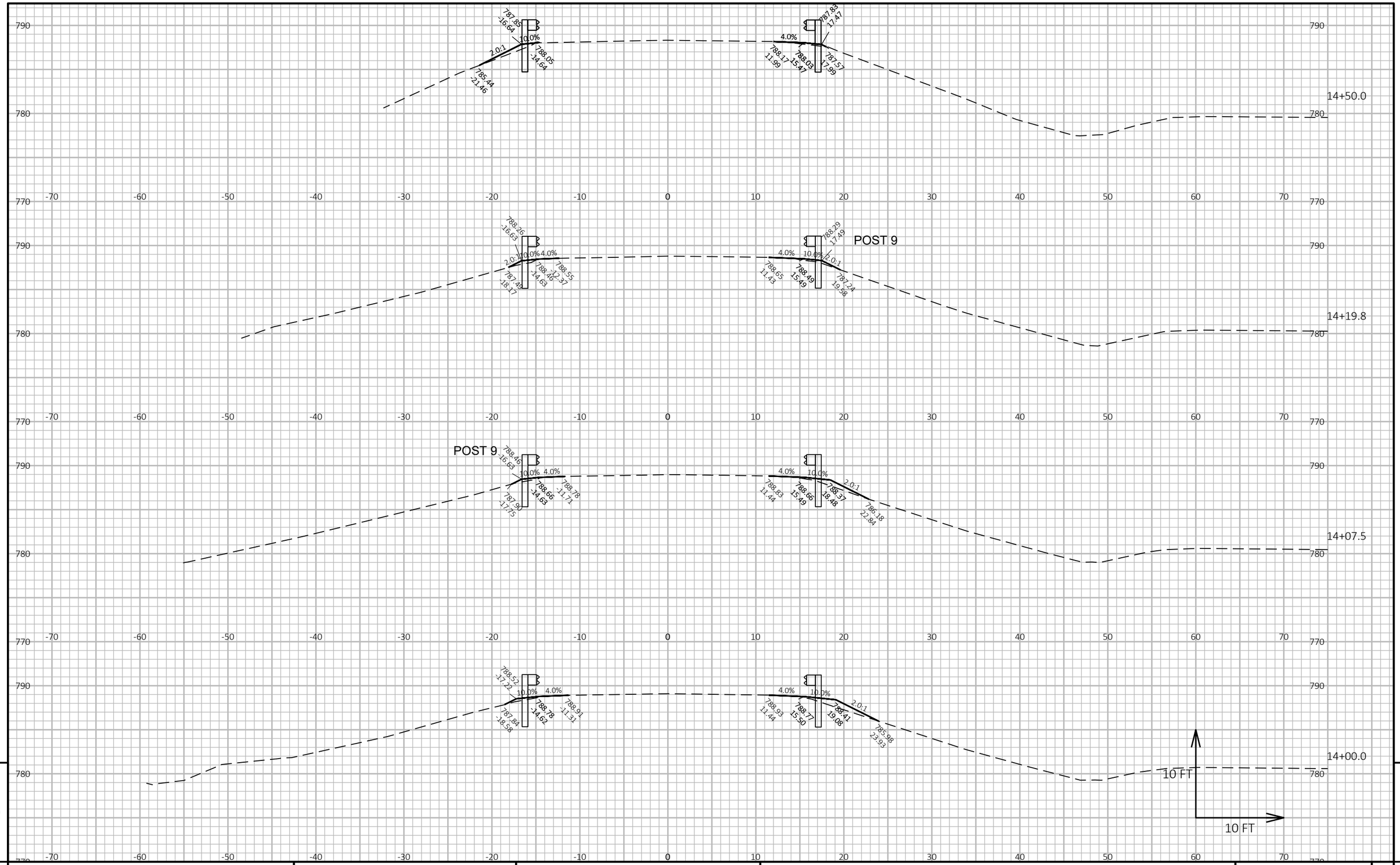
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 316	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka WB 2

PLOT DATE : 6/14/2021 10:18 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

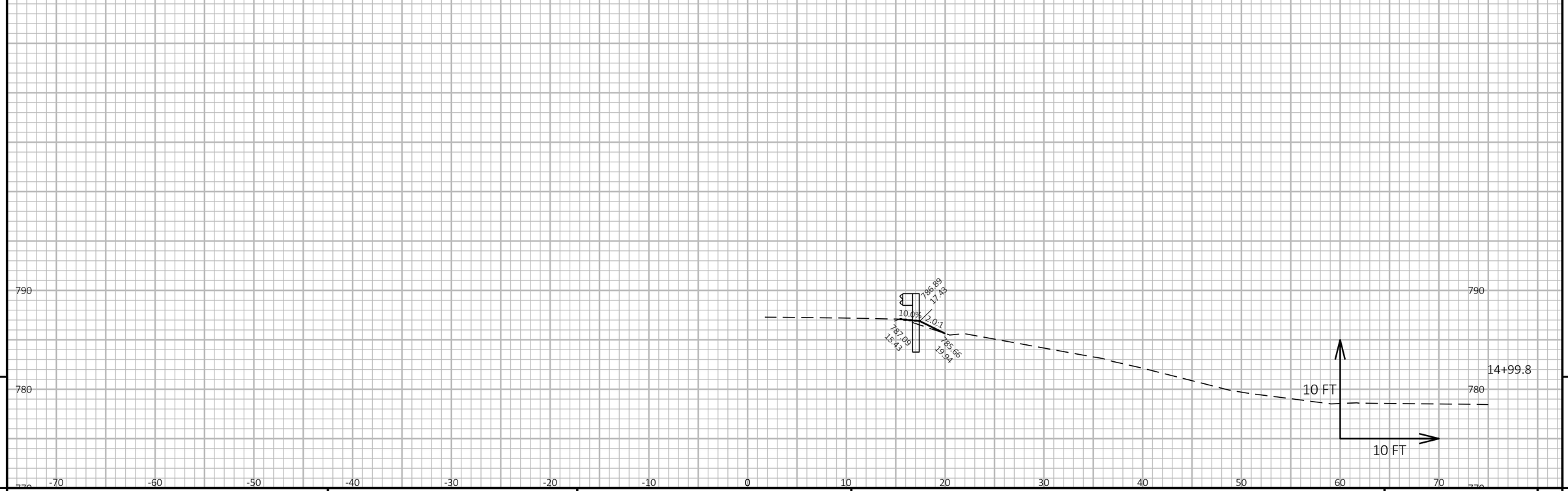


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 317	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka WB 3

PLOT DATE : 6/14/2021 10:18 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

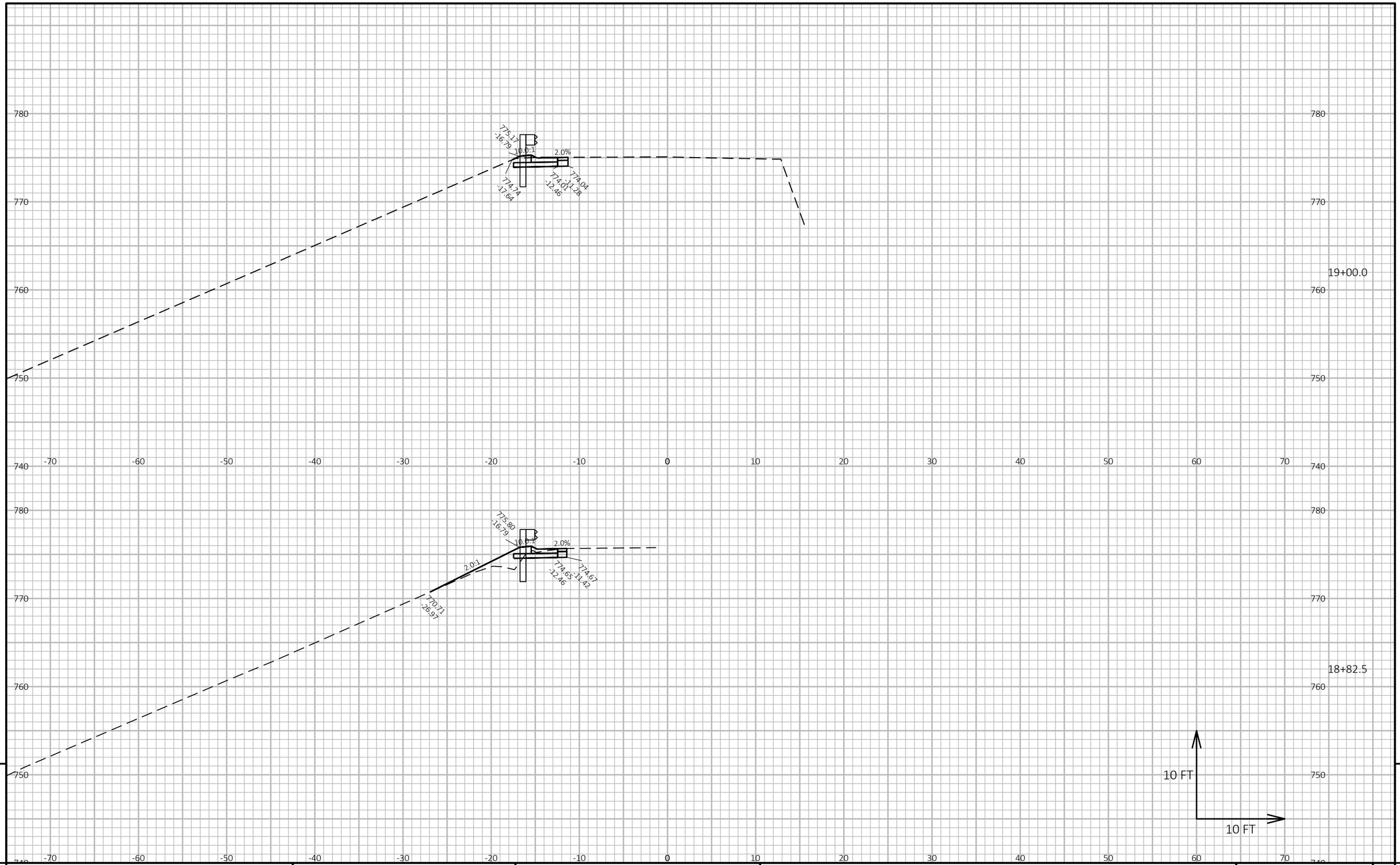
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 318	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka WB 4

PLOT DATE : 6/14/2021 10:18 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

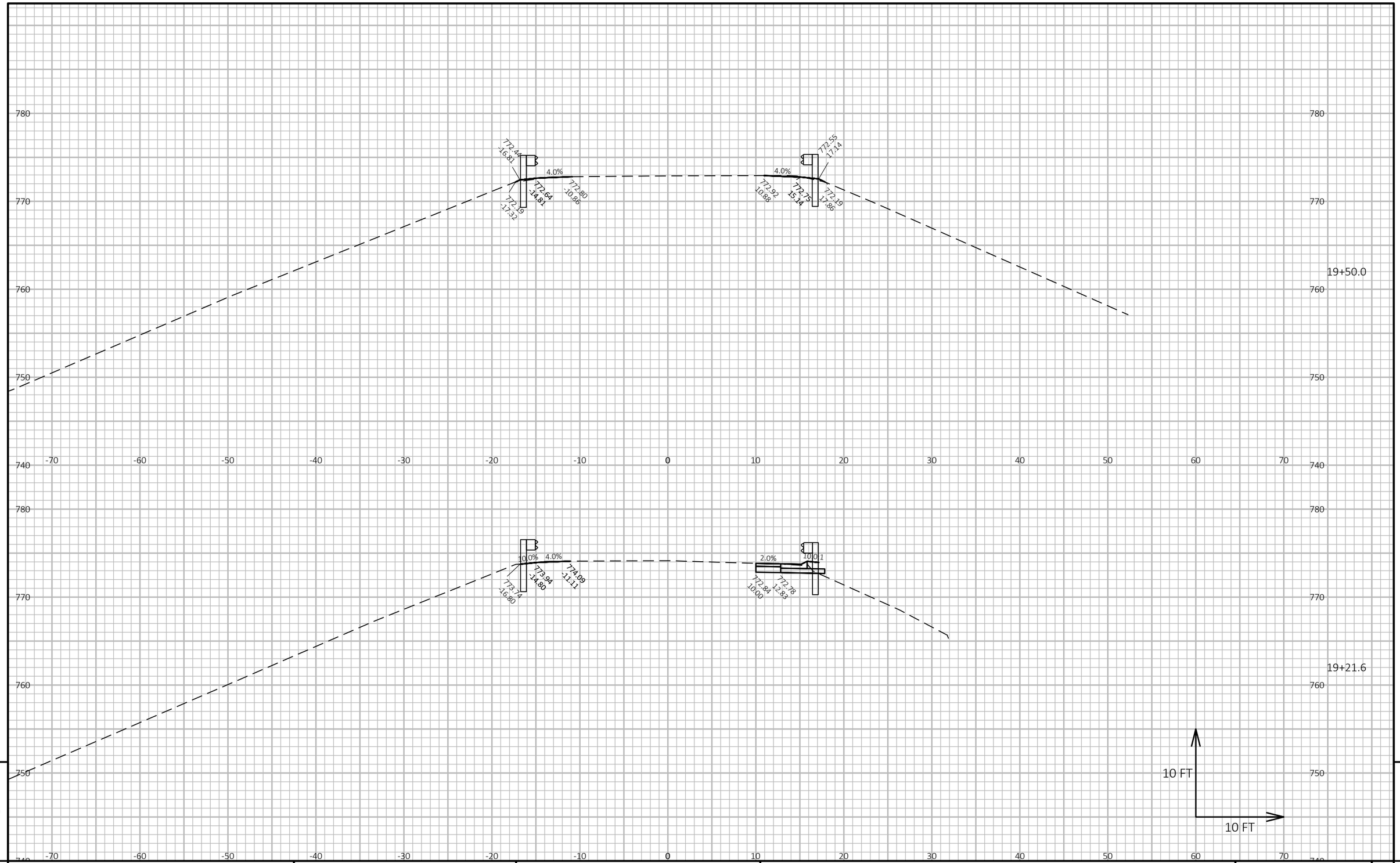
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 319	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 1

PLOT DATE : 6/14/2021 10:19 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

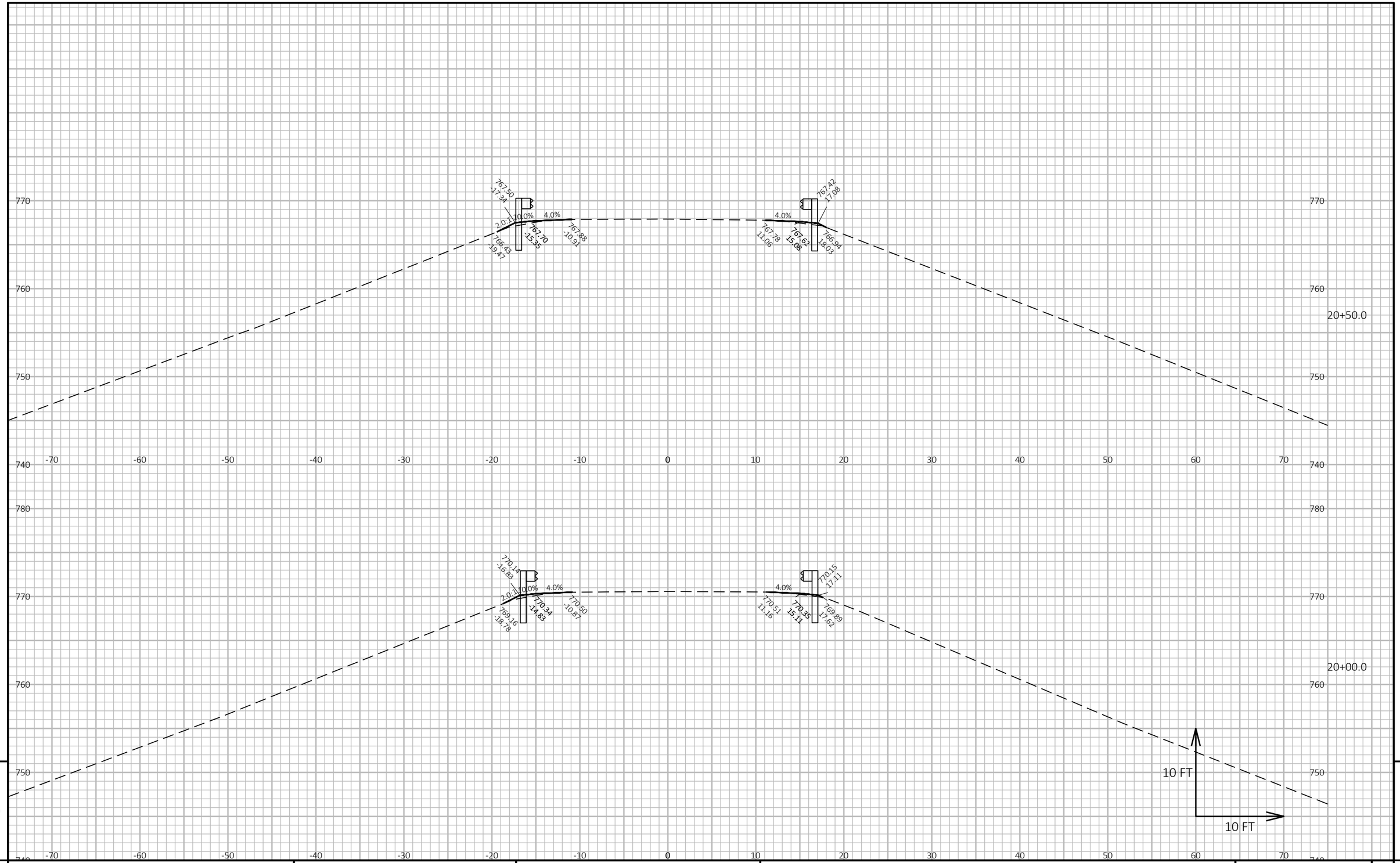
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 320	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 2

PLOT DATE : 6/14/2021 10:19 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

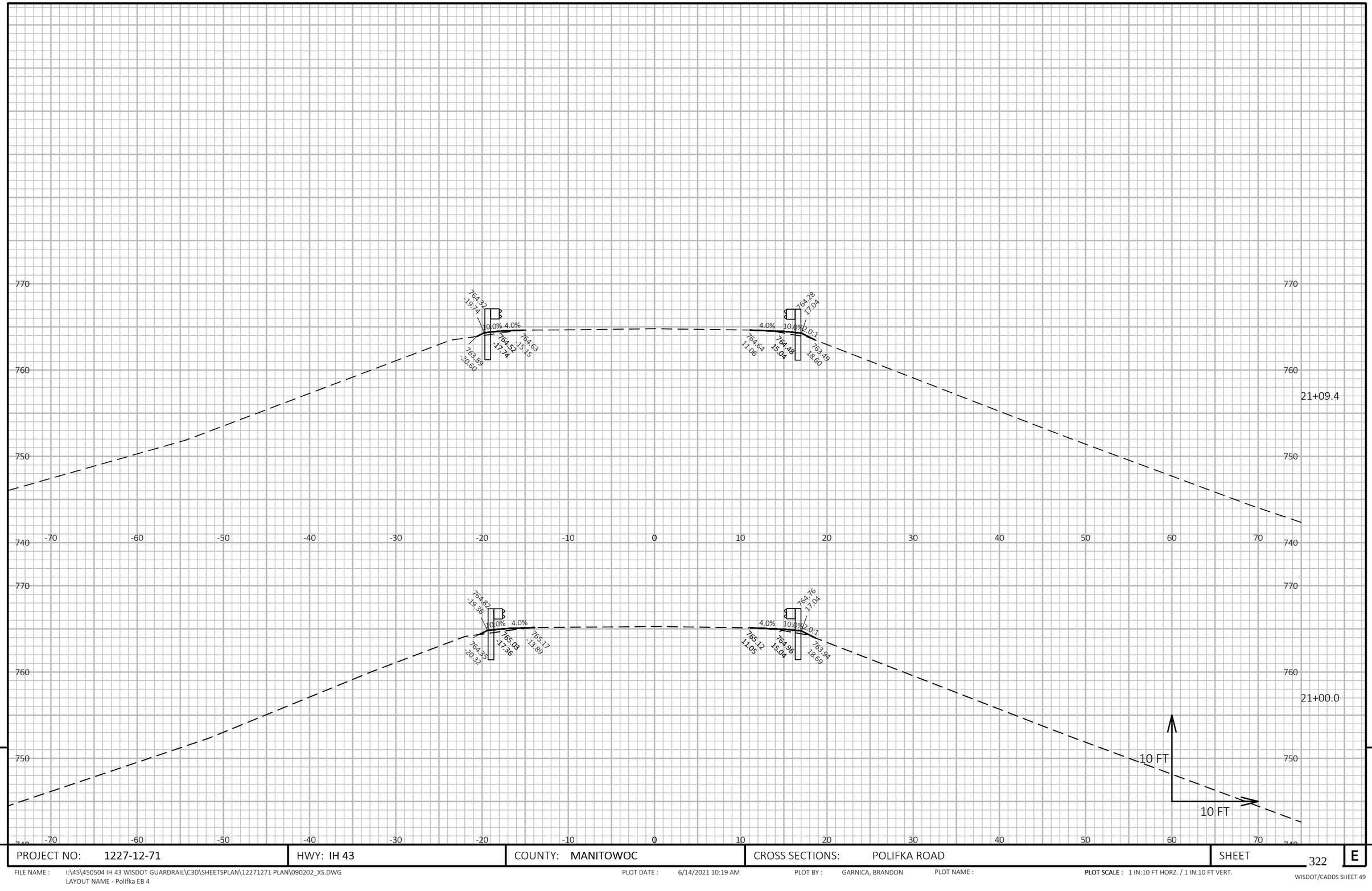
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 321	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 3

PLOT DATE : 6/14/2021 10:19 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

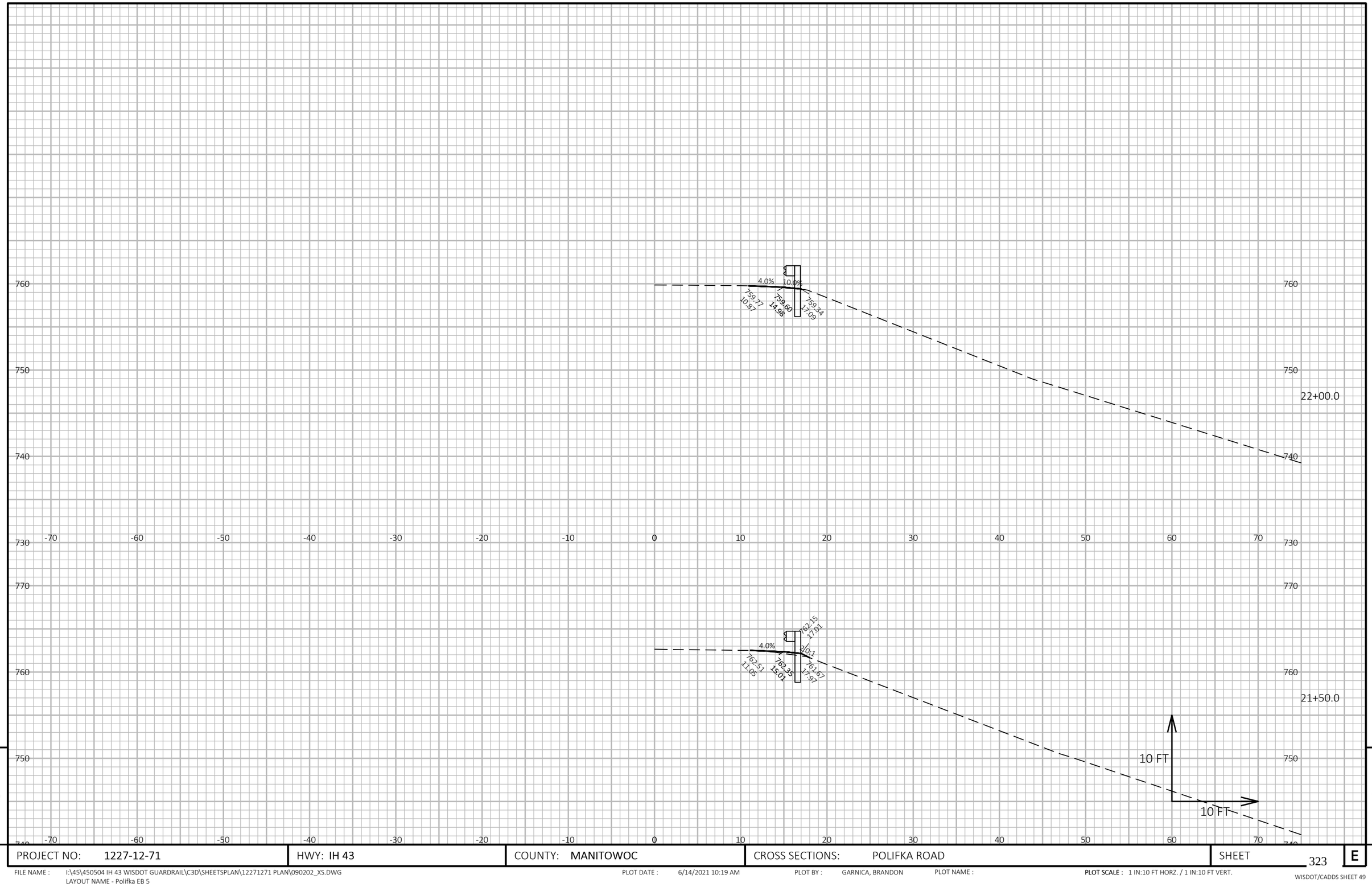
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 322	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 4

PLOT DATE : 6/14/2021 10:19 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

9

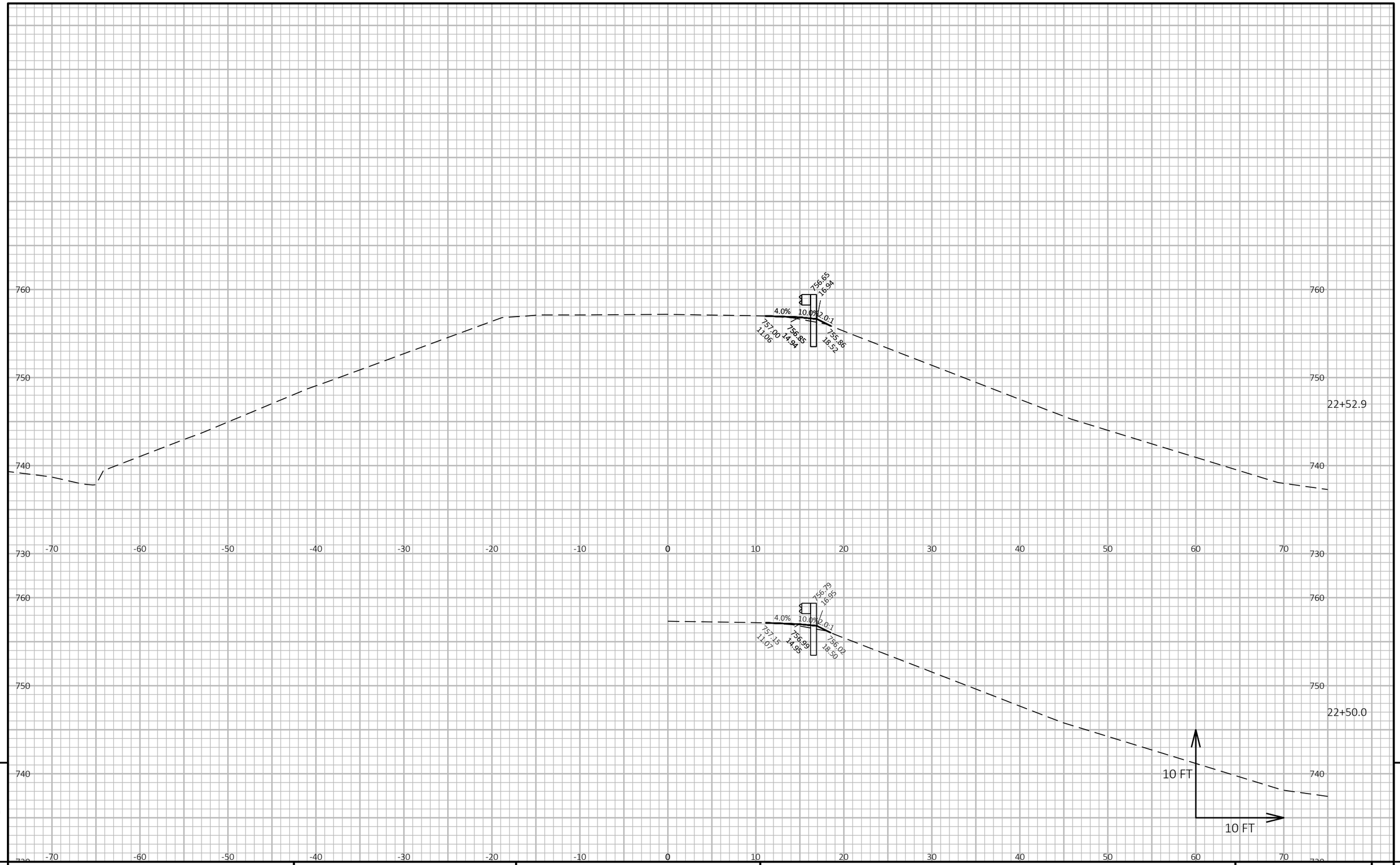
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 323	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 5

PLOT DATE : 6/14/2021 10:19 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

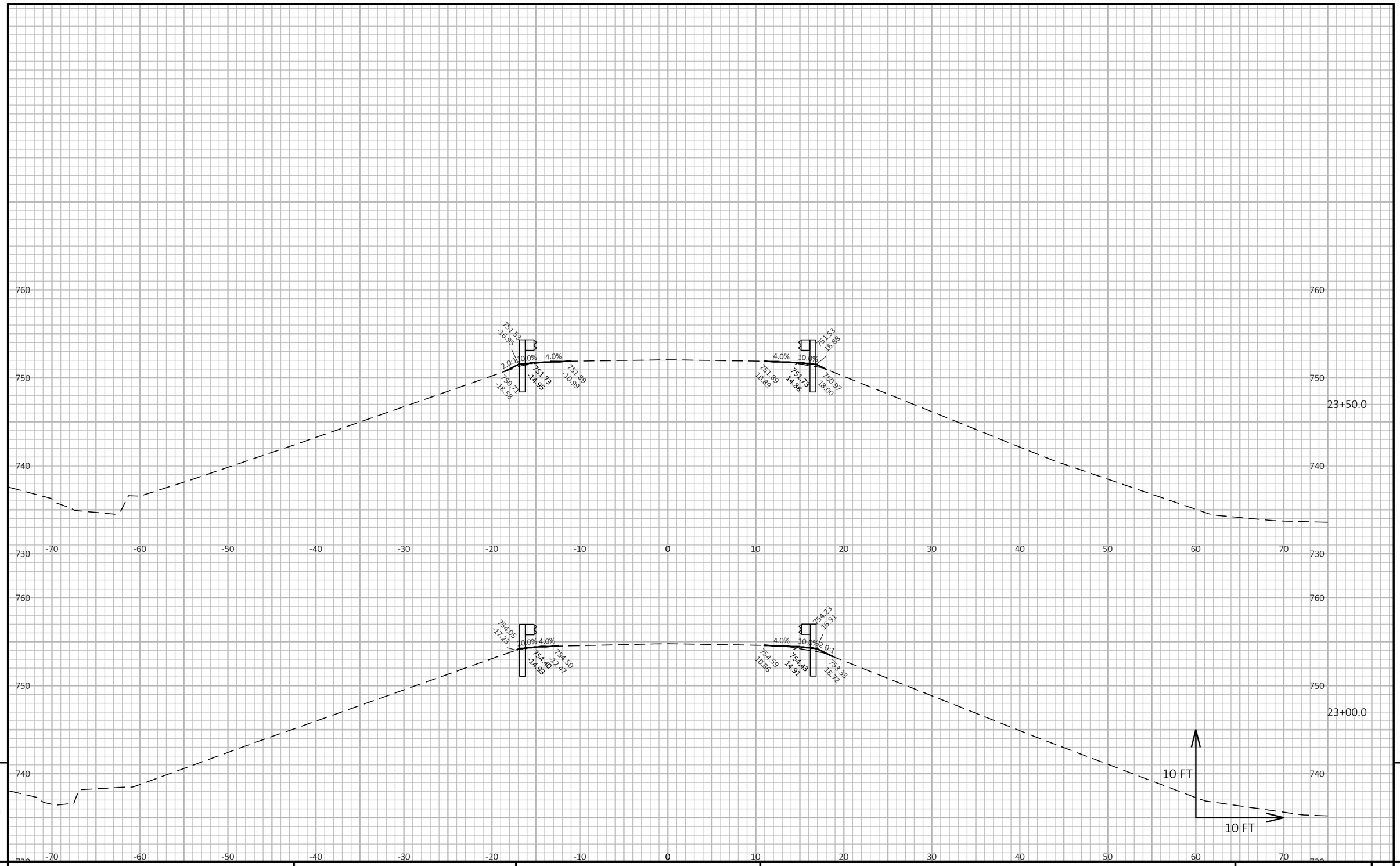
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 324	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 6

PLOT DATE : 6/14/2021 10:20 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

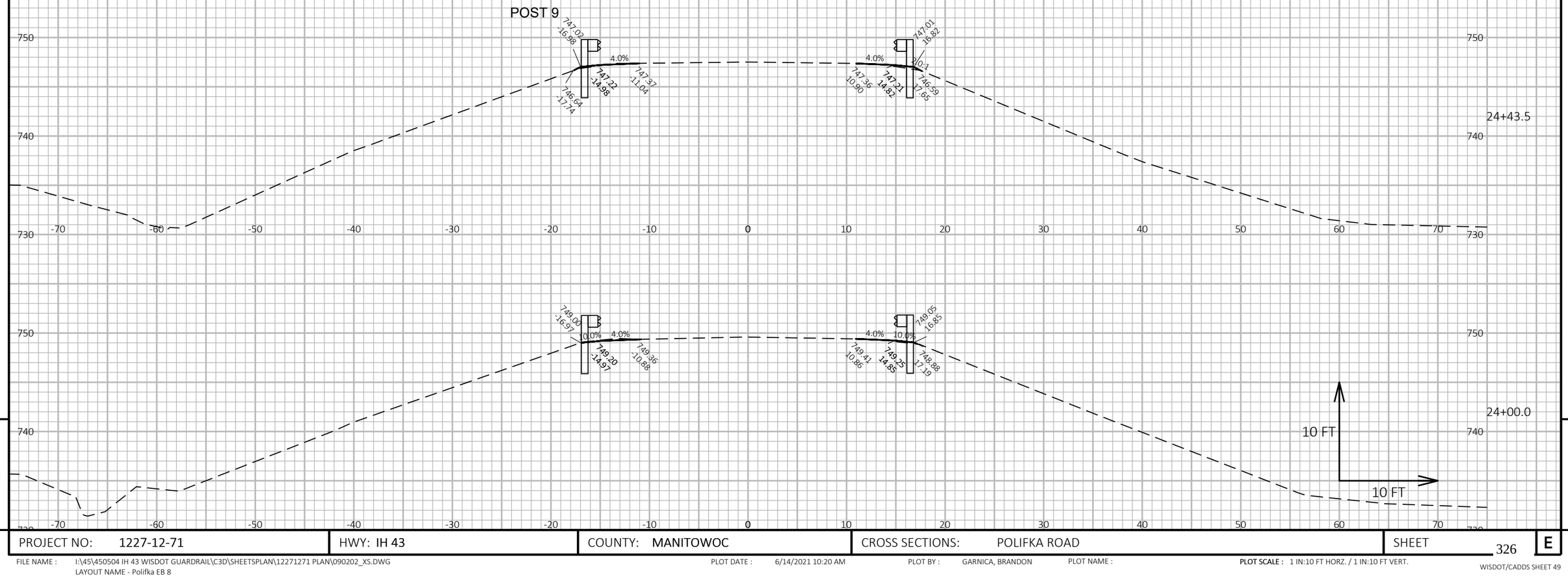
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 325	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 7

PLOT DATE : 6/14/2021 10:20 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 326	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 8

PLOT DATE : 6/14/2021 10:20 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

POST 1

24+93.5

POST 5

24+68.5

24+50.0

10 FT

10 FT

9

9

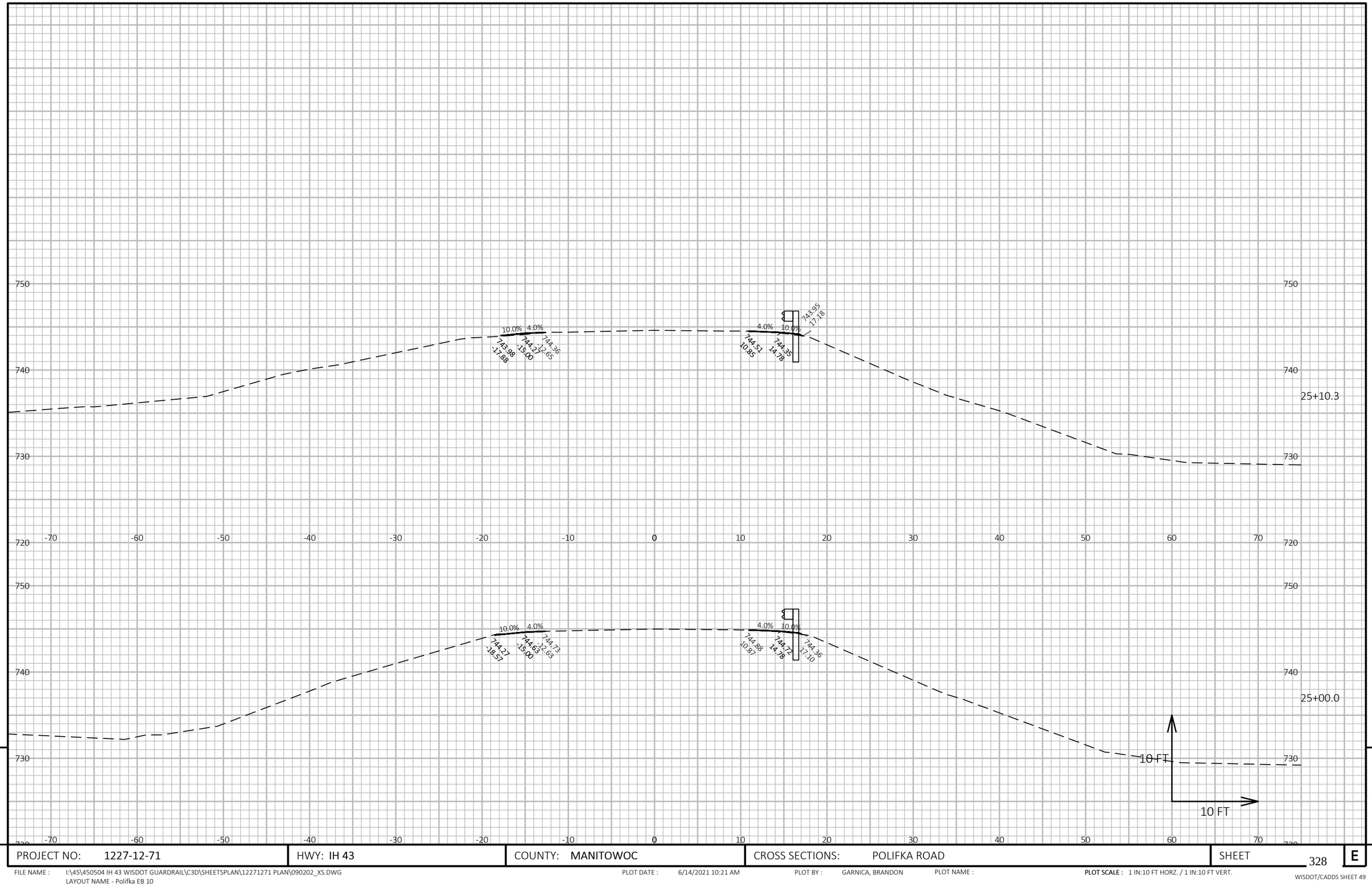
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 327	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 9

PLOT DATE : 6/14/2021 10:20 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



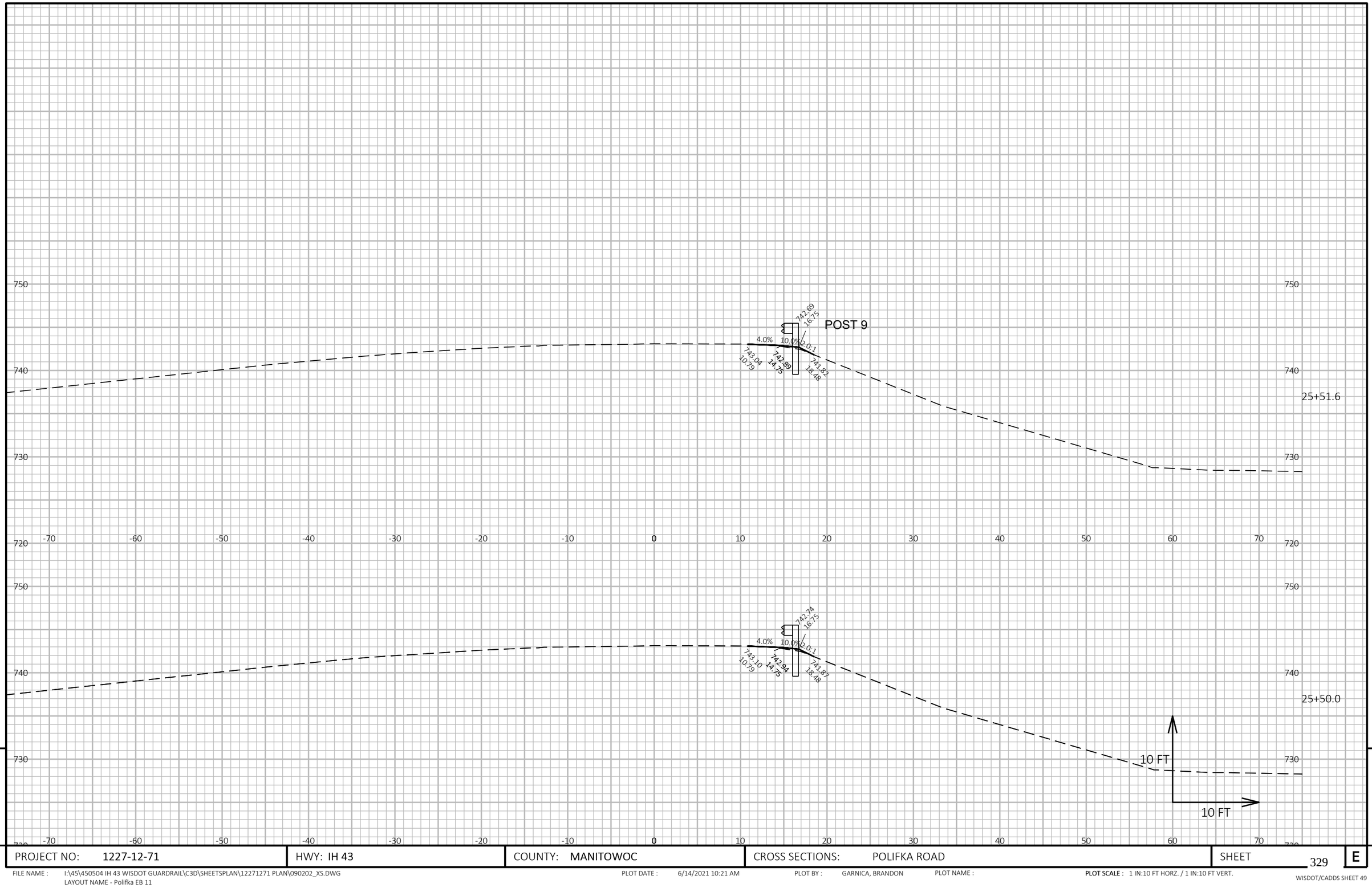
9

9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 328	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 10

PLOT DATE : 6/14/2021 10:21 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

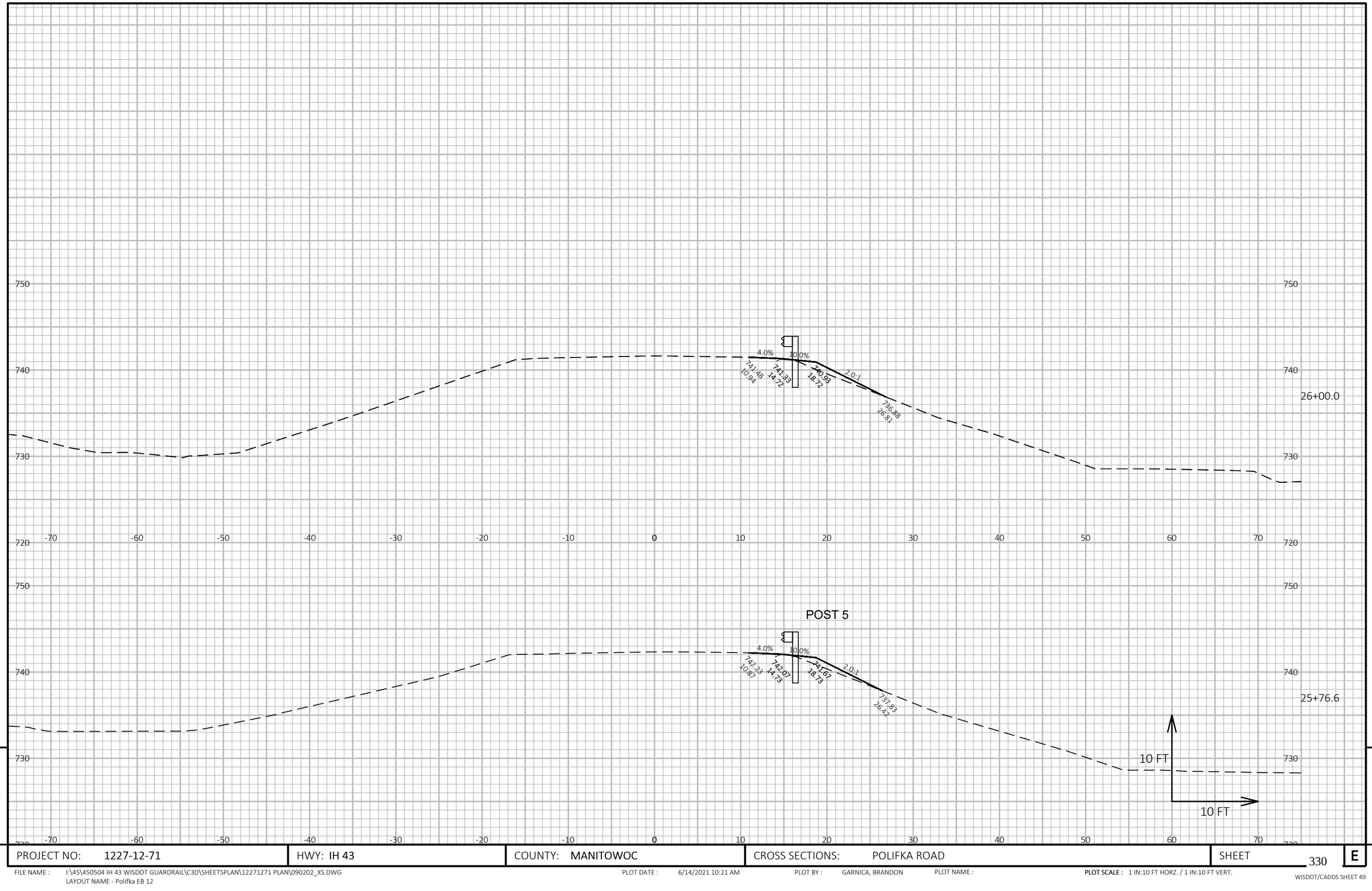
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 329	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 11

PLOT DATE : 6/14/2021 10:21 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



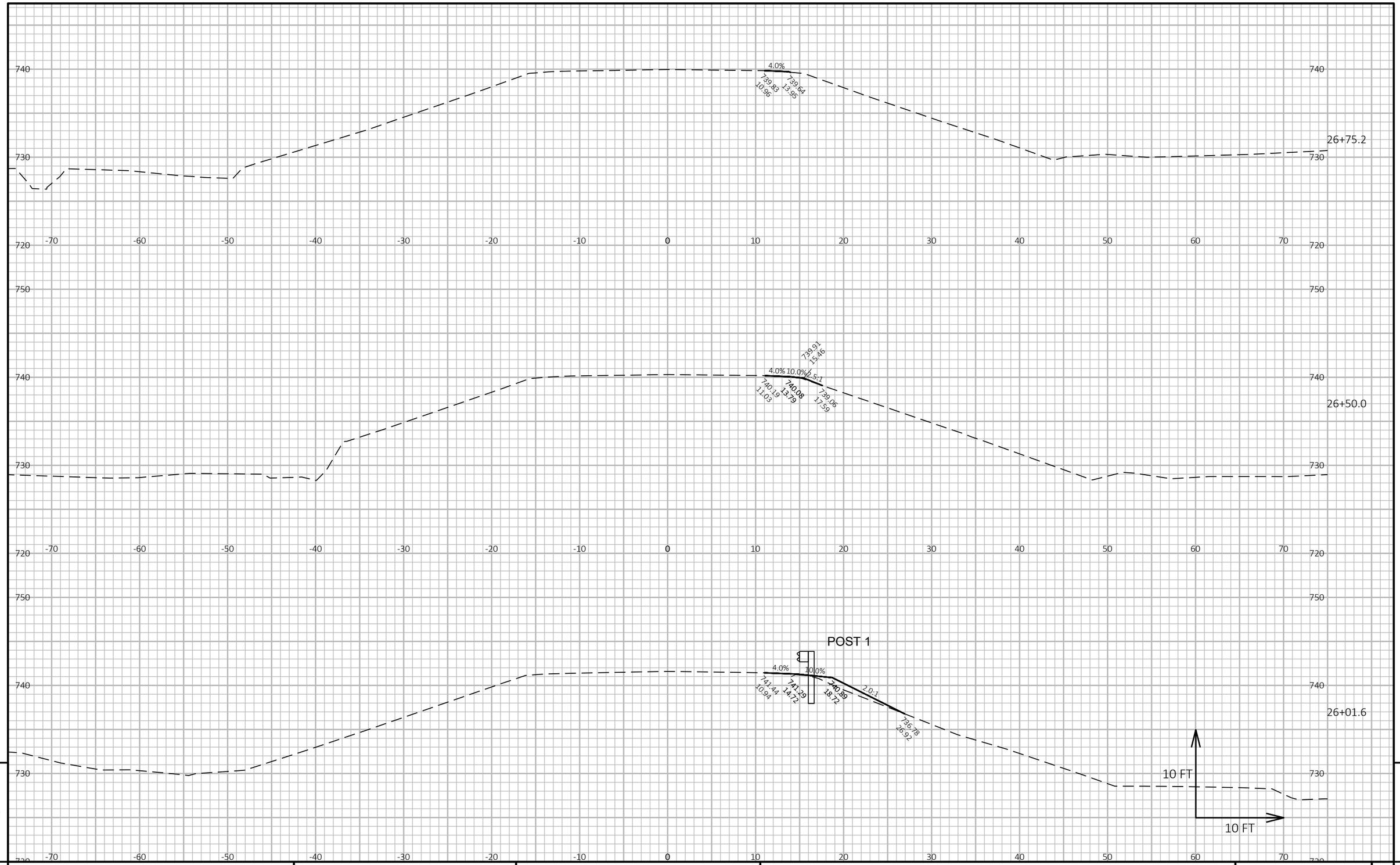
9 9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 330	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 12

PLOT DATE : 6/14/2021 10:21 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

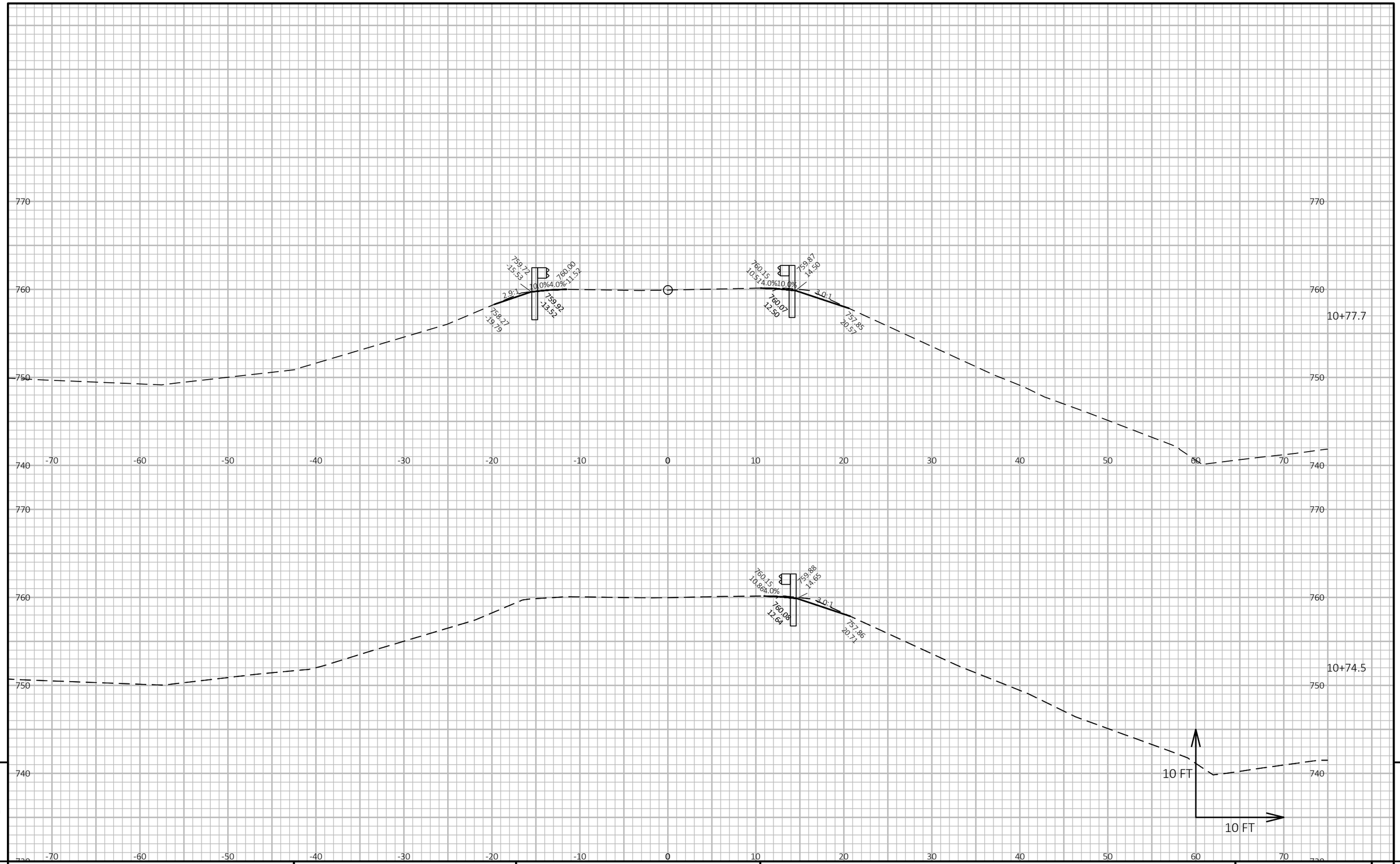
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: POLIFKA ROAD	SHEET 331	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Polifka EB 13

PLOT DATE : 6/14/2021 10:21 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

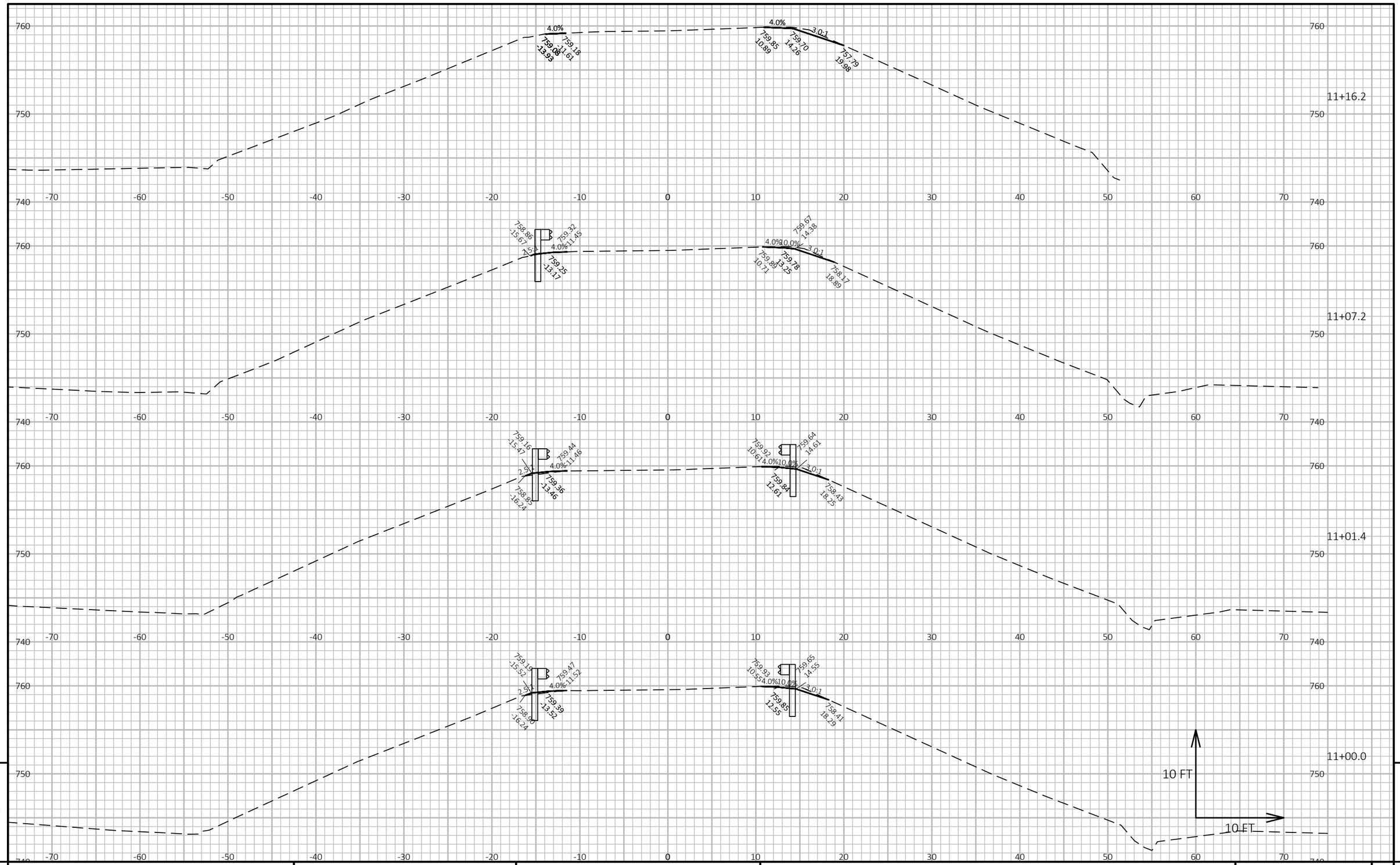
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: HILLSIDE LANE	SHEET 332	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Hillside NB 1

PLOT DATE : 6/14/2021 10:21 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



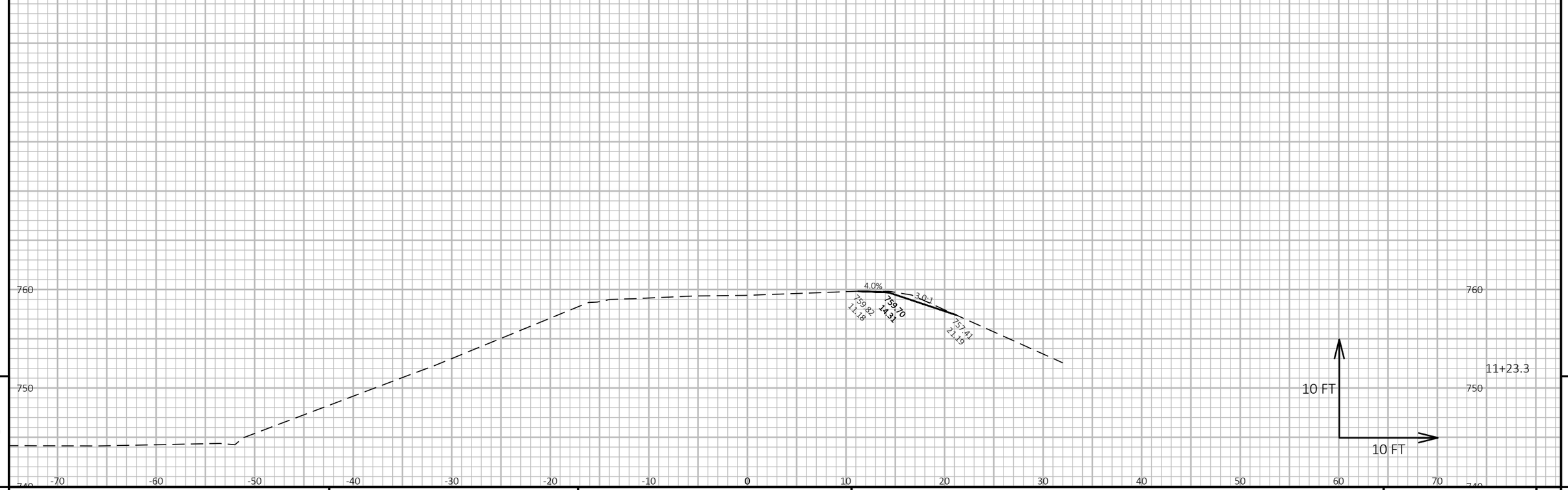
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: HILLSIDE LANE	SHEET 333	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Hillside NB 2

PLOT DATE : 6/14/2021 10:22 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

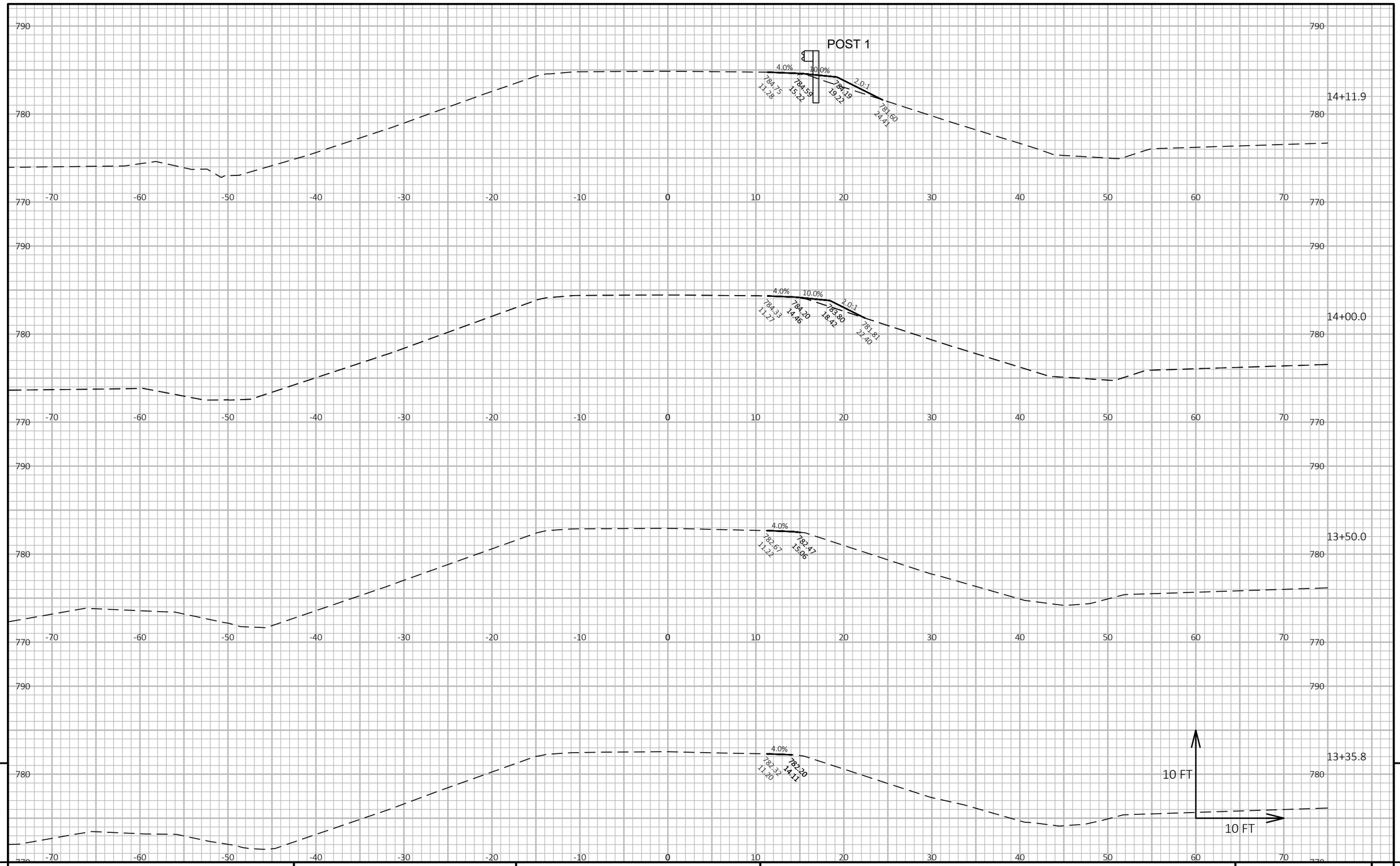
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: HILLSIDE LANE	SHEET 334	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Hillside NB 3

PLOT DATE : 6/14/2021 10:22 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 335	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville WB 1

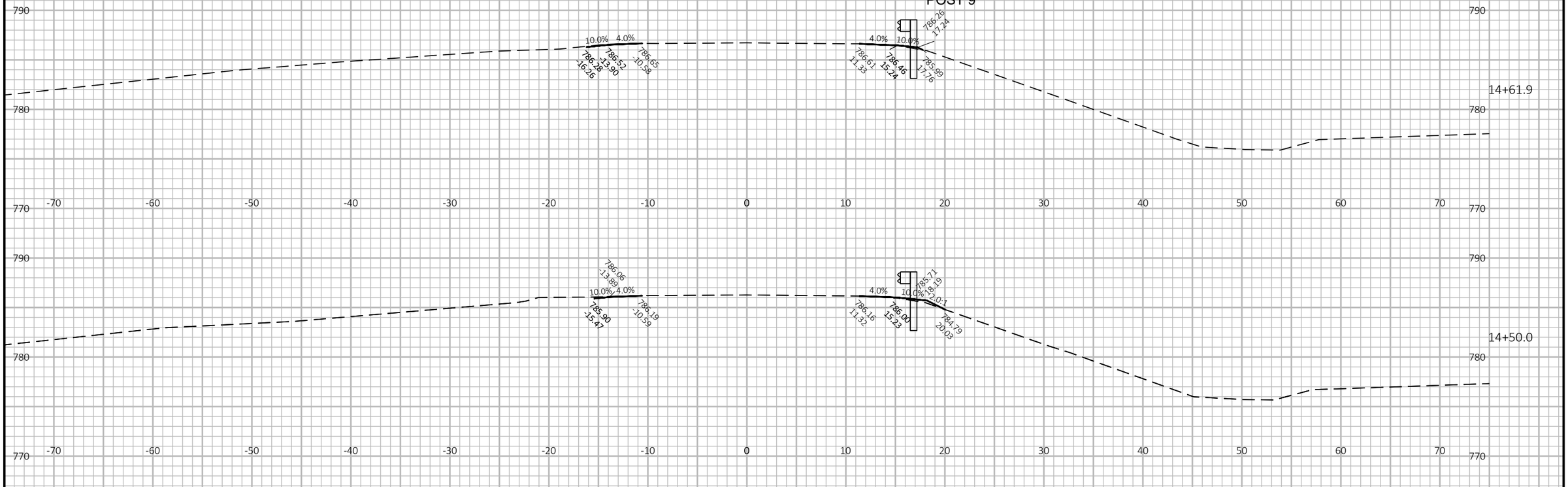
PLOT DATE : 6/14/2021 10:22 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

POST 9

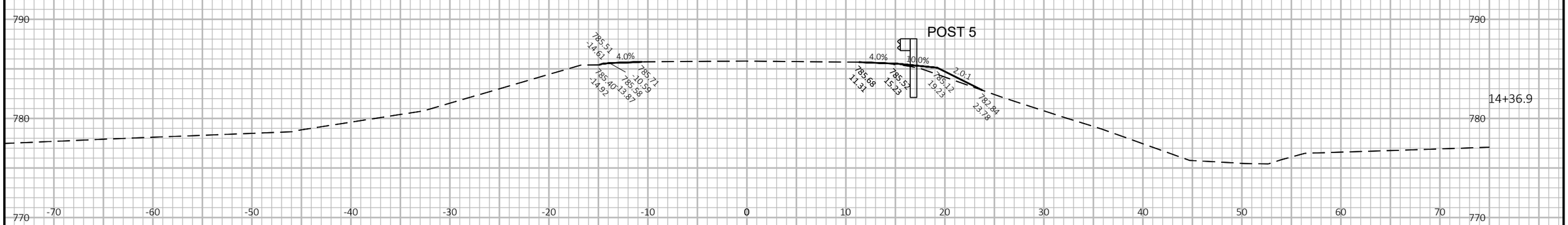
14+61.9



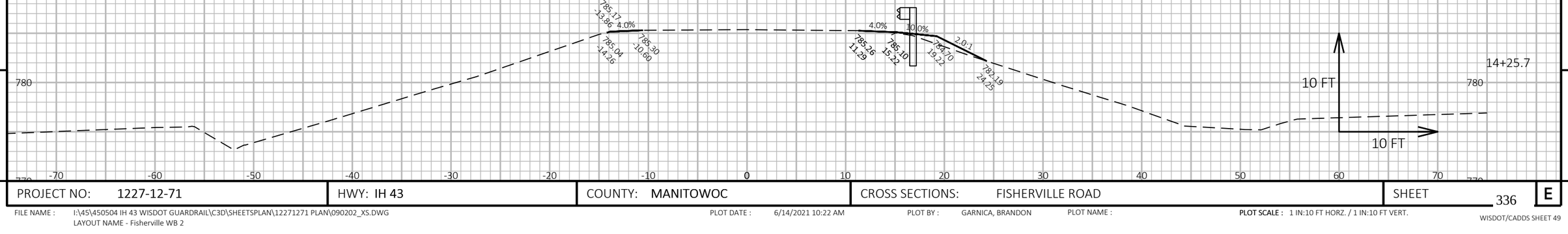
14+50.0

POST 5

14+36.9



14+25.7



9

9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 336	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville WB 2

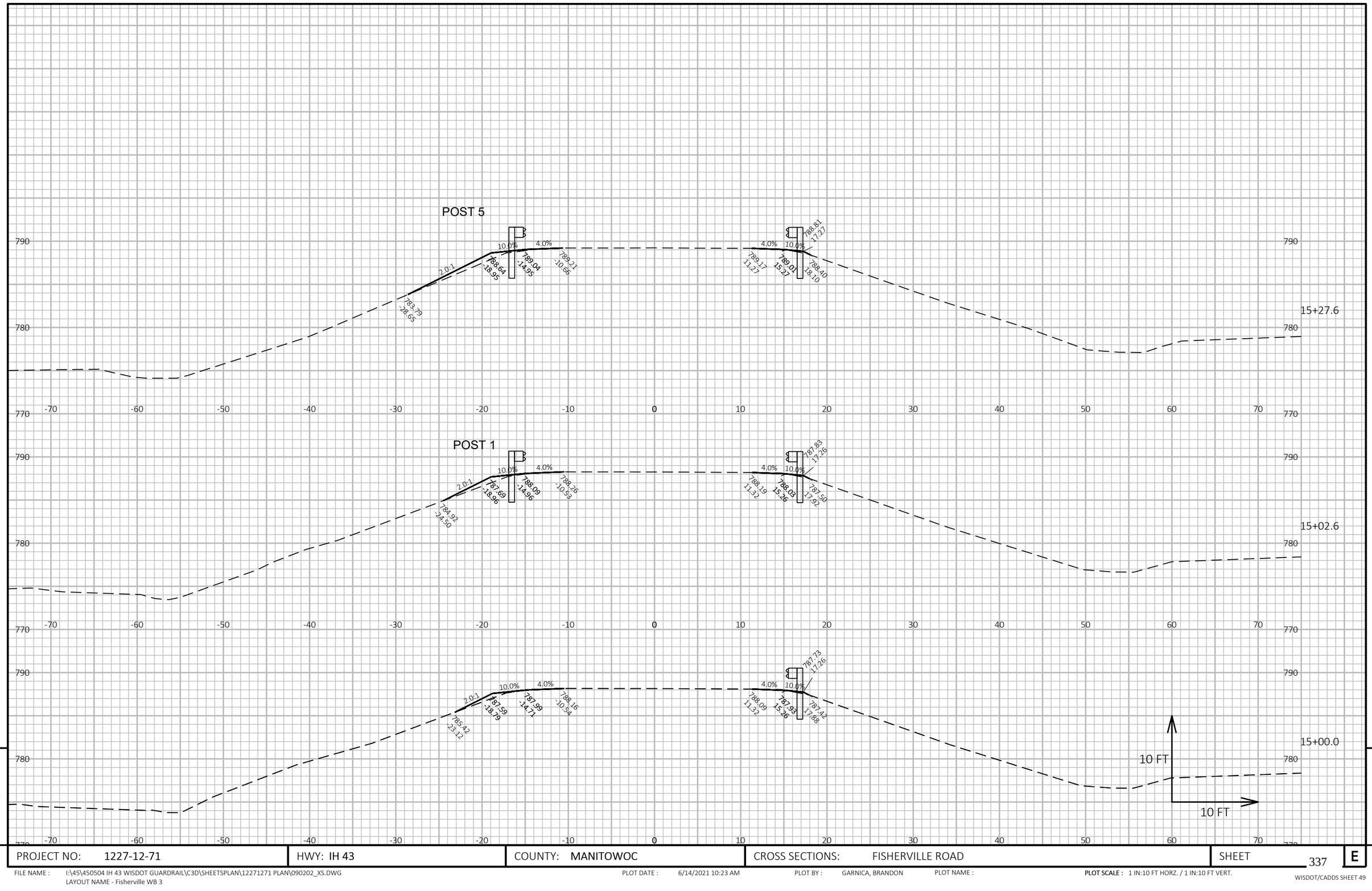
PLOT DATE : 6/14/2021 10:22 AM

PLOT BY : GARNICA, BRANDON

PLOT NAME :

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

WISDOT/CADDS SHEET 49



PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 337	E

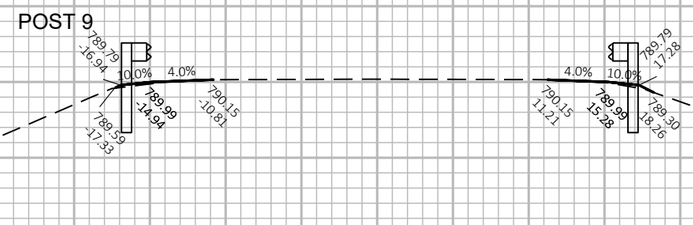
FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville WB 3

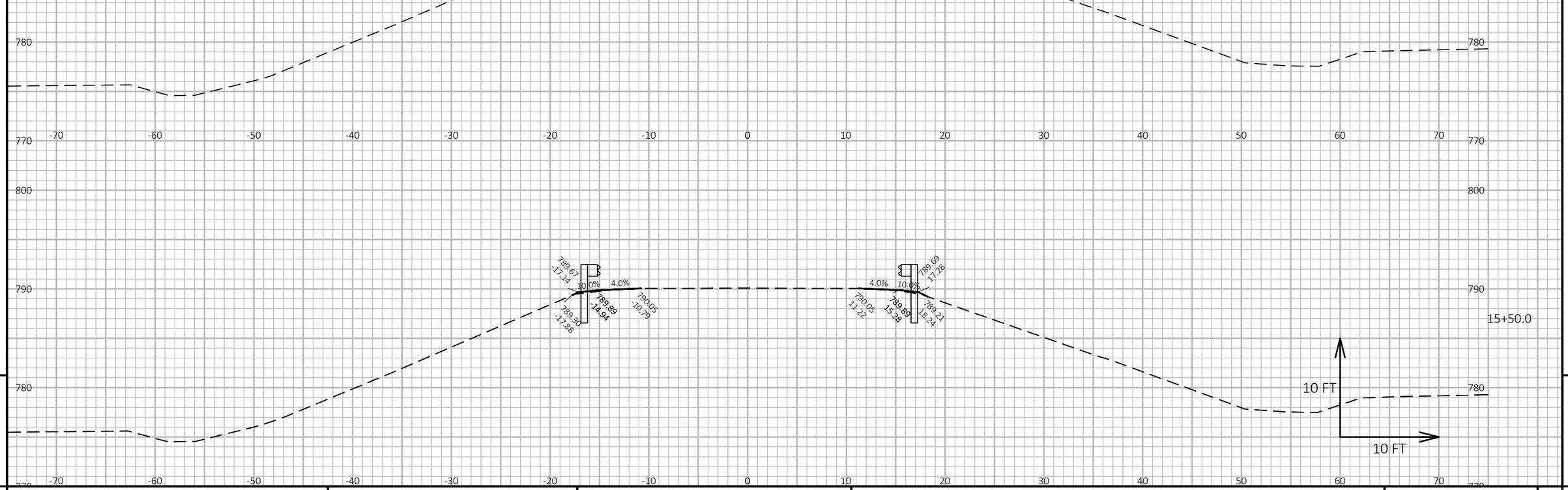
PLOT DATE : 6/14/2021 10:23 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

POST 9





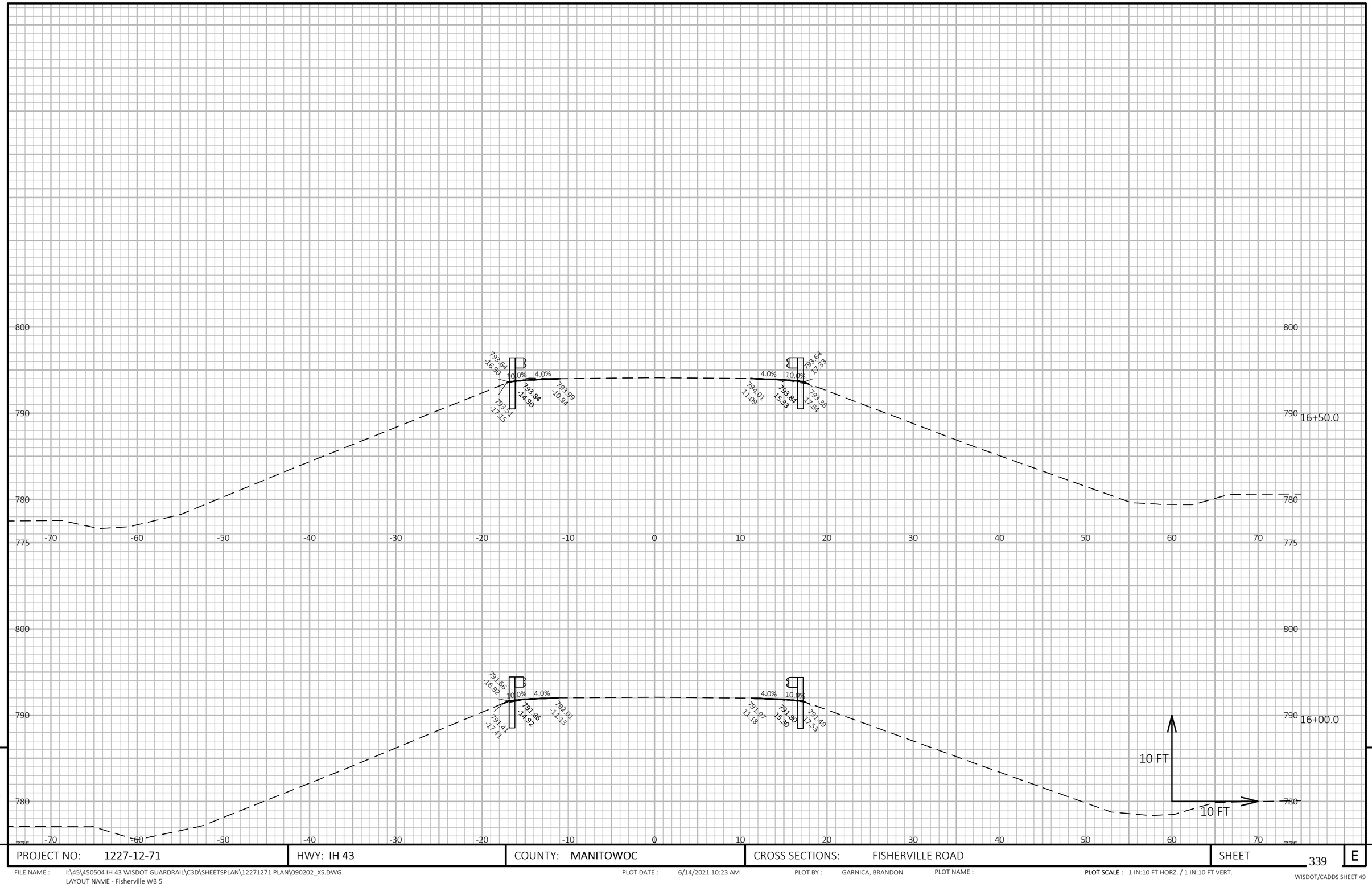
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 338	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville WB 4

PLOT DATE : 6/14/2021 10:23 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

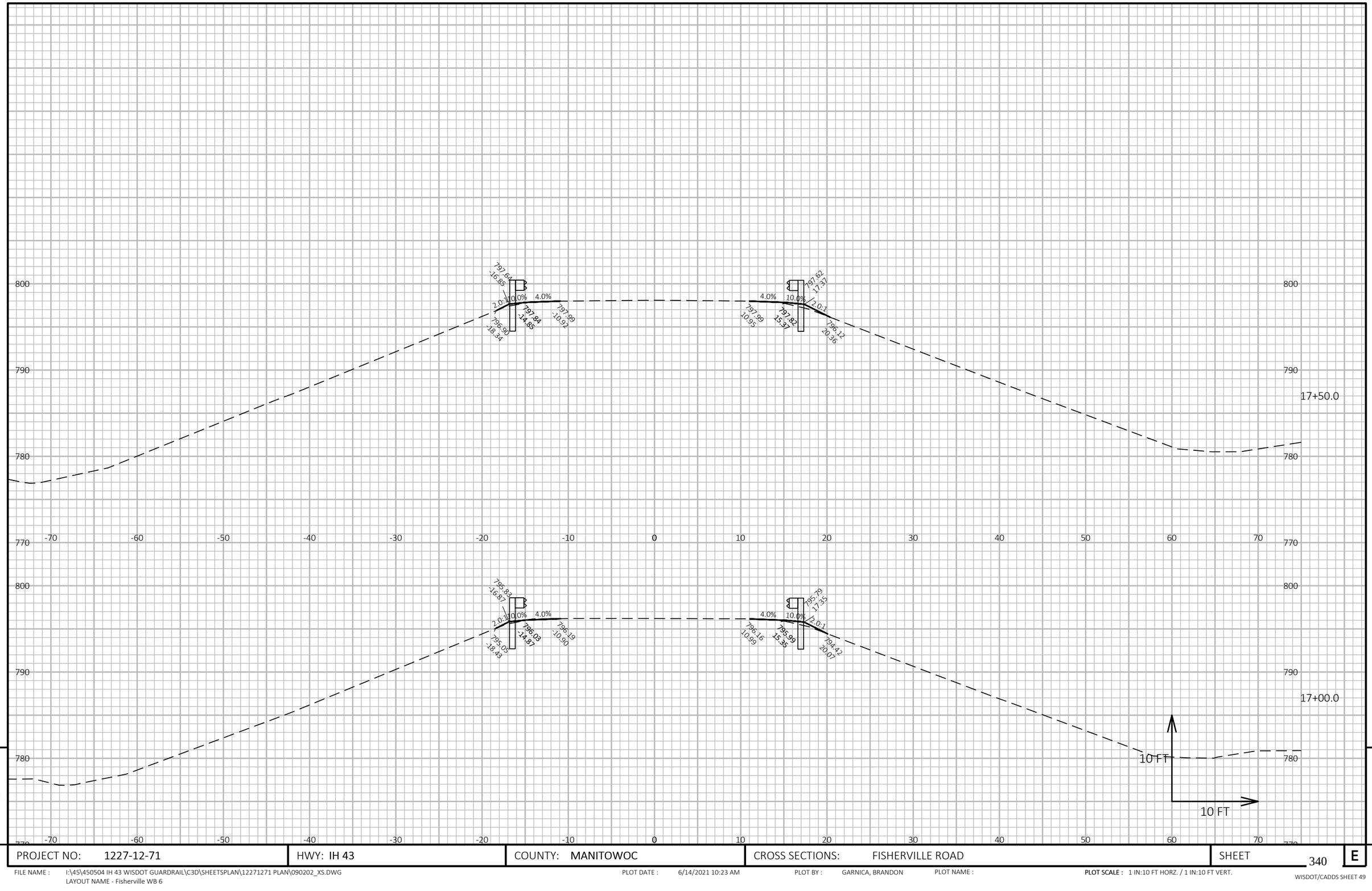
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 339	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville WB 5

PLOT DATE : 6/14/2021 10:23 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

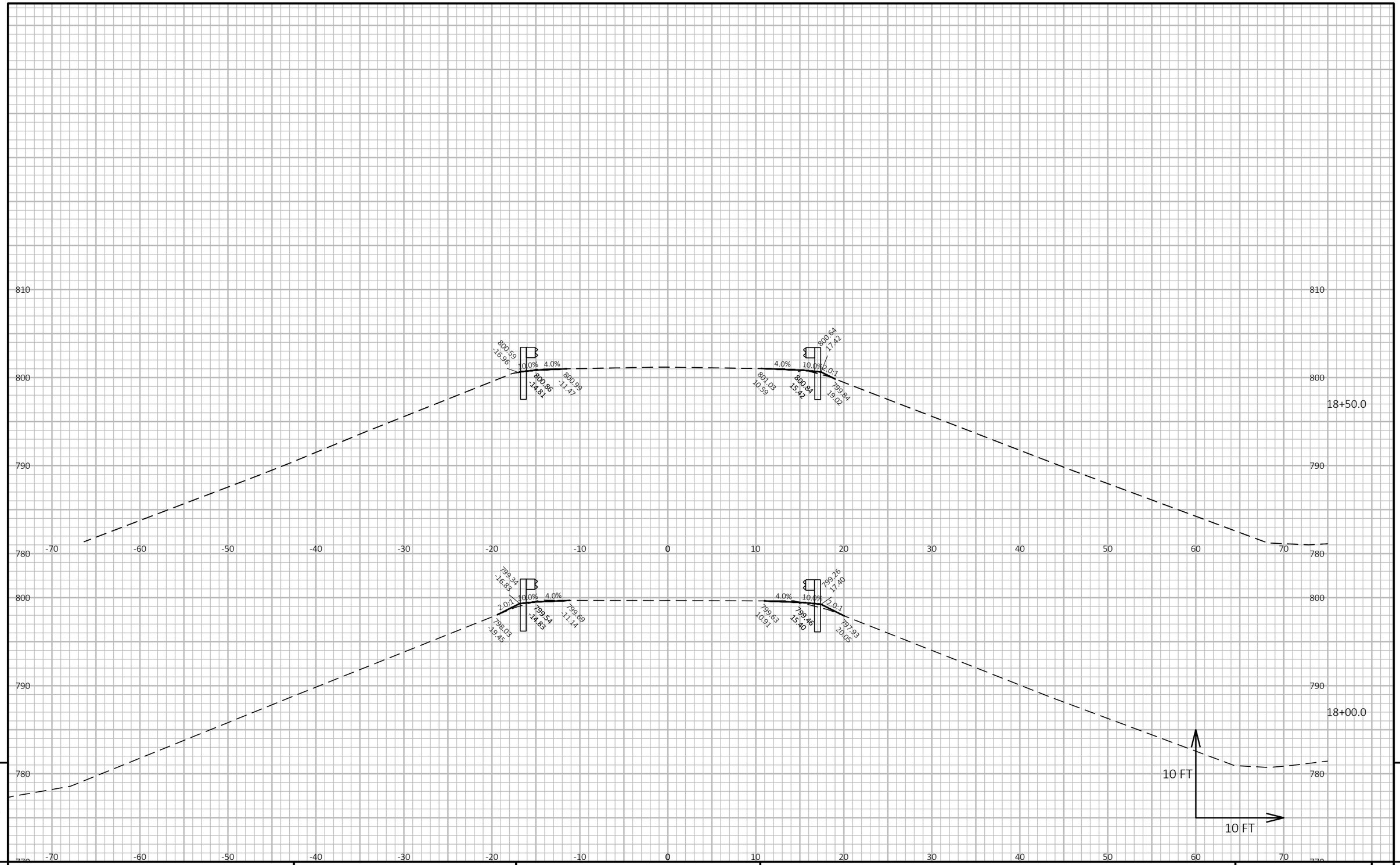


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 340	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville WB 6

PLOT DATE : 6/14/2021 10:23 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

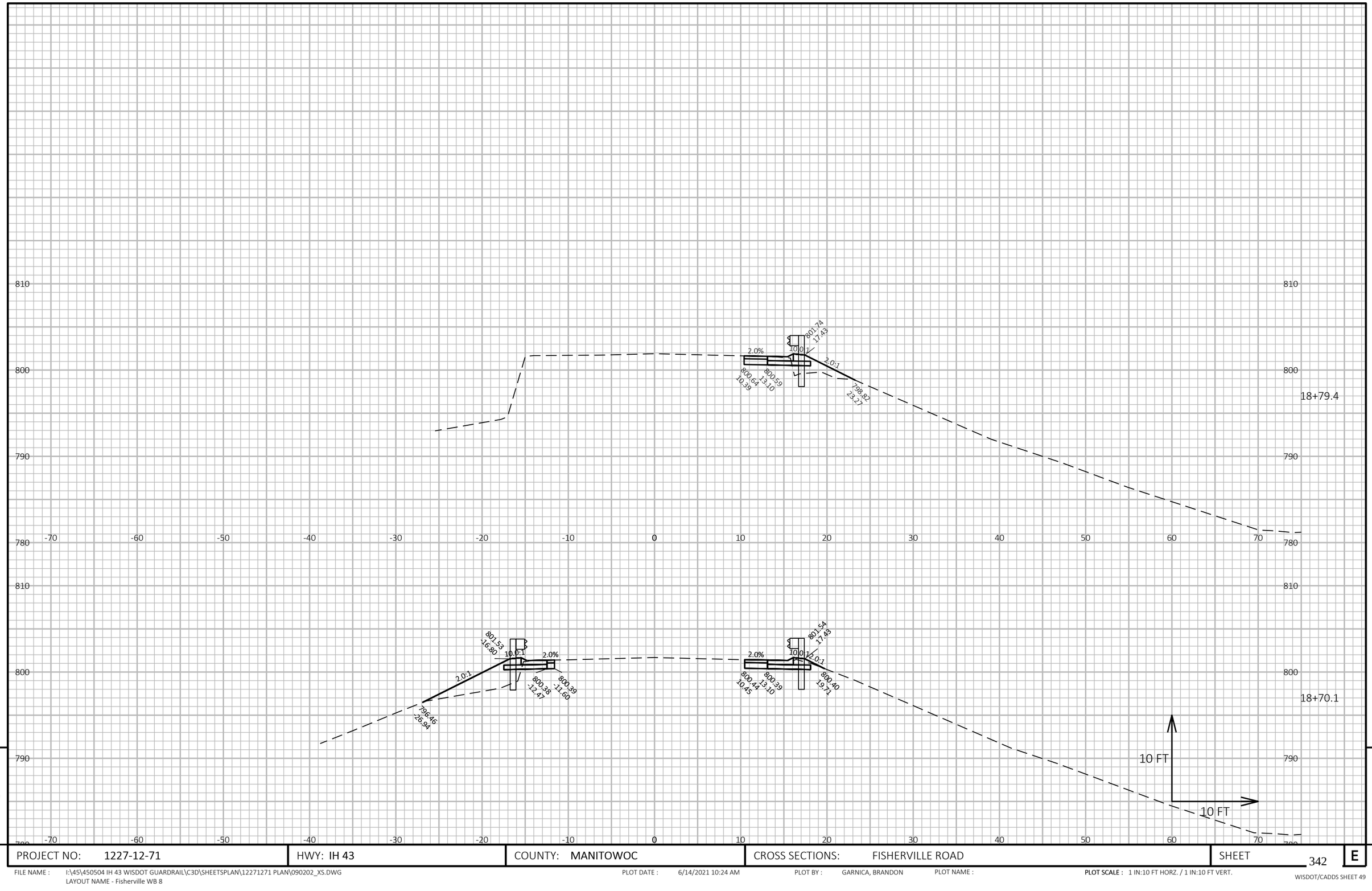
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 341	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville WB 7

PLOT DATE : 6/14/2021 10:23 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

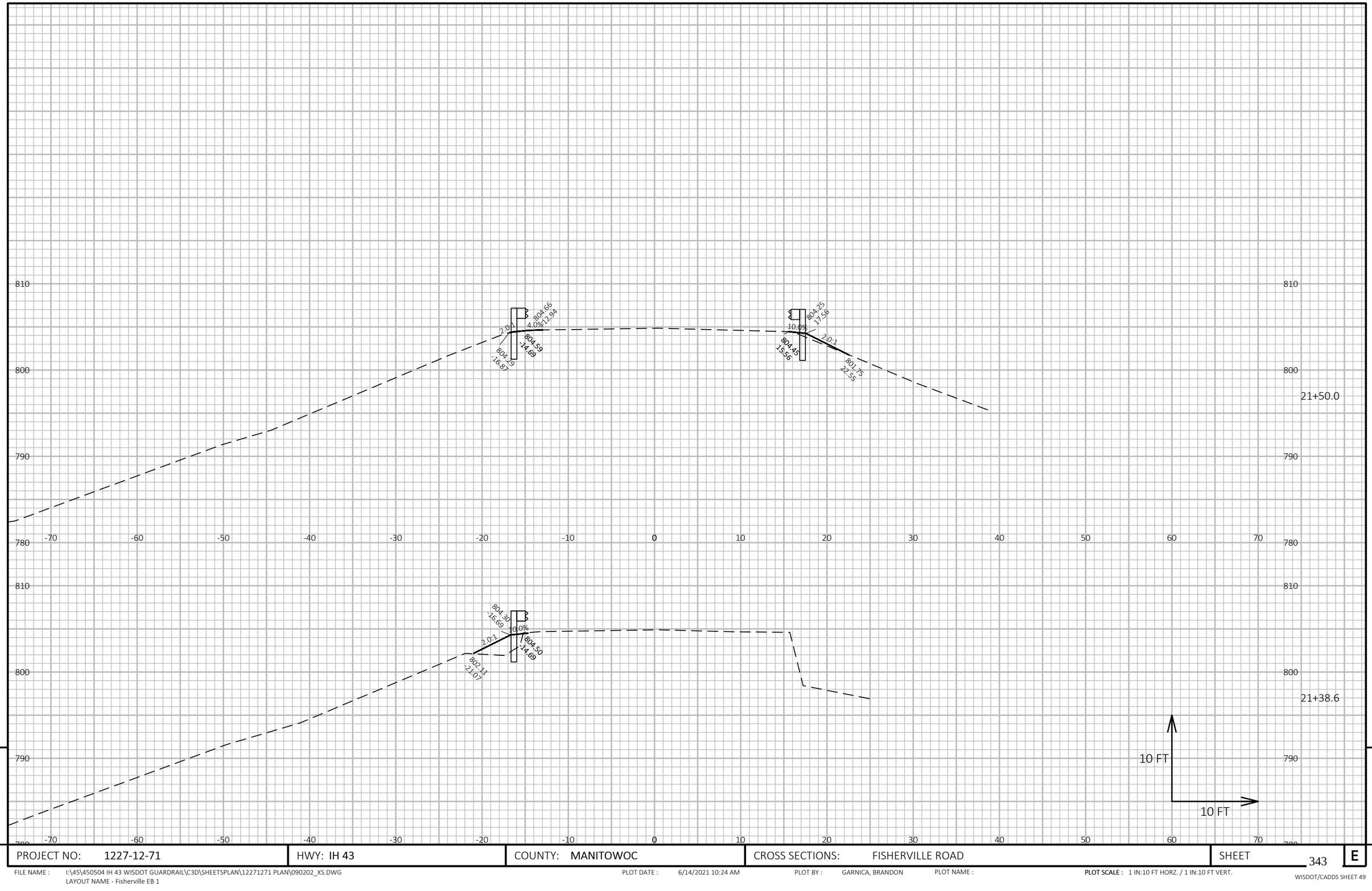
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 342	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville WB 8

PLOT DATE : 6/14/2021 10:24 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

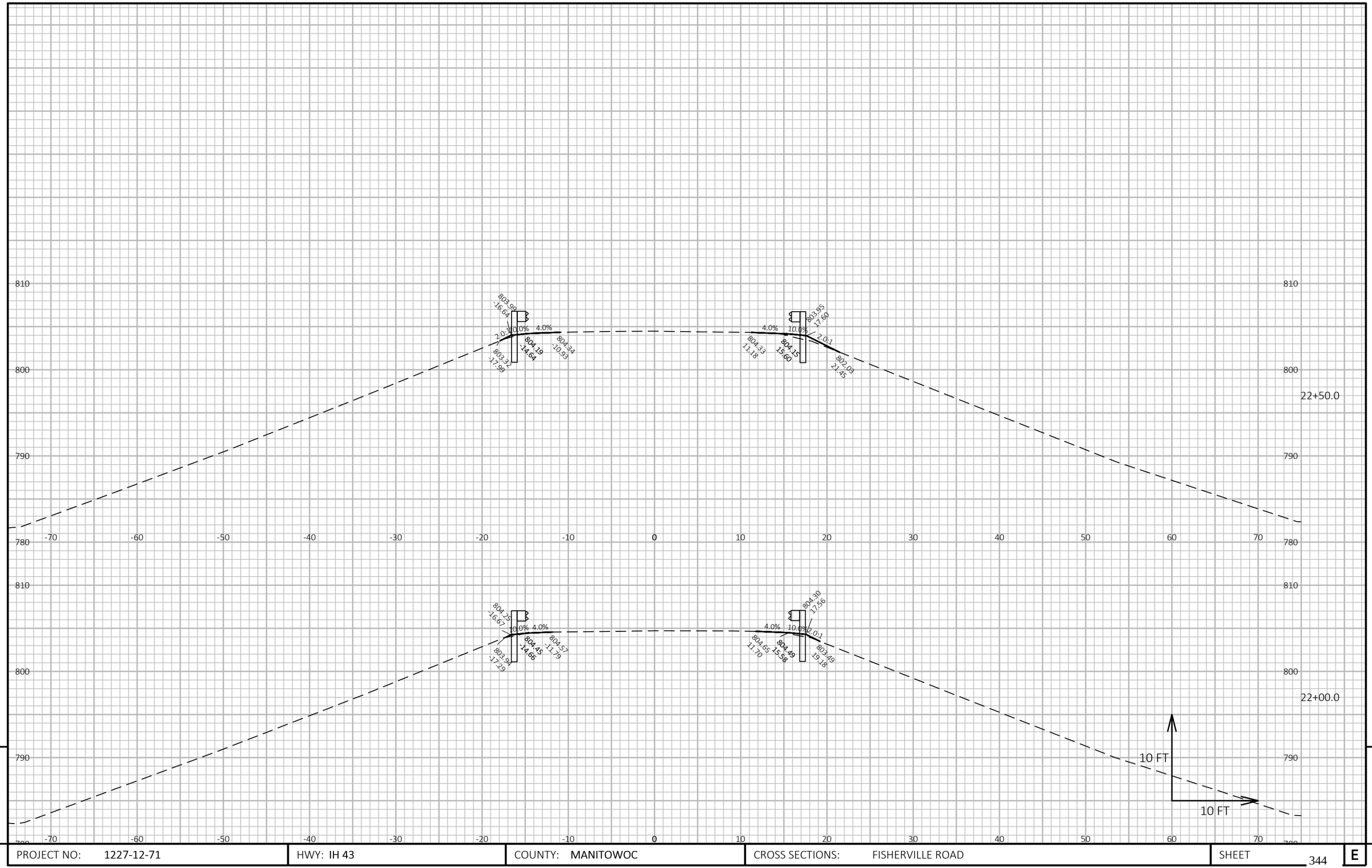
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 343	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville EB 1

PLOT DATE : 6/14/2021 10:24 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

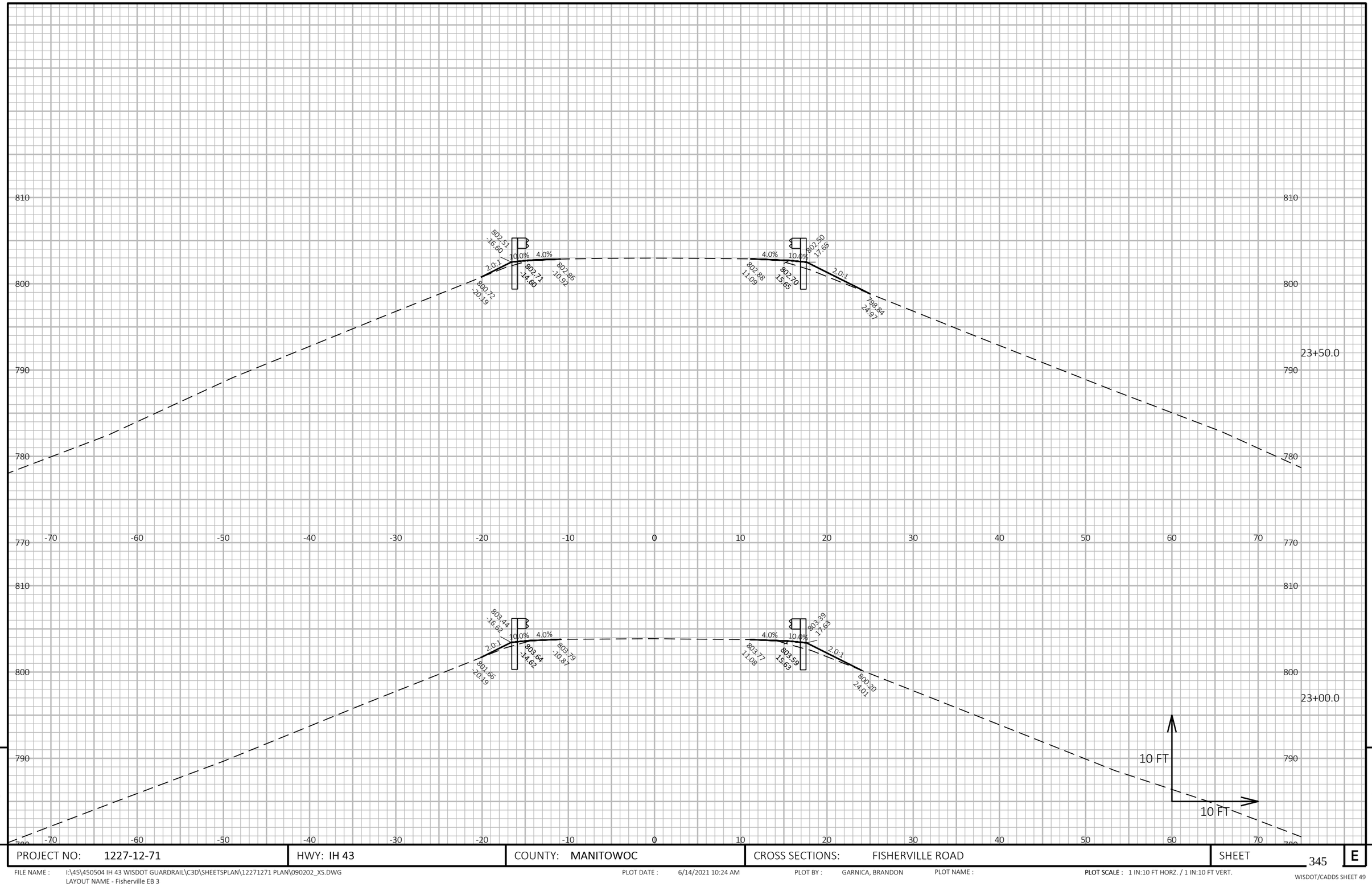
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 344	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville EB 2

PLOT DATE : 6/14/2021 10:24 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

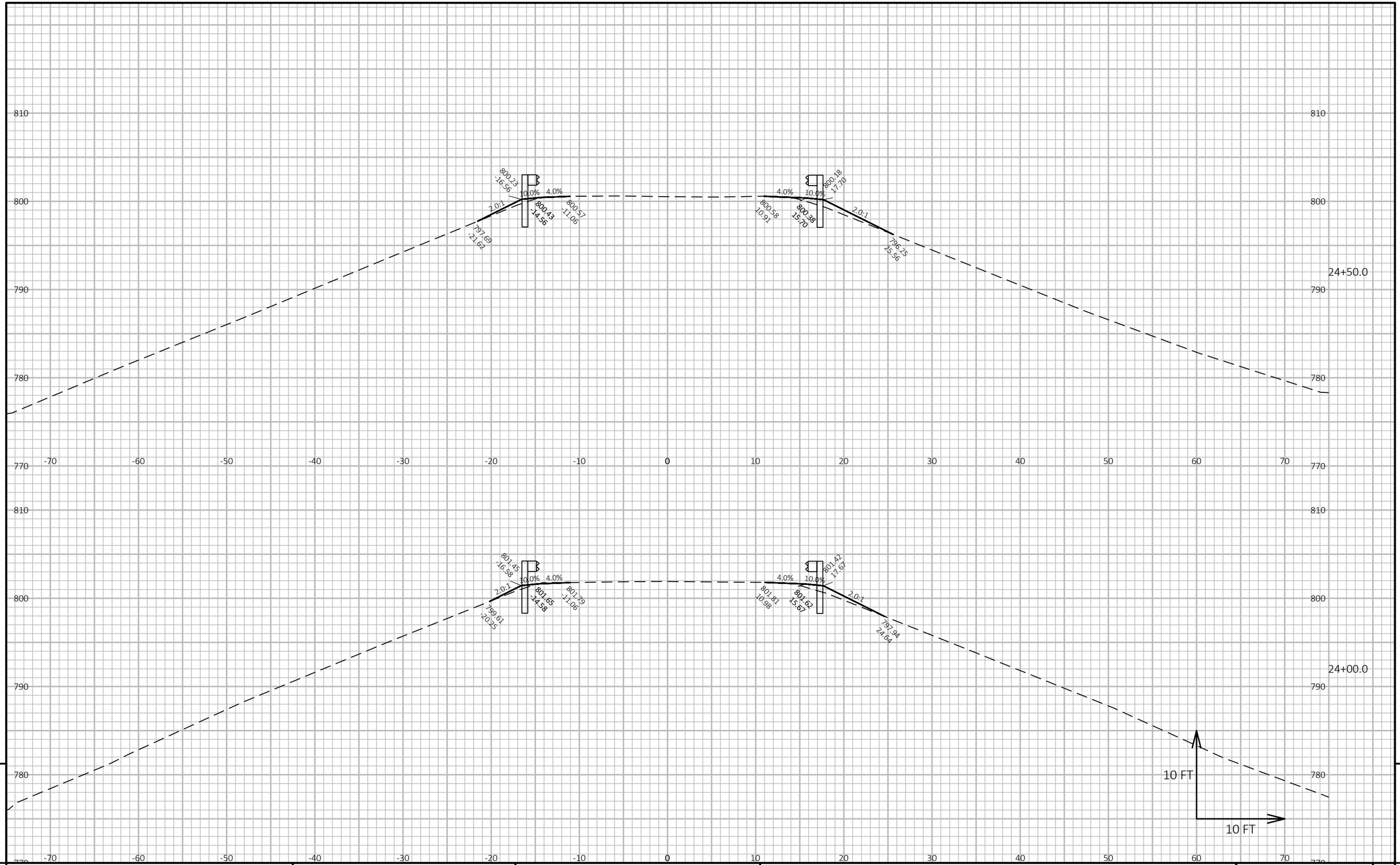
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 345	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville EB 3

PLOT DATE : 6/14/2021 10:24 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

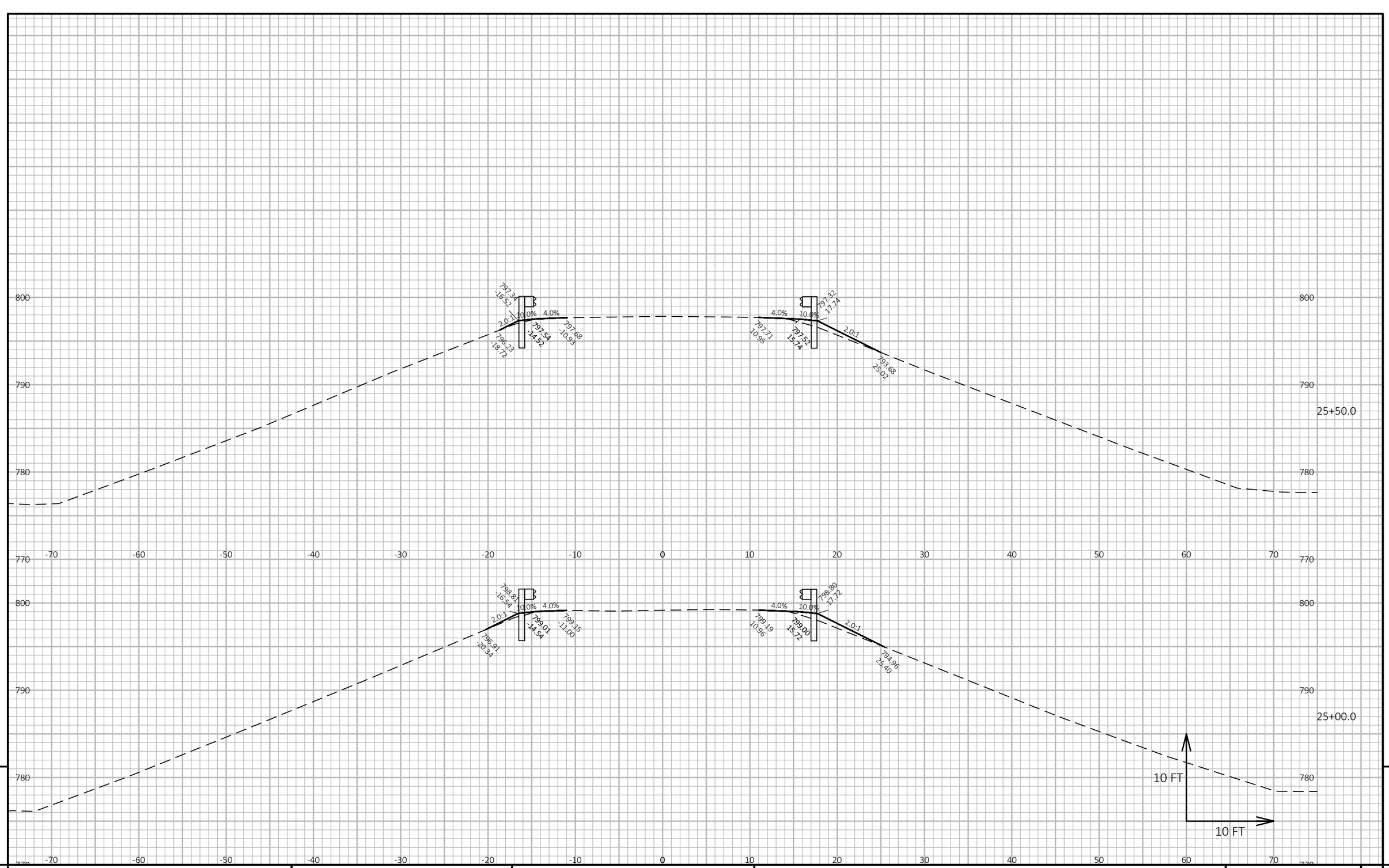
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 346	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville EB 4

PLOT DATE : 6/14/2021 10:25 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

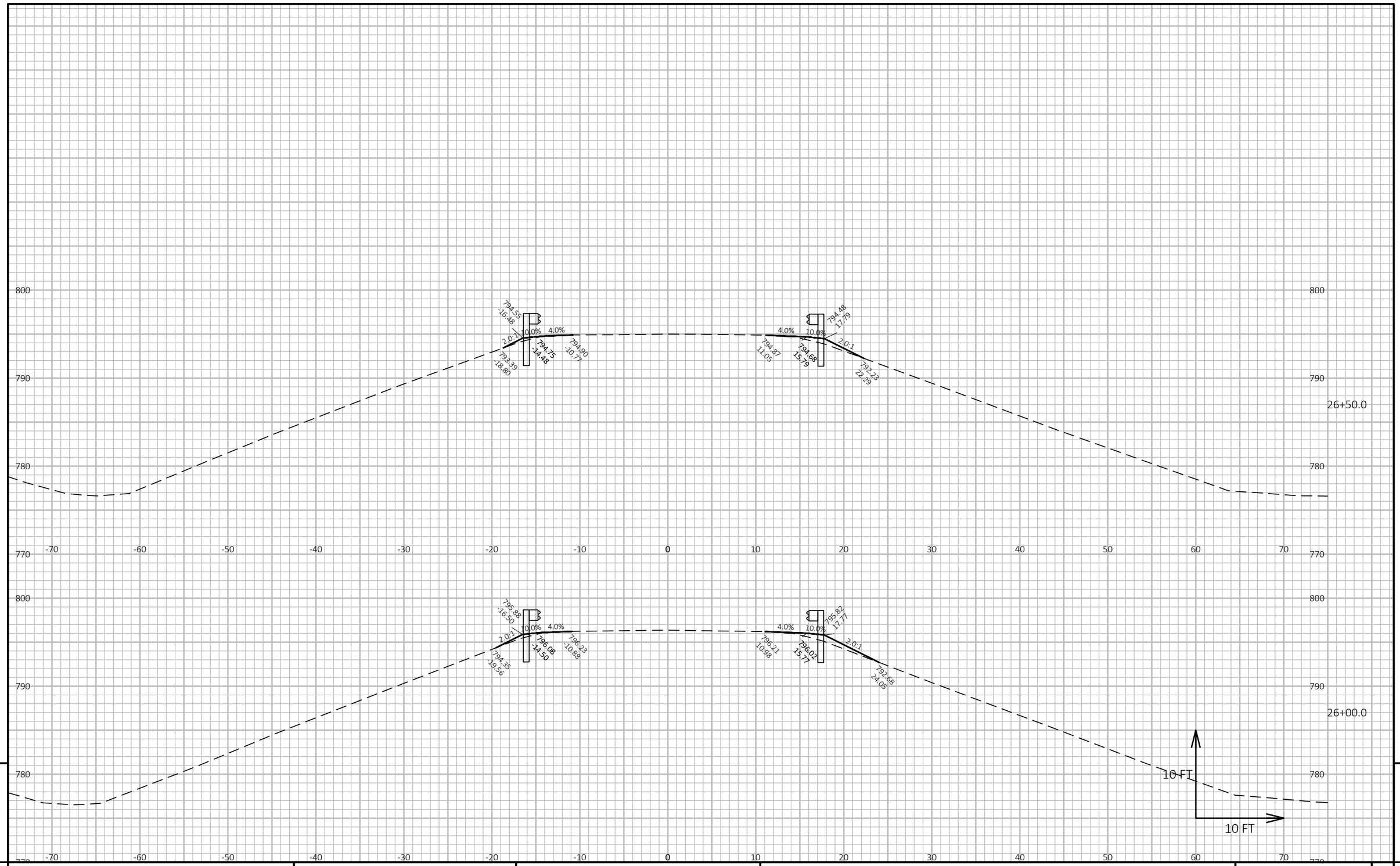


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 347	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville EB 5

PLOT DATE : 6/14/2021 10:25 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

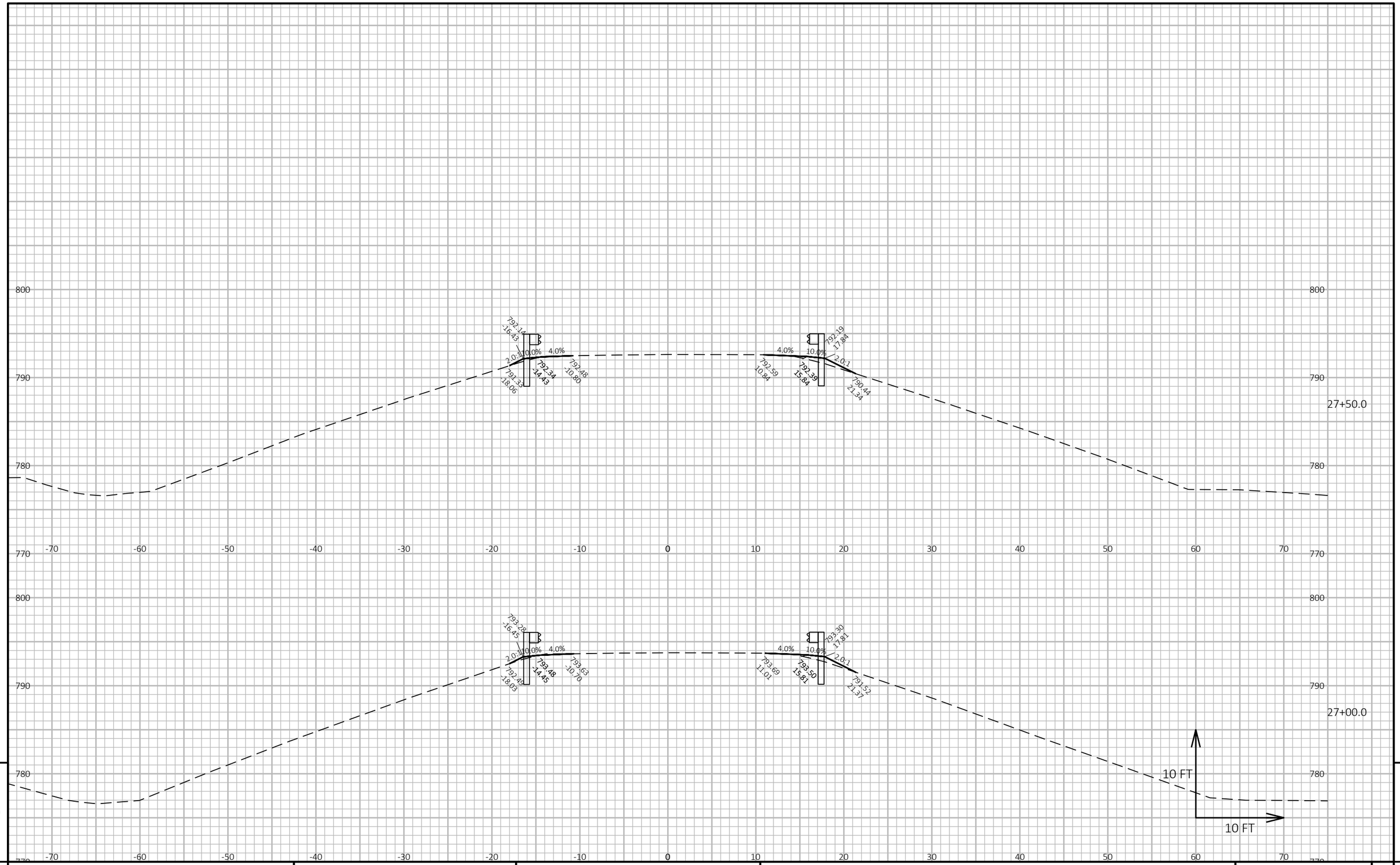
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 348	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville EB 6

PLOT DATE : 6/14/2021 10:25 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

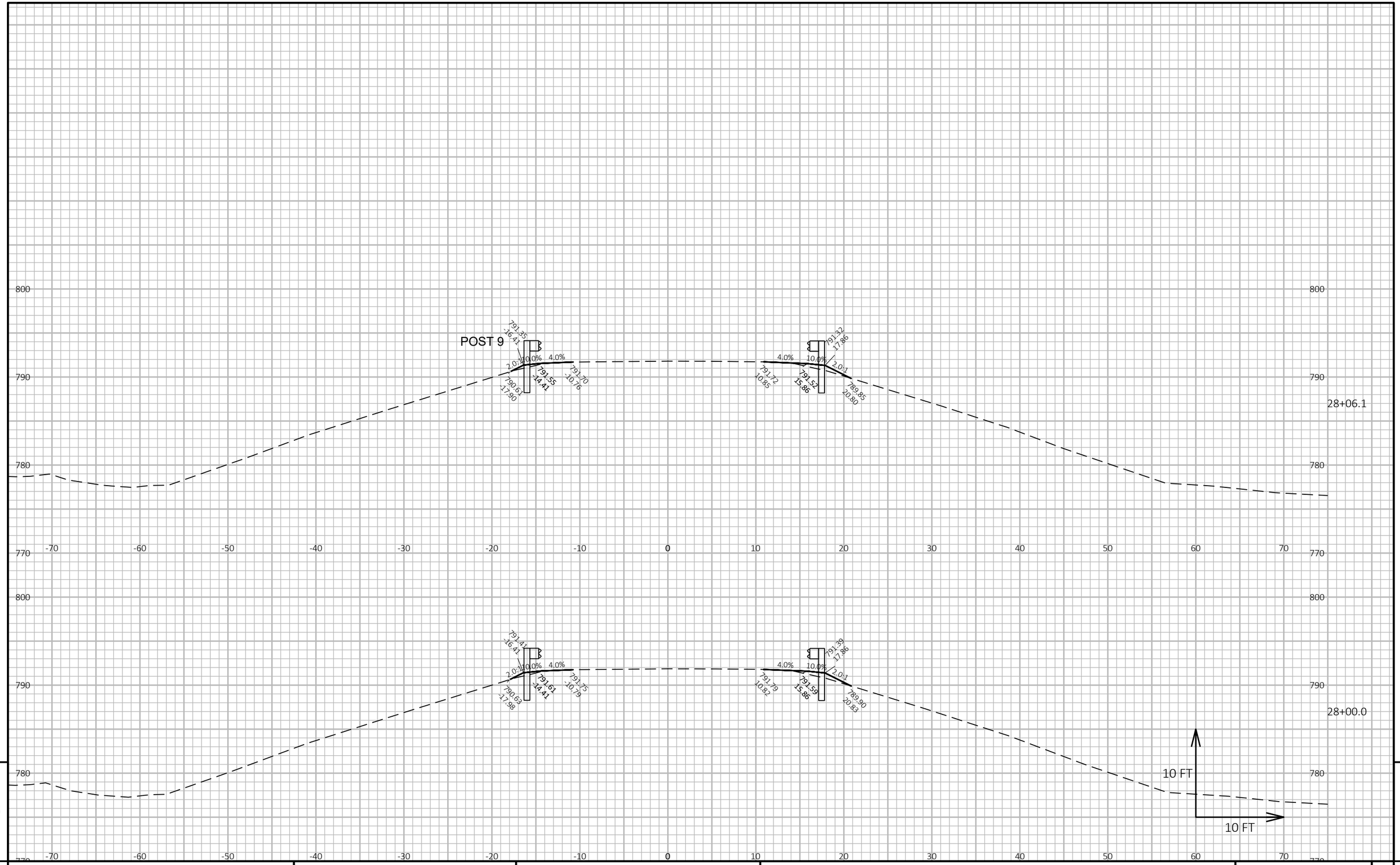


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 349	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville EB 7

PLOT DATE : 6/14/2021 10:25 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

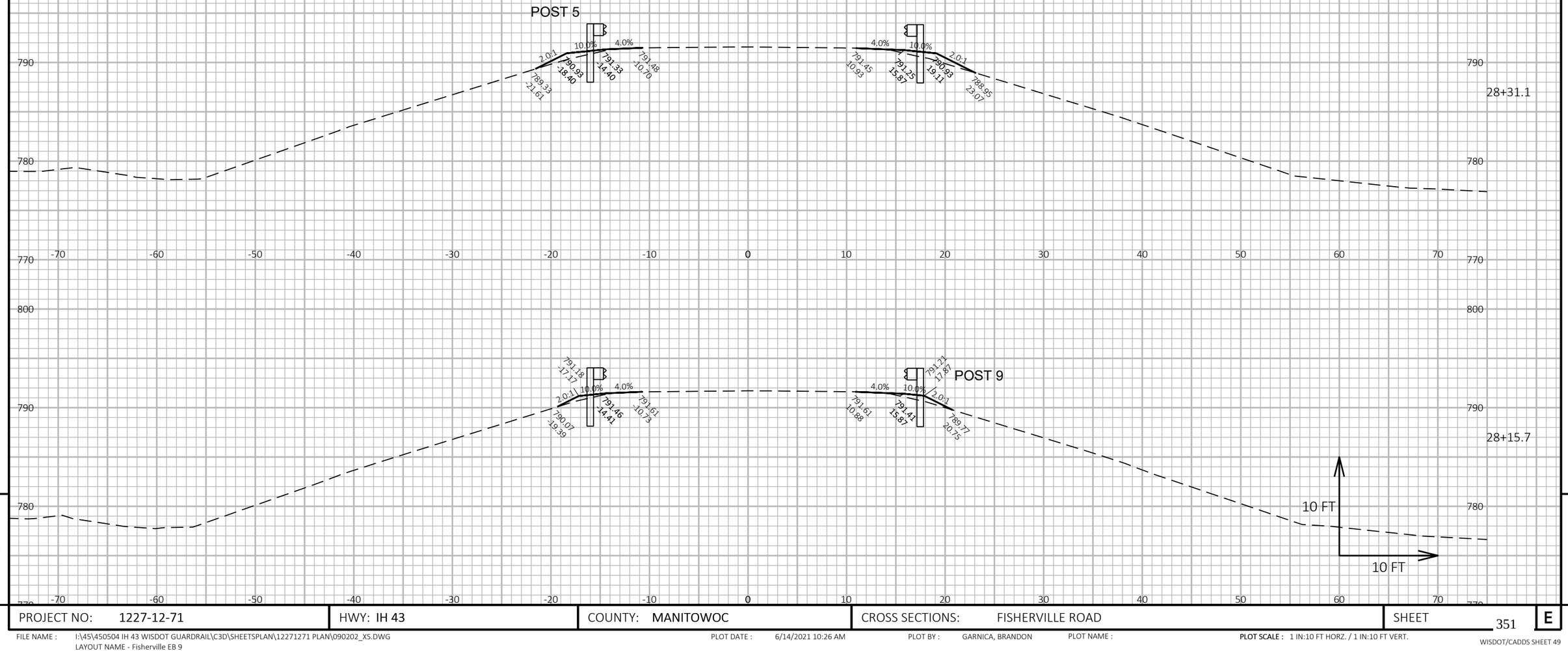
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 350	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville EB 8

PLOT DATE : 6/14/2021 10:26 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



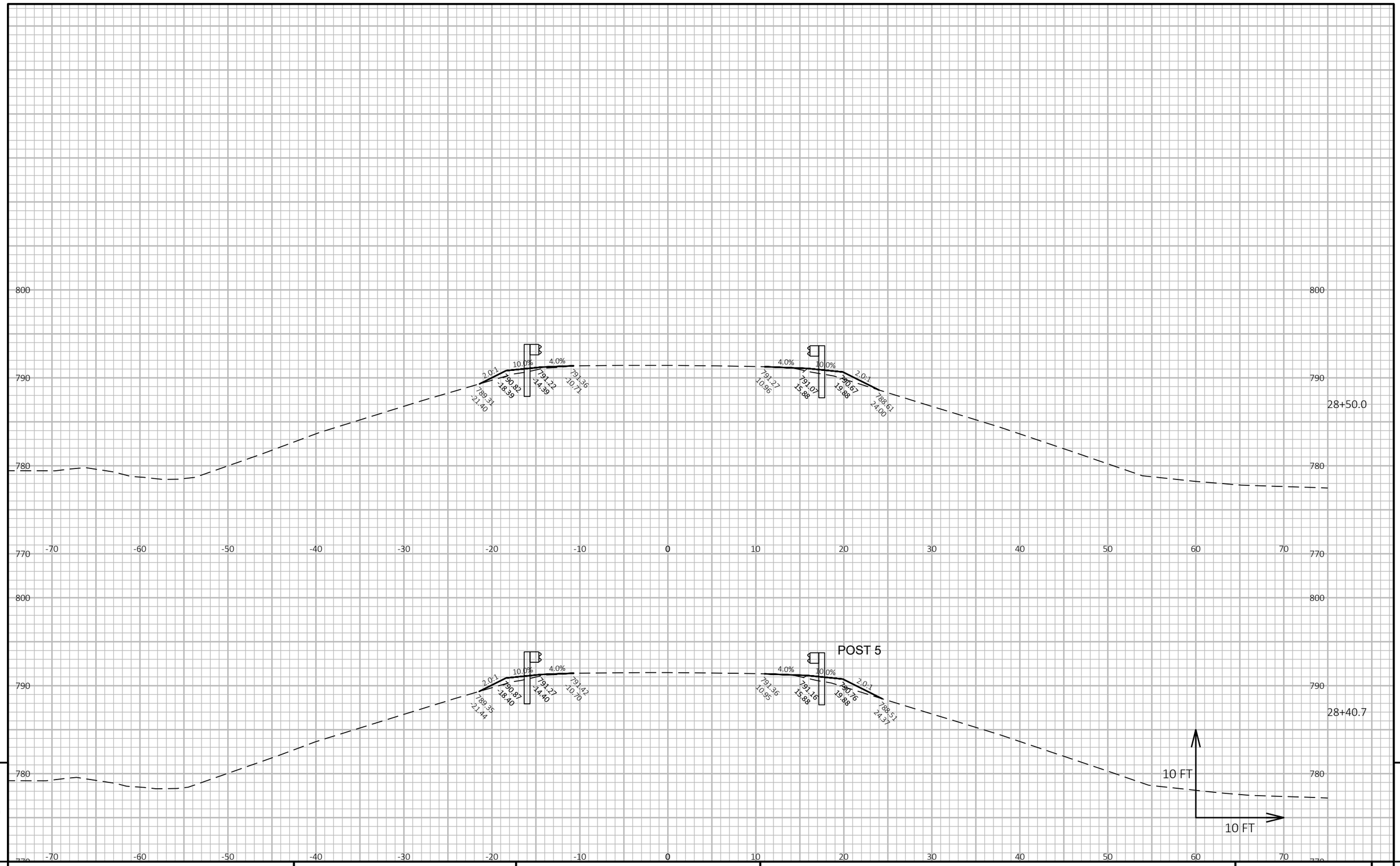
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 351	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville EB 9

PLOT DATE : 6/14/2021 10:26 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

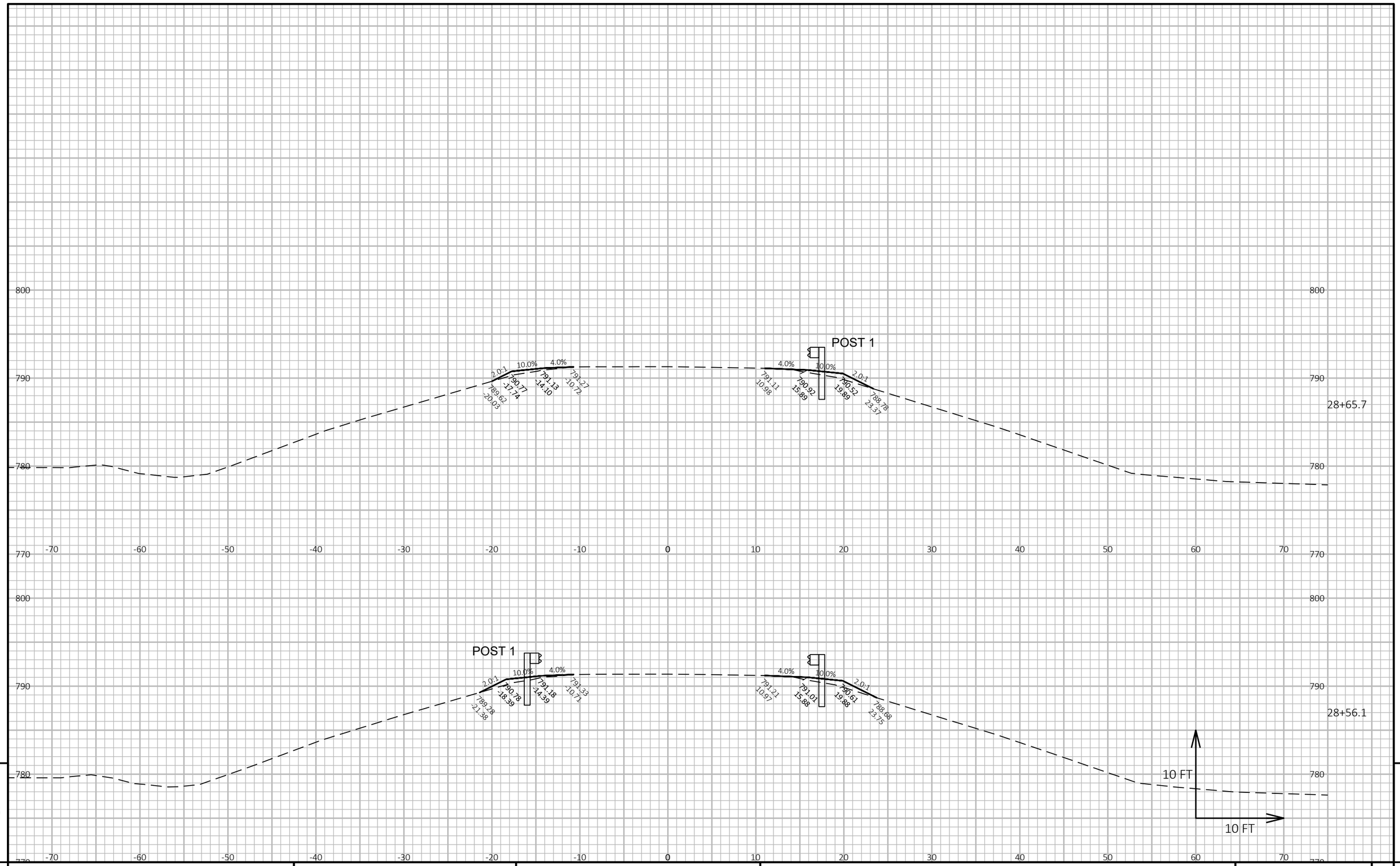
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 352	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville EB 10

PLOT DATE : 6/14/2021 10:26 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



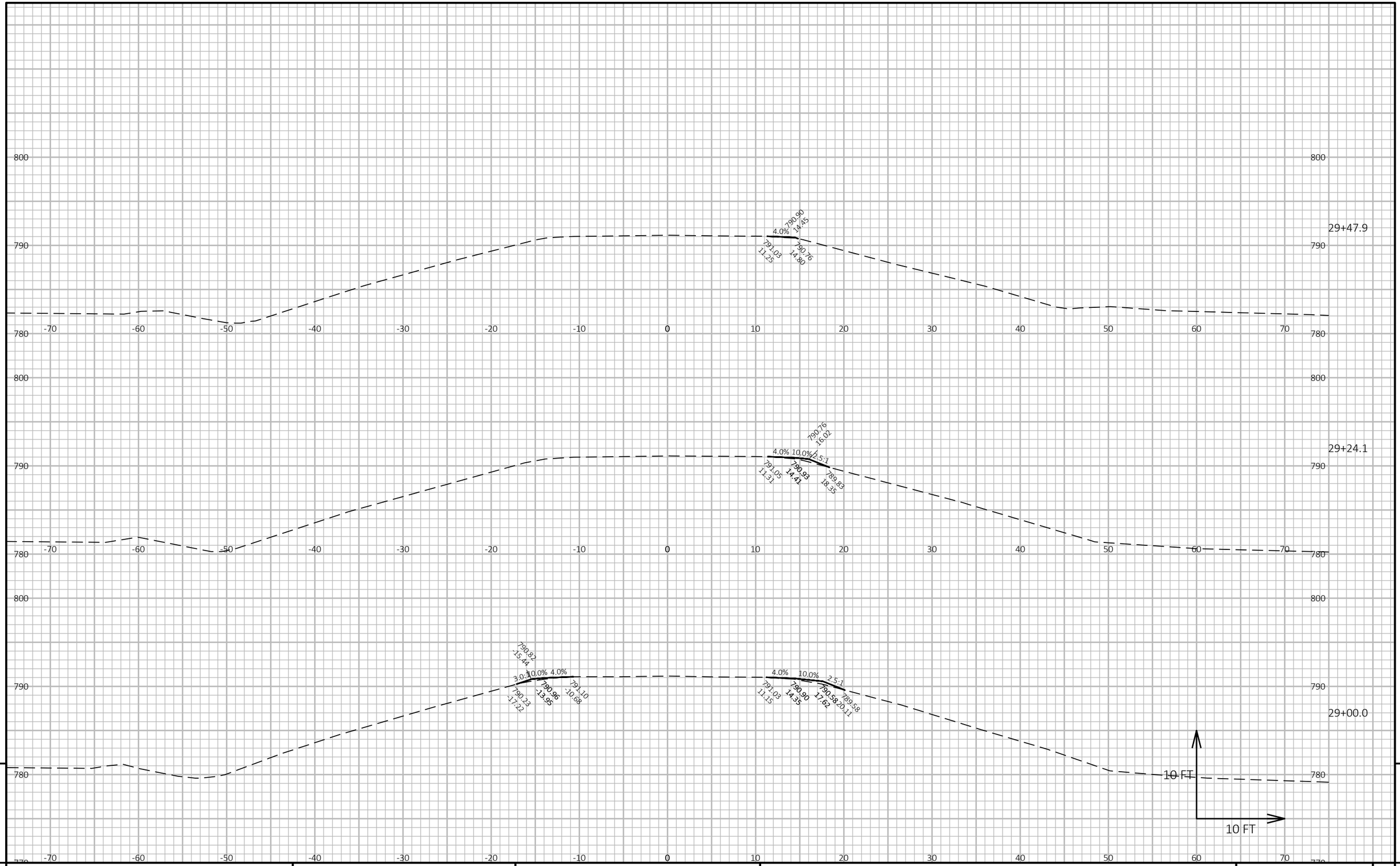
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 353	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville EB 11

PLOT DATE : 6/14/2021 10:26 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



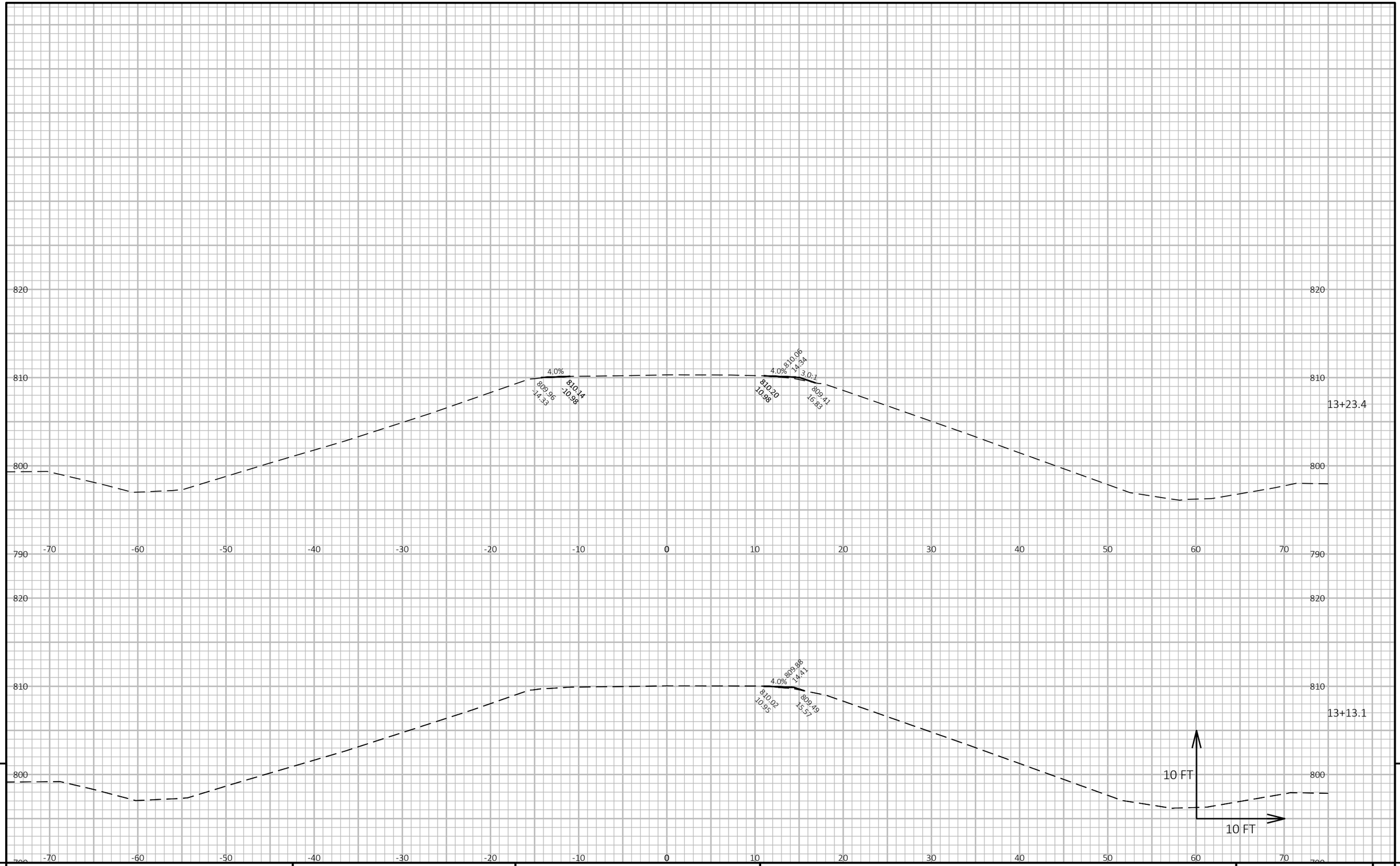
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: FISHERVILLE ROAD	SHEET 354	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Fisherville EB 12

PLOT DATE : 6/14/2021 10:27 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

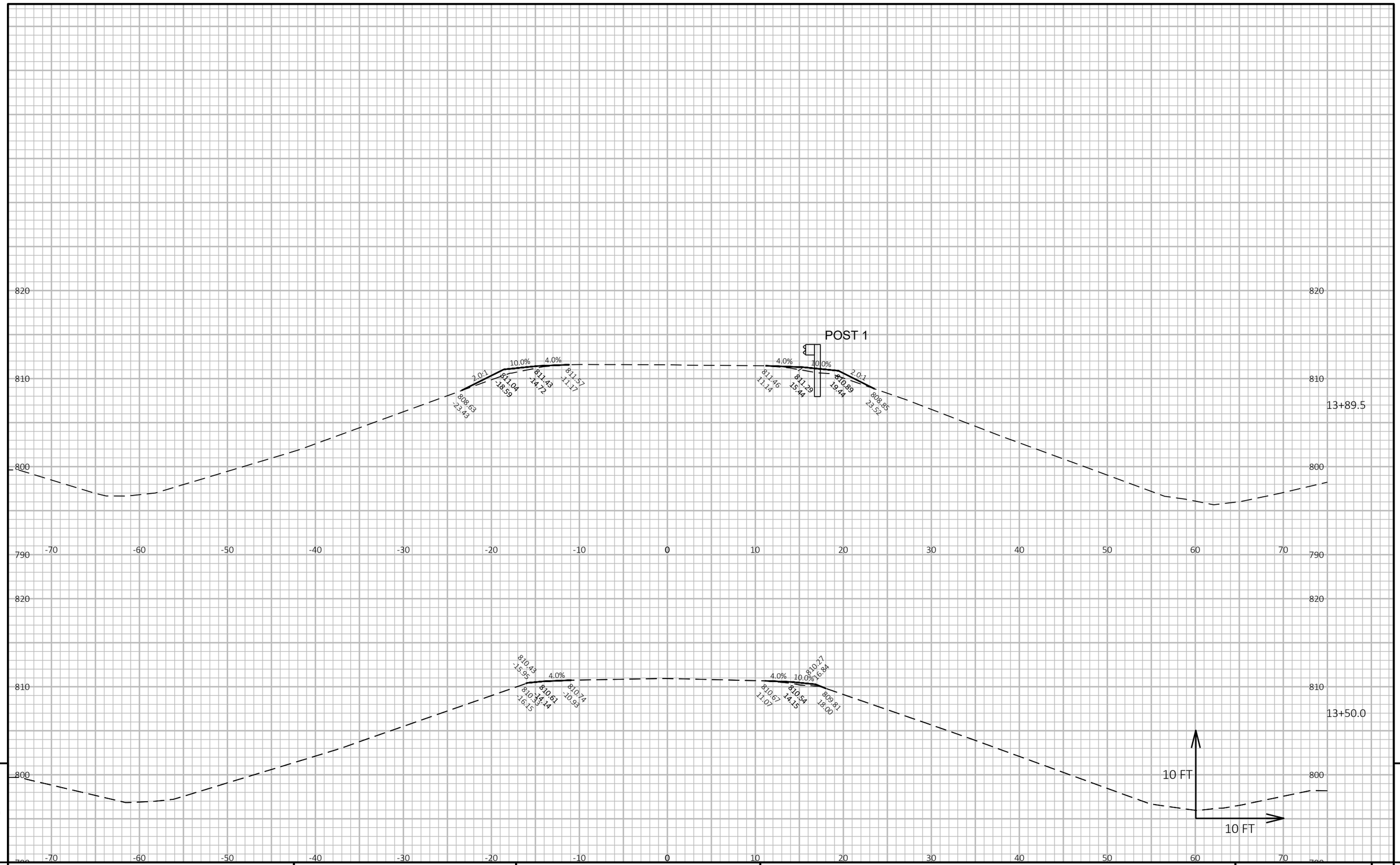
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 355	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet WB 1

PLOT DATE : 6/14/2021 10:27 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 356	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet WB 2

PLOT DATE : 6/14/2021 10:27 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

820
810
800
790
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

14+00.0

808.20
-25.10
10.0%
4.0%
2.0:1
811.25
-1.90
811.65
-1.50
811.80
-1.22
4.0%
10.0%
2.0:1
811.69
1.15
811.52
1.43
811.12
1.83
809.21
3.24

POST 1

808.17
-24.95
10.0%
4.0%
2.0:1
811.15
-1.90
811.55
-1.50
811.70
-1.20
4.0%
10.0%
2.0:1
811.59
1.14
811.42
1.44
811.02
1.84
809.05
3.36

13+95.5

10 FT
10 FT

9

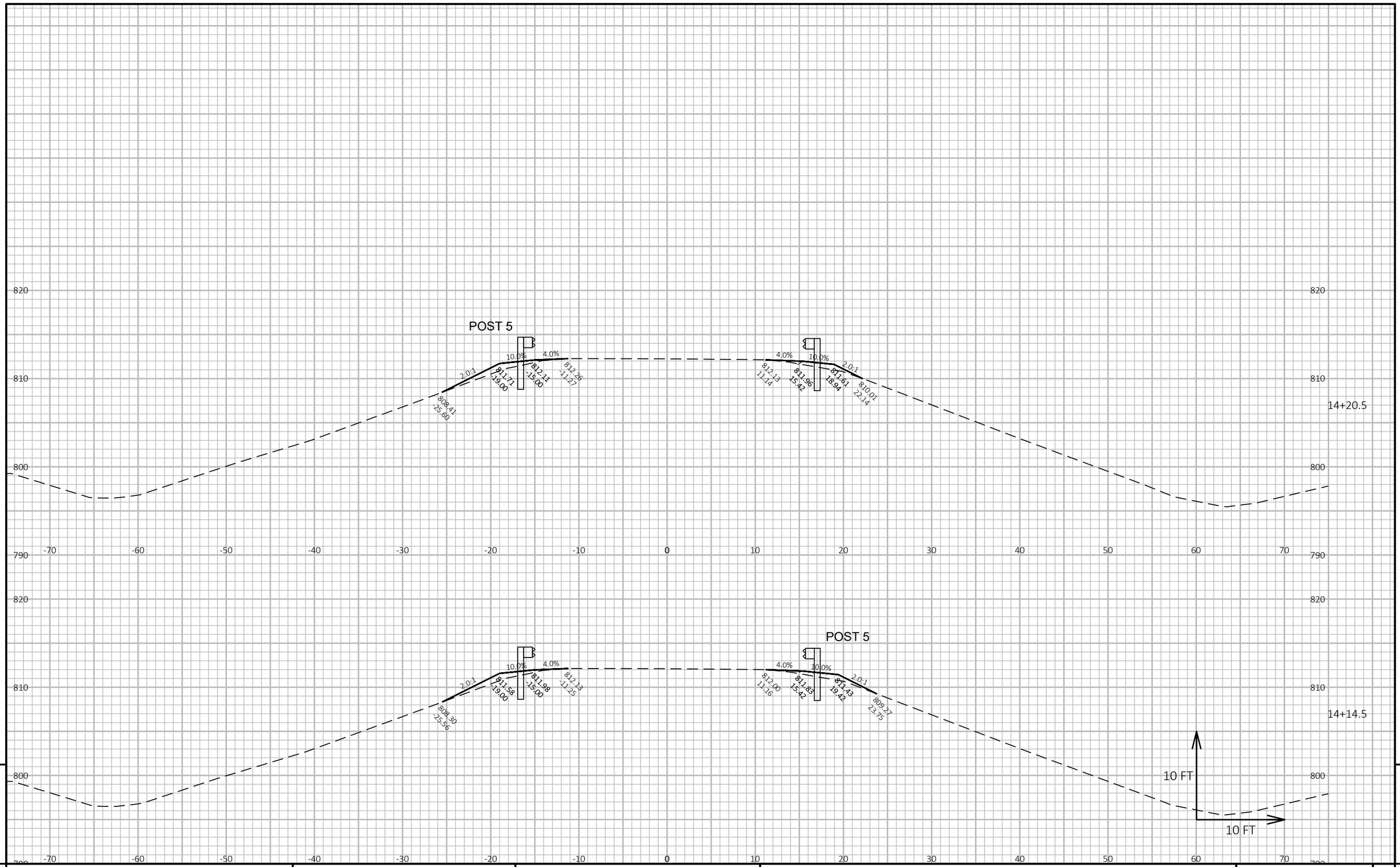
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 357	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet WB 3

PLOT DATE : 6/14/2021 10:27 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 358	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet WB 4

PLOT DATE : 6/14/2021 10:28 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

820
810
800
790
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

POST 1

812.48
-17.01
2.0:1
10.0%
4.0%
812.68
-15.01
812.82
-11.33
811.26
-19.45

4.0%
10.0%
2.0:1
812.68
-11.07
812.51
-15.40
812.31
17.40
811.33
-19.35

14+45.5

812.29
-17.49
2.0:1
10.0%
4.0%
812.54
-15.01
812.69
-11.32
810.58
-20.93

812.18
17.41
POST 1
4.0%
10.0%
2.0:1
812.55
-11.09
812.38
-15.41
811.31
-19.15

14+39.5

10 FT
10 FT

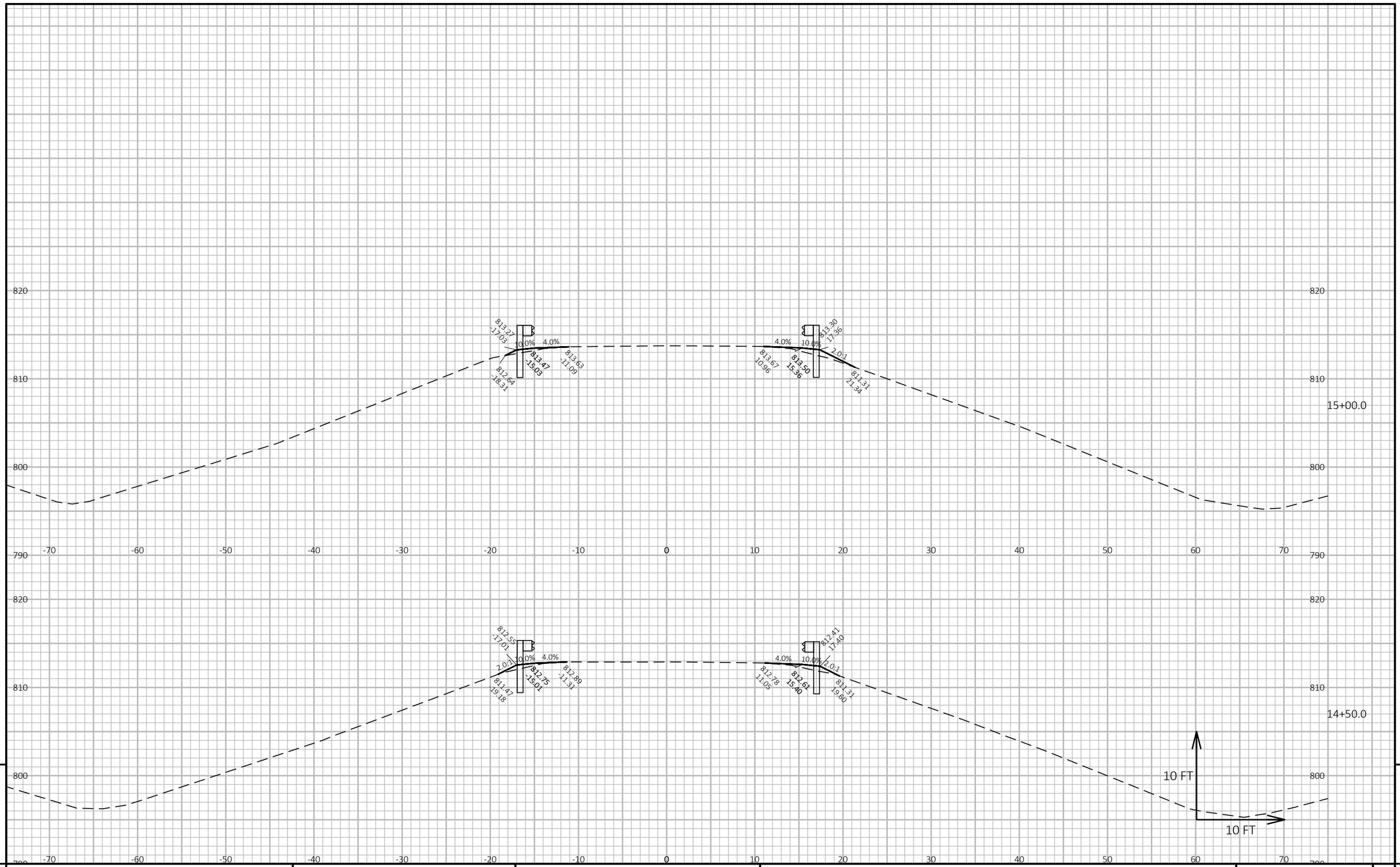
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 359	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet WB 5

PLOT DATE : 6/14/2021 10:28 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

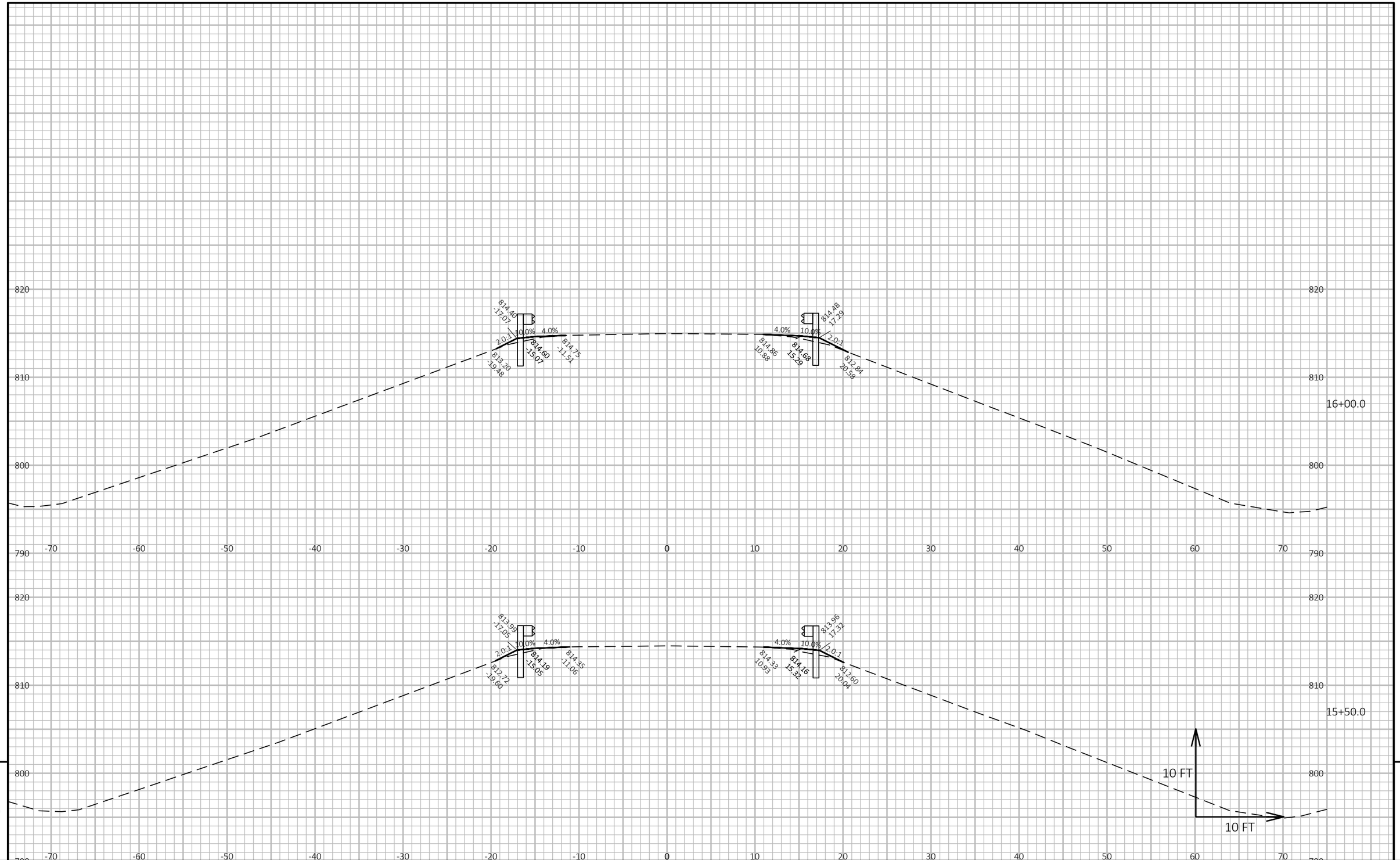
WISDOT/CADDS SHEET 49



PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 360	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet WB 6

PLOT DATE : 6/14/2021 10:28 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

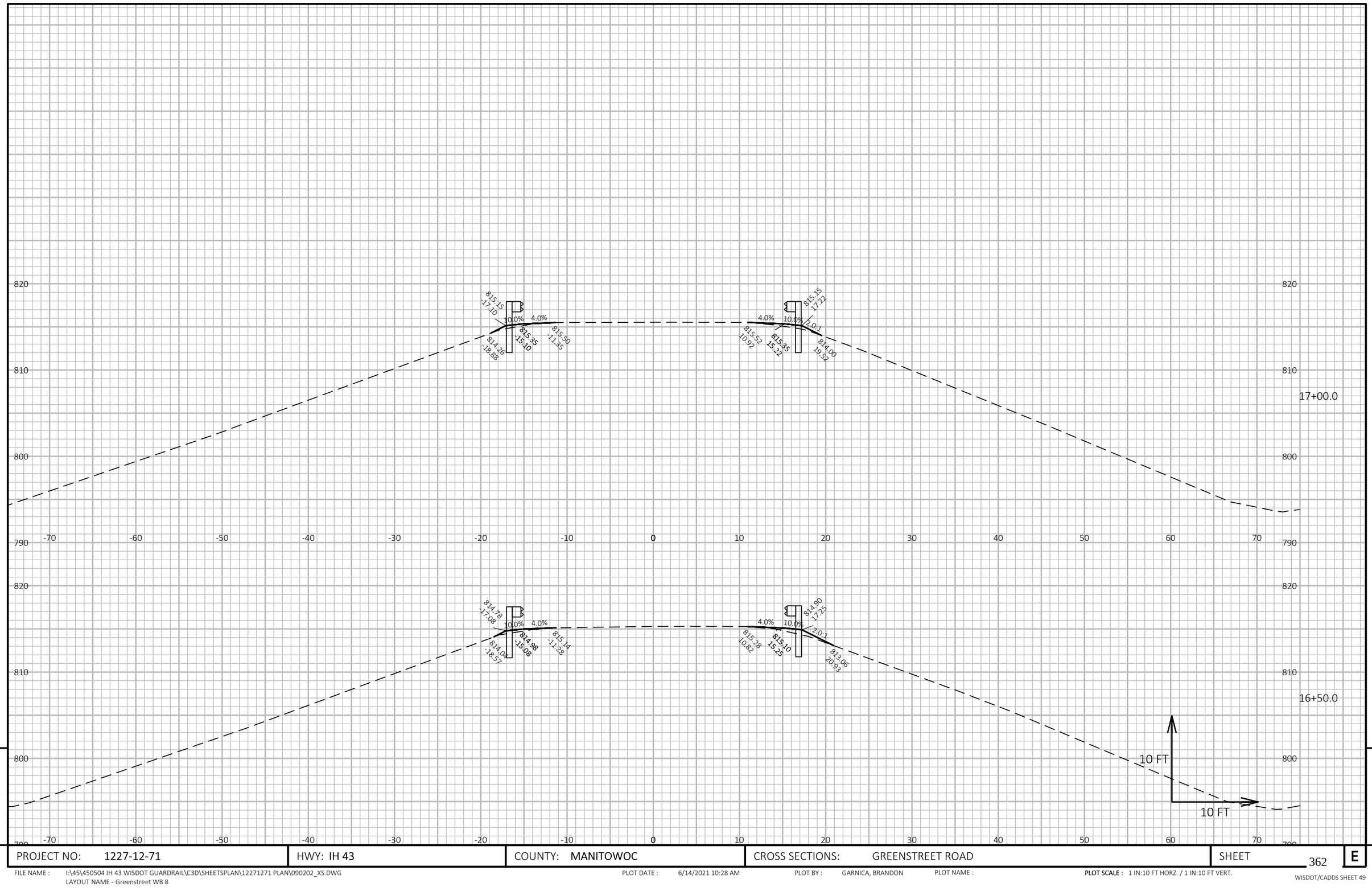
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 361	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet WB 7

PLOT DATE : 6/14/2021 10:28 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

9

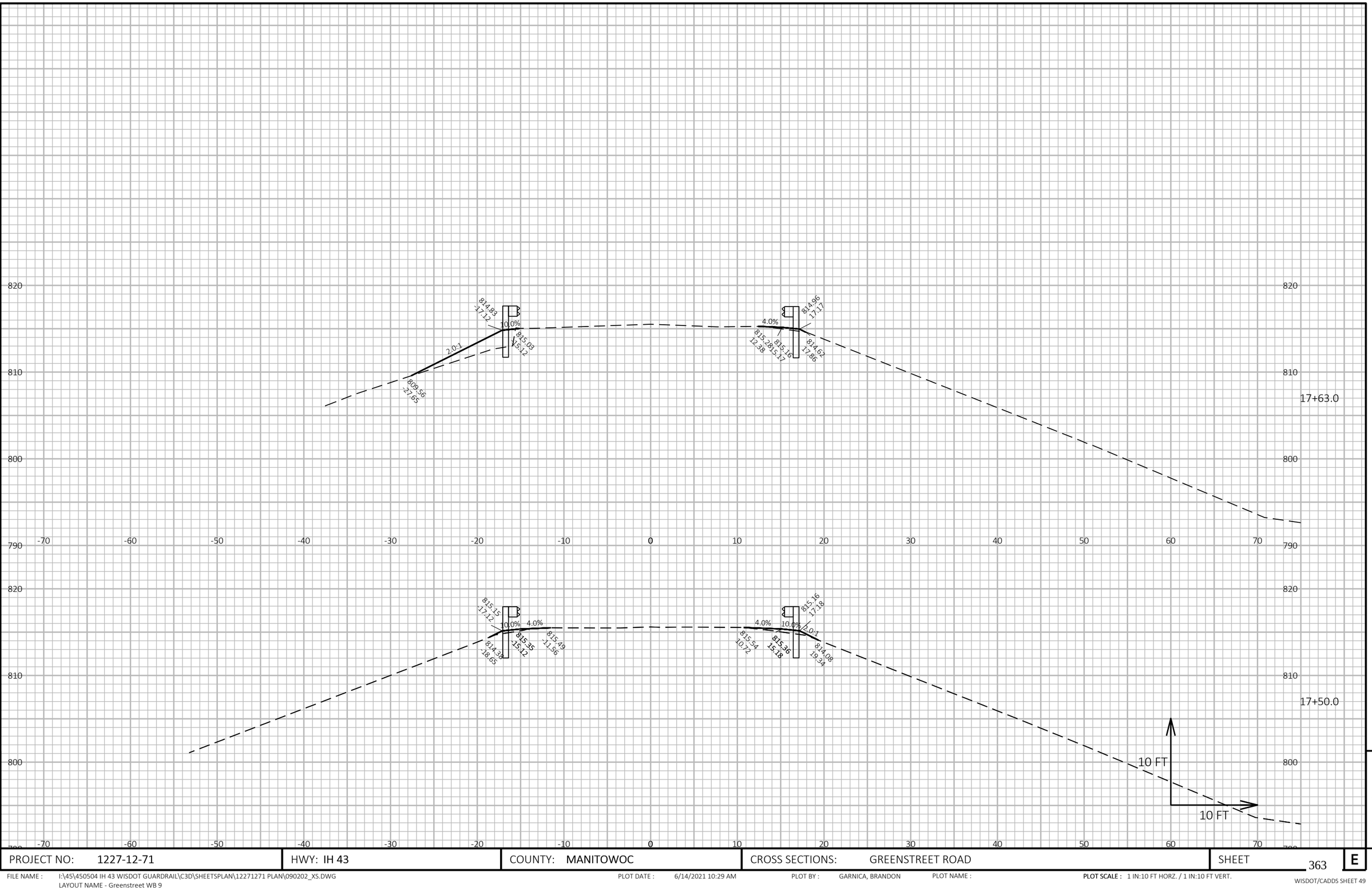
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 362	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet WB 8

PLOT DATE : 6/14/2021 10:28 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

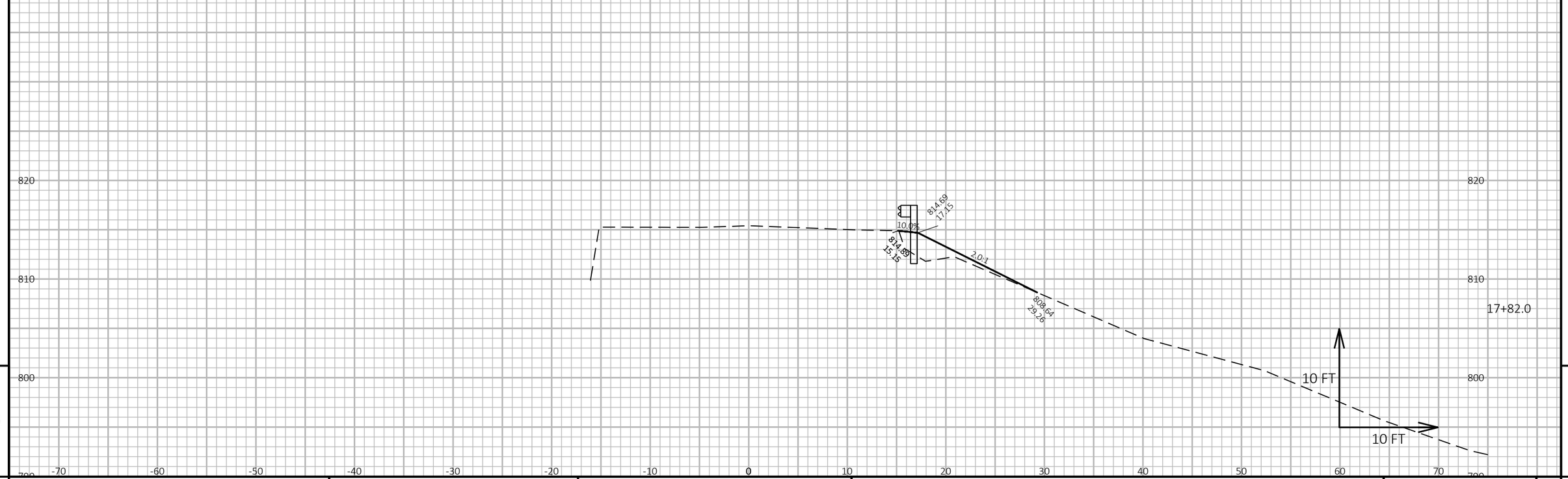
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 363	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet WB 9

PLOT DATE : 6/14/2021 10:29 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

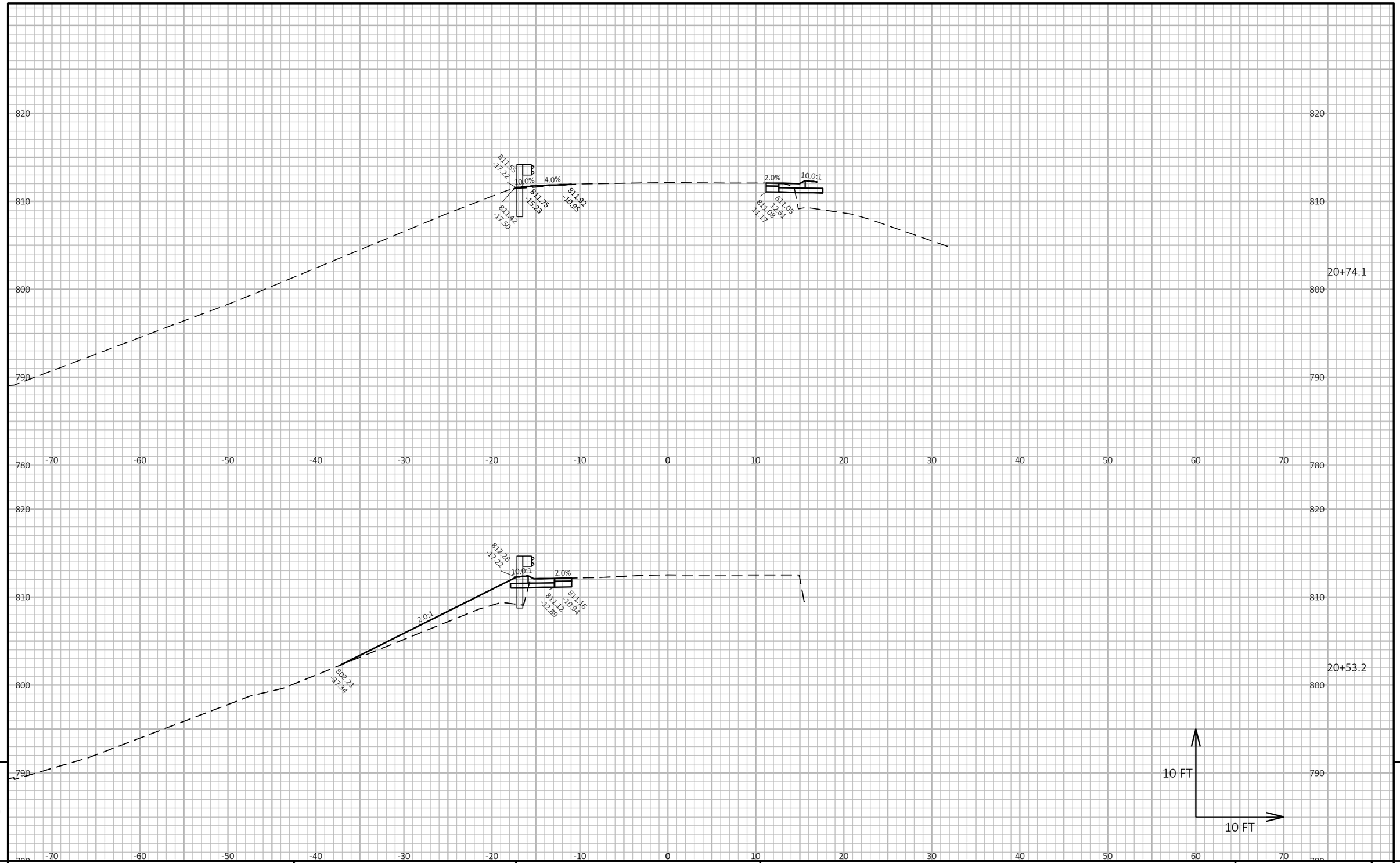
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 364	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet WB 10

PLOT DATE : 6/14/2021 10:29 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

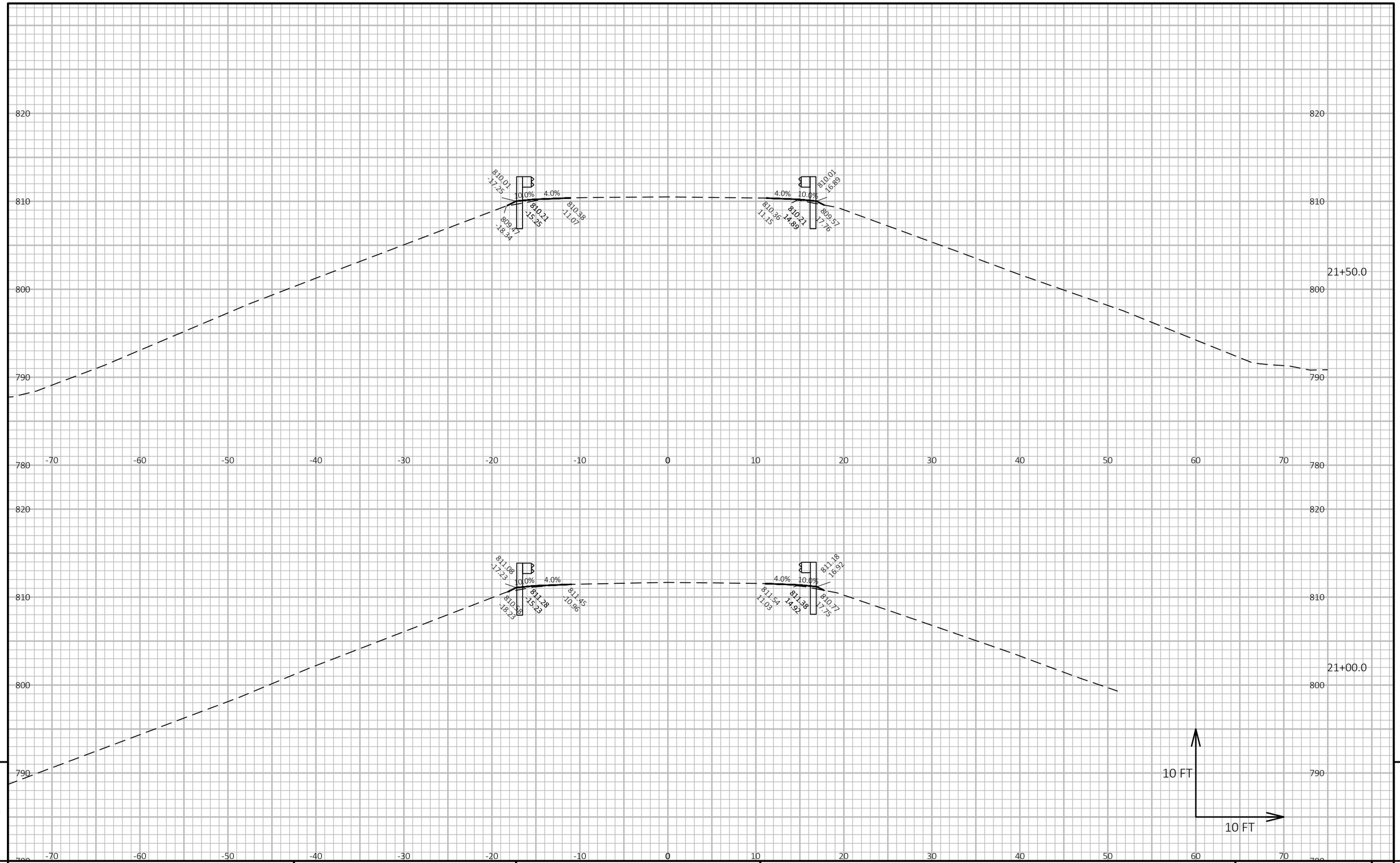
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 365	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet EB 1

PLOT DATE : 6/14/2021 10:29 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

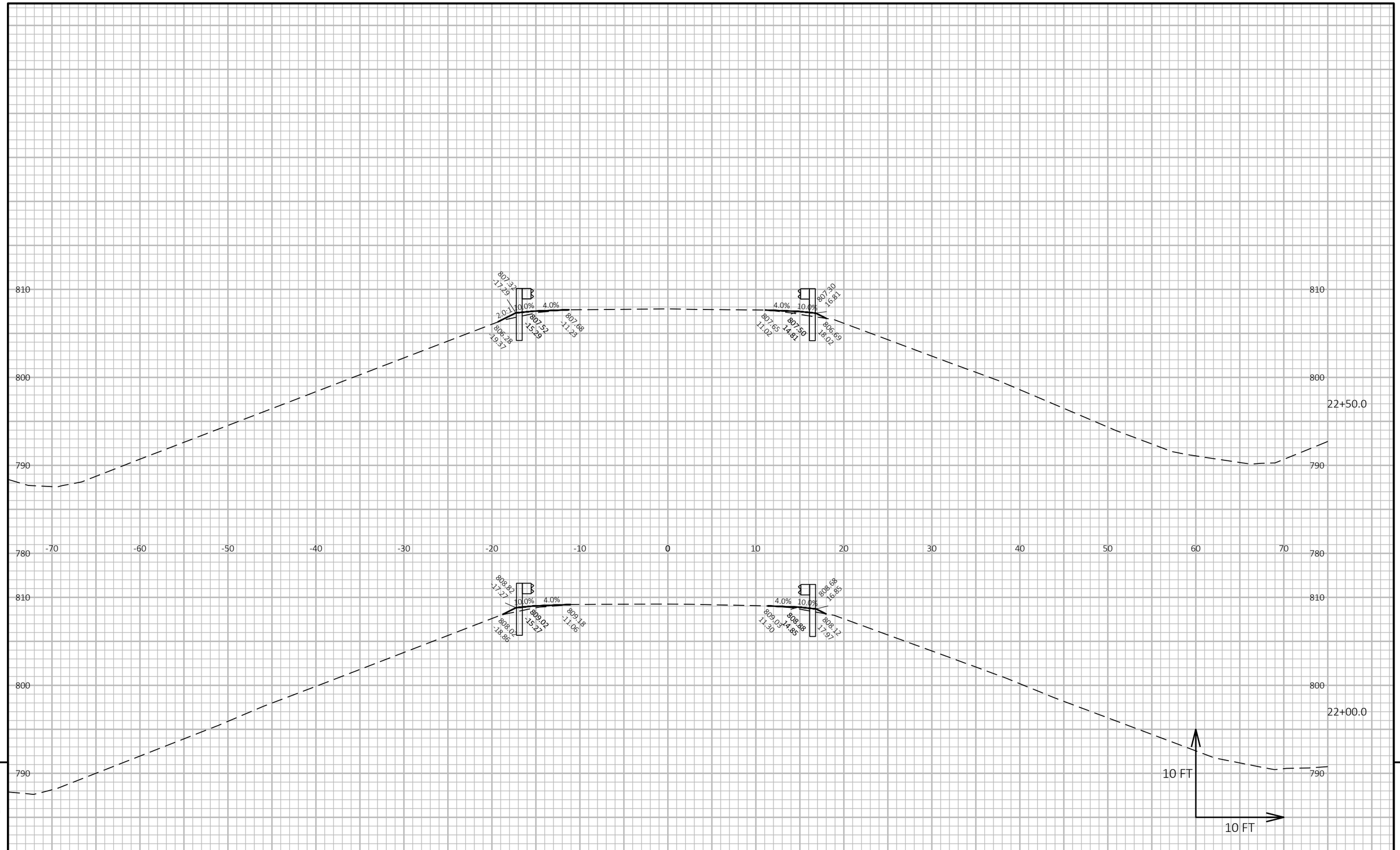
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 366	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet EB 2

PLOT DATE : 6/14/2021 10:29 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 367	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet EB 3

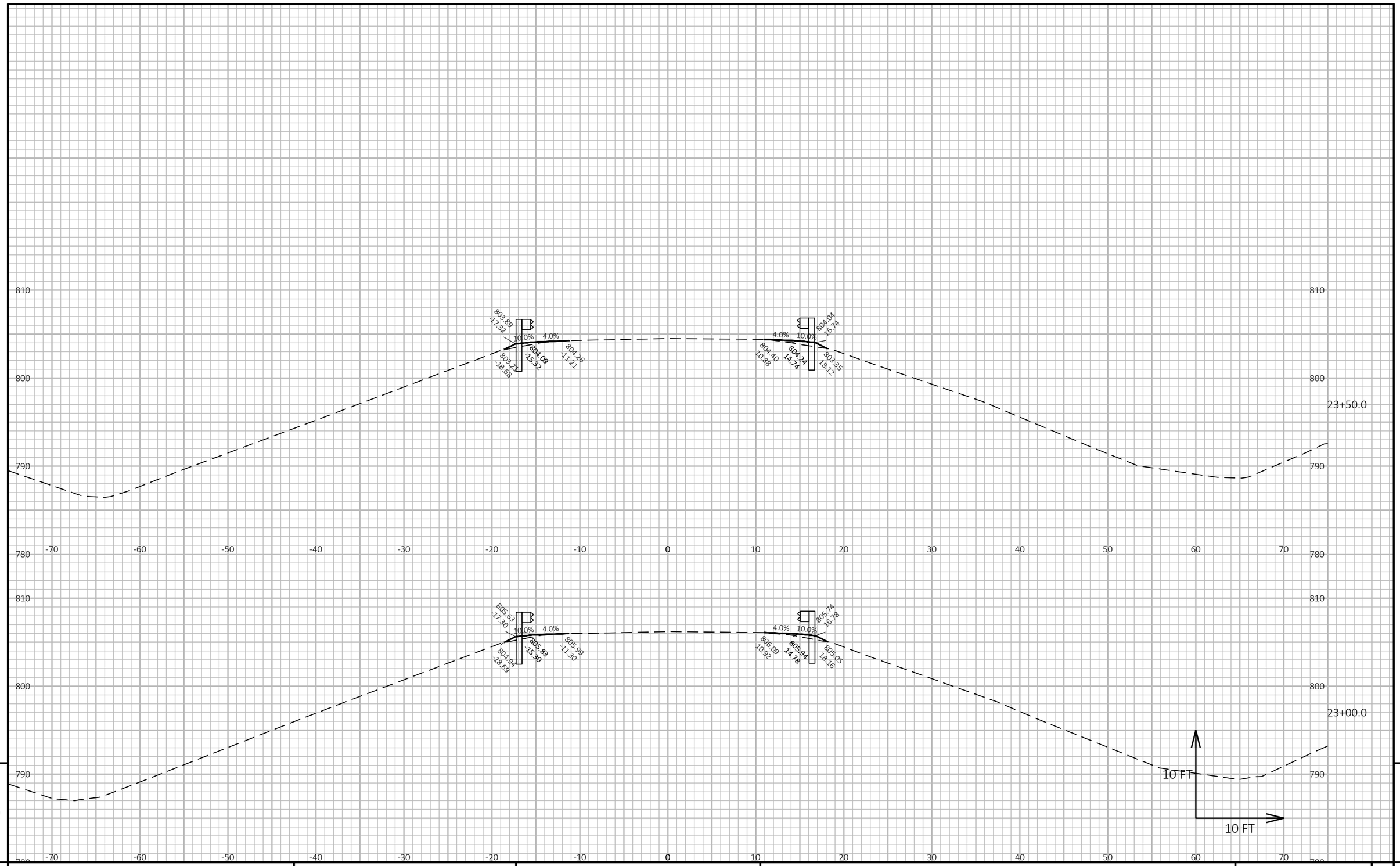
PLOT DATE : 6/14/2021 10:30 AM

PLOT BY : GARNICA, BRANDON

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

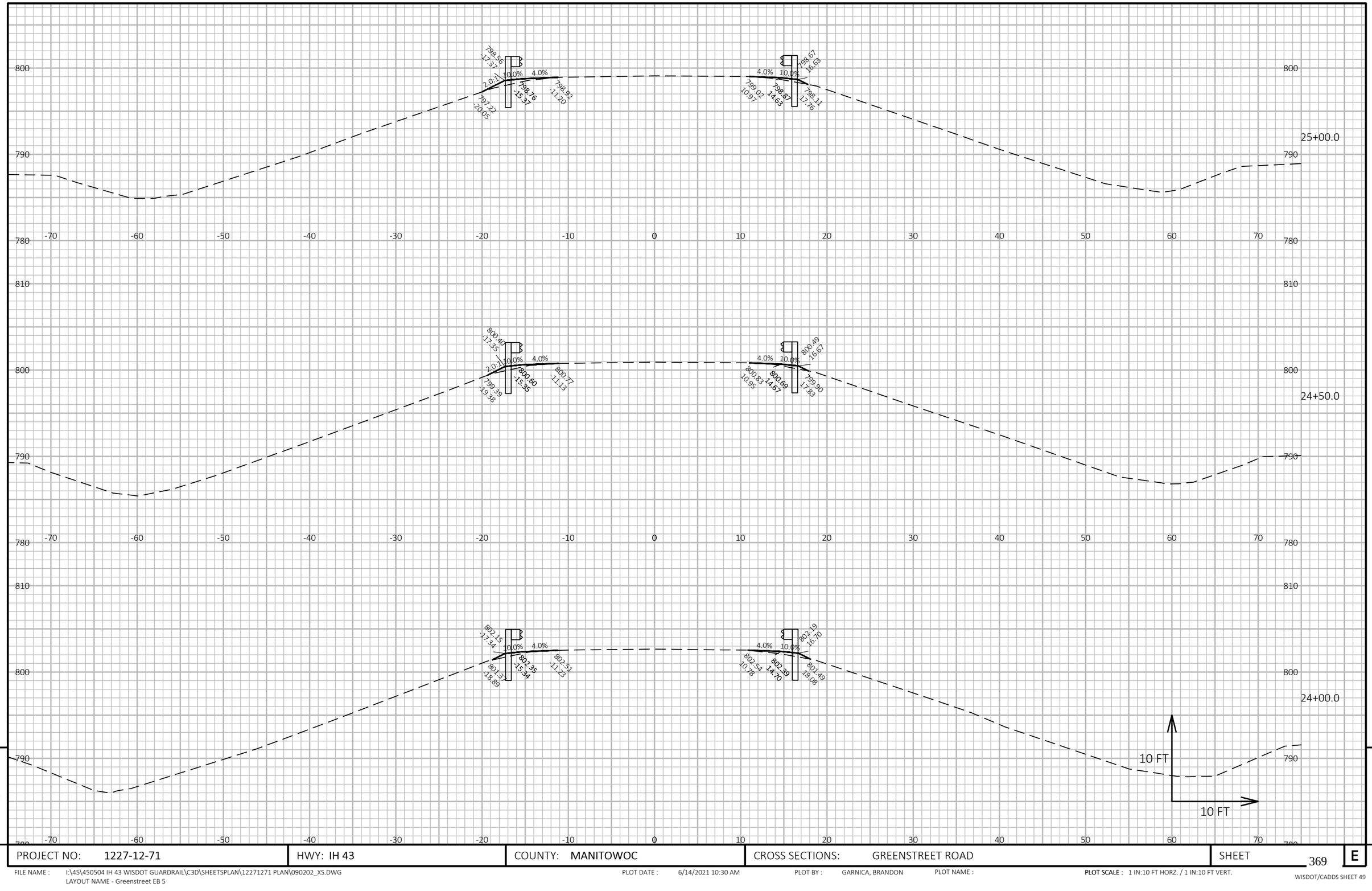
PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 368	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet EB 4

PLOT DATE : 6/14/2021 10:30 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

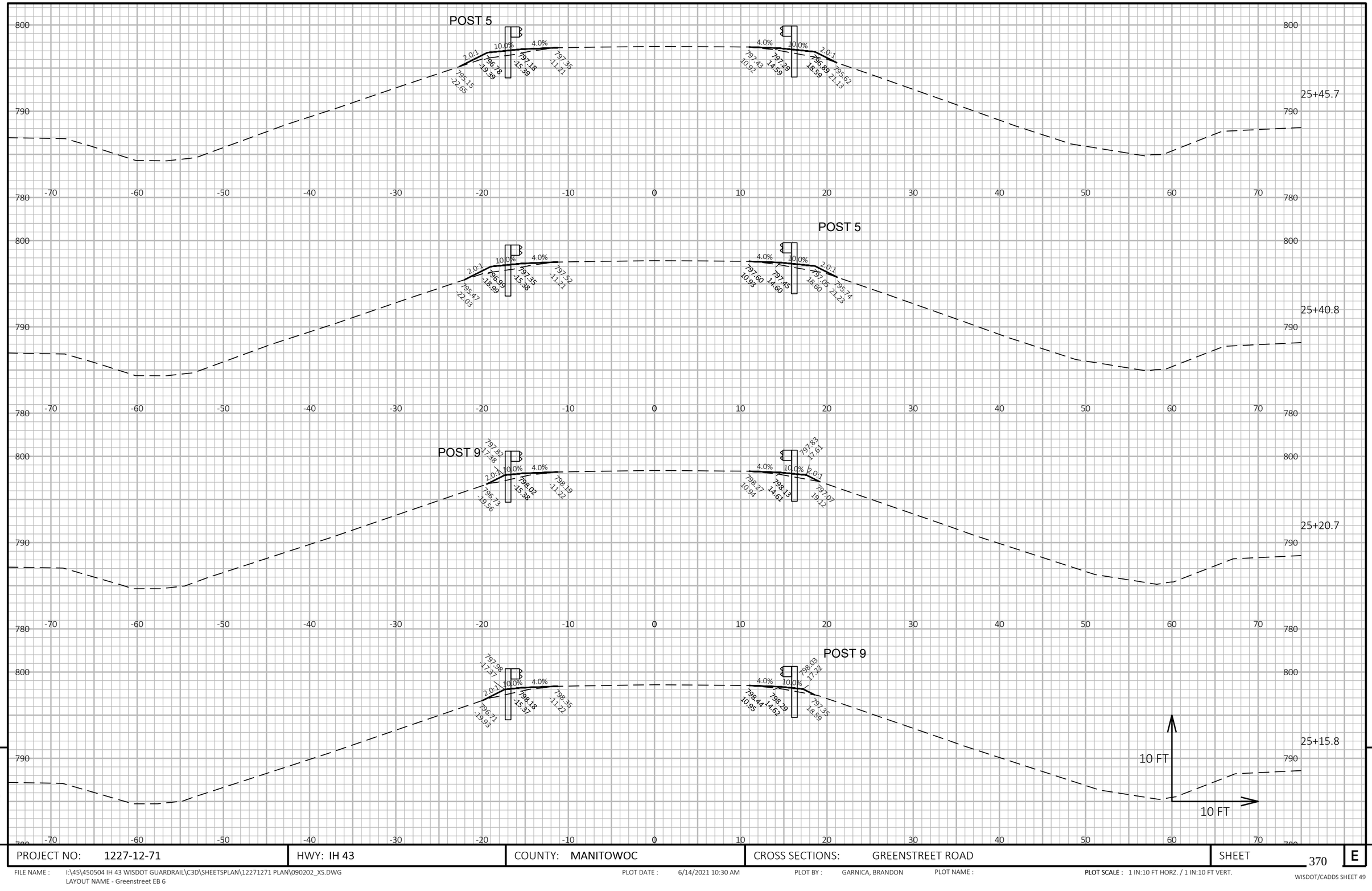
9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 369	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet EB 5

PLOT DATE : 6/14/2021 10:30 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

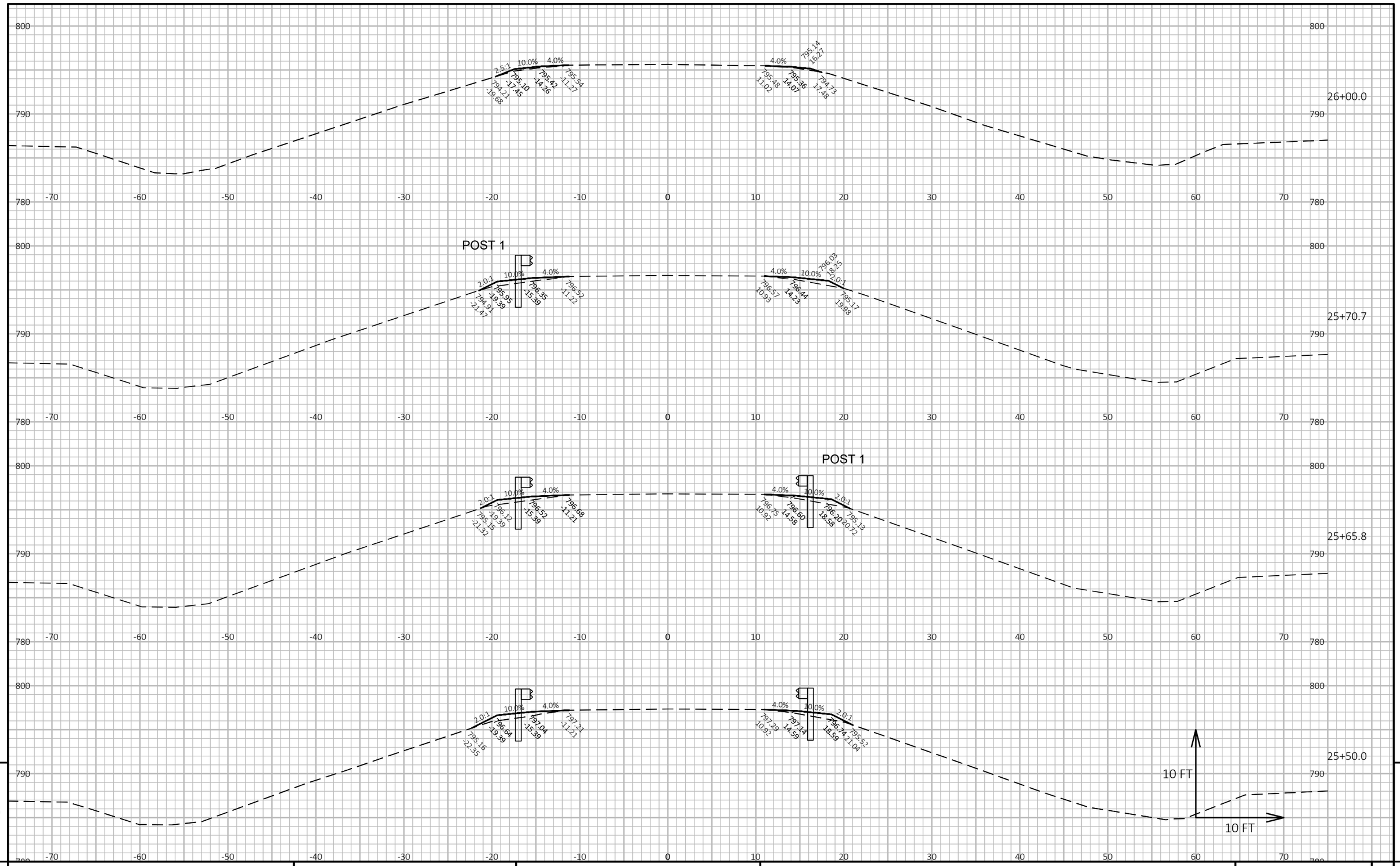


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 370 E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet EB 6

PLOT DATE : 6/14/2021 10:30 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

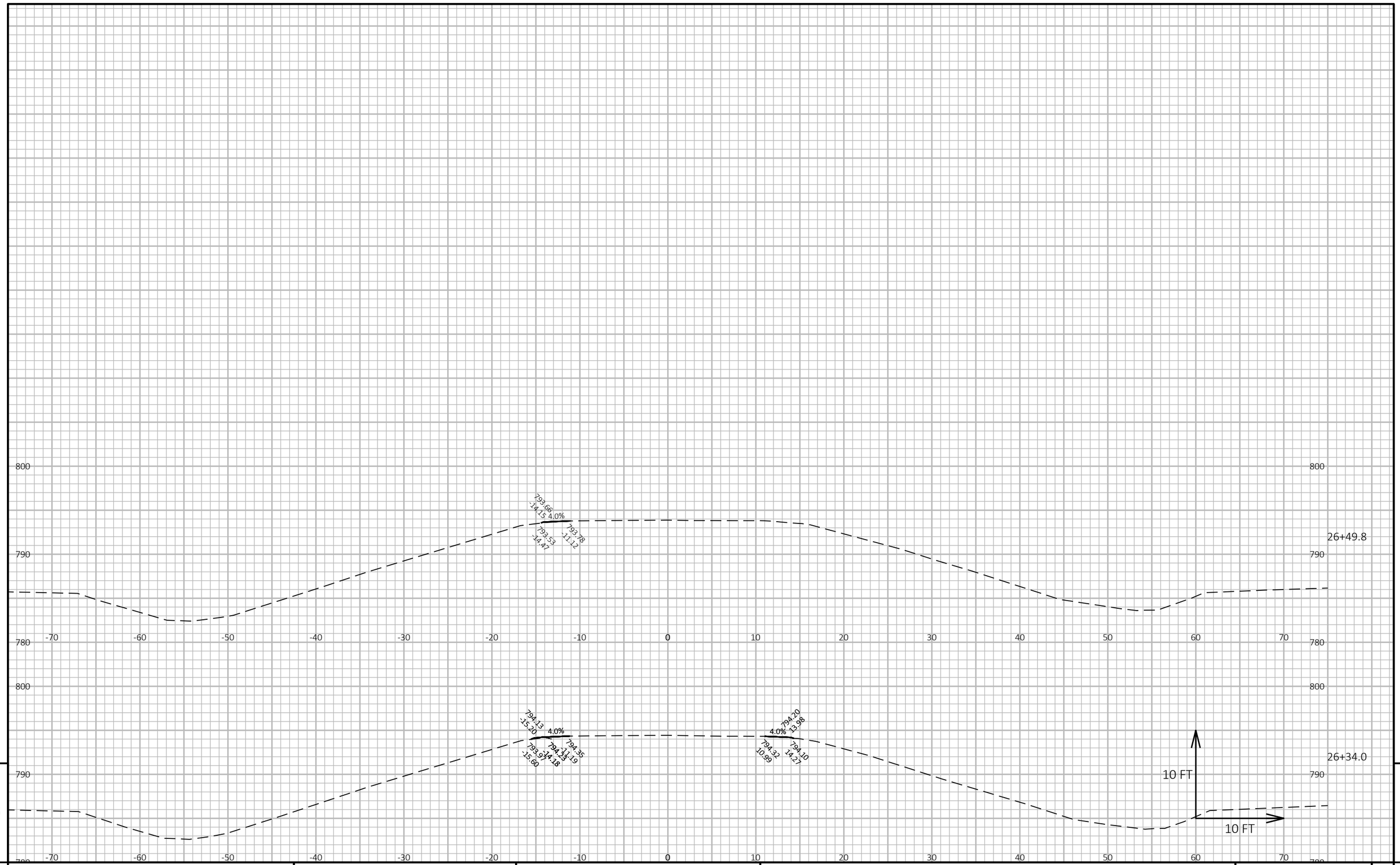


PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 371 E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet EB 7

PLOT DATE : 6/14/2021 10:30 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: GREENSTREET ROAD	SHEET 372	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271271 PLAN\090202_XS.DWG
LAYOUT NAME - Greenstreet EB 8

PLOT DATE : 6/14/2021 10:31 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

GRE

DECEMBER 2021

PROJECT ID: 1227-12-72

WITH: 1227-12-71 & 1227-12-73

COUNTY: MANITOWOC

ORDER OF SHEETS

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

TOTAL SHEETS = 418

DESIGN DESIGNATION

A.A.D.T.	2023	=	21,140
A.A.D.T.	2043	=	23,500
D.H.V.		=	3,000
D.D.		=	58/42
T. (A.A.D.T)		=	15.2%
DESIGN SPEED		=	70 MPH
ESALS		=	12,000,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (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

MANITOWOC - GREEN BAY

DEVIL'S RIVER STATE TRAIL - STH 96

IH 43
MANITOWOC COUNTY

STATE PROJECT NUMBER
1227-12-72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1227-12-72	WISC 2022105	1

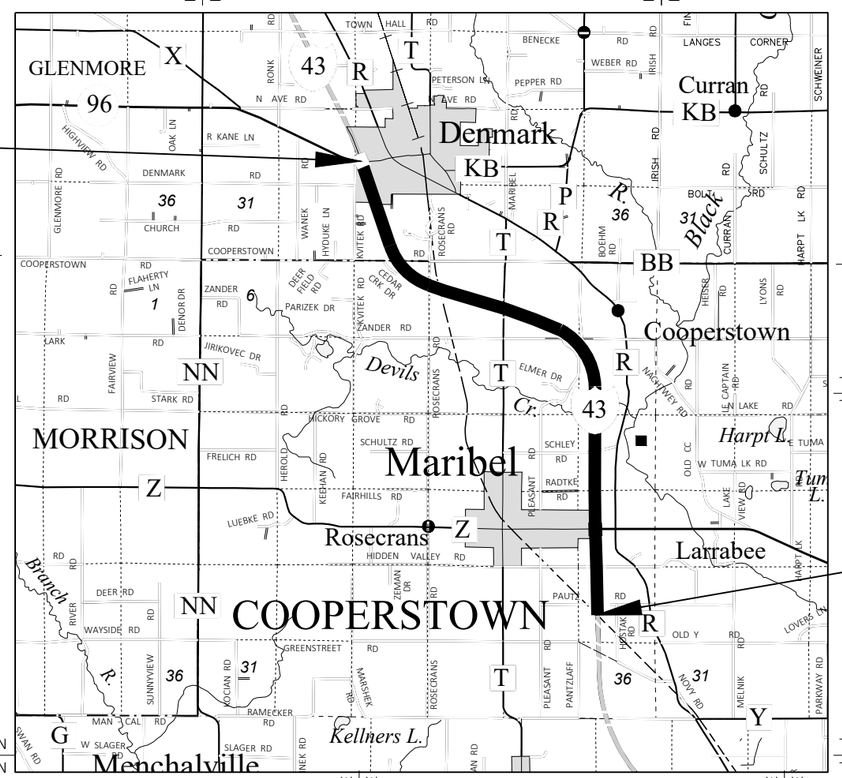
BROWN CO / MANITOWOC CO — R-21-E / R-22-E

BROWN CO / KEWAUNEE CO — R-22-E / R-23-E

T-22-N / T-21-N

END PROJECT
STA 1988'NB'+34.85
Y = 391,437.561
X = 185,628.534

BROWN CO T-21-N
MANITOWOC CO T-20-N



BEGIN PROJECT
STA 1606'NB'+74.07
Y = 362,219.588
X = 201,315.418

LAYOUT

SCALE 0 2.0 MI

TOTAL NET LENGTH OF CENTERLINE = 7.227 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MANITOWOC COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION
Designer	J. MATERNOSKI
Project Manager	B. HAEN
Regional Examiner	
Regional Supervisor	D. SEGERSTROM

APPROVED FOR THE DEPARTMENT

DATE: 9/15/21 Brian Haen (Signature)

E

FILE NAME : C:\WISDOT\DESIGN\C3D\12271200\SHEETSPLAN\1227-12-72\010101-TI.DWG PLOT DATE : 7/28/2021 2:28 PM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME :

GENERAL NOTES

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

THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
EROSION CONTROL - REMOVALS
PERMANENT SIGNING
DETOUR

DNR LIAISON

MATT SCHAEVE
DNR NORTHEAST REGIONAL HEADQUARTERS
2984 SHAWANO AVE.
GREEN BAY, WI 54313
(920) 366-1544
matthew.schaeve@wisconsin.gov

BROWN COUNTY HIGHWAY COMMISSIONER

PAUL FONTECCHIO
BROWN COUNTY HIGHWAY DEPT
2198 GLENDALE AVE.
GREEN BAY, WI 54303
(920) 492-4925
bc_highway@co.brown.wi.us

MANITOWOC COUNTY HIGHWAY COMMISSIONER

MARC HOLSEN
MANITOWOC CO. HIGHWAY DEPT.
3500 STH 310
MANITOWOC, WI 54220
(920) 683-4353
marc.holsen@co.manitowoc.wi.us

NE REGION SURVEY COORDINATOR

CORMAC MCINNIS, RLS
944 VANDERPERREN WAY
GREEN BAY, WI 54304
(920)492-5638
cormac.mcinnis@dot.wi.gov

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE	O-2	2-6	6 & OVER	O-2	2-6	6 & OVER	O-2	2-6	6 & OVER	O-2	2-6	6 & OVER
ROW CROPS	0.08 0.22	0.16 0.30	0.22 0.38	0.12 0.26	0.20 0.34	0.27 0.44	0.15 0.30	0.24 0.37	0.33 0.50	0.19 0.34	0.28 0.41	0.38 0.56
MEDIAN STRIP TURF	0.19 0.24	0.20 0.26	0.24 0.30	0.19 0.25	0.22 0.28	0.26 0.33	0.20 0.26	0.23 0.30	0.30 0.37	0.20 0.27	0.25 0.32	0.30 0.40
SIDE STRIP TURF			0.25 0.32			0.27 0.34			0.28 0.36			0.30 0.38
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 = 71.80 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.20 ACRES

UTILITIES CONTACTS

VILLAGE OF DENMARK - SEWER AND WATER
ERIKA THRONSON
118 E MAIN ST
DENMARK, WI 54208
(920) 362-7982, (920) 863-8401
ERIKA@VILLAGEOFDENMARK.COM

CENTURYLINK - COMMUNICATION LINE
JASON BUSSE
3235 INTERTECH DR SUITE 600
BROOKFIELD, WI 53045
(715) 415-3214, (414) 224-6713
JASON.BUSSE@LUMEN.COM

CHARTER COMMUNICATIONS - COMMUNICATION LINE
VINCENT ALBIN
3520 DESTINATION DR
APPLETON, WI 54915
(920) 378-7982, (920) 831-9249
VINCE.ALBIN@CHARTER.COM

WISCONSIN PUBLIC SERVICE CORPORATION - GAS/PETROLEUM
JOEL SAWICKI
800 COLUMBUS ST
P.O. BOX 236
TWO RIVERS, WI 54241-0236
(920) 657-1862
JOEL.SAWICKI@WISCONSINPUBLICSERVICE.COM

ATC MANAGEMENT, INC. - ELECTRICITY TRANSMISSION
CHRIS DAILEY
P.O. BOX 47
WAUKESHA, WI 53187
(262) 506-6884
CDAILEY@ATCLLC.COM

WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRICITY
CHARLES WINDUS
2850 S ASHLAND AVE
GREEN BAY, WI 54307
(920) 606-1141, (920) 617-5281
CHARLES.WINDUS@WISCONSINPUBLICSERVICE.COM

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

2

2

N

DENMARK

STH 96

COOPERSTOWN RD

2000'SB'

2000'NB'

B-5-239

B-5-234

END PROJECT
STA 1988'NB'+34.85
Y=391,437.561
X=185,628.534

B-36-103

B-36-104

ROSECRANS RD

B-36-101

B-36-102

1900'SB'

1900'NB'

DEVIL'S TRAIL STATE TRAIL

CTH T

CTH T

B-36-100

B-36-99

COOPERSTOWN

GREENSTREET RD

PAUTZ RD

DEVIL'S TRAIL STATE TRAIL

HIDDEN VALLEY RD

CTH Z

MARIBEL

SCHLEY RD

ZANDER RD

1800'SB'

1800'NB'

B-36-89

PLEASANT RD

B-36-93

1700'SB'

1700'NB'

B-36-95

B-36-97

1600'SB'

1600'NB'

B-36-83

B-36-94

B-36-96

CTH R

SCHLEY RD

ZANDER RD

BEGIN PROJECT
STA 1606'NB'+74.07
Y=362,219.588
X=201,315.418

PAUTZ RD

HIDDEN VALLEY RD

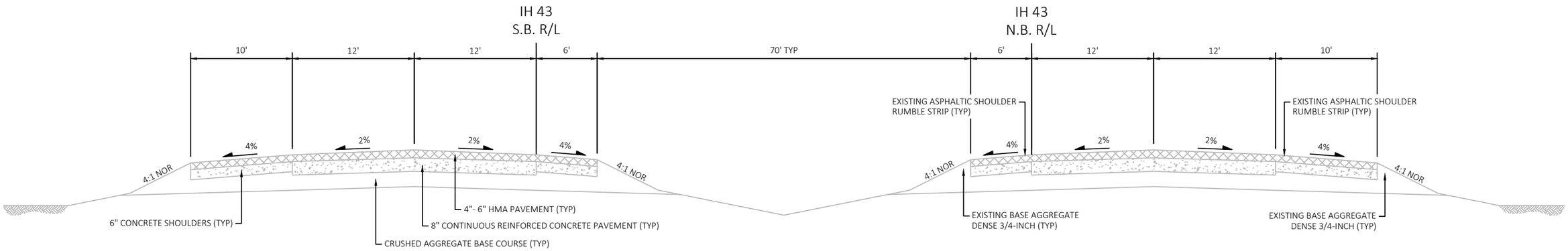
STH 147

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : C:\WISDOT\DESIGN\C3D\12271200\SHEETSPLAN\1227-12-72\020201-PO.DWG
LAYOUT NAME - 020201-po

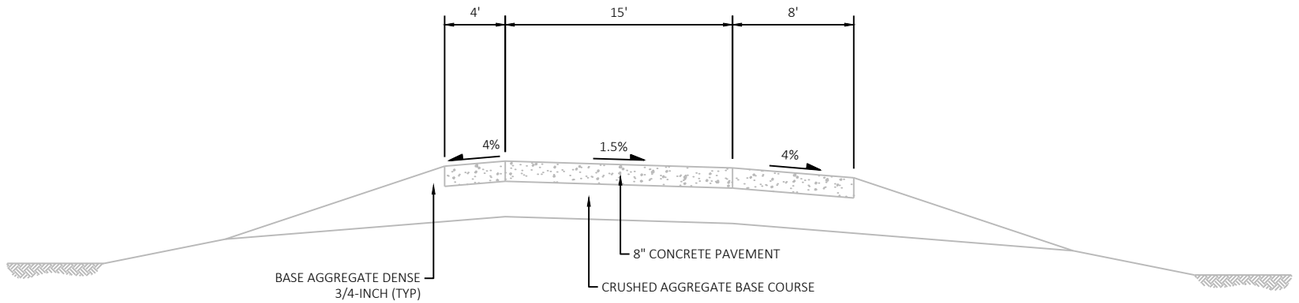
PLOT DATE : 7/28/2021 2:28 PM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:2500 FT

WISDOT/CADDS SHEET 42

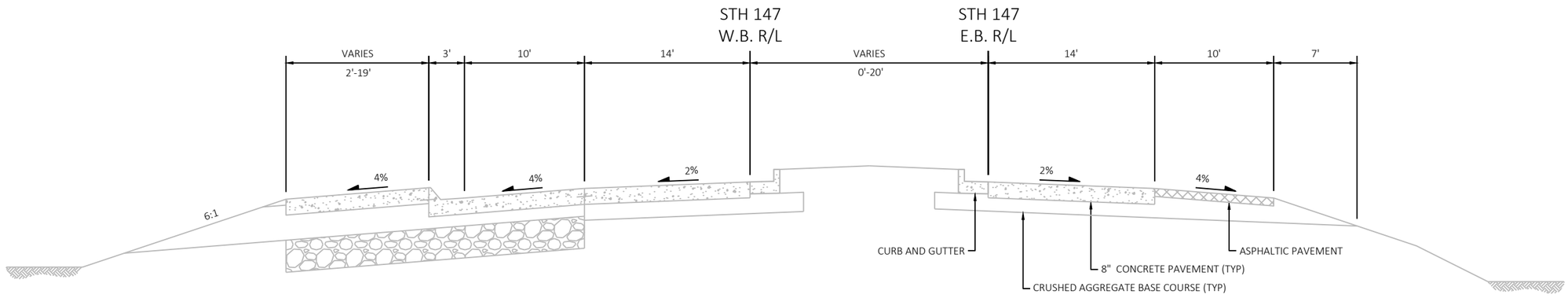


ASPHALT OVERLAYS 4" TOTAL THICKNESS AT EDGE OF TRAVEL LANES
CONCRETE TRAVEL LANES SLOPED AT 1.5 %
SUBGRADE SLOPED AT 1.5 %
CONCRETE SHOULDERS SLOPED AT 4.0 %

EXISTING TYPICAL SECTION IH 43
STH 1606'NB'+74 TO STA 1988'NB'+35



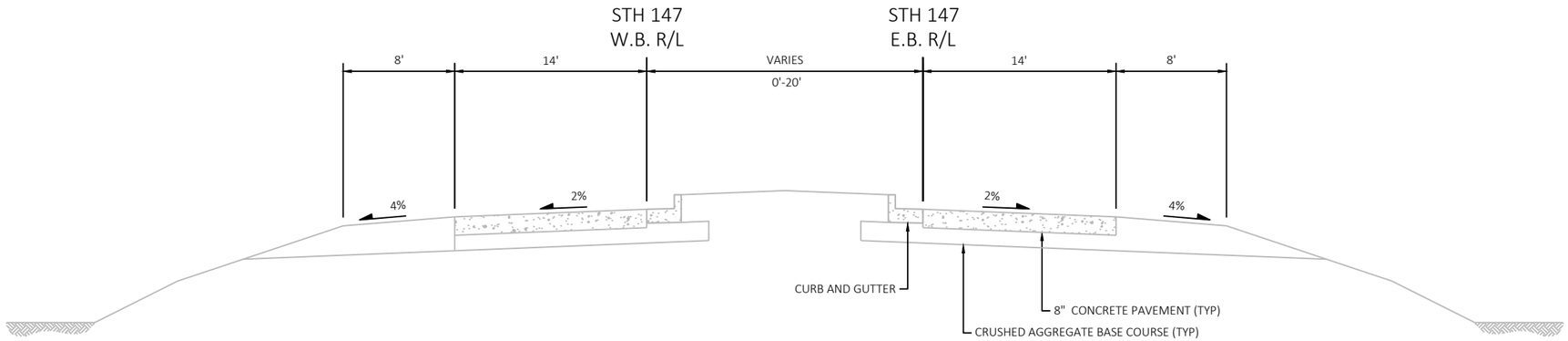
EXISTING TYPICAL SECTION FOR IH 43 RAMPS
STH 147



EXISTING TYPICAL SECTION
STH 147

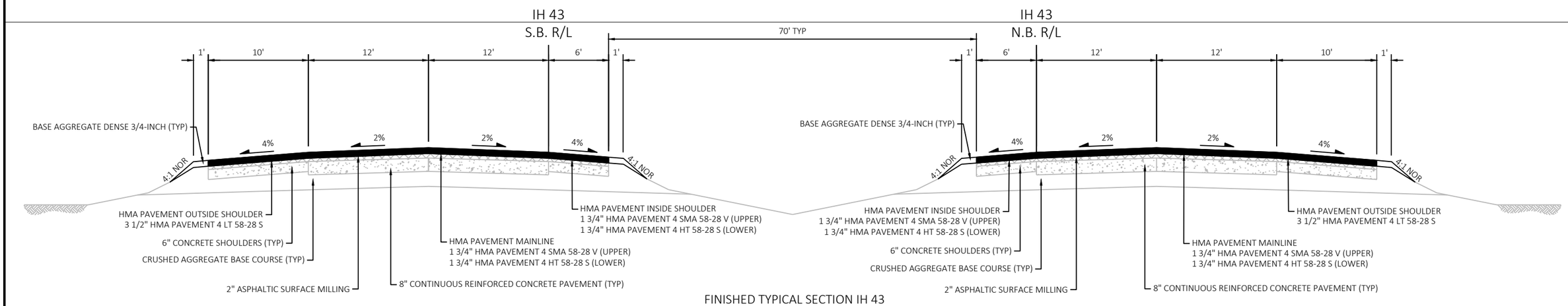
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 4	E

2



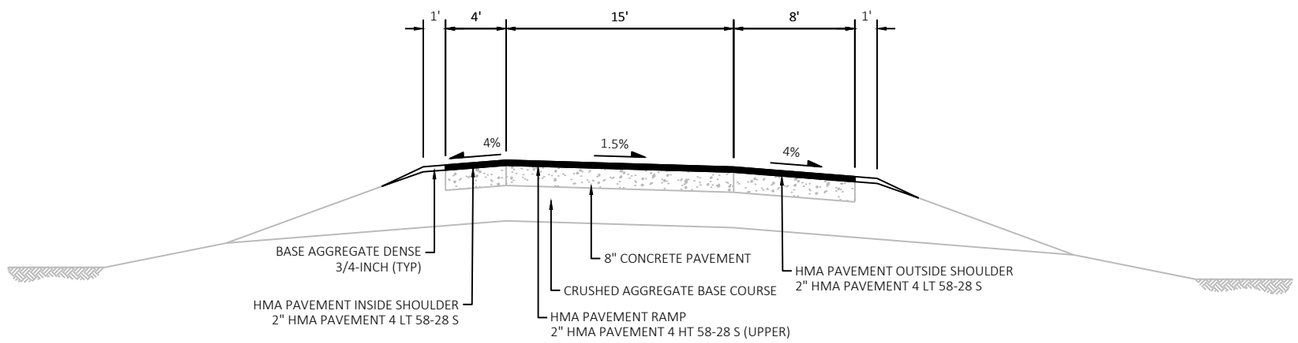
EXISTING TYPICAL SECTION

STH 147



FINISHED TYPICAL SECTION IH 43

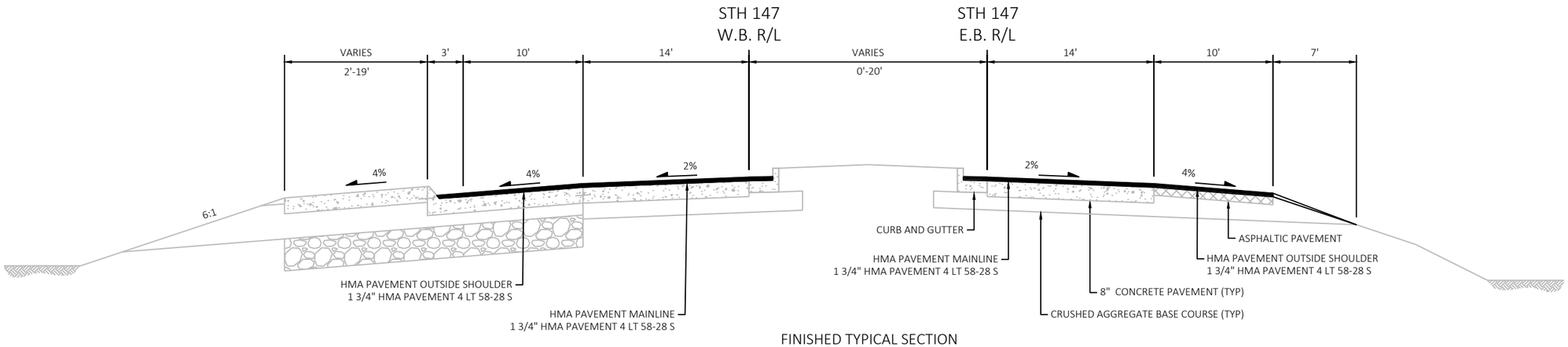
STA 1606'NB'+74 TO STA 1988'NB'+35



FINISHED TYPICAL SECTION FOR IH 43 RAMPS

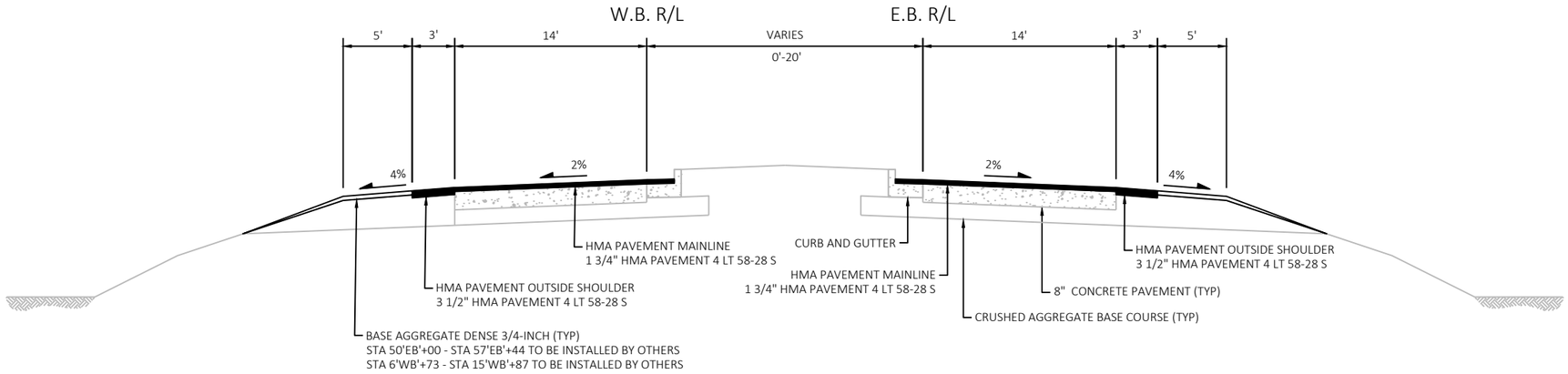
STH 147

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 5	E



FINISHED TYPICAL SECTION

STH 147



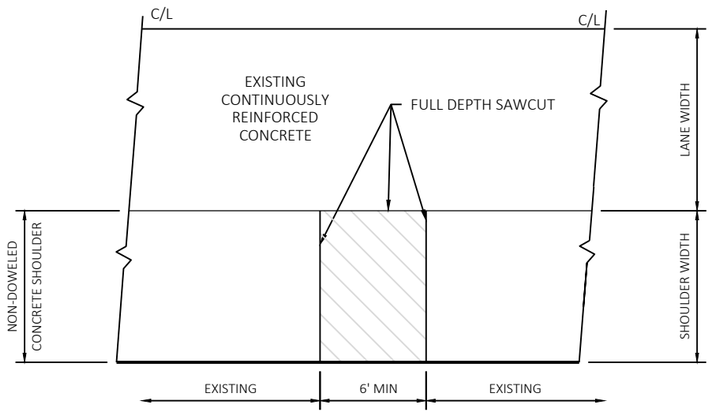
FINISHED TYPICAL SECTION

STH 147

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 6	E

FILE NAME : C:\WISDOT\DESIGN\C3D\12271200\SHEETSPLAN\1227-12-72\020301-TS.DWG
LAYOUT NAME - 020303-ts

PLOT DATE : 7/28/2021 2:28 PM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1IN:10 FT



PLAN VIEW

FULL DEPTH CONCRETE PAVEMENT REMOVAL

SHOULDER ONLY

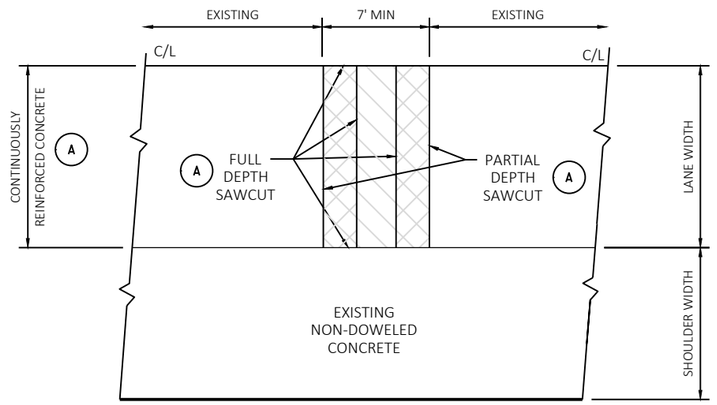
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. THE DEPARTMENT WILL NOT MEASURE CUTS TO REDUCE REMOVAL SLABS TO A WIDTH LESS THAN 7 FEET.

PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS OVERLAID AFTER REPAIRING.

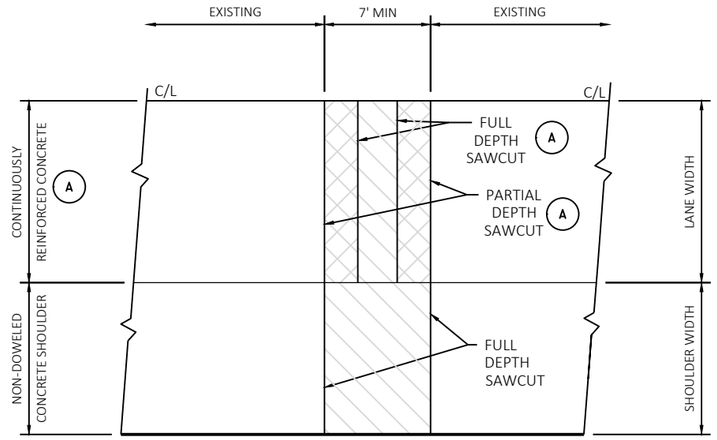
(A) REFER TO SDD CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT.



PLAN VIEW

FULL DEPTH CONCRETE PAVEMENT REMOVAL

MAINLINE ONLY

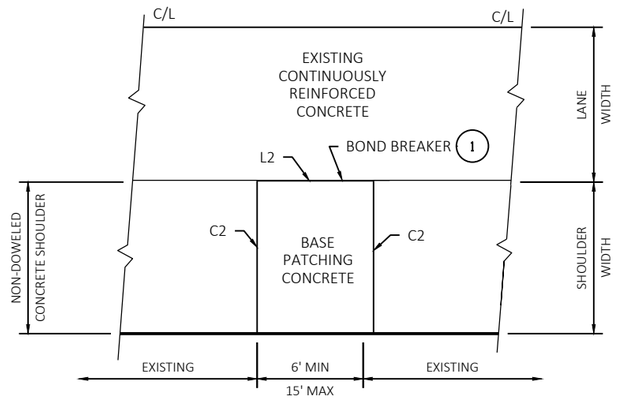


PLAN VIEW

FULL DEPTH CONCRETE PAVEMENT REMOVAL

MAINLINE AND SHOULDER REPAIR

2



PLAN VIEW

SHOULDER BASE PATCH

15' MAXIMUM LENGTH

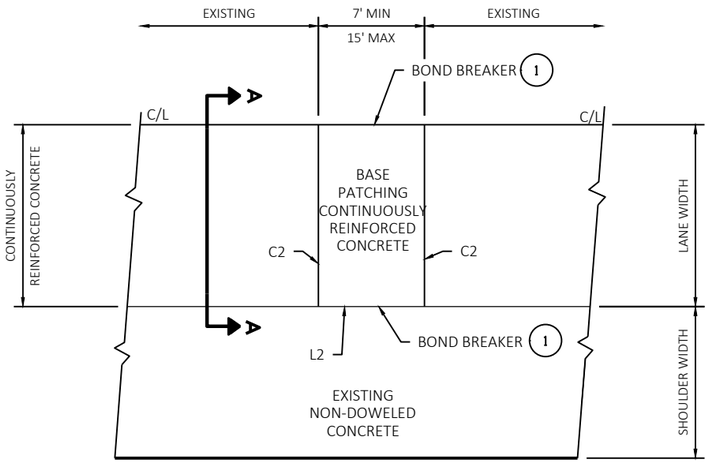
GENERAL NOTES

DO NOT INSTALL DOWELS IN EXISTING NON-DOWELED CONCRETE PAVEMENTS.

DO NOT SEAL OR FILL JOINTS.

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SHOULDER BASE PATCHES UP TO 15 FEET IN LENGTH.

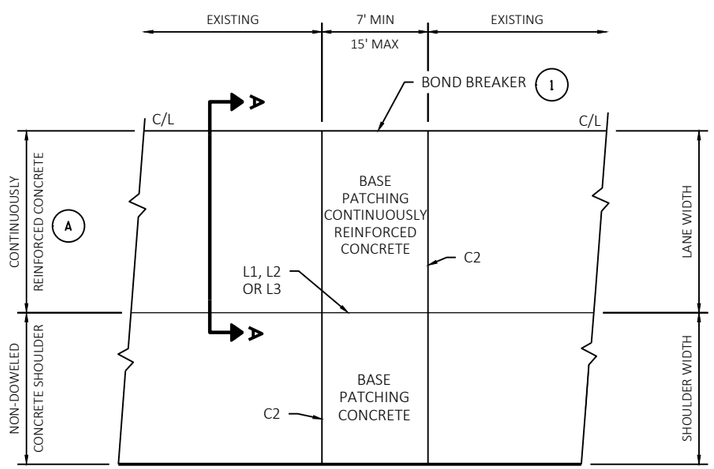
(A) REFER TO SDD CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT.



PLAN VIEW

MAINLINE BASE PATCH

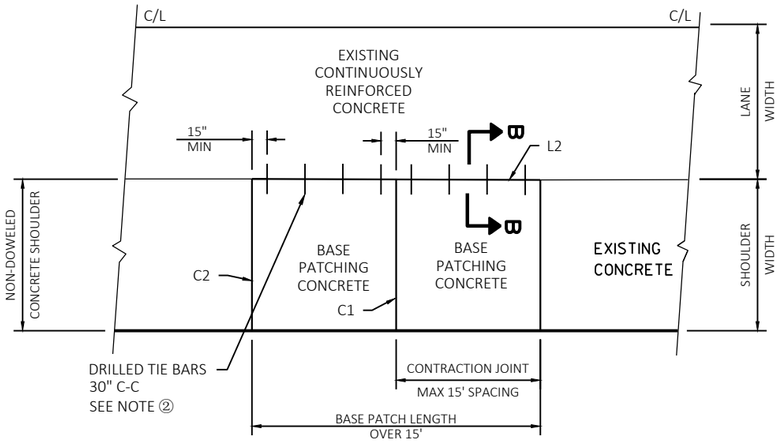
15' MAXIMUM LENGTH



PLAN VIEW

MAINLINE AND SHOULDER BASE PATCH

15' MAXIMUM LENGTH



PLAN VIEW

SHOULDER BASE PATCH

GREATER THAN 15' IN LENGTH

NOTES

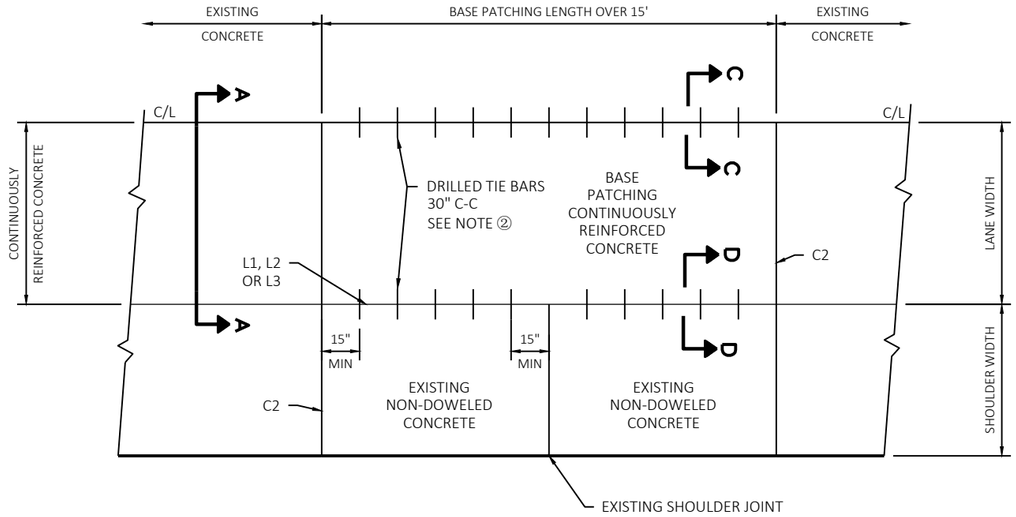
DO NOT INSTALL DOWELS IN EXISTING NON-DOWELED CONCRETE PAVEMENT.

DRILLED TIE BARS ARE 12" NO. 6 BAR SPACED AT 30" C-C INTO EXISTING CONCRETE. TIE BARS PLACED IN NEW CONCRETE ARE 30" N0. 4 BARS SPACED AT 36". DRILLED TIE BARS WILL BE PAID UNDER THE DRILLED TIE BAR ITEM. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

DO NOT SEAL OR FILL JOINTS.

WITH THE APPROVAL OF THE ENGINEER, FOR SHOULDER PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

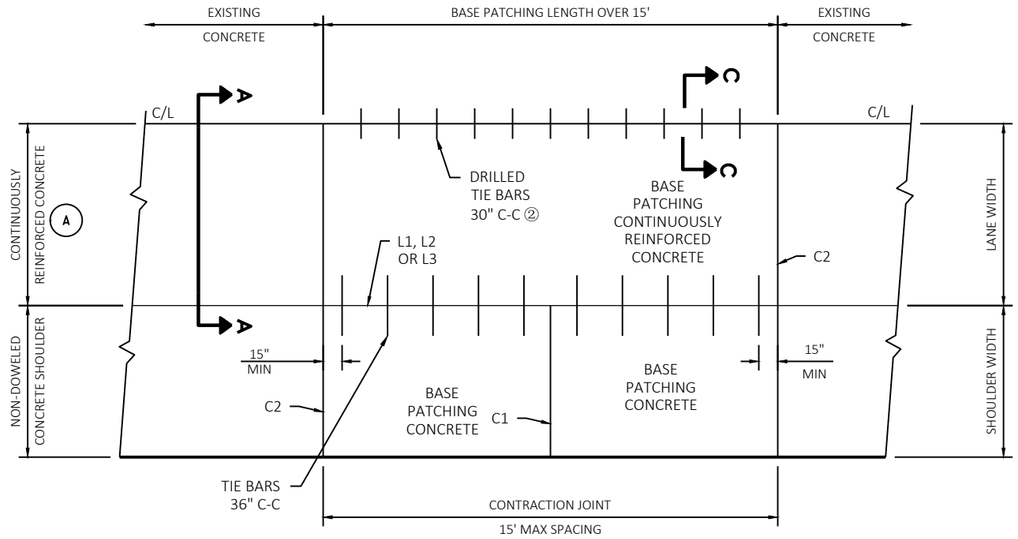
(A) REFER TO SDD CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT.



PLAN VIEW

MAINLINE BASE PATCH

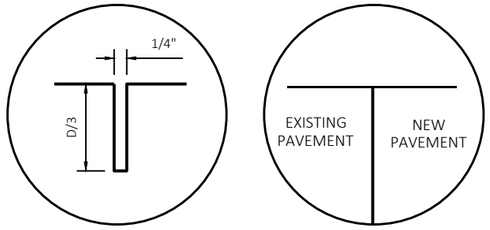
GREATER THAN 15' IN LENGTH



PLAN VIEW

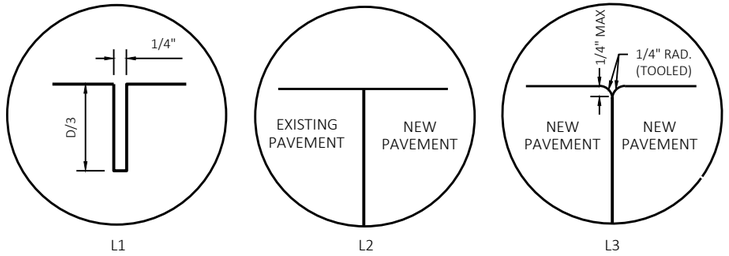
MAINLINE AND SHOULDER BASE PATCH

GREATER THAN 15' IN LENGTH



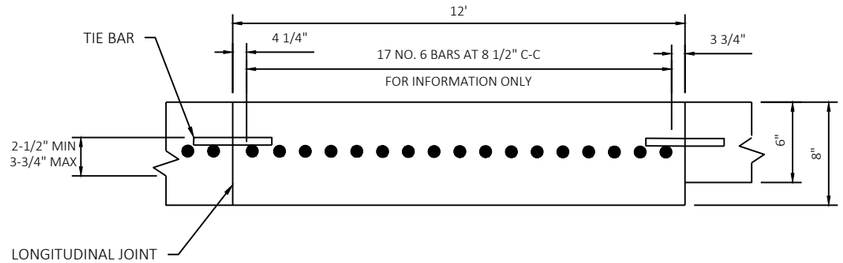
C1 C2

TRANSVERSE JOINTS



L1 L2 L3

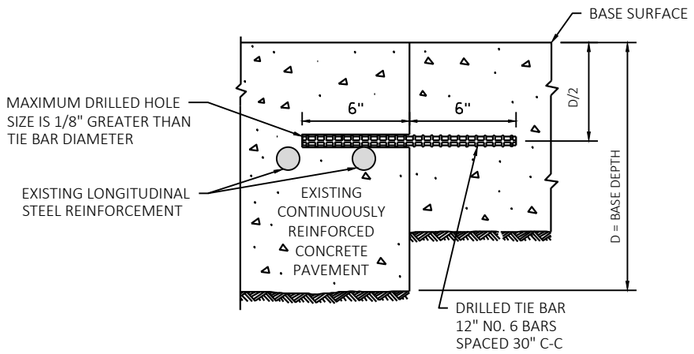
LONGITUDINAL JOINTS



SECTION A-A

EXISTING LONGITUDINAL STEEL PLACEMENT IN CRCP REPAIRS

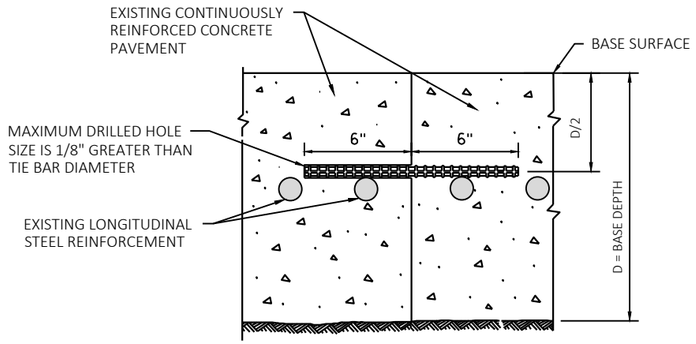
FOR INFORMATION ONLY



SECTION B-B

DRILLED TIE BAR

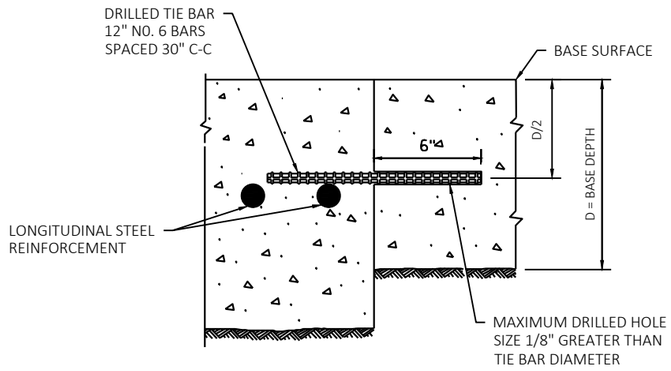
MAINLINE-SHOULDER



SECTION C-C

DRILLED TIE BAR

MAINLINE-MAINLINE



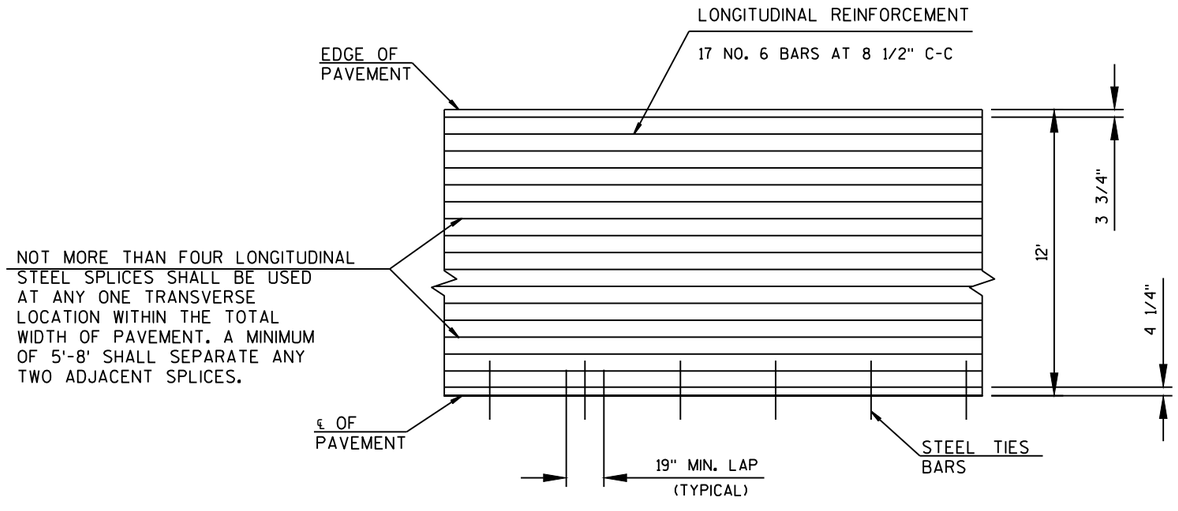
SECTION D-D

DRILLED TIE BAR

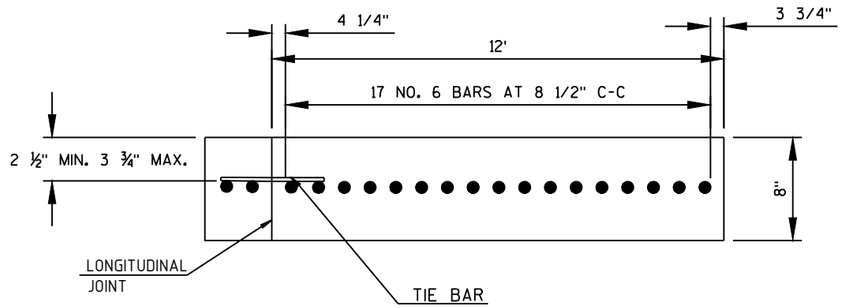
MAINLINE-SHOULDER

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CONSTRUCTION DETAILS	SHEET 10	E

2



REINFORCEMENT STEEL PLACEMENT



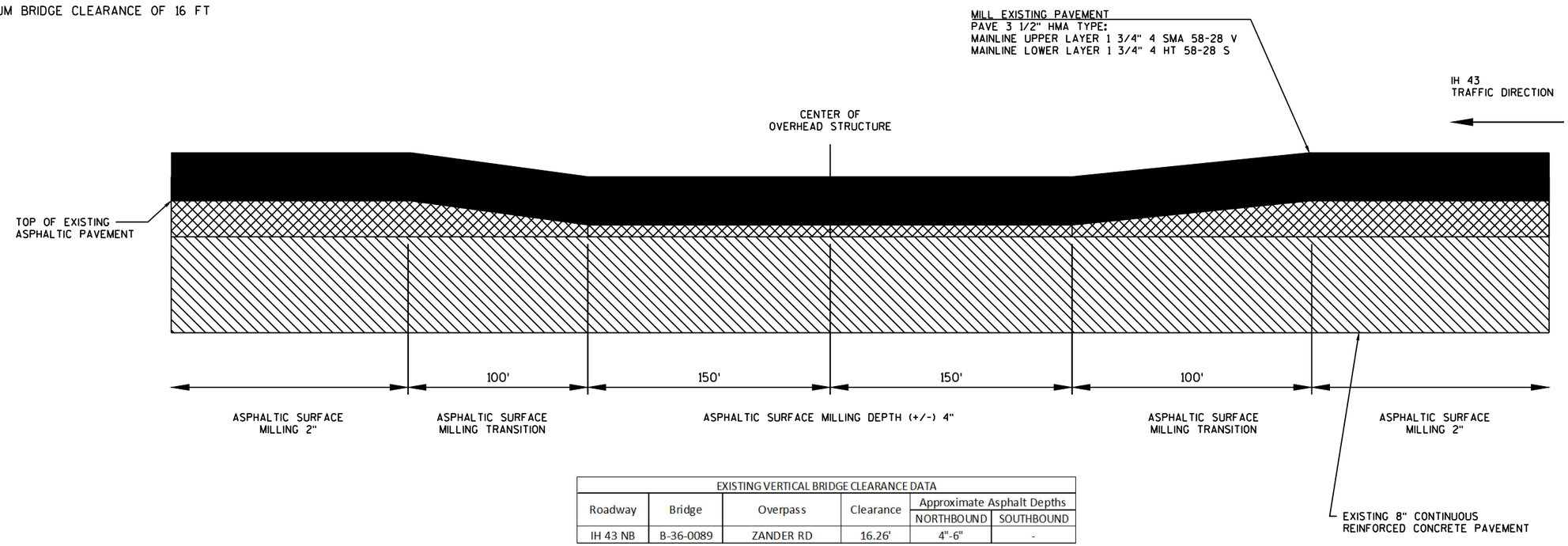
LONGITUDINAL CENTERLINE JOINT DETAIL

CONTINUOUSLY REINFORCED CONCRETE LONGITUDINAL BAR SPACING

NOTE: SEE STANDARD DETAIL FOR MORE INFORMATION

NOTES

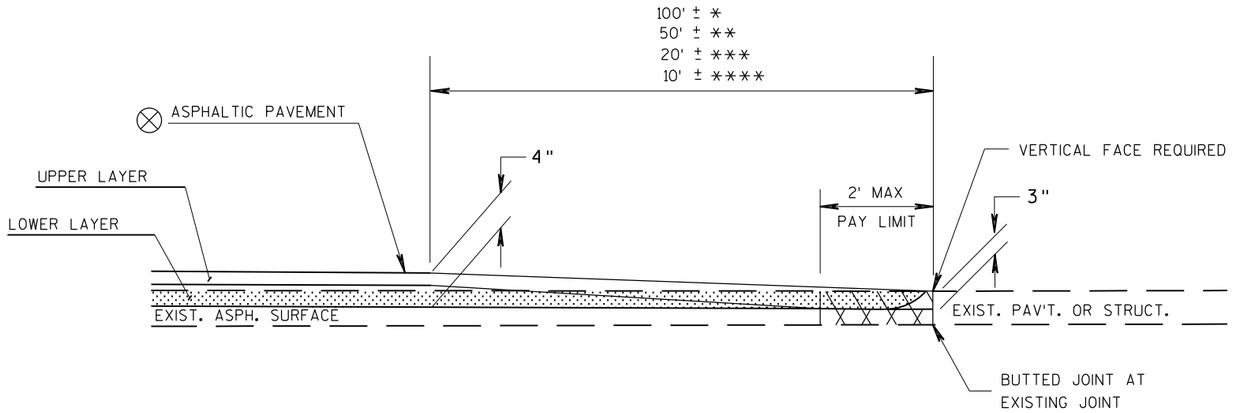
MAINTAIN MINIMUM BRIDGE CLEARANCE OF 16 FT



EXISTING VERTICAL BRIDGE CLEARANCE DATA					
Roadway	Bridge	Overpass	Clearance	Approximate Asphalt Depths	
				NORTHBOUND	SOUTHBOUND
IH 43 NB	B-36-0089	ZANDER RD	16.26'	4"-6"	-

IH 43 PAVING DETAIL AT OVERHEAD STRUCTURES

2



⊗ SEE TYPICAL CROSS SECTION FOR THICKNESS OF INDIVIDUAL LAYERS

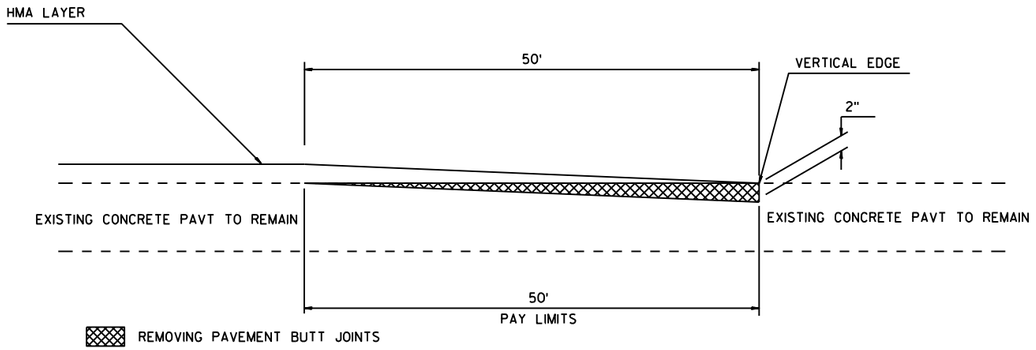
REMOVING ASPHALTIC SURFACE, MILLING

REMOVING ASPHALTIC SURFACE, BUTT JOINTS (FULL DEPTH REMOVAL OPTIONAL)

ASPHALTIC WEDGING (FULL DEPTH REMOVAL OPTION)

BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS

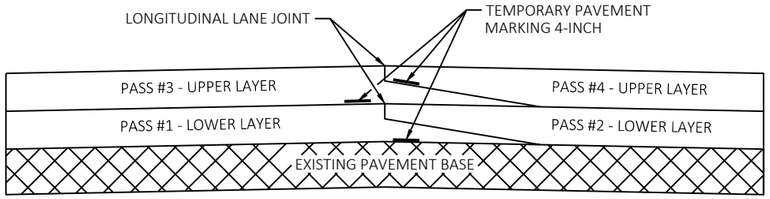
* IH 43 MAINLINE
** IH 43 RAMPS & STATE & COUNTY HIGHWAYS
*** SIDEROADS
**** PRIVATE ENTRANCES



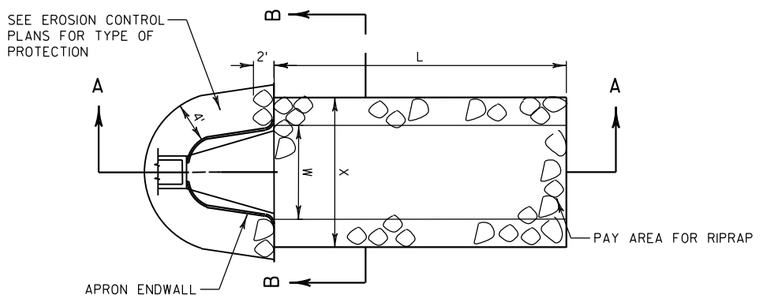
REMOVING PAVEMENT BUTT JOINT DETAIL

STH 147

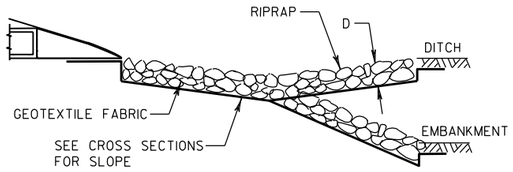
2



PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS



PLAN VIEW



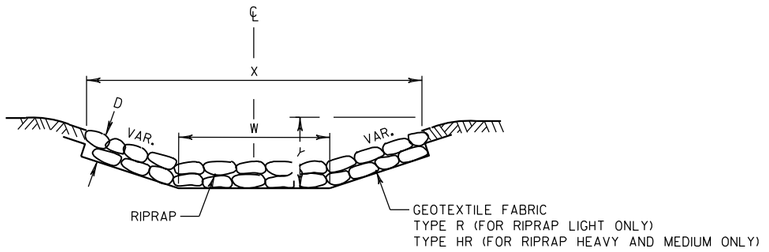
SECTION A-A

L = 3 x W (NOR.) OR 10' MIN. OR AS INDICATED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

D = 12" FOR RIPRAP LIGHT
18" FOR RIPRAP MEDIUM
24" FOR RIPRAP HEAVY

X = W+(2 X (PIPE DIAMETER))

Y = 0' FOR TYPICAL CULVERT DISCHARGE INTO DITCH
12" FOR CULVERT DISCHARGE DOWN EMBANKMENT SLOPE

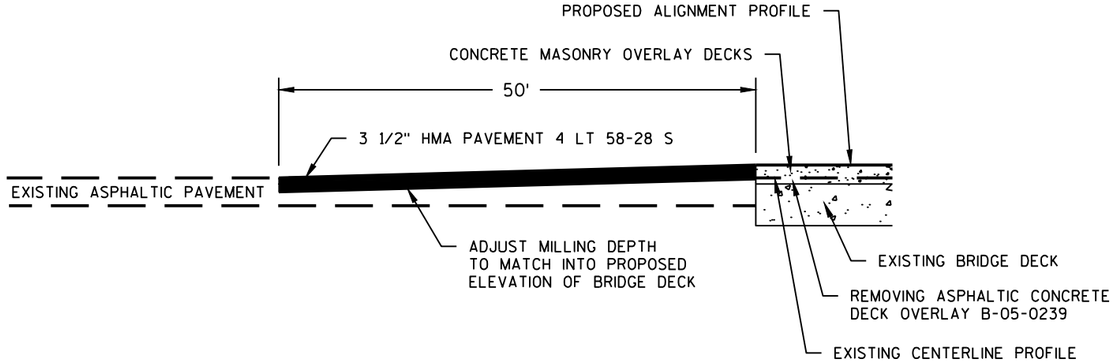


SECTION B-B

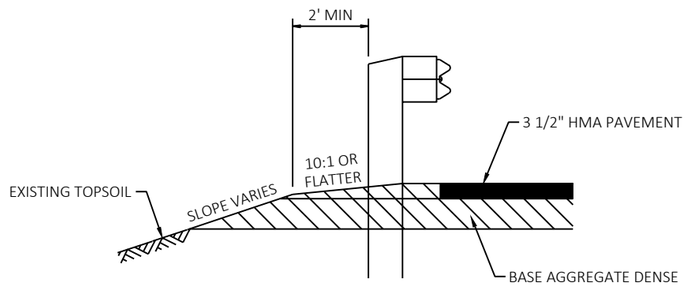
RIPRAP AND GEOTEXTILE FABRIC DETAIL AT APRON ENDWALLS

SEE EROSION CONTROL PLAN FOR LOCATIONS

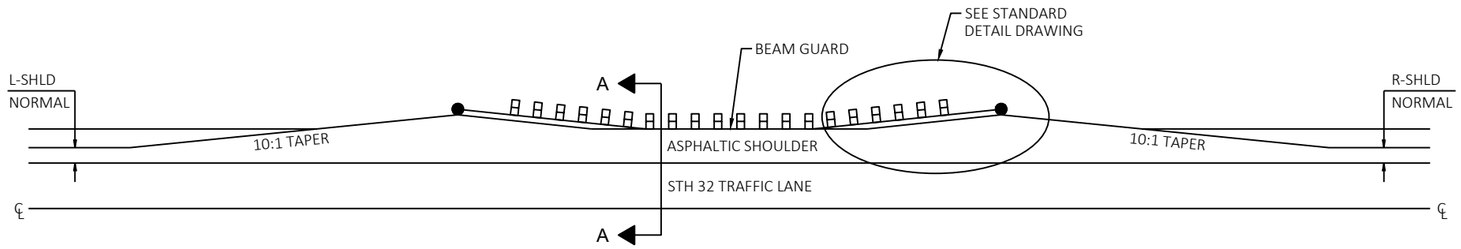
2



DETAIL FOR TRANSITION FROM STRUCTURE B-05-0239 TO ROADWAY



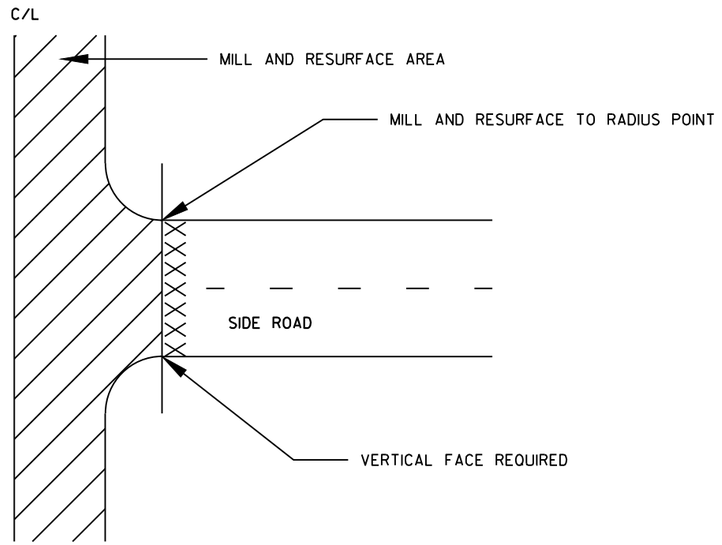
SECTION A-A



DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

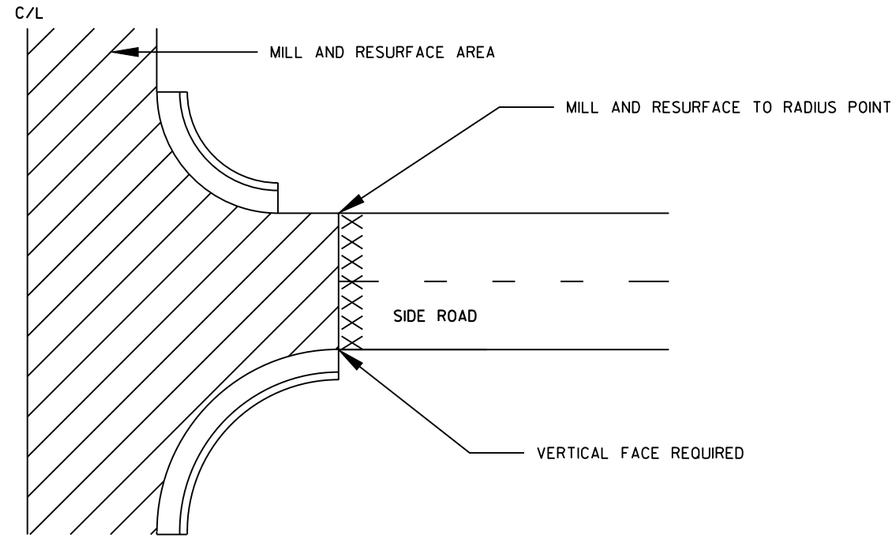
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CONSTRUCTION DETAILS	SHEET 15	E

SIDE ROAD DETAIL - NO CURB & GUTTER
NOT TO SCALE

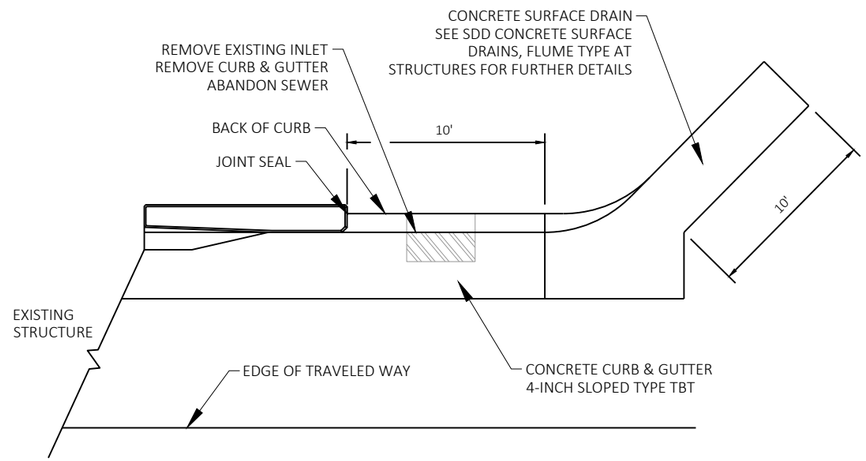


PLAN VIEW

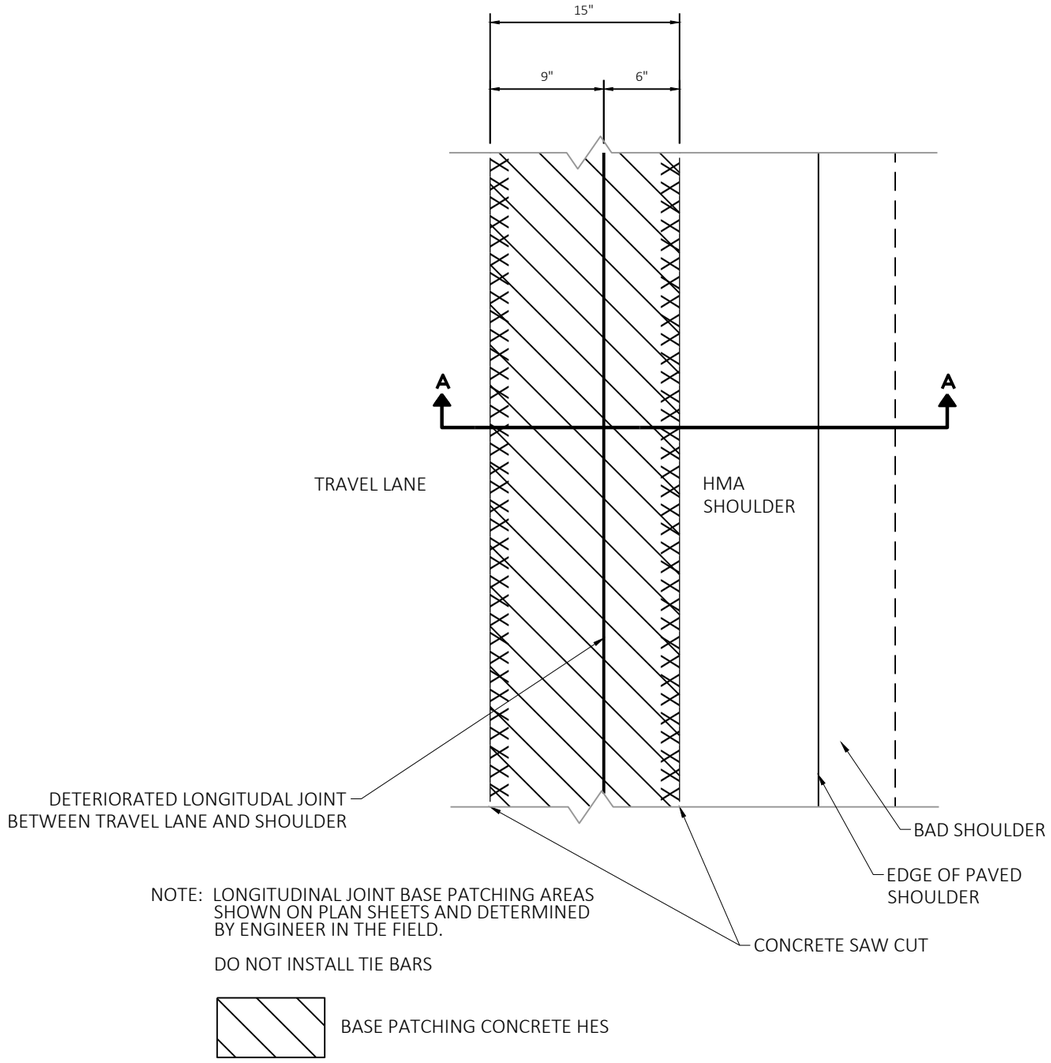
SIDE ROAD DETAIL - CURB & GUTTER
NOT TO SCALE



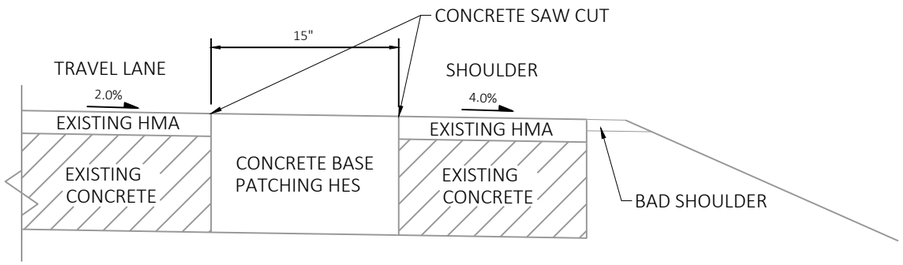
PLAN VIEW



CONCRETE SURFACE DRAIN AT STRUCTURES WITHOUT BEAMGUARD

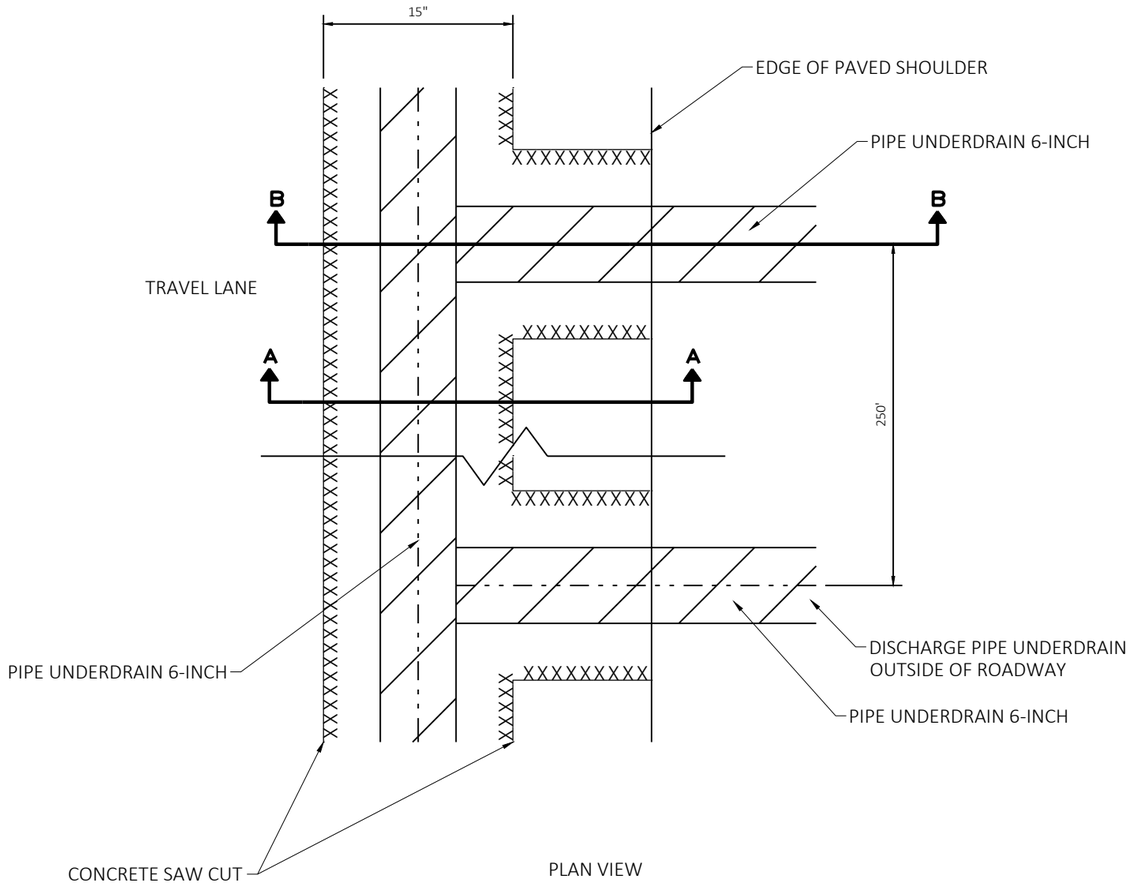


PLAN VIEW

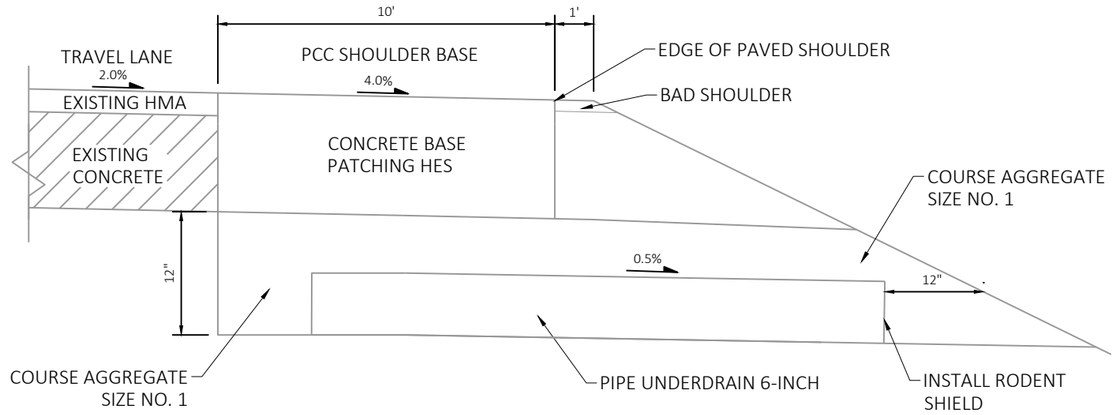


SECTION VIEW A-A

BASE PATCHING SHOULDER LONGITUDINAL JOINT



PLAN VIEW



SECTION VIEW B-B

SECTION VIEW A-A

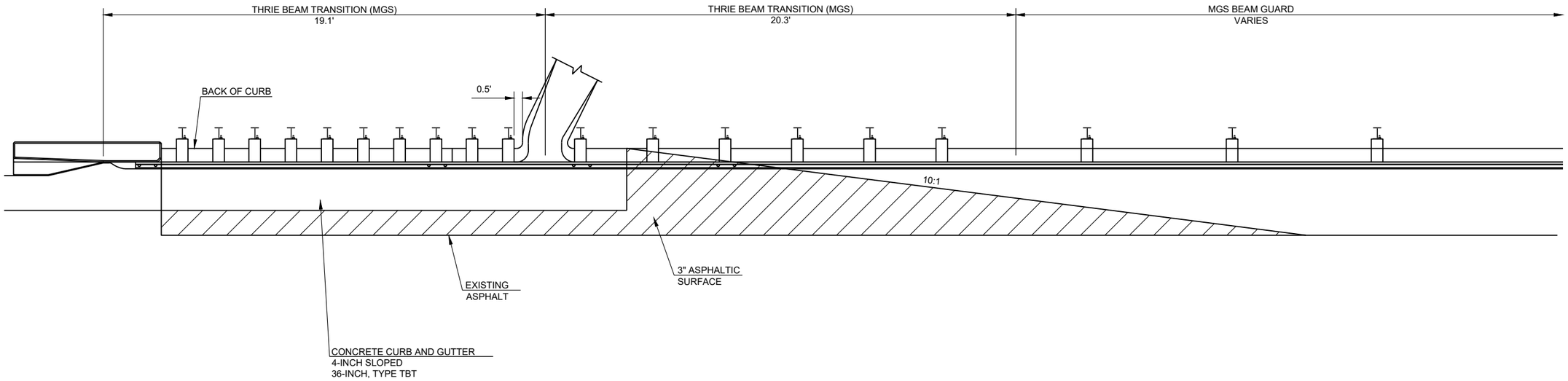
NOTE: ENGINEER TO DETERMINE THE LOCATIONS
IN THE FIELD TO PLACE PIPE UNDERDRAIN

REFER TO THE FOLLOWING SDD'S
EDGEDRAIN OUTLET AND OUTFALL MARKERS
EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
EDGEDRAIN AND BASE AGGREGATE OPEN GRADED

REFER TO SPV.0090 PIPE UNDERDRAIN (6-INCH) WITH
GEOTEXTILE FABRIC AND AGGREGATE

PIPE UNDERDRAIN FOR LONGITUDINAL JOINT BASE PATCH AREAS

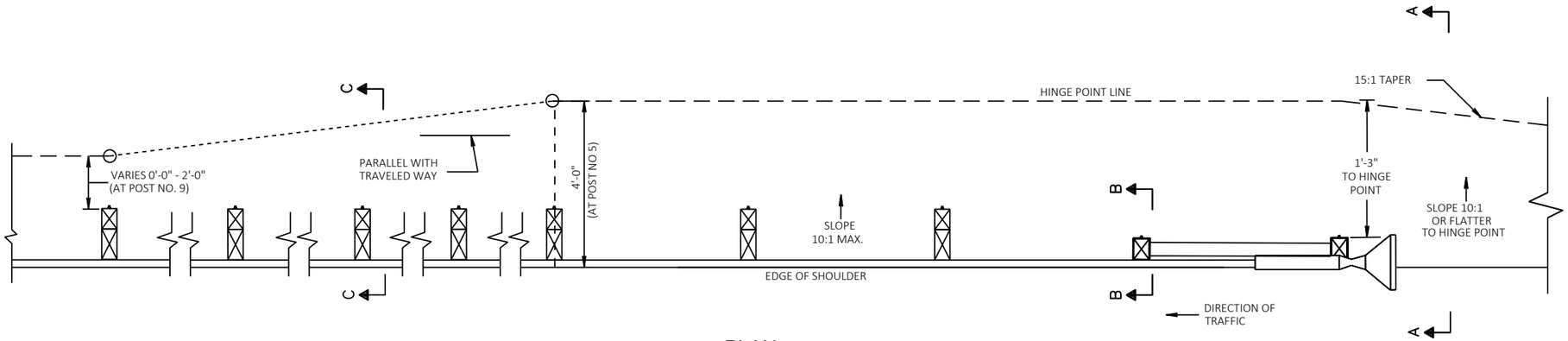
2



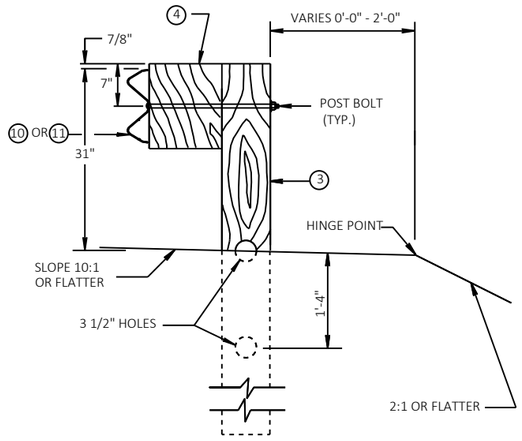
CONCRETE SURFACE DRAIN DETAIL AT OVERPASSES

NOTE:
LAYOUT GUARDRAIL POST LOCATIONS BEFORE POURING CONCRETE CURB AND GUTTER TO LOCATE THE EXACT LOCATION OF THE SURFACE DRAIN.

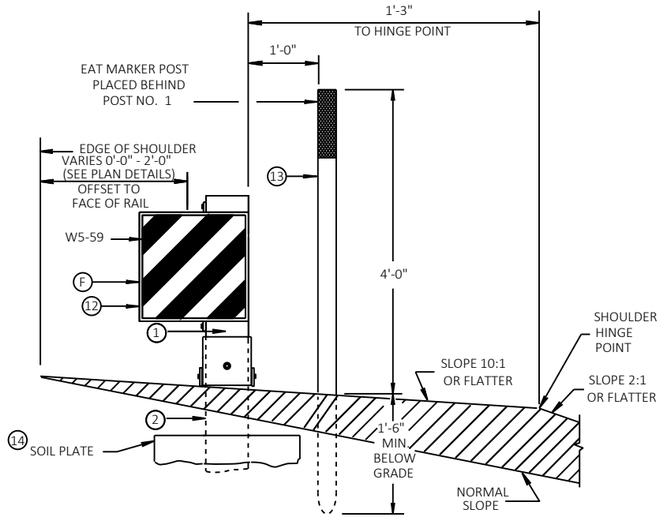
2



PLAN



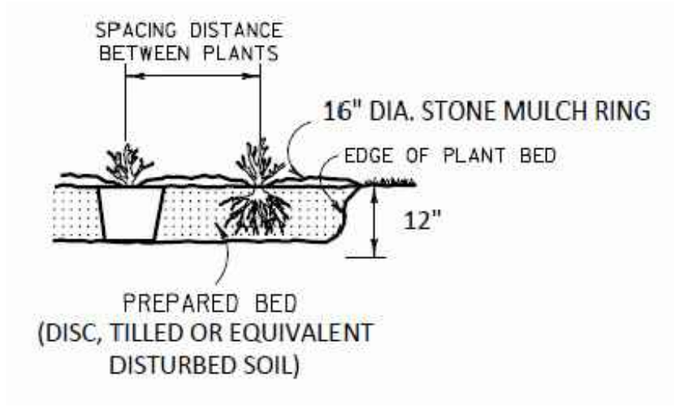
SECTION C-C
TYPICAL AT POST NOS. 3-9



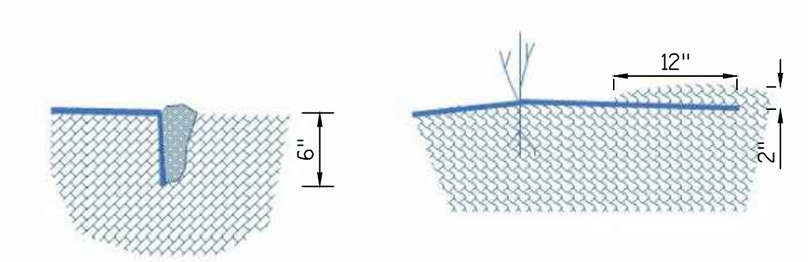
SECTION A-A
TYPICAL AT POST NO. 1 *

NOTE:
SEE SDD "MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)" FOR OTHER DETAILS AND NOTES.

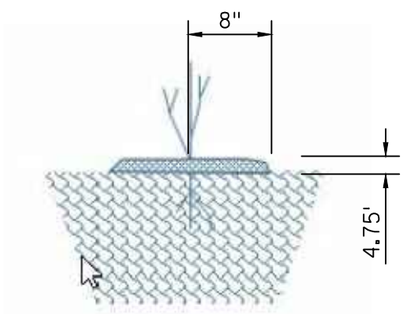
MIDWEST GUARDRAIL SYSTEM EAT AT OVERPASSES



PLANTING BED DETAIL



FABRIC EDGE DETAIL



GRAVEL RING DETAIL

Planting Process Expectations

ENDANGERED SPECIES EXPECTATIONS

- MOWING MUST BEGIN THE FIRST WEEK OF APRIL, TO A MAX HEIGHT OF 6-INCHES.
- MOWING MUST BE MAINTAINED UP TO THE DATE OF INSTALL TO PREVENT NESTING OF ENDANGERED SPECIES.
- CONTRACTOR WILL TAKE GREAT CARE TO WATCH FOR, AND REMOVE, ANY TURTLES FOUND WITHIN THE LIMITS OF THE PROJECT SITE FOR THE DURATION OF THE PROJECT.

INITIAL PLANTING

1. IF REQURIED PER THE PLAN SET CLEAR AND GRUB WOODY VEGETATION.
2. APPLY HERBICIDE TO PLANTING SITE TO KILL EXISTING WEEDS.
    - APPLY MINIMUM DAYS PRIOR TO CULTIVATING SITE BASED ON MANUFACTURERS APPLICATION INSTRUCTIONS
    - APPLICATOR MUST BE CERTIFIDED AND LICENSED
2. MOW AND MAINTAIN SITE TO A HEIGHT NO MORE THAN 6-INCHES.
3. WITHIN 7 DAYS OF SEEDLING STOCK INSTALLATION PREPARE PLANTING BED BY DISCING, TILLING OR EQUIVALENT PROCESS.
    - MINIMUM SOIL DISTURBANCE TO BE 12-INCHES DEPTH AND 12-INCHES WIDTH PER ROW. SEE DETIAL.
4. APPLY PRE-EMERGENT HERBICIDE TO THE PLANTING BED.
    - MINIMUM DAYS PRIOR TO PLANTING THE SEEDLING STOCK SITE BASED ON MANUFACTURERS APPLICATION INSTRUCTIONS
    - APPLICATOR MUST BE CERTIFIDED AND LICENSED
5. SOAK SEEDLING STOCK ROOTS 1 TO 24 HOURS PRIOR TO PLANTING.
6. PLANT SEEDLING STOCK AND INSTALL SPECIFIED WEED BARRIER FABRIC OR EQUIVANT. PICK FROM TWO OPTIONS.

HAND PLANTING OPTION	MACHINE PLANTING OPTION
A. PLACE SPECIFIED WEED BARRIER FABRIC OR EQUIVILANT. SEE STEP 7 FOR MORE DETAILS. B. HAND PLANT SEEDLING STOCK THOURGH THE FABRIC	A. MACHINE PLANT SEEDLING STOCK WITH PULL BEHIND PLANTER B. PLACE SPECIFIED WEED BARRIER FABRIC OR EQUIVILANT. SEE STEP 7 FOR MORE DETAILS.

7. FABRIC INSTALLATION SHALL FOLLOW THESE GUIDELINES
    - INSTALLATION SHALL BE THE WIDTH OF THE PLANTING BED, UNLESS APPROVED BY THE PROJECT ENGINEER.
    - ALL PLANTS SHOULD INSTALLED BE 1.5-FEET FROM ALL EDGES OF THE FABRIC.
    - WHEN CUTTING HOLES IN THE FABRIC INDIVIDUAL SLITS SHALL BE LARGE ENOUGH TO PULL THE SHRUB THROUGH AND NO MORE. EXCESS SPACE LEADS TO WEED COMPETION.
    - STAPLES SHALL BE PLACED ACCORDING TO MANUFACTURER'S RECOMMENDATION.
    - CONTRACTOR SHALL SECURE THE OUTSIDE EDGE OF FABRIC BY EITHER CREATEING A 2-INCHE SOIL BERM ON THE OUTSIDE ONE FOOT OF FABRIC OR DEPRESS 6-INCHES OF OUTSIDE EDGE BELOW THE NATURAL GRADE TO PREVENT LIFTING. SEE DETAIL.
8. INSTALL PEA GRAVEL LANDSCAPE MULCH ON TOP OF FABRIC AROUND EACH PLANT HOLE. SEE DETAIL.
    - PEA GRAVEL MULCH SHALL BE USED TO PREVENT WEED GROWTH IN THE CUT SLITS MADE IN THE FABRIC.
    - SWEEP AND/OR BLOW ANY SOIL, STRAW MULCH, OR OTHER DEBRIS OFF THE TOP OF THE FABRIC PRIOR TO THE PLACEMENT OF THE PEA GRAVEL MULCH.
    - APPLY MULCH AT A 2-INCH DEPTH AS PER THE LIVING SNOW FENCE LAYOUT DETAIL SHEET.
    - USE ¾ INCH CRUSHED AND SCREENED STONE CHIPS IN PLACE OF THE PEA GRAVEL FOR STEEP SLOPES. STONE CHIPS MUST NOT BE LIMESTONE.

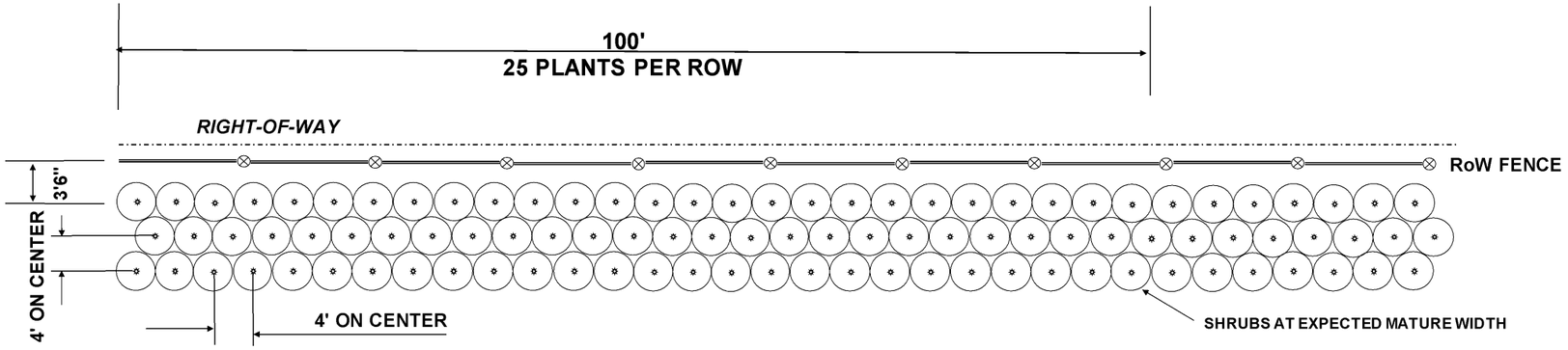
REPLACING DEAD SEEDLING STOCK (EACH SPRING FOLLOWING INTIAL PLANTING)

1. MOW OUTSIDE EDGES OF WEED FABRIC TO A HEIGHT NO MORE THAN 6"
2. APPLY PRE-EMERGENT TO OUTSIDE EDGES AND EXPOSED SOIL IN FABRIC OPENING.
3. REMOVE ANY DEAD PLANT
4. CREATE A DISTURBED SOIL STATE TO A DEPTH OF 12-INCHES
5. INSTALL SEEDLING STOCK REPLACEMENTS
6. BEGIN CARE CYCLE MAINTENANCE

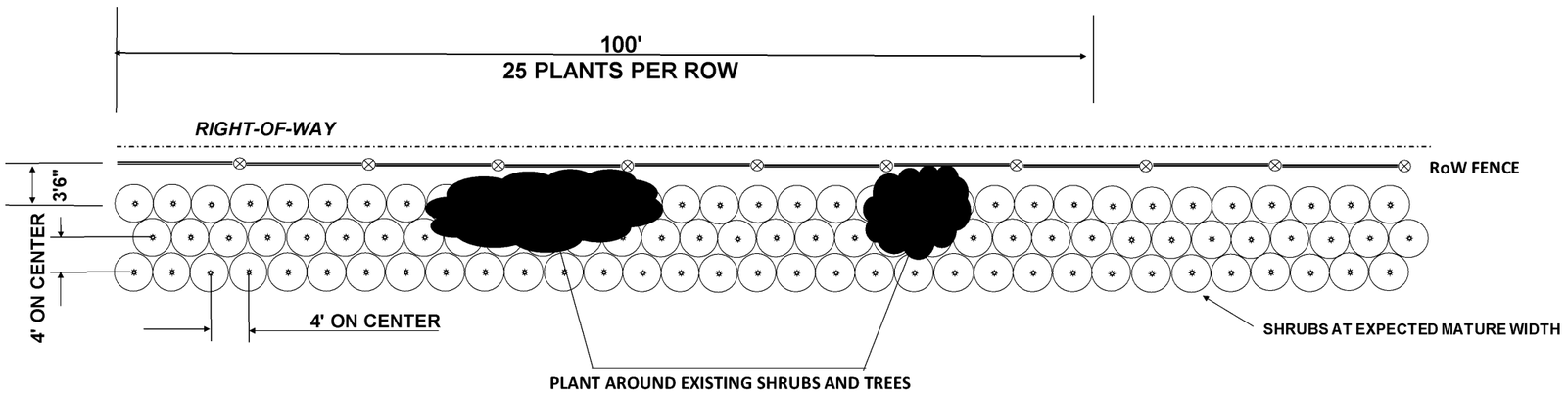
CARE CYCLE MAINTENANCE

1. TO BE PERFORMED AT A MINIMUM OF EVERY TWO WEEKS, TO A MAX OF 13 TOTAL CARE CYCLES PER GROWING SEASON
2. CONTROL WEEDS
    - HAND PULL WEEDS
    - SELECTIVE HERBICIDE TREATMENT WITH CAUTION
    - WEED EATERS/WHACKERS ARE NOT RECOMMENDED DUE HIGH POTENTIAL OF DAMAGE TO SEEDLINGS
3. WATER AS NEEDED
4. MOW SEVERAL TIMES IN THE SEASON TO CONTROL ENCROACHMENT OF UNWANTED VEGETATION.
    - OUTSIDE EDGES OF PLANTING AREA BY 3 TO 5-FEET
5. SUBMIT CARE CYCLE REPORTS EVERY CARE EVENT

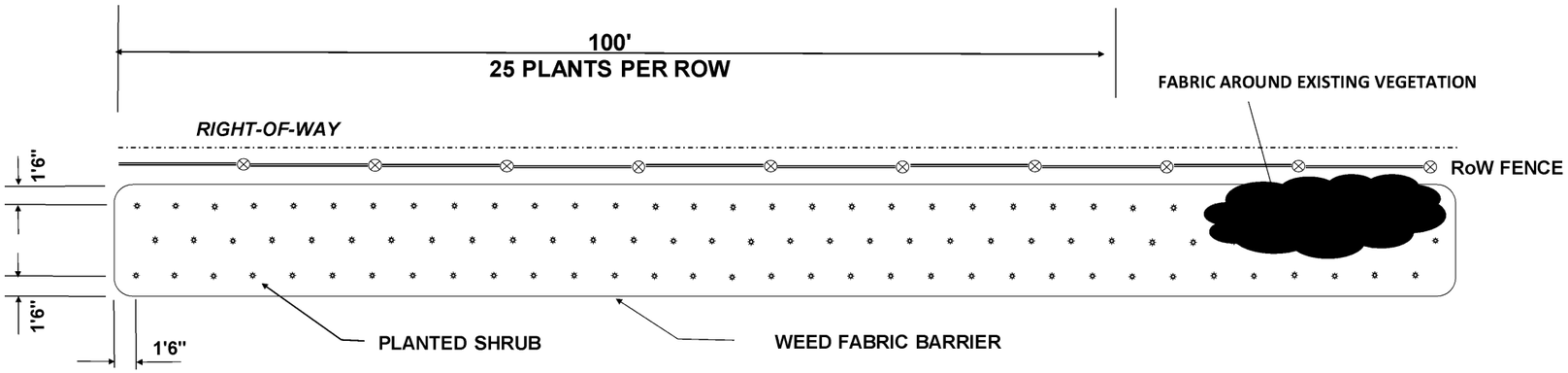
PLANT BED DETAILS



SHRUB DETAIL 1



SHRUB DETAIL 2



SHRUB DETAIL 3

GENERAL

WEED BARRIER LIMITS- WEED BARRIER IS TO EXTEND BEYOND THE OUTER PLANTS TO A MINIMUM DISTANCE OF 1.5'.

BASE LINE-IF A BASE LINE IS SHOWN, AT LEAST THE FIRST ROW OF PLANTS SHALL FOLLOW THE LINE.

PLANTING-SHRUBS ARE TO BE PLANTED IN INDIVIDUAL HOLES OR IN CONTINUOUS TRENCH AS SPECIFIED ON THE "PLANT DATA CHART." IF PLANTED IN A TRENCH, THE TRENCH SHALL BE AS DEEP AND AS WIDE AS THAT SPECIFIED FOR INDIVIDUAL HOLES ON THE "PLANT DATA CHART." EXCESS EXCAVATED MATERIAL MAY BE DISPOSED OF BETWEEN THE HOLES OR TRENCH IF IN THE JUDGEMENT OF THE ENGINEER IT DOES NOT CAUSE EROSION OR DAMAGE PROBLEMS. IF THIS IS DONE, PLANT ELEVATIONS WILL BE ADJUSTED ACCORDINGLY AND THE ENTIRE BED AREA WILL BE RAKED OR OTHERWISE FINISHED TO PRODUCE A UNIFORM SURFACE CONFORMING THE ORIGINAL SHAPE AND CONTOUR. THE ENTIRE BED AREA SHALL BE PLANTED.

NOTES:
1. ALL PLANTINGS TO BE INSTALLED PARALLEL TO RIGHT OF WAY FENCE.
2. MAINTAIN CONTINUOUS LINEAR PLANTINGS WITHOUT OPENINGS OR GAPS, WHERE POSSIBLE.
3. WEED FABRIC SHRUB BEDS TO LIMITS INDICATED ON DETAIL PLAN SHEETS.

PLANT DATA CHART

SYMBOL	COMMON NAME	SCIENTIFIC NAME	TYPE	AVE MATURE HEIGHT	SIZE (CAL OR HT) WHEN PLANTED	ROOT ZONE MODE	MINIMUM SIZE					BRACE OR GUY	FERT. UNITS REQ'D	RODENT PROTCT REQ'D	MULCH RING DIAM.	PLT BED DTL
							BALL/POT		ROOT SPREAD	PLANT HOLE						
							DIAM.	DEPTH		DIAM.	DEPTH					
	DECIDUOUS SHRUBS															
RO	Red Osier Dogwood	Cornus sericea	2S	10'	12-18"	BR*	9"	6"		**	6"	NO	2	NO	NO	BED
AF	American Hazelnut (Filbert)	Corylus americana	3S	8'	12-18"	BR*	9"	6"		**	6"	NO	2	NO	NO	BED
CN	Common Ninebark	Physocarpus opulifolius	3S	8'	12-18"	BR*	9"	6"		**	6"	NO	2	NO	NO	BED

BR: Bare Root

B&B: Balled and Burlapped

CG: Container Grown

* Container Grown (CG) may be substituted

**Width based on size of equipment: 6" Powered Auger, Pull behind planter, or Spade

2

GUARDRAIL DETAIL
IH 43 SOUTHBOUND
STA. 1607+43.2'SB' - STA. 1612+16.6'SB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 24	E

2

2

N

HIDDEN VALLEY RD.

IH 43 SOUTHBOUND

1635'SB' 1636'SB' 1637'SB' 1638'SB' 1639'SB' 1640'SB' 1641'SB'

STA. 1636+10.0'NB'

POST NO. 1
1636+59.4'NB'

POST NO. 5
1636+84.4'NB'

POST NO. 9
1637+09.4'NB'

1637+12.5'NB'

REMOVE EXISTING
GUARDRAIL

15:1

4'

4'

1635'NB' 1636'NB' 1637'NB' 1638'NB' 1639'NB' 1640'NB' 1641'NB'

STRUCTURE B-36-83

1640+00.0'NB'

MGS GUARDRAIL
TERMINAL EAT-53.125'

MGS GUARDRAIL 3
287.5'
IH 43 NORTHBOUND

MGS TERMINAL
TYPE 2 REQ'D.

14'HV'

15'HV'

16'HV'

OH

SIGN

GUY

GUARDRAIL DETAIL
IH 43 NORTHBOUND
STA. 1636+10.0'NB' - STA. 1640+00.0'NB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 25	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021201_PD.DWG
LAYOUT NAME - 021202_pd

PLOT DATE : 7/12/2021 2:28 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

HIDDEN VALLEY RD.

14'HV'

IH 43 SOUTHBOUND

1639+50.4'SB'

MGS GUARDRAIL 3
300.0'

MGS GUARDRAIL
TERMINAL EAT-53.125'

1638'SB' 1639'SB' 1640'SB' 1641'SB' 1642'SB' 1643'SB' 1644'SB'

MGS TERMINAL
TYPE 2 REQ'D.

4'

1642+50.4'SB'

4'

15:1

POST NO. 9
1642+53.5'SB'

POST NO. 1
1643+03.5'SB'

POST NO. 5
1642+78.5'SB'

REMOVE EXISTING
GUARDRAIL

STA. 1643+57.0'SB'

STRUCTURE B-36-83

15'HV'

SIGN

SIGN

OH

OH

OH

OH

OH

1638'NB' 1639'NB' 1640'NB' 1641'NB' 1642'NB' 1643'NB' 1644'NB'

IH 43 NORTHBOUND

16'HV'

HIDDEN VALLEY RD.

GUY

GUARDRAIL DETAIL
IH 43 SOUTHBOUND
STA. 1639+50.4'SB' - STA. 1643+57.0'SB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 26	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021201_PD.DWG
LAYOUT NAME - 021203_pd

PLOT DATE : 7/12/2021 2:28 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

xxxxxxxxx SAW CUT

N

2

STH 147/CTH Z

15'ZEB'

IH 43 SOUTHBOUND

1660'SB' 1661'SB' 1662'SB' 1663'SB' 1664'SB' 1665'SB' 1666'SB'

STA. 1661+80.5'NB'

POST NO. 1
1661+93.7'NB'

POST NO. 5
1662+18.7'NB'

POST NO. 9
1662+43.7'NB'

1662+46.8'NB'

REMOVE EXISTING
GUARDRAIL

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

1664+84.3'NB'

CONCRETE SURFACE
DRAIN REQ'D.

BEGIN CONCRETE CURB AND GUTTER
STA. 1664+78.6'NB'

1665+23.7'NB'

15:1

4'

1660'NB' 1661'NB' 1662'NB' 1663'NB' 1664'NB' 1665'NB' 1666'NB'

MGS GUARDRAIL
TERMINAL EAT-53.125'

MGS GUARDRAIL 3
237.5'

MGS THRIE BEAM
TRANSITION-39.40'

IH 43 NORTHBOUND

MGS GUARDRAIL
TERMINAL EAT-53.125'

MGS GUARDRAIL 3
287.5'

MGS THRIE BEAM
TRANSITION-39.40'

STRUCTURE B-36-94

17'ZEB'

STA. 11660+97.6'NB'

15:1

4'

1661+95.1'NB'

BEGIN CONCRETE CURB AND GUTTER
STA. 1664+76.9'NB'

1665+22.0'NB'

CONCRETE SURFACE
DRAIN REQ'D.

1664+82.6'NB'

POST NO. 1
1661+42.0'NB'

POST NO. 5
1661+67.0'NB'

POST NO. 9
1661+92.0'NB'

REMOVE EXISTING
GUARDRAIL

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

SS SS SS

OHU

GUY

STH 147

18'ZEB'

GUARDRAIL DETAIL
IH 43 NORTHBOUND
STA. 1660+97.6'NB' - STA. 1665+23.7'NB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 27	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021201_PD.DWG
LAYOUT NAME - 021204_pd

PLOT DATE : 7/12/2021 2:28 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

STH 147/CTH Z

15'ZEB'

15'ZWB'

1667+10.6'SB'

1667+50.0'SB'

REMOVE EXISTING GUARDRAIL

POST NO. 5 1670+78.1'SB'

POST NO. 9 1670+53.1'SB'

POST NO. 1 1671+03.1'SB'

1670+50.0'SB'

STA. 1671+35.7'SB'

4'

15:1

STRUCTURE B-36-93

MGS THRIE BEAM TRANSITION-39.40'

MGS GUARDRAIL 3 300.0'

IH 43 SOUTHBOUND

MGS GUARDRAIL TERMINAL EAT-53.125'

MGS THRIE BEAM TRANSITION-39.40'

MGS GUARDRAIL 3 262.5'

MGS GUARDRAIL TERMINAL EAT-53.125'

1666'SB' 1667'SB' 1668'SB' 1669'SB' 1670'SB' 1671'SB' 1672'

16'ZEB'

16'ZWB'

1667+09.1'SB'

1667+48.5'SB'

REMOVE EXISTING GUARDRAIL

1670+11.0'SB'

POST NO. 9 1670+14.1'SB'

POST NO. 1 1670+64.1'SB'

POST NO. 5 1670+39.1'SB'

STA. 160+65.7'SB'

1666'NB' 1667'NB' 1668'NB' 1669'NB' 1670'NB' 1671'NB' 1672'

IH 43 NORTHBOUND

STH 147

17'ZEB'

17'ZWB'

18'ZEB'

18'ZWB'

GUARDRAIL DETAIL
IH 43 SOUTHBOUND
STA. 1667+09.1'SB' - STA. 1671+35.7'SB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 28	E

2

N

SCHLEY RD.

IH 43 SOUTHBOUND

1715'SB' 1716'SB' 1717'SB' 1718'SB' 1719'SB' 1720'SB' 1721'SB'

STA. 1715+52.3'NB'

POST NO. 5
1716+03.5'NB'

POST NO. 1
1716+03.5'NB'

POST NO. 9
1716+53.5'NB'

1716+56.6'NB'

REMOVE EXISTING
GUARDRAIL

1719+31.6'NB'

1719+71.0'NB'

15:1

4'

1715'NB' 1716'NB' 1717'NB' 1718'NB' 1719'NB' 1720'NB' 1721'NB'

MGS GUARDRAIL
TERMINAL EAT-53.125'

MGS GUARDRAIL 3
275.0'

MGS THRIE BEAM
TRANSITION-39.40'

IH 43 NORTHBOUND

STRUCTURE B-36-96

MGS GUARDRAIL
TERMINAL EAT-53.125'

MGS GUARDRAIL 3
287.5'

MGS THRIE BEAM
TRANSITION-39.40'

15:1

4'

1716+15.1'NB'

1719+40.1'NB'

1719+79.5'NB'

STA. 1715+28.6'NB'

POST NO. 1
1715+62.0'NB'

POST NO. 9
1716+12.0'NB'

POST NO. 5
1715+87.0'NB'

REMOVE EXISTING
GUARDRAIL

SCHLEY RD.

GUARDRAIL DETAIL
IH 43 NORTHBOUND
STA. 1715+28.6'NB' - STA. 1719+79.5'NB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 29	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021201_PD.DWG
LAYOUT NAME - 021206_pd
PLOT DATE : 7/12/2021 2:29 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

2

LEGEND

.xxxxxxxxx. SAW CUT

N

SCHLEY RD.

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

1720+94.1'SB'

1721+33.5'SB'

CONCRETE SURFACE
DRAIN REQ'D.

END CONCRETE CURB AND GUTTER
STA. 1721+39.2'SB'

REMOVE EXISTING
GUARDRAIL

POST NO. 5
1724+86.6'SB'

POST NO. 9
1724+61.6'SB'

STA. 1724+58.5'SB'

POST NO. 1
1725+11.6'SB'

STA. 1725+70.5'SB'

4'

15:1

MGS THRIE BEAM
TRANSITION-39.40'

MGS GUARDRAIL 3
325.0'

MGS GUARDRAIL
TERMINAL EAT-53.125'

STRUCTURE B-36-95

IH 43 SOUTHBOUND

MGS THRIE BEAM
TRANSITION-39.40'

MGS GUARDRAIL 3
275.0'

MGS GUARDRAIL
TERMINAL EAT-53.125'

1720'SB' 1721'SB' 1722'SB' 1723'SB' 1724'SB' 1725'SB' 1726'SB'

STA. 1724+13.3'SB'

POST NO. 9
1724+16.4'SB'

POST NO. 5
1724+44.5'SB'

POST NO. 1
1724+69.5'SB'

STA. 1725+17.6'SB'

1721+02.0'SB'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

1721+41.4'SB'

END CONCRETE CURB AND GUTTER
STA. 1721+47.1'SB'

CONCRETE SURFACE
DRAIN REQ'D.

REMOVE EXISTING
GUARDRAIL

1720'NB' 1721'NB' 1722'NB' 1723'NB' 1724'NB' 1725'NB' 1726'NB'

IH 43 NORTHBOUND

SCHLEY RD.

GUARDRAIL DETAIL
IH 43 SOUTHBOUND
STA. 1720+94.1'SB' - STA. 1725+70.5'SB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 30	E

LEGEND

.xxxxxxxxx. SAW CUT

N

STA. 1747+80.8'NB'

MGS TERMINAL
TYPE 2 REQ'D.

15:1

1748+31.7'SB'

REMOVE EXISTING
GUARDRAIL

CONCRETE SURFACE
DRAIN REQ'D.

BEGIN CONCRETE CURB AND GUTTER
STA. 1749+94.7'SB'

1750+31.7'SB'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

1750+39.8'SB'

4'

STRUCTURE B-36-97

IH 43 SOUTHBOUND

MGS GUARDRAIL 3
200.00'

MGS THRIE BEAM
TRANSITION-8.15'

1745'SB' 1746'SB' 1747'SB' 1748'SB' 1749'SB' 1750'SB' 1751'SB'

STA. 1747+02.5'NB'

POST NO. 1
1747+22.1'NB'

POST NO. 5
1747+47.1'NB'

POST NO. 9
1747+72.1'NB'

15:1

4'

1747+75.2'NB'

REMOVE EXISTING
GUARDRAIL

CONCRETE SURFACE
DRAIN REQ'D.

BEGIN CONCRETE CURB AND GUTTER
STA. 1749+94.6'NB'

1750+00.3'NB'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

1750+39.7'NB'

1745'NB' 1746'NB' 1747'NB' 1748'NB' 1749'NB' 1751'NB'

MGS GUARDRAIL
TERMINAL EAT-53.125'

IH 43 NORTHBOUND

MGS GUARDRAIL 3
225.0'

MGS THRIE BEAM
TRANSITION-39.40'

STRUCTURE B-36-98

MGS GUARDRAIL
TERMINAL EAT-53.125'

MGS GUARDRAIL 3
387.5'

MGS THRIE BEAM
TRANSITION-39.40'

STA. 1745+13.9'NB'

15:1

4'

1746+12.7'NB'

REMOVE EXISTING
GUARDRAIL

BEGIN CONCRETE CURB AND GUTTER
STA. 1749+94.6'NB'

CONCRETE SURFACE
DRAIN REQ'D.

POST NO. 1
1745+59.6'NB'

POST NO. 5
1745+84.6'NB'

POST NO. 9
1746+09.6'NB'

1750+39.7'NB'

1750+00.3'NB'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

GUARDRAIL DETAIL

IH 43 NORTHBOUND AND SOUTHBOUND

STA. 1745+13.9'NB' - STA. 1750+39.7'NB'
STA. 1747+80.8'SB' - STA. 1750+39.8'SB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 31	E

2

N

REMOVE EXISTING GUARDRAIL
1751+85.6'SB'
1752+25.0'SB'
4'
STRUCTURE B-36-97
MGS THRIE BEAM TRANSITION-39.40'
MGS THRIE BEAM TRANSITION-39.40'
MGS GUARDRAIL 3 237.5'
1752'SB'
1753'SB'
1752+25.0'SB'
REMOVE EXISTING GUARDRAIL
1751+85.6'SB'
1752'NB'
1753'NB'

REMOVE EXISTING GUARDRAIL
4'
MGS GUARDRAIL 3 862.5'
MGS GUARDRAIL TERMINAL EAT-53.125'
IH 43 SOUTHBOUND
'SB'
1755'SB'
1756'SB'
4'
1754+59.4'SB'
15:1
4'
REMOVE EXISTING GUARDRAIL
POST NO. 9 1754+62.5'SB'
POST NO. 5 1754+90.6'SB'
POST NO. 1 1755+15.6'SB'
STA. 1755+52.5'SB'
NB'
1755'NB'
1756'NB'

REMOVE EXISTING GUARDRAIL
POST NO. 9 1760+90.6'SB'
POST NO. 5 1761+15.6'SB'
POST NO. 1 1761+40.6'SB'
1760'SB'+87.5
4'
4'
15:1
STA. 1761+74.8'SB'
MGS GUARDRAIL TERMINAL EAT-53.125'
IH 43 SOUTHBOUND
1761'SB'
1762'SB'
1761'NB'
1762'NB'

STRUCTURE B-36-98
MGS THRIE BEAM TRANSITION-8.15'
1751+93.7'NB'
4'
1751+85.5'NB'
REMOVE EXISTING GUARDRAIL

IH 43 NORTHBOUND
MGS GUARDRAIL 3 400.00'
4'
1755+93.7'NB'
MGS TERMINAL TYPE 2 REQ'D.
REMOVE EXISTING GUARDRAIL

IH 43 NORTHBOUND

GUARDRAIL DETAIL
IH 43 NORTHBOUND AND SOUTHBOUND
STA. 1751+85.5'NB' - STA. 1755+93.7'NB'
STA. 1751+85.6'SB' - STA. 1761+74.8'SB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 32	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021201_PD.DWG
LAYOUT NAME - 021209_pd
PLOT DATE : 7/27/2021 1:56 PM PLOT BY : ROWELL, ANDREW PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2

LEGEND

xxxxxxxxxx SAW CUT

N

CTHT 12'T

STRUCTURE B-36-100

IH 43 SOUTHBOUND

PC: 1851+07.25

1851'SB' 1852'SB' 1853'SB' 1854'SB' 1855'SB' 1856'SB'

13'T

CONSTRUCTION LIMITS
STA. 1850+26.6'NB'

STA. 1851+86.2'NB'

POST NO. 1
1852+12.3'NB'

POST NO. 5
1852+37.3'NB'

POST NO. 9
1852+62.3'NB'

1852+65.4'NB'

REMOVE EXISTING
GUARDRAIL

1855+27.9'NB'

CONCRETE SURFACE
DRAIN REQ'D.

BEGIN CONCRETE CURB AND GUTTER
STA. 1855+22.2'NB'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

1855+67.3'NB'

15:1

4'

1851'NB' 1852'NB' 1853'NB' 1854'NB' 1855'NB' 1856'NB'

MGS GUARDRAIL
TERMINAL EAT-53.125'

MGS GUARDRAIL 3
262.5'

IH 43 NORTHBOUND

MGS THRIE BEAM
TRANSITION-39.40'

STRUCTURE B-36-99

MGS GUARDRAIL
TERMINAL EAT-53.125'

MGS GUARDRAIL 3
312.5'

MGS THRIE BEAM
TRANSITION-39.40'

15:1

4'

STA. 1850+26.6'NB'

1852+29.6'NB'

POST NO. 1
1851+76.5'NB'

POST NO. 5
1852+01.5'NB'

POST NO. 9
1852+26.5'NB'

REMOVE EXISTING
GUARDRAIL

BEGIN CONCRETE CURB AND GUTTER
STA. 1855+36.5'NB'

1855+81.6'NB'

CONCRETE SURFACE
DRAIN REQ'D.

1855+42.2'NB'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

GUARDRAIL DETAIL
IH 43 NORTHBOUND
STA. 1850+26.6'NB' - STA. 1855+81.6'NB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 33	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021201_PD.DWG
LAYOUT NAME - 021210_pd

PLOT DATE : 7/12/2021 2:29 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

N

POST NO. 1
1860+69.3'SB'

POST NO. 5
1860+44.3'SB'

POST NO. 9
1860+19.3'SB'

1860+16.2'SB'

STA. 1861+04.0'SB'

15:1

REMOVE EXISTING
GUARDRAIL

1856+65.3'SB'

1857+04.7'SB'

MGS THRIE BEAM
TRANSITION-39.40'

MGS GUARDRAIL 3
309.00'

MGS GUARDRAIL
TERMINAL EAT-53.125'

12'T

STRUCTURE
B-36-100

IH 43 SOUTHBOUND

MGS THRIE BEAM
TRANSITION-39.40'

MGS GUARDRAIL 3
212.50'

MGS GUARDRAIL
TERMINAL EAT-53.125'

1856'SB'

13'T

1857'SB'

1858'SB'

1859'SB'

1860'SB'

1861'SB'

1862'SB'

4'

1857+21.9'SB'

1856+82.5'SB'

REMOVE EXISTING
GUARDRAIL

1859+34.2'SB'

15:1

POST NO. 9
1859+37.3'SB'

POST NO. 5
1859+62.3'SB'

POST NO. 1
1859+87.3'SB'

STA. 1860+50.1'SB'

OH

SS

1856'NB'

1857'NB'

1858'NB'

1859'NB'

1860'NB'

1861'NB'

1862'NB'

14'T

STRUCTURE
B-36-99

IH 43 NORTHBOUND

GUARDRAIL DETAIL
IH 43 SOUTHBOUND
STA. 1856+65.3'SB' - STA. 1861+04.0'SB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 34	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021201_PD.DWG
LAYOUT NAME - 021211_pd

PLOT DATE : 7/12/2021 2:29 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT

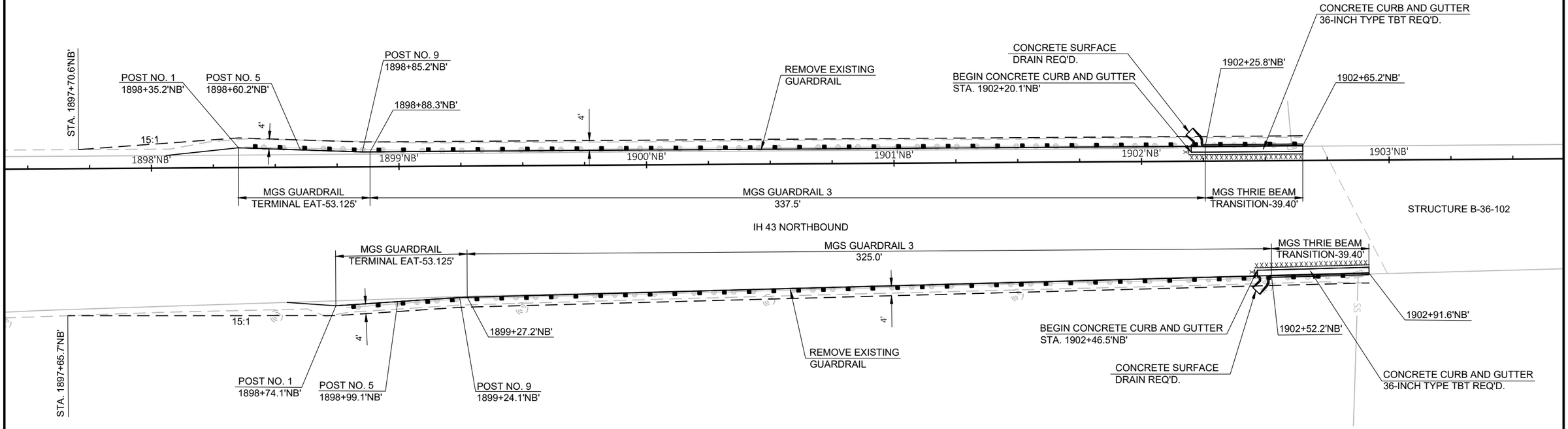
2

2

LEGEND

.xxxxxxxxx. SAW CUT

N



GUARDRAIL DETAIL
IH 43 NORTHBOUND
STA. 1897+65.7'NB' - STA. 1902+91.6'NB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 35	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021201_PD.DWG
LAYOUT NAME - 021212_pd
PLOT DATE : 7/12/2021 2:30 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

1908'SB'

1909'SB'

1910'SB'

STRUCTURE B-36-103

N

1904+46.9'NB'

1904+55.0'NB'

1904+86.3'NB'

REMOVE EXISTING GUARDRAIL

PC: 1909+82.06

1909+94.6'NB'

1909+55.2'NB'

4'

1905'NB' 1906'NB' 1907'NB' 1908'NB' 1909'NB' 1910'NB'

MGS GUARDRAIL 3
500.0'

MGS THRIE BEAM TRANSITION-39.40'

STRUCTURE B-36-104

STRUCTURE B-36-102

MGS THRIE BEAM TRANSITION-8.15'

IH 43 NORTHBOUND

MGS THRIE BEAM TRANSITION-8.15'

MGS GUARDRAIL 3
486.0'

MGS THRIE BEAM TRANSITION-39.40'

4'

1904+75.6'NB'

1904+83.8'NB'

1909+69.8'NB'

1910+09.2'NB'

REMOVE EXISTING GUARDRAIL

GUARDRAIL DETAIL
IH 43 NORTHBOUND
STA. 1904+46.9'NB' - STA. 1910+09.2'NB'

2

2

LEGEND

xxxxxxxxx SAW CUT

N

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

CONCRETE SURFACE
DRAIN REQ'D.

BEGIN CONCRETE CURB AND GUTTER
STA. 1900+28.8'SB'

REMOVE EXISTING
GUARDRAIL

MGS TERMINAL
TYPE 2 REQ'D.

STA. 1899+47.1'SB'

1899+53.3'SB'

1900+65.7'SB'

1900+73.9'SB'

4'

IH 43 SOUTHBOUND

MGS GUARDRAIL 3
112.50'

MGS THRIE BEAM
TRANSITION-8.15'

'SB'

1900'SB'

190

1902+83.7'SB'

1903+23.1'SB'

REMOVE EXISTING
GUARDRAIL

MGS THRIE BEAM
TRANSITION-39.40'

MGS GUARDRAIL 3
629.6'

IH 43 SOUTHBOUND

STRUCTURE B-36-101

1903'SB'

MGS THRIE BEAM
TRANSITION-39.40'

MGS GUARDRAIL 3
611.5'

1904'SB'

1903+19.6'SB'

1903+59.0'SB'

REMOVE EXISTING
GUARDRAIL

REMOVE EXISTING
GUARDRAIL

1909+52.7'SB'

1909+60.8'SB'

MGS THRIE BEAM
TRANSITION-8.15'

IH 43 SOUTHBOUND

STRUCTURE B-36-103

1909'SB'

MGS THRIE BEAM
TRANSITION-8.15'

1910'SB'

1909+70.5'SB'

1909+78.6'SB'

REMOVE EXISTING
GUARDRAIL

PC: 1909+82.06

1910'NB'

1909'NB'

IH 43 NORTHBOUND

GUARDRAIL DETAIL
IH 43 SOUTHBOUND
STA. 1899+47.4'SB' - STA. 1909+78.6'NB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 37	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021201_PD.DWG
LAYOUT NAME - 021214_pd
PLOT DATE : 7/12/2021 2:30 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

2

LEGEND

xxxxxxxxx SAW CUT

N

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

CONCRETE SURFACE
DRAIN REQ'D.

END CONCRETE CURB AND GUTTER
STA. 1911+63.9'SB'

REMOVE EXISTING
GUARDRAIL

POST NO. 5
1915+23.8'SB'

POST NO. 9
1914+98.8'SB'

POST NO. 1
1915+48.8'SB'

1911+18.8'SB'

1911+58.2'SB'

1914+95.7'SB'

STA. 1916+85.6'SB'

4'

15:1

MGS THRIE BEAM
TRANSITION-39.40'

MGS GUARDRAIL 3
337.5'

MGS GUARDRAIL
TERMINAL EAT-53.125'

IH 43 SOUTHBOUND

STRUCTURE B-36-103

MGS THRIE BEAM
TRANSITION-39.40'

MGS GUARDRAIL 3
225.0'

MGS GUARDRAIL
TERMINAL EAT-53.125'

1911'SB' 1912'SB' 1913'SB' 1914'SB' 1915'SB' 1916'SB' 191

1911+36.9'SB'

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

1911+76.3'SB'

END CONCRETE CURB AND GUTTER
STA. 1911+82.0'SB'

CONCRETE SURFACE
DRAIN REQ'D.

REMOVE EXISTING
GUARDRAIL

1914+01.3'SB'

POST NO. 9
1914+04.4'SB'

POST NO. 5
1914+29.4'SB'

POST NO. 1
1914+54.4'SB'

STA. 1915+91.3'SB'

1911'NB' 1912'NB' 1913'NB' 1914'NB' 1915'NB' 1916'NB'

IH 43 NORTHBOUND

STRUCTURE B-36-104

GUARDRAIL DETAIL
IH 43 SOUTHBOUND
STA. 1911+18.8'SB' - STA. 1916+85.6'SB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 38	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021201_PD.DWG
LAYOUT NAME - 021215_pd

PLOT DATE : 7/12/2021 2:30 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT

NOTE:
COVER ALL SLOPES WITH
EROSION MAT CLASS I TYPE B

ZANDER ROAD

N

INLETS MEDIAN 1 GRATE REQ'D.
STORM SEWER PIPE REINFORCED
CONCRETE CLASS III 18-INCH REQ'D.

BARRIER SYSTEM GRADING
SHAPING FINISHING REQ'D.

SLOPE
INTERCEPT

IH 43 SOUTHBOUND

STEEL THRIE BEAM
BULLNOSE TERMINAL END

PAY LIMIT FOR STEEL
THRIE BEAM-62.5'

STEEL THRIE BEAM
BULLNOSE TERMINAL END

REMOVE EXISTING
GUARDRAIL

1800'SB' 1801'SB' 1802'SB' 1803'SB' 1804'SB' 1805'SB' 1806'SB'

1804+76.57'NB'
-42.95'

1805+40.99'NB'
-34.30'

POST # 5
1802+27.0'SB'

POST # 12
1802+64.3'SB'

POST # 12
1803+26.5'SB'

POST # 5
1803+63.7'SB'

CENTERLINE OF PIERS

REMOVE
EXISTING INLET

POST # 5
1802+80.8'NB'

POST # 12
1803+18.5'NB'

POST # 12
1803+81.3'NB'

POST # 5
1804+19.0'NB'

1801'NB' 1802'NB' 1803'NB' 1804'NB' 1805'NB' 1806'NB'

SLOPE
INTERCEPT

REMOVE EXISTING
GUARDRAIL

IH 43 NORTHBOUND

ZANDER ROAD

GUARDRAIL DETAIL
STRUCTURE B-36-89 IH 43
STA. 1800+55.2'NB' - STA. 1806+45.0'NB'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 39	E

NOTE:
COVER ALL SLOPES WITH
EROSION MAT CLASS I TYPE B

2

2

N

COOPERSTOWN ROAD

BARRIER SYSTEM GRADING
SHAPING FINISHING REQ'D.

STEEL THRIE BEAM
BULLNOSE TERMINAL END

PAY LIMIT FOR STEEL
THRIE BEAM-62.5'

STEEL THRIE BEAM
BULLNOSE TERMINAL END

REMOVE EXISTING
GUARDRAIL

SLOPE
INTERCEPT

IH 43 SOUTHBOUND

1937'SB'
1938'SB'
1939'SB'
1940'SB'
1941'SB'
1942'SB'
1943'SB'

POST # 5
1939+42.8'SB'

POST # 12
1939+80.5'SB'

POST # 12
1940+43.5'SB'

POST # 5
1940+81.2'SB'

CENTERLINE OF PIERS

SIGN

SIGN

POST # 5
1938+78.3'NB'

POST # 12
1939+15.6'NB'

POST # 12
1939+77.6'NB'

POST # 5
1940+14.9'NB'

1940+85.46'NB'
-20.14'

REMOVE EXISTING INLET
AND STORM SEWER

1941+25.00'NB'
-26.41'

SS

1937'NB'
1938'NB'
1939'NB'
1940'NB'
1941'NB'
1942'NB'

SLOPE
INTERCEPT

REMOVE EXISTING
GUARDRAIL

IH 43 NORTHBOUND

INLETS MEDIAN 1 GRATE REQ'D.
STORM SEWER PIPE REINFORCED
CONCRETE CLASS III 18-INCH REQ'D.

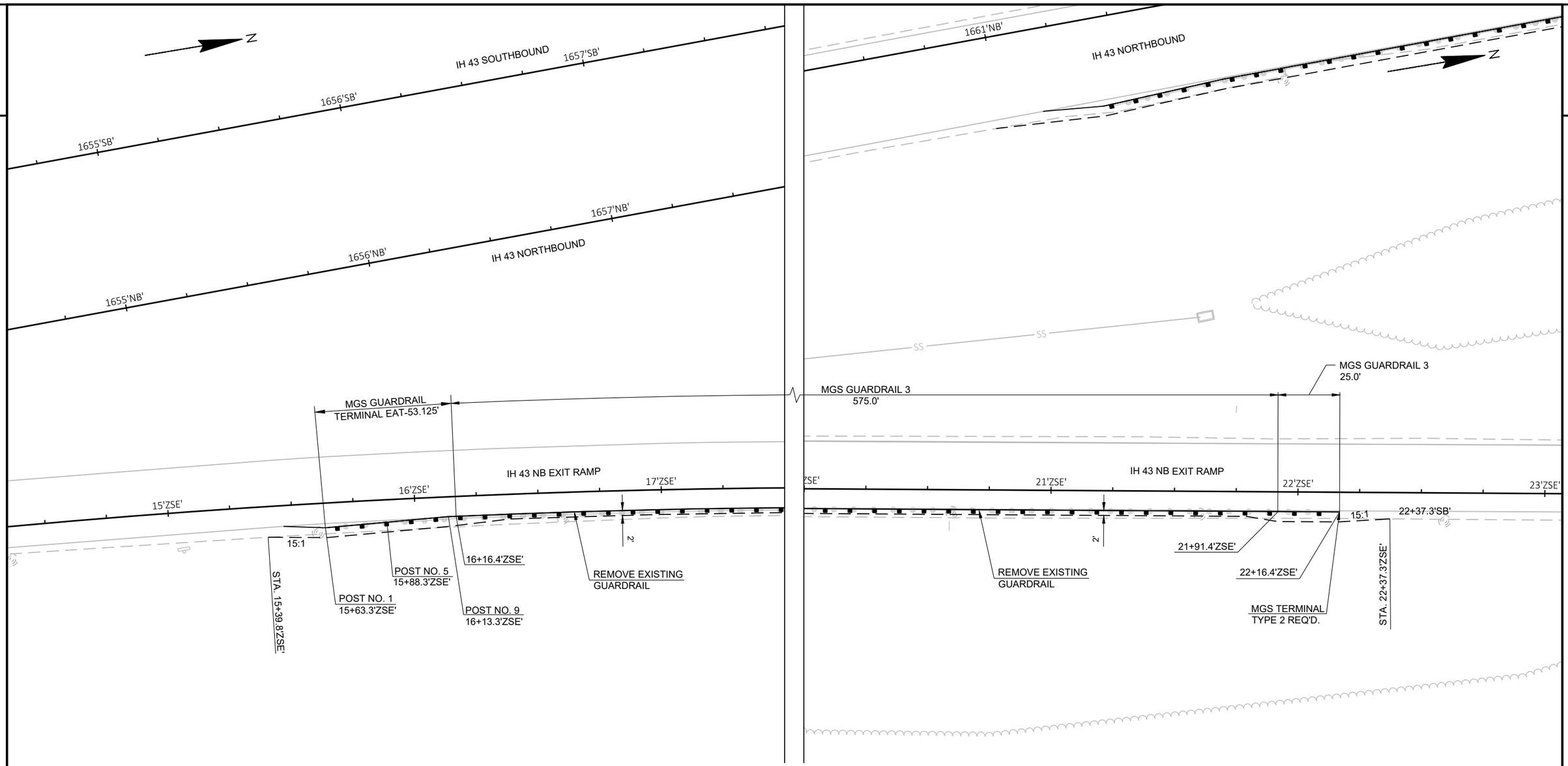
GUARDRAIL DETAIL
STRUCTURE B-5-234 IH 43
STA. 1936+61.4'NB' - STA. 1942+40.0'NB'

COOPERSTOWN ROAD

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 40	E

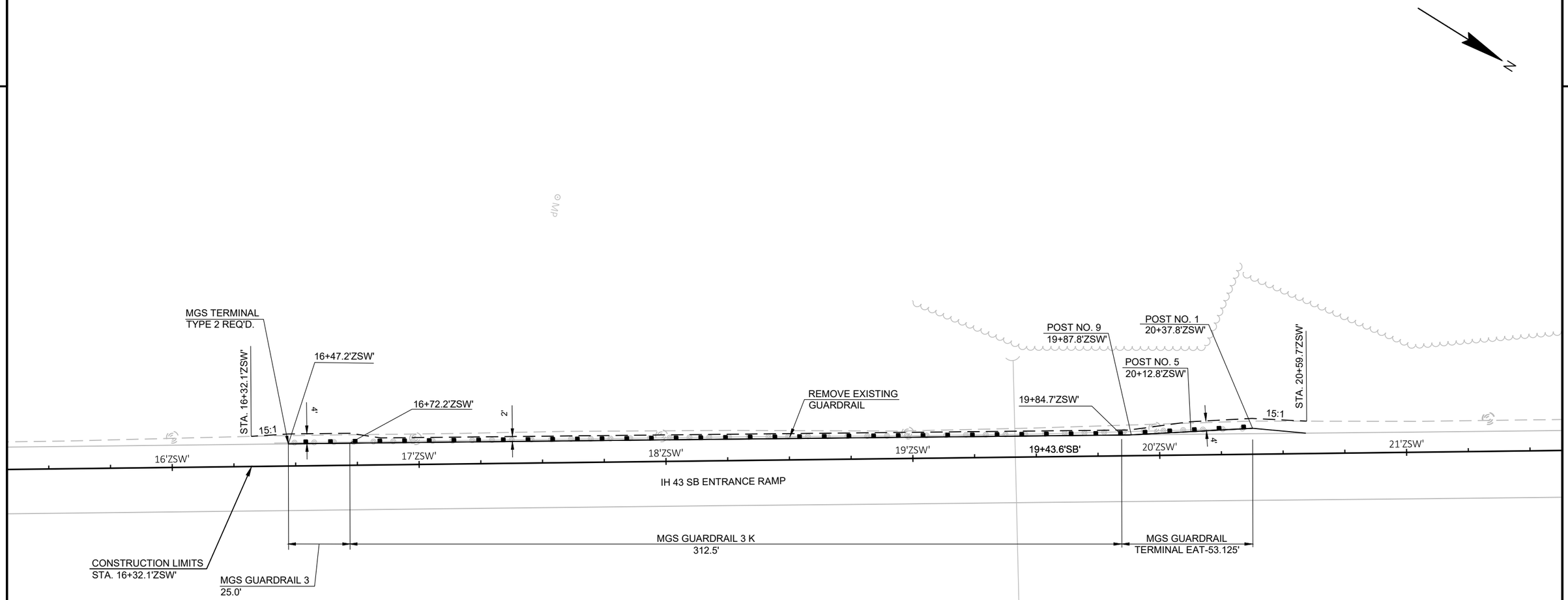
FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021202_PD.DWG
LAYOUT NAME - 021217_pd

PLOT DATE : 7/12/2021 2:31 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:40 FT

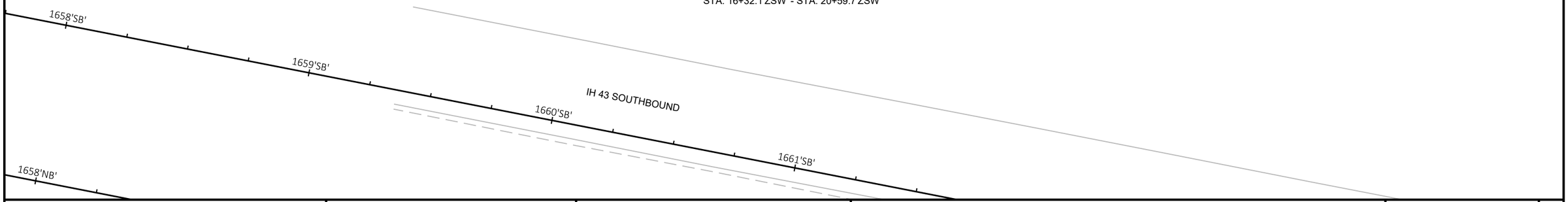


GUARDRAIL DETAIL
IH 43 NORTHBOUND EXIT RAMP
STA. 15+39.8'ZSE' - STA. 22+37.3'ZSE'

2



GUARDRAIL DETAIL
IH 43 SOUTHBOUND ENTRANCE RAMP
STA. 16+32.1'ZSW' - STA. 20+59.7'ZSW'



PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - IH 43	SHEET 42	E

2

2

LEGEND

xxxxxxxxx. SAW CUT

N

IH 43 NORTHBOUND

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

POST NO. 9
13+05.4'HV'

CONCRETE SURFACE
DRAIN REQ'D.

REMOVE EXISTING
GUARDRAIL

BEGIN CONCRETE CURB AND GUTTER
STA. 13+62.8'HV'

13+85.4'HV'

POST NO. 1
12+55.4'HV'

POST NO. 5
12+80.4'HV'

3" ASPHALTIC
SURFACE REQ'D.

13+46.0'HV'

STA. 11+86.8'HV'

STA. 12+98.6'HV'

STA. 13+08.5'HV'

15:1

4"

4"

2'

10:1

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS GUARDRAIL 3 K
37.50'

MGS THRIE BEAM TRANSITION
39.40'

HIDDEN VALLEY RD

12'HV'

13'HV'

14'HV'

STRUCTURE B-36-83

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS GUARDRAIL 3 K
37.50'

MGS THRIE BEAM TRANSITION
39.40'

10:1

4"

4"

15:1

POST NO. 1
12+55.4'HV'

POST NO. 5
12+80.4'HV'

POST NO. 9
13+05.4'HV'

13+46.0'HV'

3" ASPHALTIC
SURFACE REQ'D.

BEGIN CONCRETE CURB AND GUTTER
STA. 13+62.8'HV'

2'

13+85.4'HV'

STA. 12+03.9'HV'

STA. 12+85.5'HV'

STA. 13+08.5'HV'

REMOVE EXISTING
GUARDRAIL

CONCRETE SURFACE
DRAIN REQ'D.

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

OH

GUY

GUARDRAIL DETAIL
B-36-83 HIDDEN VALLEY ROAD
STA. 11+86.8'HV' - STA. 13+85.4'HV'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - HIDDEN VALLEY ROAD	SHEET 43	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021204_PD.DWG
LAYOUT NAME - 021220_pd

PLOT DATE : 7/12/2021 2:32 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

N

REMOVE EXISTING GUARDRAIL

POST NO. 1
17+21.9'HV'

POST NO. 5
17+46.9'HV'

POST NO. 9
17+71.9'HV'

16+41.9'HV'

16+81.3'HV'

STA. 17+18.1'HV'

STA. 18+19.6'HV'

15:1

4'

4'

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3
37.50'

MGS GUARDRAIL TERMINAL EAT
53.125'

STRUCTURE B-36-83

16'HV'

17'HV'

HIDDEN VALLEY RD

18'HV'

IH 43 NORTHBOUND

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3
37.50'

MGS GUARDRAIL TERMINAL EAT
53.125'

4'

4'

15:1

16+41.9'HV'

POST NO. 5
17+46.9'HV'

POST NO. 9
17+71.9'HV'

16+81.3'HV'

REMOVE EXISTING GUARDRAIL

STA. 18+18.8'HV'

POST NO. 1
17+21.9'HV'

STA. 18+17.5'HV'

OH

GUY

GUARDRAIL DETAIL
B-36-83 HIDDEN VALLEY ROAD
STA. 16+41.9'HV' - STA. 18+19.6'HV'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - HIDDEN VALLEY ROAD	SHEET 44	E

2

2

N

STA. 12+23.3'ZA'

15:1

POST NO. 1
12+92.6'ZA'

POST NO. 5
12+17.6'ZA'

POST NO. 9
12+42.6'ZA'

STA. 12+45.7'ZA'

4'

REMOVE EXISTING
GUARDRAIL

2'

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS GUARDRAIL 3 K
212.50'

12'ZA'

ZANDER RD

13'ZA'

14'ZA'

15'

MATCH LINE STA. 15+00'ZA'

MGS GUARDRAIL 3 K
175.0'

2'

2'

14+62.5'ZA'

REMOVE EXISTING
GUARDRAIL

MGS GUARDRAIL
SHORT RADIUS-70.1'

REMOVE EXISTING
GUARDRAIL

2'

MGS GUARDRAIL
SHORT RADIUS TERMINAL

STA. 13+92.0'ZA'
93.5' RT.

PLEASANT RD

GUARDRAIL DETAIL
B-36-89 ZANDER ROAD
STA. 12+23.3'ZA' - STA. 16+36.3'ZA'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - ZANDER ROAD	SHEET 45	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021204_PD.DWG
LAYOUT NAME - 021222_pd

PLOT DATE : 7/12/2021 2:32 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

xxxxxxxxx SAW CUT

IH 43 SOUTHBOUND

IH 43 NORTHBOUND

N

SIGN

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

CONCRETE SURFACE
DRAIN REQ'D.

REMOVE EXISTING
GUARDRAIL

BEGIN CONCRETE CURB AND GUTTER
STA. 15+75.1'ZA'

3" ASPHALTIC
SURFACE REQ'D.

15+97.7'ZA'

15+58.3'ZA'

STA. 15+10.5'ZA'

2'

2'

10:1

MGS GUARDRAIL 3 K
212.50'

MGS THRIE BEAM TRANSITION
39.40'

ZANDER RD

STRUCTURE B-36-89

16'ZA'

17'ZA'

18'ZA'

MATCH LINE STA. 15+00'ZA'

MGS GUARDRAIL 3 K
175.00'

MGS THRIE BEAM TRANSITION
39.40'

10:1

2'

2'

REMOVE EXISTING
GUARDRAIL

STA. 15+43.8'RM

3" ASPHALTIC
SURFACE REQ'D.

15+96.9'ZA'

16+36.3'ZA'

BEGIN CONCRETE CURB AND GUTTER
STA. 16+13.7'ZA'

CONCRETE SURFACE
DRAIN REQ'D.

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

POST

GUARDRAIL DETAIL
B-36-89 ZANDER ROAD
STA. 12+23.3'ZA' - STA. 16+36.3'ZA'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - ZANDER ROAD	SHEET 46	E

2

2

N

19+79.5'HV'

20+18.9'HV'

2'

REMOVE EXISTING GUARDRAIL

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
187.50'

STRUCTURE B-36-89

19'ZA'

ZANDER RD

20'ZA'

21'ZA'

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
737.50'

MATCH LINE STA. 21+25'ZA'

20+20.9'HV'

2'

20+60.3'HV'

REMOVE EXISTING GUARDRAIL

SIGN

IH 43 NORTHBOUND

IH 43 SOUTHBOUND

GUARDRAIL DETAIL
B-36-89 ZANDER ROAD
STA. 19+79.5'ZA' - STA. 29+16.0'ZA'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - ZANDER ROAD	SHEET 47	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021204_PD.DWG
LAYOUT NAME - 021224_pd

PLOT DATE : 7/12/2021 2:32 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

MATCH LINE STA. 11+25'PL'

N

REMOVE EXISTING GUARDRAIL

MGS GUARDRAIL 3 K 187.50'

11'PL'

PLEASANT RD

MGS GUARDRAIL 3 K 187.50'

REMOVE EXISTING GUARDRAIL

2'

10+76.2'PL'

2'

MGS GUARDRAIL SHORT RADIUS-66.1'

2'

2'

MGS GUARDRAIL SHORT RADIUS-89.6'

REMOVE EXISTING GUARDRAIL

21+53.3'ZA'

2'

2'

22+06.4'ZA'

23+31.5'ZA'

2'

REMOVE EXISTING GUARDRAIL

24+03.3'ZA'

2'

MGS GUARDRAIL 3 K 187.50'

MGS GUARDRAIL 3 K 450.00'

ZANDER RD

22'ZA'

BP: 10+00.00

10'PL'

23'ZA'

24'ZA'

MGS GUARDRAIL 3 K 737.50'

2'

REMOVE EXISTING GUARDRAIL

MATCH LINE STA. 21+25'ZA'

MATCH LINE STA. 24+25'ZA'

GUARDRAIL DETAIL
B-36-89 ZANDER ROAD
STA. 19+79.5'ZA' - STA. 29+16.0'ZA'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - ZANDER ROAD	SHEET 48	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021204_PD.DWG
LAYOUT NAME - 021225_pd

PLOT DATE : 7/12/2021 2:32 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : ##########

2

N

MATCH LINE STA. 24+25'ZA'

REMOVE EXISTING GUARDRAIL

2'

MGS GUARDRAIL 3 K
450.00'

ZANDER RD

25'ZA'

MGS GUARDRAIL 3 K
737.50'

2'

REMOVE EXISTING GUARDRAIL

REMOVE EXISTING GUARDRAIL

2'

STA. 28+87.7'ZA'

POST NO. 9
28+84.6'ZA'

POST NO. 5
28+09.6'ZA'

POST NO. 1
28+34.6'ZA'

4'

15:1

CONSTRUCTION LIMITS
STA. 29+16.0'ZA'

STA. 29+15.0'ZA'

MGS GUARDRAIL TERMINAL EAT
53.125'

28'ZA'

29'ZA'

MGS GUARDRAIL TERMINAL EAT
53.125'

2'

4'

15:1

2'

REMOVE EXISTING GUARDRAIL

STA. 27+97.8'ZA'

POST NO. 9
28+00.9'ZA'

POST NO. 5
28+25.9'ZA'

POST NO. 1
28+50.9'ZA'

STA. 29+16.0'ZA'

OH OH OH OH OH OH

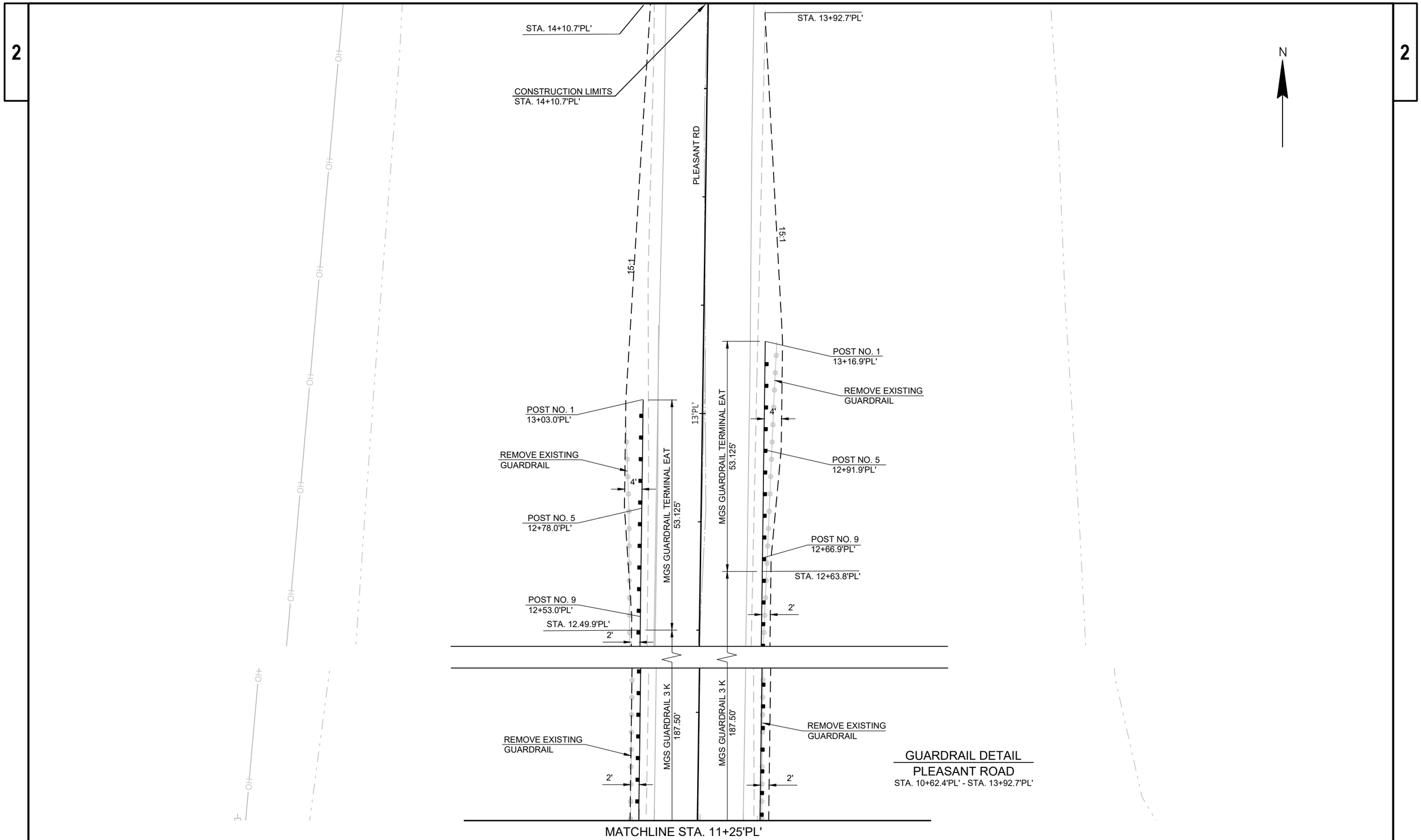
GUARDRAIL DETAIL
B-36-89 ZANDER ROAD
STA. 19+79.5'ZA' - STA. 29+16.0'ZA'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - ZANDER ROAD	SHEET 49	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021204_PD.DWG
LAYOUT NAME - 021226_pd

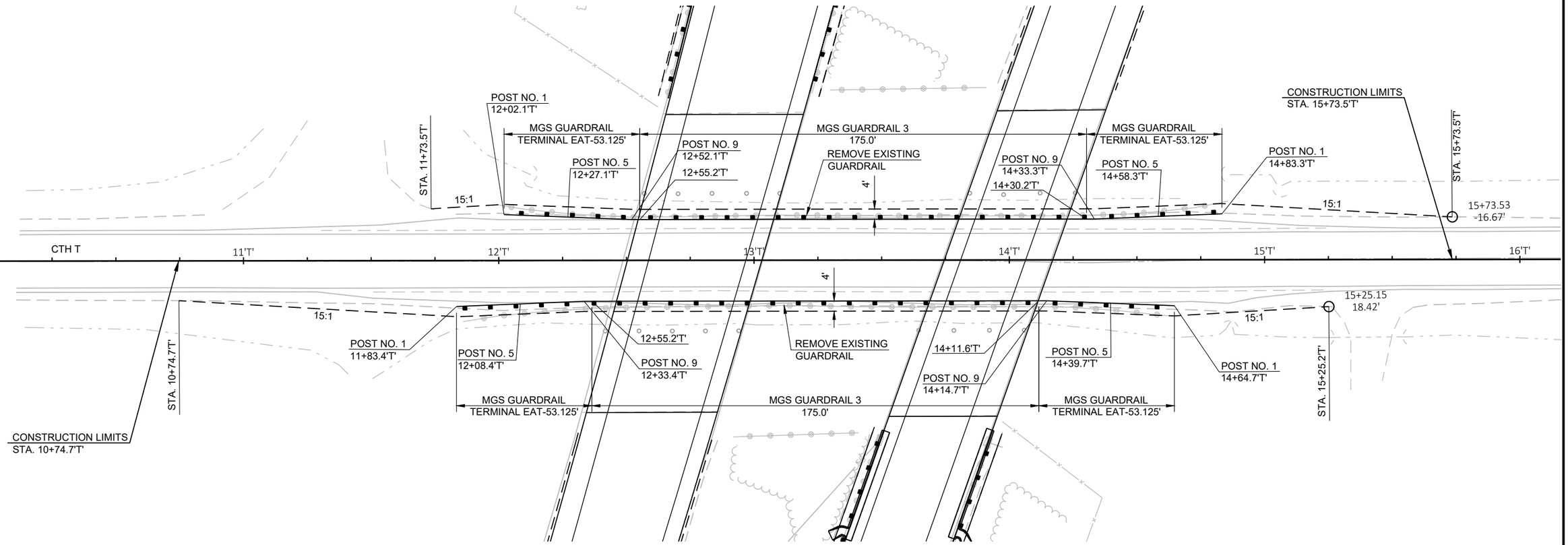
PLOT DATE : 7/12/2021 2:32 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : ##########

2


STA. 14+10.7'PL'
CONSTRUCTION LIMITS
STA. 14+10.7'PL'
STA. 13+92.7'PL'
PLEASANT RD
15:1
15:1
N
POST NO. 1
13+03.0'PL'
REMOVE EXISTING
GUARDRAIL
4'
POST NO. 5
12+78.0'PL'
POST NO. 9
12+53.0'PL'
STA. 12.49.9'PL'
2'
MGS GUARDRAIL TERMINAL EAT
53.125'
13'PL'
MGS GUARDRAIL TERMINAL EAT
53.125'
POST NO. 1
13+16.9'PL'
REMOVE EXISTING
GUARDRAIL
4'
POST NO. 5
12+91.9'PL'
POST NO. 9
12+66.9'PL'
STA. 12+63.8'PL'
2'
MGS GUARDRAIL 3 K
187.50'
MGS GUARDRAIL 3 K
187.50'
REMOVE EXISTING
GUARDRAIL
REMOVE EXISTING
GUARDRAIL
2'
2'
OH
OH
OH

2

N



GUARDRAIL DETAIL

B-5-234 CTH T

STA. 10+74.7'T' - STA. 15+73.5'T'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - CTH T	SHEET 51	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021204_PD.DWG
LAYOUT NAME - 021228_pd
PLOT DATE : 7/12/2021 2:32 PM
PLOT BY : VERVILLE, PHILLIP
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

2

LEGEND

xxxxxxxxx SAW CUT

N

IH 43 SOUTHBOUND

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

REMOVE EXISTING
GUARDRAIL

POST NO. 9
13+30.0'CO'

CONCRETE SURFACE
DRAIN REQ'D.

POST NO. 1
12+80.0'CO'

POST NO. 5
13+05.0'CO'

STA. 12+07.0'CO'

STA. 1317.5'CO'

STA. 13+33.1'CO'

BEGIN CONCRETE CURB AND GUTTER
STA. 13+87.4'CO'

13+70.6'CO'

3" ASPHALTIC
SURFACE REQ'D.

14+10.0'CO'

15:1

4'

2'

2'

10:1

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS GUARDRAIL 3 K
37.50'

MGS THRIE BEAM TRANSITION
39.40'

COOPERSTOWN RD

12'CO'

13'CO'

14'CO'

STRUCTURE B-5-234

15'C

MGS GUARDRAIL TERMINAL EAT
53.125'

MGS GUARDRAIL 3 K
75.00'

MGS THRIE BEAM TRANSITION
39.40'

15:1

4'

10:1

2'

2'

STA. 11+92.8'CO'

CONSTRUCTION LIMITS
STA. 11+92.8'CO'

POST NO. 1
12+64.6'CO'

POST NO. 5
12+89.6'CO'

POST NO. 9
13+14.6'CO'

STA. 13+17.7'CO'

STA. 13+50.8'CO'

13+92.8'CO'

3" ASPHALTIC
SURFACE REQ'D.

14'CO'+32.2

BEGIN CONCRETE CURB AND GUTTER
STA. 14+09.6'CO'

CONCRETE SURFACE
DRAIN REQ'D.

CONCRETE CURB AND GUTTER
36-INCH TYPE TBT REQ'D.

GUARDRAIL DETAIL
B-5-234 COOPERSTOWN ROAD
STA. 11+92.8'CO' - STA. 14+32.2'CO'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - COOPERSTOWN ROAD	SHEET 52	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021204_PD.DWG
LAYOUT NAME - 021229_pd

PLOT DATE : 7/12/2021 2:32 PM PLOT BY : VERVILLE, PHILLIP PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

N

17+36.2'CO'

17+75.6'CO'

2'

STA. 18+13.1'CO'

POST NO. 1
18+16.2'CO'

REMOVE EXISTING
GUARDRAIL

POST NO. 5
18+41.2'CO'

POST NO. 9
18+66.2'CO'

4'

15:1

STA. 19+53.6'CO'

CONSTRUCTION LIMITS
STA. 20+19.6'CO'

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
37.50'

MGS GUARDRAIL TERMINAL EAT
53.125'

18'CO'

19'CO'

COOPERSTOWN RD

20'CO'

STRUCTURE
B-5-234

MGS THRIE BEAM TRANSITION
39.40'

MGS GUARDRAIL 3 K
75.00'

MGS GUARDRAIL TERMINAL EAT
53.125'

17+58.2'CO'

17+97.6'CO'

2'

REMOVE EXISTING
GUARDRAIL

STA. 18+72.6'CO'

POST NO. 1
18+75.7'CO'

POST NO. 5
19+00.7'CO'

HMOD

4'

POST NO. 9
19+25.7'CO'

15:1

STA. 20+19.6'CO'

GUARDRAIL DETAIL
B-5-234 COOPERSTOWN ROAD
STA. 17+36.2'CO' - STA. 20+19.6'CO'

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN DETAILS - COOPERSTOWN ROAD	SHEET 53	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\021204_PD.DWG
LAYOUT NAME - 021230_pd
PLOT DATE : 7/12/2021 2:32 PM
PLOT BY : VERVILLE, PHILLIP
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

DEVIL'S RIVER STATE TRAIL

PAUTZ RD

REMOVING FENCE

SALVAGE RAIL

IH 43 'SB' R/L

B-36-97

1605'SB'

1610'SB'

IH 43 SB

1615'SB'

1605'NB'

1610'NB'

IH 43 NB

1615'NB'

B-36-99

BEGIN PROJECT
STA 1606'NB'+74.07
Y=362,219.588
X=201,315.418

IH 43 'NB' R/L

REMOVING FENCE

PAUTZ RD

2

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 54	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-72\022001-EC-RM.DWG
LAYOUT NAME - 022001-ec_rm

PLOT DATE : 10/14/2021 11:58 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

HIDDEN VALLEY RD

SALVAGE RAIL

REMOVING FENCE (TYP)

SALVAGE RAIL

IH 43 'SB' R/L

1635'SB' | 1640'SB' | IH 43 SB | 1645'SB'

15 HV

1635'NB' | 1640'NB' | IH 43 NB | 1645'NB'

REMOVING APRON ENDWALL

B-36-83

SALVAGE RAIL

IH 43 'NB' R/L

REMOVING FENCE (TYP)

SALVAGE RAIL

HIDDEN VALLEY RD

20' HV

2

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 55	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-72\022001-EC-RM.DWG
LAYOUT NAME - 022002-ec_rm

PLOT DATE : 10/14/2021 11:58 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

REMOVING FENCE (TYP)

SALVAGE RAIL

STH 147 SW RAMP

STH 147 SW RAMP 'ZSW' R/L

15'ZSW'

20'ZSW'

25'ZSW'

15'WB'

STH 147

STH 147/CTH Z

STH 147 NW RAMP

STH 147 NW RAMP 'ZNW' R/L

60'EB'

IH 43 'SB' R/L

1660'SB'

IH 43 SB

1665'SB'

1670'SB'

B-36-93

SALVAGE RAIL

20'WB'

1660'NB'

IH 43 NB

1665'NB'

1670'NB'

IH 43 'NB' R/L

SALVAGE RAIL

B-36-94

STH 147 SE RAMP 'ZSE' R/L

STH 147 NE RAMP 'ZNE' R/L

SALVAGE RAIL

20'ZSE'

STH 147 SE RAMP

STH 147 NE RAMP

25'ZSE'

15'ZN

65'EB'

REMOVING FENCE (TYP)

STH 147

STH 147

2

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 56	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-72\022001-EC-RM.DWG
LAYOUT NAME - 022003-ec_rm
PLOT DATE : 10/14/2021 11:58 AM
PLOT BY : MATERNOSKI, JORDAN D
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

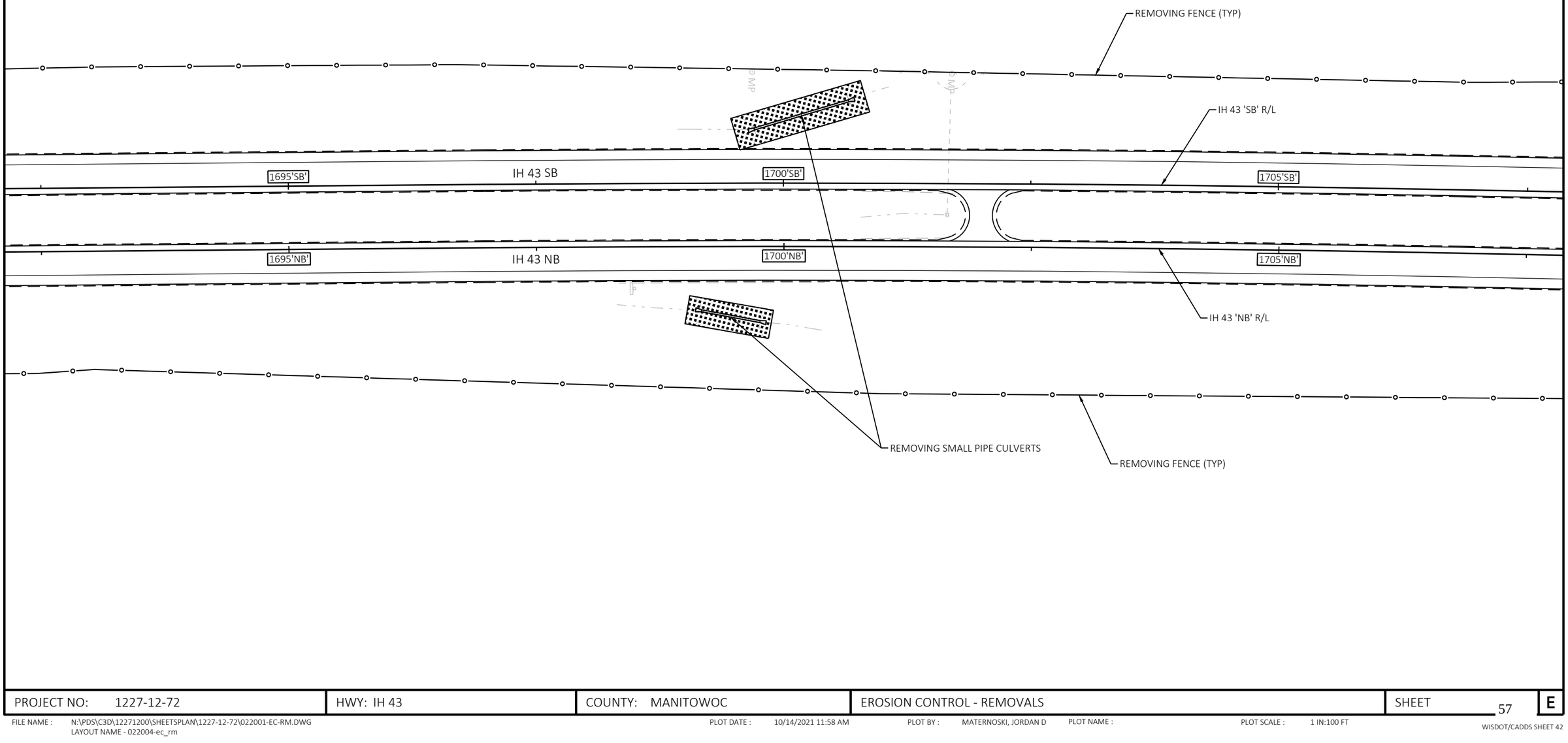
2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

2



PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 57	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-72\022001-EC-RM.DWG
LAYOUT NAME - 022004-ec_rm

PLOT DATE : 10/14/2021 11:58 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

SCHLEY RD

REMOVING FENCE (TYP)

SALVAGE RAIL

B-36-95

IH 43 'SB' R/L

1715'SB' 1720'SB' IH 43 SB 1725'SB' 1730'SB'

1715'NB' 1720'NB' IH 43 NB 1725'NB' 1730'NB'

B-36-96

IH 43 'NB' R/L

SALVAGE RAIL

RIPRAP MEDIUM

REMOVING FENCE (TYP)

SCHLEY RD

2

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 58	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-72\022001-EC-RM.DWG
LAYOUT NAME - 022005-ec_rm

PLOT DATE : 10/14/2021 11:58 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

2

REMOVING FENCE (TYP)

1745'SB'

IH 43 SB

1750'SB'

1755'SB'

IH 43 'SB' R/L

SALVAGE RAIL

SALVAGE RAIL

1745'NB'

IH 43 NB

1750'NB'

1755'NB'

IH 43 'NB' R/L

REMOVING FENCE (TYP)

REMOVING SMALL PIPE CULVERTS

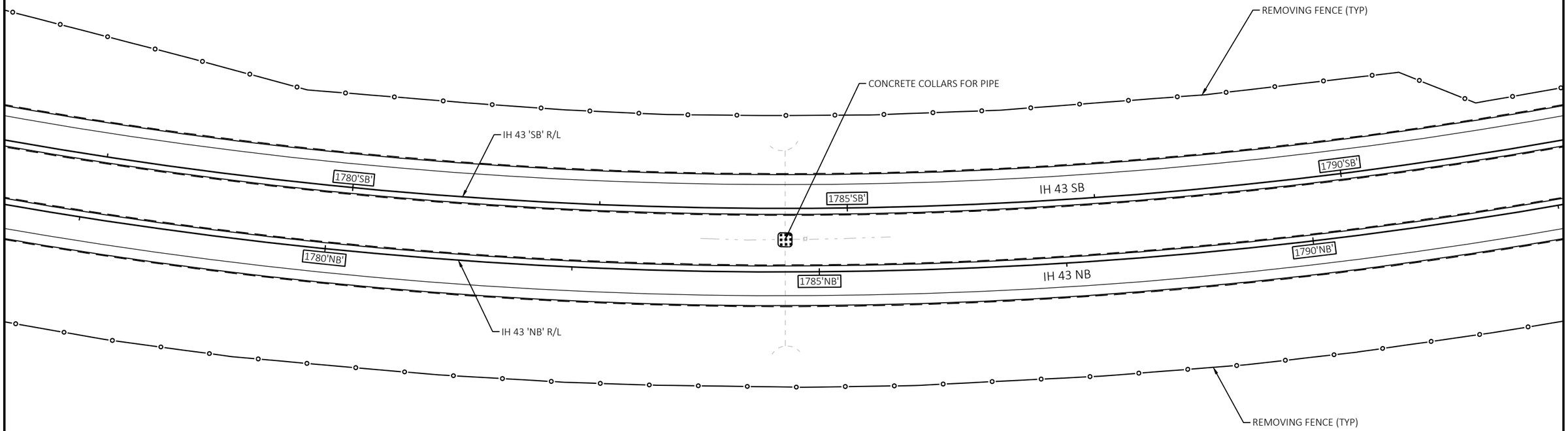
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 59	E

2

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK



PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 60	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-72\022001-EC-RM.DWG
LAYOUT NAME - 022007-ec_rm

PLOT DATE : 10/14/2021 11:58 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

ZANDER RD

SALVAGE RAIL

15ZA

REMOVING FENCE (TYP)

IH 43 'SB' R/L

1795'SB'

IH 43 SB

1800'SB'

1805'SB'

1810'SB'

SALVAGE RAIL

IH 43 NB

1800'NB'

1805'NB'

1810'NB'

IH 43 'NB' R/L

B-36-89

REMOVING INLET

20ZA

REMOVING FENCE (TYP)

SALVAGE RAIL

SALVAGE RAIL

ZANDER RD

PLEASANT RD

SALVAGE RAIL
TO STA 28+49 RT

SALVAGE RAIL
TO STA 22+81 LT

25ZA

REMOVE GUARDRAIL
TO STA 28+40 LT

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 61	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-72\022001-EC-RM.DWG
LAYOUT NAME - 022008-ec_rm

PLOT DATE : 10/14/2021 11:58 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

CTH T

REMOVING FENCE (TYP)

SALVAGE RAIL

SALVAGE RAIL

1860'SB'

IH 43 'SB' R/L

1850'SB'

IH 43 SB

1855'SB'

B-36-100

B-36-99

1850'NB'

IH 43 NB

1855'NB'

1860'NB'

SS

SALVAGE RAIL

IH 43 'NB' R/L

L-57

SALVAGE RAIL

REMOVING FENCE (TYP)

CTH T

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 62	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-72\022001-EC-RM.DWG
LAYOUT NAME - 022009-ec_rm

PLOT DATE : 10/14/2021 11:58 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK

N

DEVIL'S RIVER STATE TRAIL

ROSECRAN RD

SALVAGE RAIL

REMOVING FENCE (TYP)

B-36-101

1900'SB'

1905'SB'

IH 43 'SB' R/L

IH 43 SB

1910'SB'

B-36-103

SALVAGE RAIL
TO STA 1915'SB'+47 LT

SALVAGE RAIL

B-36-104

SALVAGE RAIL
TO STA 1914'SB'+50 RT

IH 43 'NB' R/L

1900'NB'

1905'NB'

IH 43 NB

1910'NB'

B-36-102

SALVAGE RAIL

SALVAGE RAIL

REMOVING FENCE (TYP)

DEVIL'S RIVER STATE TRAIL

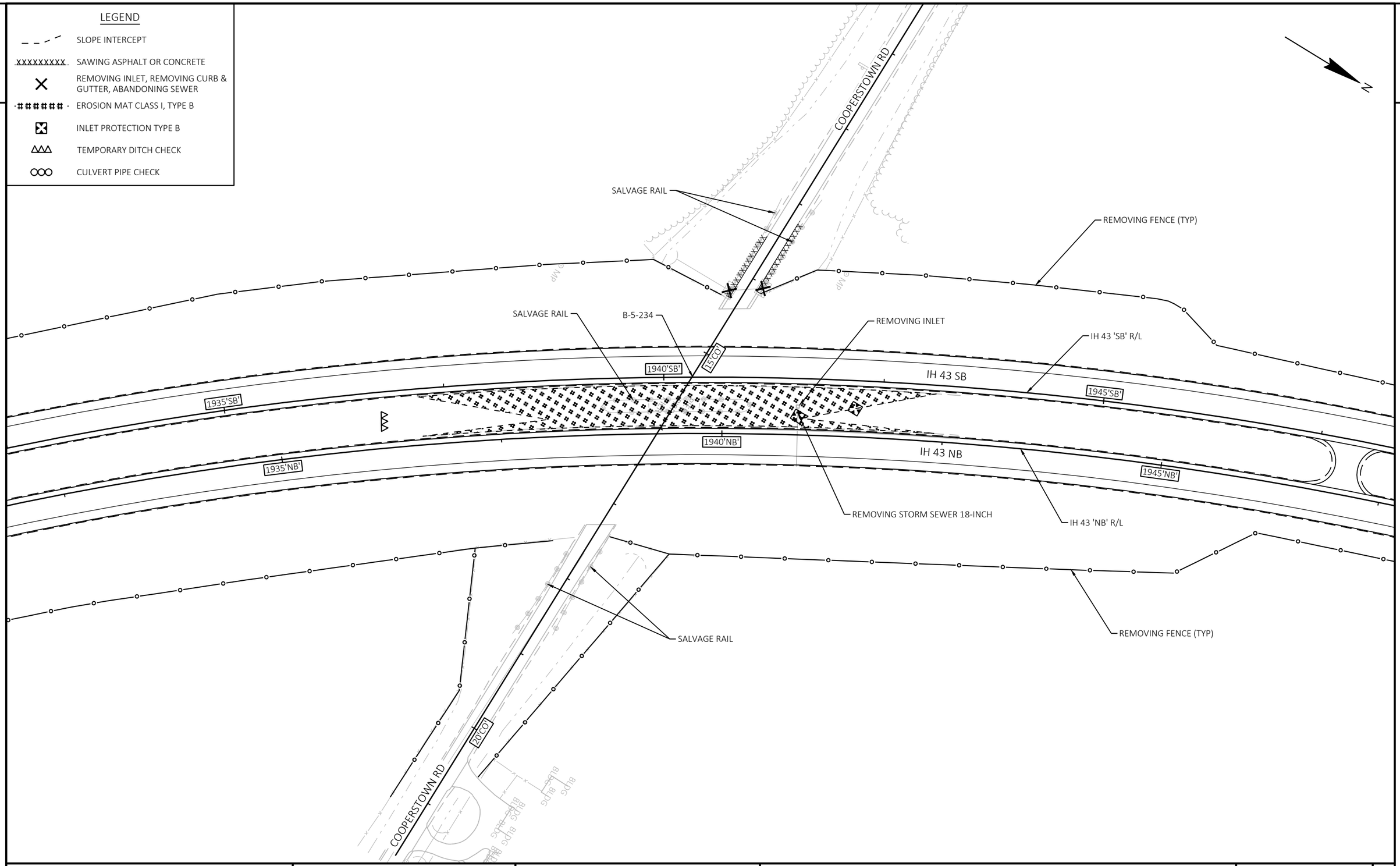
ROSECRAN RD

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 63	E

2

LEGEND

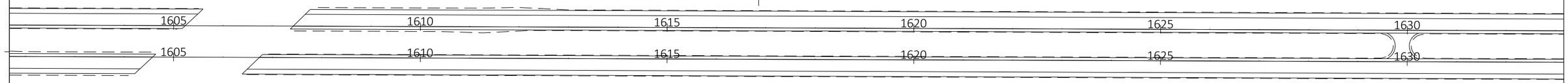
- SLOPE INTERCEPT
- SAWING ASPHALT OR CONCRETE
- REMOVING INLET, REMOVING CURB & GUTTER, ABANDONING SEWER
- EROSION MAT CLASS I, TYPE B
- INLET PROTECTION TYPE B
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK



PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL - REMOVALS	SHEET 64	E

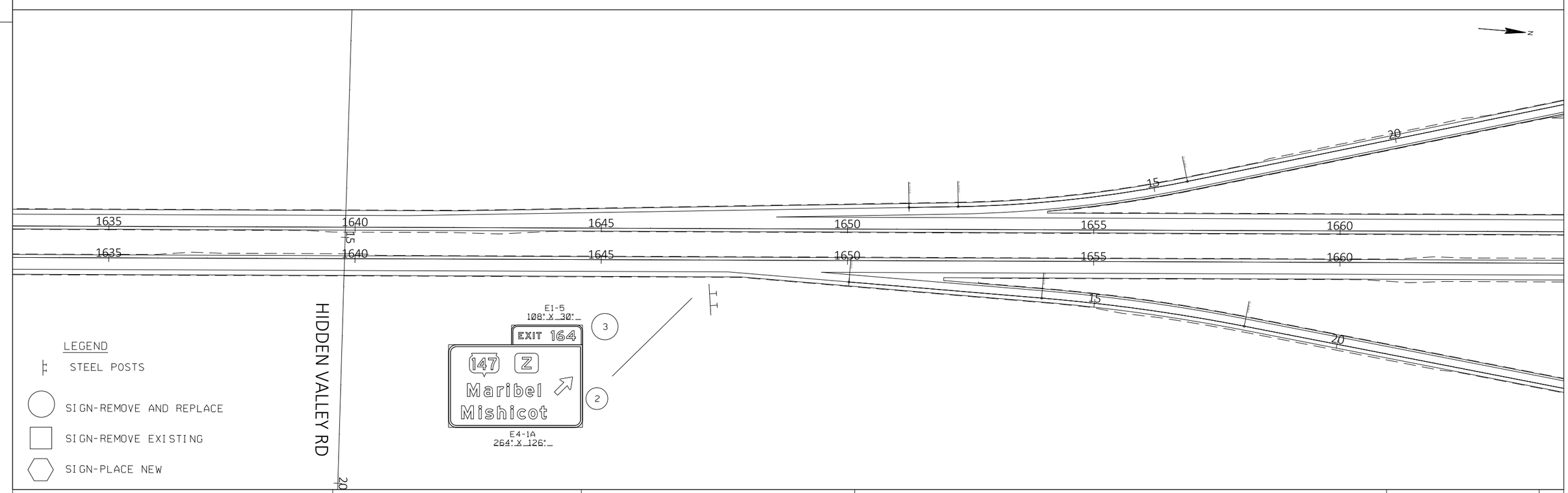
FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-72\022001-EC-RM.DWG
LAYOUT NAME - 022011-ec_rm

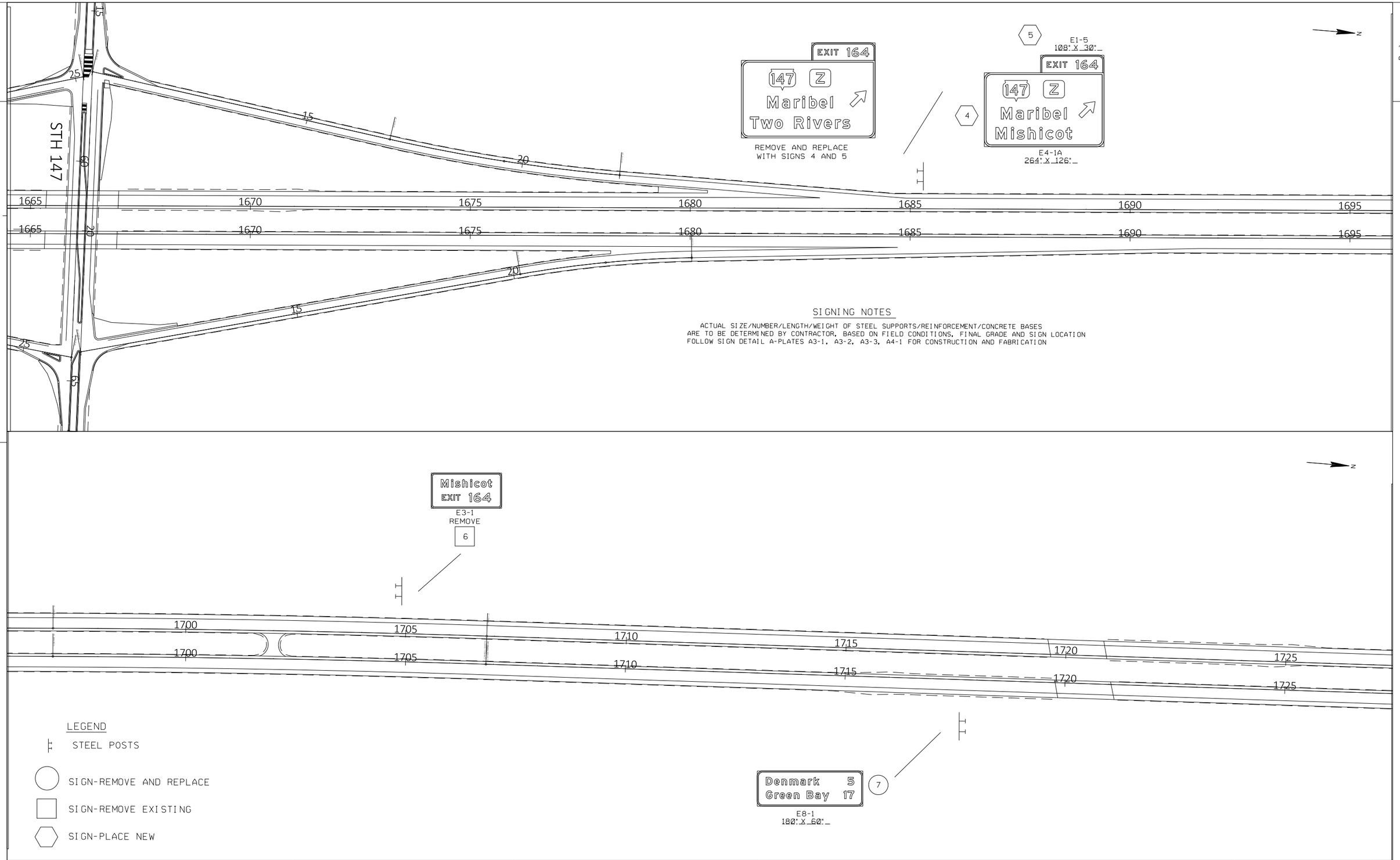
PLOT DATE : 10/14/2021 11:58 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT



SIGNING NOTES

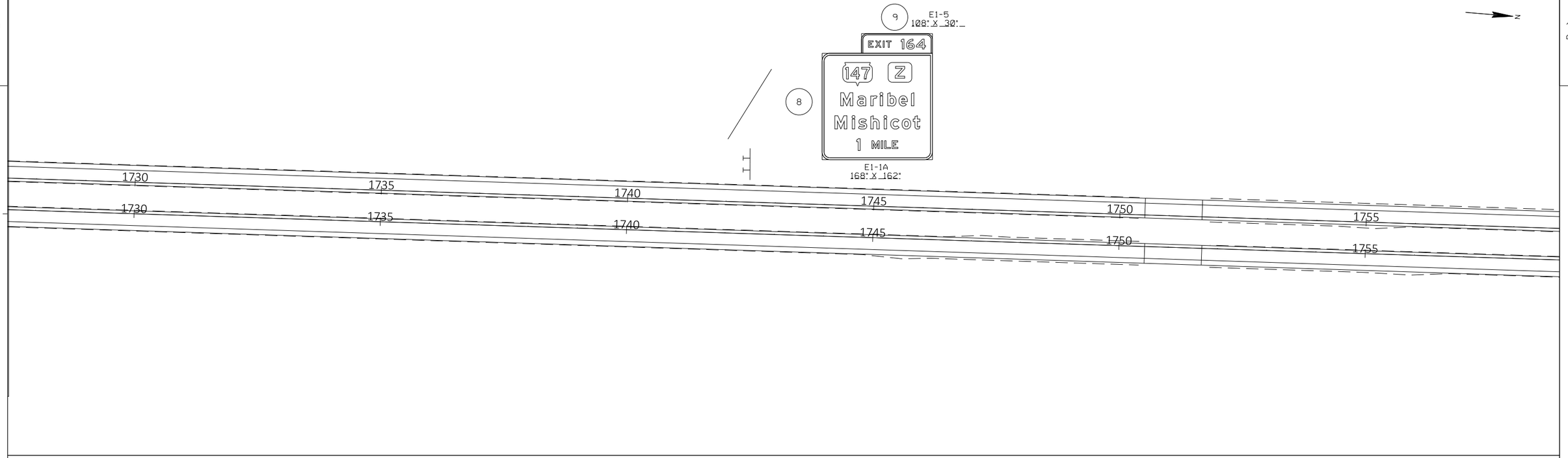
ACTUAL SIZE/NUMBER/LENGTH/WEIGHT OF STEEL SUPPORTS/REINFORCEMENT/CONCRETE BASES
ARE TO BE DETERMINED BY CONTRACTOR, BASED ON FIELD CONDITIONS. FINAL GRADE AND SIGN LOCATION
FOLLOW SIGN DETAIL A-PLATES A3-1, A3-2, A3-3, A4-1 FOR CONSTRUCTION AND FABRICATION

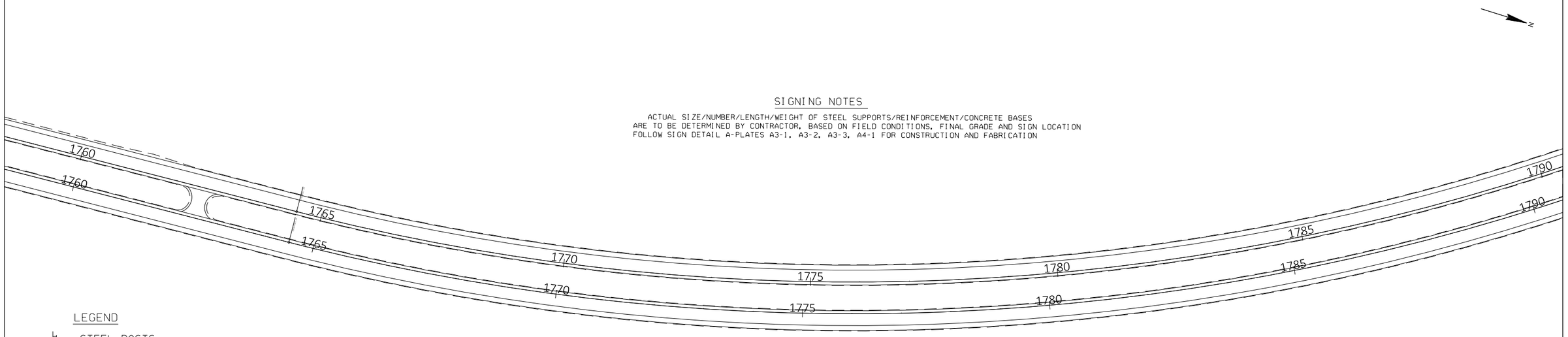




PROJECT NO: 1227-12-72	HWY: IH-43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 66 E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : _____ PLOT SCALE : $$.....plotscale.....$$





SIGNING NOTES

ACTUAL SIZE/NUMBER/LENGTH/WEIGHT OF STEEL SUPPORTS/REINFORCEMENT/CONCRETE BASES ARE TO BE DETERMINED BY CONTRACTOR, BASED ON FIELD CONDITIONS, FINAL GRADE AND SIGN LOCATION FOLLOW SIGN DETAIL A-PLATES A3-1, A3-2, A3-3, A4-1 FOR CONSTRUCTION AND FABRICATION

LEGEND

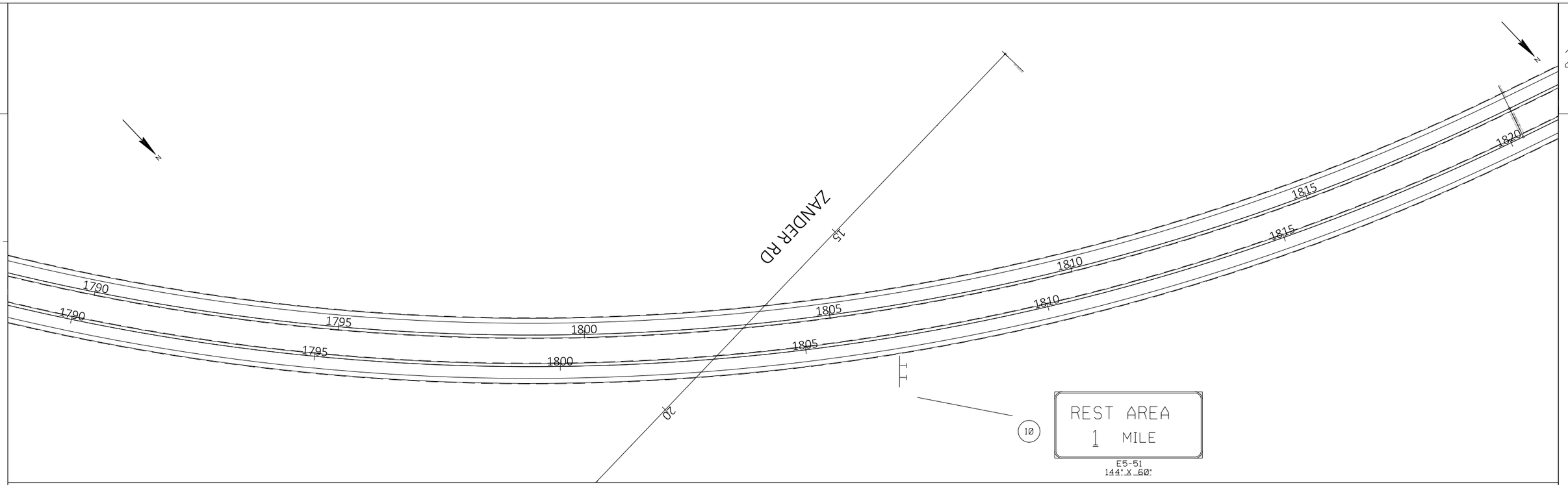
STEEL POSTS

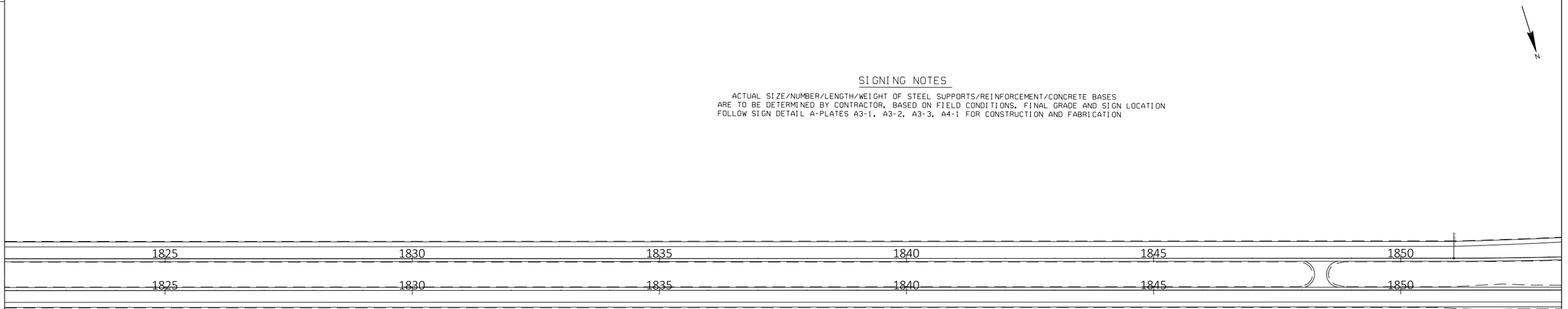
SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PROJECT NO: 1227-12-72	HWY:IH-43	COUNTY:MANITOWOC	PERMANENT SIGNING	SHEET 67 E





SIGNING NOTES

ACTUAL SIZE/NUMBER/LENGTH/WEIGHT OF STEEL SUPPORTS/REINFORCEMENT/CONCRETE BASES ARE TO BE DETERMINED BY CONTRACTOR, BASED ON FIELD CONDITIONS, FINAL GRADE AND SIGN LOCATION FOLLOW SIGN DETAIL A-PLATES A3-1, A3-2, A3-3, A4-1 FOR CONSTRUCTION AND FABRICATION

LEGEND

STEEL POSTS

SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PROJECT NO: 1227-12-72	HWY: IH-43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 68 E

2

N

1885
1880
1875
1870
1865
1860
1855

CTH T

1855 1860 1865 1870 1875 1880

11

15

11

REST AREA

E5-52
144" X 54"

N

12

REST AREA

E5-52
144" X 54"

1890 1895 1900 1905 1910 1915

1915 1910 1905 1900 1895 1890

LEGEND

STEEL POSTS

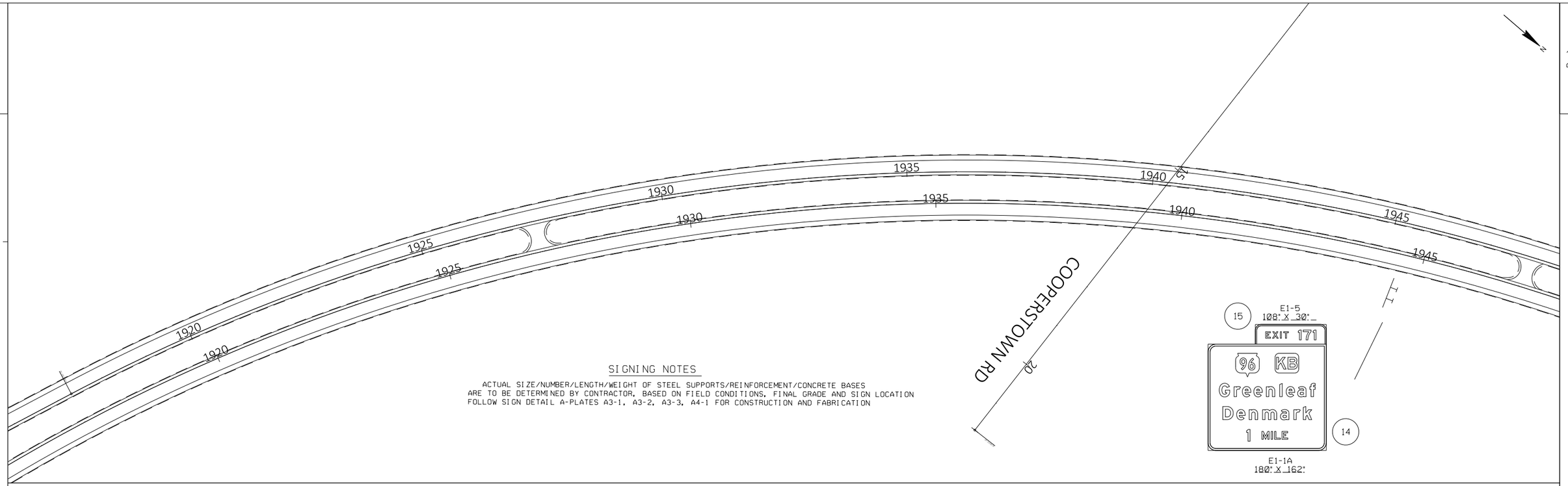
SIGN-REMOVE AND REPLACE

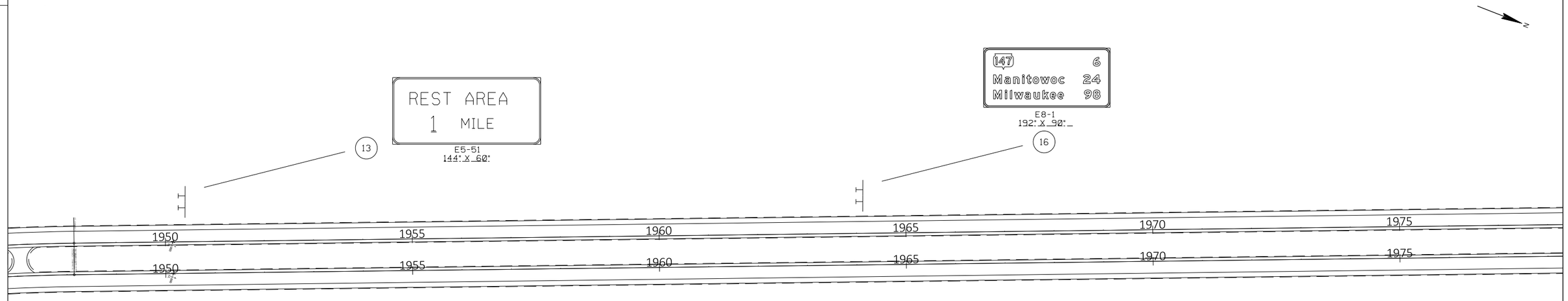
SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PROJECT NO: 1227-12-72	HWY: IH-43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 69 E

FILE NAME :$$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : _____ PLOT SCALE : $$.....plotscale.....$$





SIGNING NOTES

ACTUAL SIZE/NUMBER/LENGTH/WEIGHT OF STEEL SUPPORTS/REINFORCEMENT/CONCRETE BASES ARE TO BE DETERMINED BY CONTRACTOR, BASED ON FIELD CONDITIONS. FINAL GRADE AND SIGN LOCATION FOLLOW SIGN DETAIL A-PLATES A3-1, A3-2, A3-3, A4-1 FOR CONSTRUCTION AND FABRICATION

LEGEND

STEEL POSTS

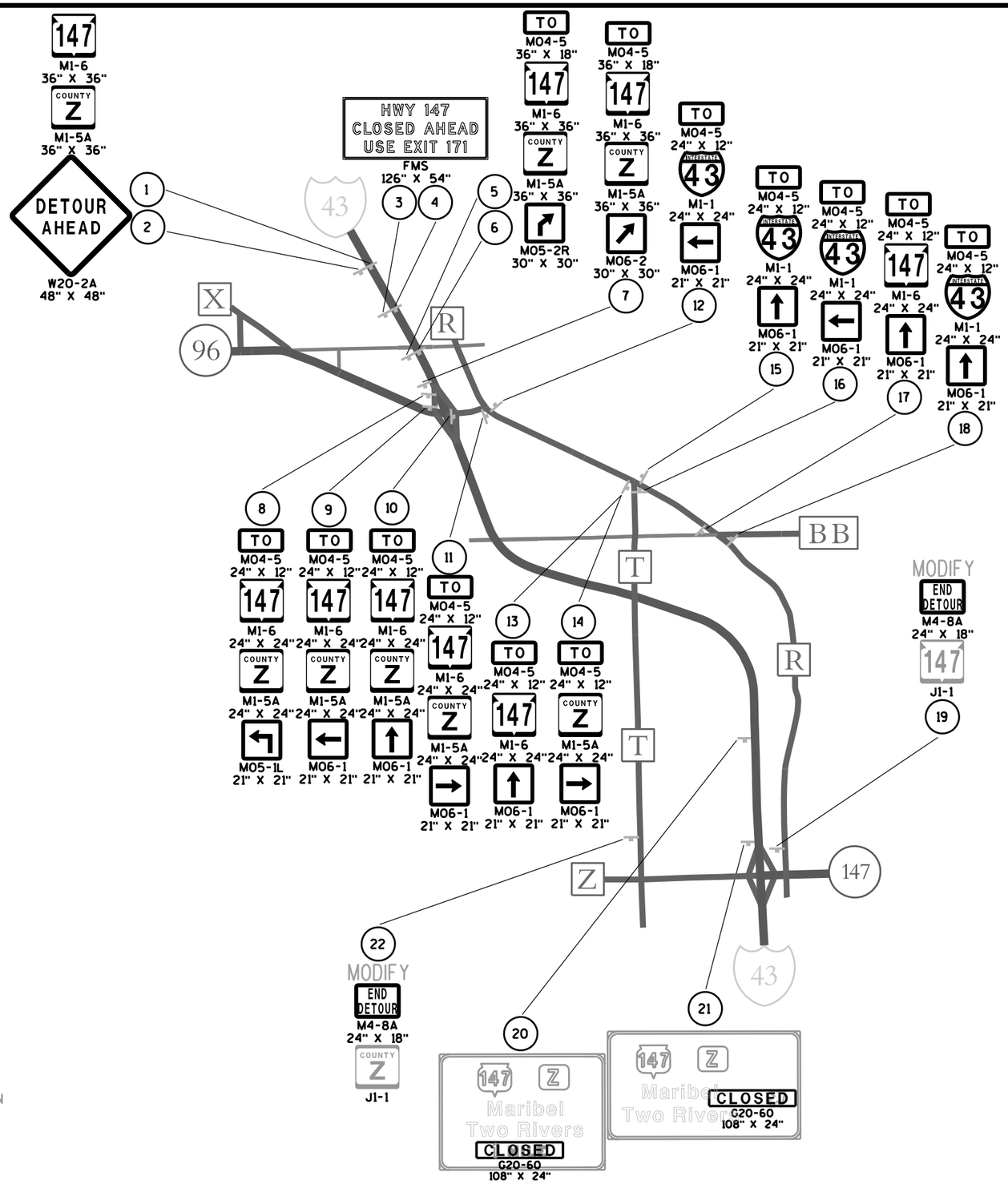
SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PROJECT NO: 1227-12-72	HWY:IH-43	COUNTY:MANITOWOC	PERMANENT SIGNING	SHEET 70 E

2



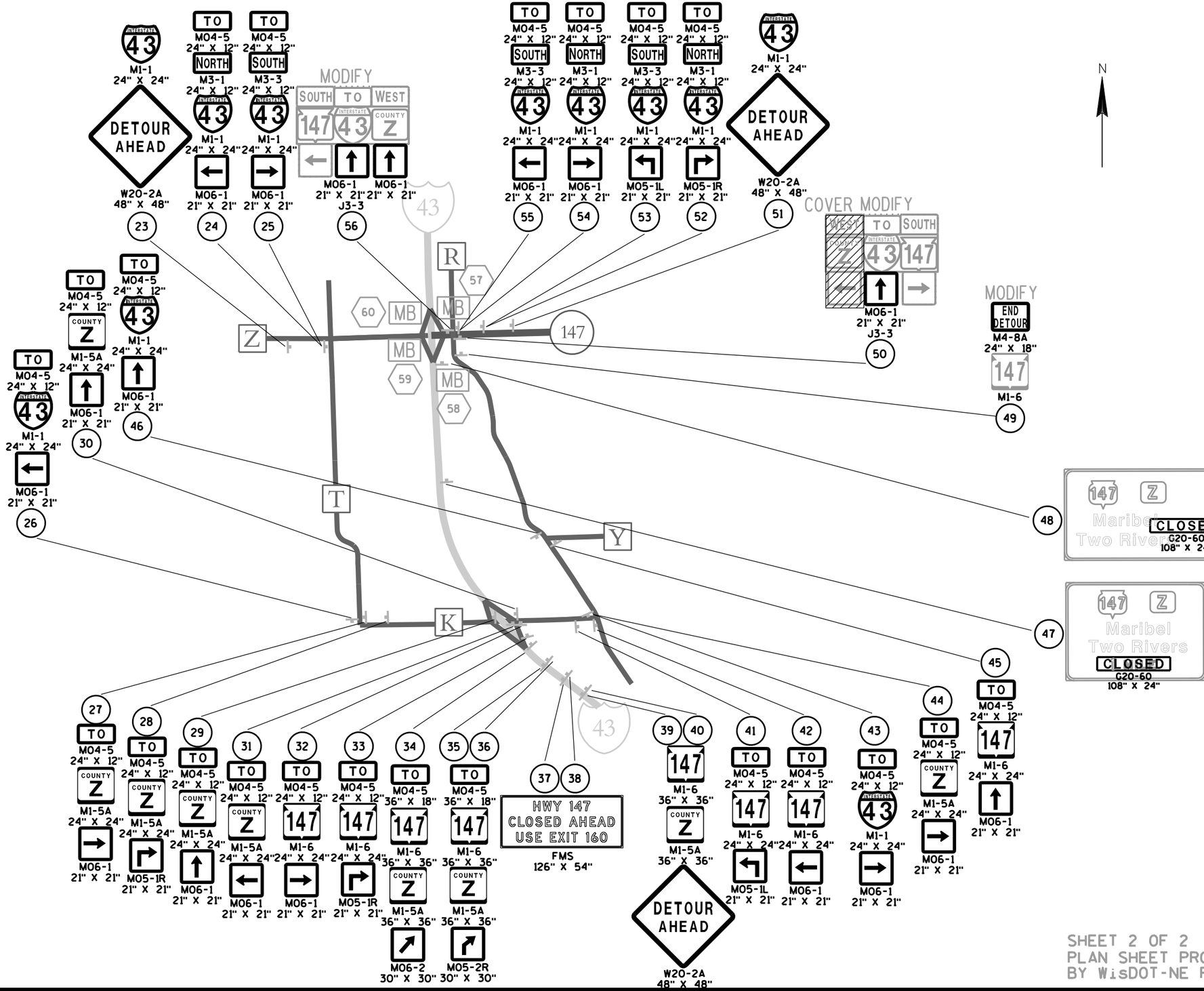
LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- MB (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

SHEET 1 OF 2
PLAN SHEET PRODUCED
BY WisDOT-NE REGION

PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - STH 147 INTERCHANGE CLOSURE - NORTH	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$



PROJECT NO: 1227-12-71	HWY: I-43	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL - STH 147 INTERCHANGE CLOSURE - SOUTH	SHEET E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

LEGEND

(X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET

SIGN MOUNTED ON TYPE III BARRICADE

POST MOUNTED SIGN

(X) CHANGEABLE PORTABLE MESSAGE BOARD

N

DETAIL 1
SEE SHEET 2 OF 3

DETAIL 2
SEE SHEET 2 OF 3

1 — COUNTY KB — M1-5A 36" X 36" — DETOUR AHEAD — W20-2A 24" X 12"

2 — HWY KB-DENMARK CLOSED FOLLOW DETOUR — FMS 120" X 54"

3 — DETOUR M04-8 36" X 18" — EAST M3-2 36" X 18" — COUNTY KB M1-5A 36" X 36" — M05-2R 30" X 30"

11 — DETOUR M04-8 36" X 18" — WEST M3-4 36" X 18" — 96 M1-6 36" X 36" — M06-2 30" X 30"

12 — DETOUR M04-8 36" X 18" — WEST M3-4 36" X 18" — 96 M1-6 36" X 36" — M05-2R 30" X 30"

13 — 16 — TO M4-5 24" X 12" — NORTH M3-1 24" X 12" — INTERSTATE 43 M1-1 24" X 24" — M5-1L 21" X 21"

14 — DETOUR M04-8 24" X 12" — EAST M3-2 24" X 12" — COUNTY KB M1-5A 24" X 24" — M06-1 21" X 21"

15 — TO M4-5 24" X 12" — NORTH M3-1 24" X 12" — INTERSTATE 43 M1-1 24" X 24" — M06-1 21" X 21"

20 — EXIT 171 — 96 — COUNTY KB — Greenleaf — Denmark — 1 MILE — COVER AS SHOWN

21 — END DETOUR M4-8A 30" X 24" — WEST M3-4 36" X 18" — 96 M1-6 36" X 36"

36 — DETOUR M04-8 36" X 18" — WEST M3-4 36" X 18" — 96 M1-6 36" X 36" — M06-1 30" X 30"

37 — 40 — EXIT 171 — 96 — COUNTY KB — Greenleaf — Denmark — 1 MILE — COVER AS SHOWN

17 — DETOUR AHEAD — W020-2A 48" X 48"

18 — HWY 96 CLOSED NO ACCESS TO DENMARK — FMS 66" X 36"

19 — TO M4-5 24" X 12" — NORTH M3-1 24" X 12" — INTERSTATE 43 M1-1 24" X 24" — M5-1L 21" X 21"

19C — TO M4-5 24" X 12" — NORTH M3-1 24" X 12" — INTERSTATE 43 M1-1 24" X 24" — M6-1 21" X 21"

19A — TO M4-5 24" X 12" — NORTH M3-1 24" X 12" — INTERSTATE 43 M1-1 24" X 24" — M6-1 21" X 21"

19B — BRIDGE OUT 2 ¼ MILES AHEAD — R11-3C 60" X 24"

38 — 39 — WEST M3-4 36" X 18" — 96 M1-6 36" X 36" — DETOUR AHEAD — W020-2A 48" X 48"

WORK ZONE

SHEET 1 OF 3

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1227-12-72	HWY: I-43	COUNTY: BROWN	DETOUR SIGNING DETAIL	SHEET 73	E

2

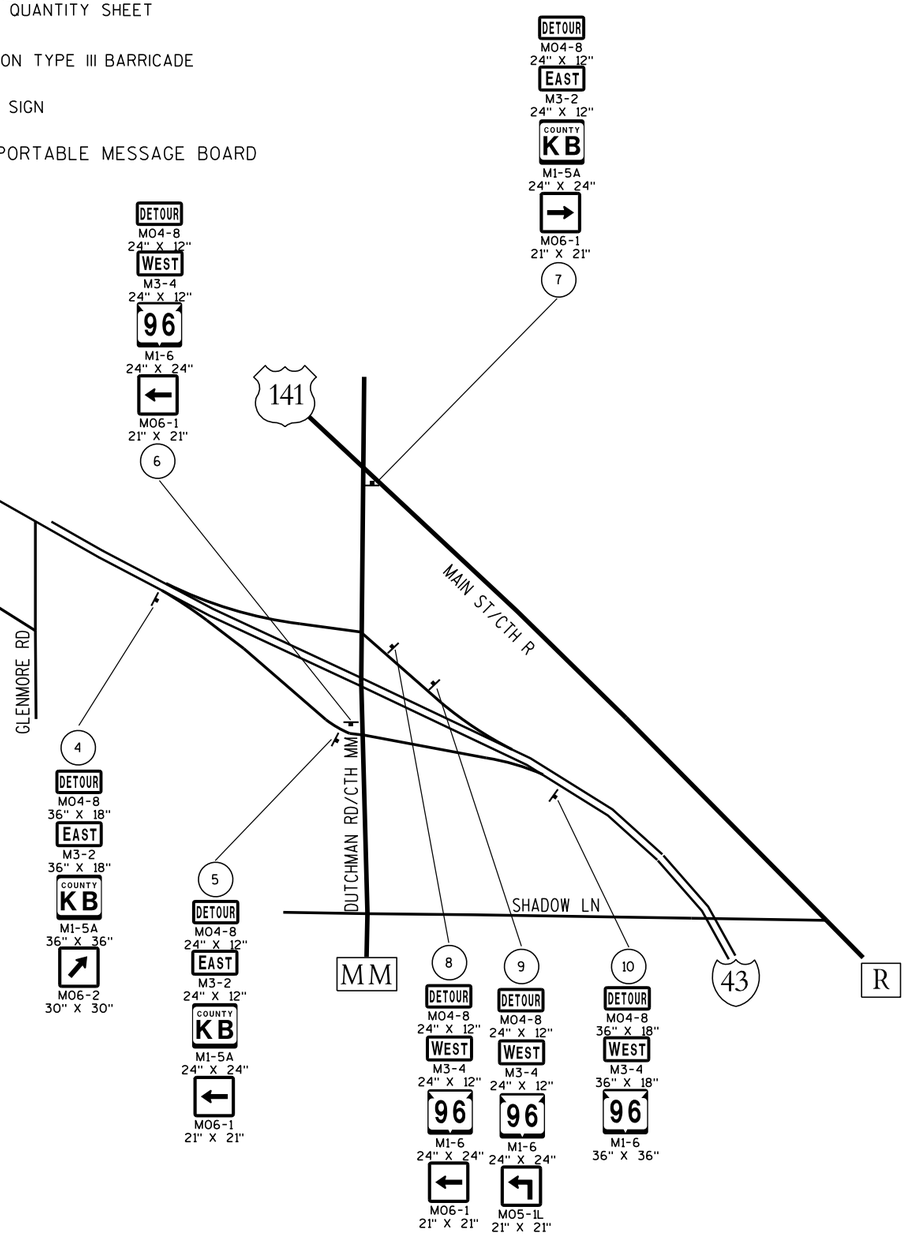
LEGEND

(X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET

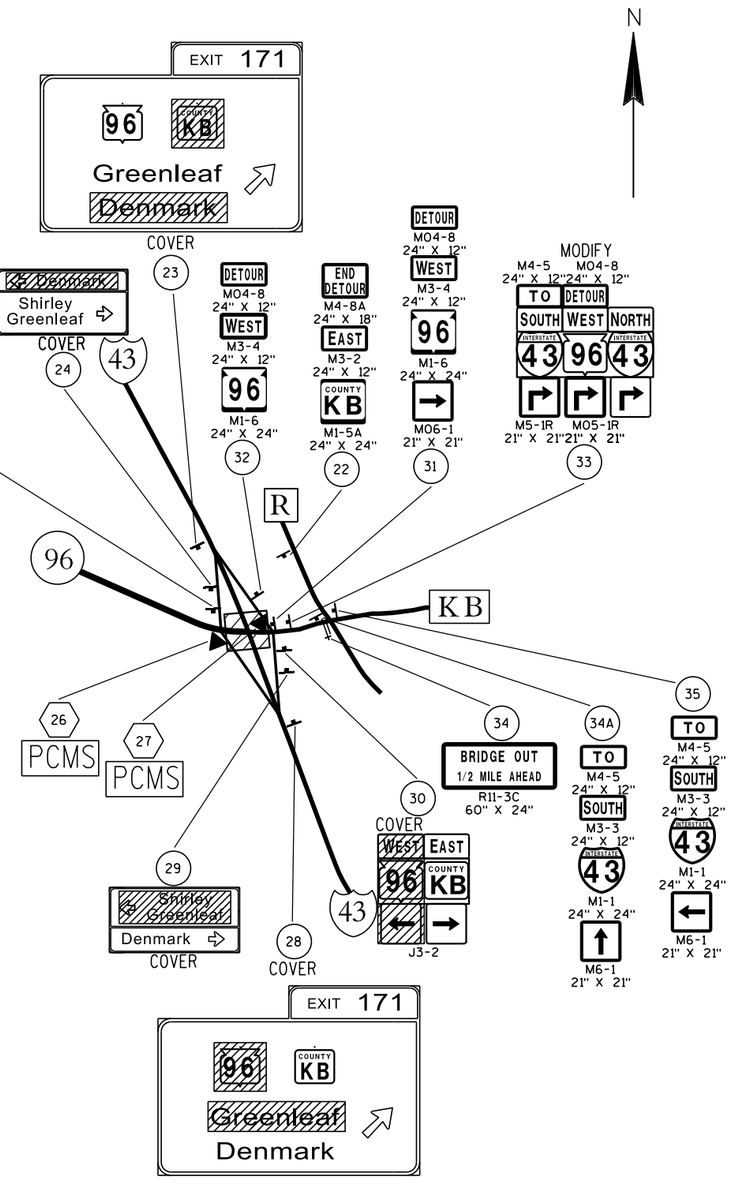
SIGN MOUNTED ON TYPE III BARRICADE

POST MOUNTED SIGN

(X) CHANGEABLE PORTABLE MESSAGE BOARD



DETAIL 1



DETAIL 2

SHEET 2 OF 3

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1227-12-72	HWY: I-43	COUNTY: BROWN	DETOUR SIGNING DETAIL	SHEET 74	E

FILE NAME : N:\spo\traffic\A Work Zone\Detours\Brown County\STH 96\I-43 Interchange\Structure Work\027002_dt.dgn PLOT DATE : 26-AUG-2019 13:22 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 1200:1

LEGEND

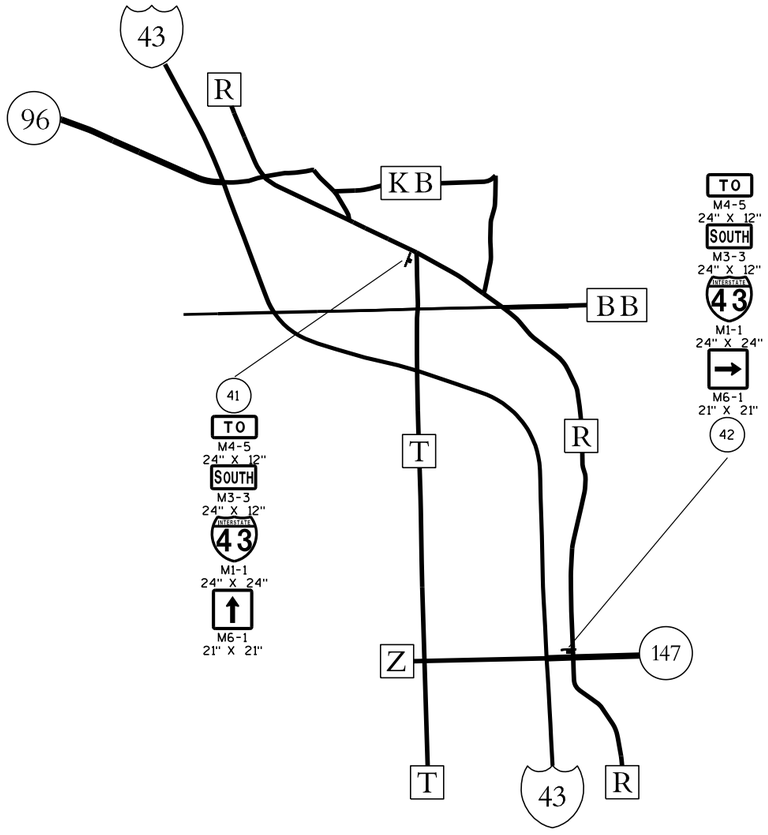
(X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET

SIGN MOUNTED ON TYPE III BARRICADE

POST MOUNTED SIGN

(X) CHANGEABLE PORTABLE MESSAGE BOARD

N



SHEET 3 OF 3

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1227-12-72	HWY: I-43	COUNTY: BROWN	DETOUR SIGNING DETAIL	SHEET 75	E

1227-12-72

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000
0006	204.0105	Removing Pavement Butt Joints	SY	160.000	160.000
0008	204.0109.S	Removing Concrete Surface Partial Depth	SF	1,746.000	1,746.000
0010	204.0110	Removing Asphaltic Surface	SY	301.000	301.000
0012	204.0115	Removing Asphaltic Surface Butt Joints	SY	329.000	329.000
0014	204.0120	Removing Asphaltic Surface Milling	SY	347,517.000	347,517.000
0016	204.0126.S	Removing Asphaltic Longitudinal Notched Wedge Joint Milling	LF	74,612.000	74,612.000
0018	204.0150	Removing Curb & Gutter	LF	226.000	226.000
0020	204.0170	Removing Fence	LF	81,338.000	81,338.000
0022	204.0220	Removing Inlets	EACH	31.000	31.000
0024	204.0245	Removing Storm Sewer (size) 01. 18-Inch	LF	14.000	14.000
0026	204.0291.S	Abandoning Sewer	CY	24.300	24.300
0028	204.9060.S	Removing (item description) 01. Apron Endwall	EACH	1.000	1.000
0032	211.0100	Prepare Foundation for Asphaltic Paving (project) 02. 1227-12-72	LS	1.000	1.000
0034	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	46.200	46.200
0038	213.0100	Finishing Roadway (project) 02. 1227-12-72	EACH	1.000	1.000
0040	305.0110	Base Aggregate Dense 3/4-Inch	TON	12,330.000	12,330.000
0042	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	376.000	376.000
0044	390.0303	Base Patching Concrete	SY	1,955.000	1,955.000
0046	390.0403	Base Patching Concrete Shes	SY	18.000	18.000
0048	416.0610	Drilled Tie Bars	EACH	4,648.000	4,648.000
0050	416.0620	Drilled Dowel Bars	EACH	1,689.000	1,689.000
0052	416.1010	Concrete Surface Drains	CY	9.000	9.000
0054	450.4000	HMA Cold Weather Paving	TON	4,000.000	4,000.000
0056	455.0605	Tack Coat	GAL	43,361.000	43,361.000
0066	460.2000	Incentive Density HMA Pavement	DOL	28,920.000	28,920.000
0068	460.2005	Incentive Density PWL HMA Pavement	DOL	22,990.000	22,990.000
0070	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	61,002.000	61,002.000
0072	460.2010	Incentive Air Voids HMA Pavement	DOL	29,230.000	29,230.000
0074	460.5224	HMA Pavement 4 LT 58-28 S	TON	19,450.000	19,450.000
0076	460.7224	HMA Pavement 4 HT 58-28 S	TON	29,221.000	29,221.000
0078	460.8624	HMA Pavement 4 SMA 58-28 V	TON	25,733.000	25,733.000
0082	460.9000.S	Material Transfer Vehicle 02. 1227-12-72	EACH	1.000	1.000
0084	465.0105	Asphaltic Surface	TON	49.000	49.000
0086	465.0400	Asphaltic Shoulder Rumble Strips	LF	144,307.000	144,307.000
0090	502.3101	Expansion Device 01. B-05-0239	LF	148.000	148.000
0092	502.3200	Protective Surface Treatment	SY	1,364.000	1,364.000
0094	502.3205	Pigmented Surface Sealer Reseal	SY	2,517.000	2,517.000
0098	502.3215	Protective Surface Treatment Reseal	SY	423.000	423.000
0100	502.4205	Adhesive Anchors No. 5 Bar	EACH	154.000	154.000
0104	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	5,460.000	5,460.000
0108	509.0301	Preparation Decks Type 1	SY	400.000	400.000
0110	509.0302	Preparation Decks Type 2	SY	160.000	160.000
0112	509.0500	Cleaning Decks	SY	1,336.000	1,336.000
0114	509.1000	Joint Repair	SY	70.000	70.000
0116	509.1500	Concrete Surface Repair	SF	320.000	320.000
0118	509.2000	Full-Depth Deck Repair	SY	1.000	1.000
0120	509.2500	Concrete Masonry Overlay Decks	CY	84.000	84.000
0122	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 01. B-05-0239	SY	1,336.000	1,336.000

1227-12-72

Line	Item	Item Description	Unit	Total	Qty
0126	517.3001.S	Structure Overcoating Cleaning and Priming (structure) 01. B-05-0239	EACH	1.000	1.000
0128	517.4001.S	Containment and Collection of Waste Materials (structure) 01. B-05-0239	EACH	1.000	1.000
0130	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	6.000	6.000
0132	520.3418	Culvert Pipe Class III-A Non-metal 18-Inch	LF	255.000	255.000
0134	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000
0138	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	1.000	1.000
0142	531.1100	Concrete Masonry Ancillary Structures Type NS	CY	26.800	26.800
0144	531.1140	Steel Reinforcement HS Ancillary Structures Type NS	LB	3,634.000	3,634.000
0146	531.2024	Drilling Shaft 24-Inch	LF	223.000	223.000
0148	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	80.000	80.000
0150	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	768.000	768.000
0152	606.0200	Riprap Medium	CY	19.850	19.850
0154	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	118.000	118.000
0156	611.0642	Inlet Covers Type MS	EACH	4.000	4.000
0158	611.3901	Inlets Median 1 Grate	EACH	4.000	4.000
0160	611.8115	Adjusting Inlet Covers	EACH	2.000	2.000
0162	614.0010	Barrier System Grading Shaping Finishing	EACH	2.000	2.000
0164	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	4.000	4.000
0166	614.0230	Steel Thrie Beam	LF	250.000	250.000
0168	614.0920	Salvaged Rail	LF	19,024.000	19,024.000
0170	614.2300	MGS Guardrail 3	LF	11,274.000	11,274.000
0172	614.2330	MGS Guardrail 3 K	LF	2,675.000	2,675.000
0174	614.2350	MGS Guardrail Short Radius	LF	226.000	226.000
0176	614.2500	MGS Thrie Beam Transition	LF	1,546.000	1,546.000
0178	614.2610	MGS Guardrail Terminal EAT	EACH	43.000	43.000
0180	614.2620	MGS Guardrail Terminal Type 2	EACH	5.000	5.000
0182	614.2630	MGS Guardrail Short Radius Terminal	EACH	1.000	1.000
0184	616.0100	Fence Woven Wire (height) 01. 4-FT	LF	81,338.000	81,338.000
0188	618.0100	Maintenance And Repair of Haul Roads (project) 02. 1227-12-72	EACH	1.000	1.000
0190	619.1000	Mobilization	EACH	0.478	0.478
0192	624.0100	Water	MGAL	128.000	128.000
0194	625.0500	Salvaged Topsoil	SY	1,012.000	1,012.000
0196	628.1905	Mobilizations Erosion Control	EACH	14.000	14.000
0198	628.1910	Mobilizations Emergency Erosion Control	EACH	7.000	7.000
0200	628.2004	Erosion Mat Class I Type B	SY	1,012.000	1,012.000
0202	628.7010	Inlet Protection Type B	EACH	6.000	6.000
0204	628.7504	Temporary Ditch Checks	LF	80.000	80.000
0208	628.7570	Rock Bags	EACH	30.000	30.000
0210	629.0210	Fertilizer Type B	CWT	1.280	1.280
0212	630.0130	Seeding Mixture No. 30	LB	27.300	27.300
0214	630.0500	Seed Water	MGAL	23.730	23.730
0216	632.0101	Trees (species) (size) (root) 01. American Hazelnut, 12"-18", BR	EACH	4,103.000	4,103.000
0218	632.0101	Trees (species) (size) (root) 02. Common Ninebark, 12"-18", BR	EACH	4,103.000	4,103.000
0220	632.0101	Trees (species) (size) (root) 03. Red Osier Dogwood, 12"-18", BR	EACH	4,103.000	4,103.000
0222	632.9101	Landscape Planting Surveillance and Care Cycles	EACH	26.000	26.000
0224	633.5200	Markers Culvert End	EACH	11.000	11.000
0226	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	2.000	2.000
0228	635.0200	Sign Supports Structural Steel HS	LB	14,092.000	14,092.000
0230	637.1220	Signs Type I Reflective SH	SF	1,488.000	1,488.000

1227-12-72

Line	Item	Item Description	Unit	Total	Qty
0232	638.2102	Moving Signs Type II	EACH	3.000	3.000
0234	638.2601	Removing Signs Type I	EACH	12.000	12.000
0236	638.3000	Removing Small Sign Supports	EACH	2.000	2.000
0238	638.3100	Removing Structural Steel Sign Supports	EACH	24.000	24.000
0242	643.0300	Traffic Control Drums	DAY	101,566.000	101,566.000
0244	643.0420	Traffic Control Barricades Type III	DAY	7,818.000	7,818.000
0246	643.0705	Traffic Control Warning Lights Type A	DAY	15,636.000	15,636.000
0248	643.0715	Traffic Control Warning Lights Type C	DAY	9,212.000	9,212.000
0250	643.0800	Traffic Control Arrow Boards	DAY	376.000	376.000
0252	643.0900	Traffic Control Signs	DAY	19,076.000	19,076.000
0254	643.0910	Traffic Control Covering Signs Type I	EACH	4.000	4.000
0256	643.0920	Traffic Control Covering Signs Type II	EACH	5.000	5.000
0258	643.1000	Traffic Control Signs Fixed Message	SF	250.500	250.500
0260	643.1050	Traffic Control Signs PCMS	DAY	49.000	49.000
0262	643.1205.S	Basic Traffic Queue Warning System	DAY	230.000	230.000
0264	643.5000	Traffic Control	EACH	0.500	0.500
0266	645.0120	Geotextile Type HR	SY	124.000	124.000
0268	646.1020	Marking Line Epoxy 4-Inch	LF	5,407.000	5,407.000
0270	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	163,377.000	163,377.000
0272	646.1555	Marking Line Grooved Contrast Permanent Tape 4-Inch	LF	19,064.000	19,064.000
0274	646.3020	Marking Line Epoxy 8-Inch	LF	178.000	178.000
0276	646.3555	Marking Line Grooved Contrast Permanent Tape 8-Inch	LF	7,556.000	7,556.000
0278	646.5420	Marking Aerial Enforcement Bar Epoxy	EACH	10.000	10.000
0280	646.6120	Marking Stop Line Epoxy 18-Inch	LF	80.000	80.000
0282	646.7120	Marking Diagonal Epoxy 12-Inch	LF	374.000	374.000
0284	646.8120	Marking Curb Epoxy	LF	171.000	171.000
0286	646.8220	Marking Island Nose Epoxy	EACH	5.000	5.000
0288	649.0105	Temporary Marking Line Paint 4-Inch	LF	183,133.000	183,133.000
0290	650.4000	Construction Staking Storm Sewer	EACH	4.000	4.000
0292	650.8000	Construction Staking Resurfacing Reference	LF	88,472.000	88,472.000
0296	650.9910	Construction Staking Supplemental Control (project) 02. 1227-12-72	LS	1.000	1.000
0300	690.0150	Sawing Asphalt	LF	542.000	542.000
0302	690.0250	Sawing Concrete	LF	59,062.000	59,062.000
0306	740.0440	Incentive IRI Ride	DOL	59,680.000	59,680.000
0308	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,050.000	1,050.000
0310	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	2,880.000	2,880.000
0312	SPV.0060	Special 01. Cleaning and Painting Bearings	EACH	8.000	8.000
0314	SPV.0070	Special 01. Bridge Deck Crack Sealing	GAL	9.810	9.810
0316	SPV.0090	Special 01. Joint Sealing	LF	1,203.000	1,203.000
0318	SPV.0090	Special 02. Pipe Underdrain (6-Inch) With Geotextile Fabric And Aggregate	LF	1,061.000	1,061.000
0320	SPV.0180	Special 01. Base Patching Concrete HES	SY	1,857.000	1,857.000
0322	SPV.0180	Special 02. Continuously Reinforced Concrete Repair HES	SY	6,099.000	6,099.000
0324	SPV.0180	Special 03. Continuously Reinforced Concrete Repair SHES	SY	321.000	321.000
0326	SPV.0180	Special 04. Methacrylate Flood Seal	SY	3,926.000	3,926.000

REMOVING SMALL PIPE CULVERTS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	203.0100 REMOVING SMALL PIPE CULVERTS EACH	REMARKS
0010	IH 43 NB	1699'NB'+16	-	1699'NB'+76	RT	1	18" CORRUGATED METAL
0010	IH 43 NB	1755'NB'+71	-	1756'NB'+58	RT	1	18" CORRUGATED METAL
0010	IH 43 SB	1699'SB'+70	-	1700'SB'+66	LT	1	18" CORRUGATED METAL
				PROJECT TOTAL		**3**	

REMOVING FENCE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0170 REMOVING FENCE LF
0010	IH 43 NB	1606'NB'+74	-	2012'NB'+81	RT	41,858
0010	IH 43 SB	1607'SB'+42	-	2012'SB'+81	LT	39,480
				PROJECT TOTAL		**81,338**

PREPARE FOUNDATION FOR ASPHALTIC PAVING

CATEGORY	PROJECT	211.0100 PREPARE FOUNDATION FOR ASPHALTIC PAVING LS	REMARKS
0010	1227-12-72	1	STA 1606'NB'+74 - STA 1988'NB'+34 STA 1607'SB'+42 - STA 1988'SB'+34
	PROJECT TOTAL	**1**	

REMOVING CURB & GUTTER

CATEGORY	ROADWAY	STATION	OFFSET	204.0150 REMOVING CURB & GUTTER LF
0010	IH 43 NB	1665'NB'+17	RT	8
0010	IH 43 NB	1665'NB'+17	LT	8
0010	IH 43 NB	1721'NB'+16	LT	8
0010	IH 43 NB	1721'NB'+24	RT	8
0010	IH 43 NB	1750'NB'+35	RT	8
0010	IH 43 NB	1750'NB'+35	LT	8
0010	IH 43 NB	1855'NB'+62	LT	8
0010	IH 43 NB	1855'NB'+77	RT	8
0010	IH 43 NB	1902'NB'+60	LT	8
0010	IH 43 NB	1902'NB'+87	RT	8
0010	IH 43 NB	1911'NB'+53	RT	10
0010	IH 43 SB	1665'SB'+20	RT	8
0010	IH 43 SB	1665'SB'+20	LT	8
0010	IH 43 SB	1720'SB'+98	LT	8
0010	IH 43 SB	1721'SB'+06	RT	8
0010	IH 43 SB	1750'SB'+35	RT	8
0010	IH 43 SB	1750'SB'+35	LT	8
0010	IH 43 SB	1855'SB'+29	LT	8
0010	IH 43 SB	1900'SB'+70	LT	8
0010	IH 43 SB	1900'SB'+97	RT	8
0010	IH 43 SB	1911'SB'+23	LT	8
0010	IH 43 SB	1911'SB'+41	RT	8
0010	HIDDEN VALLEY RD	10'HV'+95	RT	8
0010	HIDDEN VALLEY RD	10'HV'+95	LT	8
0010	ZANDER RD	15'ZA'+91	LT	8
0010	ZANDER RD	16'ZA'+28	RT	8
0010	COOPERSTOWN RD	14'CO'+02	LT	8
0010	COOPERSTOWN RD	14'CO'+24	RT	8
		PROJECT TOTAL		**226**

REMOVING APRON ENDWALL

CATEGORY	ROADWAY	STATION	OFFSET	204.9060.S REMOVING APRON ENDWALL EACH
0010	IH 43 NB	1638'NB'+03	LT	1
		PROJECT TOTAL		**1**

REMOVING PAVEMENT

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0109.S REMOVING CONCRETE SURFACE PARTIAL DEPTH SF	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	REMARKS
0010	IH 43 NB	1606'NB'+74	-	1988'NB'+34	LT/RT	-	-	-	-	173,764	MAINLINE & SHOULDERS
0010	IH 43 NB	1606'NB'+74	-	1606'NB'+76	LT/RT	-	-	-	13	-	
0010	IH 43 NB	1629'NB'+61	-	1630'NB'+21	LT	-	-	-	-	221	MEDIAN TURNAROUND
0010	IH 43 NB	1664'NB'+79	-	1665'NB'+24	LT	-	-	10	-	-	
0010	IH 43 NB	1664'NB'+77	-	1665'NB'+22	RT	-	-	10	-	-	
0010	IH 43 NB	1665'NB'+31	-	1665'NB'+33	LT/RT	-	-	-	9	-	
0010	IH 43 NB	1666'NB'+97	-	1666'NB'+99	LT/RT	-	-	-	9	-	
0010	IH 43 NB	1701'NB'+70	-	1702'NB'+25	LT	-	-	-	-	191	MEDIAN TURNAROUND
0010	IH 43 NB	1719'NB'+75	-	1719'NB'+77	LT/RT	-	-	-	9	-	
0010	IH 43 NB	1721'NB'+05	-	1721'NB'+07	LT/RT	-	-	-	9	-	
0010	IH 43 NB	1721'NB'+09	-	1721'NB'+24	LT	-	-	5	-	-	
0010	IH 43 NB	1721'NB'+17	-	1721'NB'+32	RT	-	-	5	-	-	
0010	IH 43 NB	1749'NB'+95	-	1750'NB'+40	RT	-	-	10	-	-	
0010	IH 43 NB	1749'NB'+95	-	1750'NB'+40	LT	-	-	10	-	-	
0010	IH 43 NB	1750'NB'+50	-	1750'NB'+52	LT/RT	-	-	-	9	-	
0010	IH 43 NB	1751'NB'+68	-	1751'NB'+70	LT/RT	-	-	-	9	-	
0010	IH 43 NB	1762'NB'+26	-	1762'NB'+82	LT	-	-	-	-	217	MEDIAN TURNAROUND
0010	IH 43 NB	1848'NB'+08	-	1848'NB'+70	LT	-	-	-	-	202	MEDIAN TURNAROUND
0010	IH 43 NB	1855'NB'+22	-	1855'NB'+67	LT	-	-	10	-	-	
0010	IH 43 NB	1855'NB'+37	-	1855'NB'+82	RT	-	-	10	-	-	
0010	IH 43 NB	1855'NB'+73	-	1855'NB'+75	LT/RT	-	-	-	9	-	
0010	IH 43 NB	1857'NB'+02	-	1857'NB'+04	LT/RT	-	-	-	9	-	
0010	IH 43 NB	1867'NB'+55	-	1867'NB'+57	RT	-	-	-	6	-	NB EXIT RAMP
0010	IH 43 NB	1894'NB'+08	-	1894'NB'+10	RT	-	-	-	6	-	NB ON RAMP
0010	IH 43 NB	1902'NB'+20	-	1902'NB'+65	LT	-	-	10	-	-	
0010	IH 43 NB	1902'NB'+47	-	1902'NB'+92	RT	-	-	10	-	-	
0010	IH 43 NB	1902'NB'+73	-	1902'NB'+75	LT/RT	-	-	-	13	-	
0010	IH 43 NB	1904'NB'+43	-	1904'NB'+45	LT/RT	-	-	-	12	-	
0010	IH 43 NB	1910'NB'+12	-	1910'NB'+14	LT/RT	-	-	-	9	-	
0010	IH 43 NB	1911'NB'+36	-	1911'NB'+38	LT/RT	-	-	-	9	-	
0010	IH 43 NB	1911'NB'+46	-	1911'NB'+66	RT	-	-	7	-	-	
0010	IH 43 NB	1926'NB'+65	-	1927'NB'+24	LT	-	-	-	-	222	MEDIAN TURNAROUND
0010	IH 43 NB	1946'NB'+76	-	1947'NB'+32	LT	-	-	-	-	204	MEDIAN TURNAROUND
0010	IH 43 NB	1988'NB'+32	-	1988'NB'+34	LT/RT	-	-	-	9	-	
0010	IH 43 SB	1607'SB'+42	-	1988'SB'+34	LT/RT	-	-	-	-	172,496	MAINLINE & SHOULDERS
0010	IH 43 SB	1607'SB'+42	-	1607'SB'44	LT/RT	-	-	-	13	-	
0010	IH 43 SB	1665'SB'+13	-	1665'SB'+28	LT	-	-	5	-	-	
0010	IH 43 SB	1665'SB'+13	-	1665'SB'+28	RT	-	-	5	-	-	
				PROJECT SUBTOTAL		**0**	**0**	**107**	**162**	**347,517**	

REMOVING PAVEMENT (CONTINUED)

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0109.S REMOVING CONCRETE SURFACE PARTIAL DEPTH SF	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	REMARKS
0010	IH 43 SB	1665'SB'+33	-	1665'SB'+35	LT/RT	-	-	-	9	-	
0010	IH 43 SB	1666'SB'+99	-	1667'SB'+01	LT/RT	-	-	-	9	-	
0010	IH 43 SB	1719'SB'+63	-	1719'SB'+65	LT/RT	-	-	-	9	-	
0010	IH 43 SB	1720'SB'+92	-	1720'SB'+94	LT/RT	-	-	-	9	-	
0010	IH 43 SB	1720'SB'+94	-	1721'SB'+39	LT	-	-	10	-	-	
0010	IH 43 SB	1721'SB'+02	-	1721'SB'+46	RT	-	-	10	-	-	
0010	IH 43 SB	1749'SB'+95	-	1750'SB'+40	LT	-	-	10	-	-	
0010	IH 43 SB	1750'SB'+25	-	1750'SB'+40	RT	-	-	5	-	-	
0010	IH 43 SB	1750'SB'+49	-	1750'SB'+51	LT/RT	-	-	-	9	-	
0010	IH 43 SB	1751'SB'+66	-	1751'SB'+68	LT/RT	-	-	-	9	-	
0010	IH 43 SB	1855'SB'+17	-	1855'SB'+32	LT	-	-	5	-	-	
0010	IH 43 SB	1855'SB'+48	-	1855'SB'+50	LT/RT	-	-	-	11	-	
0010	IH 43 SB	1856'SB'+72	-	1856'SB'+74	LT/RT	-	-	-	12	-	
0010	IH 43 SB	1864'SB'+73	-	1864'SB'+75	LT	-	-	-	6	-	SB ON RAMP
0010	IH 43 SB	1890'SB'+40	-	1890'SB'+42	LT	-	-	-	6	-	SB EXIT RAMP
0010	IH 43 SB	1900'SB'+29	-	1900'SB'+74	RT	-	-	10	-	-	
0010	IH 43 SB	1900'SB'+81	-	1900'SB'+96	RT	-	-	5	-	-	
0010	IH 43 SB	1901'SB'+08	-	1901'SB'+10	LT/RT	-	-	-	11	-	
0010	IH 43 SB	1903'SB'+01	-	1903'SB'+03	LT/RT	-	-	-	11	-	
0010	IH 43 SB	1909'SB'+87	-	1909'SB'+89	LT/RT	-	-	-	10	-	
0010	IH 43 SB	1911'SB'+20	-	1911'SB'+22	LT/RT	-	-	-	10	-	
0010	IH 43 SB	1911'SB'+37	-	1911'SB'+82	RT	-	-	10	-	-	
0010	IH 43 SB	1911'SB'+19	-	1911'SB'+64	LT	-	-	10	-	-	
0010	IH 43 SB	1988'SB'+32	-	1988'SB'+34	LT/RT	-	-	-	9	-	
0010	STH 147 EB	65'EB'+01	-	65'EB'+05	RT	1	-	-	-	-	
0010	STH 147 WB	15'WB'+98	-	16'WB'+51	RT	-	900	-	-	-	1.5" DEPTH - CORRUGATED MEDIAN
0010	STH 147 WB	16'WB'+55	-	16'WB'+73	LT	26	-	-	-	-	
0010	STH 147 WB	17'WB'+10	-	17'WB'+26	RT	-	171	-	-	-	1.5" DEPTH - CORRUGATED MEDIAN
0170	STH 147 WB	28'WB'+44	-	29'WB'+31	RT	-	675	-	-	-	1.5" DEPTH - CORRUGATED MEDIAN
0170	STH 147 WB	31'WB'+41	-	31'WB'+91	LT/RT	133	-	-	-	-	
0010	STH 96	12'NS'+89	-	12'NS'+89	LT/RT	-	-	-	13	-	B-05-0239
0010	STH 96	16'NS'+27	-	16'NS'+27	LT/RT	-	-	-	14	-	B-05-0239
0010	HIDDEN VALLEY RD	12'HV'+99	-	13'HV'+85	LT	-	-	21	-	-	
0010	HIDDEN VALLEY RD	12'HV'+86	-	13'HV'+85	RT	-	-	24	-	-	
0010	ZANDER RD	15'ZA'+11	-	15'ZA'+98	LT	-	-	16	-	-	
0010	ZANDER RD	15'ZA'+44	-	16'ZA'+36	RT	-	-	20	-	-	
0010	COOPERSTOWN RD	13'CO'+18	-	14'CO'+10	LT	-	-	22	-	-	
0010	COOPERSTOWN RD	13'CO'+51	-	14'CO'+32	RT	-	-	16	-	-	
					PROJECT SUBTOTAL	**160**	**1,746**	**194**	**167**	**0**	
					CATEGORY 0010 TOTAL	**27**	**1,071**	**301**	**329**	**347,517**	
					CATEGORY 0170 TOTAL	**133**	**675**	**0**	**0**	**0**	
					PROJECT TOTAL	**160**	**1,746**	**301**	**329**	**347,517**	

3

SALVAGE RAIL

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	614.0920 SALVAGE RAIL LF
0010	IH 43 NB	1636'NB'+66	-	1640'NB'+08	LT	342
0010	IH 43 NB	1661'NB'+38	-	1665'NB'+24	RT	386
0010	IH 43 NB	1661'NB'+90	-	1665'NB'+26	LT	336
0010	IH 43 NB	1715'NB'+58	-	1719'NB'+80	RT	422
0010	IH 43 NB	1716'NB'+00	-	1719'NB'+73	LT	373
0010	IH 43 NB	1745'NB'+57	-	1750'NB'+43	RT	486
0010	IH 43 NB	1747'NB'+19	-	1750'NB'+41	LT	322
0010	IH 43 NB	1751'NB'+84	-	1755'NB'+95	RT	411
0010	IH 43 NB	1802'NB'+65	-	1804'NB'+48	LT	377
0010	IH 43 NB	1851'NB'+71	-	1855'NB'+78	RT	407
0010	IH 43 NB	1852'NB'+08	-	1855'NB'+65	LT	357
0010	IH 43 NB	1898'NB'+30	-	1902'NB'+63	LT	433
0010	IN 43 NB	1898'NB'+70	-	1902'NB'+90	RT	420
0010	IH 43 NB	1904'NB'+47	-	1910'NB'+00	LT	553
0010	IH 43 NB	1904'NB'+71	-	1910'NB'+14	RT	543
0010	IH 43 NB	1938'NB'+64	-	1940'NB'+32	LT	350
0010	IH 43 SB	1607'SB'+41	-	1611'SB'+28	RT	387
0010	IH 43 SB	1607'SB'+85	-	1612'SB'+00	LT	416
0010	IH 43 SB	1639'SB'+52	-	1642'SB'+95	RT	344
0010	IH 43 SB	1667'SB'+06	-	1670'SB'+68	RT	363
0010	IH 43 SB	1667'SB'+09	-	1671'SB'+06	LT	397
0010	IH 43 SB	1720'SB'+95	-	1725'SB'+15	LT	420
0010	IH 43 SB	1721'SB'+02	-	1724'SB'+73	RT	371
0010	IH 43 SB	1748'SB'+33	-	1750'SB'+41	LT	208
0010	IH 43 SB	1751'SB'+82	-	1755'SB'+19	RT	338
0010	IH 43 SB	1751'SB'+84	-	1761'SB'+43	LT	959
0010	IH 43 SB	1856'SB'+81	-	1859'SB'+89	RT	308
0010	IH 43 SB	1856'SB'+85	-	1860'SB'+74	LT	387
0010	IH 43 SB	1899'SB'+51	-	1900'SB'+72	LT	120
0010	IH 43 SB	1902'SB'+90	-	1909'SB'+61	LT	671
0010	IH 43 SB	1903'SB'+16	-	1909'SB'+84	RT	668
0010	IH 43 SB	1911'SB'+31	-	1915'SB'+51	LT	421
0010	IH 43 SB	1911'SB'+34	-	1914'SB'+58	RT	324
					PROJECT SUBTOTAL	**13,620**

SALVAGE RAIL (CONTINUED)

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	614.0920 SALVAGE RAIL LF
0010	HIDDEN VALLEY RD	12'HV'+71	-	13'HV'+86	RT	115
0010	HIDDEN VALLEY RD	12'HV'+71	-	13'HV'+86	LT	115
0010	HIDDEN VALLEY RD	16'HV'+42	-	17'HV'+67	RT	125
0010	HIDDEN VALLEY RD	16'HV'+41	-	17'HV'+64	LT	123
0010	STH 147 SE RAMP	15'ZSE'+56	-	22'ZSE'+10	RT	654
0010	STH 147 SW RAMP	16'ZSW'+38	-	20'ZSW'+43	LT	405
0010	ZANDER RD	12'ZA'+95	-	15'ZA'+98	LT	303
0010	ZANDER RD	13'ZA'+85	-	16'ZA'+36	RT	290
0010	ZANDER RD	19'ZA'+79	-	22'ZA'+52	LT	546
0010	ZANDER RD	20'ZA'+21	-	28'ZA'+48	RT	828
0010	ZANDER RD	22'ZA'+77	-	28'ZA'+40	LT	833
0010	CTH T	11'T'+86	-	14'T'+62	RT	276
0010	CTH T	12'T'+05	-	14'T'+86	LT	282
0010	COOPERSTOWN RD	12'CO'+83	-	14'CO'+10	LT	127
0010	COOPERSTOWN RD	13'CO'+06	-	14'CO'+32	RT	127
0010	COOPERSTOWN RD	17'CO'+36	-	18'CO'+63	LT	127
0010	COOPERSTOWN RD	17'CO'+58	-	18'CO'+86	RT	128
					PROJECT SUTOTAL	**5,404**
					PROJECT TOTAL	**19,024**

REMOVING STORM SEWER

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0245.01 REMOVING STORM SEWER (01. 18-INCH) LF
0010	IH 43 NB	1940'NB'+85	-	1940'NB'+85	LT	14
					PROJECT TOTAL	**14**

3

REMOVING INLETS & ABANDONING SEWER

CATEGORY	ROADWAY	STATION	OFFSET	204.0220 REMOVING INLETS EACH	204.0291.S ABANDONING SEWER CY
0010	IH 43 NB	1665'NB'+17	RT	1	1.7
0010	IH 43 NB	1665'NB'+17	LT	1	0.6
0010	IH 43 NB	1721'NB'+16	LT	1	0.5
0010	IH 43 NB	1721'NB'+24	RT	1	0.3
0010	IH 43 NB	1750'NB'+35	RT	1	0.3
0010	IH 43 NB	1750'NB'+35	LT	1	0.4
0010	IH 43 NB	1804'NB'+77	LT	1	-
0010	IH 43 NB	1855'NB'+62	LT	1	1.6
0010	IH 43 NB	1855'NB'+77	RT	1	0.2
0010	IH 43 NB	1902'NB'+60	LT	1	0.5
0010	IH 43 NB	1902'NB'+87	RT	1	1.8
0010	IH 43 NB	1911'NB'+53	RT	2	0.6
0010	IH 43 NB	1940'NB'+85	LT	1	-
0010	IH 43 SB	1665'SB'+20	RT	1	0.6
0010	IH 43 SB	1665'SB'+20	LT	1	1.7
0010	IH 43 SB	1720'SB'+98	LT	1	0.3
0010	IH 43 SB	1721'SB'+06	RT	1	0.5
0010	IH 43 SB	1750'SB'+35	RT	1	0.4
0010	IH 43 SB	1750'SB'+35	LT	1	0.2
0010	IH 43 SB	1855'SB'+29	LT	1	0.2
0010	IH 43 SB	1900'SB'+69	LT	1	0.2
0010	IH 43 SB	1900'SB'+97	RT	1	0.2
0010	IH 43 SB	1911'SB'+23	LT	1	0.2
0010	IH 43 SB	1911'SB'+41	RT	1	1.8
0010	HIDDEN VALLEY RD	10'HV'+95	RT	1	2.1
0010	HIDDEN VALLEY RD	10'HV'+95	LT	1	2.1
0010	ZANDER RD	15'ZA'+91	LT	1	1.0
0010	ZANDER RD	16'ZA'+29	RT	1	1.0
0010	COOPERSTOWN RD	14'CO'+02	LT	1	1.1
0010	COOPERSTOWN RD	14'CO'+24	RT	1	2.2
			PROJECT TOTAL	**31**	**24.3**

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA
0010	IH 43 NB	1636'NB'+40	-	1637'NB'+12	LT	1.0
0010	IH 43 NB	1661'NB'+15	-	1661'NB'+92	RT	1.0
0010	IH 43 NB	1661'NB'+73	-	1662'NB'+47	LT	1.0
0010	IH 43 NB	1715'NB'+45	-	1716'NB'+12	RT	1.0
0010	IH 43 NB	1715'NB'+78	-	1716'NB'+53	LT	1.0
0010	IH 43 NB	1745'NB'+40	-	1746'NB'+12	RT	1.0
0010	IH 43 NB	1746'NB'+95	-	1747'NB'+75	LT	1.0
0010	IH 43 NB	1851'NB'+55	-	1852'NB'+26	RT	1.0
0010	IH 43 NB	1851'NB'+90	-	1852'NB'+65	LT	1.0
0010	IH 43 NB	1898'NB'+05	-	1898'NB'+88	LT	1.0
0010	IH 43 NB	1898'NB'+52	-	1899'NB'+24	RT	1.0
0010	IH 43 NB	1914'NB'+95	-	1915'NB'+70	LT	1.0
0010	IH 43 NB	1914'NB'+04	-	1914'NB'+80	RT	1.0
0010	IH 43 SB	1610'SB'+73	-	1611'SB'+40	RT	1.0
0010	IH 43 SB	1611'SB'+43	-	1612'SB'+20	LT	1.0
0010	IH 43 SB	1642'SB'+50	-	1643'SB'+24	RT	1.0
0010	IH 43 SB	1670'SB'+11	-	1670'SB'+85	RT	1.0
0010	IH 43 SB	1670'SB'+50	-	1671'SB'+30	LT	1.0
0010	IH 43 SB	1724'SB'+16	-	1724'SB'+90	RT	1.0
0010	IH 43 SB	1724'SB'+58	-	1725'SB'+33	LT	1.0
0010	IH 43 SB	1754'SB'+59	-	1755'SB'+30	RT	1.0
0010	IH 43 SB	1760'SB'+87	-	1761'SB'+65	LT	1.0
0010	IH 43 SB	1859'SB'+34	-	1860'SB'+14	LT	1.0
0010	IH 43 SB	1860'SB'+16	-	1860'SB'+90	RT	1.0
0010	STH 147 EB	57'EB'+44	-	64'EB'+72	RT	5.4
0170	STH 147 EB	64'EB'+72	-	71'EB'+38	RT	5.4
0010	STH 147 WB	15'WB'+87	-	23'WB'+14	LT	3.0
0170	STH 147 WB	23'WB'+14	-	31'WB'+90	LT	8.4
				CATEGORY 0010 TOTAL		**32.4**
				CATEGORY 0170 TOTAL		**13.8**
				PROJECT TOTAL		**46.2**

3

BASE AGGREGATE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
0010	IH 43 NB	1606'NB'+74	-	1988'NB'+34	LT/RT	5,055	160	52.2
0010	IH 43 SB	1607'SB'+42	-	1988'SB'+34	LT/RT	5,285	120	54.1
0010	STH 147 EB	57'EB'+44	-	64'EB'+72	RT	35	-	0.4
0170	STH 147 EB	64'EB'+72	-	71'EB'+38	RT	126	-	1.3
0010	STH 147 WB	15'WB'+87	-	23'WB'+14	LT	17	-	0.2
0170	STH 147 WB	23'WB'+14	-	31'WB'+90	LT	126	-	1.3
0010	STH 147 SE RAMP	10'ZSE'+00	-	26'ZSE'+11	LT/RT	222	-	2.2
0010	STH 147 SW RAMP	10'ZSW'+00	-	25'ZSW'+18	LT/RT	117	-	1.2
0010	STH 147 NE RAMP	10'ZNE'+00	-	24'ZNE'+07	LT/RT	89	-	0.9
0010	STH 147 NW RAMP	10'ZNW'+00	-	22'ZNW'+22	LT/RT	103	-	1.0
0010	HIDDEN VALLEY RD	11'HV'+87	-	13'HV'+85	LT	50	16	0.7
0010	HIDDEN VALLEY RD	12'HV'+04	-	13'HV'+85	RT	45	16	0.6
0010	HIDDEN VALLEY RD	16'HV'+42	-	18'HV'+18	RT	45	-	0.5
0010	HIDDEN VALLEY RD	16'HV'+42	-	18'HV'+20	LT	45	-	0.5
0010	ZANDER RD	12'ZA'+23	-	15'ZA'+98	LT	100	16	1.2
0010	ZANDER RD	13'ZA'+81	-	16'ZA'+36	RT	60	16	0.8
0010	ZANDER RD	19'ZA'+80	-	22'ZA'+49	LT	50	-	0.5
0010	ZANDER RD	20'ZA'+21	-	29'ZA'+16	RT	240	-	2.4
0010	ZANDER RD	22'ZA'+76	-	29'ZA'+15	LT	120	-	1.2
0010	PLEASANT RD	10'PL'+51	-	14'PL'+11	LT	70	-	0.7
0010	PLEASANT RD	10'PL'+52	-	13'PL'+93	RT	65	-	0.7
0010	CTH T	10'T'+75	-	15'T'+25	RT	40	-	0.4
0010	CTH T	11'T'+74	-	15'T'+74	LT	35	-	0.4
0010	COOPERSTOWN RD	11'CO'+93	-	14'CO'+32	RT	50	16	0.7
0010	COOPERSTOWN RD	12'CO'+07	-	14'CO'+10	LT	55	16	0.7
0010	COOPERSTOWN RD	17'CO'+36	-	19'CO'+54	LT	45	-	0.5
0010	COOPERSTOWN RD	17'CO'+58	-	20'CO'+20	RT	40	-	0.4
				CATEGORY 0010 TOTAL		**12,078**	**376**	**125**
				CATEGORY 0170 TOTAL		**252**	**0**	**3**
				PROJECT TOTAL		**12,330**	**376**	**128**

BASE PATCHING CONCRETE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	390.0303 BASE PATCHING CONCRETE SY	390.0403 BASE PATCHING CONCRETE SHES SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	690.0150 SAWING CONCRETE LF	SPV.0180.01 BASE PATCHING CONCRETE HES SY	SPV.0180.02 CONTINUOUSLY REINFORCED CONCRETE REPAIR HES SY	SPV.0180.03 CONTINUOUSLY REINFORCED CONCRETE REPAIR SHES SY	REMARKS
0010	IH 43 NB	1606'NB'+74	-	1642'NB'+86	LT/RT	3	-	114	-	1,056	-	155	8	PROJECT LIMITS - MILE 164
0010	IH 43 NB	1642'NB'+86	-	1695'NB'+66	LT/RT	-	-	201	-	3,541	106	331	17	MILE 164 - MILE 165
0010	IH 43 NB	1695'NB'+66	-	1748'NB'+46	LT/RT	-	-	271	-	3,511	79	395	21	MILE 165 - MILE 166
0010	IH 43 NB	1748'NB'+46	-	1801'NB'+26	LT/RT	4	-	213	-	3,449	111	285	15	MILE 166 - MILE 167
0010	IH 43 NB	1801'NB'+26	-	1854'NB'+06	LT/RT	11	-	195	-	1,614	-	221	12	MILE 167 - MILE 168
0010	IH 43 NB	1854'NB'+06	-	1906'NB'+85	LT/RT	6	-	440	-	4,666	56	599	32	MILE 168 - MILE 169
0010	IH 43 NB	1906'NB'+85	-	1959'NB'+66	LT/RT	9	-	361	-	3,650	56	484	25	MILE 169 - MILE 170
0010	IH 43 NB	1959'NB'+66	-	1988'NB'+34	LT/RT	-	-	150	-	1,331	-	274	14	MILE 170 - PROJECT LIMITS
0010	IH 43 SB	1607'SB'+42	-	1642'SB'+86	LT/RT	-	-	116	-	1,470	28	191	10	PROJECT LIMITS - MILE 164
0010	IH 43 SB	1642'SB'+86	-	1695'SB'+66	LT/RT	4	-	149	-	3,449	153	231	12	MILE 164 - MILE 165
0010	IH 43 SB	1695'SB'+66	-	1748'SB'+46	LT/RT	-	-	246	-	3,659	97	380	20	MILE 165 - MILE 166
0010	IH 43 SB	1748'SB'+46	-	1800'SB'+75	LT/RT	4	-	142	-	3,817	189	187	10	MILE 166 - MILE 167
0010	IH 43 SB	1800'SB'+75	-	1854'SB'+04	LT/RT	8	-	93	-	2,814	154	103	5	MILE 167 - MILE 168
0010	IH 43 SB	1854'SB'+04	-	1907'SB'+24	LT/RT	-	-	304	-	3,805	83	629	33	MILE 168 - MILE 169
0010	IH 43 SB	1907'SB'+24	-	1959'SB'+66	LT/RT	4	-	501	-	6,403	111	799	42	MILE 169 - MILE 170
0010	IH 43 SB	1959'SB'+66	-	1988'SB'+34	LT/RT	11	-	61	-	270	-	39	2	MILE 170 - PROJECT LIMITS
0010	STH 147 EB	57'EB'+44	-	64'EB'+72	LT/RT	-	-	-	141	-	261	-	-	
0170	STH 147 EB	64'EB'+72	-	71'EB'+38	RT	-	-	-	28	34	9	-	-	
0010	STH 147 WB	15'WB'+87	-	23'WB'+14	LT/RT	-	-	-	27	-	49	-	-	
0170	STH 147 WB	23'WB'+14	-	31'WB'+90	LT	-	-	-	28	34	9	-	-	
0010	STH 147 SE RAMP	10'ZSE'+00	-	26'ZSE'+11	LT/RT	98	1	61	300	464	4	-	-	
0010	STH 147 SW RAMP	10'ZSW'+00	-	25'ZSW'+18	LT/RT	230	2	144	510	856	9	-	-	
0010	STH 147 NE RAMP	10'ZNE'+00	-	24'ZNE'+07	LT/RT	538	5	43	315	322	21	-	-	
0010	STH 147 NW RAMP	10'ZNW'+00	-	22'ZNW'+22	LT/RT	771	8	237	120	446	30	-	-	
0010	UNDISTRIBUTED					255	2	606	220	7,599	242	796	42	
				PROJECT SUBTOTAL		**1,955**	**18**	**4,648**	**1,689**	***58,260**	**1,857**	**6,099**	**321**	
				CATEGORY 0010 TOTAL		**1,955**	**18**	**4,648**	**1,633**	***58,192**	**1,839**	**6,099**	**321**	
				CATEGORY 0170 TOTAL		**0**	**0**	**0**	**56**	***68**	**18**	**0**	**0**	
				PROJECT TOTAL		**1,955**	**18**	**4,648**	**1,689**	**59,062**	**1,857**	**6,099**	**321**	

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE**

ADJUSTING INLET COVERS

CATEGORY	ROADWAY	STATION	OFFSET	611.8115 ADJUSTING INLET COVERS EACH
0170	STH 147 EB	67'EB'+33	LT	1
0170	STH 147 EB	69'EB'+99	LT	1
			PROJECT TOTAL	**2**

CONCRETE SURFACE DRAINS

CATEGORY	ROADWAY	STATION	OFFSET	416.1010 CONCRETE SURFACE DRAINS CY
0010	IH 43 NB	1664'NB'+80	RT	0.25
0010	IH 43 NB	1664'NB'+81	LT	0.25
0010	IH 43 NB	1721'NB'+25	LT	0.35
0010	IH 43 NB	1721'NB'+31	RT	0.35
0010	IH 43 NB	1749'NB'+97	RT	0.35
0010	IH 43 NB	1749'NB'+97	LT	0.35
0010	IH 43 NB	1855'NB'+39	RT	0.35
0010	IH 43 NB	1855'NB'+25	LT	0.35
0010	IH 43 NB	1902'NB'+49	RT	0.35
0010	IH 43 NB	1902'NB'+23	LT	0.35
0010	IH 43 NB	1911'NB'+75	RT	0.35
0010	IH 43 SB	1665'SB'+13	RT	0.35
0010	IH 43 SB	1665'SB'+16	LT	0.35
0010	IH 43 SB	1721'SB'+37	LT	0.35
0010	IH 43 SB	1721'SB'+45	RT	0.35
0010	IH 43 SB	1749'SB'+97	LT	0.35
0010	IH 43 SB	1750'SB'+25	RT	0.35
0010	IH 43 SB	1855'SB'+18	LT	0.35
0010	IH 43 SB	1900'SB'+31	LT	0.35
0010	IH 43 SB	1900'SB'+81	RT	0.35
0010	IH 43 SB	1911'SB'+61	LT	0.35
0010	IH 43 SB	1911'SB'+79	RT	0.35
0010	HIDDEN VALLEY RD	13'HV'+66	LT	0.25
0010	HIDDEN VALLEY RD	13'HV'+66	RT	0.25
0010	ZANDER RD	15'ZA'+79	LT	0.25
0010	ZANDER RD	16'ZA'+17	RT	0.25
0010	COOPERSTOWN RD	13'CO'+91	LT	0.25
0010	COOPERSTOWN RD	14'CO'+13	RT	0.25
			PROJECT TOTAL	**9.0**

ASPHALTIC SHOULDER RUMBLE STRIPS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF
0010	IH 43 NB	1606'NB'+74	-	1988'NB'+34	LT/RT	72,232
0010	IH 43 SB	1607'SB'+42	-	1988'SB'+34	LT/RT	72,075
				PROJECT TOTAL		**144,307**

ASPHALTIC SURFACE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	465.0105 ASPHALTIC SURFACE TON
0010	IH 43 NB	1664'NB'+79	-	1665'NB'+24	LT	2
0010	IH 43 NB	1664'NB'+77	-	1665'NB'+22	RT	2
0010	IH 43 NB	1749'NB'+95	-	1750'NB'+40	RT	2
0010	IH 43 NB	1749'NB'+95	-	1750'NB'+40	LT	2
0010	IH 43 NB	1855'NB'+22	-	1855'NB'+67	LT	2
0010	IH 43 NB	1855'NB'+37	-	1855'NB'+82	RT	2
0010	IH 43 NB	1902'NB'+20	-	1902'NB'+65	LT	2
0010	IH 43 NB	1902'NB'+47	-	1902'NB'+92	RT	2
0010	IH 43 SB	1720'SB'+94	-	1721'SB'+39	LT	2
0010	IH 43 SB	1721'SB'+02	-	1721'SB'+46	RT	2
0010	IH 43 SB	1749'SB'+95	-	1750'SB'+40	LT	2
0010	IH 43 SB	1900'SB'+29	-	1900'SB'+74	RT	2
0010	IH 43 SB	1911'SB'+37	-	1911'SB'+82	RT	2
0010	IH 43 SB	1911'SB'+19	-	1911'SB'+64	LT	2
0010	HIDDEN VALLEY RD	12'HV'+99	-	13'HV'+85	LT	4
0010	HIDDEN VALLEY RD	12'HV'+86	-	13'HB'+85	RT	4
0010	ZANDER RD	15'ZA'+11	-	15'ZA'+98	LT	3
0010	ZANDER RD	15'ZA'+44	-	16'ZA'+36	RT	3
0010	COOPERSTOWN RD	13'CO'+18	-	14'CO'+10	LT	4
0010	COOPERSTOWN RD	13'CO'+51	-	14'CO'+32	RT	3
				PROJECT TOTAL		**49**

HMA ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0126.S REMOVING ASPHALTIC LONGITUDINAL NOTCHED WEDGE JOINT MILLING LF	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	460.9000.S.02 MATERIAL TRANSFER VEHICLE 1227-12-72 EACH	HMA PAVEMENT 4 SMA 58-28 V 460.8624 TON	HMA PAVEMENT 4 SMA 58-28 V INCENTIVE DENSITY HMA TON*	HMA PAVEMENT 4 LT 58-28 S 460.5224 TON	HMA PAVEMENT 4 LT 58-28 S INCENTIVE DENSITY HMA TON*	HMA PAVEMENT 4 HT 58-28 S 460.7224 TON	HMA PAVEMENT 4 HT 58-28 S INCENTIVE DENSITY PWL TON**	HMA PAVEMENT 4 HT 58-28 S INCENTIVE AIR VOIDS TON***	HMA PAVEMENT 4 HT 58-28 S INCENTIVE DENSITY HMA PAVEMENT LONGITUDINAL JOINTS LF****	REMARKS
0010	IH 43 NB	1606'NB'+74	-	1988'NB'+34	LT/RT	37,340	1,500	12,819	1	10,468	10,468	-	-	11,537	11,537	11,537	38,160	MAINLINE
0010	IH 43 NB	1606'NB'+74	-	1988'NB'+34	LT/RT	-	500	8,033	-	2,440	2,440	8,663	8,663	2,688	-	2,688	-	SHOULDERS
0010	IH 43 NB	1629'NB'+61	-	1630'NB'+21	LT	-	-	26	-	-	-	45	45	-	-	-	-	MEDIAN
0010	IH 43 NB	1701'NB'+70	-	1702'NB'+25	LT	-	-	23	-	-	-	39	39	-	-	-	-	MEDIAN
0010	IH 43 NB	1762'NB'+26	-	1762'NB'+82	LT	-	-	26	-	-	-	45	45	-	-	-	-	MEDIAN
0010	IH 43 NB	1848'NB'+08	-	1848'NB'+70	LT	-	-	24	-	-	-	42	42	-	-	-	-	MEDIAN
0010	IH 43 NB	1926'NB'+65	-	1927'NB'+24	LT	-	-	27	-	-	-	46	46	-	-	-	-	MEDIAN
0010	IH 43 NB	1946'NB'+76	-	1947'NB'+32	LT	-	-	24	-	-	-	42	42	-	-	-	-	MEDIAN
0010	IH 43 SB	1607'SB'+42	-	1988'SB'+34	LT/RT	37,272	1,500	12,724	-	10,391	10,391	-	-	11,453	11,453	11,453	38,092	MAINLINE
0010	IH 43 SB	1607'SB'+42	-	1988'SB'+34	LT/RT	-	500	7,975	-	2,434	2,434	8,575	8,575	2,681	-	2,681	-	SHOULDERS
0010	STH 147 SE RAMP	10'ZSE'+00	-	26'ZSE'+11	LT/RT	-	-	135	-	-	-	-	-	235	-	235	-	MAINLINE
0010	STH 147 SE RAMP	10'ZSE'+00	-	26'ZSE'+11	LT/RT	-	-	103	-	-	-	179	179	-	-	-	-	SHOULDERS
0010	STH 147 SW RAMP	10'ZSW'+00	-	25'ZSW'+18	LT/RT	-	-	113	-	-	-	-	-	197	-	197	-	MAINLINE
0010	STH 147 SW RAMP	10'ZSW'+00	-	25'ZSW'+18	LT/RT	-	-	90	-	-	-	158	158	-	-	-	-	SHOULDERS
0010	STH 147 EB	57'EB'+44	-	64'EB'+72	LT/RT	-	-	79	-	-	-	122	122	-	-	-	-	MAINLINE
0010	STH 147 EB	57'EB'+44	-	64'EB'+72	LT/RT	-	-	114	-	-	-	176	176	-	-	-	-	INTERSECTION
0170	STH 147 EB	64'EB'+72	-	71'EB'+38	LT/RT	-	-	73	-	-	-	112	112	-	-	-	-	MAINLINE
0170	STH 147 EB	64'EB'+72	-	71'EB'+38	LT/RT	-	-	9	-	-	-	37	37	-	-	-	-	SHOULDERS
0170	STH 147 EB	64'EB'+72	-	71'EB'+38	LT/RT	-	-	9	-	-	-	14	14	-	-	-	-	INTERSECTION
0010	STH 147 WB	15'WB'+87	-	23'WB'+14	LT/RT	-	-	79	-	-	-	122	122	-	-	-	-	MAINLINE
0010	STH 147 WB	15'WB'+87	-	23'WB'+14	LT/RT	-	-	218	-	-	-	336	336	-	-	-	-	INTERSECTION
0170	STH 147 WB	23'WB'+14	-	31'WB'+90	LT/RT	-	-	123	-	-	-	190	190	-	-	-	-	MAINLINE
0170	STH 147 WB	23'WB'+14	-	31'WB'+90	LT/RT	-	-	18	-	-	-	74	74	-	-	-	-	SHOULDERS
0170	STH 147 WB	23'WB'+14	-	31'WB'+90	LT/RT	-	-	14	-	-	-	22	22	-	-	-	-	INTERSECTION
0010	STH 147 NE RAMP	10'ZNE'+00	-	24'ZNE'+07	LT/RT	-	-	110	-	-	-	-	-	192	-	192	-	MAINLINE
0010	STH 147 NE RAMP	10'ZNE'+00	-	24'ZNE'+07	LT/RT	-	-	88	-	-	-	153	153	-	-	-	-	SHOULDERS
0010	STH 147 NW RAMP	10'ZNW'+00	-	22'ZNW'+22	LT/RT	-	-	137	-	-	-	-	-	238	-	238	-	MAINLINE
0010	STH 147 NW RAMP	10'ZNW'+00	-	22'ZNW'+22	LT/RT	-	-	103	-	-	-	180	180	-	-	-	-	SHOULDERS
0010	STH 96	12'NS'+89	-	16'NS'+27	LT/RT	-	-	45	-	-	-	78	78	-	-	-	-	B-05-0239
					CATEGORY 0010 TOTAL	**74,612**	**4,000**	**43,115**	**1**	**25,733**	**25,733**	**19,001**	**19,001**	**29,221**	**22,990**	**29,221**	**76,252**	
					CATEGORY 0170 TOTAL	**0**	**0**	**246**	**0**	**0**	**0**	**449**	**449**	**0**	**0**	**0**	**0**	
					PROJECT TOTAL	**74,612**	**4,000**	**43,361**	**1**	**25,733**	**25,733**	**19,450**	**19,450**	**29,221**	**22,990**	**29,221**	**76,252**	

* Tonnage is eligible for Incentive Density HMA Pavement 460.2000.
** Tonnage is eligible for Incentive Density PWL HMA Pavement 460.2005.
*** Tonnage is eligible for Incentive Air Voids HMA Pavement 460.2010.
**** LF is eligible for Incentive Density HMA Pavement Longitudinal Joints 460.2007.

3

DRAINAGE ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	520.1018 APRON ENDWALLS FOR CULVERT PIPE 18-INCH EACH	520.3418 CULVERT PIPE CLASS III-A NON-METAL LF	520.8000 CONCRETE COLLARS FOR PIPE EACH	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	611.0642 INLET COVERS TYPE MS EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	633.5200 MARKERS CULVERT END EACH
0010	IH 43 NB	1638'NB'+03	-	1638'NB'+03	LT	-	-	-	1	-	-	-	1
0010	IH 43 NB	1699'NB'+16	-	1699'NB'+76	RT	2	60	-	-	-	-	-	2
0010	IH 43 NB	1755'NB'+71	-	1756'NB'+58	RT	2	95	-	-	-	-	-	2
0010	IH 43 NB	1784'NB'+86	-	1784'NB'+86	LT	-	-	1	-	-	-	-	-
0010	IH 43 NB	1804'NB'+77	-	1804'NB'+77	LT	-	-	1	-	14	1	1	1
0010	IH 43 NB	1804'NB'+77	-	1805'NB'+41	LT	-	-	-	-	64	1	1	1
0010	IH 43 NB	1940'NB'+85	-	1940'NB'+85	LT	-	-	-	-	-	1	1	1
0010	IH 43 NB	1940'NB'+85	-	1941'NB'+25	LT	-	-	-	-	40	1	1	1
0010	IH 43 SB	1699'SB'+70	-	1700'SB'+66	LT	2	100	-	-	-	-	-	2
				PROJECT TOTAL		**6**	**255**	**2**	**1**	**118**	**4**	**4**	**11**

BARRIER SYSTEM GRADING SHAPING AND FINISHING

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	614.0010 BARRIER SYSTEM GRADING SHAPING AND FINISHING EACH	*EROSION MAT CLASS 1 TYPE B SY	*EXCAVATION COMMON CY	*BORROW CY	*SEED WATER MGAL	*TOPSOIL SY	*FERTILIZER TYPE B CWT	*SEEDING MIXTURE #30 LB
0010	IH 43 NB	1800'NB'+55	-	1806'NB'+45	LT	1	3,200	10	265	75	3,200	2.0	60
0010	IH 43 NB	1936'NB'+61	-	1942'NB'+40	LT	1	3,100	5	270	70	3,100	2.0	60
0010		UNDISTRIBUTED				-	1,600	-	-	-	-	-	-
				PROJECT TOTAL		**2**	******	******	******	******	******	******	******

NOTES:
*ITEMS & QUANTITIES LISTED FOR BID INFORMATION ONLY
**COMMON, BORROW, TOPSOIL, SEED, WATER, AND FERTILIZER ITEMS FOR RESTORATION OF DISTURBED AREAS ADJACENT TO BULLNOSE AREAS PAID UNDER "BARRIER SYSTEM GRADING SHAPING AND FINISHING" ITEM.

CONCRETE CURB & GUTTER

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF
0010	IH 43 NB	1664'NB'+79	-	1665'NB'+24	LT	-	45
0010	IH 43 NB	1664'NB'+77	-	1665'NB'+22	RT	-	45
0010	IH 43 NB	1721'NB'+12	-	1721'NB'+22	LT	10	-
0010	IH 43 NB	1721'NB'+17	-	1721'NB'+27	RT	10	-
0010	IH 43 NB	1749'NB'+95	-	1750'NB'+40	RT	-	45
0010	IH 43 NB	1749'NB'+95	-	1750'NB'+40	LT	-	45
0010	IH 43 NB	1855'NB'+22	-	1855'NB'+67	LT	-	45
0010	IH 43 NB	1855'NB'+37	-	1855'NB'+82	RT	-	45
0010	IH 43 NB	1902'NB'+20	-	1902'NB'+65	LT	-	45
0010	IH 43 NB	1902'NB'+47	-	1902'NB'+92	RT	-	45
0010	IH 43 NB	1911'NB'+55	-	1911'NB'+65	RT	10	-
0010	IH 43 SB	1665'SB'+14	-	1665'SB'+24	RT	10	-
0010	IH 43 SB	1665'SB'+17	-	1665'SB'+27	LT	10	-
0010	IH 43 SB	1720'SB'+94	-	1721'SB'+39	LT	-	45
0010	IH 43 SB	1721'SB'+02	-	1721'SB'+46	RT	-	45
0010	IH 43 SB	1749'SB'+95	-	1750'SB'+40	LT	-	45
0010	IH 43 SB	1750'SB'+28	-	1750'SB'+38	RT	10	-
0010	IH 43 SB	1855'SB'+21	-	1855'SB'+31	LT	10	-
0010	IH 43 SB	1900'SB'+29	-	1900'SB'+74	LT	-	45
0010	IH 43 SB	1900'SB'+85	-	1900'SB'+95	RT	10	-
0010	IH 43 SB	1911'SB'+37	-	1911'SB'+82	RT	-	45
0010	IH 43 SB	1911'SB'+19	-	1911'SB'+64	LT	-	45
0010	HIDDEN VALLEY RD	13'HV'+63	-	13'HV'+85	LT	-	23
0010	HIDDEN VALLEY RD	13'HV'+63	-	13'HV'+85	RT	-	23
0010	ZANDER RD	15'ZA'+75	-	15'ZA'+98	LT	-	23
0010	ZANDER RD	16'ZA'+14	-	16'ZA'+36	RT	-	23
0010	COOPERSTOWN RD	13'CO'+87	-	14'CO'+10	LT	-	23
0010	COOPERSTOWN RD	14'CO'+10	-	14'CO'+32	RT	-	23
				PROJECT TOTAL		**80**	**768**

RIPRAP MEDIUM AND GEOTEXTILE TYPE HR

CATEGORY	ROADWAY	STATION	OFFSET	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
0010	IH 43 NB	1664'NB'+80	RT	0.65	4
0010	IH 43 NB	1664'NB'+81	LT	0.65	4
0010	IH 43 NB	1721'NB'+25	LT	0.65	4
0010	IH 43 NB	1721'NB'+31	RT	0.65	4
0010	IH 43 NB	1726'NB'+10	RT	0.65	4
0010	IH 43 NB	1726'NB'+70	RT	0.65	4
0010	IH 43 NB	1749'NB'+97	RT	0.65	4
0010	IH 43 NB	1749'NB'+97	LT	0.65	4
0010	IH 43 NB	1855'NB'+39	RT	0.65	4
0010	IH 43 NB	1855'NB'+25	LT	0.65	4
0010	IH 43 NB	1902'NB'+49	RT	0.65	4
0010	IH 43 NB	1902'NB'+23	LT	0.65	4
0010	IH 43 NB	1911'NB'+75	RT	0.65	4
0010	IH 43 SB	1665'SB'+13	RT	0.65	4
0010	IH 43 SB	1665'SB'+16	LT	0.65	4
0010	IH 43 SB	1701'SB'+69	LT	0.65	4
0010	IH 43 SB	1721'SB'+37	LT	0.65	4
0010	IH 43 SB	1721'SB'+45	RT	0.65	4
0010	IH 43 SB	1749'SB'+97	LT	0.65	4
0010	IH 43 SB	1750'SB'+25	RT	0.65	4
0010	IH 43 SB	1855'SB'+18	LT	0.65	4
0010	IH 43 SB	1900'SB'+31	LT	0.65	4
0010	IH 43 SB	1900'SB'+81	RT	0.65	4
0010	IH 43 SB	1911'SB'+61	LT	0.65	4
0010	IH 43 SB	1911'SB'+79	RT	0.65	4
0010	HIDDEN VALLEY RD	13'HV'+66	LT	0.60	4
0010	HIDDEN VALLEY RD	13'HV'+66	RT	0.60	4
0010	ZANDER RD	15'ZA'+79	LT	0.60	4
0010	ZANDER RD	16'ZA'+17	RT	0.60	4
0010	COOPERSTOWN RD	13'CO'+91	LT	0.60	4
0010	COOPERSTOWN RD	14'CO'+13	RT	0.60	4
			PROJECT TOTAL	**19.85**	**124**

3

GUARDRAIL ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.2300 MGS GUARDRAIL 3 LF	614.2330 MGS GUARDRAIL 3 K LF	614.2350 MGS GUARDRAIL SHORT RADIUS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH	614.2630 MGS GUARDRAIL SHORT RADIUS TERMINAL EACH
0010	IH 43 NB	1636'NB'+72	-	1640'NB'+00	LT	-	-	275	-	-	-	1	-	-
0010	IH 43 NB	1661'NB'+42	-	1665'NB'+22	RT	-	-	288	-	-	39	1	-	-
0010	IH 43 NB	1661'NB'+94	-	1665'NB'+24	LT	-	-	238	-	-	39	1	-	-
0010	IH 43 NB	1715'NB'+62	-	1719'NB'+80	RT	-	-	288	-	-	39	1	-	-
0010	IH 43 NB	1716'NB'+04	-	1719'NB'+71	LT	-	-	275	-	-	39	1	-	-
0010	IH 43 NB	1745'NB'+60	-	1750'NB'+40	RT	-	-	388	-	-	39	1	-	-
0010	IH 43 NB	1747'NB'+22	-	1750'NB'+40	LT	-	-	225	-	-	39	1	-	-
0010	IH 43 NB	1802'NB'+65	-	1804'NB'+35	LT	2	125	-	-	-	-	-	-	-
0010	IH 43 NB	1851'NB'+77	-	1855'NB'+82	RT	-	-	313	-	-	39	1	-	-
0010	IH 43 NB	1852'NB'+13	-	1855'NB'+67	LT	-	-	263	-	-	39	1	-	-
0010	IH 43 NB	1898'NB'+35	-	1902'NB'+65	LT	-	-	338	-	-	39	1	-	-
0010	IH 43 NB	1898'NB'+74	-	1902'NB'+92	RT	-	-	325	-	-	39	1	-	-
0010	IH 43 NB	1904'NB'+47	-	1909'NB'+95	LT	-	-	500	-	-	48	-	-	-
0010	IH 43 NB	1904'NB'+76	-	1910'NB'+09	RT	-	-	486	-	-	48	-	-	-
0010	IH 43 NB	1938'NB'+63	-	1940'NB'+31	LT	2	125	-	-	-	-	-	-	-
0010	IH 43 SB	1607'SB'+91	-	1611'SB'+96	LT	-	-	313	-	-	39	1	-	-
0010	IH 43 SB	1607'SB'+43	-	1610'SB'+23	RT	-	-	288	-	-	39	1	-	-
0010	IH 43 SB	1635'SB'+50	-	1642'SB'+91	RT	-	-	288	-	-	-	1	1	-
0010	IH 43 SB	1667'SB'+09	-	1670'SB'+64	RT	-	-	263	-	-	39	1	-	-
0010	IH 43 SB	1667'SB'+11	-	1671'SB'+03	LT	-	-	300	-	-	39	1	-	-
0010	IH 43 SB	1720'SB'+94	-	1725'SB'+12	LT	-	-	325	-	-	39	1	-	-
0010	IH 43 SB	1721'SB'+02	-	1724'SB'+70	RT	-	-	275	-	-	39	1	-	-
0010	IH 43 SB	1748'SB'+32	-	1750'SB'+40	LT	-	-	200	-	-	39	-	1	-
0010	IH 43 SB	1751'SB'+86	-	1761'SB'+41	LT	-	-	863	-	-	39	1	-	-
0010	IH 43 SB	1751'SB'+86	-	1755'SB'+16	RT	-	-	400	-	-	8	1	-	-
0010	IH 43 SB	1856'SB'+65	-	1860'SB'+69	LT	-	-	309	-	-	39	1	-	-
0010	IH 43 SB	1856'SB'+83	-	1859'SB'+87	RT	-	-	213	-	-	39	1	-	-
0010	IH 43 SB	1899'SB'+53	-	1900'SB'+74	LT	-	-	113	-	-	8	-	1	-
0010	IH 43 SB	1902'SB'+84	-	1909'SB'+61	LT	-	-	630	-	-	48	-	-	-
0010	IH 43 SB	1903'SB'+20	-	1909'SB'+77	RT	-	-	611	-	-	48	-	-	-
0010	IH 43 SB	1911'SB'+19	-	1915'SB'+49	LT	-	-	338	-	-	39	1	-	-
0010	IH 43 SB	1911'SB'+37	-	1914'SB'+54	RT	-	-	225	-	-	39	1	-	-
0010	STH 147 SE RAMP	15'ZSE'+63	-	22'ZSE'+17	RT	-	-	600	-	-	-	1	1	-
0010	STH 147 SW RAMP	16'ZSW'+47	-	20'ZSW'+38	LT	-	-	25	313	-	-	1	1	-
0010	HIDDEN VALLEY RD	12'HV'+55	-	13'HV'+85	LT	-	-	38	-	-	39	1	-	-
0010	HIDDEN VALLEY RD	12'HV'+55	-	13'HV'+85	RT	-	-	38	-	-	39	1	-	-
0010	HIDDEN VALLEY RD	16'HV'+42	-	17'HV'+72	LT	-	-	38	-	-	39	1	-	-
0010	HIDDEN VALLEY RD	16'HV'+42	-	17'HV'+72	RT	-	-	38	-	-	39	1	-	-
0010	ZANDER RD	12'ZA'+93	-	15'ZA'+98	LT	-	-	-	213	-	39	1	-	-
0010	ZANDER RD	13'ZA'+75	-	16'ZA'+36	RT	-	-	-	175	70	39	-	-	1
		PROJECT SUBTOTAL				**4**	**250**	**10,924**	**700**	**70**	**1,310**	**31**	**5**	**1**

3

GUARDRAIL ITEMS (CONTINUED)

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.2300 MGS GUARDRAIL 3 LF	614.2330 MGS GUARDRAIL 3 K LF	614.2350 MGS GUARDRAIL SHORT RADIUS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH	614.2630 MGS GUARDRAIL SHORT RADIUS TERMINAL EACH
0010	ZANDER RD	19'ZA'+80	-	28'ZA'+35	LT	-	-	-	638	156	39	1	-	-
0010	ZANDER RD	20'ZA'+21	-	28'ZA'+51	RT	-	-	-	738	-	39	1	-	-
0010	PLEASANT RD	10'PL'+62	-	13'PL'+03	LT	-	-	-	188	-	-	1	-	-
0010	PLEASANT RD	10'PL'+76	-	13'PL'+17	RT	-	-	-	188	-	-	1	-	-
0010	CTH T	12'T'+02	-	14'T'+83	LT	-	-	175	-	-	-	2	-	-
0010	CTH T	11'T'+83	-	14'T'+65	RT	-	-	175	-	-	-	2	-	-
0010	COOPERSTOWN RD	12'CO'+65	-	14'CO'+32	RT	-	-	-	75	-	39	1	-	-
0010	COOPERSTOWN RD	12'CO'+80	-	14'CO'+10	LT	-	-	-	38	-	39	1	-	-
0010	COOPERSTOWN RD	17'CO'+36	-	18'CO'+66	LT	-	-	-	38	-	39	1	-	-
0010	COOPERSTOWN RD	17'CO'+58	-	19'CO'+26	RT	-	-	-	75	-	39	1	-	-
				PROJECT SUBTOTAL		**0**	**0**	**350**	**1,975**	**156**	**236**	**12**	**0**	**0**
				PROJECT TOTAL		**4**	**250**	**11,274**	**2,675**	**226**	**1,546**	**43**	**5**	**1**

FENCE WOVEN WIRE 4-FT

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	616.0100 FENCE WOVEN WIRE 4-FT LF
0010	IH 43 NB	1606'NB'+74	-	2012'NB'+81	RT	41,858
0010	IH 43 SB	1607'SB'+42	-	2012'SB'+81	LT	39,480
				PROJECT TOTAL		**81,338**

MOBILIZATIONS EROSION CONTROL

CATEGORY	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	1227-12-72	14	7
	PROJECT TOTAL	**14**	**7**

3

EROSION CONTROL SUMMARY

CATEGORY	ROADWAY	STATION	OFFSET	628.7010 INLET PROTECTION TYPE B EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7570 ROCK BAGS EACH
0010	IH 43 NB	1800'NB'+45	LT	-	30	10
0010	IH 43 NB	1804'NB'+77	LT	1	-	-
0010	IH 43 NB	1805'NB'+41	LT	1	-	-
0010	IH 43 NB	1936'NB'+51	LT	-	30	10
0010	IH 43 NB	1940'NB'+85	LT	1	-	-
0010	IH 43 NB	1941'NB'+25	LT	1	-	-
		UNDISTRIBUTED		2	20	10
		PROJECT TOTAL		**6**	**80**	**30**

LIVING SNOW FENCE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	632.0101.01 TREES AMERICAN HAZELNUT 12-18" EACH	632.0101.02 TREES COMMON NINEBARK 12-18" EACH	632.0101.03 TREES RED OSIER DOGWOOD 12-18" EACH	632.9101 LANDSCAPING PLANTING SURVEILLANCE AND CARE CYCLES EACH
0010	IH 43 SB	1607'SB'+42	-	1988'SB'+34	LT	-	-	-	26
0010	IH 43 SB	1609'SB'+13	-	1626'SB'+82	LT	443	443	443	-
0010	IH 43 SB	1629'SB'+96	-	1639'SB'+06	LT	228	228	228	-
0010	IH 43 SB	1693'SB'+02	-	1718'SB'+69	LT	643	643	643	-
0010	IH 43 SB	1721'SB'+14	-	1741'SB'+12	LT	506	506	506	-
0010	IH 43 SB	1805'SB'+94	-	1813'SB'+13	LT	176	176	176	-
0010	IH 43 SB	1822'SB'+50	-	1854'SB'+85	LT	807	807	807	-
0010	IH 43 SB	1902'SB'+76	-	1908'SB'+66	LT	147	147	147	-
0010	IH 43 SB	1911'SB'+21	-	1920'SB'+91	LT	245	245	245	-
0010	IH 43 SB	1941'SB'+79	-	1944'SB'+70	LT	73	73	73	-
0010	IH 43 SB	1968'SB'+00	-	1984'SB'+21	LT	404	404	404	-
0010	IH 43 SB	1985'SB'+01	-	1988'SB'+35	LT	83	83	83	-
0010	STH 147 SW RAMP	12'ZSW'+15	-	17'ZSW'+25	LT	124	124	124	-
0010	STH 147 NW RAMP	12'ZNW'+38	-	21'ZNW'+44	LT	224	224	224	-
				PROJECT TOTAL		**4,103**	**4,103**	**4,103**	**26**

RESTORATION SUMMARY

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	625.0500 SALVAGED TOPSOIL SY	628.2004 EROSION MAT CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0500 SEED WATER MGAL	REMARKS
0010	IH 43 NB	1638'NB'+03	-	1638'NB'+03	LT	10	10	0.01	0.3	0.23	ENDWALL
0010	IH 43 NB	1699'NB'+16	-	1699'NB'+76	RT	200	200	0.25	5.4	4.69	CULVERT REPLACEMENT
0010	IH 43 SB	1699'SB'+70	-	1700'SB'+66	LT	275	275	0.35	7.4	6.45	CULVERT REPLACEMENT
0010	IH 43 NB	1664'NB'+80	-	1664'NB'+80	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1664'NB'+81	-	1664'NB'+81	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1721'NB'+25	-	1721'NB'+25	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1721'NB'+31	-	1721'NB'+31	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1726'NB'+10	-	1726'NB'+10	RT	10	10	0.01	0.3	0.23	RIPRAP AREA
0010	IH 43 NB	1726'NB'+70	-	1726'NB'+70	RT	10	10	0.01	0.3	0.23	RIPRAP AREA
0010	IH 43 NB	1749'NB'+97	-	1749'NB'+97	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1749'NB'+97	-	1749'NB'+97	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1755'NB'+71	-	1756'NB'+58	RT	234	234	0.29	6.3	5.48	CULVERT REPLACEMENT
0010	IH 43 NB	1784'NB'+86	-	1784'NB'+86	LT	10	10	0.01	0.3	0.23	MEDIAN INLET
0010	IH 43 NB	1855'NB'+39	-	1855'NB'+39	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1855'NB'+25	-	1855'NB'+25	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1902'NB'+49	-	1902'NB'+49	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1902'NB'+23	-	1902'NB'+23	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 NB	1911'NB'+75	-	1911'NB'+75	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1665'SB'+13	-	1665'SB'+13	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1665'SB'+16	-	1665'SB'+16	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1721'SB'+37	-	1721'SB'+37	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1721'SB'+45	-	1721'SB'+45	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1749'SB'+97	-	1749'SB'+97	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1750'SB'+25	-	1750'SB'+25	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1855'SB'+18	-	1855'SB'+18	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1900'SB'+31	-	1900'SB'+31	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1900'SB'+81	-	1900'SB'+81	RT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1911'SB'+61	-	1911'SB'+61	LT	5	5	0.01	0.1	0.12	FLUME
0010	IH 43 SB	1911'SB'+79	-	1911'SB'+79	RT	5	5	0.01	0.1	0.12	FLUME
0010	HIDDEN VALLEY RD	13'HV'+66	-	13'HV'+66	LT	5	5	0.01	0.1	0.12	FLUME
0010	HIDDEN VALLEY RD	13'HV'+66	-	13'HV'+66	RT	5	5	0.01	0.1	0.12	FLUME
0010	ZANDER RD	15'ZA'+79	-	15'ZA'+79	LT	5	5	0.01	0.1	0.12	FLUME
0010	ZANDER RD	16'ZA'+17	-	16'ZA'+17	RT	5	5	0.01	0.1	0.12	FLUME
0010	COOPERSTOWN RD	13'CO'+91	-	13'CO'+91	LT	5	5	0.01	0.1	0.12	FLUME
0010	COOPERSTOWN RD	14'CO'+13	-	14'CO'+13	RT	5	5	0.01	0.1	0.12	FLUME
0010	UNDISTRIBUTED					133	133	0.17	3.6	3.13	
				PROJECT TOTAL		**1,012**	**1,012**	**1.28**	**27.3**	**23.73**	

3

MOVING SIGNS

CATEGORY	ROADWAY	STATION	OFFSET	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	638.2102 MOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
0010	STH 147 WB	16'WB'+66	LT	2	3	2
			PROJECT TOTAL	**2**	**3**	**2**

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE I

SIGN NO.	LOCATION	SIGN CODE	W X H	638.2601 REMOVING SIGNS TYPE I EACH	638.3100 REMOVING STRUCTURAL STEEL SUPPORTS EACH	637.1220 SIGNS TYPE I REFLECTIVE TYPE SH S.F.	TYPE/SIZE OF STEEL AND BASES	531.1100 CONCRETE MASONRY ANC. STR TYPE NS CY*	531.1140 STEEL REINF. HS ANC. STRUCTURES TYPE NS LB*	531.2024 DRILLING SHAFT 24-INCH LF*	635.0200 SIGN SUPPORTS STRUCT. STEEL HIGH-STRENGTH LB*	INFO ONLY - POST LENGTH TO BE VERIFIED BY CONTRACTOR POST NO. 1 LENGTH (ROAD SIDE) FT	POST NO. 2 LENGTH (DITCH) FT	POST NO. 3 LENGTH (MIDDLE) FT	REMARKS
1	IH 43 SB, S. OF HIDDEN VALLEY RD	E8-1	204" X 84"	1	2	119.0	2-W10X22	2.0	302	17	1,115	18.0	20.5		
2	IH 43 NB, N. OF HIDDEN VALLEY RD	E4-1A	264" X 126"	1	2	231.0	3-W12X26	3.6	540	30	2,016	23.0	25.5	11.5	
3	"	E1-5	108" X 30"	---	---	22.5	---	---	---	---	---	---	---	---	MOUNT ABOVE SIGN 2
4	IH 43 SB, N. OF STH 147	E4-1A	264" X 126"	1	2	231.0	3-W12X26	3.6	540	30	2,016	23.0	25.5	11.5	
5	"	E1-5	108" X 30"	---	---	22.5	---	---	---	---	---	---	---	---	MOUNT ABOVE SIGN 4
6	"	E3-1	---	1	2	---	---	---	---	---	---	---	---	---	
7	IH 43 NB, N. OF STH 147	E8-1	180" X 60"	1	2	75.0	2-W10X22	2.0	302	17	1,060	17.0	19.0		
8	IH 43 SB, N. OF STH 147	E1-1A	168" X 162"	1	2	189.0	3-W12X26	3.6	540	30	2,016	23.0	25.5	11.5	
9	"	E1-5	108" X 30"	---	---	22.5	---	---	---	---	---	---	---	---	MOUNT ABOVE SIGN 8
10	IH 43 NB, N. ZANDER RD	E5-51	144" X 60"	1	2	60.0	2-W6X15	1.6	142	13	679	16.5	19.0		
11	IH 43 NB AT REST AREA EXIT	E5-52	144" X 54"	1	2	54.0	2-W6X15	1.6	142	13	626	15.0	17.0		
12	IH 43 SB AT REST AREA EXIT	E5-52	144" X 54"	1	2	54.0	2-W6X15	1.6	142	13	656	16.0	18.0		
13	IH 43 SB, N. OF COOPERSTOWN RD	E5-51	144" X 60"	1	2	60.0	2-W6X15	1.6	142	13	671	16.5	18.5		
14	IH 43 NB, N. OF COOPERSTOWN RD	E1-1A	180" X 162"	1	2	202.5	3-W12X26	3.6	540	30	2,133	25.0	27.0	12.5	
15		E1-5	120" X 30"	---	---	25.0	---	---	---	---	---	---	---	---	MOUNT ABOVE SIGN 14
16	IH 43 SB, N. OF COOPERSTOWN RD	E8-1	192" X 90"	1	2	120.0	2-W10X22	2.0	302	17	1,104	18.0		20.0	
	PROJECT TOTALS			**12**	**24**	**1488.0**		**26.8**	**3634**	**223**	**14092**				

*THESE QUANTITIES ARE ESTIMATES.
ACTUAL SIZE/NUMBER/LENGTH/WEIGHT OF STEEL SUPPORTS/REINFORCEMENT/CONCRETE BASES
ARE TO BE DETERMINED BY CONTRACTOR, BASED ON SURVEY OF FIELD CONDITIONS, FINAL GRADE AND SIGN LOCATION.
SURVEY REQUIRED FOR DETERMINATION IS THE RESPONSIBILITY OF THE CONTRACTOR, INCIDENTAL TO THE CONTRACT.
FOLLOW SIGN DETAIL A-PLATES - A3-1, A3-2, A3-3, A4-1

TRAFFIC CONTROL DETOUR SIGN SUMMARY - STH 147 INTERCHANGE CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 19 DAYS	643.0900 SIGNS DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 SIGNS COVERING TYPE II EACH	REMARKS
1	I-43, N. OF STH 96, PLACE 2250' N. OF STH 96 INTERCHANGE IN MEDIAN	M 1-6	36"X36"	1	19	19					147
	"	M 1-5A	36"X36"	1	19	19					Z
	"	W 20-2A	48"X48"	1	19	19					
2	I-43, N. OF STH 96, PLACE 2250' N. OF STH 96 INTERCHANGE ON RIGHT SHOULDER	M 1-6	36"X36"	1	19	19					147
	"	M 1-5A	36"X36"	1	19	19					Z
	"	W 20-2A	48"X48"	1	19	19					
3	I-43, N. OF STH 96, PLACE 1500' N. OF STH 96 INTERCHANGE ON RIGHT SHOULDER	FMS	126"X54"	1			47.25				SEE SIGN DETAIL SHEET
4	I-43, N. OF STH 96, PLACE 1500' N. OF STH 96 INTERCHANGE IN MEDIAN	FMS	126"X54"	1			47.25				SEE SIGN DETAIL SHEET
5	I-43, N. OF STH 96, PLACE 750' N. OF STH 96 INTERCHANGE ON RIGHT SHOULDER	MO 4-8	36"X18"	1	19	19					
	"	M 1-6	36"X18"	1	19	19					147
	"	M 1-5A	36"X36"	1	19	19					Z
	"	MO 5-2R	30"X30"	1	19	19					
6	I-43, N. OF STH 96, PLACE 750' N. OF STH 96 INTERCHANGE IN MEDIAN	MO 4-8	36"X18"	1	19	19					
	"	M 1-6	36"X36"	1	19	19					147
	"	M 1-5A	36"X36"	1	19	19					Z
	"	MO 5-2R	30"X30"	1	19	19					
7	I-43, AT STH 96 EXIT, PLACE LEFT OF EXISTING TYPE I GROUND SIGN	MO 4-8	36"X18"	1	19	19					
	"	M 1-6	36"X36"	1	19	19					147
	"	M 1-5A	36"X36"	1	19	19					Z
	"	MO 6-2	30"X30"	1	19	19					TILT RIGHT
8	I-43 OFF-RAMP TO STH 96, PLACE 750' PRIOR TO RAMP INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-6	24"X24"	1	19	19					147
	"	M 1-5A	24"X24"	1	19	19					Z
	"	MO 5-1L	21"X21"	1	19	19					
9	I-43 OFF-RAMP TO STH 96, PLACE LEFT OF EXISTING R1-1 SIGN AT RAMP INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-6	24"X24"	1	19	19					147
	"	M 1-5A	24"X24"	1	19	19					Z
	"	MO 6-1	21"X21"	1	19	19					LEFT
10	STH 96, BETWEEN I-43 RAMPS, PLACE 100' W. OF I-43 NB RAMP INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-6	24"X24"	1	19	19					147
	"	M 1-5A	24"X24"	1	19	19					Z
	"	MO 6-1	21"X21"	1	19	19					AHEAD
11	CTH KB, AT CTH R, PLACE 100' PRIOR TO CTH R INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-6	24"X24"	1	19	19					147
	"	M 1-5A	24"X24"	1	19	19					Z
	"	MO 6-1	21"X21"	1	19	19					RIGHT
12	CTH R, AT CTH KB, PLACE 100' PRIOR TO CTH KB INTERSECTION	MO 4-5	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 6-1	21"X21"	1	19	19					LEFT
13	CTH R, N. OF CTH T, PLACE RIGHT OF EXISTING J13-1 SIGN	MO 4-8	24"X12"	1	19	19					
	"	M 1-6	24"X24"	1	19	19					147
	"	MO 6-1	21"X21"	1	19	19					AHEAD
14	CTH R, N. OF CTH T, PLACE RIGHT OF EXISTING J13-1 SIGN	MO 4-8	24"X12"	1	19	19					
	"	M 1-5A	24"X24"	1	19	19					Z
	"	MO 6-1	21"X21"	1	19	19					RIGHT
	PAGE SUBTOTALS			45		817	94.5	0		0	

TRAFFIC CONTROL DETOUR SIGN SUMMARY - STH 147 INTERCHANGE CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 19 DAYS	643.0900 SIGNS DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 SIGNS COVERING TYPE II EACH	REMARKS
15	CTH R, S. OF CTH T, PLACE RIGHT OF EXISTING J13-1 SIGN	MO 4-5	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 6-1	21"X21"	1	19	19					AHEAD
16	CTH T, AT CTH R, PLACE RIGHT OF EXISTING R1-1 SIGN	MO 4-5	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 6-1	21"X21"	1	19	19					LEFT
17	CTH R, N. OF CTH BB, PLACE RIGHT OF EXISTING J13-1 SIGN	MO 4-8	24"X12"	1	19	19					
	"	M 1-6	24"X24"	1	19	19					147
	"	MO 6-1	21"X21"	1	19	19					AHEAD
18	CTH R, S. OF CTH BB, PLACE RIGHT OF EXISTING J13-1 SIGN	MO 4-5	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 6-1	21"X21"	1	19	19					AHEAD
19	CTH R, N. OF STH 147, MODIFY EXISTING J1-1 SIGN AS SHOWN	M 4-8A	24"X18"	1	19	19					
20	I-43 SB, N. OF STH 147, PLACE ON EXISTING TYPE I SIGN AS SHOWN	G 20-60	108"X24"	1	19	19					
21	I-43 SB, AT STH 147 EXIT, PLACE ON EXISTING TYPE I SIGN AS SHOWN	G 20-60	108"X24"	1	19	19					
22	CTH T, N. OF CTH Z, MODIFY EXISTING J1-1 SIGN AS SHOWN	M 4-8A	24"X18"	1	19	19					
23	CTH Z, W. OF CTH T, PLACE 750' W. OF CTH T INTERSECTION	M 1-1	24"X24"	1	19	19					43
	"	W 20-2A	48"X48"	1	19	19					
24	CTH Z, AT CTH T, PLACE RIGHT OF EXISTING R1-1 SIGN	MO 4-5	24"X12"	1	19	19					
	"	M 3-1	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 6-1	21"X21"	1	19	19					LEFT
25	CTH Z, AT CTH T, PLACE RIGHT OF SIGN #24	MO 4-5	24"X12"	1	19	19					
	"	M 3-3	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 6-1	21"X21"	1	19	19					RIGHT
26	CTH T, AT CTH K, PLACE RIGHT OF EXISTING R1-1 SIGN	MO 4-5	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 6-1	21"X21"	1	19	19					LEFT
27	CTH K, AT CTH T, PLACE RIGHT OF EXISTING R1-1 SIGN	MO 4-8	24"X12"	1	19	19					
	"	M 1-5A	24"X24"	1	19	19					Z
	"	MO 6-1	21"X21"	1	19	19					RIGHT
28	CTH K, E. OF CTH T, PLACE 500' E. OF CTH CTH T INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-5A	24"X24"	1	19	19					Z
	"	MO 5-1R	21"X21"	1	19	19					
29	CTH K, BETWEEN I-43 RAMPS, PLACE 100' E. OF I-43 SB RAMP INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-5A	24"X24"	1	19	19					Z
	"	MO 6-1	21"X21"	1	19	19					AHEAD
30	CTH K, E. OF I-43 NB RAMP, PLACE 100' E. OF I-43 NB RAMP INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-5A	24"X24"	1	19	19					Z
	"	MO 6-1	21"X21"	1	19	19					AHEAD
31	I-43 OFF-RAMP TO CTH K, PLACE LEFT OF EXISTING R1-1 SIGN AT RAMP INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-5A	24"X24"	1	19	19					Z
	"	MO 6-1	21"X21"	1	19	19					LEFT
32	I-43 OFF-RAMP TO CTH K, PLACE RIGHT OF EXISTING R1-1 SIGN AT RAMP INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-6	24"X24"	1	19	19					147
	"	MO 6-1	21"X21"	1	19	19					RIGHT
	PAGE SUBTOTALS			47		893	0	0		0	

TRAFFIC CONTROL DETOUR SIGN SUMMARY - STH 147 INTERCHANGE CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 19 DAYS	643.0900 SIGNS DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 SIGNS COVERING TYPE II EACH	REMARKS
33	I-43 OFF-RAMP TO CTH K, PLACE 750' PRIOR TO RAMP INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-6	24"X24"	1	19	19					147
	"	MO 5-1R	21"X21"	1	19	19					
34	I-43, AT CTH K EXIT, PLACE LEFT OF EXISTING TYPE I GROUND SIGN	MO 4-8	36"X18"	1	19	19					
	"	M 1-6	36"X36"	1	19	19					147
	"	M 1-5A	36"X36"	1	19	19					Z
	"	MO 6-2	30"X30"	1	19	19					TILT RIGHT
35	I-43, S. OF CTH K, PLACE 750' S. OF CTH K INTERCHANGE IN MEDIAN	MO 4-8	36"X18"	1	19	19					
	"	M 1-6	36"X36"	1	19	19					147
	"	M 1-5A	36"X36"	1	19	19					Z
	"	MO 5-2R	30"X30"	1	19	19					
36	I-43, S. OF CTH K, PLACE 750' S. OF CTH K INTERCHANGE ON RIGHT SHOULDER	MO 4-8	36"X18"	1	19	19					
	"	M 1-6	36"X36"	1	19	19					147
	"	M 1-5A	36"X36"	1	19	19					Z
	"	MO 5-2R	30"X30"	1	19	19					
37	I-43, S. OF CTH K, PLACE 1500' S. OF CTH K INTERCHANGE IN MEDIAN	FMS	126"X54"	1			47.25				SEE SIGN DETAIL SHEET
38	I-43, S. OF CTH K, PLACE 1500' S. OF CTH K INTERCHANGE ON RIGHT SHOULDER	FMS	126"X54"	1			47.25				SEE SIGN DETAIL SHEET
39	I-43, S. OF CTH K, PLACE 2250' S. OF CTH K INTERCHANGE IN MEDIAN	M 1-6	36"X36"	1	19	19					147
	"	M 1-5A	36"X36"	1	19	19					Z
	"	W 20-2A	48"X48"	1	19	19					
40	I-43, S. OF CTH K, PLACE 2250' S. OF CTH K INTERCHANGE ON RIGHT SHOULDER	M 1-6	36"X36"	1	19	19					147
	"	M 1-5A	36"X36"	1	19	19					Z
	"	W 20-2A	48"X48"	1	19	19					
41	CTH K, W. OF CTH R, PLACE 500' W. OF CTH R INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-6	24"X24"	1	19	19					147
	"	MO 5-1L	21"X21"	1	19	19					
42	CTH K, AT CTH R, PLACE RIGHT OF EXISTING R1-1 SIGN AT CTH R INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-6	24"X24"	1	19	19					147
	"	MO 6-1	21"X21"	1	19	19					LEFT
43	CTH R, AT CTH K, PLACE RIGHT OF EXISTING R1-1 SIGN	MO 4-5	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 6-1	21"X21"	1	19	19					RIGHT
44	CTH R, AT CTH K, PLACE RIGHT OF SIGN #43	MO 4-5	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					Z
	"	MO 6-1	21"X21"	1	19	19					RIGHT
45	CTH R, S. OF CTH Y, PLACE 250' S. OF CTH Y INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 1-6	24"X24"	1	19	19					147
	"	MO 6-1	21"X21"	1	19	19					AHEAD
46	CTH R, N. OF CTH Y, PLACE 250' N. OF CTH Y INTERSECTION	MO 4-5	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 6-1	21"X21"	1	19	19					AHEAD
47	I-43 NB, S. OF STH 147, PLACE ON EXISTING TYPE I SIGN AS SHOWN	G 20-60	108"X24"	1	19	19					
48	I-43 NB, AT STH 147, PLACE ON EXISTING TYPE I SIGN AS SHOWN	G 20-60	108"X24"	1	19	19					
49	CTH R, S. OF STH 147, MODIFY EXISTING J1-1 SIGN AS SHOWN	M 4-8A	24"X18"	1	19	19					
50	CTH R, AT STH 147, MODIFY AND COVER AS SHOWN	MO 6-1	21"X21"	1	19	19			1	1	AHEAD, COVER "WEST Z LT"
	PAGE SUBTOTALS			45		817	94.5	0		1	

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY - STH 147 INTERCHANGE CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 19 DAYS	643.0900 SIGNS DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 SIGNS COVERING TYPE II EACH	REMARKS
51	STH 147, E. OF CTH R, PLACE 1000' E. OF CTH R INTERSECTION	M 1-1	24"X24"	1	19	19					43
	"	W 20-2A	48"X48"	1	19	19					
52	STH 147, E. OF CTH R, PLACE RIGHT OF SIGN #53	MO 4-8	24"X12"	1	19	19					
	"	M 3-1	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 5-1R	21"X21"	1	19	19					
53	STH 147, E. OF CTH R, PLACE 500' E. OF CTH R INTERSECTION	MO 4-8	24"X12"	1	19	19					
	"	M 3-3	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 5-1L	21"X21"	1	19	19					
54	STH 147, AT CTH R, PLACE RIGHT OF SIGN #55	MO 4-8	24"X12"	1	19	19					
	"	M 3-1	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 6-1	21"X21"	1	19	19					RIGHT
55	STH 147, AT CTH R, PLACE RIGHT OF EXISTING J13-2 SIGN	MO 4-8	24"X12"	1	19	19					
	"	M 3-3	24"X12"	1	19	19					
	"	M 1-1	24"X24"	1	19	19					43
	"	MO 6-1	21"X21"	1	19	19					LEFT
56	CTH R, AT STH 147, MODIFY EXISTING J3-3 SIGN AS SHOWN	MO 6-1	21"X21"	1	19	19					AHEAD
	"	MO 6-1	21"X21"	1	19	19					AHEAD
57	STH 147, BETWEEN I-43 NB RAMP AND CTH R, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1				7			PLACE IN ADVANCE OF CLOSURE
58	I-43 NB OFF-RAMP TO STH 147, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1				7			PLACE IN ADVANCE OF CLOSURE
59	CTH Z, W. OF I-43 SB RAMP, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1				7			PLACE IN ADVANCE OF CLOSURE
60	I-43 SB OFF-RAMP TO STH 147, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1				7			PLACE IN ADVANCE OF CLOSURE
	PAGE SUBTOTALS			24		380	0	28		0	
	STH 147 INTERCHANGE CLOSURE TOTALS			**161**		***2,907**	***189**	***28**		***1**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

TRAFFIC CONTROL DETOUR SIGN SUMMARY - B-05-0239 STRUCTURE CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 30 DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO OF CYCLES	643.0910 COVERING SIGNS TYPE I EACH	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
1	I-43, N. OF US 141/CTH MM EXIT, PLACE 1/2 MILE N. OF EXIT RAMP TO 141/MM	M 1-5A	36"X36"	1	30	30								KB
	"	W 20-2A	48"X48"	1	30	30								
2	I-43, N. OF US 141/CTH MM EXIT, PLACE 1/4 MILE N. OF EXIT RAMP TO 141/MM	FMS	120"X54"	1					45					SEE SIGN DETAIL SHEET
3	I-43, N. OF US 141/CTH MM EXIT, PLACE 750' N. OF EXIT RAMP TO 141/MM	MO 4-8	36"X18"	1	30	30								
	"	M 3-2	36"X18"	1	30	30								
	"	M 1-5A	36"X36"	1	30	30								KB
	"	MO 5-2R	30"X30"	1	30	30								
4	I-43, N. OF US 141/CTH MM EXIT, PLACE LEFT OF EXISTING TYPE I SIGN AT EXIT RAMP TO 141/MM	MO 4-8	36"X18"	1	30	30								
	"	M 3-2	36"X18"	1	30	30								
	"	M 1-5A	36"X36"	1	30	30								KB
	"	MO 6-2	30"X30"	1	30	30								TILT RIGHT
5	I-43 OFF-RAMP TO 141/MM, PLACE 150' PRIOR TO RAMP INTERSECTION	MO 4-8	24"X12"	1	30	30								
	"	M 3-2	24"X12"	1	30	30								
	"	M 1-5A	24"X24"	1	30	30								KB
	"	MO 6-1	21"X21"	1	30	30								LEFT
6	US 141/CTH MM, AT I-43 SB INTERSECTION, PLACE ACROSS FROM J3-1 SIGN	MO 4-8	24"X12"	1	30	30								
	"	M 3-4	24"X12"	1	30	30								
	"	M 1-6	24"X24"	1	30	30								96
	"	MO 6-1	21"X21"	1	30	30								LEFT
7	US 141/CTH MM, AT CTH R INTERSECTION, PLACE RIGHT OF EXISTING J3-3 SIGN	MO 4-8	24"X12"	1	30	30								
	"	M 3-2	24"X12"	1	30	30								
	"	M 1-5A	24"X24"	1	30	30								KB
	"	MO 6-1	21"X21"	1	30	30								RIGHT
8	I-43 OFF-RAMP TO 141/MM, PLACE 150' PRIOR TO RAMP INTERSECTION	MO 4-8	24"X12"	1	30	30								
	"	M 3-4	24"X12"	1	30	30								
	"	M 1-6	24"X24"	1	30	30								96
	"	MO 6-1	21"X21"	1	30	30								LEFT
9	I-43 OFF-RAMP TO 141/MM, PLACE 750' PRIOR TO RAMP INTERSECTION	MO 4-8	24"X12"	1	30	30								
	"	M 3-4	24"X12"	1	30	30								
	"	M 1-6	24"X24"	1	30	30								96
	"	MO 5-1L	21"X21"	1	30	30								
10	I-43, S. OF US 141/CTH MM, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-8	36"X18"	1	30	30								
	"	M 3-4	36"X18"	1	30	30								
	"	M 1-6	36"X36"	1	30	30								96
11	I-43, S. OF US 141/CTH MM EXIT, PLACE LEFT OF EXISTING TYPE I SIGN AT EXIT RAMP TO 141/MM	MO 4-8	36"X18"	1	30	30								
	"	M 3-4	36"X18"	1	30	30								
	"	M 1-6	36"X36"	1	30	30								96
	"	MO 6-2	30"X30"	1	30	30								TILT RIGHT
12	I-43, N. OF US 141/CTH MM EXIT, PLACE 750' N. OF EXIT RAMP TO 141/MM IN MEDIAN	MO 4-8	36"X18"	1	30	30								
	"	M 3-4	36"X18"	1	30	30								
	"	M 1-6	36"X36"	1	30	30								96
	"	MO 5-2R	30"X30"	1	30	30								
13	I-43, N. OF US 141/CTH MM EXIT, PLACE 750' N. OF EXIT RAMP TO 141/MM ON RIGHT SHOULDER	MO 4-8	36"X18"	1	30	30								
	"	M 3-4	36"X18"	1	30	30								
	"	M 1-6	36"X36"	1	30	30								96
	"	MO 5-2R	30"X30"	1	30	30								
	PAGE SUBTOTALS			46		1,350	0	0	45	0		0	0	

TRAFFIC CONTROL DETOUR SIGN SUMMARY - B-05-0239 STRUCTURE CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 30 DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO OF CYCLES	643.0910 COVERING SIGNS TYPE I EACH	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
14	CTH R, AT CTH NN, PLACE 150' N. OF CTH NN INTERSECTION	MO 4-8	24"X12"	1	30	30								
	"	M 3-2	24"X12"	1	30	30								
	"	M 1-5A	24"X24"	1	30	30								KB
	"	MO 6-1	21"X21"	1	30	30								AHEAD
15	CTH R, AT CTH NN, PLACE LEFT OF EXISTING J3-2 SIGN ACROSS FROM INTERSECTION	M 4-5	24"X12"	1	30	30								
	"	M 3-1	24"X12"	1	30	30								
	"	M 1-1	24"X24"	1	30	30								43
	"	M 6-1	21"X21"	1	30	30								LEFT
16	CTH NN, S. OF CTH R, PLACE 500' PRIOR TO CTH R INTERSECTION	M 4-5	24"X12"	1	30	30								
	"	M 3-1	24"X12"	1	30	30								
	"	M 1-1	24"X24"	1	30	30								43
	"	M 5-1L	21"X21"	1	30	30								
17	STH 96, W. OF CTH NN, PLACE 1/4 MILE W. OF CTH NN INTERSECTION	W 20-2A	48"X48"	1	30	30								
18	STH 96, W. OF CTH NN, PLACE 850' W. OF CTH NN INTERSECTION	FMS	66"X36"	1					16.5					
19	STH 96, W. OF CTH NN, PLACE 500' W. OF CTH NN INTERSECTION	M 4-5	24"X12"	1	30	30								
	"	M 3-1	24"X12"	1	30	30								
	"	M 1-1	24"X24"	1	30	30								43
	"	M 5-1L	21"X21"	1	30	30								
19A	STH 96, AT CTH NN, PLACE RIGHT OF EXISTING J13-1 SIGN AT CTH NN INTERSECTION	M 4-5	24"X12"	1	30	30								
	"	M 3-1	24"X12"	1	30	30								
	"	M 1-1	24"X24"	1	30	30								43
	"	M 6-1	21"X21"	1	30	30								LEFT
19B	STH 96, AT CTH NN, PLACE IN SE QUADRANT OF CTH NN INTERSECTION	R 11-3C	60"X24"	2	30	60	60	120						2 1/4 MILES AHEAD
19C	CTH NN, AT CTH X, PLACE RIGHT OF EXISTING J13-1 SIGN AT CTH X INTERSECTION	M 4-5	24"X12"	1	30	30								
	"	M 3-1	24"X12"	1	30	30								
	"	M 1-1	24"X24"	1	30	30								43
	"	M 6-1	21"X21"	1	30	30								AHEAD
20	I-43, N. OF STH 96, COVER EXISTING TYPE I SIGN AS SHOWN										1	1		COVER SIGN AS SHOWN
21	I-43, N. OF STH 96, PLACE LEFT OF EXISTING TYPE I SIGN FOR SIGN #20	M 4-8A	36"X18"	1	30	30								
	"	M 3-4	36"X18"	1	30	30								
	"	M 1-6	36"X36"	1	30	30								96
22	CTH R, N. OF CTH KB, PLACE 1000' N. OF CTH KB INTERSECTION	M 4-8A	24"X18"	1	30	30								
	"	M 3-2	24"X12"	1	30	30								
	"	M 1-5A	24"X24"	1	30	30								KB
23	I-43, AT STH 96, COVER EXISTING TYPE I SIGN AT EXIT RAMP TO STH 96										1	1		COVER SIGN AS SHOWN
24	I-43 OFF-RAMP TO STH 96, COVER EXISTING D1-3 SIGN AS SHOWN										1		1	COVER SIGN AS SHOWN
25	I-43 OFF-RAMP TO STH 96, COVER EXISTING J3-2 SIGN AS SHOWN										1		1	COVER SIGN AS SHOWN
26	STH 96, BETWEEN I-43 RAMP INTERSECTIONS, FIELD DETERMINE LOCATION	PCMS		1						7				PLACE IN ADVANCE OF CLOSURE
27	STH 96, BETWEEN I-43 RAMP INTERSECTIONS, FIELD DETERMINE LOCATION	PCMS		1						7				PLACE IN ADVANCE OF CLOSURE
28	I-43, AT STH 96, COVER EXISTING TYPE I SIGN AT EXIT RAMP TO STH 96										1	1		COVER SIGN AS SHOWN
29	I-43 OFF-RAMP TO STH 96, COVER EXISTING D1-3 SIGN AS SHOWN										1		1	COVER SIGN AS SHOWN
30	I-43 OFF-RAMP TO STH 96, COVER EXISTING J3-2 SIGN AS SHOWN										1		1	COVER SIGN AS SHOWN
31	CTH KB, AT I-43 NB RAMP, PLACE 150' E. OF I-43 NB RAMP INTERSECTION	MO 4-8	24"X12"	1	30	30								
	"	M 3-4	24"X12"	1	30	30								
	"	M 1-6	24"X24"	1	30	30								96
	"	MO 6-1	21"X21"	1	30	30								RIGHT
32	I-43 ON-RAMP FROM STH 96, PLACE 250' N. OF STH 96 RAMP INTERSECTION	MO 4-8	24"X12"	1	30	30								
	"	M 3-4	24"X12"	1	30	30								
	"	M 1-6	24"X24"	1	30	30								96
	PAGE SUBTOTALS			43		1,200	60	120	16.5	14		3	4	

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY - B-05-0239 STRUCTURE CLOSURE

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 30 DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO OF CYCLES	643.0910 COVERING SIGNS TYPE I EACH	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
33	CTH KB, E. OF I-43 NB RAMP, MODIFY EXISTING J2-3 SIGN AS SHOWN	M 4-5	24"X12"	1	30	30								
	"	M 5-1R	21"X21"	1	30	30								
	"	MO 4-8	24"X12"	1	30	30								
	"	MO 5-1R	21"X21"	1	30	30								
34	CTH R, AT CTH KB, PLACE 150' N. OF CTH KB INTERSECTION	M 4-5	24"X12"	1	30	30								
	"	M 3-3	24"X12"	1	30	30								
	"	M 1-1	24"X24"	1	30	30								43
	"	M 6-1	21"X21"	1	30	30								AHEAD
34A	CTH KB, AT CTH R, PLACE ON RIGHT SHOULDER IN NW QUADRANT OF CTH R INTERSECTION	R 11-3C	60"X24"	1	30	30	30	60						1/2 MILE AHEAD
35	CTH KB, AT CTH R, PLACE 150' E. OF CTH R INTERSECTION	M 4-5	24"X12"	1	30	30								
	"	M 3-3	24"X12"	1	30	30								
	"	M 1-1	24"X24"	1	30	30								43
	"	M 6-1	21"X21"	1	30	30								LEFT
36	I-43, S. OF STH 96, PLACE 1/4 MILE S. OF STH 96 EXIT RAMP IN MEDIAN	MO 4-8	36"X18"	1	30	30								
	"	M 3-4	36"X18"	1	30	30								
	"	M 1-6	36"X36"	1	30	30								96
	"	MO 6-1	30"X30"	1	30	30								AHEAD
37	I-43, S. OF STH 96, PLACE 1/4 MILE S. OF STH 96 EXIT RAMP ON RIGHT SHOULDER	MO 4-8	36"X18"	1	30	30								
	"	M 3-4	36"X18"	1	30	30								
	"	M 1-6	36"X36"	1	30	30								96
	"	MO 6-1	30"X30"	1	30	30								AHEAD
38	I-43, S. OF STH 96, PLACE 1/2 MILE S. OF STH 96 EXIT RAMP IN MEDIAN	M 3-4	36"X18"	1	30	30								
	"	M 1-6	36"X36"	1	30	30								96
	"	W 20-2A	48"X48"	1	30	30								
39	I-43, S. OF STH 96, PLACE 1/2 MILE S. OF STH 96 EXIT RAMP ON RIGHT SHOULDER	M 3-4	36"X18"	1	30	30								
	"	M 1-6	36"X36"	1	30	30								96
	"	W 20-2A	48"X48"	1	30	30								
40	I-43, S. OF STH 96, COVER EXISTING TYPE I SIGN AS SHOWN										1	1		COVER SIGN AS SHOWN
41	CTH R, N. OF CTH T, PLACE 150' N. OF CTH T INTERSECTION	M 4-5	24"X12"	1	30	30								
	"	M 3-3	24"X12"	1	30	30								
	"	M 1-1	24"X24"	1	30	30								43
	"	M 6-1	21"X21"	1	30	30								AHEAD
42	CTH R, N. OF STH 147, PLACE 150' N. OF STH 147 INTERSECTION	M 4-5	24"X12"	1	30	30								
	"	M 3-3	24"X12"	1	30	30								
	"	M 1-1	24"X24"	1	30	30								43
	"	M 6-1	21"X21"	1	30	30								AHEAD
	PAGE SUBTOTALS			35		1,050	30	60	0	0		1	0	
	PROJECT TOTALS			**124**		***3600**	***90**	***180**	**61.5**	***14**		***4**	***4**	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

TRAFFIC CONTROL SUMMARY

CATEGORY	LOCATION	DURATION DAYS	643.0300 TRAFFIC CONTROL DRUMS EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS EACH	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONROL SIGNS EACH	643.0900 TRAFFIC CONROL SIGNS DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.1205.S BASIC TRAFFIC QUEUE WARNING SYSTEM EACH	643.1205.S BASIC TRAFFIC QUEUE WARNING SYSTEM DAY	REMARKS
0010	HIDDEN VALLEY RD	8	28	224	-	-	-	-	-	-	-	-	11	88	-	-	-	-	BEAMGUARD
0010	ZANDER RD	12	38	456	-	-	-	-	-	-	-	-	11	132	-	-	-	-	BEAMGUARD
0010	CTH T	5	38	190	-	-	-	-	-	-	-	-	11	55	-	-	-	-	BEAMGUARD
0010	COOPERSTOWN RD	8	38	304	-	-	-	-	-	-	-	-	11	88	-	-	-	-	BEAMGUARD
0010	STH 147 SW RAMP	94	34	3,196	2	188	4	376	24	2,256	-	-	7	658	-	-	-	-	LANE CLOSURE
0010	STH 147 NE RAMP	94	10	940	2	188	4	376	8	752	-	-	5	470	-	-	-	-	LANE CLOSURE
0010	STH 147 SE RAMP	94	10	940	2	188	4	376	8	752	-	-	5	470	-	-	-	-	LANE CLOSURE
0010	STH 147 NW RAMP	94	34	3,196	2	188	4	376	24	2,256	-	-	7	658	-	-	-	-	LANE CLOSURE
0010	STH 147 SW RAMP	19	-	-	4	76	8	152	-	-	-	-	1	19	-	-	-	-	RAMP CLOSURE
0010	STH 147 NE RAMP	19	-	-	4	76	8	152	-	-	-	-	1	19	-	-	-	-	RAMP CLOSURE
0010	STH 147 SE RAMP	19	-	-	4	76	8	152	-	-	-	-	1	19	-	-	-	-	RAMP CLOSURE
0010	STH 147 NW RAMP	19	-	-	4	76	8	152	-	-	-	-	1	19	-	-	-	-	RAMP CLOSURE
0010	STH 147	19	-	-	12	228	24	456	-	-	-	-	2	38	-	-	-	-	STH 147 CLOSURE
0010	STH 96 (B-05-0239)	30	-	-	8	240	16	480	-	-	-	-	2	60	-	-	-	-	ROAD CLOSURE
0010	IH 43 NB MAINLINE	94	490	46,060	33	3,102	66	6,204	17	1,598	2	188	52	4,888	-	-	1	115	LANE CLOSURE
0010	IH 43 SB MAINLINE	94	490	46,060	33	3,102	66	6,204	17	1,598	2	188	52	4,888	1	7	1	115	LANE CLOSURE
	PROJECT SUBTOTAL		**101,566**		***7,728**		***15,456**		**9,212**		**376**		***12,569**		***7**		**230**		
	PROJECT TOTAL		**101,566**		**7,818**		**15,636**		**9,212**		**376**		**19,076**		**49**		**230**		

*** ADDITIONAL QUANTITY SHOWN ELSEWHERE**

TEMPORARY PAVEMENT MARKING

CATEGORY	ROADWAY	STATION	TO	STATION	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH WHITE 4' SKIPS LF	WHITE SOLID LF	YELLOW SOLID LF	REMARKS
0010	IH 43 NB	1606'NB'+74	-	1988'NB'+34	3,054	-	-	CENTERLINE SKIPS ON LOWER LAYER
0010	IH 43 SB	1607'SB'+42	-	1988'SB'+34	3,046	-	-	CENTERLINE SKIPS ON LOWER LAYER
0010	IH 43 NB	1606'NB'+74	-	1988'NB'+34	3,054	44,817	40,910	SKIPS AND EDGELINES ON UPPER LAYER
0010	IH 43 SB	1607'SB'+42	-	1988'SB'+34	3,046	44,420	40,786	SKIPS AND EDGELINES ON UPPER LAYER
				PROJECT TOTAL		**183,133**		

PAVEMENT MARKING SUMMARY

CATEGORY	ROADWAY	STATION	TO	STATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE SOLID LF	646.1020 MARKING LINE EPOXY 4-INCH YELLOW SOLID LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH WHITE SOLID LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH YELLOW SOLID LF	646.1555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH WHITE 12.5' LINE, 37.5' GAP LF	646.3020 MARKING LINE EPOXY 8-INCH WHITE SOLID LF	646.3555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH WHITE SOLID LF	646.5420 MARKING AERIAL ENFORCEMENT BAR EPOXY WHITE SOLID EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH WHITE LF	646.7120 MARKING DIAGONAL EPOXY 12-INCH YELLOW SOLID LF	646.8120 MARKING CURB EPOXY YELLOW LF	646.8220 MARKING ISLAND NOSE EPOXY YELLOW EACH	REMARKS
0010	IH 43 NB	1606'NB'+74	-	1988'NB'+34	-	-	34,418	38,161	9,544	-	-	-	-	-	-	-	MAINLINE
0010	IH 43 NB	1860'NB'+83	-	1867'NB'+57	-	-	675	202	-	-	579	-	-	-	-	-	WAYSIDE RAMP & GORE
0010	IH 43 NB	1894'NB'+07	-	1909'NB'+90	-	-	1,587	165	-	-	1,301	-	-	-	-	-	WAYSIDE RAMP & GORE
0010	IH 43 NB	1947'NB'+82	-	1947'NB'+82	-	-	-	-	-	-	-	2	-	-	-	-	
0010	IH 43 NB	1954'NB'+42	-	1954'NB'+42	-	-	-	-	-	-	-	2	-	-	-	-	
0010	IH 43 NB	1961'NB'+02	-	1961'NB'+02	-	-	-	-	-	-	-	2	-	-	-	-	
0010	IH 43 NB	1967'NB'+61	-	1967'NB'+61	-	-	-	-	-	-	-	2	-	-	-	-	
0010	IH 43 NB	1974'NB'+20	-	1974'NB'+20	-	-	-	-	-	-	-	2	-	-	-	-	
0010	IH 43 SB	1607'SB'+42	-	1988'SB'+34	-	-	34,480	38,096	9,520	-	-	-	-	-	-	-	MAINLINE
0010	IH 43 SB	1851'SB'+05	-	1864'SB'+75	-	-	1,362	134	-	-	1,259	-	-	-	-	-	WAYSIDE RAMP & GORE
0010	IH 43 SB	1890'SB'+41	-	1896'SB'+90	-	-	656	150	-	-	600	-	-	-	-	-	WAYSIDE RAMP & GORE
0010	STH 147 EB	57'EB'+44	-	64'EB'+72	561	-	-	-	-	81	-	-	-	-	-	-	
0170	STH 147 EB	64'EB'+72	-	71'EB'+38	629	338	-	-	-	-	-	-	-	-	-	-	
0010	STH 147 WB	15'WB'+87	-	23'WB'+14	560	-	-	-	-	97	-	-	-	-	-	-	
0010	STH 147 WB	15'WB'+87	-	16'WB'+51	-	148	-	-	-	-	-	-	-	74	-	1	
0010	STH 147 WB	17'WB'+27	-	17'WB'+39	-	-	-	-	-	-	-	-	-	-	10	1	
0010	STH 147 WB	22'WB'+01	-	22'WB'+13	-	-	-	-	-	-	-	-	-	-	10	1	
0010	STH 147 WB	22'WB'+74	-	23'WB'+14	-	-	-	-	-	-	-	-	-	-	47	1	
0170	STH 147 WB	23'WB'+14	-	31'WB'+90	1,084	751	-	-	-	-	-	-	-	-	-	-	
0170	STH 147 WB	25'WB'+73	-	25'WB'+85	-	-	-	-	-	-	-	-	-	-	30	-	
0170	STH 147 WB	26'WB'+51	-	26'WB'+62	-	-	-	-	-	-	-	-	-	-	30	-	
0170	STH 147 WB	28'WB'+32	-	29'WB'+75	-	-	-	-	-	-	-	-	-	70	-	1	
0010	STH 147 SE RAMP	10'ZSE'+00	-	26'ZSE'+11	-	-	1,767	1,283	-	-	598	-	40	-	22	-	RAMP & GORE
0010	STH 147 SW RAMP	10'ZSW'+00	-	25'ZSW'+18	-	-	2,469	1,124	-	-	1,202	-	-	115	-	-	RAMP & GORE
0010	STH 147 NE RAMP	10'ZNE'+00	-	24'ZNE'+07	-	-	2,487	1,099	-	-	1,405	-	-	115	-	-	RAMP & GORE
0010	STH 147 NW RAMP	10'ZNW'+00	-	22'ZNW'+22	-	-	1,780	1,282	-	-	612	-	40	-	22	-	RAMP & GORE
0010	STH 96	12'NS'+89	-	16'NS'+27	668	668	-	-	-	-	-	-	-	-	-	-	B-05-0239
CATEGORY 0010 TOTAL					**2,605**		**163,377**		**19,064**	**178**	**7,556**	**10**	**80**	**304**	**111**	**4**	
CATEGORY 0170 TOTAL					**2,802**		**0**		**0**	**0**	**0**	**0**	**0**	**70**	**60**	**1**	
PROJECT TOTAL					**5,407**		**163,377**		**19,064**	**178**	**7,556**	**10**	**80**	**374**	**171**	**5**	

3

CONSTRUCTION STAKING

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	REMARKS
0010	IH 43 NB	1606'NB'+74	-	1988'NB'+34	LT/RT	-	38,161	
0010	IH 43 NB	1804'NB'+77	-	1804'NB'+77	LT	1	-	
0010	IH 43 NB	1804'NB'+77	-	1805'NB'+41	LT	1	-	
0010	IH 43 NB	1862'NB'+66	-	1867'NB'+57	LT/RT	-	492	SE WAYSIDE RAMP
0010	IH 43 NB	1894'NB'+05	-	1902'NB'+14	LT/RT	-	815	NE WAYSIDE RAMP
0010	IH 43 NB	1940'NB'+85	-	1940'NB'+85	LT	1	-	
0010	IH 43 NB	1940'NB'+85	-	1941'NB'+25	LT	1	-	
0010	IH 43 SB	1607'SB'+42	-	1988'SB'+34	LT/RT	-	38,096	
0010	IH 43 SB	1857'SB'+10	-	1864'SB'+75	LT/RT	-	764	SW WAYSIDE RAMP
0010	IH 43 SB	1890'SB'+39	-	1894'SB'+84	LT/RT	-	450	NW WAYSIDE RAMP
0010	STH 147 EB	57'EB'+44	-	64'EB'+72	LT/RT	-	728	
0170	STH 147 EB	64'EB'+72	-	71'EB'+38	RT	-	666	
0010	STH 147 WB	15'WB'+87	-	23'WB'+14	LT/RT	-	727	
0170	STH 147 WB	23'WB'+14	-	31'WB'+90	LT	-	876	
0010	STH 147 SE RAMP	10'ZSE'+00	-	26'ZSE'+11	LT/RT	-	1,582	
0010	STH 147 SW RAMP	10'ZSW'+00	-	25'ZSW'+18	LT/RT	-	1,725	
0010	STH 147 NE RAMP	10'ZNE'+00	-	24'ZNE'+07	LT/RT	-	1,802	
0010	STH 147 NW RAMP	10'ZNW'+00	-	22'ZNW'+22	LT/RT	-	1,588	
					CATEGORY 0010 TOTAL	**4**	**86,930**	
					CATEGORY 0170 TOTAL	**0**	**1,542**	
					PROJECT TOTAL	**4**	**88,472**	

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

CATEGORY	LOCATION	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL LS
0010	1227-12-72	1
	PROJECT TOTAL	**1**

3

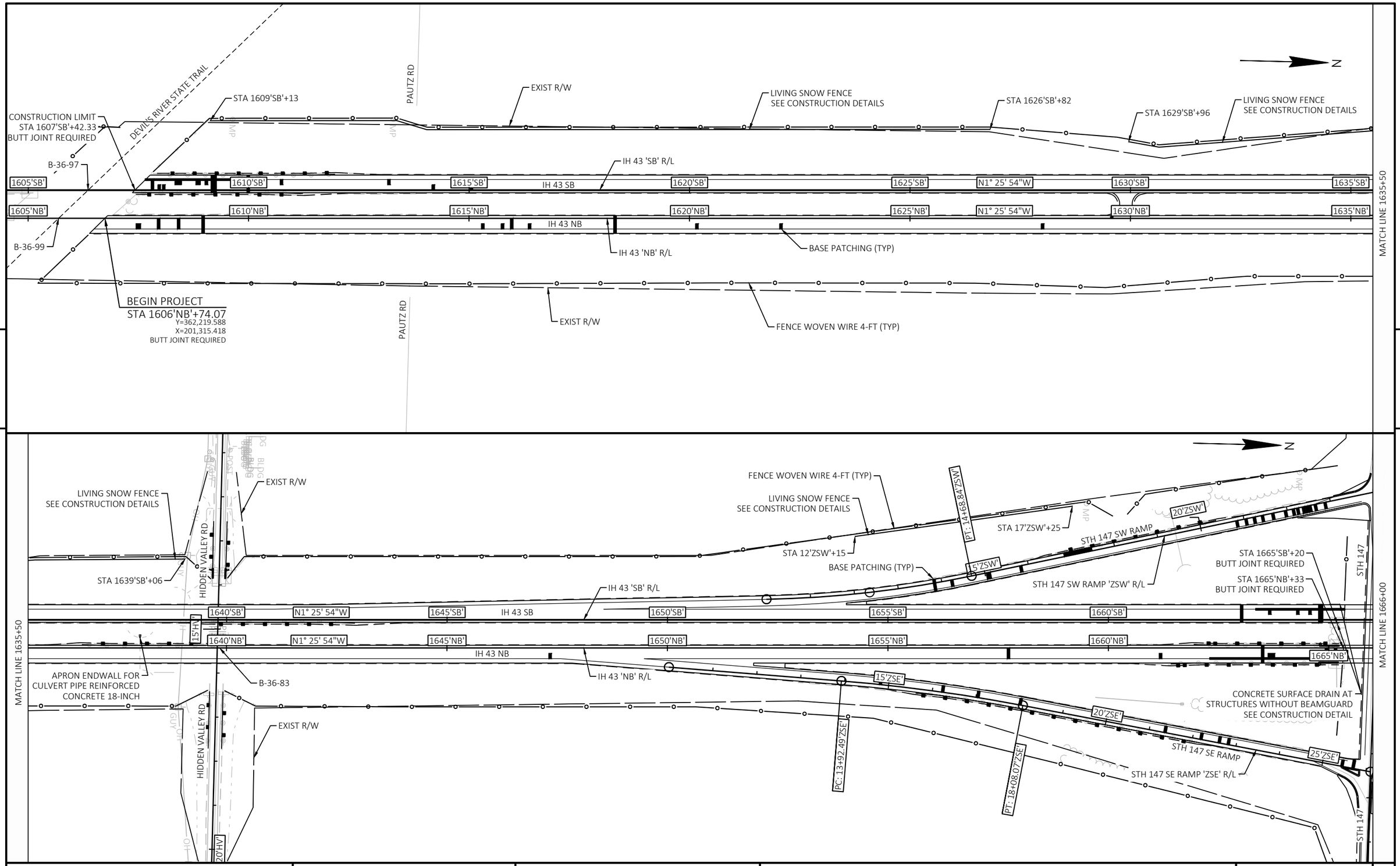
REMOVING PAVEMENT

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
0010	IH 43 NB	1664'NB'+79	-	1665'NB'+24	LT	-	47
0010	IH 43 NB	1664'NB'+77	-	1665'NB'+22	RT	-	47
0010	IH 43 NB	1721'NB'+09	-	1721'NB'+24	LT	-	16
0010	IH 43 NB	1721'NB'+17	-	1721'NB'+32	RT	-	16
0010	IH 43 NB	1749'NB'+95	-	1750'NB'+40	RT	-	47
0010	IH 43 NB	1749'NB'+95	-	1750'NB'+40	LT	-	47
0010	IH 43 NB	1855'NB'+22	-	1855'NB'+67	LT	-	47
0010	IH 43 NB	1855'NB'+37	-	1855'NB'+82	RT	-	47
0010	IH 43 NB	1902'NB'+20	-	1902'NB'+65	LT	-	47
0010	IH 43 NB	1902'NB'+47	-	1902'NB'+92	RT	-	47
0010	IH 43 NB	1911'NB'+46	-	1911'NB'+66	RT	-	16
0010	IH 43 SB	1665'SB'+13	-	1665'SB'+28	LT	-	16
0010	IH 43 SB	1665'SB'+13	-	1665'SB'+28	RT	-	16
0010	IH 43 SB	1720'SB'+94	-	1721'SB'+39	LT	-	47
0010	IH 43 SB	1721'SB'+02	-	1721'SB'+46	RT	-	47
0010	IH 43 SB	1749'SB'+95	-	1750'SB'+40	LT	-	47
0010	IH 43 SB	1750'SB'+25	-	1750'SB'+40	RT	-	16
0010	IH 43 SB	1855'SB'+17	-	1855'SB'+32	LT	-	16
0010	IH 43 SB	1900'SB'+29	-	1900'SB'+74	RT	-	47
0010	IH 43 SB	1900'SB'+81	-	1900'SB'+96	RT	-	16
0010	IH 43 SB	1911'SB'+37	-	1911'SB'+82	RT	-	47
0010	IH 43 SB	1911'SB'+19	-	1911'SB'+64	LT	-	47
0010	STH 147 EB	65'EB'+01	-	65'EB'+05	RT	-	4
0010	STH 147 WB	16'WB'+73	-	16'WB'+73	LT	-	12
0010	HIDDEN VALLEY RD	12'HV'+99	-	13'HV'+85	LT	88	-
0010	HIDDEN VALLEY RD	12'HV'+86	-	13'HV'+85	RT	100	-
0010	ZANDER RD	15'ZA'+11	-	15'ZA'+98	LT	87	-
0010	ZANDER RD	15'ZA'+44	-	16'ZA'+36	RT	93	-
0010	COOPERSTOWN RD	13'CO'+18	-	14'CO'+10	LT	93	-
0010	COOPERSTOWN RD	13'CO'+51	-	14'CO'+32	RT	81	-
				PROJECT SUBTOTAL		**542**	***802**
				PROJECT TOTAL		**542**	**59,062**

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE**

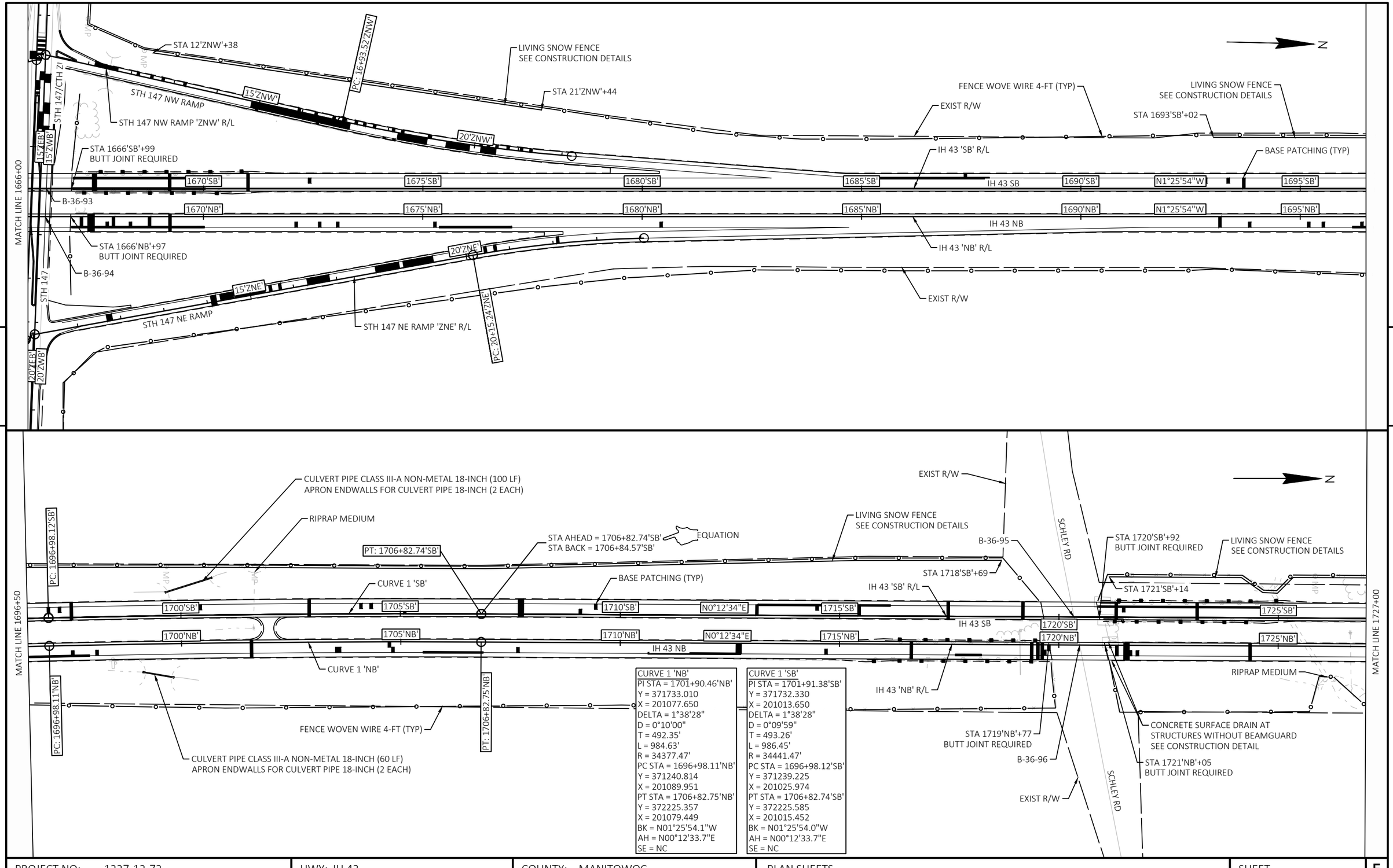
PIPE UNDERDRAIN, FABRIC, AND AGGREGATE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	SPV.0090.02 PIPE UNDERDRAIN (6-INCH) WITH GEOTEXTILE FABRIC AND AGGREGATE LF	REMARKS
0010	IH 43 NB	1642'NB'+86	-	1695'NB'+66	LT/RT	92	MILE 164 - MILE 165
0010	IH 43 NB	1695'NB'+66	-	1748'NB'+46	LT/RT	69	MILE 165 - MILE 166
0010	IH 43 NB	1748'NB'+46	-	1801'NB'+26	LT/RT	96	MILE 166 - MILE 167
0010	IH 43 NB	1854'NB'+06	-	1906'NB'+85	LT/RT	48	MILE 168 - MILE 169
0010	IH 43 NB	1906'NB'+85	-	1959'NB'+66	LT/RT	48	MILE 169 - MILE 170
0010	IH 43 SB	1607'SB'+42	-	1642'SB'+86	LT/RT	24	PROJECT LIMITS - MILE 164
0010	IH 43 SB	1642'SB'+86	-	1695'SB'+66	LT/RT	133	MILE 164 - MILE 165
0010	IH 43 SB	1695'SB'+66	-	1748'SB'+46	LT/RT	84	MILE 165 - MILE 166
0010	IH 43 SB	1748'SB'+46	-	1800'SB'+75	LT/RT	164	MILE 166 - MILE 167
0010	IH 43 SB	1800'SB'+75	-	1854'SB'+04	LT/RT	134	MILE 167 - MILE 168
0010	IH 43 SB	1854'SB'+04	-	1907'SB'+24	LT/RT	72	MILE 168 - MILE 169
0010	IH 43 SB	1907'SB'+24	-	1959'SB'+66	LT/RT	97	MILE 169 - MILE 170
					PROJECT TOTAL	**1,061**	



PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 106	E

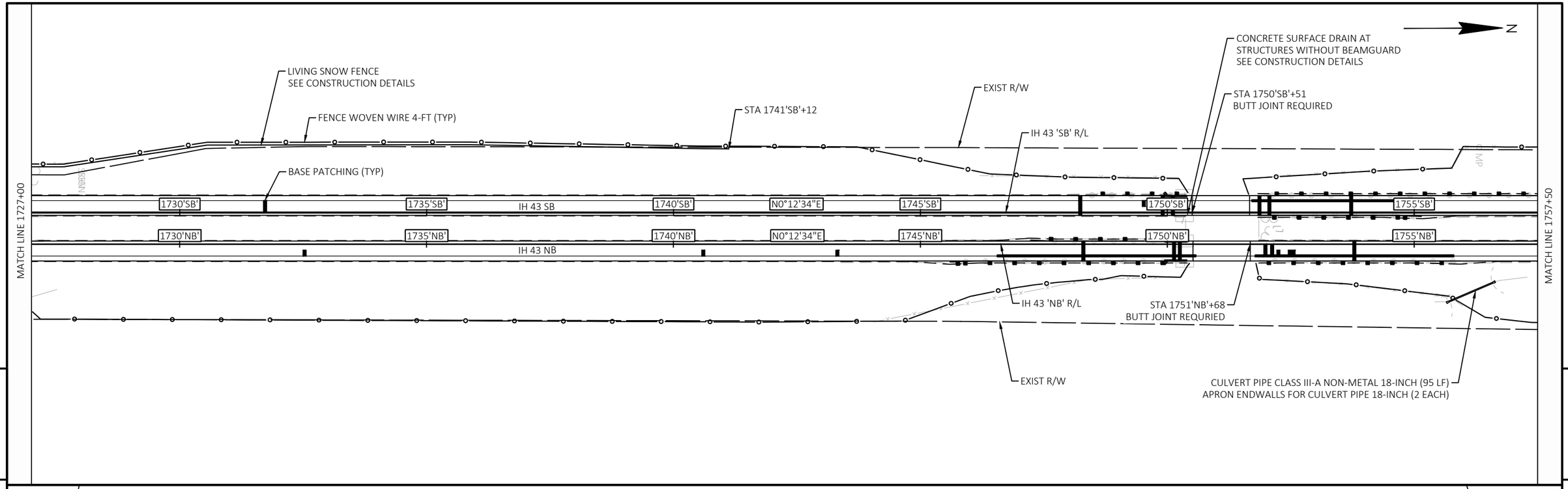
FILE NAME : C:\WISDOT\DESIGN\C3D\12271200\SHEETSPLAN\1227-12-72\050201-PN.DWG
LAYOUT NAME - 050201-pn
PLOT DATE : 7/28/2021 2:30 PM
PLOT BY : MATERNOSKI, JORDAN D
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44



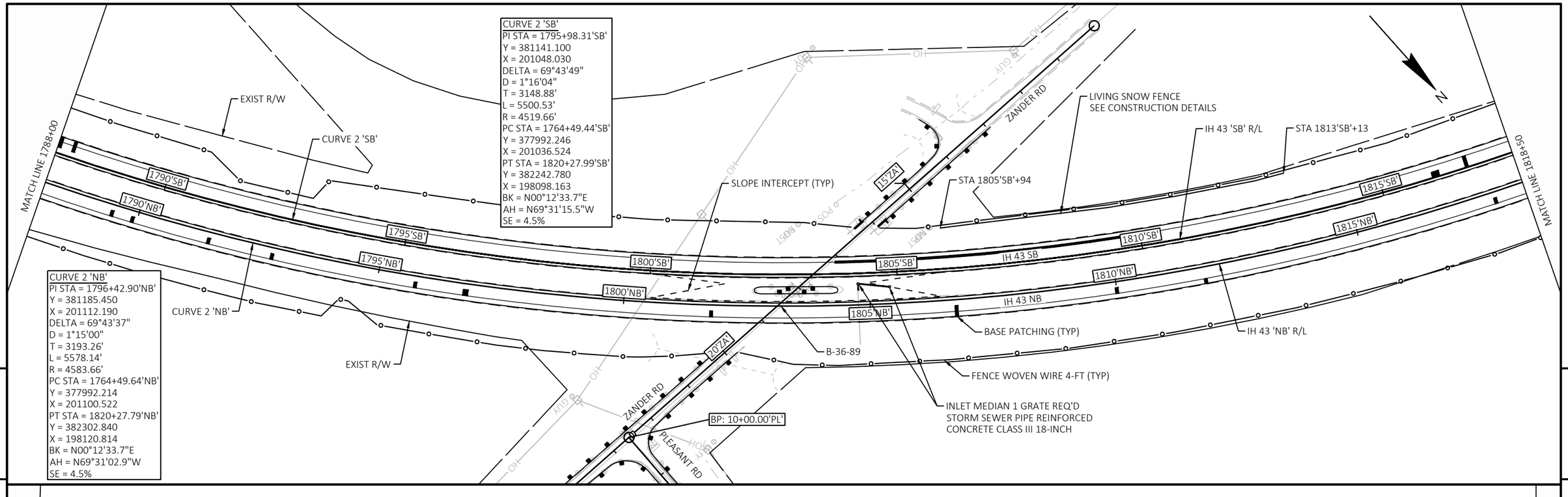
CURVE 1 'NB'	
PI STA	1701+90.46'NB'
Y	371733.010
X	201077.650
DELTA	1°38'28"
D	0°10'00"
T	492.35'
L	984.63'
R	34377.47'
PC STA	1696+98.11'NB'
Y	371240.814
X	201089.951
PT STA	1706+82.75'NB'
Y	372225.357
X	201079.449
BK	N01°25'54.1"W
AH	N00°12'33.7"E
SE	NC

CURVE 1 'SB'	
PI STA	1701+91.38'SB'
Y	371732.330
X	201013.650
DELTA	1°38'28"
D	0°09'59"
T	493.26'
L	986.45'
R	34441.47'
PC STA	1696+98.12'SB'
Y	371239.225
X	201025.974
PT STA	1706+82.74'SB'
Y	372225.585
X	201015.452
BK	N01°25'54.0"W
AH	N00°12'33.7"E
SE	NC

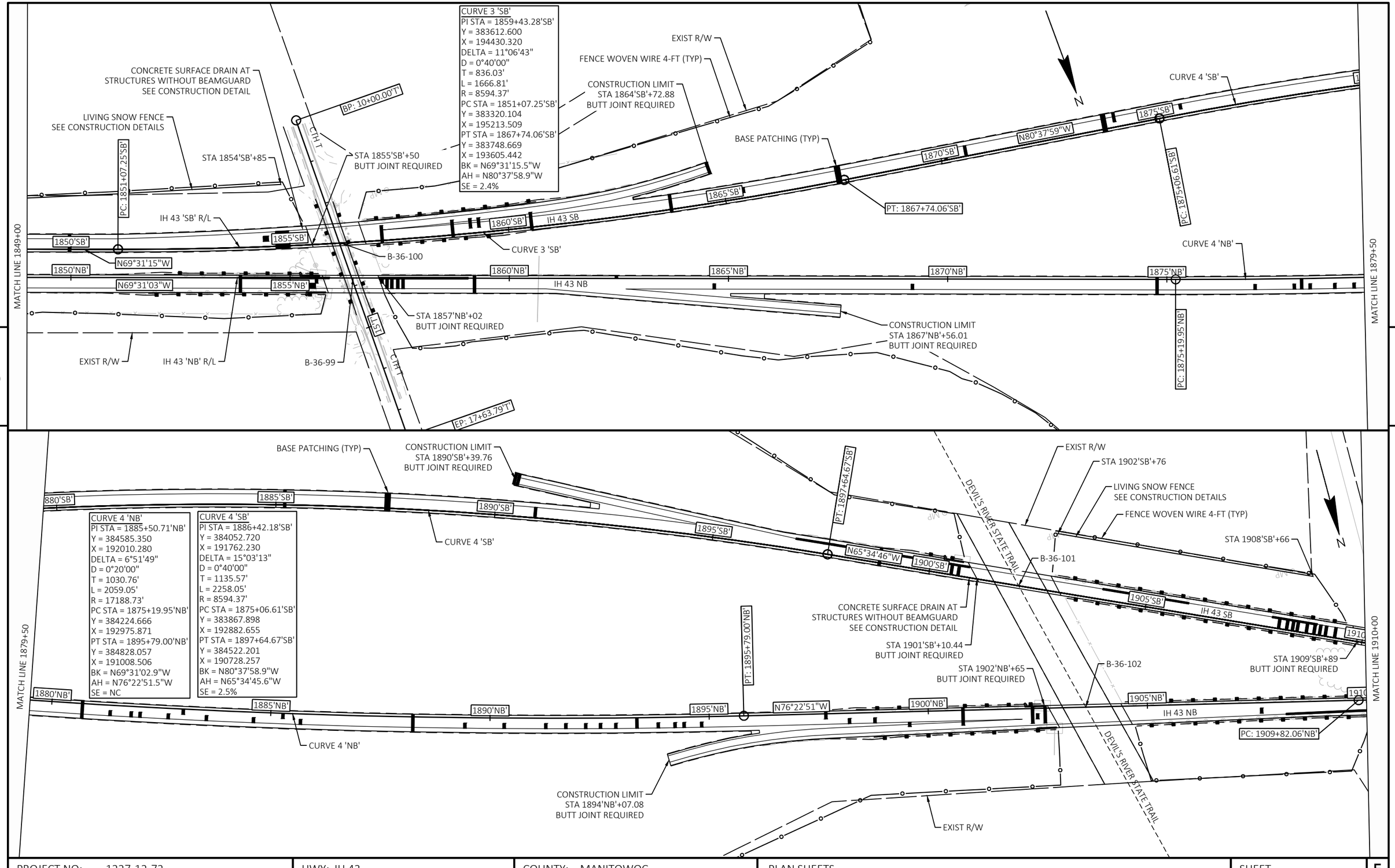
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 107	E



PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 108	E

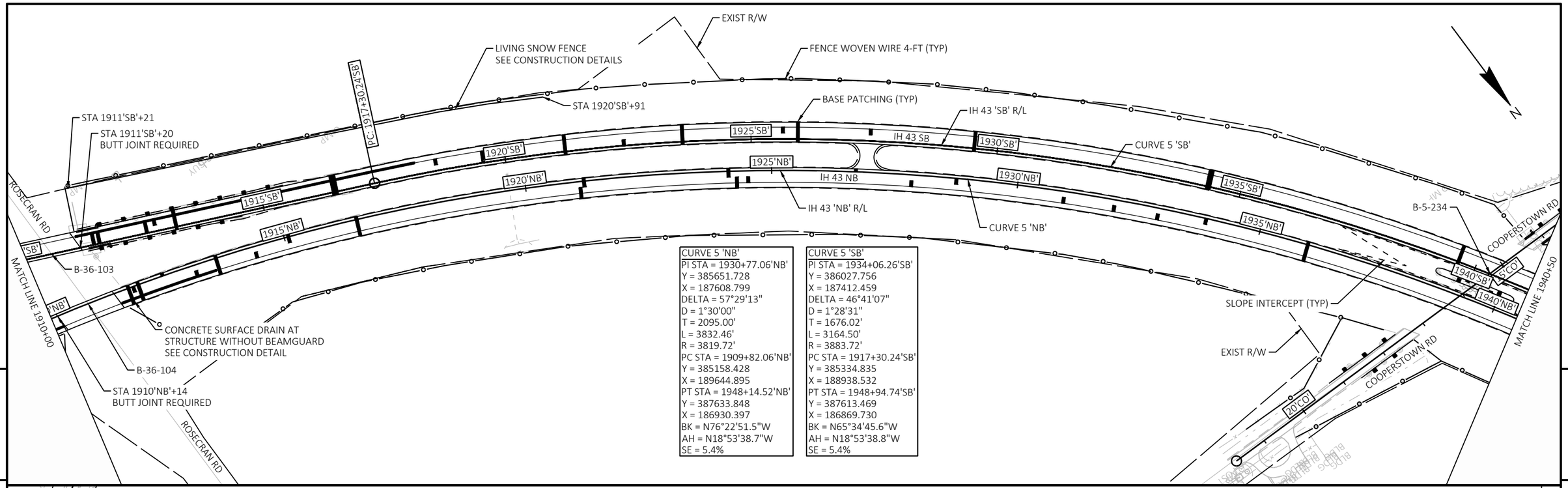


PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 109	E



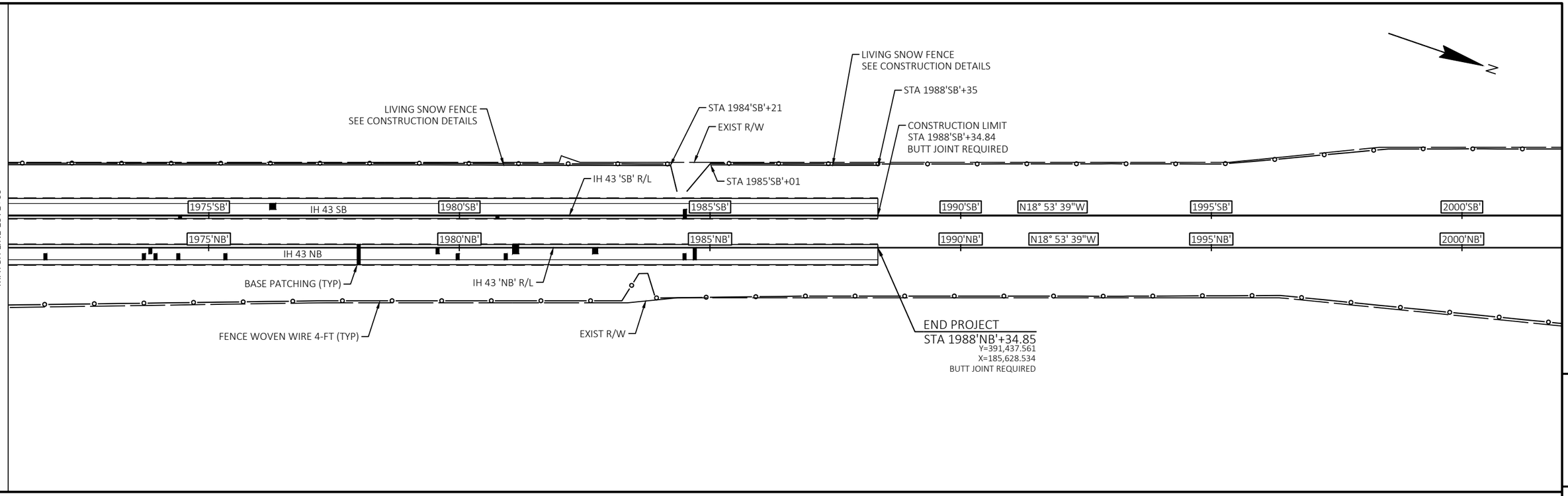
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 110	E

FILE NAME : C:\WISDOT\DESIGN\C3D\12271200\SHEETSPLAN\1227-12-72\050201-PN.DWG
LAYOUT NAME - 050205-pn
PLOT DATE : 7/28/2021 2:31 PM
PLOT BY : MATERNOSKI, JORDAN D
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44



PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 111 E

FILE NAME : C:\WISDOT\DESIGN\C3D\12271200\SHEETSPLAN\1227-12-72\050201-PN.DWG
LAYOUT NAME - 050206-pn
PLOT DATE : 7/28/2021 2:31 PM
PLOT BY : MATERNOSKI, JORDAN D
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44



PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 112	E

N

FENCE WOVEN WIRE 4-FT (TYP)

STH 147 NW RAMP
'ZNW' R/L

EXISTING R/W

STH 147 WB R/L

GPS

5 'WB'

CTH Z

10 'WB'

55 'EB'

STH 147 EB R/L

EXISTING R/W

STH 147 NW RAMP

REMOVING PAVEMENT BUTT
JOINT (20 FT X 12 FT)

REMOVING CONCRETE
SURFACE PARTIAL DEPTH

BASE PATCHING (TYP)

B-36-93

15 'WB'

25 'NW'

60 'EB'

CONSTRUCTION LIMITS
STA 15'WB'+87.02

STH 147 SW RAMP
'ZSW' R/L

PLACE HMA OVERLAY ON
TOP OF COLORED CONCRETE
MARKING DIAGONAL EPOXY
12-INCH YELLOW

1665 'SB'

STH 147 SW RAMP

MATCH LINE 19+75

5

5

N

BASE PATCHING (TYP)

PLACE HMA OVERLAY ON
TOP OF COLORED CONCRETE
MARKING DIAGONAL EPOXY
12-INCH YELLOW

STH 147 NE RAMP
'ZNE' R/L

STH 147 NE RAMP

EXISTING R/W

B-36-94

REMOVING CONCRETE
SURFACE PARTIAL DEPTH

STH 47 WB R/L

ADJUSTING INLET COVER

MATCH LINE 19+75

20 'WB'

25 'WB'

30 'WB'

STH 147

35 'WB'

65 'EB'

70 'EB'

ADJUSTING INLET COVER

STH 47 EB R/L

EXISTING R/W

CONSTRUCTION LIMITS
STA 31'WB'+90.15
BUTT JOINT REQ'D

1665 'NB'

GUY

25

STH 147 SE RAMP

STH 147 SE RAMP
'ZSE' R/L

FENCE WOVE WIRE 4-FT (TYP)

REMOVING PAVEMENT BUTT
JOINT (4 FT X 2 ½ FT)

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PLAN SHEETS - STH 147	SHEET 113	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-72\050202-PN.DWG
LAYOUT NAME - 050208-pn

PLOT DATE : 10/8/2021 9:47 AM PLOT BY : MATERNOSKI, JORDAN D PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

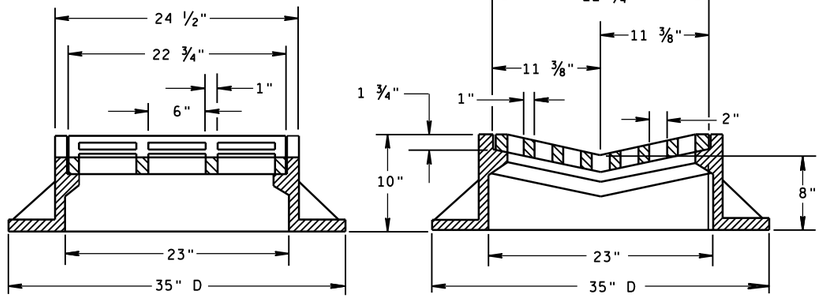
Standard Detail Drawing List

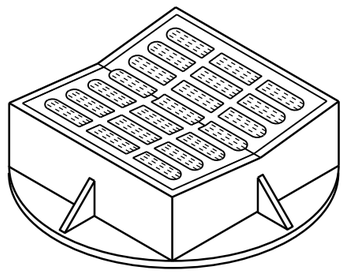
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D15-05A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08D15-05B	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08D15-05C	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13A07-02	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE
13C14-07C	BASE PATCHING CONCRETE
13C19-03	HMA LONGITUDINAL JOINTS
14B26-04A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04F	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04G	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04H	STEEL THRIE BEAM BULLNOSE TERMINAL
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-03A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03D	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03E	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03F	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03G	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B53-01A	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01B	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01C	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01D	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01E	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01F	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01G	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01H	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-01I	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END

6

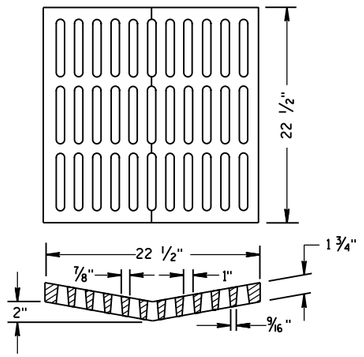
Standard Detail Drawing List

15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C08-20B	PAVEMENT MARKING (TURN LANES)
15C08-20C	PAVEMENT MARKING (TURN LANES)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C14-04	AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS
15C18-05A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C18-05B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE
15C31-04A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15C31-04C	PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-09D	TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM
15D15-05A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05B	TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-04	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D40-02B	TRAFFIC CONTROL, FULL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER
15D40-02D	TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER



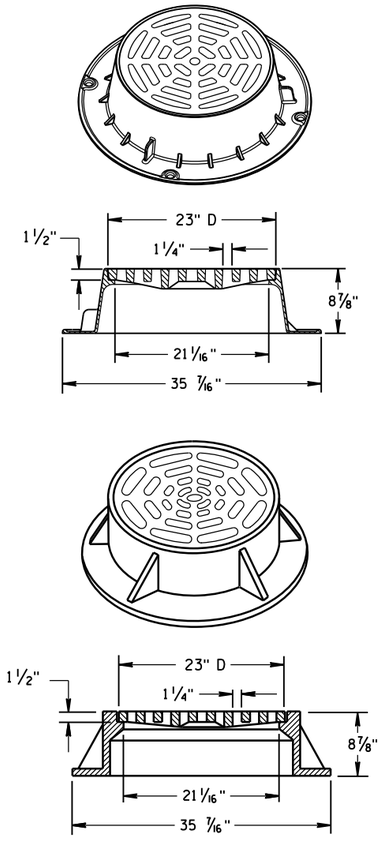


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

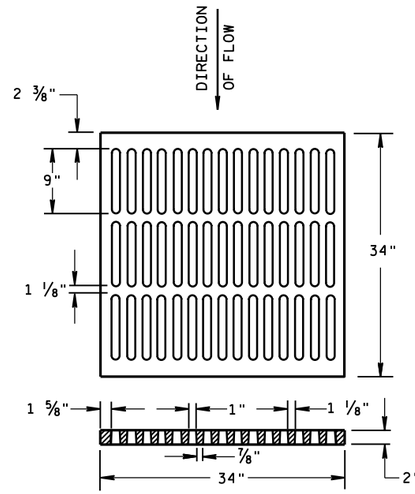
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

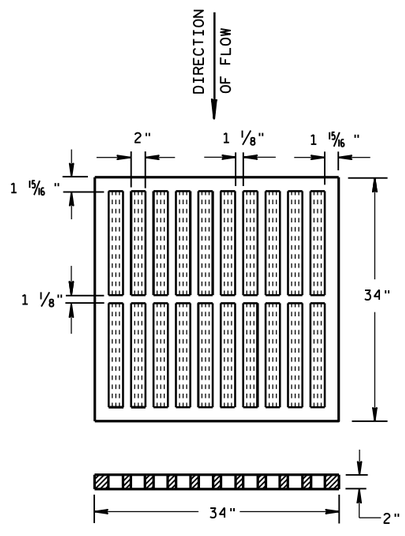
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



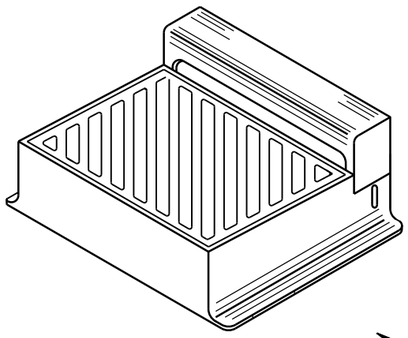
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

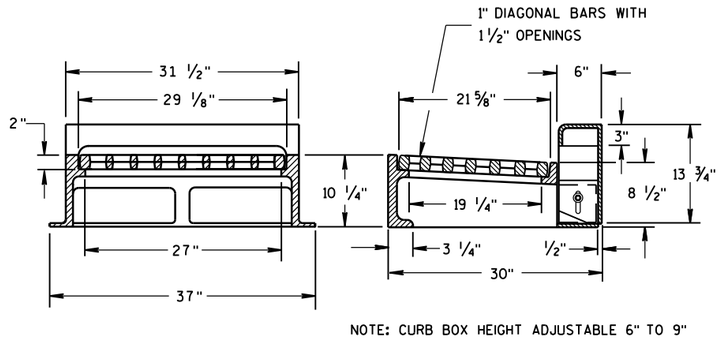


TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

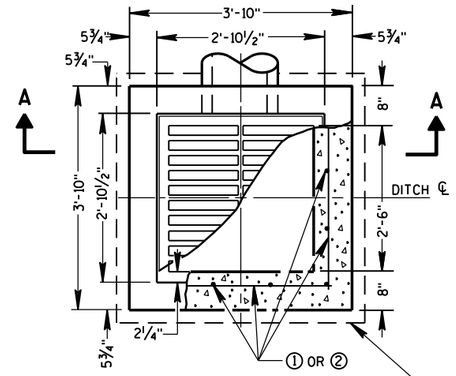
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

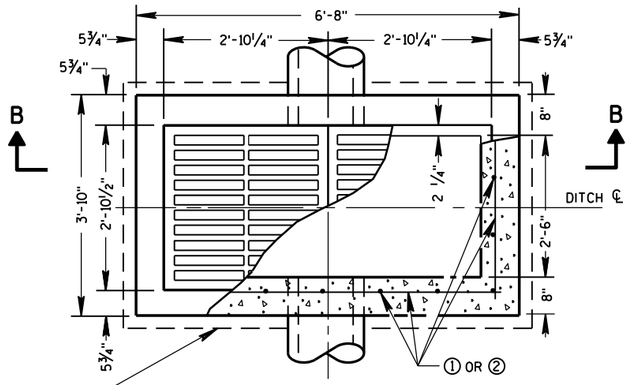
APPROVED
11/27/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 A 5-19b

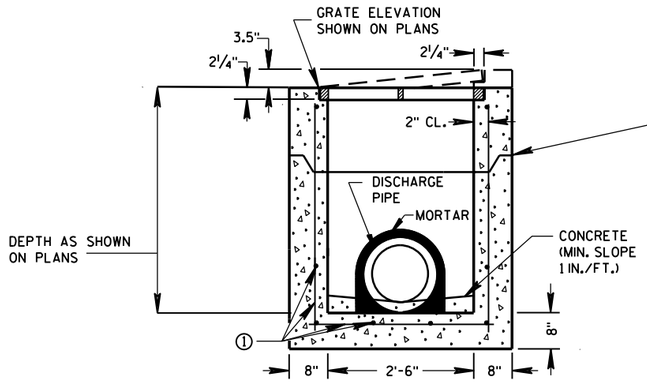


PLAN VIEW

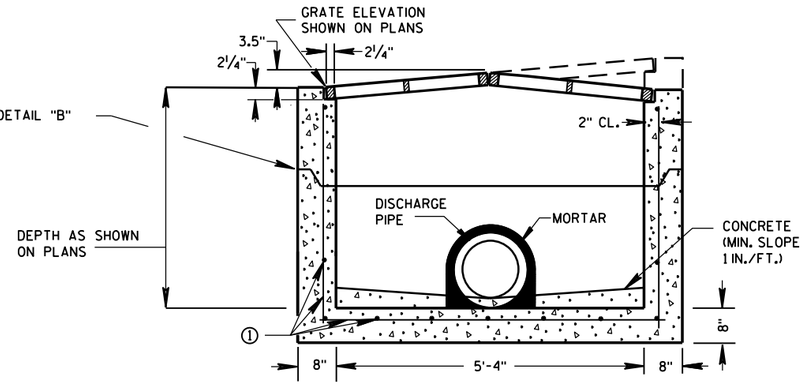


PLAN VIEW

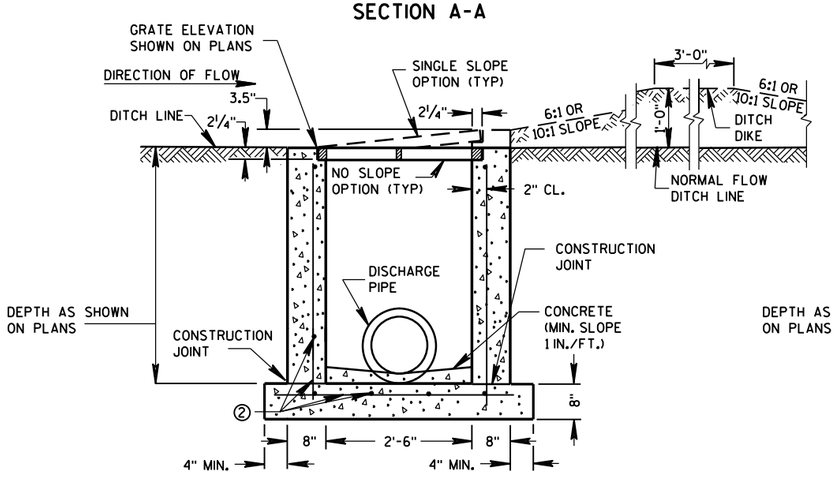
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



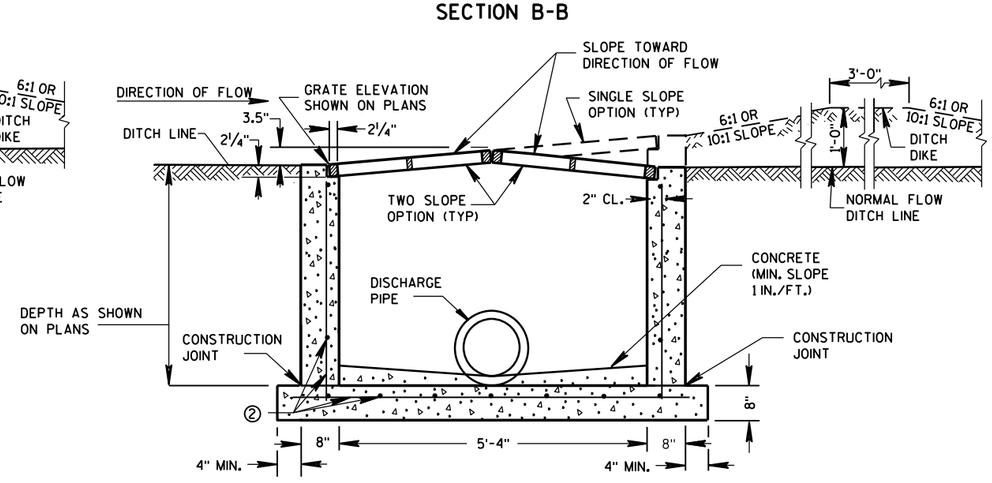
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

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

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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

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

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

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

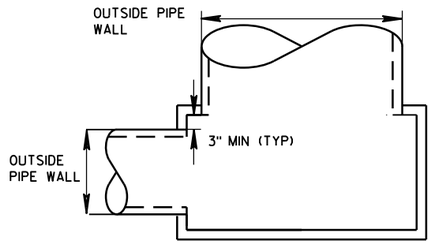
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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

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

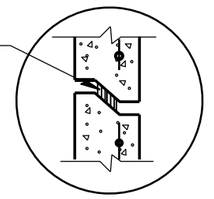
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

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

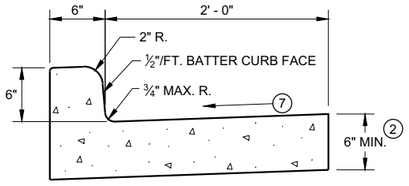


DETAIL "B"

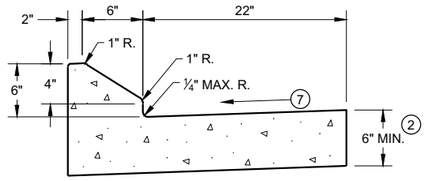
INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

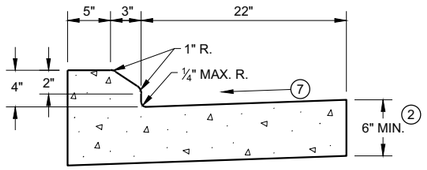
APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVI ENT
FHWA



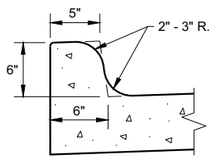
TYPES A[1] & D



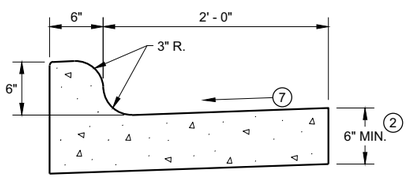
6" SLOPED CURB TYPES G[1] & J



4" SLOPED CURB TYPES G[1] & J

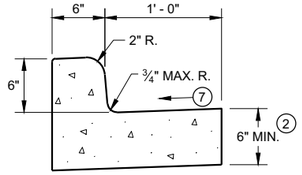


TYPES K[1] & L
(OPTIONAL CURB SHAPE)



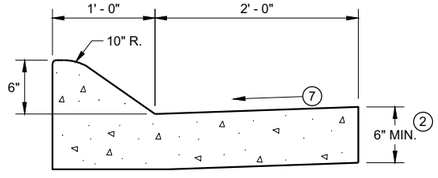
TYPES K[1] & L

CONCRETE CURB AND GUTTER 30"



TYPES A[1] & D

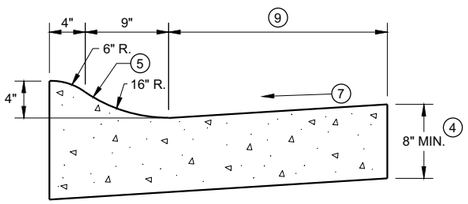
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A[1] & D

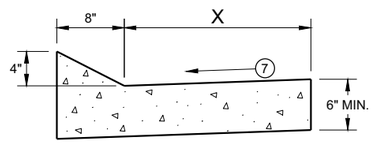
4" SLOPED CURB TYPES A[1] & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R[1] & T

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

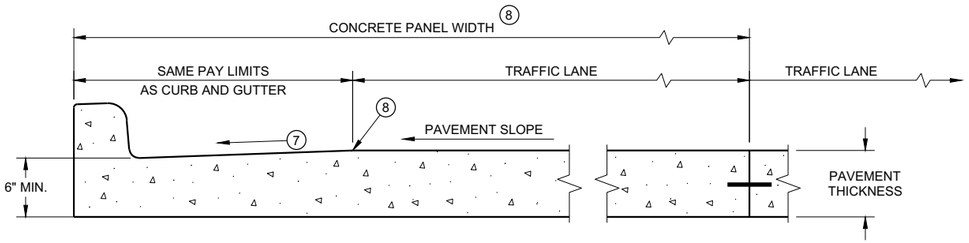


TYPES TBT & TBTT[1]

CONCRETE CURB AND GUTTER

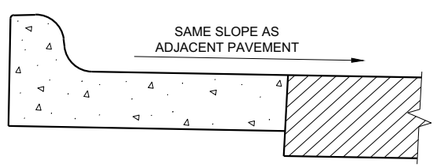
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

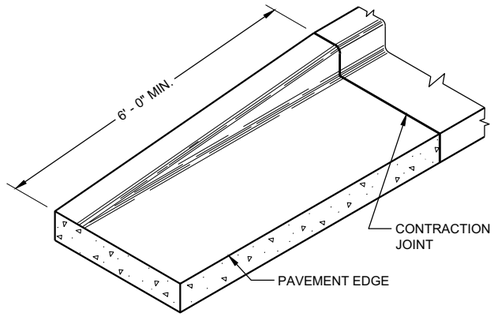
1. TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
3. USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH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

CONCRETE CURB AND GUTTER

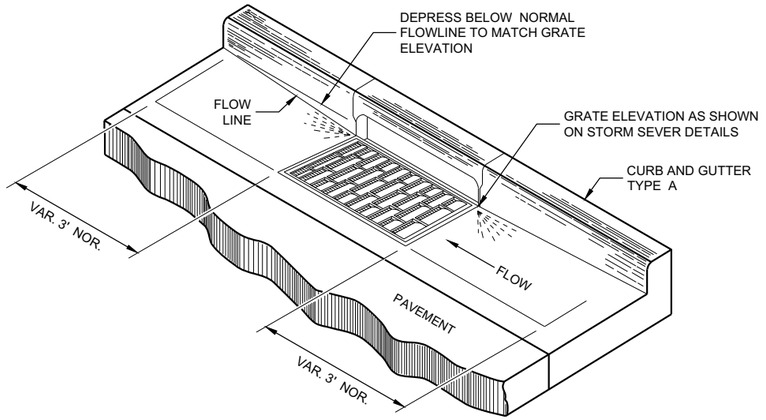
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D01 - 22a



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.

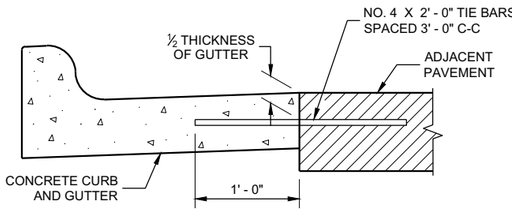
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

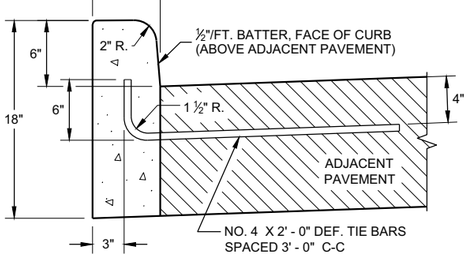
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(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.

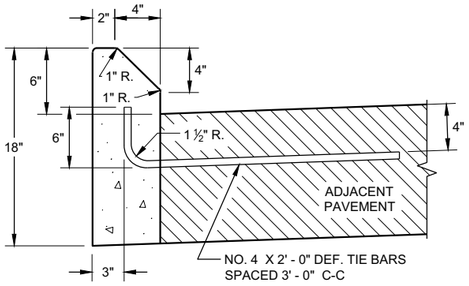
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

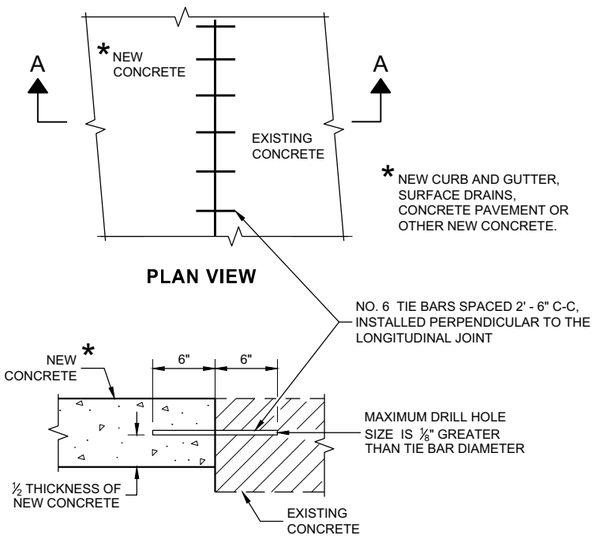


TYPES A (1) & D



TYPES G (1) & J

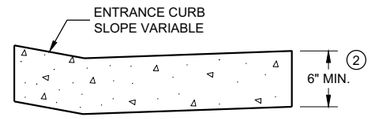
CONCRETE CURB



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 2021 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6

SDD 08D01 - 22b

6

SDD 08D01 - 22b

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)

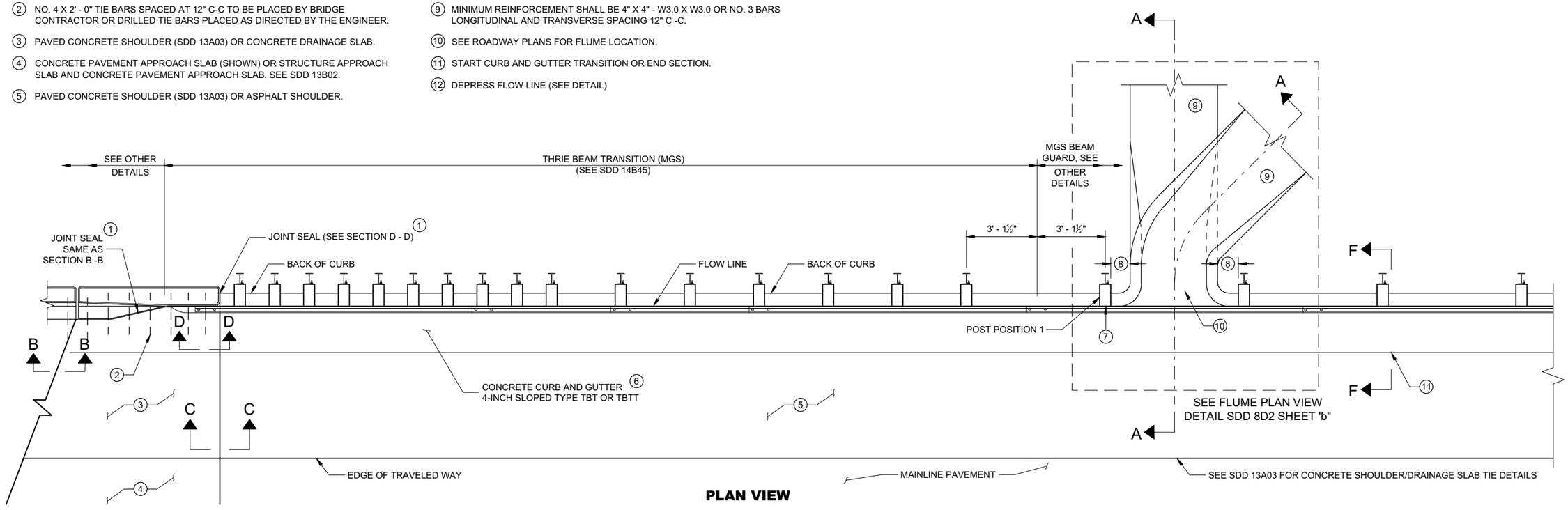
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

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

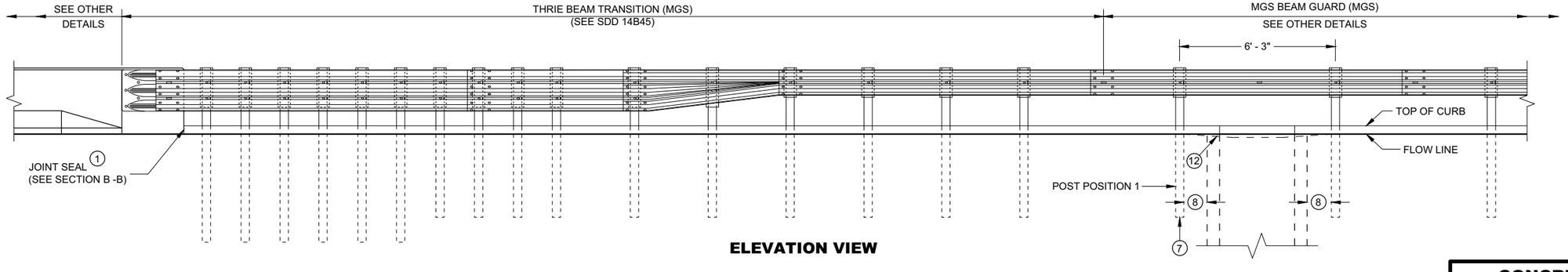
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

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

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



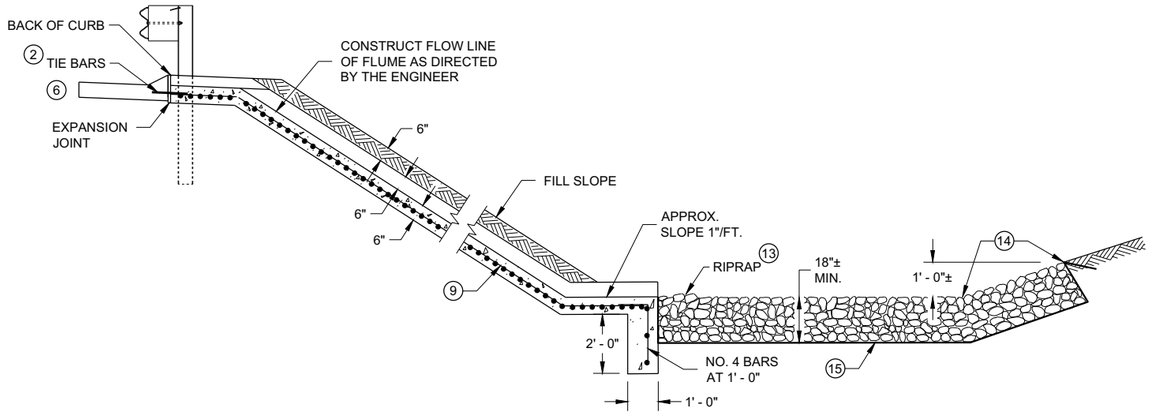
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

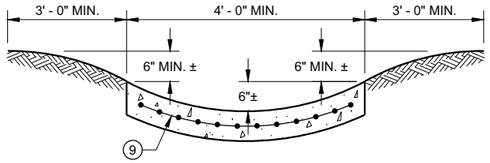
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 07a

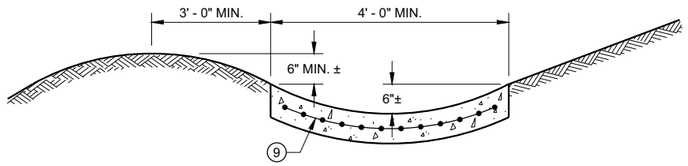
SDD 08D02 - 07a



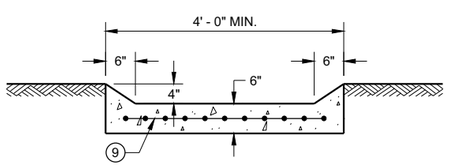
SECTION A - A



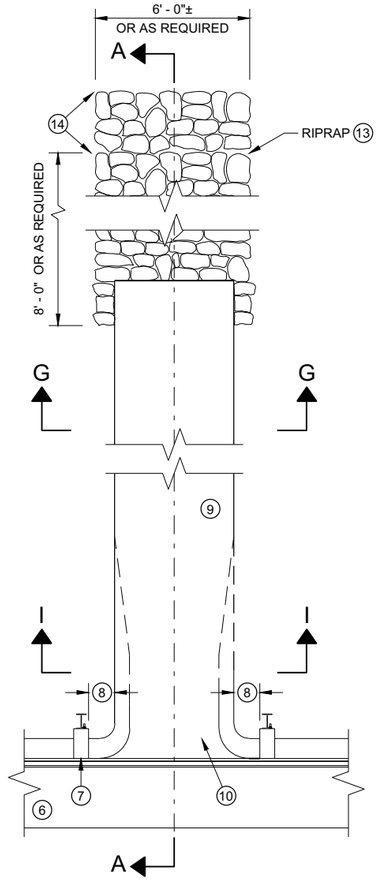
SECTION G - G



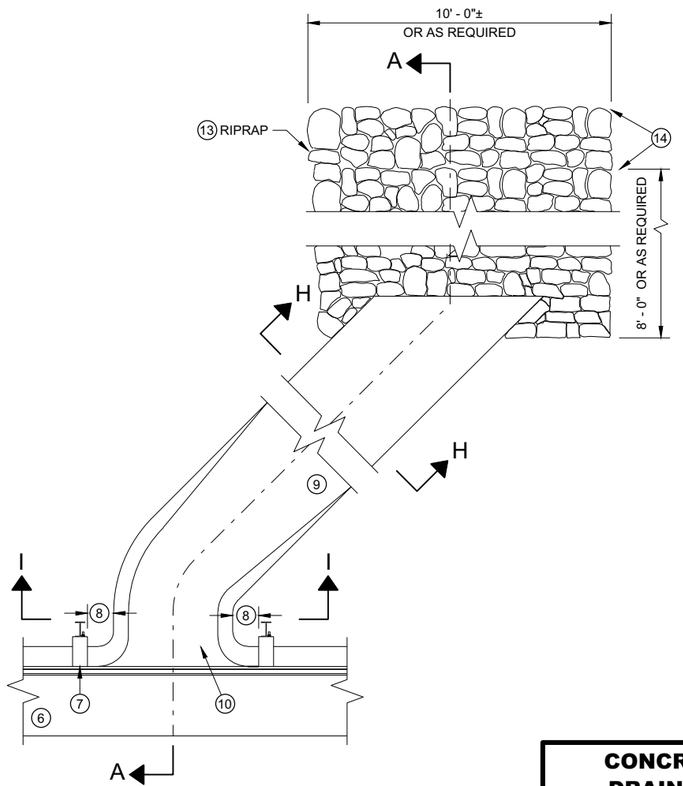
SECTION H - H



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.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

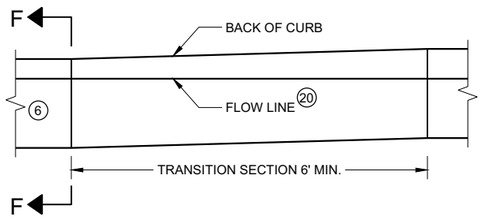
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

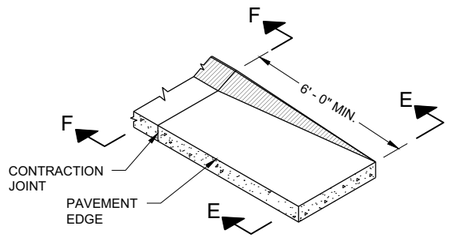
SDD 08D02 - 07b

6

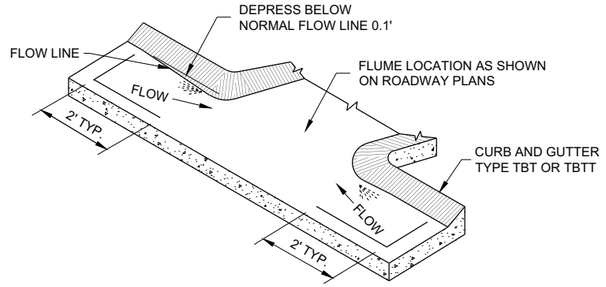
SDD 08D02 - 07b



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.

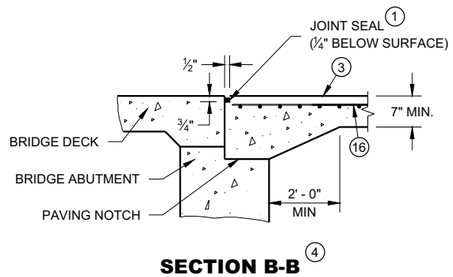
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

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

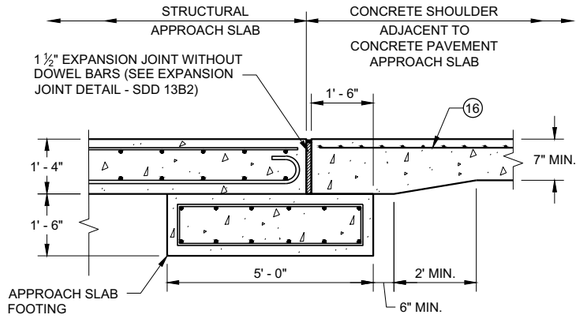
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

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

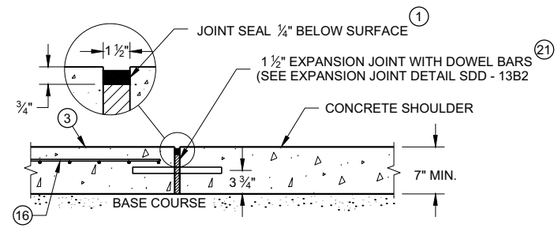
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



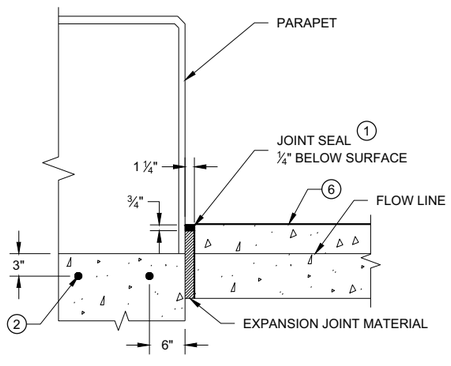
SECTION B-B



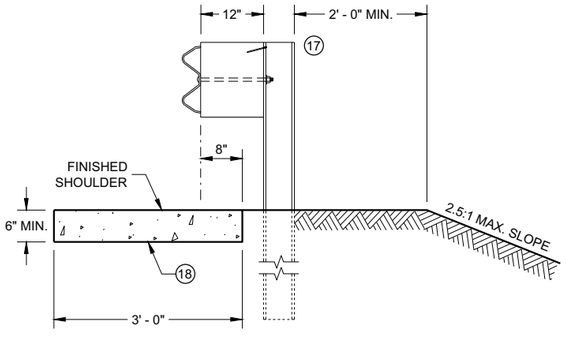
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



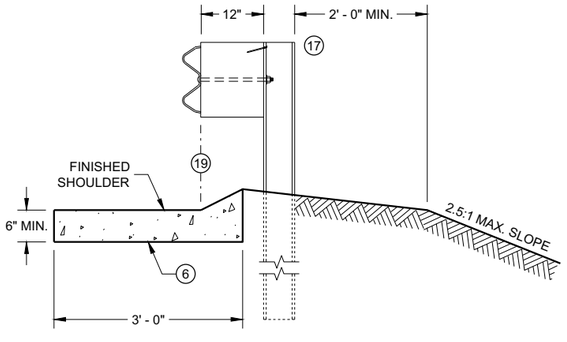
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



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

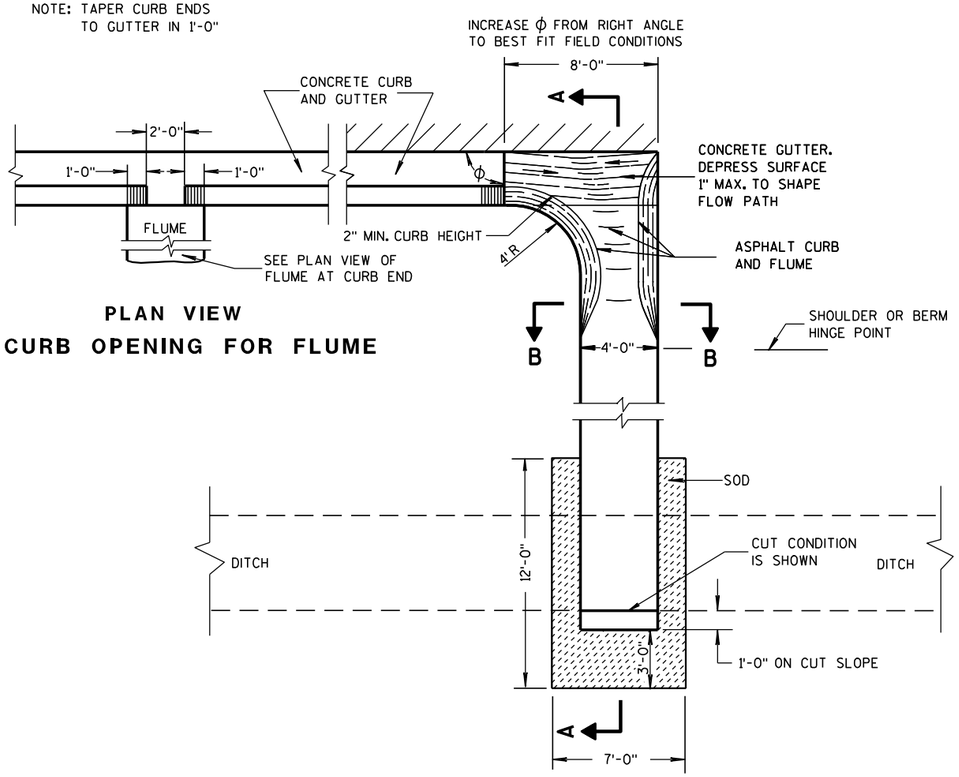
SDD 08D02 - 07c

SDD 08D02 - 07c

6

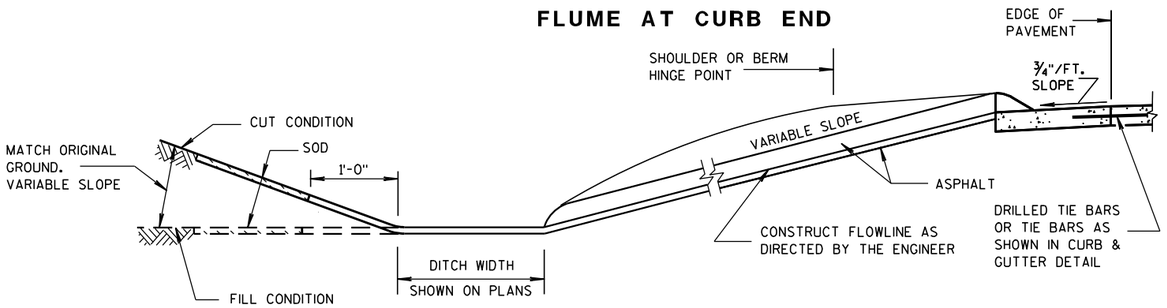
6

ASPHALTIC FLUME

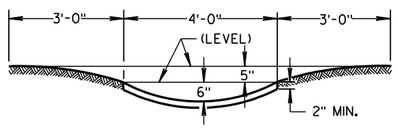


PLAN VIEW
CURB OPENING FOR FLUME

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.

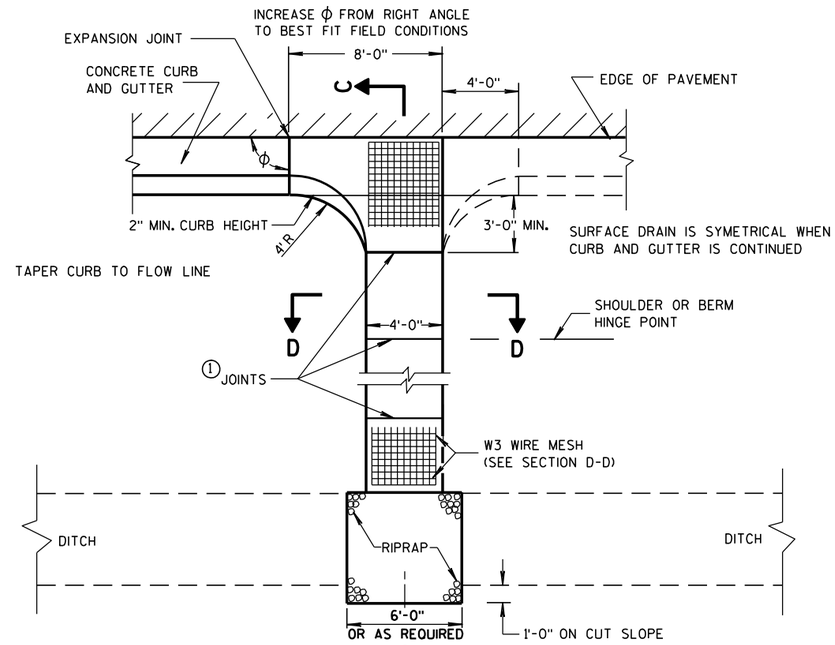
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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.

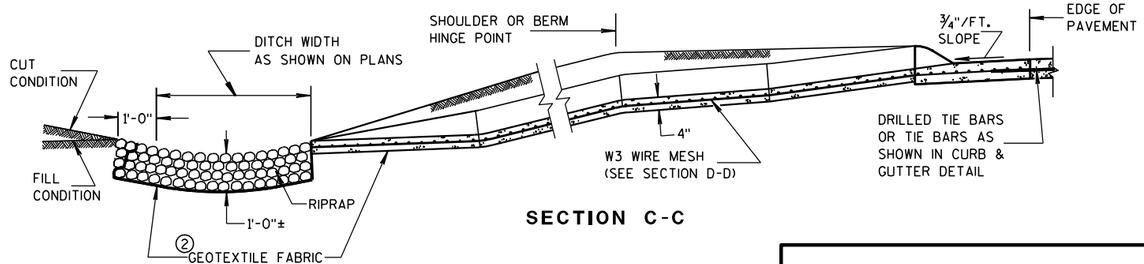
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

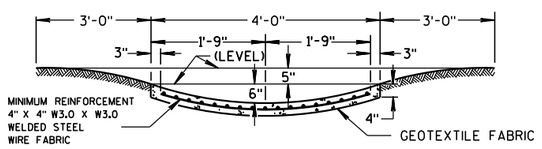
③ CONCRETE SURFACE DRAIN



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
FHWA

6 S.D.D. 8 D 4-5

6 S.D.D. 8 D 4-5

GENERAL NOTES

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

(1) UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

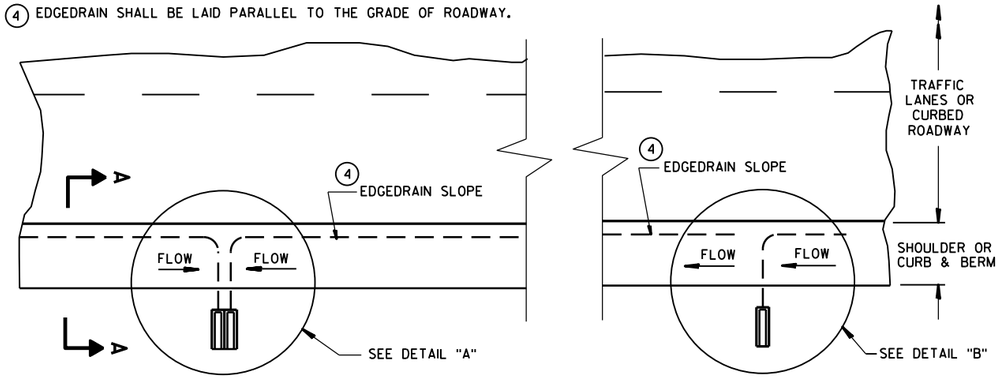
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.

(2) MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

(3) EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.

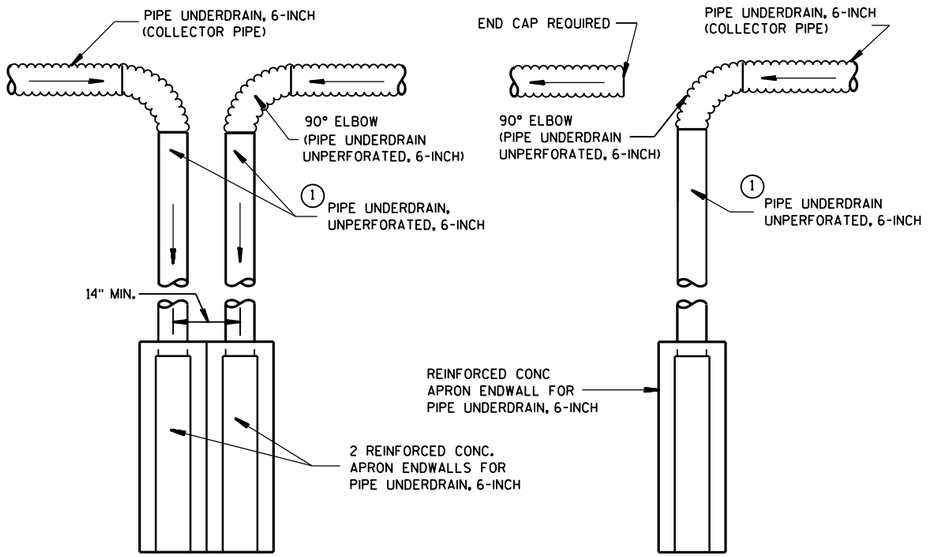
(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



PLAN VIEW

ROADWAY WITH SHOULDERS OR CURBS

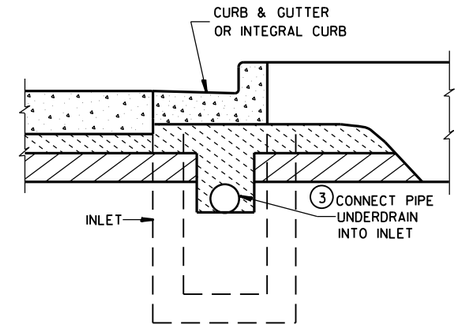
(EDGEDRAIN OUTLETS TO ROADSIDE)(2)



DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

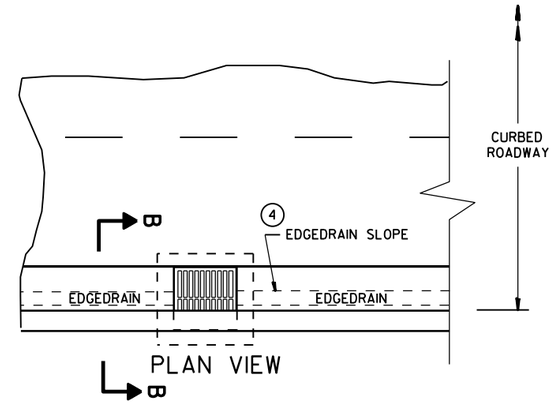
DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



SECTION B-B

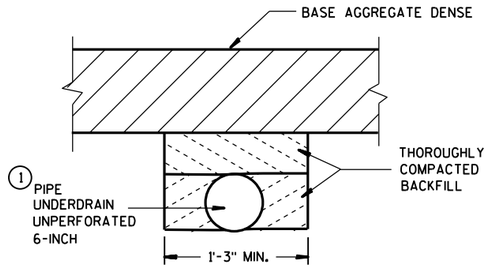
URBAN CROSS SECTION



PLAN VIEW

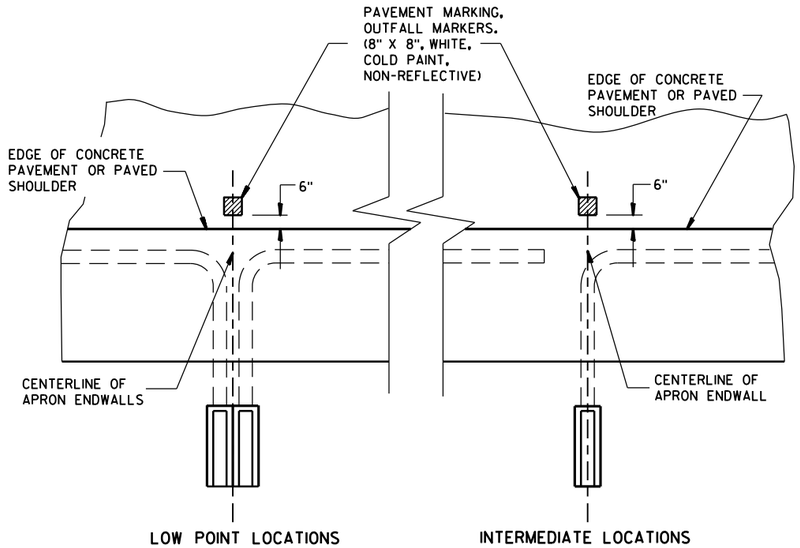
ROADWAY WITH CURBS

(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



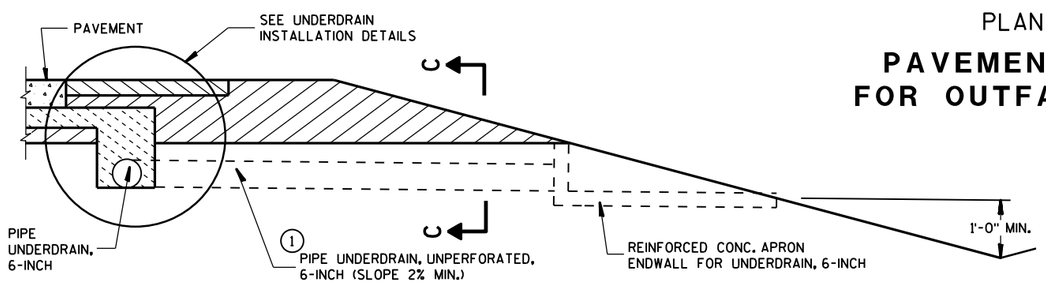
SECTION C-C

(TRENCH FOR OUTFALL PIPE)



PLAN VIEW

PAVEMENT MARKING FOR OUTFALL MARKERS



SECTION A-A

RURAL CROSS SECTION

EDGEDRAIN OUTLET AND OUTFALL MARKERS

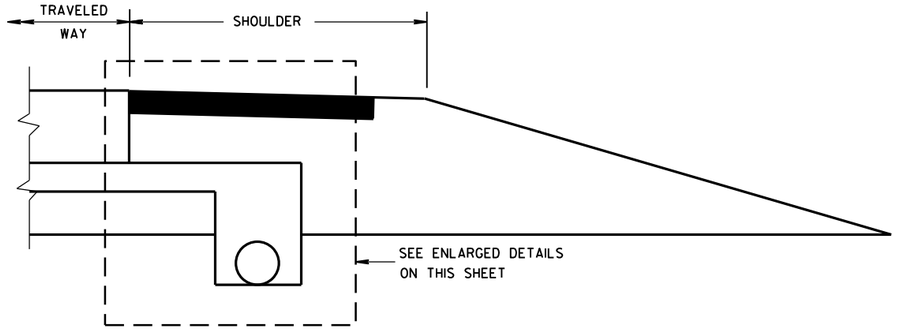
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 15-5a

6

S.D.D. 8 D 15-5a



RURAL CROSS SECTION

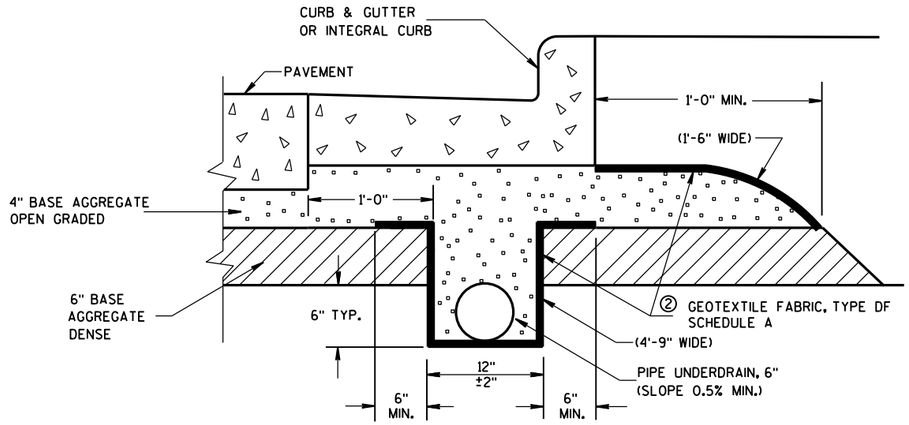
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

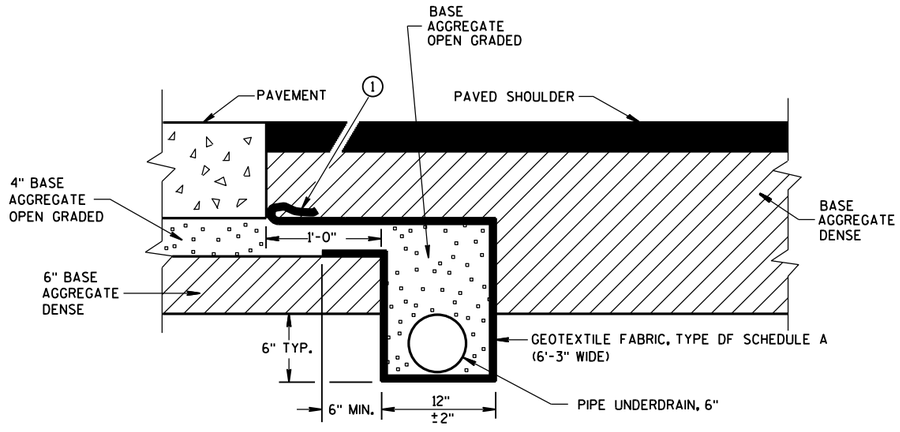
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

① FOLD OVER EXCESS GEOTEXTILE FABRIC AT THIS LOCATION.

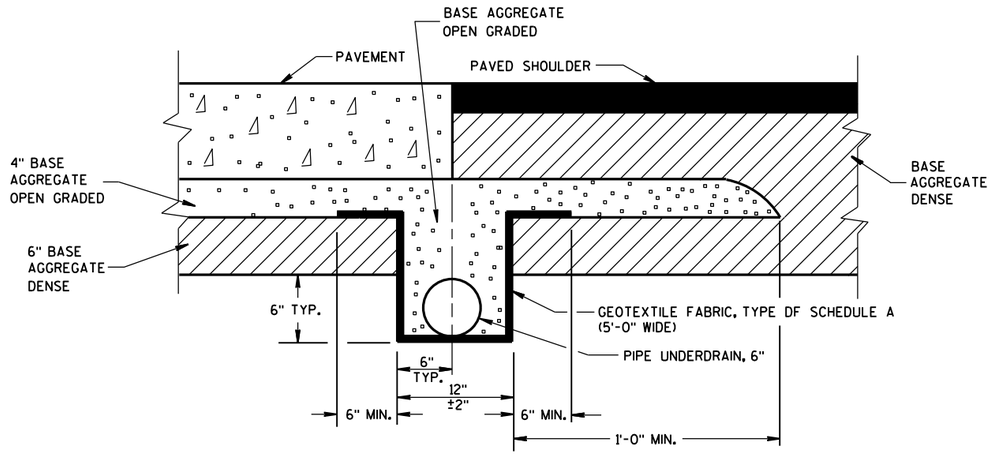
② TOTAL FABRIC WIDTH IS 6'-3" FOR PAYMENT.



EDGEDRAIN IN URBAN ROADWAY



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



PRE-PAVING INSTALLATION ALTERNATE

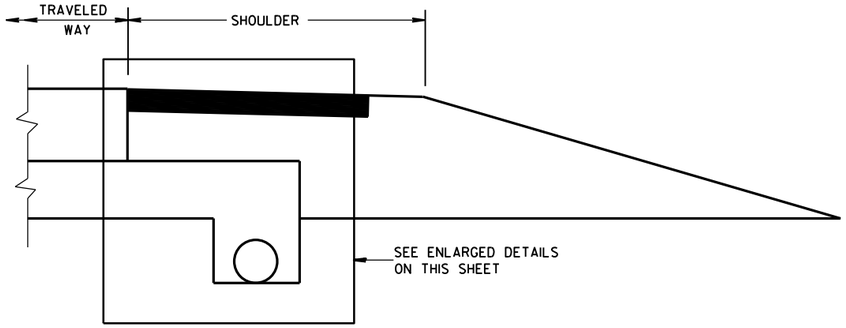
EDGEDRAIN IN RURAL ROADWAY

EDGEDRAIN AND BASE AGGREGATE OPEN GRADED

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPE
FHWA

6
S.D.D. 8 D 15-5b

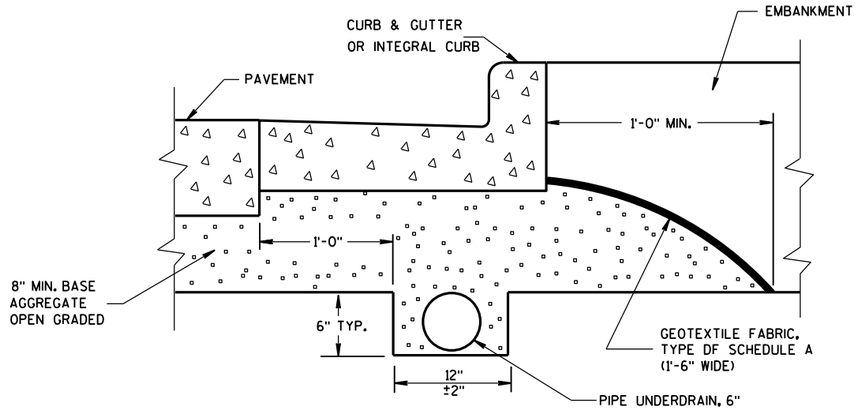


RURAL CROSS SECTION

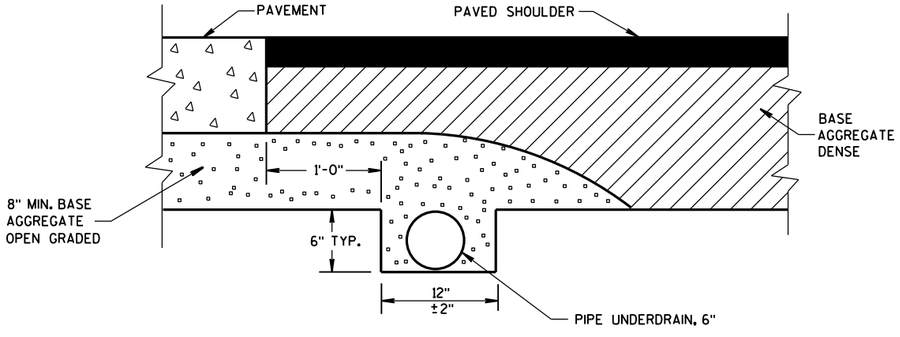
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

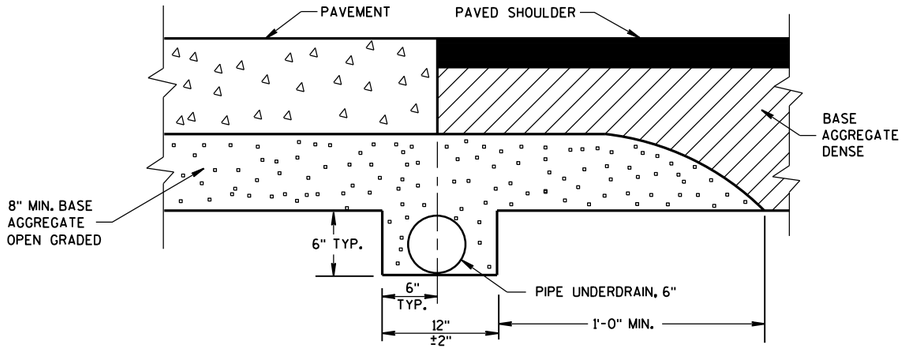
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.



EDGEDRAIN IN URBAN ROADWAY



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



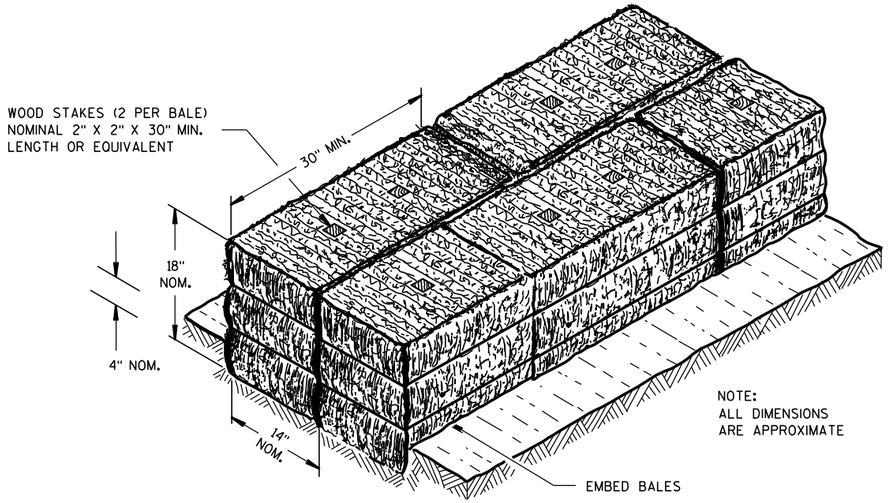
PRE-PAVING INSTALLATION ALTERNATIVE

EDGEDRAIN IN RURAL ROADWAY

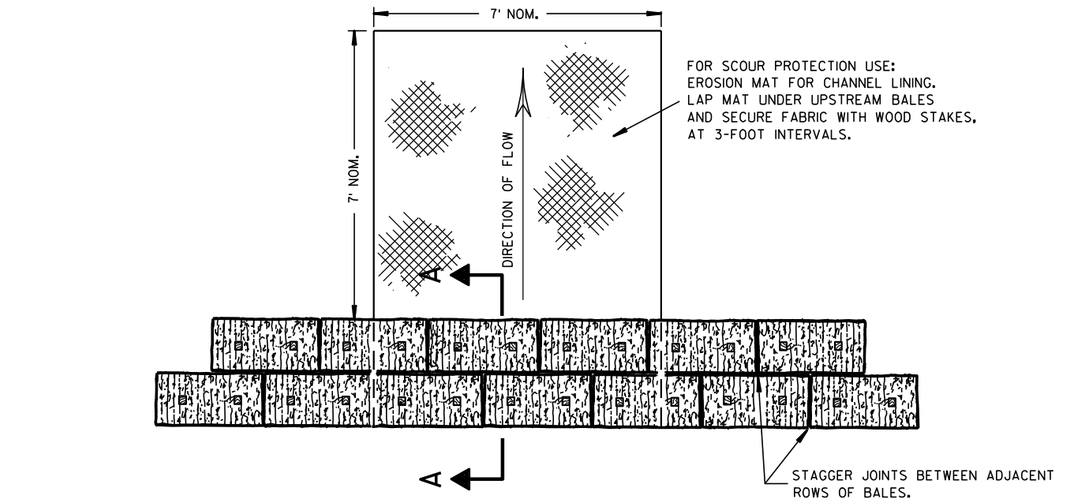
6

EDGEDRAIN AND BASE AGGREGATE OPEN GRADED	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
Sept. 2015	/S/ Peter Kemp, P.E.
DATE	PAVEMENT SUPE
FHWA	

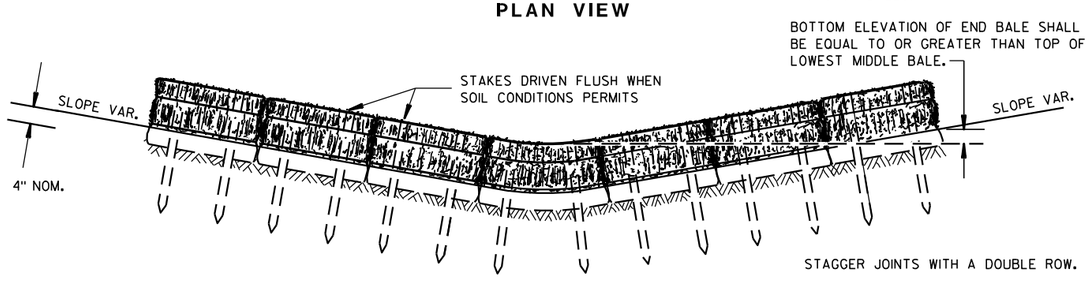
S.D.D. 8 D 15-5c



SECTION A-A



PLAN VIEW



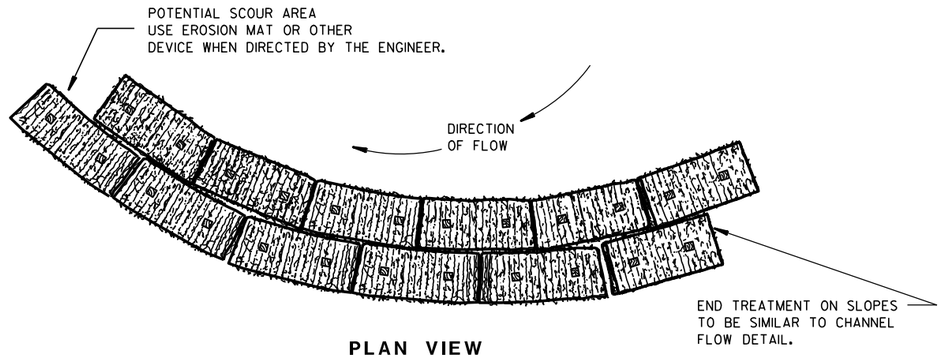
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

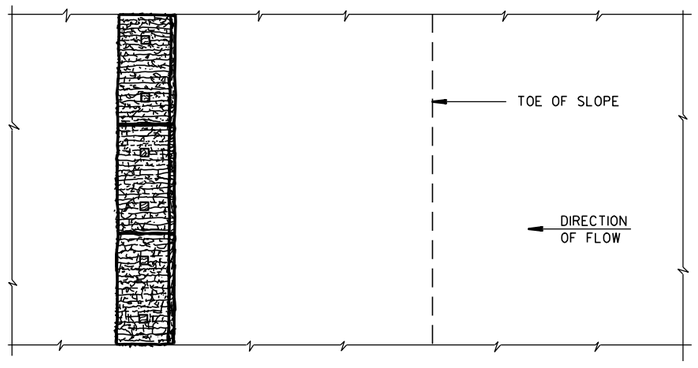
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

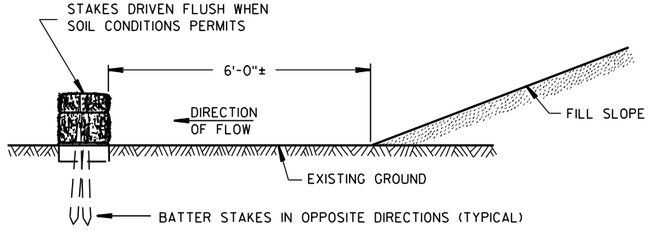


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

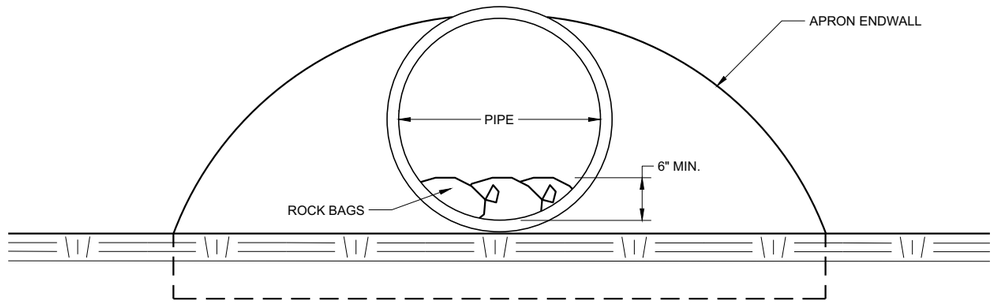
EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

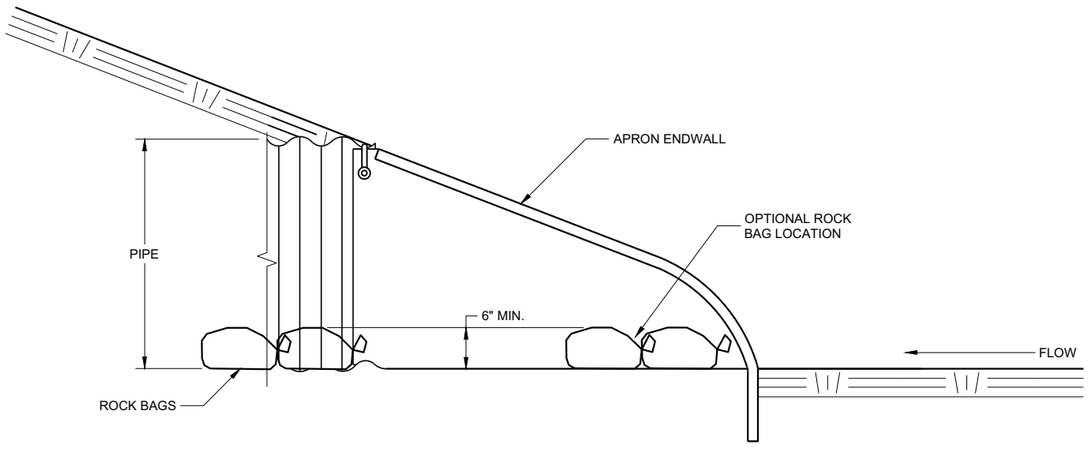
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 E 8-3



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 08E15 - 01

6

SDD 08E15 - 01

METAL APRON ENDWALLS

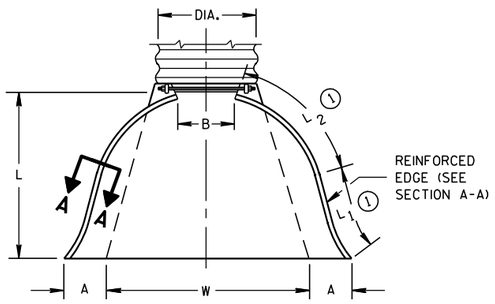
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

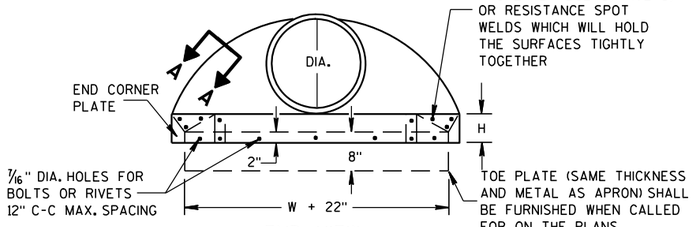
REINFORCED CONCRETE APRON ENDWALLS

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

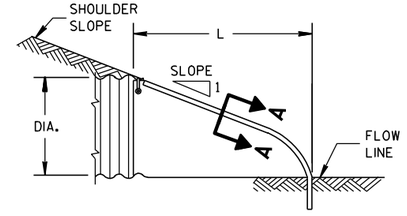
*MINIMUM
**MAXIMUM



PLAN VIEW

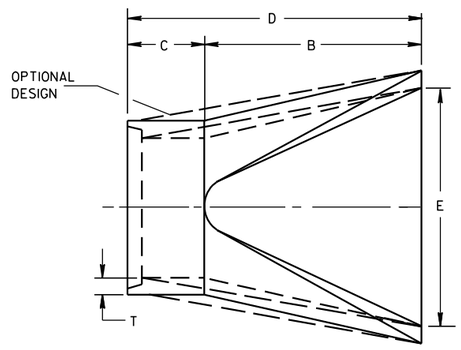


END VIEW

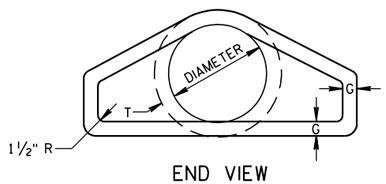


SIDE ELEVATION

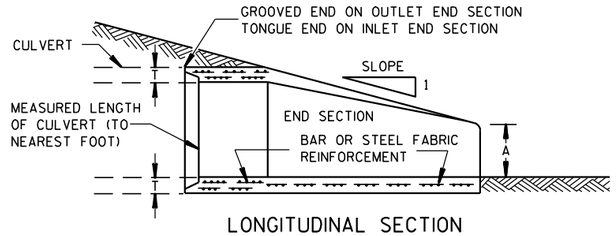
METAL ENDWALLS



PLAN

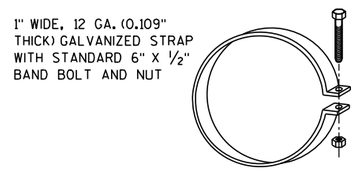


END VIEW



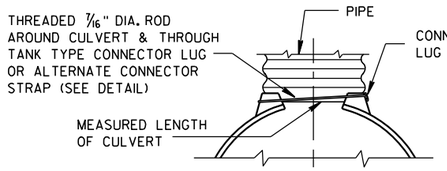
LONGITUDINAL SECTION

CONCRETE ENDWALLS

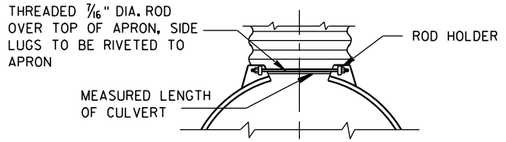


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

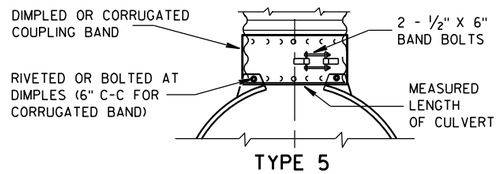


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

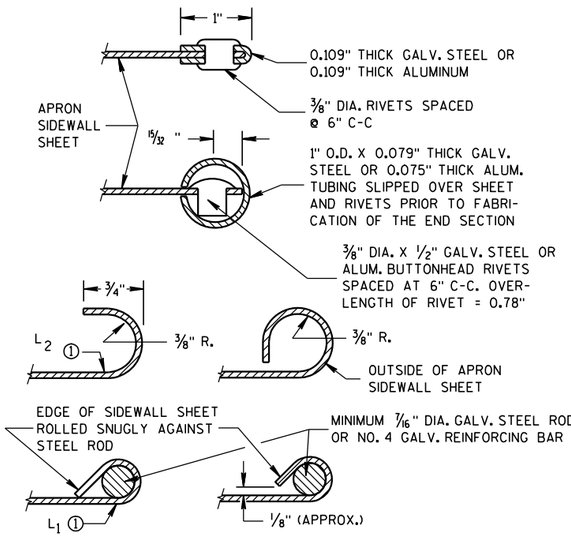
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

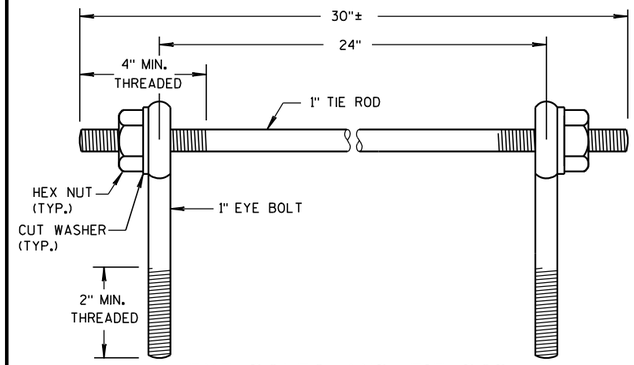
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

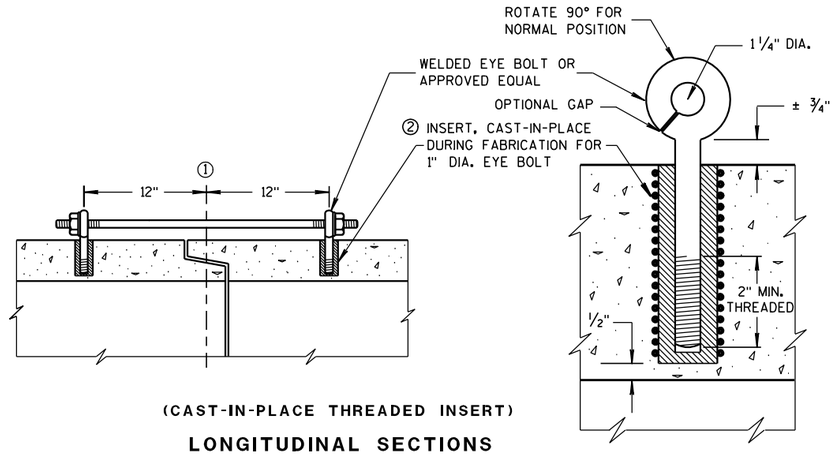
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

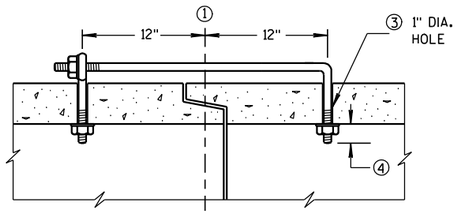
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

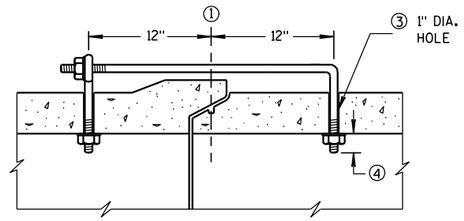
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

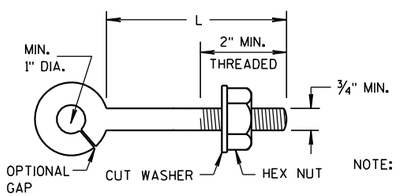


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

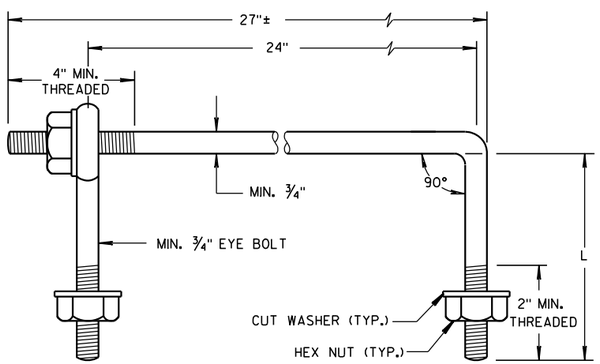
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

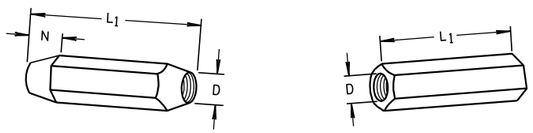
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

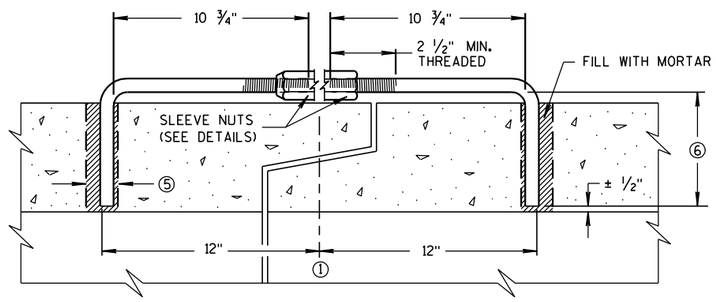
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

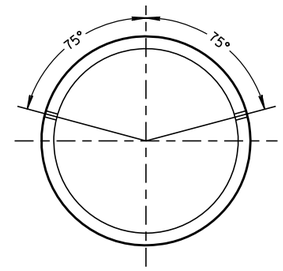
SLEEVE NUTS



LONGITUDINAL SECTION

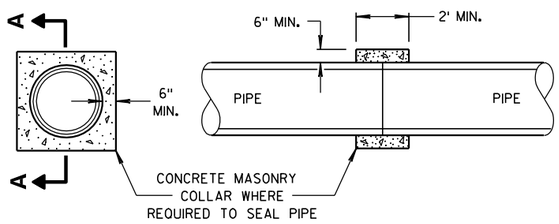
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

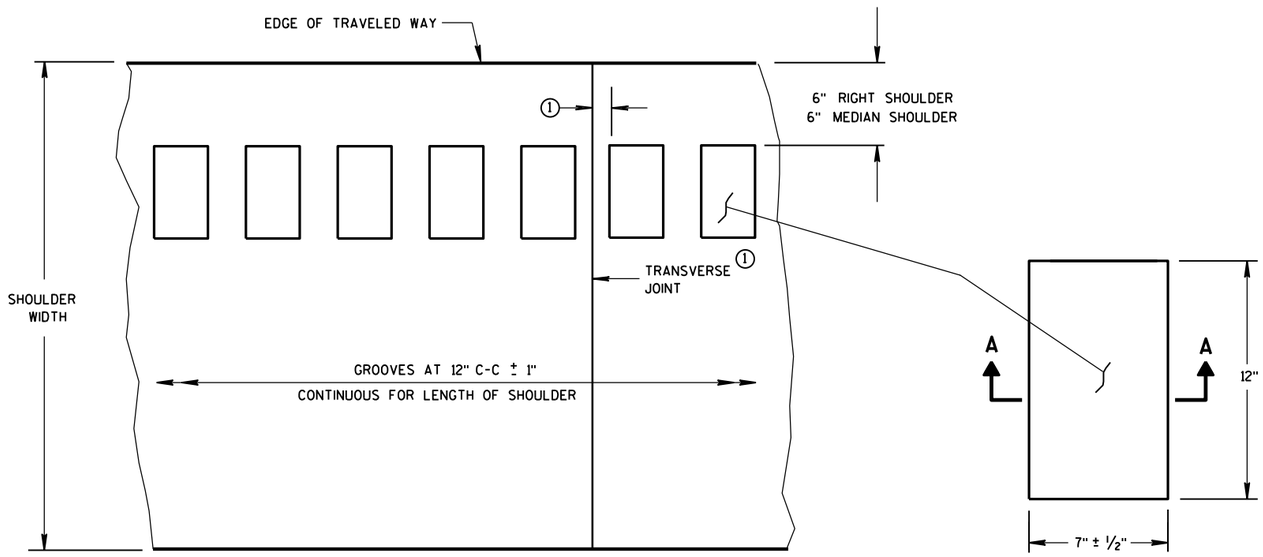
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
130
FHWA

6

S.D.D. 8 F 4-7



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

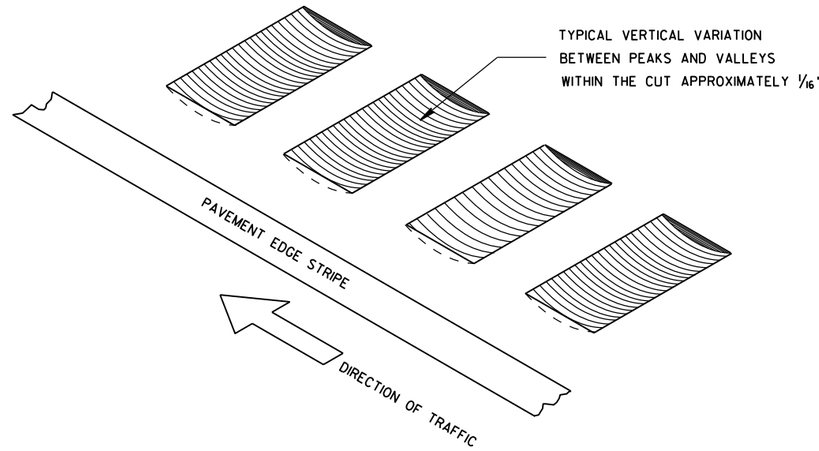
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

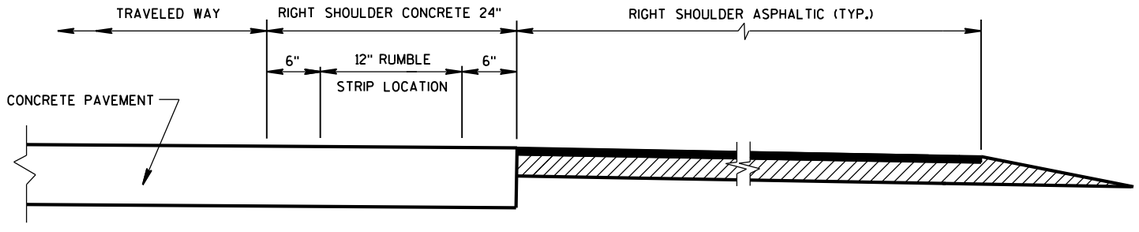
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

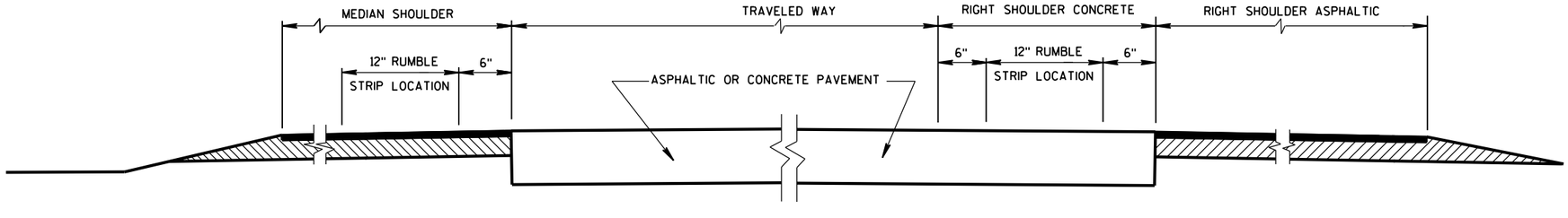
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



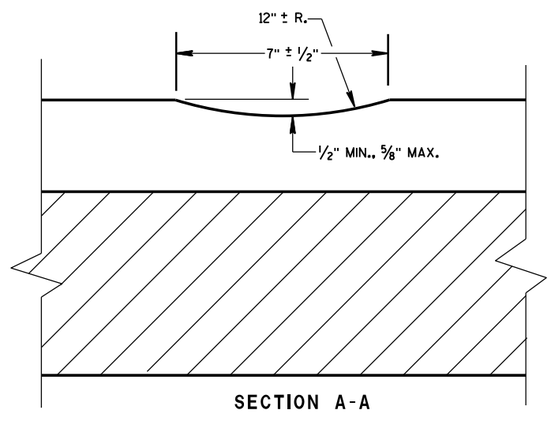
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

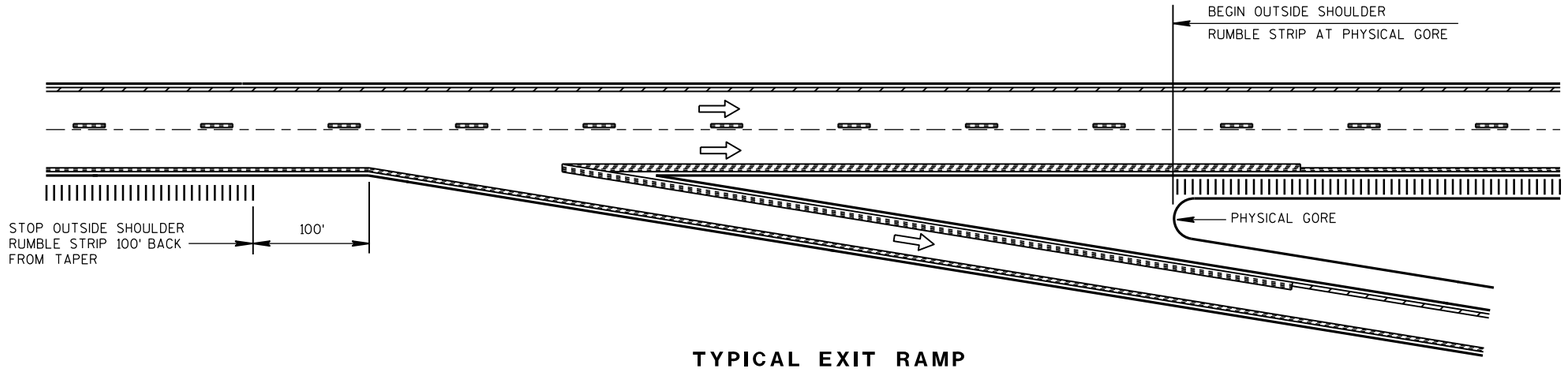
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



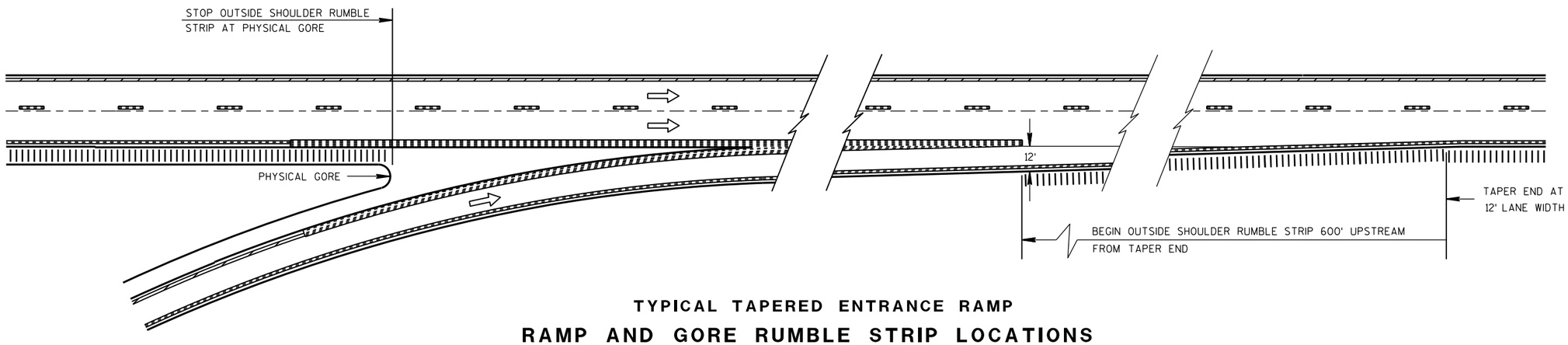
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

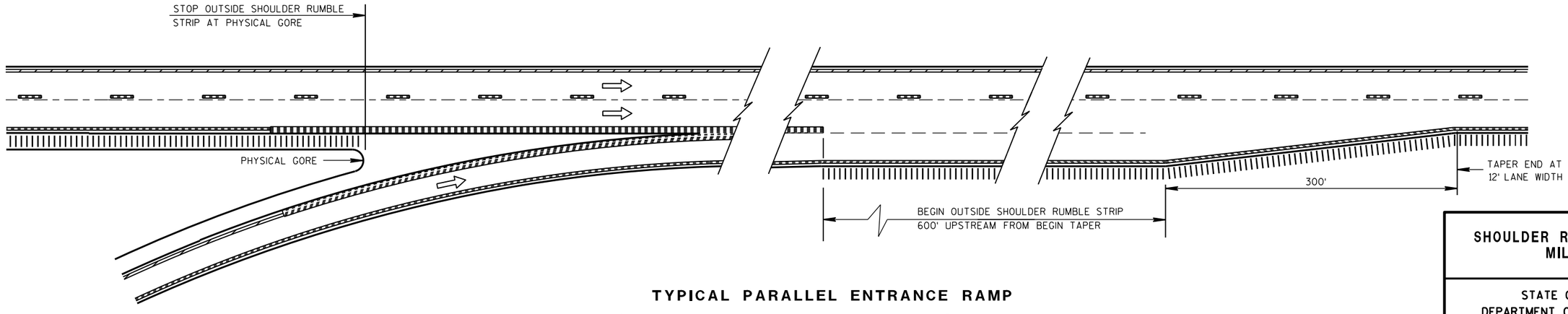
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

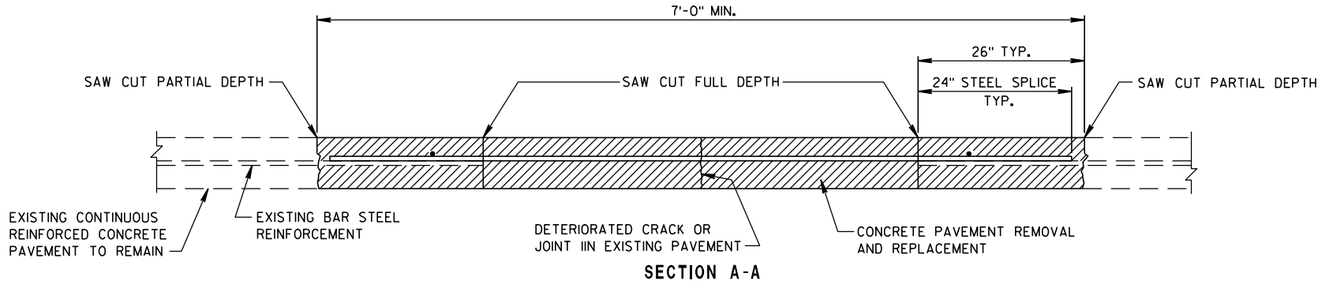
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

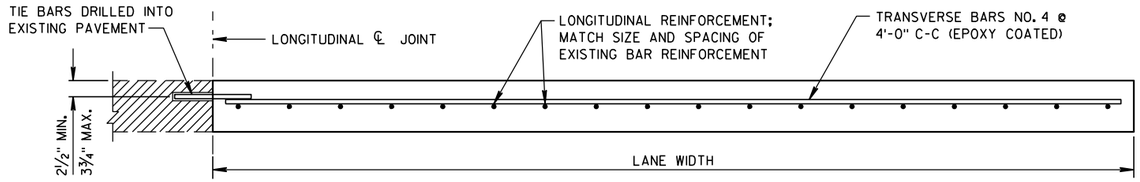
APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

6

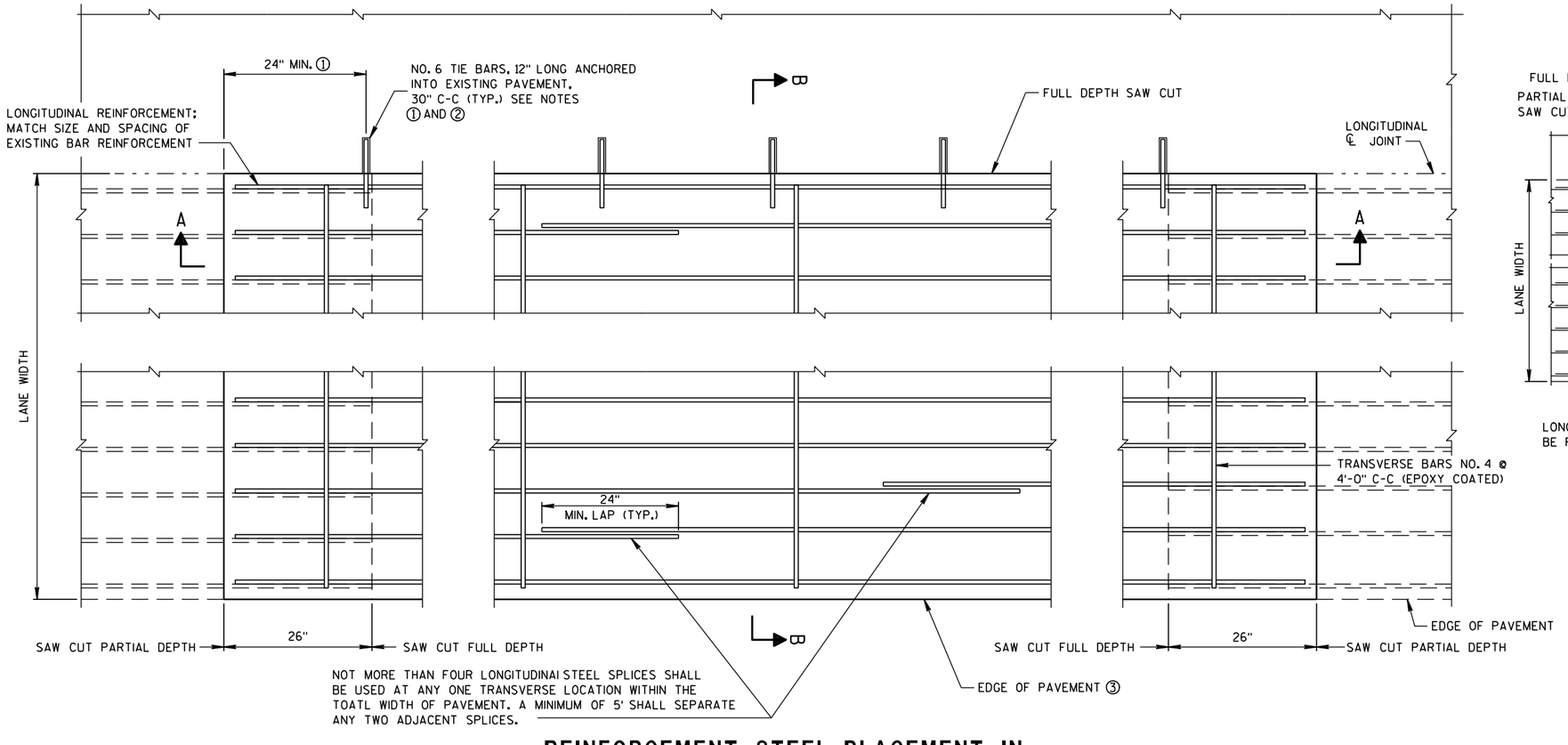
S.D.D. 13 A 5-5b



SECTION A-A



SECTION B-B



REINFORCEMENT STEEL PLACEMENT IN CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPLACEMENT

GENERAL NOTES

PLACE ALL BAR STEEL REINFORCEMENT AT MID PAVEMENT DEPTH UNLESS OTHERWISE NOTED.

PAY FOR THE TRANSVERSE AND LONGITUDINAL JOINT SAW CUT AS LINEAR FEET OF "SAWING CONCRETE".

WHEN THE PASSING AND TRAVELING LANES ARE TO BE REPLACED, REPLACE THE PASSING LANE FIRST.

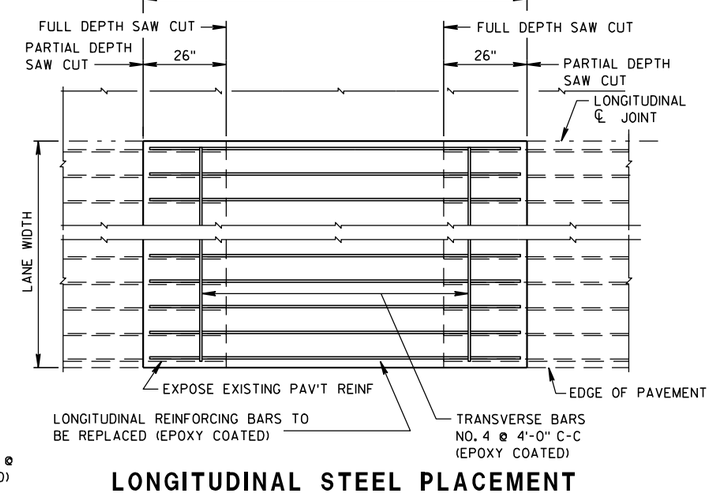
ADD TRANSVERSE STEEL BARS TO REPAIRS GREATER THAN 6'IN LENGTH, USE NO. 4 BARS PLACED TRANSVERSELY AND SPACED 4'C-C. PAYMENT SHALL BE INCIDENTAL TO "CONCRETE PAVEMENT CONTINUOUS REINFORCEMENT".

TIE ALL CONCRETE PAVEMENT REPAIRS WHICH ARE GREATER THAN 15'IN LENGTH, AND ARE ADJACENT TO EXISING CONCRETE PAVEMENT, TO THE EXISTING PAVEMENT USING TIE BARS. DETAILS FOR TIE BAR CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND STANDARD DETAIL DRAWINGS.

① PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

② ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

③ SAW CUT THE LONGITUDINAL EDGE JOINT IF THE ADJACENT SHOULDER IS CONCRETE.



LONGITUDINAL STEEL PLACEMENT IN CRCP REPAIRS

PLAN VIEW

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/1/2011 — DATE

/S/ Deb Bischoff — PAVEMENT POLICY & DE NEER

FHWA

6

S.D.D. 13 A 7-2

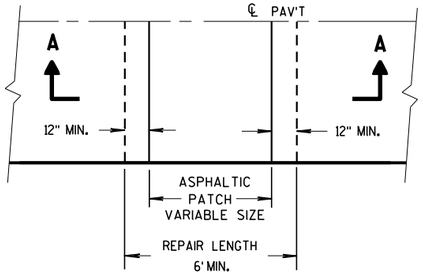
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

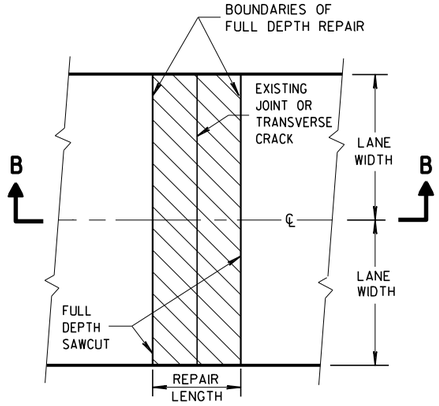
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

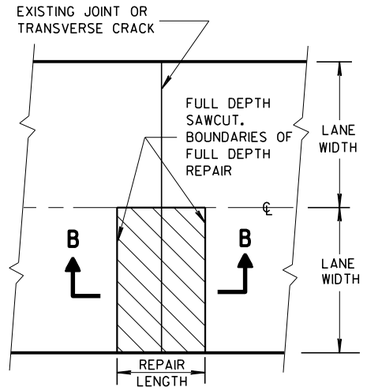
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

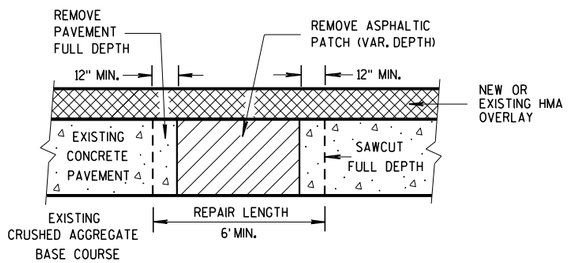


PLAN VIEW
(DOUBLE LANE REPAIR)



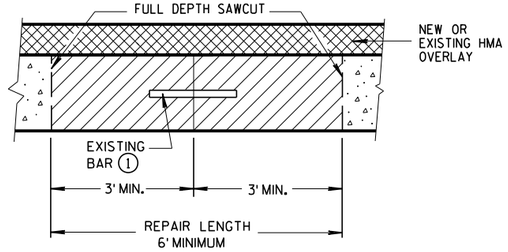
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

6

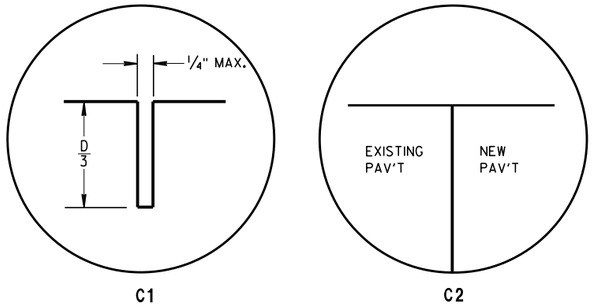
6

S.D.D. 13 C 14-7a

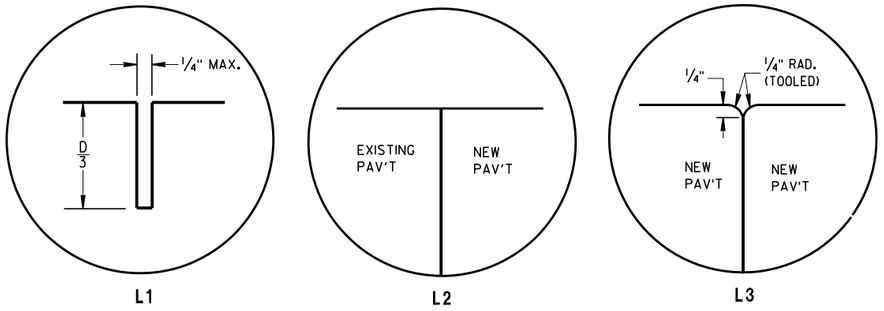
S.D.D. 13 C 14-7a

BASE PATCHING CONCRETE

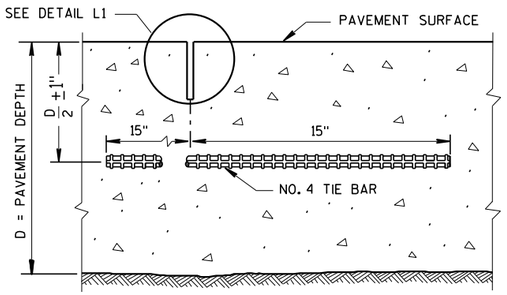
STATE OF WISCONSI
DEPARTMENT OF TRANSPORTATION



TRANSVERSE JOINTS

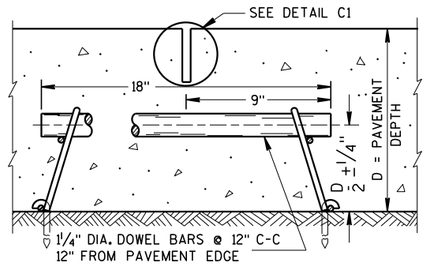


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

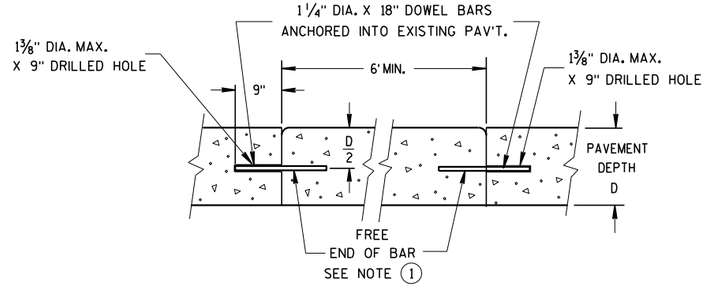
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

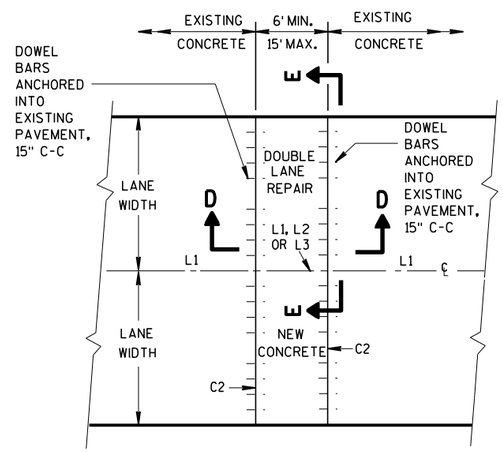
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

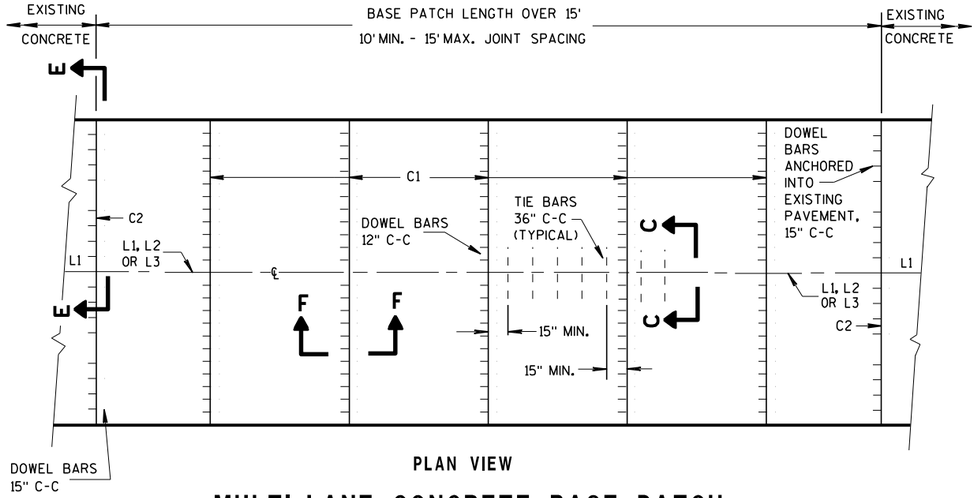


SECTION D-D



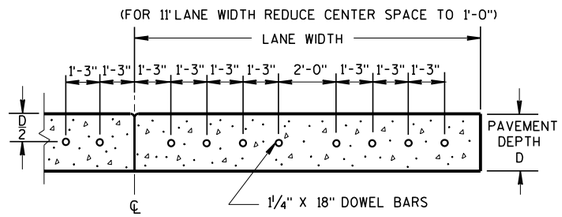
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

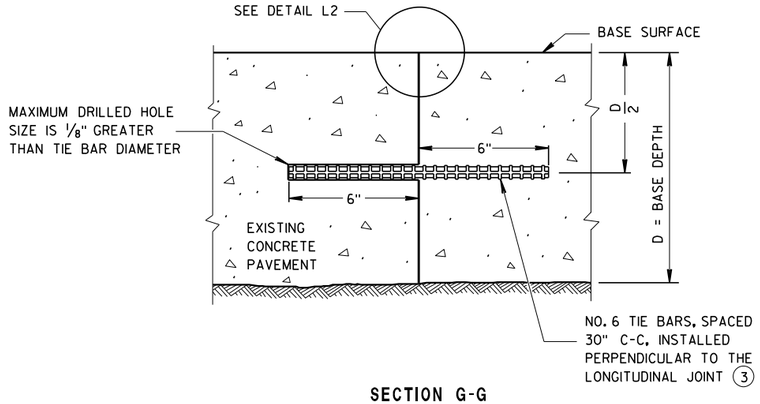


SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

6
S.D.D. 13 C 14-7b



SECTION G-G

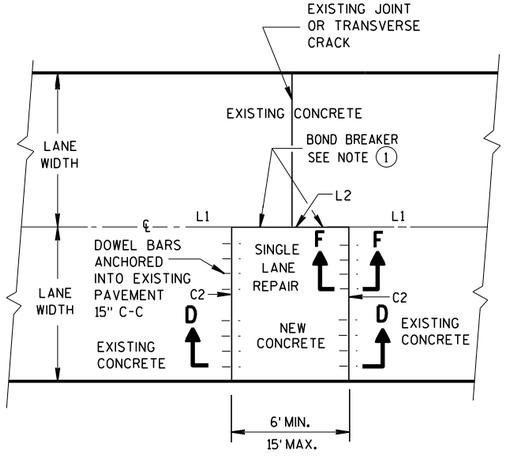
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

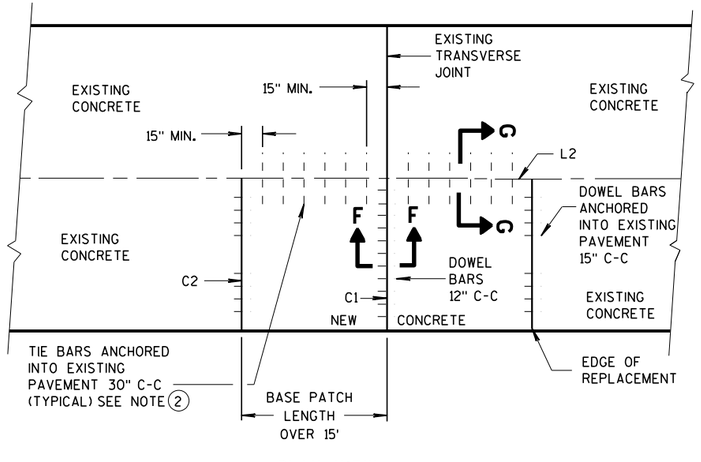
(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(3) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

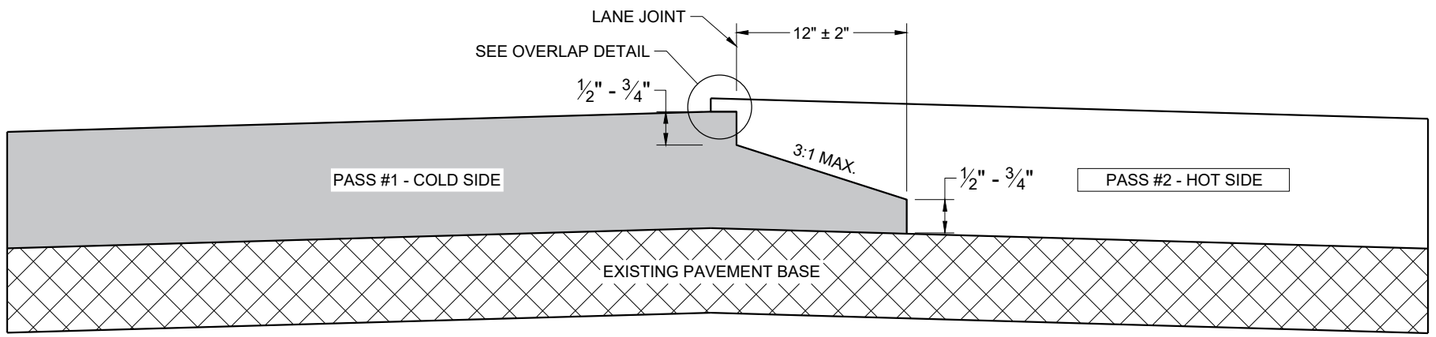
BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

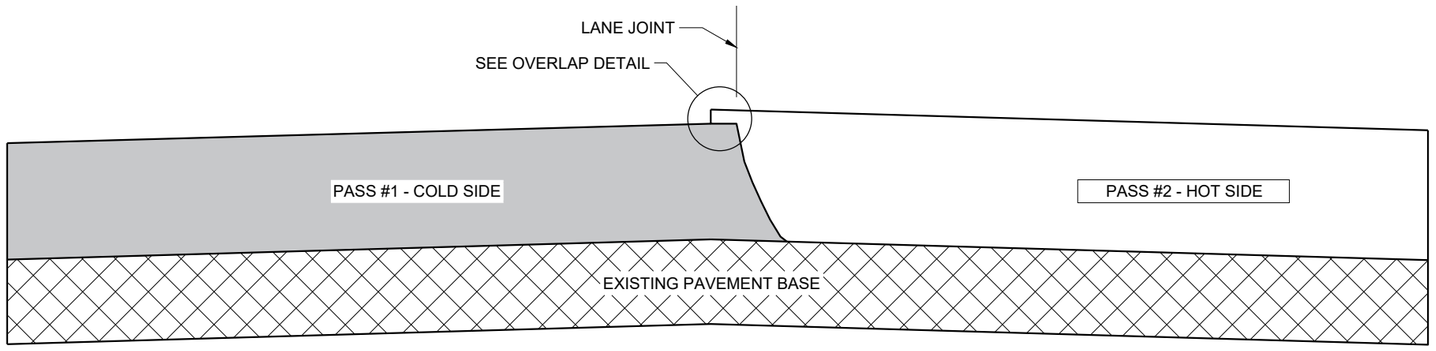
APPROVED
March 2018 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUPERVISOR
FHWA

6

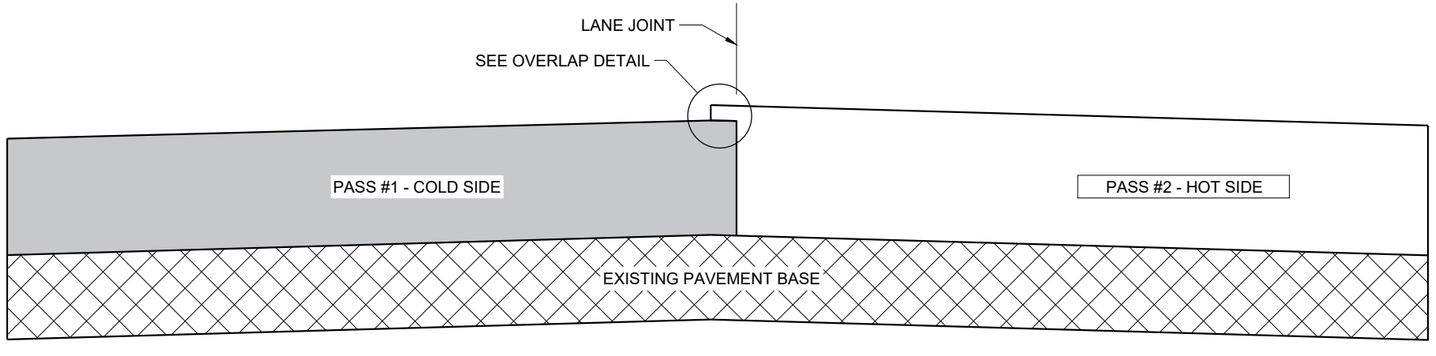
S.D.D. 13 C 14-7c



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

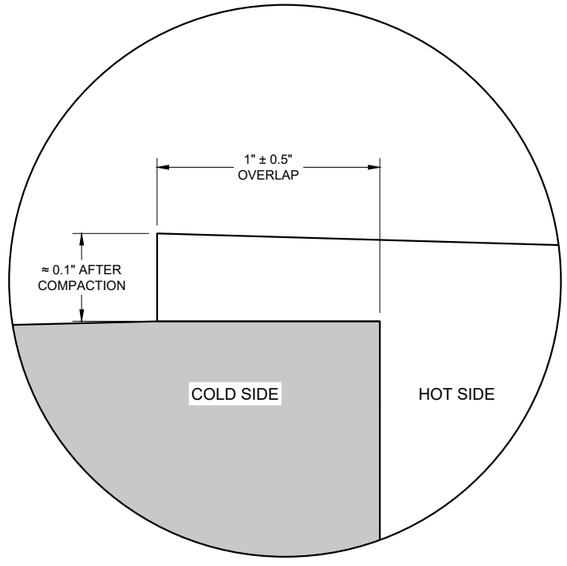
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

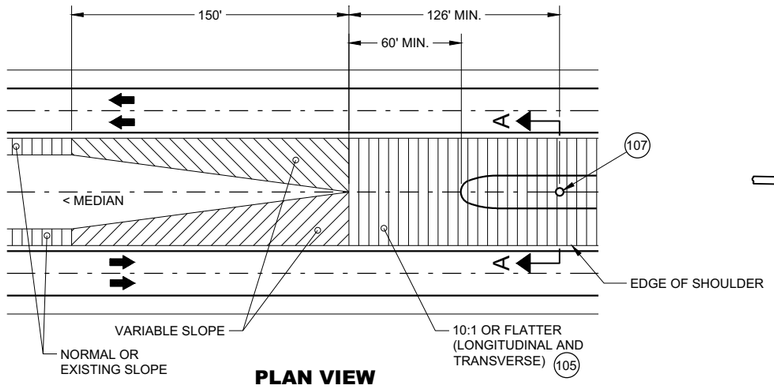
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

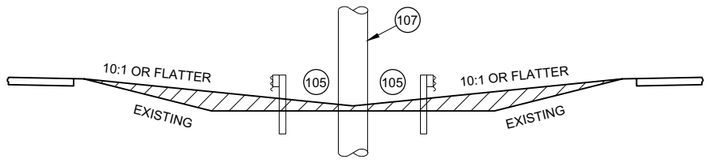
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



PLAN VIEW
GRADING AT BULLNOSE
(ALL INSTALLATIONS)



SECTION A -A
MEDIAN GRADING
(ALL INSTALLATIONS)

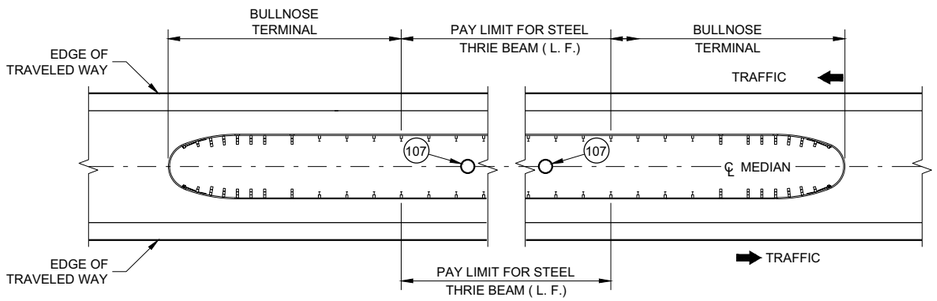
GENERAL NOTES

THRIE BEAM RAILS MAY NEED TO BE FIELD BENT TO FIT THE LOCATION.

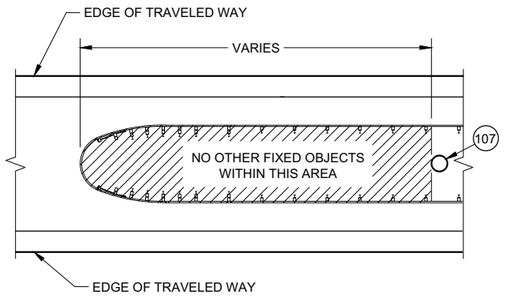
SEE STANDARD DETAIL DRAWINGS 14B26 SHEETS a-h.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½". MINIMUM DIAMETER OF THE ROCK REMOVAL IS 12" DIAMETER

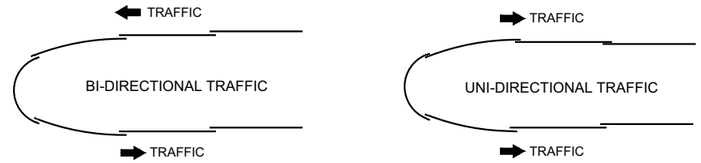
- E1 UNBENT STANDARD THRIE BEAM RAIL B1 (POST 8 TO POST 10 AND POST 10 TO POST 12)
- E2 SLOTTED THRIE BEAM RAIL E1 (POST 1 TO POST 1)
- E3 SLOTTED THRIE BEAM RAIL B3 (POST 5 TO POST 8)
- E4 SLOTTED THRIE BEAM RAIL E4 (POST 1 TO POST 5)
- 5 BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.
- (100) DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.
- (101) U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
- (102) NOSE CABLE WITH SWAGGED END BUTTONS.
- (103) NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
- (104) THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.
- (105) MINIMUM WORKING WIDTH 4' - 2".
- (106) MAX. WIDTH OF SYSTEM IS 14' - 2 ½" MEASURED FROM THE BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.
- (107) FIXED OBJECT OR OTHER HAZARD.
- (108) PLAN IS TO PROVIDE STATION OFFSET TO CENTER OF POST 5 IN PLANS.



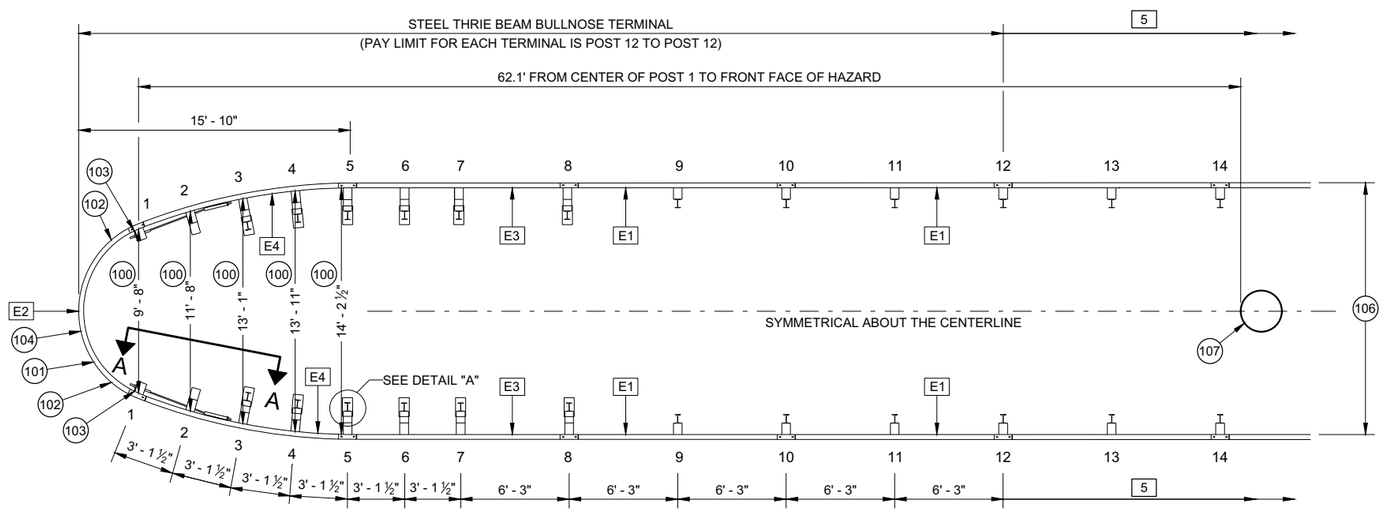
MEDIAN HAZARD PROTECTION PAY LIMITS



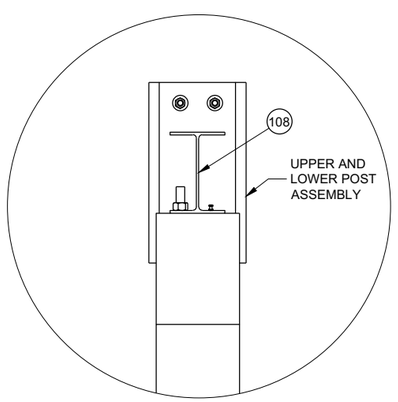
HAZARD FREE AREA
INSIDE BULLNOSE



LAPPING DETAIL



PLAN VIEW
TYPICAL BULLNOSE LAYOUT



DETAIL "A"

STEEL THRIE BEAM
BULLNOSE TERMINAL

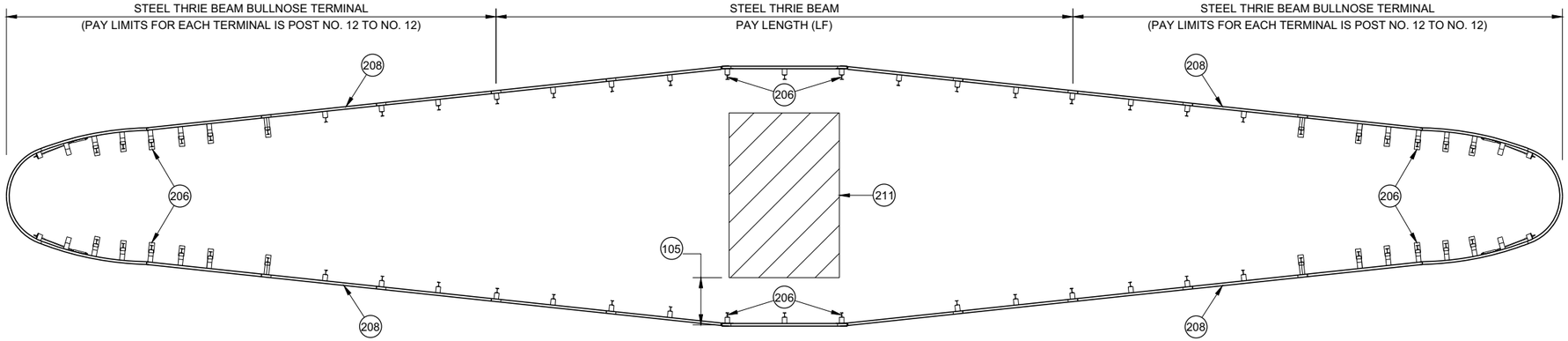
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B26 - 04a

6

SDD 14B26 - 04a



VARIABLE WIDTH BULLNOSE

GENERAL NOTES

200 6' - 3" ASYMMETRICAL 10-GAUGE W-BEAM TO THRIE BEAM GUARD TRANSITION. SEE SDD 14B45 FOR MORE INFORMATION.

201 W-BEAM RAIL. SEE SDD 14B42 FOR MORE INFORMATION.

202 SEE POST NO. 9 AND ALL STEEL THRIE BEAM POST BEYOND DETAIL.

203 SEE SDD 14B42 FOR INSTALLATION INFORMATION.

204 SEE SDD 14B45 FOR INSTALLATION DETAILS. REPLACE ASYMMETRICAL W-BEAM TO THRIE BEAM TRANSITION AND W-BEAM RAIL WITH E1. PAY FOR MODIFIED THRIE BEAM TRANSITION.

205 CONCRETE BARRIER OR BRIDGE RAIL.

206 SEE PLAN FOR STATION AND OFFSET TO CENTER OF POST.

207 SEE PLAN FOR STATION AND OFFSET TO CENTER OF SPLICE.

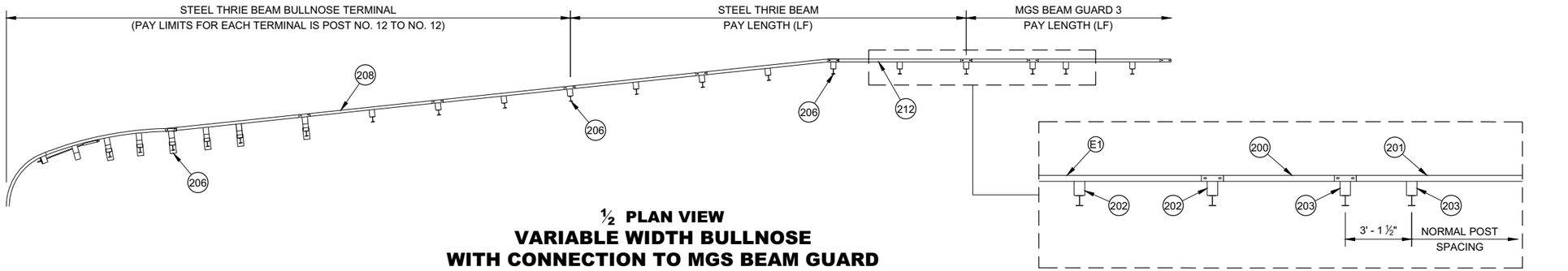
208 SEE PLAN FOR FLARE RATE.

209 A MINIMUM OF 25 FT OF THRIE BEAM TANGENT BEFORE TRANSITIONING TO BEAM GUARD OR THRIE BEAM TRANSITION.

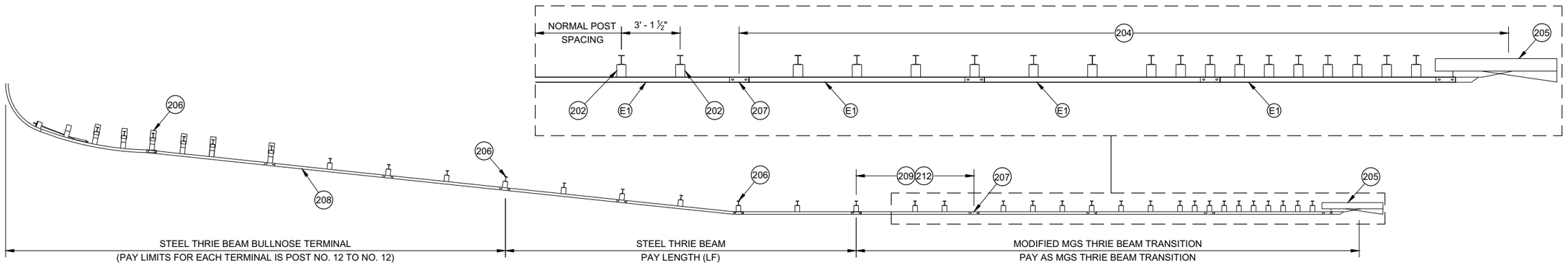
210 NOT ALL BULLNOSE HARDWARE SHOWN. SEE OTHER SHEETS IN 14B26.

211 WIDER HAZARD TO BE SHIELDED.

212 TRANSITION RAIL HEIGHT TO 31" OVER THE LENGTH OF A 12' - 6" BEAM SECTION.



½ PLAN VIEW
VARIABLE WIDTH BULLNOSE
WITH CONNECTION TO MGS BEAM GUARD



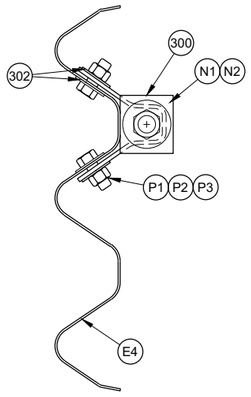
½ PLAN VIEW
VARIABLE WIDTH BULLNOSE
WITH CONNECTION TO RIGID BARRIER

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

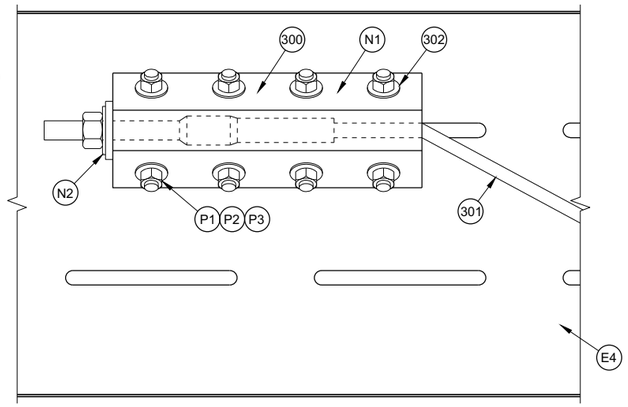
6

SDD 14B26 - 04b

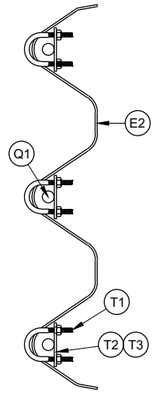


PROFILE VIEW

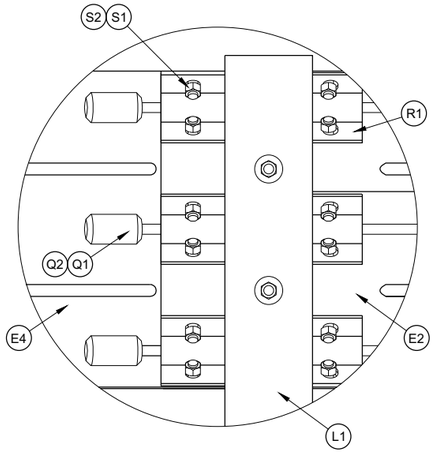
CABLE ANCHOR ASSEMBLY CONNECTION



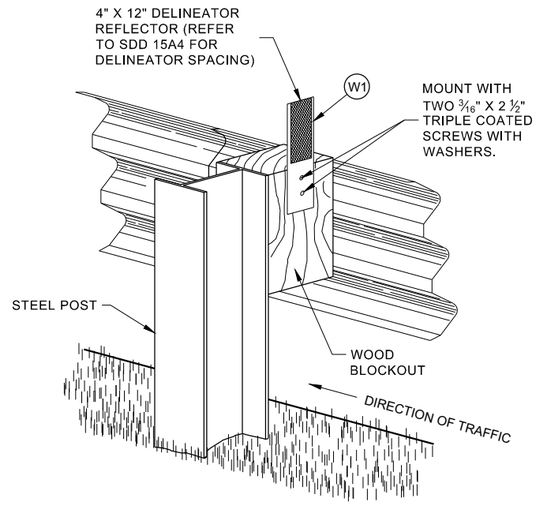
CABLE ANCHOR ASSEMBLY



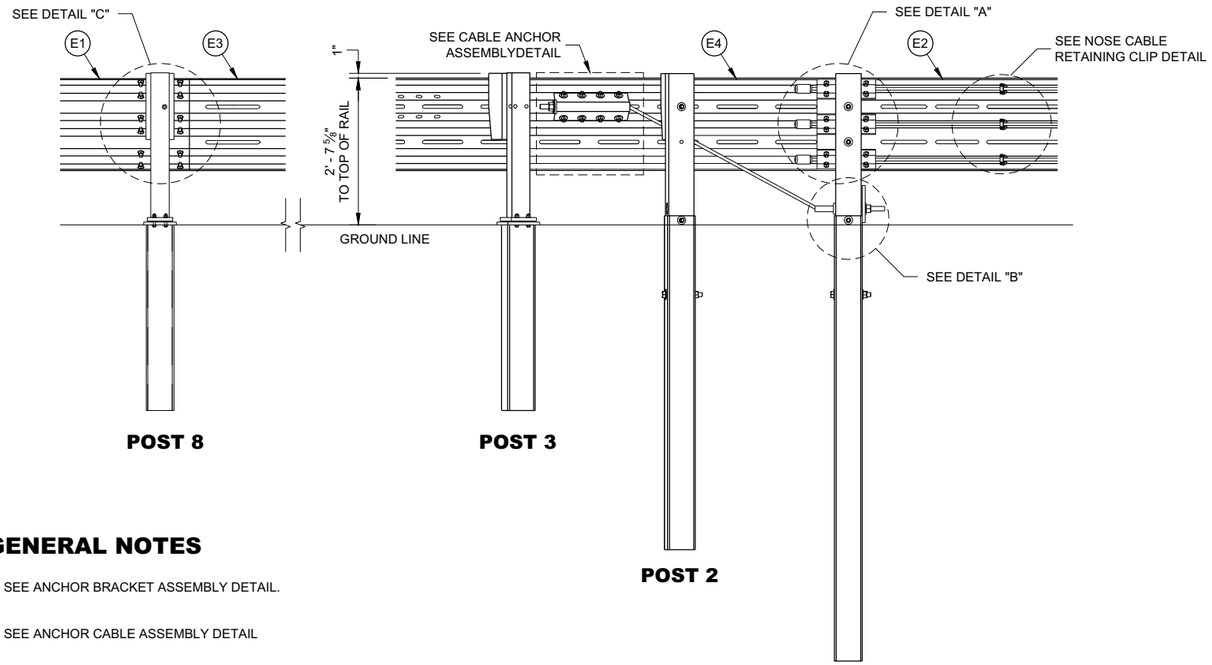
NOSE CABLE RETAINING CLIP



DETAIL "A"

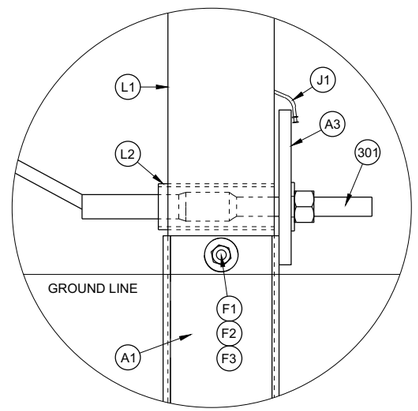


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

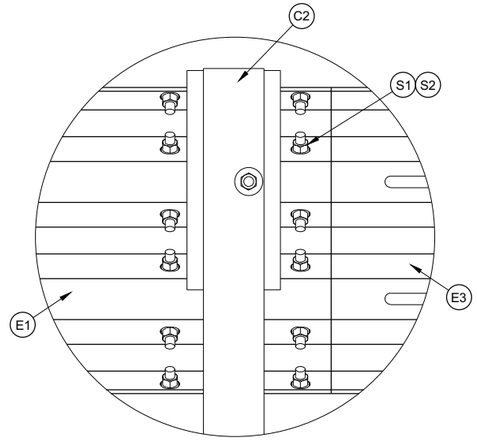


POST 8 **POST 3** **POST 2** **POST 1**

CROSS SECTION A - A



DETAIL "B"



DETAIL "C" THRIE BEAM SPLICE

GENERAL NOTES

(300) SEE ANCHOR BRACKET ASSEMBLY DETAIL.

(301) SEE ANCHOR CABLE ASSEMBLY DETAIL

(302) ONE WASHER BETWEEN BOLT HEAD AND RAIL AND BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

(303) ONE WASHER BETWEEN BOLD HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

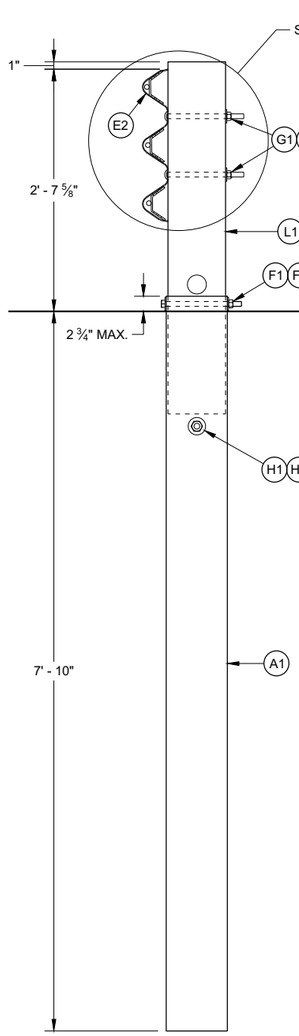
STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

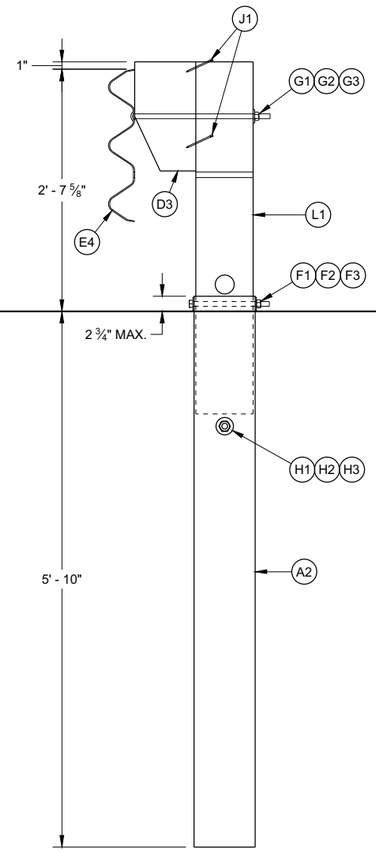
6

SDD 14B26 - 04c

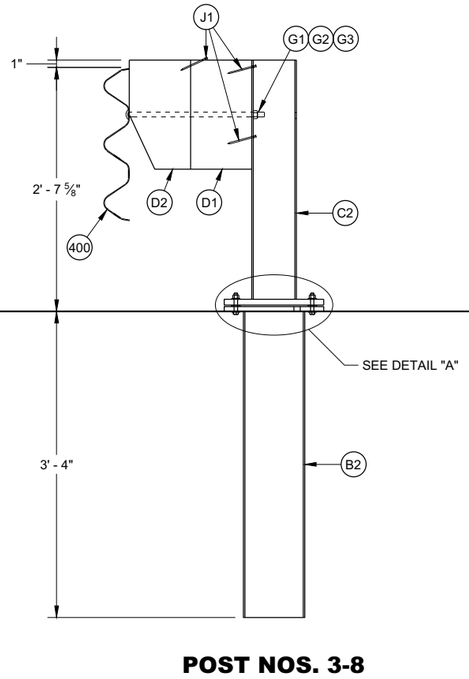
SDD 14B26 - 04c



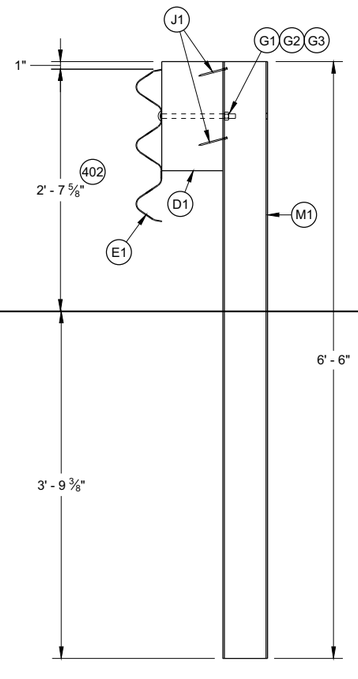
POST NO. 1



POST NO. 2



POST NOS. 3-8



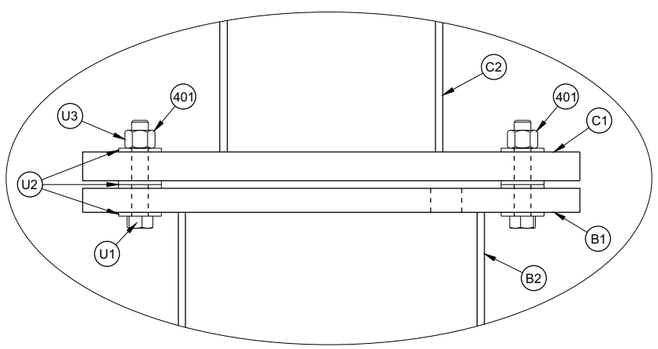
POST NOS. 9 AND ALL STEEL THRIE BEAM POSTS BEYOND

GENERAL NOTES

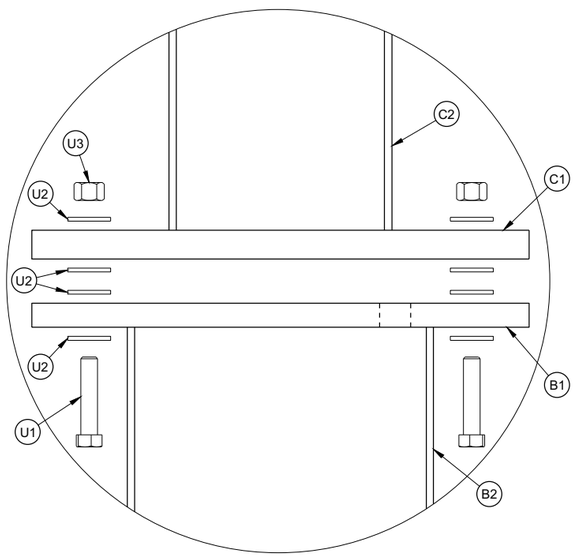
400 RAIL CAN BE E3 OR E4 DEPENDING ON POST LOCATION.

401 TORQUE BOLD BETWEEN 60-75 FT-LB

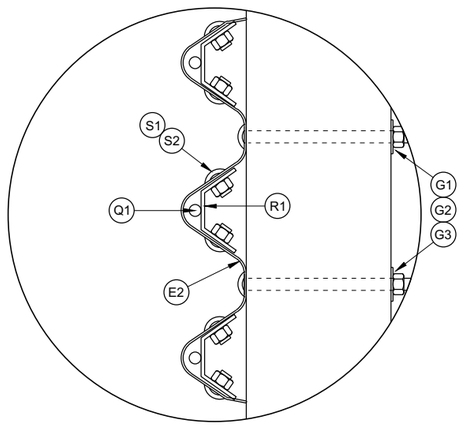
402 HEIGHT WILL VARY WITHIN HEIGHT TRANSITION TO OTHER HARDWARE. SEE NOTE 213, SHEET "b".



DETAIL "A"



EXPLODED VIEW
DETAIL "A"



DETAIL "B"

STEEL THRIE BEAM BULLNOSE TERMINAL

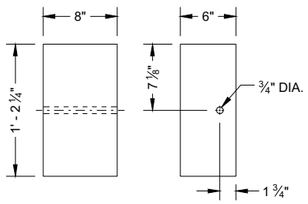
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B26 - 04d

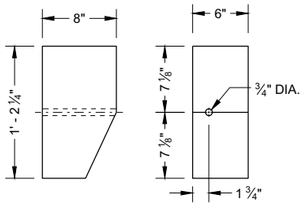
6

SDD 14B26 - 04d



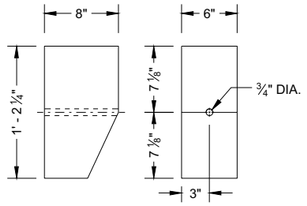
ELEVATION PROFILE

BLOCKOUT (D1)



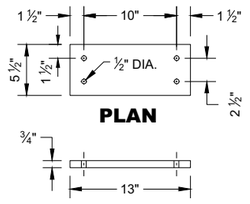
ELEVATION PROFILE

BLOCKOUT (D2)



ELEVATION PROFILE

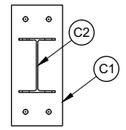
BLOCKOUT (D3)



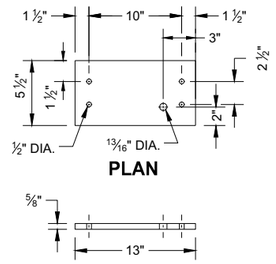
PLAN

PROFILE

UPPER SHEAR PLATE (C1)



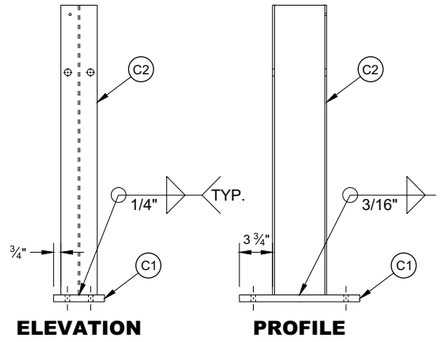
PLAN



PLAN

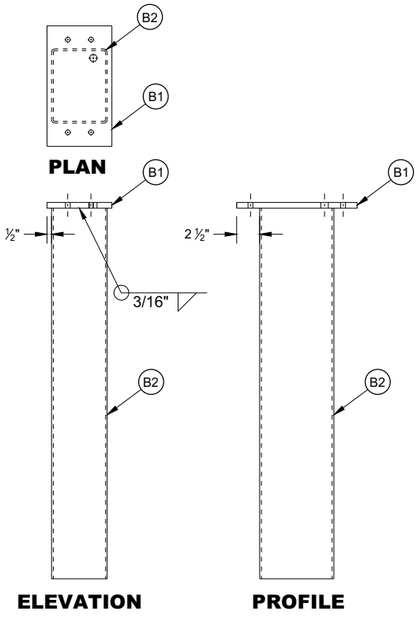
PROFILE

LOWER SHEAR PLATE (B1)



ELEVATION PROFILE

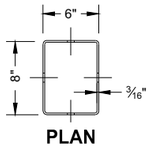
UPPER POST ASSEMBLY



PLAN

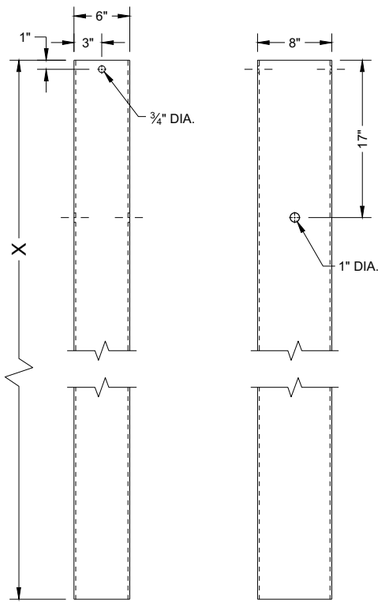
ELEVATION PROFILE

LOWER POST ASSEMBLY



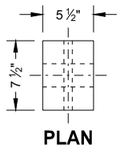
PLAN

PART	LENGTH "X"
A1	8' - 0"
A2	6' - 0"
B2	3' - 6"

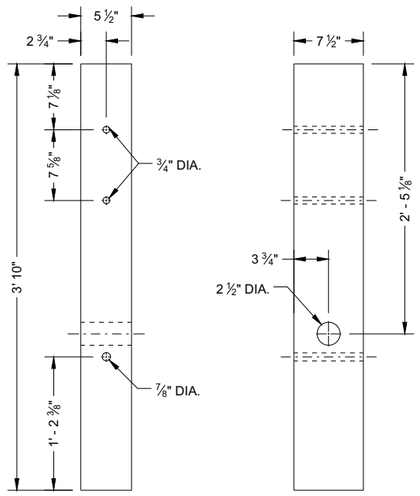


ELEVATION PROFILE

FOUNDATION TUBE

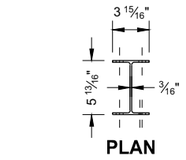


PLAN

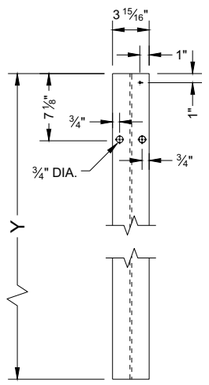


ELEVATION PROFILE

BCT POST (L1)



PLAN



ELEVATION

POST

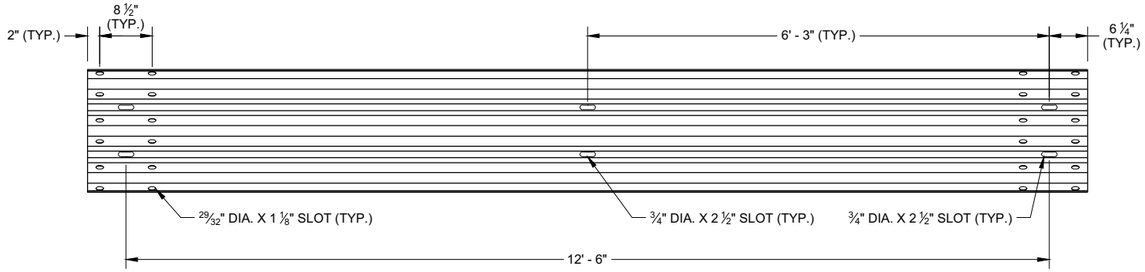
PART	LENGTH "Y"
M1	6' - 6"
M2	5' - 8 5/8"
C2	2' - 8 5/8"

STEEL THRIE BEAM BULLNOSE TERMINAL

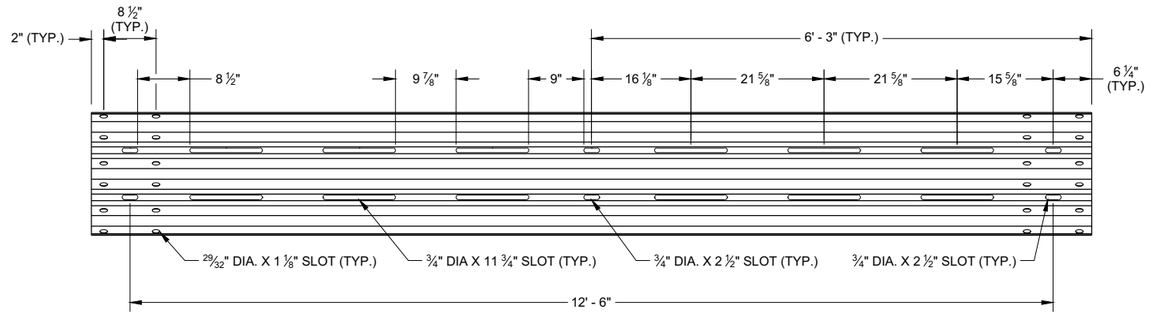
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

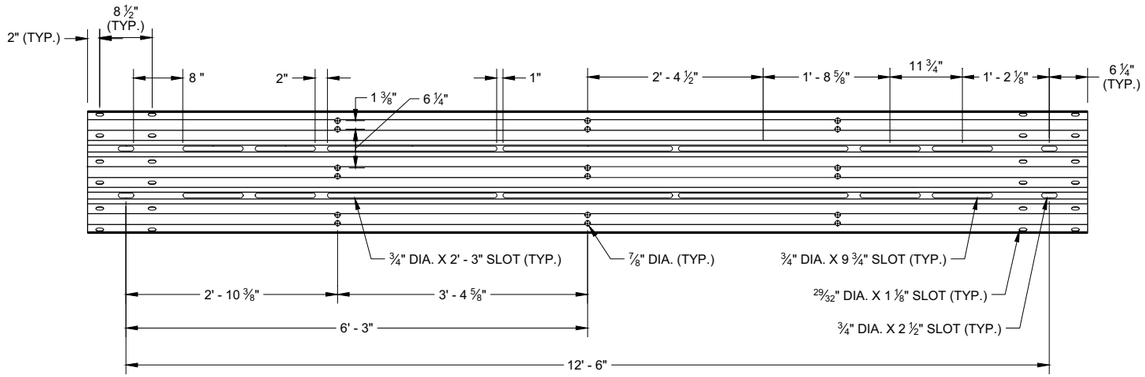
SDD 14B26 - 04e



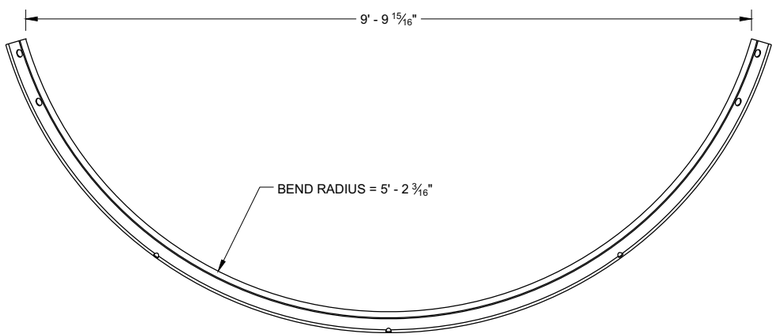
SLOTTED THRIE BEAM RAIL E1



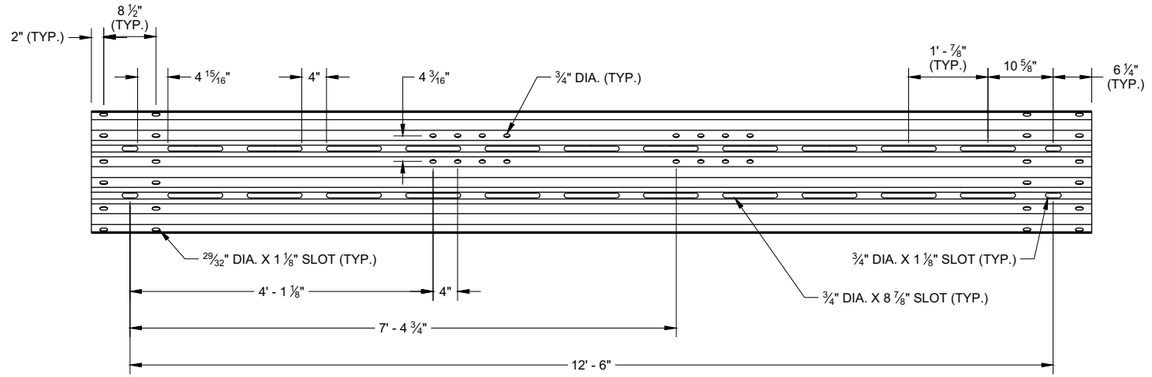
SLOTTED THRIE BEAM RAIL E3



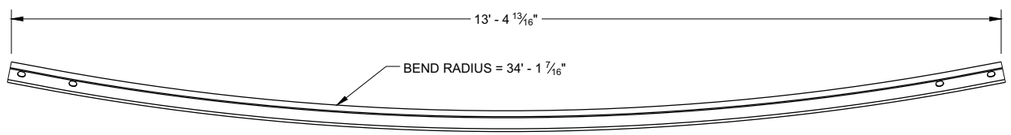
ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E2



PLAN VIEW
SLOTTED THRIE BEAM RAIL E2



ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E4



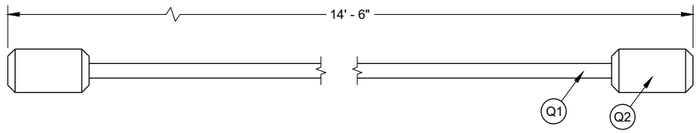
PLAN VIEW
SLOTTED THRIE BEAM RAIL E4

STEEL THRIE BEAM BULLNOSE TERMINAL

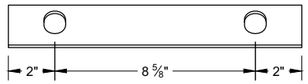
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

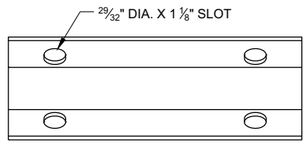
SDD 14B26 - 04f



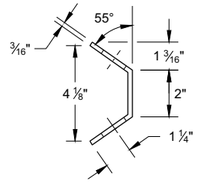
NOSE CABLE AND SWAGE BUTTON



PLAN VIEW

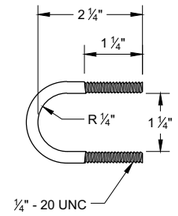


ELEVATION VIEW

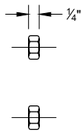


PROFILE VIEW

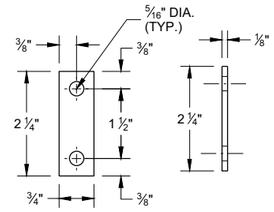
NOSE CABLE ANCHOR (R1)



U - BOLT (T1)

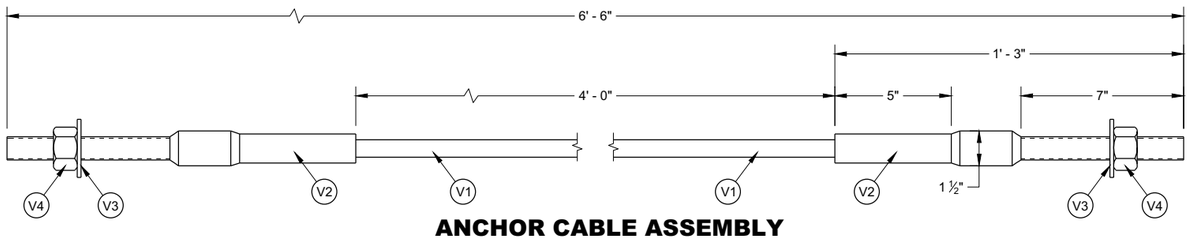


U - BOLT NUT (T3)

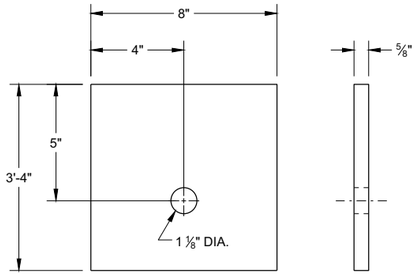


ELEVATION VIEW **PROFILE VIEW**

U - BOLT PLATE WASHER (T2)

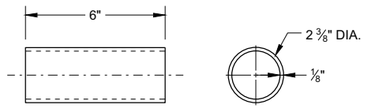


ANCHOR CABLE ASSEMBLY



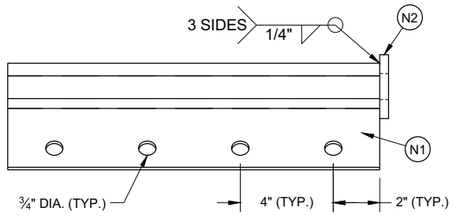
ELEVATION VIEW **PROFILE VIEW**

BCT BEARING PLATE (A3)

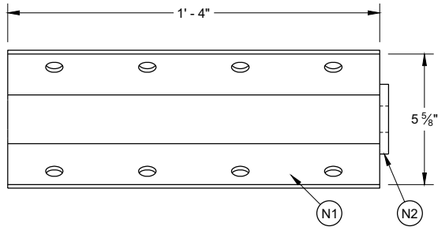


ELEVATION VIEW **PROFILE VIEW**

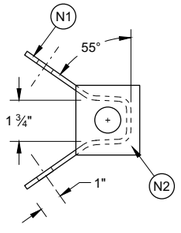
BCT POST SLEEVE (L2)



PLAN VIEW

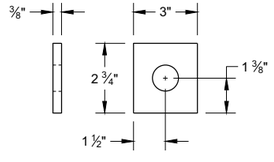


ELEVATION VIEW



PROFILE VIEW

ANCHOR BRACKET ASSEMBLY (N1)



ANCHOR BRACKET END PLATE (N2)

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B26 - 04g

BILL OF MATERIALS LIST

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
A1	LONG FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A2	FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A3	BEARING PLATE AT POST	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
B1	LOWER SLIP POST ASSEMBLY - PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
B2	LOWER SLIP POST ASSEMBLY - TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
C1	UPPER SLIP POST ASSEMBLY - PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
C2	UPPER SLIP POST ASSEMBLY - POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
D1	BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D2	TAPERED BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D3	TAPERED BLOCK FOR BCT POST - WOOD	WISDOT SPEC. 614
E1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E2	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
E3	THRIE BEAM RAIL - PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E4	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
F1	5/8" DIA. HEX HEAD GROUND STRUT AND YOKE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
F2	5/8" DIA. GROUND STRUT AND YOKE BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
F3	GROUND STRUT AND YOKE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
G1	5/8 " DIA. POST BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G2	POST BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G3	POST BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
H1	7/8" DIA. SOIL TUBE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD 7/8" ASTM A563DH OR SAE J995 GRADE 5
H2	SOIL TUBE BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 7/8" ASTM F844 TYPE 1 (HARDEN WASHER ONLY)
H3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD 7/8" ASTM A563DH OR SAE J995 GRADE 5
J1	16D DOUBLE HEAD NAIL	ASTM A153 HOT DIPPED CLASS D DOUBLE HEAD ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)
L1	BCT TIMBER POST	WISDOT SPEC. 614 S4S FINISH ON 4 SIDE
L2	BCT POST SLEEVE	AASHTO M111/ASTM A123 2 3/8" OD ASTM 53 GRADE B
M1	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
M2	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
N1	ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
N2	ANCHOR BRACKET - BEARING PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
P1	5/8" DIA. ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
P2	ANCHOR BRACKET BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
P3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
Q1	5/8" DIA. NOSE CABLE	6X19 AASTHO M30 / ASTM A741 XIPS INDEPENDENT WIRE CORE (IWRC) PR 6X25 XIPS, IWRC NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
Q2	NOSE CABLE-SWAGE BUTTON	COLD TUFF BUTTON, S-409 SIZE NO. 12 STOCK NUMBER 1040395 OR ANY OTHER SIMILAR SIZED WAGED-GRIP-BUTTON FERRULES. ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FIELD SWAGED PER MANUFACTURERS RECOMMENDATION. NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
R1	NOSE CABLE ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
S1	5/8" DIA. SPLICE BOLT - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
S2	SPLICE - BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD 5/8" ASTM A563DH OR SAE J995 GRADE 5
T1	1/4" DIA. NOSE CABLE - U BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
T2	U-BOLT - PLATE WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
T3	U-BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
U1	7/16" DIA. SLIP POST ASSEMBLY - BREAKAWAY BOLT	ASTM A153 OR B695 CLASS 55 OR F2329 UNC FULLY THREADED HEX HEAD TAP BOLT ASTM A449 OR SAE J429 GRADE 5
U2	7/16" DIA. SLIP POST ASSEBLY - BREAKAWAY BOLT - WASHER	ASTM F436 TYPE I (HARDEN TYPICALLY USED WITH STEEL) GALV. AASHTO M111/ASTM A 123 OR GALV. HOT DIP. TO POST BOLT CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 55, F2329
U3	SLIP POST ASSEBLY - BREAKAWAY BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / STM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
V1	U-BOLT - PLATE WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
V2	ANCHOR CABLE-SWAGE FITTING	UNC ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FACTORY SWAGED. MIN. BREAKING STRENGTH OF 42.7 KIPS. ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."
V3	1" DIA. ANCHOR CABLE-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
V4	1" DIA. ANCHOR CABLE-NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
W1	REFLECTOR	SEE SDD 15A4

6

6

SDD 14B26 - 04h

SDD 14B26 - 04h

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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

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

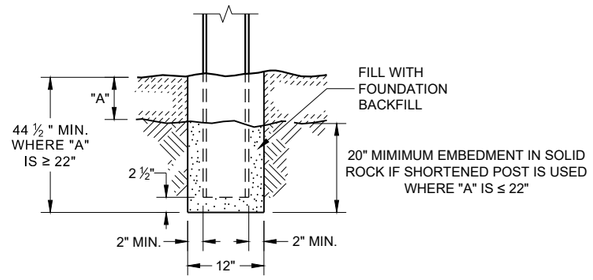
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

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

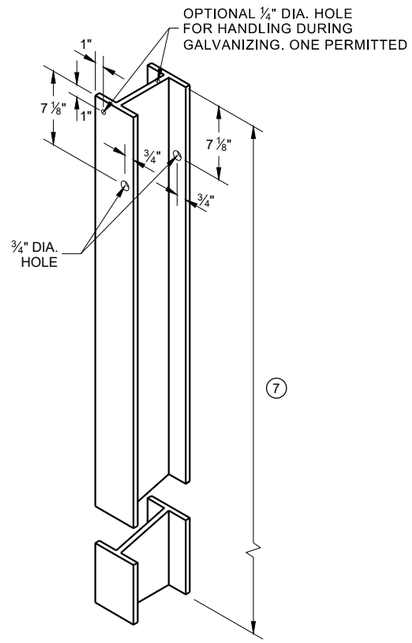
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

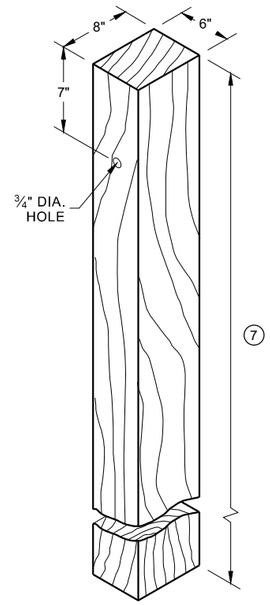
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



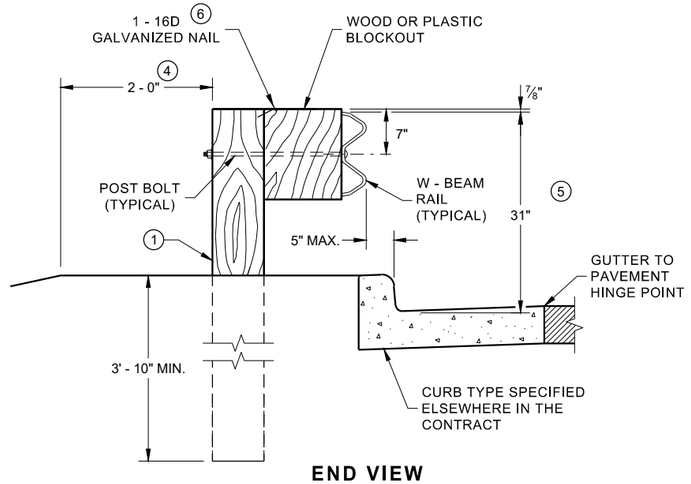
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



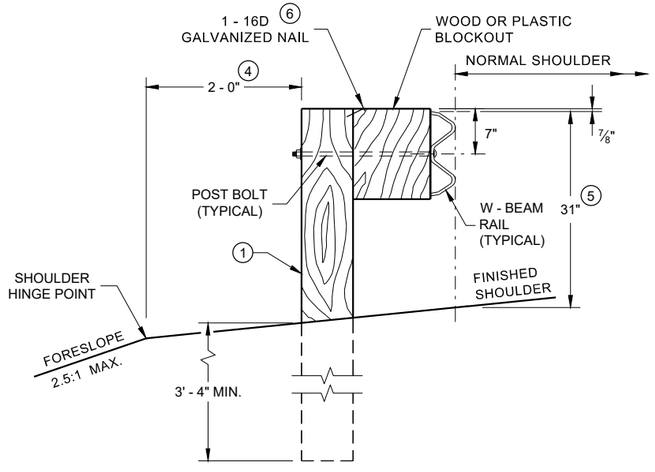
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



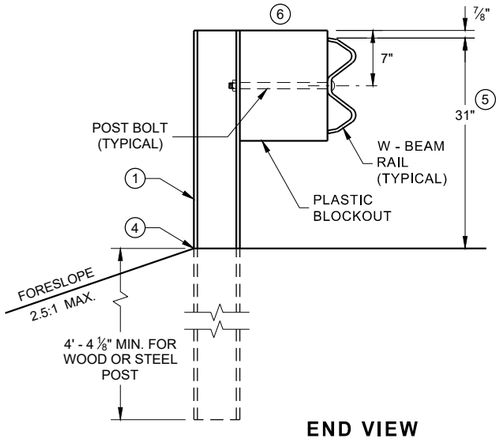
WOOD POST (6" X 8") NOMINAL (1)



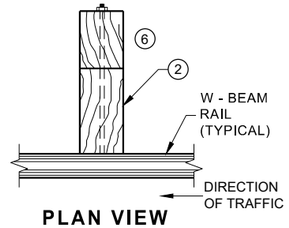
END VIEW
LOCATED ALONG A CURBED ROADWAY



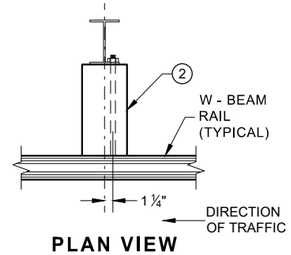
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



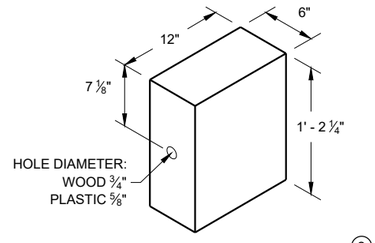
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

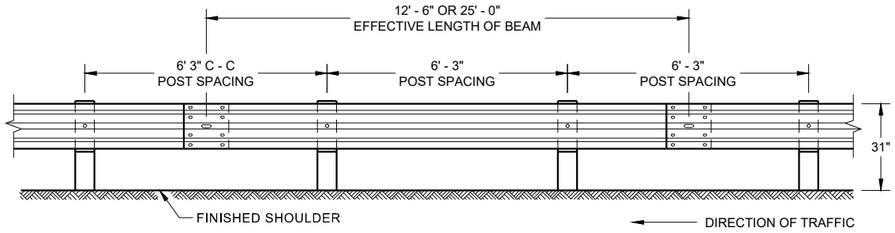
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

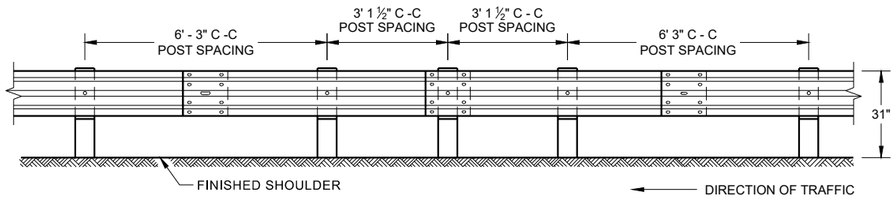
SDD 14B42 - 07a

6

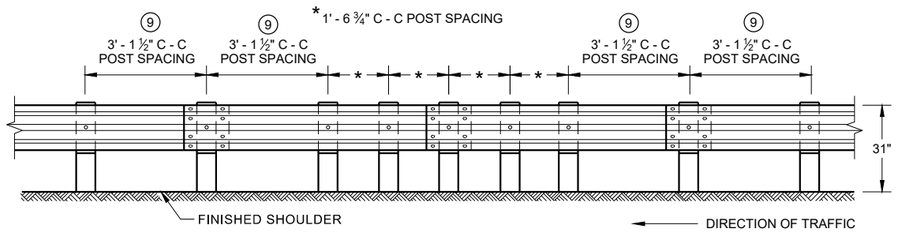
SDD 14B42 - 07a



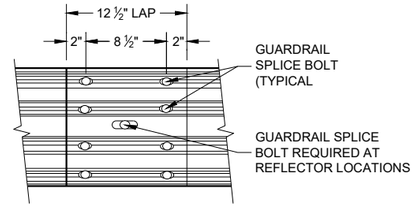
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

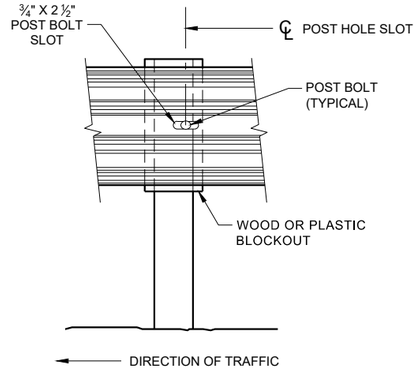
GENERAL NOTES

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

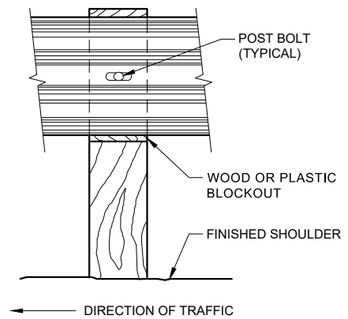
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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.

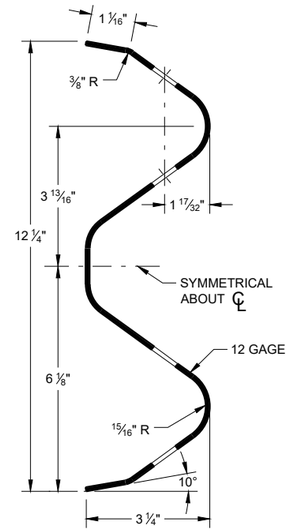
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



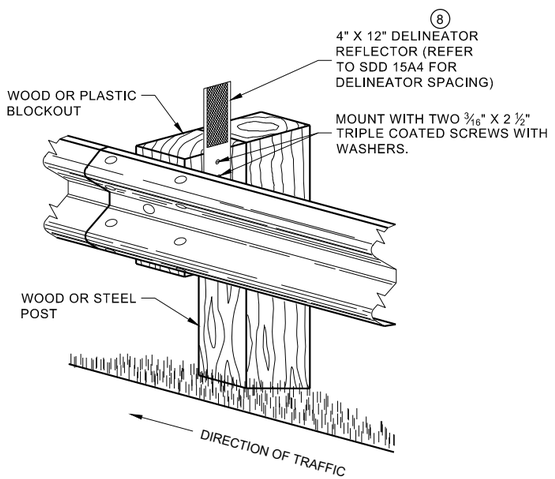
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



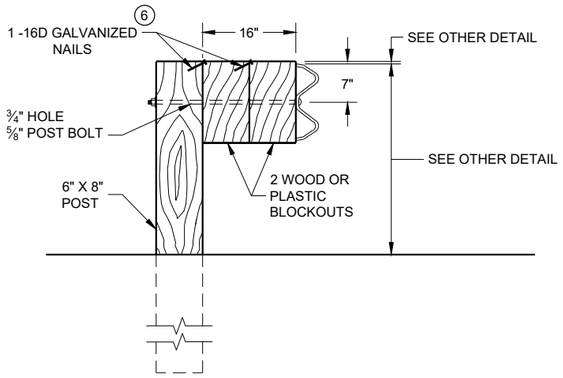
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b

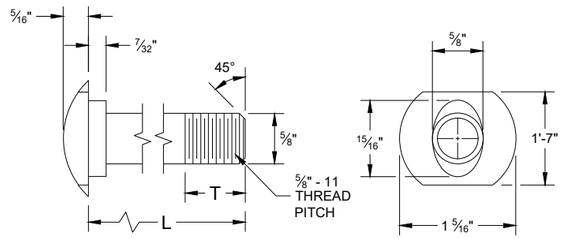


DETAIL FOR 16" BLOCKOUT DEPTH

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

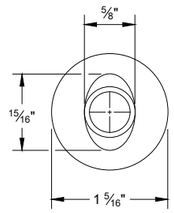
NOTE:

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

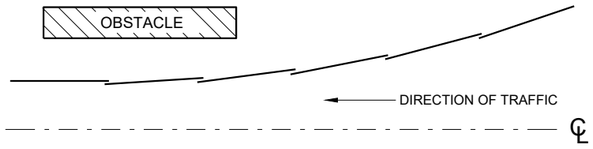


POST BOLT TABLE

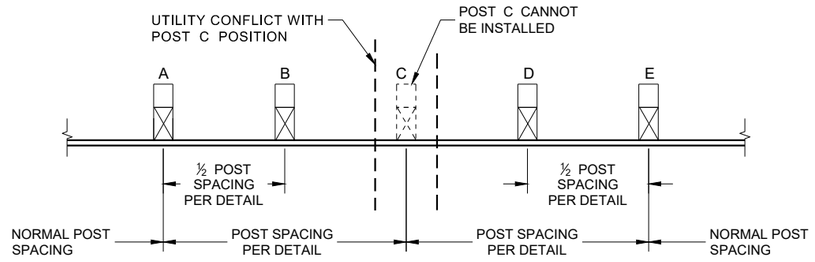
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



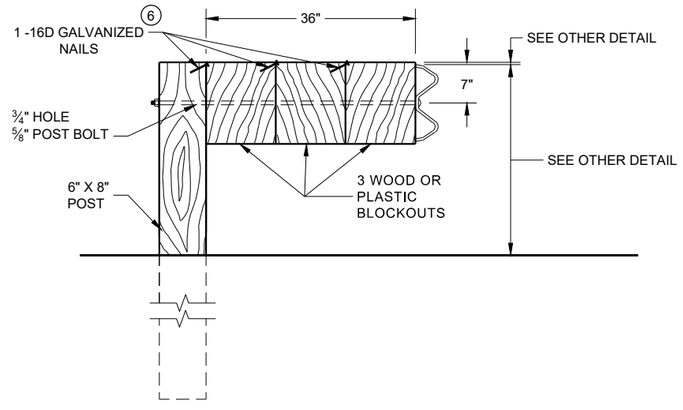
ALTERNATE BOLT HEAD



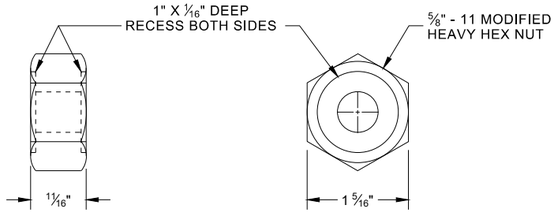
PLAN VIEW
BEAM LAPPING DETAIL



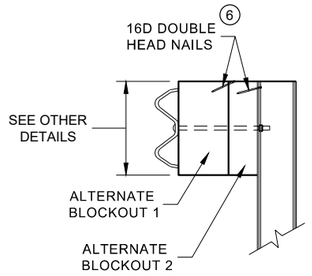
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



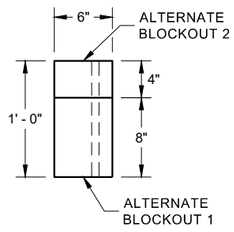
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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

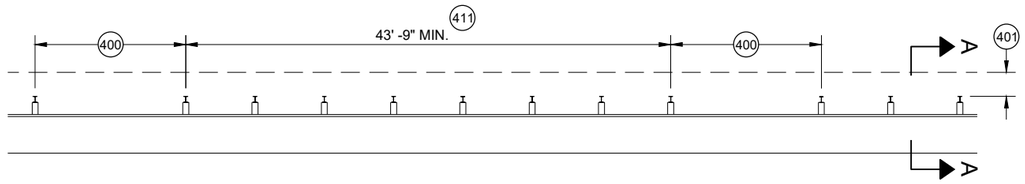
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

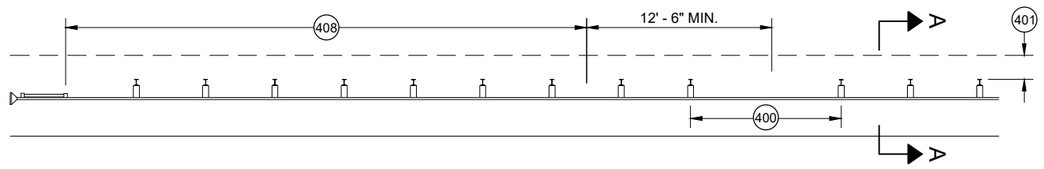
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

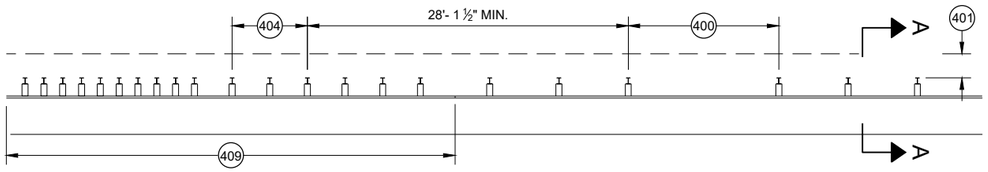
SDD 14B42 - 07c



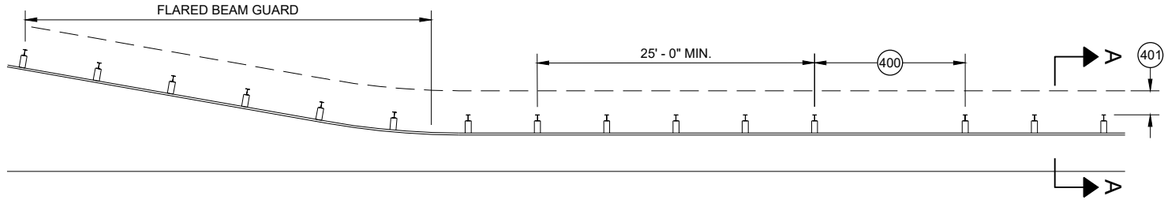
MISSING POST IN MGS GUARDRAIL



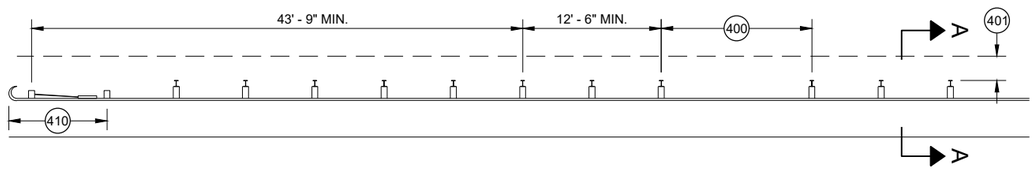
MISSING POST IN MGS GUARDRAIL NEAR EAT



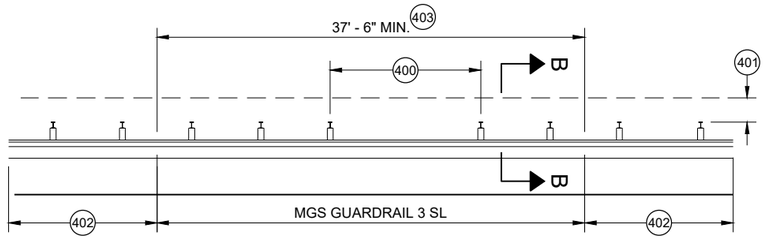
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

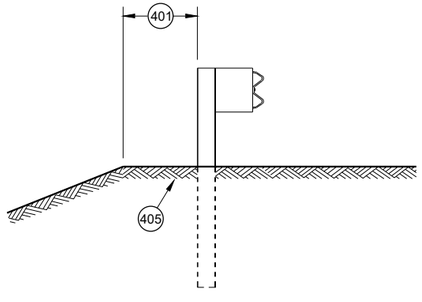


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

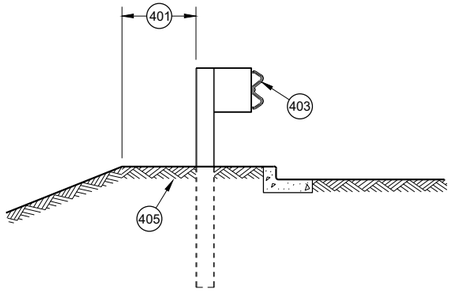


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

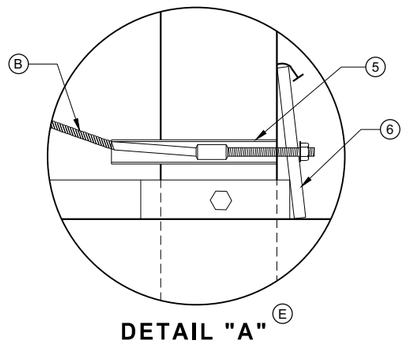
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

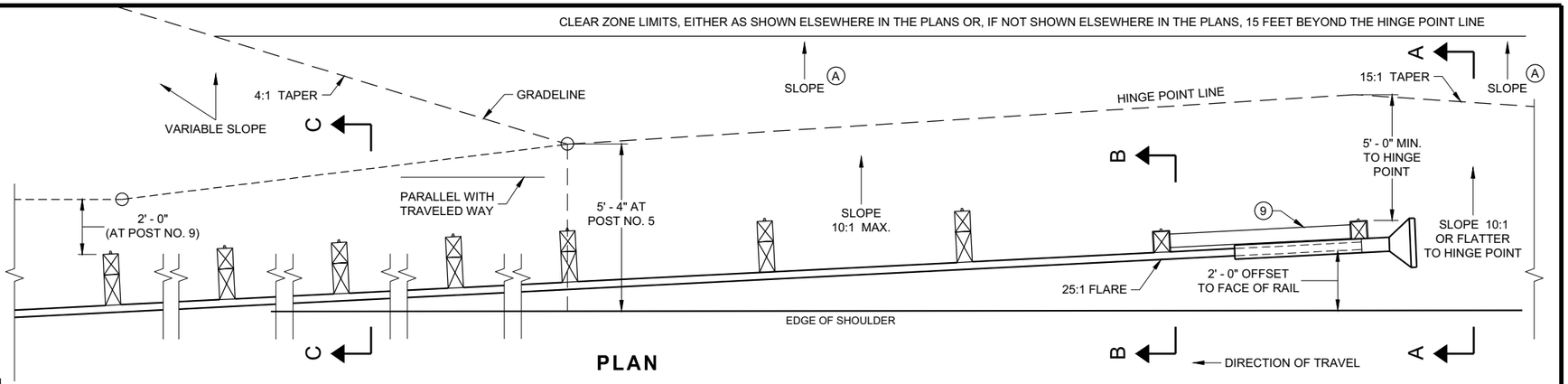
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

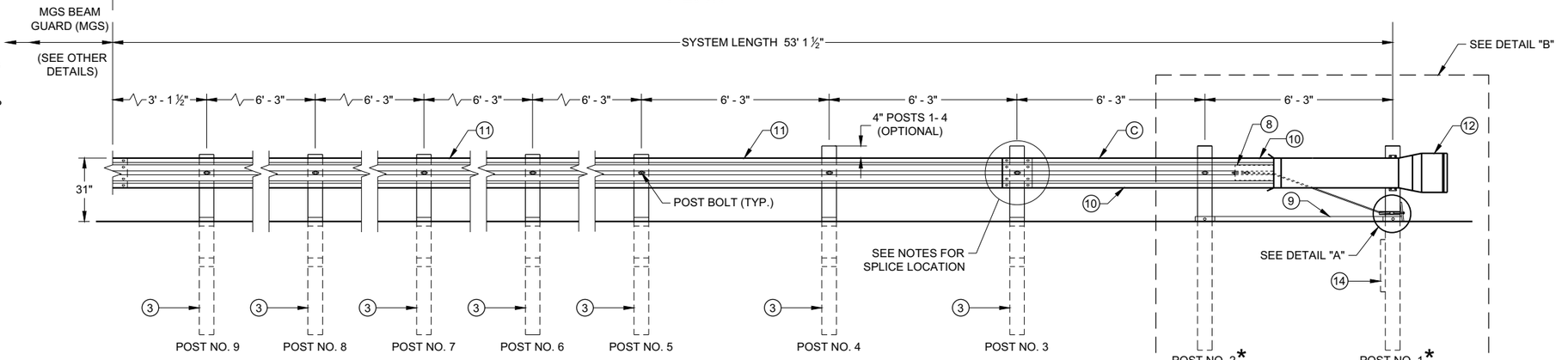
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



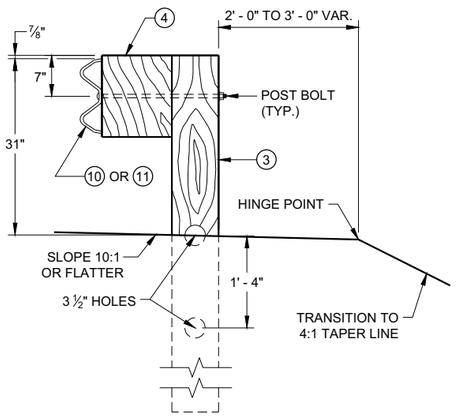
DETAIL "A" (E)



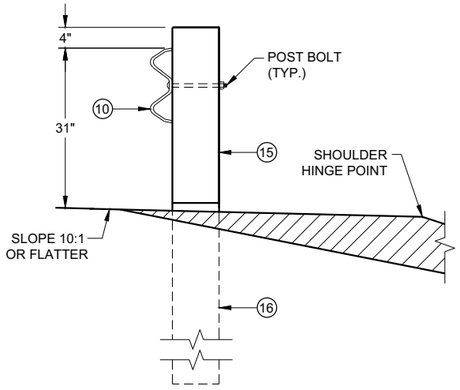
PLAN



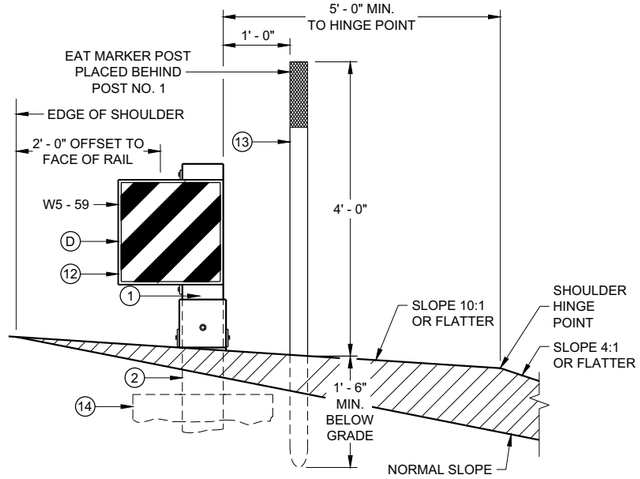
ELEVATION



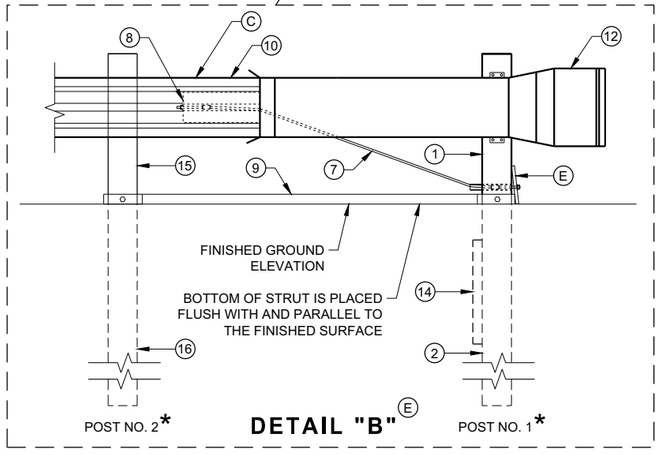
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



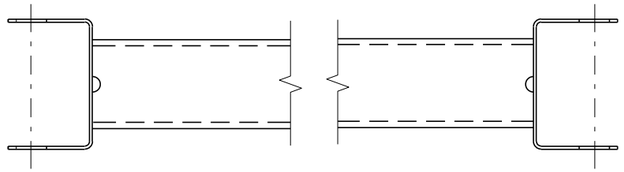
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

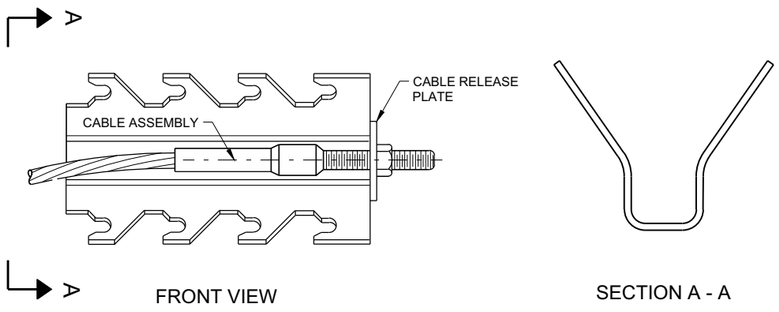
SDD 14B44 - 04a



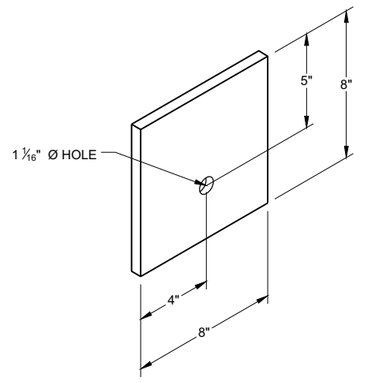
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

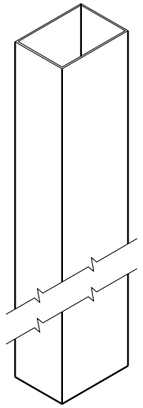
6

SDD 14B44 - 04b

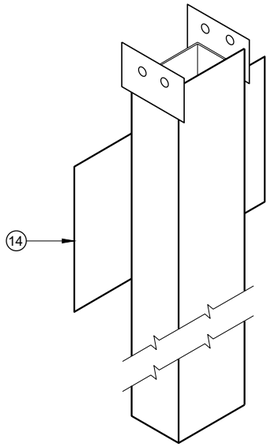
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

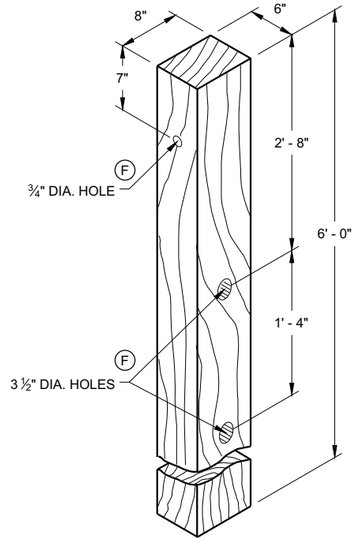
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



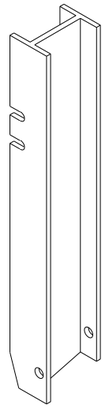
UPPER POST NO. 1 (1) (E)



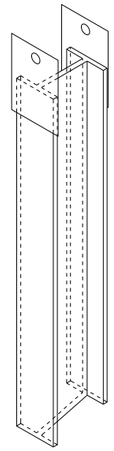
LOWER POST NO. 1 (2) (E)



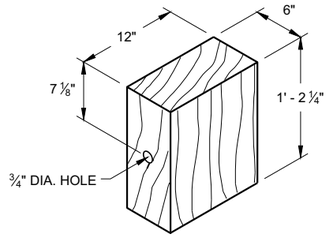
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



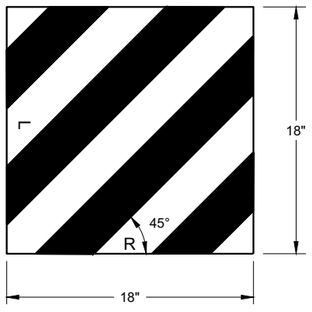
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

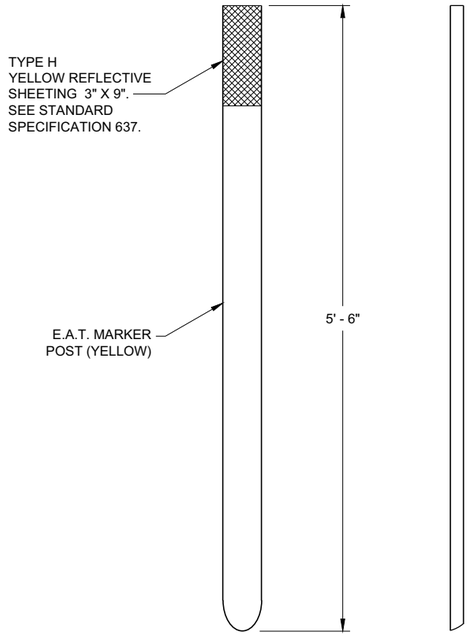


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



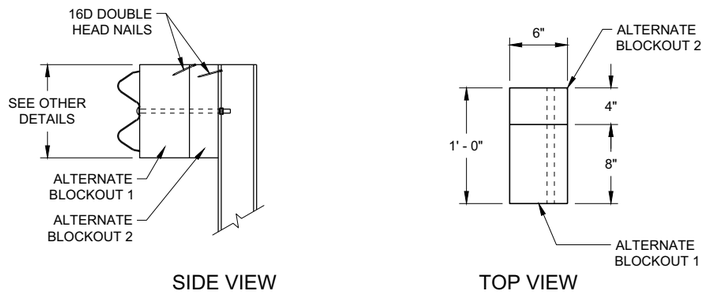
W5 - 59

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)

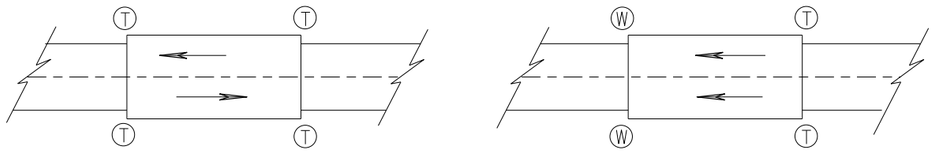
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

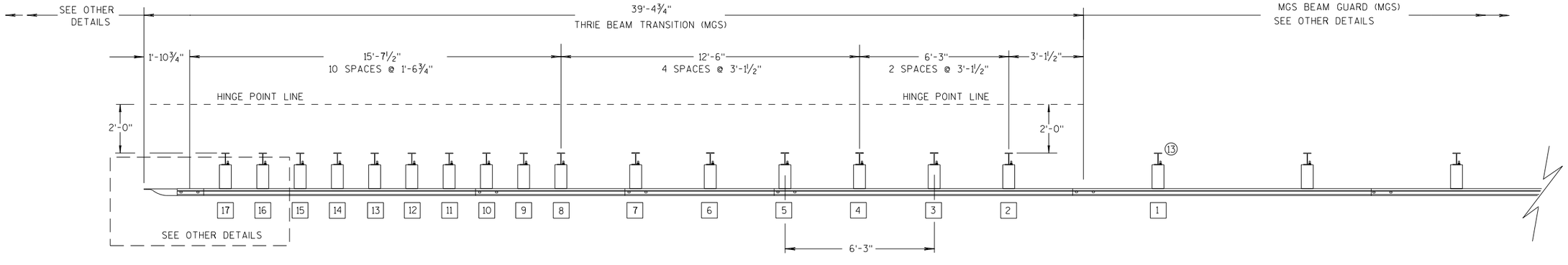
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

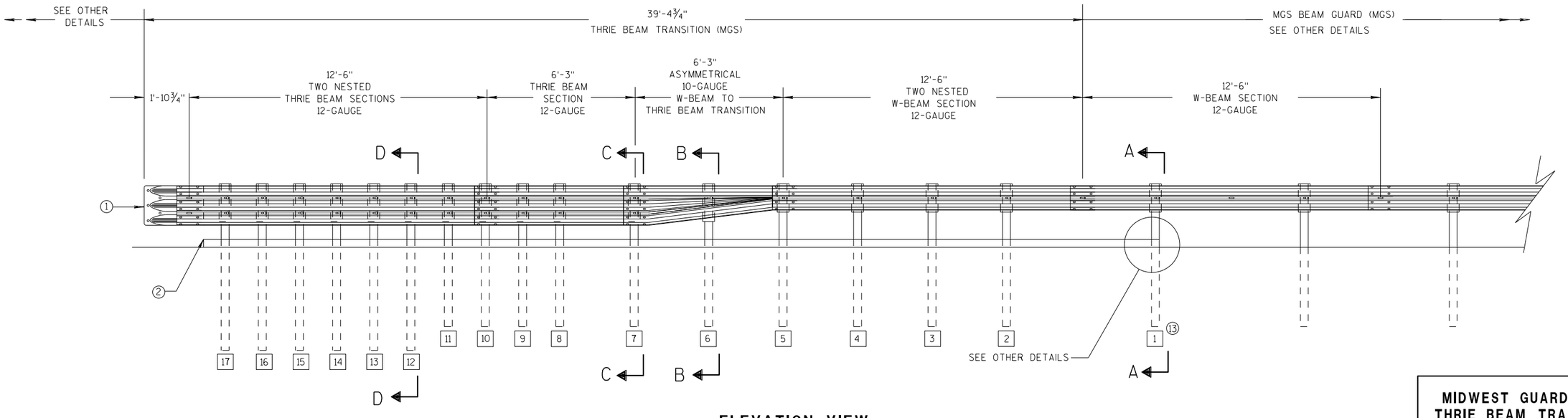
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

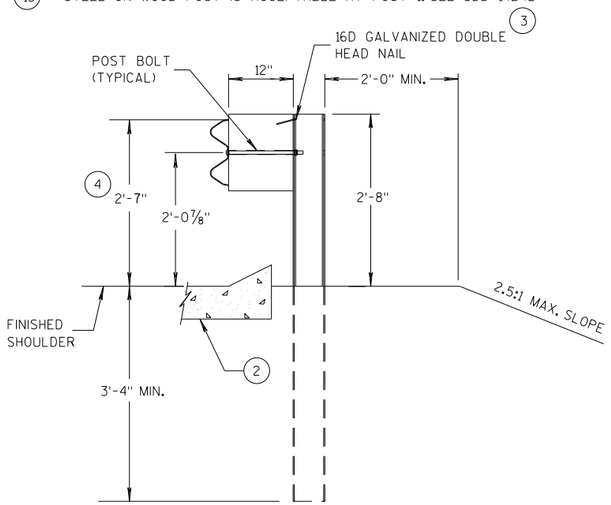
GENERAL NOTES

(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.

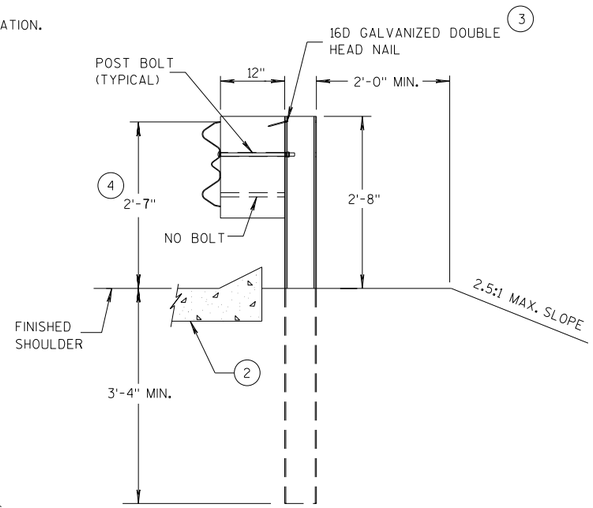
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



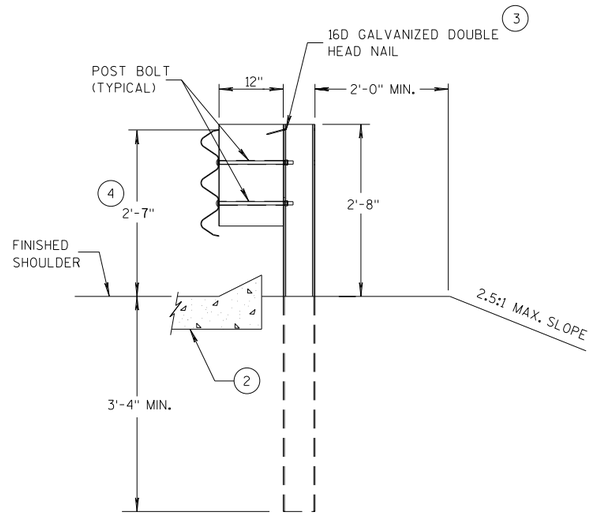
SECTION A-A (13)

POSTS 1-5



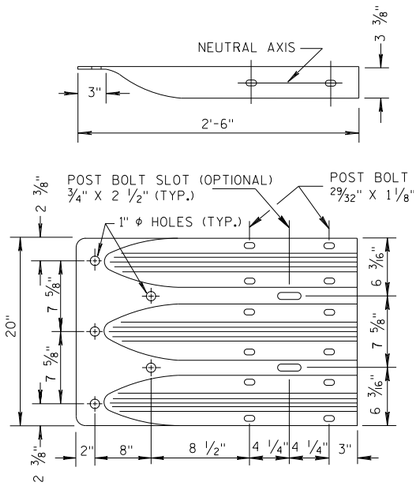
SECTION B-B

POST 6

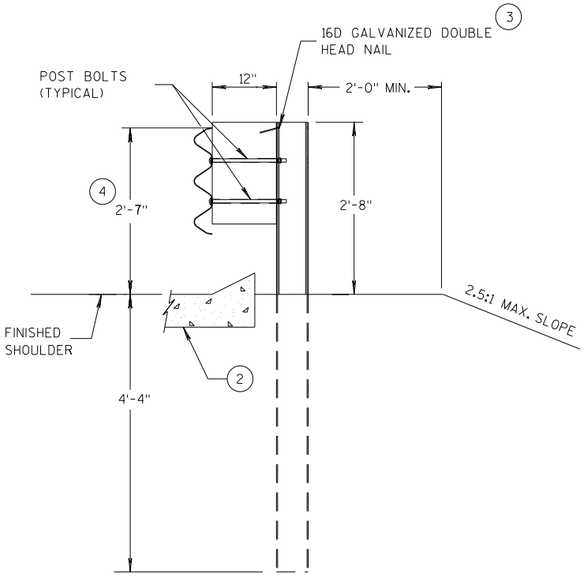


SECTION C-C

POSTS 7-11

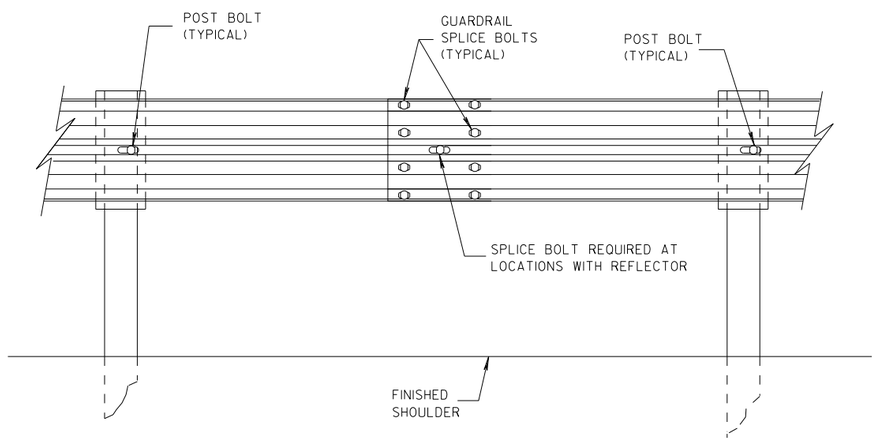


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

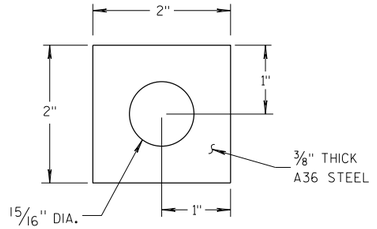
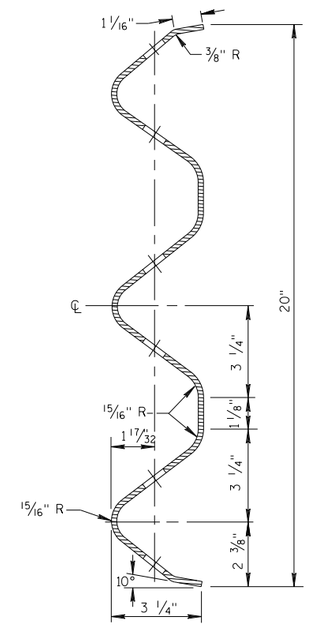


PLATE WASHER DETAIL



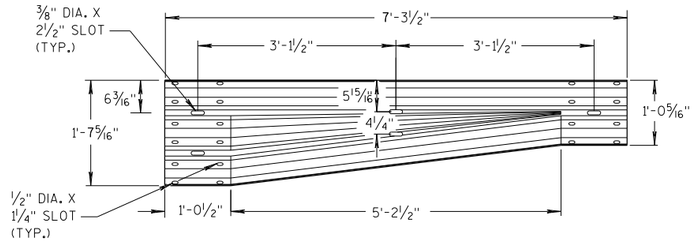
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

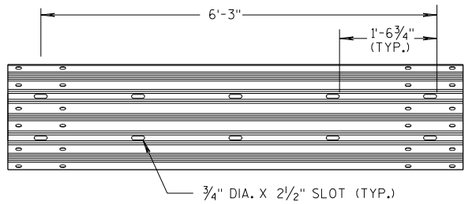
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

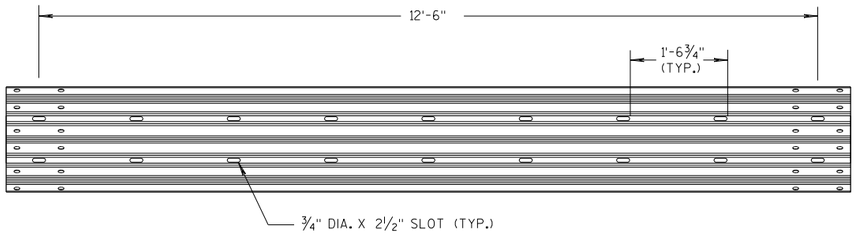
S.D.D. 14 B 45-5b



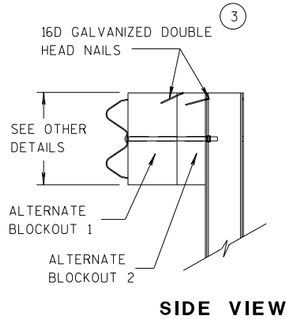
W-BEAM TO THRIE BEAM TRANSITION SECTION



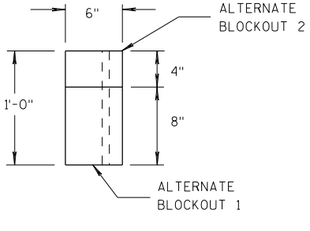
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

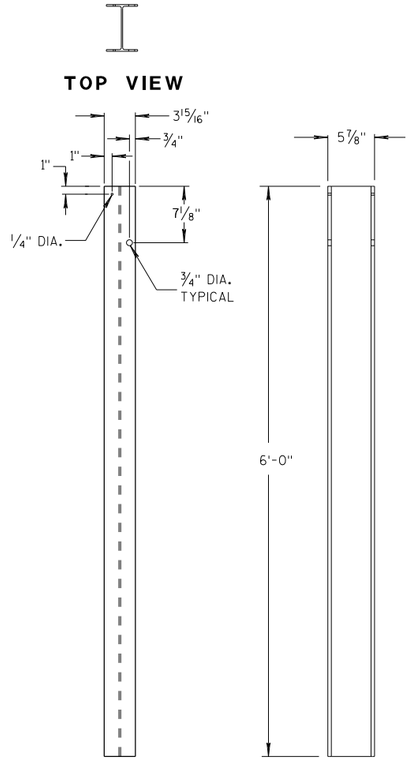


SIDE VIEW



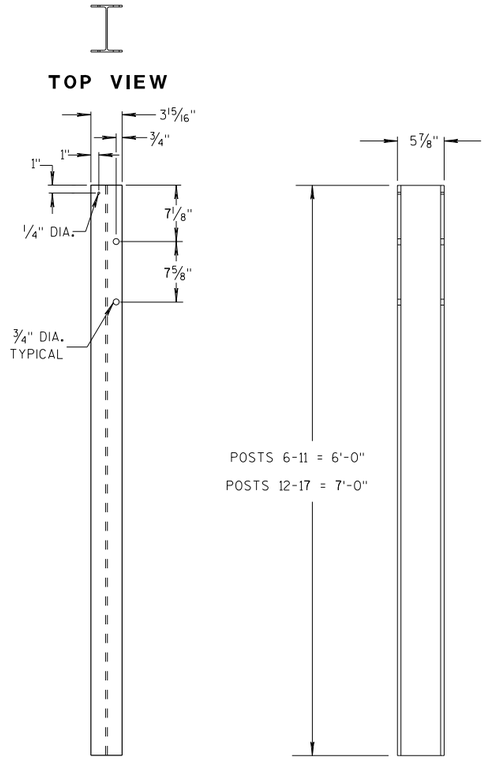
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



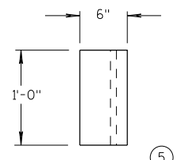
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

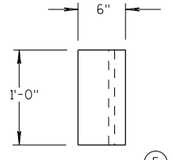


FRONT VIEW SIDE VIEW

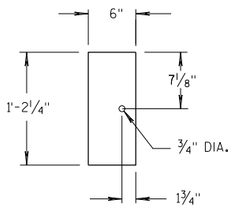
STEEL POSTS 6-17



TOP VIEW (5)

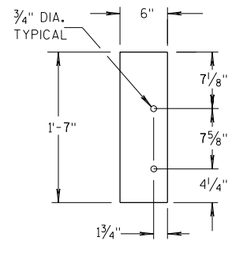


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

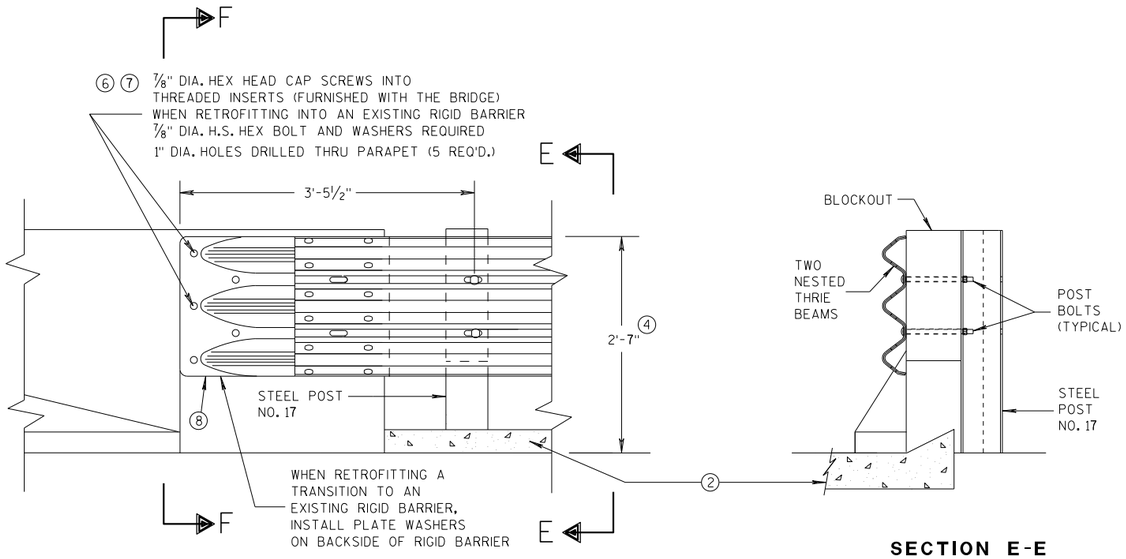
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

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.

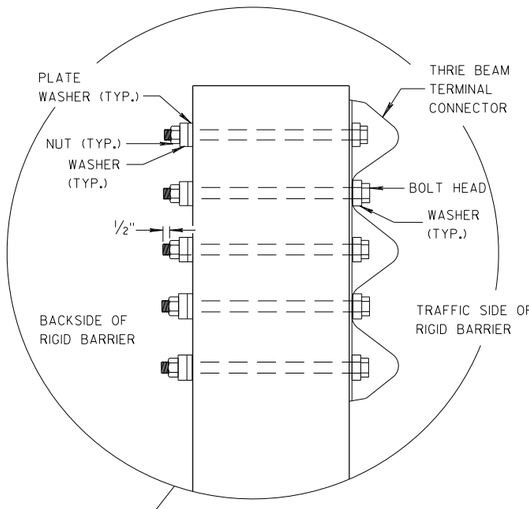
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

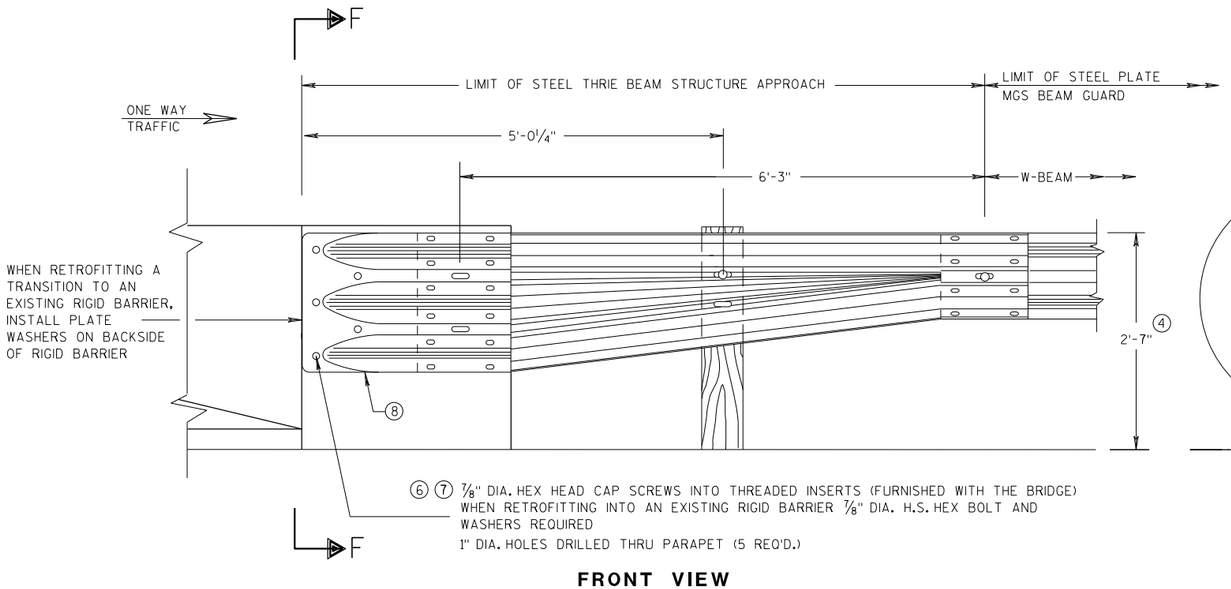
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

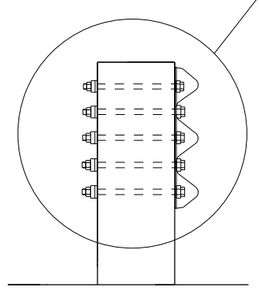
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

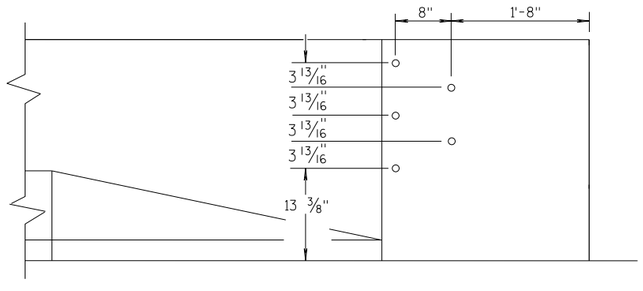




FRONT VIEW



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[illegible] UNIT SUPERVIS[illegible] — NT
FHWA

6

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

6

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

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.

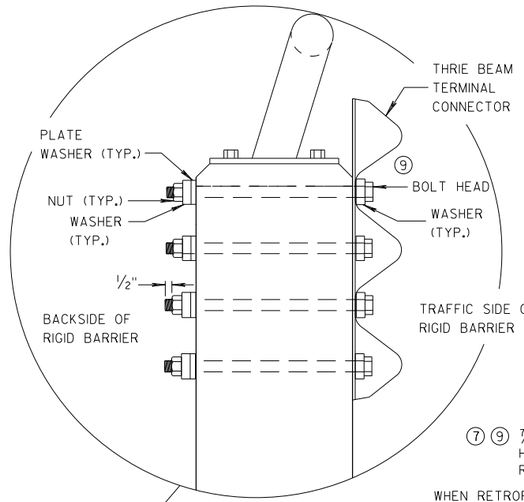
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

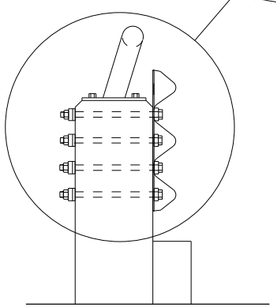
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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.

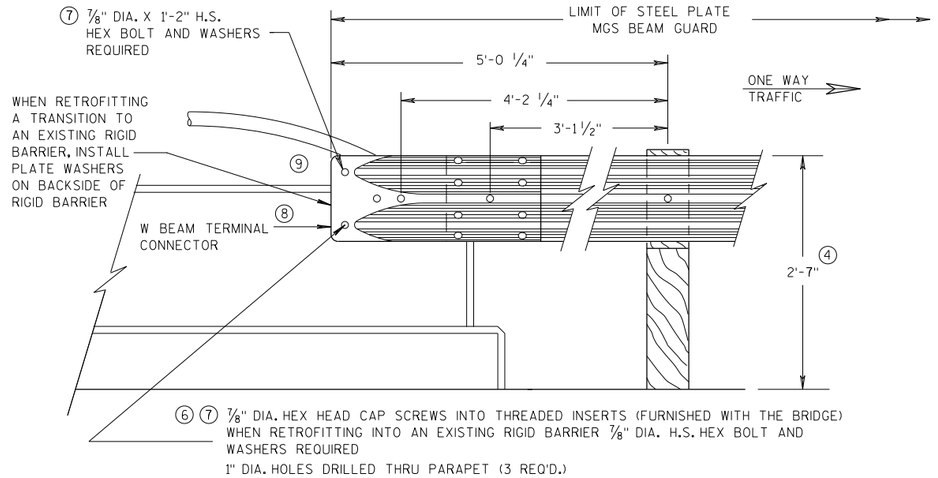
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





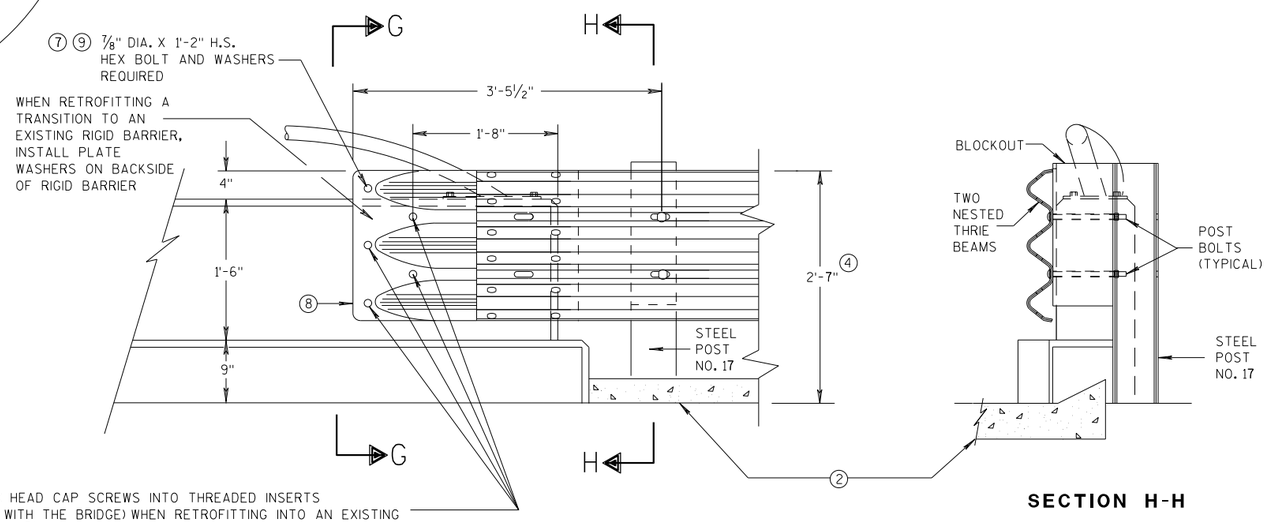
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

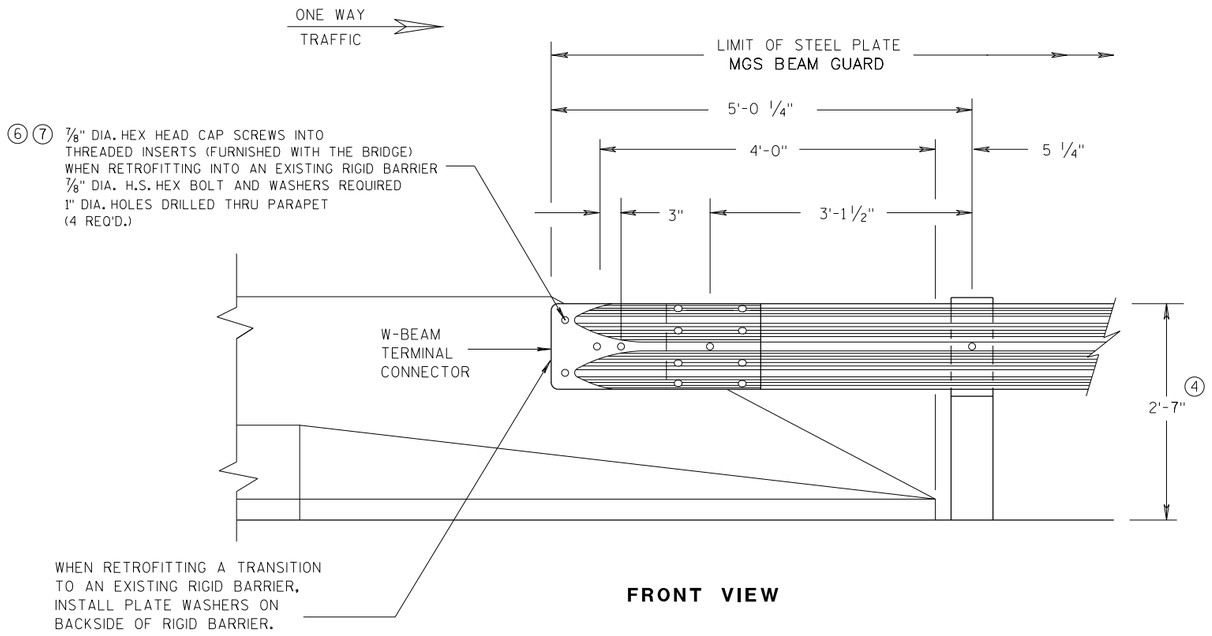
APPROVED
07/2018 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVIS NT
FHWA

6

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

6

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



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

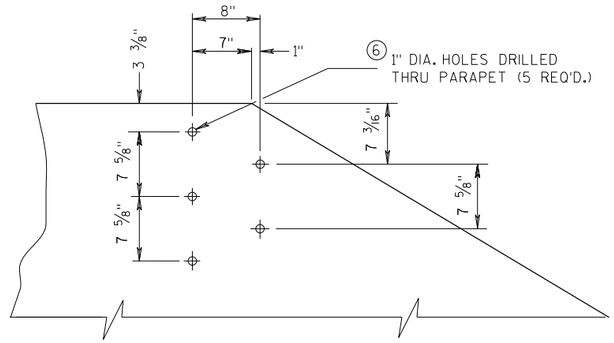
GENERAL NOTES

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

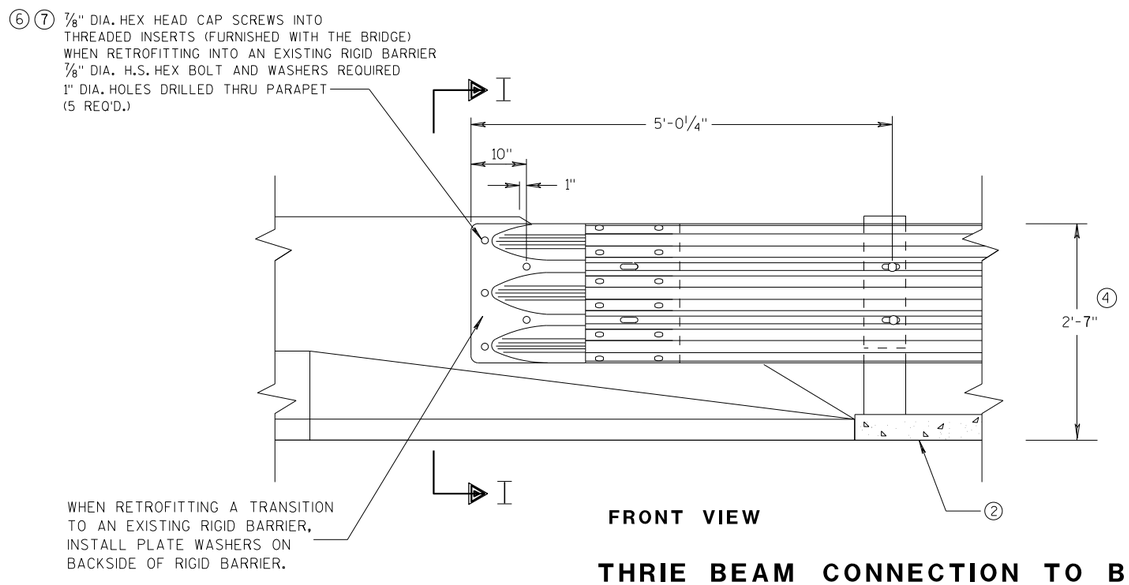
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

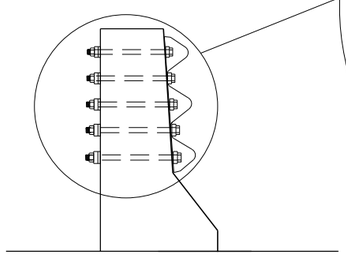
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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



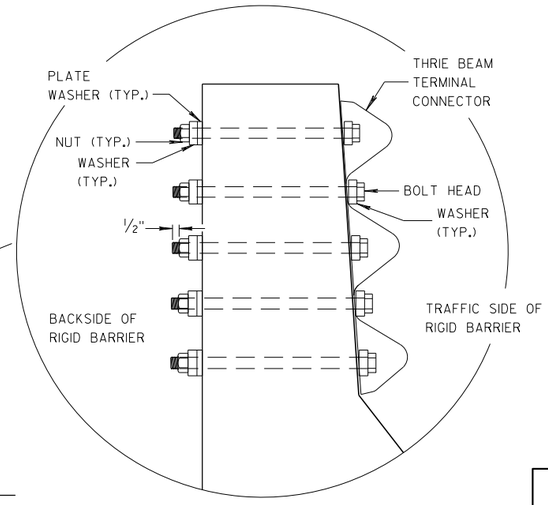
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

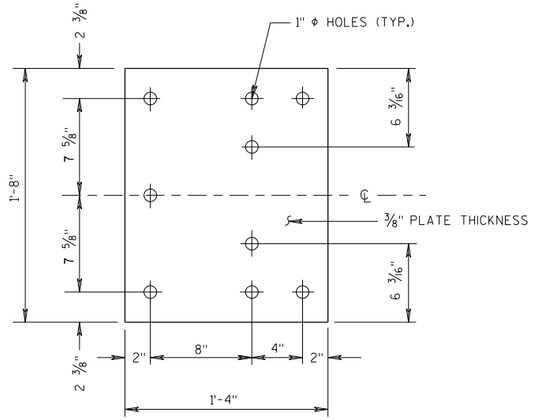
APPROVED
07/2018 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS [illegible] UNIT SUPERVI[illegible]ENT
FHWA

6

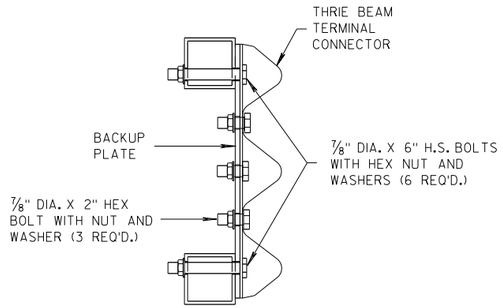
S.D.D. 14 B 45-5f

6

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



BACK-UP PLATE DETAIL

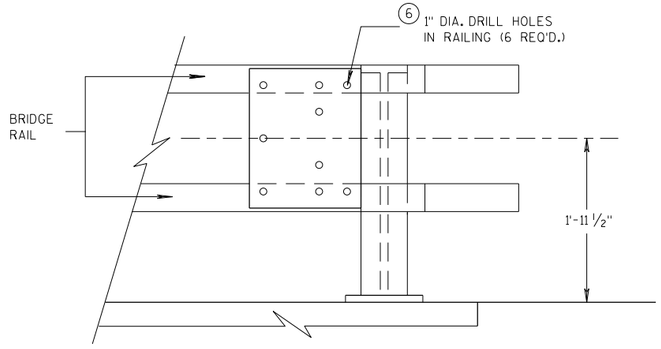


SECTION J-J

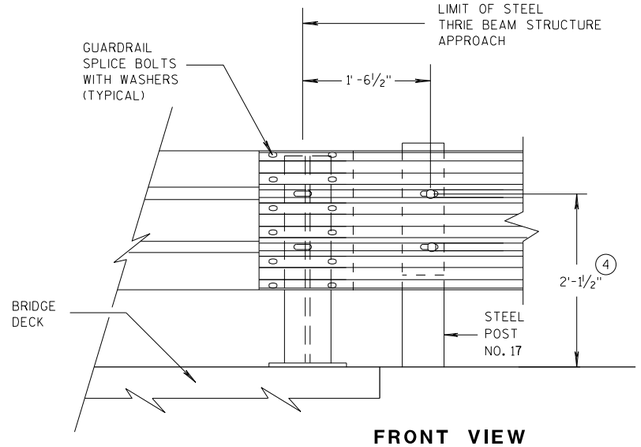
GENERAL NOTES

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

(6) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

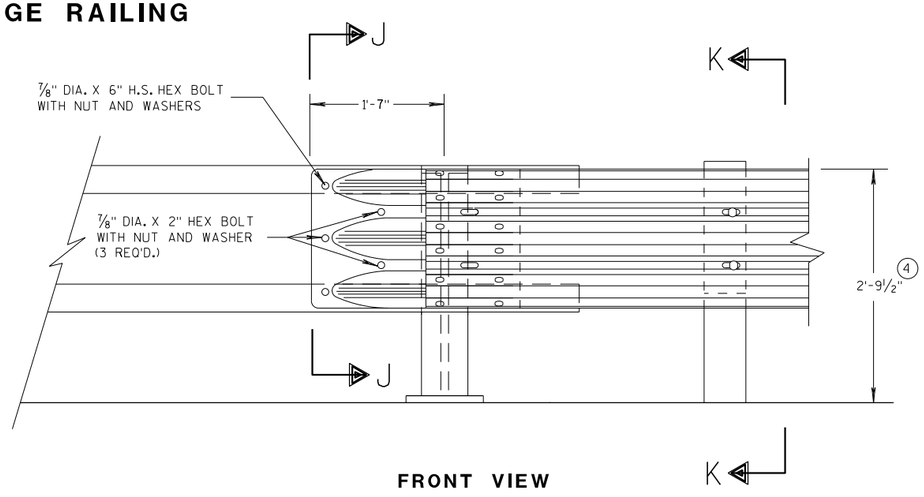


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

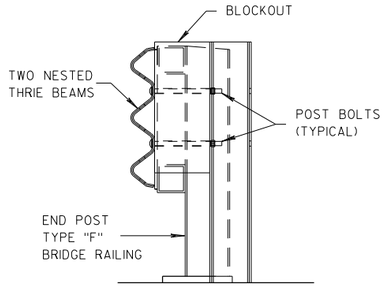


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

159

6

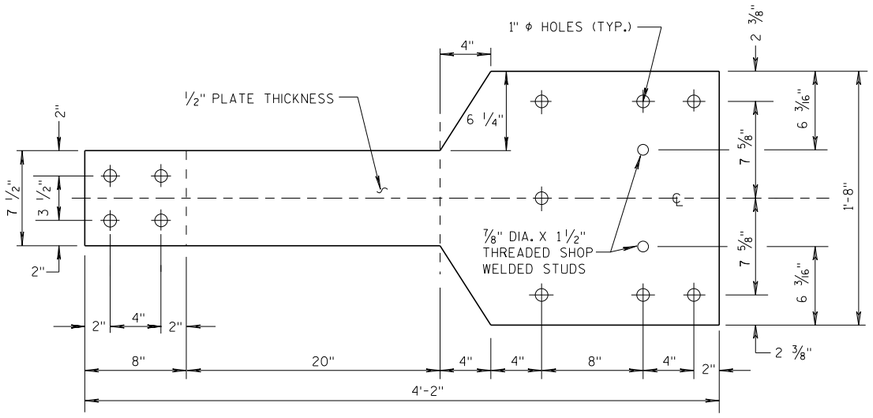
S.D.D. 14 B 45-5g

6

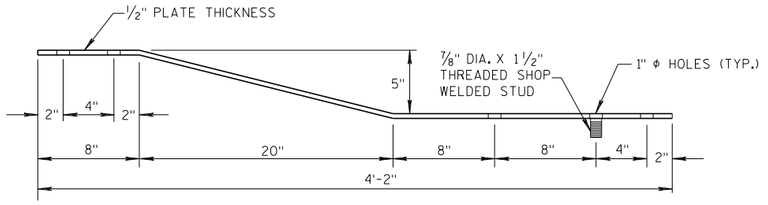
S.D.D. 14 B 45-5g

GENERAL NOTES

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

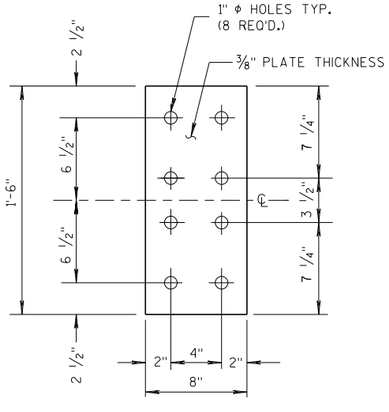


FRONT VIEW



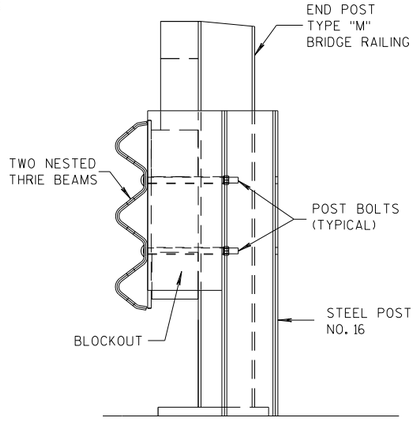
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

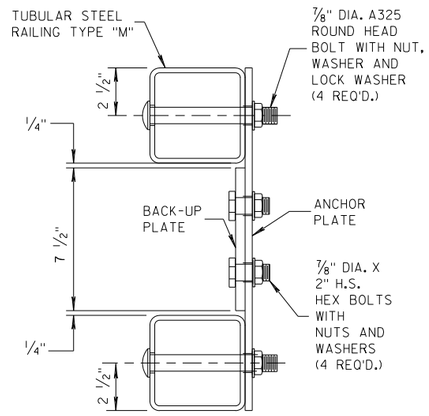


FRONT VIEW

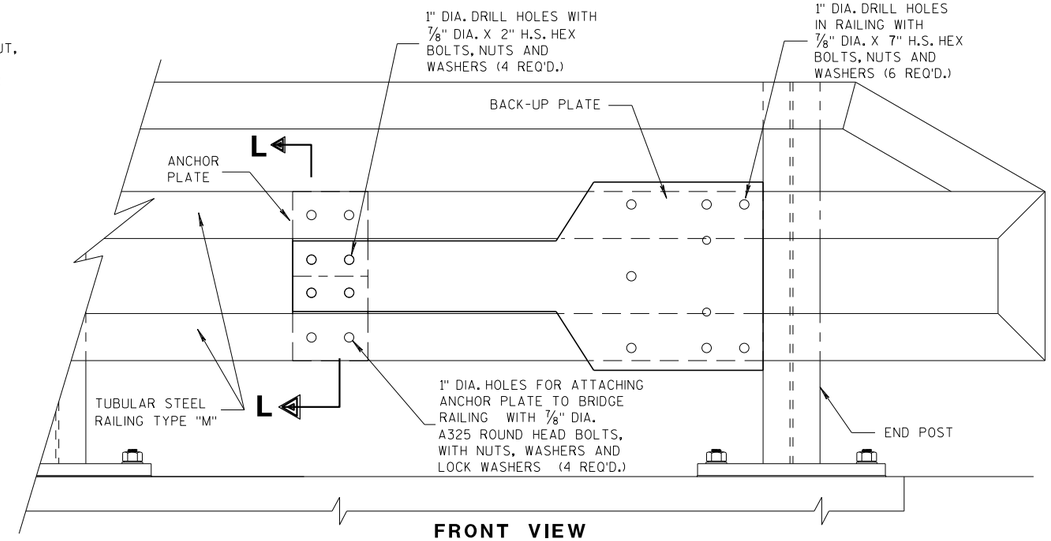
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

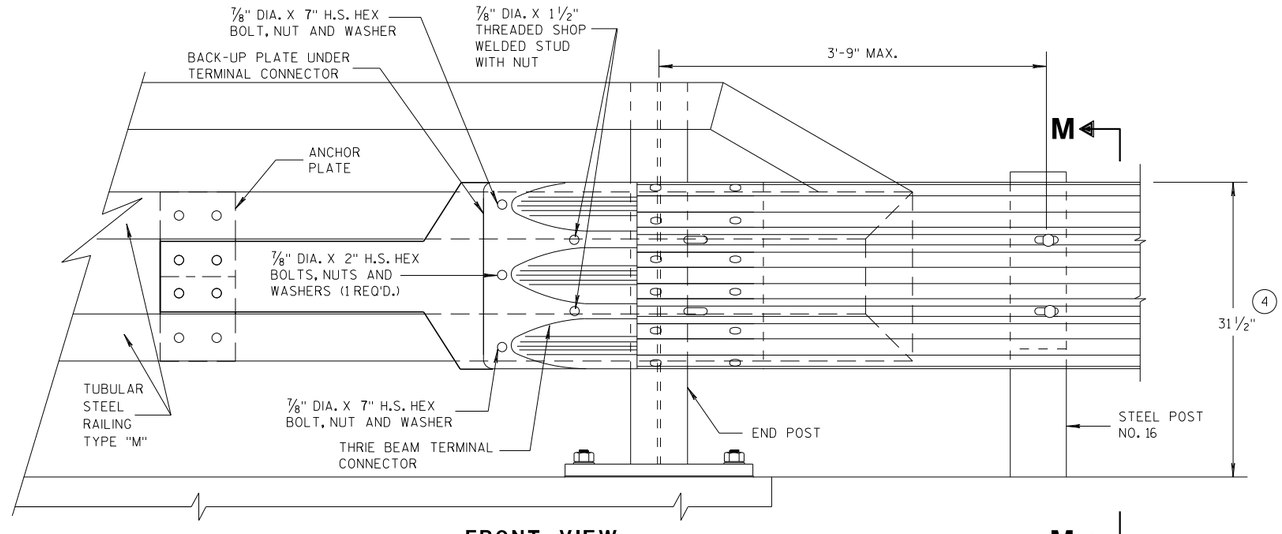


SECTION L-L

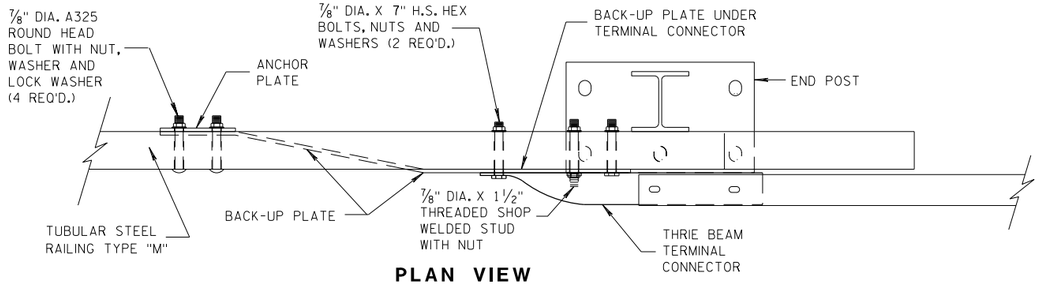


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

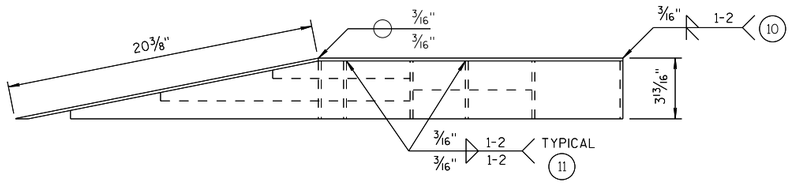
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

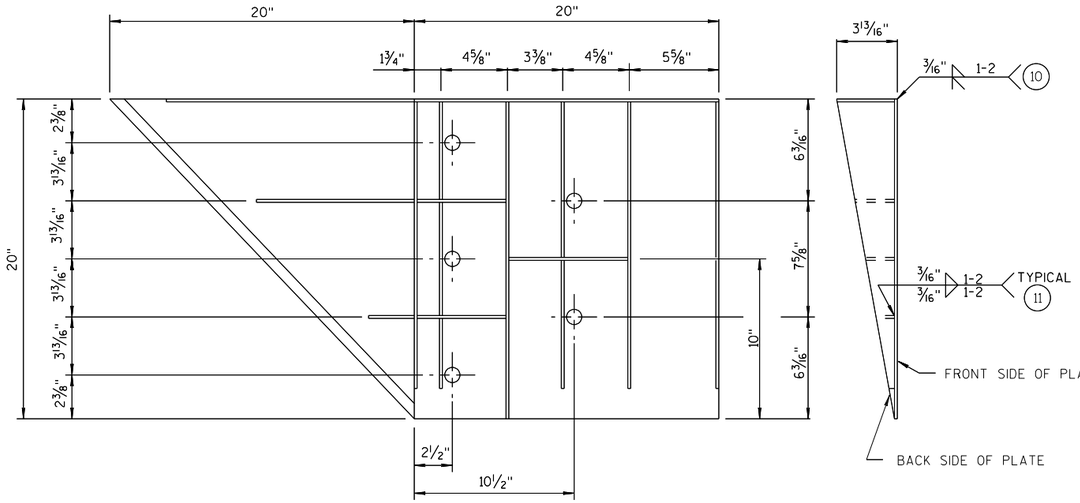
6

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

6

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





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

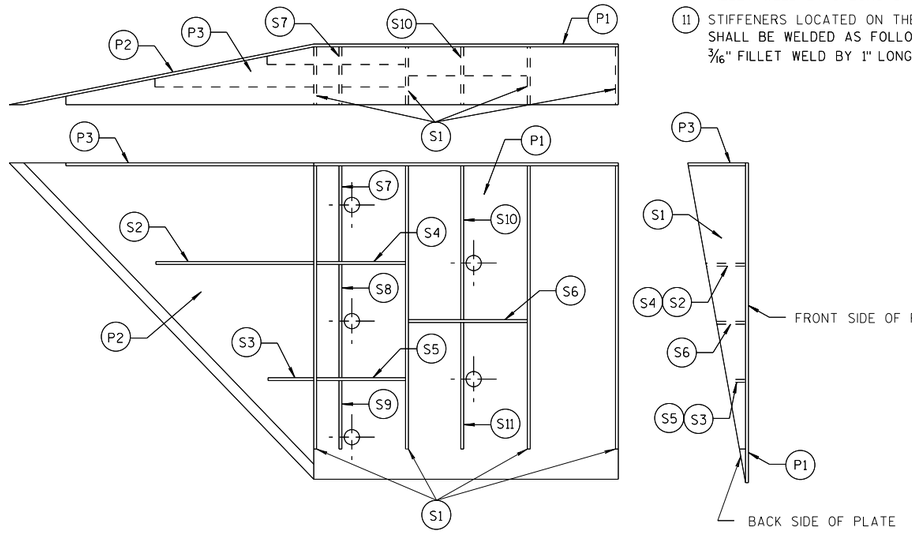


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

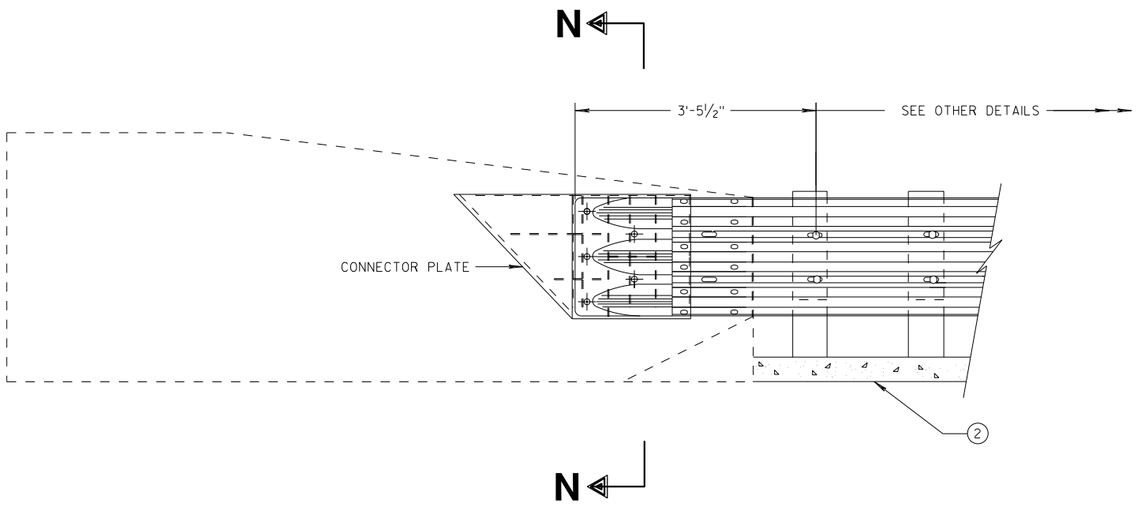
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

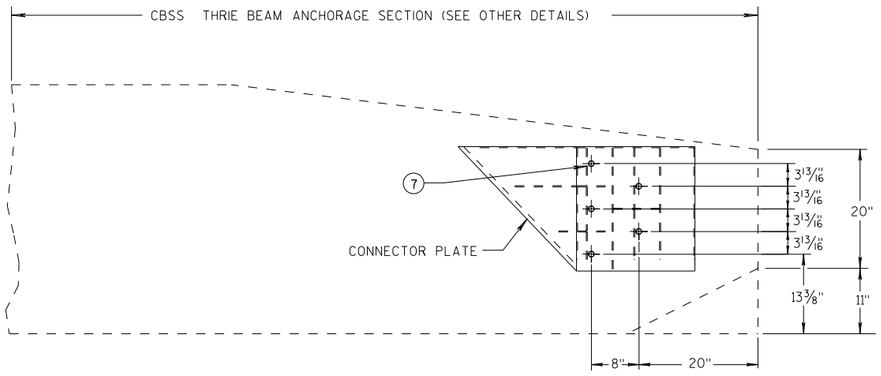
APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS I
UNIT SUPERVI ENT

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



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



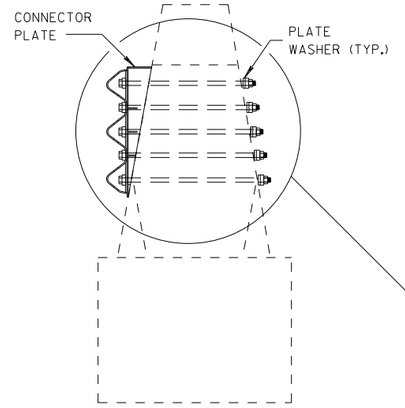
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

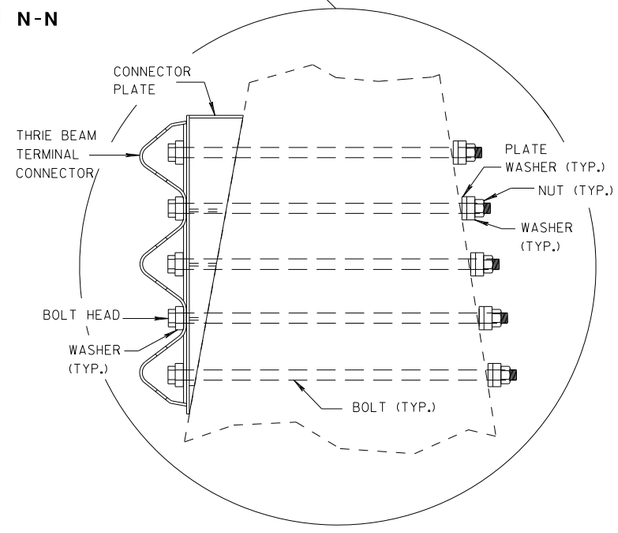
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

(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.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

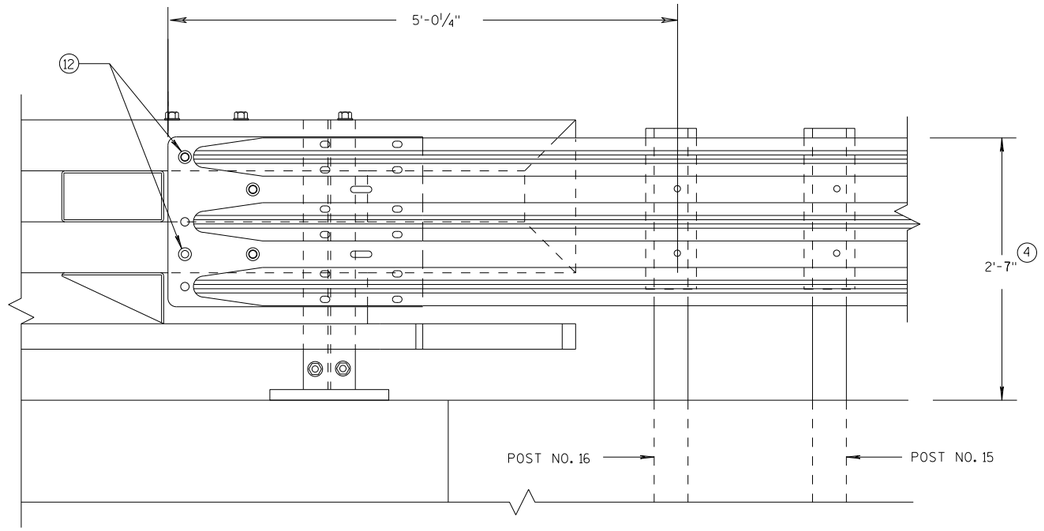
/S/ Rodney Taylor
ROADWAY STANDARDS DI[illegible]NT
UNIT SUPERVIS

6

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

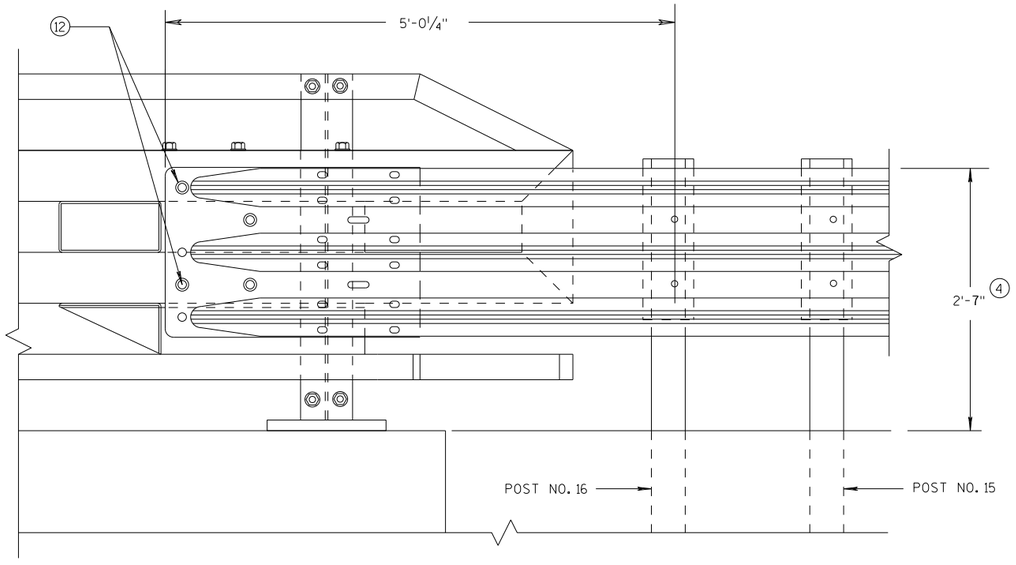
6

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



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS

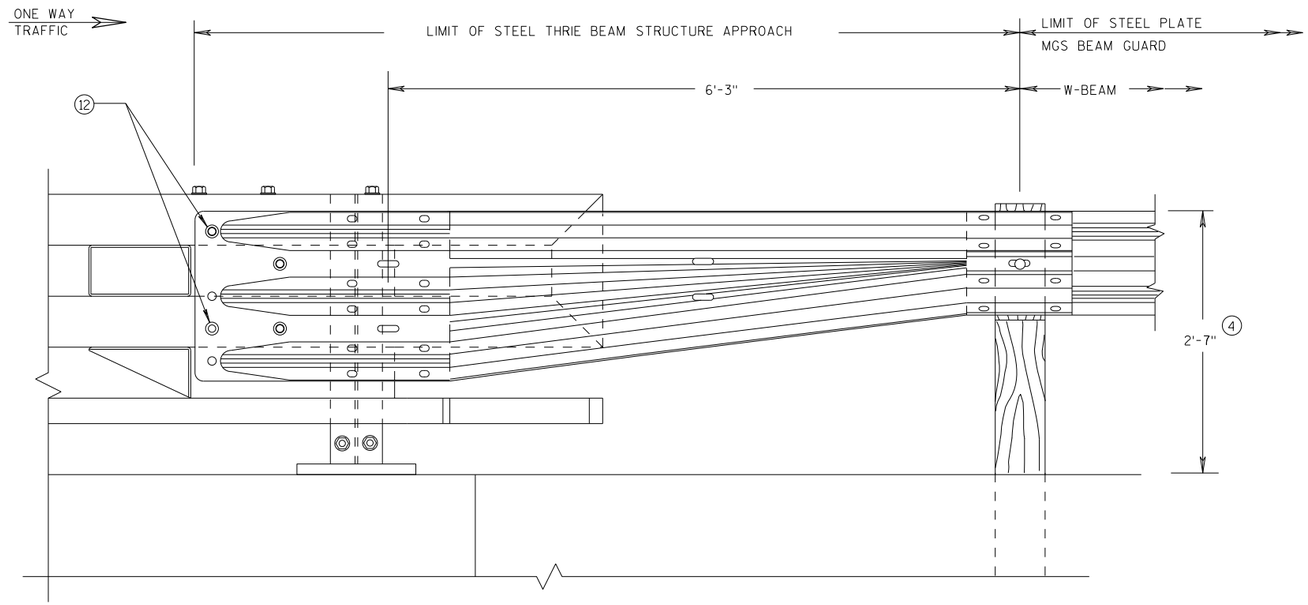
NT

6

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

6

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



FRONT VIEW

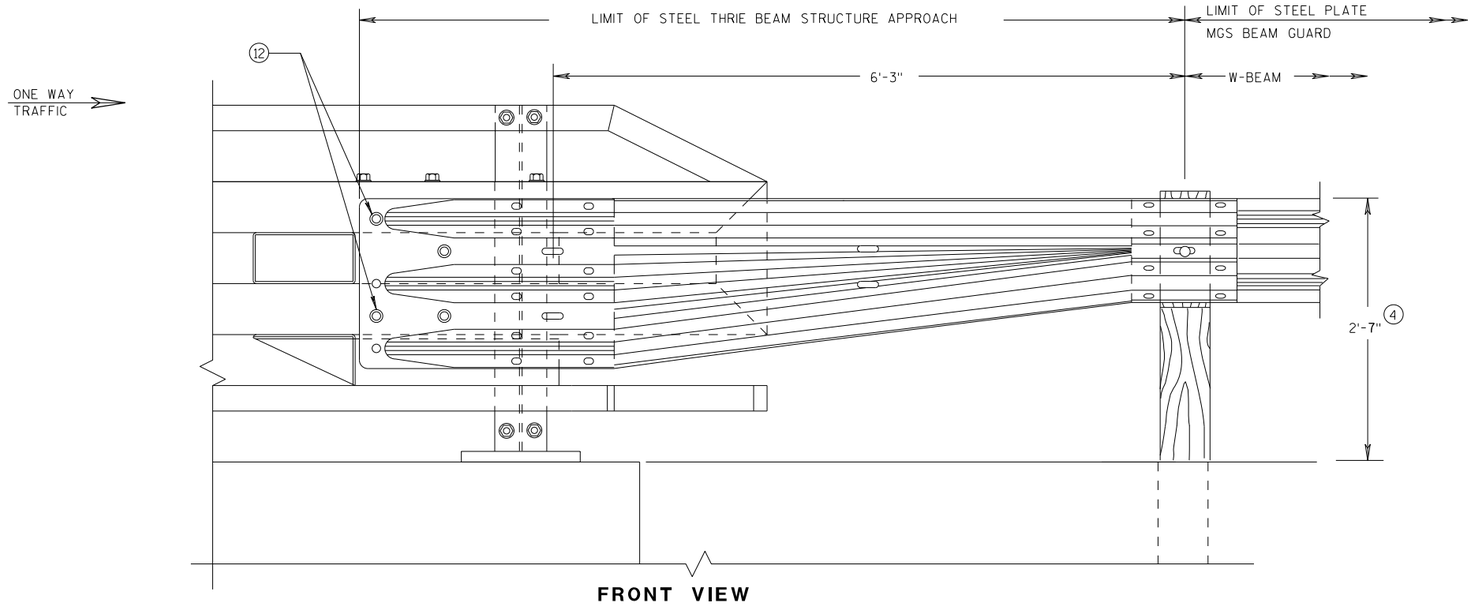
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

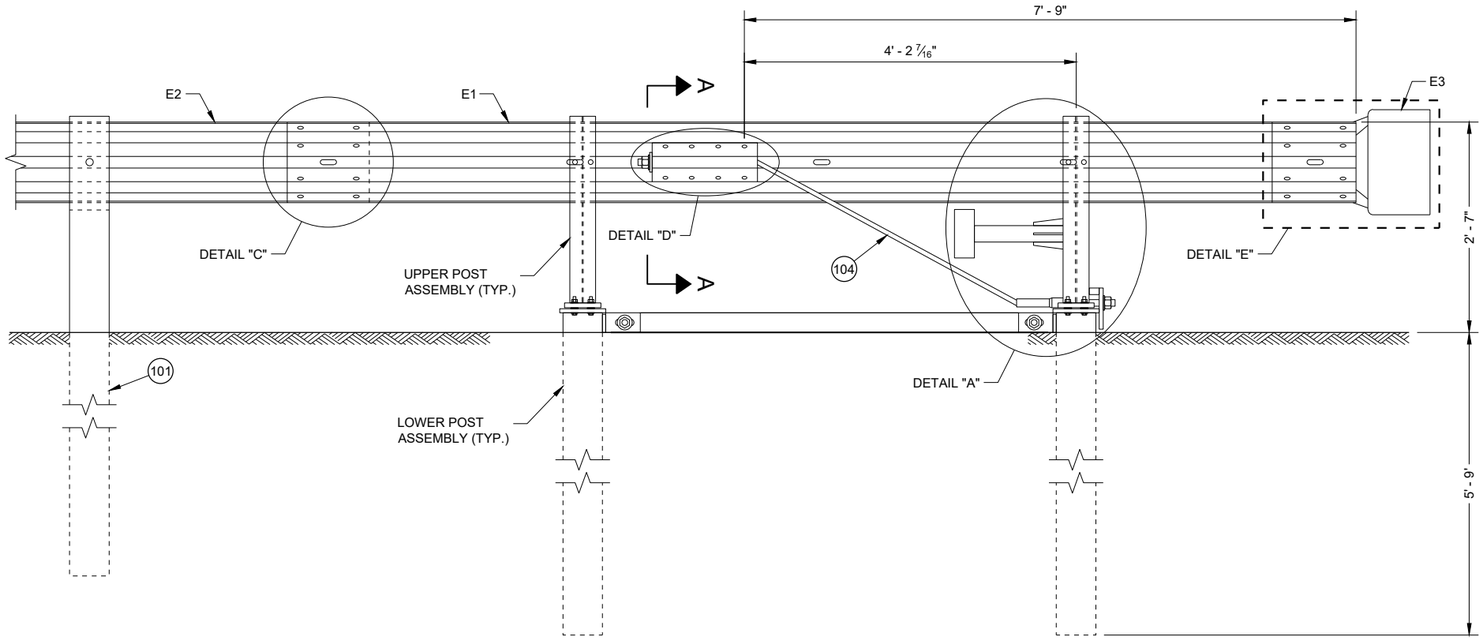
APPROVED
7/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS
NT
FHWA

6

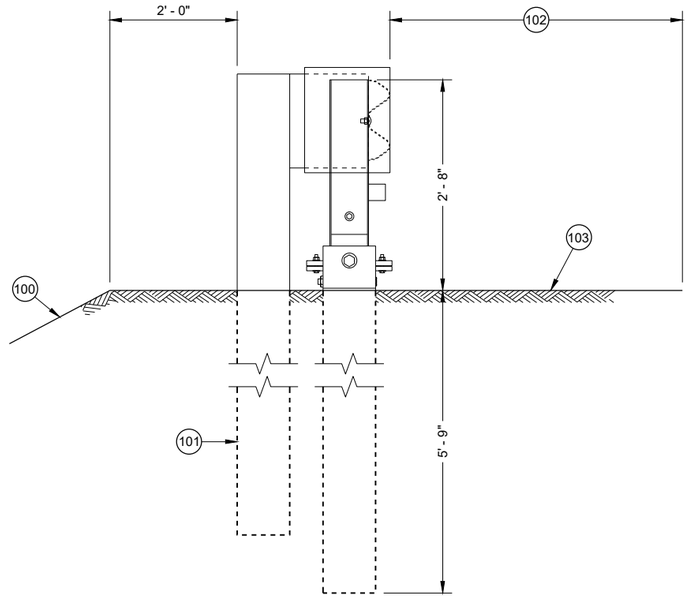
S.D.D. 14 B 45-5L

6

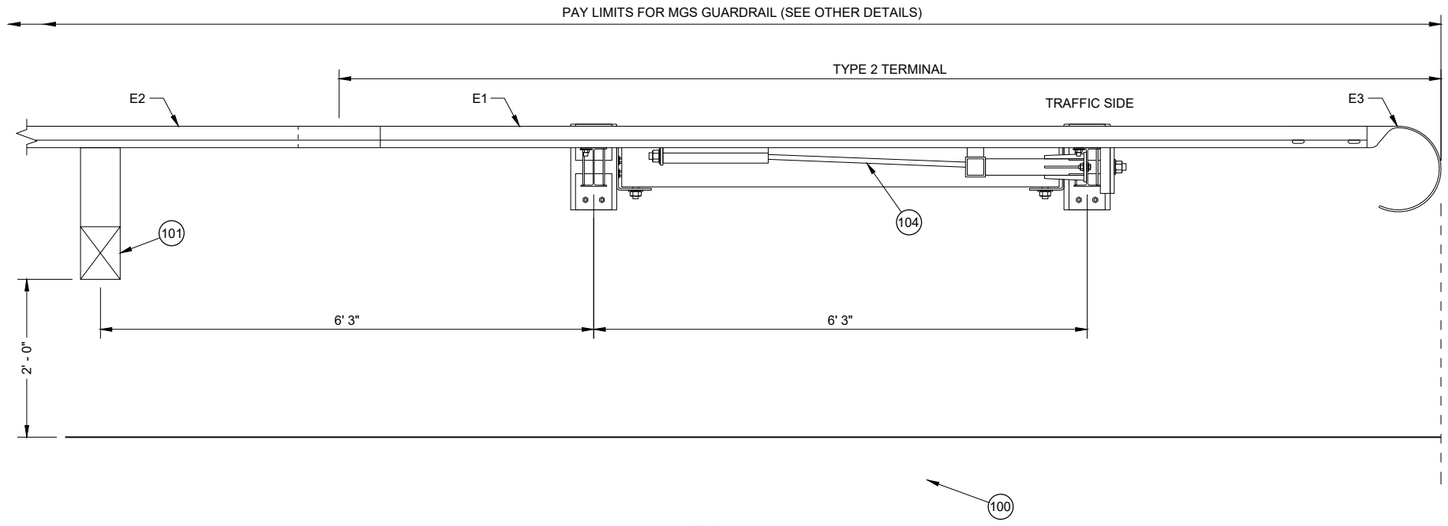
S.D.D. 14 B 45-5L



BACK VIEW
TYPE 2 TERMINAL



SIDE VIEW
TYPE 2 TERMINAL



TOP VIEW
TYPE 2 TERMINAL

GENERAL NOTES

(100) MAXIMUM SLOPE IS 2.5:1.

(101) SEE SDD 14B42 FOR MORE INFORMATION.

(102) SHOULDER

(103) MAXIMUM SLOPE IS 10:1.

(104) AFTER ASSEMBLY, CABLE IS TO BE TIGHTENED WITHOUT TWISTING THE CABLE.

MIDWEST GUARDRAIL SYSTEM (MGS)
TYPE 2 TERMINAL

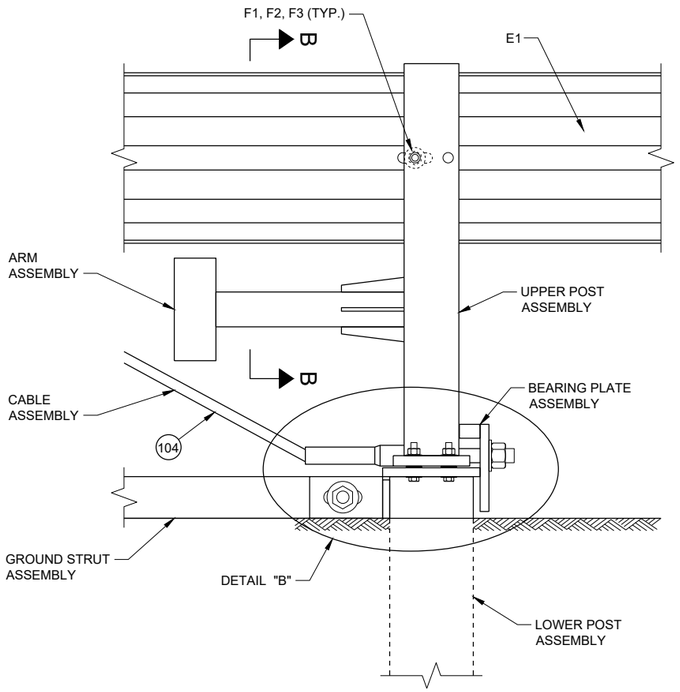
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

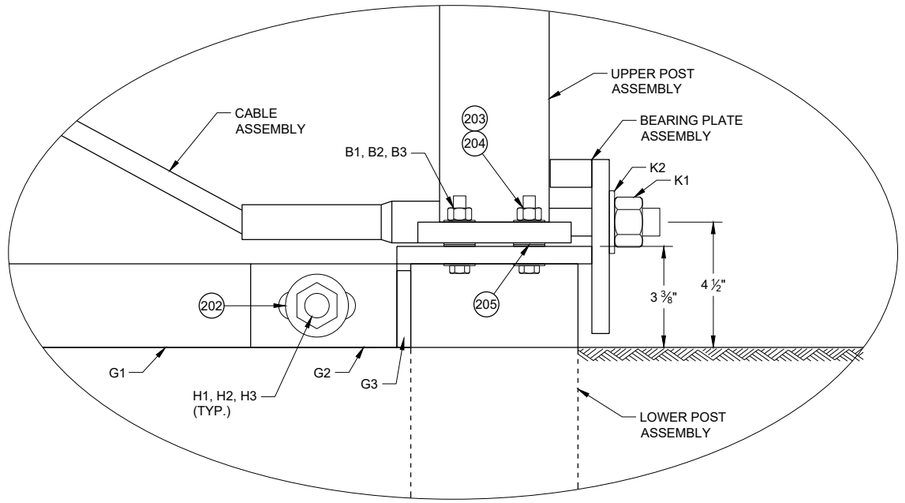
6

SDD 14B47 - 03a

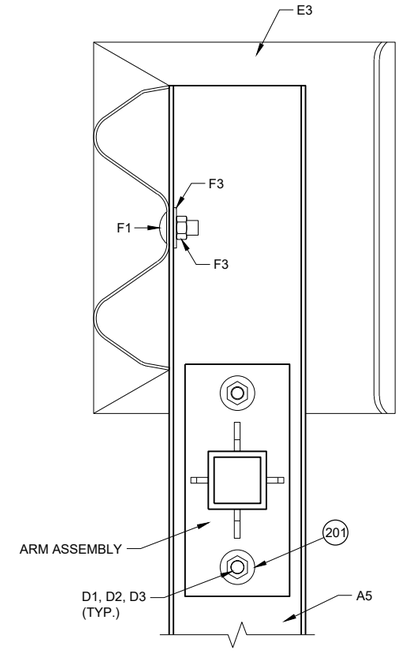
SDD 14B47 - 03a



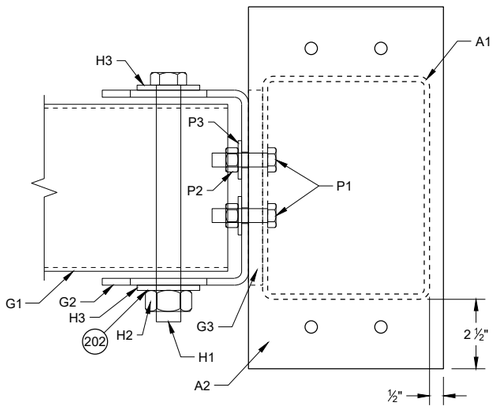
DETAIL "A"



DETAIL "B"

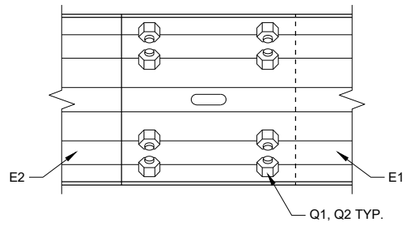


SECTION B - B

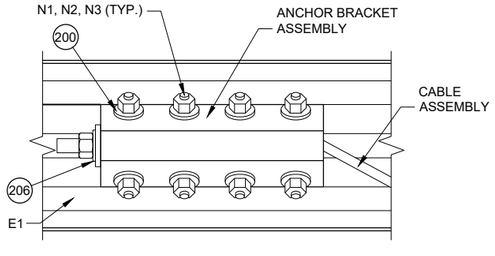


TOP VIEW

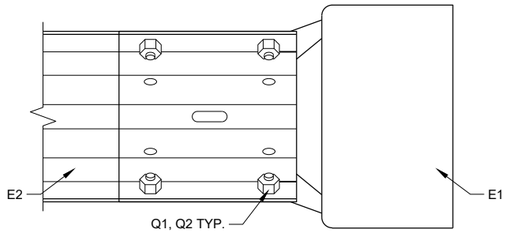
GROUND STRUT CONNECTION DETAIL



DETAIL "C"



DETAIL "D"



DETAIL "E"

GENERAL NOTES

200 INSTALL ONE WASHER UNDER BOLT HEAD AND RAIL AND ON WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

201 INSTALL ONE WASHER UNDER BOLT HEAD AND UPPER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND ARM PLATE.

202 INSTALL ONE WASHER UNDER BOLT HEAD AND GROUND STRUT CONNECTOR AND ONE WASHER BETWEEN NUT AND GROUND STRUT CONNECTOR.

203 INSTALL ONE WASHER UNDER BOLT HEAD AND LOWER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND UPPER POST ASSEMBLY.

204 TORQUE VALUE IS BETWEEN 60 - 75 FT-LB.

205 TWO WASHERS BETWEEN UPPER AND LOWER POST ASSEMBLY.

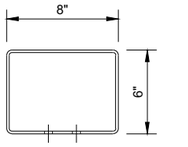
206 INSTALL ONE WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

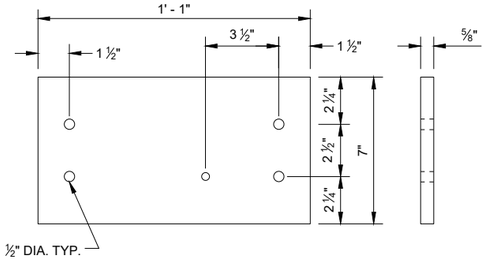
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

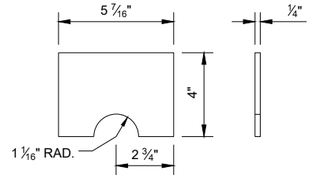
SDD 14B47 - 03b



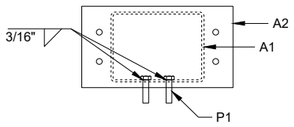
TOP VIEW



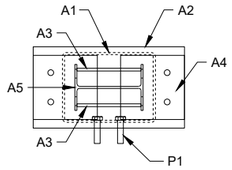
LOWER PLATE (A2)

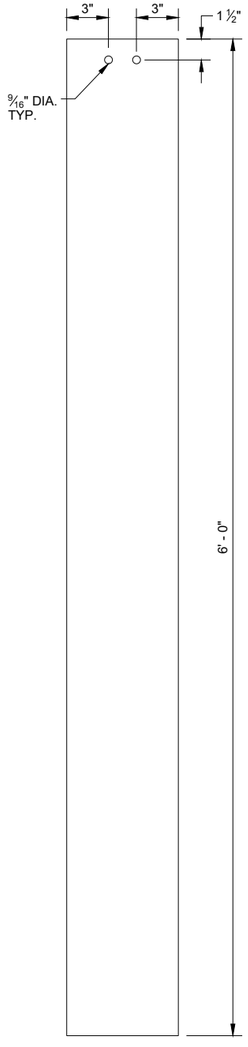


POST GUSSET (A3)



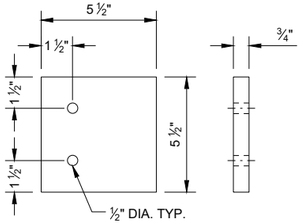
PLAN VIEW



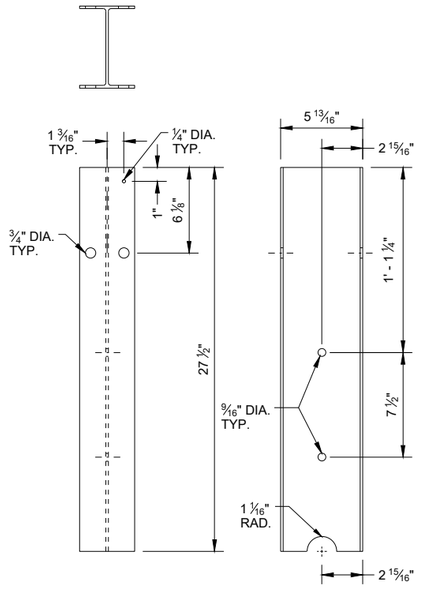


SIDE VIEW

FOUNDATION TUBE (A1)

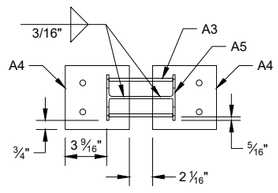


UPPER PLATE (A4)

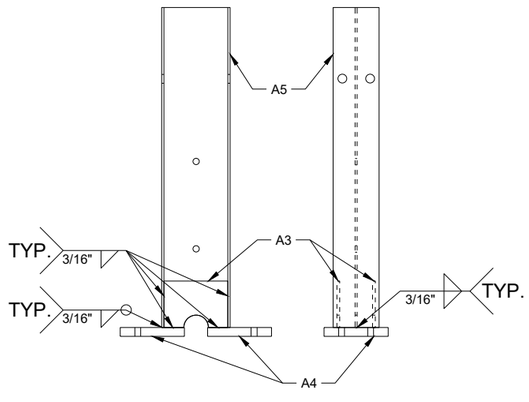


FRONT VIEW **SIDE VIEW**

TYPE 2 POST (A5)

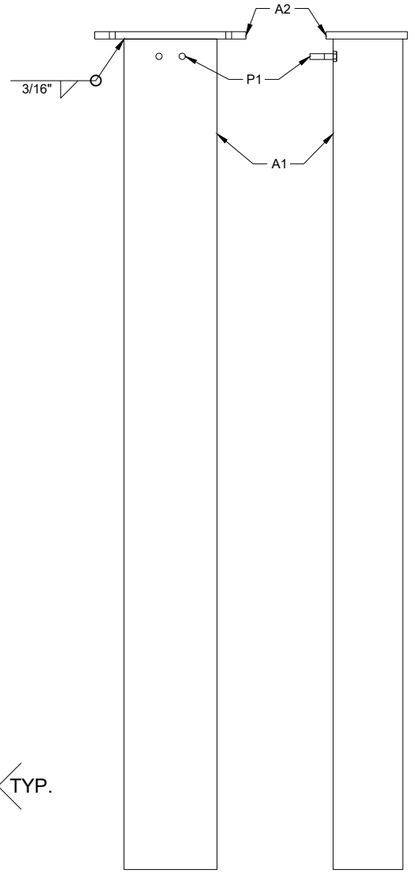


PLAN VIEW



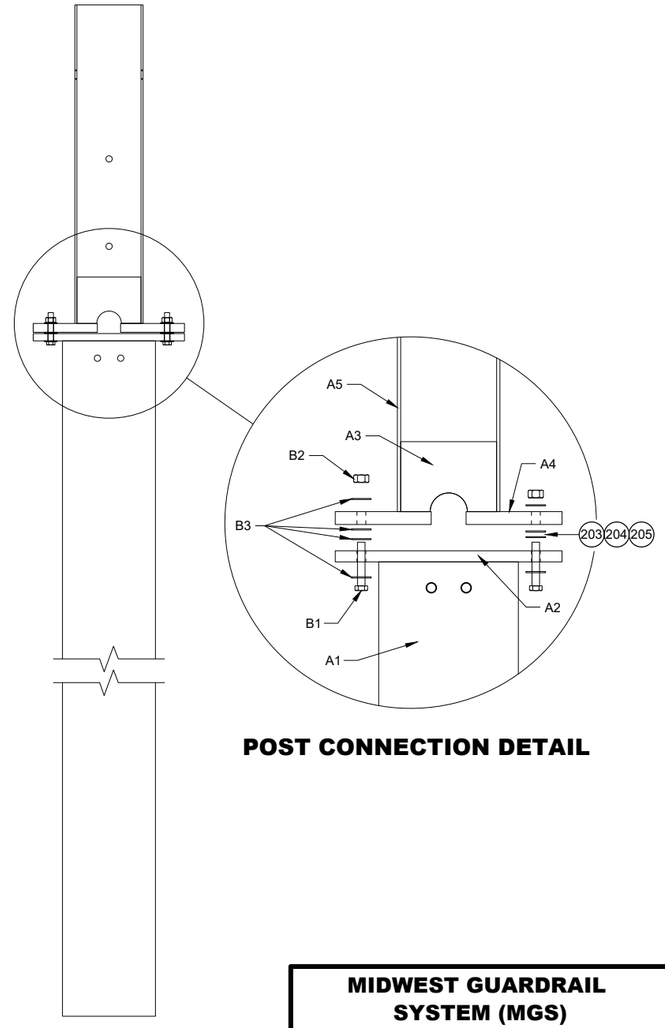
SIDE VIEW **FRONT VIEW**

UPPER POST ASSEMBLY



FRONT VIEW **SIDE VIEW**

LOWER POST ASSEMBLY



POST CONNECTION DETAIL

ASSEMBLED POST

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

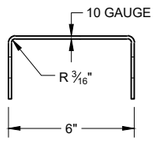
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

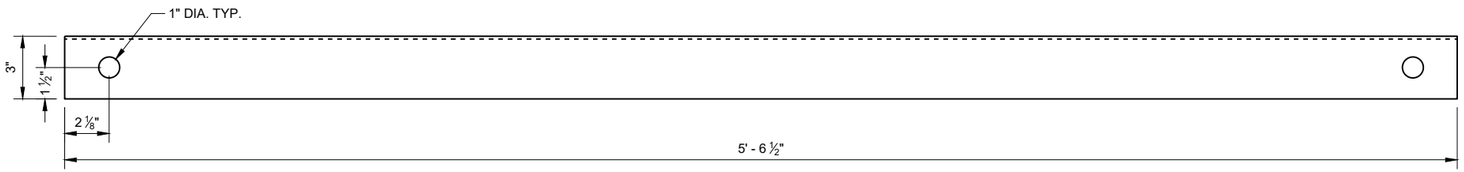
SDD14B47 - 03c

6

SDD14B47 - 03c

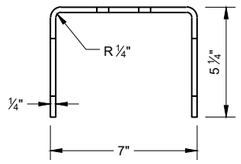


SIDE VIEW

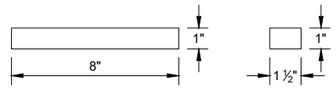


FRONT VIEW

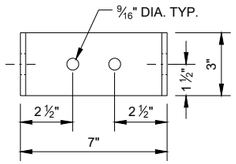
GROUND STRUT CHANNEL (G1)



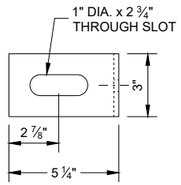
TOP VIEW



BEARING PLATE FLANGE (L2)

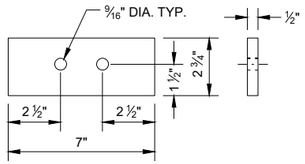


FRONT VIEW

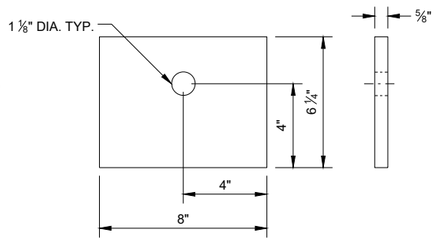


SIDE VIEW

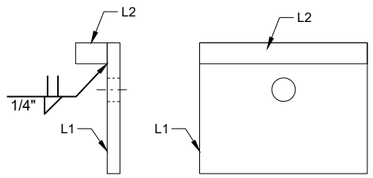
GROUND STRUT CONNECTOR (G2)



GROUND STRUT PLATE (G3)

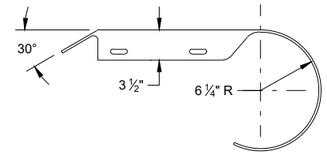


BEARING PLATE (L1)

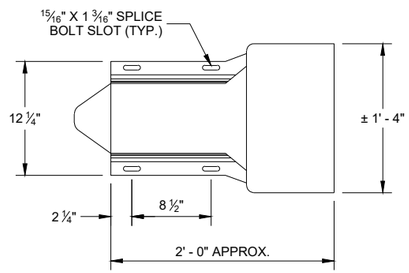


SIDE VIEW FRONT VIEW

BEARING PLATE ASSEMBLY

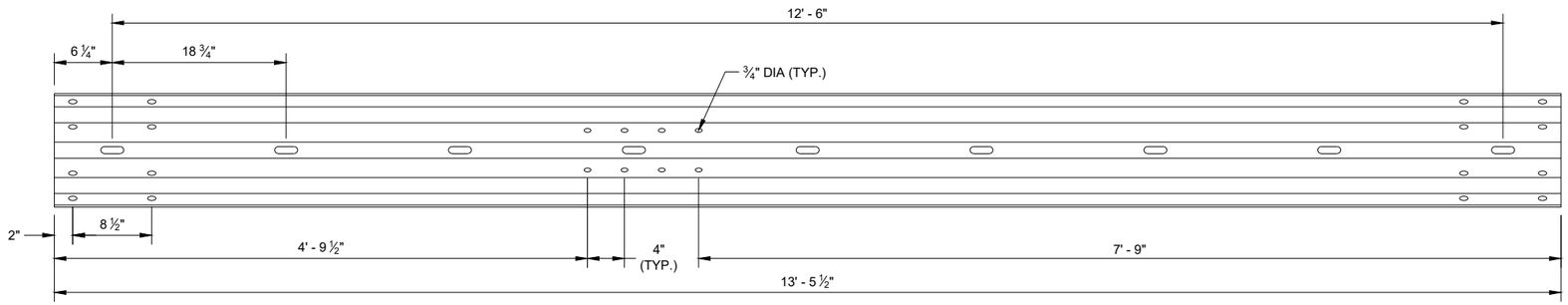


PLAN VIEW

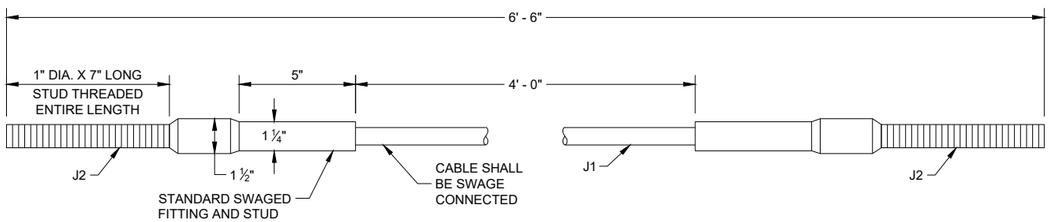


ELEVATION VIEW

ROUNDED BUFFER END (E3)



TYPE 2 GUARDRAIL (E1)



CABLE ASSEMBLY

6

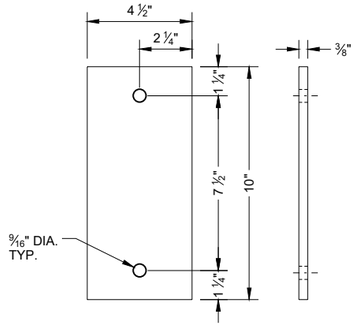
6

SDD 14B47 - 03d

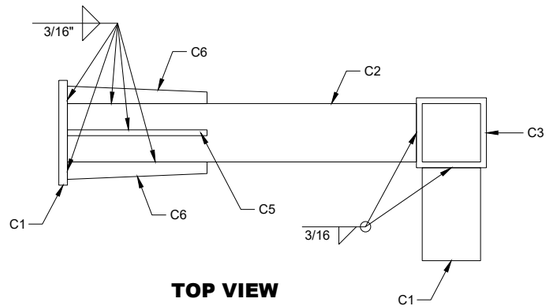
SDD 14B47 - 03d

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

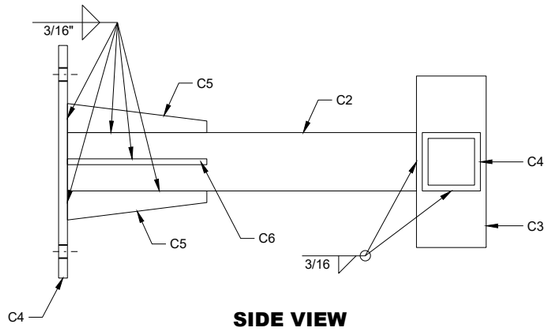
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



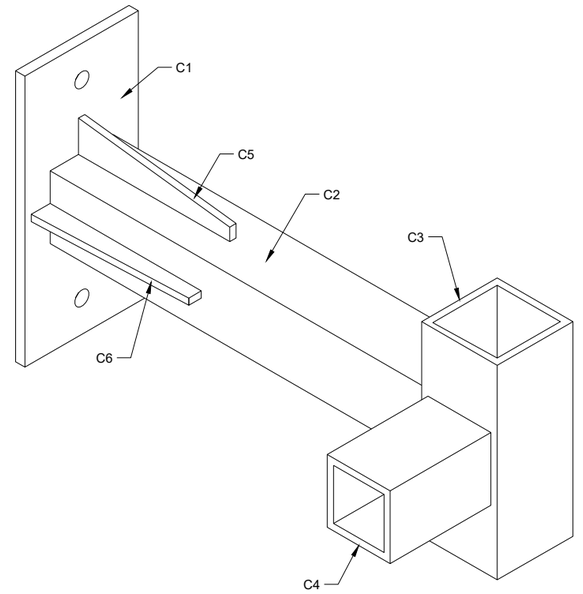
ARM PLATE (C1)



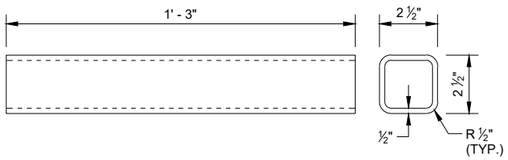
TOP VIEW
ARM ASSEMBLY



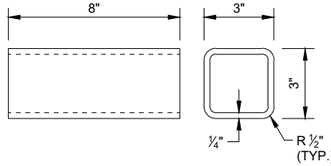
SIDE VIEW
ARM ASSEMBLY



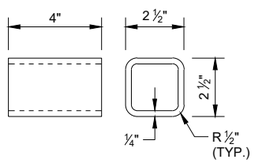
ISOMETRIC VIEW
ARM ASSEMBLY



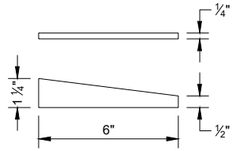
ARM TUBE 1 (C2)



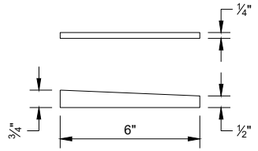
ARM TUBE 2 (C3)



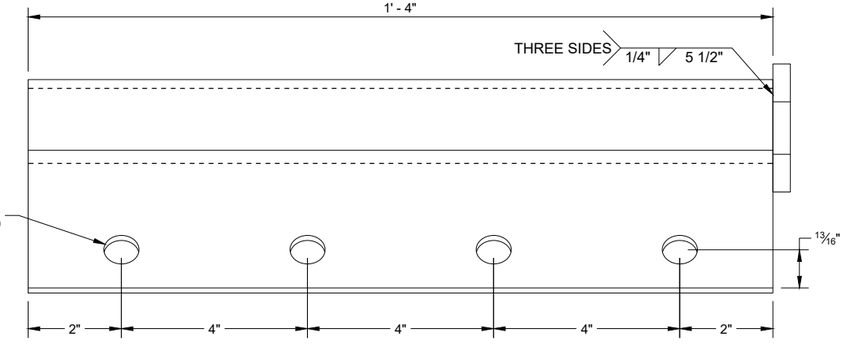
ARM TUBE 3 (C4)

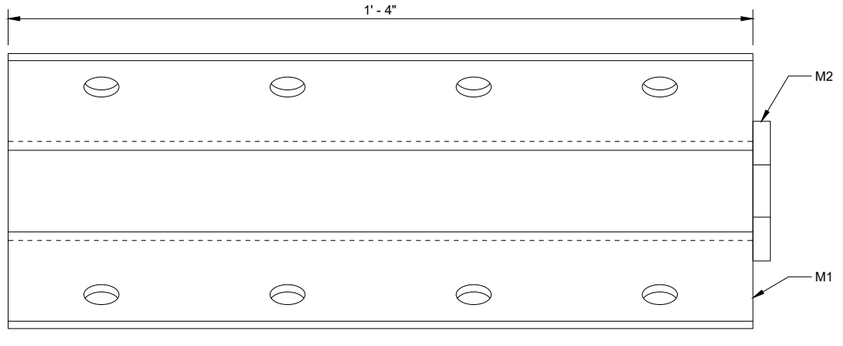


ARM GUSSET PLATE 1 (C5)

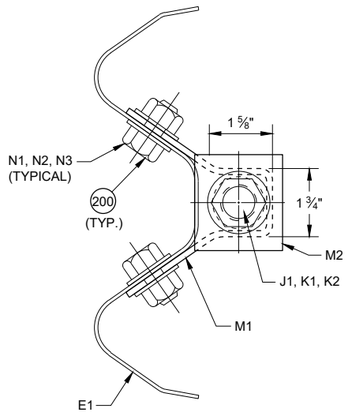


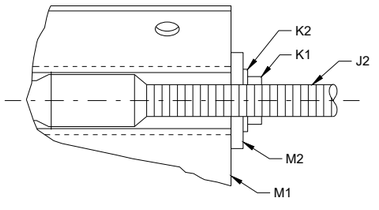
ARM GUSSET PLATE 2 (C6)



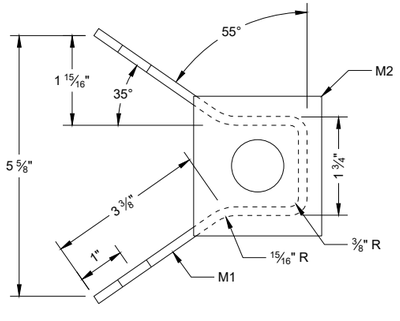


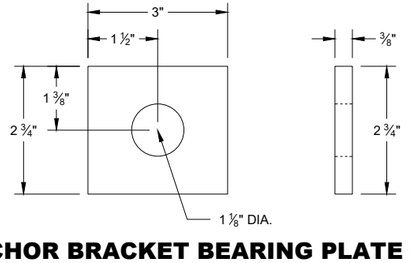
ANCHOR BRACKET (M1, M2)





SECTION A - A





ANCHOR BRACKET BEARING PLATE (M2)

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA 169

6

SDD14B47 - 03e

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	TYPE 2 FOUNDATION TUBE	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x 3/16"
A2	LOWER PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	5/8" THICKNESS
A3	POST GUSSET	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
A4	UPPER PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/4" THICKNESS
A5	TYPE 2 POST	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	
B1	BREAKAWAY BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED . PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	7/16" DIA.
B2	BREAKAWAY BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	7/16" DIA.
B3	BREAKAWAY BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
C1	ARM ASSEMBLY PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/8" THICKNESS
C2	ARM ASSEMBLY TUBE 1	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x 3/16"
C3	ARM ASSEMBLY TUBE 2	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 3" x 3" x 1/4"
C4	ARM ASSEMBLY TUBE 3	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 2 1/2" x 2 1/2" X 1/4"
C5	ARM ASSEMBLY GUSSET PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
C6	ARM ASSEMBLY GUSSET PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
D1	ARM ASSEMBLY BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	1/2" DIA.
D2	ARM ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	1/2" DIA.
D3	ARM ASSEMBLY NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1/2" DIA.
E1	TYPE 2 GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E2	BEAM GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E3	BEAM GUARD ROUNDED BUFFER END	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
F1	POST BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	5/8" DIA.
F2	POST BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	5/8" DIA.
F3	POST BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
G1	GROUND STRUT CHANNEL	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/2" x 11 3/4" x 10 GAUGE
G2	GROUND STRUT CONNECTOR	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
G3	GROUND STRUT PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/2" THICKNESS

6

6

SDD 14B47 - 03f

SDD 14B47 - 03f

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
H1	GROUND STRUT BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	7/8" DIA.
H2	GROUND STRUT BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	7/8" DIA.
H3	GROUND STRUT BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
J1	BCT CABLE	AASHTO M30 / ASTM A741 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN. BREAKING STRENGTH OF 42.7 KIPS	**3/4" DIA.**
J2	BCT CABLE	UNC 1" ASTM A576 GRADE 1035 SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. MIN BREAKING STRENGTH OF 42.7 KIPS ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."	
K1	CABLE ASSEMBLY NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1" DIA.
K2	CABLE ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1	1" DIA.
L1	BEARING PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	5/8" THICKNESS
L2	BEARING PLATE FLANGE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1" THICKNESS
M1	BEAM GUARD ANCHOR BRACKET	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	
M2	BEAM GUARD ANCHOR END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/8" THICKNESS
N1	ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	5/8" DIA.
N2	ANCHOR BRACKET BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	5/8" DIA.
N3	ANCHOR BRACKET BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 /ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
P1	FOUNDATION TUBE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 /ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1/2" DIA.
P2	FOUNDATION TUBE WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 7/8" ASTM F844 TYPE 1 (HARDENED WASHER ONLY)	1/2" DIA.
P3	FOUNDATION TUBE NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
Q1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
Q2	SPLICE NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	5/8" DIA.

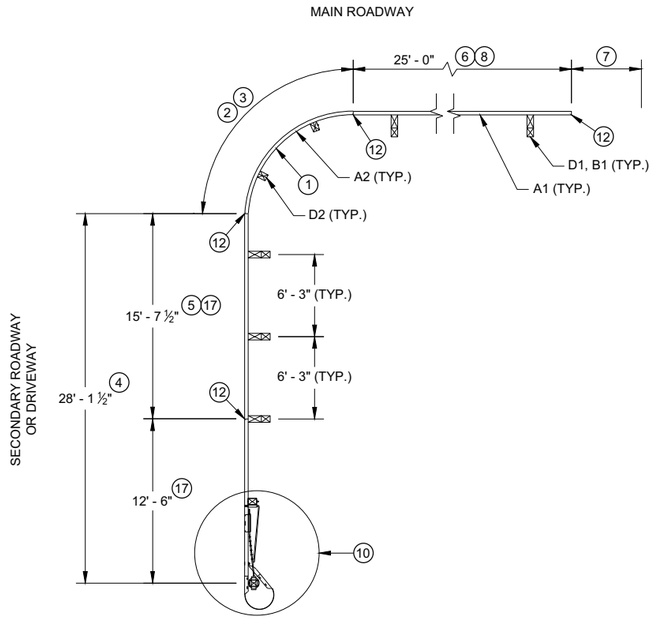
6

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

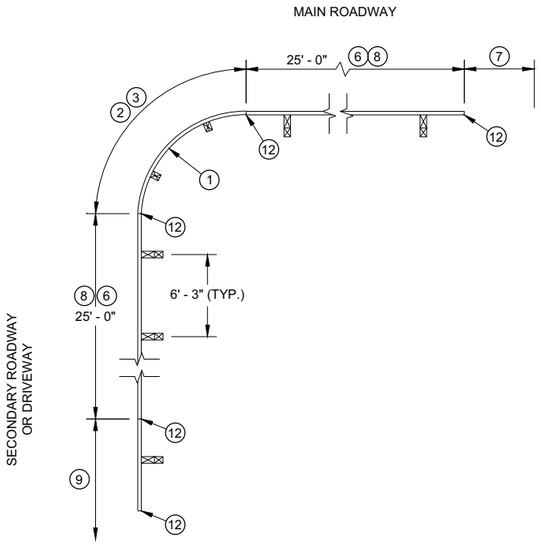
APPROVED
August 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER
FHWA

SDD 14B47 - 03g



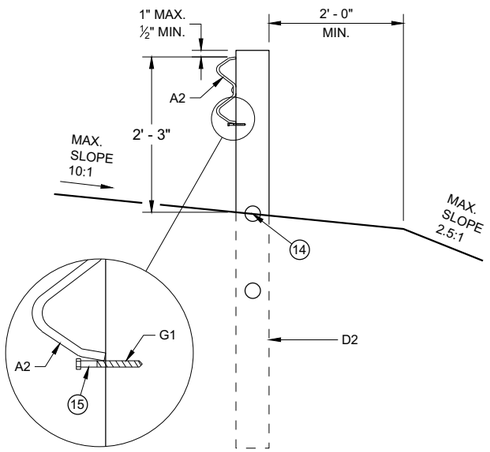
PLAN VIEW

SHORT RADIUS BEAM GUARD WITH SHORT RADIUS TERMINAL ON SECONDARY ROAD OR DRIVEWAY

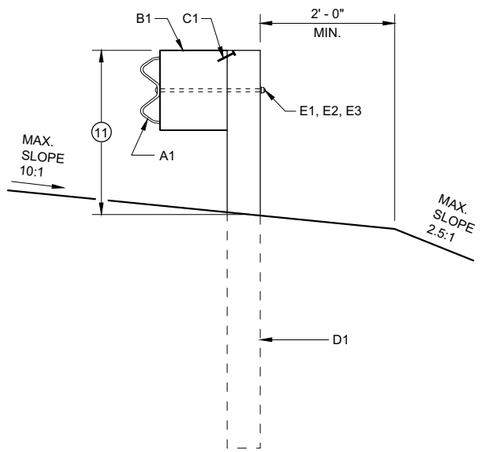


PLAN VIEW

SHORT RADIUS BEAM GUARD WITH EAT, ADDITIONAL BEAM GUARD OR TRANSITION TO RIGID BARRIER ON SECONDARY ROAD OR DRIVEWAY



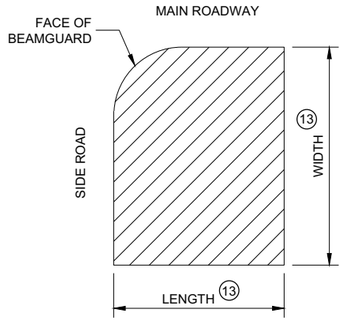
CONTROLLED RELEASE TERMINAL POST (CRT) IN RADIUS



BEAM GUARD POSTS IN HEIGHT TRANSITION

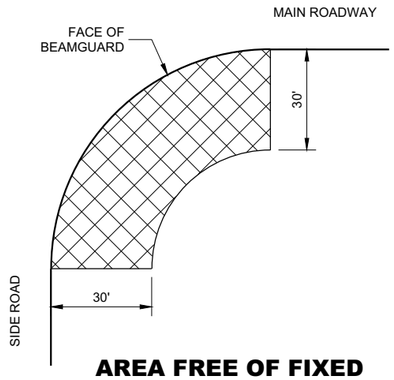
TABLE FOR RADIUS OF 32' AND LESS

RADIUS (FT)	LENGTH (FT)	WIDTH (FT)
8	25	15
16	30	15
24	40	20
32	50	30

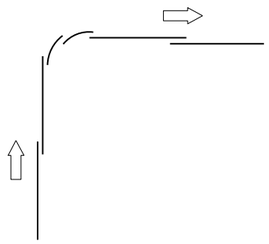


AREA FREE OF FIXED OBJECTS FOR RADIUS 32' AND LESS

16



AREA FREE OF FIXED OBJECTS FOR RADIUS GREATER THAN 32'



LAP SPLICE DETAIL

GENERAL NOTES

SEE PLANS FOR OTHER BARRIER SYSTEM AND LOCATION SPECIFICS.

SEE SDD 14B42 FOR MORE INFORMATION ON BEAM GUARD INSTALLATION, PARTS, MATERIALS, AND INSTALLATION INFORMATION.

GALVANIZE PARTS AFTER FABRICATION.

WELDING TO FOLLOW CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI / AWS D1.1.

UNLESS NOTED OTHERWISE, ALL PLATES ARE FLAT AND FREE OF WARP.

UNLESS NOTED OTHERWISE, ALL EDGES ARE SMOOTH, STRAIGHT AND VERTICAL.

ALL CUTS AND HOLES, EXCEPT IN BEAM GUARD RAIL ARE TO BE MACHINED OR MACHINE FLAME CUT.

UNLESS NOTED OTHERWISE, CUT OR PROVIDE BOLTS THAT ARE ¼" TO ½" BEYOND THE NUT.

DRAWINGS ARE NOT TO SCALE.

(1) RADIUS MEASURE FROM INSIDE OF RAIL. LENGTH OF BEAM GUARD SHORT RADIUS GUARD MEASURED ALONG TRAFFIC SIDE OF RAIL. RADIUS BETWEEN 8 FEET TO 150 FEET. SEE PLAN FOR REQUIRED RADIUS. BEAM GUARD RAIL IN RADIUS IS SHOP BENT. ODD RAIL LENGTH OR FIELD CUTS MAY BE REQUIRED.

(2) CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE USED IN THE RADIUS. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE SPACED 6' - 3". SEE PLAN FOR NUMBER OF CONTROLLED RELEASE (CRT) POSTS.

(3) WITHIN RADIUS BEAM GUARD RAILS ARE NOT BOLTED TO POSTS. BEAM GUARD RAIL IS RESTED ON TOP OF LAG SCREW.

(4) MINIMUM LENGTH OF BEAM GUARD ALONG SIDE ROAD OR DRIVEWAY TO INSTALL SHORT RADIUS TERMINAL. BEAM GUARD IS PAID WITH BEAM GUARD ITEM.

(5) ODD LENGTH OF BEAM GUARD REQUIRED TO INSTALL SHORT RADIUS TERMINAL.

(6) MINIMUM AMOUNT OF BEAM GUARD TO BE INSTALLED PRIOR TO TRANSITION TO RIGID BARRIER. ADDITIONAL BEAM GUARD, OR EAT. BEAM GUARD PAID FOR WITH BEAM GUARD ITEM. SEE PLANS FOR MORE DETAIL.

(7) BEAM GUARD, EAT, OR TRANSITION TO RIGID BARRIER. SEE PLAN.

(8) TOP OF BEAM GUARD BY THE RADIUS IS 27". HEIGHT OF BEAM GUARD IS 31" BY TRANSITION TO RIGID BARRIER, ADDITIONAL BEAM GUARD OR EAT.

(9) ADDITIONAL BEAM GUARD, EAT OR TRANSITION TO RIGID BARRIER. BEAM GUARD SHOWN. SEE PLAN FOR DETAILS.

(10) SHORT RADIUS TERMINAL (SEE OTHER DETAILS).

(11) HEIGHT VARIES. SEE NOTE (8) AND (8).

(12) BEAM GUARD RAIL SPLICE LOCATION. SPLICE LOCATION REQUIRES PART F1 AND F2. SEE SDD 14B42 FOR DETAILS.

(13) SEE TABLE FOR VALUES.

(14) MAXIMUM HEIGHT FOR CENTER OF HOLE IS ¾" ABOVE FINISHED GROUND ±1".

(15) DRILL POST $^{15}/_{64}$" DIA. PILOT HOLE. DO NOT HAMMER LAG SCREW INTO POST.

(16) SMALL SIGNS ON BREAKAWAY HARDWARE ARE ACCEPTABLE.

(17) TOP OF RAIL HEIGHT IS 27" WHEN USING A SHORT RADIUS TERMINAL (CRT).

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

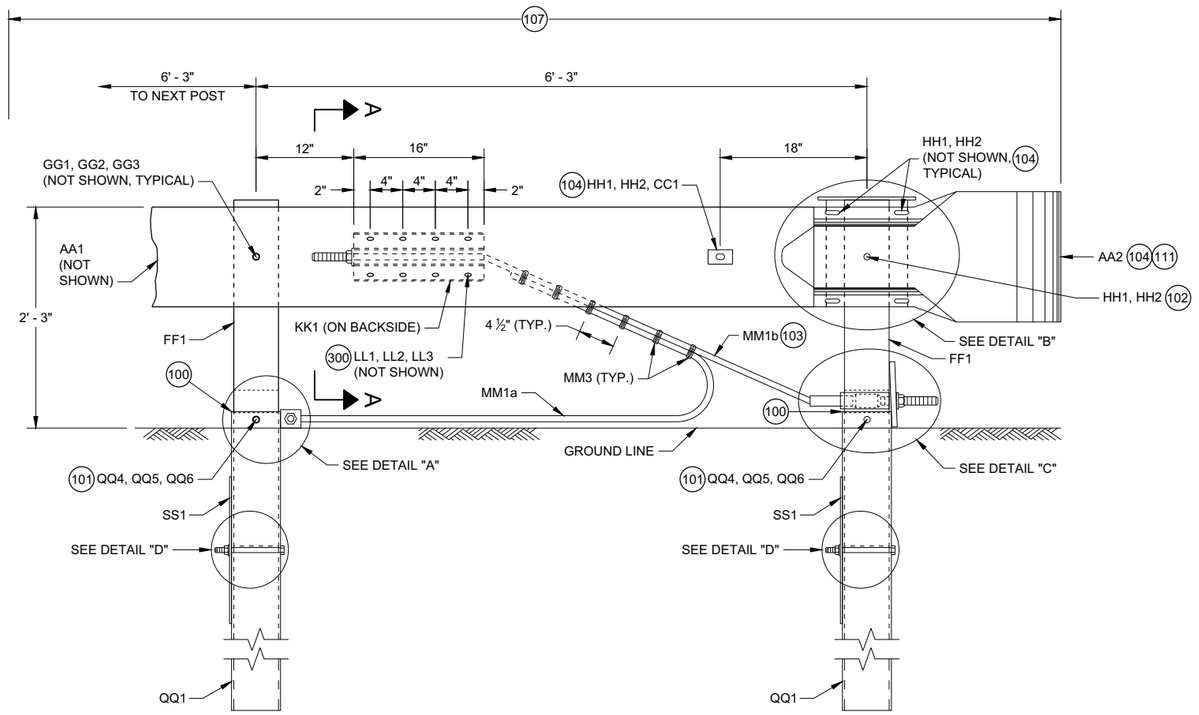
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B53 - 01a

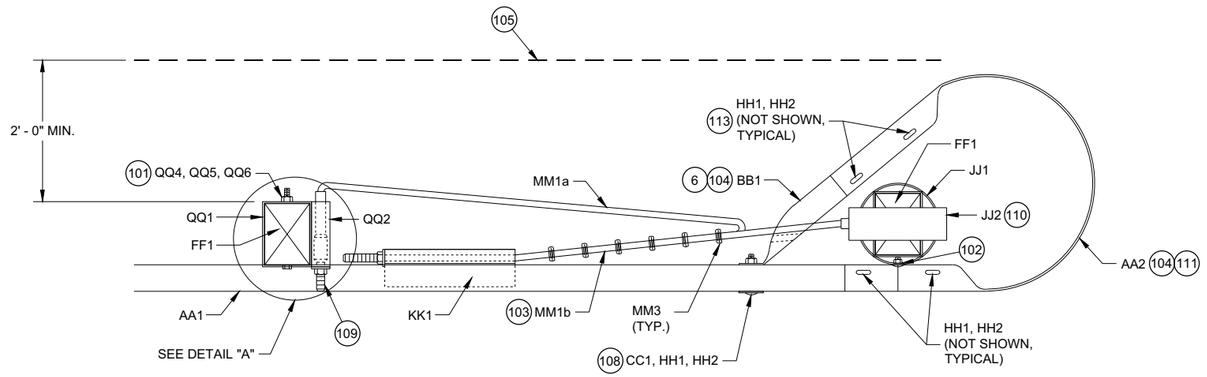
6

SDD 14B53 - 01a



PROFILE VIEW

SHORT RADIUS TERMINAL



TOP VIEW

SHORT RADIUS TERMINAL

GENERAL NOTES

100 TOP OF FOUNDATION TUBE 2 INCHES MAXIMUM ABOVE FINISHED GROUND.

101 WASHERS REQUIRED BETWEEN BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

102 SPLICE BOLT AND NUT CONNECTS BEAM GUARD RAIL, W-BEAM SECTION BUFFER, AND STEEL PIPE ASSEMBLY. NO WASHER REQUIRED. SEE DETAIL "B".

103 CABLE IS TAUT.

104 ADJUST AA2 AND BB1 TO FIT.

105 BREAK POINT OF SHOULDER.

106 TACK WELD CABLE CONNECTOR TUBE PLATE TO CABLE CONNECTION TUBE. SEE DETAIL "A" PROFILE VIEW.

107 PAY LIMIT FOR BEAM GUARD.

108 SQUARE WASHER BETWEEN HEAD OF BOLT AND TRAFFIC FACE OF BEAM GUARD. ROUND WASHER REQUIRED BETWEEN NUT AND BB1.

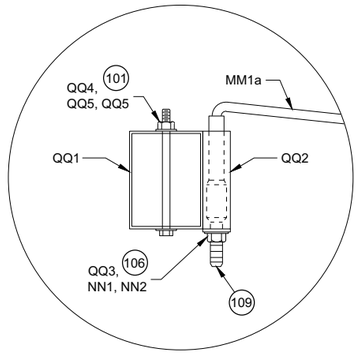
109 CUT OR PROVIDE THREADED STUD THAT IS FLUSH WITH FACE OF BEAM GUARD RAIL KK1 (PLUS OR MINUS ½" TOLERANCE). DEBURR AFTER CUTTING.

110 SEE STEEL PIPE ASSEMBLY DETAILS.

111 ATTACH UU2 WITH UU3. SHOP APPLY UU1 TO UU2.

112 FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA1 TO AA2.

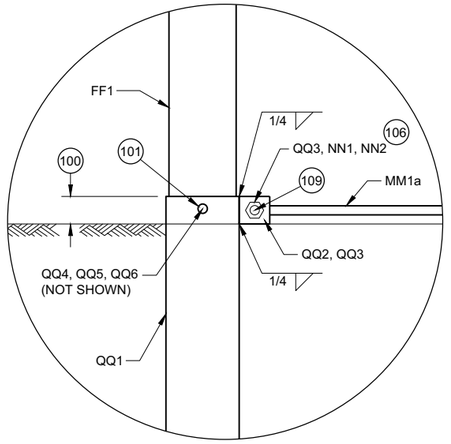
113 FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA2 TO BB1.



TOP VIEW

DETAIL "A"

(WOOD BREAKAWAY AND BEAM GUARD RAIL POSTS NOT SHOWN)



PROFILE VIEW

DETAIL "A"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

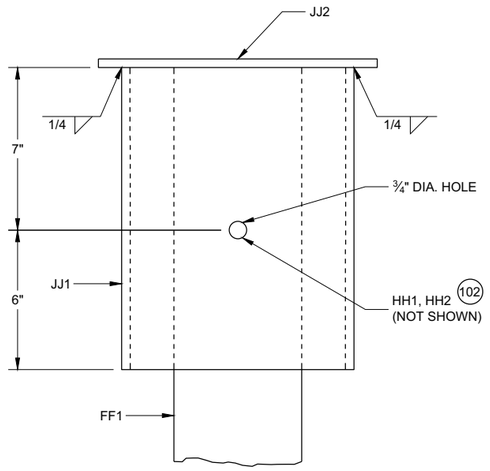
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B53 - 01b

SDD 14B53 - 01b

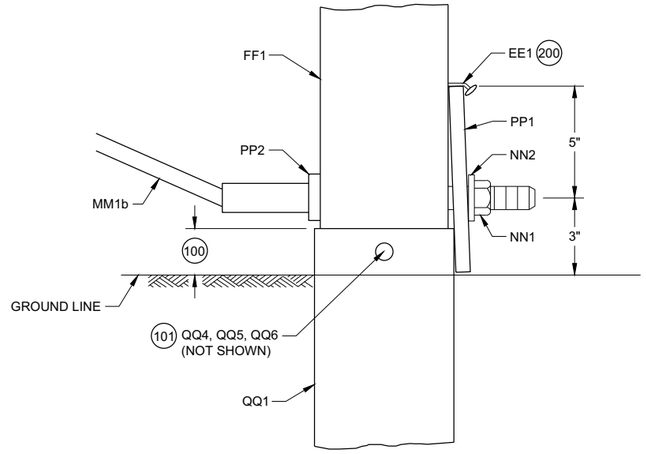
GENERAL NOTES

(200) TWO (2) NAILS SPACED 4 INCHES CENTER TO CENTER.



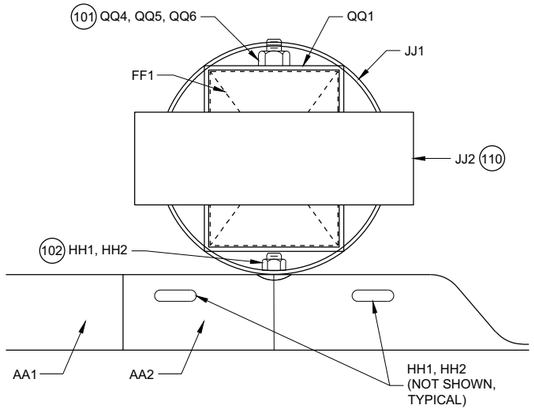
PROFILE VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY
(BEAM GUARD AND W BEAM END SECTION NOT SHOWN)



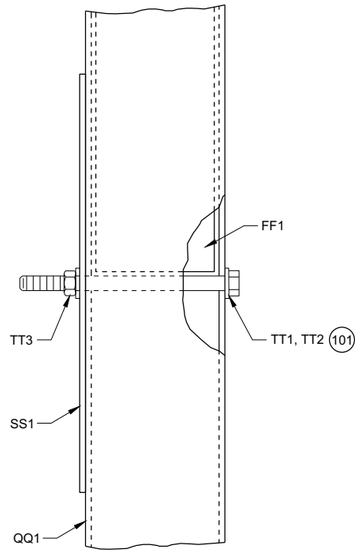
PROFILE VIEW

DETAIL "C"



PLAN VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY



PROFILE VIEW

DETAIL "D"

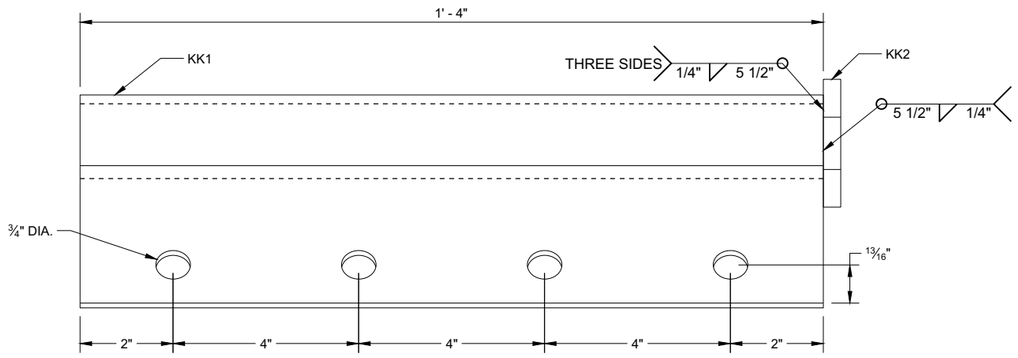
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

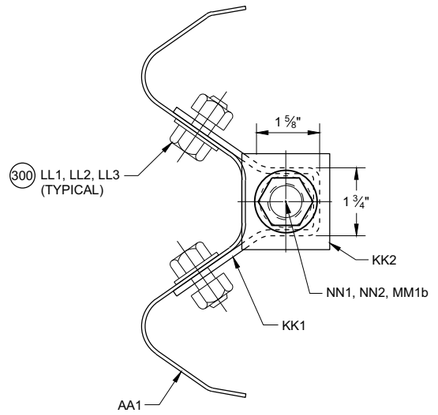
6

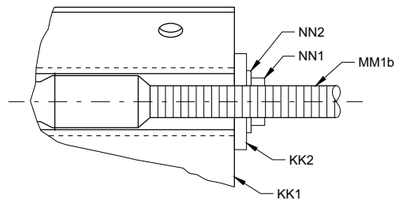
SDD 14B53 - 01c

GENERAL NOTES

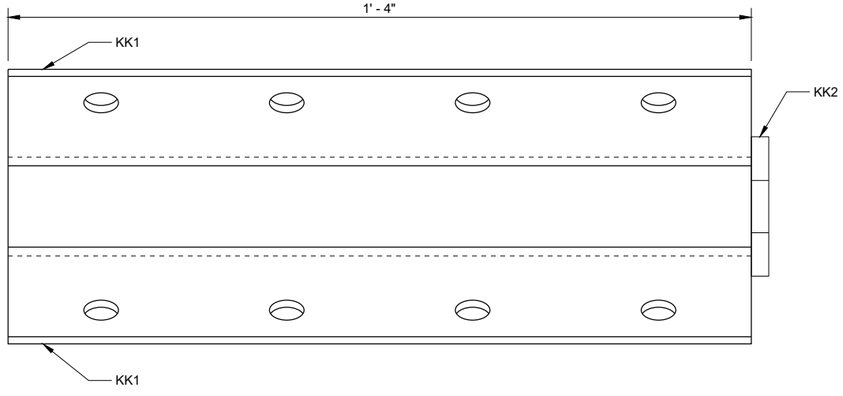
(300) WASHERS REQUIRED BETWEEN BOLT HEAD AND BEAM GUARD RAIL AND BETWEEN NUT AND ANCHOR BRACKET. EIGHT (8) LL1 AND LL3 REQUIRED. SIXTEEN (16) LL2 REQUIRED.

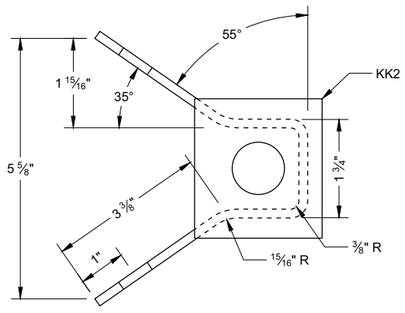




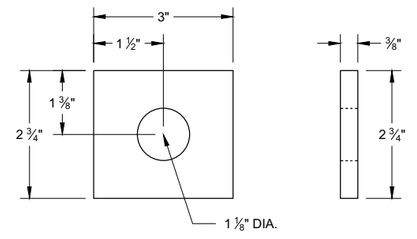


SECTION A - A





ANCHOR BRACKET (KK1, KK2)



ANCHOR BRACKET BEARING PLATE (KK2)

6

6

SDD 14B53 - 01d

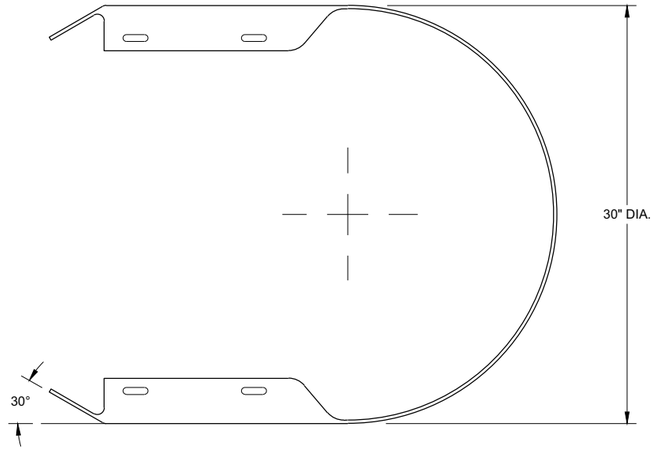
SDD 14B53 - 01d

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

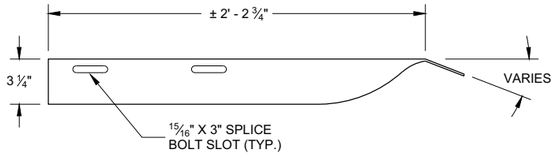
GENERAL NOTES

(400) CROSS SECTION OF PART IS TO FIT OVER AA1 .

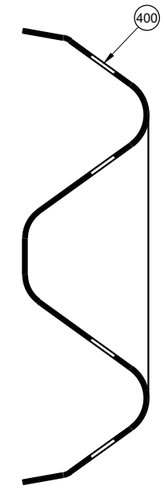
(401) CROSS SECTION OF PART IS TO FIT OVER OR UNDER AA1 .



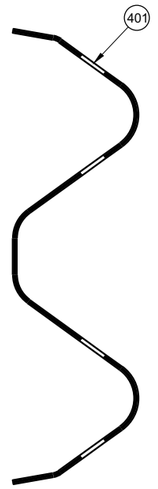
TOP VIEW



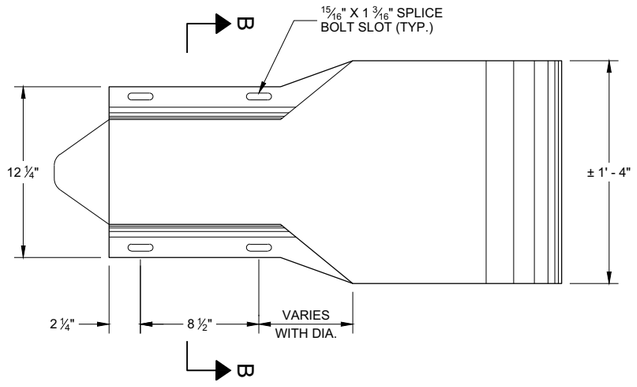
TOP VIEW



SECTION B -B

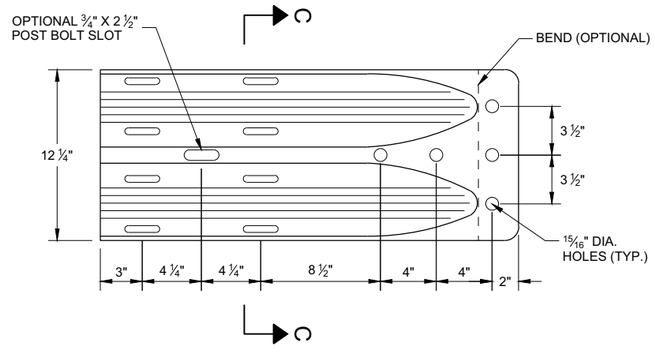


SECTION C -C



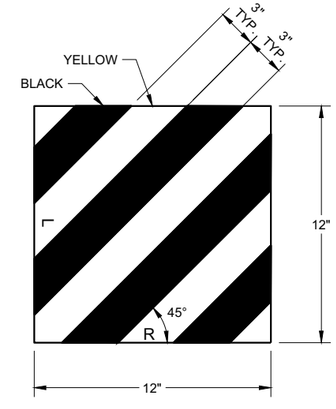
PROFILE VIEW

W BEAM
END SECTION BUFFER (AA2)



PROFILE VIEW

W BEAM
TERMINAL CONNECTOR (BB1)



REFLECTIVE SHEETING (UU1, UU2)

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

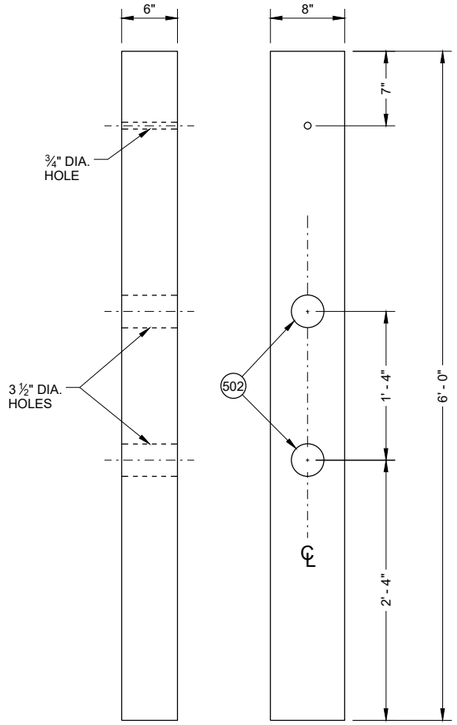
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA 176

6

SDD 14B53 - 01e

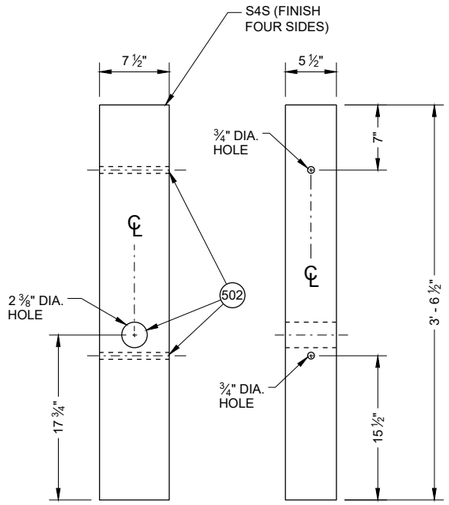
6

SDD 14B53 - 01e



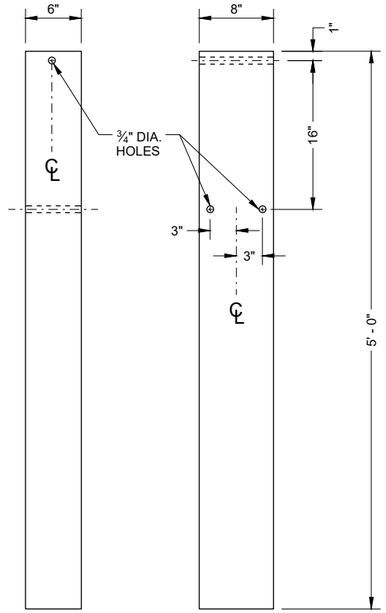
FRONT VIEW SIDE VIEW

CONTROLLED RELEASE POST (CRT) (DD2)



FRONT VIEW SIDE VIEW

WOOD BREAKAWAY POST (FF1)



FRONT VIEW SIDE VIEW

FOUNDATION TUBE (QQ1) (500)

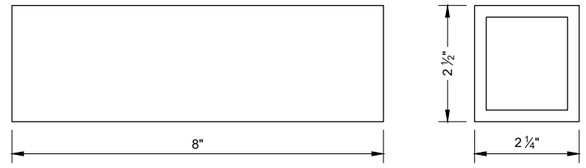
GENERAL NOTES

(500) SEE DETAIL "D" FOR LOCATION AND ATTACHMENT OF SS1.

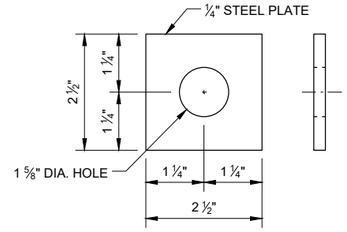
(501) FOR MM1a THREADED STUD ONLY REQUIRED ON ONE END. SWAGED FITTING REQUIRED.

(502) LOCATE HOLES ON THE CENTERLINE OF THE SIDE OF THE POST.

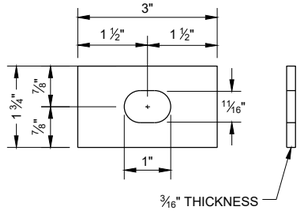
(503) MM1a MAY HAVE ONE THREADED STUD 4 INCHES LONG. SEE NOTE (109).



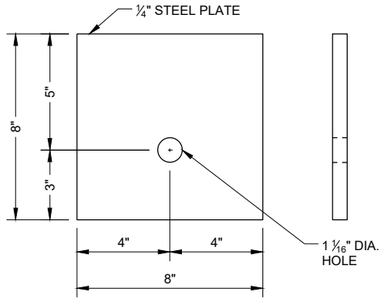
FOUNDATION TUBE - ANCHOR CABLE TUBE (QQ2)



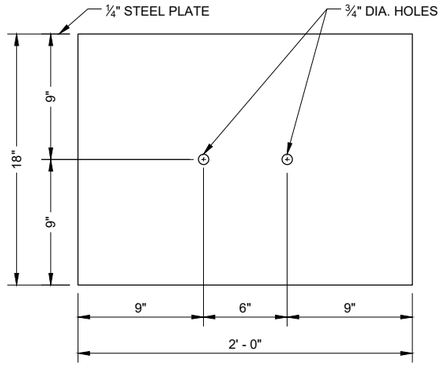
ANCHOR CABLE TUBE END PLATE (QQ3)



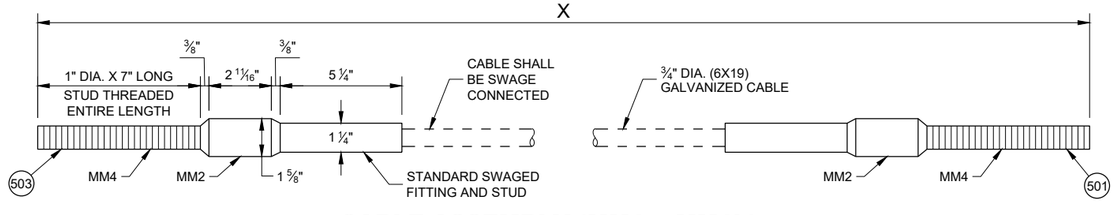
RECTANGULAR PLATE WASHER (CC1)



BEARING PLATE (PP1)



SOIL PLATE (SS1)



CABLE ASSEMBLY (MM1a, MM1b)

"X" LENGTH

MM1b	9' - 0"
MM1b	6' - 8"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	BEAM GUARD RAIL	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
A2	BEAM GUARD RAIL - SHOP BENT	INDICATE ON BACK OF RAIL THE RADIUS THAT RAIL WAS BENT TO. SHOP BEND RADIUS IS TO THE NEAREST FOOT. FOLLOW AASHTO M180 ON HOW TO MARK RADIUS INFORMATION.	
		AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
B1	BLOCK - WOOD	WISDOT SPEC. 614	SEE SDD 14B42
C1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEAD)	
D1	POST-STRONG POST-WOOD	WISDOT SPEC. 614	SEE SDD 14B42
D2	POST-CRT-WOOD	WISDOT SPEC. 614	
E1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
E2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	5/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
E3	POST BOLT - NUT	AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
F1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
F2	SPLICE BOLT - NUT	ASTM A563 GRADE A	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
G1	LAG SCREW	ASTM A308 GRADE A ASTM A153 CLASS D	1/2" DIA. 6" LONG
H1	DELINEATOR - BEAM GUARD		SEE SDD 14B42 FOR MORE INFORMATION
H2	DELINEATION - SHEETING	YELLOW OR WHITE	
		WISDOT SPEC 637 TYPE SH	
		APPROVED PRODUCT LIST	
J1	FOUNDATION BACKFILL	STANDARD SPEC. 614	
AA1	BEAM GUARD RAIL - PUNCHED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
AA2	BEAM GUARD RAIL - END SECTION BUFFER	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
BB1	BEAM GUARD RAIL - TERMINAL CONNECTOR MODIFIED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
CC1	SHORT RADIUS - SQUARE WASHER	AASHTO M180	
		GALV. AASHTO M111 / ASTM A123	
EE1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)	
FF1	POST - BCT - WOOD	S4S FINISH ON 4 SIDES	
		WISDOT SPEC. 614	
GG1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	3/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		UNC	
GG2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	3/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C/ASTM A153 CLASS C / ASTM F2329	

6

SDD 14B53 - 01g

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
GG3	POST BOLT - NUT	ASTM A563 GRADE A	⅜" DIA. SEE 14B42 FOR GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
HH1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180 HEAD GEOMETRY	
HH2	SPLICE BOLT - NUT	ASTM A563 GRADE A	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
JJ1	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	10" O.D.
JJ2	TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS ⅜" X 4" X 1' - 0"
		GALV. AASHTO M111 / ASTM A123	
KK1	ANCHOR BRACKET	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
KK2	ANCHOR BRACKET - BEARING PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
LL1	ANCHOR BRACKET - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	⅝" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
LL2	ANCHOR BRACKET - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	⅝" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
LL3	ANCHOR BRACKET - NUT	ASTM A563 GRADE A	⅝" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
MM1a	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM1b	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM2	ANCHOR CABLE - SWAGE FITTING	ASTM A576 GRADE 1035	
		SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. WITH A BREAKING STRENGTH 40,000 LBS.	
		GALV. AASHTO M111 / ASTM A123	
		ASME B30.26 FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING INTO CONNECTION: NAME OF MANUFACTURER OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE.	
MM3	WIRE ROPE CABLE CLAMPS	FF-C-450D TYPE 1 CLASS 1	¾"
		ASTM A153 HOT DIP CLASS D	
MM4	ANCHOR CABLE - SWAGE FITTING - STUD	ASTM F3125 GRADE A325 TYPE 1 OR SAE GRADE 5 OR ASTM A449 TYPE 1 HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
NN1	ANCHOR CABLE - NUT	ASTM A563 GRADE A	1" DIA.
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
NN2	ANCHOR CABLE - NUT - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	1" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
PP1	BEARING PLATE AT POST	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
PP2	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	2" DIA. x 6" LONG
QQ1	FOUNDATION TUBE	ASTM A500 GRADE B	8" X 6" X 3/16"
		GALV. AASHTO M111 / ASTM A123	
QQ2	SHORT RADIUS - FOUNDATION TUBE - ANCHOR CABLE - TUBE	ASTM A500 GRADE B	DIMENSIONS 2 1/2" X 2 1/4" X 1/4" X 8"
		GALV. AASHTO M111 / ASTM A123	
QQ3	SHORT RADIUS - SOIL TUBE - ANCHOR CABLE - TUBE - END PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS 2 1/2" X 2 1/2" X 1/4"
		GALV. AASHTO M111 / ASTM A123	
QQ4	GROUND STRUT AND YOKE - BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
		ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	
		UNC	
QQ5	GROUND PLATE AND YOKE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
QQ6	GROUND STRUT AND YOKE - NUT	HEAVY HEX	5/8 DIA.
		UNC	
		ASTM A563 GRADE A	
		OVER TAPPED NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
SS1	SOIL PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / A123	
TT1	SOIL PLATE - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	5/8 DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
TT2	SOIL PLATE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
TT3	SOIL PLATE - NUT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
UU1	OBJECT MARKER - SHEETING	MUTCD / WISDOT OBJECT MARKER TYPE 3	PATTERN AND COLOR FOR SHEETING. SHEETING TYPE FOR MARKER.
		WISDOT SPEC 637 TYPE F	
		APPROVED PRODUCT LIST	
UU2	OBJECT MARKER - ALUMINUM PLATE	WISDOT SPEC 637 ALUMINUM PLATE	MATERIAL AND THICKNESS OF MATERIALS
UU3	OBJECT MARKER - SCREWS	STAINLESS SELF-TAPPING SCREWS	
VV1	FOUNDATION BACKFILL	WISDOT SPEC 614	

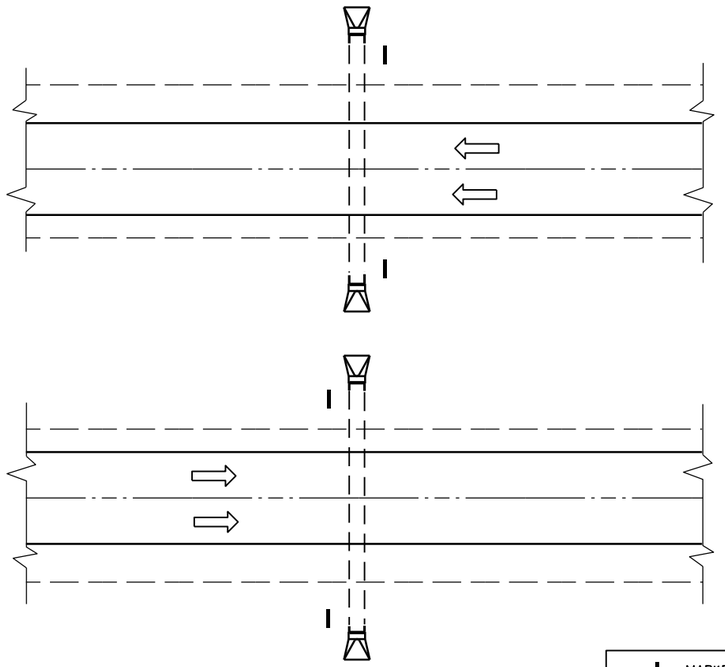
6

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

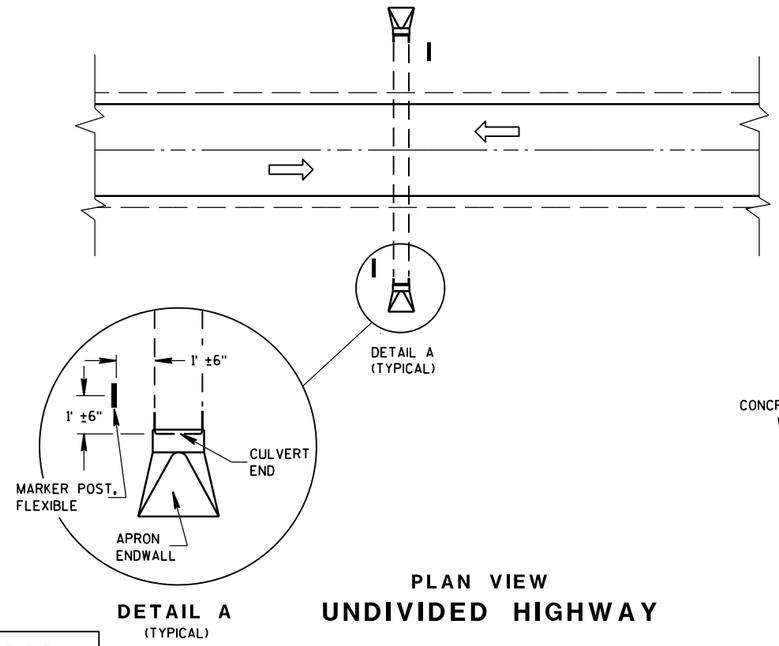
APPROVED
June 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

SDD 14B53 - 01i



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

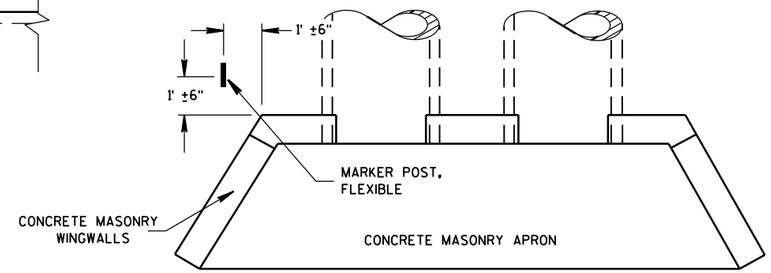
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

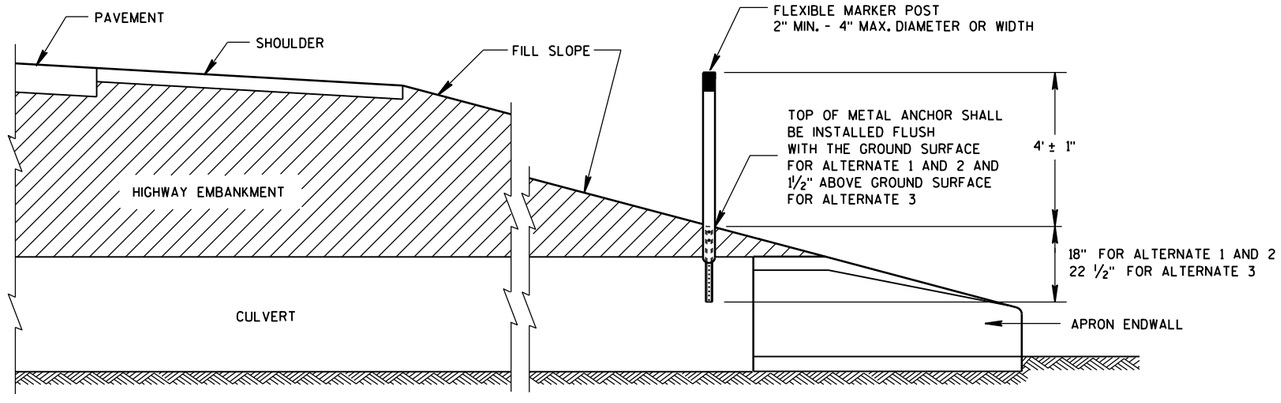
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

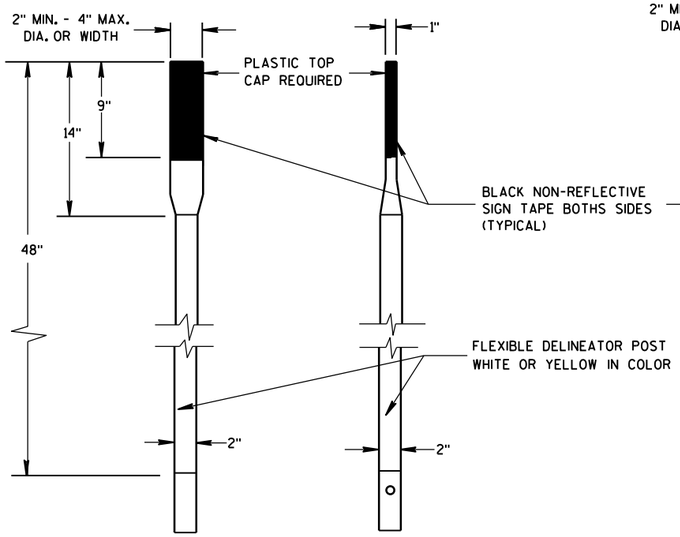
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

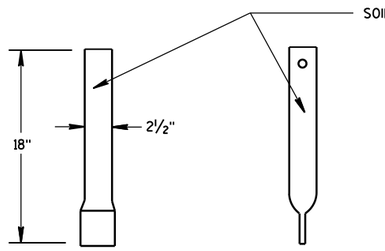
6

S.D.D. 15 A 3-2a

6

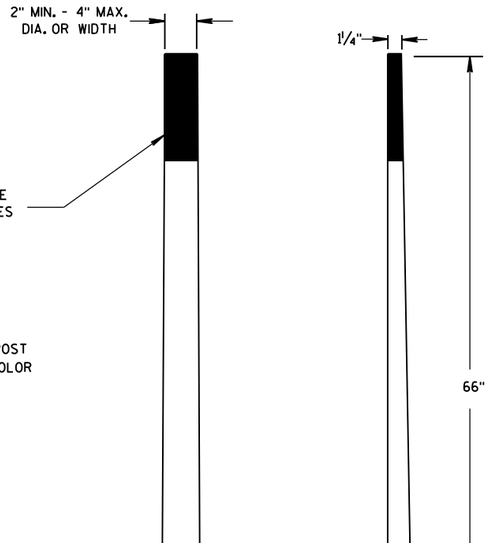
S.D.D. 15 A 3-2a





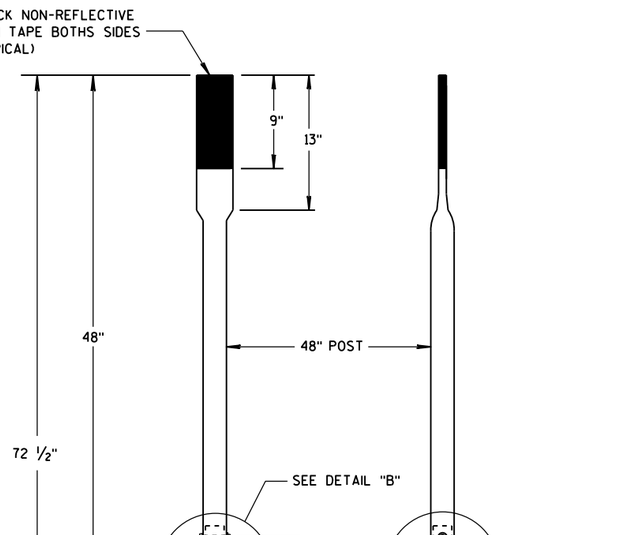
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

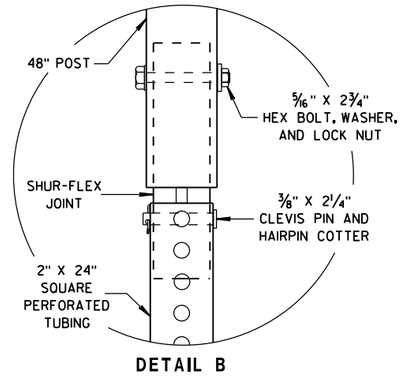
ALTERNATE 2



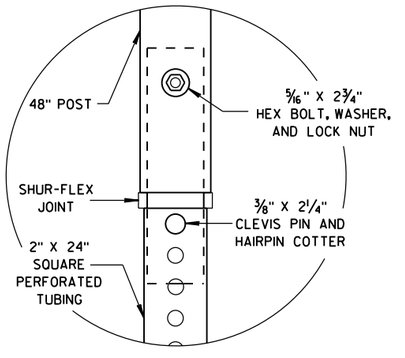
FRONT VIEW SIDE VIEW

ALTERNATE 3

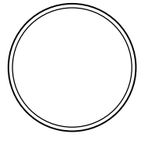
FLEXIBLE MARKER POSTS



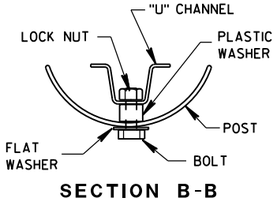
DETAIL B



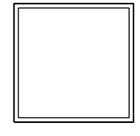
DETAIL C



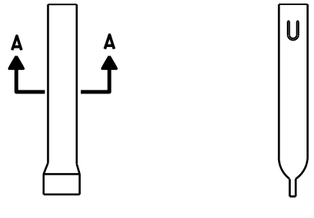
SECTION A-A



SECTION B-B

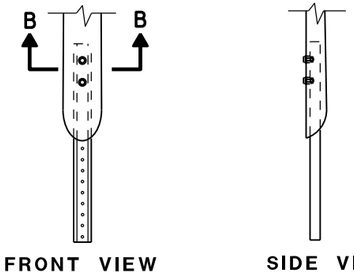


SECTION C-C



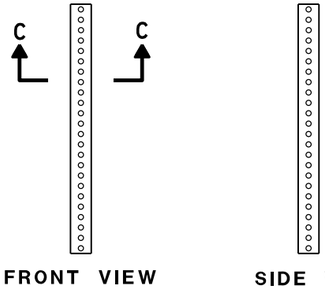
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

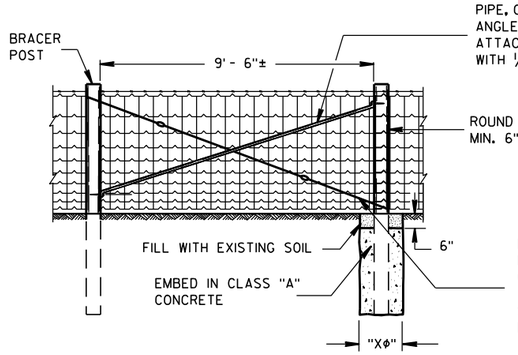
S.D.D. 15 A 3-2b

6

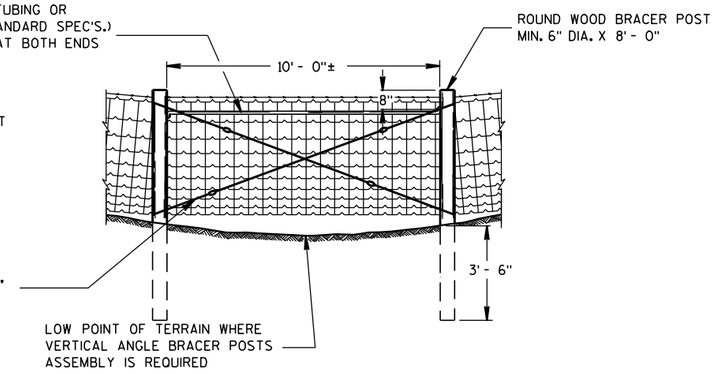
S.D.D. 15 A 3-2b

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

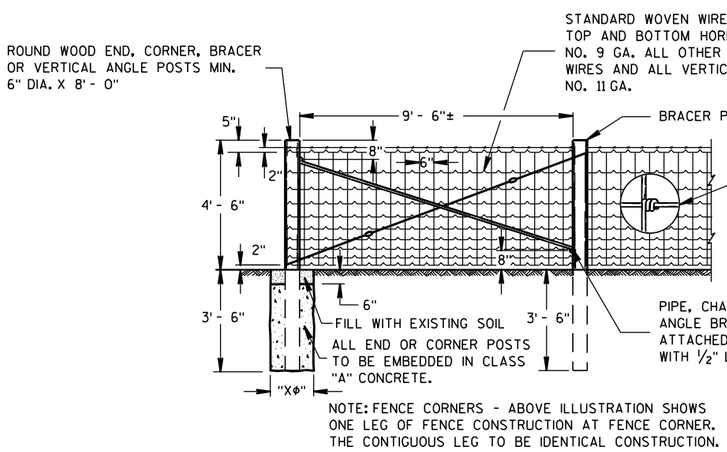
GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

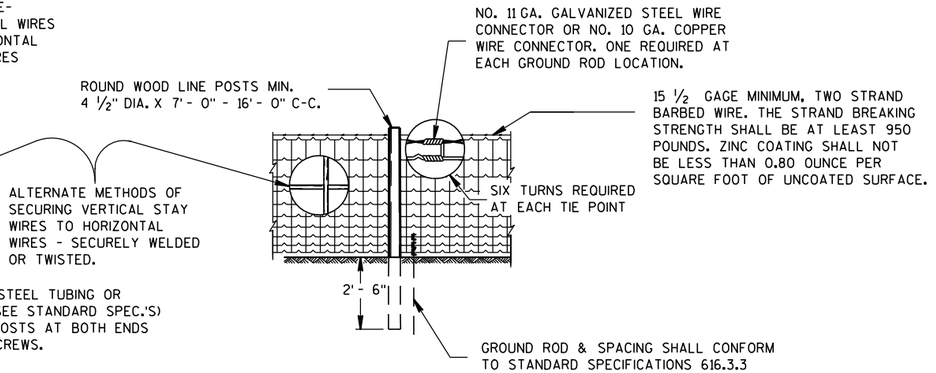
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



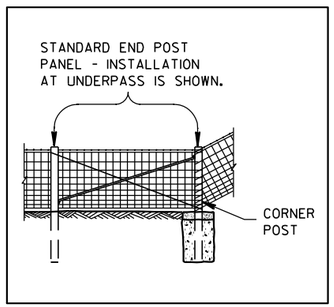
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

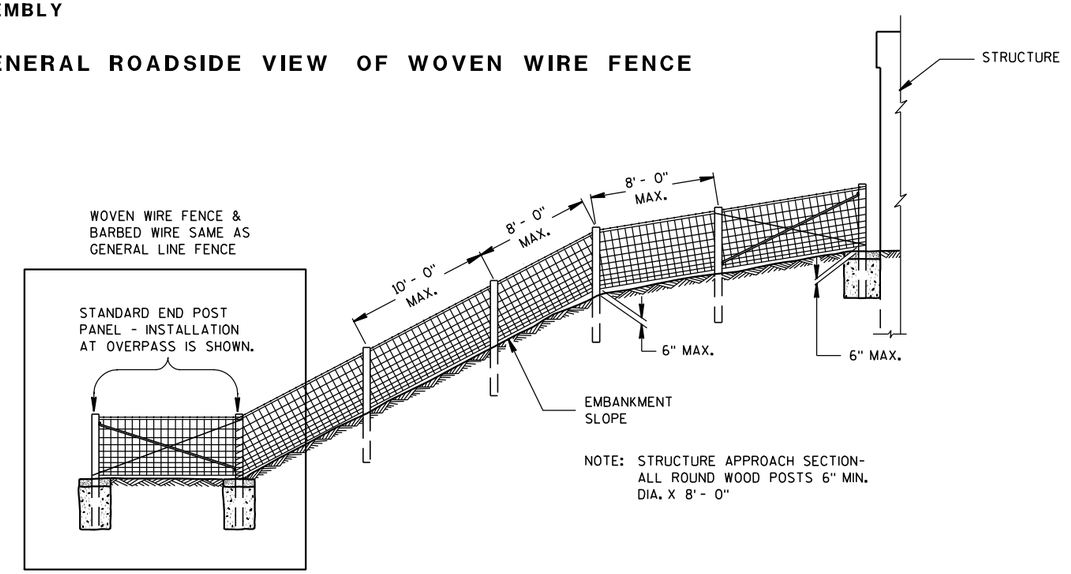


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

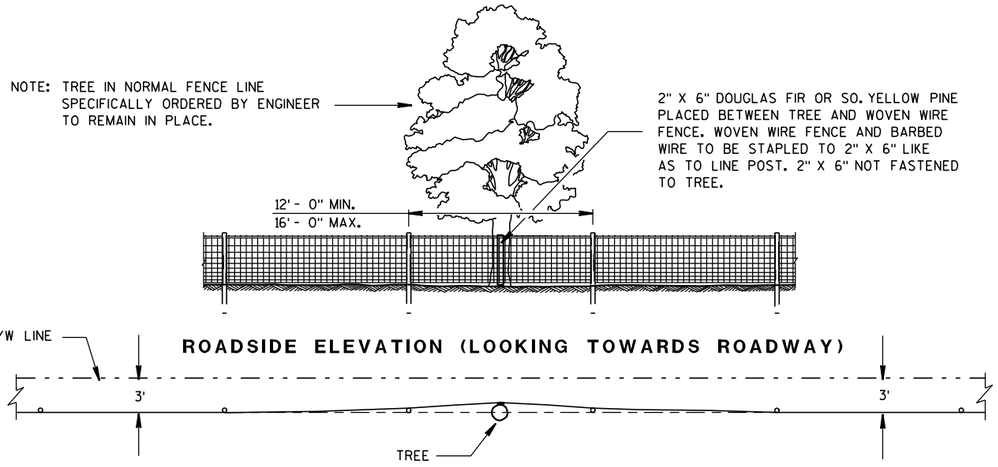
FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

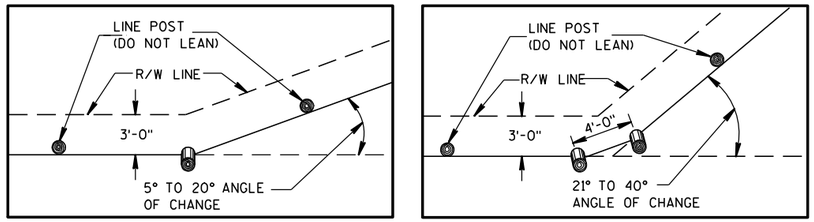
6

S.D.D. 15 B 1-8a



PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



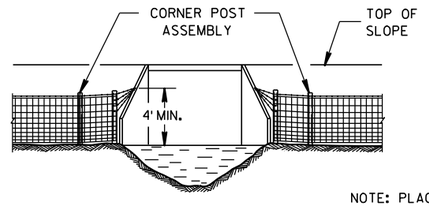
PLAN VIEW SINGLE POST CORNER

PLAN VIEW DOUBLE POST CORNER

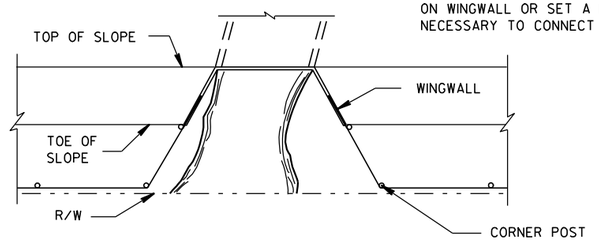
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

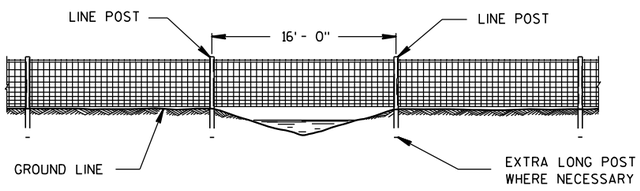
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



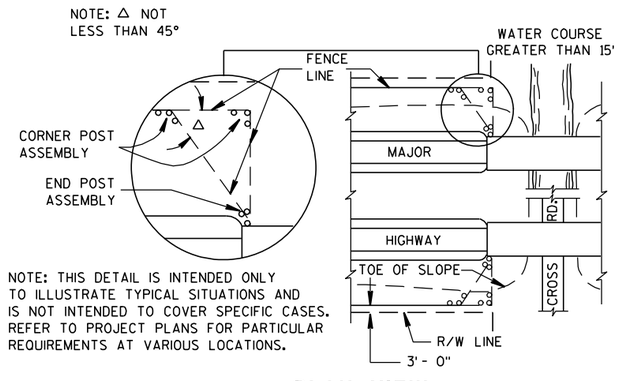
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS

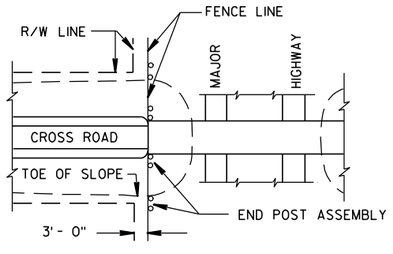


FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



PLAN VIEW

MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH

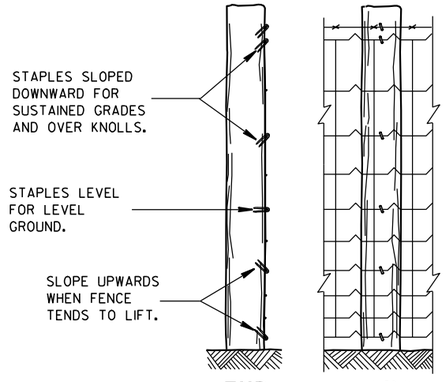


PLAN VIEW

MAJOR HIGHWAY UNDERPASS

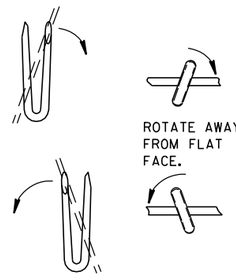
FENCE LOCATION AT STRUCTURES

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION **FARM SIDE ELEVATION**

FENCE MOUNTING DETAIL



LINE POST

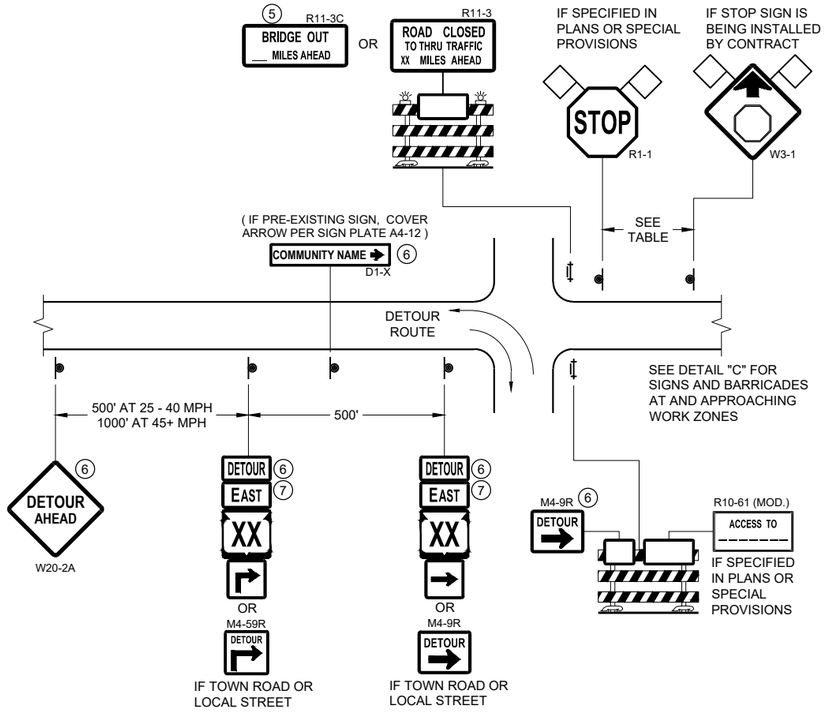
FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

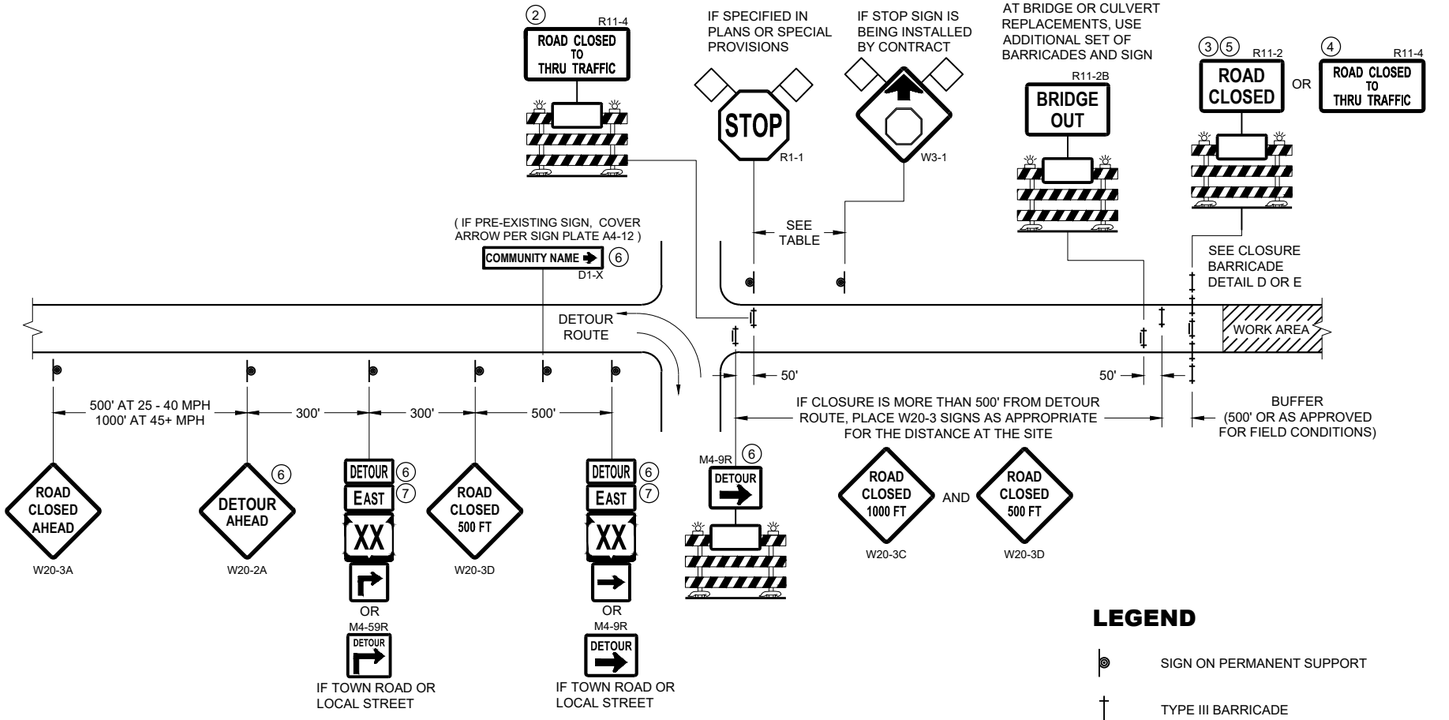
6

S.D.D. 15 B 1-8b



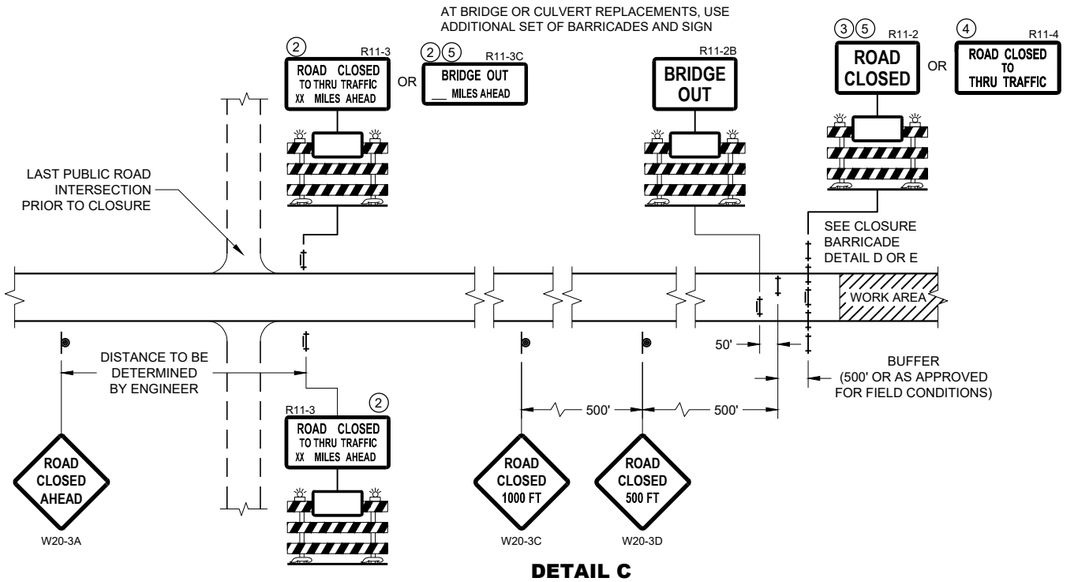
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

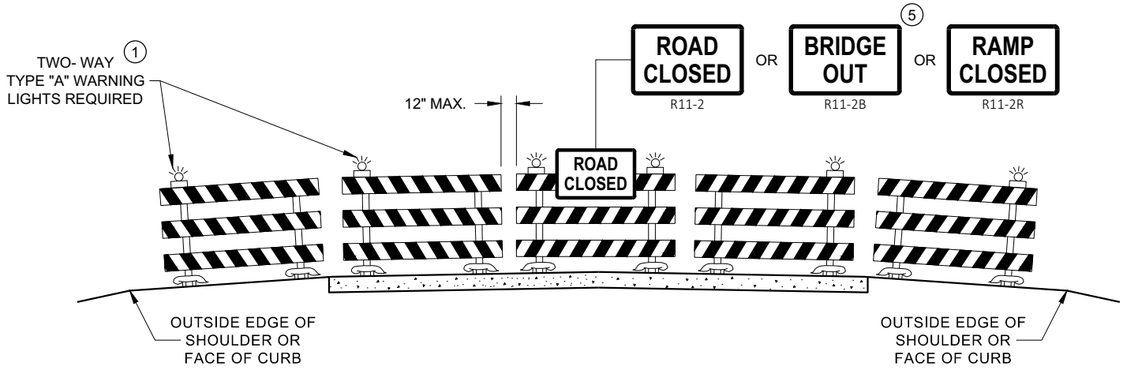
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

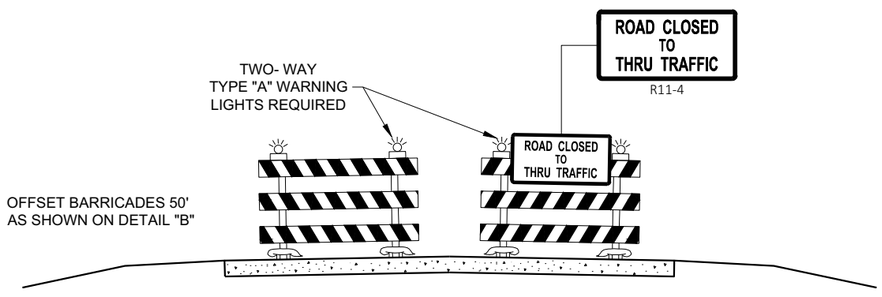
6

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

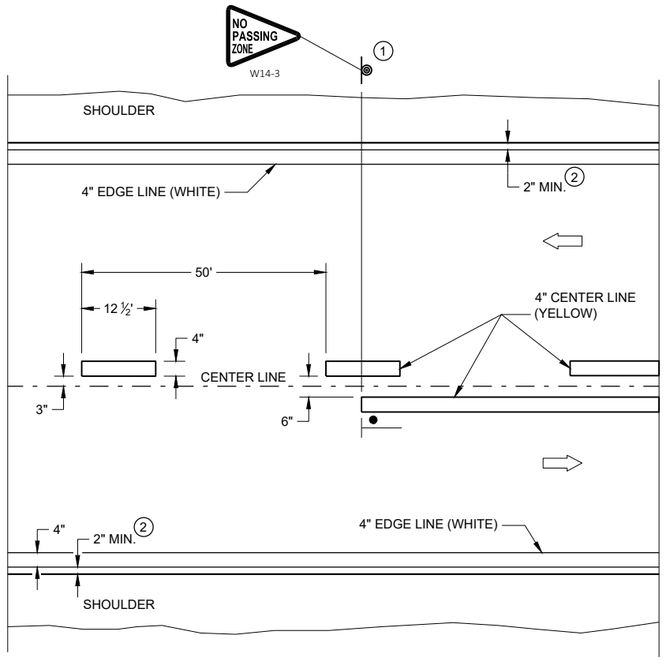
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

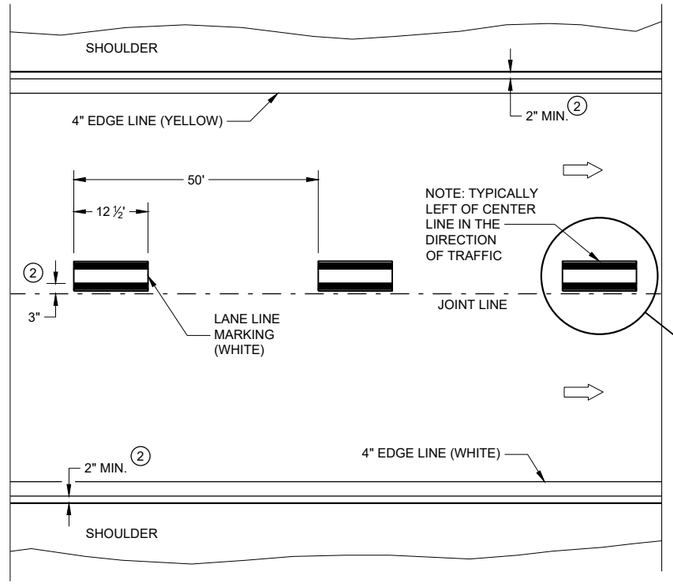
SDD 15C02 - 08b

6

SDD 15C02 - 08b

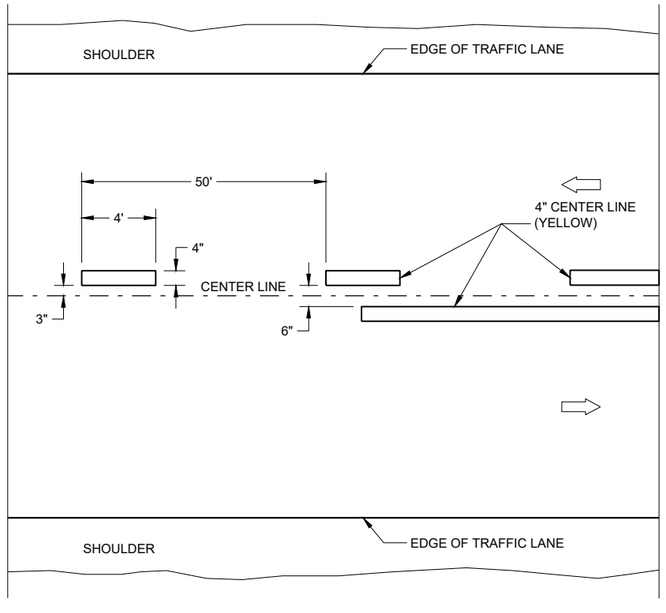


TWO WAY TRAFFIC

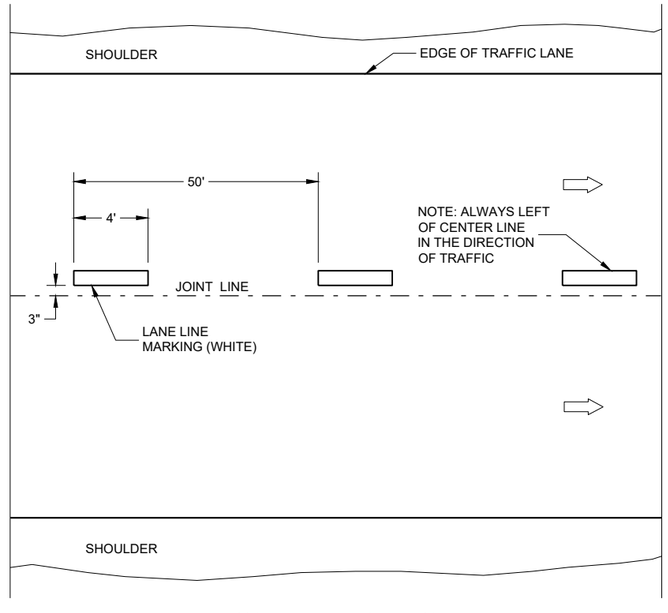


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

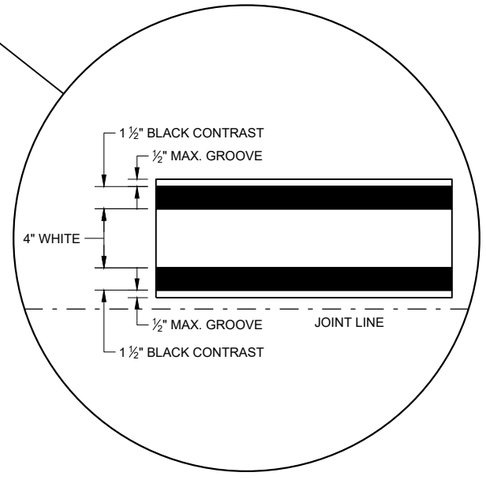
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

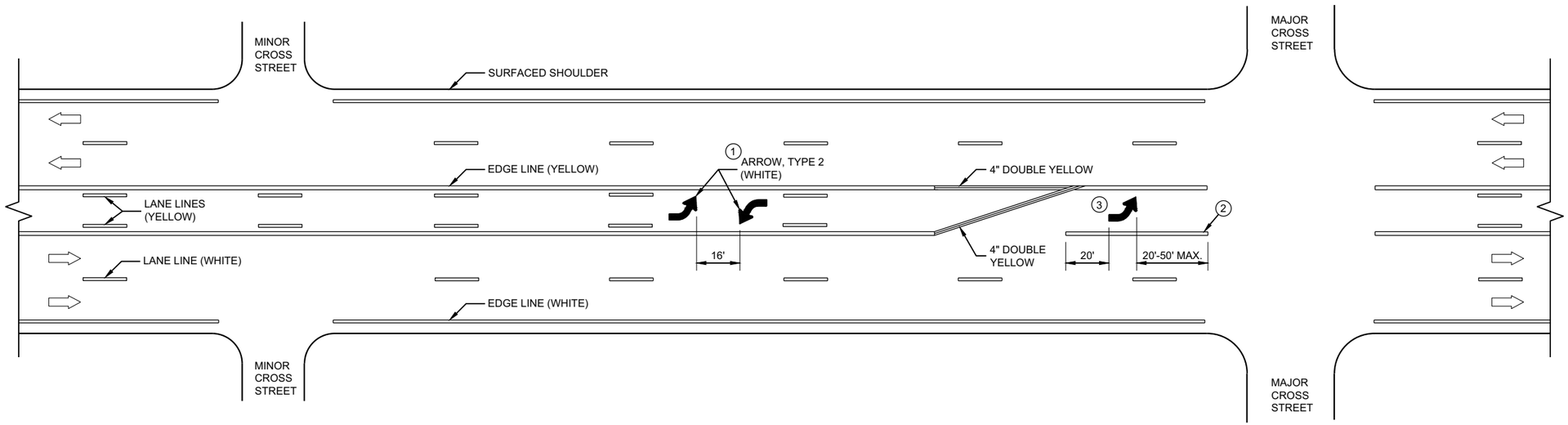
SDD 15C08 - 20a

SDD 15C08 - 20a

GENERAL NOTES

1. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
2. 8" WHITE
3. TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

6

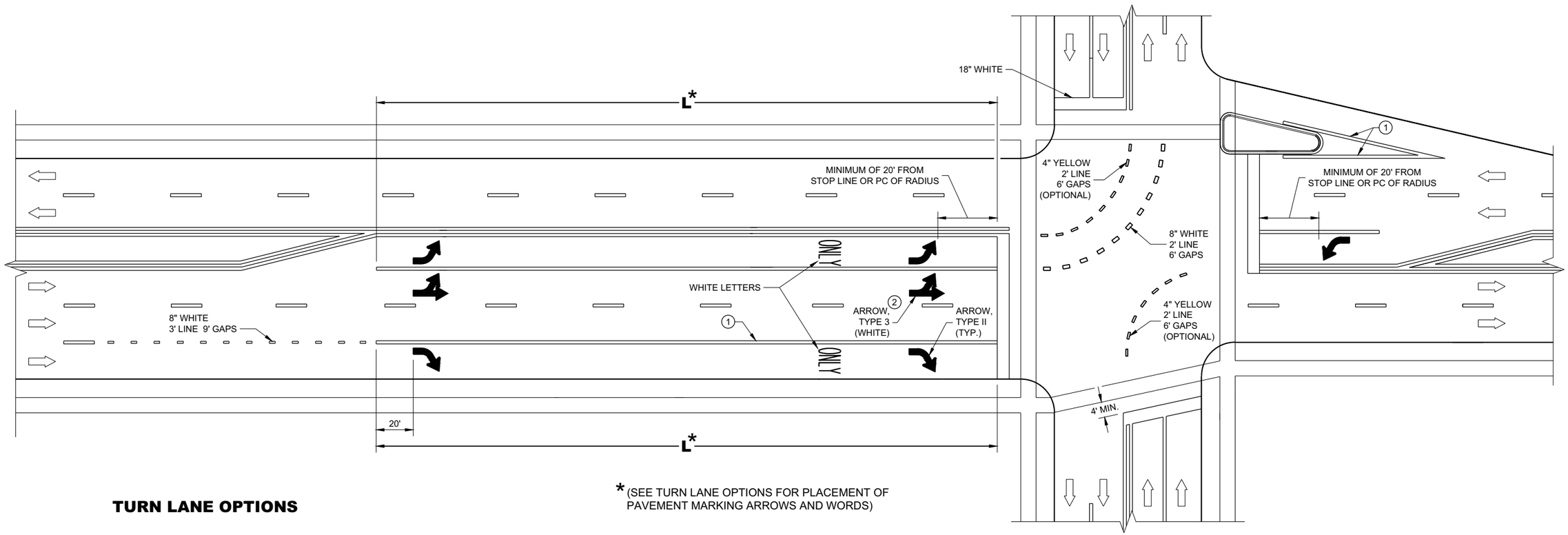
SDD 15C08 - 20b

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

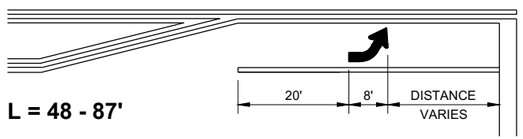
SDD 15C08 - 20b



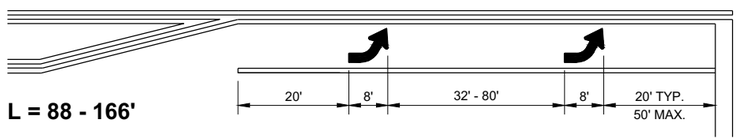
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

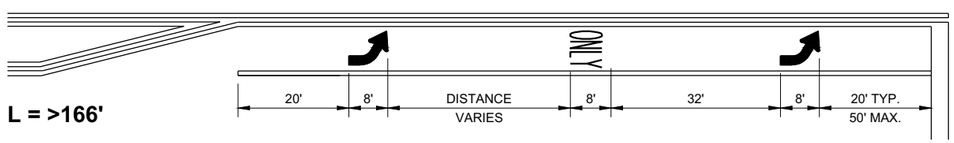
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

1. 8" WHITE
2. QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

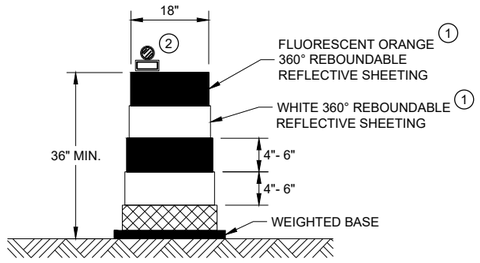
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

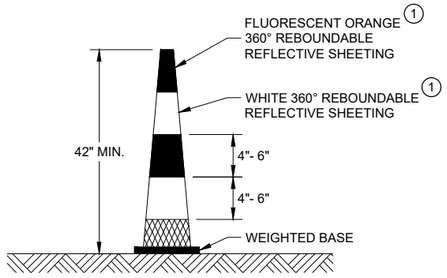
SDD 15C08 - 20c

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.

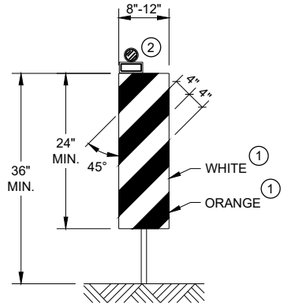


DRUM



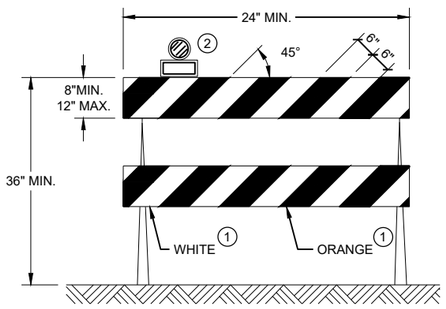
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



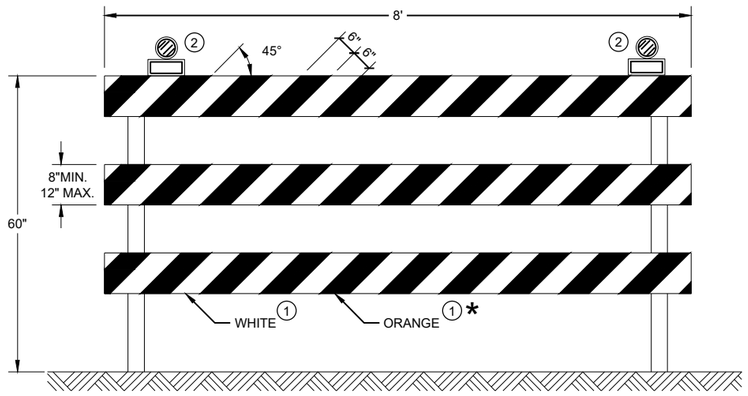
VERTICAL PANEL

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
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 09b

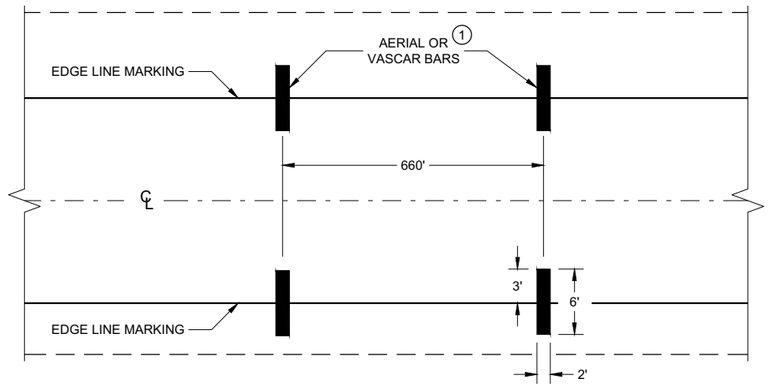
6

SDD 15C11 - 09b

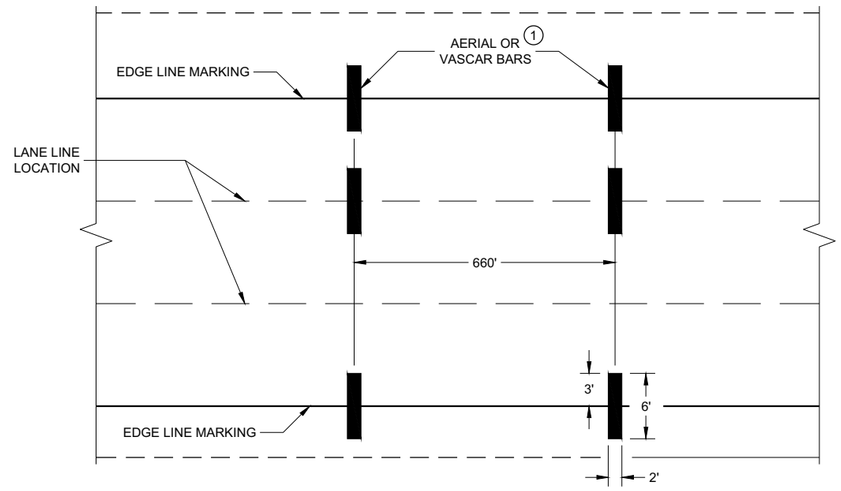
GENERAL NOTES

(1) PLACE TWO TO FIVE AERIAL OR VASCAR BARS AT 660 FOOT SPACING.

A CAR CAN BE PROVIDED BY THE WISCONSIN STATE PATROL FOR TRAFFIC CONTROL.



TYPICAL FOR TWO WAY OR ONE WAY TRAFFIC



TYPICAL FOR MULTILANE TRAFFIC

SPEED ENFORCEMENT ZONE WITH AERIAL OR VASCAR BARS

AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
February 2021 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MAR ENGINEER

FHWA

6

SDD 15C14 - 04

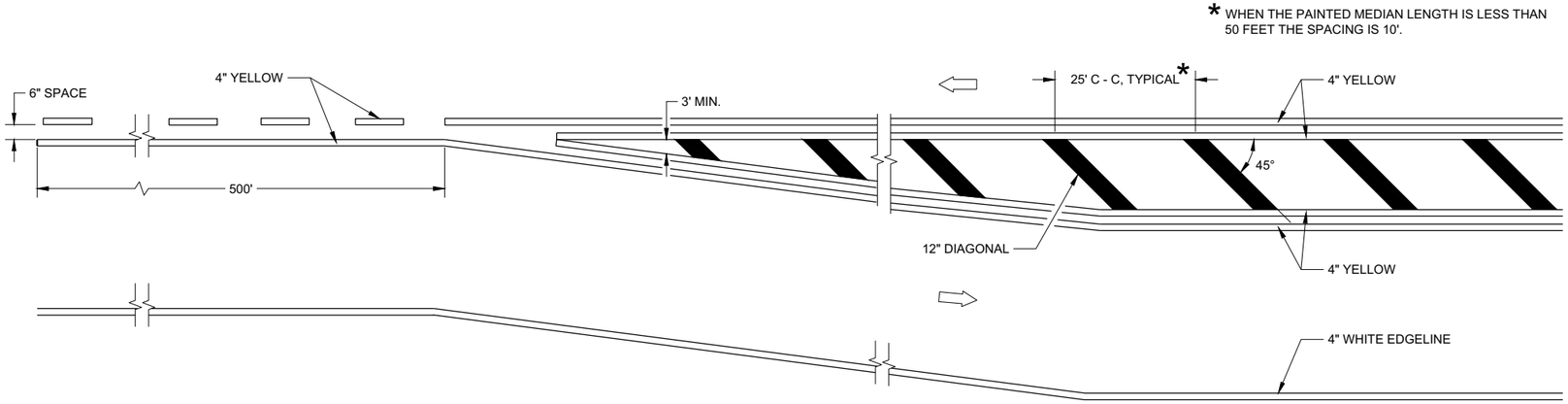
6

SDD 15C14 - 04

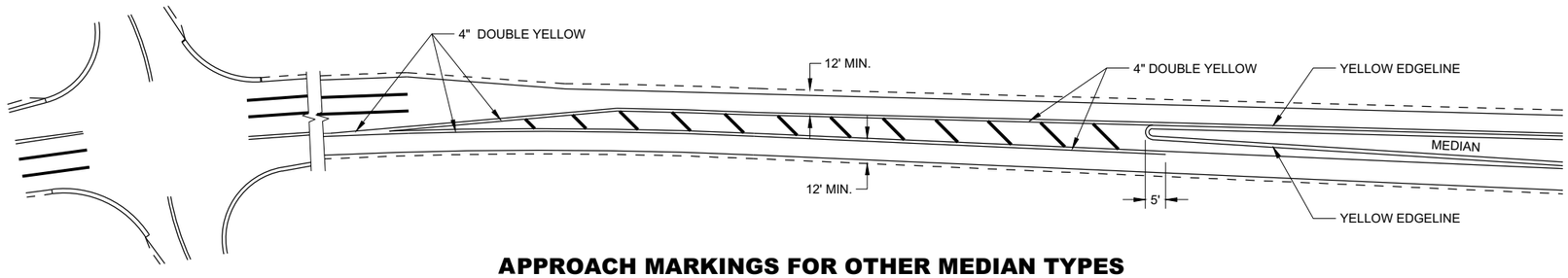
GENERAL NOTES

DIAGONALS ARE OPTIONAL WHEN PAINED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

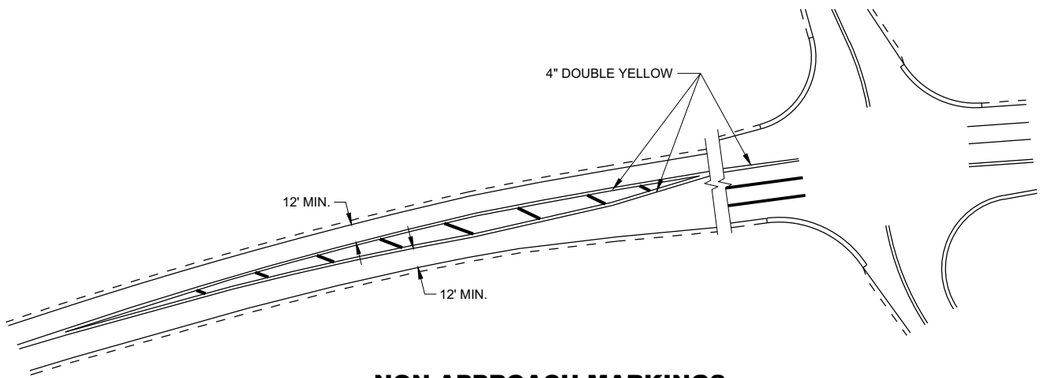
⇨ DIRECTION OF TRAVEL



MEDIAN ISLAND DETAIL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON-APPROACH MARKINGS

MEDIAN ISLAND PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2021
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAF ENGINEER

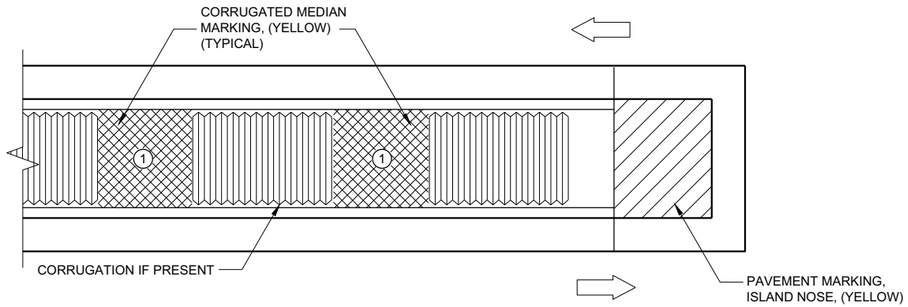
FHWA

6

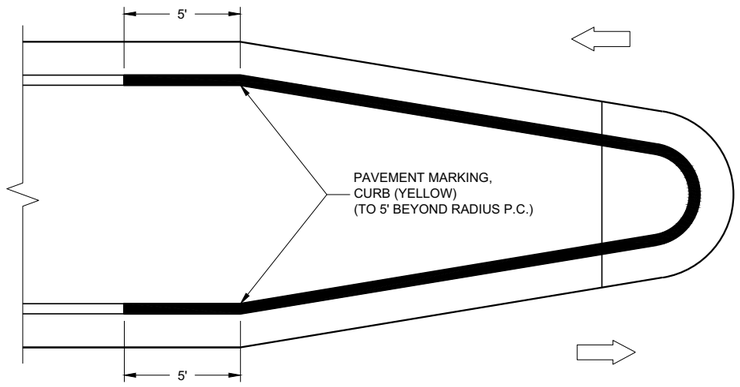
SDD 15C18 - 05a

6

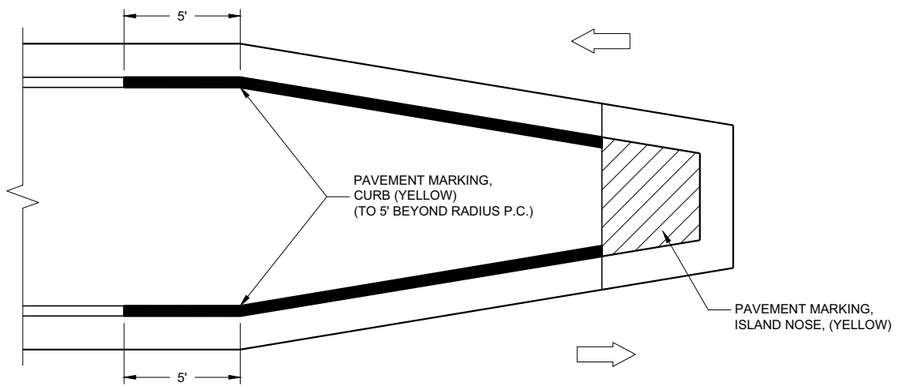
SDD 15C18 - 05a



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

PAVEMENT MARKINGS, MEDIAN ISLAND NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2021
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAF ENGINEER

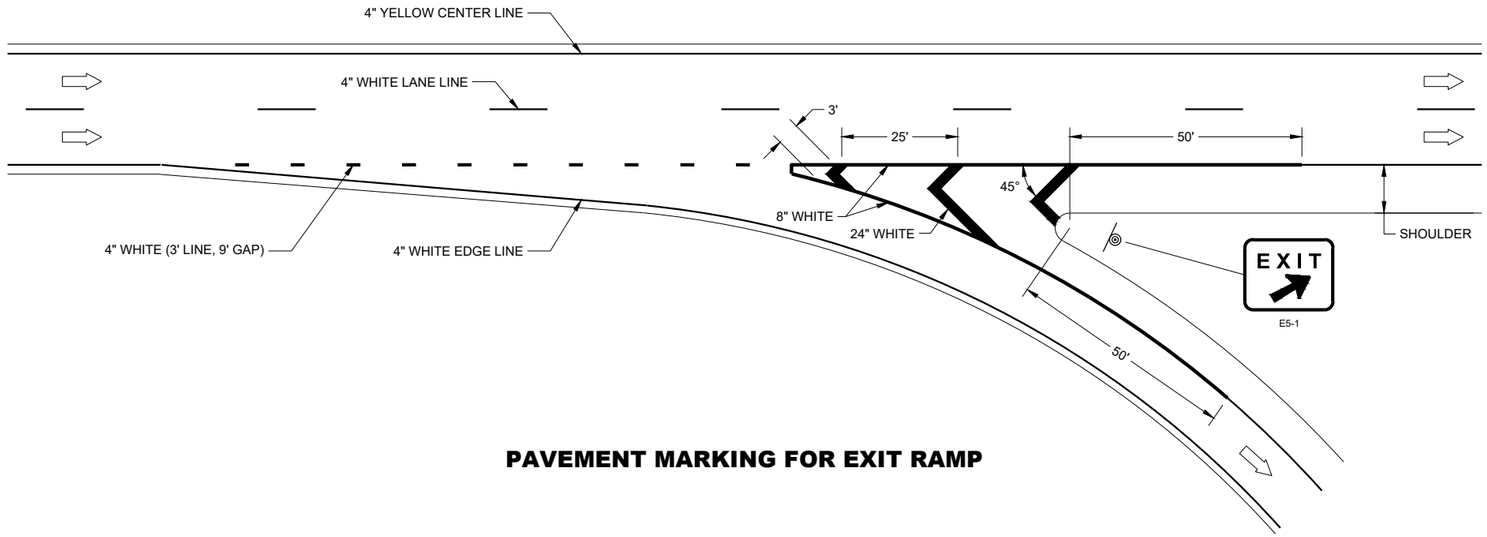
FHWA

6

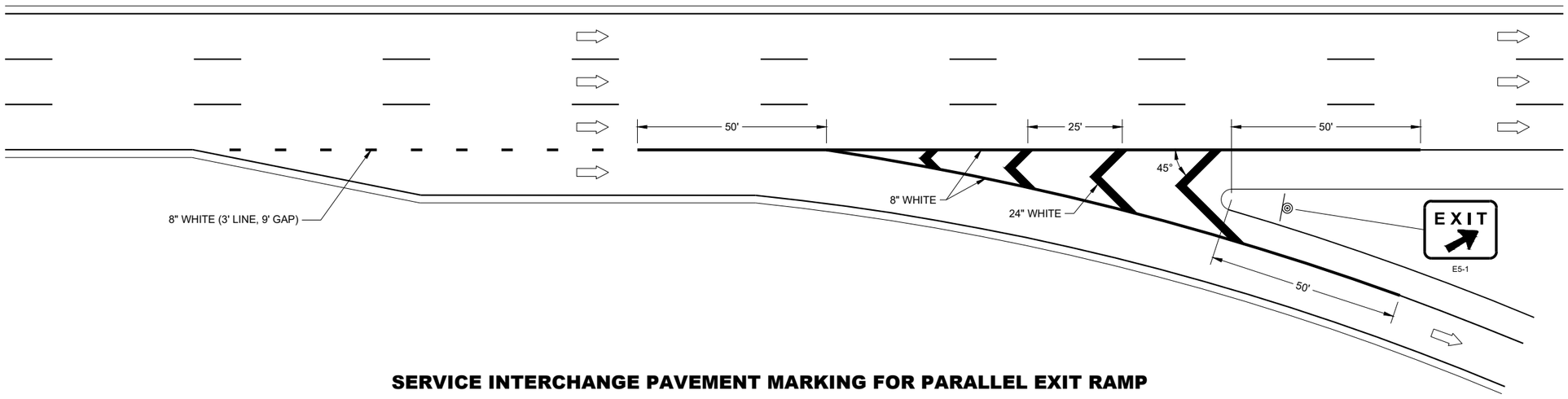
SDD 15C18 - 05b

6

SDD15C18 - 05b



PAVEMENT MARKING FOR EXIT RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAVEL

6

SDD 15C31 - 04a

PAVEMENT MARKING, EXIT RAMP AND PARALLEL EXIT RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

SDD 15C31 - 04a

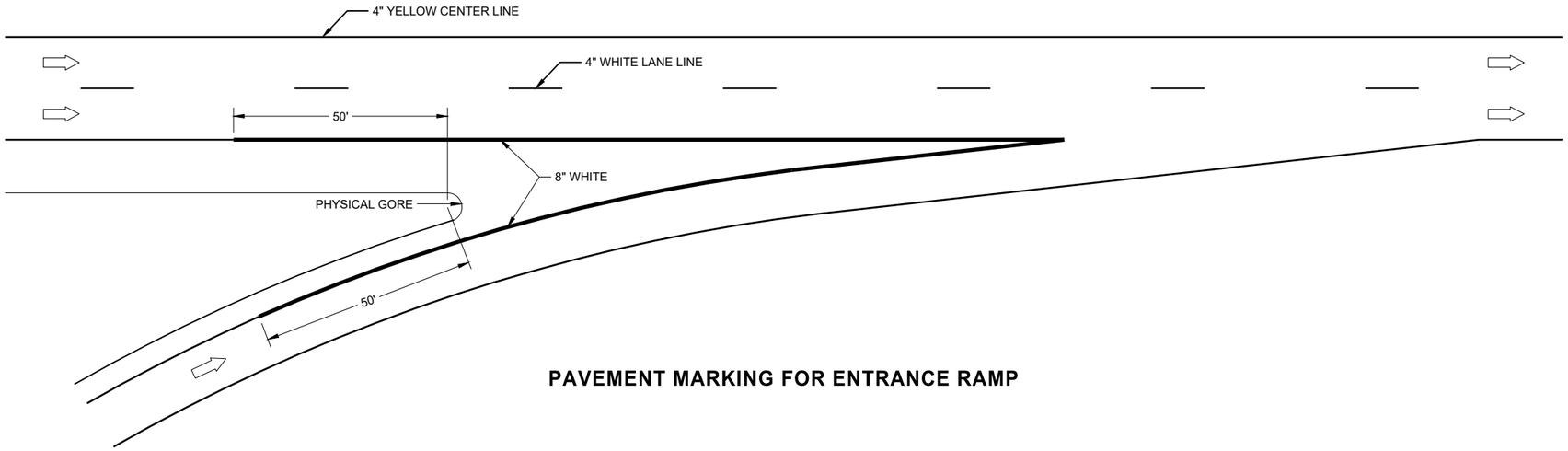
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

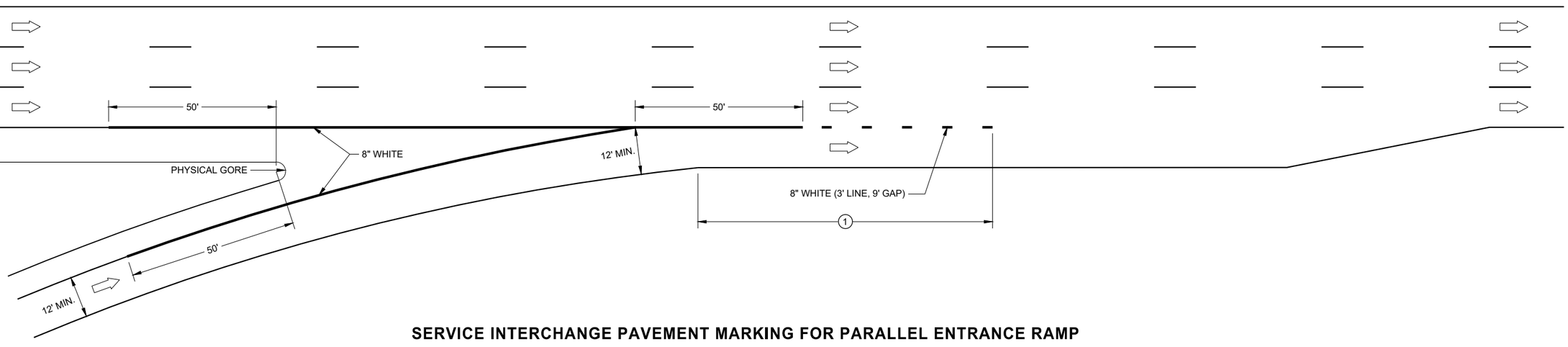
(1) ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

LEGEND

DIRECTION OF TRAVEL



PAVEMENT MARKING FOR ENTRANCE RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP

6

6

SDD 14C31 - 04c

SDD 14C31 - 04c

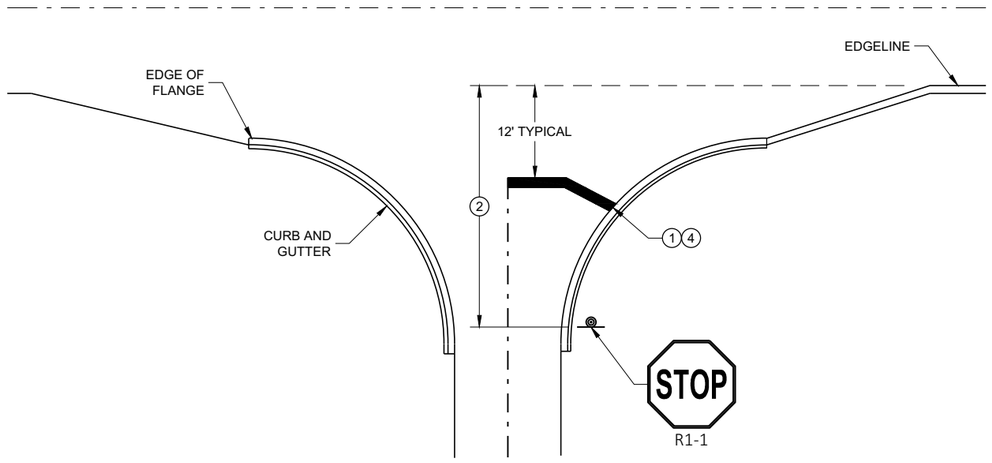
PAVEMENT MARKING, ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

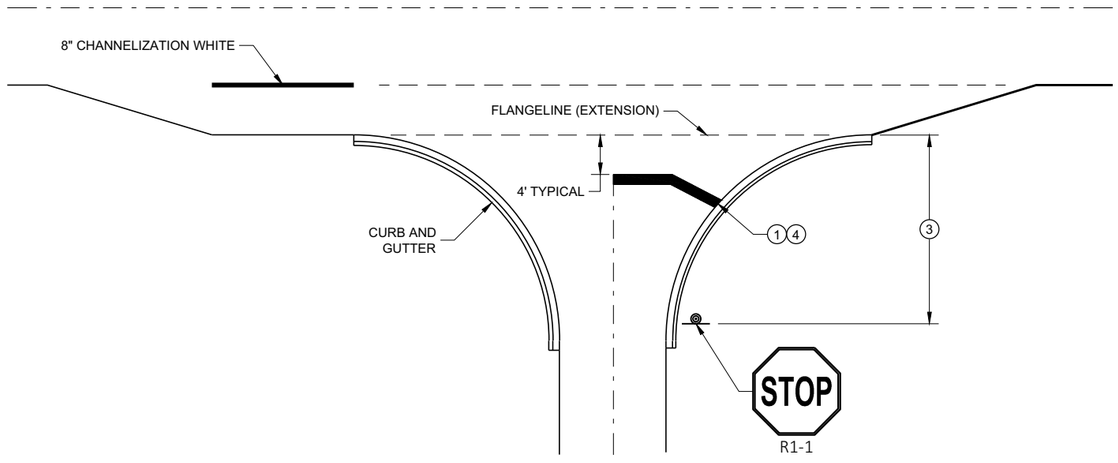
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

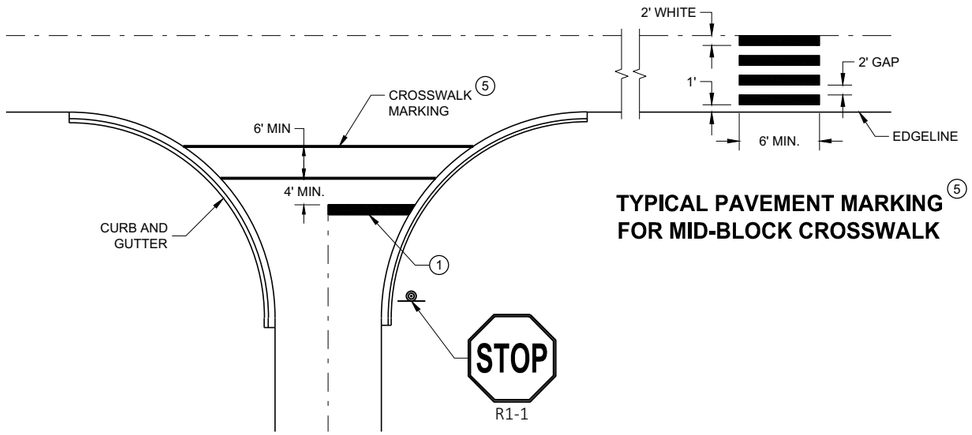
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

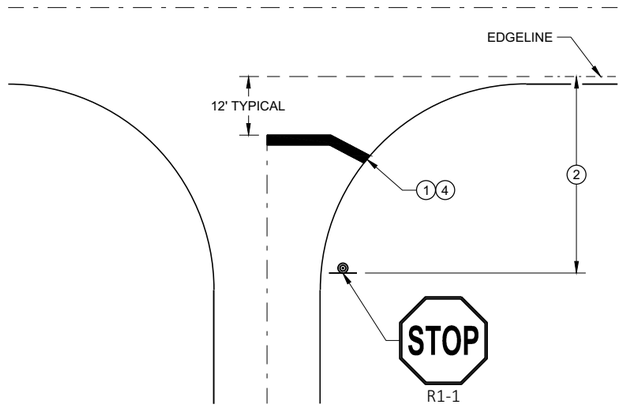


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

6

SDD 15C33 - 04

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD
- (S) PORTABLE TRAFFIC SENSOR (PTS)
- FBS FLASHING BEACON SIGN

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED SIGNS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

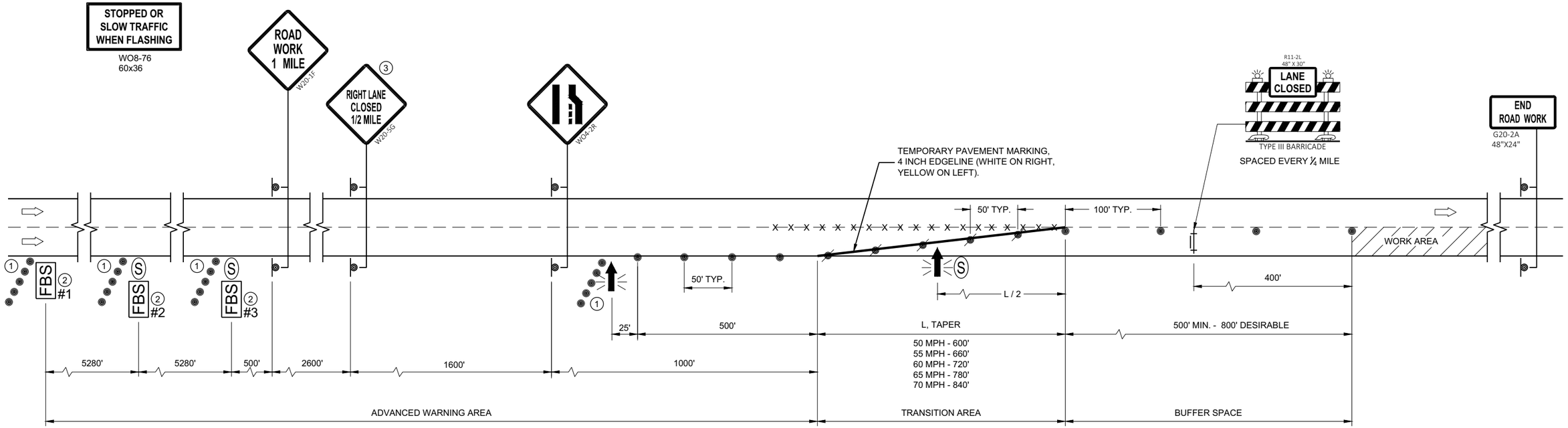
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON THE FBS, ARROW BOARD OR OTHER TRAILER DEVICES.

1. 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
2. IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE FBS ON BOTH SIDES OF THE ROADWAY.
3. IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.



TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D12 - 09d

SDD 15D12 - 09d

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

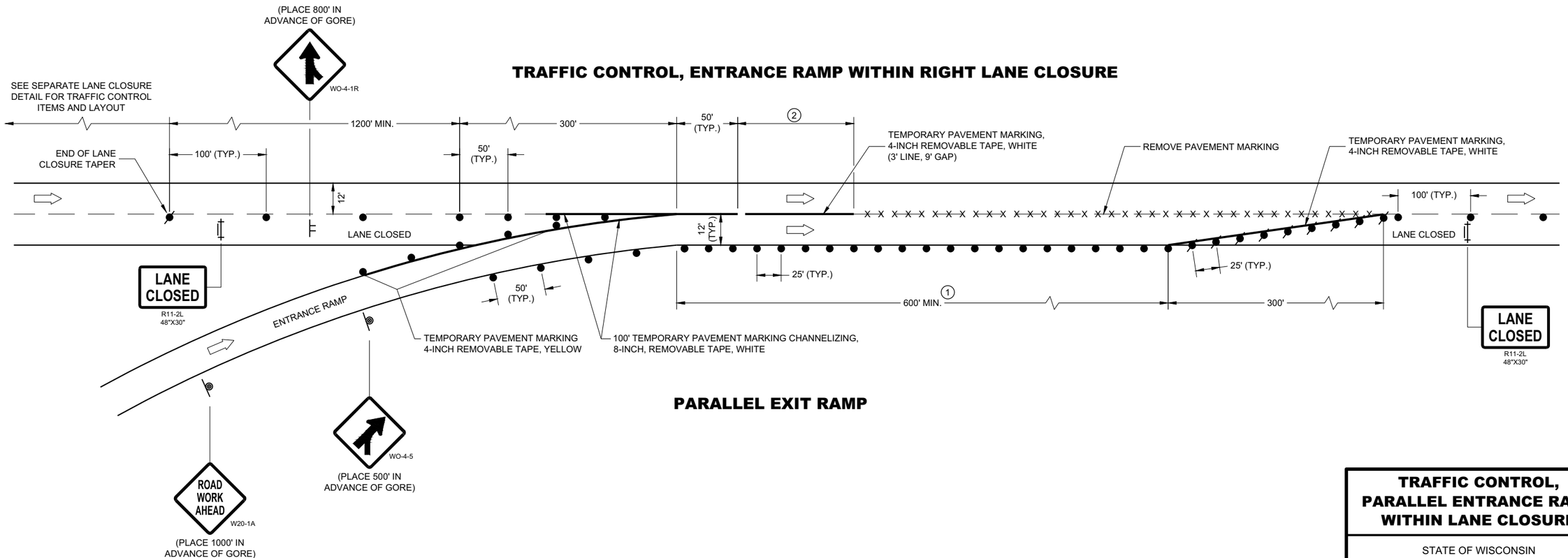
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

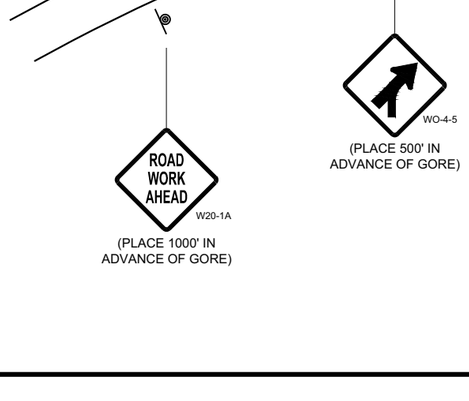
(1) EXTEND THE LENGTH OF THE MERGE ARE IF THE ENTERING (DESIGN) SPEED IS LESS THAN 50MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY MARKING AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE



PARALLEL EXIT RAMP



TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

SDD 15D15 - 05a

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS /OR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

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.

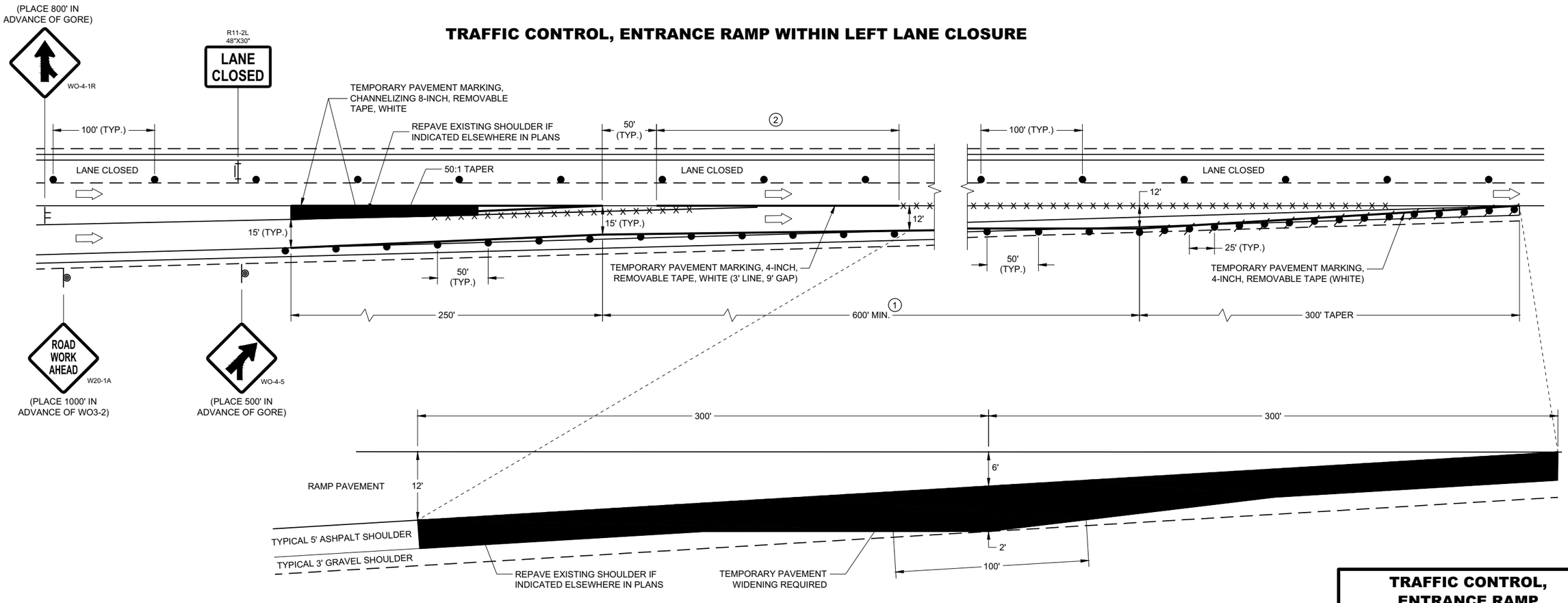
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) EXTEND THE LENGTH OF THE MERGE AREA IF THE ENTERING (DESIGN) SPEED OF THE RAMP IS LESS THAN 50 MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY MARKING AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LEFT LANE CLOSURE



TEMPORARY PAVEMENT DETAIL

(EXISTING RAMP DIMENSIONS MAY VARY, ADJUST TEMPORARY PAVEMENT ACCORDINGLY)

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D15 - 05b

SDD15D15 - 05b

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

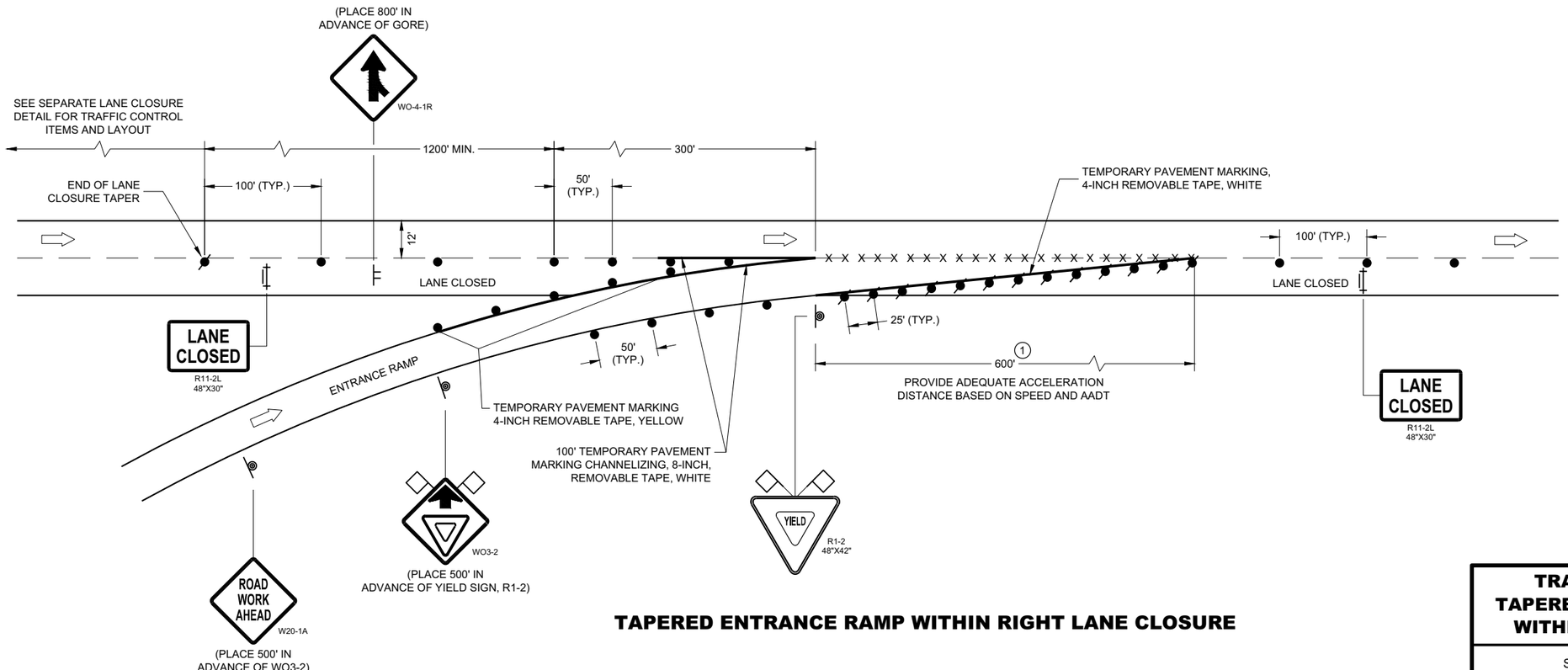
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.



TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D15 - 05c

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

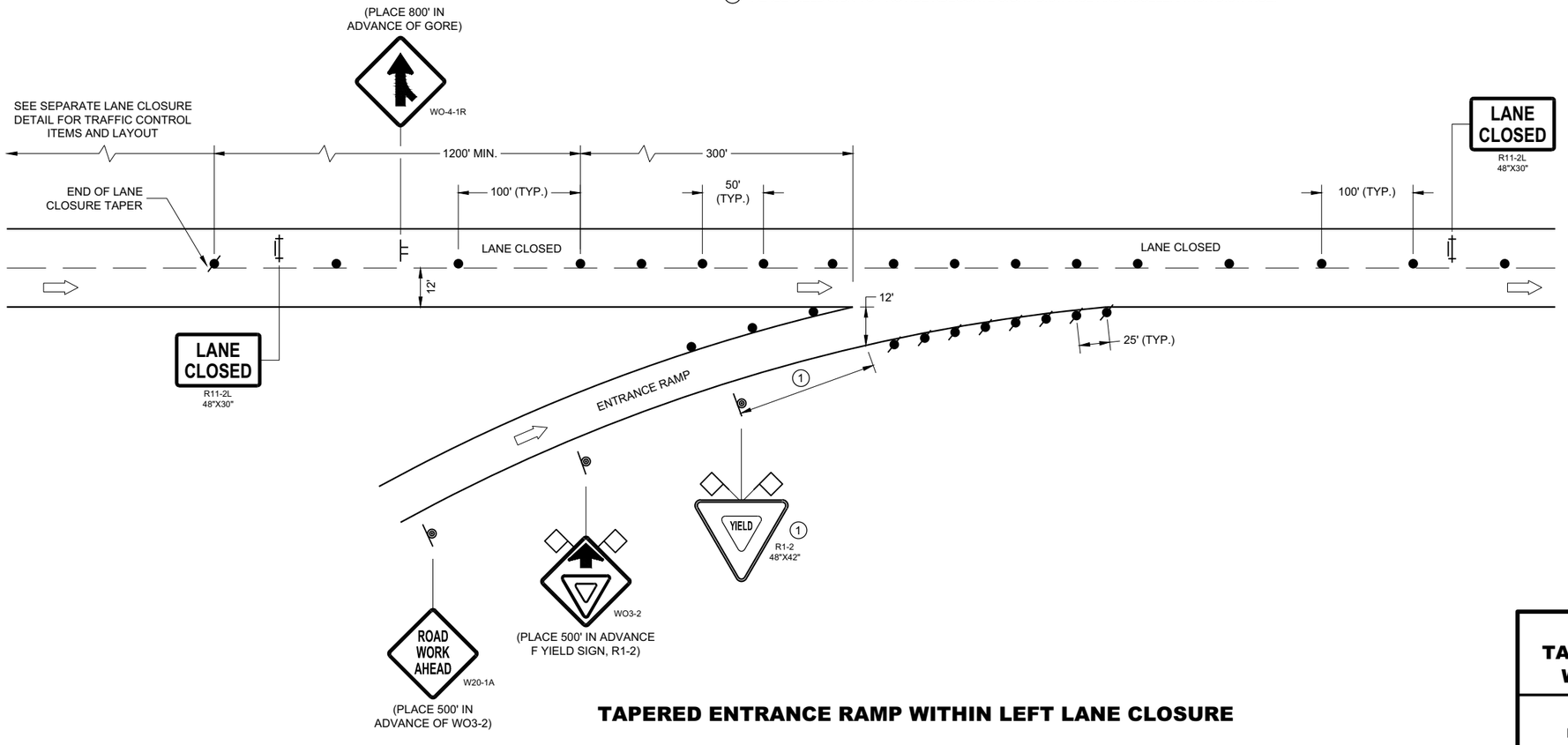
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) PLACE YIELD SIGN TO PROVIDE ADEQUATE SIGHT DISTANCE AND ACCELERATION DISTANCE.



TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D15 - 05d

6

SDD15D15 - 05d

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

TYPE III BARRICADE WITH ATTACHED SIGN

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

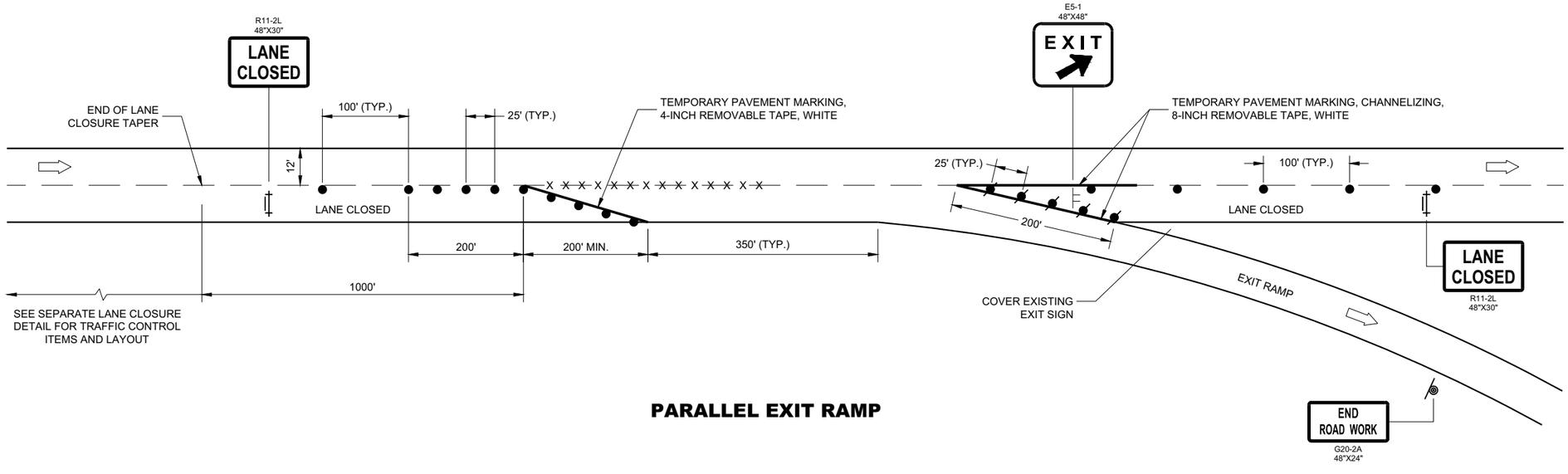
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.



PARALLEL EXIT RAMP

TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

6

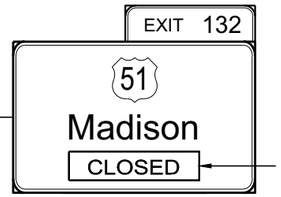
SDD 15D15 - 05e

6

SDD15D15 - 05e

G20 - 60
108" X 24"

OR



G20 - 60
108" X 24"

PLACE SIGN G20 - 60 OVER MILEAGE
ON EXISTING E1 - 1A SIGN

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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.

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

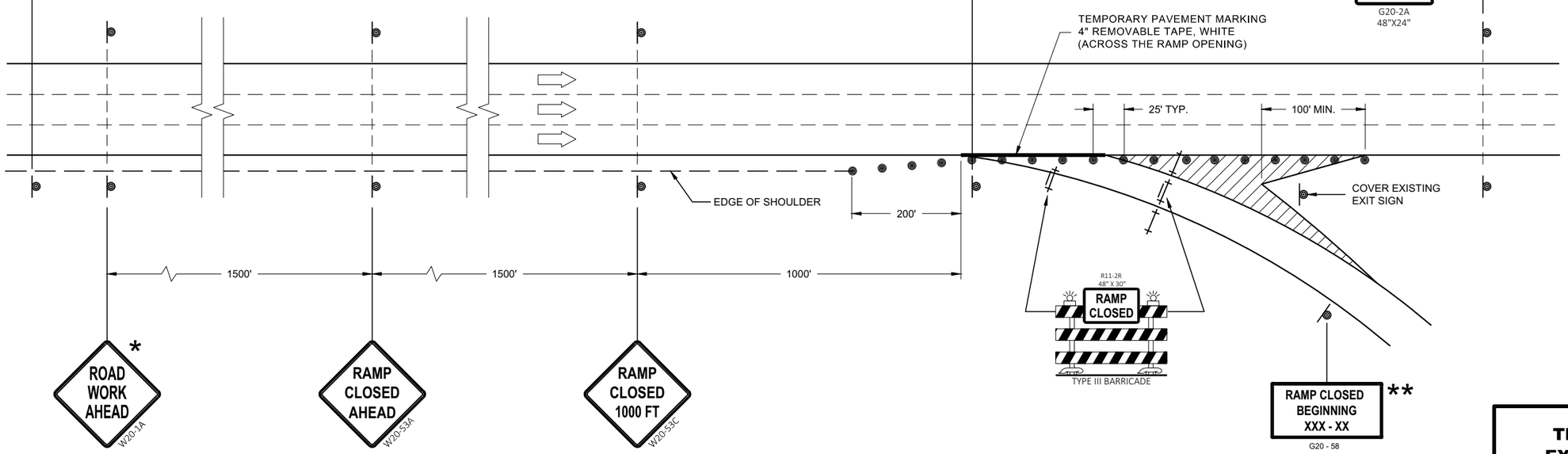
WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

* W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

COVER ARROW ON EXISTING
E4 - 1 SIGN (COVERING SIGNS
TYPE I)

G20 - 61
120 ' X 30"



OR

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Andrew Heidtke
ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

SDD 15D16 - 04

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

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

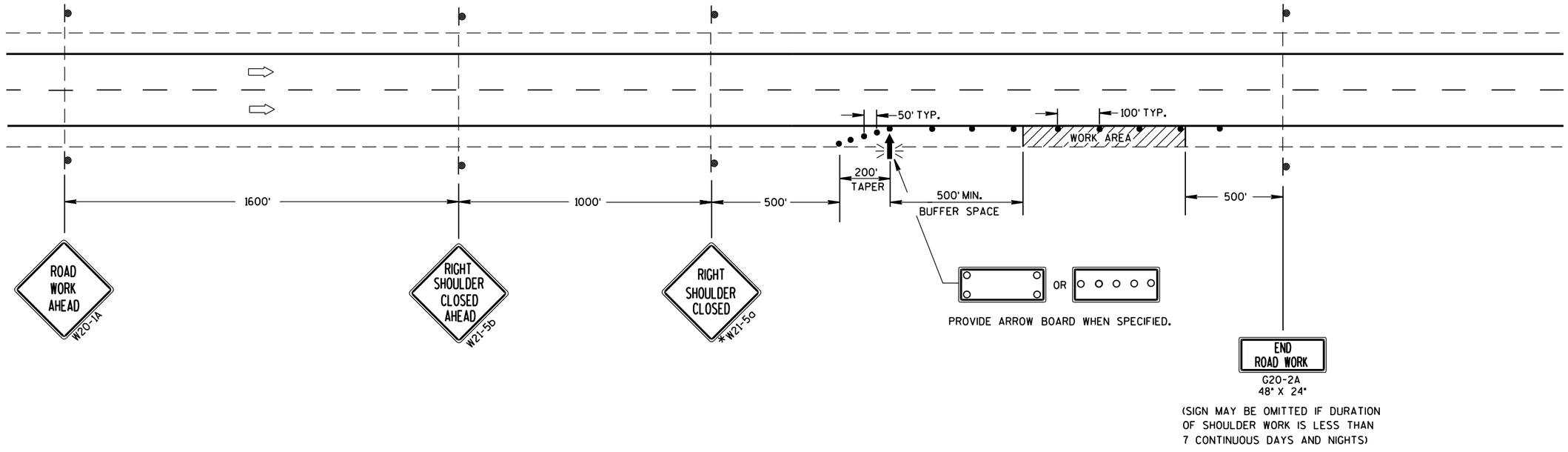
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

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

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

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

FHWA

6

S.D.D. 15 D 27-3

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

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

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

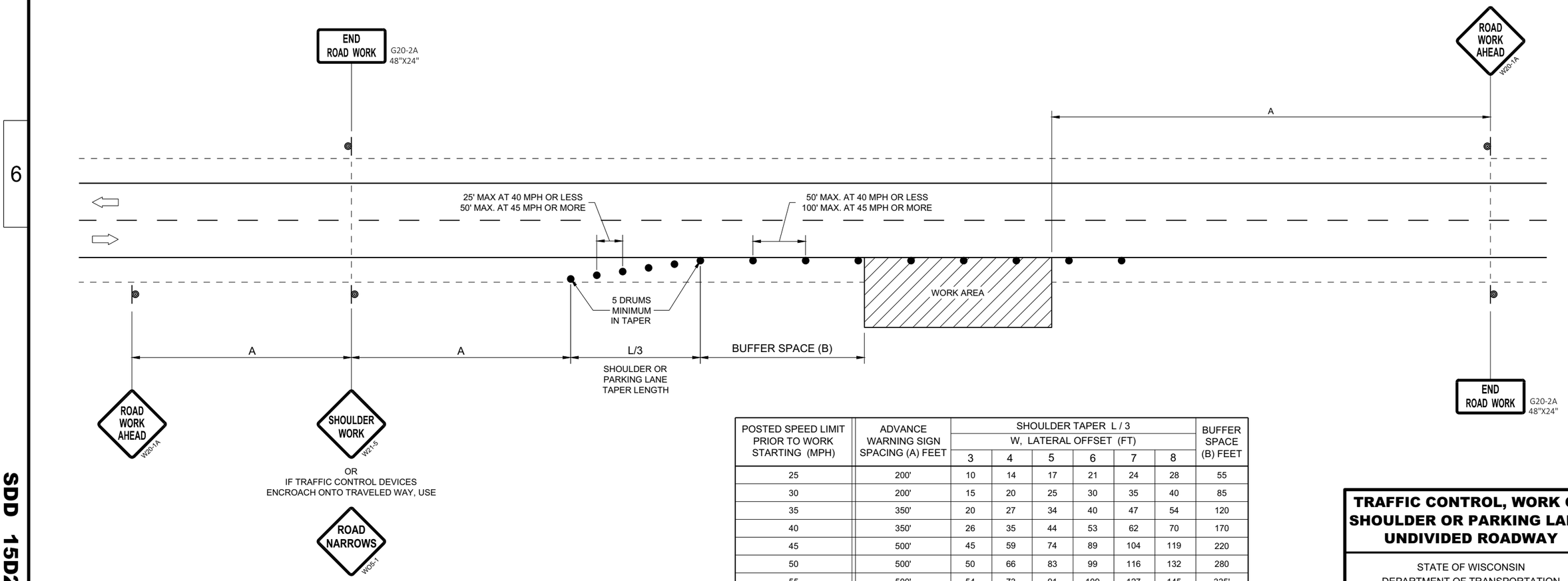
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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

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



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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

6

SDD 15D28 - 04

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE "A" WARNING LIGHT (FLASHING)

DIRECTION OF TRAFFIC

WORK AREA

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

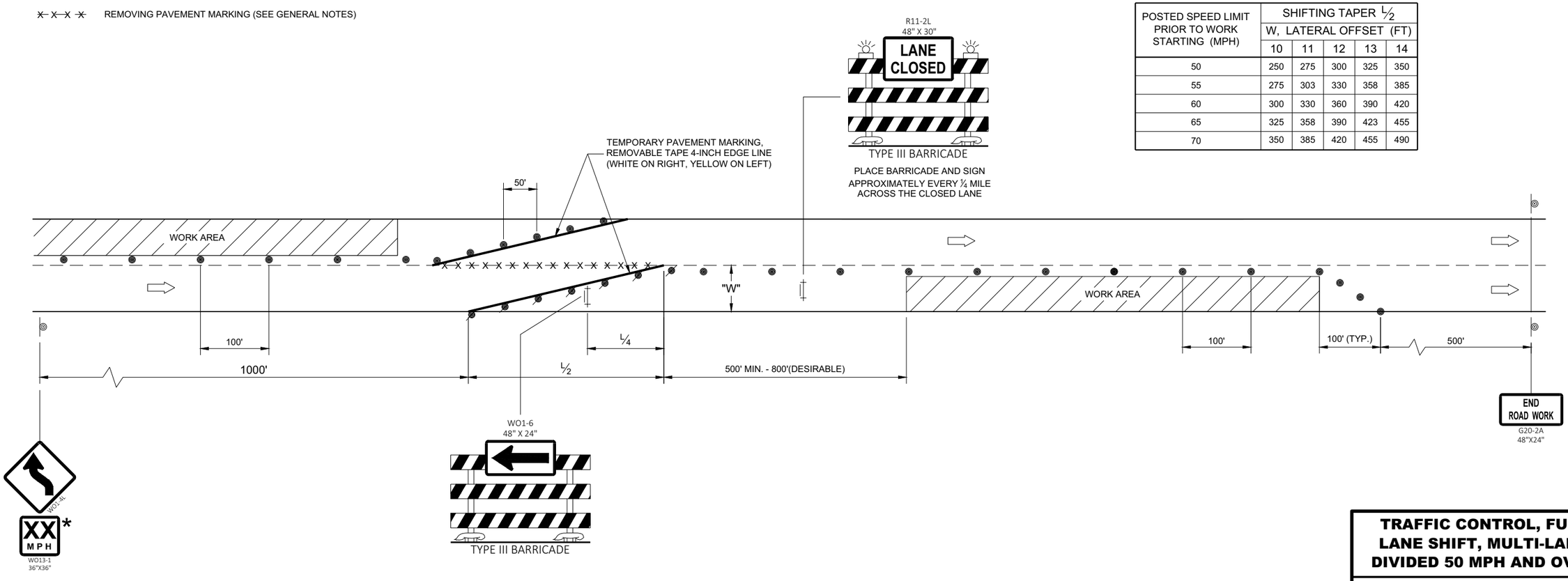
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)				
	10	11	12	13	14
50	250	275	300	325	350
55	275	303	330	358	385
60	300	330	360	390	420
65	325	358	390	423	455
70	350	385	420	455	490



TRAFFIC CONTROL, FULL LANE SHIFT, MULTI-LANE DIVIDED 50 MPH AND OVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D40 - 02b

SDD 15D40 - 02b

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA
- REMOVE PAVEMENT MARKING

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

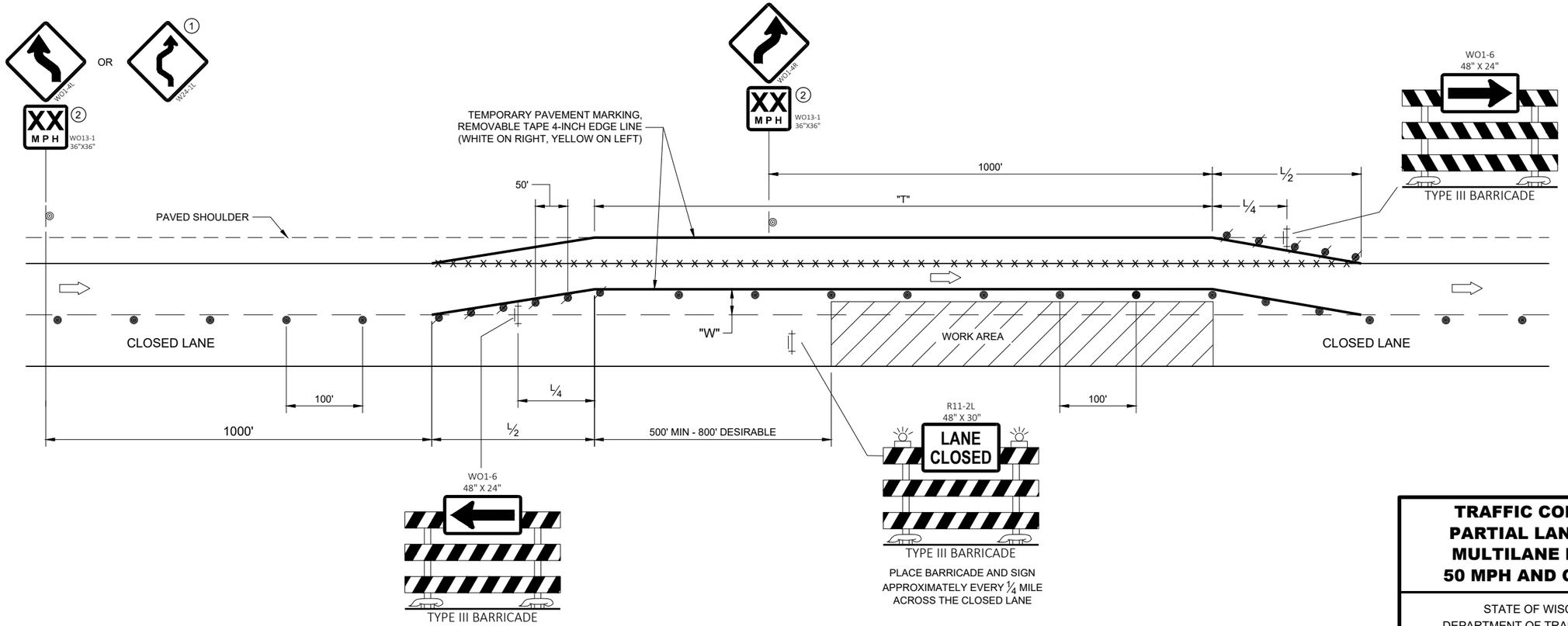
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

(1) USE ONLY WHEN T<600', OMIT WO1-4R.

(2) IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)								
	1	2	3	4	5	6	7	8	9
50	25	50	75	100	125	150	175	200	225
55	28	55	83	110	138	165	193	220	248
60	30	60	90	120	150	180	210	240	270
65	33	65	98	130	163	195	228	260	293
70	35	70	105	140	175	210	245	280	315



TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVE ENGINEER

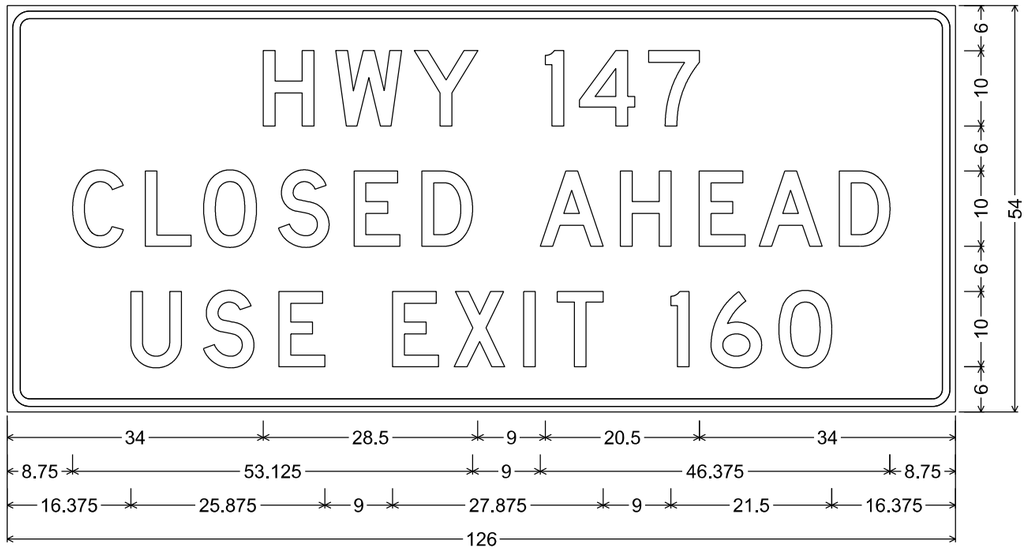
FHWA

SDD 15D40 - 02d

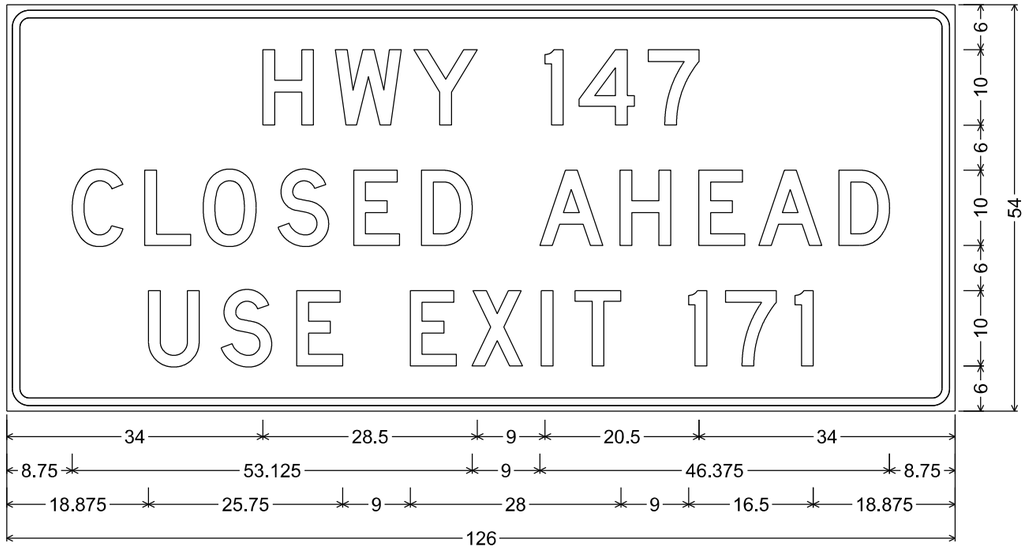
6
SDD 15D40 - 02d

NOTES

1. Fixed Message Signs Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D



3.000" Radius, 1.000" Border, 0.750" Indent



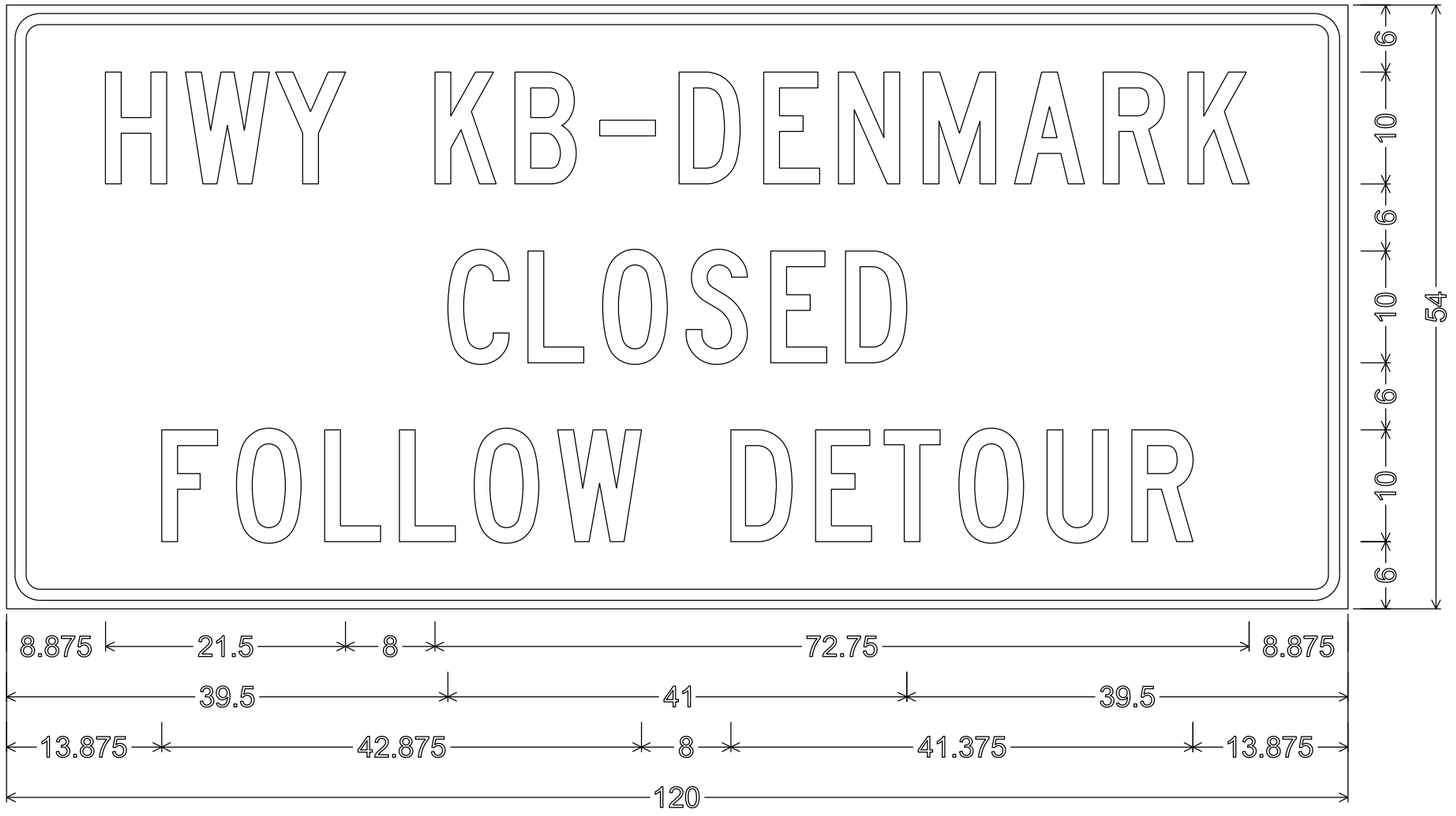
3.000" Radius, 1.000" Border, 0.750" Indent

7

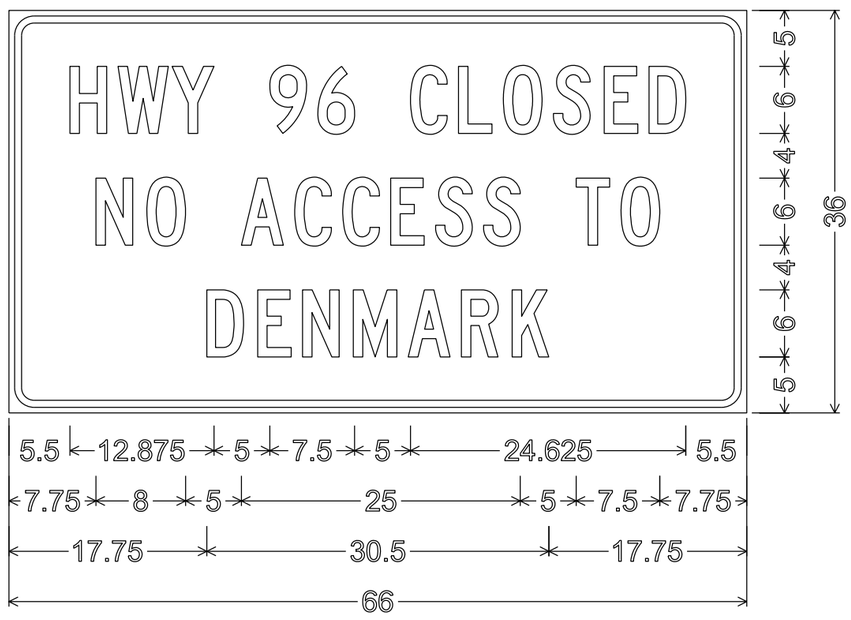
7

NOTES

1. Fixed Message Type II Signs – Type F Reflective
2. Color:
   Background – Orange
   Message – Black
3. Message Series – C



3.000" Radius, 1.000" Border, 0.750" Indent



2.250" Radius, 0.625" Border, 0.500" Indent

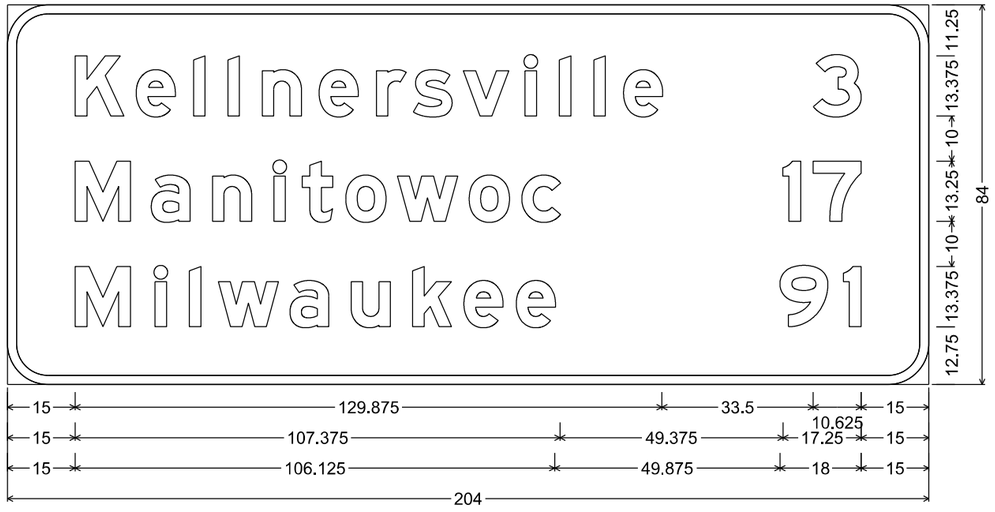
7

7

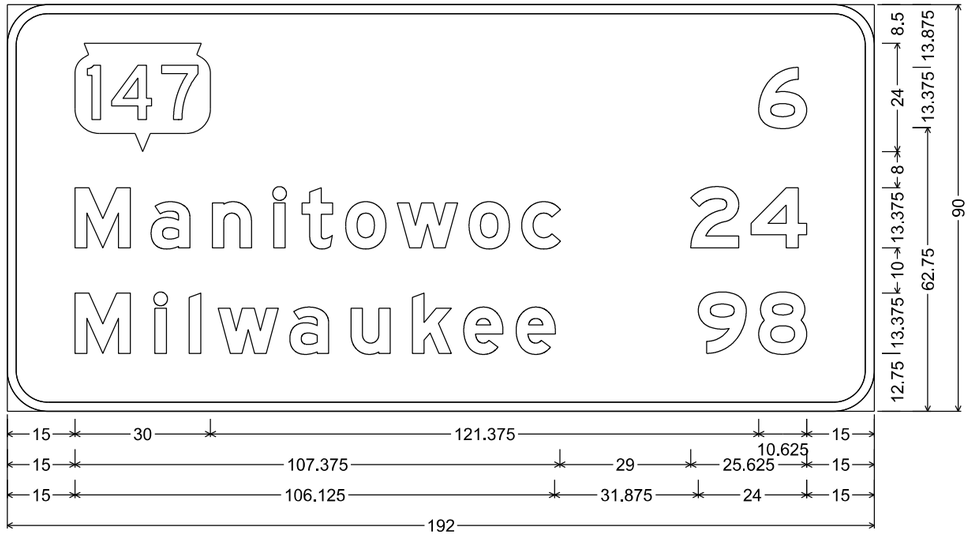
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: BROWN	TEMPORARY SIGNING	SHEET NO: 209	E

NOTES

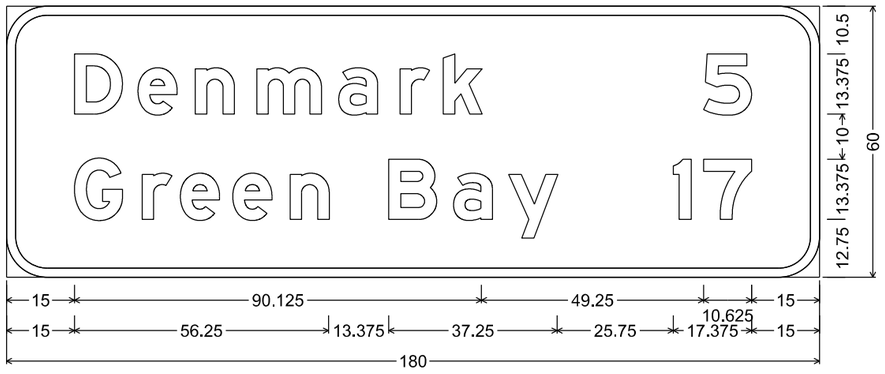
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E



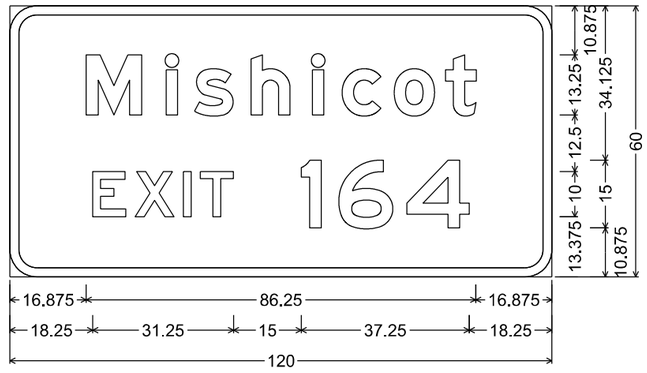
D2-3; 9.000" Radius, 2.000" Border



D2-3; 9.000" Radius, 2.000" Border



D2-2; 9.000" Radius, 2.000" Border



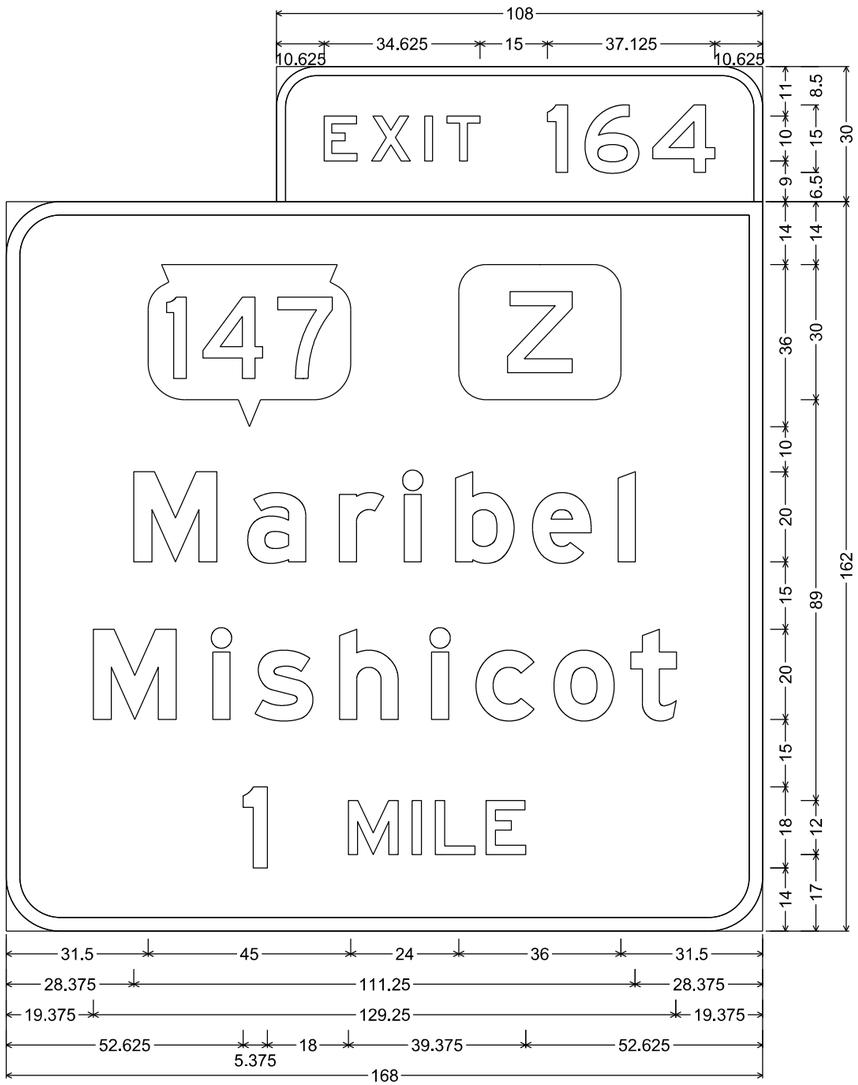
E3-1; 6.000" Radius, 2.000" Border

7

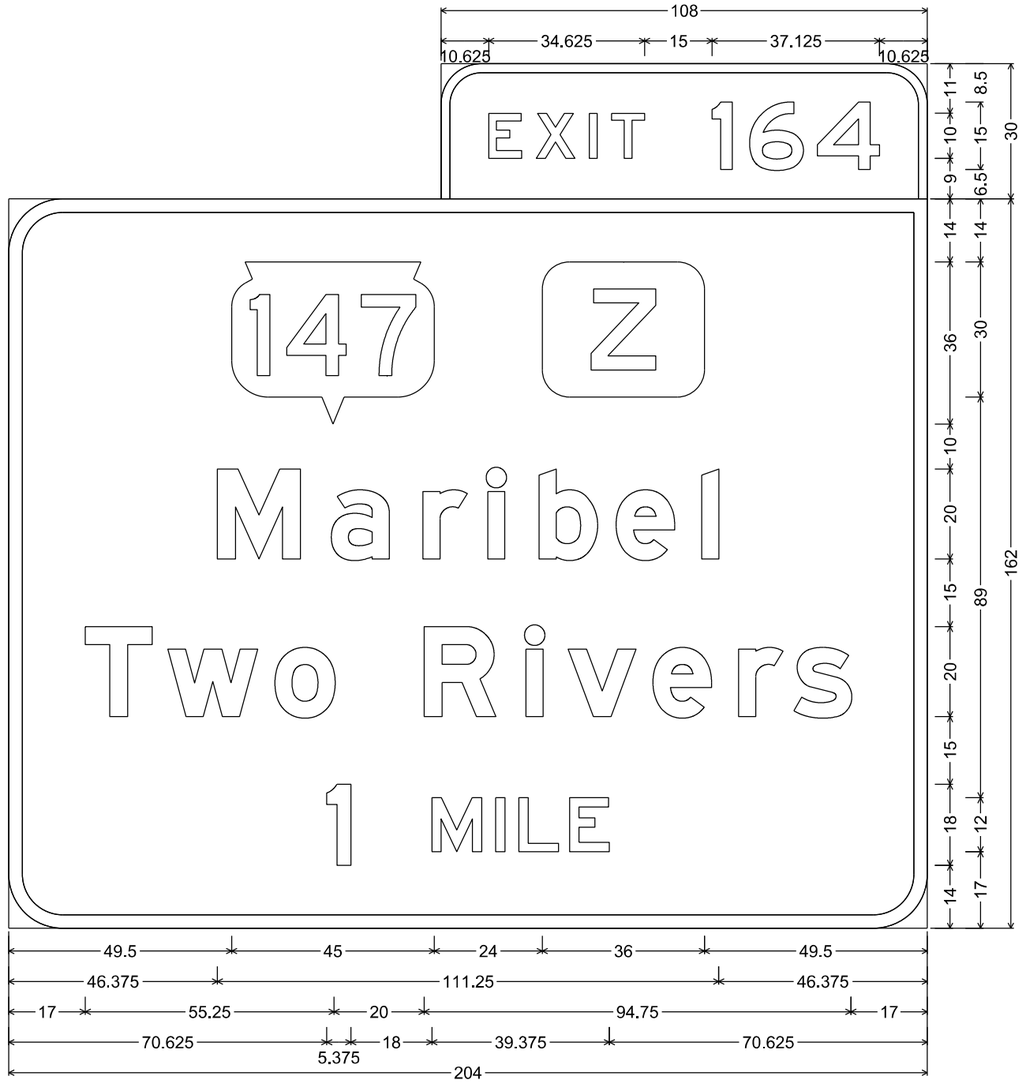
7

NOTES

1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E



E1-5P; 9.000" Radius, 2.000" Border
E1-1A; 12.000" Radius, 3.000" Border



E1-5P; 9.000" Radius, 2.000" Border
E1-1A; 12.000" Radius, 3.000" Border

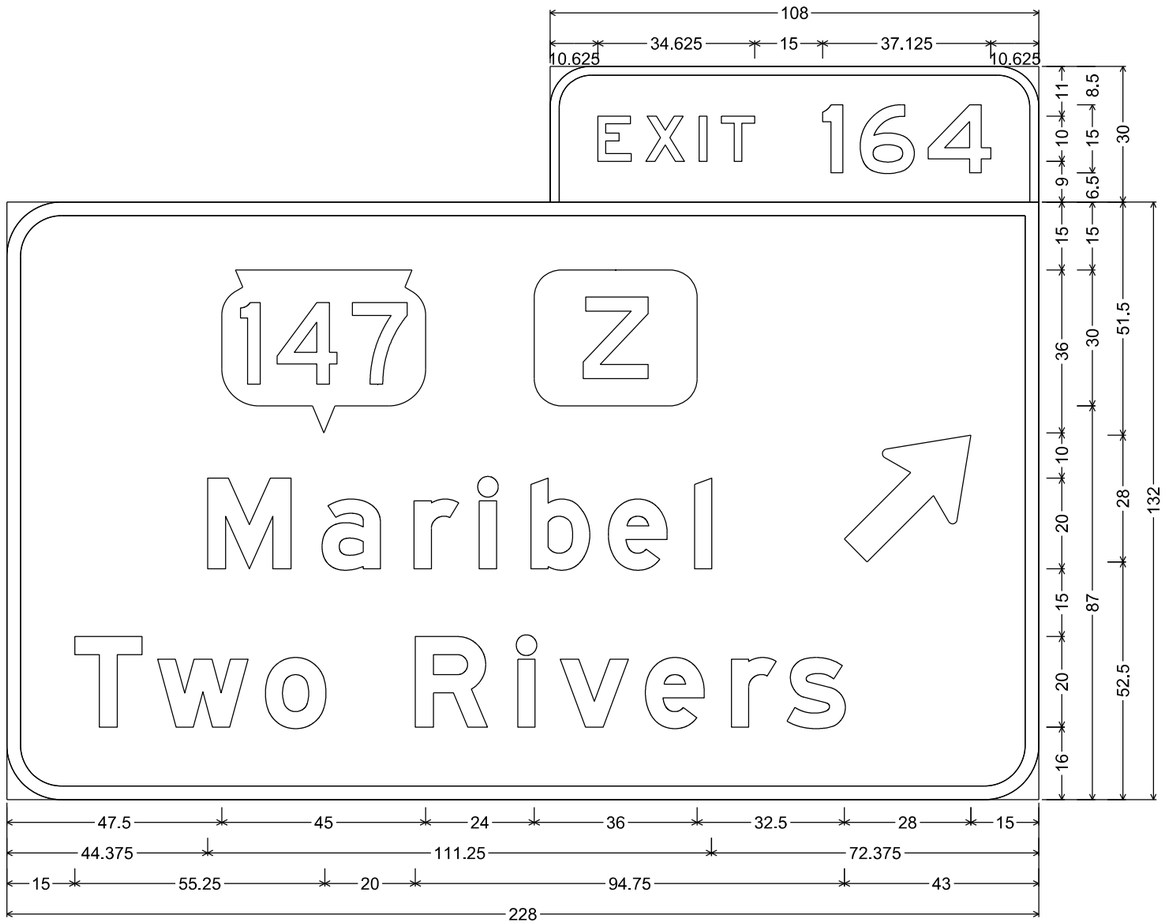
7

7

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 211	E

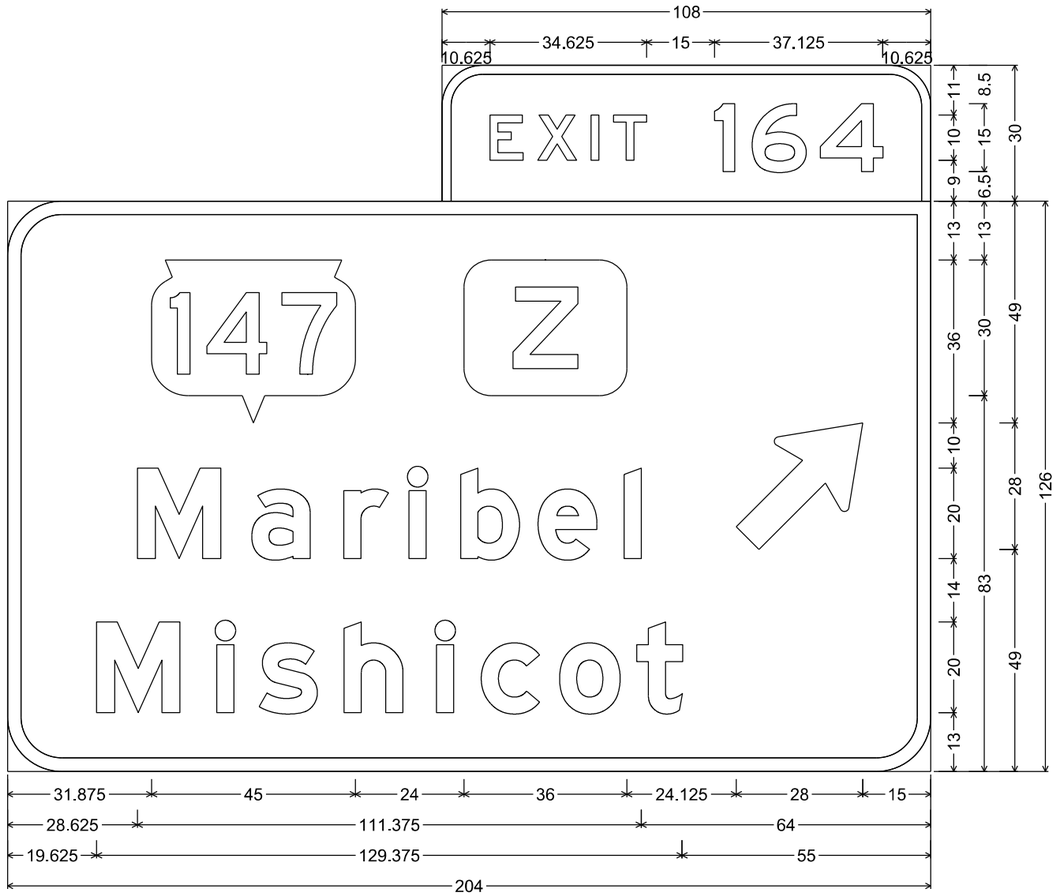
NOTES

1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E



E1-5P; 9.000" Radius, 2.000" Border

E4-1A; 12.000" Radius, 3.000" Border



E1-5P; 9.000" Radius, 2.000" Border

E4-1A; 12.000" Radius, 3.000" Border

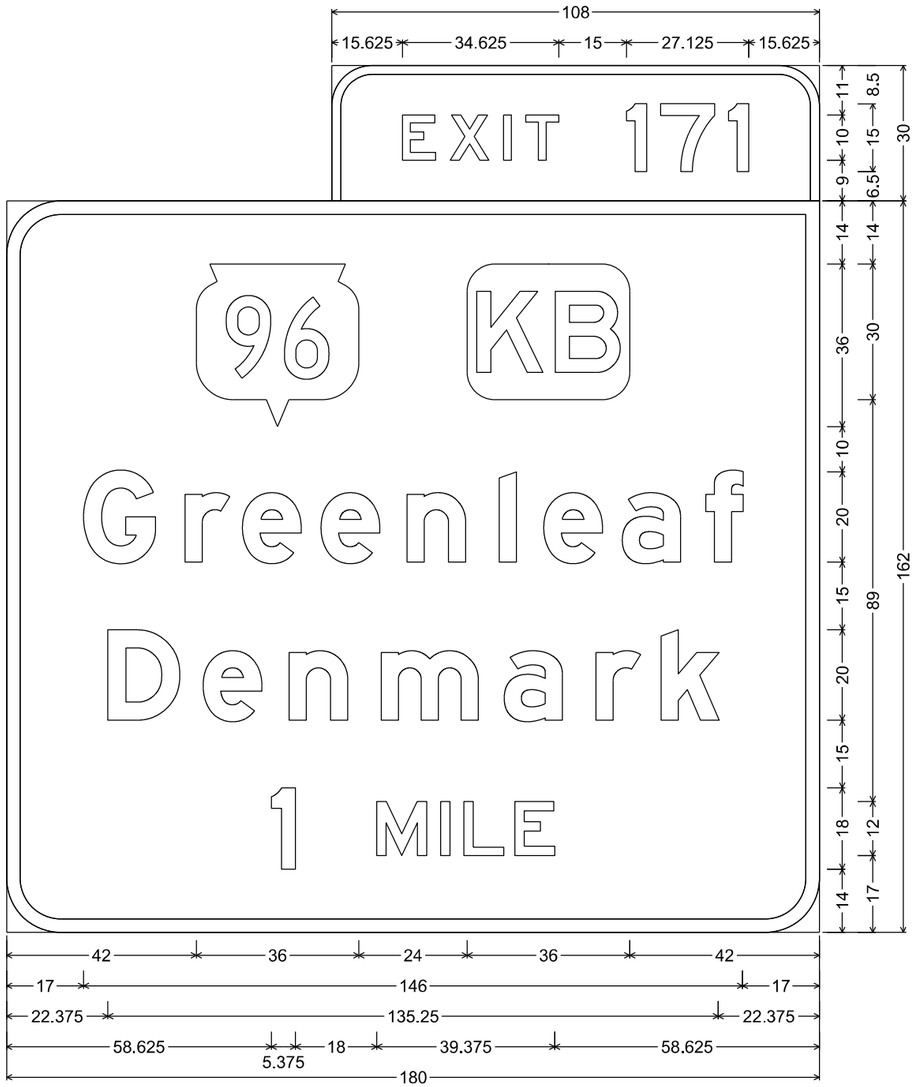
7

7

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 212	E

NOTES

1. Sign is Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E

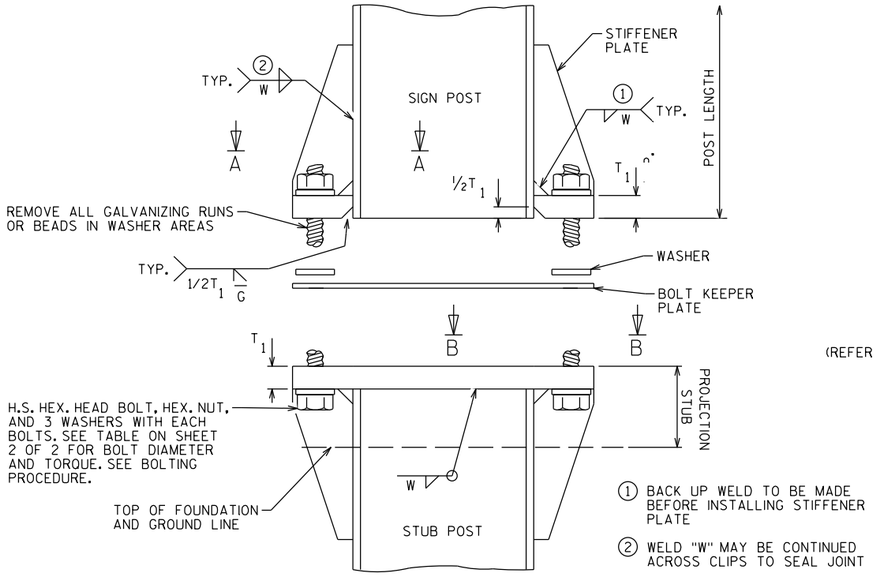


E1-5P; 9.000" Radius, 2.000" Border
E1-1A; 12.000" Radius, 3.000" Border

7

7

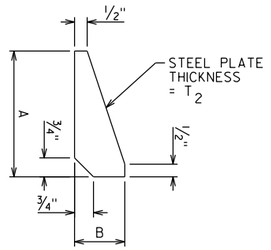
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 213	E



① BACK UP WELD TO BE MADE BEFORE INSTALLING STIFFENER PLATE

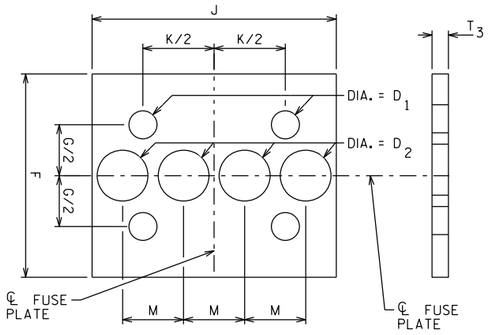
② WELD "W" MAY BE CONTINUED ACROSS CLIPS TO SEAL JOINT

SIGN POST & STUB POST ELEVATION



STIFFENER PLATE DETAIL

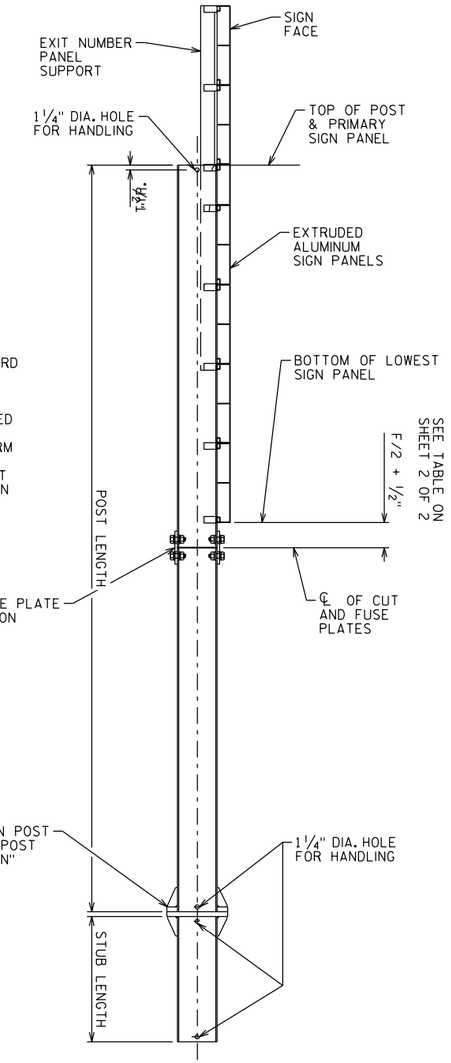
(REFER TO TABLE ON SHEET 2 OF 2 FOR DIMENSIONS)



PERFORMATED FUSE PLATE DETAIL

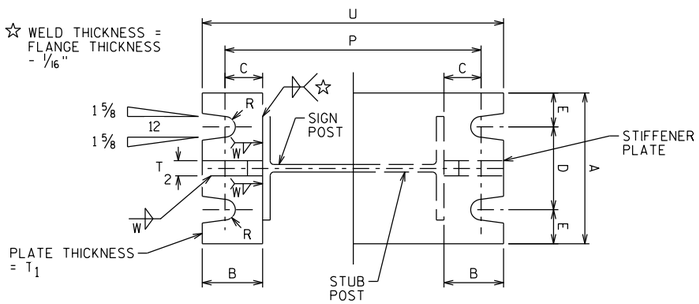
USE H.S. HEX HEAD BOLTS, HEX HEAD NUT AND FLAT WASHER UNDER NUT. INSTALL BOLTS PER THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION SECTION 506.3.12.3.

ALL HOLES SHALL BE DRILLED, SUB-PUNCHED AND REAMED. ALL PLATE CUTS SHALL PREFERABLY BE SAW CUTS. HOWEVER, FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND. METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE PERMITTED. STEEL FUSE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36. ASTM A572 GRADE 50 OR ASTM A588 MAY BE SUBSTITUTED FOR A36 AT THE OPTION OF THE FABRICATOR. MILL TEST REPORTS SHALL BE SUBMITTED FOR FUSE PLATES. STEEL USED SHALL HAVE AN ULTIMATE TENSILE STRENGTH NOT TO EXCEED 80 KSI.



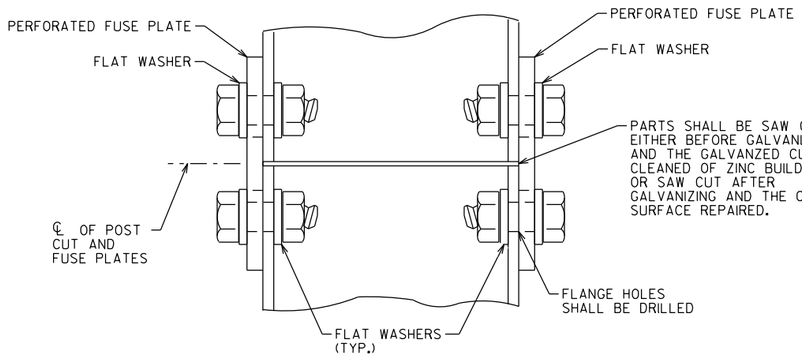
POST DETAIL

☆ WELD THICKNESS = FLANGE THICKNESS - 1/16"

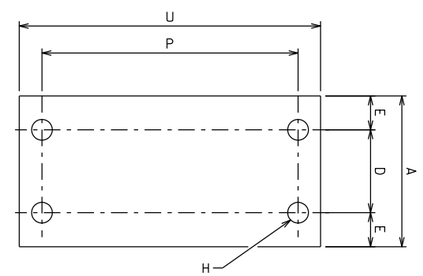


SECTION A-A

SECTION B-B



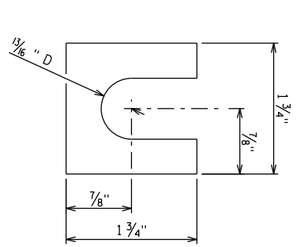
FUSE PLATE CONNECTION DETAIL



H = BOLT DIA. + 1/8"

BOLT KEEPER PLATE DETAIL

30 GA GALVANIZED SHEET STEEL



SHIM DETAIL

FURNISH TWO .012"± THICK AND TWO .032"± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO ASTM B36.

BOLTING PROCEDURE FOR BASE CONNECTION

1. ASSEMBLE SIGN POST, BOLT KEEPER PLATE, AND STUB POST WITH BOLTS AND THREE FLAT WASHERS PER BOLT AS SHOWN.
2. SHIM AS REQUIRED TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING, LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH A 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS.
5. LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PERSCRIBED TORQUE. (SEE TABLE FOR PERSCRIBED TORQUE). DO NOT OVER-TIGHTEN.
6. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

DRAWN BY | PLANS CK'D.

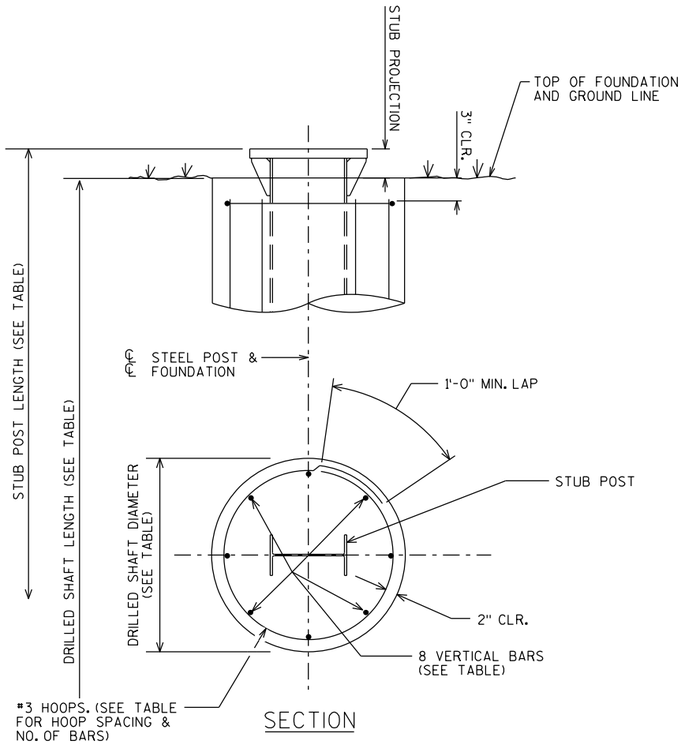
CONNECTION & FOUNDATION DETAILS 1 OF 2

SHEET A3-1.20

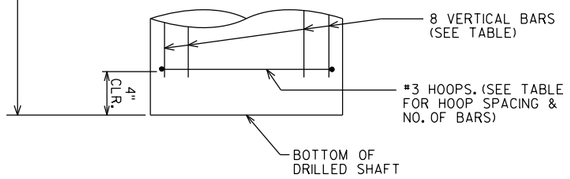
214

7

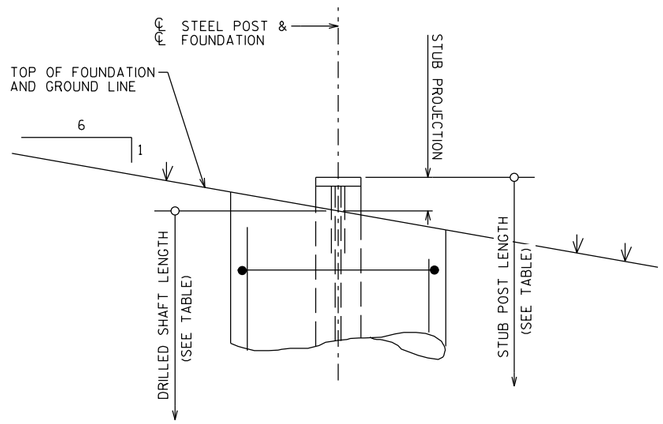
7



SECTION



FOUNDATION DETAIL



SHAFT PLACEMENT

FOUNDATION DATA TABLE

POST SHAPE	STUB LENGTH	STUB PROJECTION	DRILLED SHAFT DIAMETER	DRILLED SHAFT LENGTH	VERTICAL BARS		HOOPS		CONCRETE VOLUME ◆	TOTAL REINF. WEIGHT ◆
					SIZE	LENGTH	MAX SPA.	NO.		
W6X15	2'-6"	3"	24"	6'-6"	#5	5'-11"	10"	9	0.8 CY	71 LB
W8X18	2'-6"	3"	24"	7'-6"	#6	6'-11"	12"	8	0.9 CY	102 LB
W8X21	3'-0"	2½"	24"	8'-0"	#6	7'-5"	12"	9	1.0 CY	110 LB
W10X22	3'-0"	2½"	24"	8'-6"	#7	7'-11"	12"	9	1.0 CY	151 LB
W12X26	3'-0"	2½"	24"	10'-0"	#7	9'-5"	12"	11	1.2 CY	180 LB

◆ QUANTITIES SHOWN ARE FOR ONE DRILLED SHAFT

BASE CONNECTION & FUSE PLATE DATA TABLE

POST SHAPE	WEIGHT PER FOOT	BASE CONNECTION DATA: BOLT SIZE & TORQUE	A	B	C	D	E	T1	T2	W	R	BOLT KEEPER PLATE DATA: P	U	PERFORATED FUSE PLATE DATA: F	G	J	K	M	D1	D2	T3	BOLT DIA.	WGT. EA. LBS	BOLT LENGTH	V ◪
W6X15	15 LB	5/8" DIA. X 4" 36 TO 38 FT-LB	5"	2"	1¼"	2¾"	1⅛"	1¼"	½"	¼"	11/32"	8½"	10"	5"	2½"	6"	3½"	1½"	11/16"	1¼"	⅜"	⅝"	2.4	2	73.0 LB
W8X18	18 LB											10⅝"	12⅛"	5"	2½"	5¼"	2¾"	1¼"	11/16"	1 1/16"	⅜"	⅝"	2.0	2	83.0 LB
W8X21	21 LB	¾" DIA. X 4¾" 62 TO 63 FT-LB	6"	2¼"	1⅜"	3½"	1¼"	1½"	¾"	5/16"	13/32"	11"	12¾"	5½"	2½"	5¼"	2¾"	1¼"	13/16"	1"	½"	¾"	3.1	2¼"	124.0 LB
W10X22	22 LB											12⅞"	14⅝"	6"	3"	5¾"	2¾"	1⅜"	13/16"	1⅛"	½"	¾"	3.9	2¼"	134.0 LB
W12X26	26 LB											15"	16¾"	6"	3"	6½"	3½"	1⅝"	13/16"	1 5/16"	½"	¾"	4.5	2¼"	152.0 LB

◪ TOTAL STRUCTURAL CARBON STEEL WEIGHT FOR ONE POST = V + (POST LENGTH X POST WEIGHT PER FOOT)

"V" INCLUDES STUB POST, BASE PLATES, STIFFENER PLATES, PERFORATED FUSE PLATES, BOLTS, NUTS, AND WASHERS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED

MATERIALS SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506, UNLESS NOTED OTHERWISE.

FABRICATION SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506.

ALL POST, POST STUBS & ATTACHMENTS SHALL BE ASTM A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123.

THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST, FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.

H.S. BOLTS, WASHERS, & NUTS SHALL BE A325 GALVANIZED.

FOUNDATION MATERIAL PROPERTIES

CONCRETE MASONRY	F'C = 3,500 P.S.I.
BAR STEEL REINFORCEMENT (UNCOATED), GRADE 60	FY = 60,000 P.S.I.

DESIGN DATA

DESIGN CONFORMS TO AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS 1ST EDITION 2015 (WITH 2017 & 2018 INTERIM REVISIONS).

DEAD LOADS (DL):

- STEEL POST SELF WEIGHT
- SIGN PANEL WEIGHT = 3 PSF

WIND LOADS (WL):

WIND LOADS WERE APPLIED TO THE PROJECTED AREAS OF THE SIGN PANELS AND THE STEEL SIGN POSTS.

- BASIC WIND SPEED = 76 MPH
- MEAN RECURRANCE INTERVAL (MRI) = 10 YEARS
- HEIGHT & EXPOSURE FACTOR = 1.00
- DIRECTIONALITY FACTOR = 0.85
- GUST EFFECT FACTOR = 1.14

WIND LOAD CASES:

- WL CASE 1: 1.0 X NORMAL WIND
- WL CASE 2: 1.0 X TRANSVERSE WIND
- WL CASE 3: 0.75 X NORMAL WIND + 0.75 X TRANSVERSE WIND

LOAD COMBINATIONS:

LOAD COMBINATION	TYPE	DL FACTOR	WL FACTOR
STRENGTH I	GRAVITY	1.25	-
EXTREME I	WIND	1.10	1.0
		0.9	1.0
SERVICE I	DEFLECTION	1.0	1.0

FOUNDATION DESIGN DATA

THE FOUNDATION DESIGN ASSUMED COHESIONLESS SOILS (LOOSE SAND) ABOVE THE WATER TABLE WITH THE FOLLOWING PROPERTIES:

- SOIL UNIT WEIGHT = 115 PCF
- ANGLE OF INTERNAL FRICTION = 24 DEGREES
- SOIL MODULUS PARAMETER = 25 LB/IN3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

DRAWN BY | PLANS CK'D.

CONNECTION & FOUNDATION DETAILS 2 OF 2

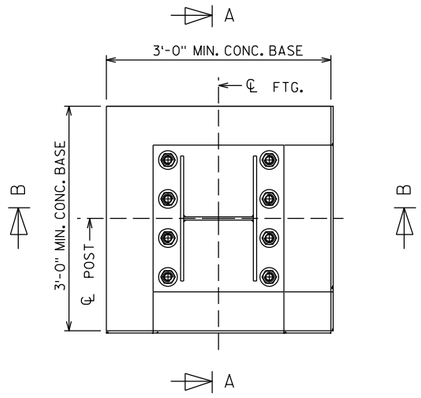
SHEET A3-1.20

215

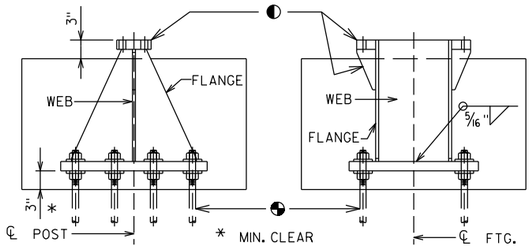
7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A31.DGN PLOT DATE : 3-MAR-2020 PLOT BY : dotc4c

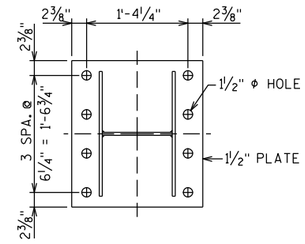
STUB AND ADHESIVE ANCHOR DETAILS



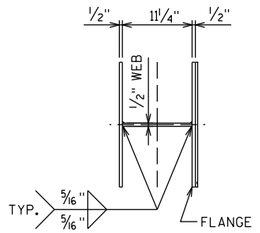
STUB SECTION



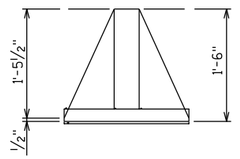
SECTION A-A SECTION B-B



BASE PLATE



STUB



FLANGE

◐ SEE BASE CONNECTION DETAILS ON "CONNECTIONS & FOUNDATION DETAILS" SHEETS.

◔ ADHESIVE ANCHORS 1¼-INCHES. ALLOWABLE PULL OUT CAPACITY = 15 KIPS. EMBED 1'-3" INTO ROCK.

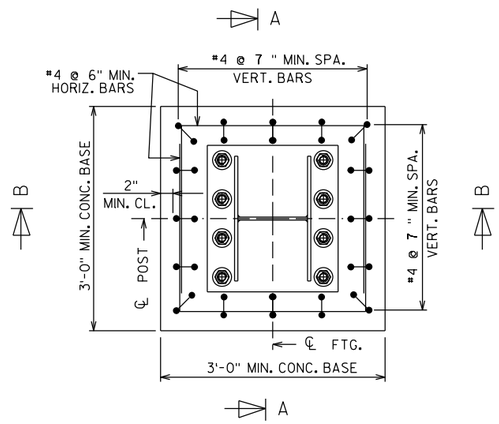
GENERAL NOTES:

QUANTITIES PER BASE:
REINFORCING STEEL = 62 LB
CONCRETE = 0.6 CY
STRUCTURAL STEEL = 335 LB

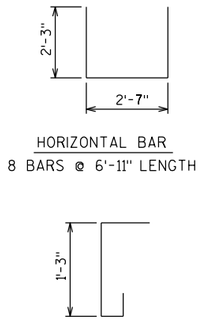
ALL MATERIALS, EXCEPT FOR ANCHOR ROD, NUTS, AND WASHERS, SHALL BE ASTM A709 GRADE 50. ALL MATERIALS TO BE GALVANIZED AFTER FABRICATION.

IF ROCK IS ENCOUNTERED PRIOR TO REACHING THE MINIMUM DRILLED SHAFT EMBEDMENT DEPTH DEFINED ON THE FOUNDATION DATA TABLE OF THE "CONNECTIONS & FOUNDATION DETAILS 2 OF 2" SHEET, THE CONTRACTOR SHALL INSTALL A TEST ADHESIVE ANCHOR AND DETERMINE THE PULL-OUT CAPACITY. IF THE FIELD TEST RESULTS IN A PULL-OUT CAPACITY GREATER THAN OR EQUAL TO 15 KIPS, THE CONTRACTOR MAY INSTALL THE ALTERNATE CONCRETE BASE AND BREAK-WAY STUB PER THE DETAILS ON THIS SHEET.

CONCRETE BASE DETAILS

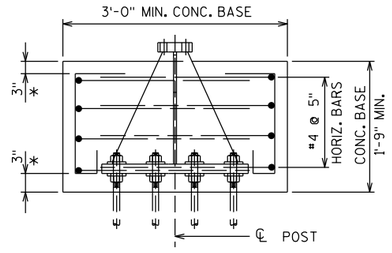


CONCRETE BASE PLAN

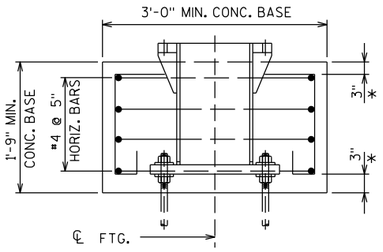


HORIZONTAL BAR
8 BARS @ 6'-11" LENGTH

VERTICAL BARS
16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED



SECTION A-A



SECTION B-B

* MIN. CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

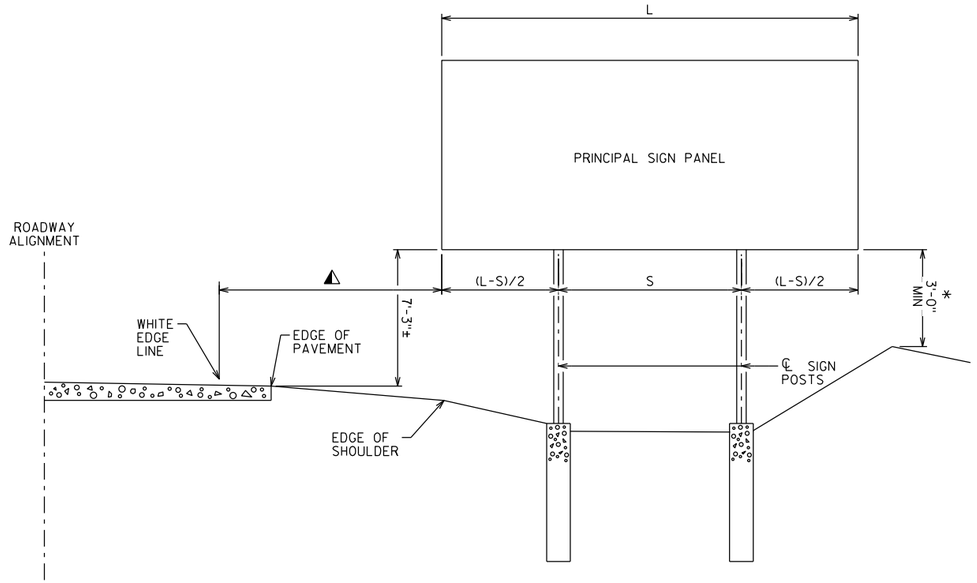
STRUCTURE BTO TYPE I SIGNS

DRAWN BY | PLANS CK'D.

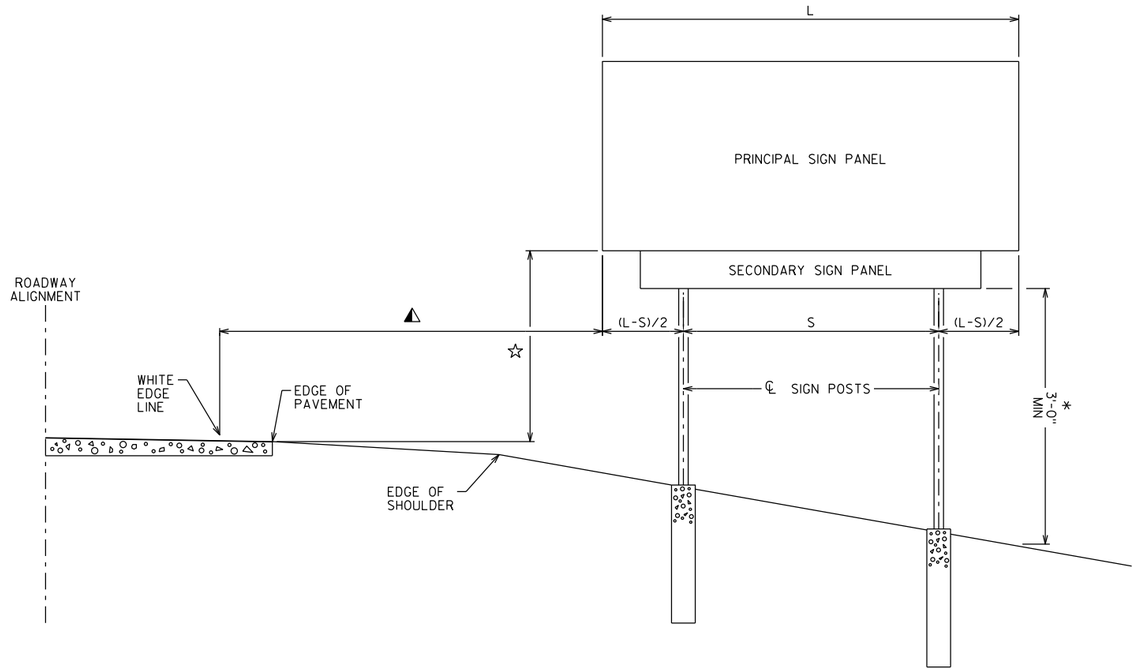
ALTERNATE BREAK-AWAY BASE ON ROCK

SHEET A3-1M.2

216



INSTALLATION WITHOUT SECONDARY SIGN



INSTALLATION WITH SECONDARY SIGN

TYPE 1 SIGN INSTALLATION NOTES:

FOR A 2-POST INSTALLATION, "S" EQUALS 3L/5, BUT SHALL NOT BE LESS THAN 6'-0".

FOR A 3-POST INSTALLATION, "S" EQUALS 5L/7, BUT SHALL NOT BE LESS THAN 12'-0". THE SPACING BETWEEN ANY TWO POSTS SHALL NOT BE LESS THAN 6'-0".

◭ UNLESS NOTED IN THE PLANS, THE SIGN OFFSET DISTANCE SHALL BE A MINIMUM OF 17'-6" FROM THE WHITE EDGE LINE, DESIRABLE 30'-0".

THE ± TOLERANCE SHOWN ON THIS SHEETS IS 3".

THE VERTICAL SIGN HEIGHT CLEARANCES SHOWN ON THIS SHEET ARE MEASURED FROM THE BOTTOM OF THE SIGN PANEL TO THE NEAR EDGE OF PAVEMENT.

☆ THE VERTICAL CLEARANCE SHALL BE 8'-3"± WHEN THE SECONDARY SIGN HEIGHT IS 3'-0" OR LESS. FOR SECONDARY SIGN HEIGHTS LARGER THAN 3'-0", THE VERTICAL CLEARANCE TO THE BOTTOM OF THE SECONDARY SIGN PANEL SHALL BE 5'-3"±.

* THE VERTICAL SIGN GROUND CLEARANCE ON RIGHT END OF SIGN SHALL BE A MINIMUM OF 3'-0"±.

POST LENGTHS SHOWN IN THE MISCELLANEOUS QUANTITIES ARE ESTIMATED LENGTHS. THE CONTRACTOR SHALL VERIFY POST LENGTHS AT THE TIME OF FINAL GRADING.

REFER TO THE TRAFFIC ENGINEERING OPERATIONS AND SAFETY MANUAL FOR FURTHER GUIDANCE ON MINIMUM VERTICAL CLEARANCE REQUIREMENTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

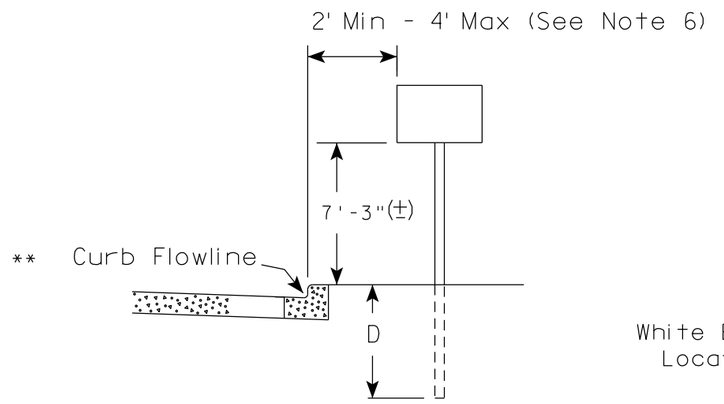
DRAWN BY | PLANS CK'D.

TYPICAL TYPE I SIGN INSTALLATION

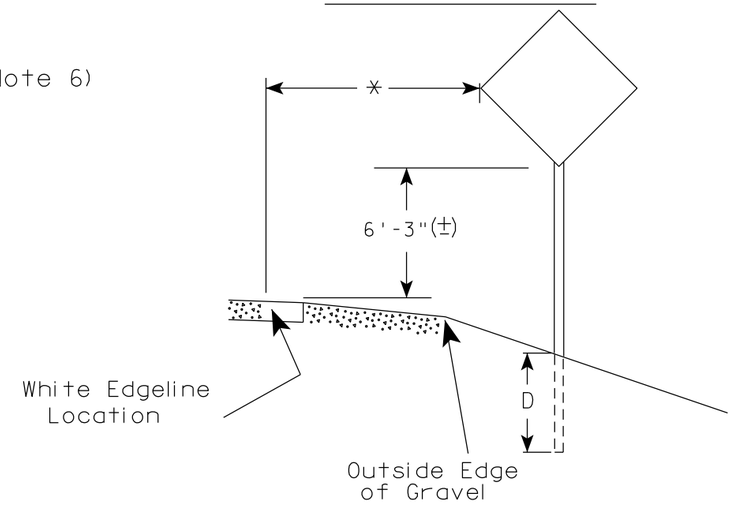
SHEET A4-1.10

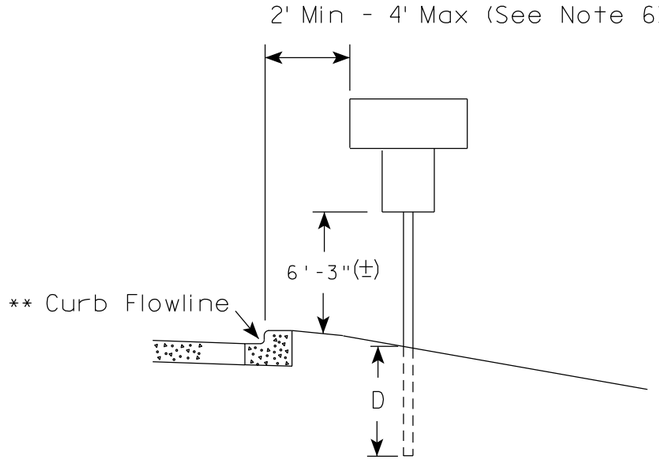
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 217 | E

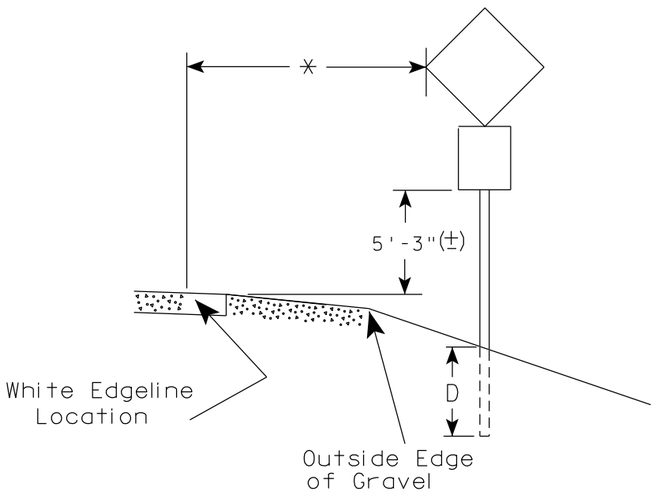
URBAN AREA



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.

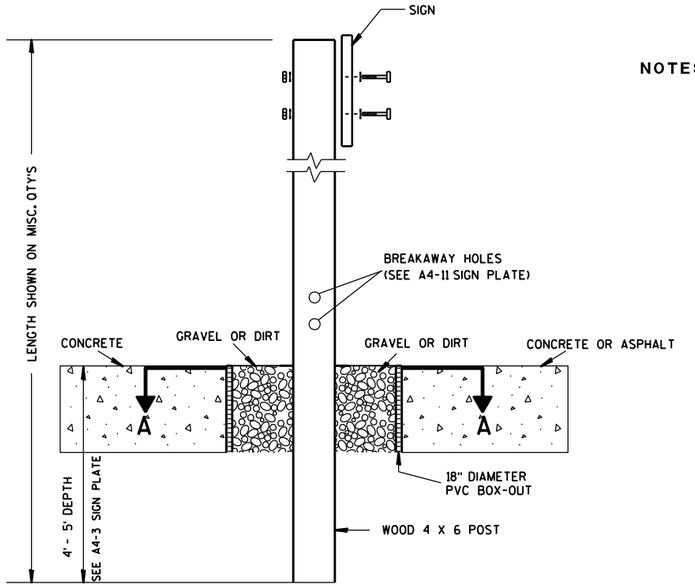
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

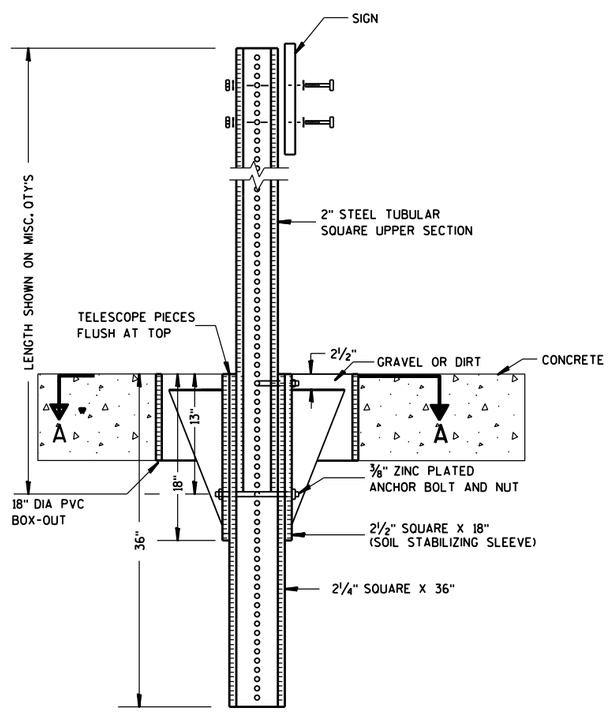
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 218	E



ELEVATION VIEW

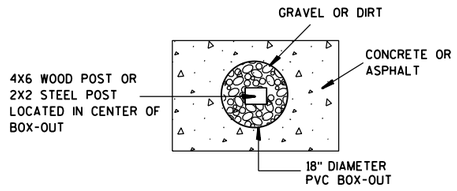
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

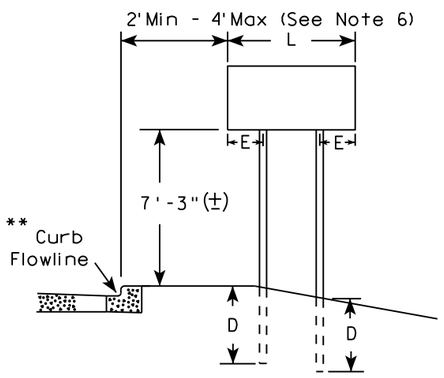
APPROVED Matthew R Rauch
for State Traffic Engineer

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

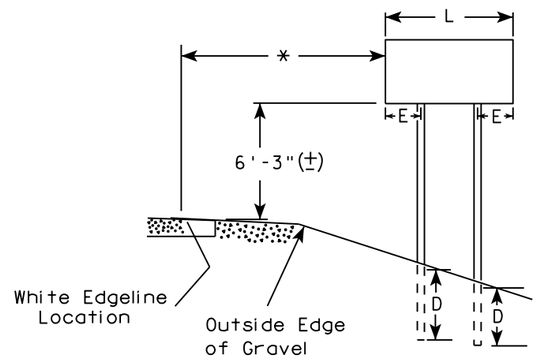
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

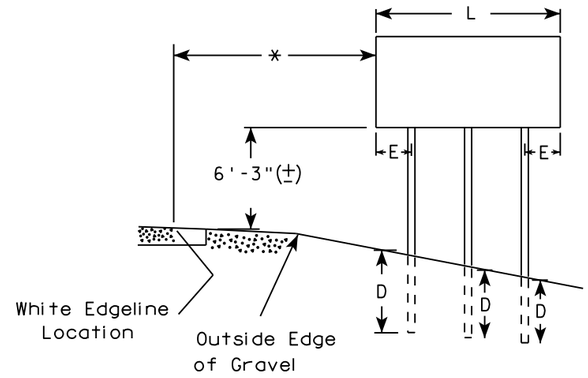
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

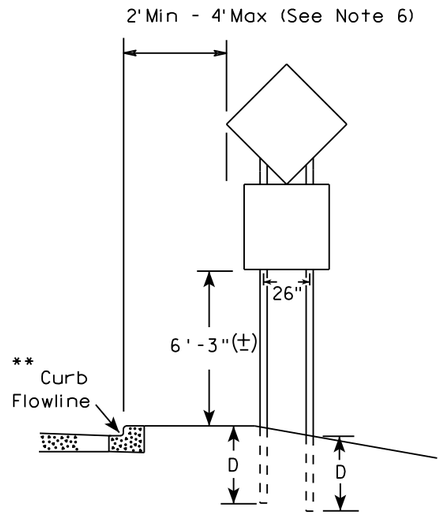
URBAN AREA



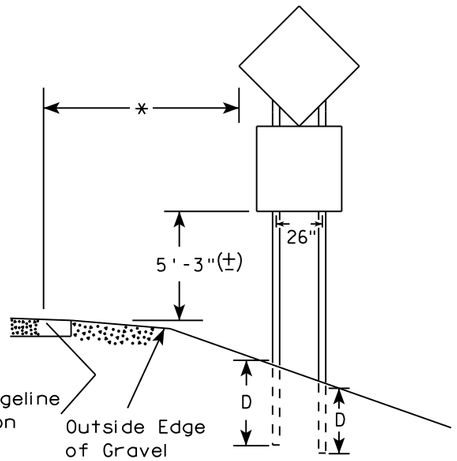
RURAL AREA (See Note 3)







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

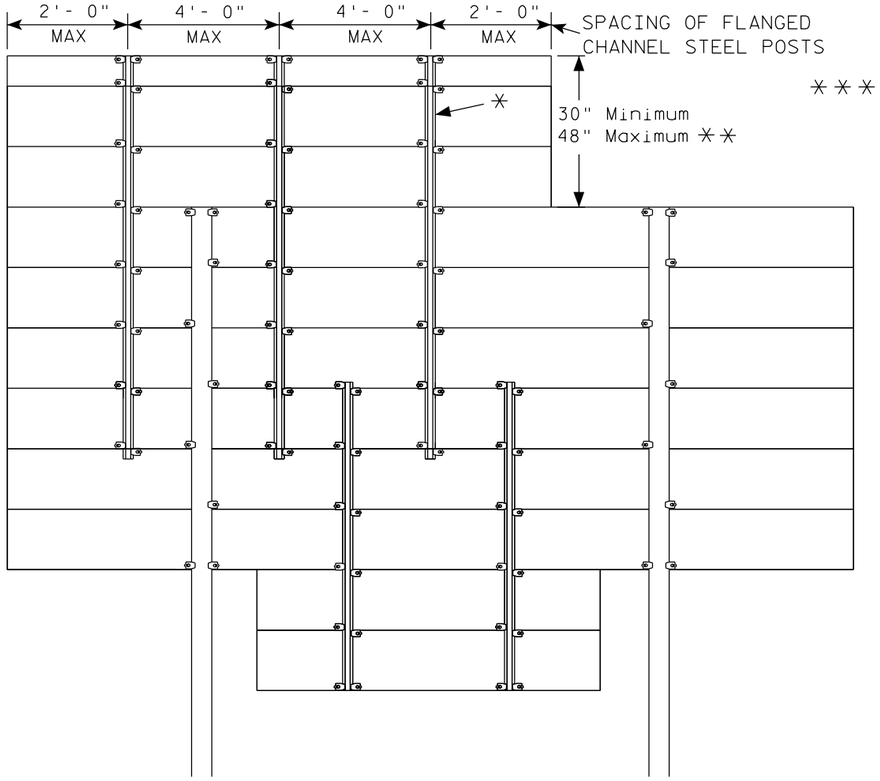
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 220	E

GROUND MOUNTED SIGN



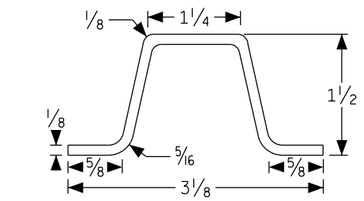
⁑=2.00 lb/ft AND 4.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

⁑⁑=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

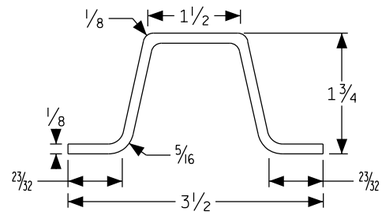
⁑⁑⁑ THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 15 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 15 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAILS

NOT TO SCALE

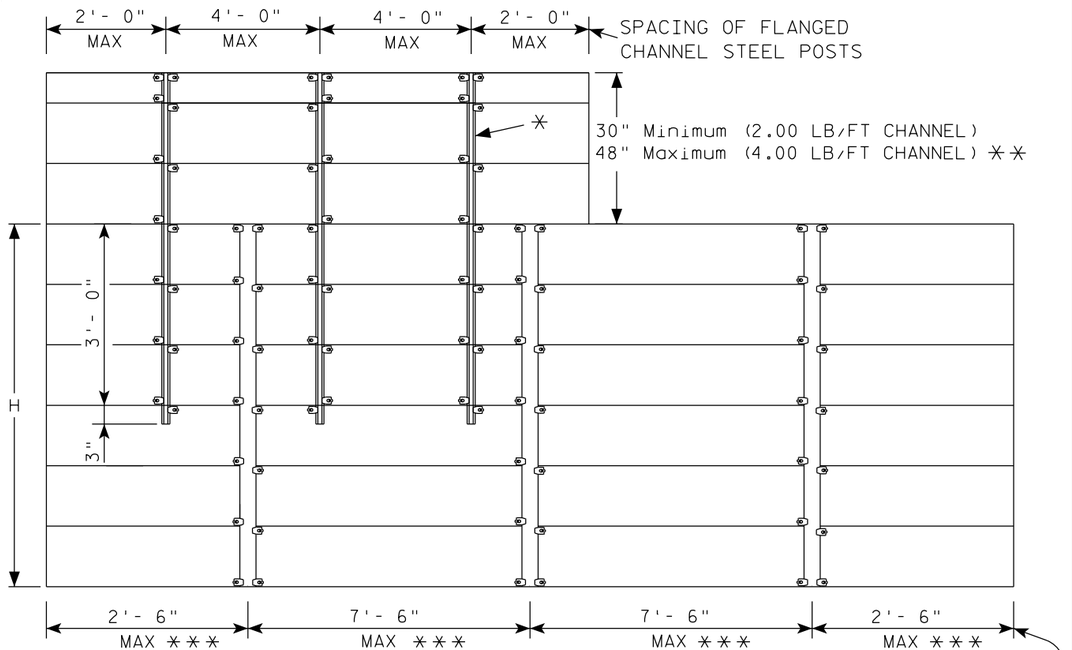


2.00 LB/FT CHANNEL



4.00 LB/FT CHANNEL

SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

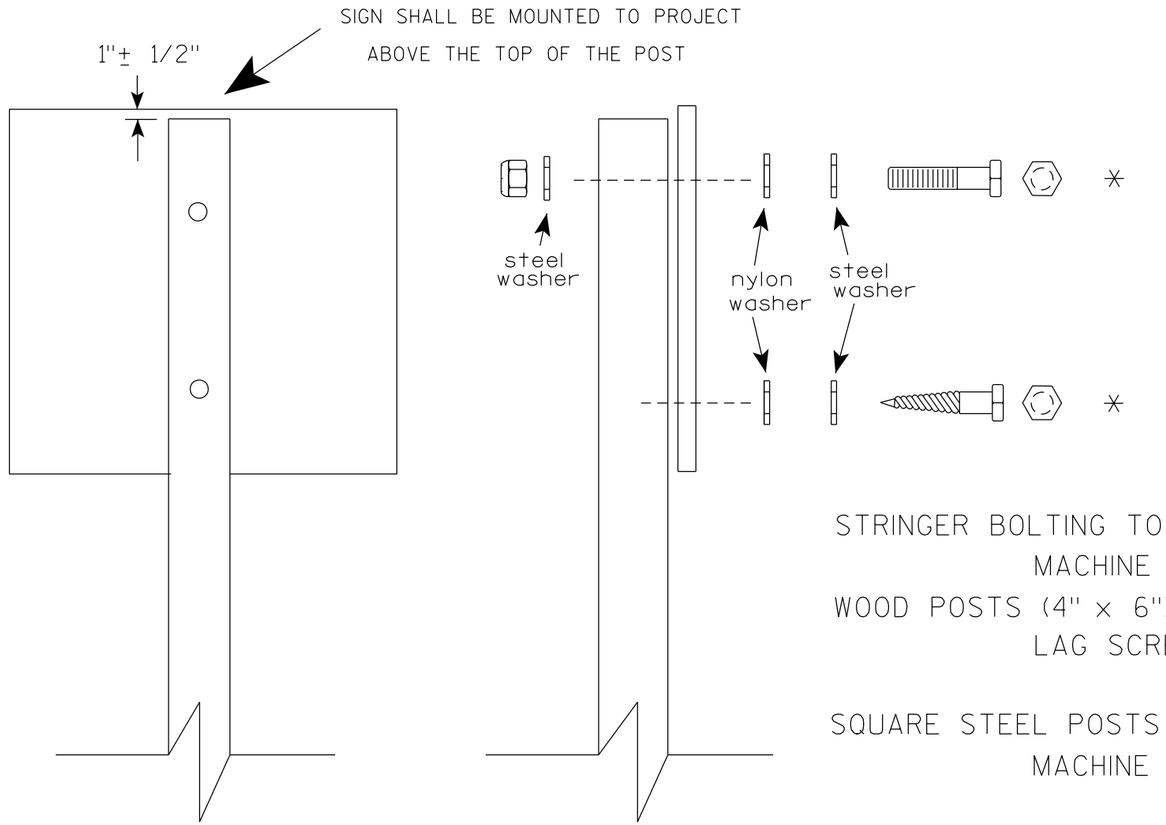
   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/07/20 PLATE NO. A4-6.12



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

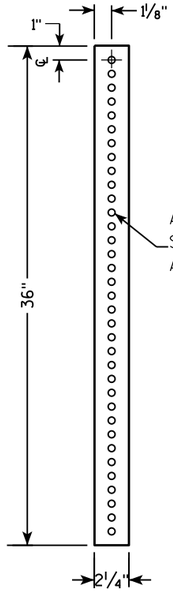
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

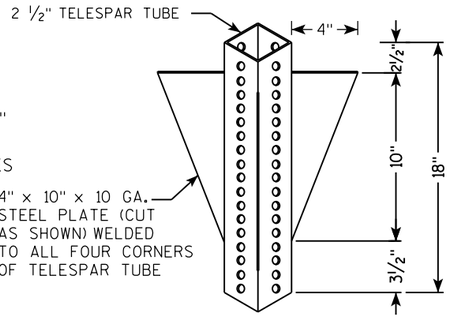
SHEET NO: 222 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

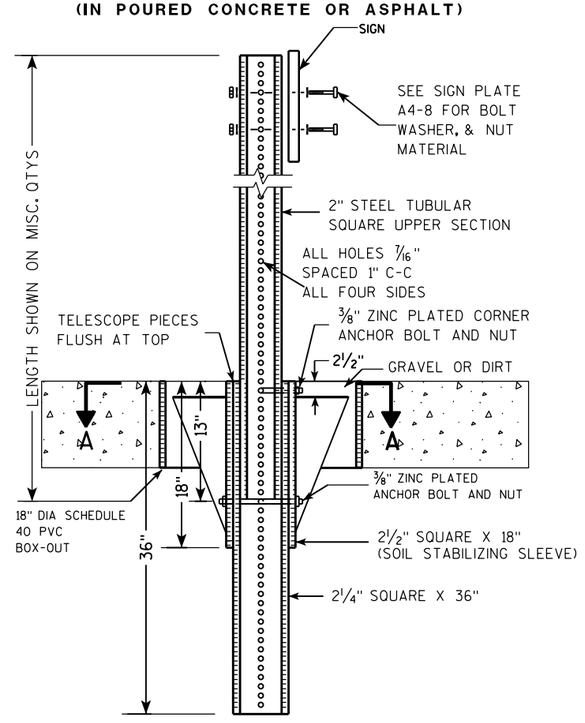
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



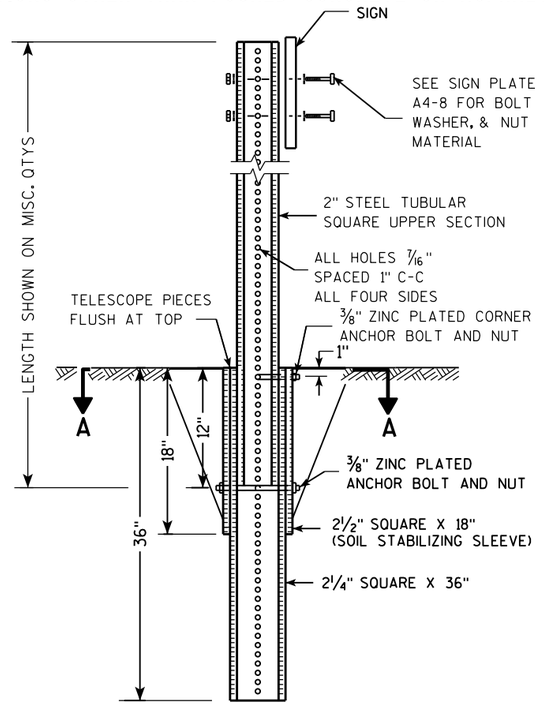
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

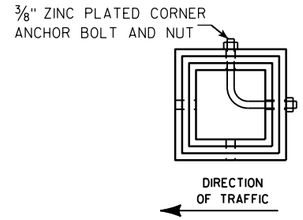


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

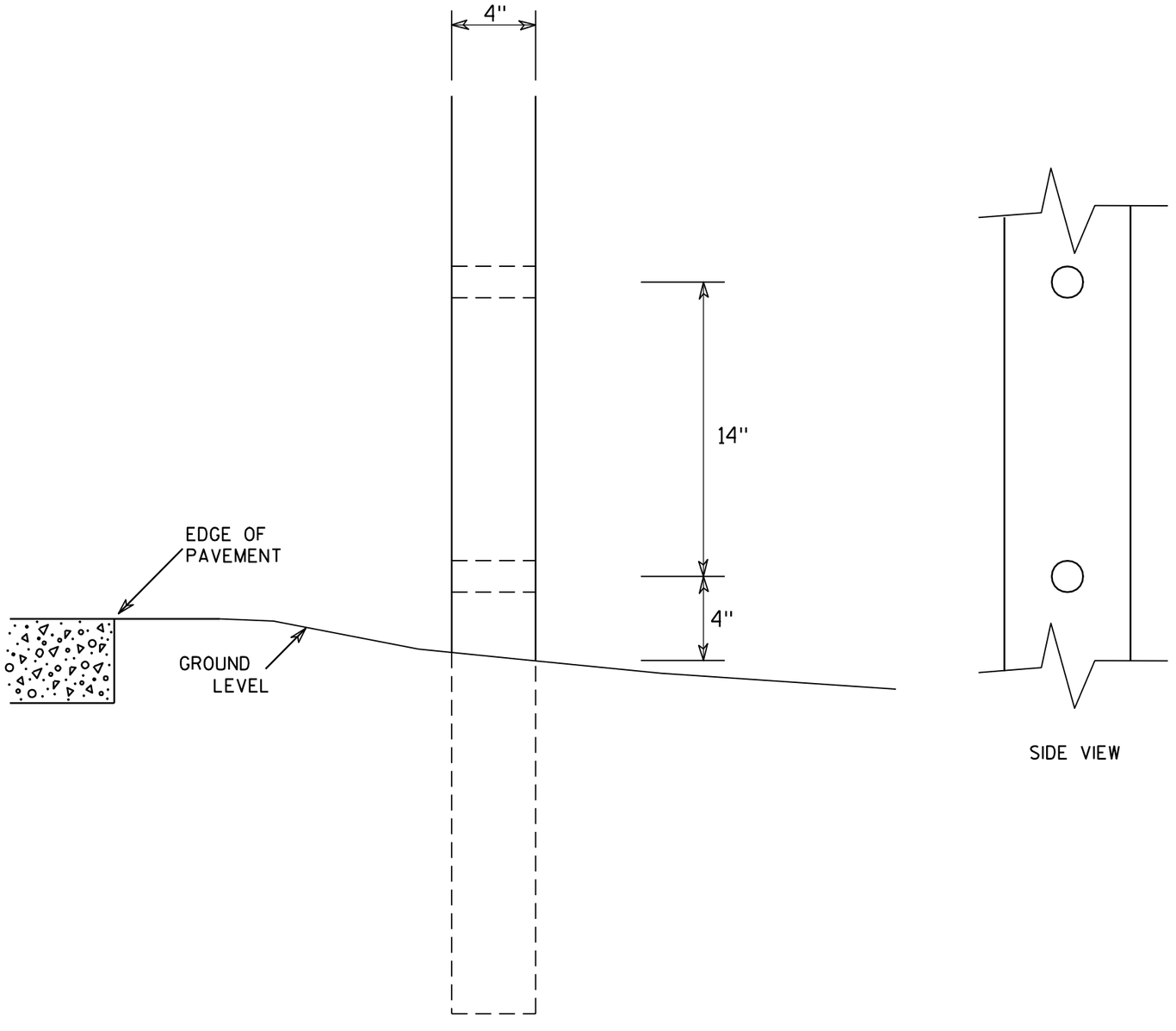
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 223 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

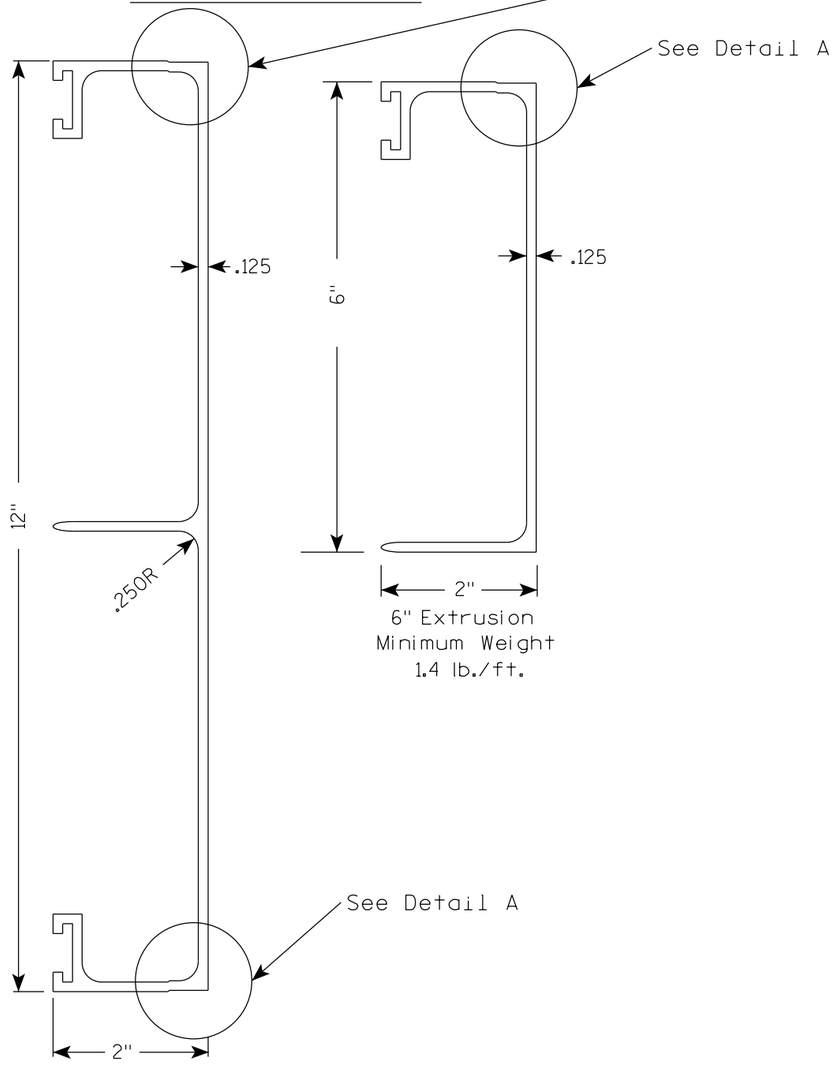
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 224	E

Extruded Shape

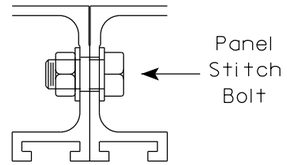


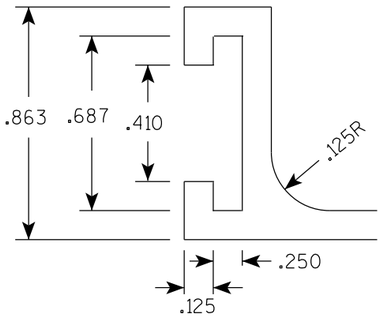
Hardware

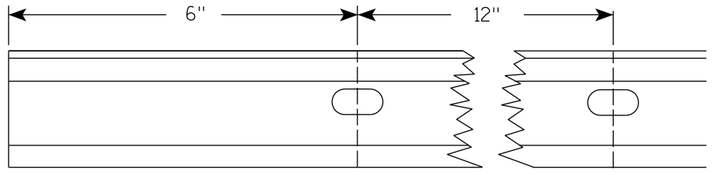
STITCH BOLT, WASHER & NUT

The hardware includes:

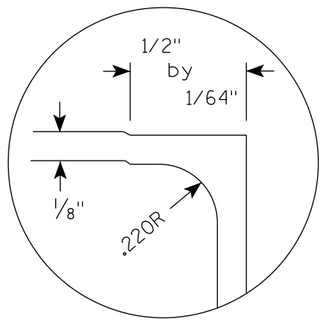
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy







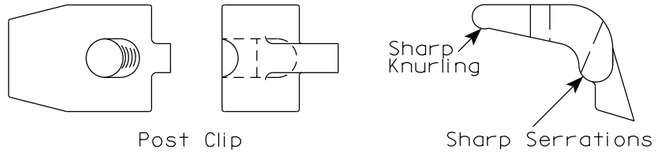
Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

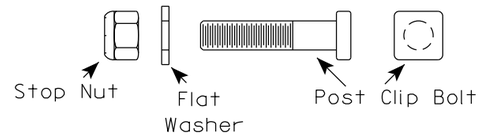


DETAIL A (EDGE WRAP JOINT)

POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.
4. Edge wrapping of sign sheeting required on all extrusions joints shown in Detail A.

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/07/20 PLATE NO. A5-2.10

PROJECT NO:

SHEET NO: 225 E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A52.DGN PLOT DATE : 7-Jan-2020 PLOT BY : dotc4c

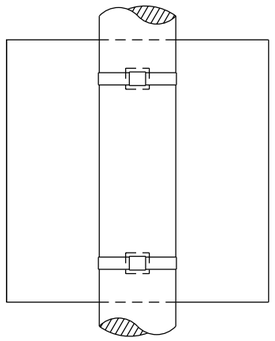
WISDOT/CADDS SHEET 42

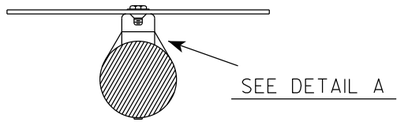
7

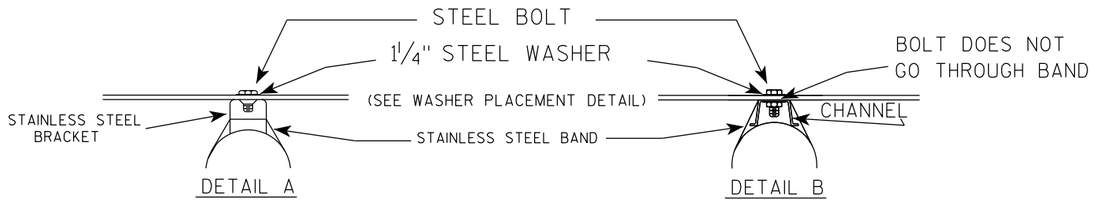
7

BANDING

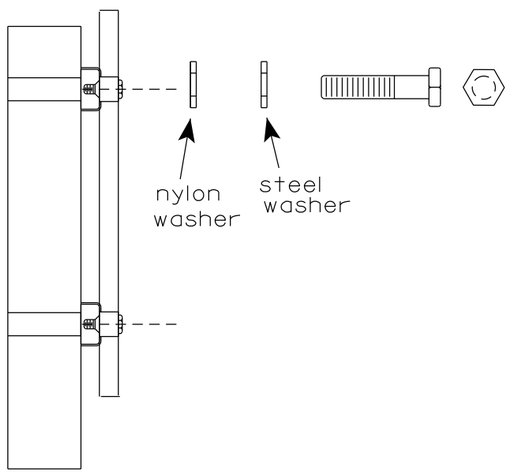
SINGLE SIGN







WASHER PLACEMENT

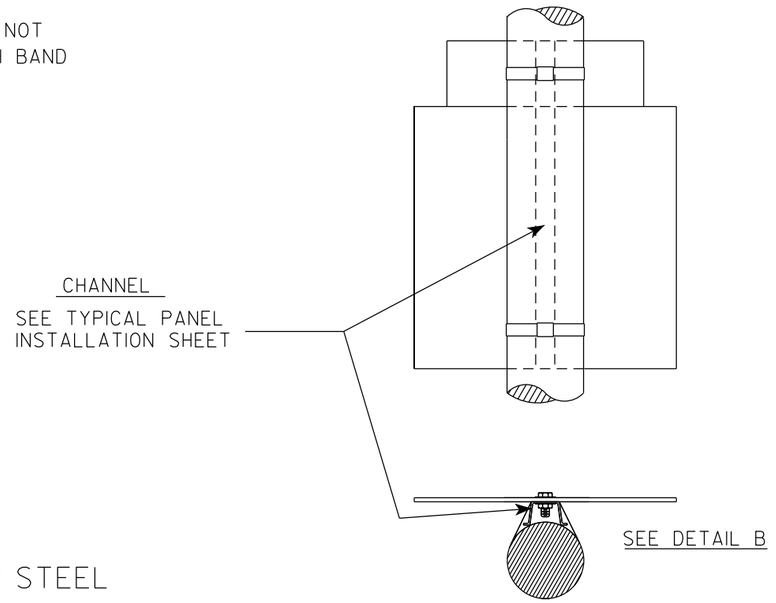


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 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



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

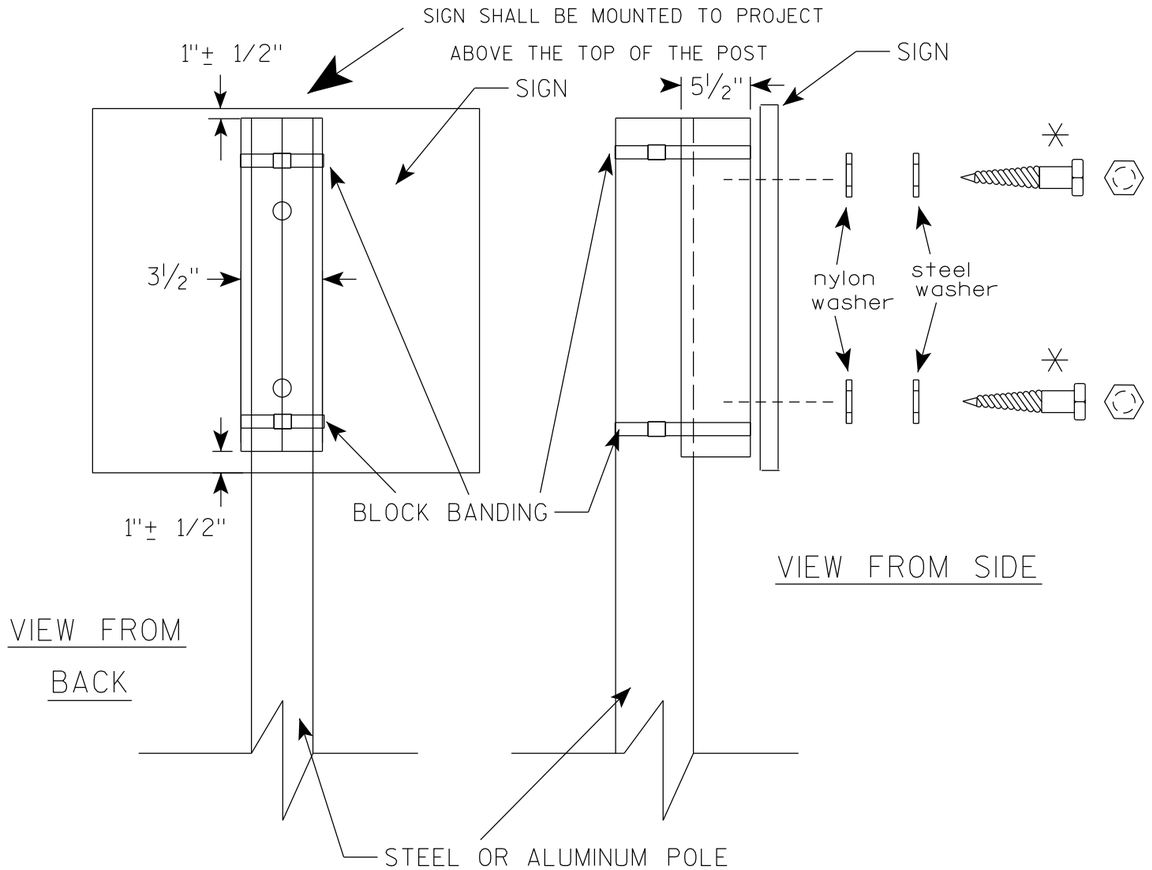
DATE 6/10/19 PLATE NO. A5-9.4

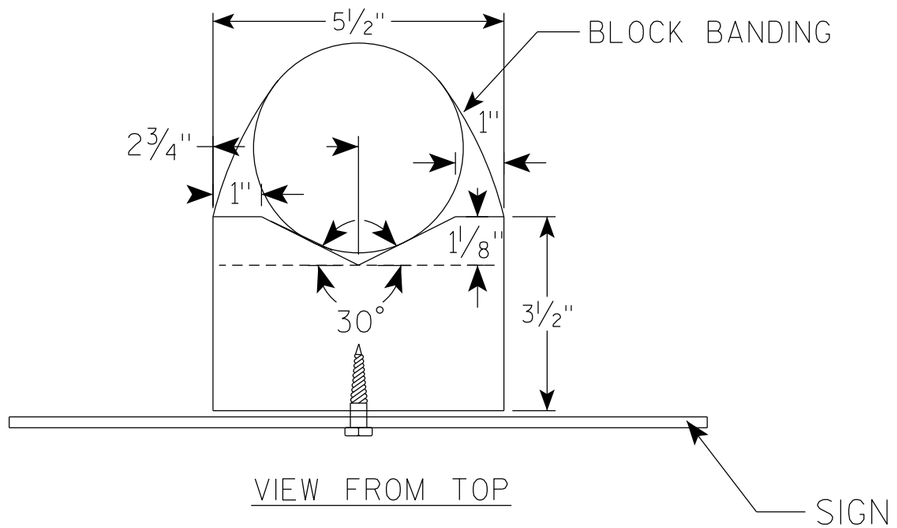
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 226	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





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"

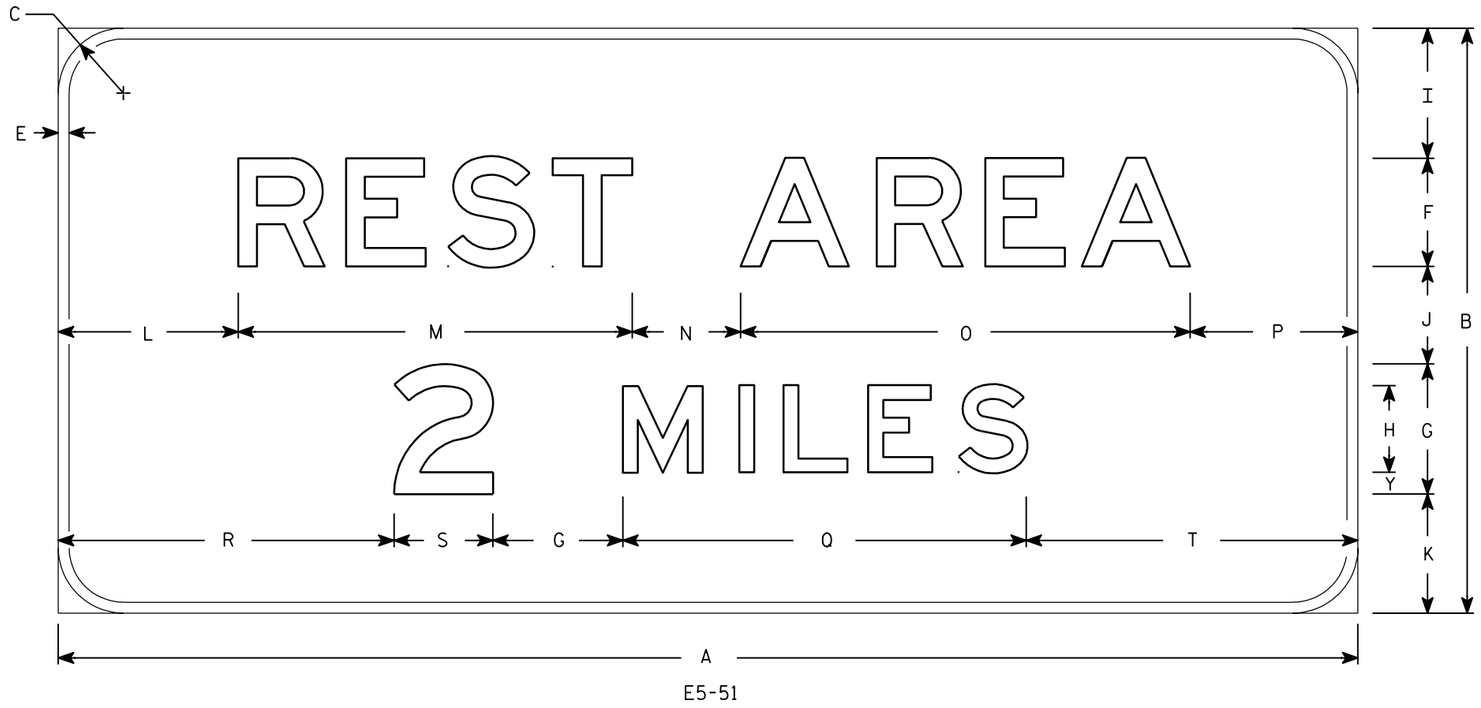
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

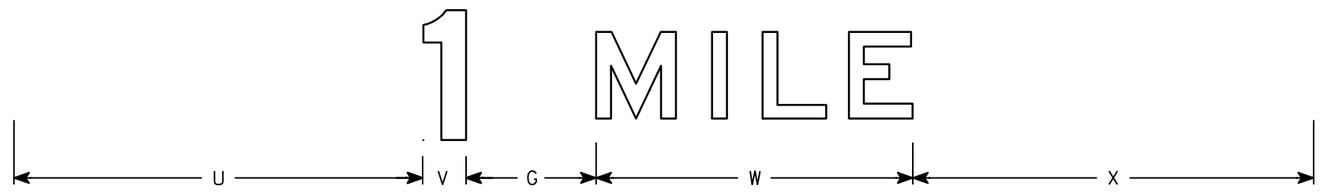
APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:				SHEET NO: 227	E



E5-51



NOTES

1. Sign is Type I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Blue
   Message - White
3. Message Series - E
4. Substitute appropriate numeral and adjust spacing to achieve proper balance.

Metric equivalent for this sign is:

SIZE	
1	
2	
3	
4	3000 mm X 1350 mm
5	3600 mm X 1500 mm

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.	Area m2
1																												
2																												
3																												
4	120	54	6		1	10	12	8	12	9	11	16 5/8	36 3/8	10	41 1/2	15 1/2	37 1/4	31	9 1/8	30 5/8	37 3/4	4	29 1/4	37	2		45.0	4.05
5	144	60	6		2	12	15	10	12	10	11	19 3/4	44 3/4	12	49 1/2	18	46 1/4	36	11	35 3/4	44	4 7/8	36 1/4	43 7/8	2 1/2		60.0	5.40

STANDARD SIGN
E5-51

WISCONSIN DEPT OF TRANSPORTATION

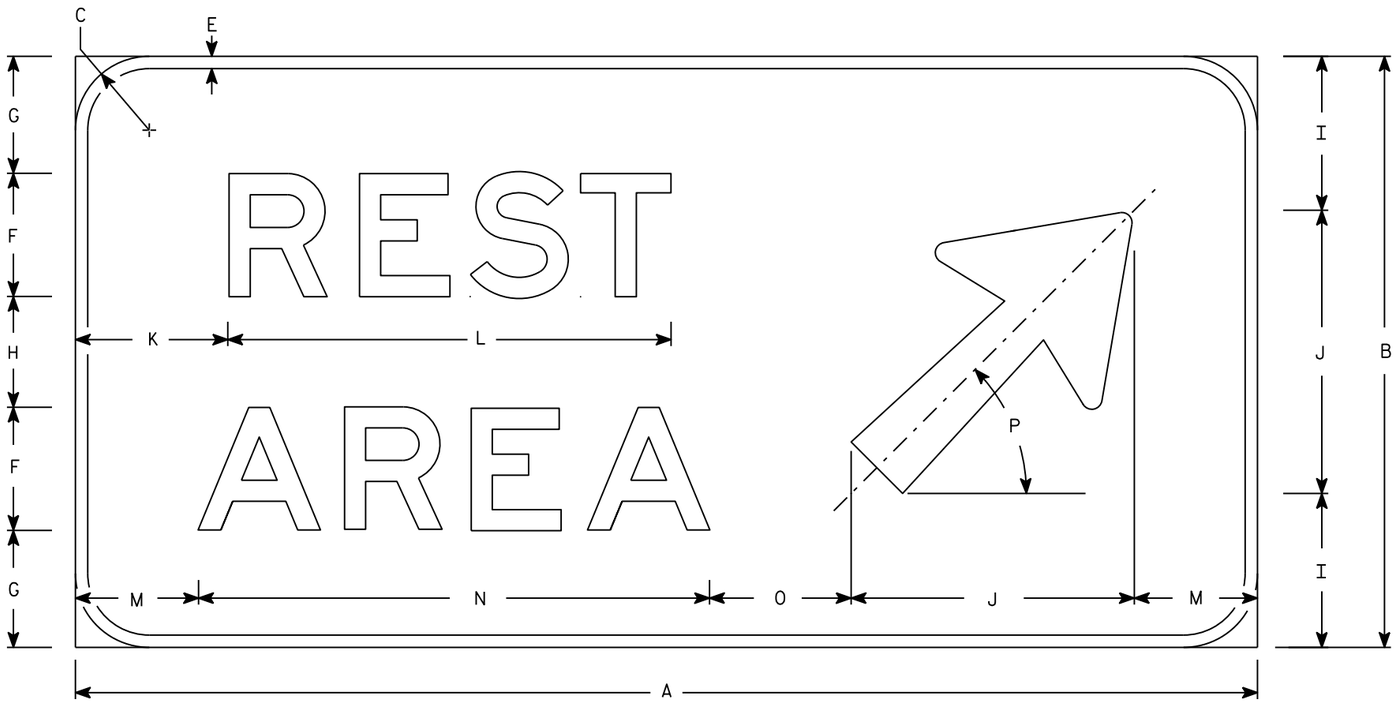
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 12/8/08 PLATE NO. E5-51.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 228	E

NOTES

1. Sign is Type I - Type SH Reflective
2. Color:
   Background - Blue
   Message - White
3. Message Series - E
4. Arrow is standard Interstate Type A.



E5-52

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	144	54	6		2	15	8	8	13	28	20 1/4	62	16 1/4	68	15 1/2	45°											54.0
5	144	54	6		2	15	8	8	13	28	20 1/4	62	16 1/4	68	15 1/2	45°											54.0

STANDARD SIGN
E5-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/23/17 PLATE NO. E5-52.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 229 | E

7

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - E
4. Material shall be .040 aluminmum

G20-60

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	108	24				12	6	14 7/8	78 1/4																		18.0
5																											

STANDARD SIGN
G20-60

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/15 PLATE NO G20-60.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\G2060.DGN PLOT DATE : 13-MAY-2015 08:46 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 20.431338:1.000000
WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - E

G20-61

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	120	30	6		2	12	9	21	78 1/4	20 3/4																	25.0
5																											

STANDARD SIGN
G20-61

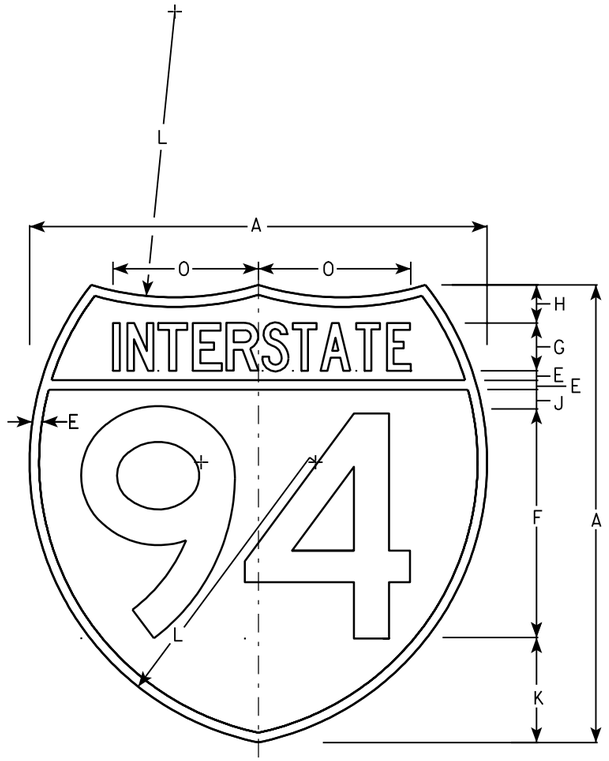
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

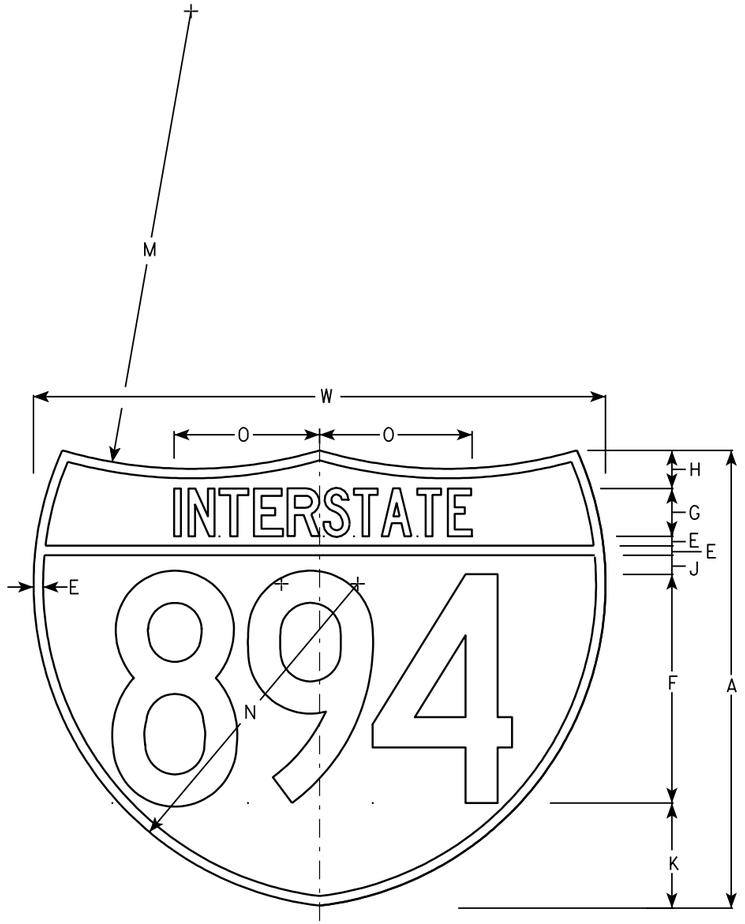
DATE 5/07/15 PLATE NO G20-61.1

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\G2061.DGN PLOT DATE : 07-MAY-2015 13:47 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 20.431338:1.000000 WISDOT/CADDS SHEET 42



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

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	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

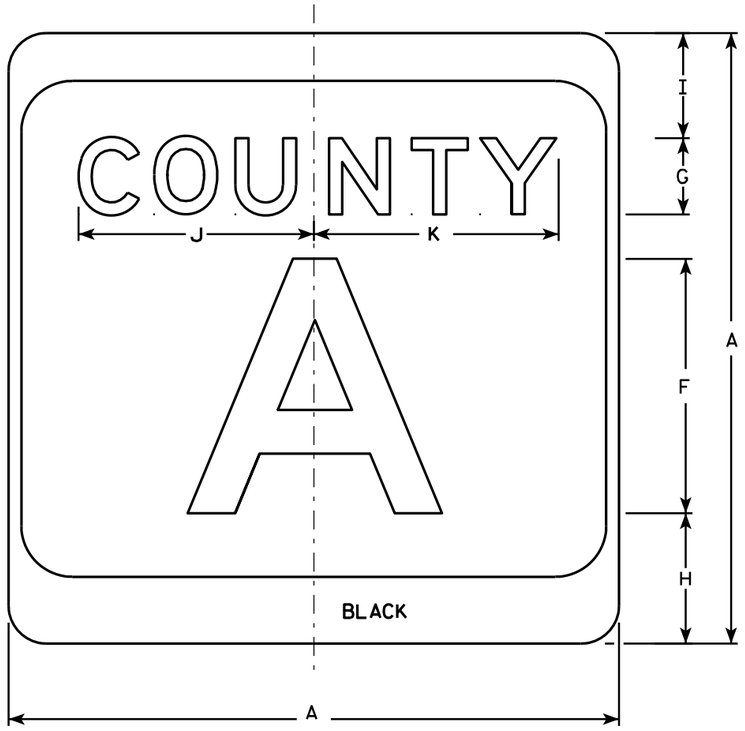
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

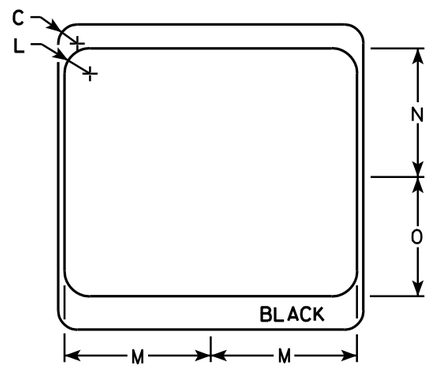
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

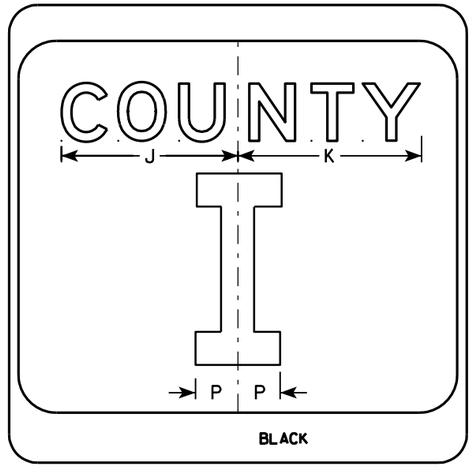
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 232	E

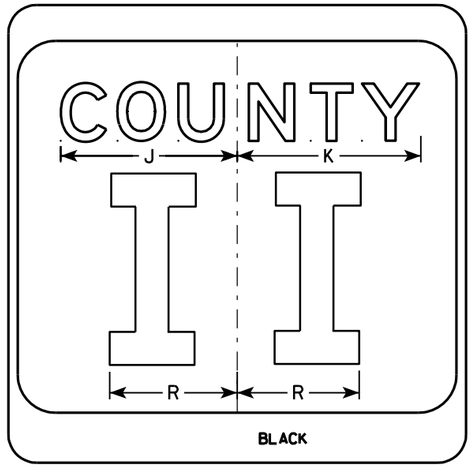




NOTES

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





SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

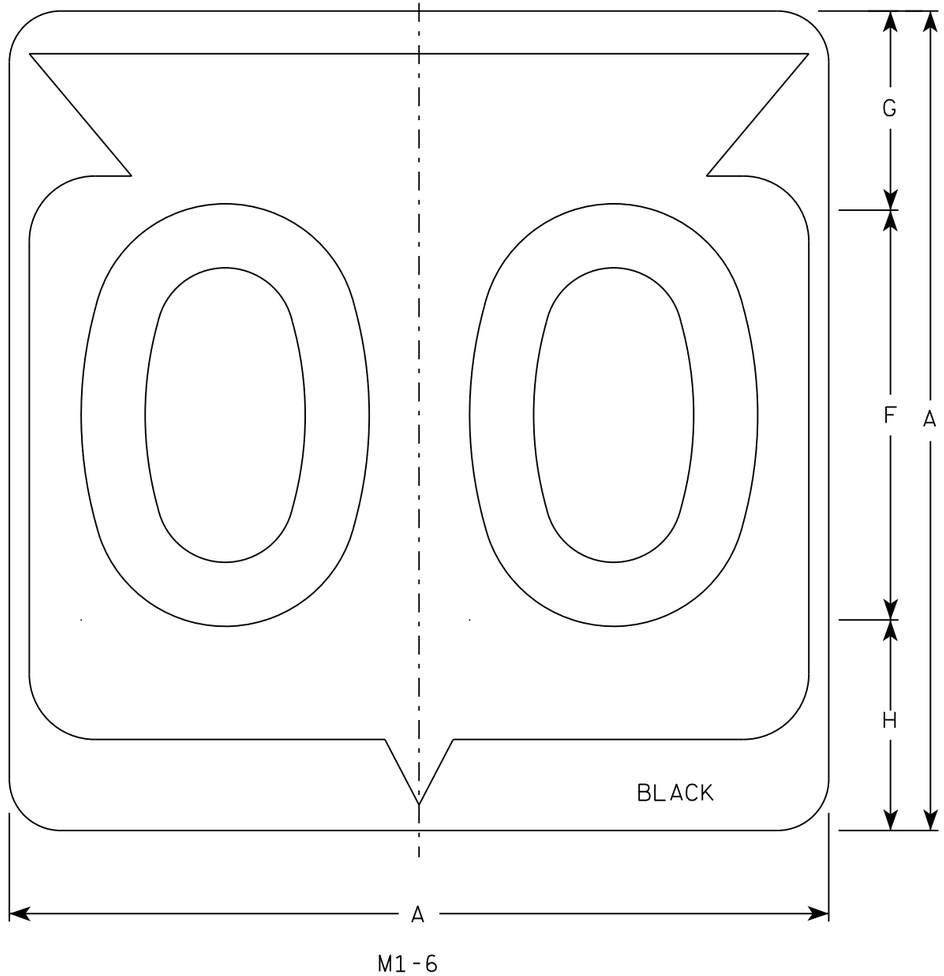
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

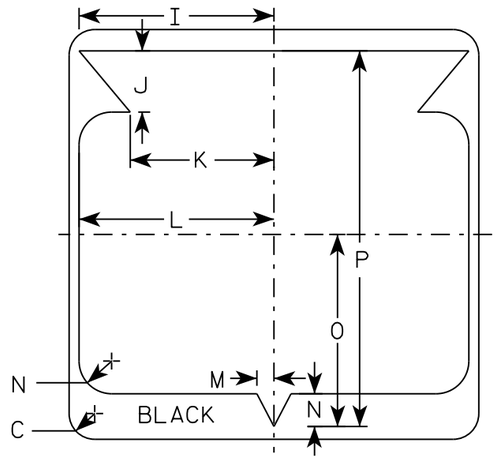
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 233	E



M1-6

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

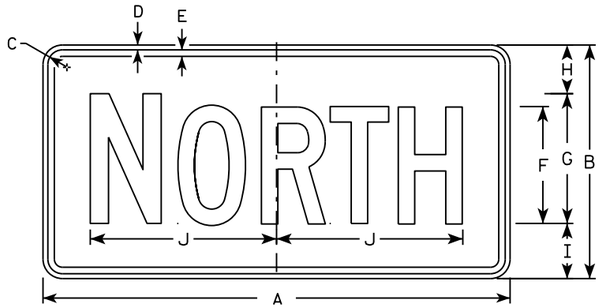
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

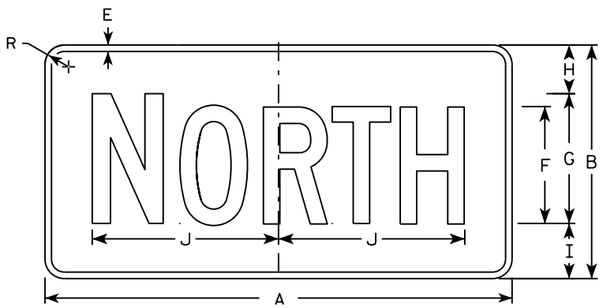
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 234 | E



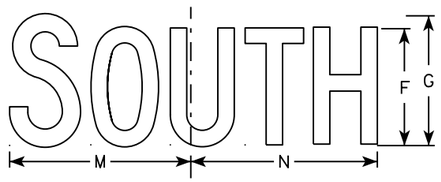
M3-1
MM3-1
MP3-1



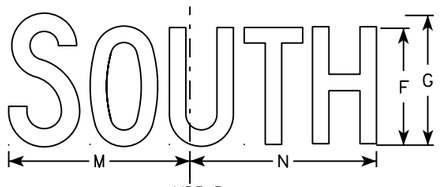
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

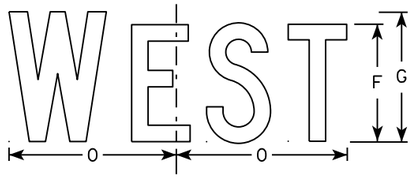
MB3-2
MK3-2
MN3-2



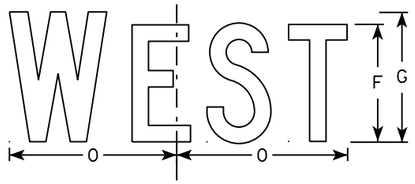
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

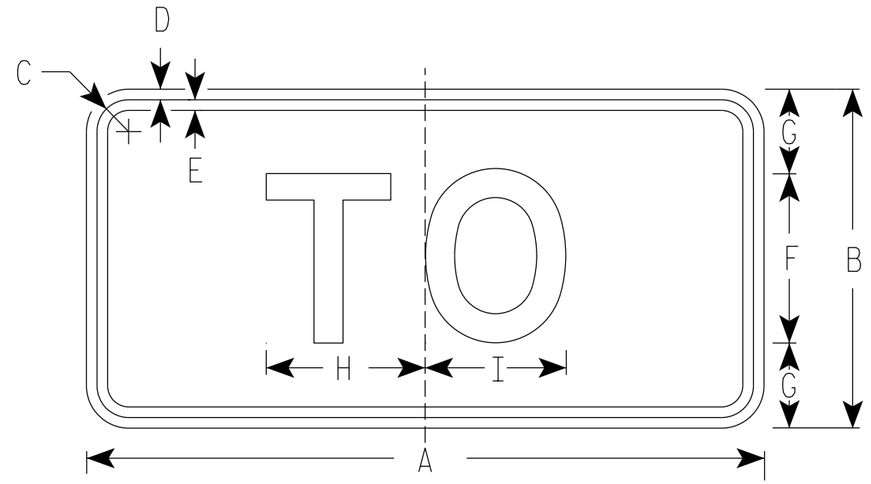
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

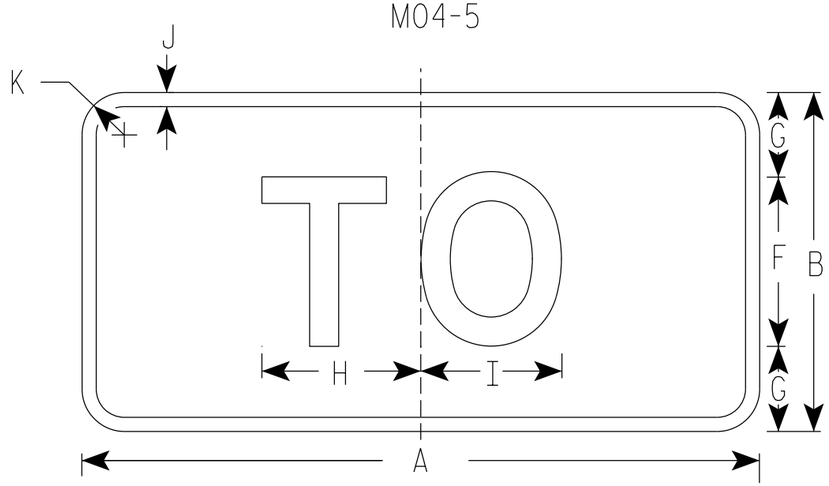
DATE 10/15/15 PLATE NO M3-1.14

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-5
MM4-5
MP4-5
M04-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

   M04-5 Background - Orange Type F Reflective
   Message - Black

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

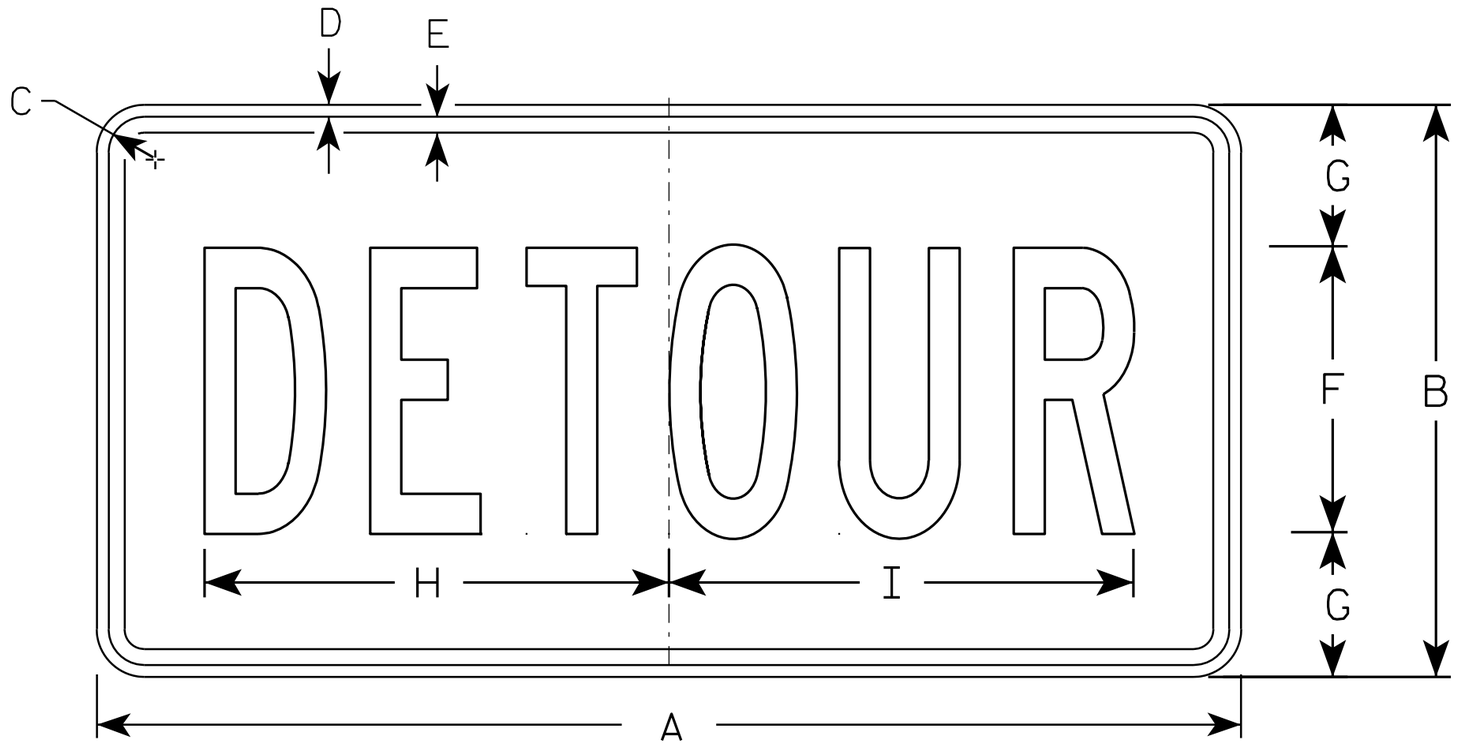
STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/7/19 PLATE NO. M4-5.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 236 | E



M4-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

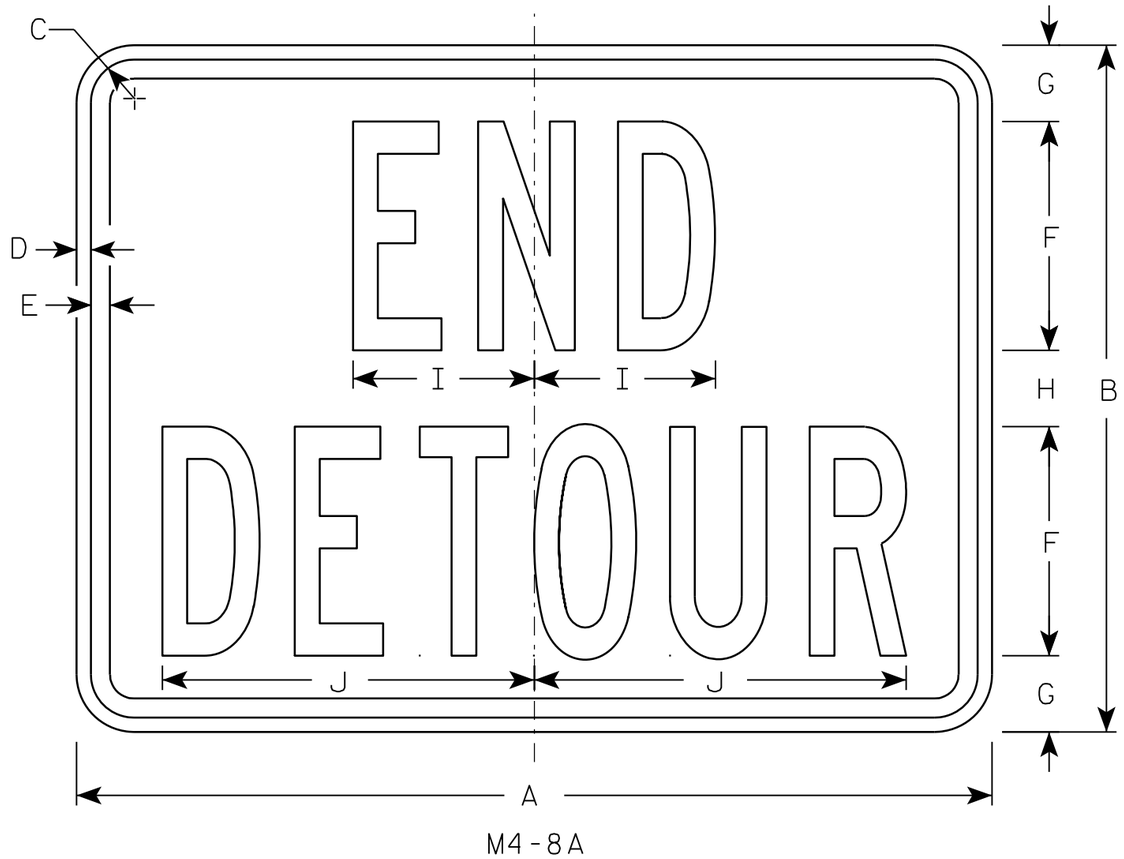
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 237	E



M4-8A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

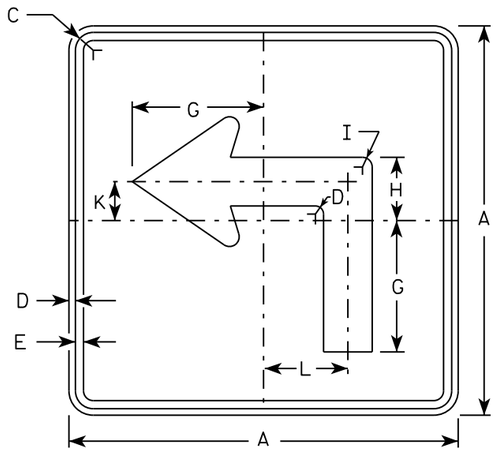
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

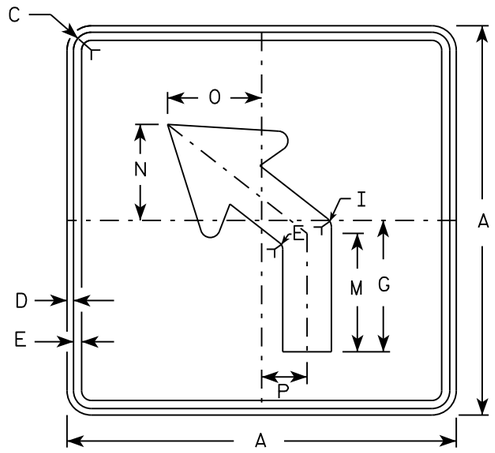
APPROVED Matthew R Rauch
for State Traffic Engineer

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

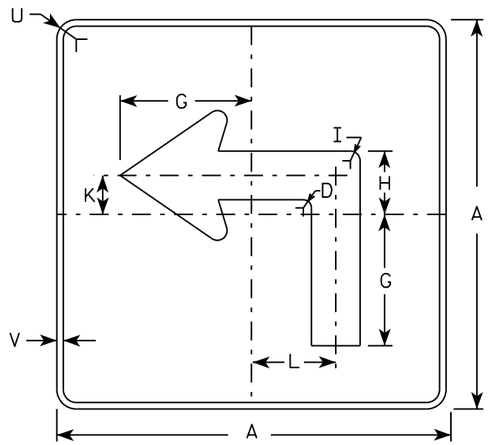
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 238	E



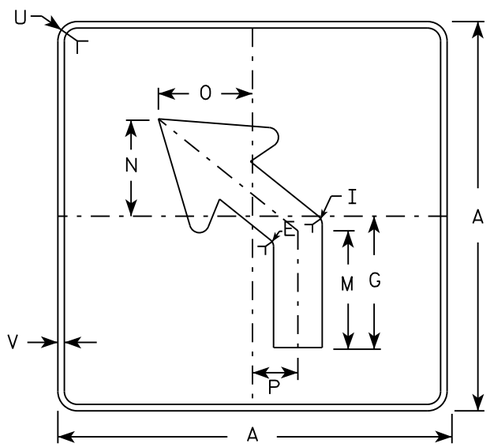
M5-1L
MM5-1L
MO5-1L
MP5-1L



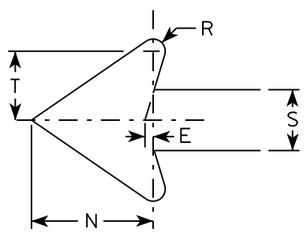
M5-2L
MM5-2L
MO5-2L
MP5-2L



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



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



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

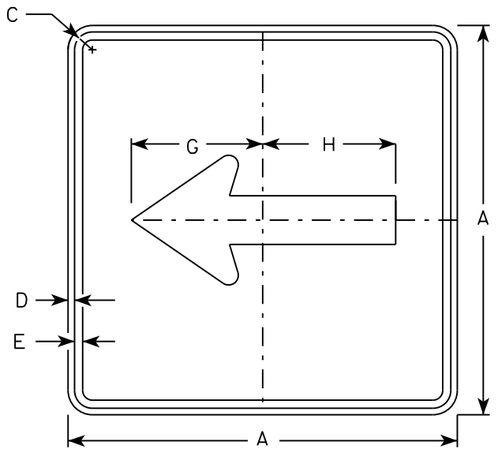
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

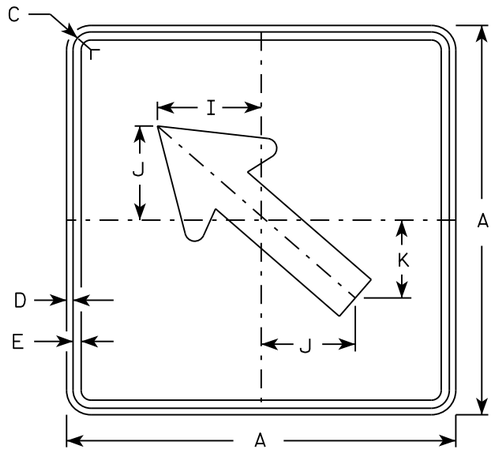
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



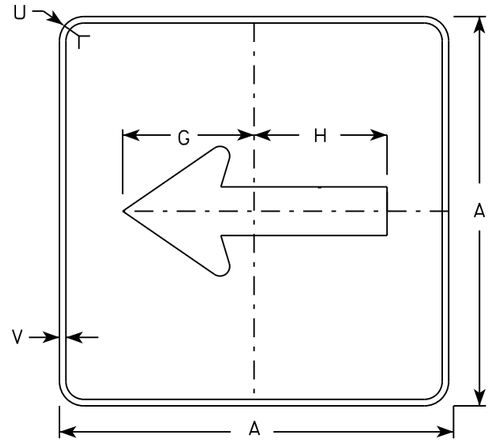
M6-1
MM6-1
MO6-1
MP6-1



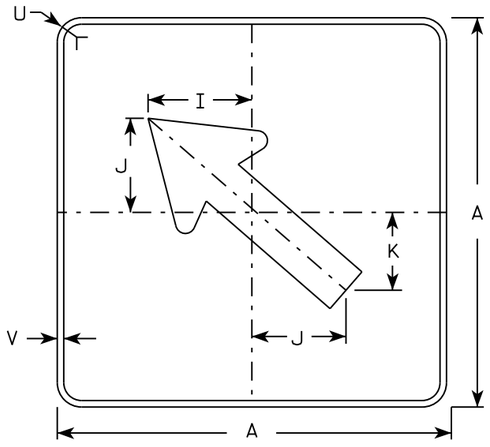
M6-2
MM6-2
MO6-2
MP6-2

NOTES

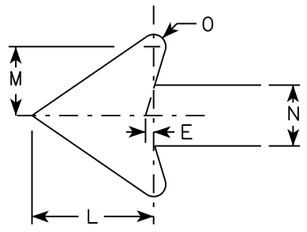
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background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



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



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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

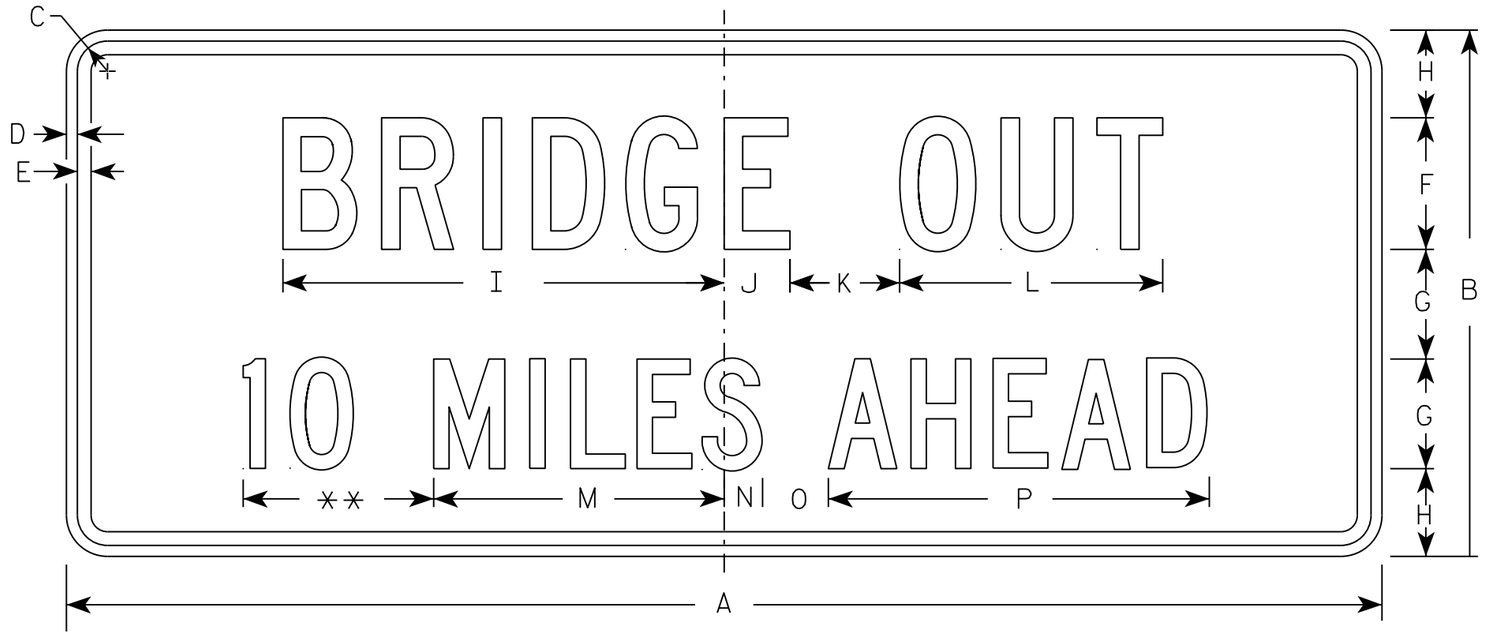
DATE 10/15/15 PLATE 240 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000

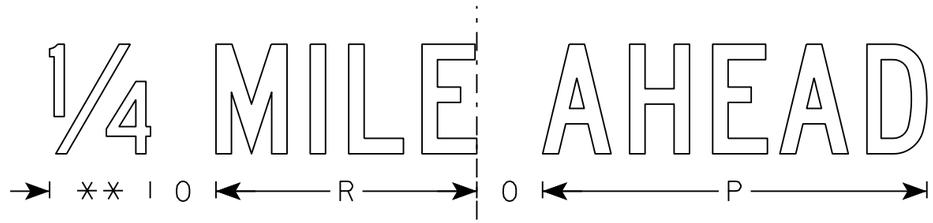
NOTES

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



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

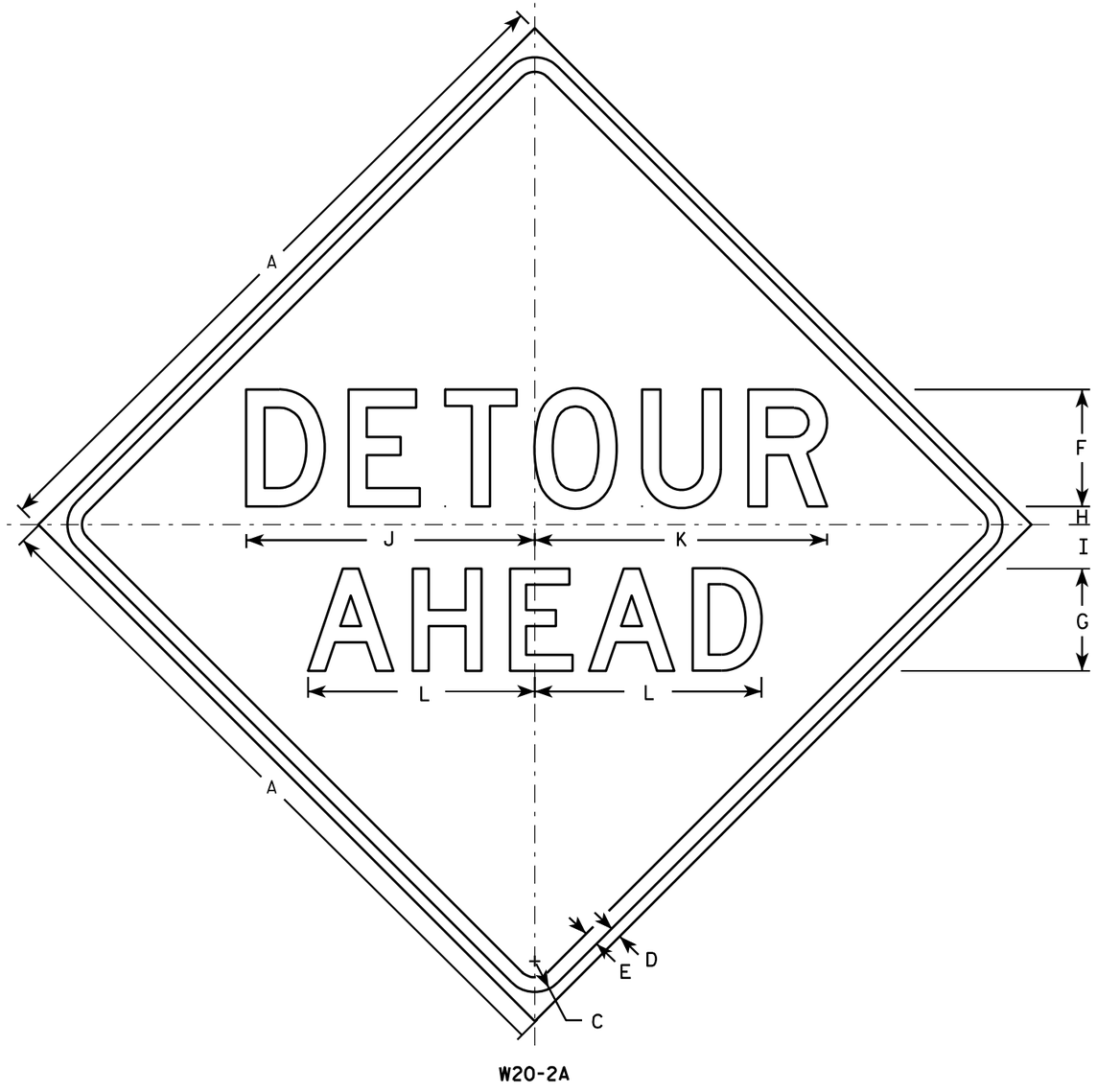
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

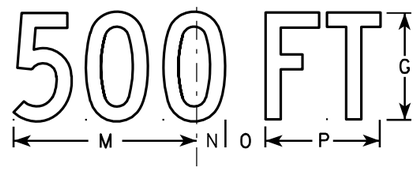
DATE 7/28/16 PLATE NO. R11-3C.3

PROJECT NO:

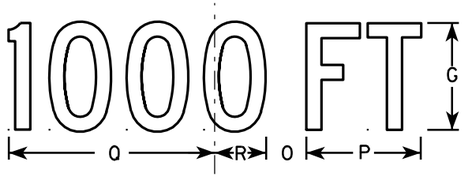
SHEET NO: 241 E



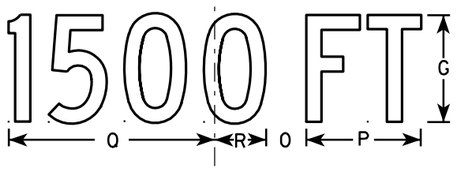
W20-2A



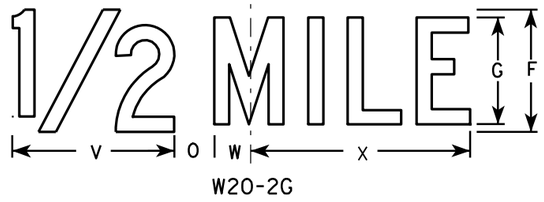
W20-2D



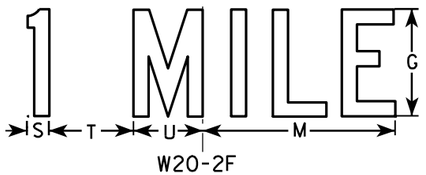
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 242	E

STATE PROJECT NUMBER

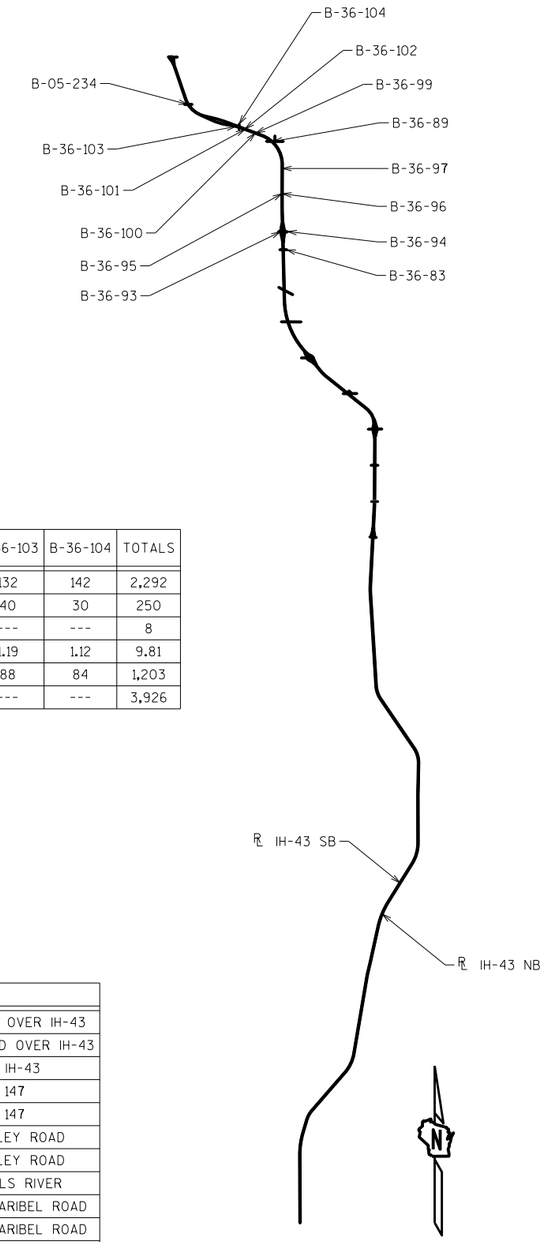
1227-12-72

SUMMARY OF CATEGORY NUMBERS

STRUCTURE ID	CATEGORY NUMBER
B-05-234	0020
B-36-83	0040
B-36-89	0050
B-36-93	0060
B-36-94	0070
B-36-95	0080
B-36-96	0090
B-36-97	0100
B-36-99	0110
B-36-100	0120
B-36-101	0130
B-36-102	0140
B-36-103	0150
B-36-104	0160

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	B-05-234	B-36-83	B-36-89	B-36-93	B-36-94	B-36-95	B-36-96	B-36-97	B-36-99	B-36-100	B-36-101	B-36-102	B-36-103	B-36-104	TOTALS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	273	226	312	149	149	118	118	120	117	112	173	151	132	142	2,292
509.1500	CONCRETE SURFACE REPAIR	SF	25	---	4	25	25	5	9	5	15	22	14	31	40	30	250
SPV.0060	CLEANING AND PAINTING BEARINGS	EACH	---	8	---	---	---	---	---	---	---	---	---	---	---	---	8
SPV.0070	BRIDGE DECK CRACK SEALING	GAL	---	1.57	2.37	---	---	---	---	---	---	---	1.72	1.84	1.19	1.12	9.81
SPV.0090	JOINT SEALING	LF	70	60	90	80	80	80	80	80	86	111	102	112	88	84	1,203
SPV.0180	METHACRYLATE FLOOD SEAL	SY	967	---	---	---	---	568	568	517	573	733	---	---	---	---	3,926



LOCATION MAP

LIST OF DRAWINGS

1. BRIDGE REPAIR SUMMARY
2. B-05-234 & B-36-83/89/93/94 REPAIRS
3. B-36-95/96/97 & B-36-99/100 REPAIRS
4. B-36-101/102 & B-36-103/104 REPAIRS

SUMMARY OF LOCATIONS

STRUCTURE ID	COUNTY	MUNICIPALITY	LOCATION
B-05-234	BROWN	NEW DENMARK	COOPERSTOWN ROAD OVER IH-43
B-36-83	MANITOWOC	COOPERSTOWN	HIDDEN VALLEY ROAD OVER IH-43
B-36-89	MANITOWOC	COOPERSTOWN	ZANDER ROAD OVER IH-43
B-36-93	MANITOWOC	COOPERSTOWN	IH-43 SB OVER STH 147
B-36-94	MANITOWOC	COOPERSTOWN	IH-43 NB OVER STH 147
B-36-95	MANITOWOC	COOPERSTOWN	IH-43 SB OVER SCHLEY ROAD
B-36-96	MANITOWOC	COOPERSTOWN	IH-43 NB OVER SCHLEY ROAD
B-36-97	MANITOWOC	COOPERSTOWN	IH-43 SB OVER DEVILS RIVER
B-36-99	MANITOWOC	COOPERSTOWN	IH-43 NB OVER T MARIBEL ROAD
B-36-100	MANITOWOC	COOPERSTOWN	IH-43 SB OVER T MARIBEL ROAD
B-36-101	MANITOWOC	COOPERSTOWN	IH-43 SB OVER CNW RR
B-36-102	MANITOWOC	COOPERSTOWN	IH-43 NB OVER CNW RR
B-36-103	MANITOWOC	COOPERSTOWN	IH-43 SB OVER ROSECRANS ROAD
B-36-104	MANITOWOC	COOPERSTOWN	IH-43 NB OVER ROSECRANS ROAD

STRUCTURE DESIGN CONTACTS:
DOMINIQUE BECHLE (608) 261-8205
JOHN SENDOR (608) 266-5163

NO.	DATE	REVISION	BY

WISCONSIN DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

ACCEPTED DMB 10/08/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-5/36-VARIOUS

BROWN & MANITOWOC CO. IH-43 BRIDGE REPAIRS

COUNTY	TOWN/CITY/VILLAGE
BROWN & MANITOWOC	VARIES

DESIGN SPEC.
N/A - REHABILITATION

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
DMB	JJS	DMB	JJS

BRIDGE REPAIR SUMMARY

SHEET 1 OF 4

243

I.D. 1227-12-00 DATE: MAY 2021

SCALE = 10800.00

8

8

STATE PROJECT NUMBER
1227-12-72

B-05-234 REPAIR SUMMARY

COOPERSTOWN ROAD OVER IH-43

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	273	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	25	ESTIMATED REPAIR AREAS ARE LOCATED ON SW WINGWALL AND ON NORTH & SOUTH PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	70	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 35 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE
SPV.0180.04	METHACRYLATE FLOOD SEAL	SY	967	APPLY TO ENTIRE DECK AREA; ESTIMATED DECK AREA = 8,700 SF

B-36-83 REPAIR SUMMARY

HIDDEN VALLEY ROAD OVER IH-43

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	226	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	8	CLEAN AND PAINT EXISTING ABUTMENT EXPANSION BEARINGS; 4 BEARINGS PER ABUTMENT
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	1.57	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISITNG CRACKING = 990 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	60	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 30 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-89 REPAIR SUMMARY

ZANDER ROAD OVER IH-43

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	312	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	4	ESTIMATED REPAIR AREAS ARE LOCATED ON THE SOUTH PIER COLUMN; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	2.37	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISITNG CRACKING = 1,496 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	90	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 45 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-93 REPAIR SUMMARY

IH-43 SB OVER STH 147

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	149	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	25	ESTIMATED REPAIR AREAS ARE LOCATED ON ABUTMENTS, WINGWALLS, AND PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	80	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 40 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-94 REPAIR SUMMARY

IH-43 NB OVER STH 147

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	149	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	25	ESTIMATED REPAIR AREAS ARE LOCATED ON ABUTMENTS, AND PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	80	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 40 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5/36-VARIOUS

DRAWN BY DMB | PLANS CK'D. JJS

B-05-234 & B-36-83/89/93/94 REPAIRS

SHEET 2

244

SCALE = 12.00

STATE PROJECT NUMBER

1227-12-72

B-36-95 REPAIR SUMMARY

IH-43 SB OVER SCHLEY ROAD

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	118	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	5	ESTIMATED REPAIR AREAS ARE LOCATED ON ABUTMENTS, AND PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	80	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 40 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE
SPV.0180.04	METHACRYLATE FLOOD SEAL	SY	568	APPLY TO ENTIRE DECK AREA; ESTIMATED DECK AREA = 5,108 SF

B-36-96 REPAIR SUMMARY

IH-43 NB OVER SCHLEY ROAD

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	118	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	9	ESTIMATED REPAIR AREAS ARE LOCATED ON ABUTMENTS, WINGWALLS, AND PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	80	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 40 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE
SPV.0180.04	METHACRYLATE FLOOD SEAL	SY	568	APPLY TO ENTIRE DECK AREA; ESTIMATED DECK AREA = 5,108 SF

B-36-97 REPAIR SUMMARY

IH-43 SB OVER DEVILS RIVER

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	120	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	5	ESTIMATED REPAIR AREAS ARE LOCATED ON ABUTMENTS, ABUTMENT DIAPHRAGMS, AND PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	80	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 40 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE
SPV.0180.04	METHACRYLATE FLOOD SEAL	SY	517	APPLY TO ENTIRE DECK AREA; ESTIMATED DECK AREA = 4,646 SF

B-36-99 REPAIR SUMMARY

IH-43 NB OVER T MARIBEL ROAD

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	117	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	15	ESTIMATED REPAIR AREAS ARE LOCATED ON SOUTH ABUTMENTS, SOUTH WINGWALLS, AND PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	86	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 43 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE
SPV.0180.04	METHACRYLATE FLOOD SEAL	SY	573	APPLY TO ENTIRE DECK AREA; ESTIMATED DECK AREA = 5,151 SF

B-36-100 REPAIR SUMMARY

IH-43 SB OVER T MARIBEL ROAD

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	112	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	22	ESTIMATED REPAIR AREAS ARE LOCATED ON ABUTMENTS, WINGWALLS, AND PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	111	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 53 LF AT EAST ABUTMENT; 58 LF AT WEST ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE
SPV.0180.04	METHACRYLATE FLOOD SEAL	SY	733	APPLY TO ENTIRE DECK AREA; ESTIMATED DECK AREA = 6,597 SF

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5/36-VARIOUS

DRAWN BY DMB | PLANS CK'D. JJS

B-36-95/96/97 & B-36-99/100 REPAIRS

SHEET 3

245

SCALE = 12.00

STATE PROJECT NUMBER

1227-12-72

B-36-101 REPAIR SUMMARY

IH-43 SB OVER CNW RR

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	173	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	14	ESTIMATED REPAIR AREAS ARE LOCATED ON ABUTMENTS, PIER COLUMN, AND PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	1.72	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISITNG CRACKING = 1,085 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	102	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 51 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-102 REPAIR SUMMARY

IH-43 NB OVER CNW RR

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	151	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	31	ESTIMATED REPAIR AREAS ARE LOCATED ON ABUTMENTS AND PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	1.84	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISITNG CRACKING = 1,161 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	112	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 58 LF AT EAST ABUTMENT; 54 LF AT WEST ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-103 REPAIR SUMMARY

IH-43 SB OVER ROSECRANS ROAD

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	132	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	40	ESTIMATED REPAIR AREAS ARE LOCATED ON ABUTMENTS AND PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	1.19	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISITNG CRACKING = 751 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	88	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 44 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

B-36-104 REPAIR SUMMARY

IH-43 NB OVER ROSECRANS ROAD

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	142	APPLY TO ROADSIDE AND TOP FACES FOR FULL LENGTH OF BOTH PARAPETS INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	30	ESTIMATED REPAIR AREAS ARE LOCATED ON ABUTMENTS AND PARAPETS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0070.01	BRIDGE DECK CRACK SEALING	GAL	1.12	APPLY TO AREAS OF EXISTING CRACKS; ESTIMATED QUANTITY OF EXISITNG CRACKING = 707 LF; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.01	JOINT SEALING	LF	84	SEAL THE EXISTING JOINTS AT EACH ABUTMENT; 42 LF PER ABUTMENT; MEASURED FROM GUTTER LINE TO GUTTER LINE

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5/36-VARIOUS

DRAWN BY DMB | PLANS CK'D. JJS

B-36-101/102 & B-36-103/104 REPAIRS

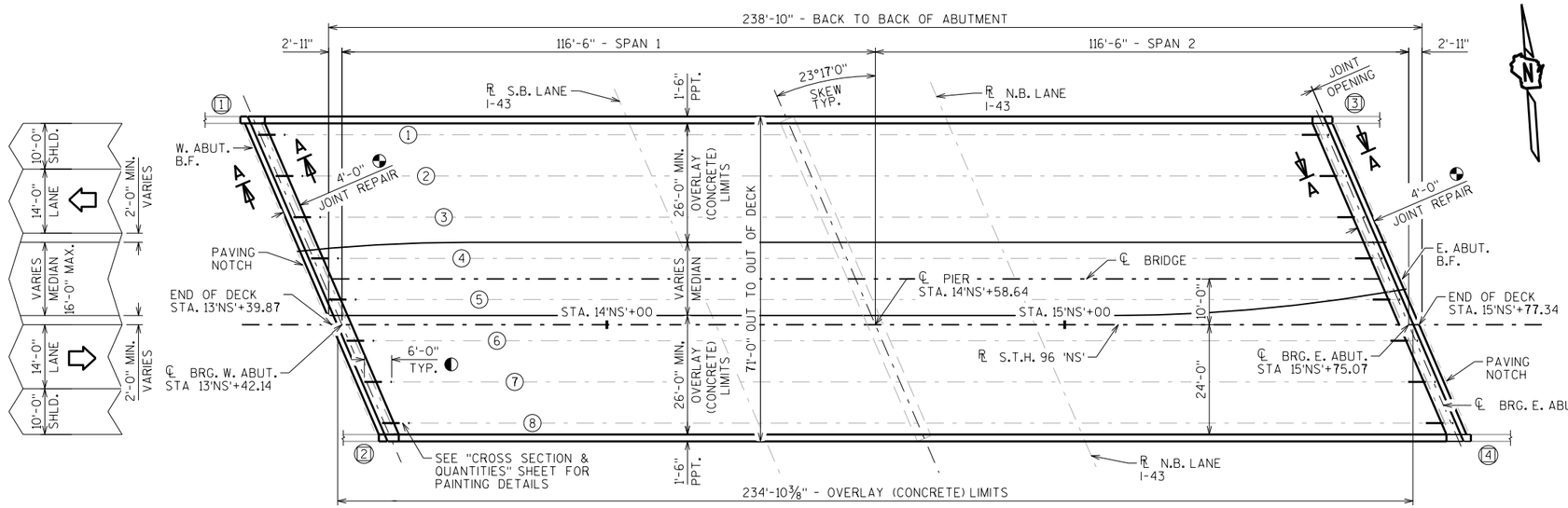
SHEET 4

246

SCALE = 12.00

STATE PROJECT NUMBER

1227-12-72



PLAN

2-SPAN CONTINUOUS STEEL GIRDERS

DESIGN DATA

LIVE LOAD:

INVENTORY RATING FACTOR: HS-24
OPERATING RATING FACTOR: HS-40
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250 (KIPS)

MATERIAL PROPERTIES:

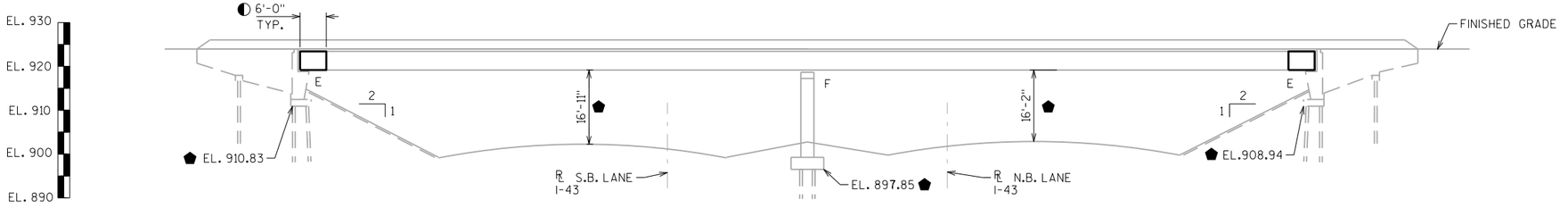
CONCRETE MASONRY:
CONCRETE MASONRY OVERLAY DECKS ——— f'c = 4,000 P.S.I.

BAR STEEL REINFORCEMENT:
GRADE 60 ——— fy = 60,000 P.S.I.

TRAFFIC VOLUME

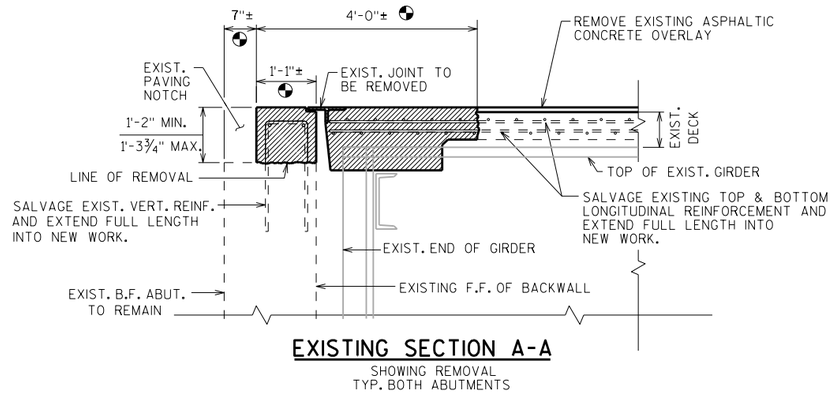
S.T.H. 96	I.H. 43
ADT = 6,200 (2018)	ADT = 32,190 (2023)
R.D.S. = 40 M.P.H.	R.D.S. = 75 M.P.H.

- ◯ INDICATES GIRDER NUMBER.
- ▢ INDICATES WING NUMBER.
- ◐ CLEANING AND PAINTING THE END 6 FEET OF ALL STRUCTURAL WEATHERING STEEL AT BOTH ABUTMENTS, EXCEPT THE EXTERIOR OF THE EXTERIOR GIRDERS. DIMENSION IS TAKEN PARALLEL TO ℄ GIRDERS.
- ⬟ ELEVATIONS FROM ORIGINAL PLANS (1980) AND AUGUST 2020 INSPECTION RECORD.
- ◓ DIMENSION GIVEN NORMAL TO ℄ SUBSTRUCTURE.



ELEVATION

LOOKING NORTH



EXISTING SECTION A-A

SHOWING REMOVAL
TYP. BOTH ABUTMENTS

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. CROSS SECTION & QUANTITIES
3. JOINT REPAIR DETAILS 1
4. JOINT REPAIR DETAILS 2
5. EXPANSION DEVICE
6. COVER PLATE DETAILS
7. DECK CONDITION SURVEY

STRUCTURE DESIGN CONTACTS:

ENGELS VARGAS (608) 267-7111
DOMINIQUE BECHLE (608) 261-8205

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED DMB 10/08/21
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-5-239

S.T.H. 96 OVER I.H. 43

COUNTY	TOWN
BROWN	DENMARK

DESIGN SPEC. N/A REHABILITATION

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
EJV	KCY	DDS/EJV	JJS

CONCRETE OVERLAY

SHEET 1 OF 7

247

I.D. 1227-12-00C

DATE: OCT. 2021

SCALE = 15.00

8

8

STATE PROJECT NUMBER
1227-12-72

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	WEST ABUT.	PIER	EAST ABUT.	TOTALS
△ 502.3101	EXPANSION DEVICE	LF	148	---	---	---	148
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,364	---	---	---	1,364
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	188	19	---	18	225
502.3215	PROTECTIVE SURFACE TREATMENT RESEAL	SY	423	---	---	---	423
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	---	77	---	77	154
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	5,460	---	---	---	5,460
509.0301	PREPARATION DECKS TYPE 1	SY	400	---	---	---	400
509.0302	PREPARATION DECKS TYPE 2	SY	160	---	---	---	160
509.0500	CLEANING DECKS	SY	1,336	---	---	---	1,336
509.1000	JOINT REPAIR	SY	---	35	---	35	70
509.1500	CONCRETE SURFACE REPAIR	SF	70	---	---	---	70
509.2000	FULL-DEPTH DECK REPAIR	SY	1	---	---	---	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	84	---	---	---	84
509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-239	SY	1,336	---	---	---	1,336
517.3001.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-5-239	EACH	---	---	---	---	1
517.4001.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-5-239	EACH	---	---	---	---	1
	NON-BID ITEMS						
	BRIDGE SEAT PROTECTION	LS	---	---	---	---	1

△ QUANTITY IS BASED ON THE DISTANCE FROM GUTTER LINE TO GUTTER LINE AT EACH ABUTMENT, INCLUDING THE MEDIAN.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENTS.

AT EXISTING VERTICAL AND HORIZONTAL RAISED MEDIAN SURFACES, SURFACE PREPARATION AND APPLICATION OF PROTECTIVE SURFACE TREATMENT SHALL BE INCLUDED IN THE BID ITEM "PROTECTIVE SURFACE TREATMENT RESEAL".

PIGMENTED SURFACE SEALER RESEAL TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS INCLUDING WING PARAPETS.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES AT ABUTMENTS BELOW EXPANSION DEVICES.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

CLEAN AND PAINT THE END 6 FEET OF ALL STRUCTURAL WEATHERING STEEL AT BOTH ABUTMENTS, EXCEPT THE EXTERIOR OF THE EXTERIOR GIRDERS. USE AMS STANDARD COLOR NO. 20059 (BROWN) FOR THE TOP COAT. TOTAL AMOUNT OF PAINTING IS EXPECTED TO BE APPROXIMETELY 1,250 SF.

ANY EXCAVATION NECESSARY TO COMPLETE JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "JOINT REPAIR".

REMOVE EXISTING 2"± "POLYMER MODIFIED ASPHALTIC CONCRETE PAVEMENT" UNDER BID ITEM, "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-239".

A MINIMUM OF 1" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM, "CLEANING DECKS."

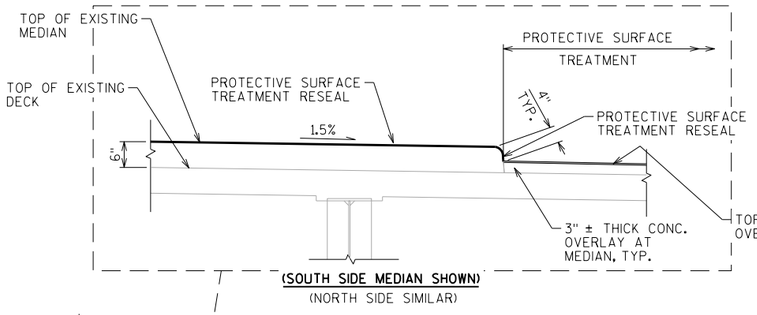
AREAS OF CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT.

CONCRETE FOR JOINT REPAIRS IS INCLUDED IN BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL DEPTH DECK REPAIRS AREA ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER, DECK PREPARATION AND FULL DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

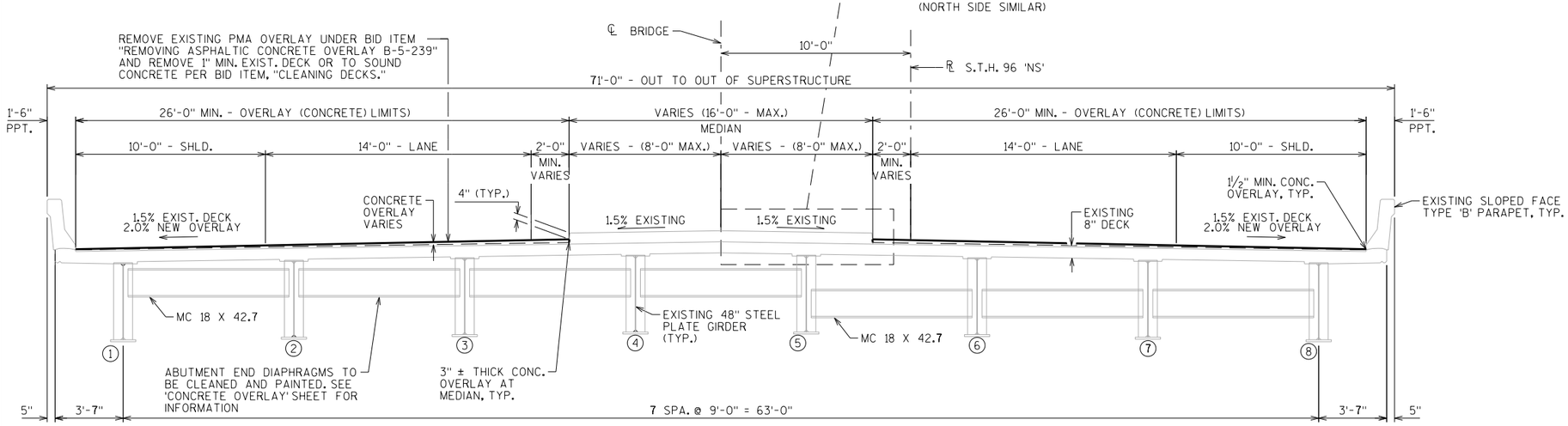
PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2¼". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE ½", CONTACT THE STRUCTURE DESIGN SECTION.

FIELD ENGINEER TO DETERMINE CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER. ANTICIPATED AREAS OF SURFACE REPAIR ARE LOCATED ON THE PARAPETS AND THE MEDIAN.



○ INDICATES GIRDER NUMBER

2¼" AVERAGE OVERLAY THICKNESS



CROSS SECTION THRU ROADWAY

LOOKING EAST

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-239

DRAWN BY DDS/EJV | PLANS CK'D. JJS

CROSS SECTION & QUANTITIES

SHEET 2

248

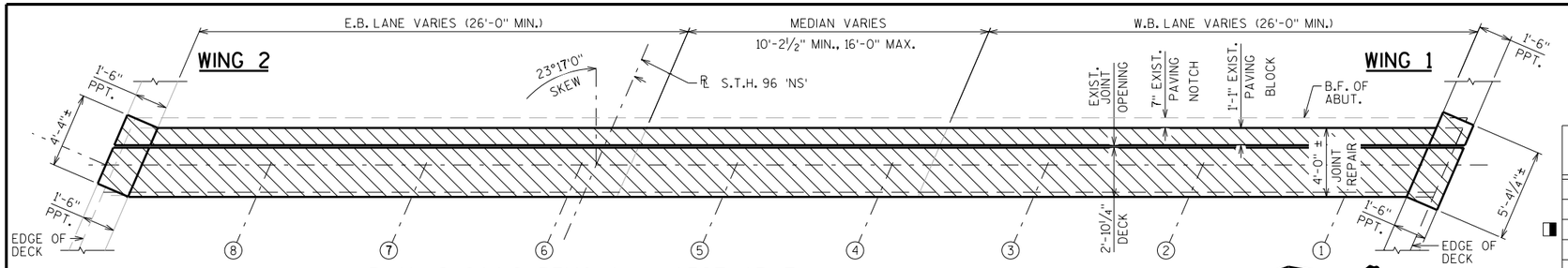
SCALE = 15.00

8

8

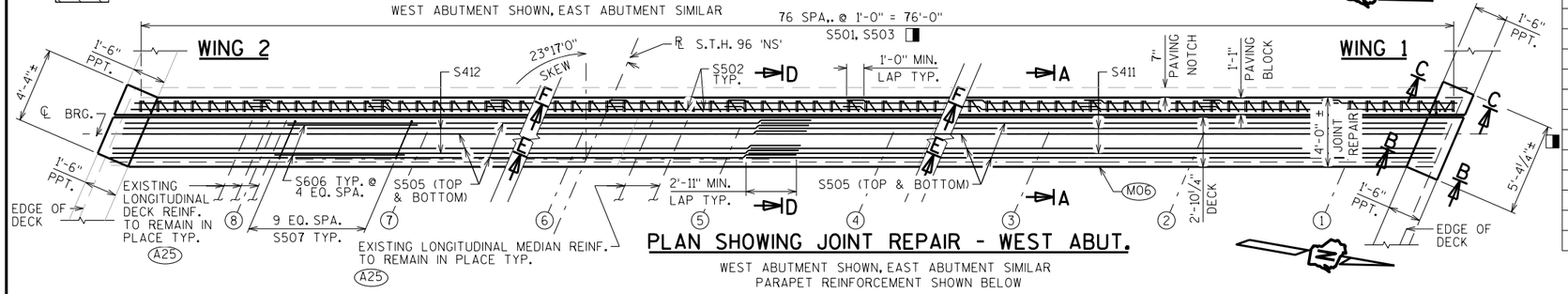
STATE PROJECT NUMBER

1227-12-72



PLAN SHOWING REMOVAL - WEST ABUT.

WEST ABUTMENT SHOWN, EAST ABUTMENT SIMILAR



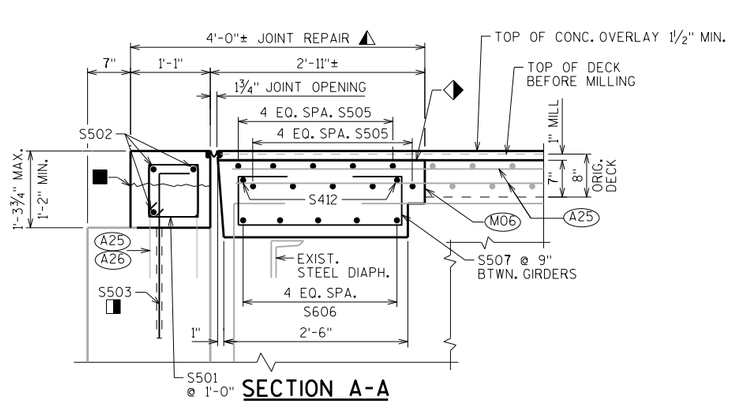
PLAN SHOWING JOINT REPAIR - WEST ABUT.

WEST ABUTMENT SHOWN, EAST ABUTMENT SIMILAR
PARAPET REINFORCEMENT SHOWN BELOW

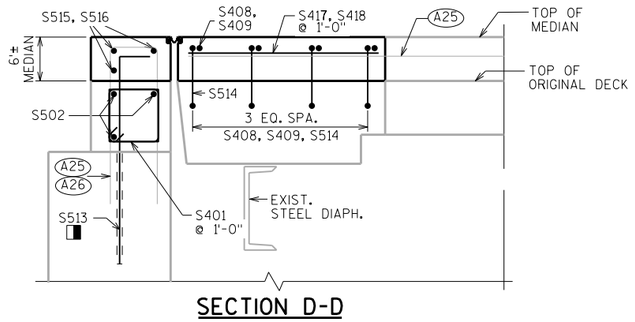
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

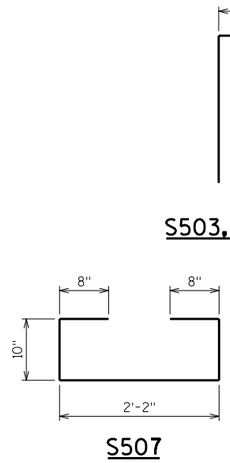
BAR MARK	COAT	WEST NO. REQ'D.	EAST NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	77	77	3'-10"	X		PAVING BLOCK - STIRRUP
S502	X	33	33	7'-11"			EXP. DEVICE/PAVING BLOCK - HORIZ.
S503	X	62	66	3'-2"	X		PAVING BLOCK - VERT.
S404	X	14	14	8'-6"			EXP. DEVICE - HORIZ. - DECK SIDE
S505	X	14	14	39'-11"			DECK - TRANSVERSE
S606	X	35	35	9'-5"			DECK DIAPHRAGM - HORIZ. - BTWN. GIRDERS
S507	X	91	91	4'-8"	X		DECK DIAPHRAGM - VERT. - BTWN. GIRDERS
S408	X	8		9'-0"			MEDIAN - TRANSVERSE
S409	X		8	7'-0"			MEDIAN - TRANSVERSE
S510	X	8	8	4'-3"	X		PARAPET - VERT.
S511	X	11	11	4'-10"	X		PARAPET - VERT.
S412	X	14	14	8'-6"			DECK DIAPHRAGM - HORIZ.
S513	X	15	11	3'-8"	X		PAVING BLOCK - VERTICAL @ MEDIAN
S514	X	8	8	3'-5"	X		DECK VERTICAL @ MEDIAN
S515	X	6		9'-0"			PAVING BLOCK TRANSVERSE @ MEDIAN
S516	X		6	7'-0"			PAVING BLOCK TRANSVERSE @ MEDIAN
S417	X	16		2'-7"			DECK - LONG. @ MEDIAN
S418	X		12	2'-7"			DECK - LONG. @ MEDIAN



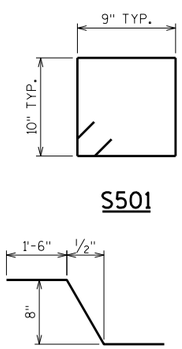
SECTION A-A



SECTION D-D



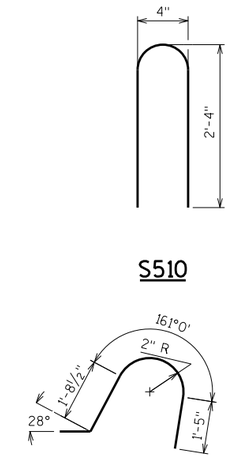
S507



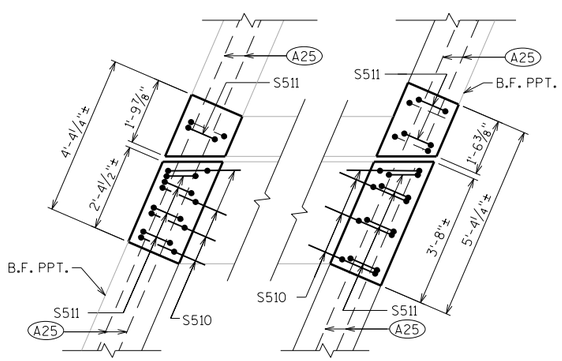
S514

S503, S513

S501



S510



PPT. PLAN

PPT. @ WING 2 SHOWN
PPT. @ WING 3 SIMILAR

PPT. PLAN

PPT. @ WING 1 SHOWN
PPT. @ WING 4 SIMILAR

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(A26) IF EXISTING BARS ARE SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH EPOXY ANCHORED NO. 5 L-SHAPED BARS WITH A 10" HORIZ. LEG. EMBED 7". WORK TO BE PAID UNDER ITEM "JOINT REPAIR".

(M06) ROUGHEN SURFACE OF CONCRETE 1/4" DEEP MINIMUM AT ALL AREAS WHERE NEW CONCRETE CONTACTS EXISTING CONCRETE.

◯ INDICATES GIRDER NUMBER.

◨ ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

■ OPT. CONST. JOINT 1" MIN. BELOW EXIST. REINF.

◆ HOLD BACK TOP OF NEW ABUTMENT DIAPHRAGM ON DECK TO ALLOW FOR CONCRETE OVERLAY.

▲ MEASURED NORMAL TO ℄ SUBSTRUCTURE

◐ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

✱ SEE 'EXPANSION DEVICE' SHEET FOR LOCATIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-239

DRAWN BY EJV/DDS | PLANS CK'D. JJS

JOINT REPAIR DETAILS 1

SHEET 3

249

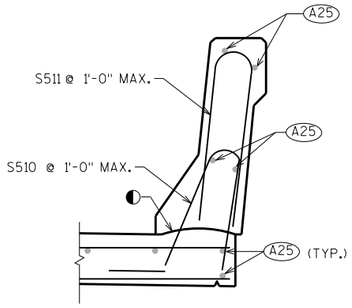
SCALE = 2.00

8

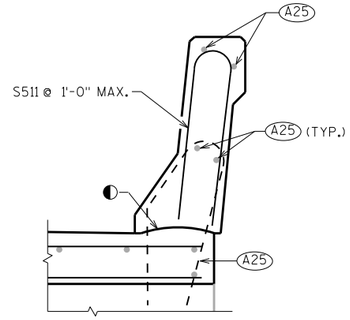
8

STATE PROJECT NUMBER

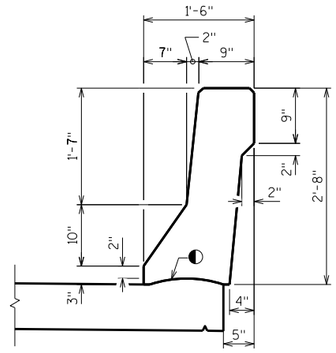
1227-12-72



SECTION B-B
(PARAPET AT DECK)



SECTION C-C
(PARAPET AT PAVING BLOCK)



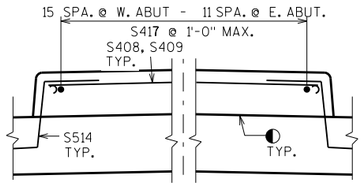
SECTION THRU PARAPET
MATCH EXISTING SHAPE

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

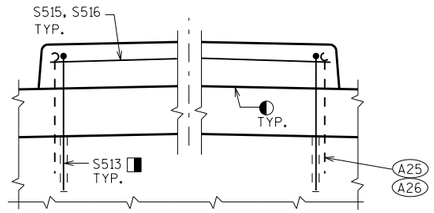
(A26) IF EXISTING BARS ARE SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH EPOXY ANCHORED NO. 5 L-SHAPED BARS WITH A 10" HORIZ. LEG. EMBED 7". WORK TO BE PAID UNDER ITEM "JOINT REPAIR".

◐ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

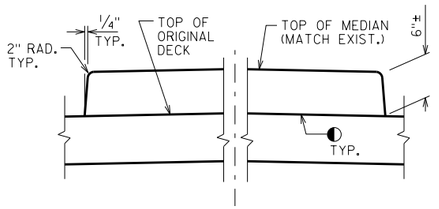
◨ ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.



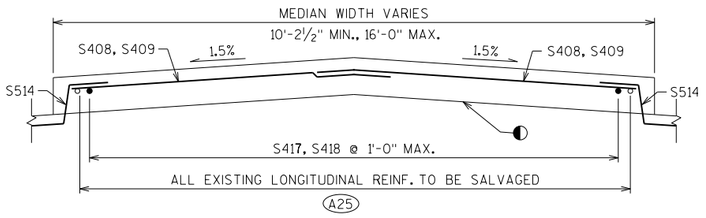
SECTION E-E
(MEDIAN STEEL @ DECK/DIAPH.)
(SEE SECTION A-A FOR DIAPH. STEEL)



SECTION F-F
(MEDIAN STEEL @ PAVING BLOCK)



PART. SECT. THRU MEDIAN



NEW SECTION THRU MEDIAN AT ABUTMENT AT DECK
MATCH EXISTING MEDIAN SHAPE AND ELEVATIONS

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-239

DRAWN BY EJV | PLANS CK'D. JJS

JOINT REPAIR DETAILS 2

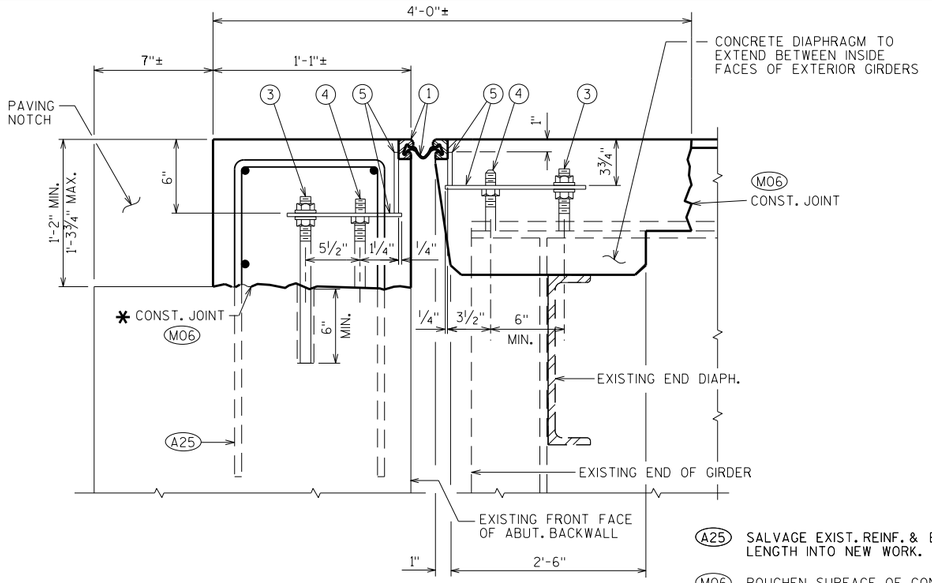
SHEET 4

250

SCALE = 2.00

STATE PROJECT NUMBER

1227-12-72



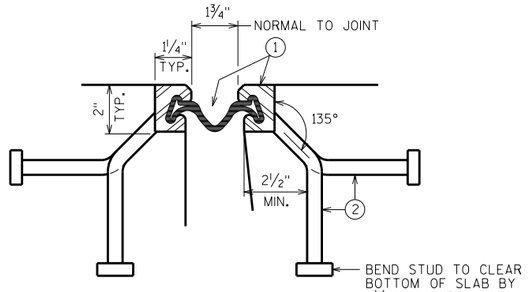
SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

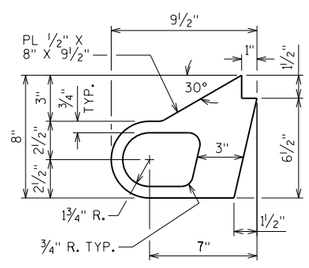
(M06) ROUGHEN SURFACE OF CONCRETE 1/4" DEEP MINIMUM AT ALL AREAS WHERE NEW CONCRETE CONTACTS EXISTING CONCRETE.

✱ POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

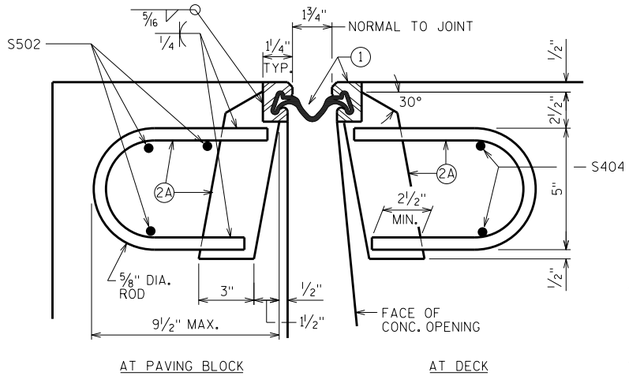


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS AND MEDIANS

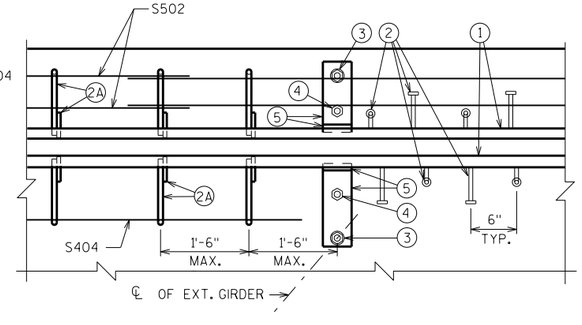


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN MEDIAN AND EXTERIOR GIRDERS.



PART PLAN

LEGEND

(1) NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.

(2) STUDS 5/8" DIA. X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) 1/2" THICK ANCHOR PLATE WITH 5/8" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) 3/4" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) 3/4" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

(6) GALVANIZED PLATE 3/8" X 0'-10 1/2" X 2'-2" LONG WITH HOLES FOR NO. 7 BEND AS SHOWN.

(7) 3/4" DIA. X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) 3/4" DIA. X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) 3/4" DIA. X 2 1/4" GALVANIZED THREADED COUPLING.

(10) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

(11) MEDIAN COVER PLATE 3/8" X 2'-0" X LIMITS SHOWN WITH HOLES FOR NO. 7. GALVANIZE PLATE.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, ANCHOR PLATES SHALL BE PROVIDED 3" FROM EACH SIDE OF THE FIELD SPLICE. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE LINEAR FOOT PRICE BID FOR "EXPANSION DEVICE".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-239

DRAWN BY DDS | PLANS CK'D. JJS

EXPANSION DEVICE

SHEET 5

251

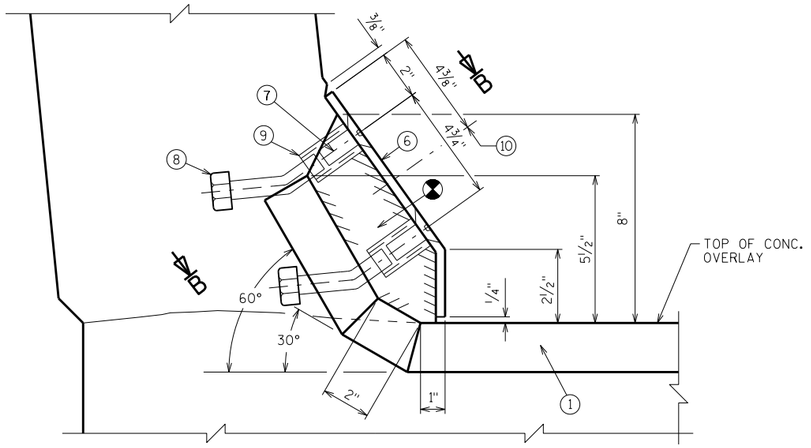
8

8

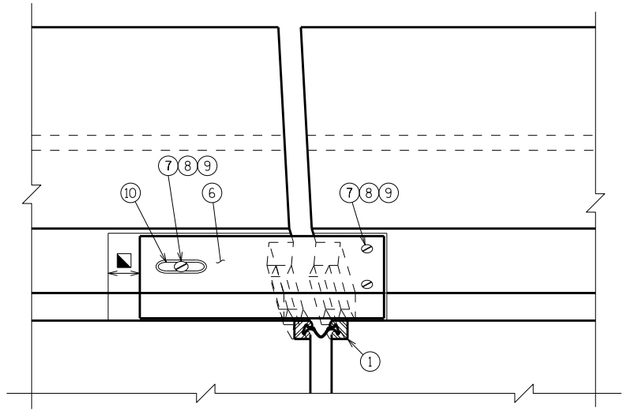
SCALE = 1.00

STATE PROJECT NUMBER

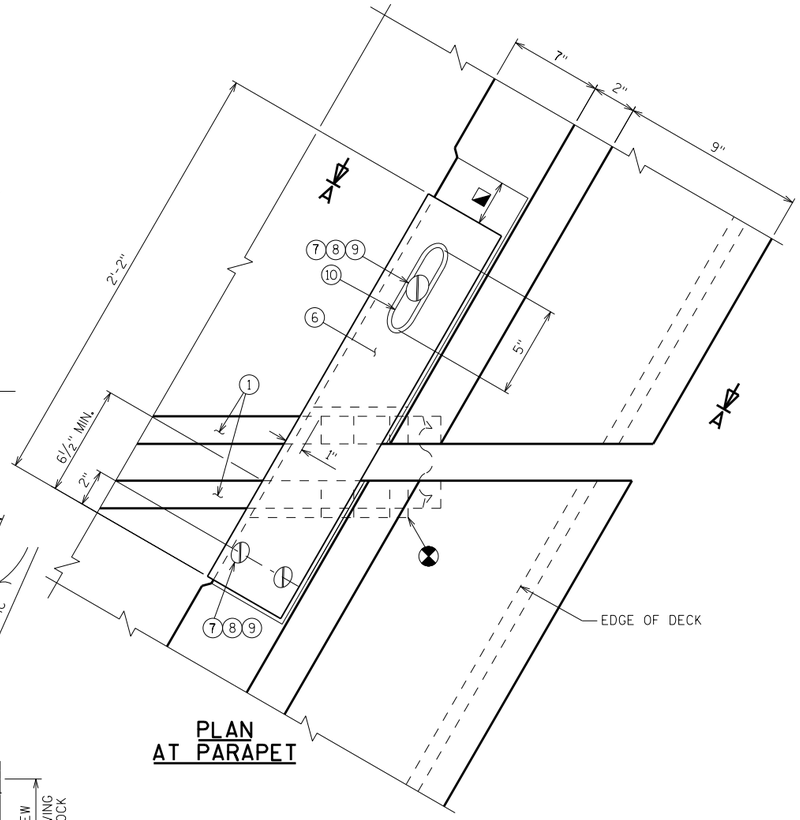
1227-12-72



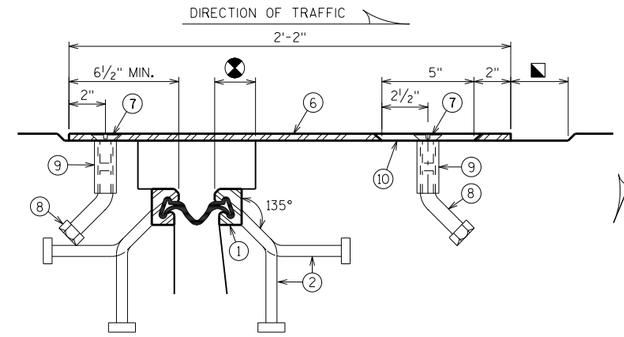
SECTION A-A



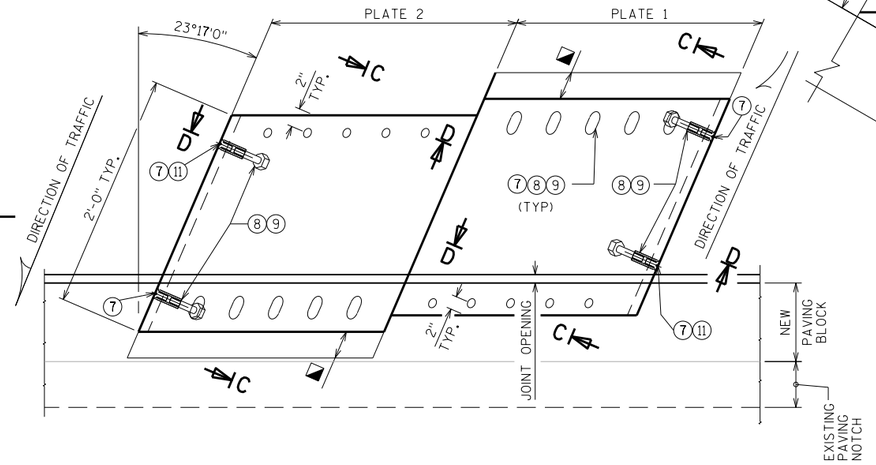
VIEW OF PARAPET PLATE FROM ROADWAY



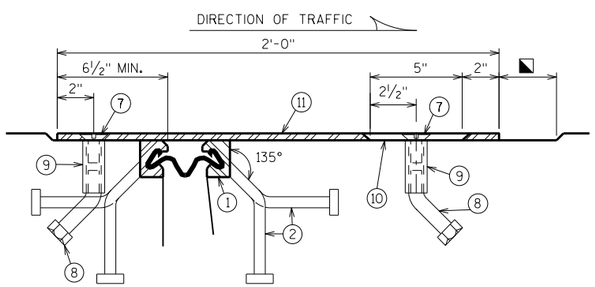
PLAN AT PARAPET



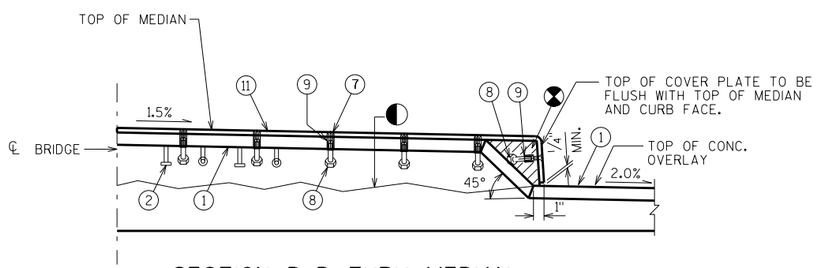
SECTION B-B
LOCATED IN PARAPET



PLAN OF MEDIAN COVER PLATE
W. ABUT. END SHOWN, EAST END SIMILAR



SECTION C-C
LOCATED IN MEDIAN



SECTION D-D THRU MEDIAN

- CONSTRUCTION JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-239

DRAWN BY DDS | PLANS CK'D. JJS

COVER PLATE DETAILS

SHEET 6

252

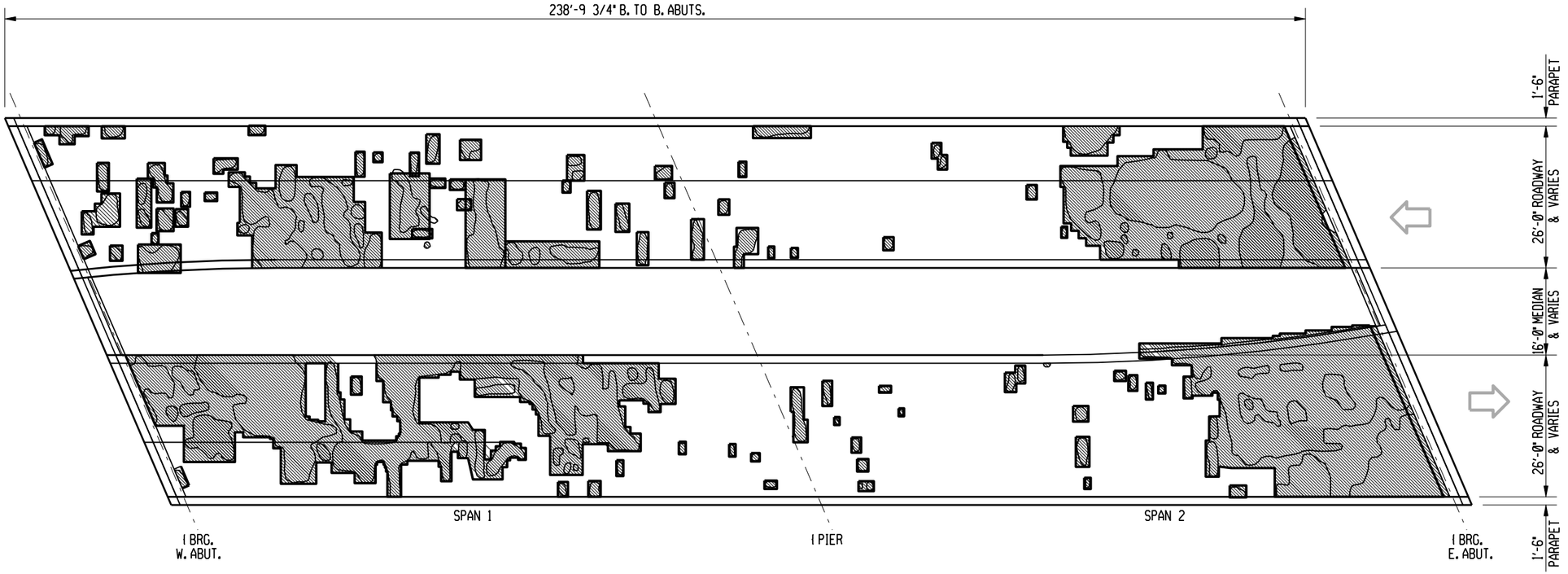
SCALE = 15.00

8

8

STATE PROJECT NUMBER

1227-12-72



PLAN

DECK INSPECTION RESULTS

STRUCTURE NO.
B-5-239

FIELD OBSERVATIONS SUMMARY		ROADWAY		MEDIAN	
ITEM	UNIT	QUANT.	%	QUANT.	%
TOTAL AREA	ft^2	12507		3639	
SHADE/DEBRIS	ft^2	0		0	
DELAMINATION	ft^2	3275	26.2	367	10.1
SPALL	ft^2	0	0	17	0.5
DEBOND/SCALING	ft^2	0	0	N/A	N/A
ASPHALT PATCH	ft^2	0	0	0	0
CONCRETE PATCH	ft^2	0	0	262	7.2

DECK PREPARATION AREA

LEGEND
- DELAMINATION
- SPALL
- DEBOND/SCALING
- ASPHALT PATCH
- CONCRETE PATCH
- SHADE/DEBRIS

SCALE 0' 5' 10' 20'

SURFACE TYPE: ROADWAY-PMA OVERLAY
MEDIAN-CONCRETE

INFRARED INSPECTION DATE: 5/1/20

NOTE:
THIS SHEET PROVIDES THE INFARED THERMOGRAPHIC DECK INSPECTION RESULTS REPORTED BY AECOM IN JUNE OF 2020 THE PROPOSED DECK REPAIRS ARE BASED ON INFARED THERMOGRAPHIC DECK INSPECTION RESULTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-239

DRAWN BY DDS | PLANS CK'D. JJS

DECK CONDITION SURVEY

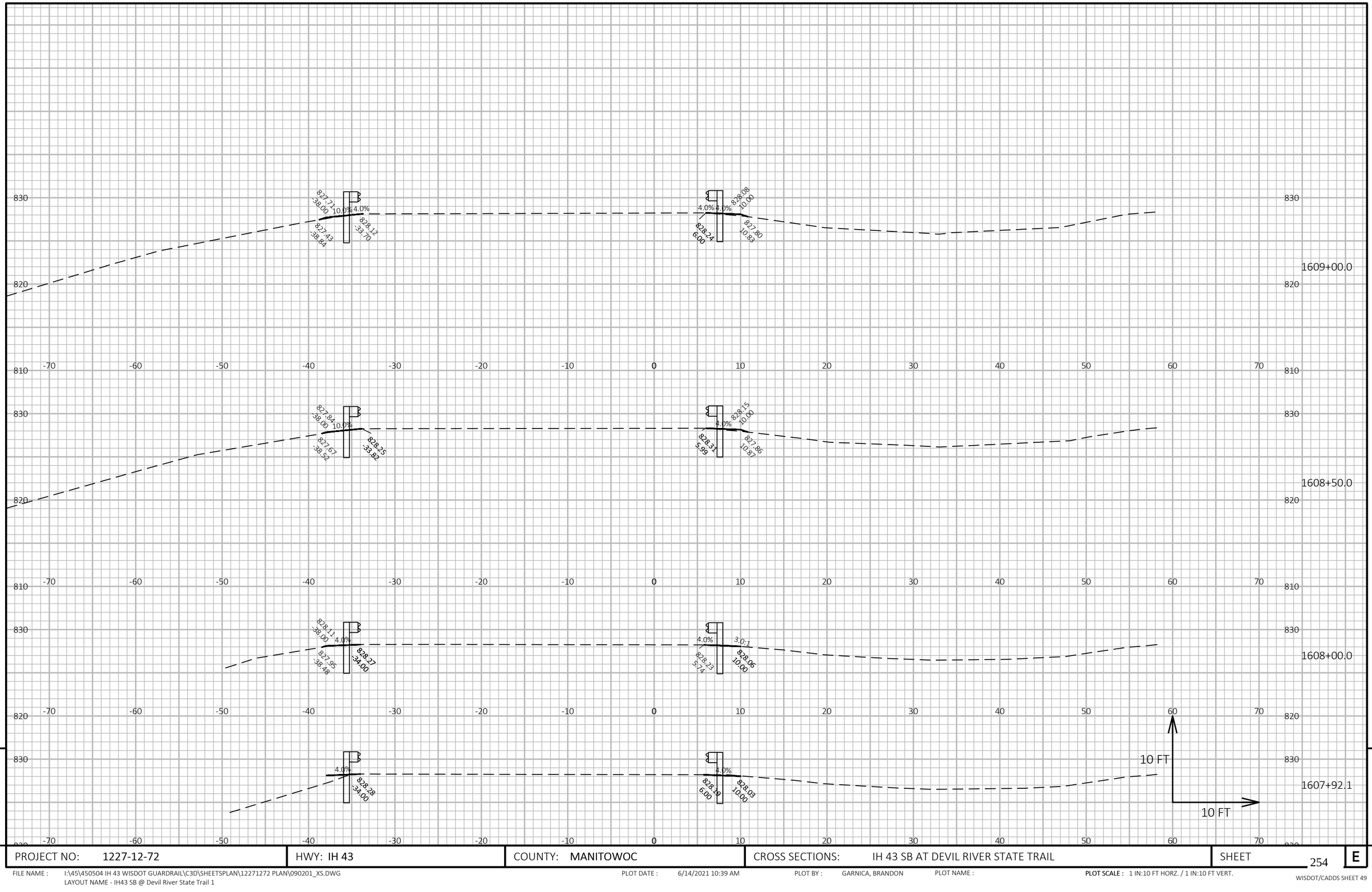
SHEET 7

253

SCALE = 1:1.00

8

8



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVIL RIVER STATE TRAIL	SHEET 254	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail 1

PLOT DATE : 6/14/2021 10:39 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

POST 9

1610+73.2

1610+50.0

1610+00.0

1609+50.0

10 FT

10 FT

9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVIL RIVER STATE TRAIL	SHEET 255	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail 2

PLOT DATE : 6/14/2021 10:40 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

POST 9

826.99
36.00
826.54
39.94
10.0%
4.0%
827.40
33.60
827.51
6.26
827.44
8.14
4.0%
827.34
10.47
826.97
11.59
1611+46.2

POST 1

827.66
6.20
827.59
8.00
4.0%
827.43
12.00
826.96
13.40
3.0:1
827.11
38.00
826.32
40.37
10.0%
4.0%
827.53
33.62
1611+23.2

827.72
6.12
827.70
7.07
4.0%
827.54
11.08
827.35
11.65
3.0:1
827.25
38.00
826.43
40.47
10.0%
4.0%
827.67
33.68
1611+00.0

POST 5

827.72
6.11
827.71
7.00
4.0%
827.38
11.53
827.38
11.53
3.0:1
827.27
38.00
826.44
40.47
10.0%
4.0%
827.68
33.68
1610+98.2

10 FT
10 FT

9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVIL RIVER STATE TRAIL	SHEET 256	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail 3

PLOT DATE : 6/14/2021 10:40 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

POST 1

826.98
-40.00
826.85
-40.45
4.0%
827.24
-39.00
827.22
-33.88

1611+96.2

POST 5

827.11
-39.00
826.66
-40.35
4.0%
827.27
-35.00
827.32
-33.75

1611+71.2

826.94
-38.38
826.74
-38.99
10.0%
4.0%
827.34
-34.37
827.37
-33.69

827.45
6.28
827.38
8.20
4.0%
827.51
-30.1
827.05
10.64

1611+55.5

826.97
-38.16
826.62
-39.20
10.0%
4.0%
827.37
-34.15
827.39
-33.63

827.49
6.27
827.41
8.16
4.0%
827.33
-30.22
827.00
11.20

1611+50.0

10 FT
10 FT

9

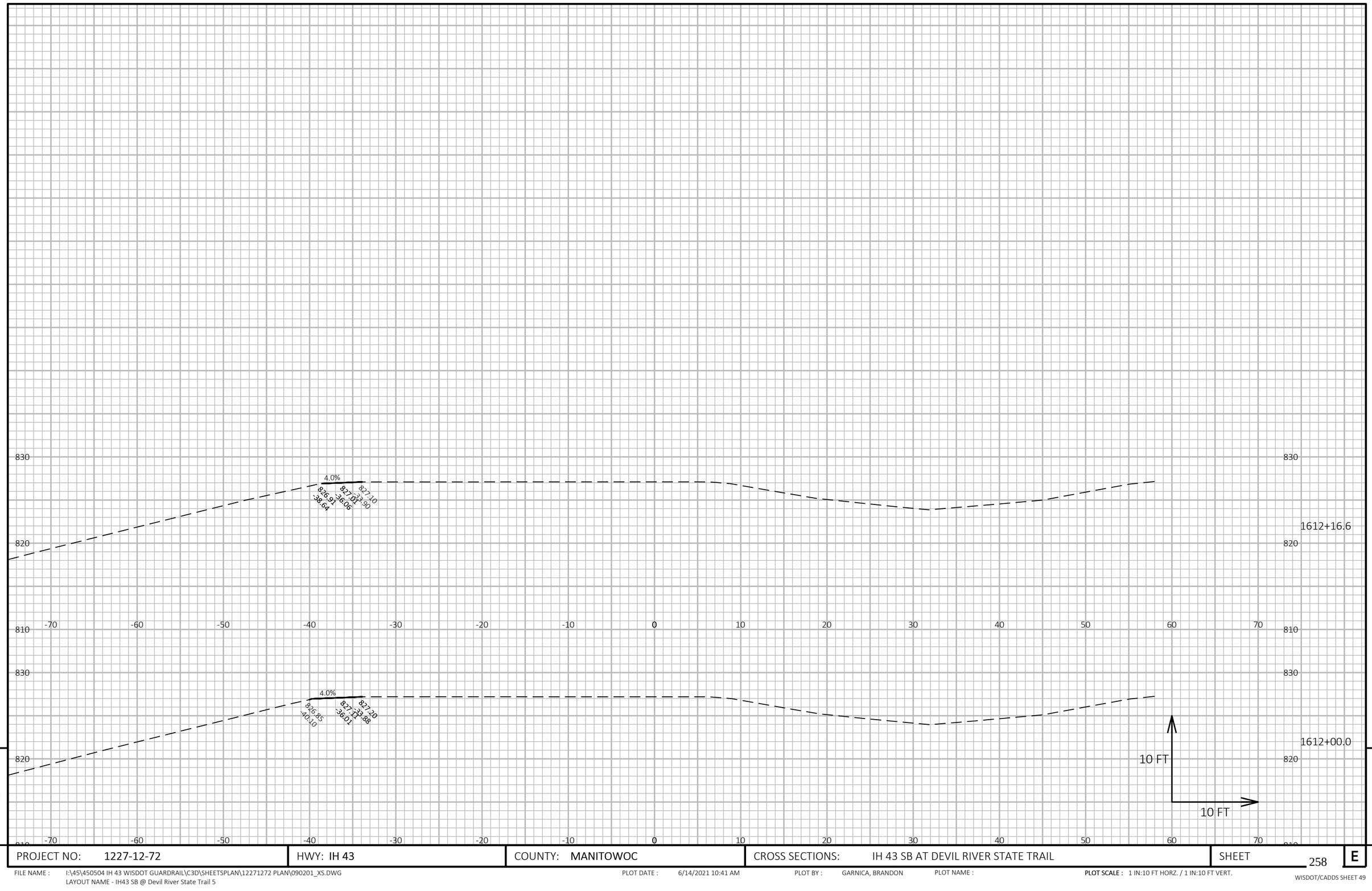
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVIL RIVER STATE TRAIL	SHEET 257	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail 4

PLOT DATE : 6/14/2021 10:41 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

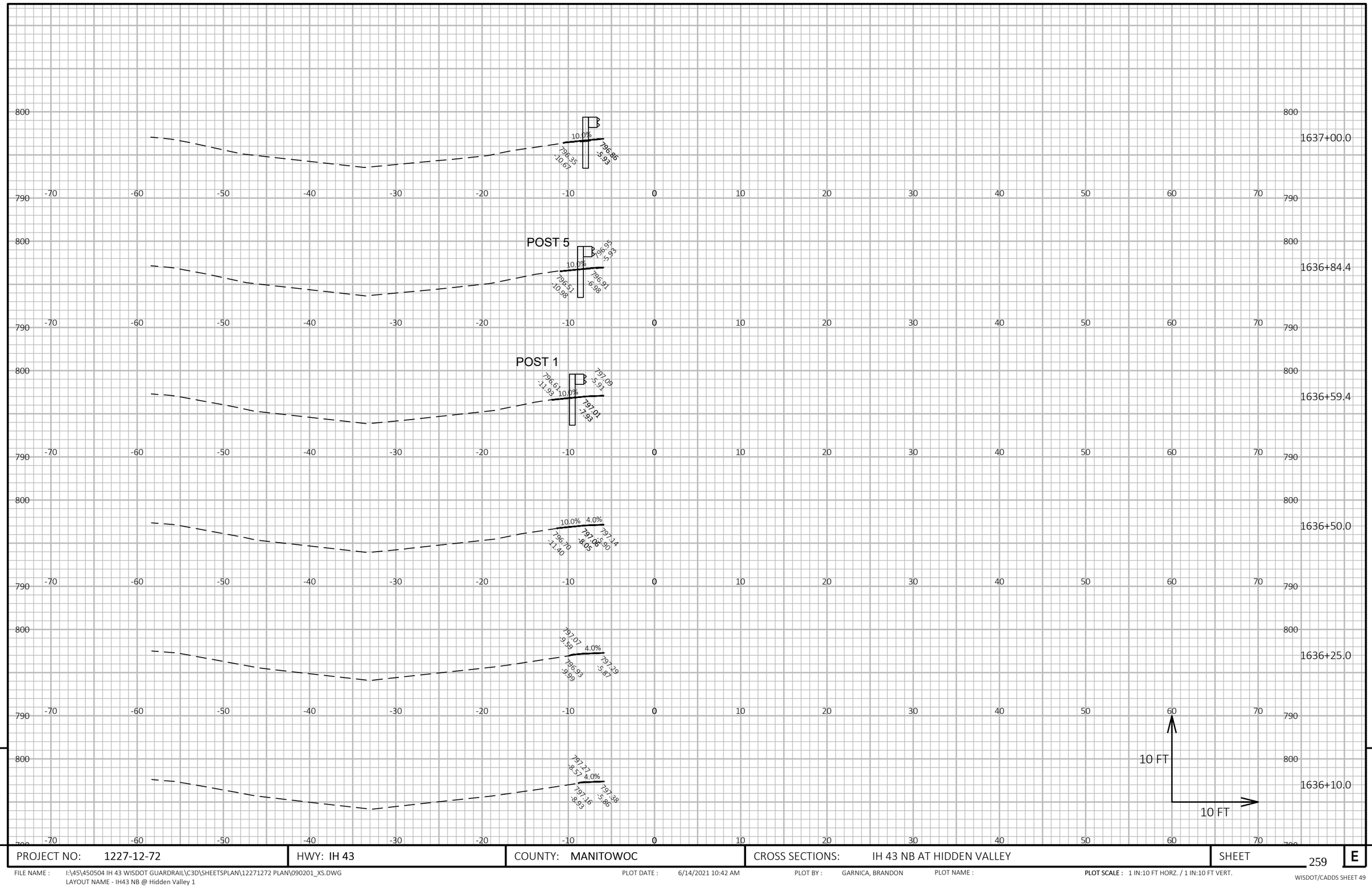
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVIL RIVER STATE TRAIL	SHEET 258	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail 5

PLOT DATE : 6/14/2021 10:41 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

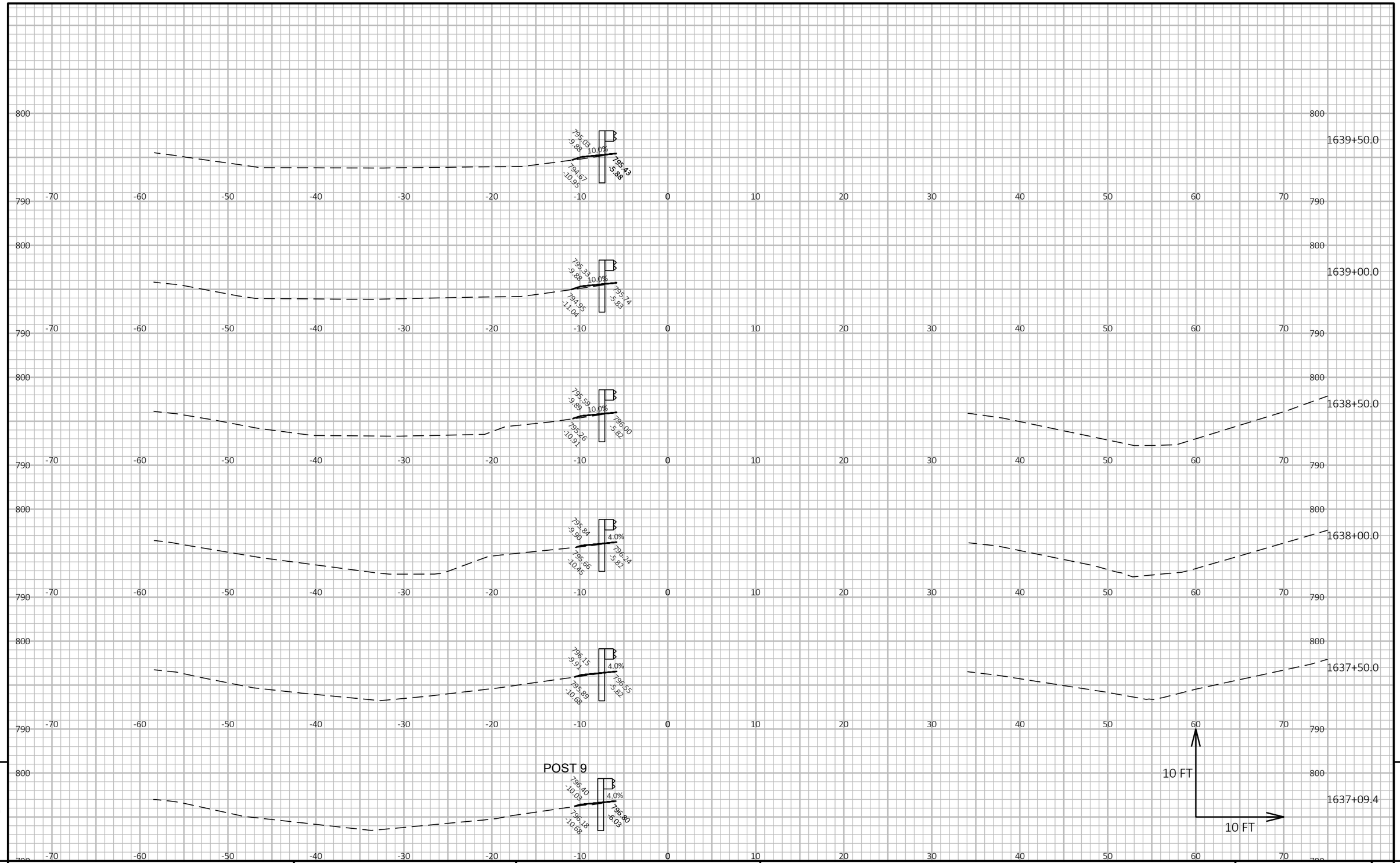


PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT HIDDEN VALLEY	SHEET 259 E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Hidden Valley 1

PLOT DATE : 6/14/2021 10:42 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

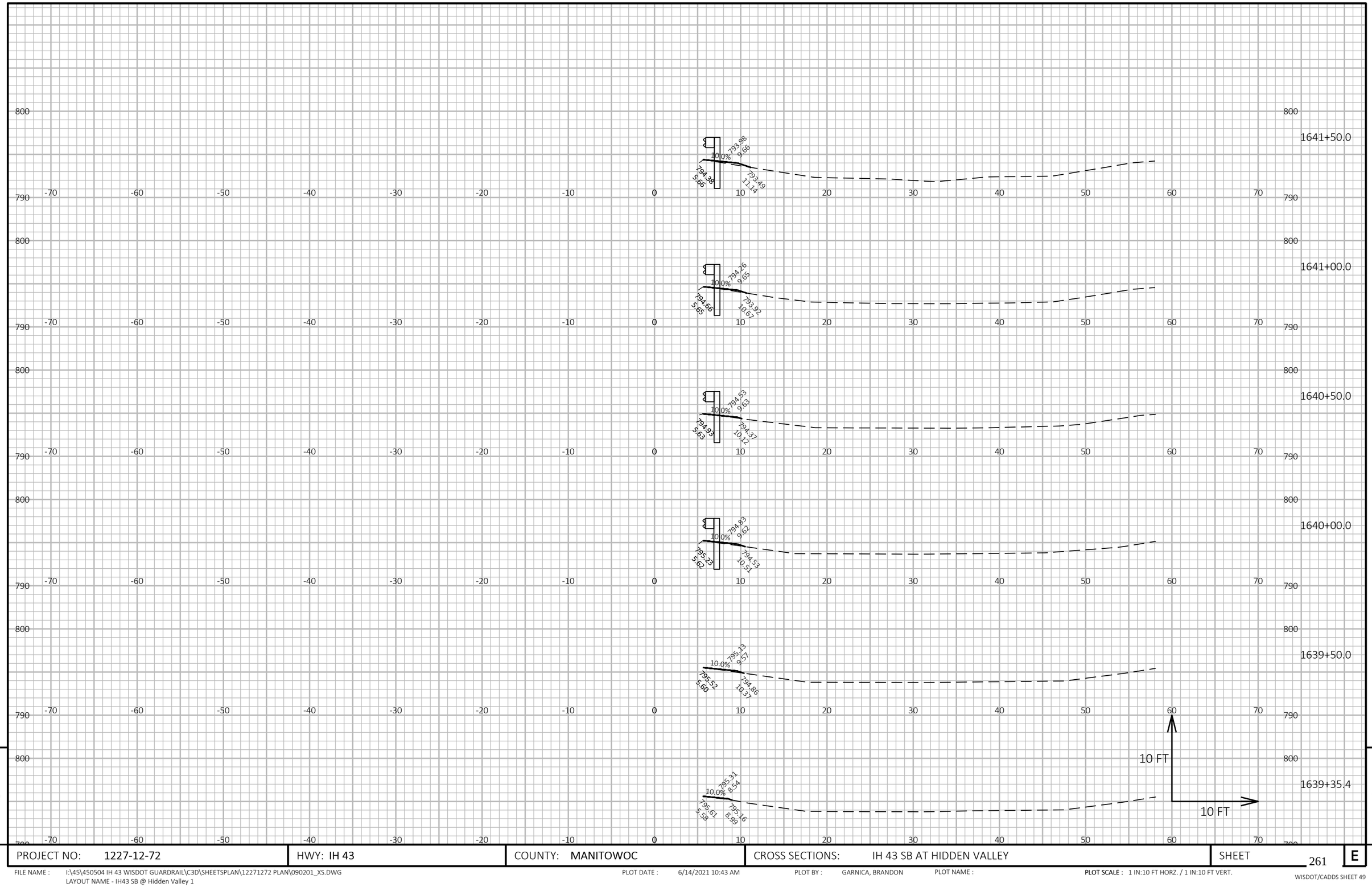
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT HIDDEN VALLEY	SHEET 260	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Hidden Valley 2

PLOT DATE : 6/14/2021 10:42 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

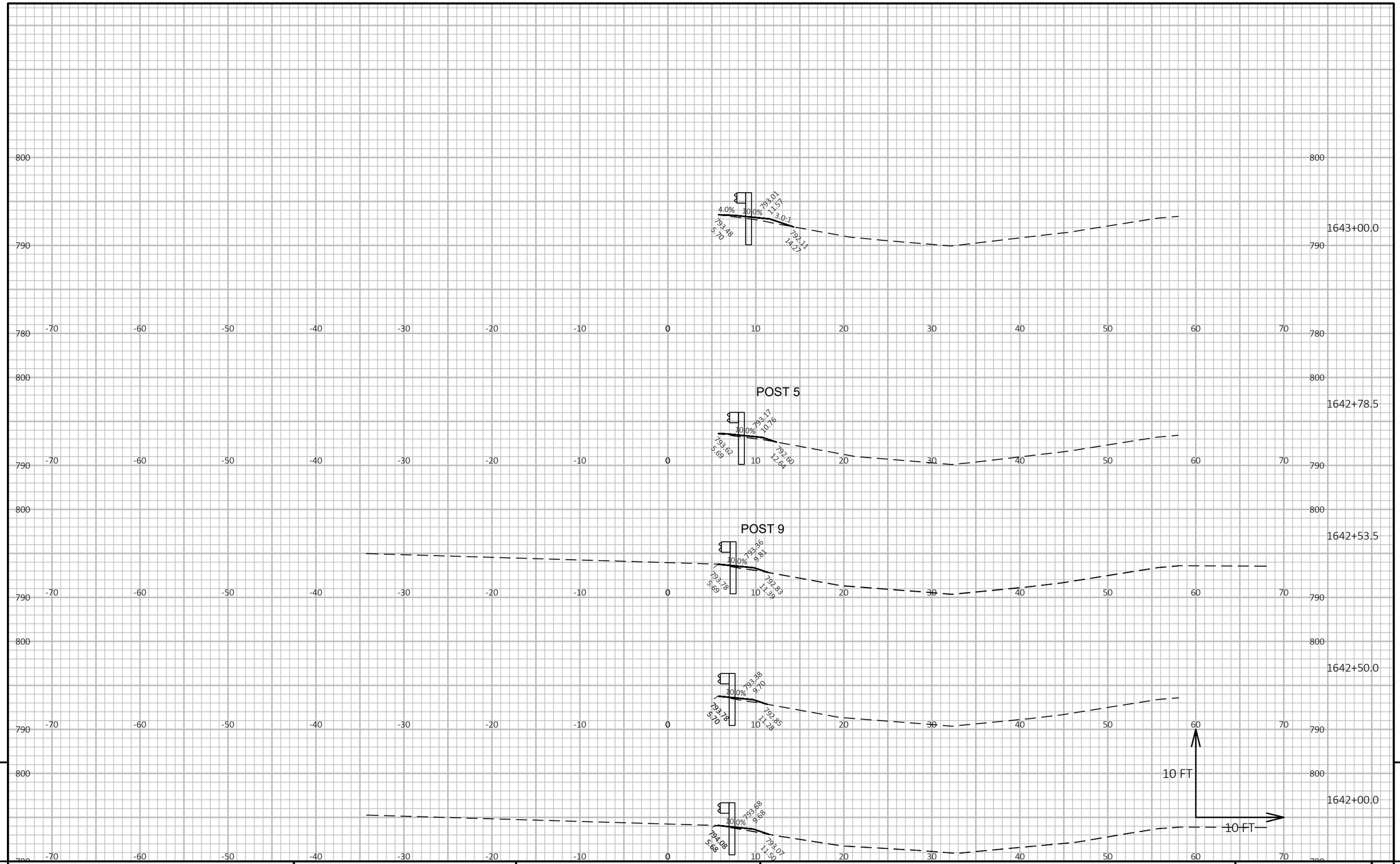


PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT HIDDEN VALLEY	SHEET 261	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Hidden Valley 1

PLOT DATE : 6/14/2021 10:43 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



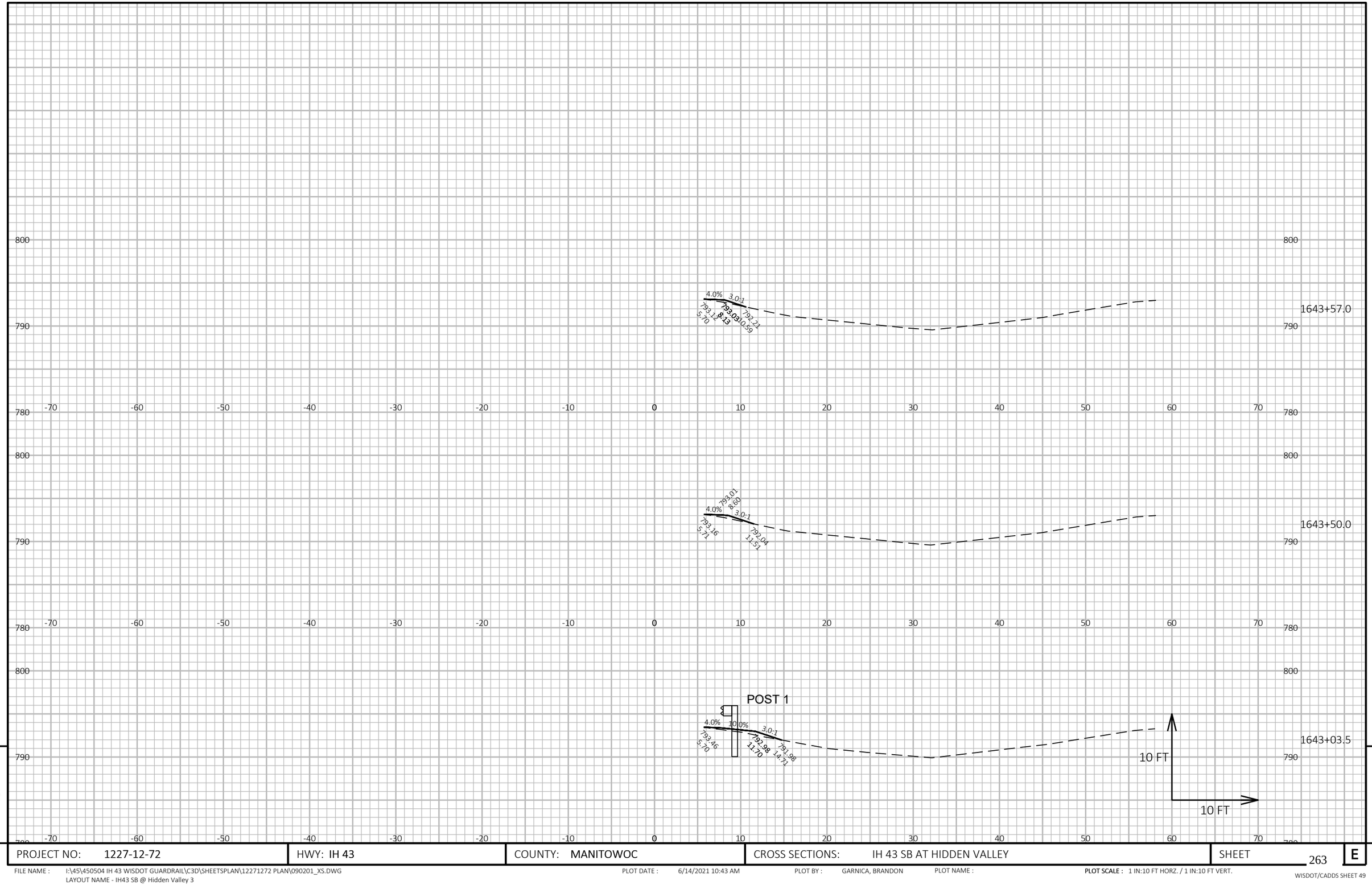
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT HIDDEN VALLEY	SHEET 262	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Hidden Valley 2

PLOT DATE : 6/14/2021 10:43 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

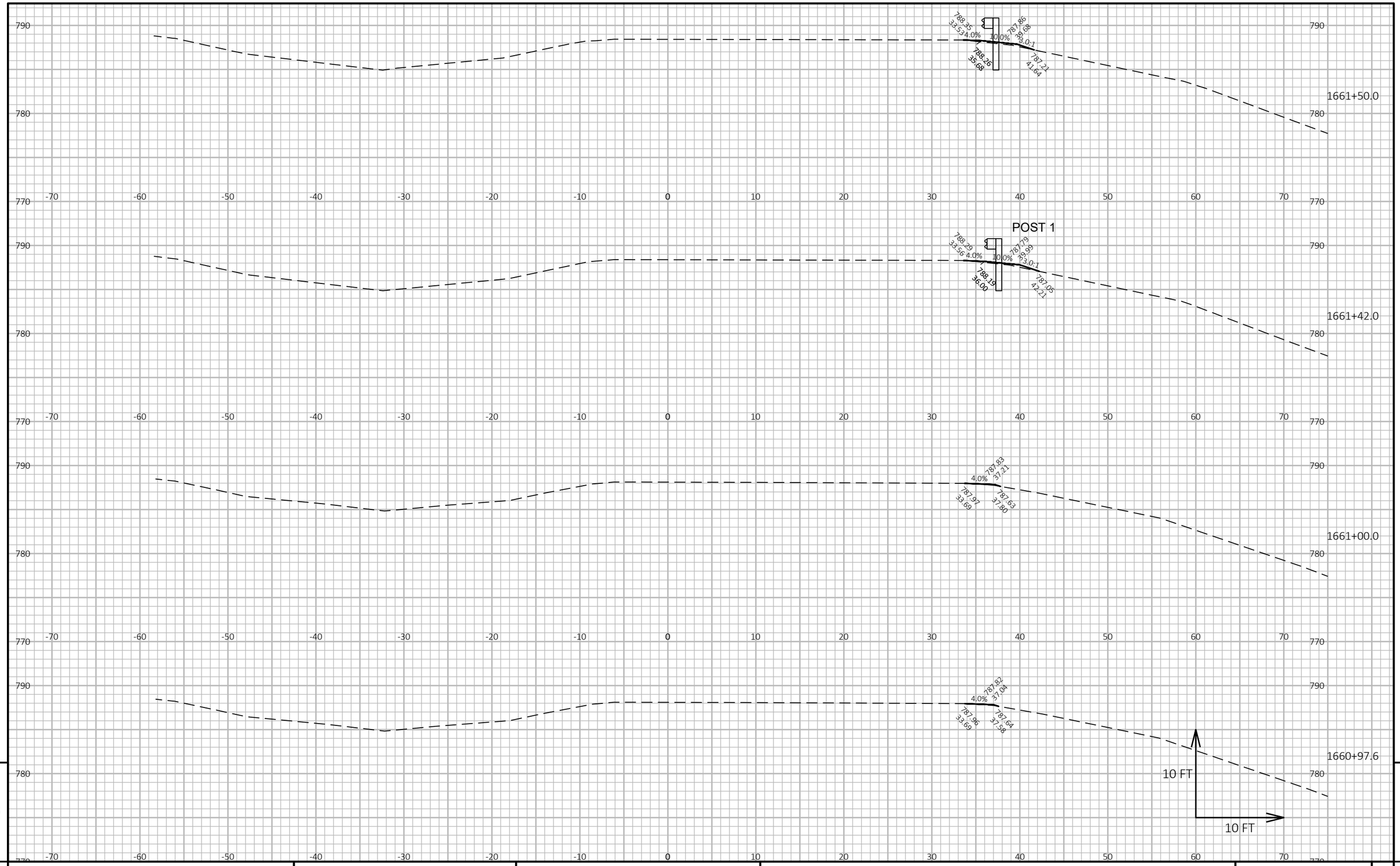
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT HIDDEN VALLEY	SHEET 263	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Hidden Valley 3

PLOT DATE : 6/14/2021 10:43 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

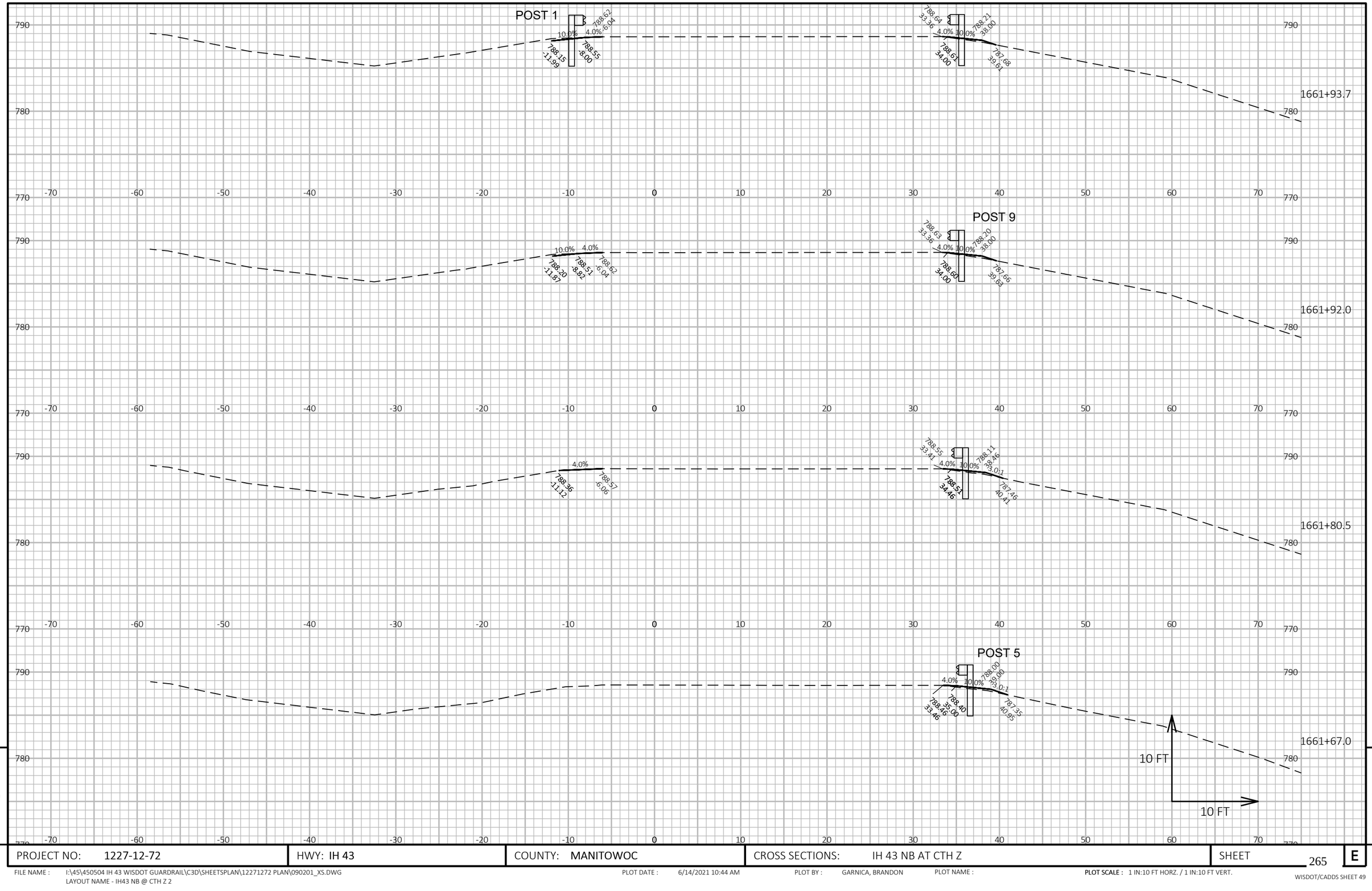
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH Z	SHEET 264	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH Z 1

PLOT DATE : 6/14/2021 10:44 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

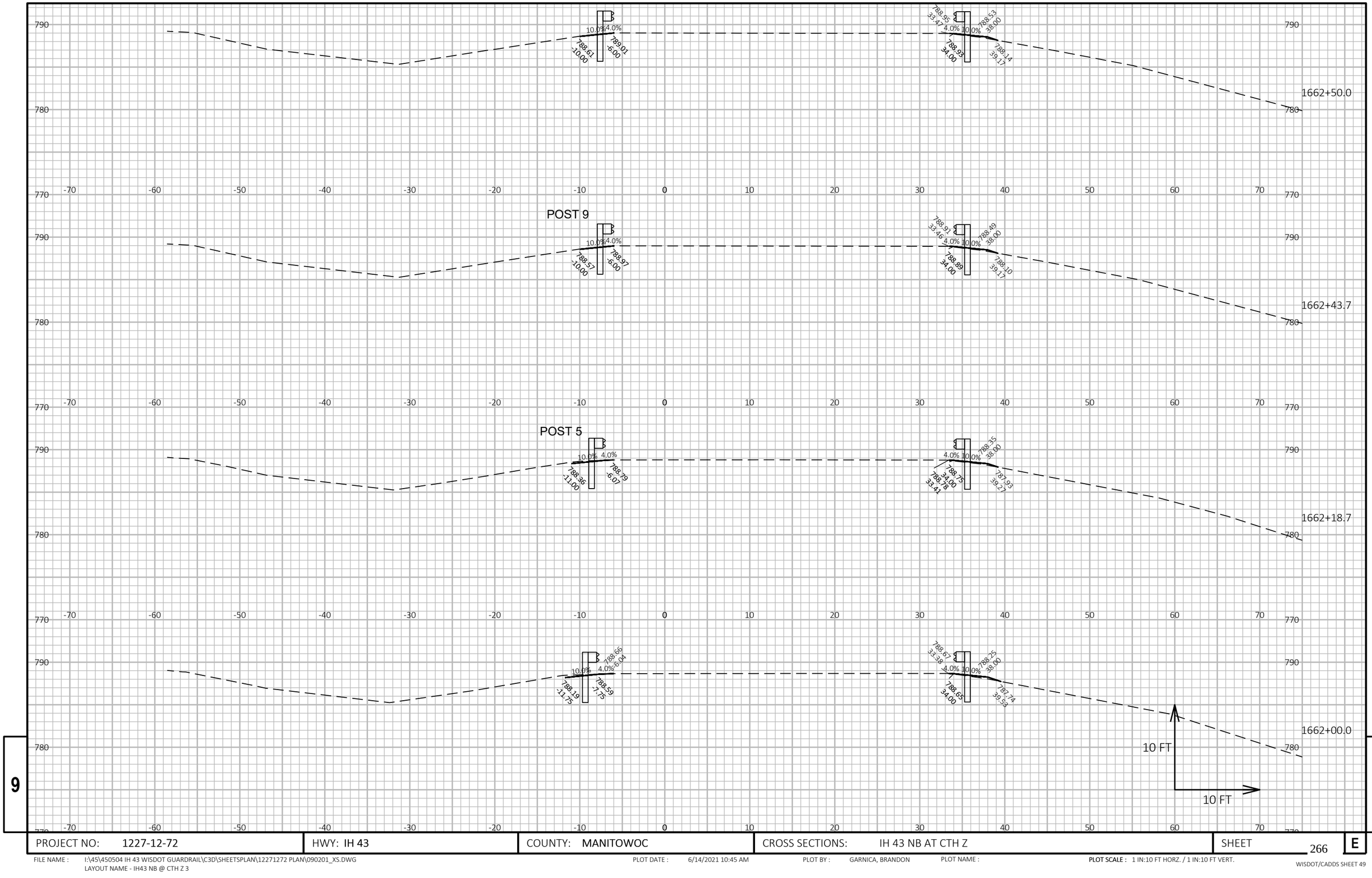
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH Z	SHEET 265	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH Z 2

PLOT DATE : 6/14/2021 10:44 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

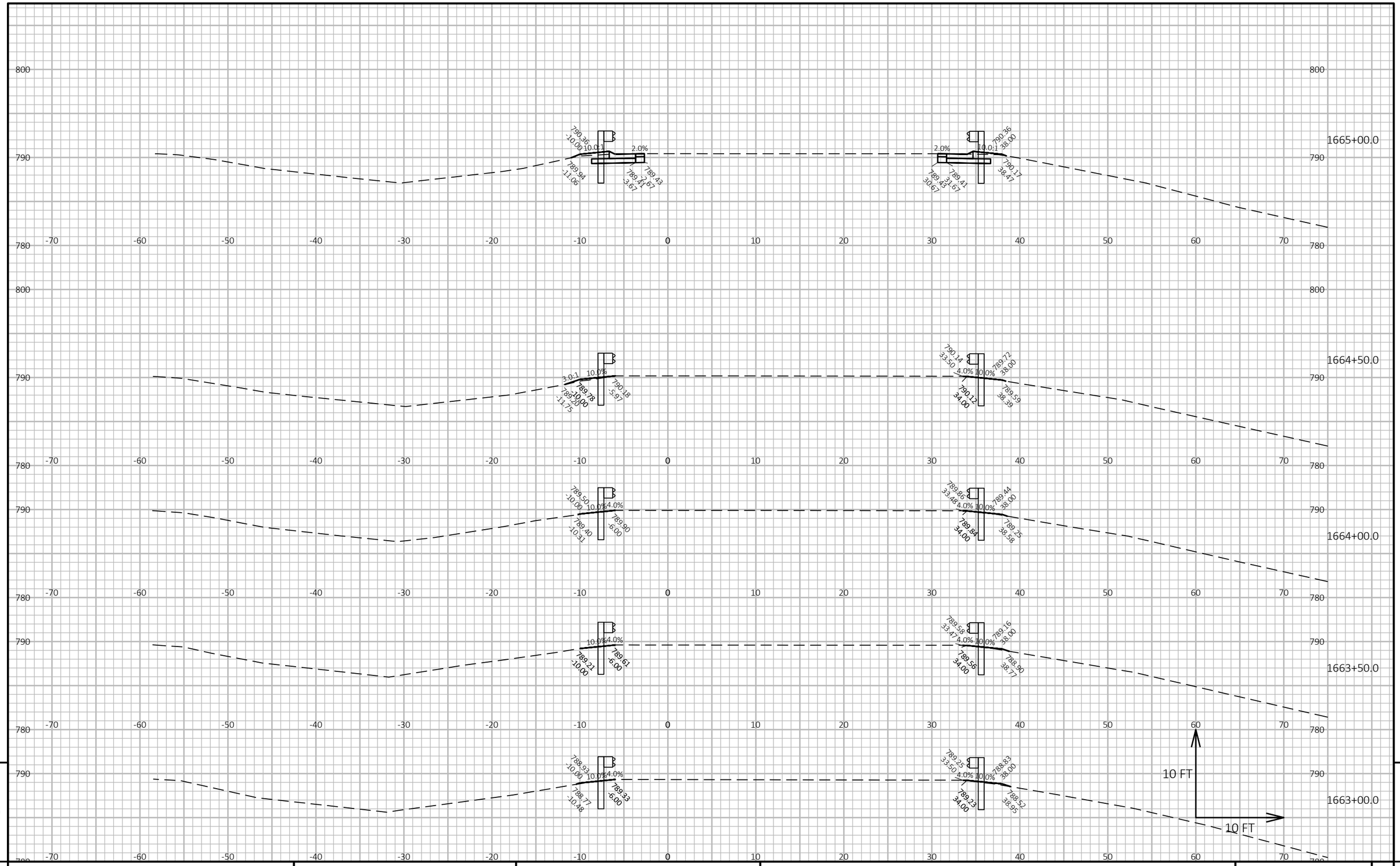


PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH Z	SHEET 266	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH Z 3

PLOT DATE : 6/14/2021 10:45 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH Z	SHEET 267	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH Z 4

PLOT DATE : 6/14/2021 10:45 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

9

9

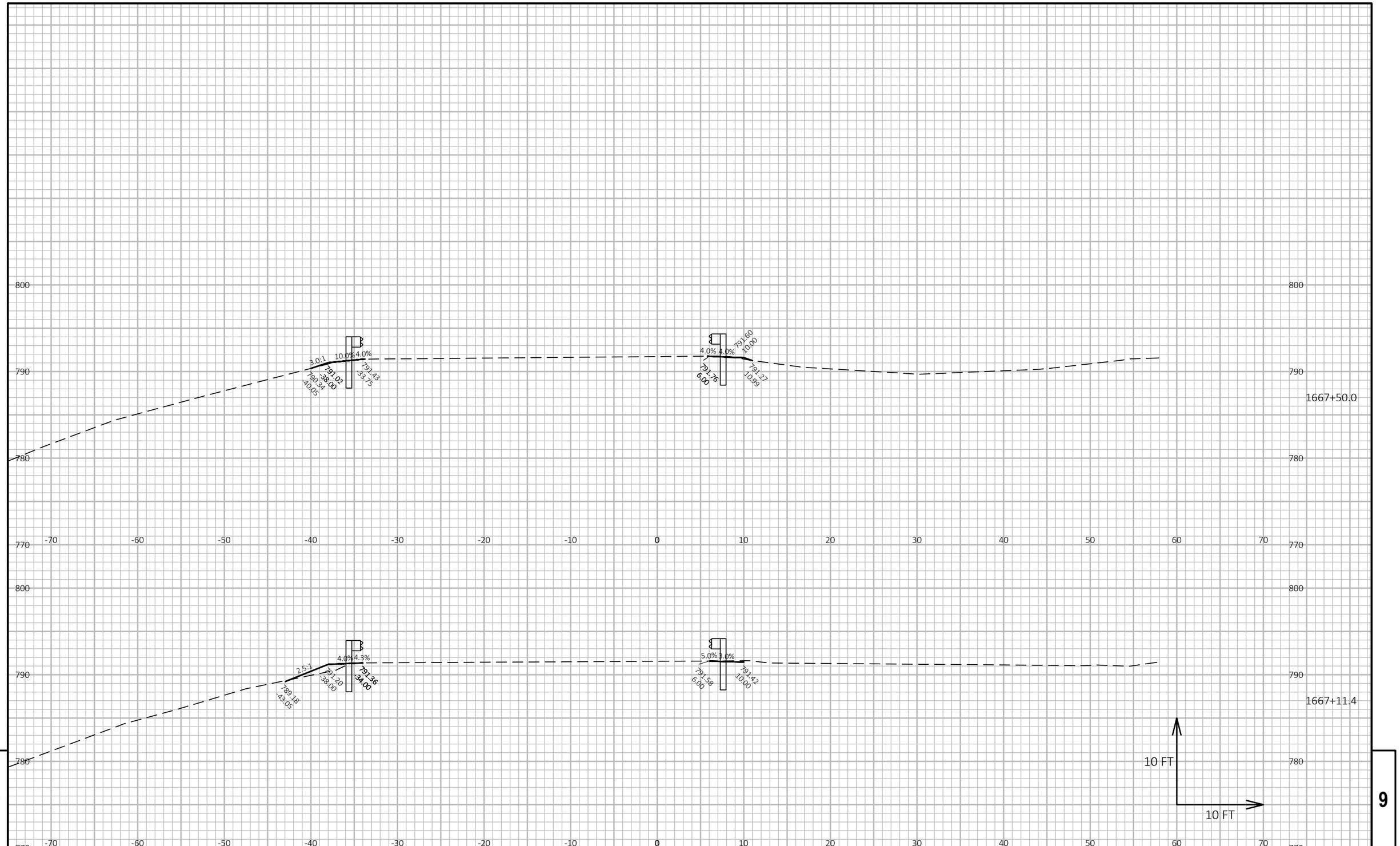
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH Z	SHEET 268	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ CTH Z 5

PLOT DATE : 6/14/2021 10:46 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

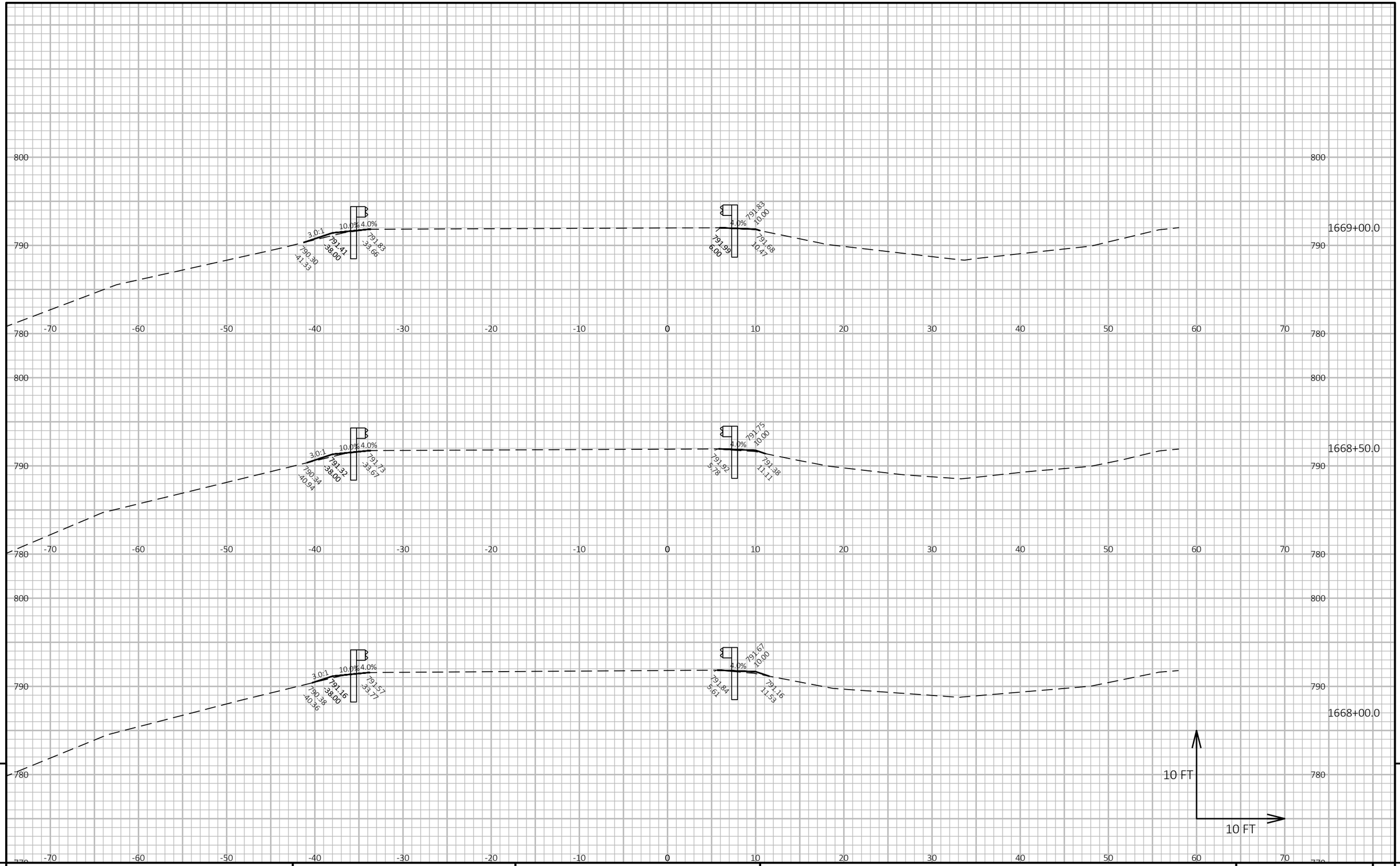
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH Z	SHEET 269	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ CTH Z 1

PLOT DATE : 6/14/2021 10:46 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

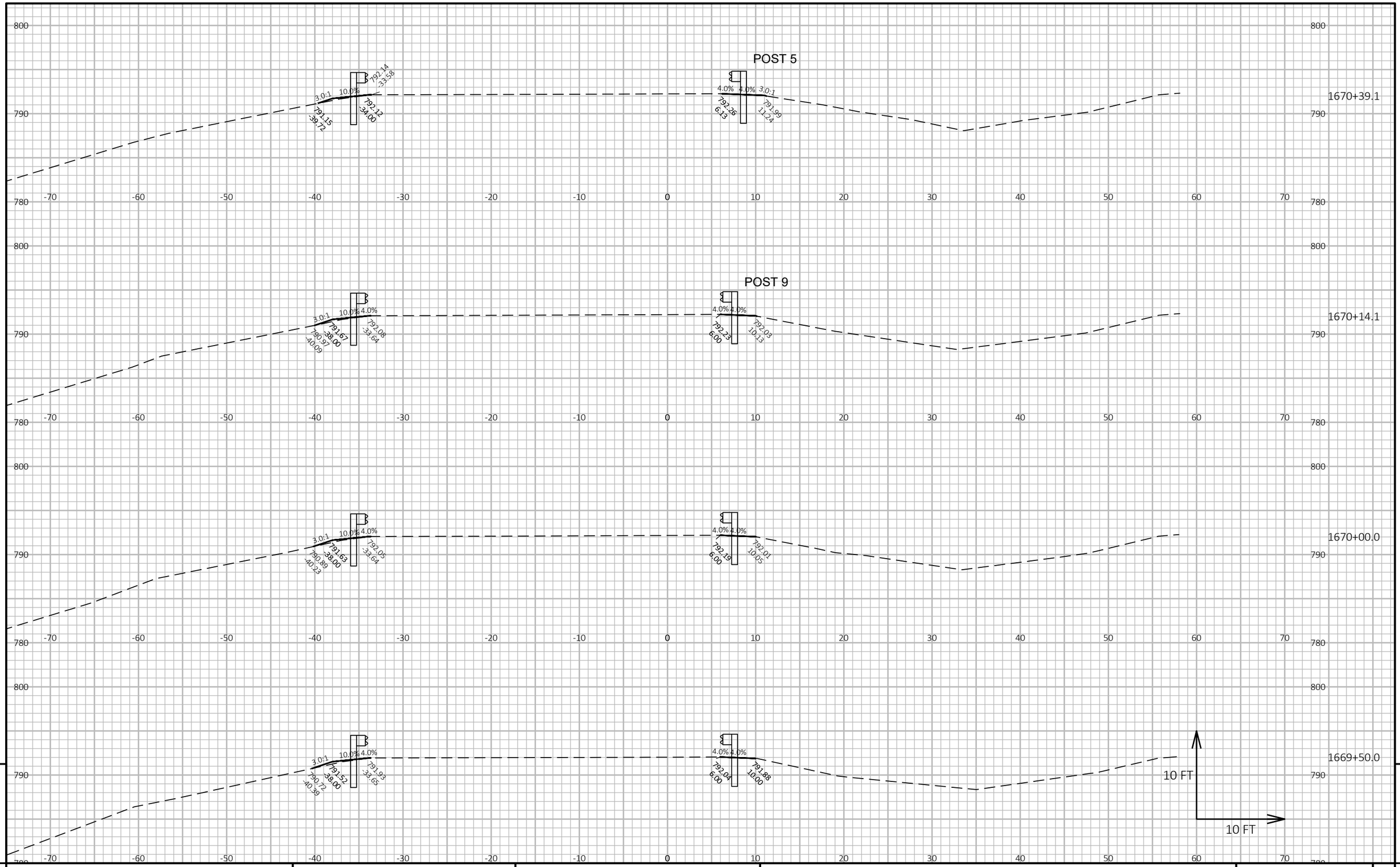
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH Z	SHEET 270	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ CTH Z 2

PLOT DATE : 6/14/2021 10:46 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

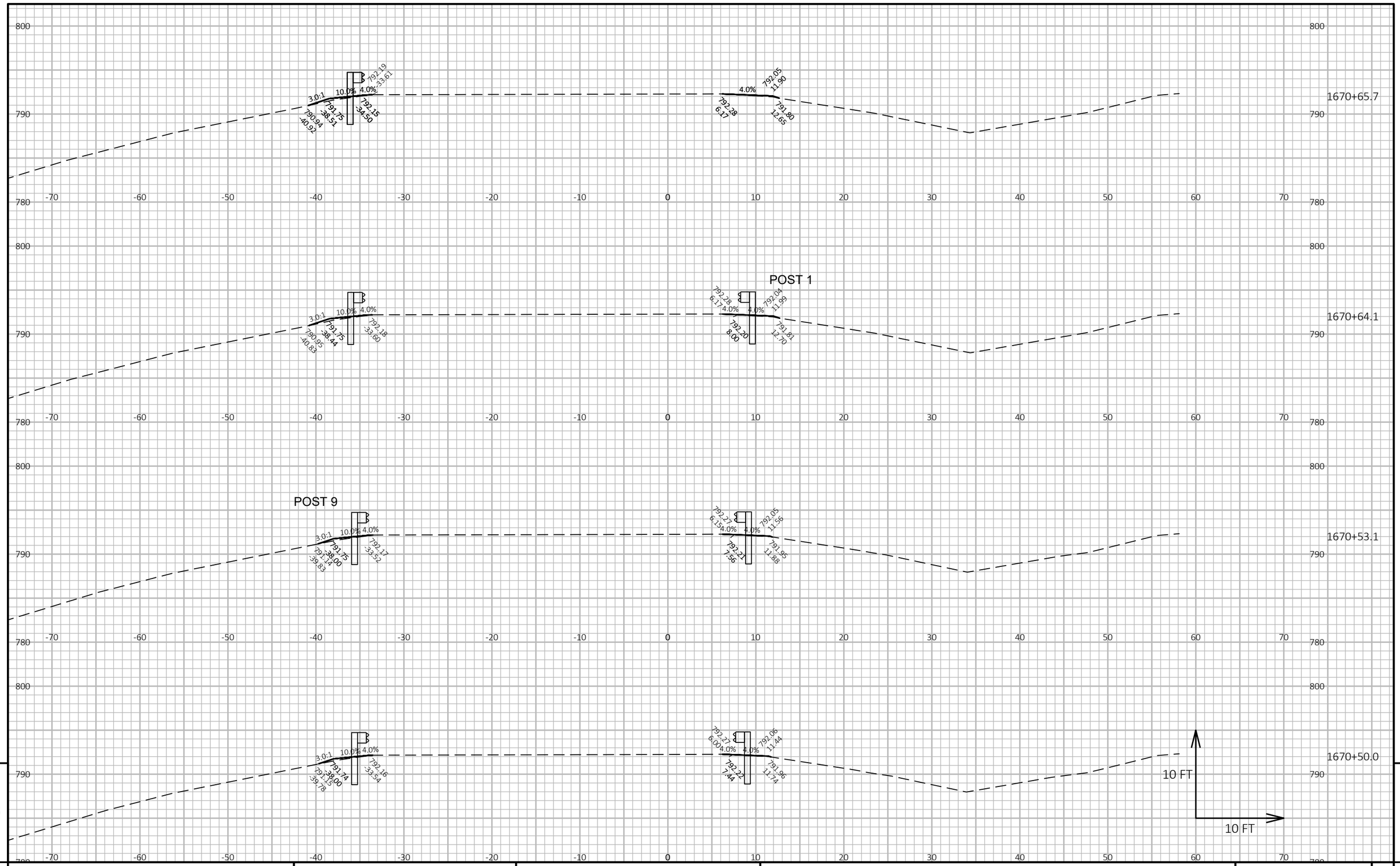
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH Z	SHEET 271	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ CTH Z 3

PLOT DATE : 6/14/2021 10:47 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

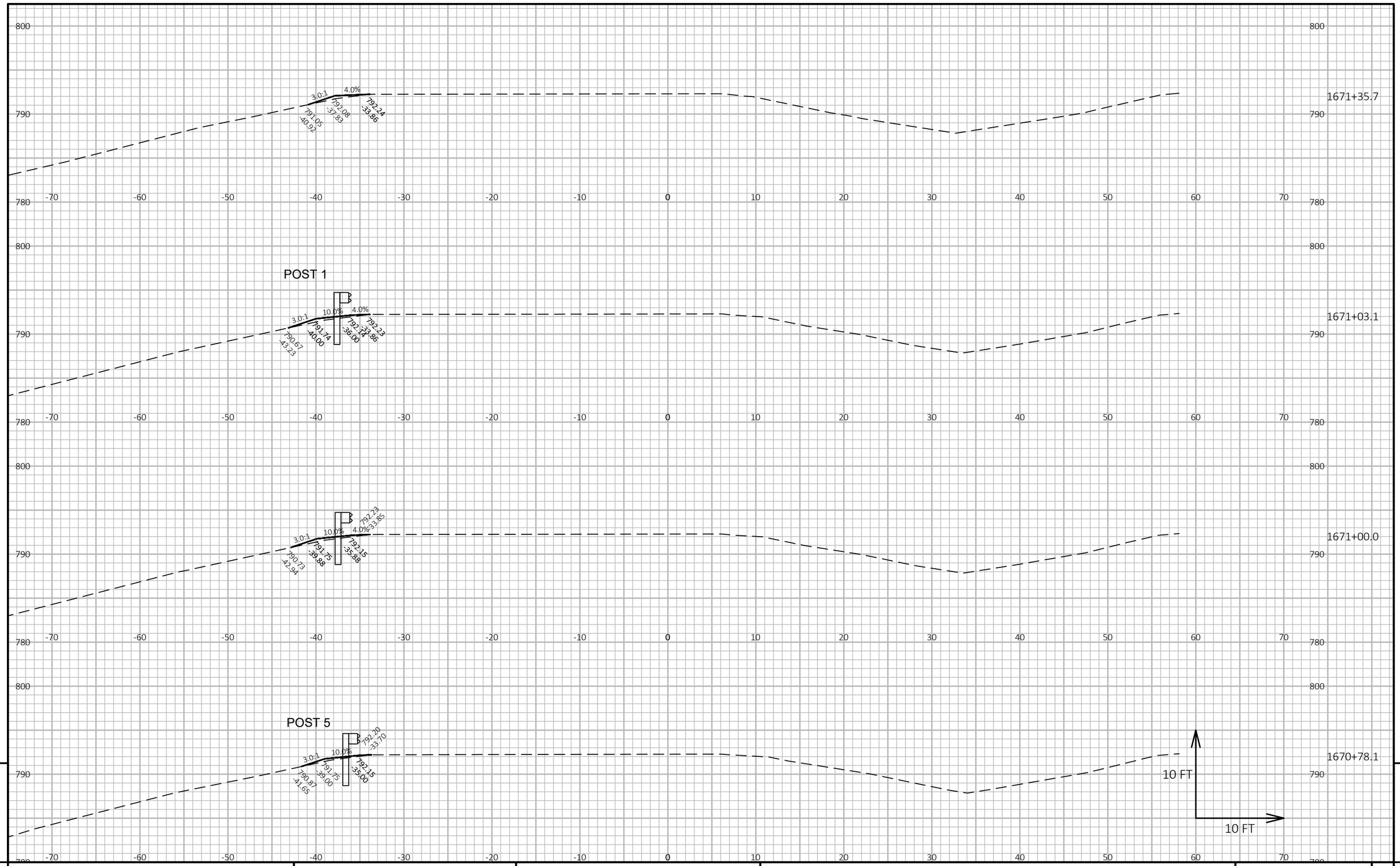
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH Z	SHEET 272	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ CTH Z 4

PLOT DATE : 6/14/2021 10:47 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

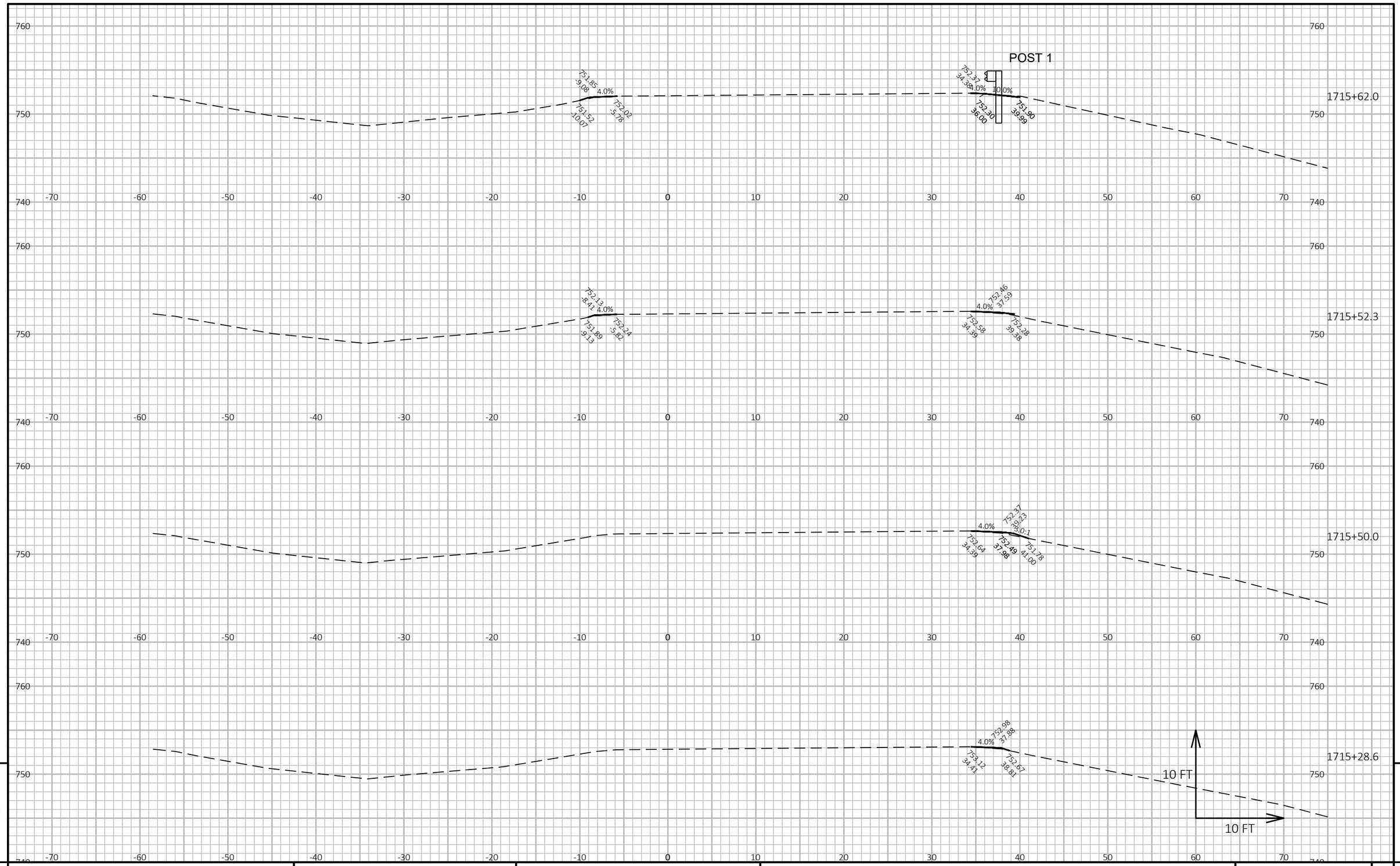
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH Z	SHEET 273	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ CTH Z 5

PLOT DATE : 6/14/2021 10:48 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

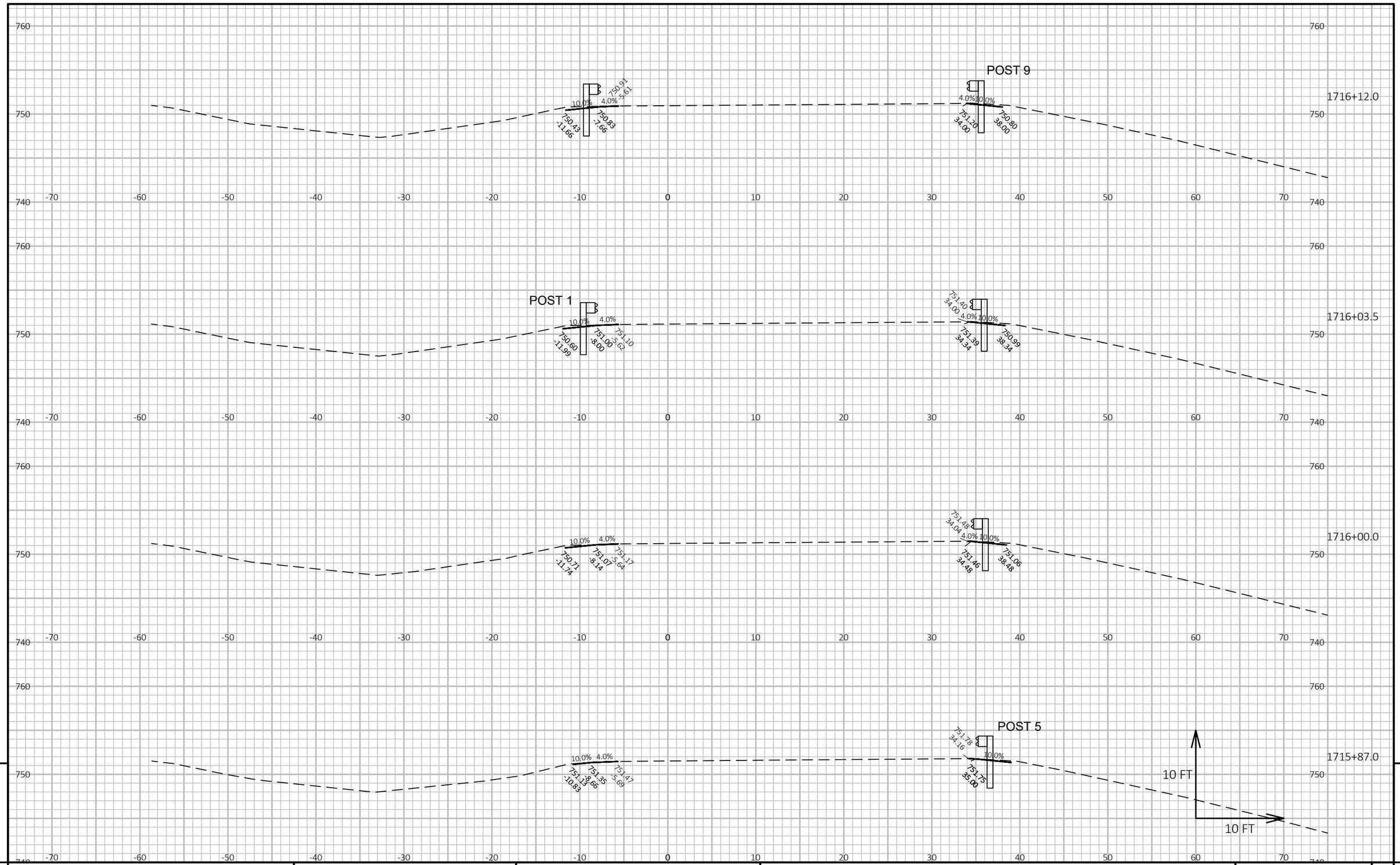
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT SCHLEY ROAD	SHEET 274	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Schley 1

PLOT DATE : 6/14/2021 10:48 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

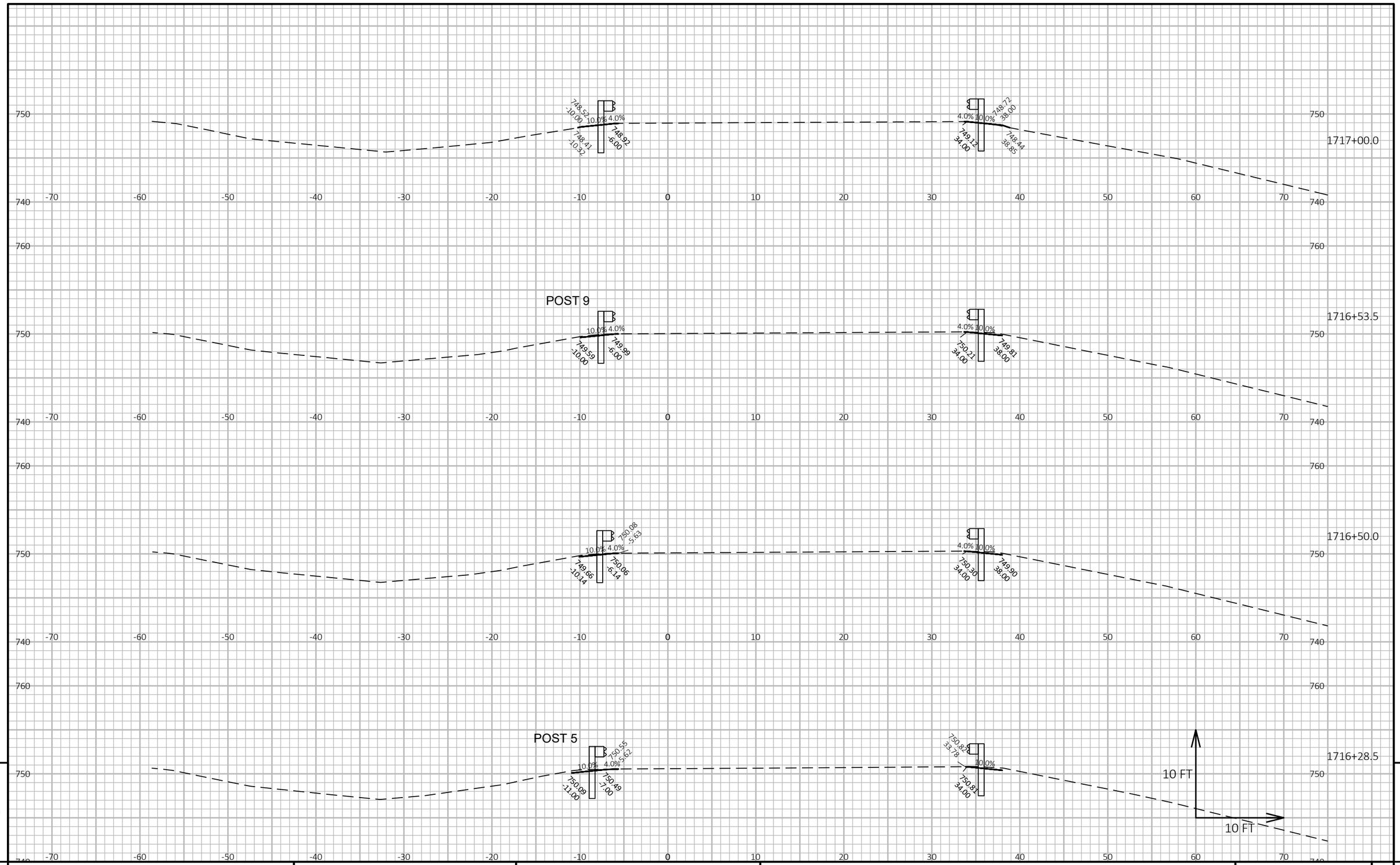
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT SCHLEY ROAD	SHEET 275	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Schley 2

PLOT DATE : 6/14/2021 10:49 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

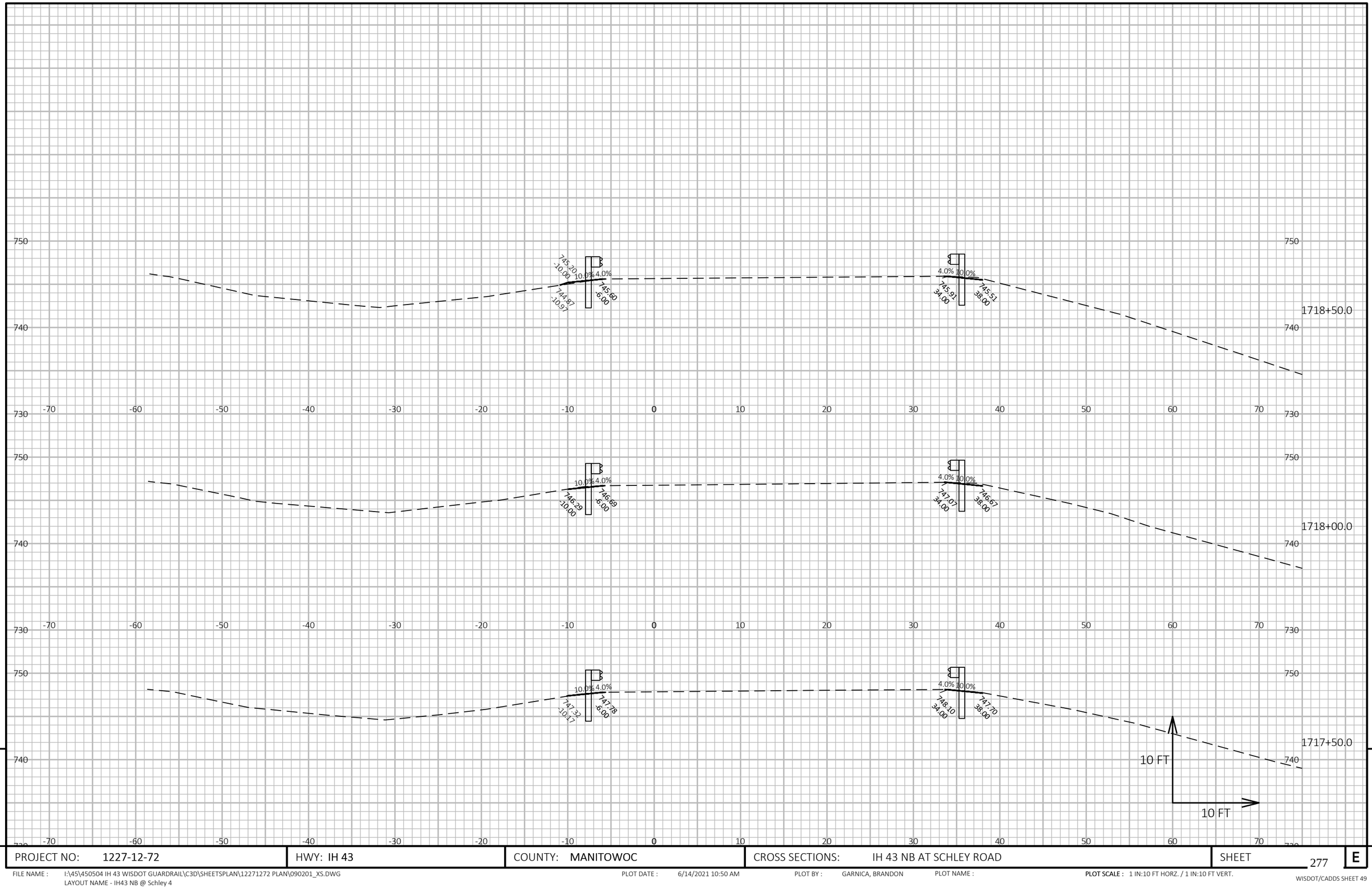
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT SCHLEY ROAD	SHEET 276	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Schley 3

PLOT DATE : 6/14/2021 10:50 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

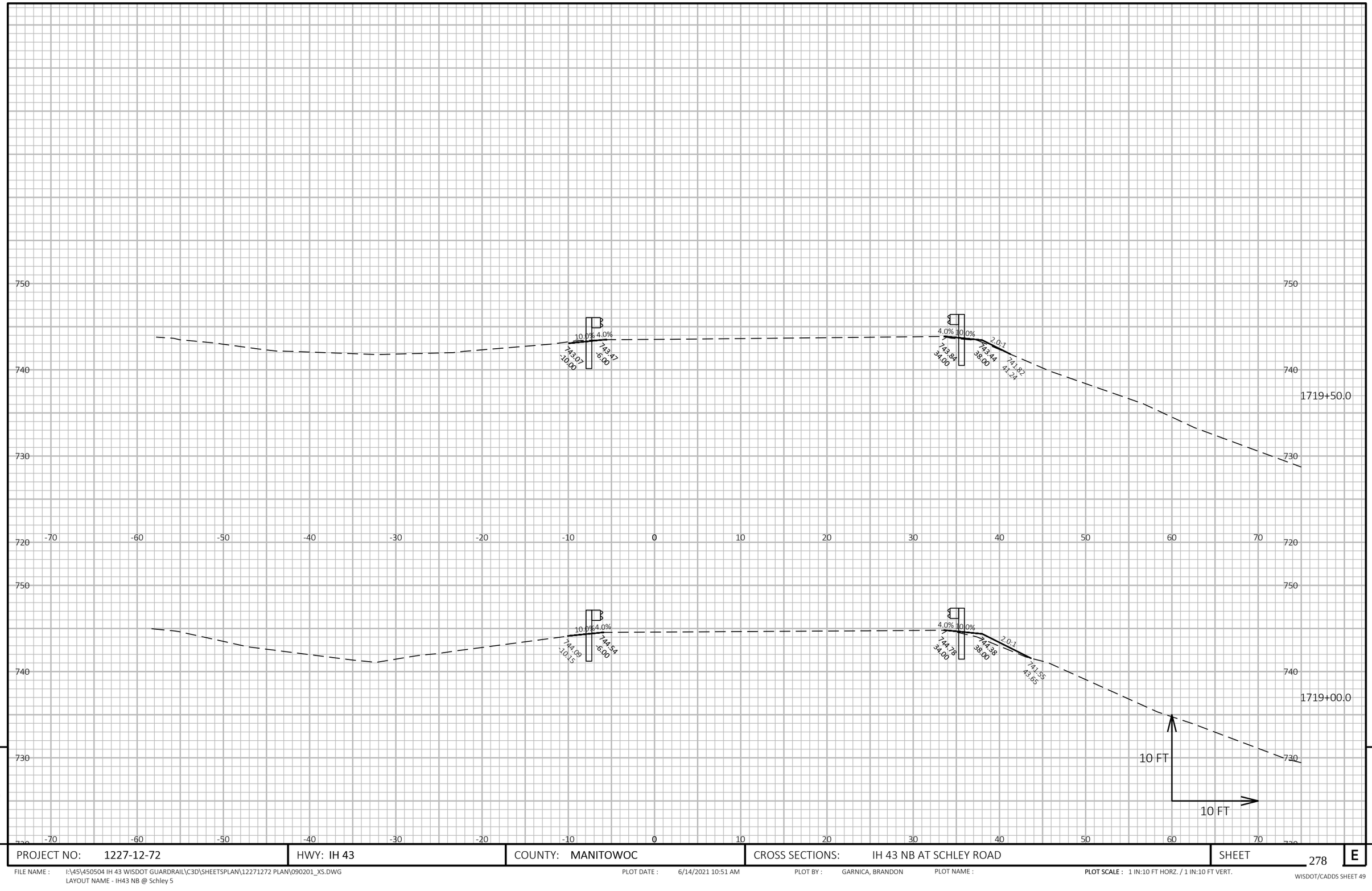
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT SCHLEY ROAD	SHEET 277	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Schley 4

PLOT DATE : 6/14/2021 10:50 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

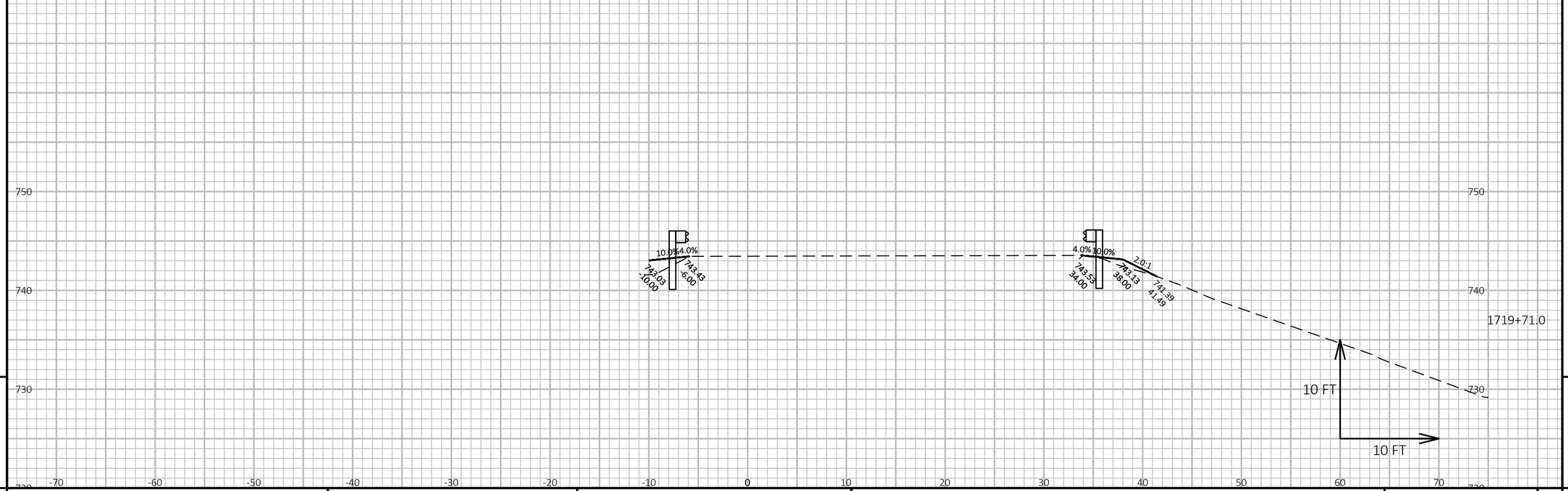
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT SCHLEY ROAD	SHEET 278	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Schley 5

PLOT DATE : 6/14/2021 10:51 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

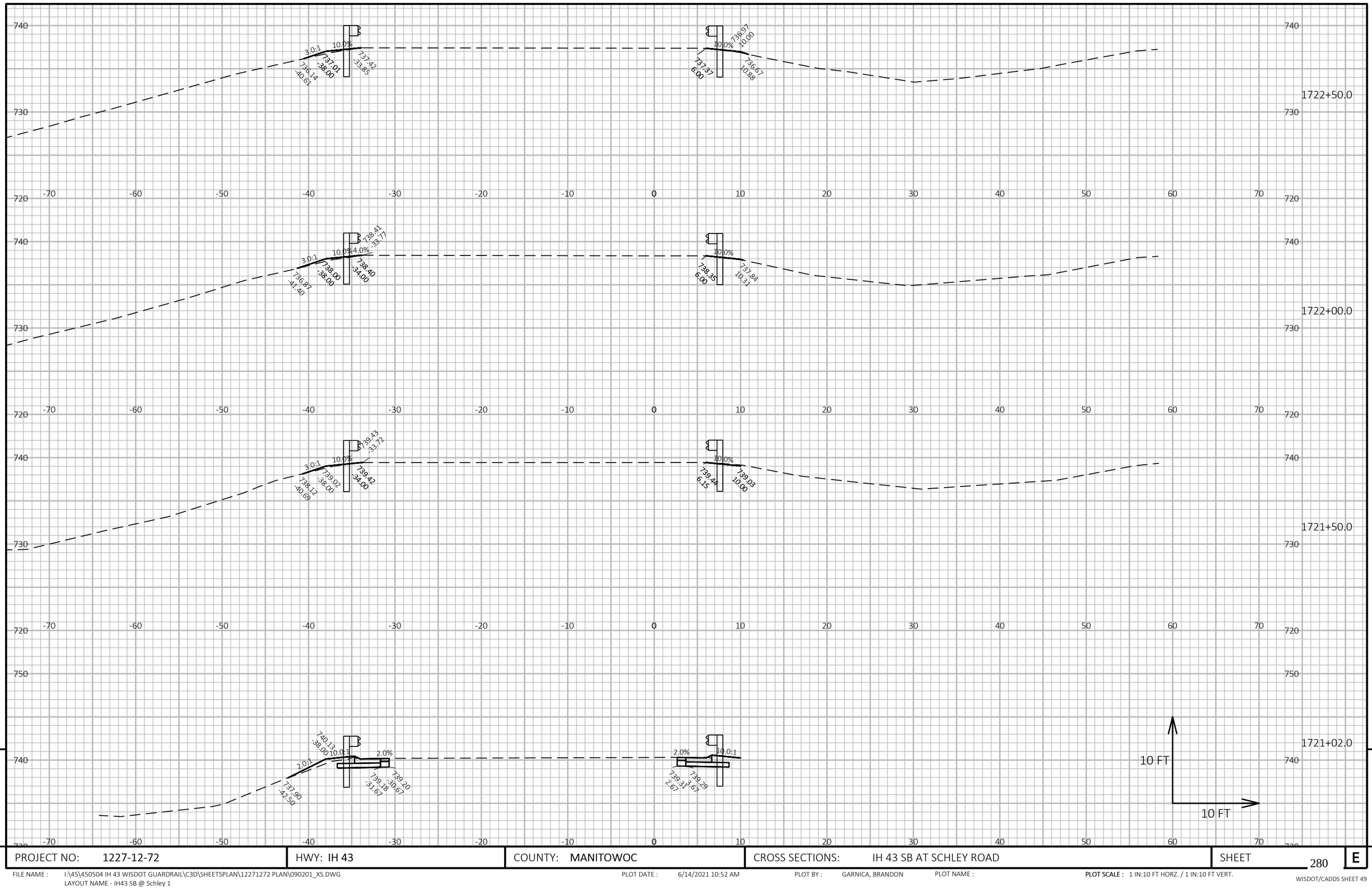
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT SCHLEY ROAD	SHEET 279	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Schley 6

PLOT DATE : 6/14/2021 10:51 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT SCHLEY ROAD	SHEET 280	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Schley 1

PLOT DATE : 6/14/2021 10:52 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

POST 9

1724+19.5

1724+00.0

1723+50.0

1723+00.0

10 FT

10 FT

9

9

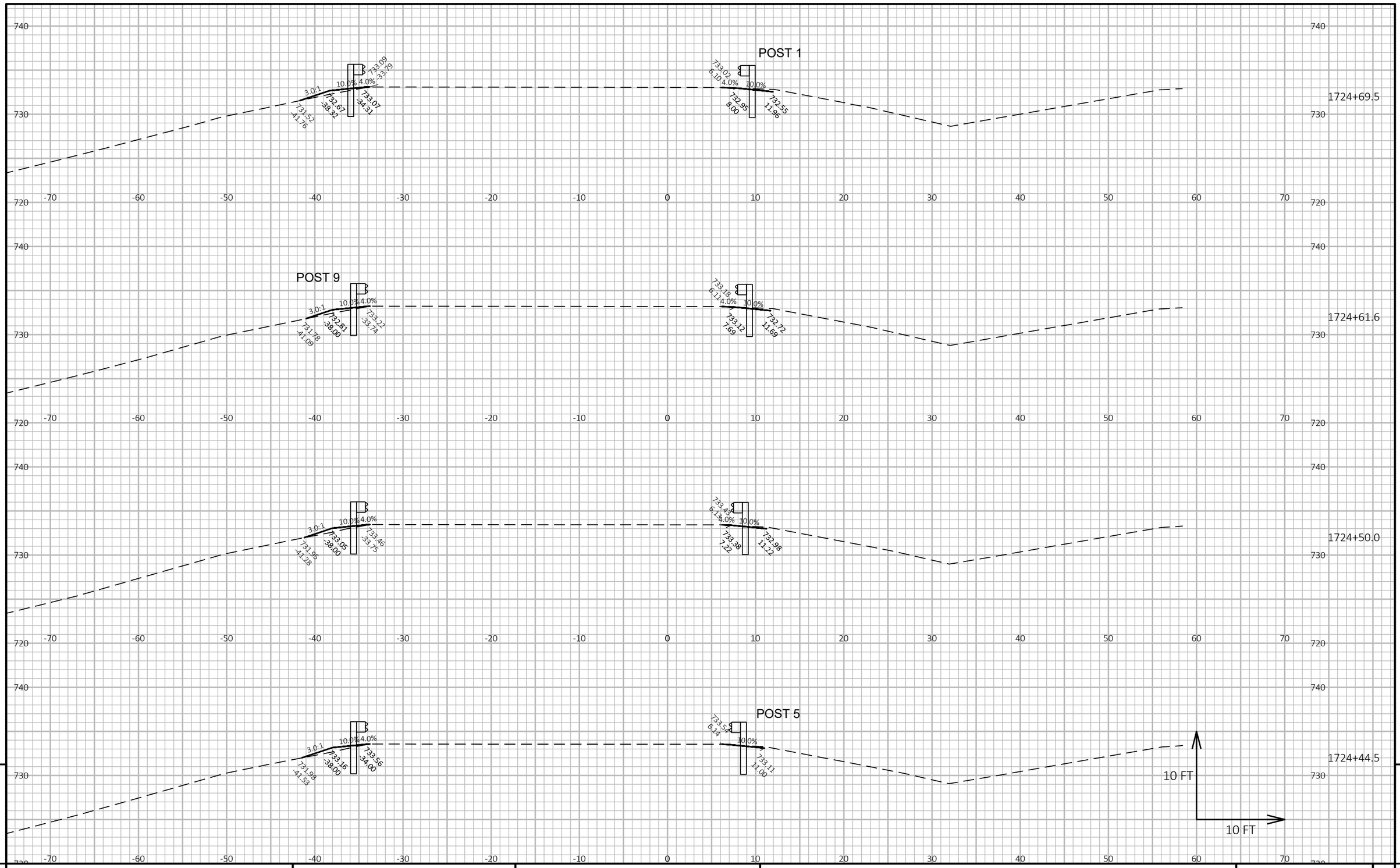
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT SCHLEY ROAD	SHEET 281	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Schley 2

PLOT DATE : 6/14/2021 10:52 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

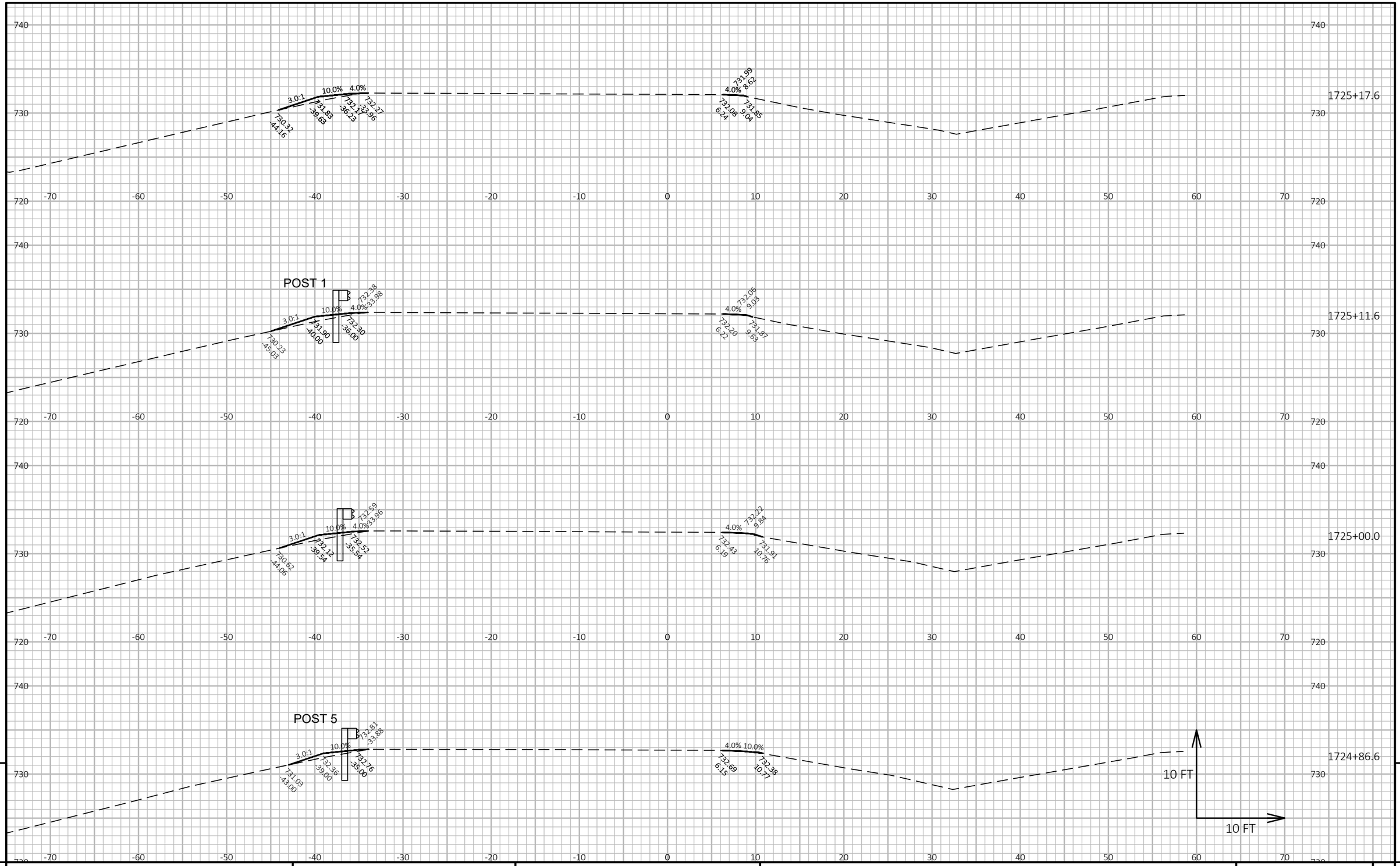
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT SCHLEY ROAD	SHEET 282	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Schley 3

PLOT DATE : 6/14/2021 10:53 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT SCHLEY ROAD	SHEET 283	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Schley 4

PLOT DATE : 6/14/2021 10:53 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

740
730
720
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

3.0:1 4.0%
731.14
36.29
731.24
33.77
730.40
38.51

1725+70.5

740
730
720
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

731.42
37.58
3.0:1 4.0%
731.53
36.48
731.64
33.84
730.13
41.48

1725+50.0

10 FT
10 FT

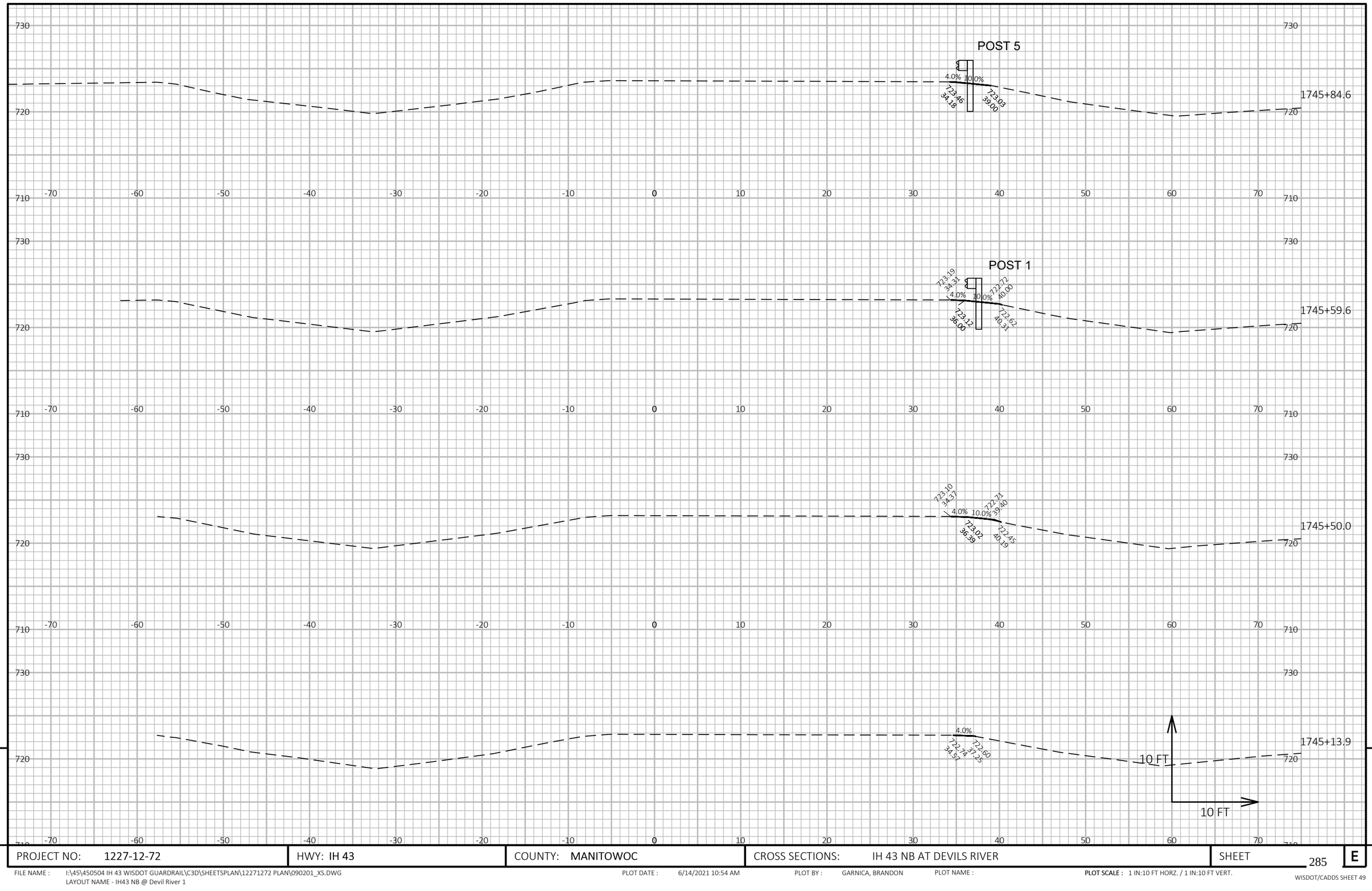
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT SCHLEY ROAD	SHEET 284	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Schley 5

PLOT DATE : 6/14/2021 10:54 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

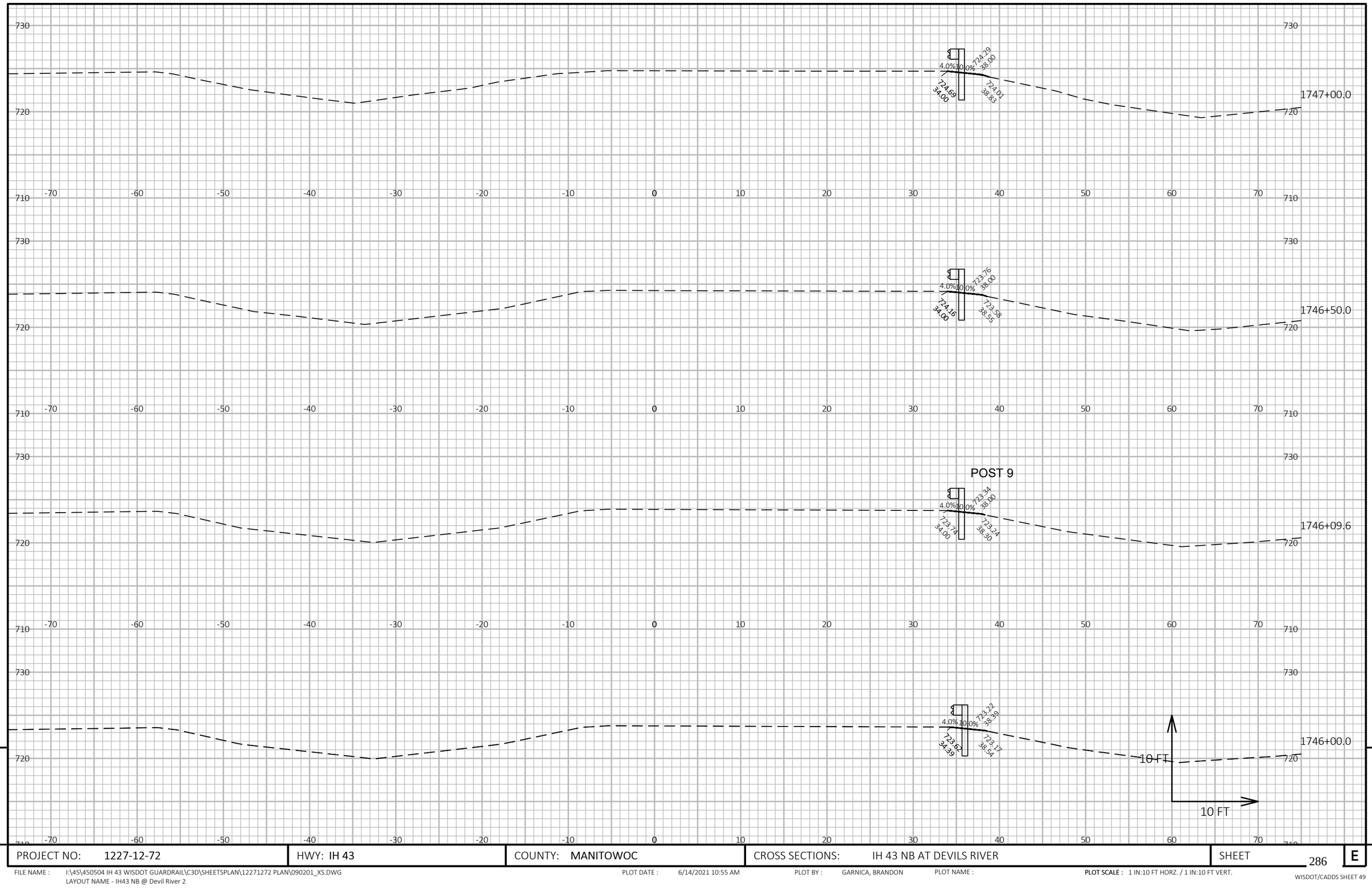
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER	SHEET 285	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River 1

PLOT DATE : 6/14/2021 10:54 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

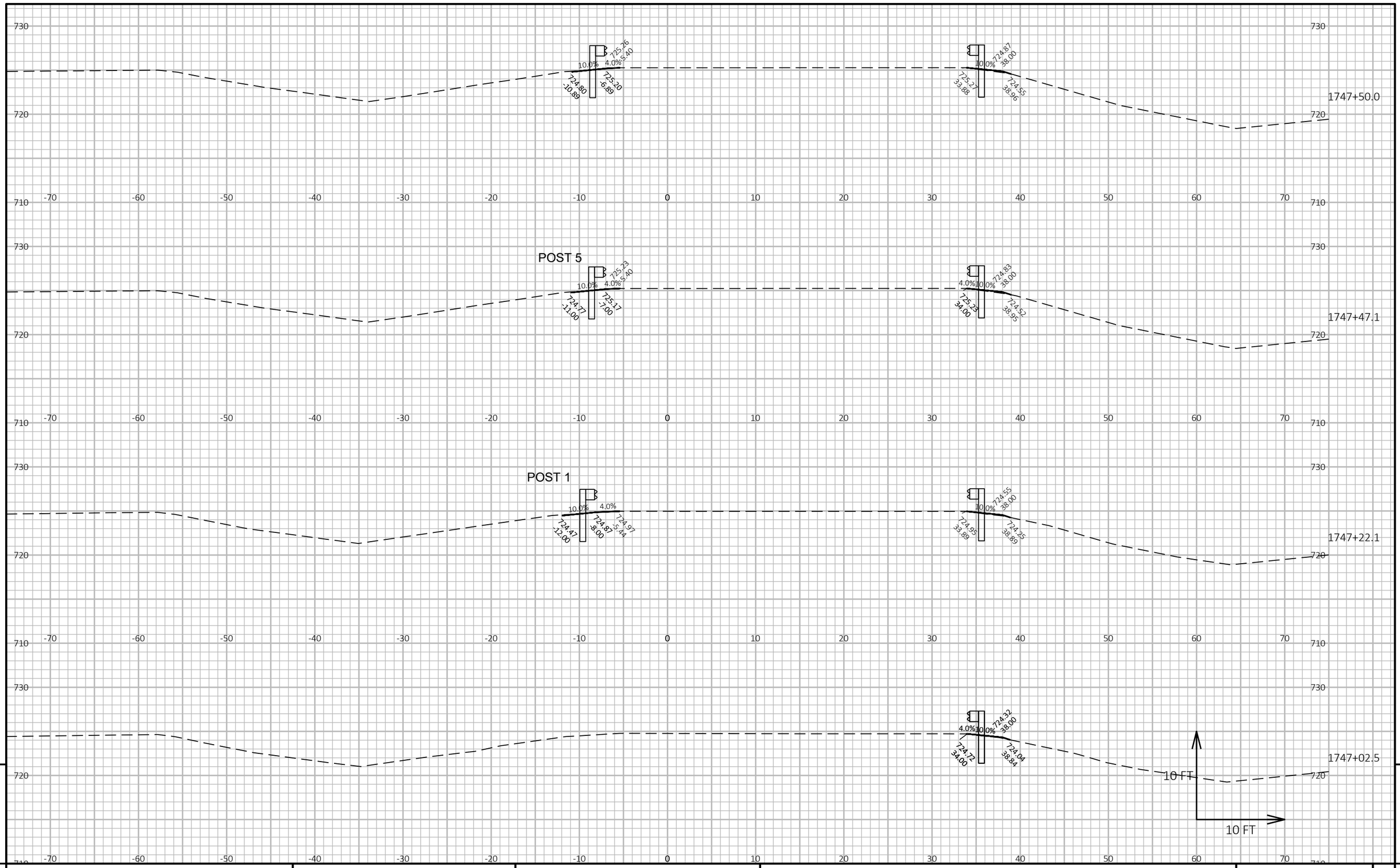
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER	SHEET 286	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River 2

PLOT DATE : 6/14/2021 10:55 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

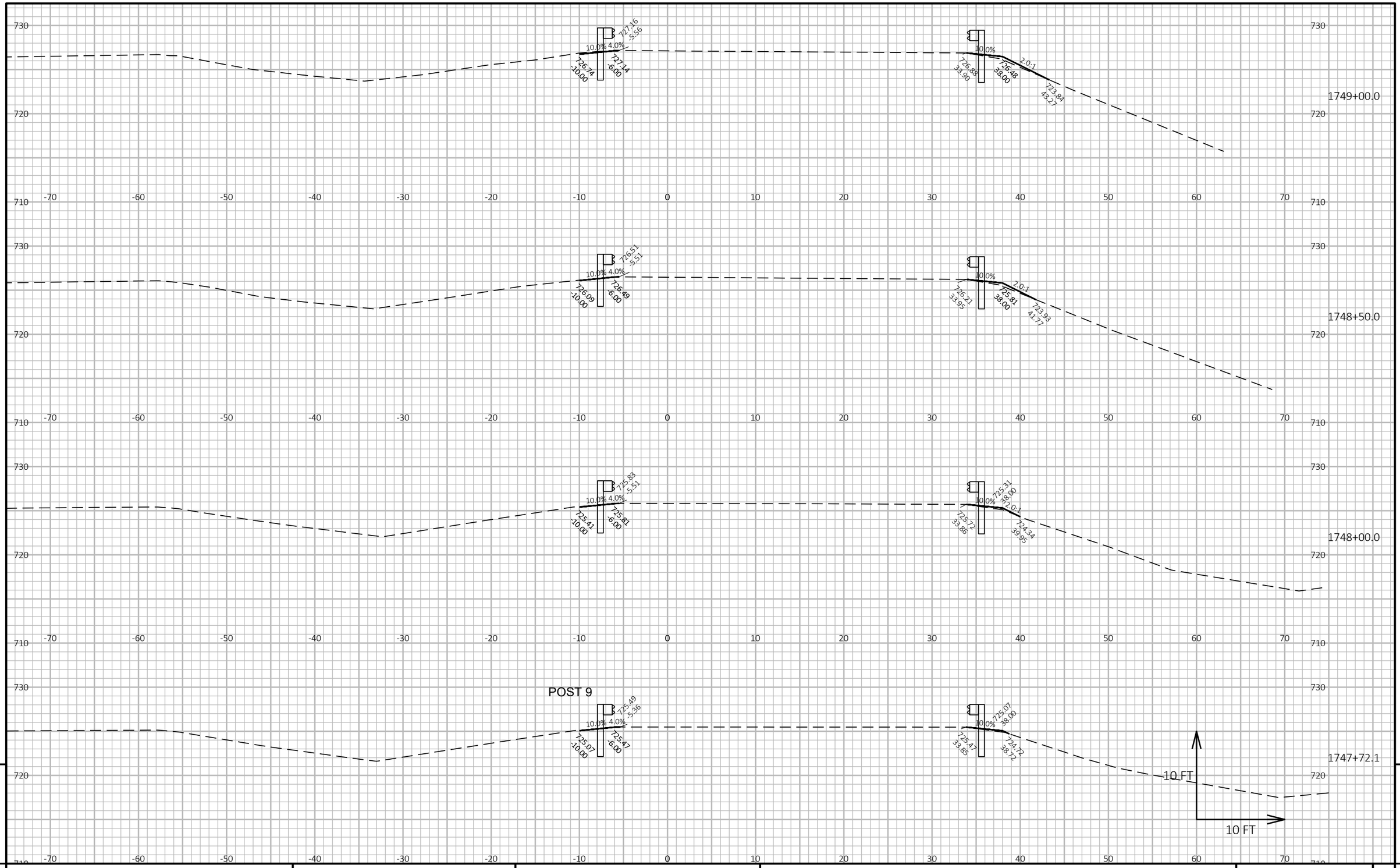


PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER	SHEET 287	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River 3

PLOT DATE : 6/14/2021 10:55 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

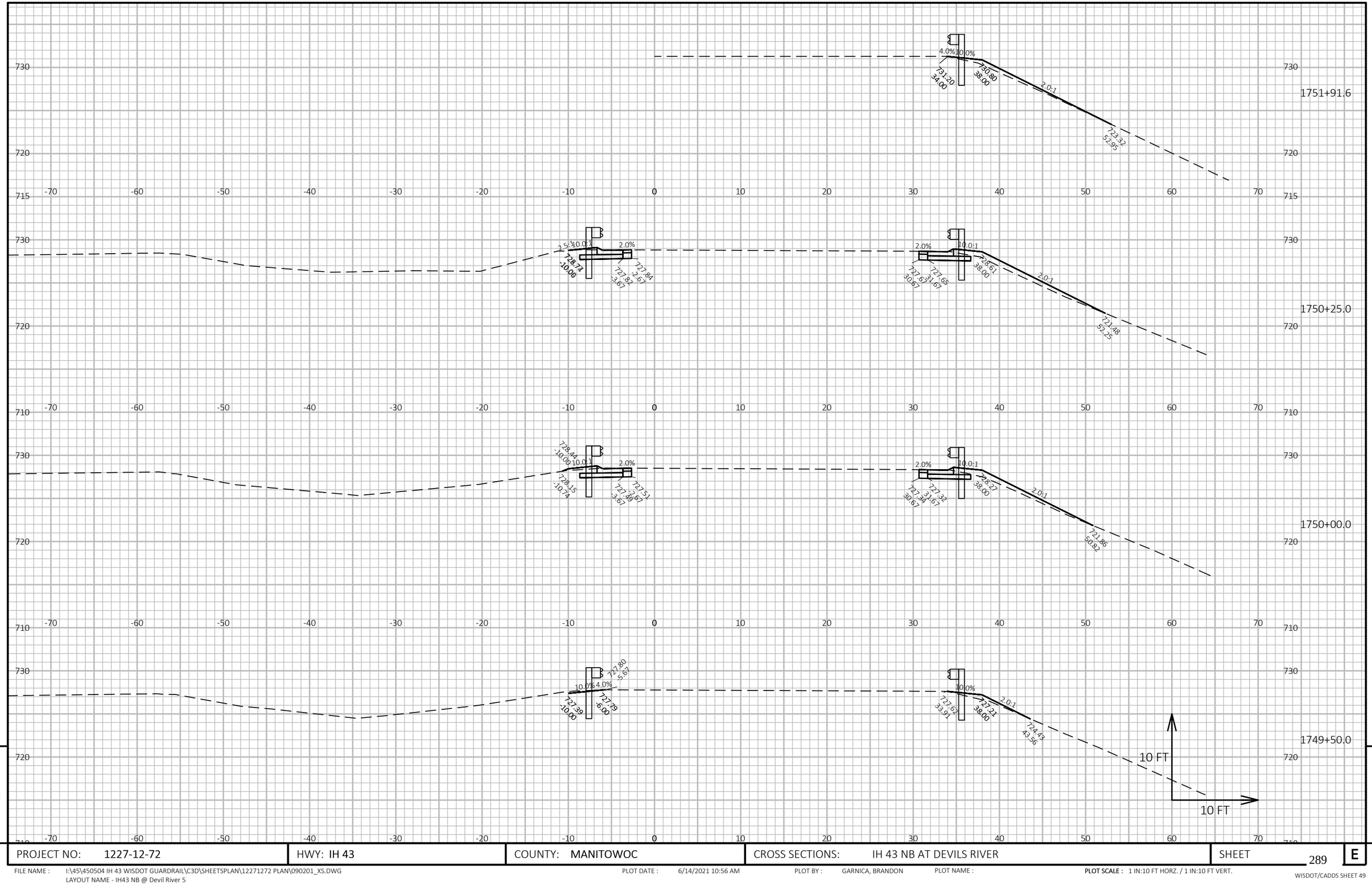
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER	SHEET 288	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River 4

PLOT DATE : 6/14/2021 10:55 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

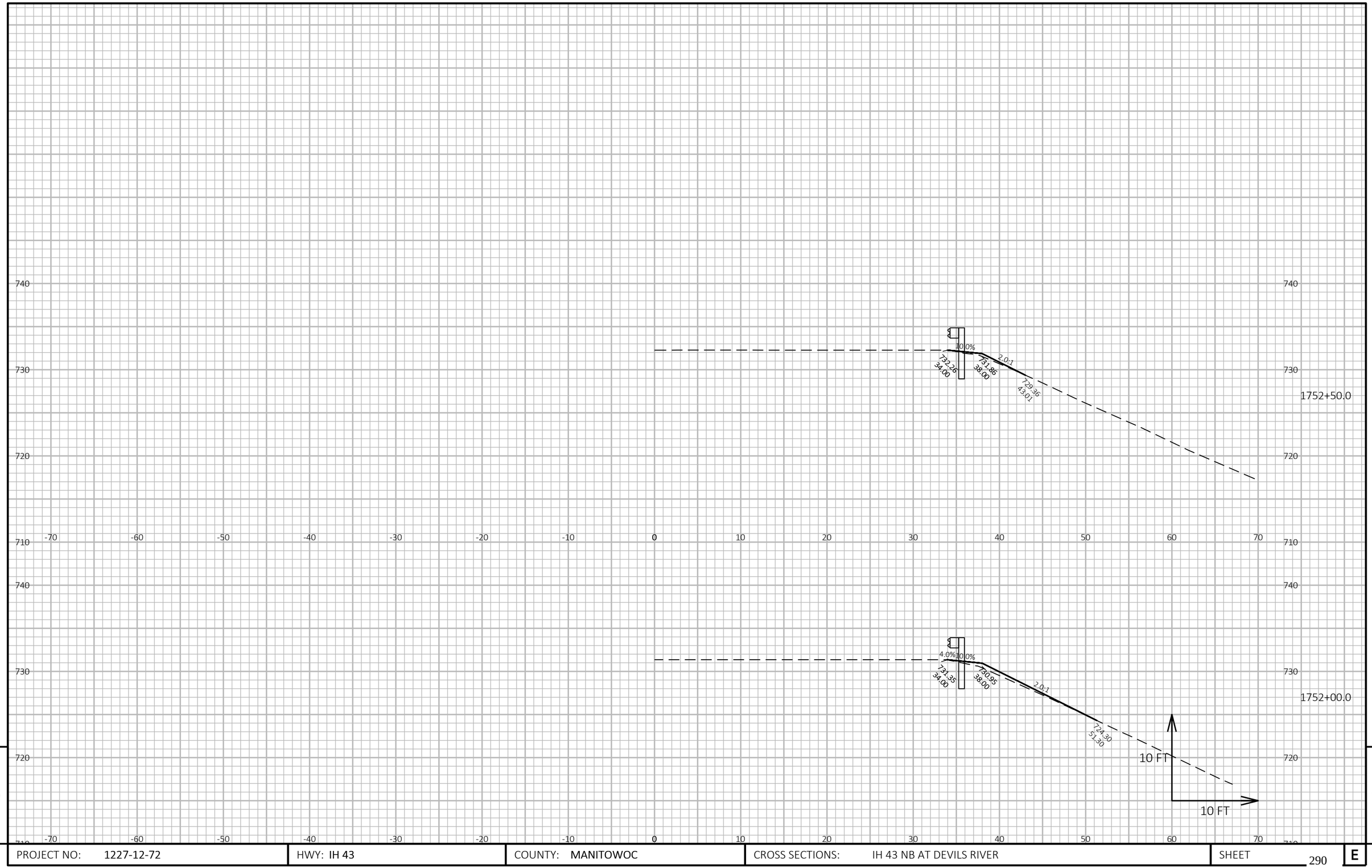
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER	SHEET 289	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River 5

PLOT DATE : 6/14/2021 10:56 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

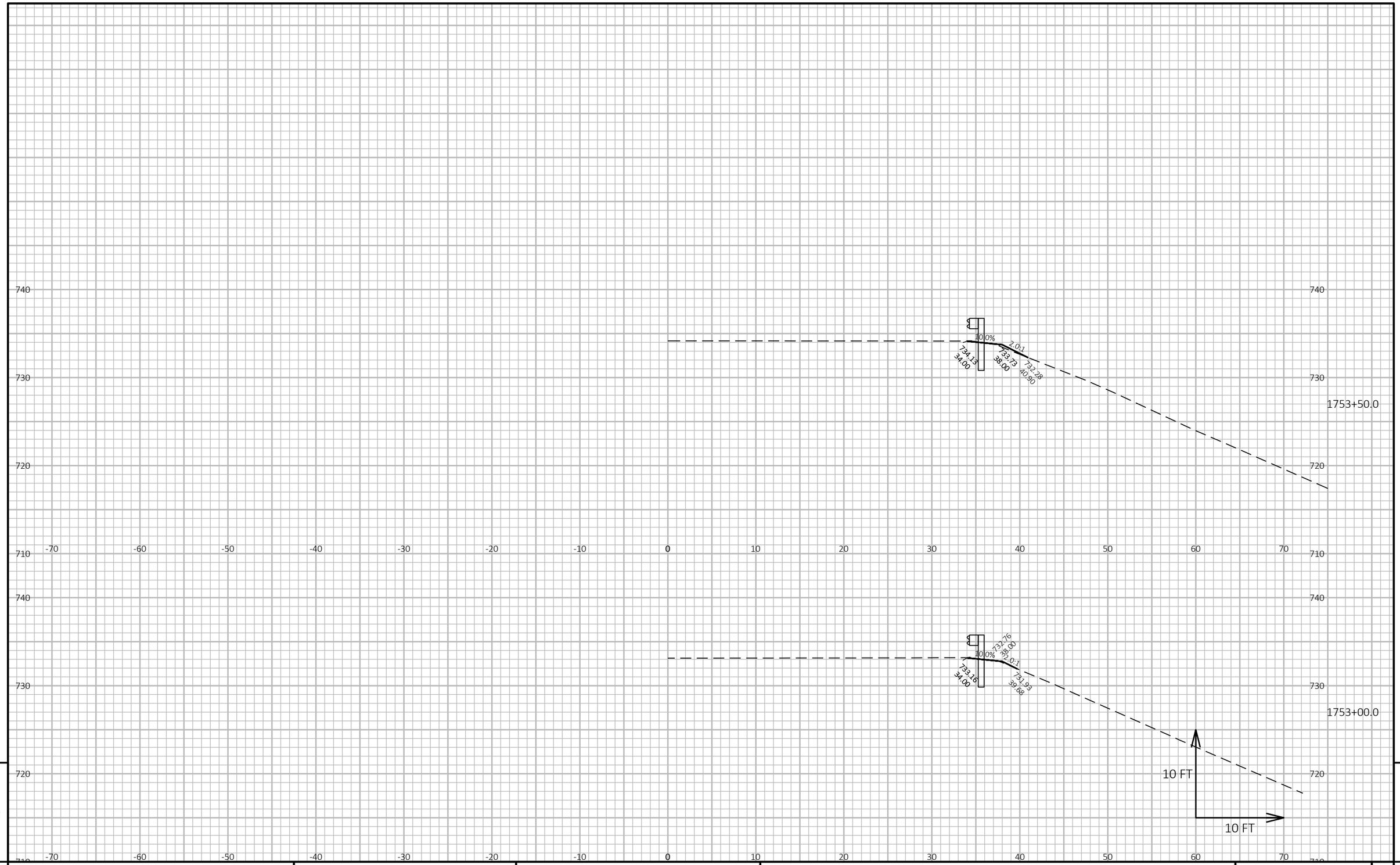
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER	SHEET 290	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River 6

PLOT DATE : 6/14/2021 10:56 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

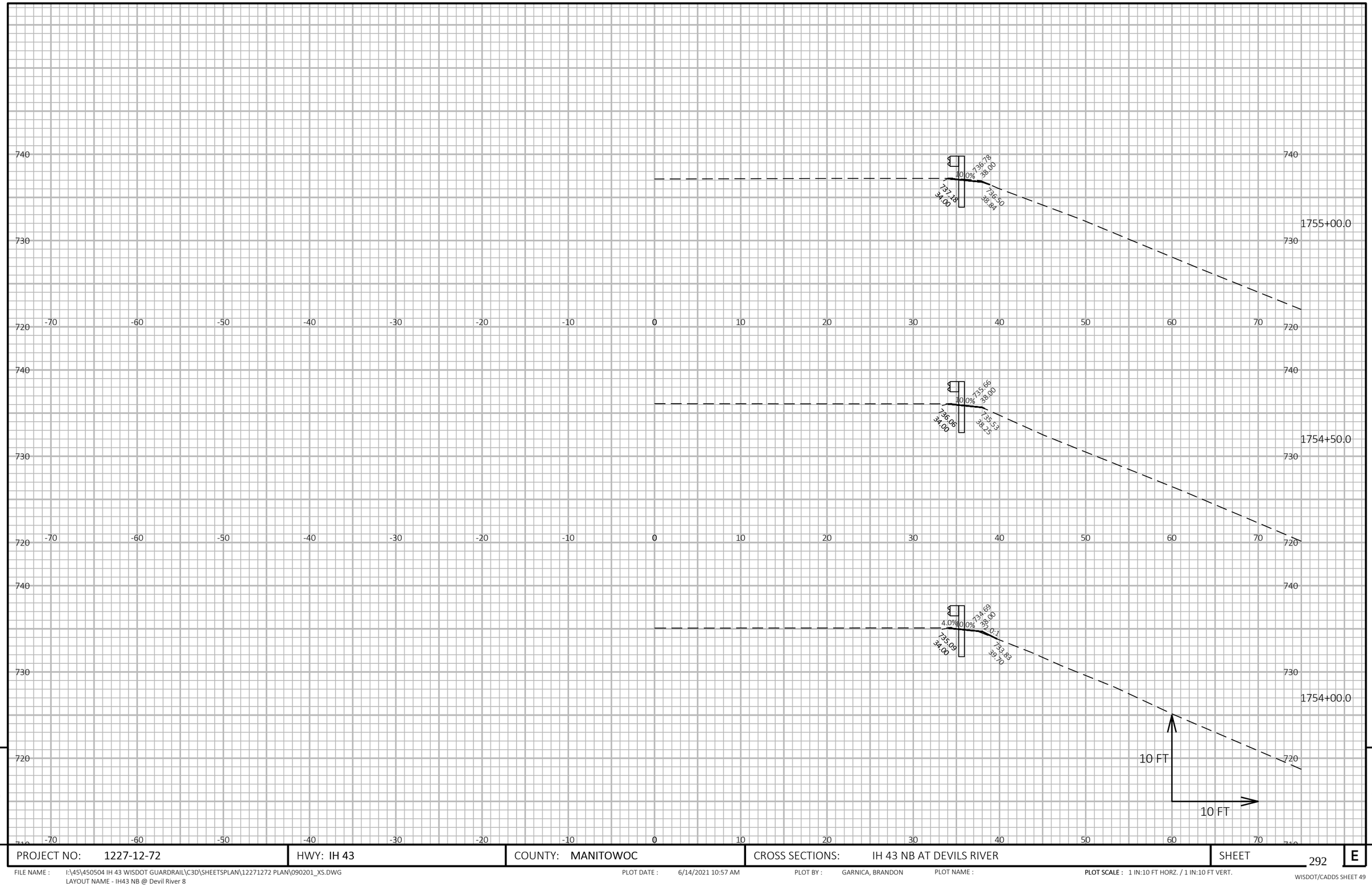
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER	SHEET 291	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River 7

PLOT DATE : 6/14/2021 10:57 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

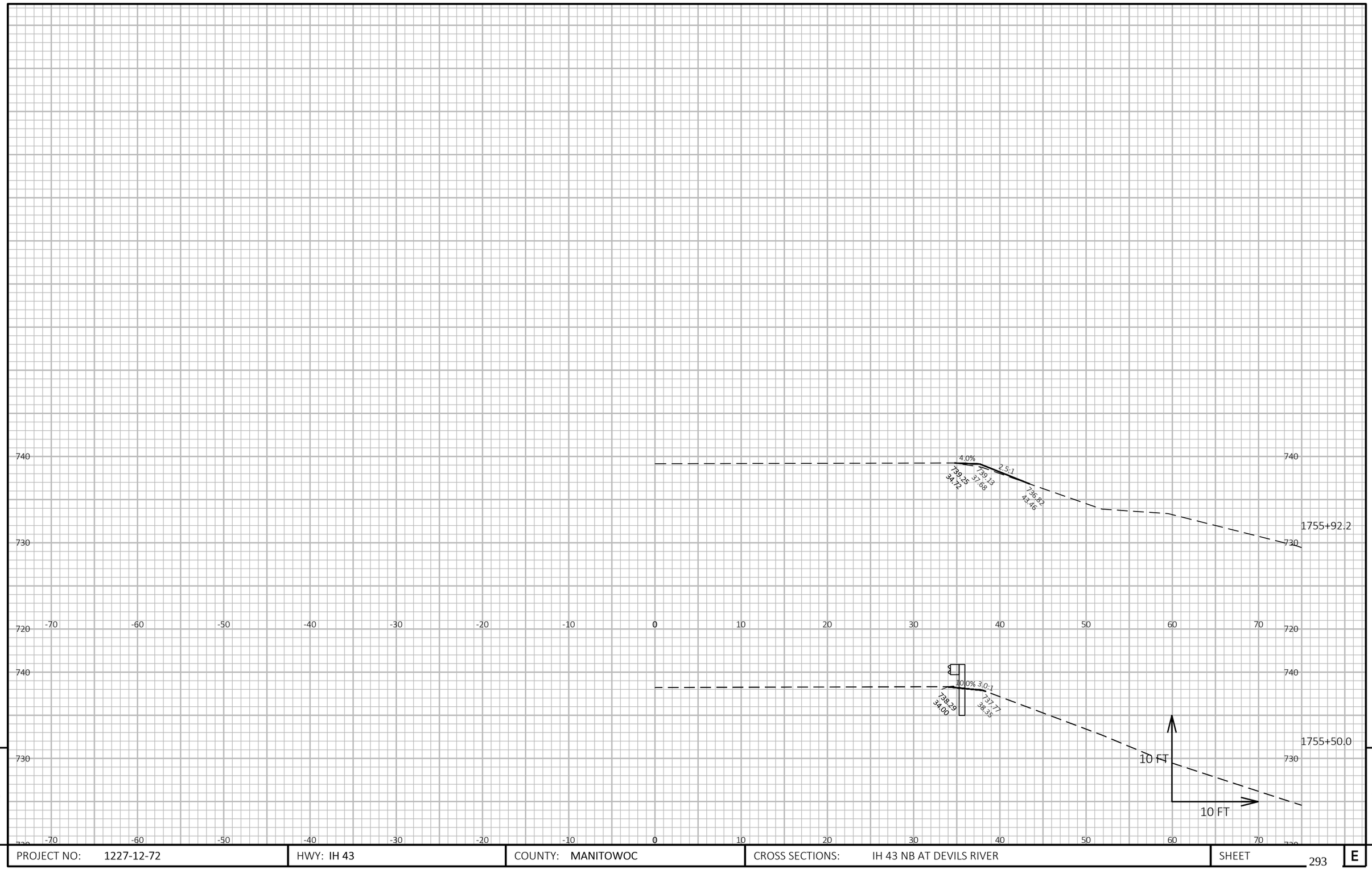
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER	SHEET 292	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River 8

PLOT DATE : 6/14/2021 10:57 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

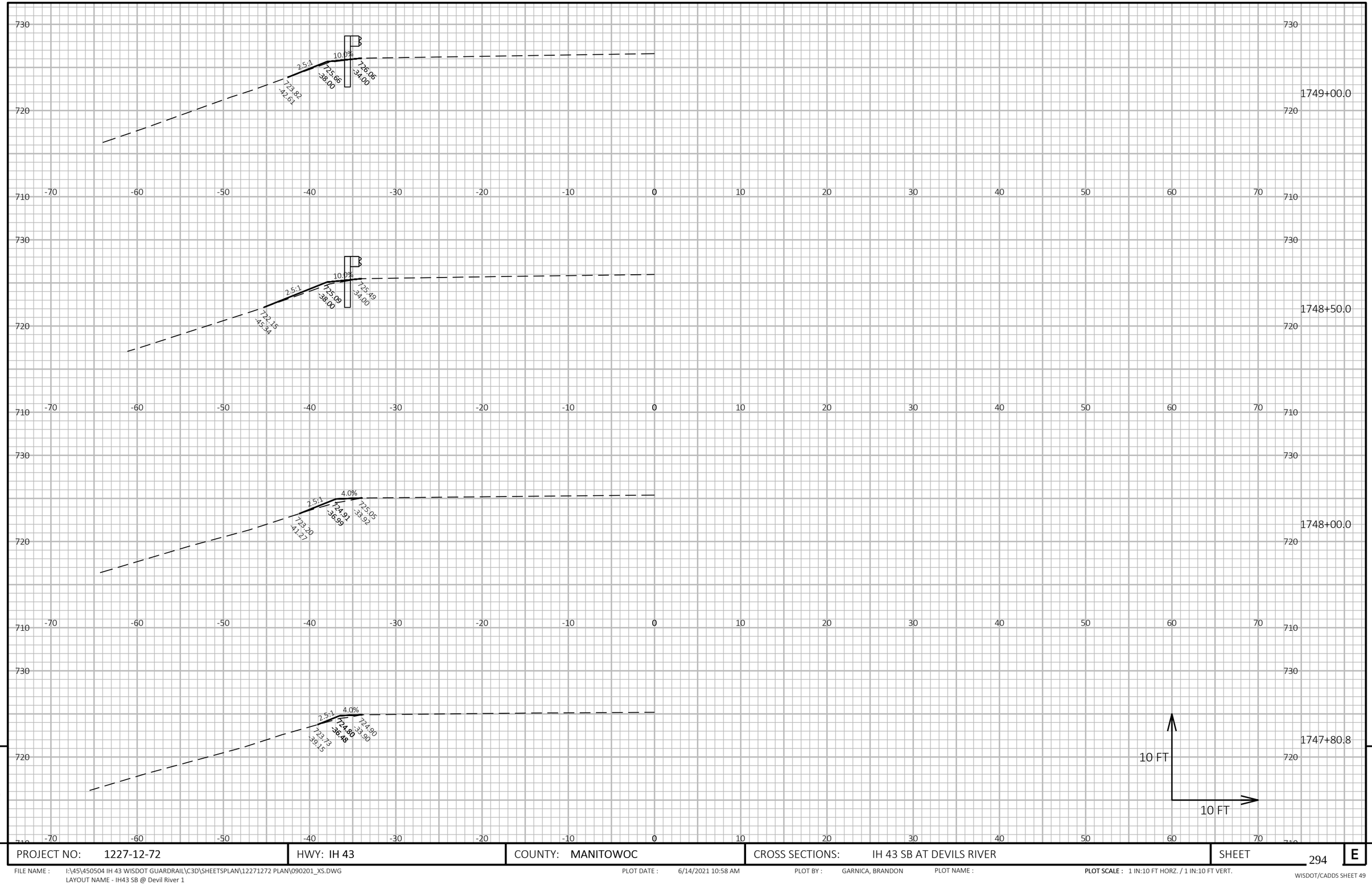
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER	SHEET 293	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River 9

PLOT DATE : 6/14/2021 10:58 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

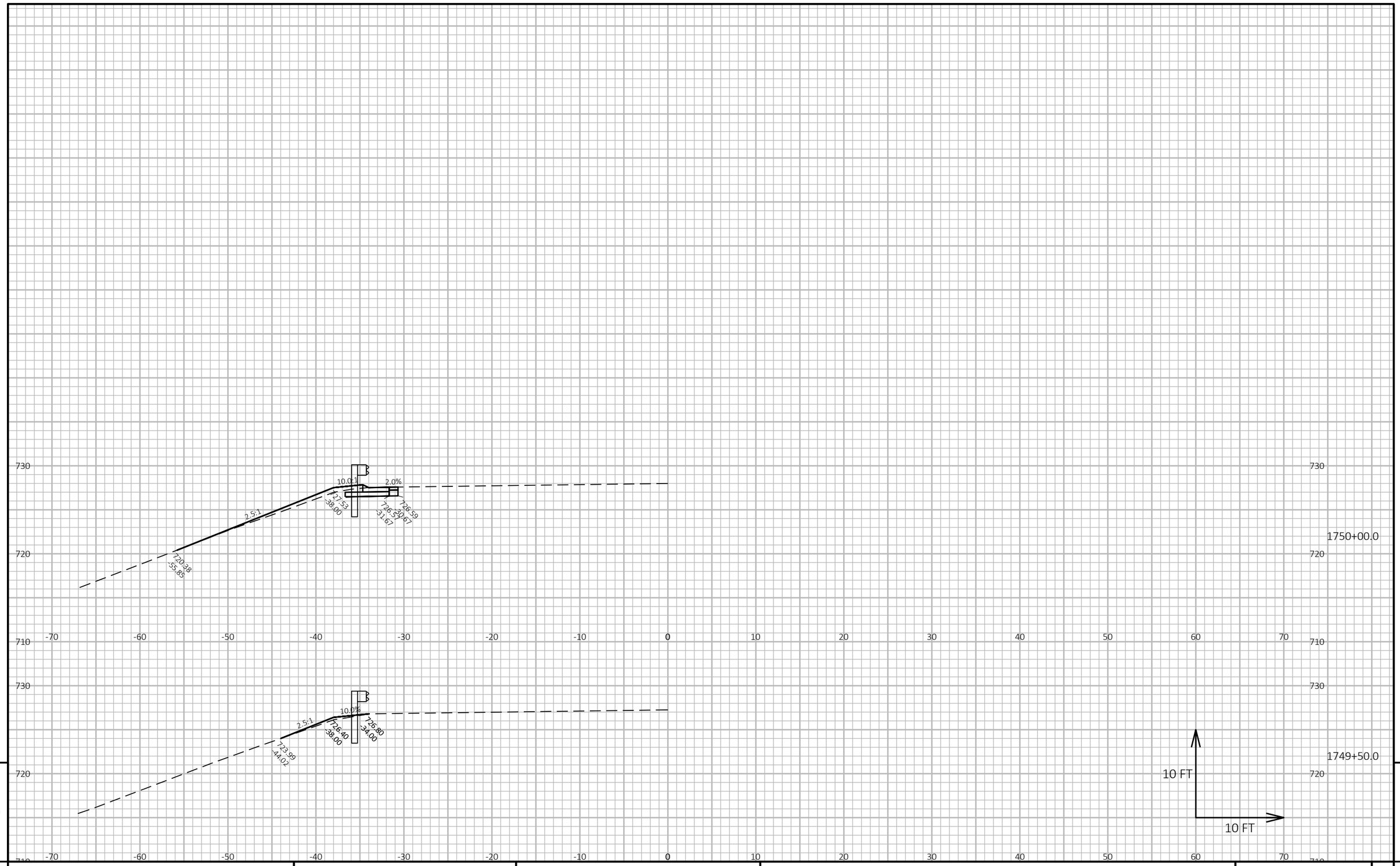
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER	SHEET 294	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River 1

PLOT DATE : 6/14/2021 10:58 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

9

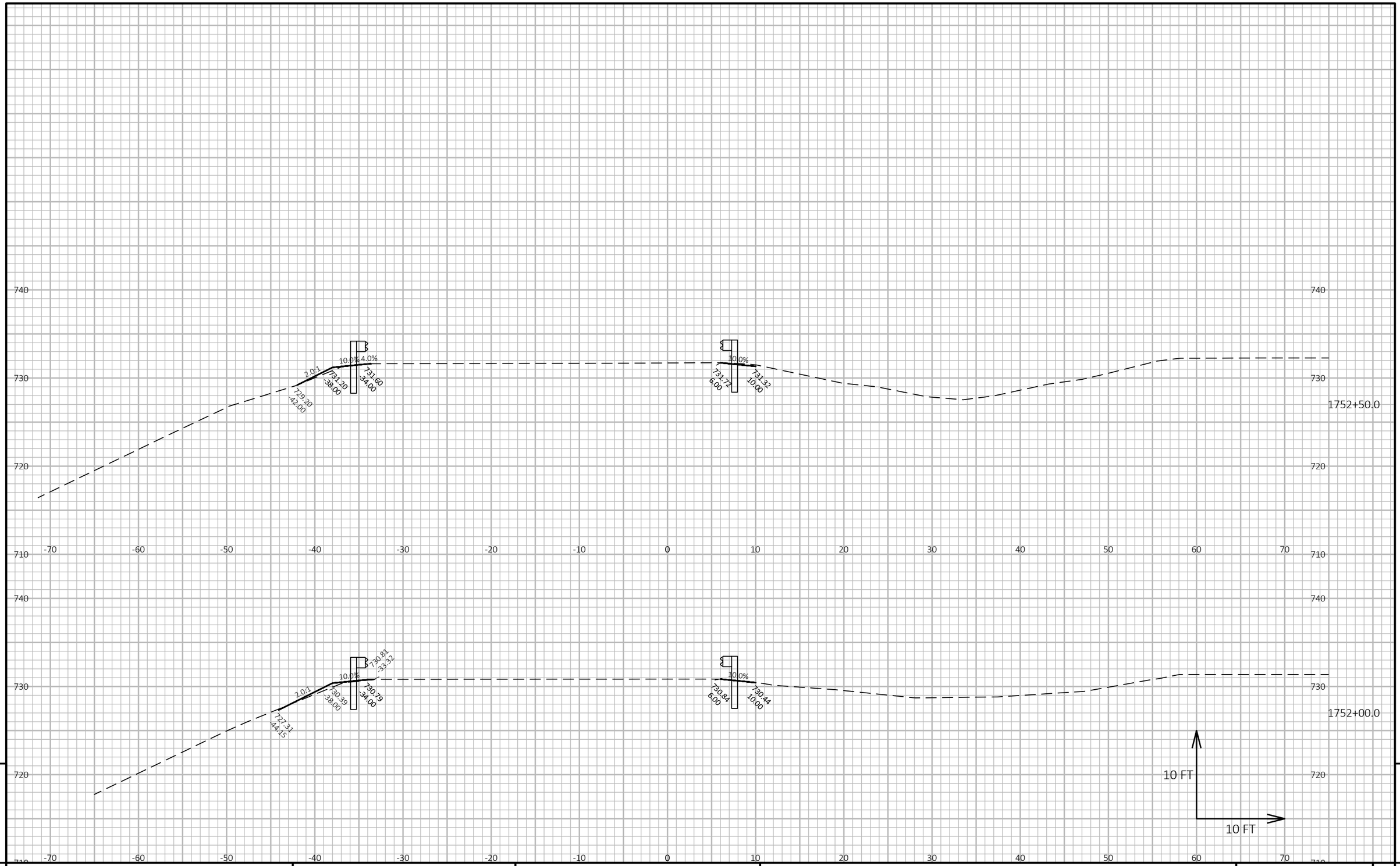
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER	SHEET 295	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River 2

PLOT DATE : 6/14/2021 10:59 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

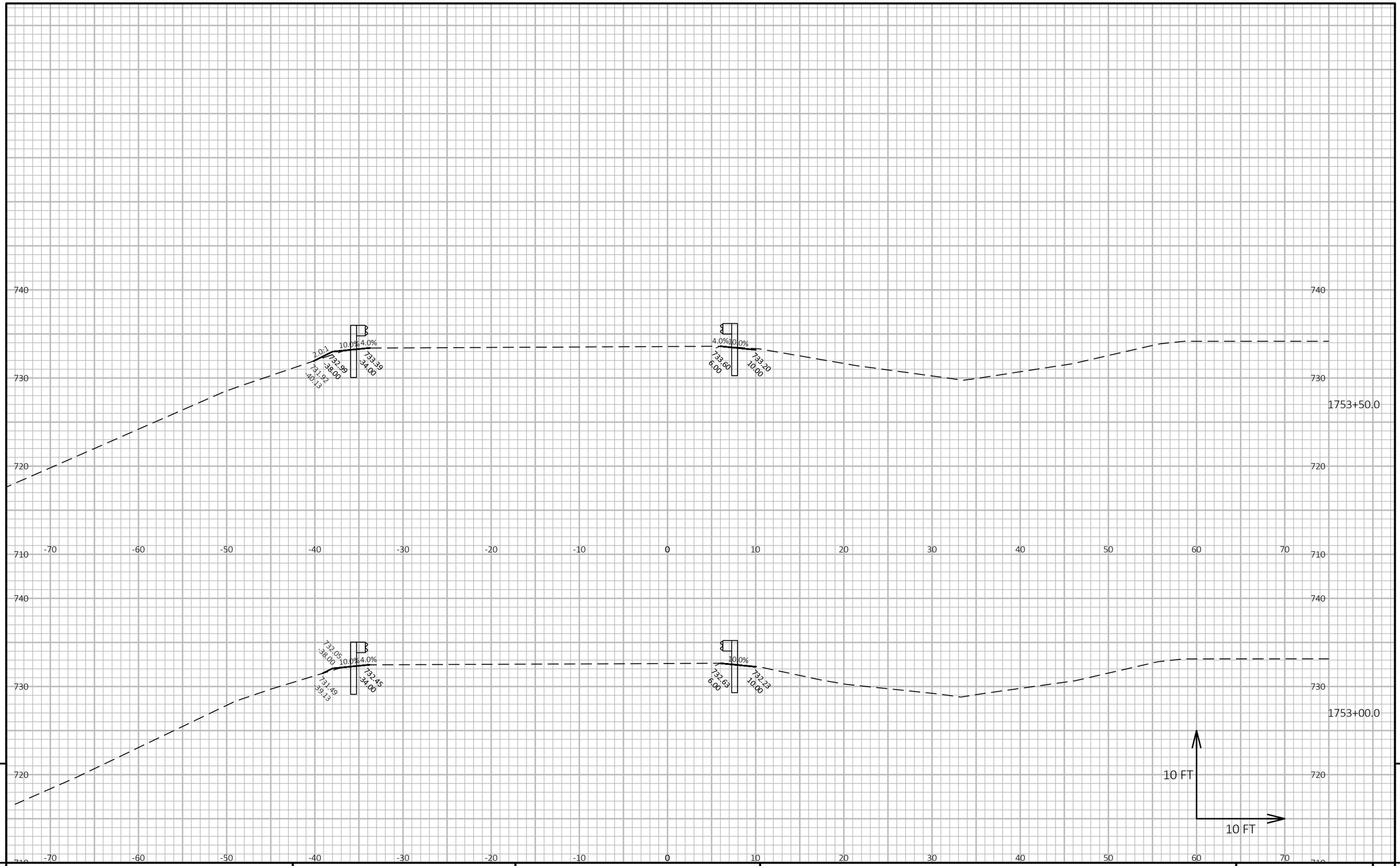
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER	SHEET 296	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River 3

PLOT DATE : 6/14/2021 10:59 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER	SHEET 297	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River 4

PLOT DATE : 6/14/2021 11:00 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

POST 9

1754+65.6

1754+50.0

1754+00.0

10 FT

10 FT

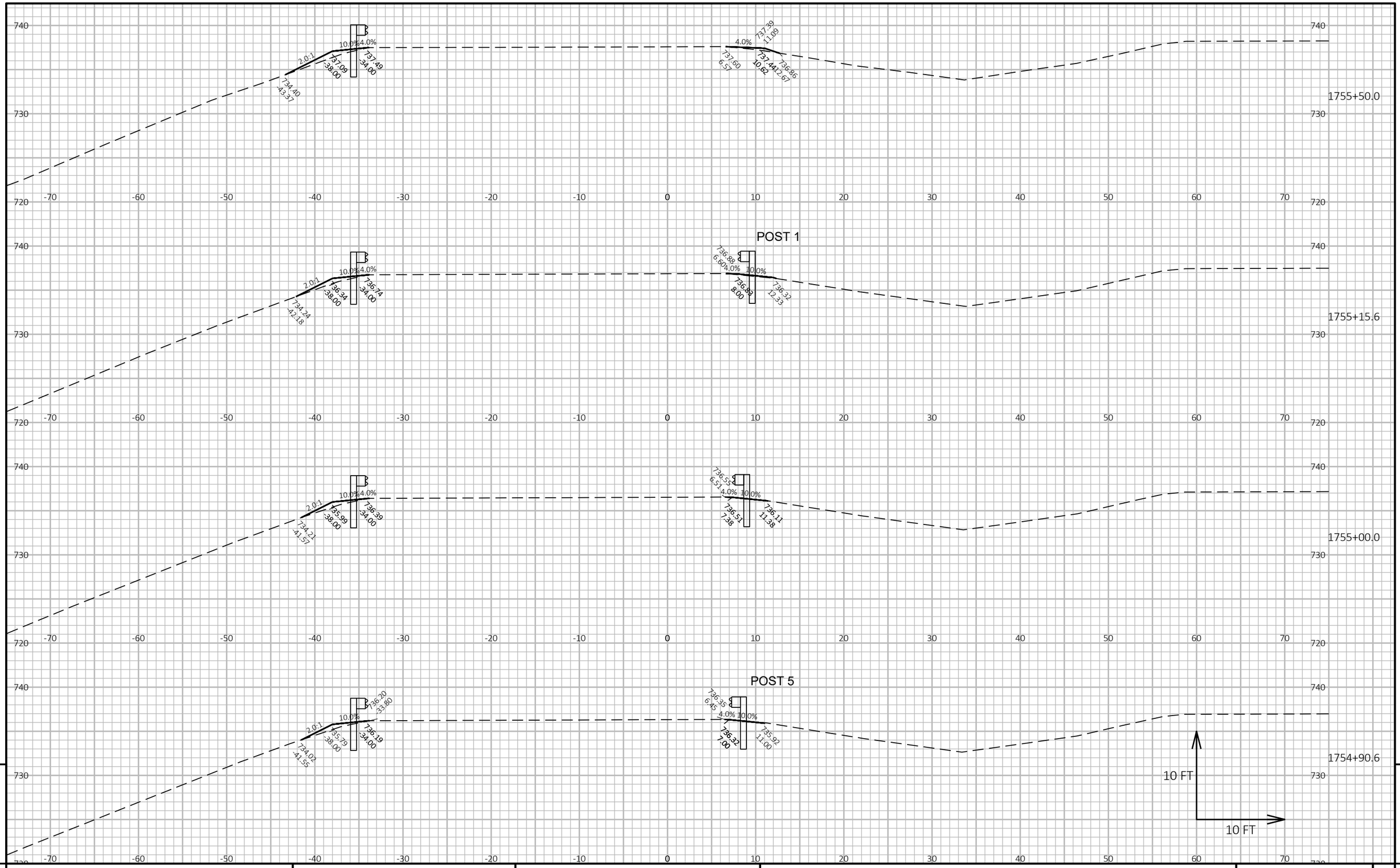
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER	SHEET 298	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River 5

PLOT DATE : 6/14/2021 11:00 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

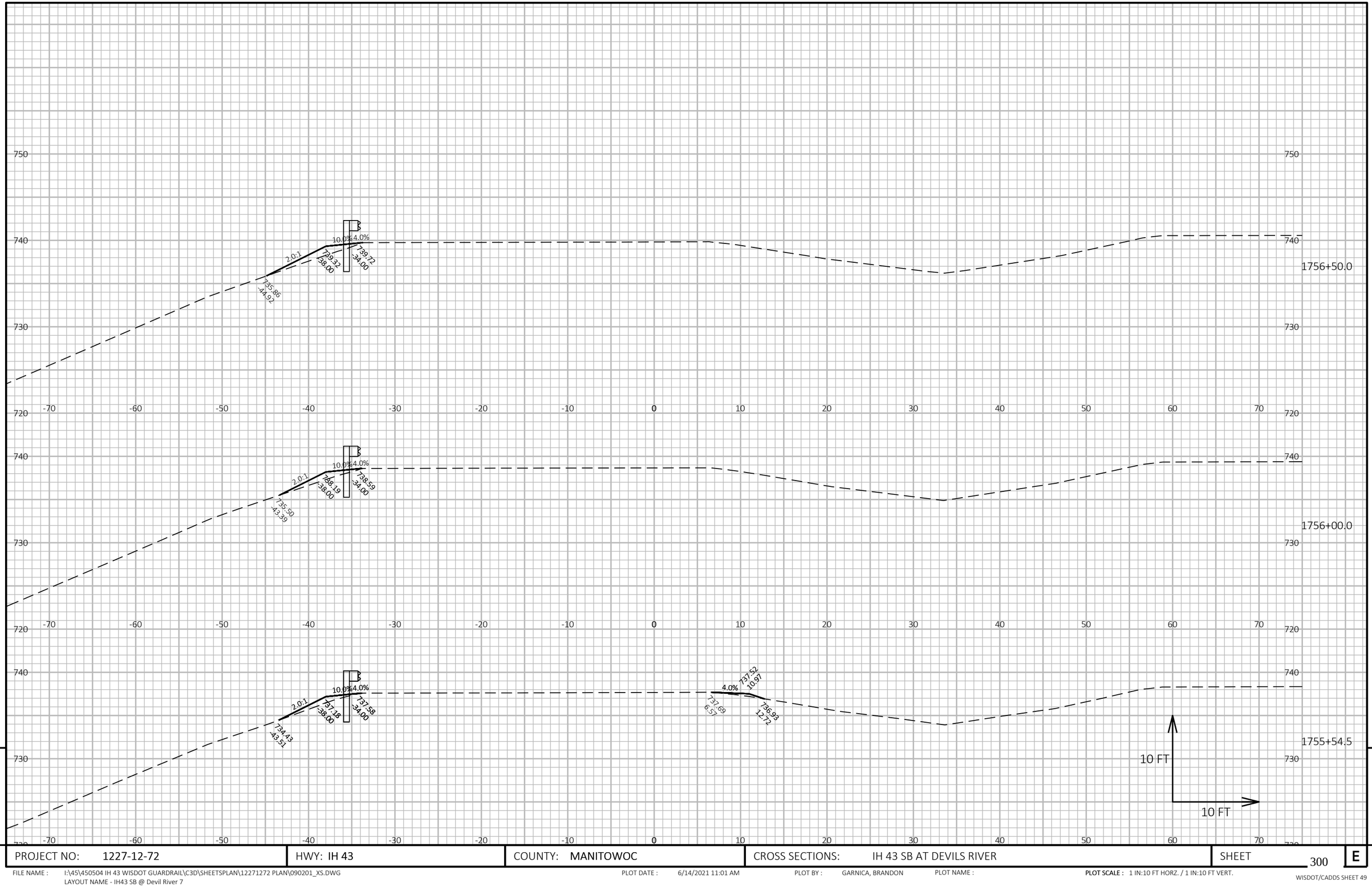
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER	SHEET 299	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River 6

PLOT DATE : 6/14/2021 11:01 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

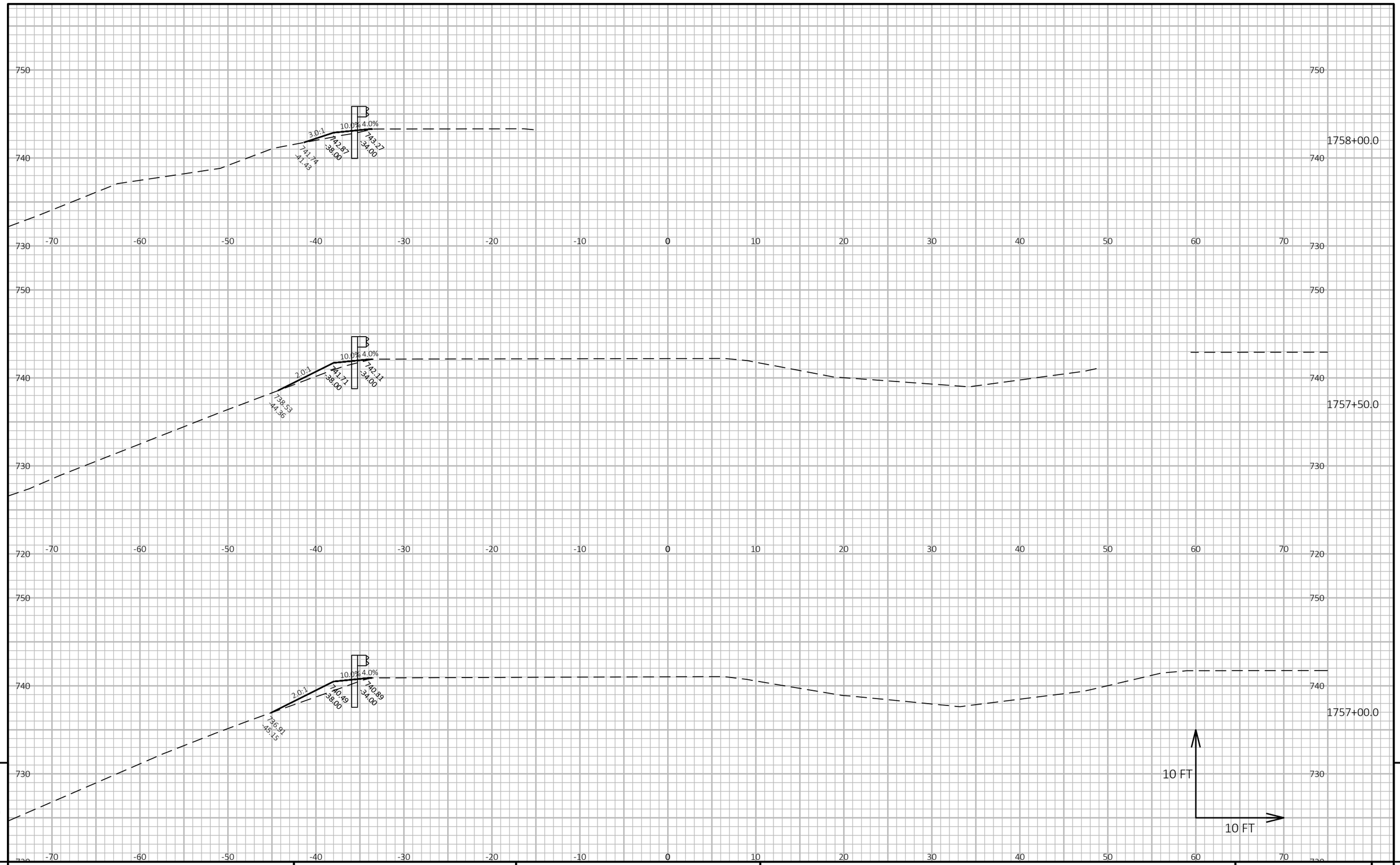
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER	SHEET 300	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River 7

PLOT DATE : 6/14/2021 11:01 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

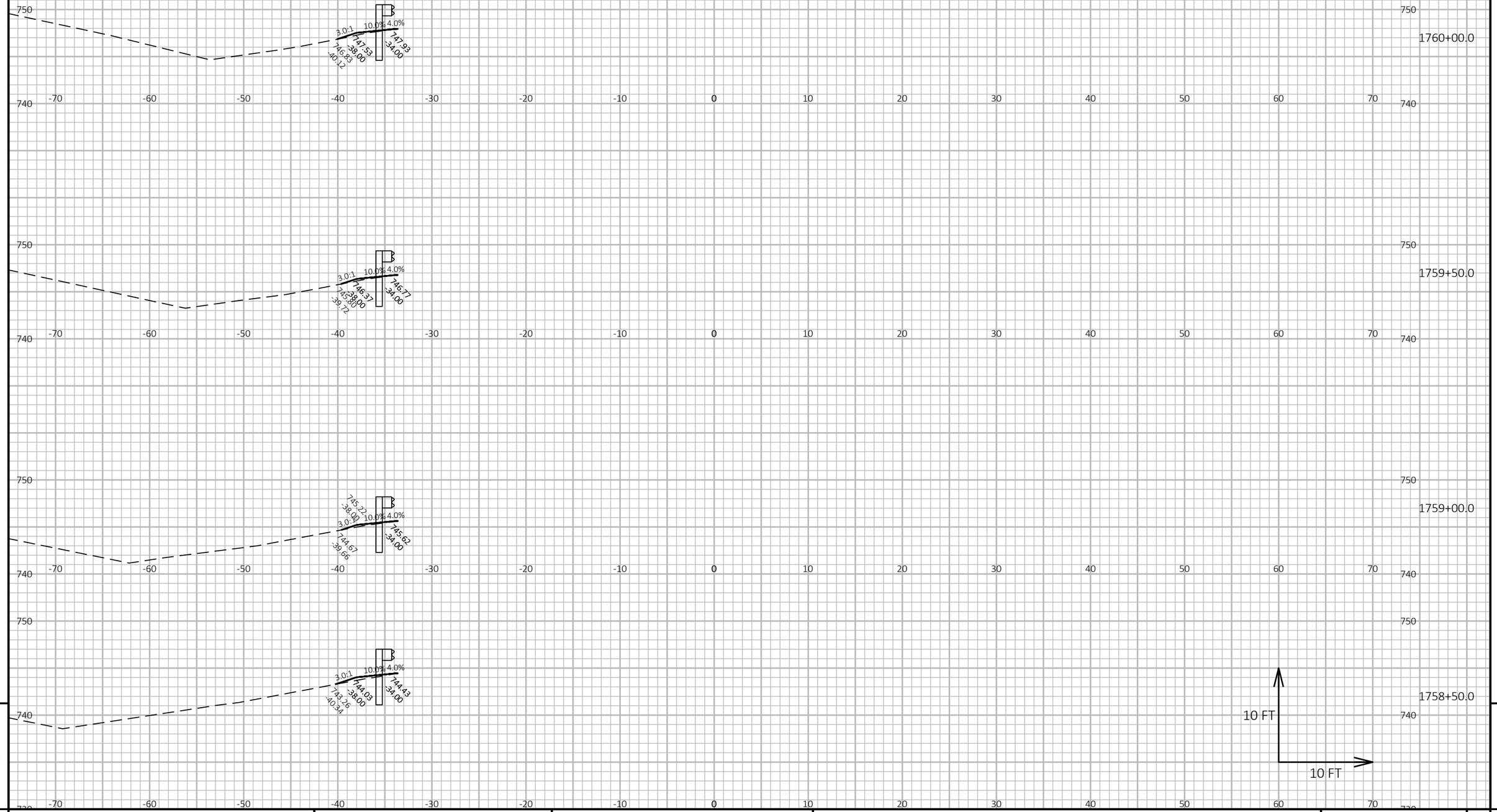
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER	SHEET 301	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River 8

PLOT DATE : 6/14/2021 11:01 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER	SHEET 302	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River 9

PLOT DATE : 6/14/2021 11:02 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

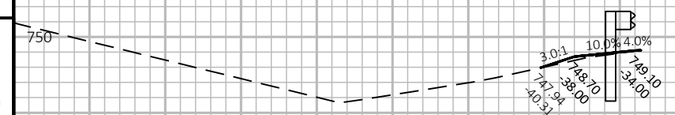
POST 5

1761+15.6

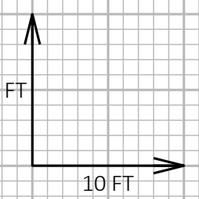
1761+00.0

POST 9

1760+90.6



1760+50.0



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER	SHEET 303	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River 10

PLOT DATE : 6/14/2021 11:02 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

760
750
740
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

3.0:1 4.0% 751.72 751.89 750.82 -37.85 -40.56 -38.64

760
750
740
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

3.0:1 10.0% 4.0% 750.96 751.25 751.36 749.98 -39.40 -36.51 -33.64 -42.36

760
750
740
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

POST 1

3.0:1 10.0% 4.0% 750.67 751.01 751.15 749.61 -39.99 -36.00 -33.64 -43.18

760
750
740
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

1761+74.8

1761+50.0

1761+40.6

10 FT

10 FT

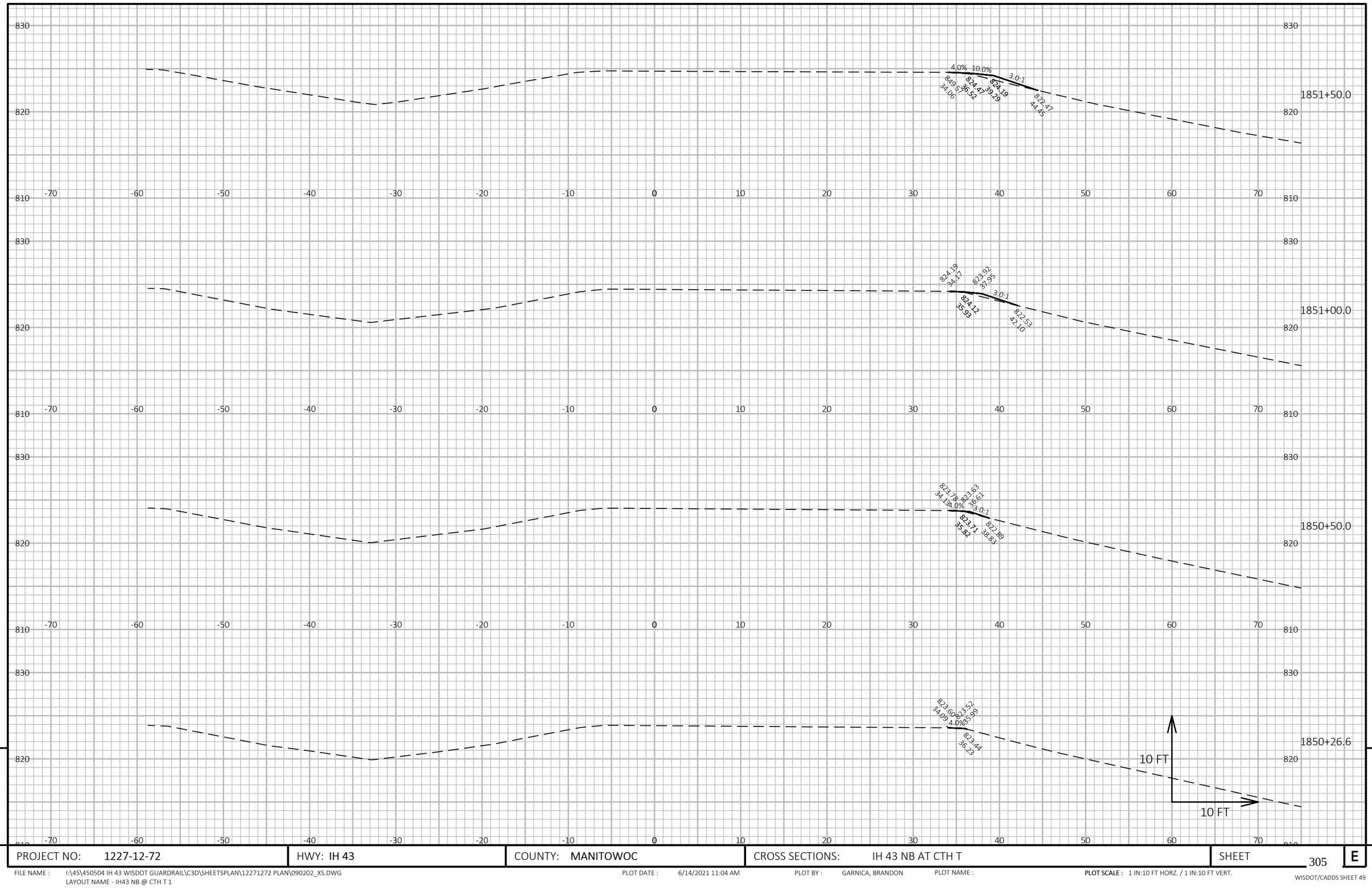
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER	SHEET 304	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River 11

PLOT DATE : 6/14/2021 11:03 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

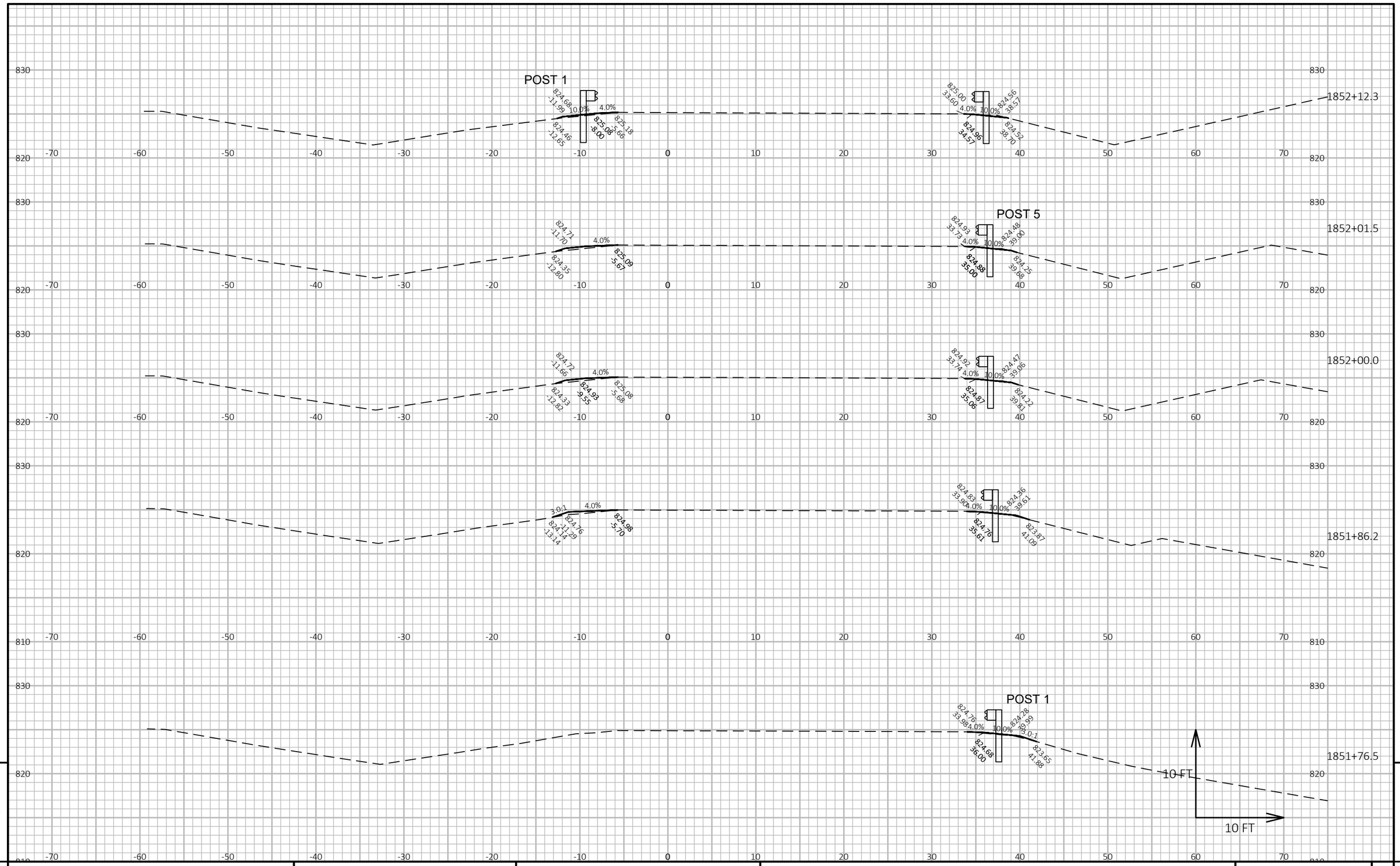
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH T	SHEET 305	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ CTH T 1

PLOT DATE : 6/14/2021 11:04 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

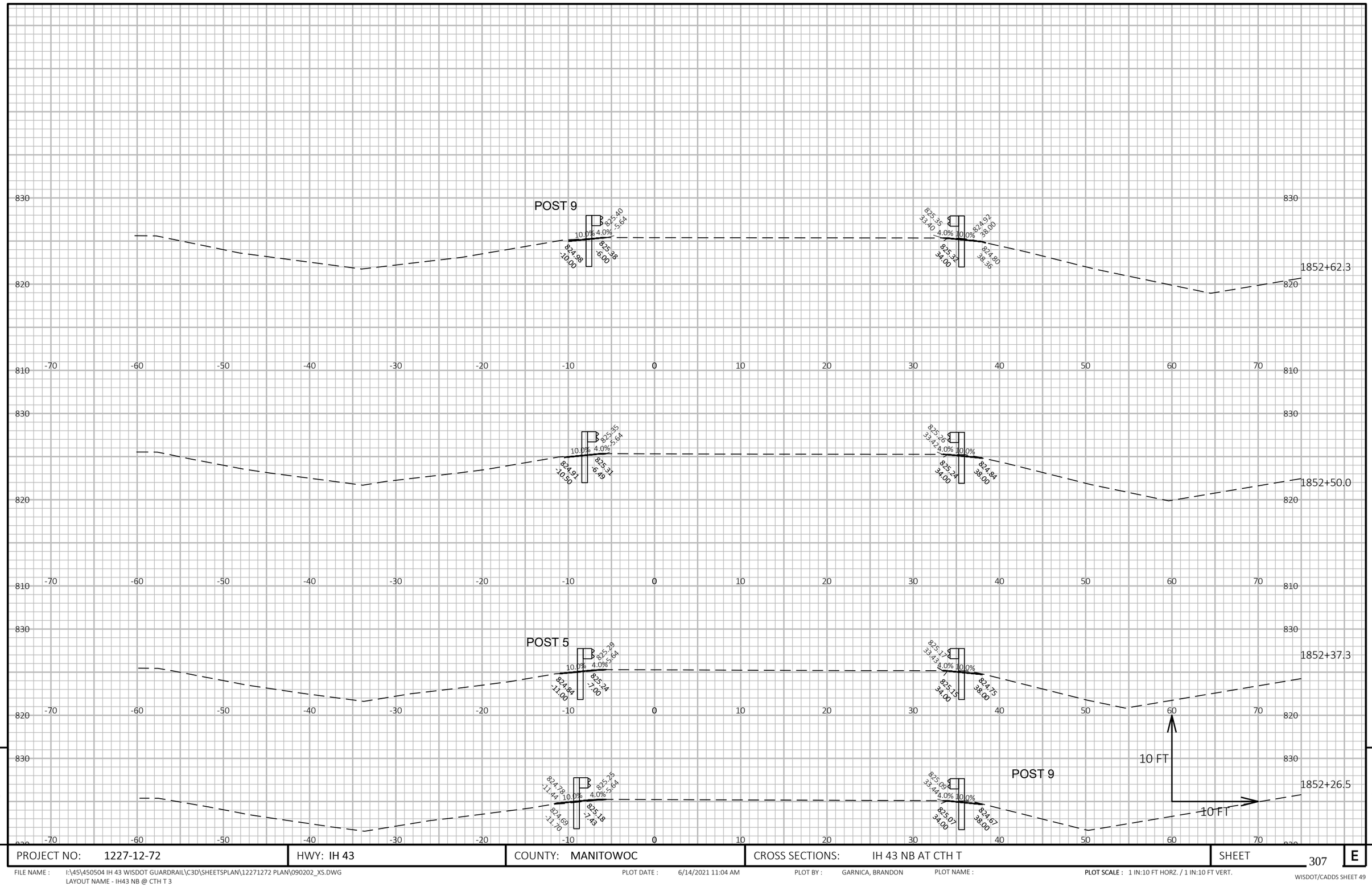


PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH T	SHEET 306	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ CTH T 2

PLOT DATE : 6/14/2021 11:04 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

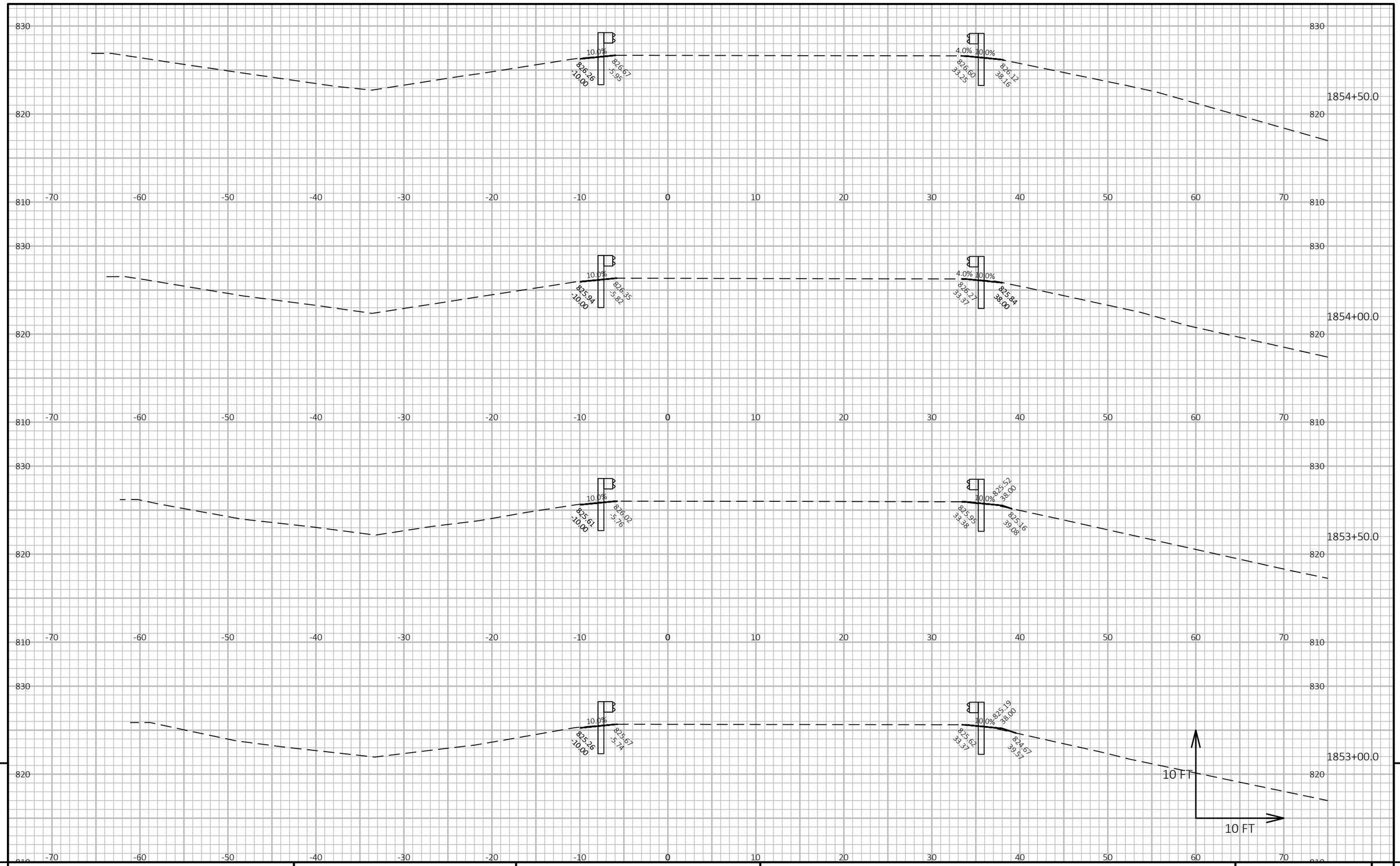
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH T	SHEET 307	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ CTH T 3

PLOT DATE : 6/14/2021 11:04 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

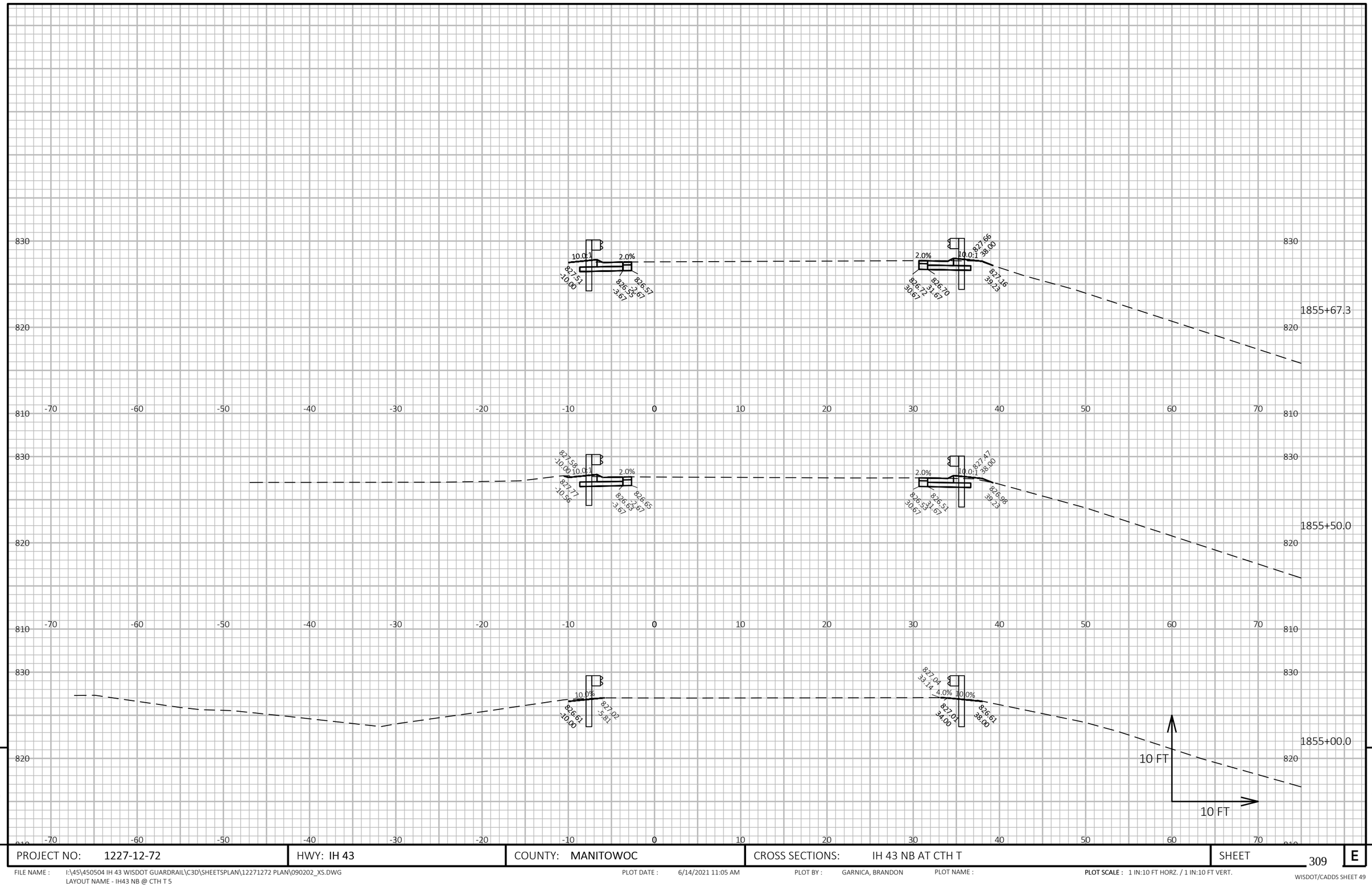
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH T	SHEET 308	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ CTH T 4

PLOT DATE : 6/14/2021 11:05 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



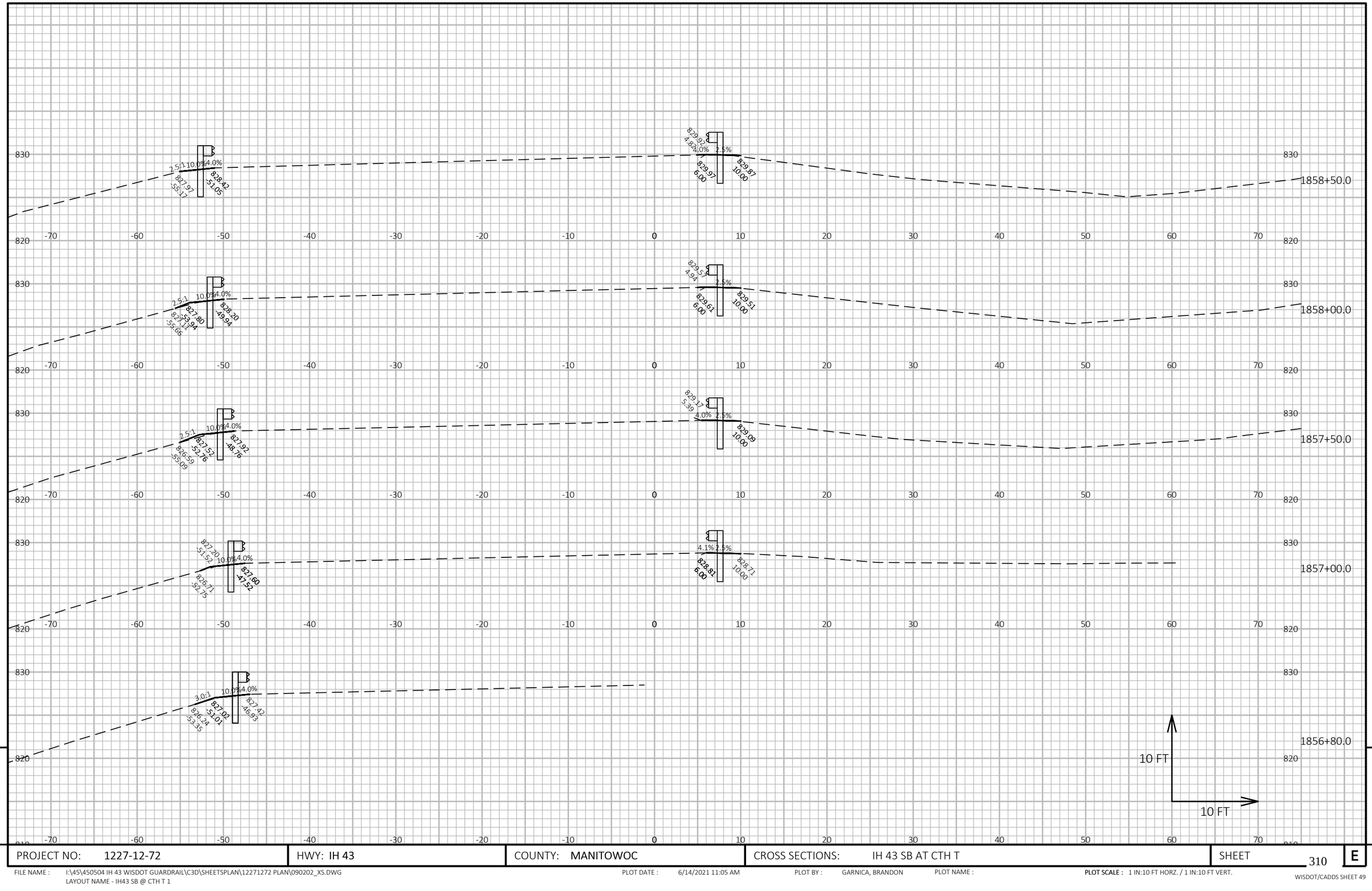
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT CTH T	SHEET 309	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ CTH T 5

PLOT DATE : 6/14/2021 11:05 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

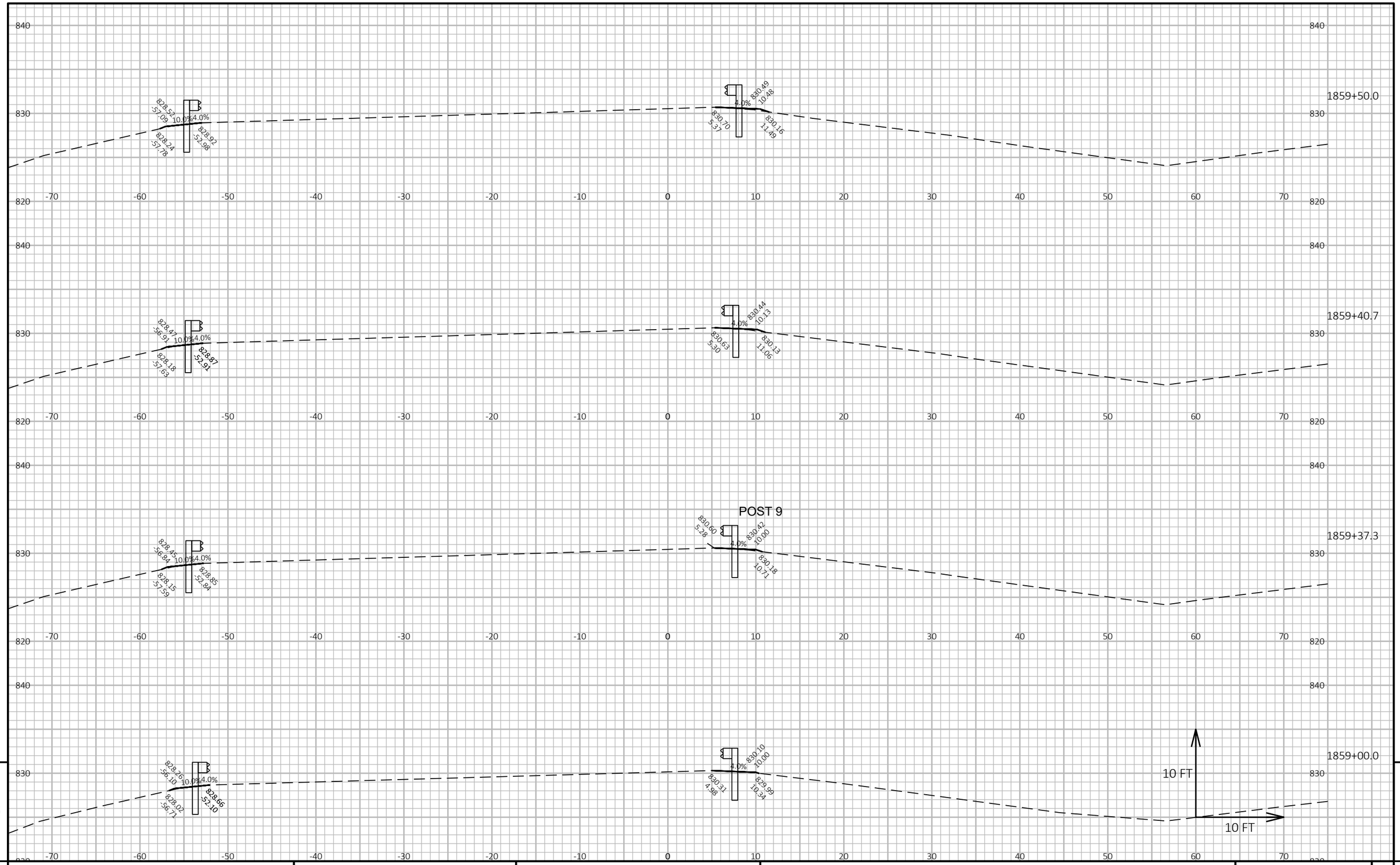


PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH T	SHEET 310	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ CTH T 1

PLOT DATE : 6/14/2021 11:05 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

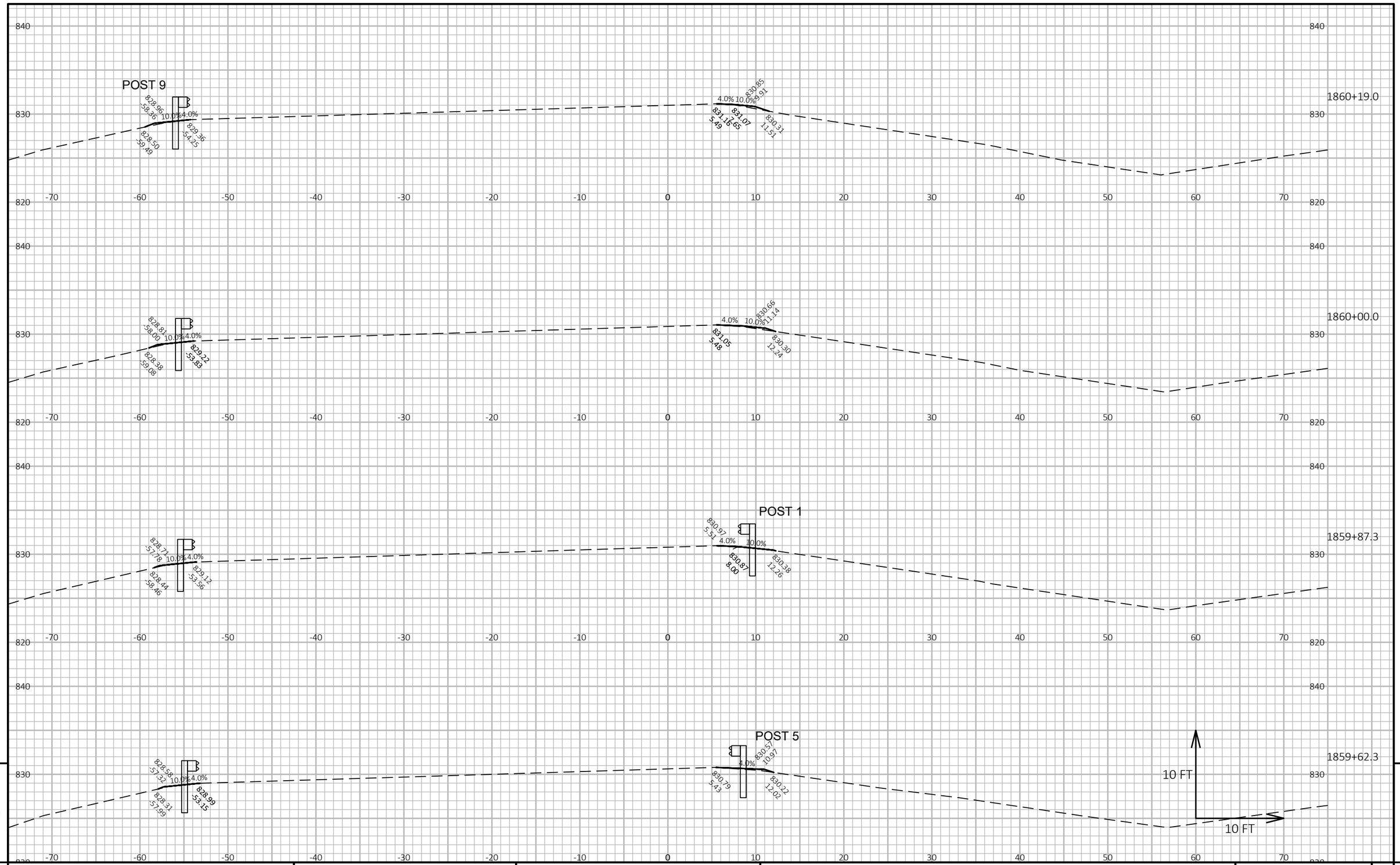
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH T	SHEET 311	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ CTH T 2

PLOT DATE : 6/14/2021 11:06 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH T	SHEET 312	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ CTH T 3

PLOT DATE : 6/14/2021 11:06 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

POST 1

829.12
-61.17
10.0%
4.0%
829.59
-55.24
828.95
-61.67
829.51
-57.19

1860+69.3

829.06
-60.15
10.0%
4.0%
829.51
-54.87
828.63
-61.21
829.46
-56.14

831.24
7.98
4.0%
831.35
-5.52
831.14
8.27

1860+50.1

POST 5

829.04
-59.84
10.0%
4.0%
829.49
-54.76
828.60
-60.93

830.99
8.88
4.0%
831.31
-5.35
830.99
8.88

1860+50.0

1860+44.2

10 FT
10 FT

9

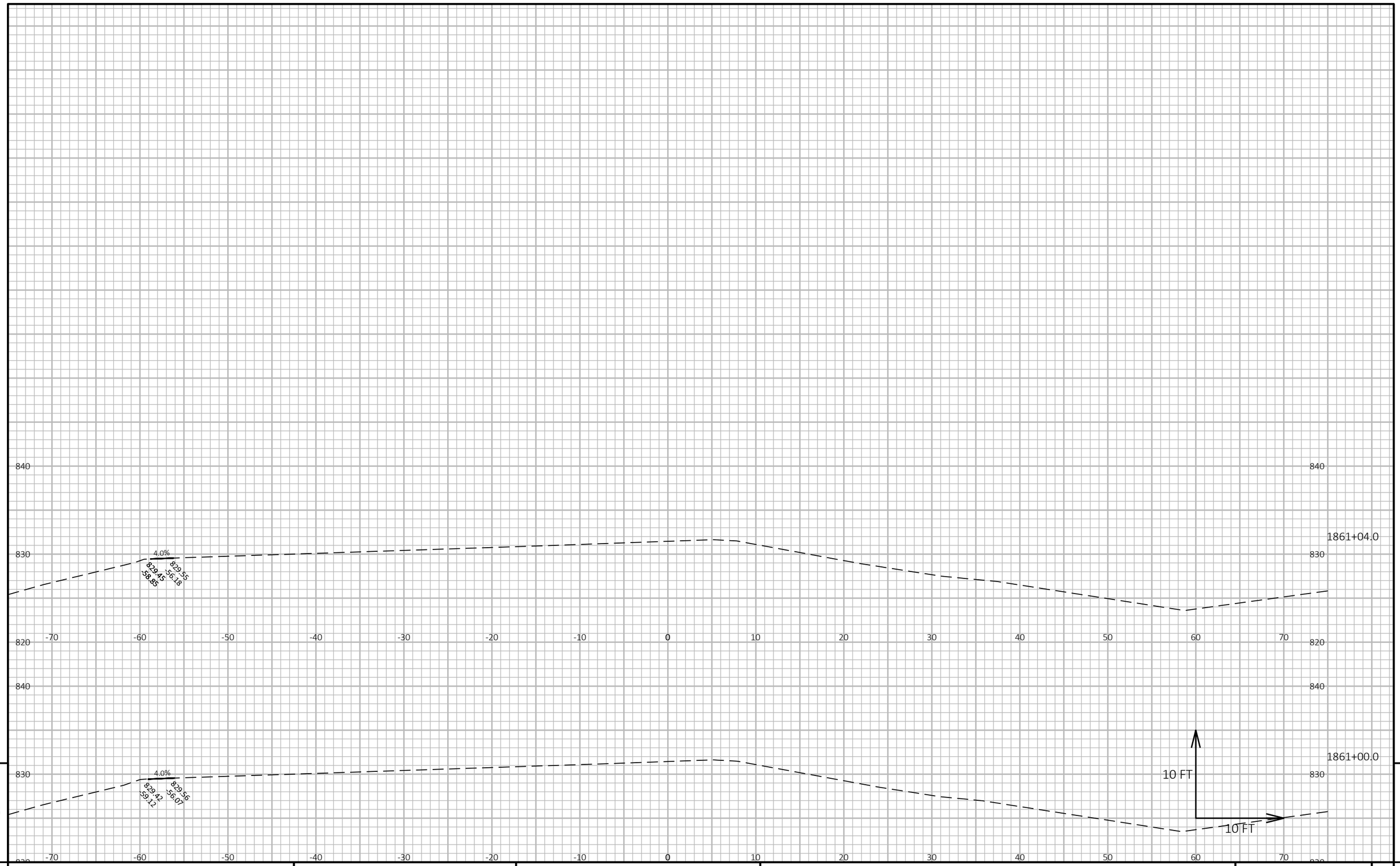
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH T	SHEET 313	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ CTH T 4

PLOT DATE : 6/14/2021 11:06 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



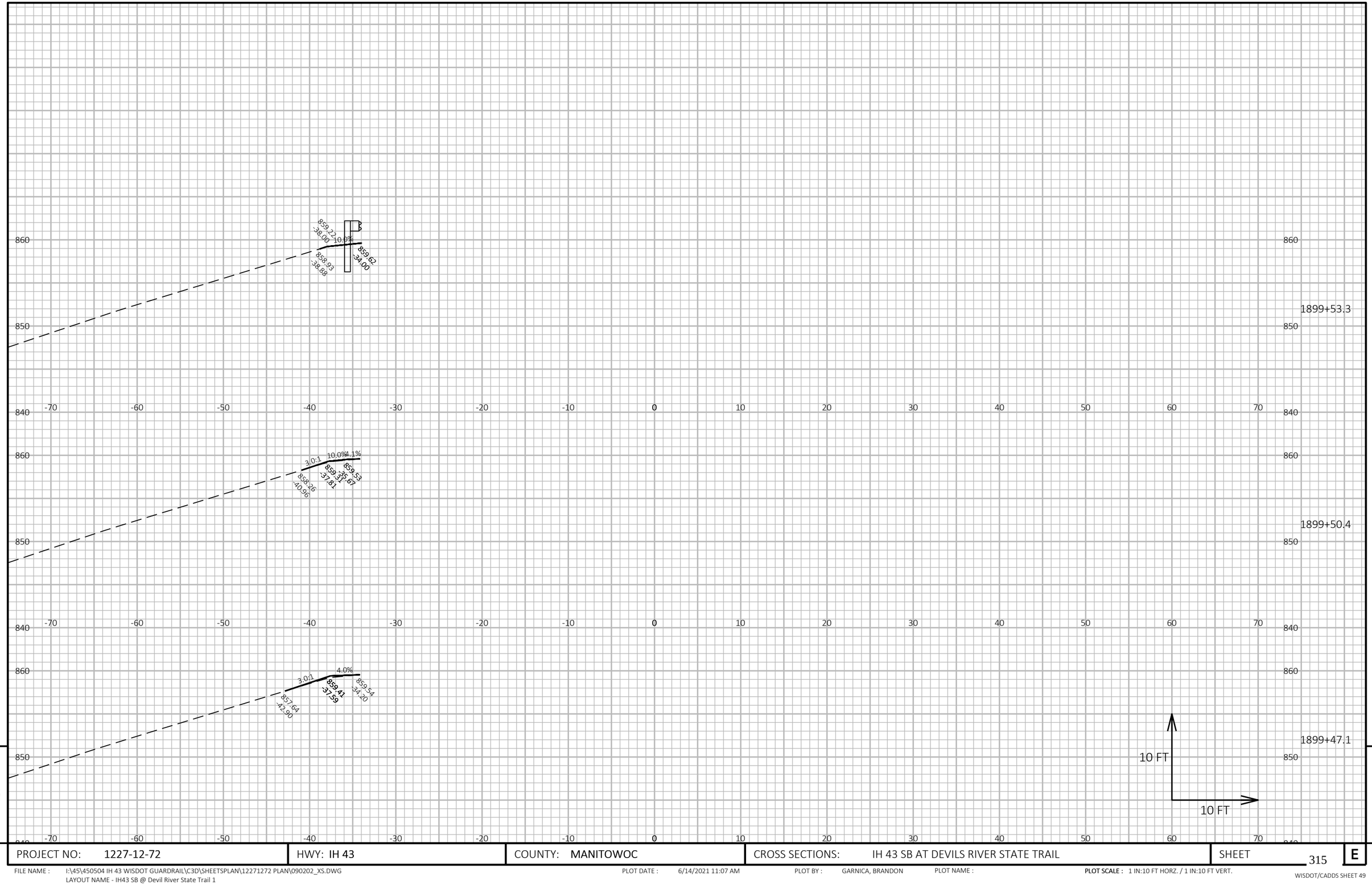
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT CTH T	SHEET 314	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ CTH T 5

PLOT DATE : 6/14/2021 11:07 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

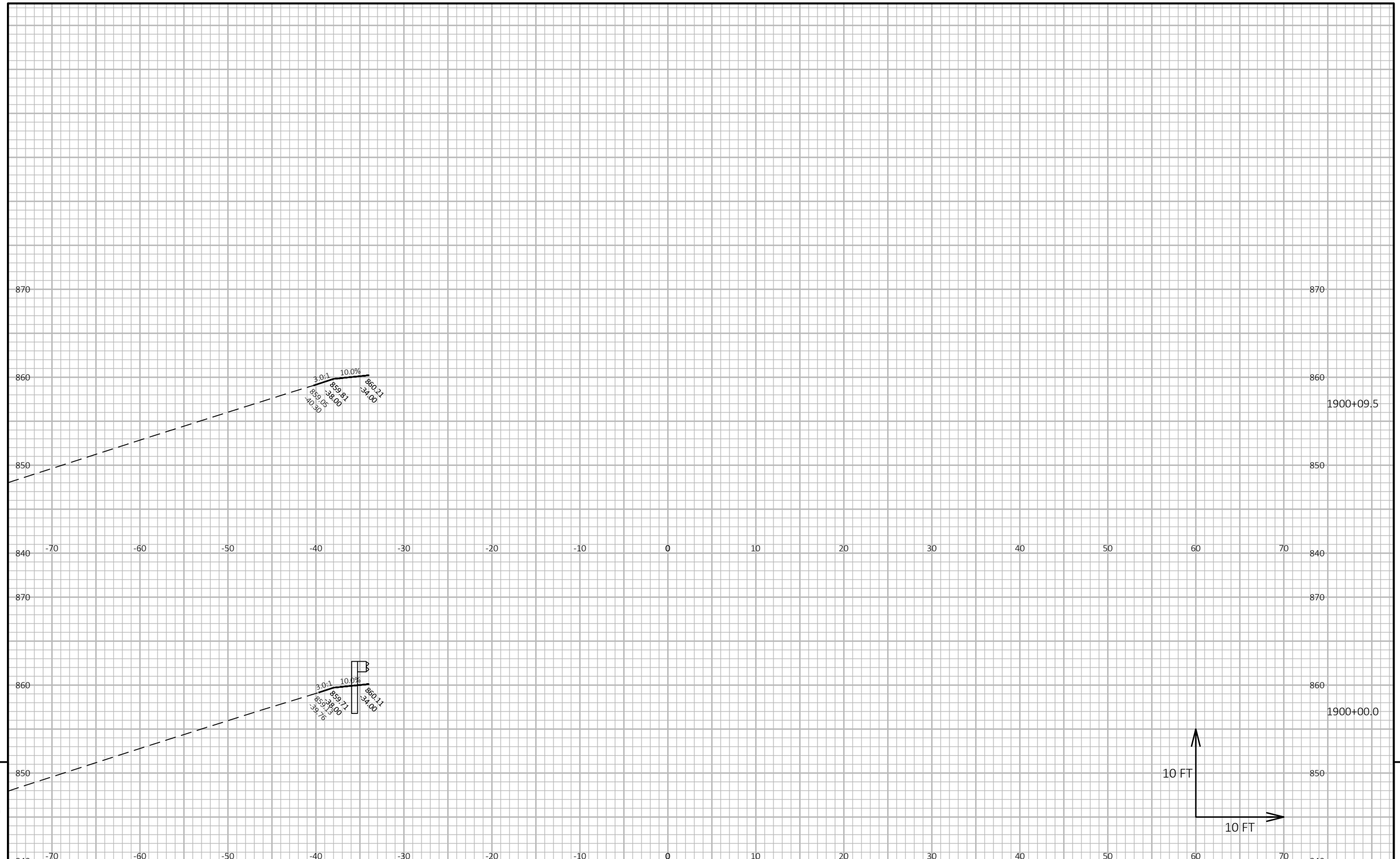
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER STATE TRAIL	SHEET 315	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail 1

PLOT DATE : 6/14/2021 11:07 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

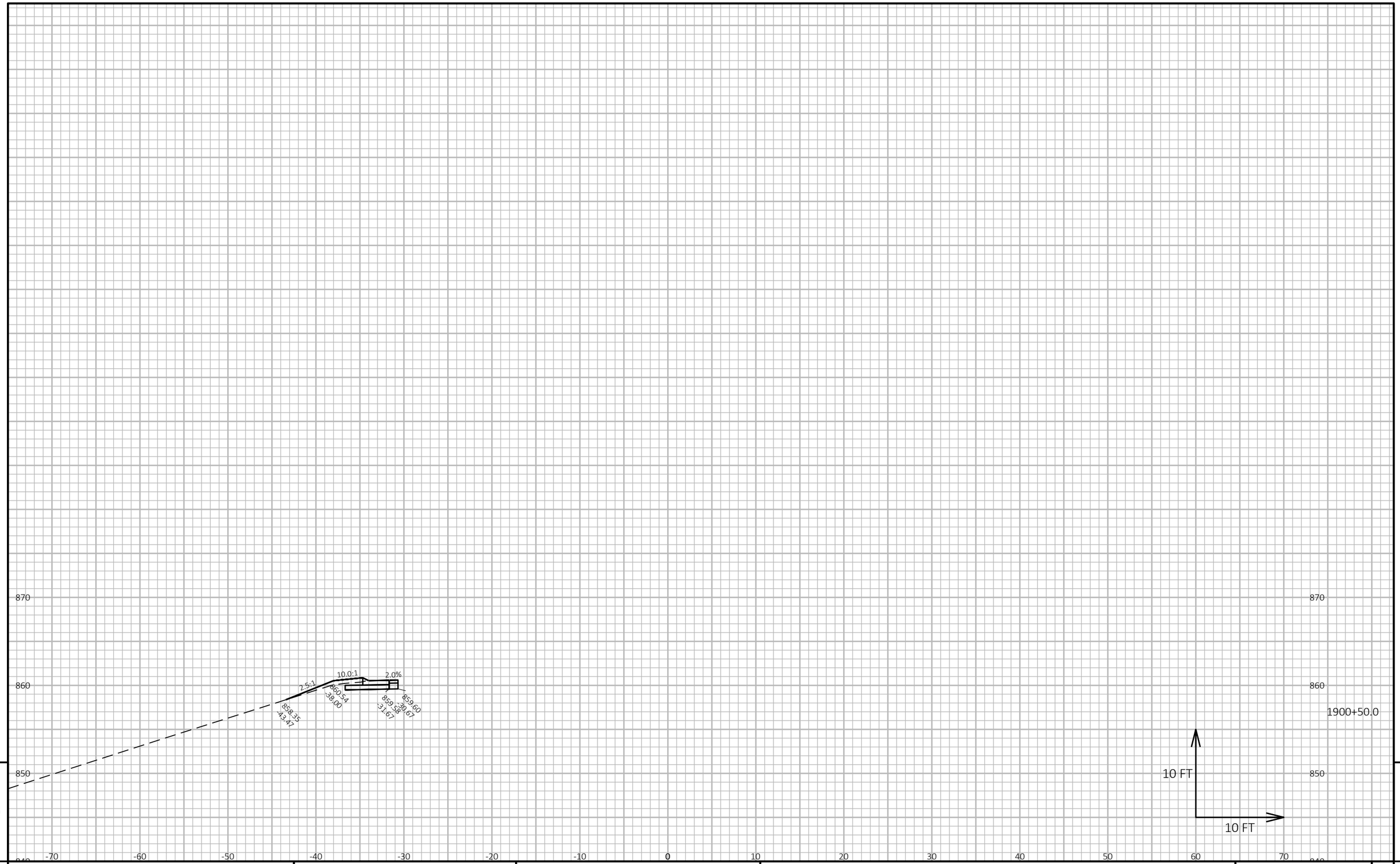
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER STATE TRAIL	SHEET 316	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail 2

PLOT DATE : 6/14/2021 11:07 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



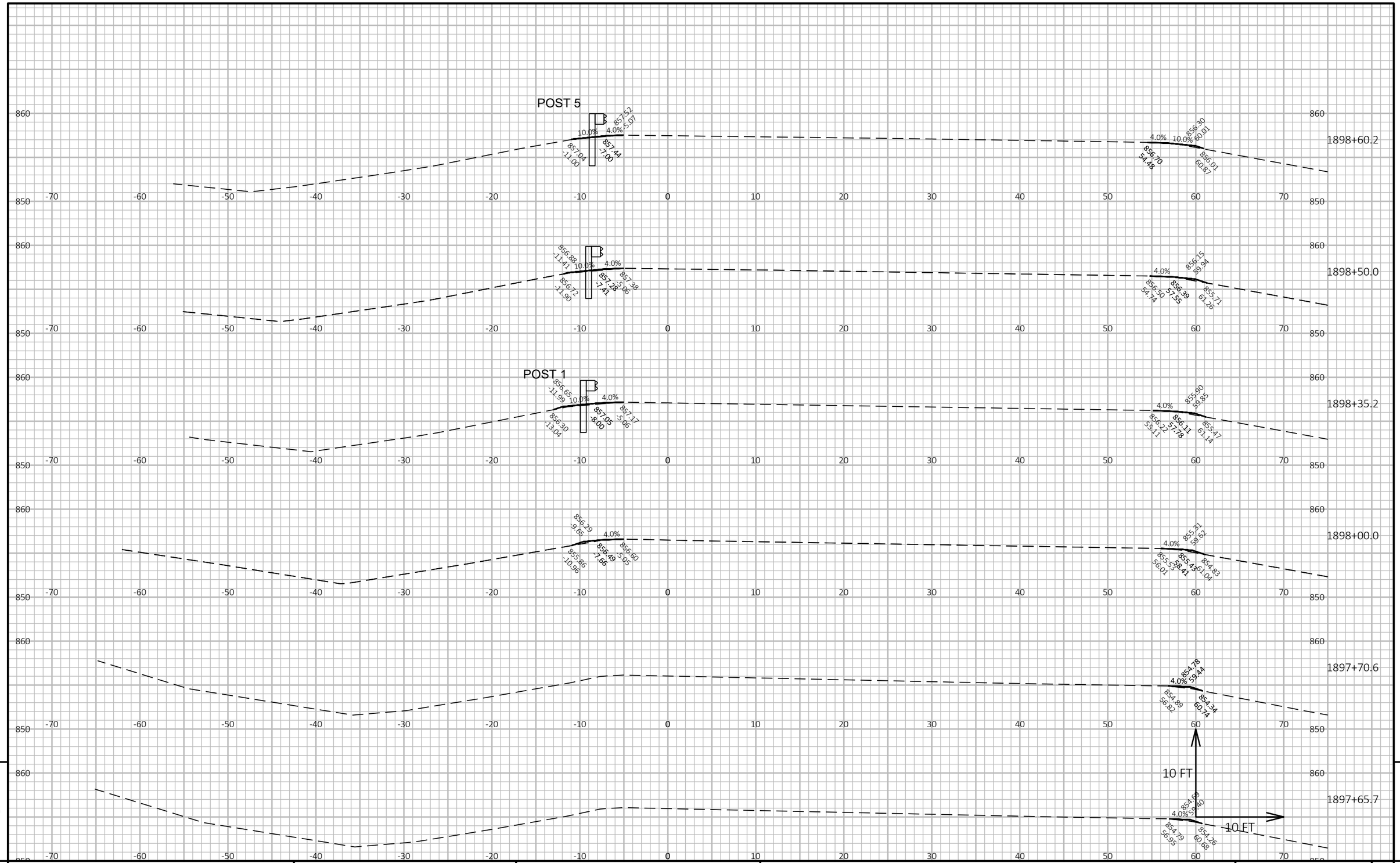
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER STATE TRAIL	SHEET 317	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail 3

PLOT DATE : 6/14/2021 11:08 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

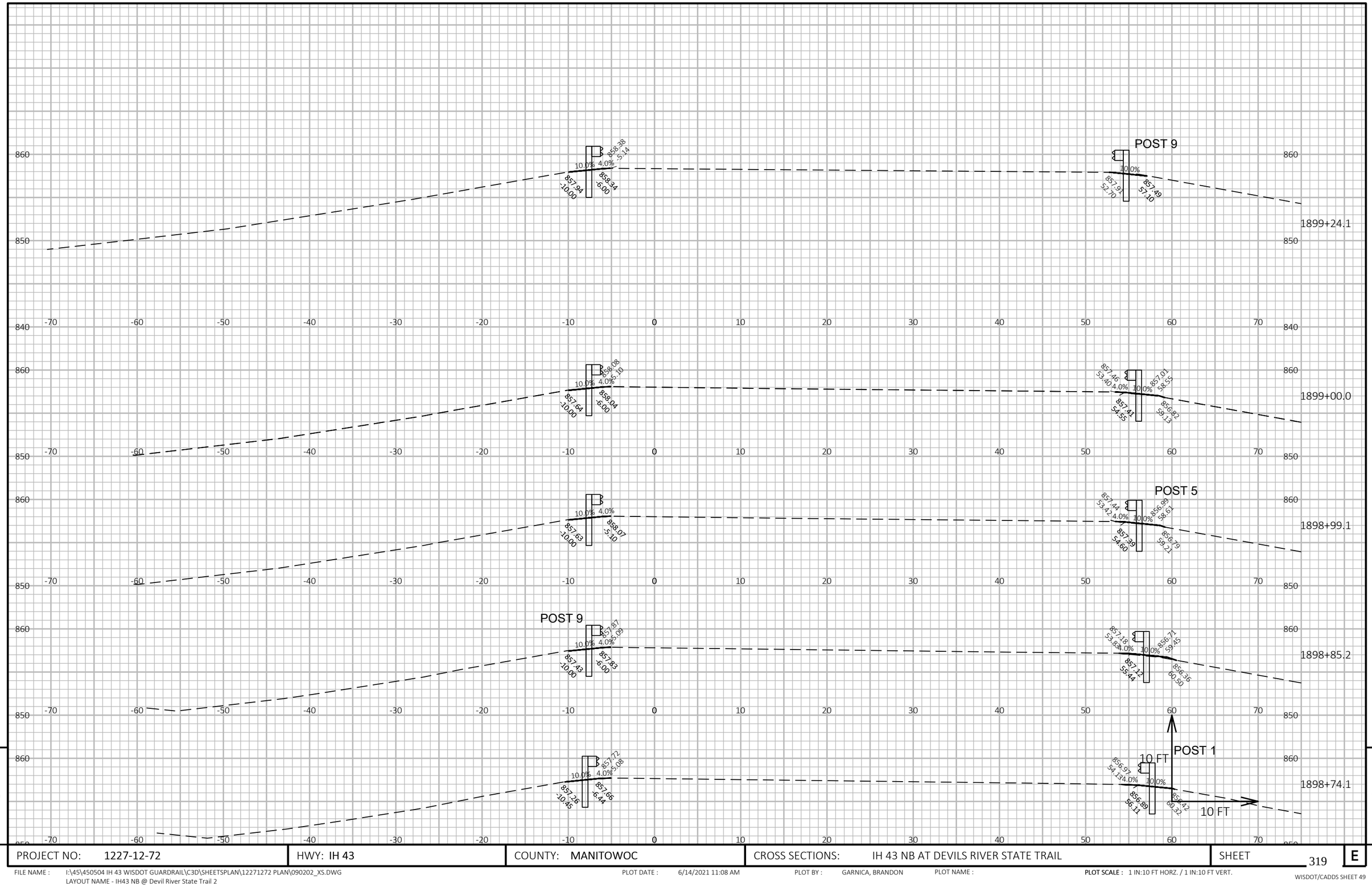
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER STATE TRAIL	SHEET 318	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 1

PLOT DATE : 6/14/2021 11:08 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

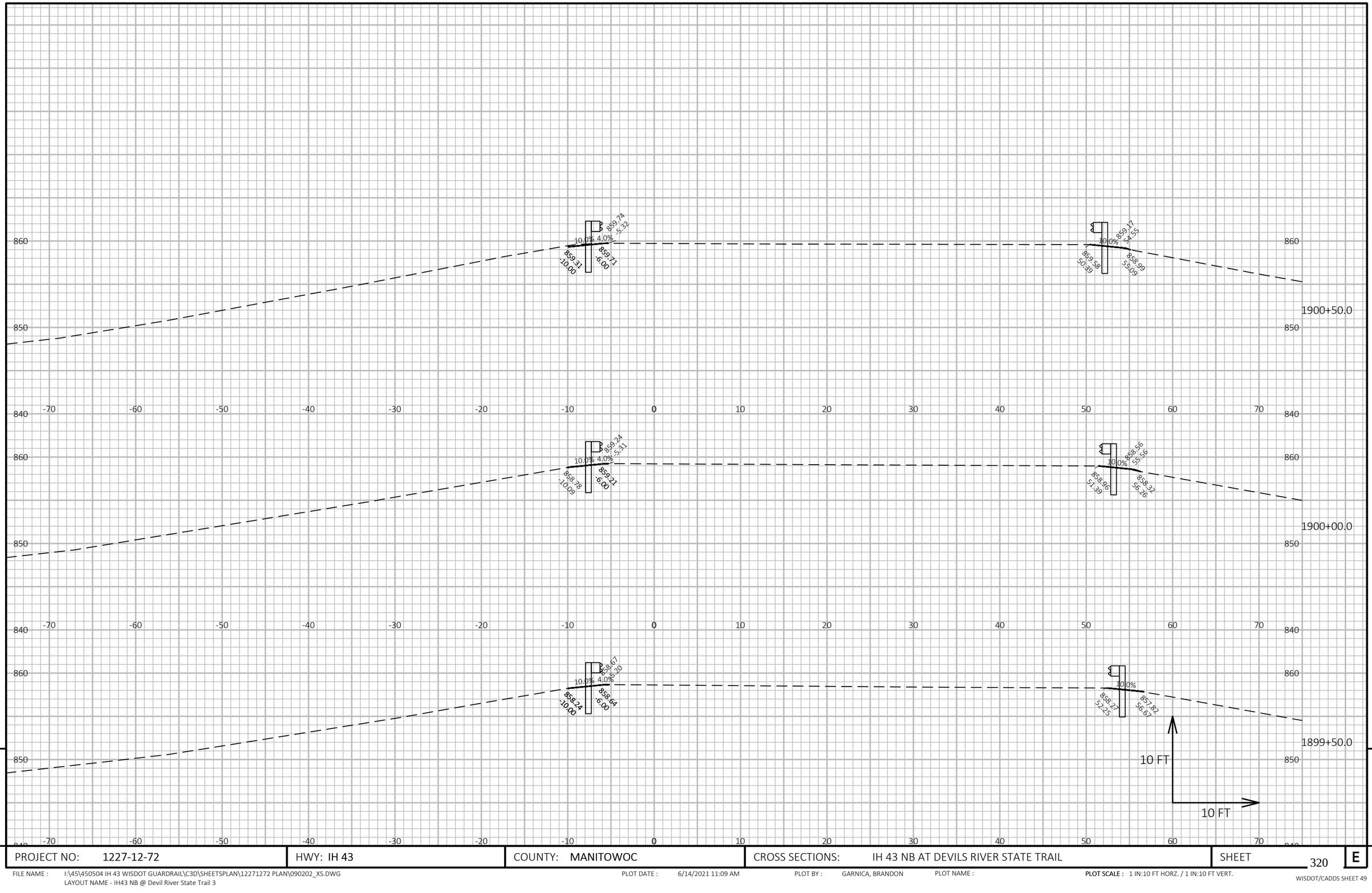
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER STATE TRAIL	SHEET 319	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 2

PLOT DATE : 6/14/2021 11:08 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

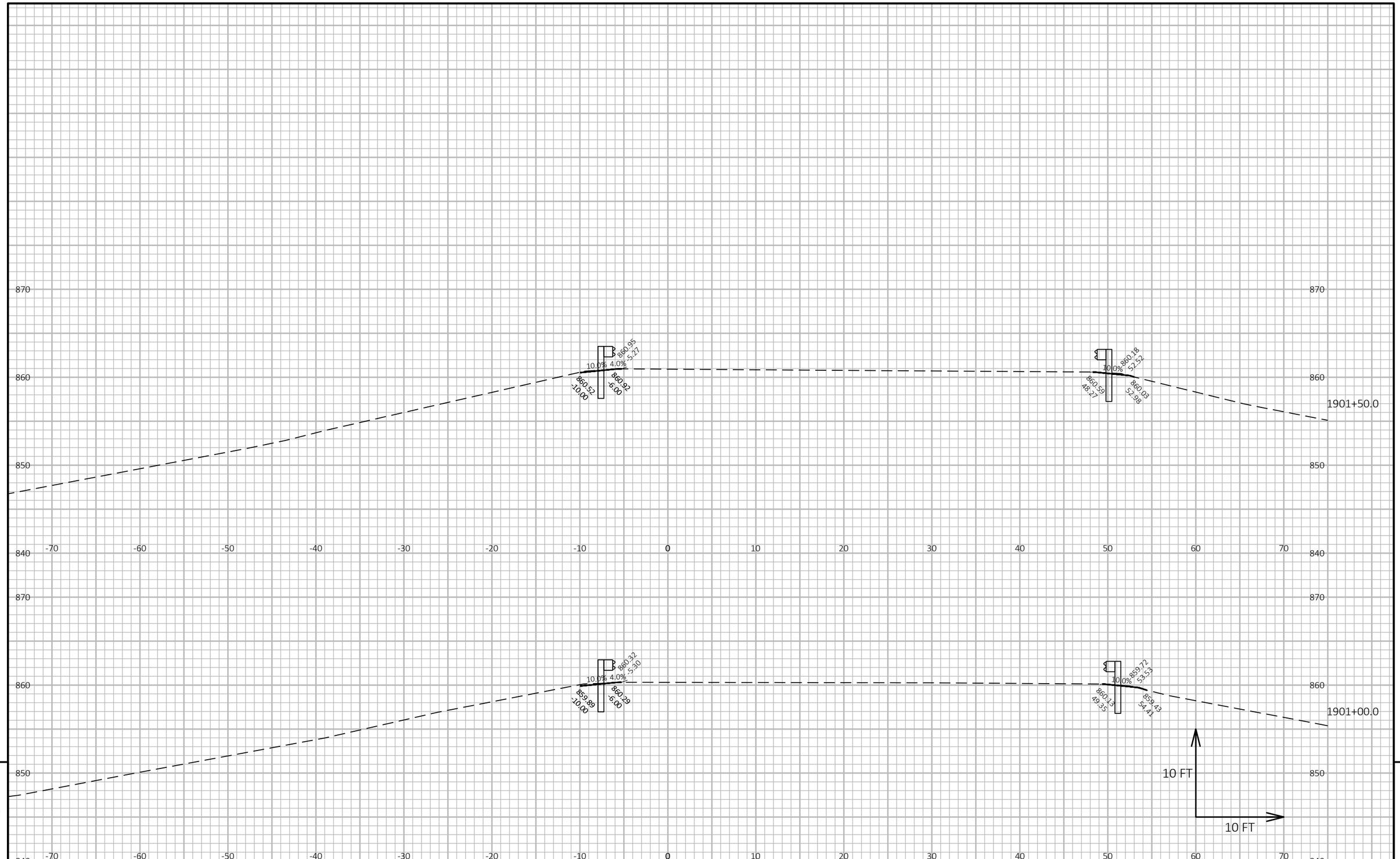
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER STATE TRAIL	SHEET 320	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 3

PLOT DATE : 6/14/2021 11:09 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

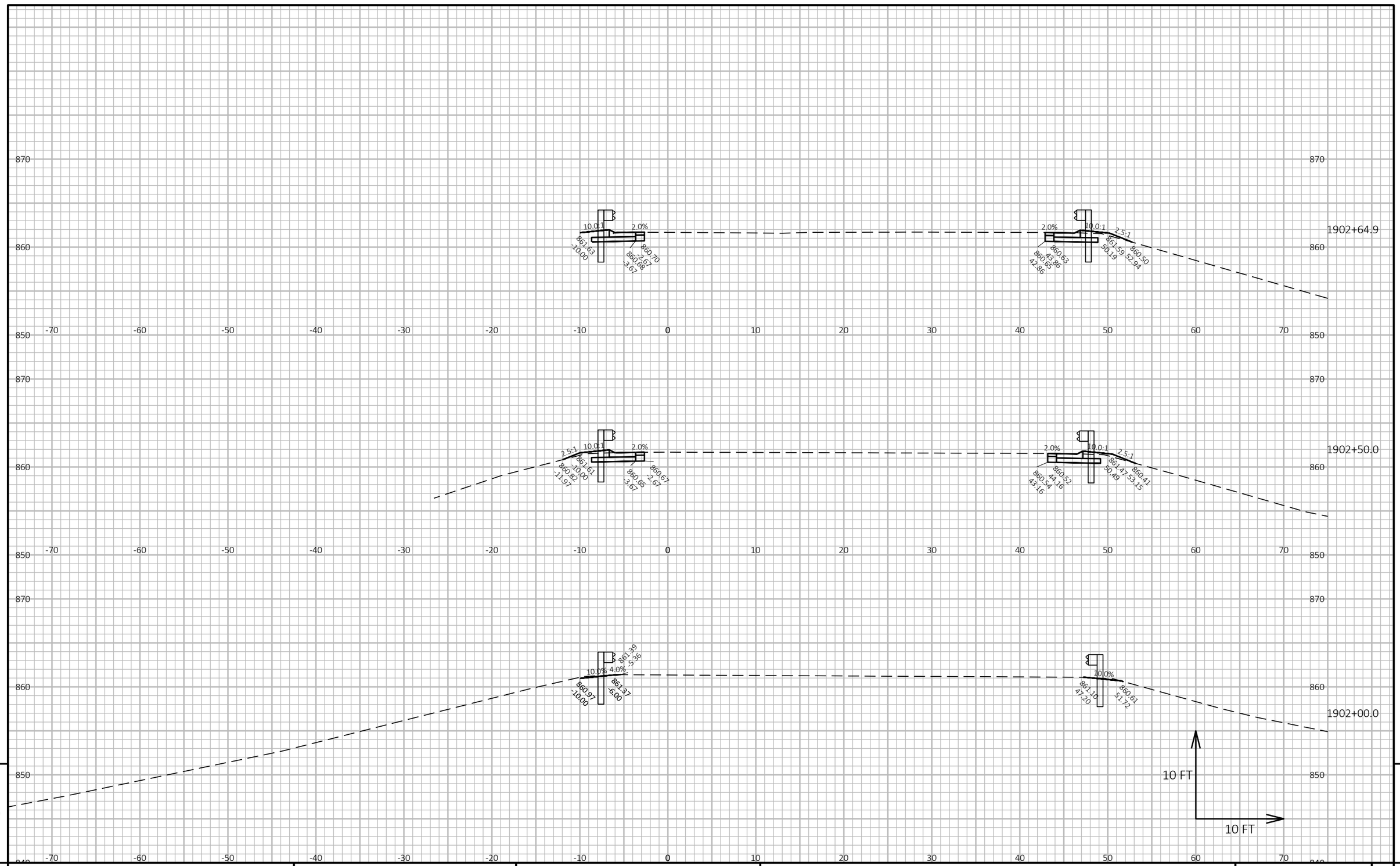


PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER STATE TRAIL	SHEET 321	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 4

PLOT DATE : 6/14/2021 11:09 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

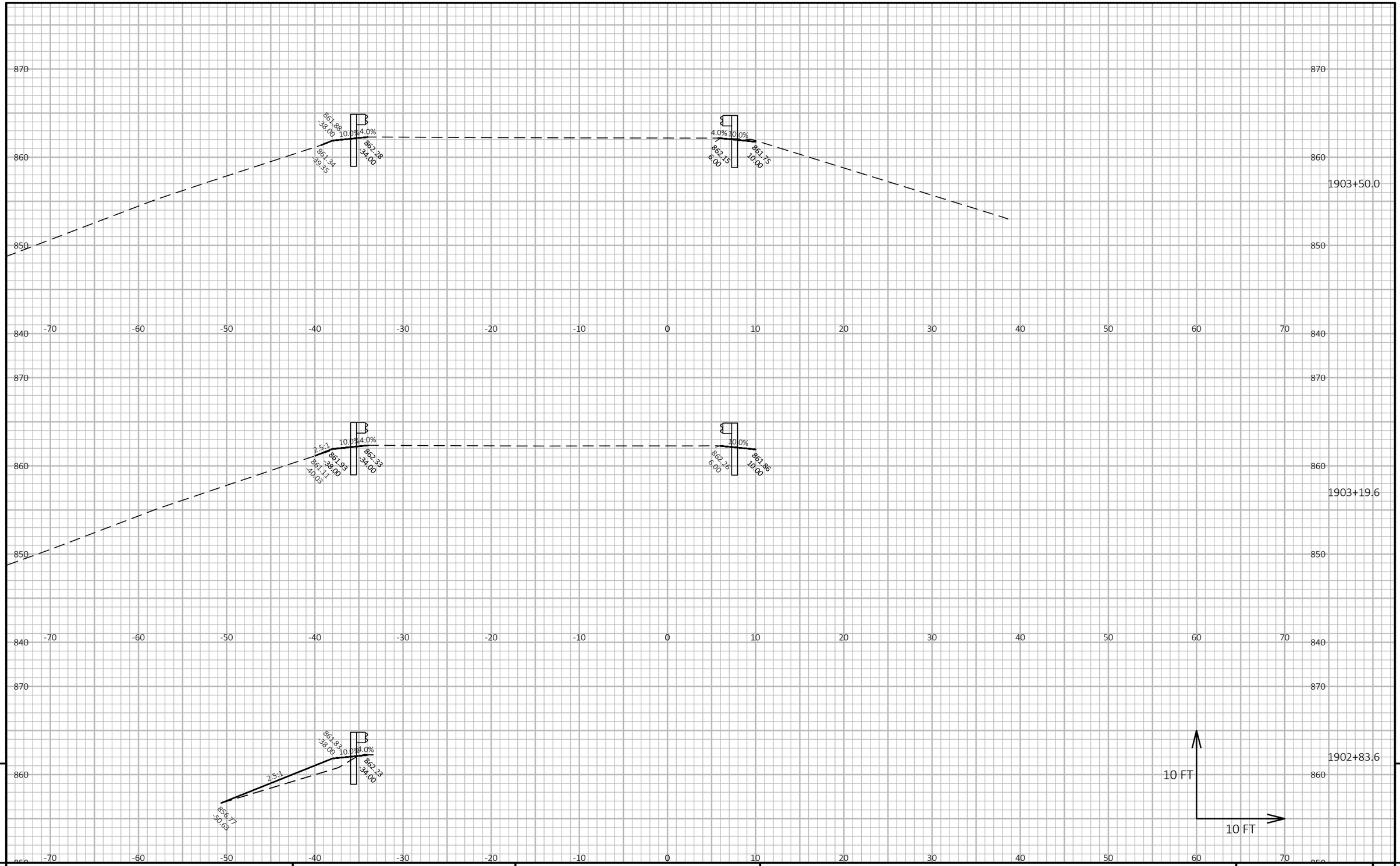
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER STATE TRAIL	SHEET 322	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail 5

PLOT DATE : 6/14/2021 11:09 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



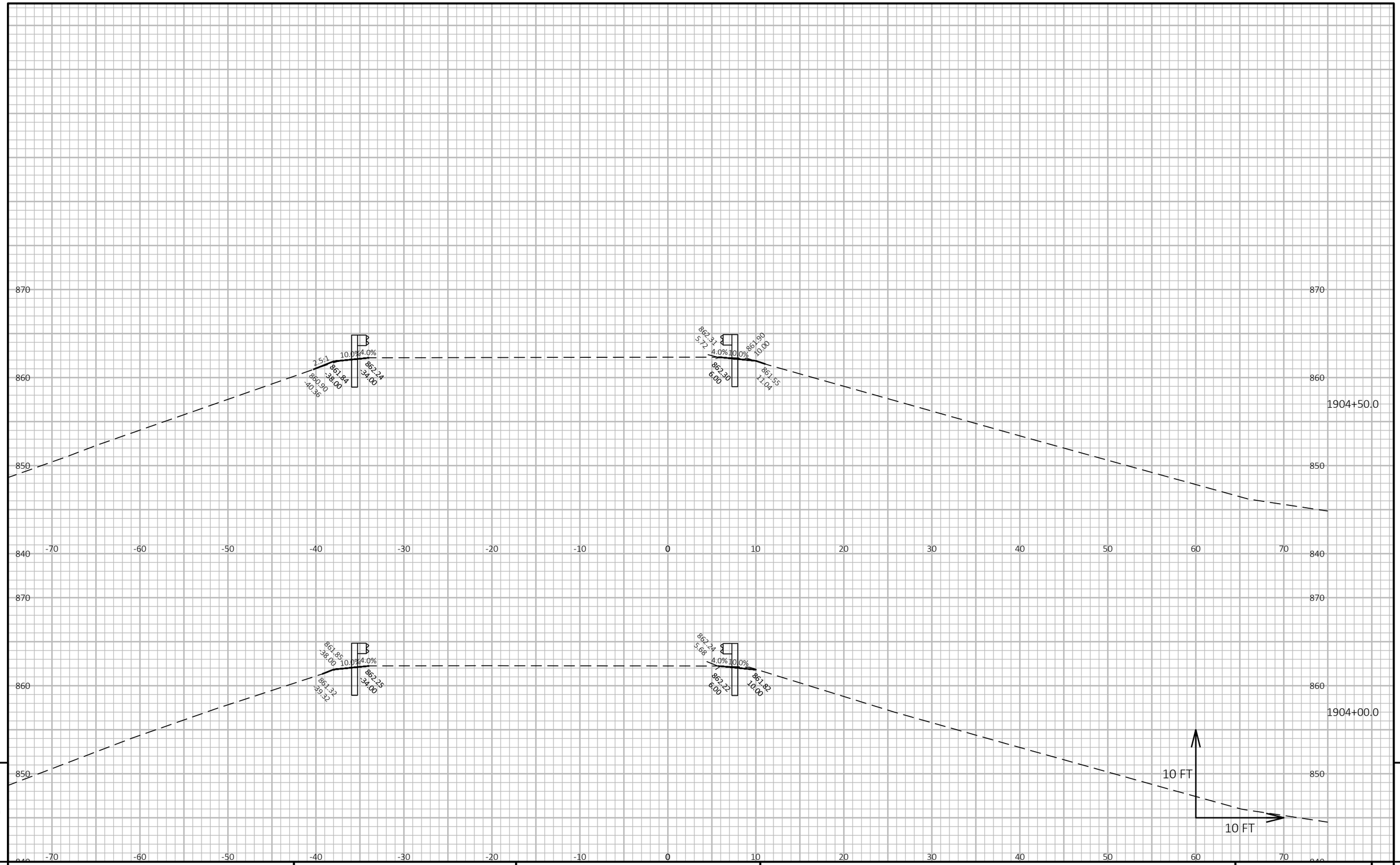
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 323	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail-Rosecrans 1

PLOT DATE : 6/14/2021 11:10 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

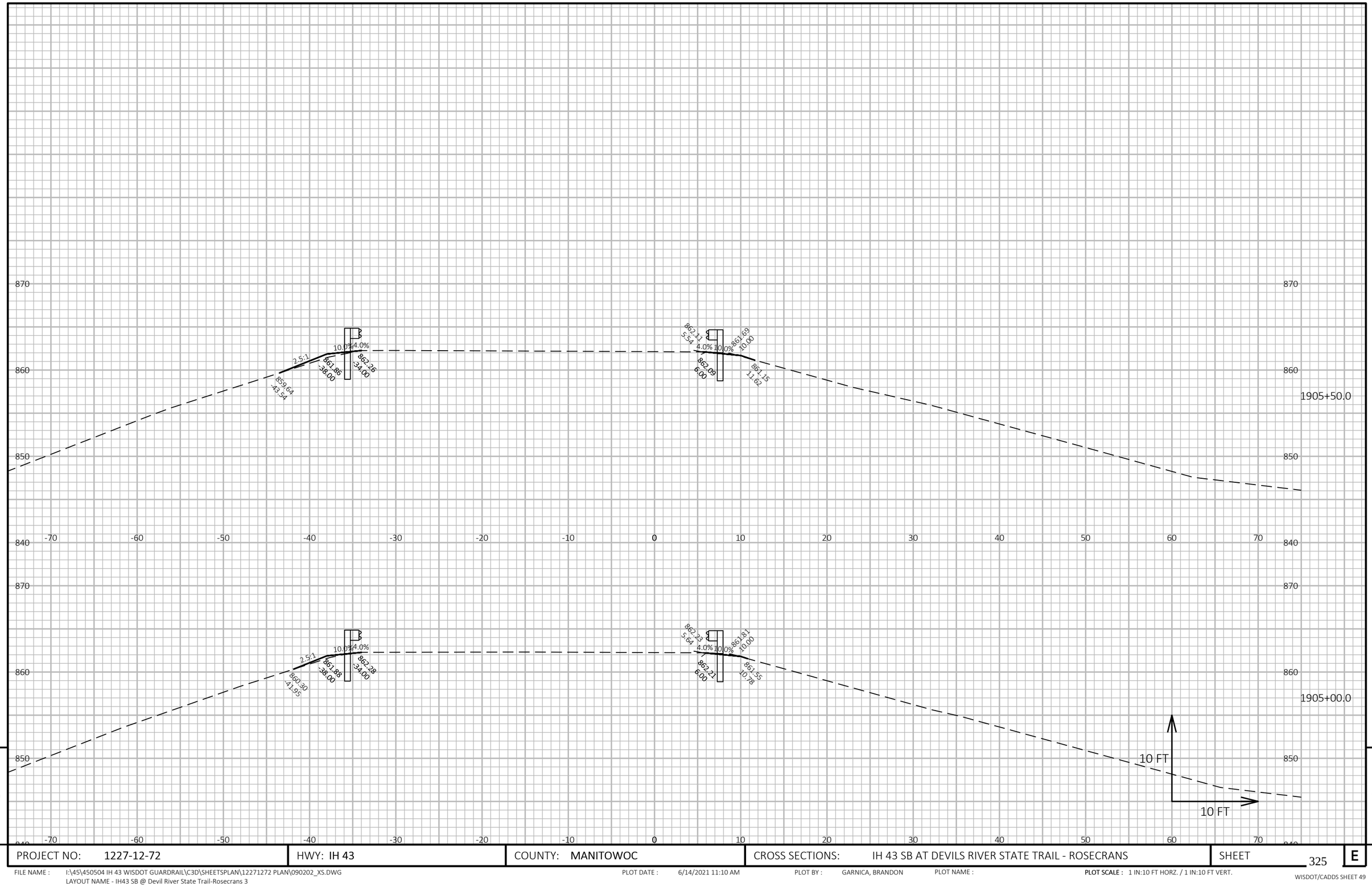
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 324	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail-Rosecrans 2

PLOT DATE : 6/14/2021 11:10 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



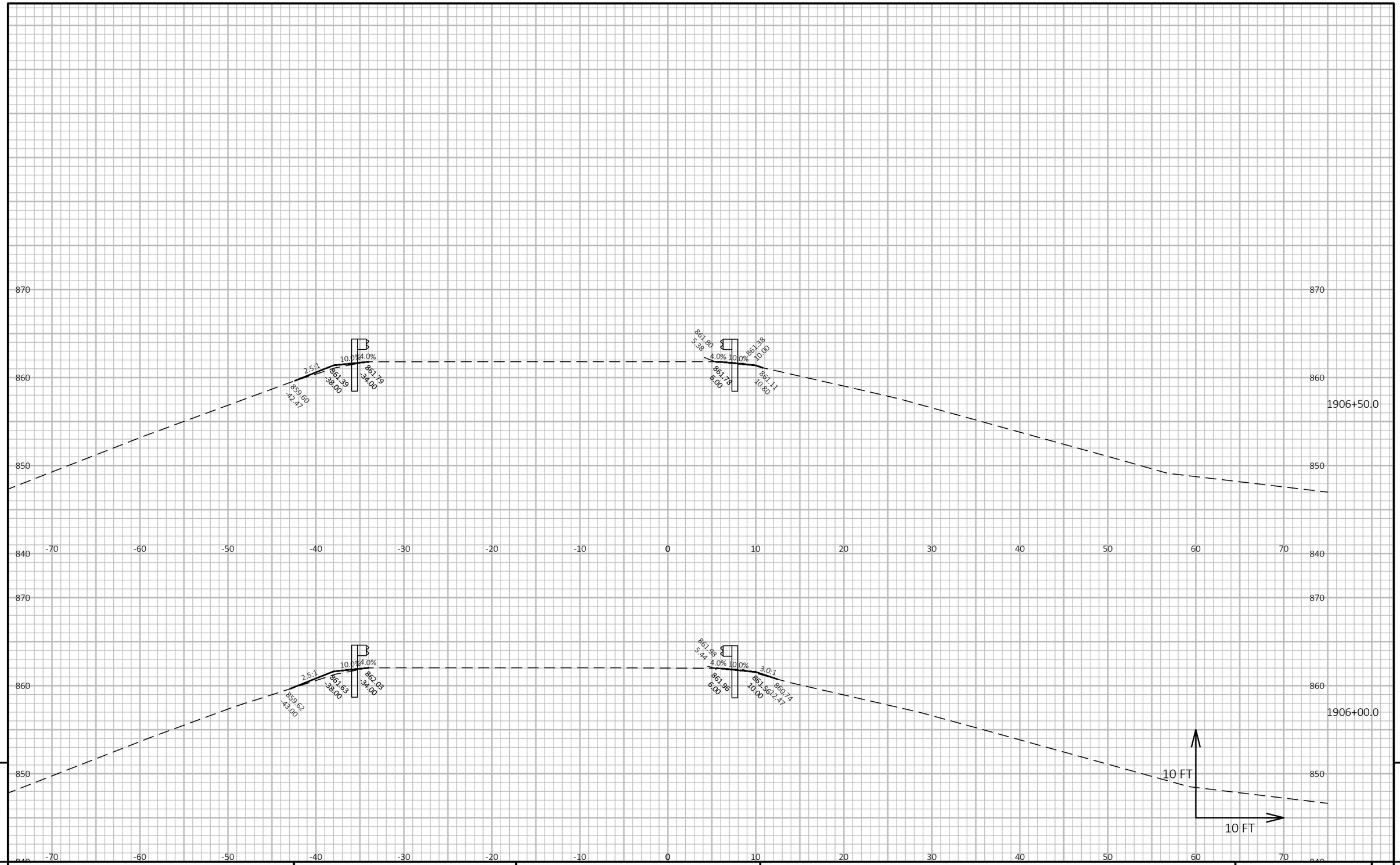
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 325	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail-Rosecrans 3

PLOT DATE : 6/14/2021 11:10 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

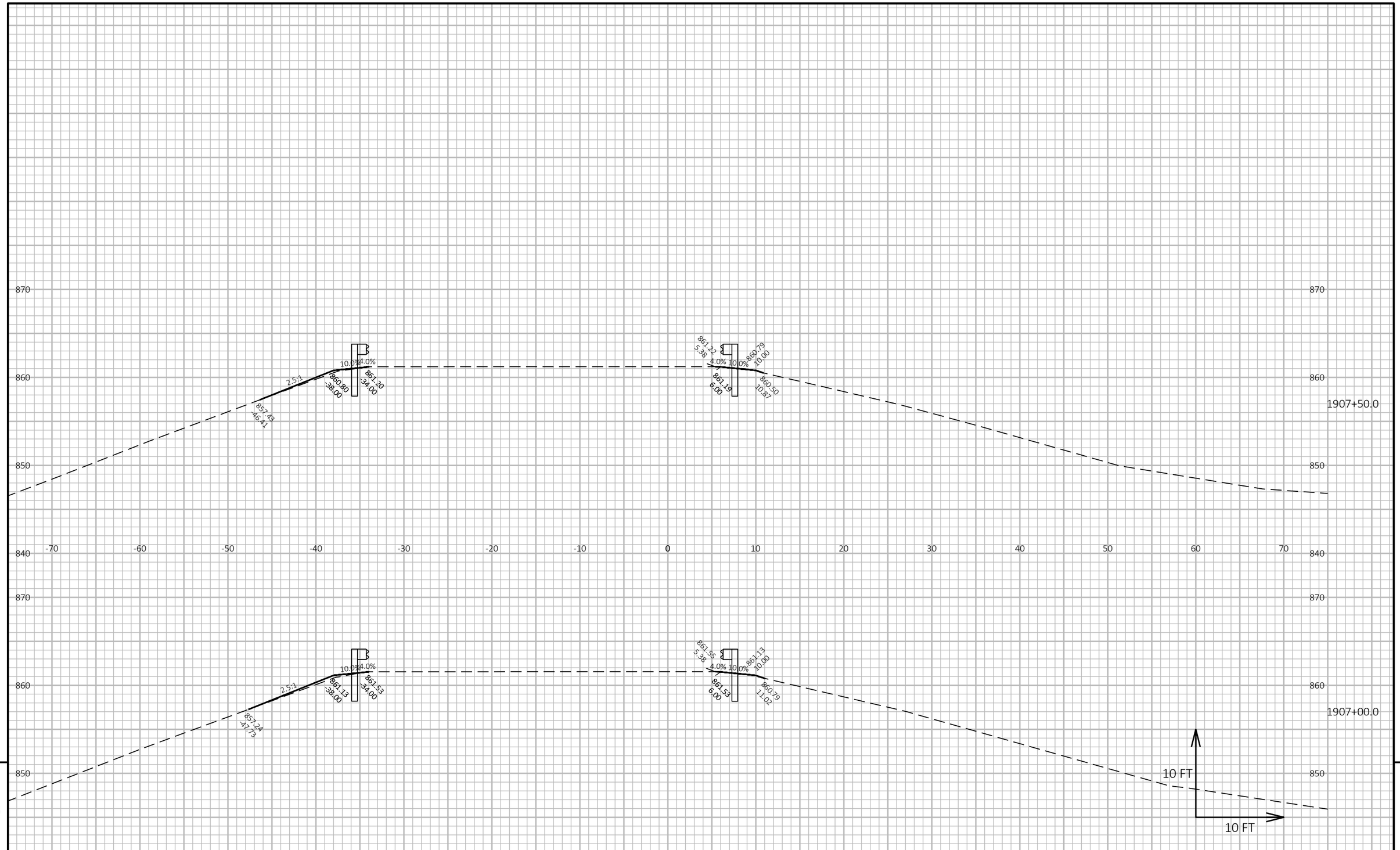
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 326	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail-Rosecrans 4

PLOT DATE : 6/14/2021 11:11 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

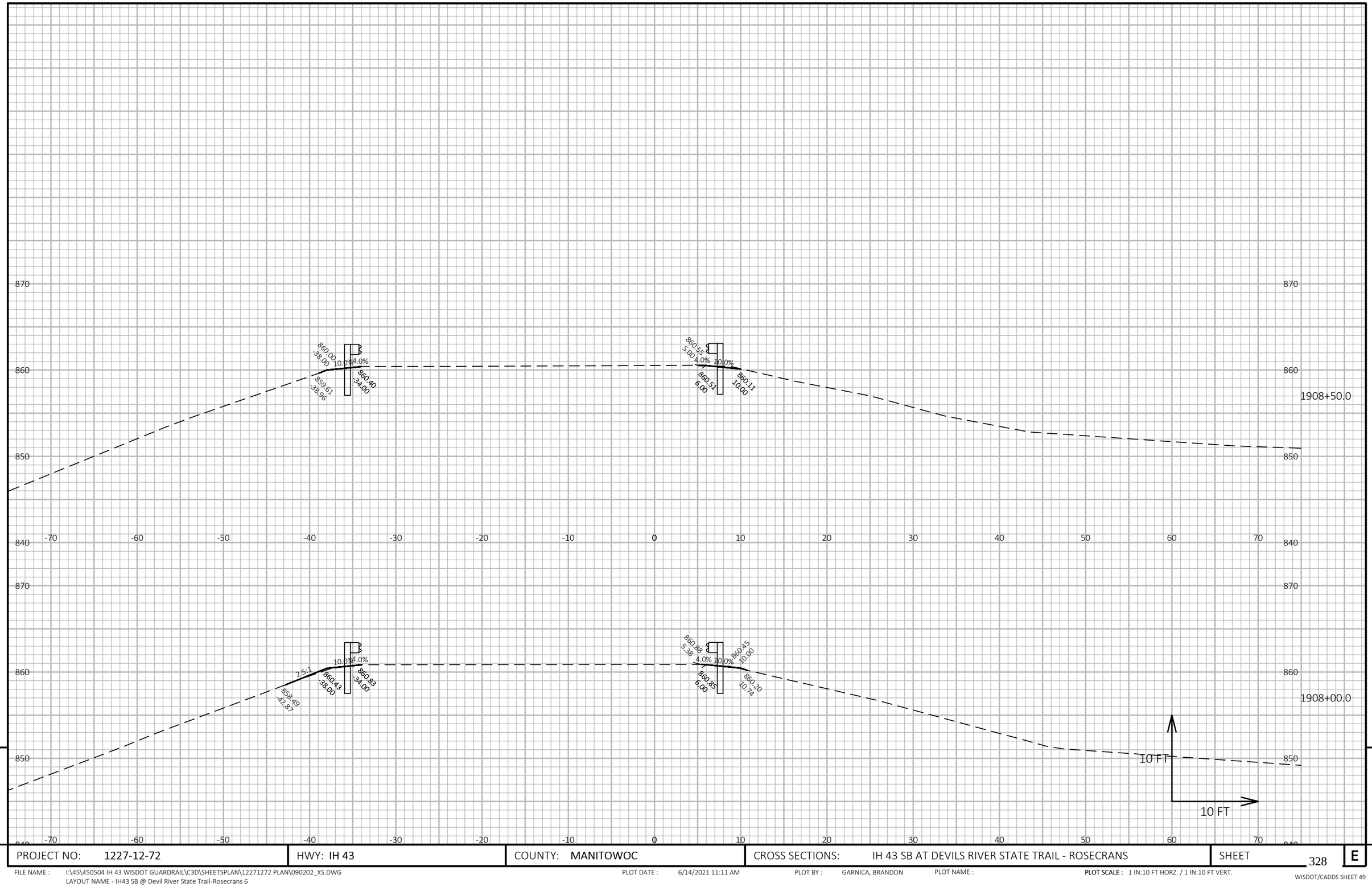
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 327	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail-Rosecrans 5

PLOT DATE : 6/14/2021 11:11 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



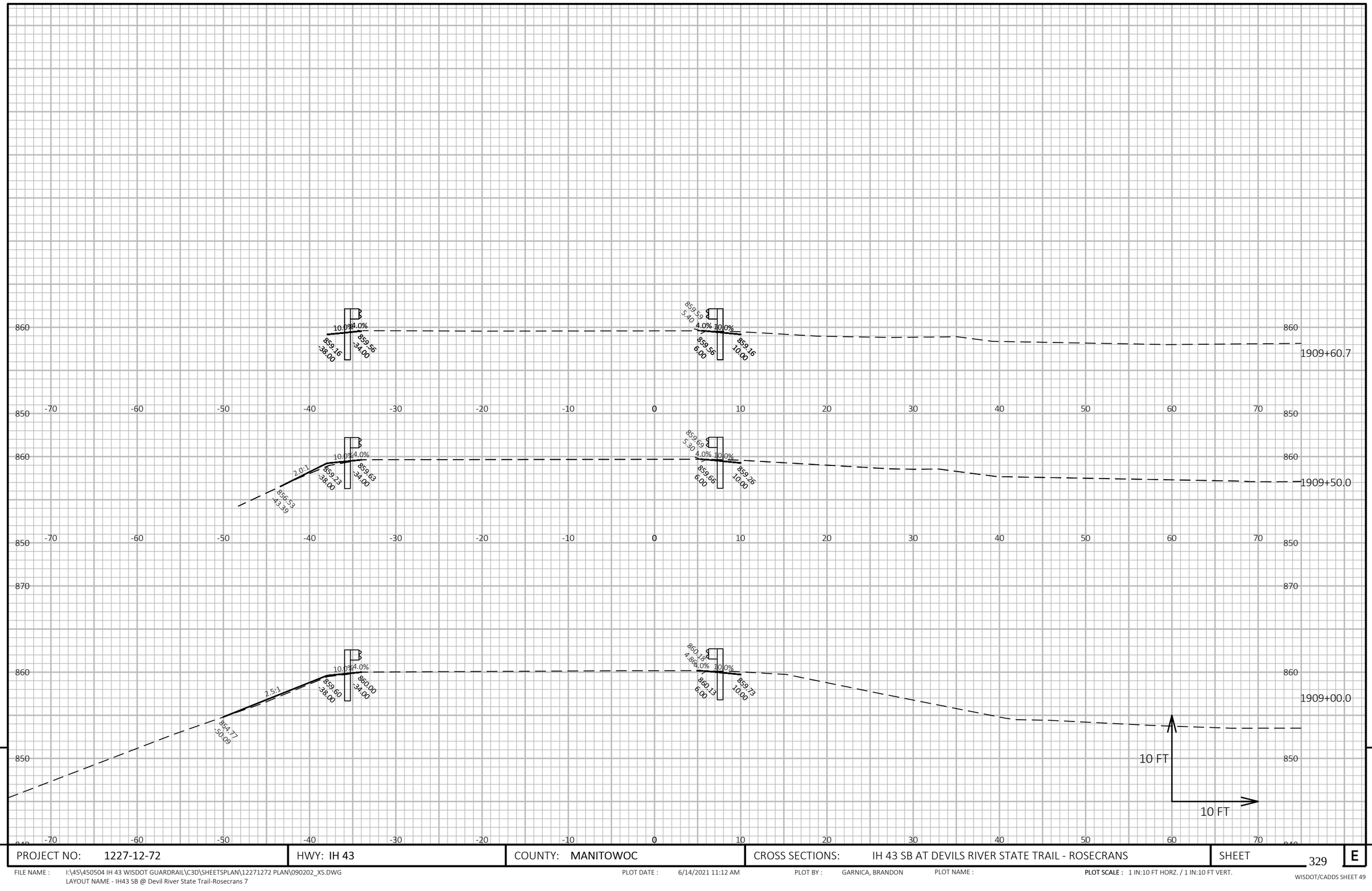
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 328	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail-Rosecrans 6

PLOT DATE : 6/14/2021 11:11 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

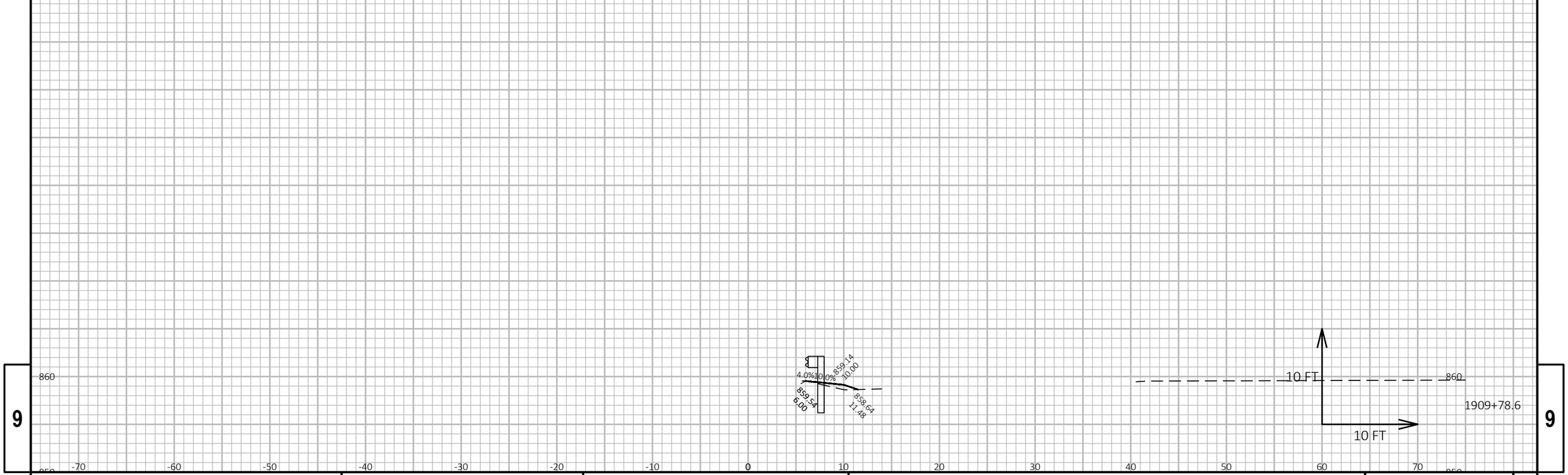
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 329	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail-Rosecrans 7

PLOT DATE : 6/14/2021 11:12 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



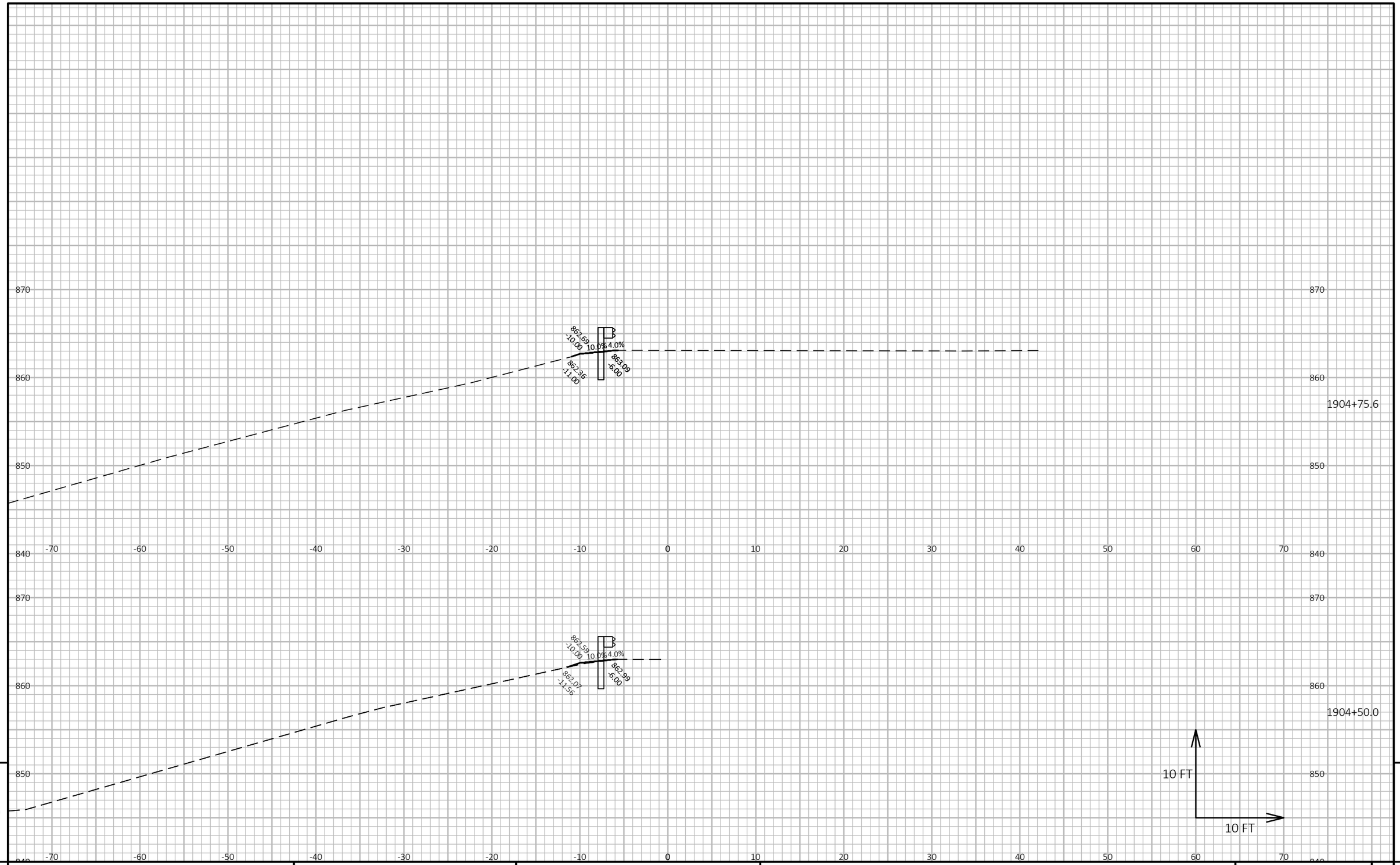
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 330	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Devil River State Trail-Rosecrans 8

PLOT DATE : 6/14/2021 11:12 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

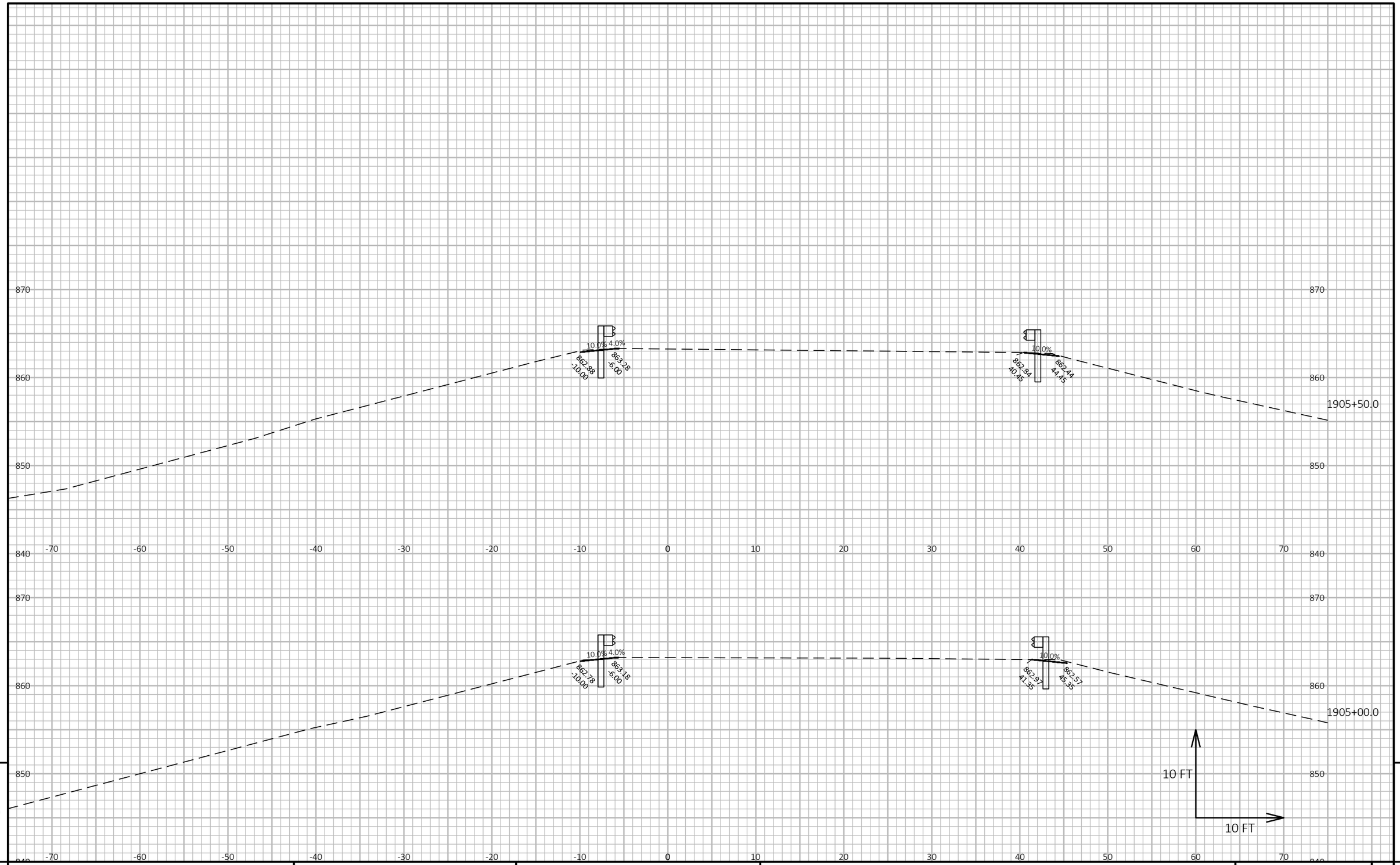
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 331	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail-Rosecrans 1

PLOT DATE : 6/14/2021 11:13 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

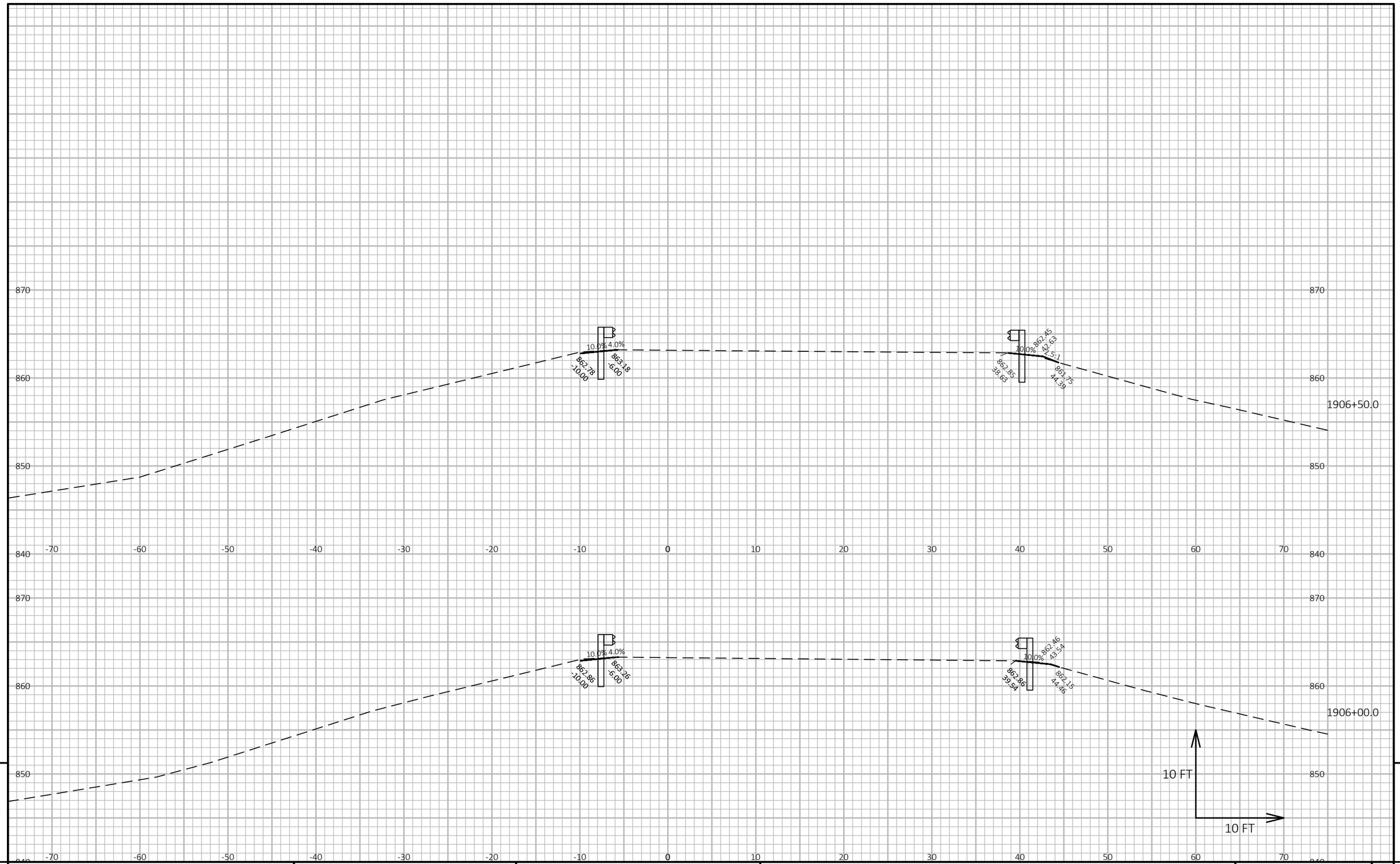
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 332	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail-Rosecrans 2

PLOT DATE : 6/14/2021 11:13 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



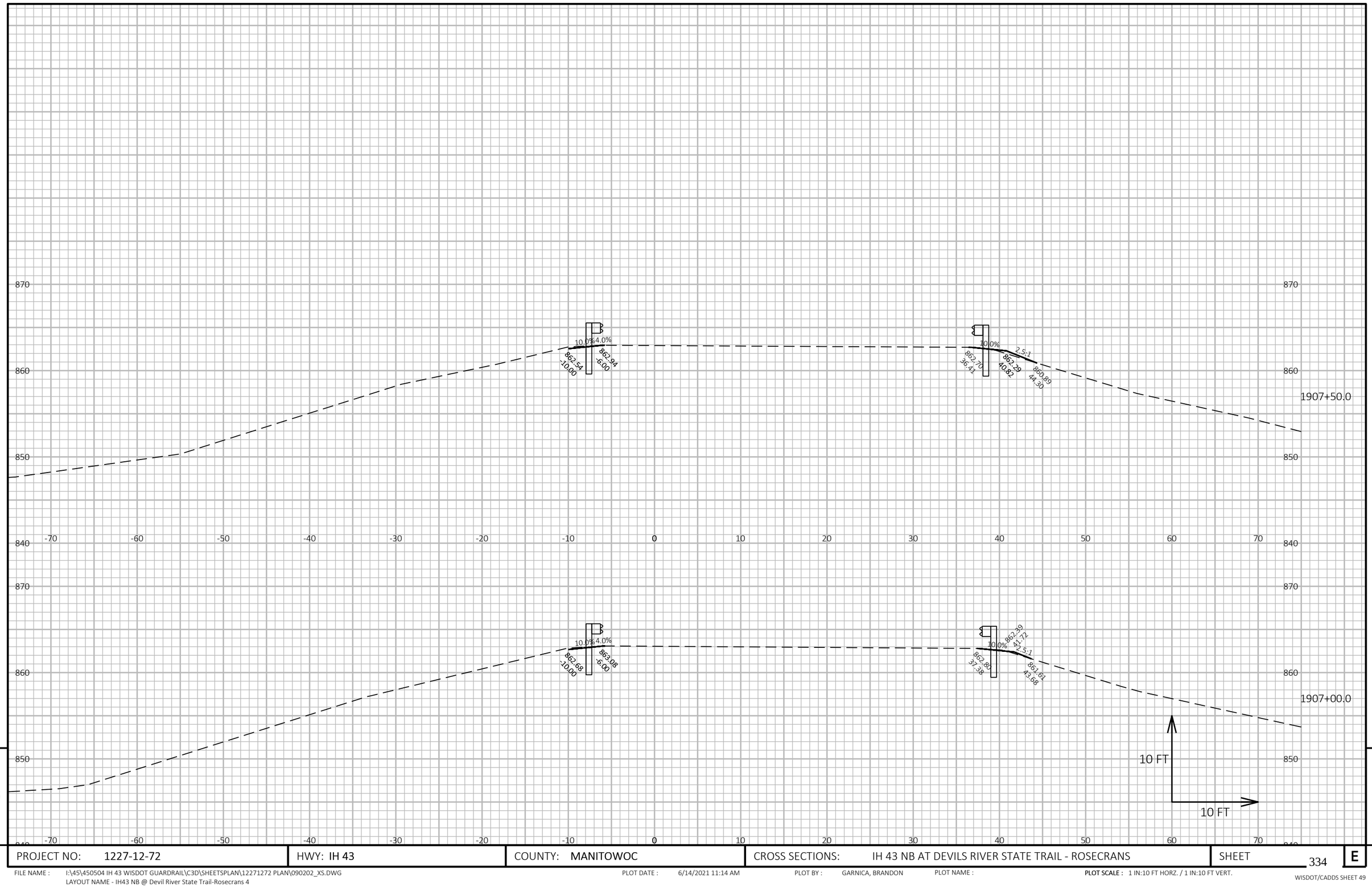
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 333	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail-Rosecrans 3

PLOT DATE : 6/14/2021 11:13 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

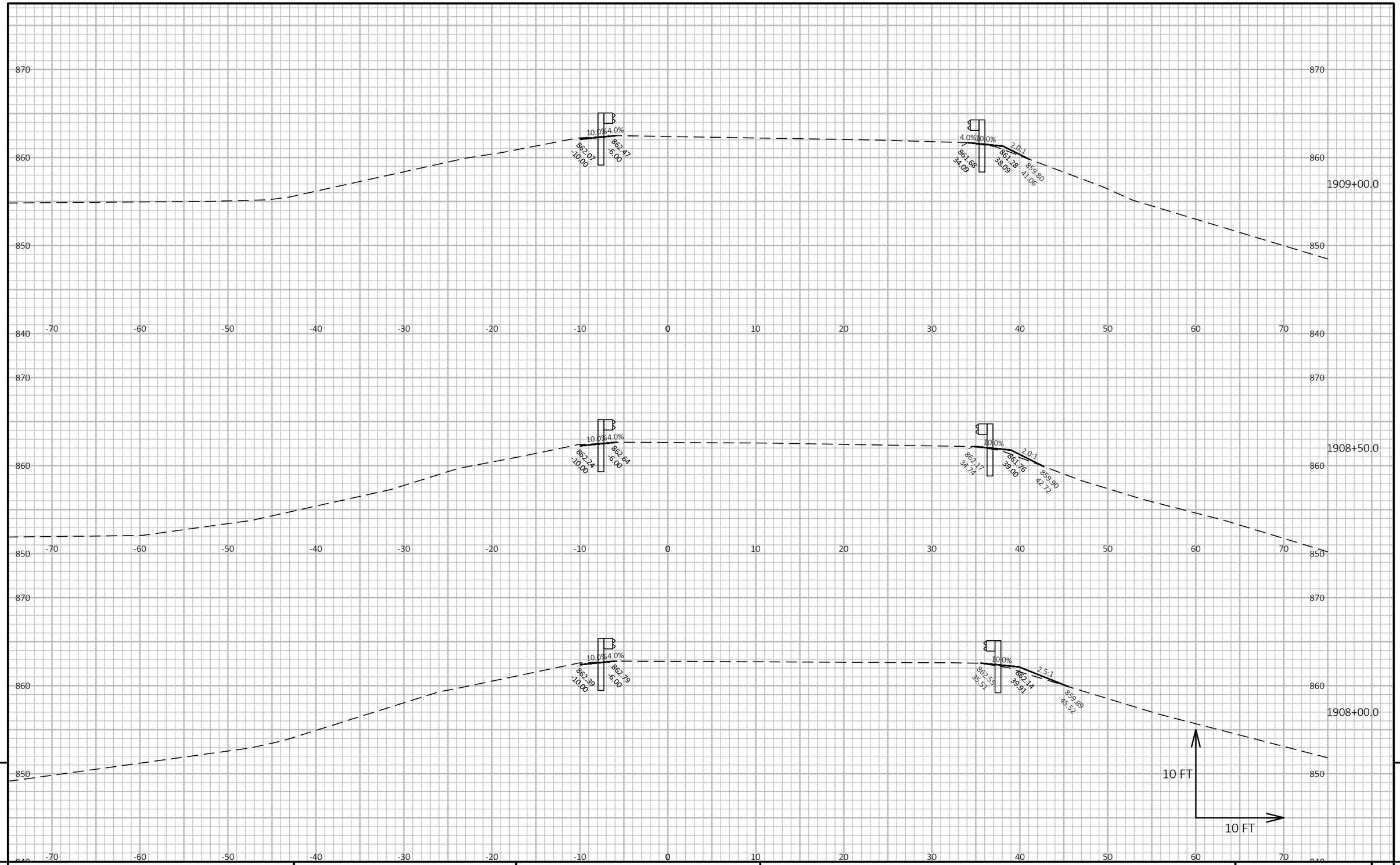
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 334	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail-Rosecrans 4

PLOT DATE : 6/14/2021 11:14 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

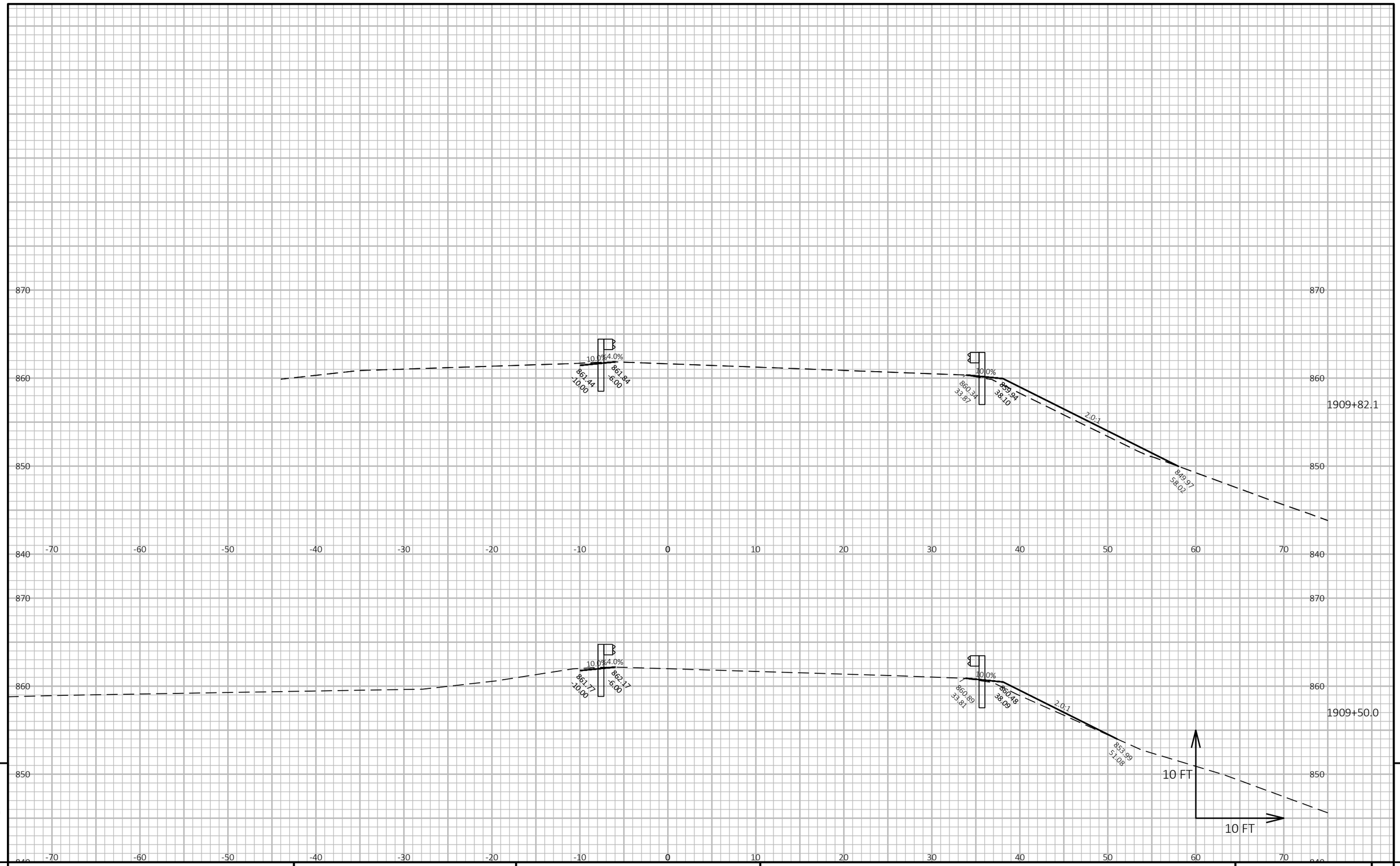
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 335	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail-Rosecrans 5

PLOT DATE : 6/14/2021 11:14 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

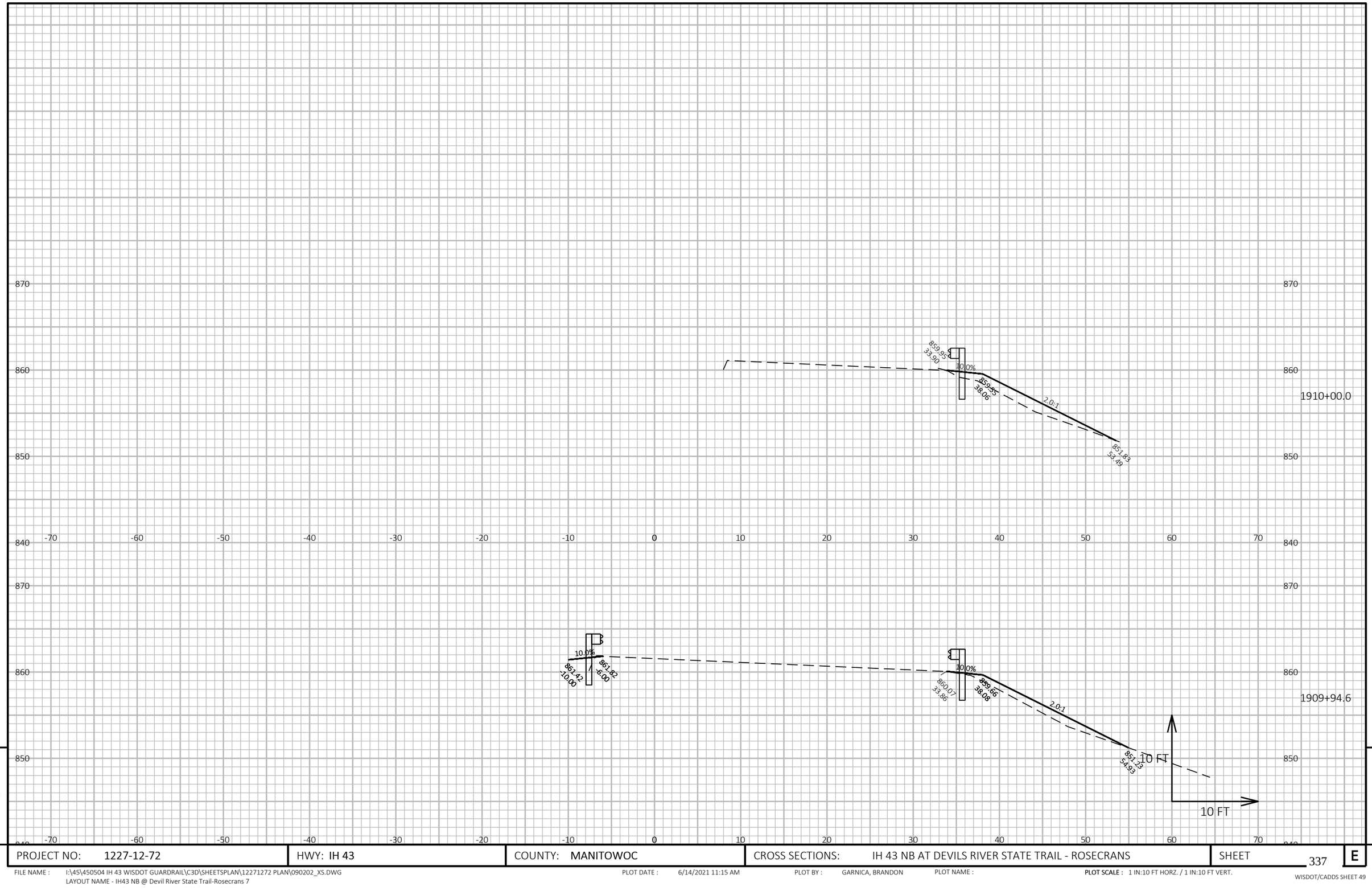
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 336	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail-Rosecrans 6

PLOT DATE : 6/14/2021 11:14 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



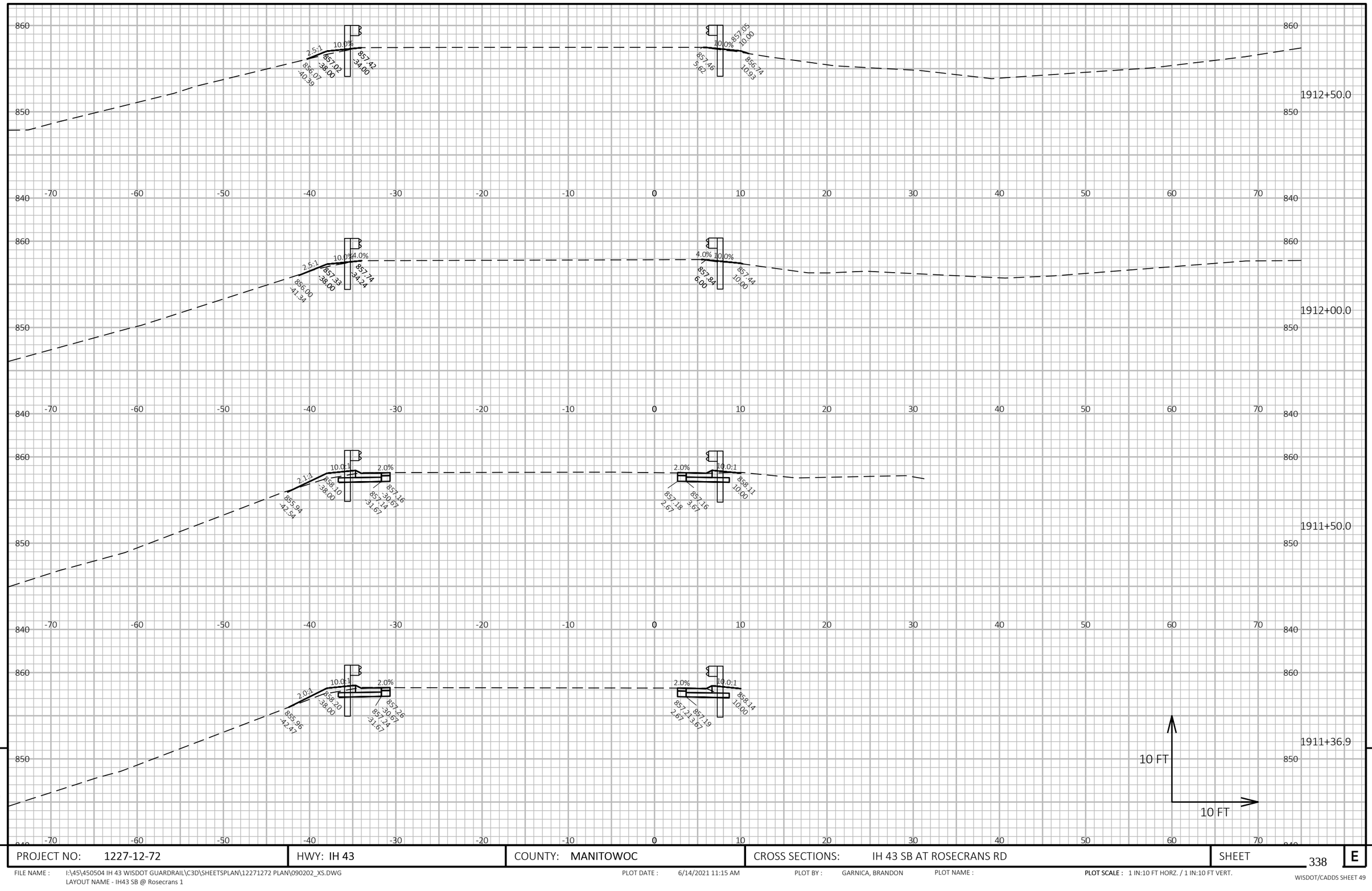
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB AT DEVILS RIVER STATE TRAIL - ROSECRANS	SHEET 337	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\122712272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 NB @ Devil River State Trail-Rosecrans 7

PLOT DATE : 6/14/2021 11:15 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

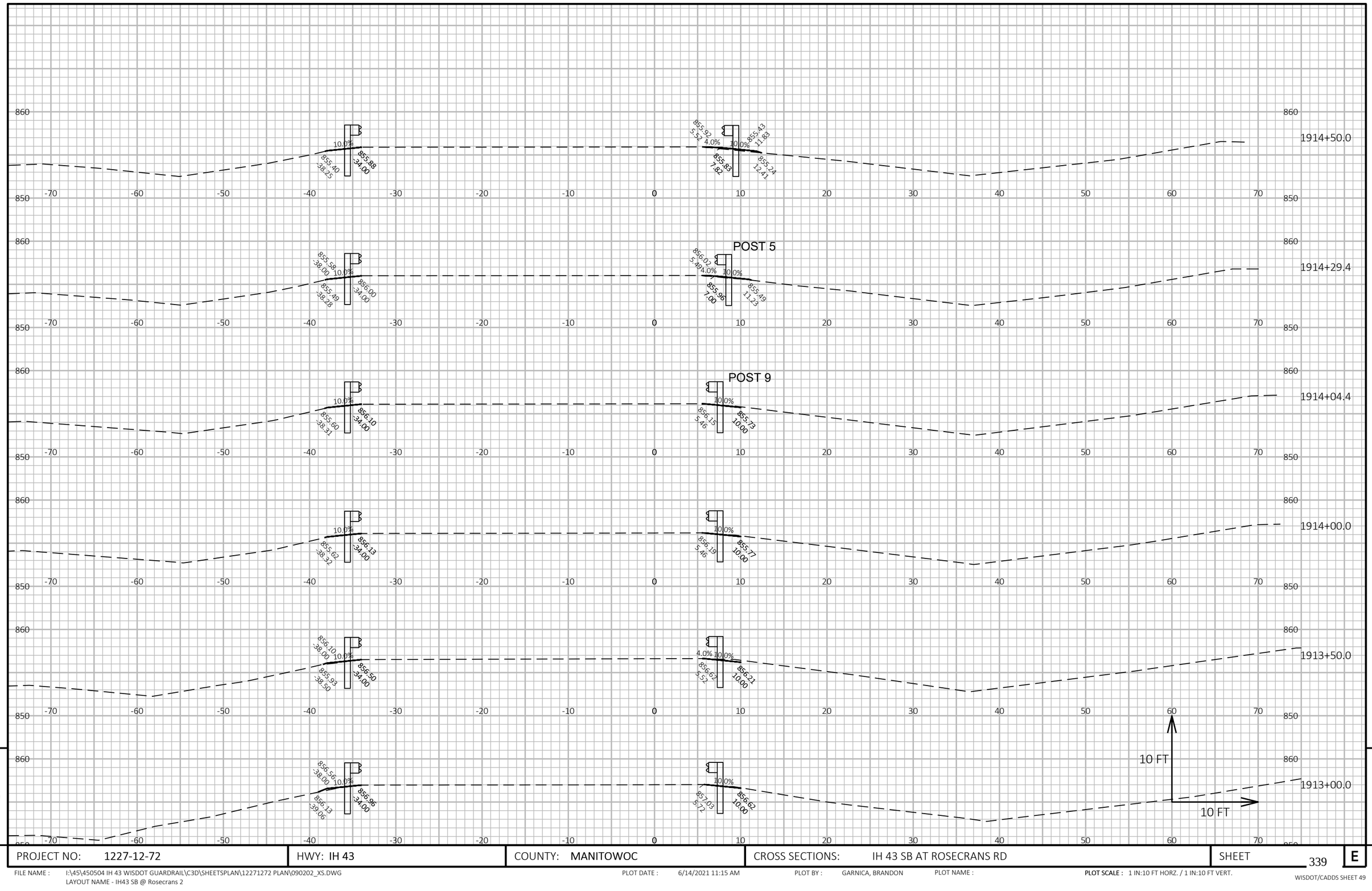


PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT ROSECRANS RD	SHEET 338	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Rosecrans 1

PLOT DATE : 6/14/2021 11:15 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT ROSECRANS RD	SHEET 339	E

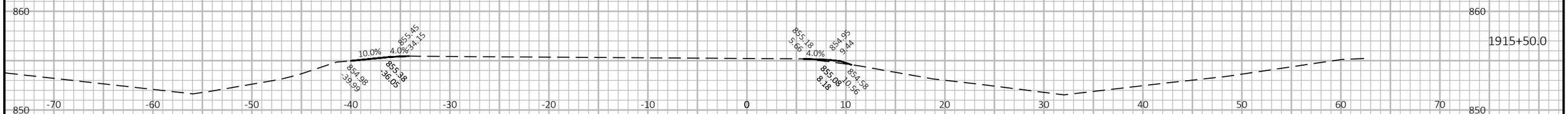
FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Rosecrans 2

PLOT DATE : 6/14/2021 11:15 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

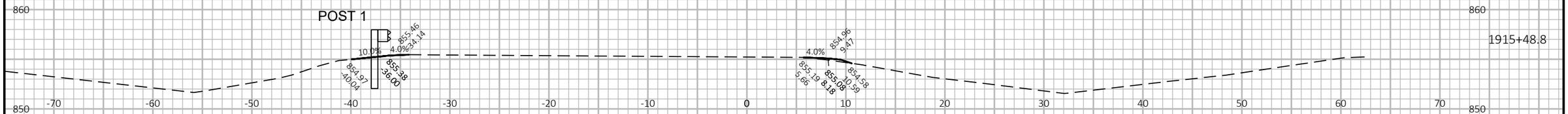
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

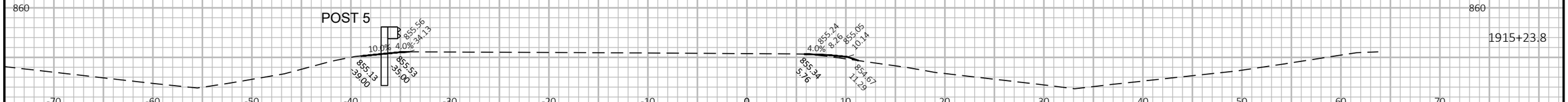
1915+50.0



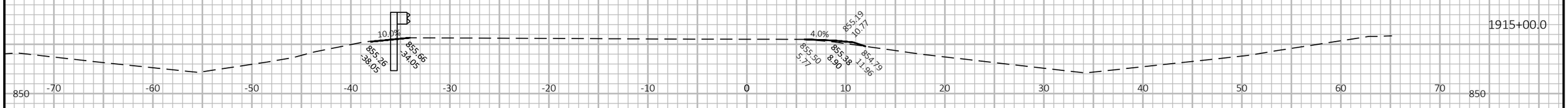
1915+48.8



1915+23.8



1915+00.0



1914+98.8

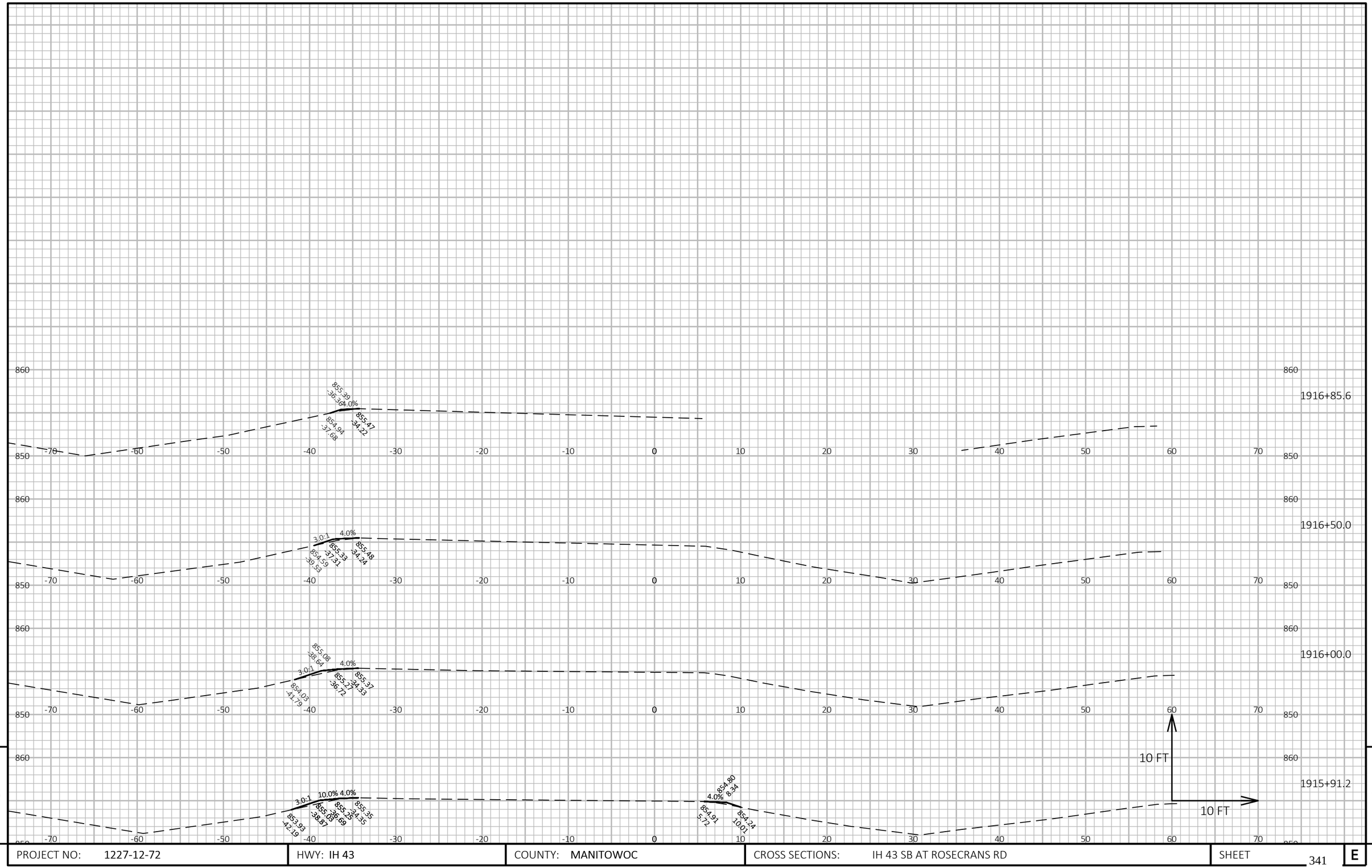
1914+54.4

9 9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT ROSECRANS RD	SHEET 340	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Rosecrans 3

PLOT DATE : 6/14/2021 11:15 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB AT ROSECRANS RD	SHEET 341	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - IH43 SB @ Rosecrans 4

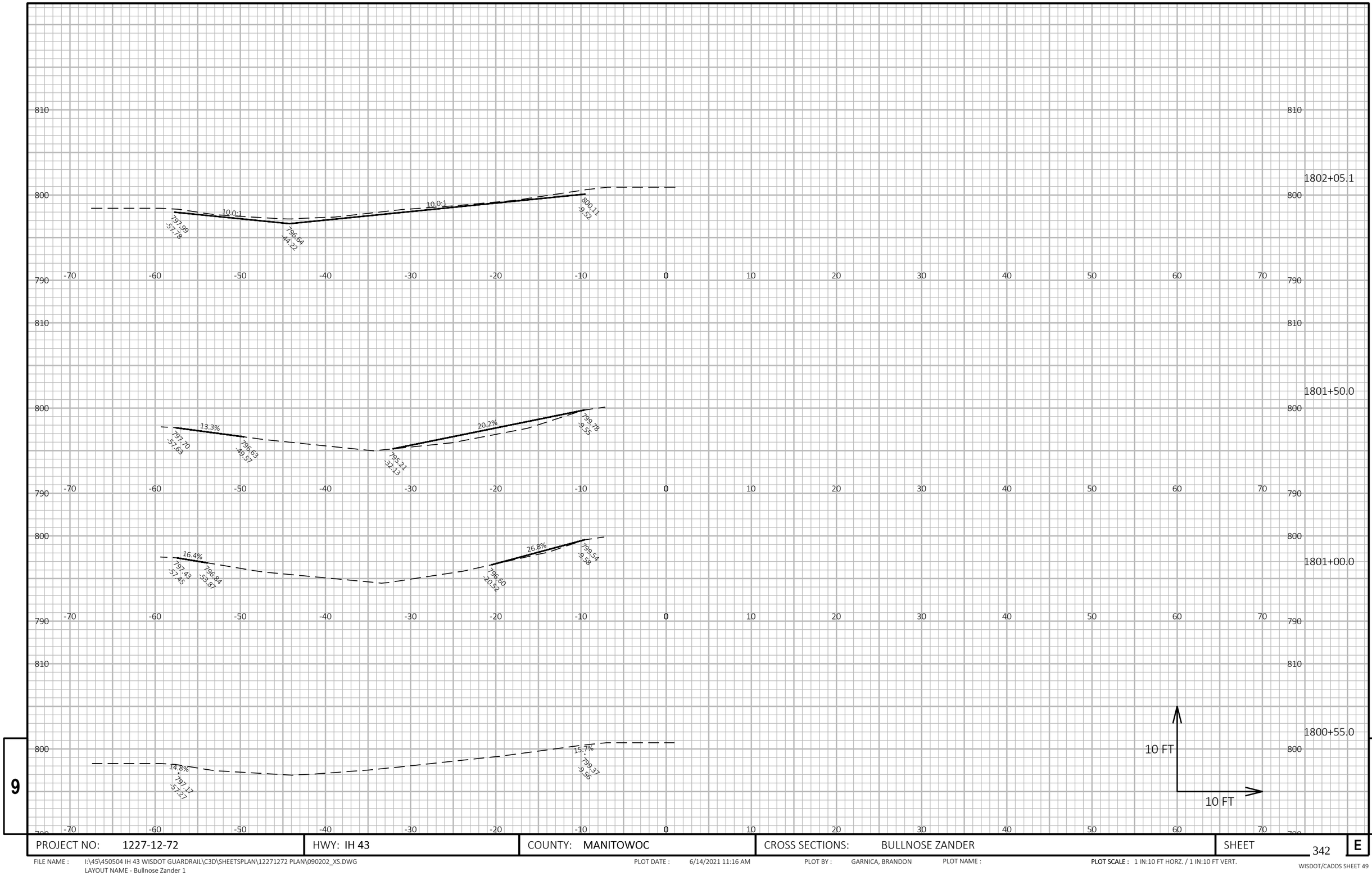
PLOT DATE : 6/14/2021 11:16 AM

PLOT BY : GARNICA, BRANDON

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

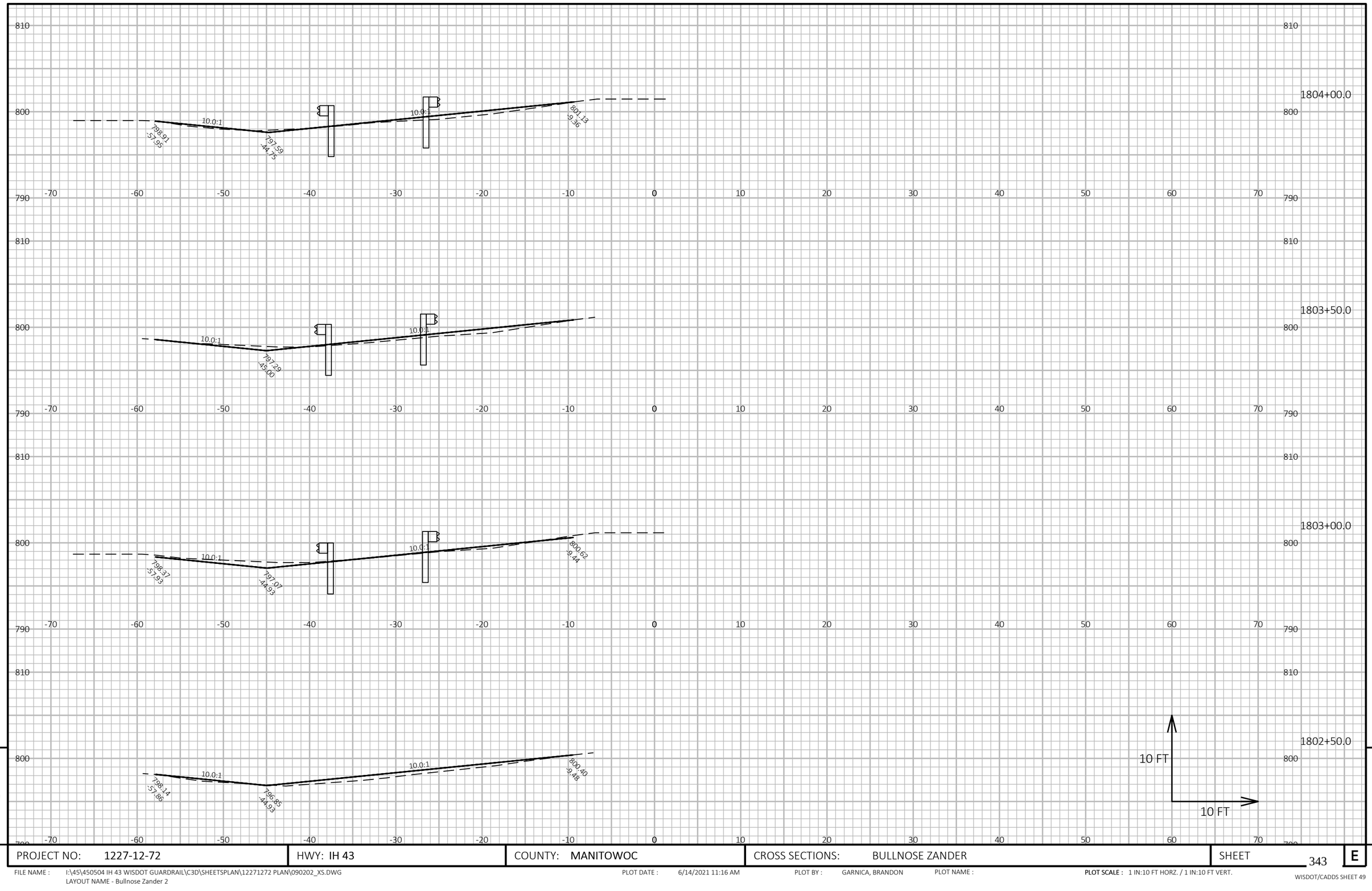
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE ZANDER	SHEET 342	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - Bullnose Zander 1

PLOT DATE : 6/14/2021 11:16 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

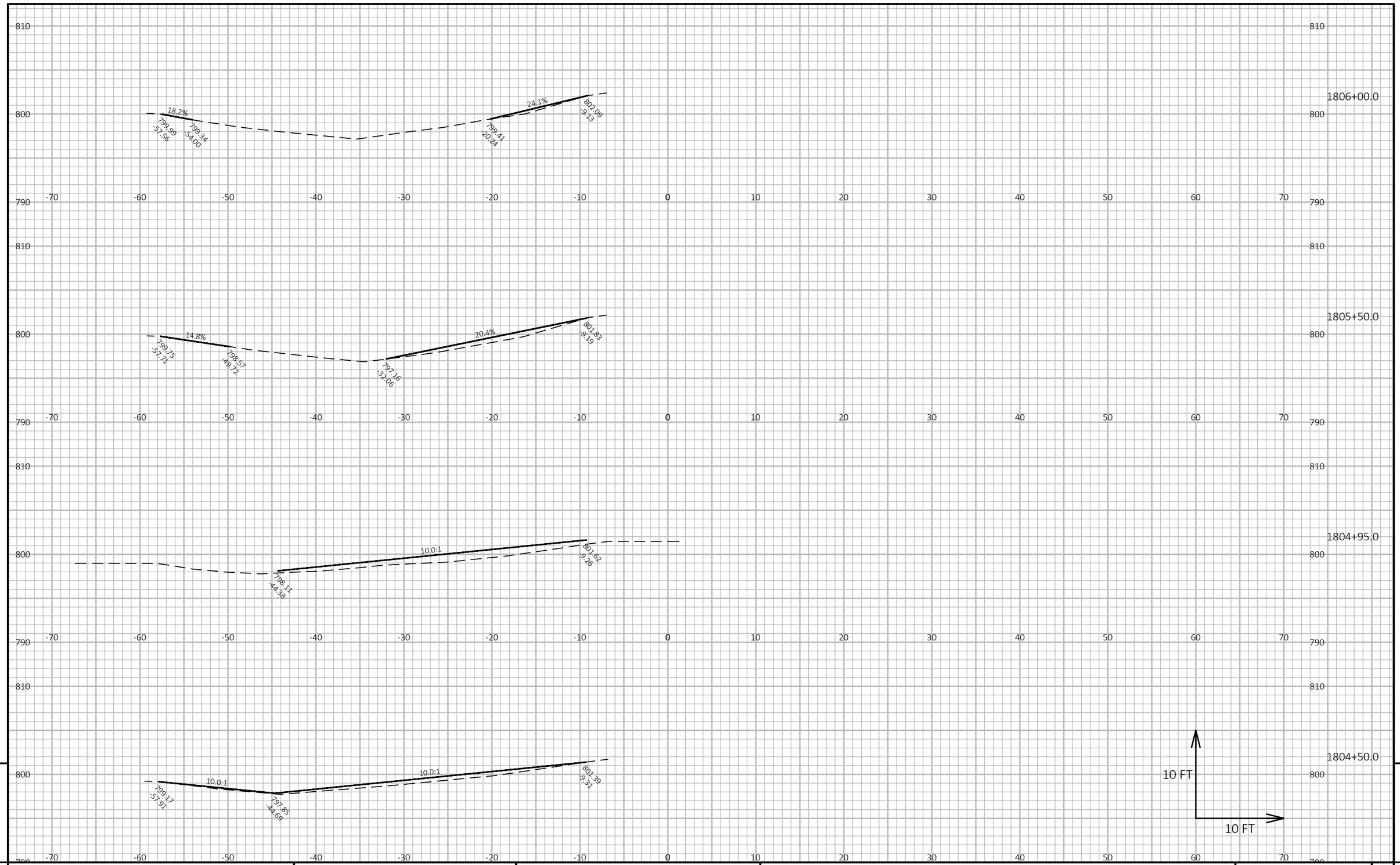
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE ZANDER	SHEET 343	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - Bullnose Zander 2

PLOT DATE : 6/14/2021 11:16 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE ZANDER	SHEET 344	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - Bullnose Zander 3

PLOT DATE : 6/14/2021 11:17 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

9

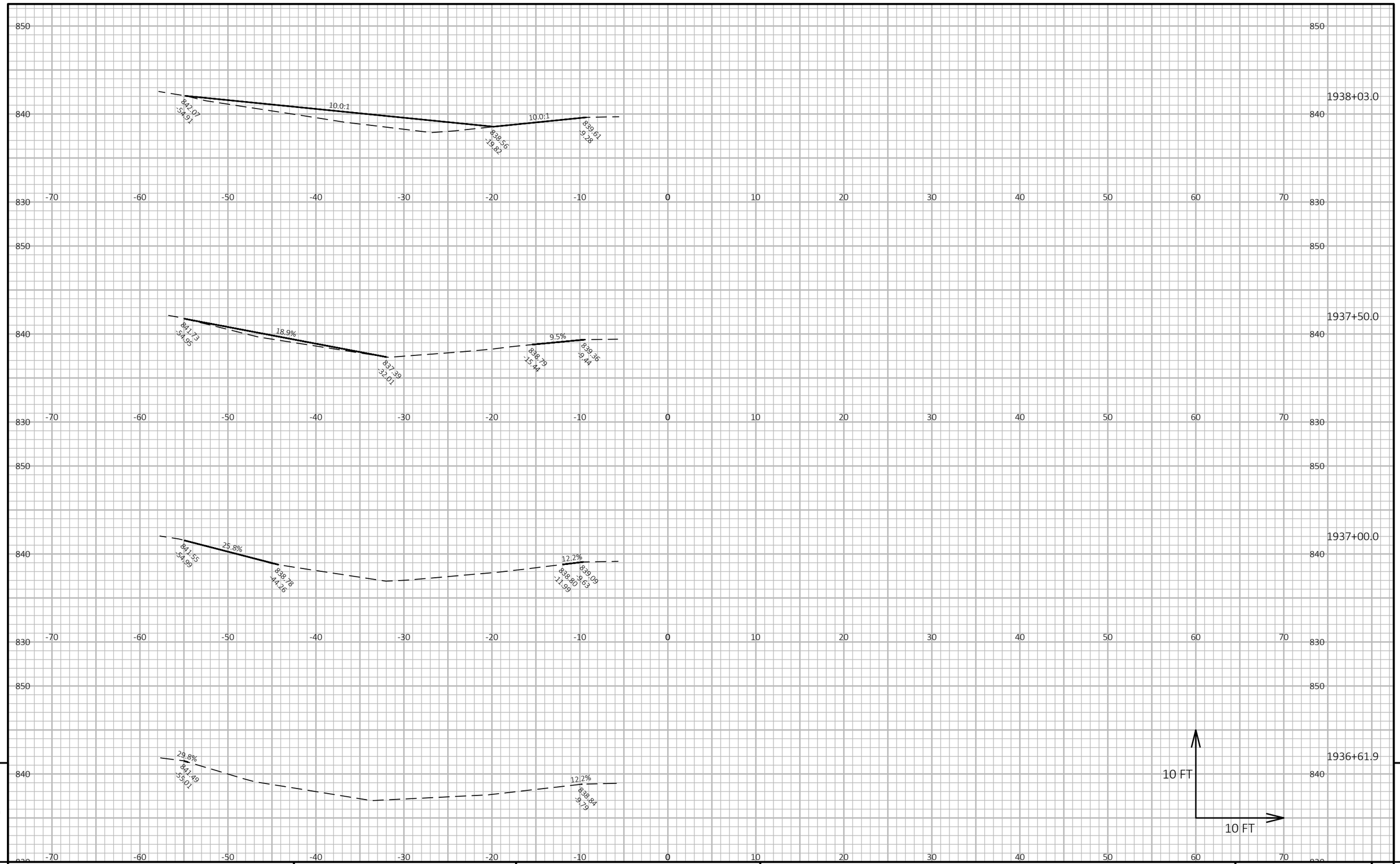
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE ZANDER	SHEET 345	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - Bullnose Zander 4

PLOT DATE : 6/14/2021 11:17 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

9

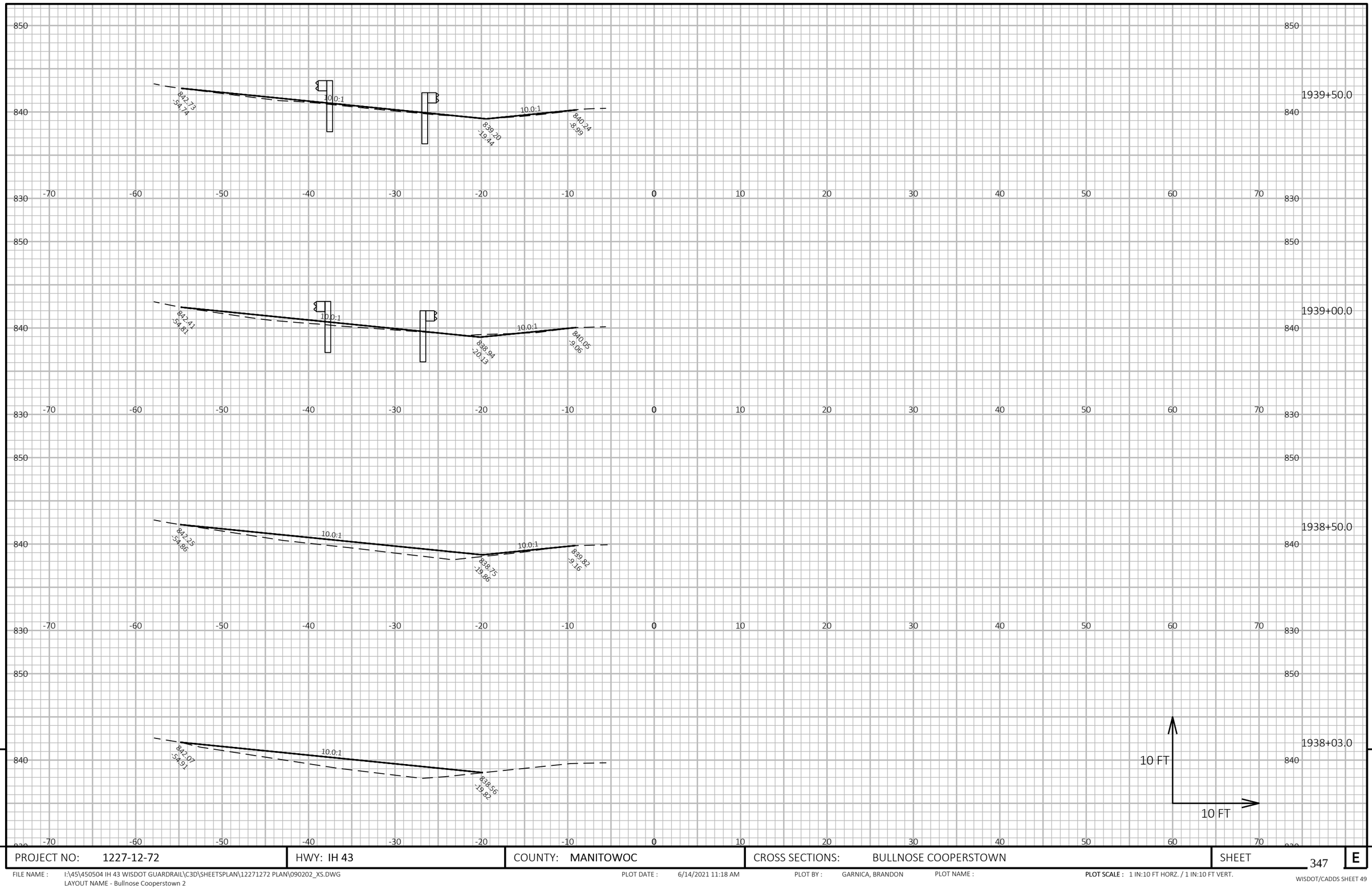
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE COOPERSTOWN	SHEET 346	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - Bullnose Cooperstown 1

PLOT DATE : 6/14/2021 11:17 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

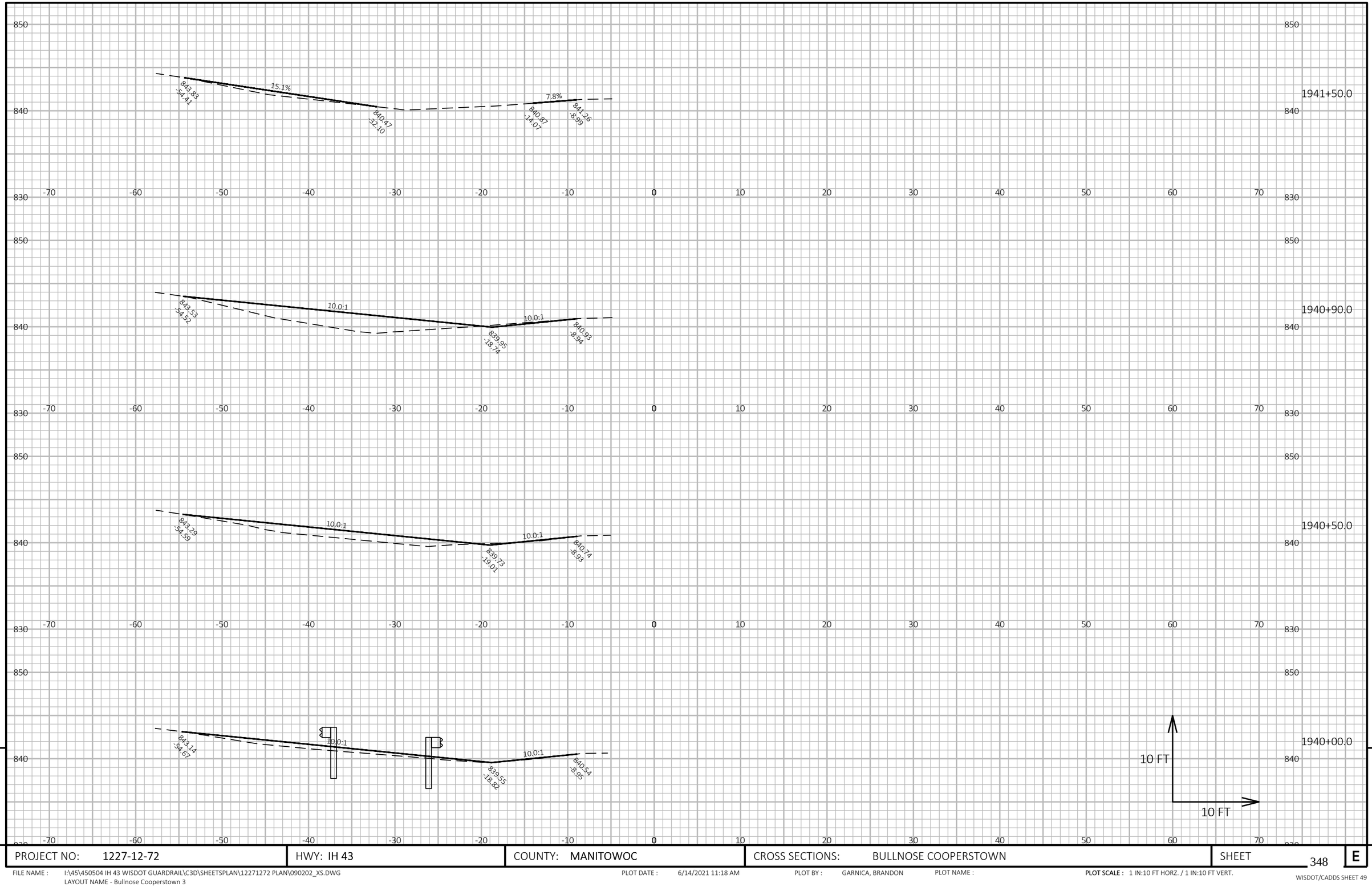
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE COOPERSTOWN	SHEET 347	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - Bullnose Cooperstown 2

PLOT DATE : 6/14/2021 11:18 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

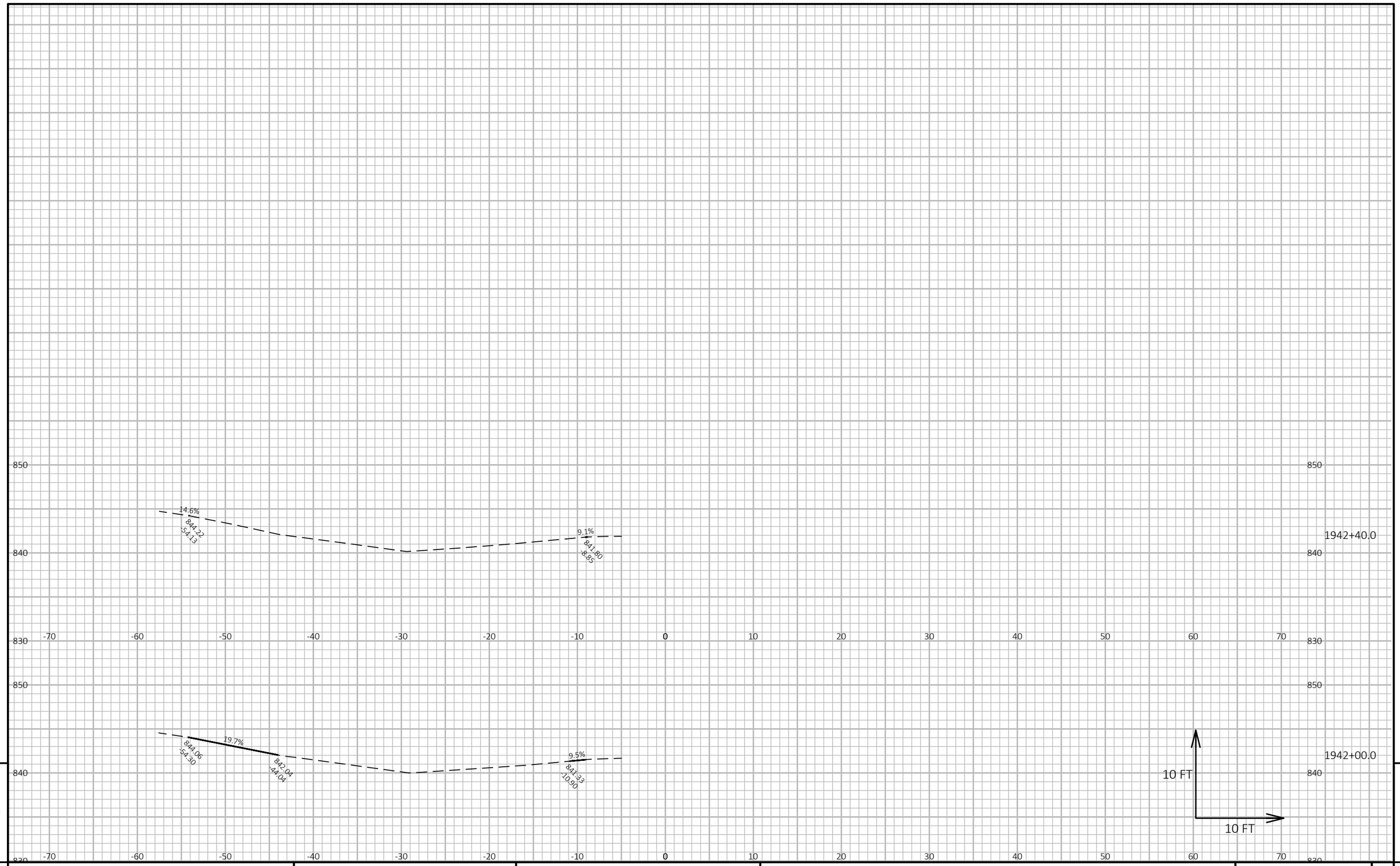
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE COOPERSTOWN	SHEET 348	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - Bullnose Cooperstown 3

PLOT DATE : 6/14/2021 11:18 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



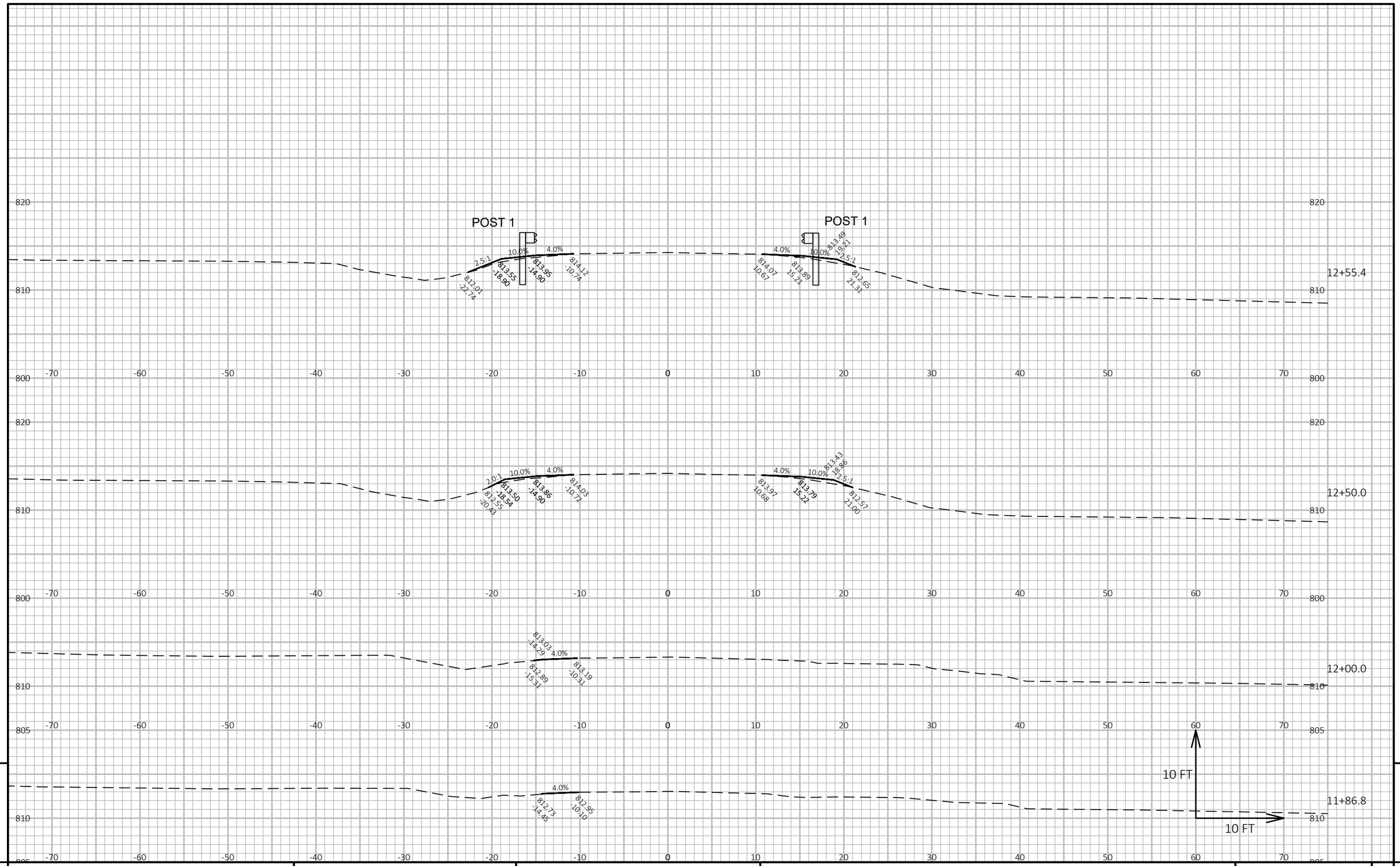
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: BULLNOSE COOPERSTOWN	SHEET 349	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090202_XS.DWG
LAYOUT NAME - Bullnose Cooperstown 4

PLOT DATE : 6/14/2021 11:18 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

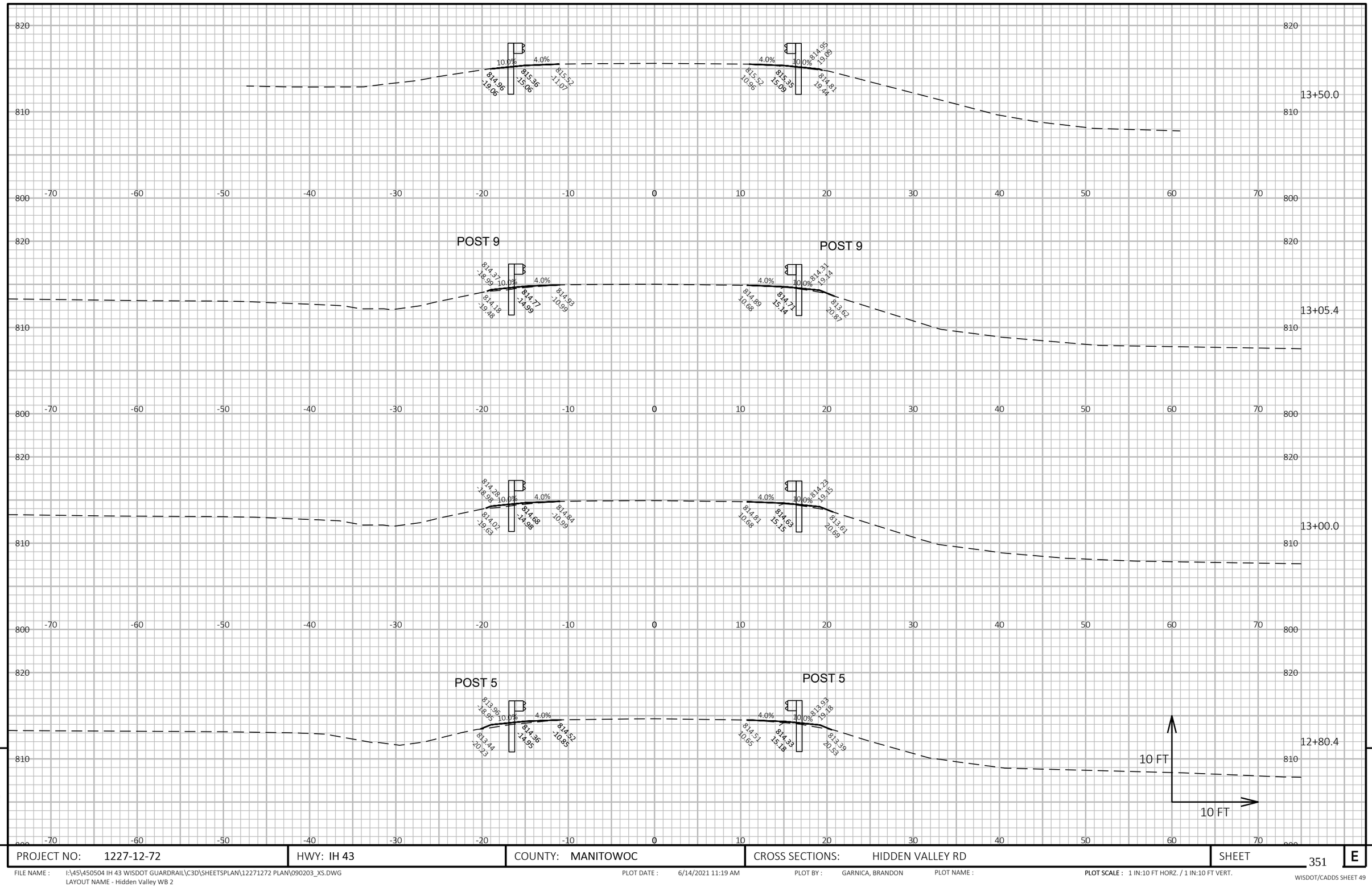
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: HIDDEN VALLEY RD	SHEET 350	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Hidden Valley WB 1

PLOT DATE : 6/14/2021 11:19 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

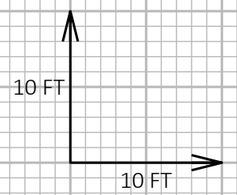
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: HIDDEN VALLEY RD	SHEET 351	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Hidden Valley WB 2

PLOT DATE : 6/14/2021 11:19 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



820 820

13+80.0

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9 9

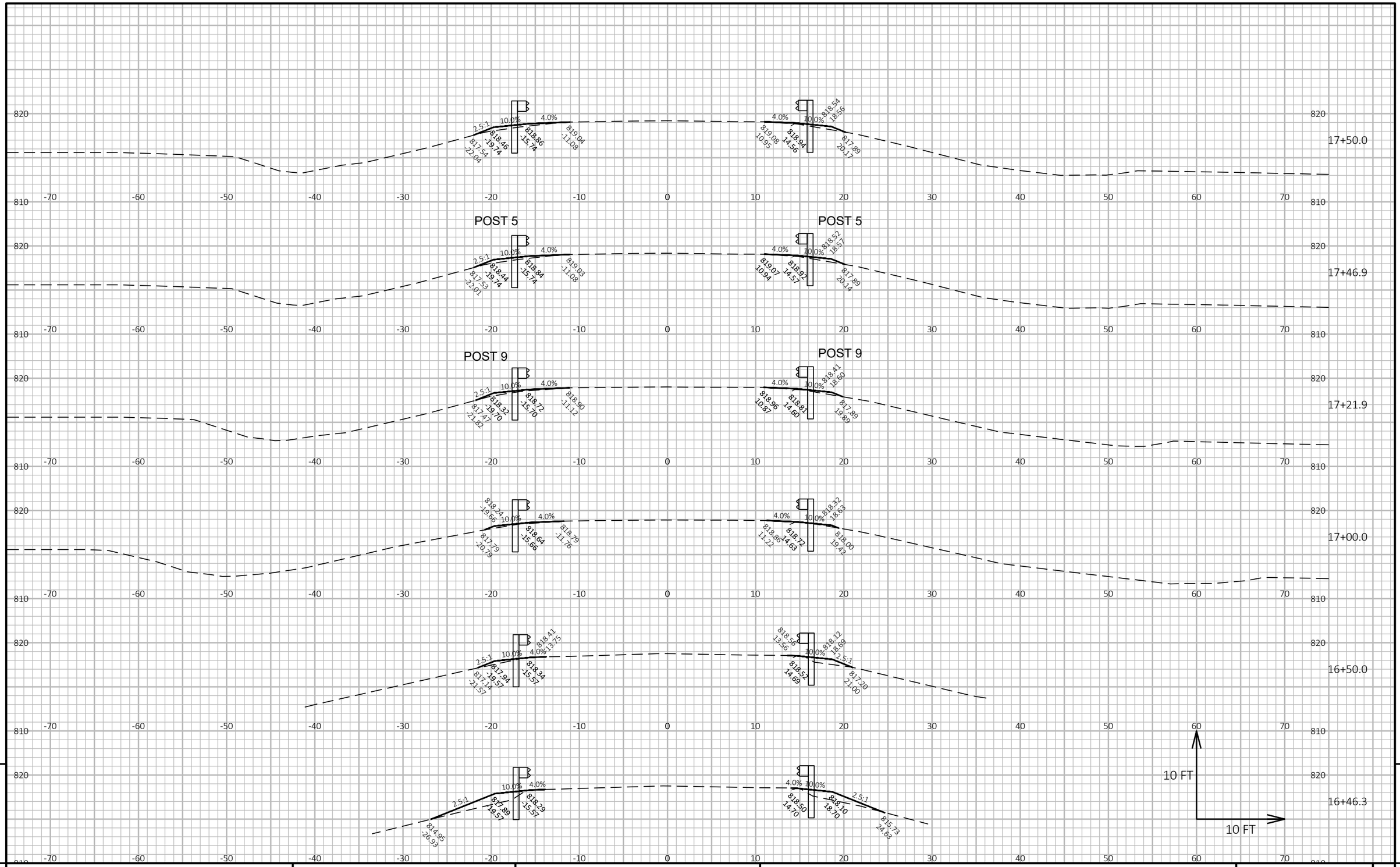
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: HIDDEN VALLEY RD	SHEET 352	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Hidden Valley WB 3

PLOT DATE : 6/14/2021 11:19 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

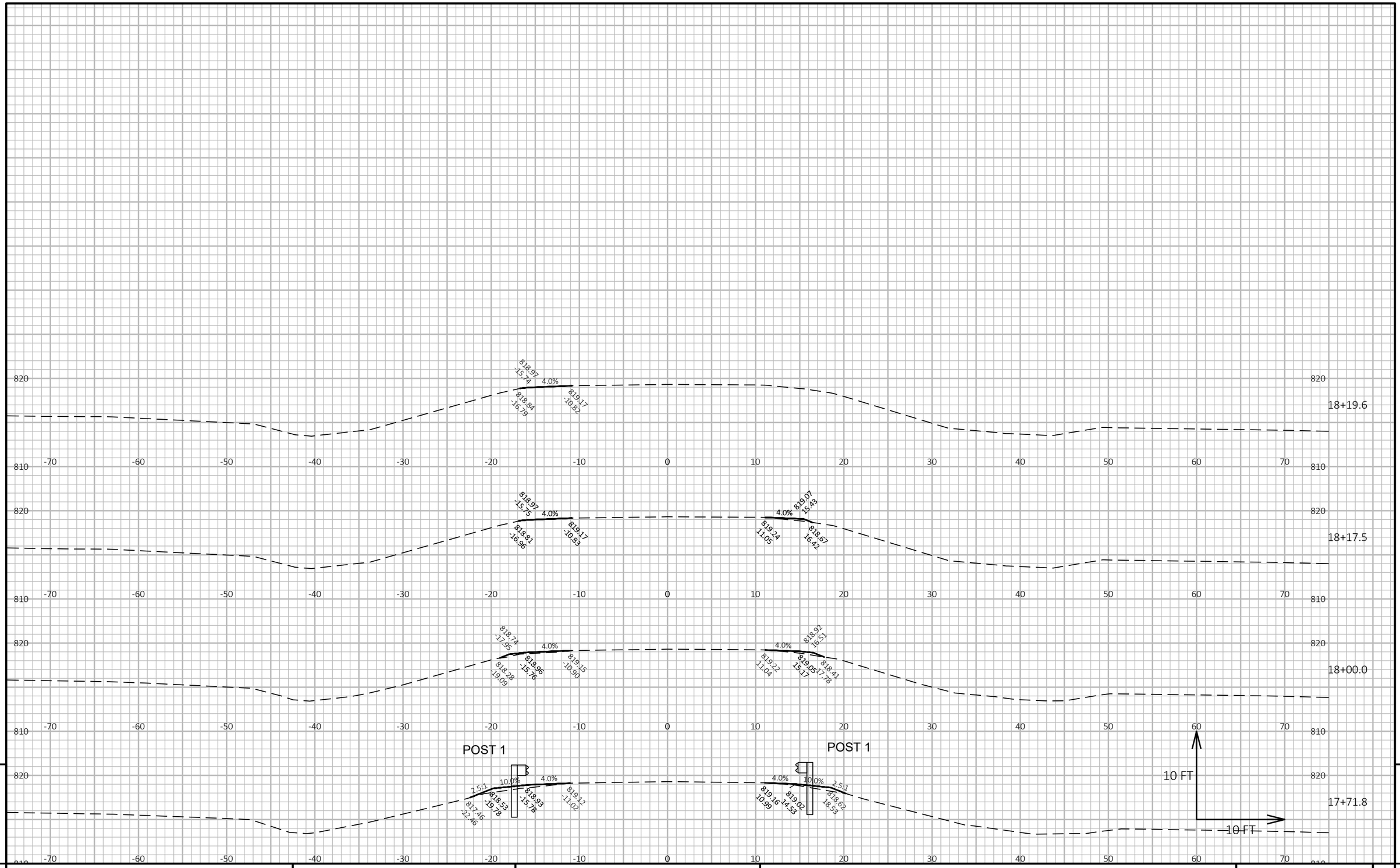
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: HIDDEN VALLEY RD	SHEET 353	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Hidden Valley EB 1

PLOT DATE : 6/14/2021 11:19 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

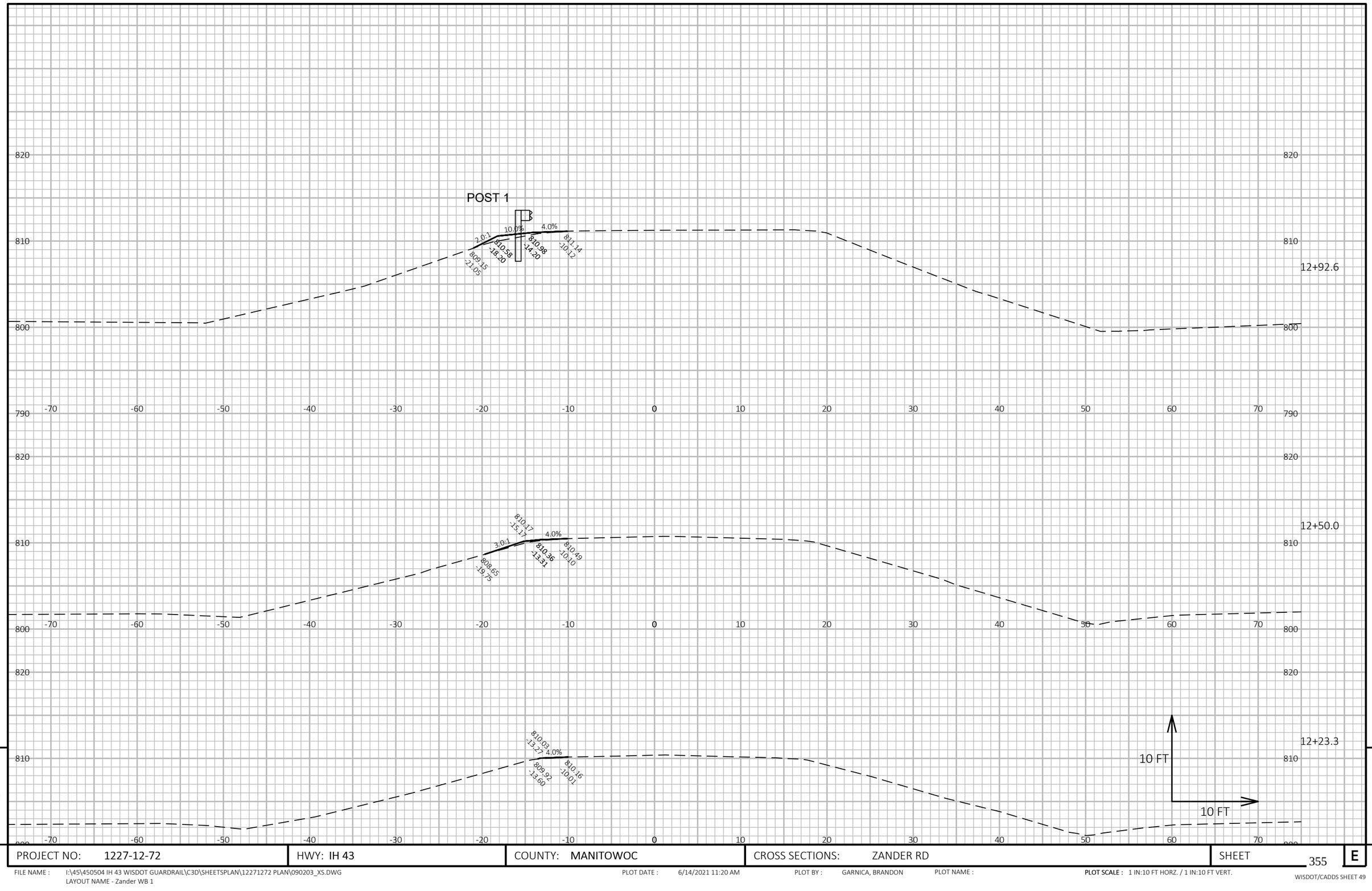
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: HIDDEN VALLEY RD	SHEET 354	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Hidden Valley EB 2

PLOT DATE : 6/14/2021 11:19 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 355	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander WB 1

PLOT DATE : 6/14/2021 11:20 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

POST 9

811.68
-16.35
10.0%
4.0%
811.88
-14.35
812.04
-10.40
811.47
-17.37

13+42.6

POST 5

2.0:1
809.27
-21.77
811.02
-18.28
10.0%
4.0%
811.42
-14.28
811.58
-10.25

13+17.6

2.0:1
809.19
-21.25
810.70
-18.22
10.0%
4.0%
811.10
-14.22
811.26
-10.14

13+00.0

10 FT
10 FT

820
810
800
790
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

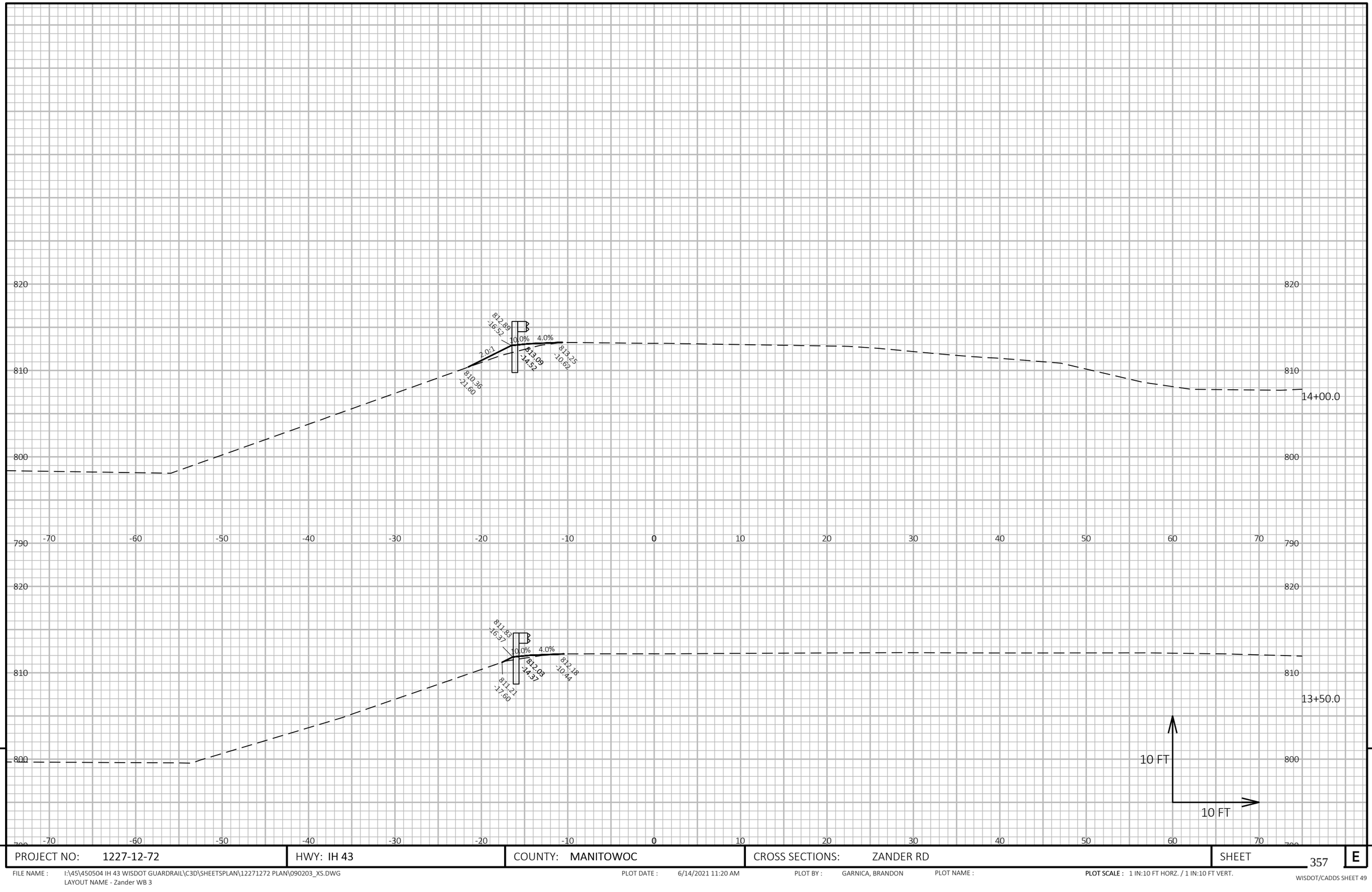
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 356	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander WB 2

PLOT DATE : 6/14/2021 11:20 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

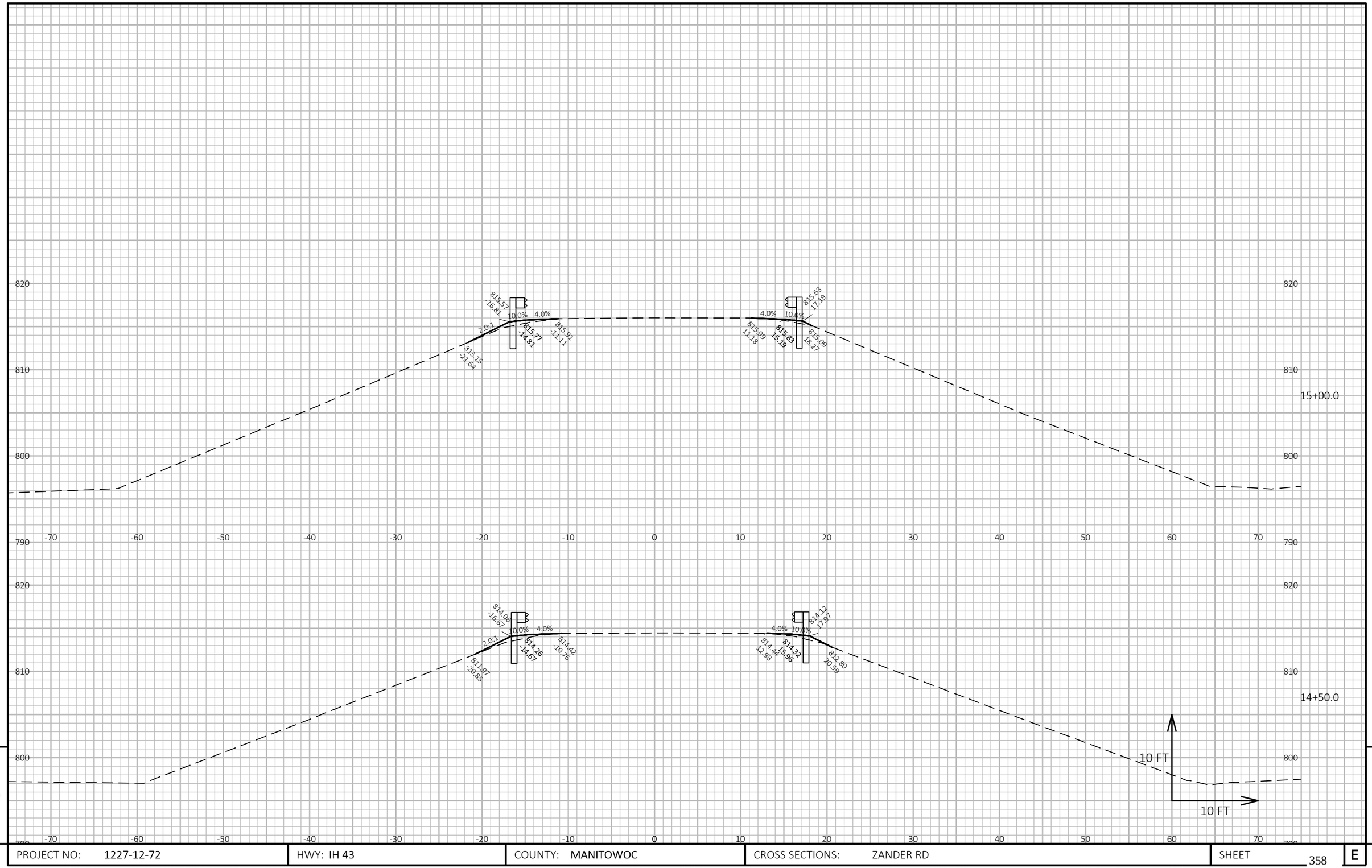
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 357	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander WB 3

PLOT DATE : 6/14/2021 11:20 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



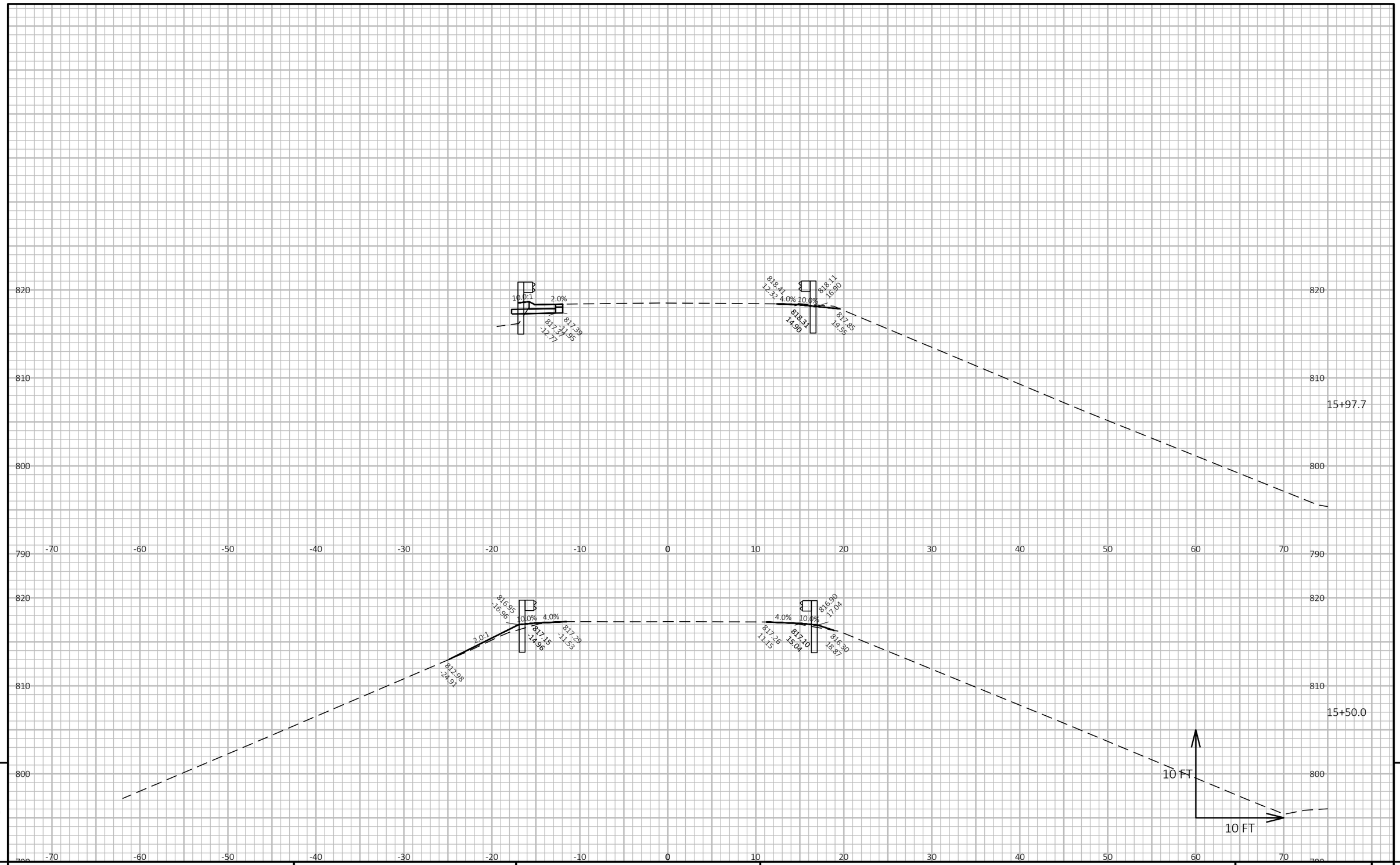
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 358	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander WB 4

PLOT DATE : 6/14/2021 11:20 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

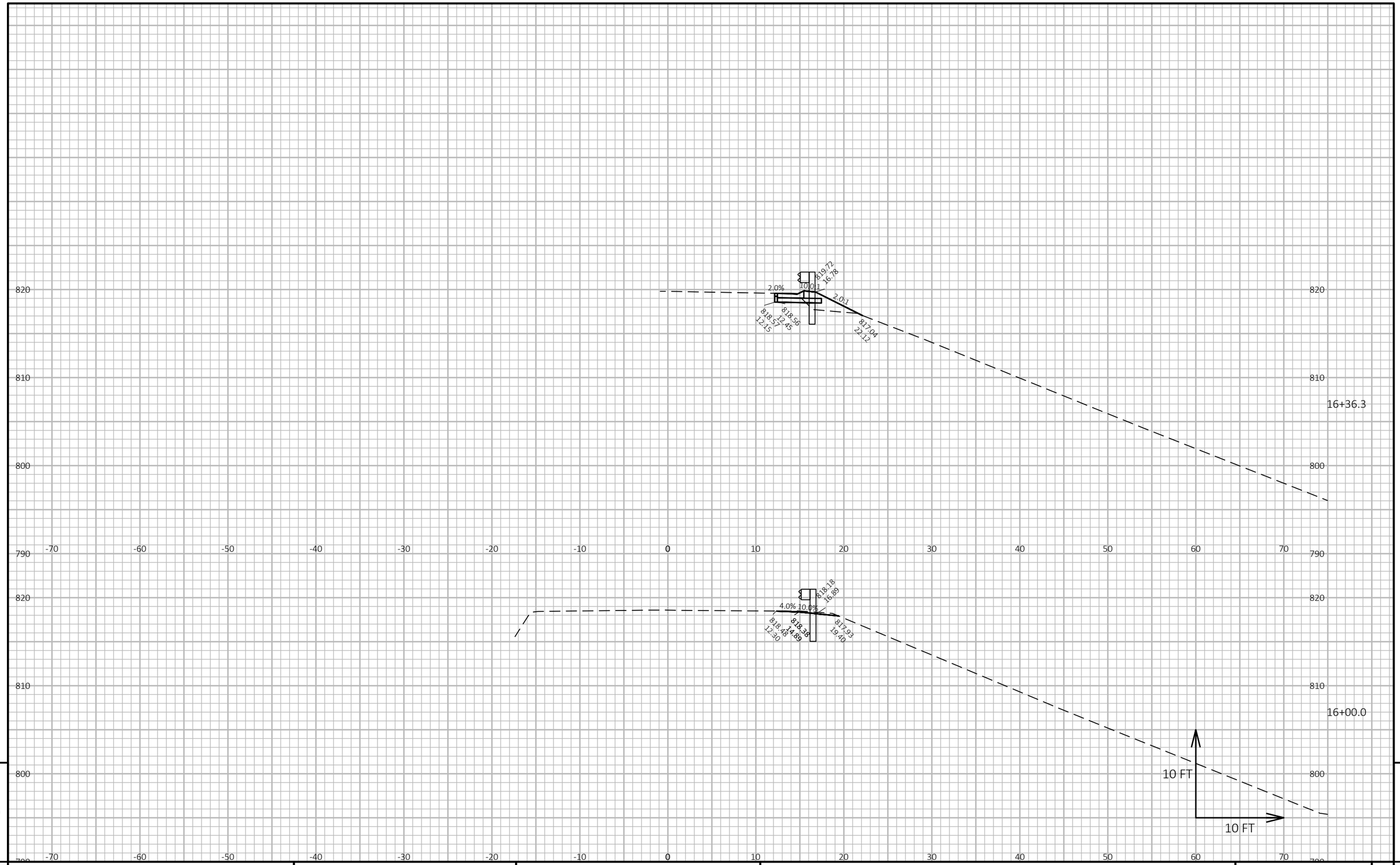
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 359	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander WB 5

PLOT DATE : 6/14/2021 11:20 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

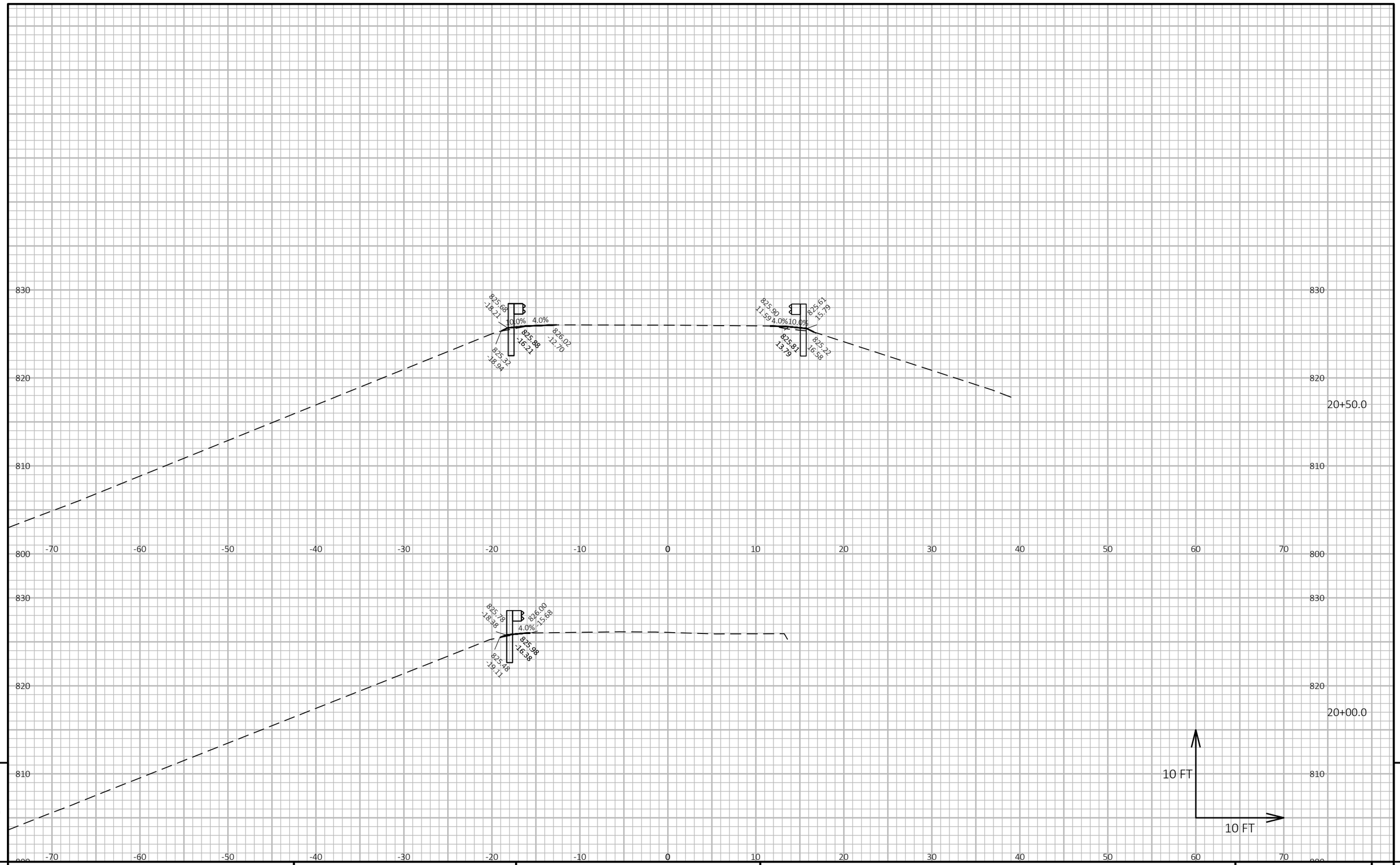
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 360	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander WB 6

PLOT DATE : 6/14/2021 11:20 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

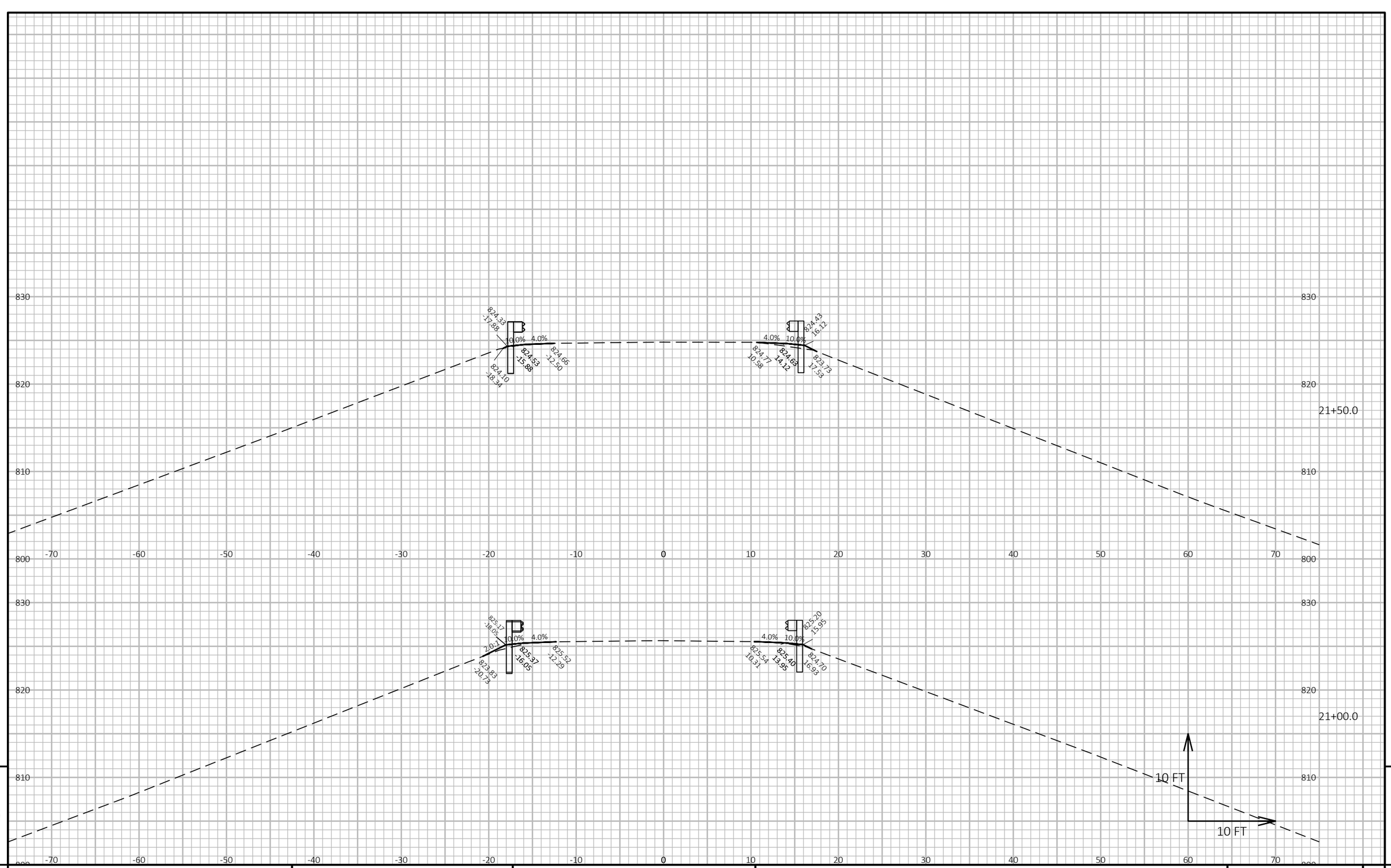
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 361	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 1

PLOT DATE : 6/14/2021 11:21 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

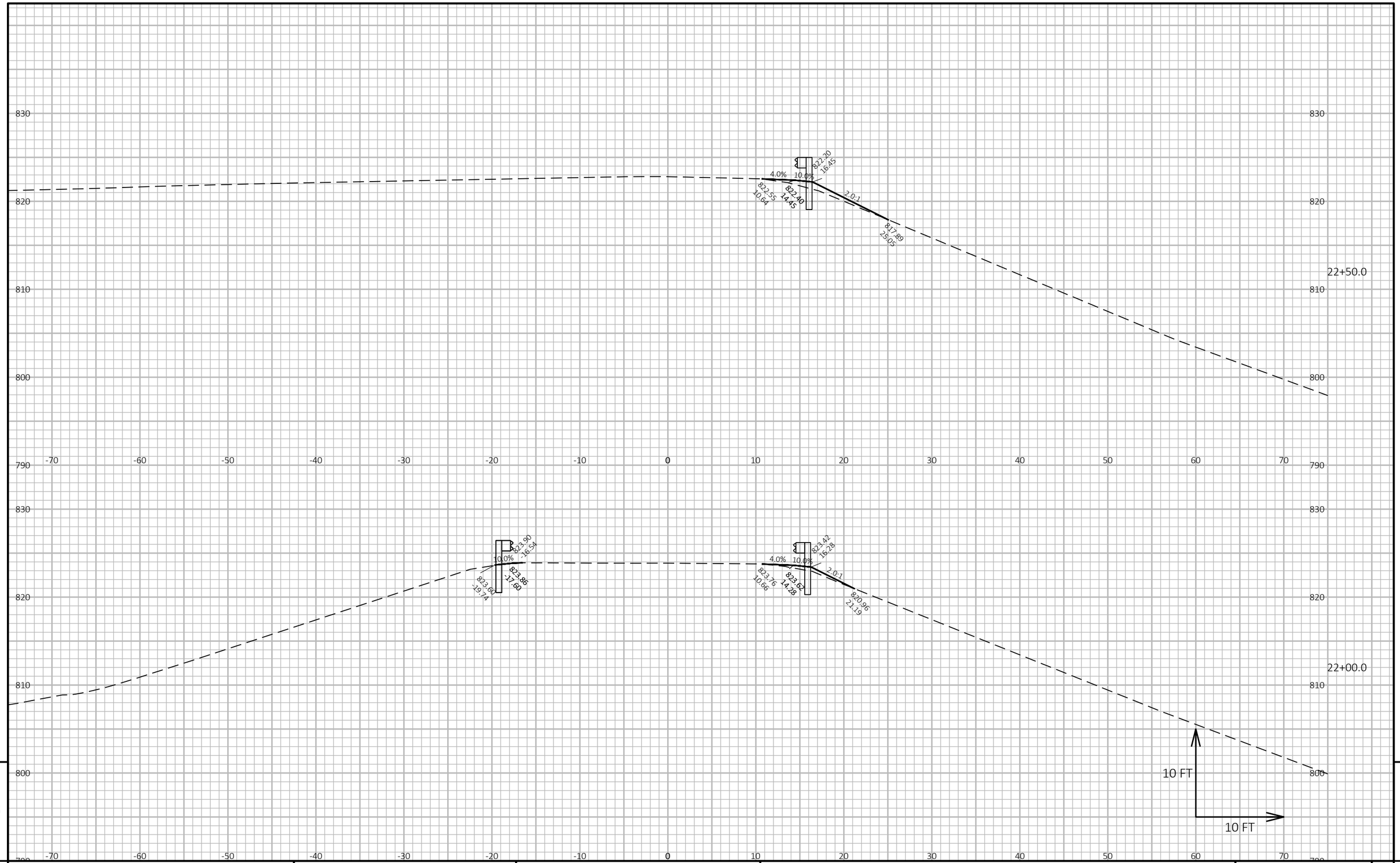
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 362	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 2

PLOT DATE : 6/14/2021 11:21 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

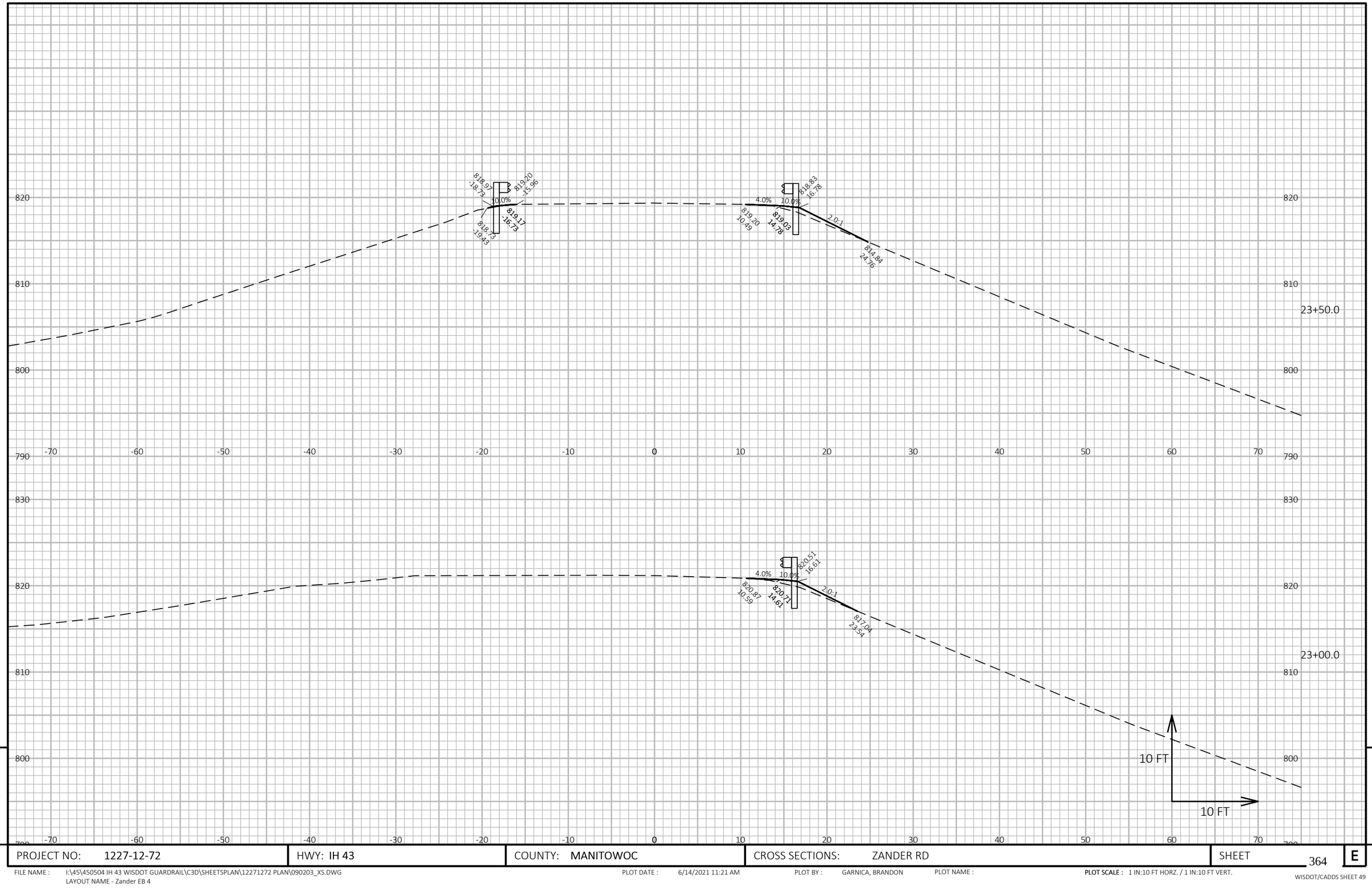
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 363	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 3

PLOT DATE : 6/14/2021 11:21 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



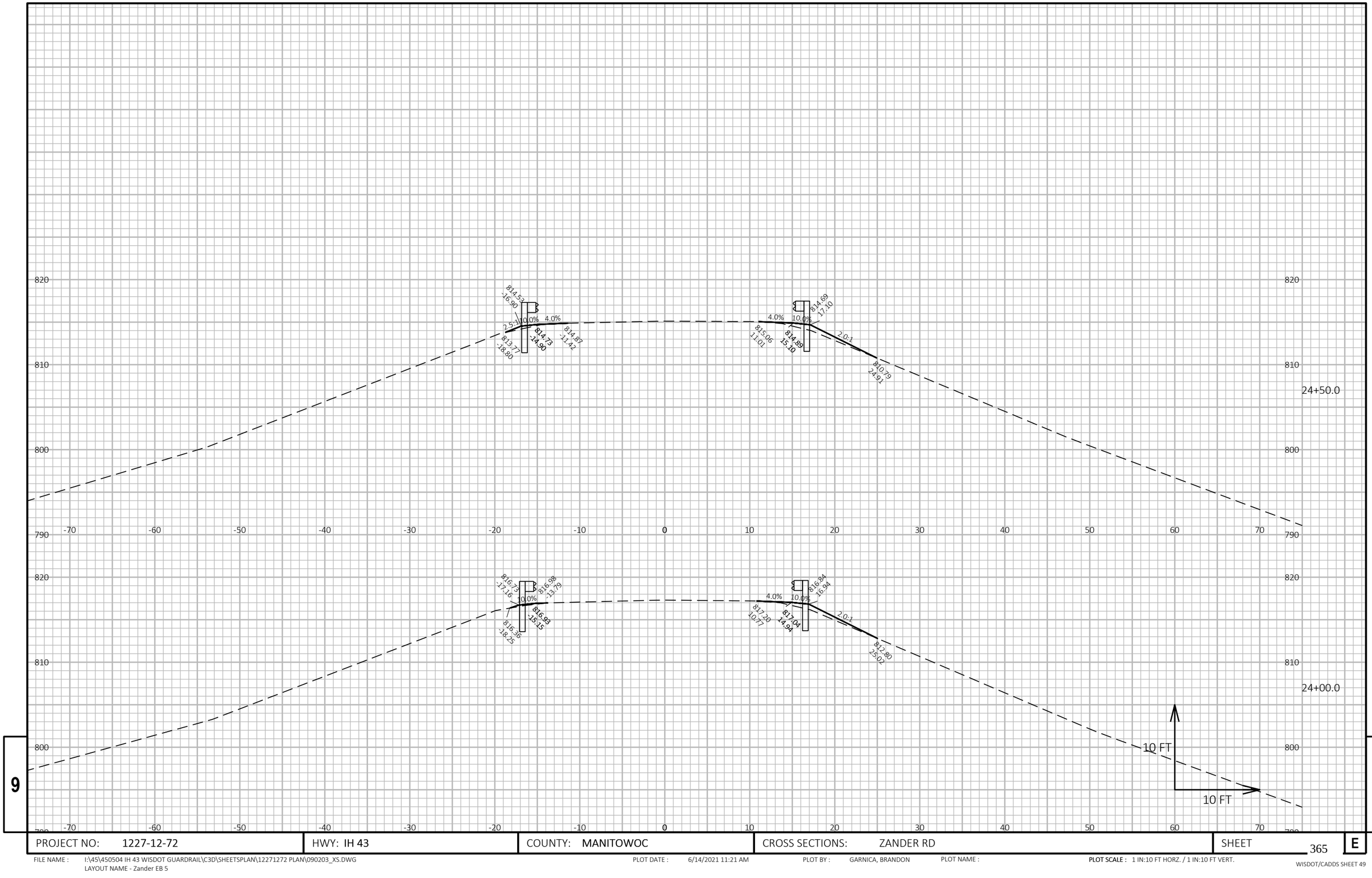
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 364	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 4

PLOT DATE : 6/14/2021 11:21 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

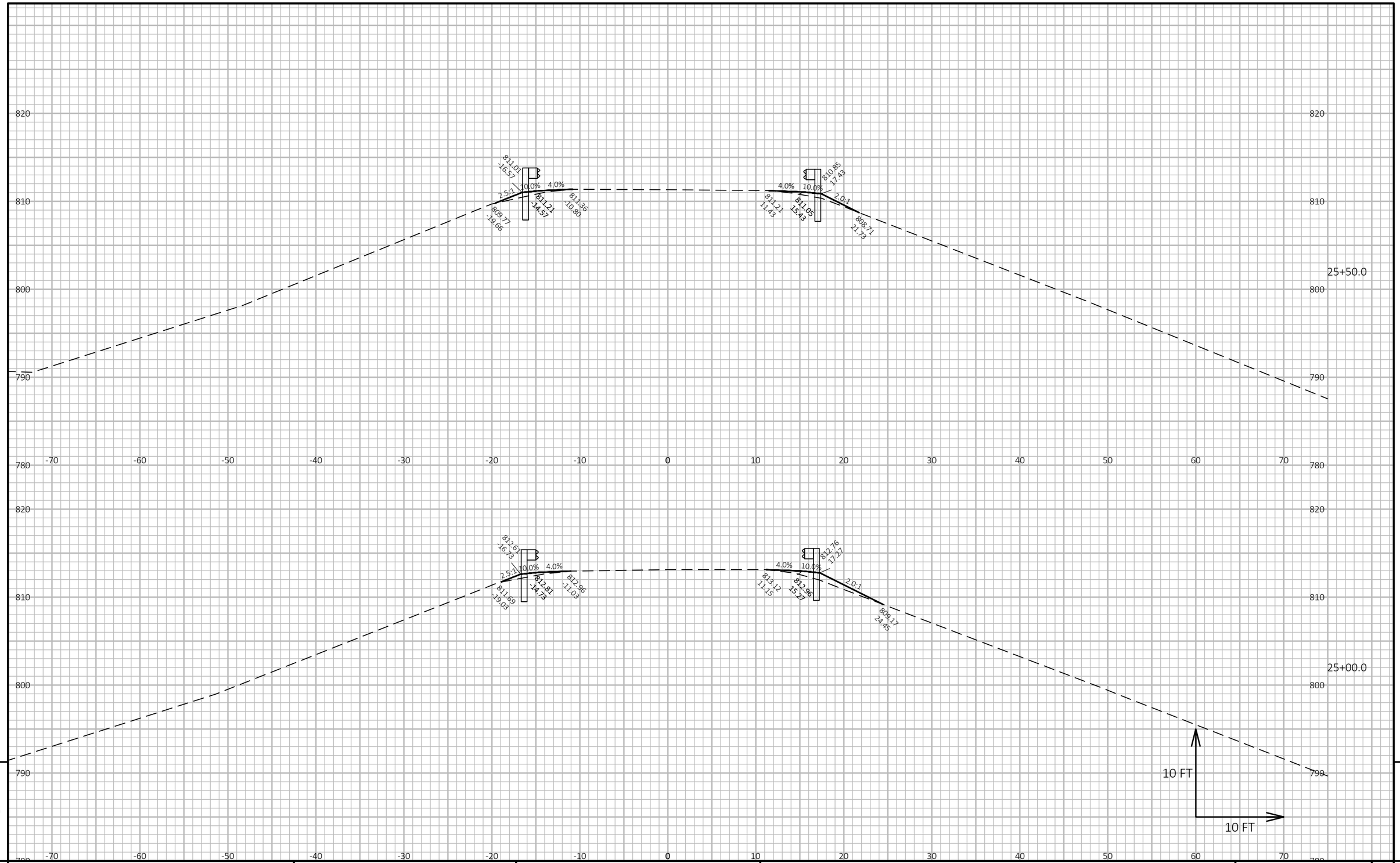
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 365	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 5

PLOT DATE : 6/14/2021 11:21 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

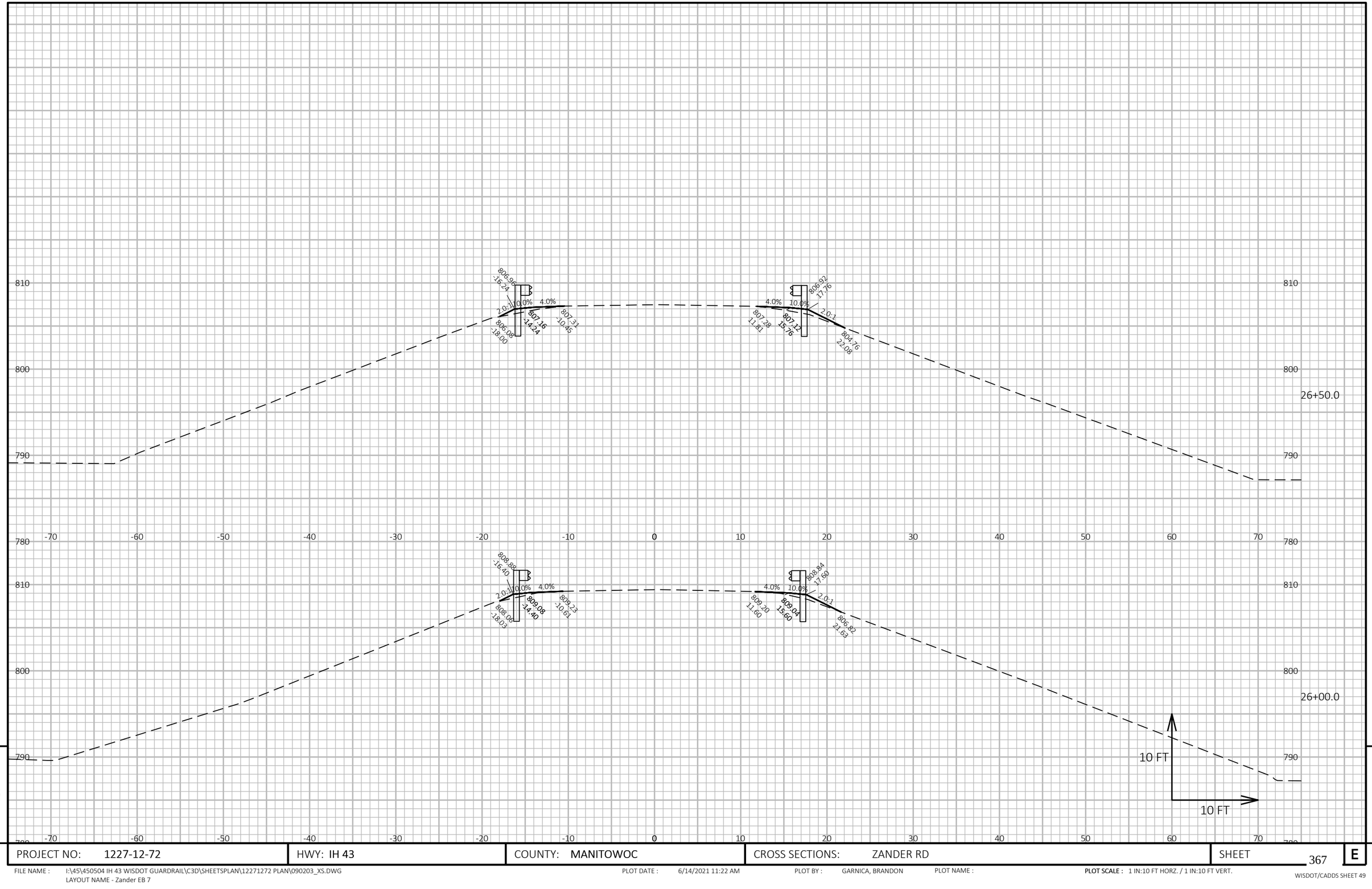
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 366	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 6

PLOT DATE : 6/14/2021 11:21 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

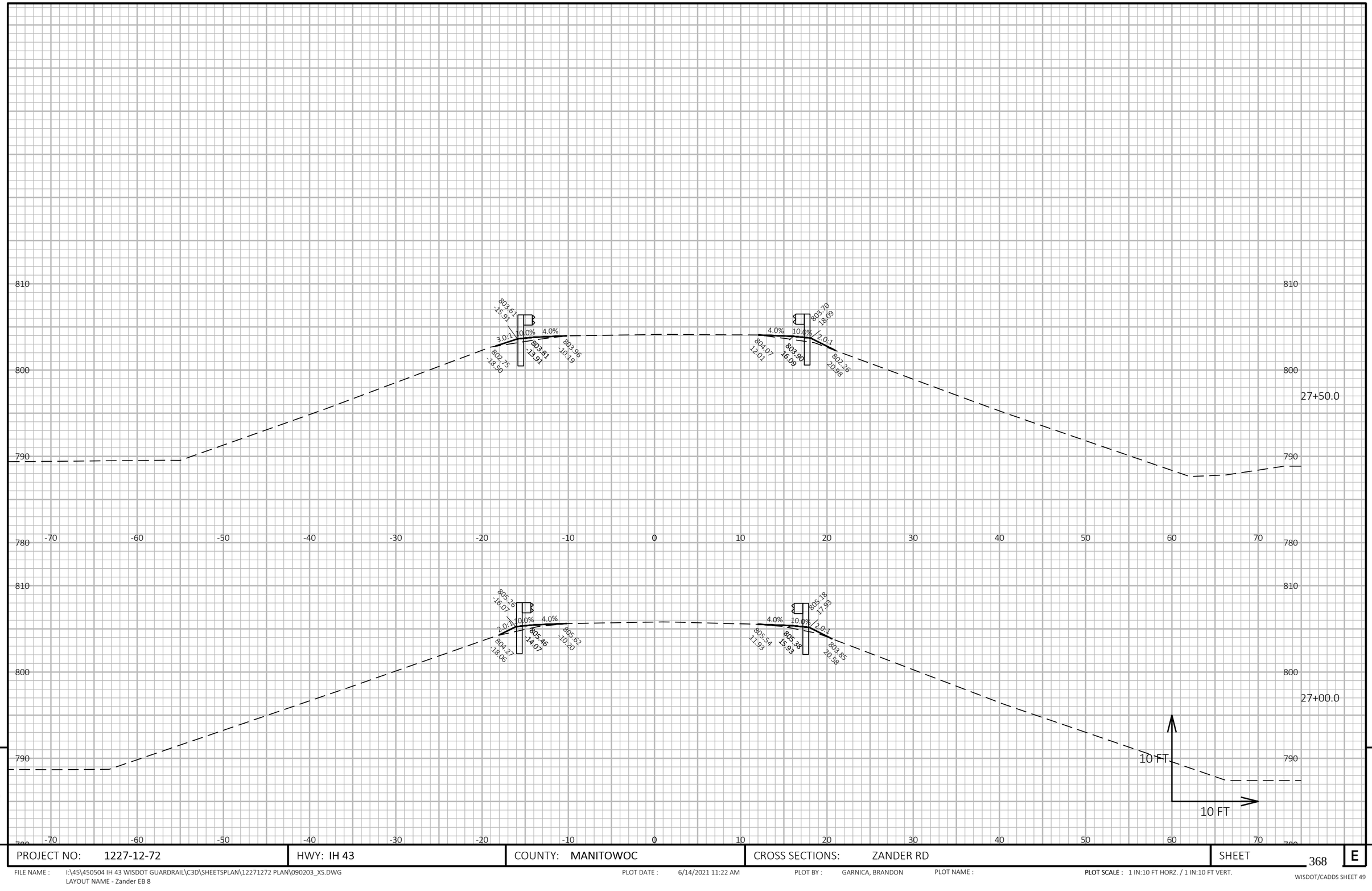
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 367	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 7

PLOT DATE : 6/14/2021 11:22 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



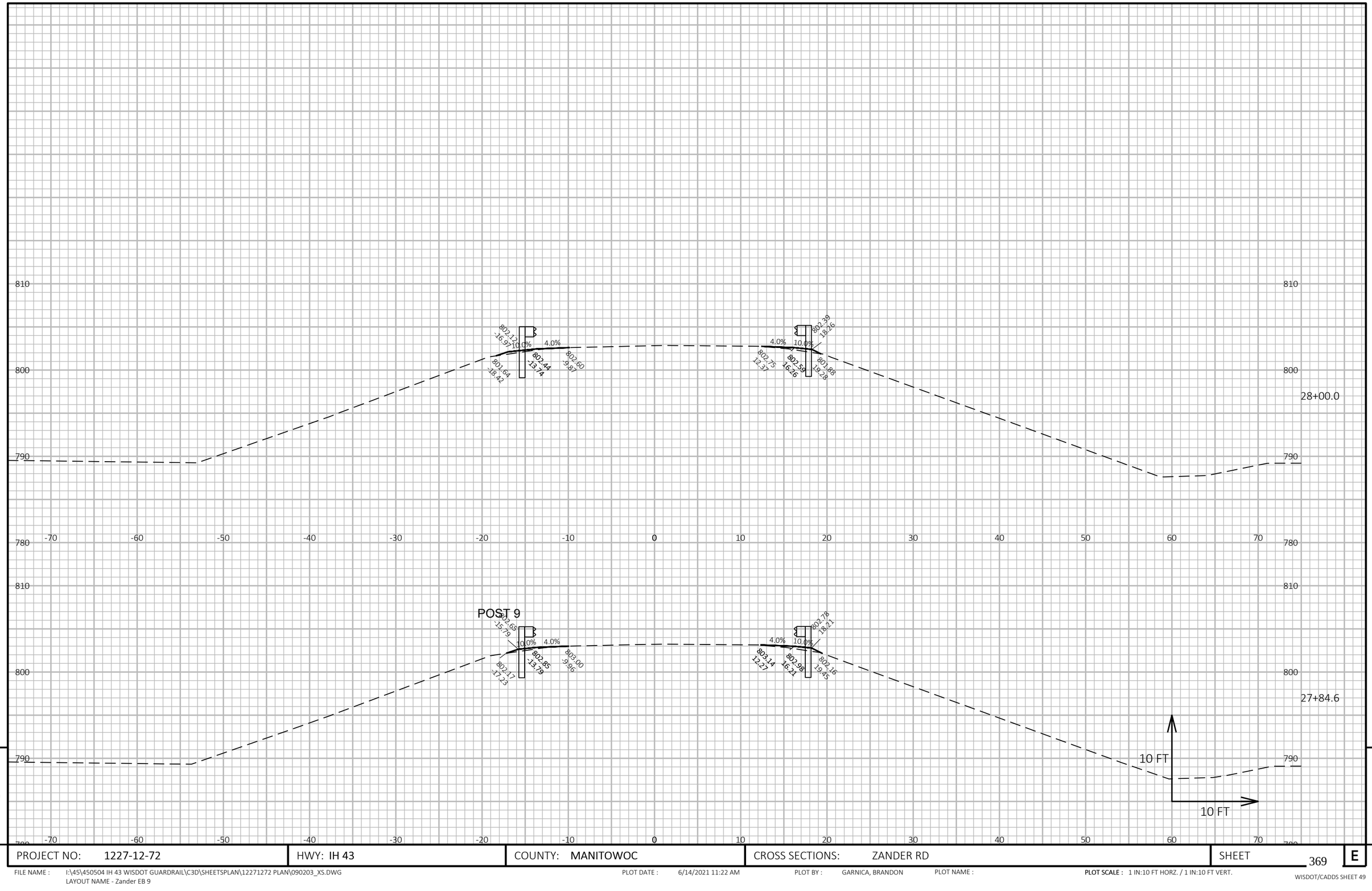
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 368	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 8

PLOT DATE : 6/14/2021 11:22 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

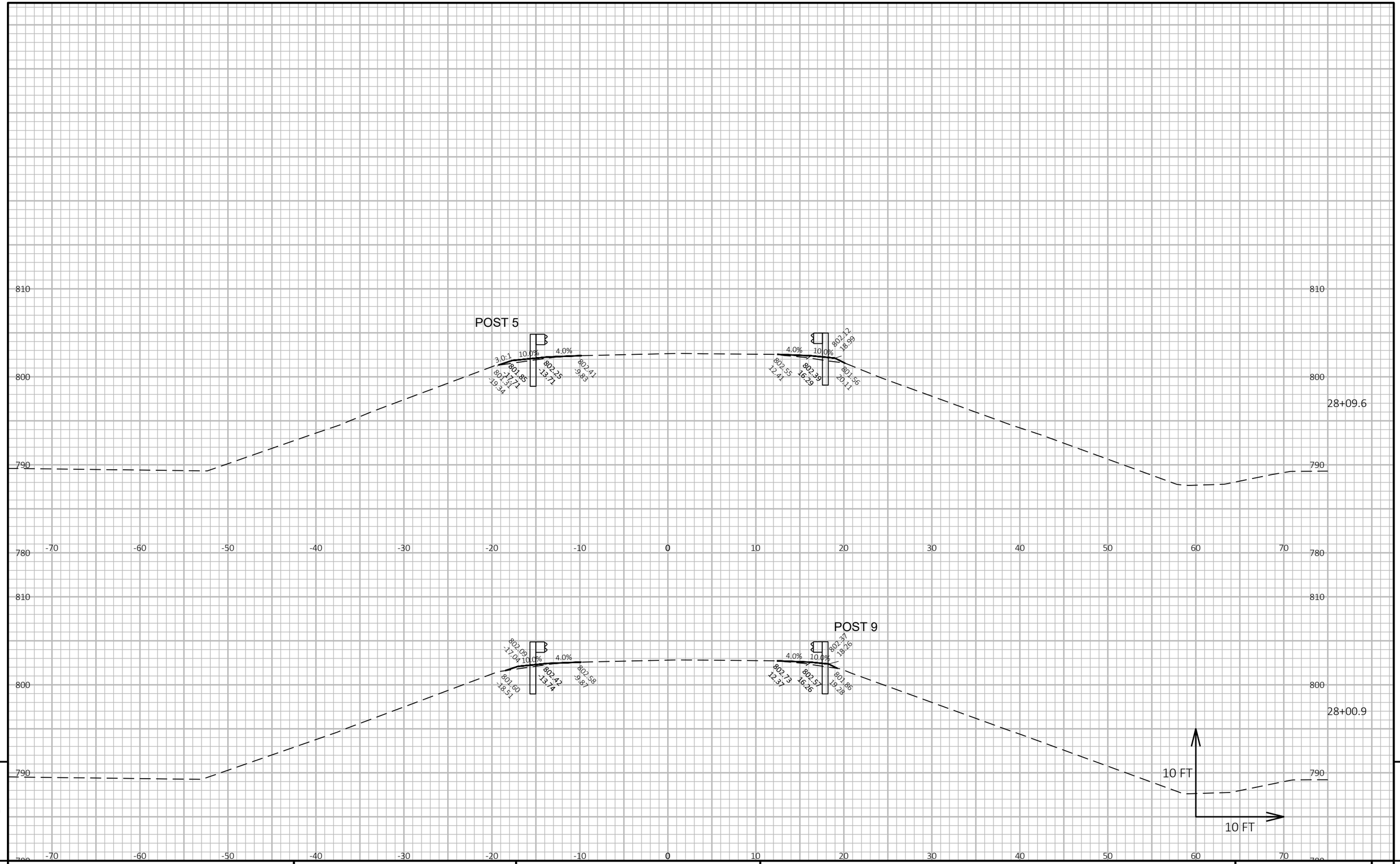
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 369	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 9

PLOT DATE : 6/14/2021 11:22 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 370	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 10

PLOT DATE : 6/14/2021 11:22 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

POST 1

28+34.6

POST 5

28+25.9

10 FT

10 FT

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 371	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 11

PLOT DATE : 6/14/2021 11:22 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

POST 1

801.08
-16.67
10.0%
4.0%
801.46
-12.83
800.66
-17.88
4.0%
10.0%
801.12
20.43
801.68
12.59
801.52
16.43
800.50
21.68

28+50.9

3.0:1
10.0%
4.0%
801.10
16.67
801.48
12.88
800.66
-17.99
801.61
9.66
4.0%
10.0%
801.14
20.42
801.70
12.58
801.54
16.42
800.51
21.69

28+50.0

10 FT
10 FT

810
800
790
780
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

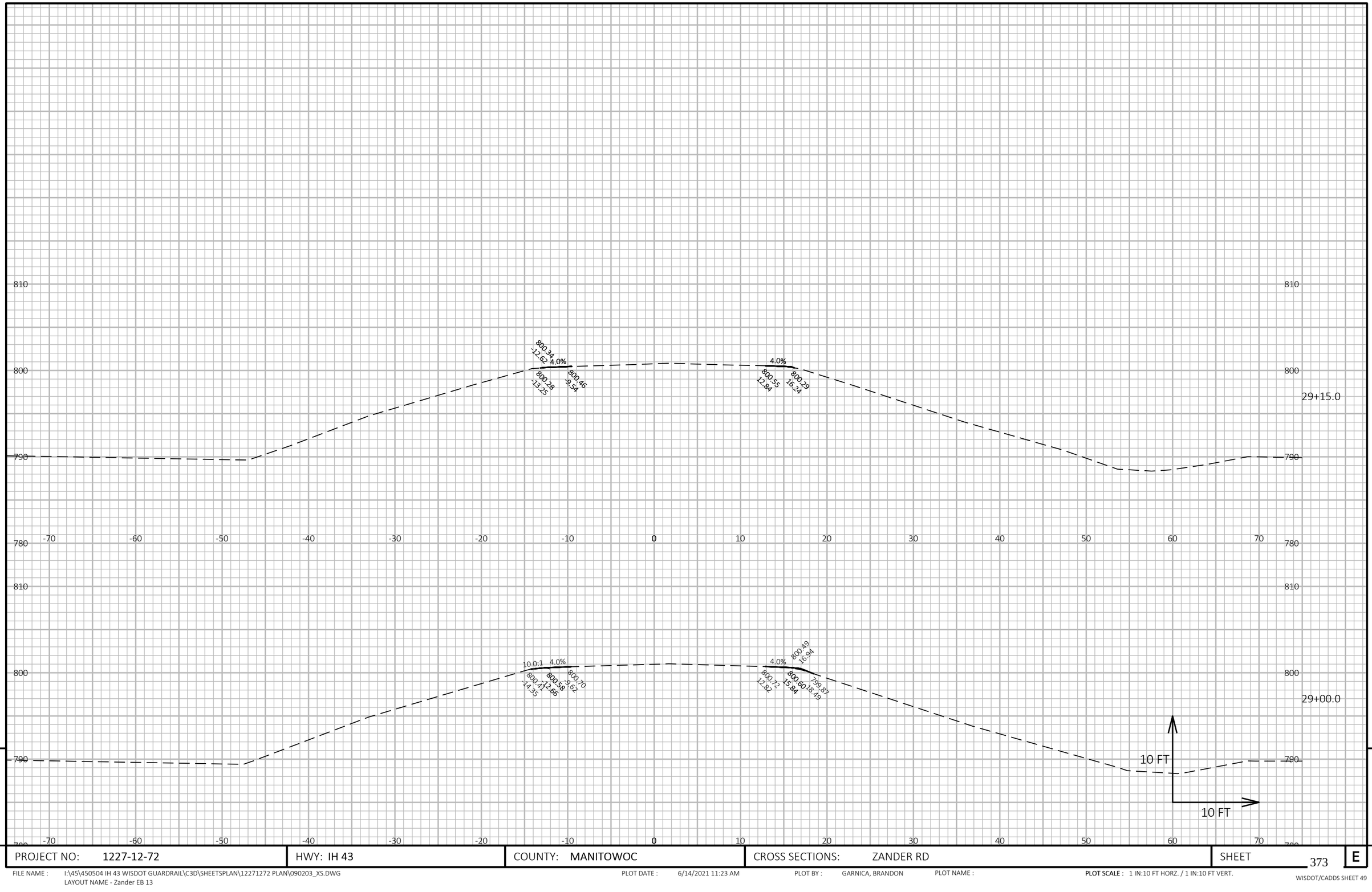
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 372	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 12

PLOT DATE : 6/14/2021 11:22 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

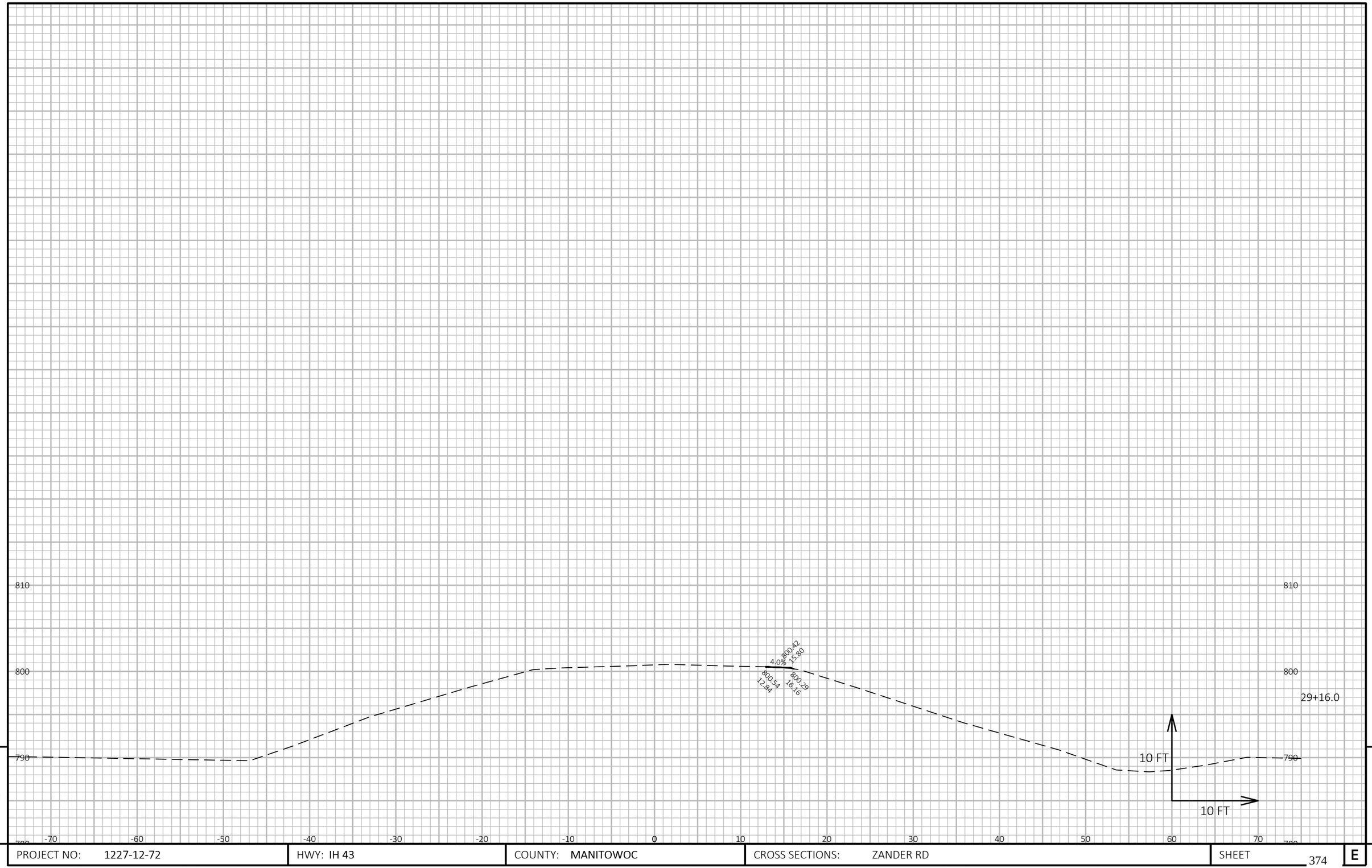
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 373	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 13

PLOT DATE : 6/14/2021 11:23 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

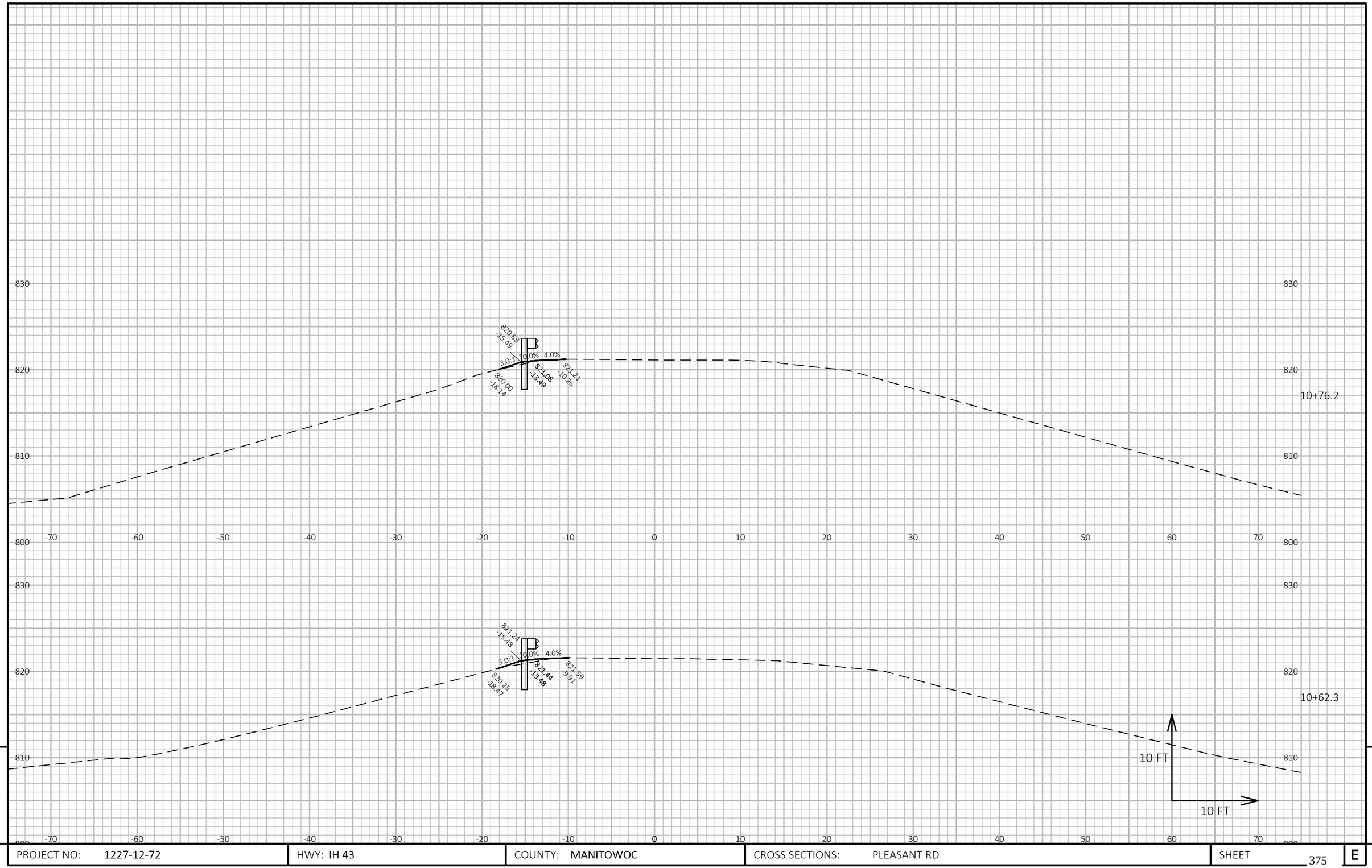
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: ZANDER RD	SHEET 374	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Zander EB 14

PLOT DATE : 6/14/2021 11:23 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

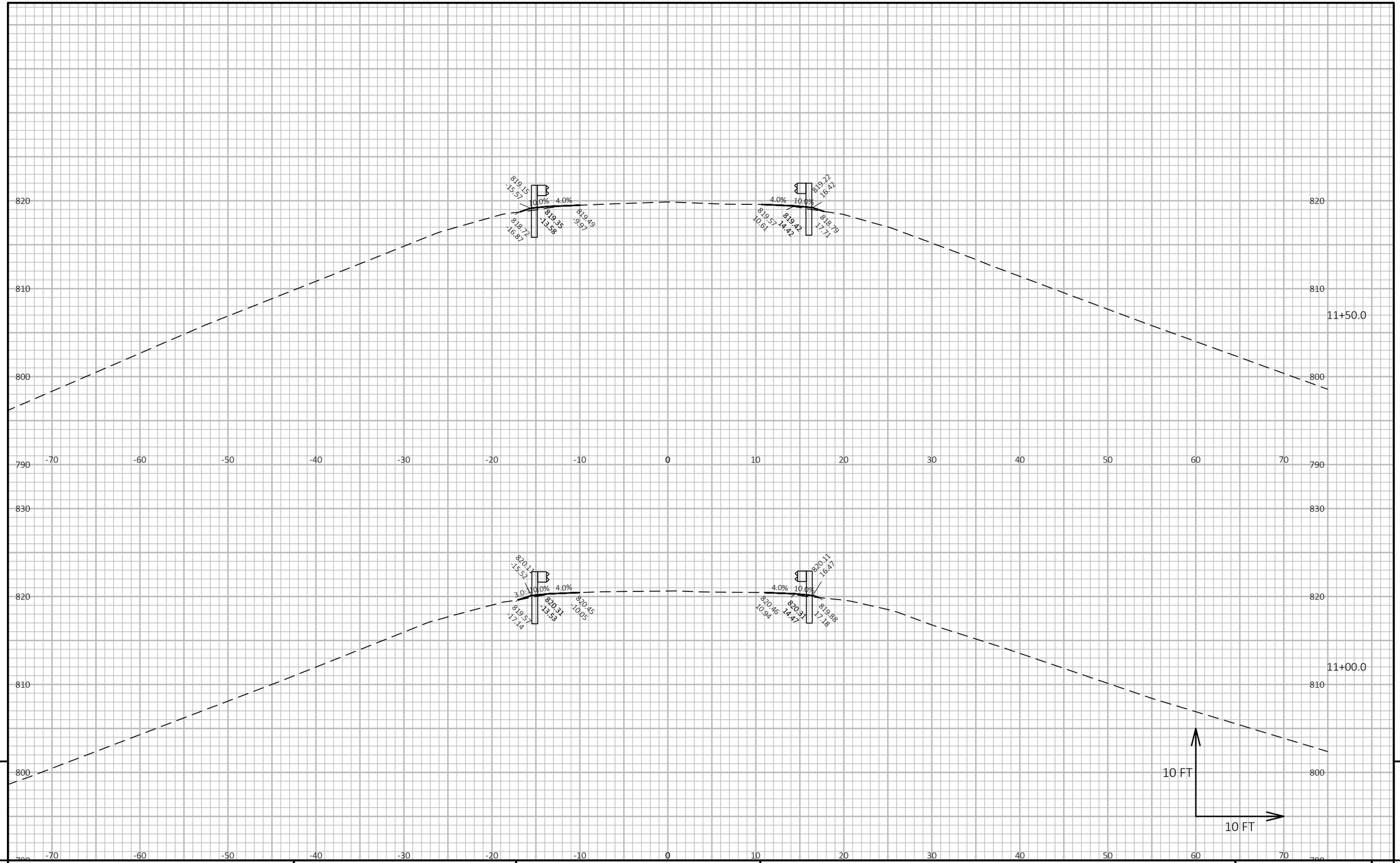
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: PLEASANT RD	SHEET 375	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Pleasant NB 1

PLOT DATE : 6/14/2021 11:23 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: PLEASANT RD	SHEET 376	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Pleasant NB 2

PLOT DATE : 6/14/2021 11:23 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

820
810
800
790
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

817.28
-15.68
4.0%
10.0%
4.0%
817.49
-13.88
817.60
-10.46
816.68
-17.48

817.39
16.32
4.0%
10.0%
817.71
10.75
817.55
-14.32
816.92
17.43

12+50.0

818.23
-15.63
4.0%
10.0%
818.43
-13.63
818.57
-10.11
817.64
-17.41

818.50
16.37
4.0%
10.0%
2.5:1
818.85
10.71
818.70
-14.37
817.58
15.97

12+00.0

10 FT
10 FT

9

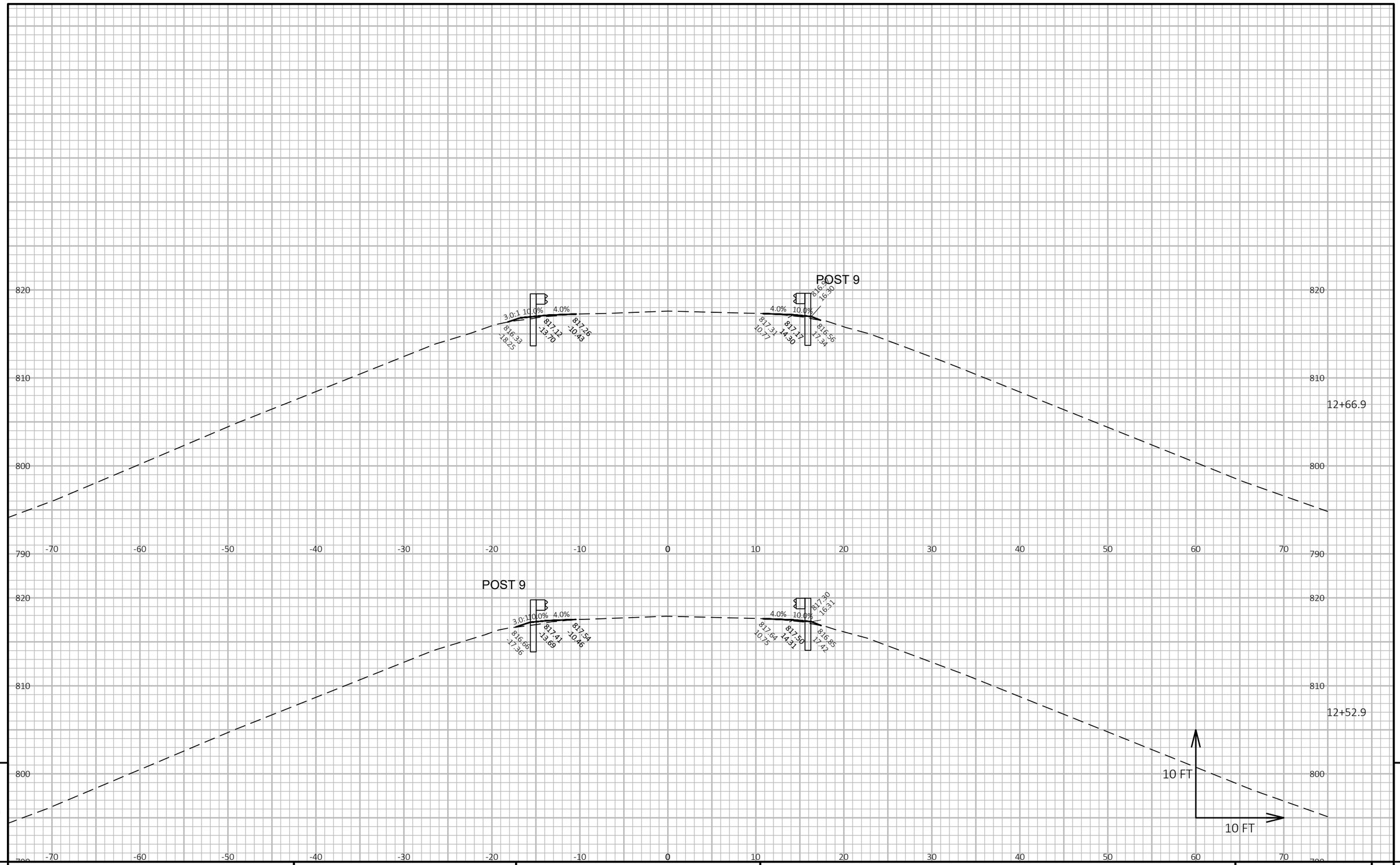
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: PLEASANT RD	SHEET 377	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Pleasant NB 3

PLOT DATE : 6/14/2021 11:23 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: PLEASANT RD	SHEET 378	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Pleasant NB 4

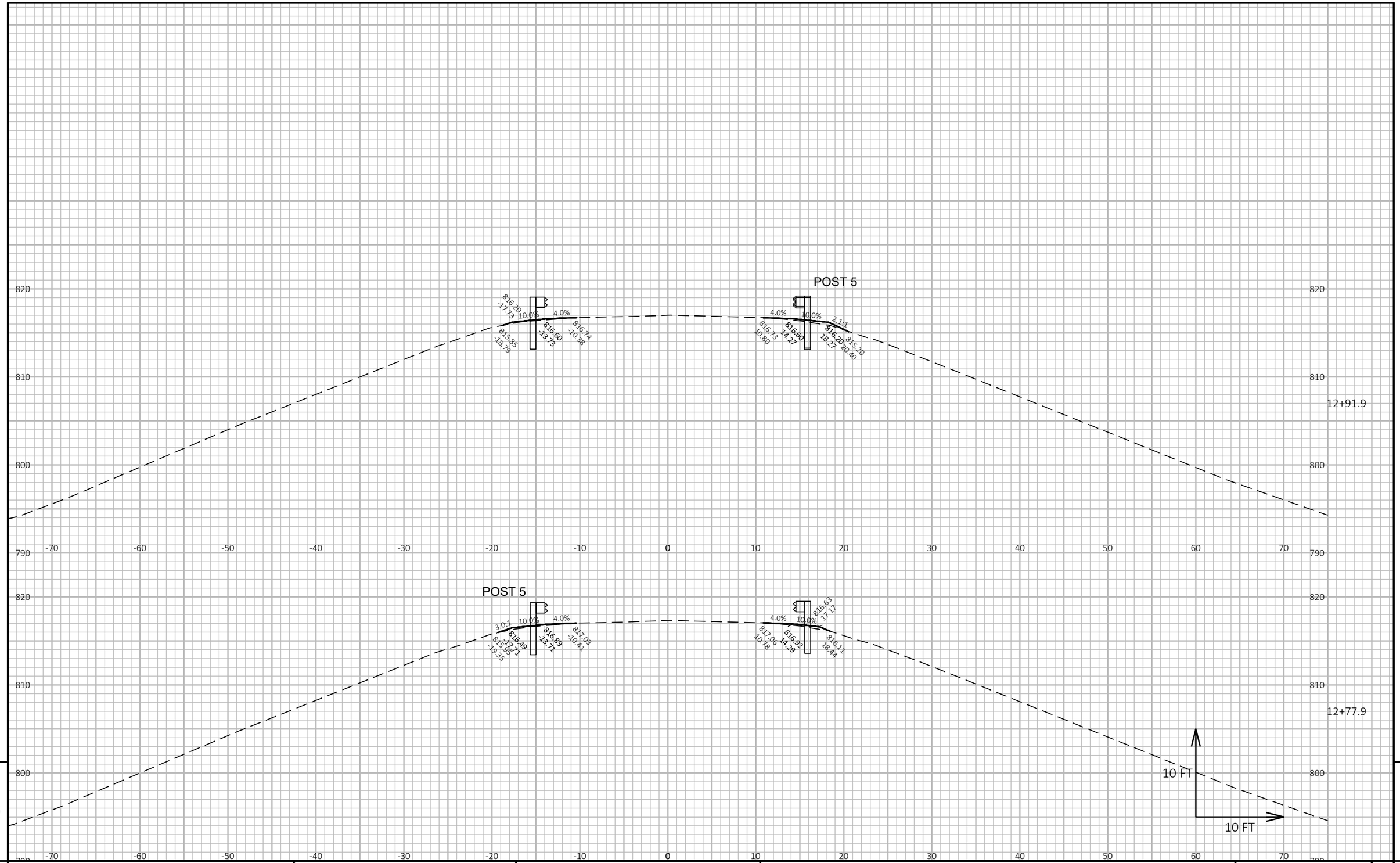
PLOT DATE : 6/14/2021 11:23 AM

PLOT BY : GARNICA, BRANDON

PLOT NAME :

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

WISDOT/CADDS SHEET 49

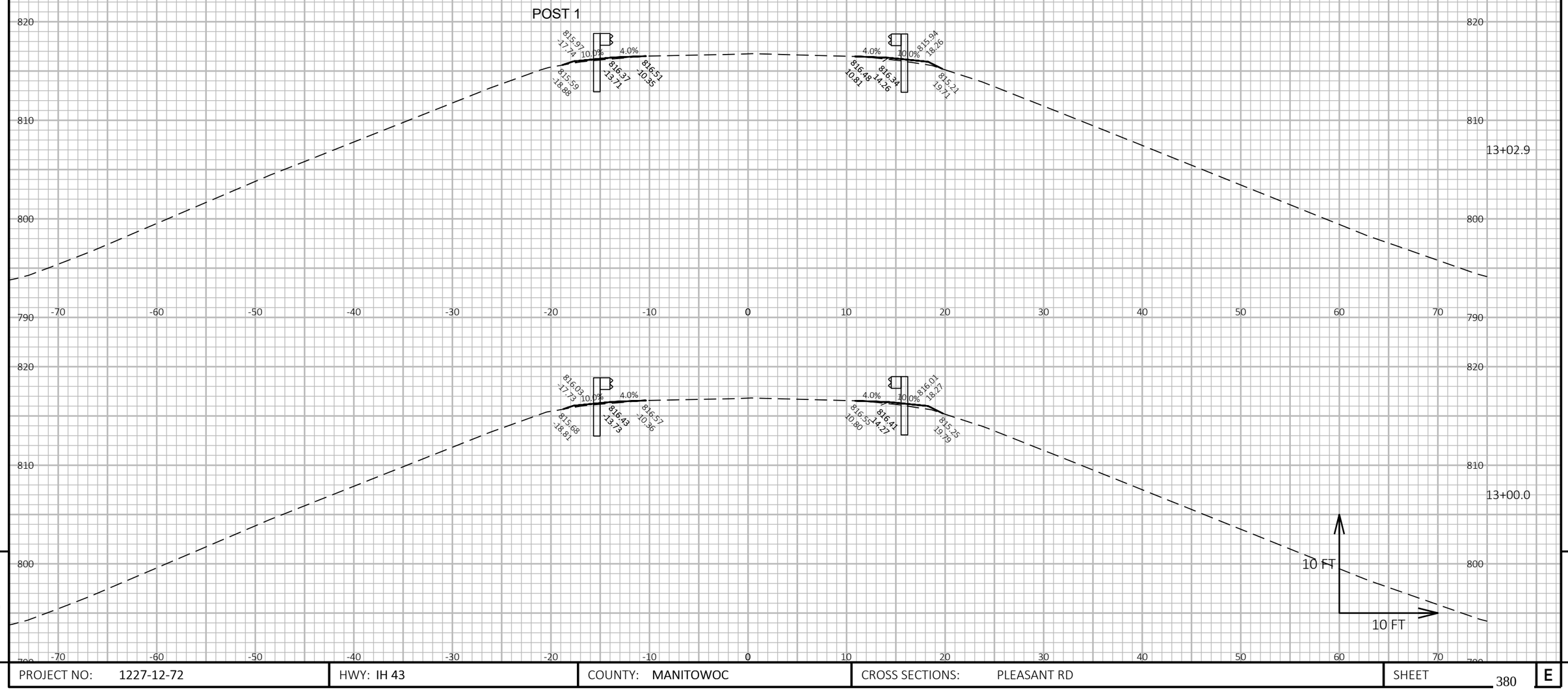


PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: PLEASANT RD	SHEET 379	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Pleasant NB 5

PLOT DATE : 6/14/2021 11:24 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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



9

9

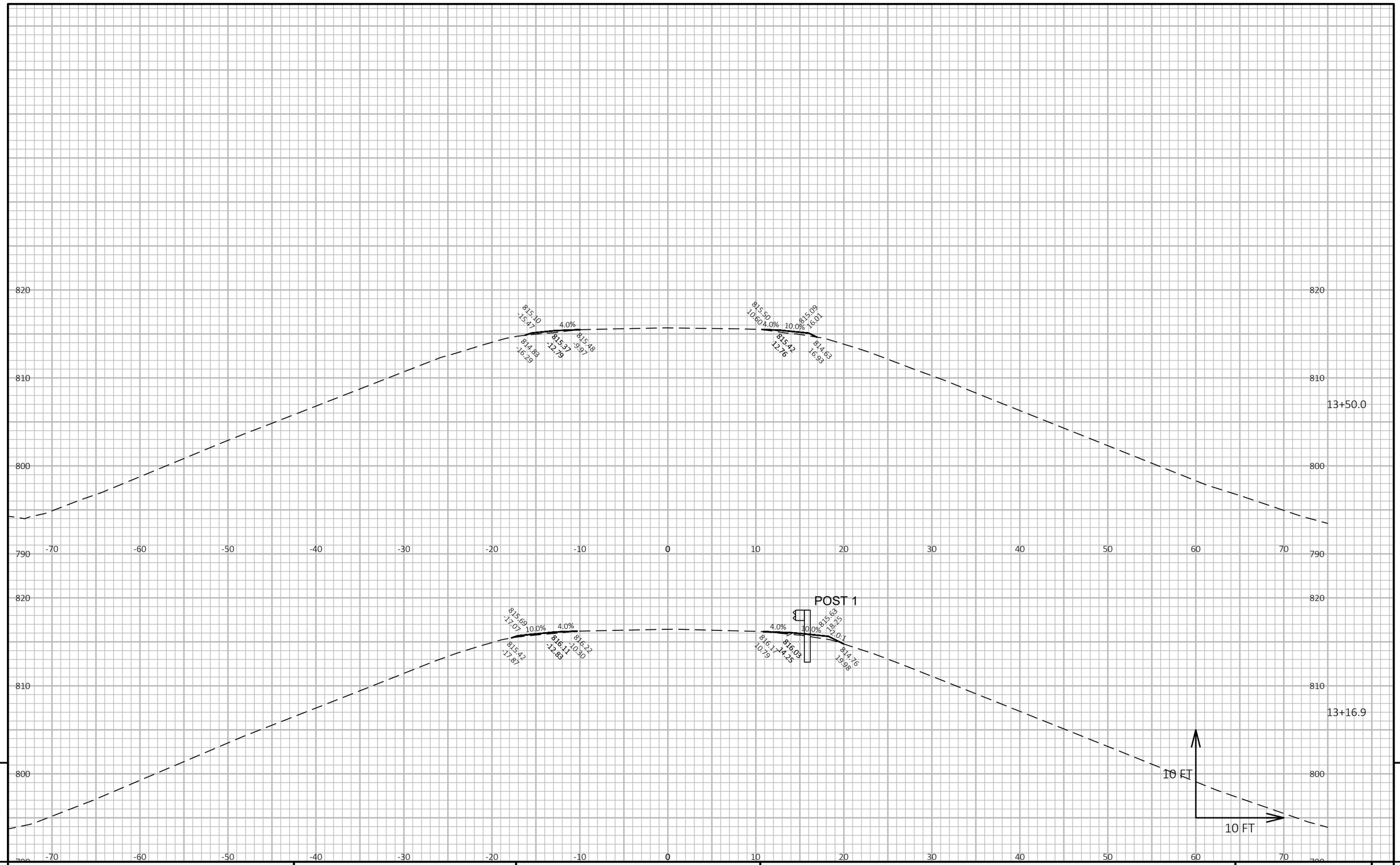
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: PLEASANT RD	SHEET 380	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Pleasant NB 6

PLOT DATE : 6/14/2021 11:24 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

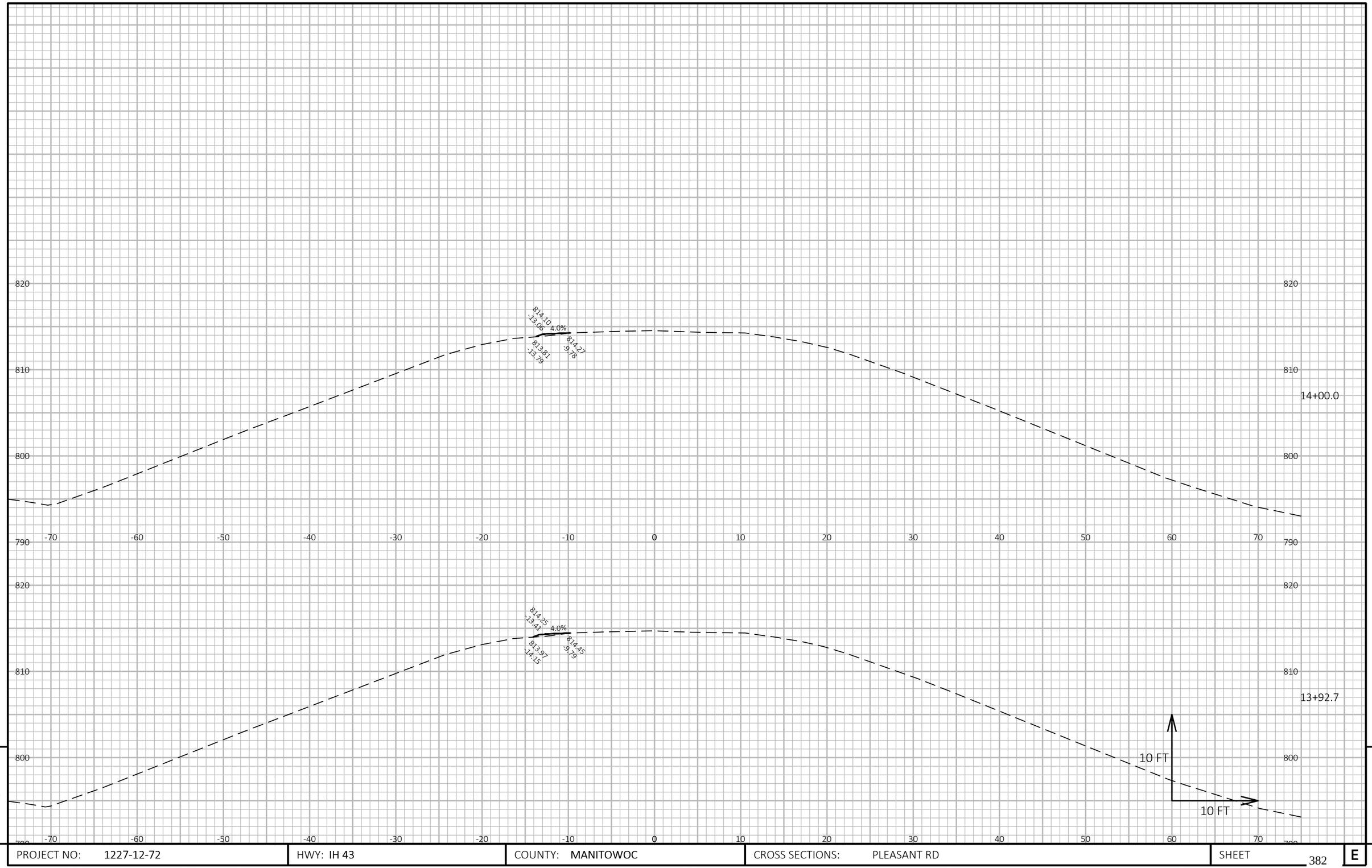
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: PLEASANT RD	SHEET 381	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Pleasant NB 7

PLOT DATE : 6/14/2021 11:24 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: PLEASANT RD	SHEET 382	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Pleasant NB 8

PLOT DATE : 6/14/2021 11:24 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

820
810
800
790
-70
-60
-50
-40
-30
-20
-10
0
10
20
30
40
50
60
70
813.89
-12.95
4.0%
813.60
-13.26
810.00
-9.77
14+10.7
10 FT
10 FT

9

9

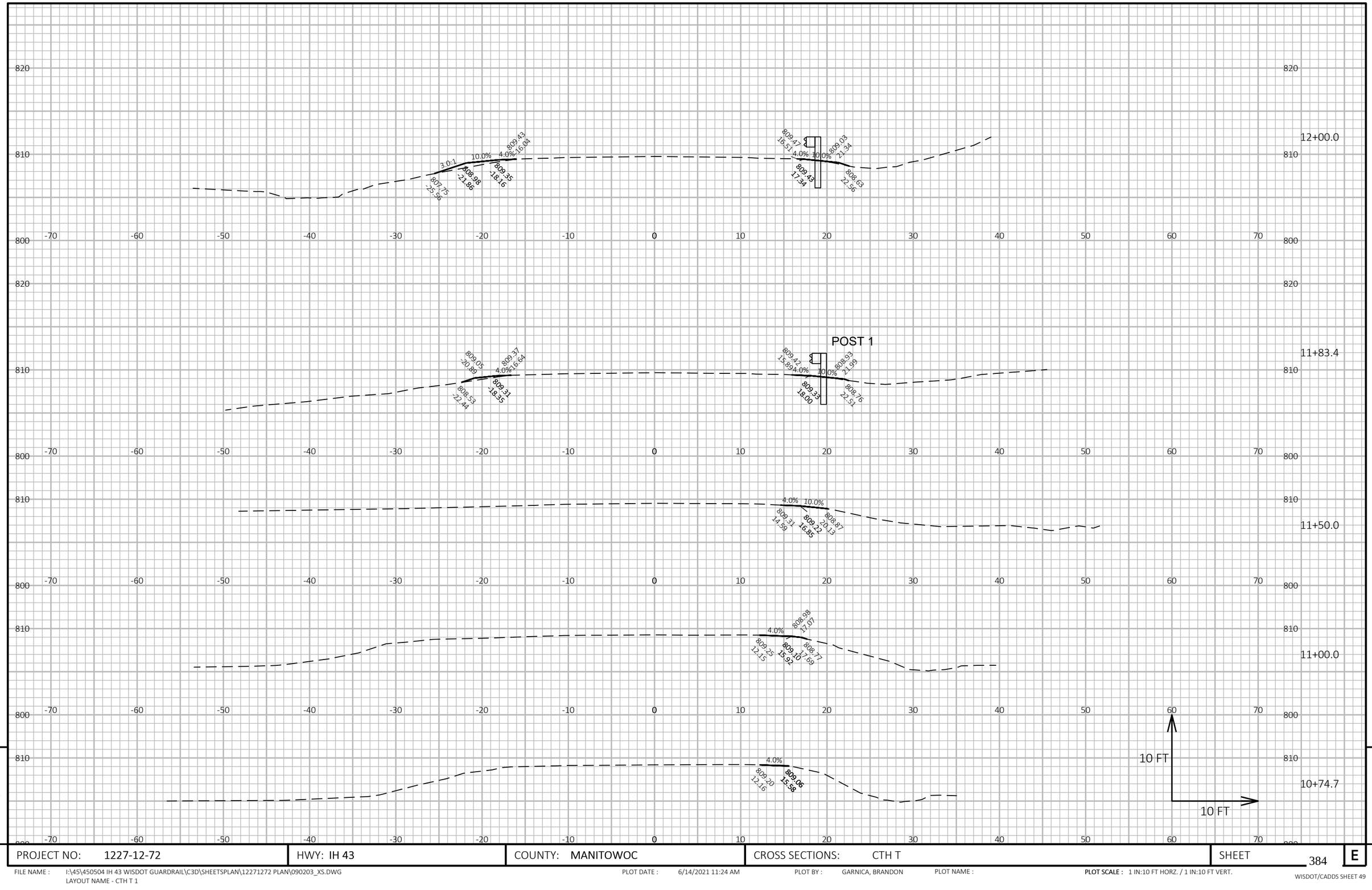
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: PLEASANT RD	SHEET 383	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Pleasant NB 9

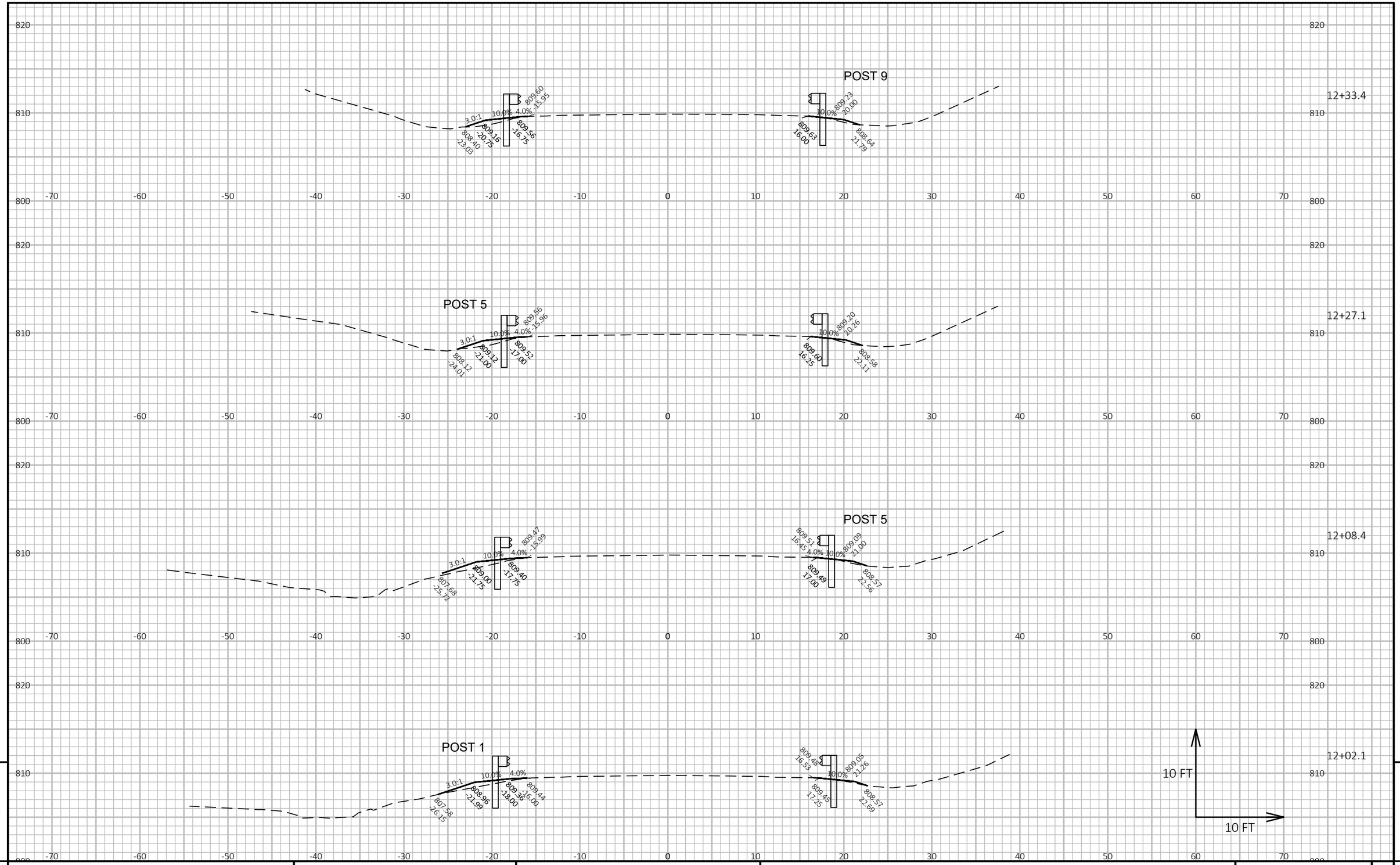
PLOT DATE : 6/14/2021 11:24 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CTH T	SHEET 384	E



9

9

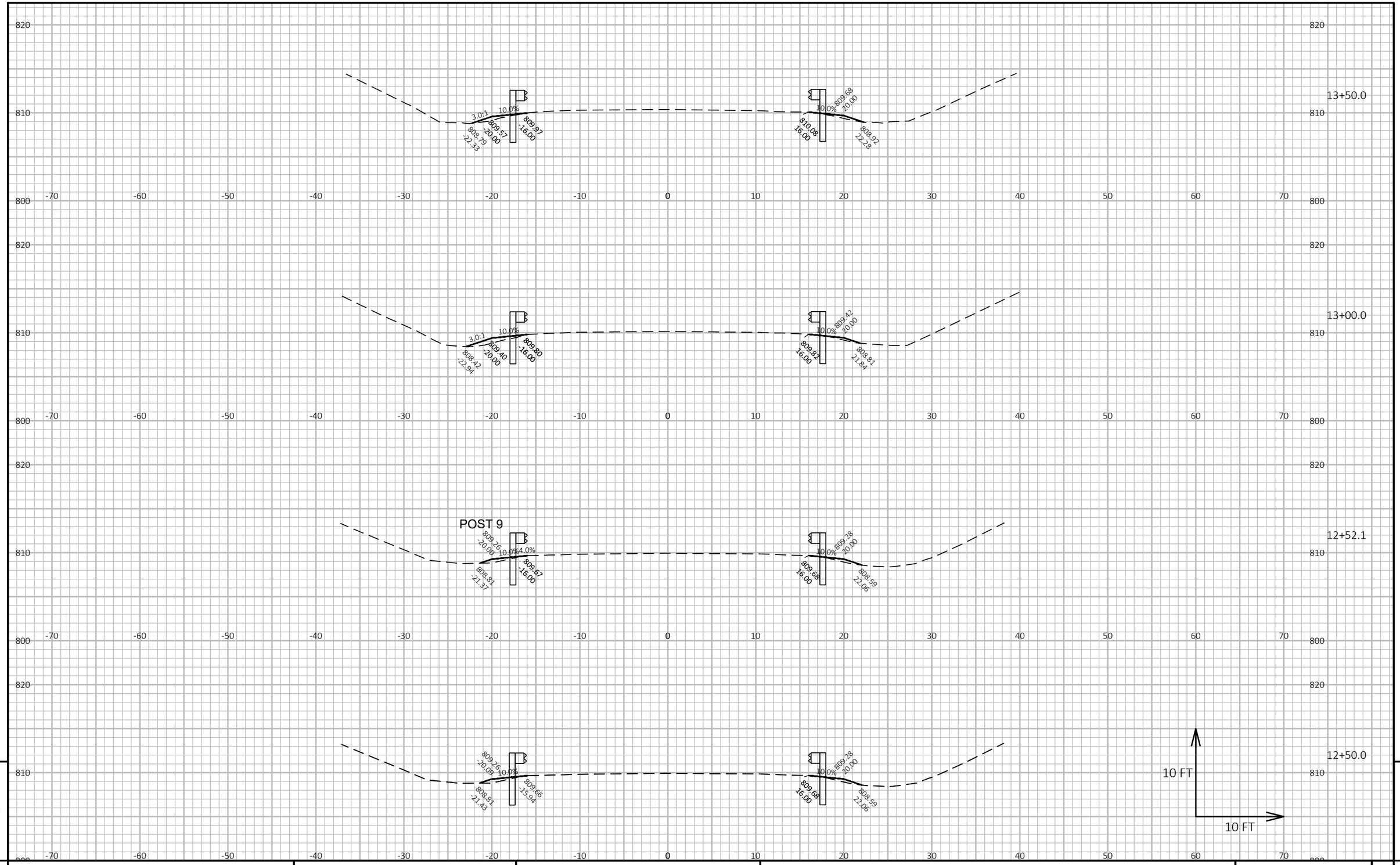
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CTH T	SHEET 385	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - CTH T 2

PLOT DATE : 6/14/2021 11:25 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

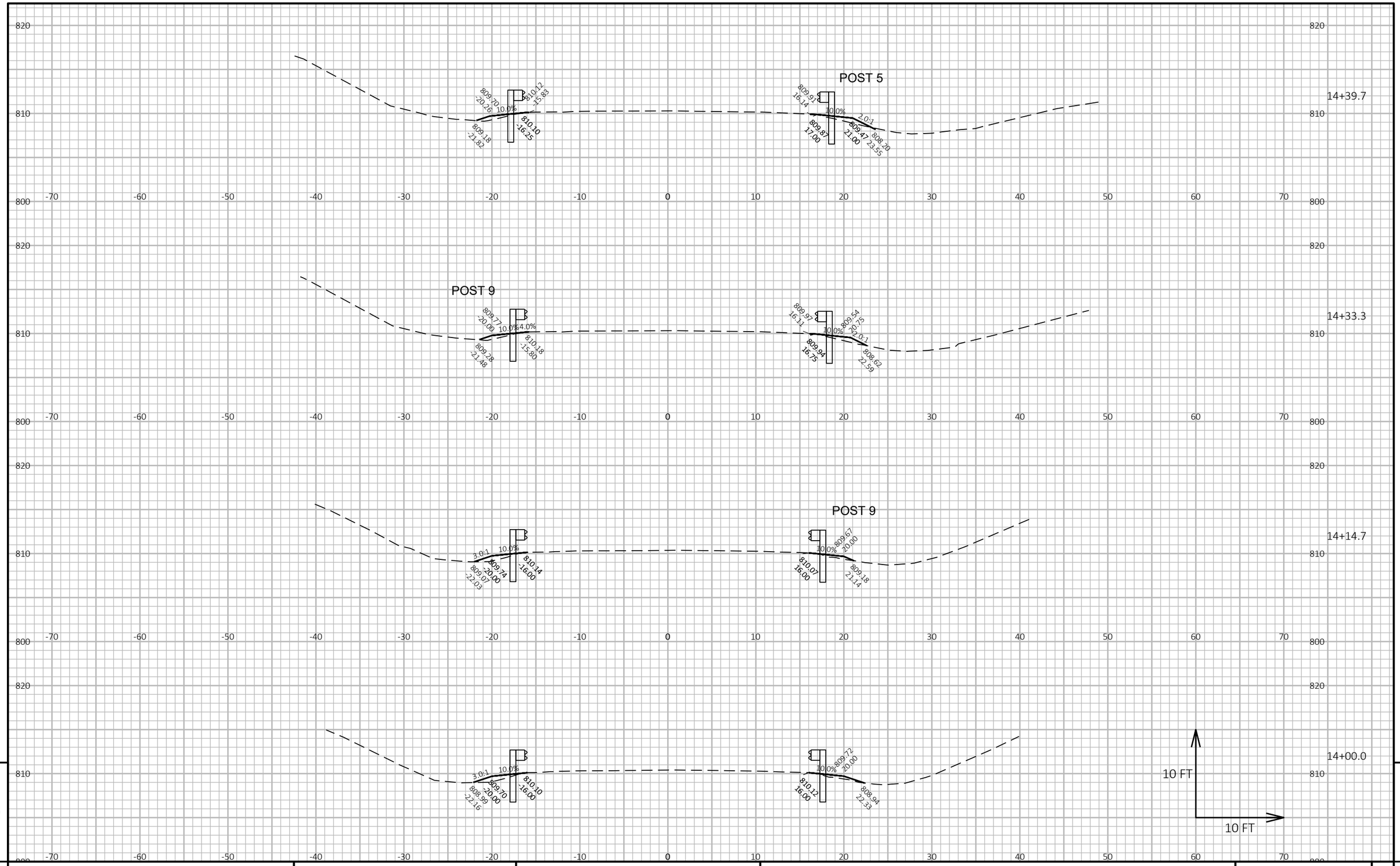
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CTH T	SHEET 386	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - CTH T 3

PLOT DATE : 6/14/2021 11:25 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

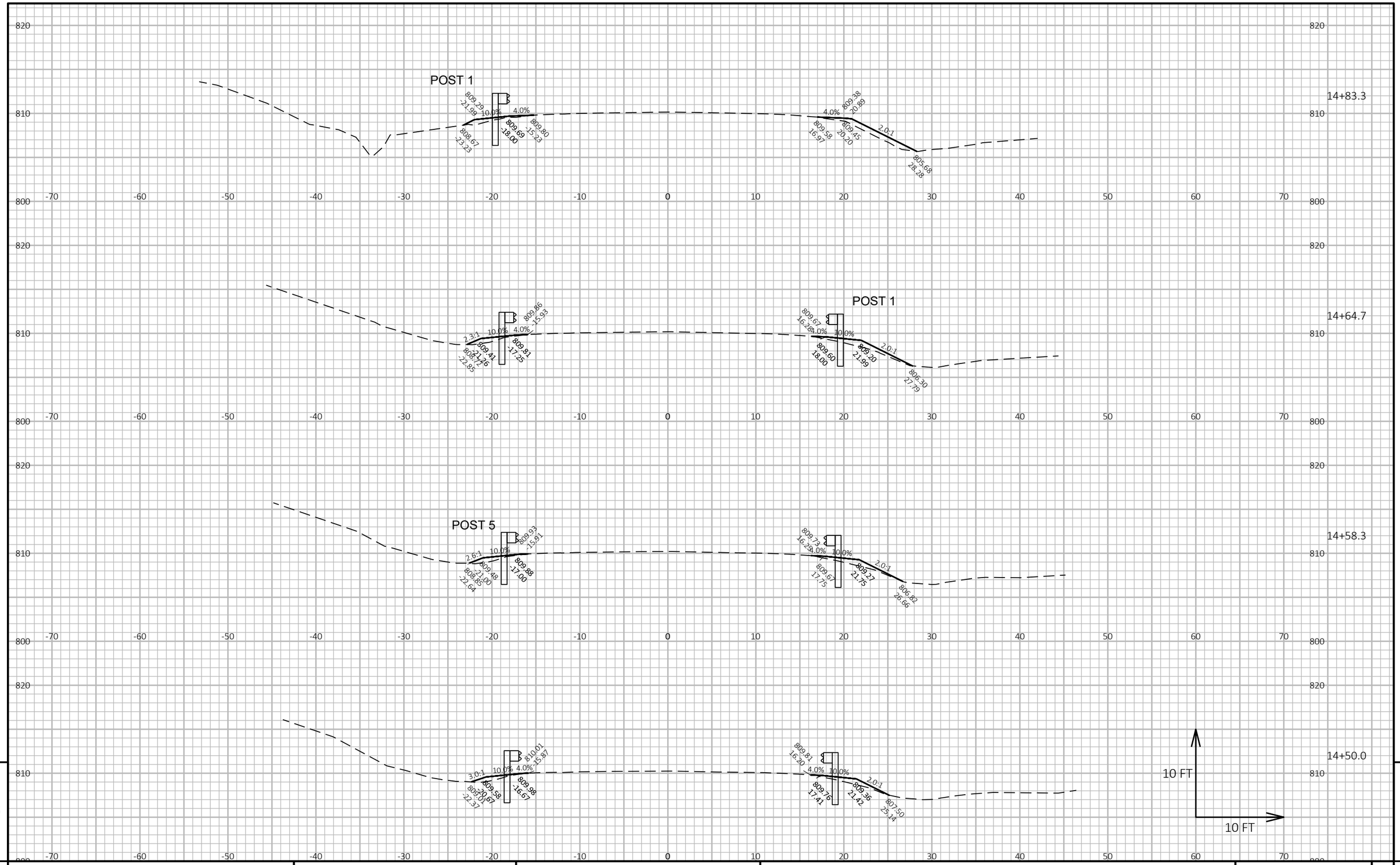
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CTH T	SHEET 387	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - CTH T 4

PLOT DATE : 6/14/2021 11:25 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



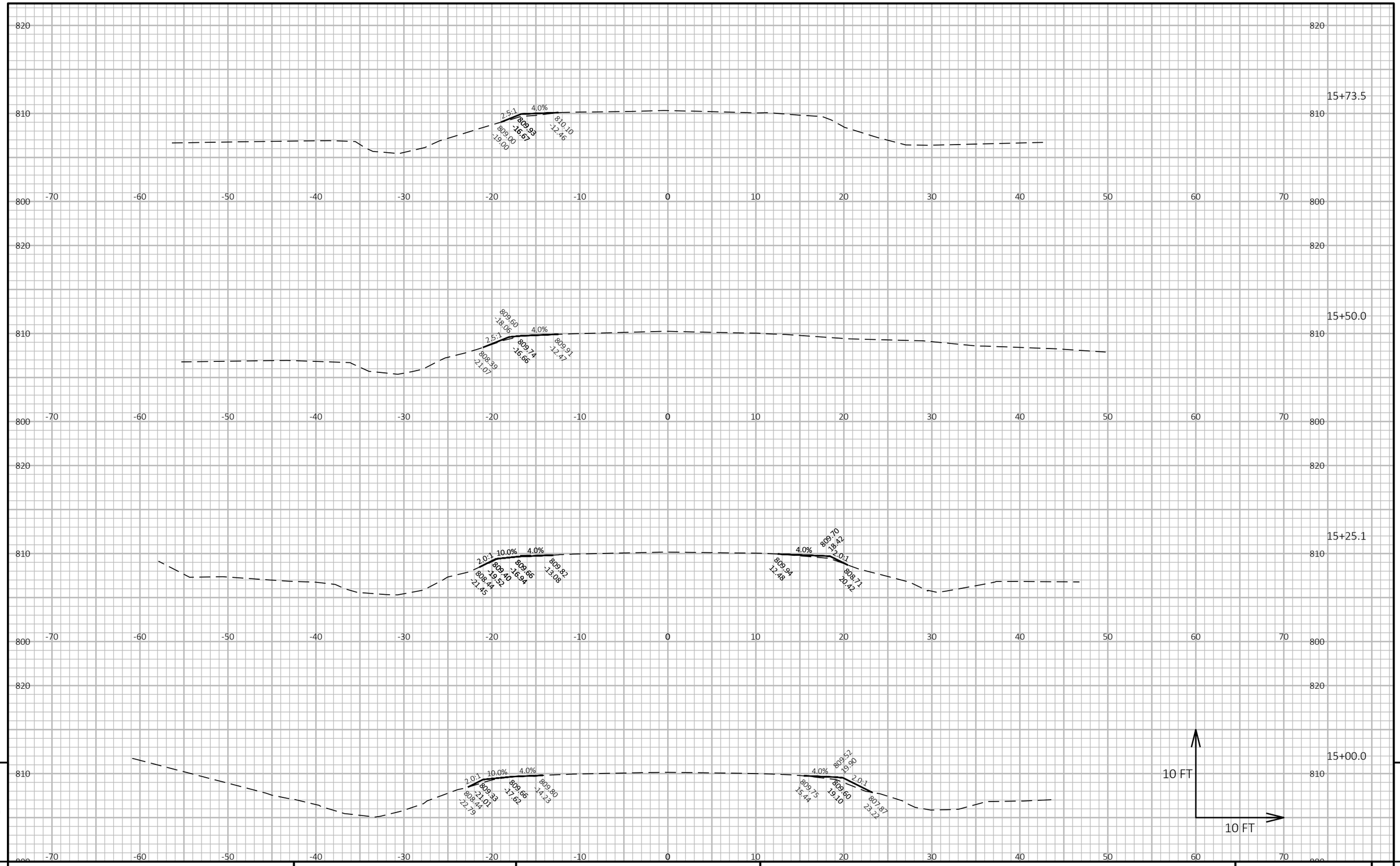
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CTH T	SHEET 388	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - CTH T 5

PLOT DATE : 6/14/2021 11:25 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

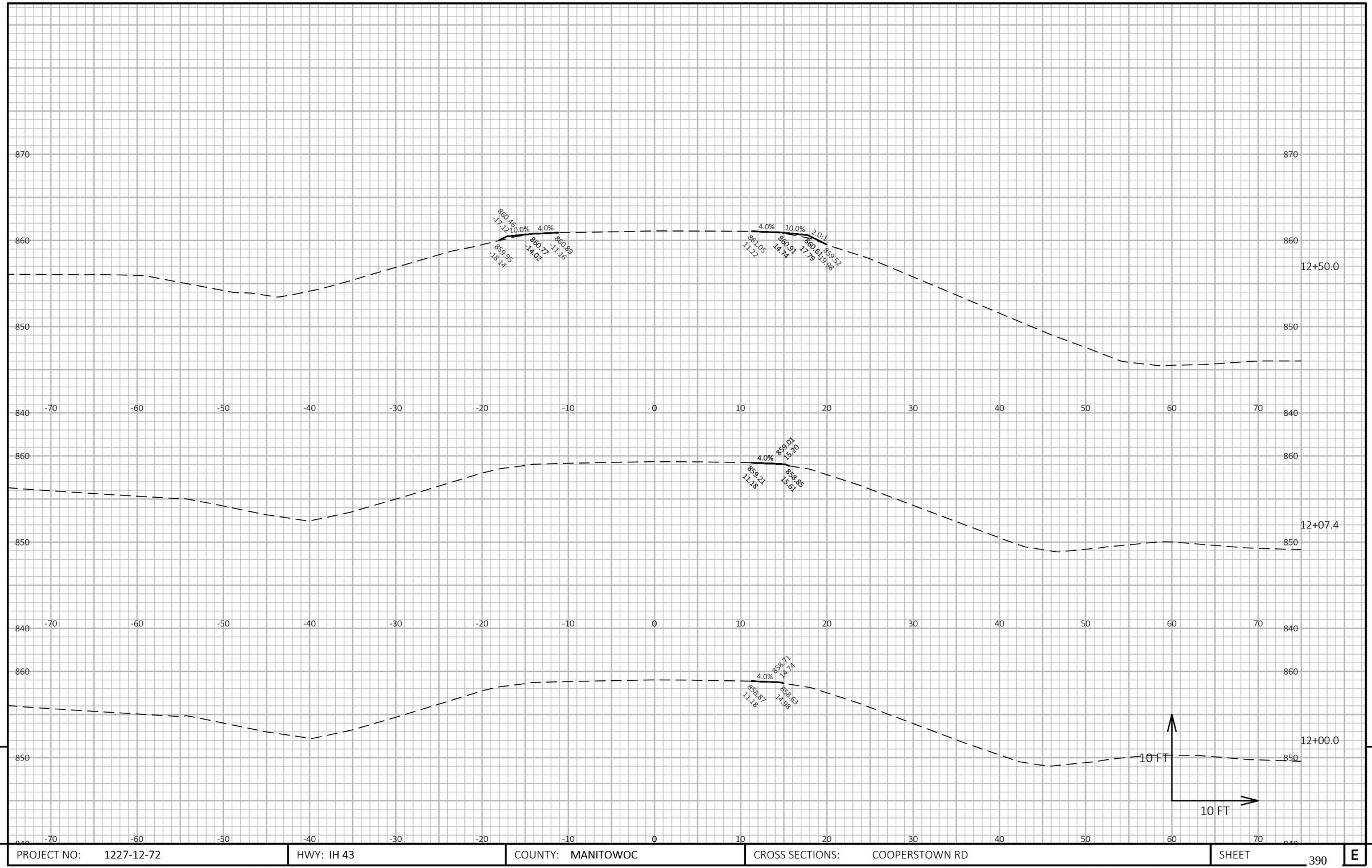
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CTH T	SHEET 389	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - CTH T 6

PLOT DATE : 6/14/2021 11:25 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

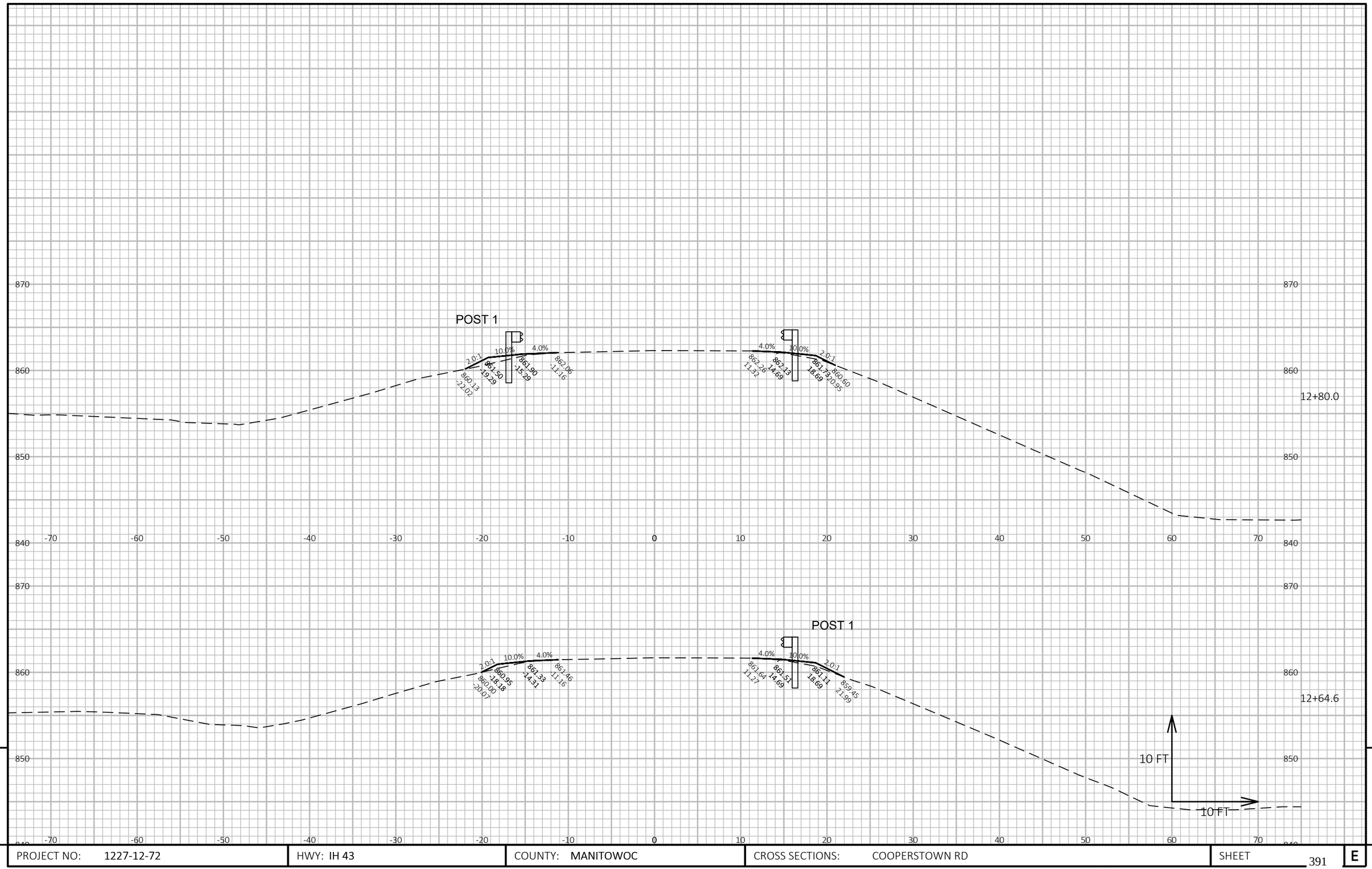
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 390	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown WB 1

PLOT DATE : 6/14/2021 11:25 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

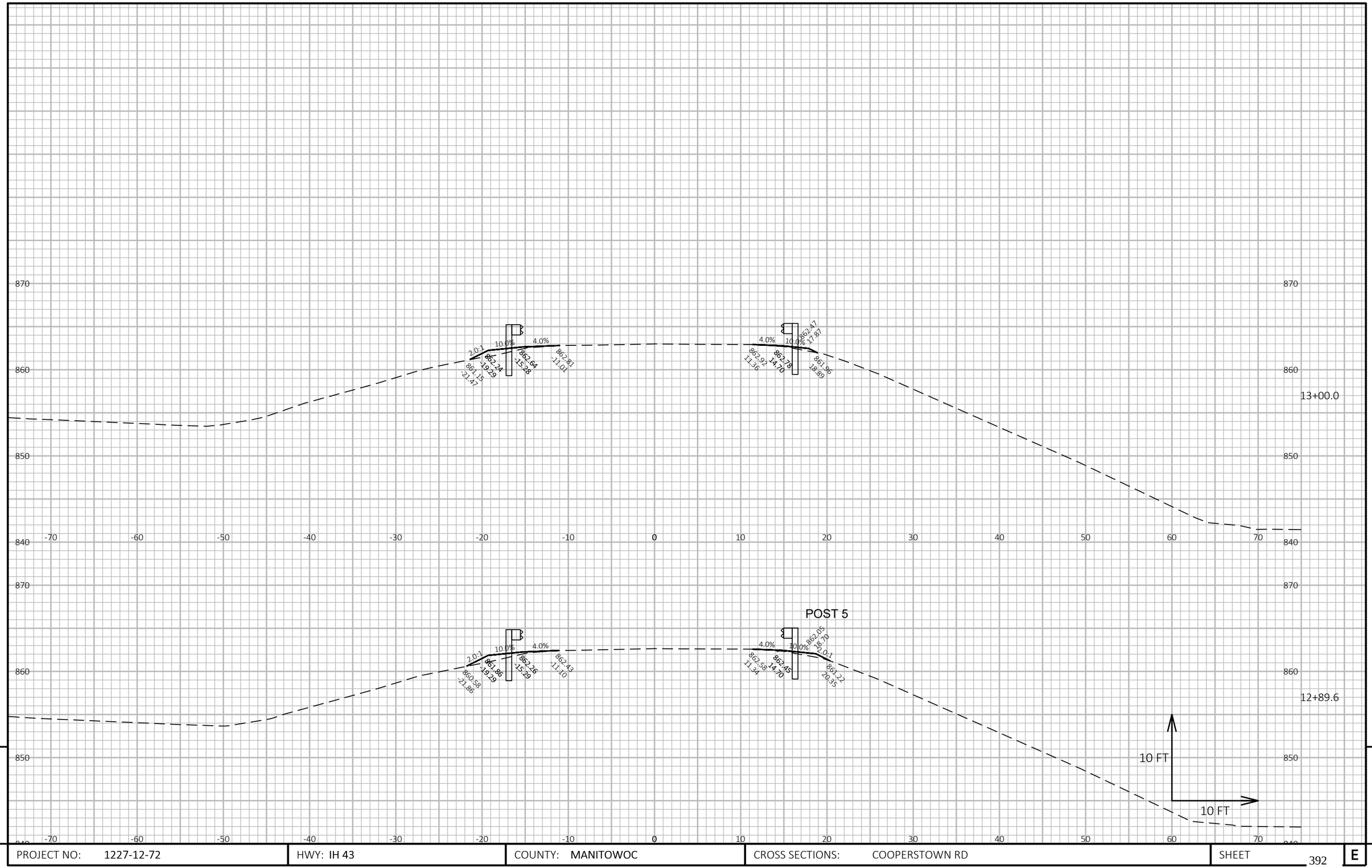
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 391	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown WB 2

PLOT DATE : 6/14/2021 11:25 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

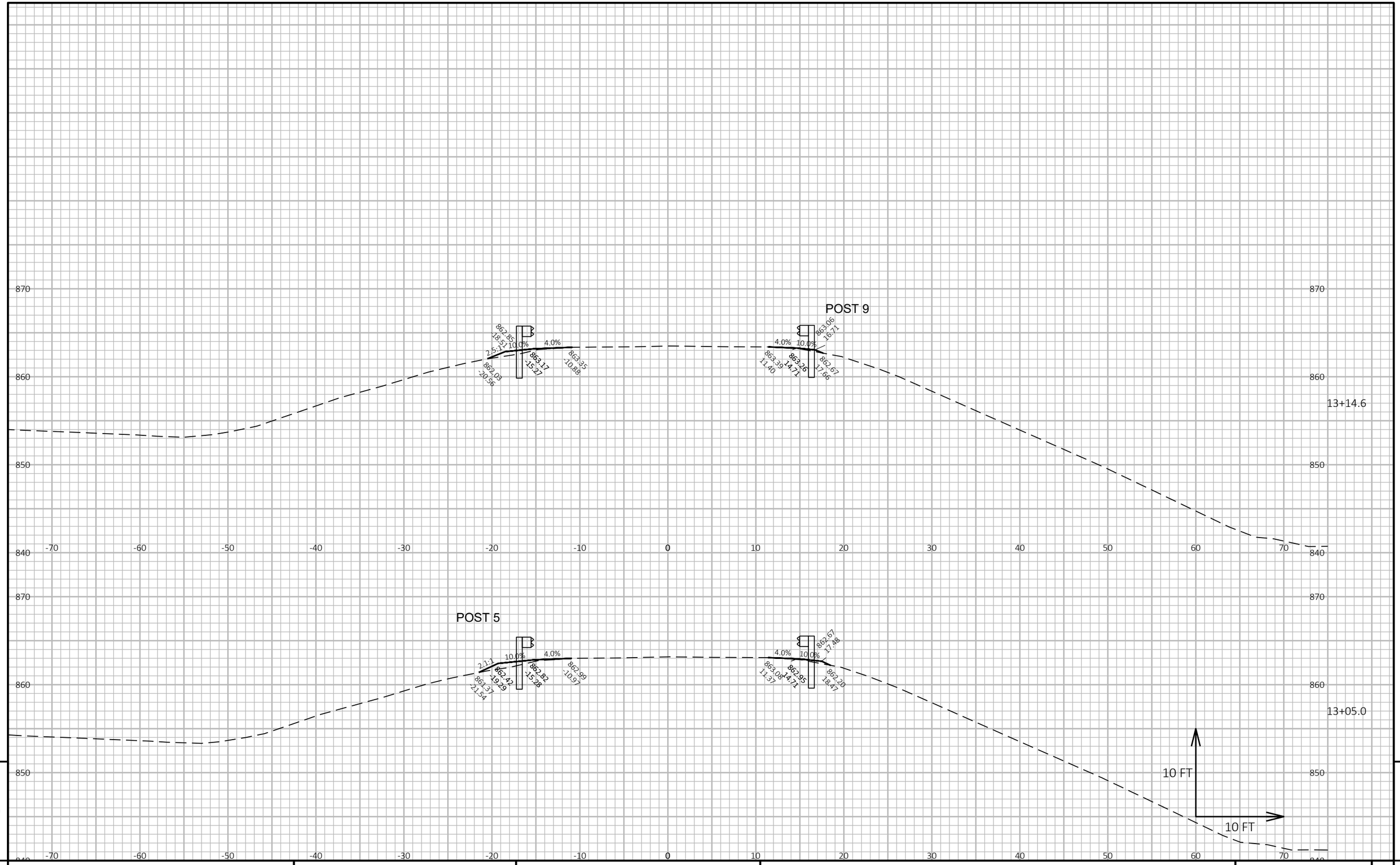
WISDOT/CADDS SHEET 49



PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 392	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown WB 3

PLOT DATE : 6/14/2021 11:26 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



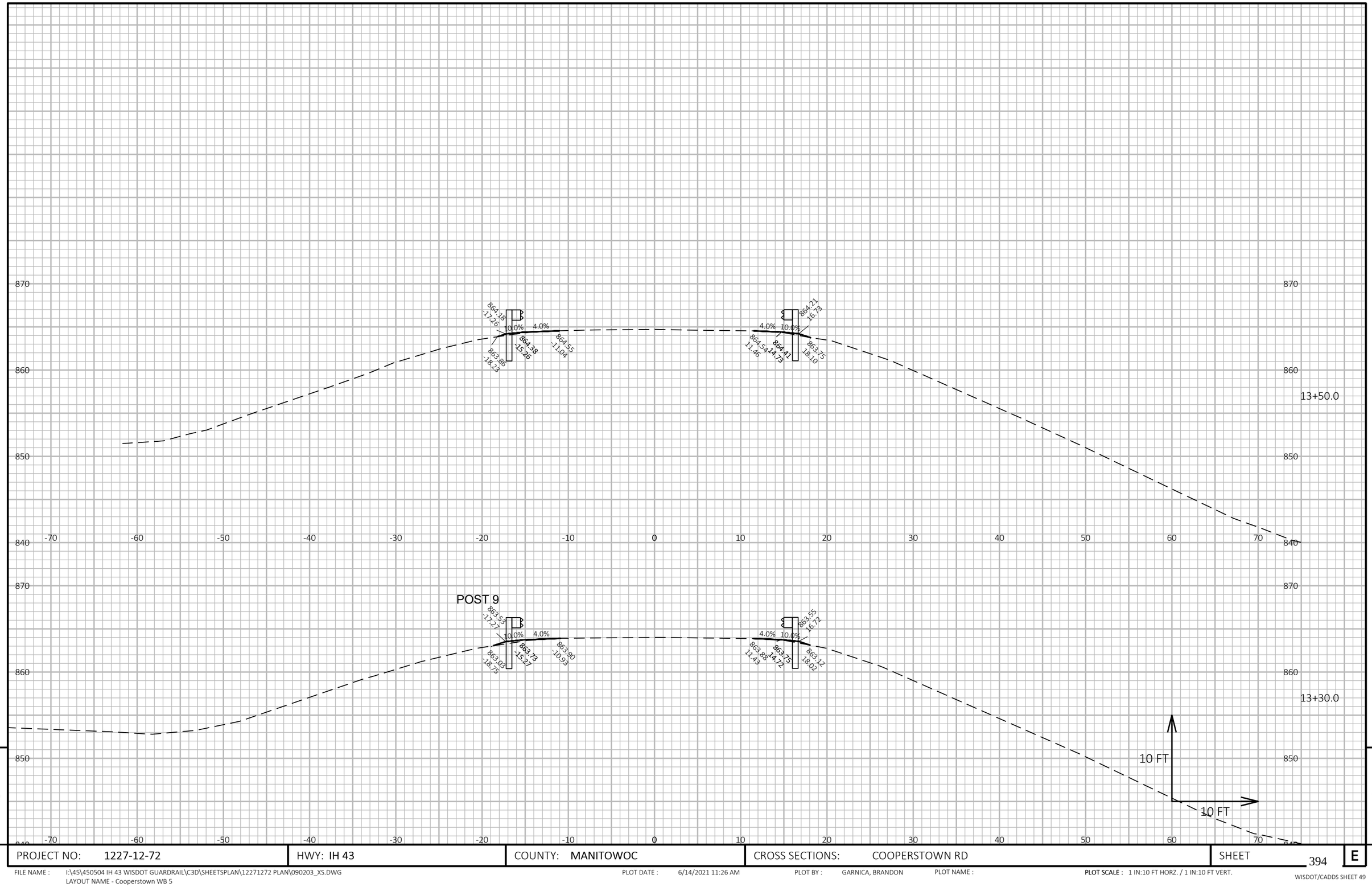
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 393	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown WB 4

PLOT DATE : 6/14/2021 11:26 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

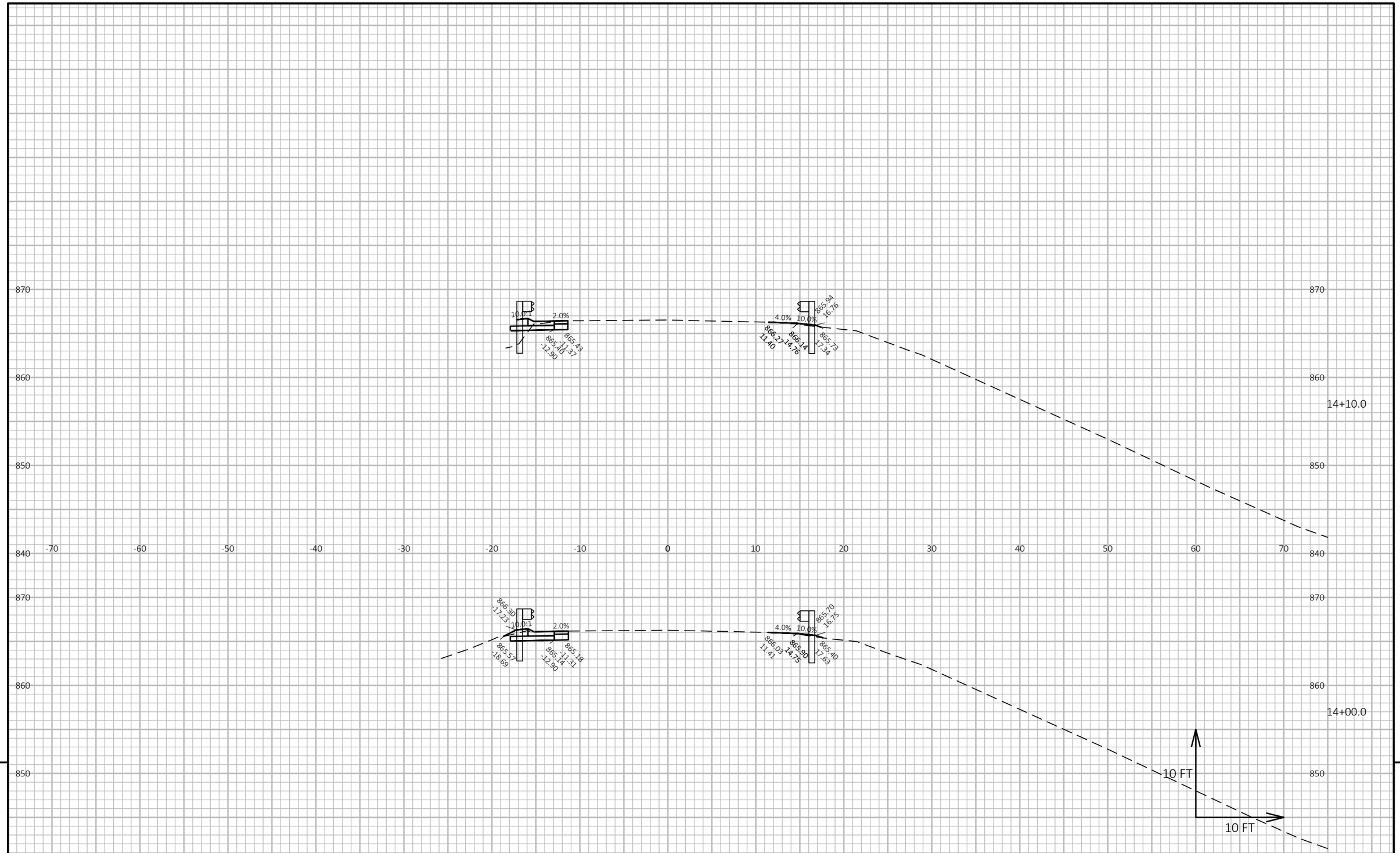
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 394	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown WB 5

PLOT DATE : 6/14/2021 11:26 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

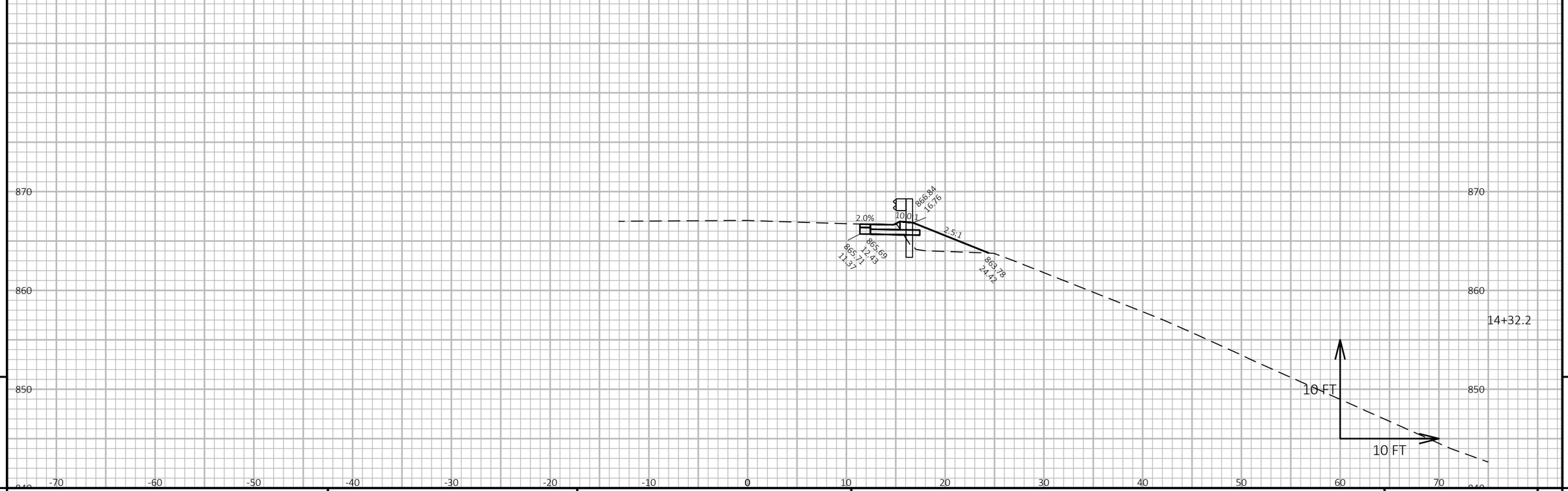


PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 395	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown WB 6

PLOT DATE : 6/14/2021 11:26 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

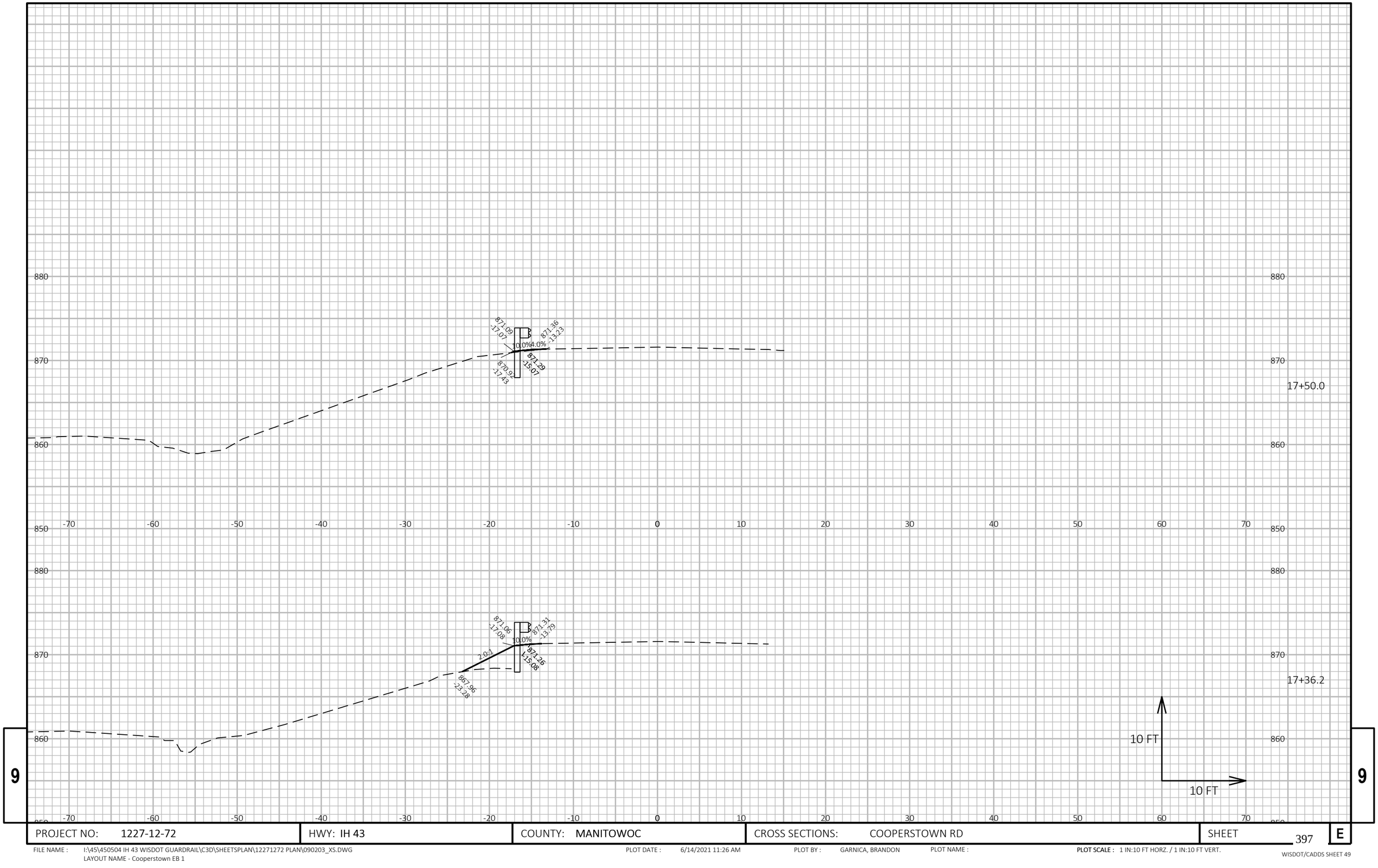
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 396	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown WB 7

PLOT DATE : 6/14/2021 11:26 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

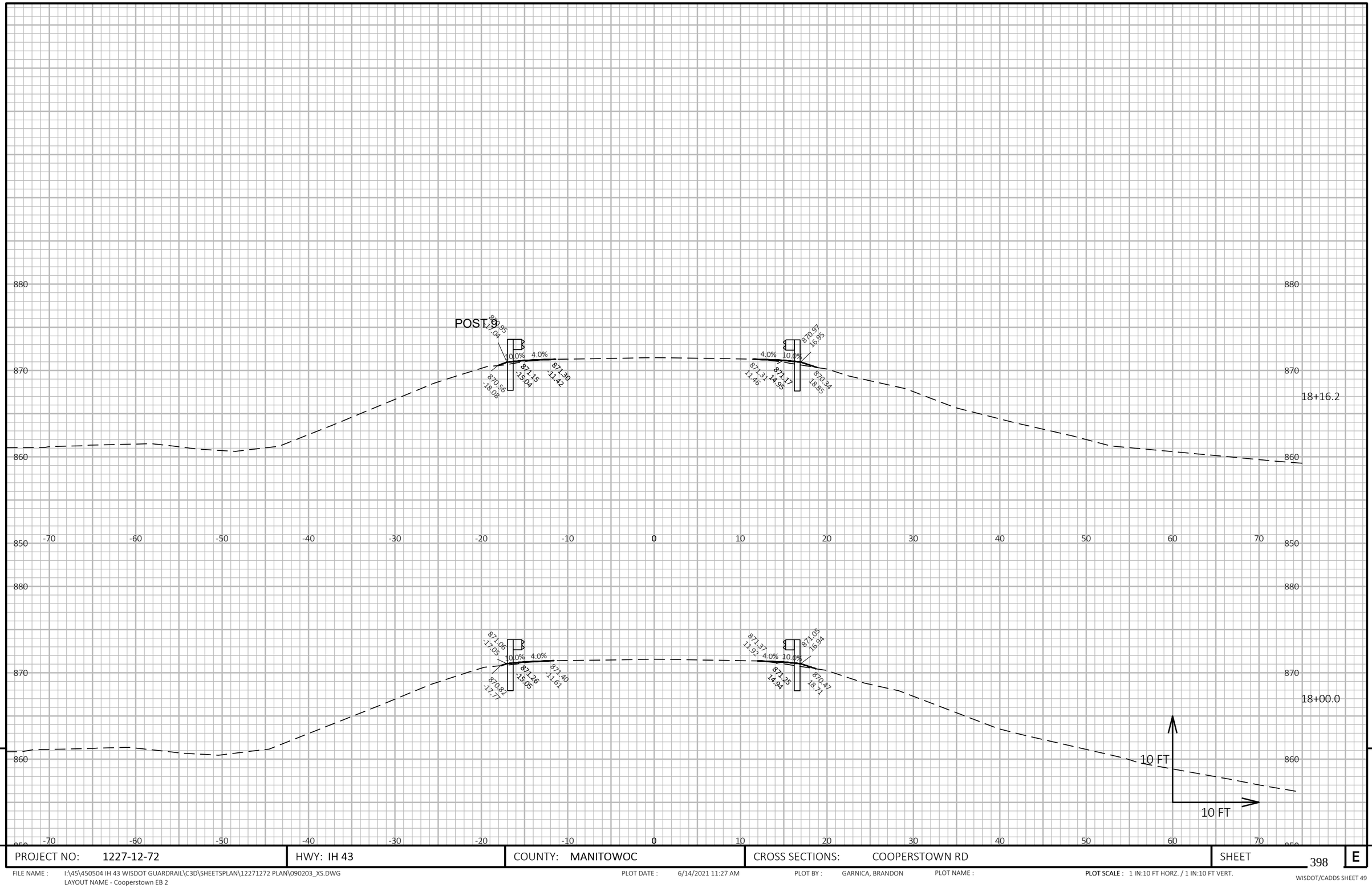


PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 397	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown EB 1

PLOT DATE : 6/14/2021 11:26 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 398	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown EB 2

PLOT DATE : 6/14/2021 11:27 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

POST 1

2.0:1 10.0% 4.0% 4.0% 10.0%
870.42 -19.02 869.45 -20.96
870.82 -15.02
870.98 -11.15
871.02 10.90
870.86 14.98
870.66 16.98
870.28 18.1

18+66.2

POST 2

2.0:1 10.0% 4.0% 4.0% 10.0%
870.53 -19.03 869.49 -21.10
870.93 -15.03
871.08 -11.17
871.13 10.93
870.97 14.97
870.77 16.97
870.28 18.44

18+50.0

POST 5

2.2:1 10.0% 4.0% 4.0% 10.0%
870.59 -19.03 869.37 -21.65
870.99 -15.03
871.14 -11.18
871.19 10.94
871.03 14.96
870.83 16.96
870.25 18.71

18+41.2

10 FT
10 FT

9 9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 399	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown EB 3

PLOT DATE : 6/14/2021 11:27 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

POST 5

870.30
-16.91
4.0%
870.14
-17.33
870.58
-14.20
870.70
-11.14
4.0%
870.74
-10.88
10.0%
870.57
14.99
870.17
18.99
869.83
20.03

19+00.7

POST 9

870.31
-16.95
4.0%
870.14
-17.38
870.58
-14.21
870.70
-11.14
4.0%
870.74
-10.88
10.0%
870.58
14.99
870.19
18.93
869.84
19.98

19+00.0

870.40
-18.44
10.0%
4.0%
869.82
-19.59
870.77
-14.66
870.91
-11.14
4.0%
870.96
-10.89
10.0%
870.79
14.98
870.23
18.07

18+75.7

10 FT
10 FT

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

850 860 870 880

9

9

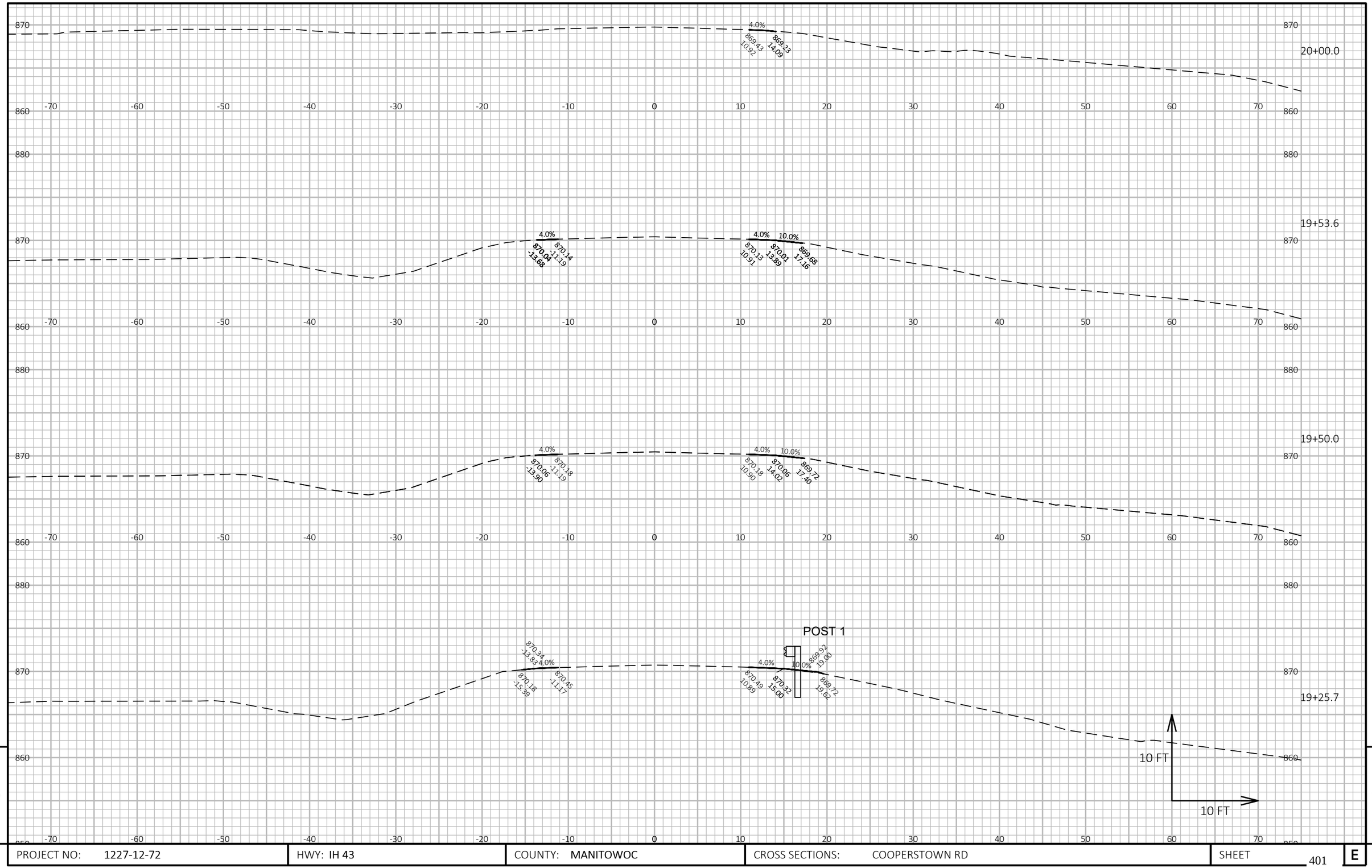
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 400	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown EB 4

PLOT DATE : 6/14/2021 11:27 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 401	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown EB 5

PLOT DATE : 6/14/2021 11:27 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

9

9

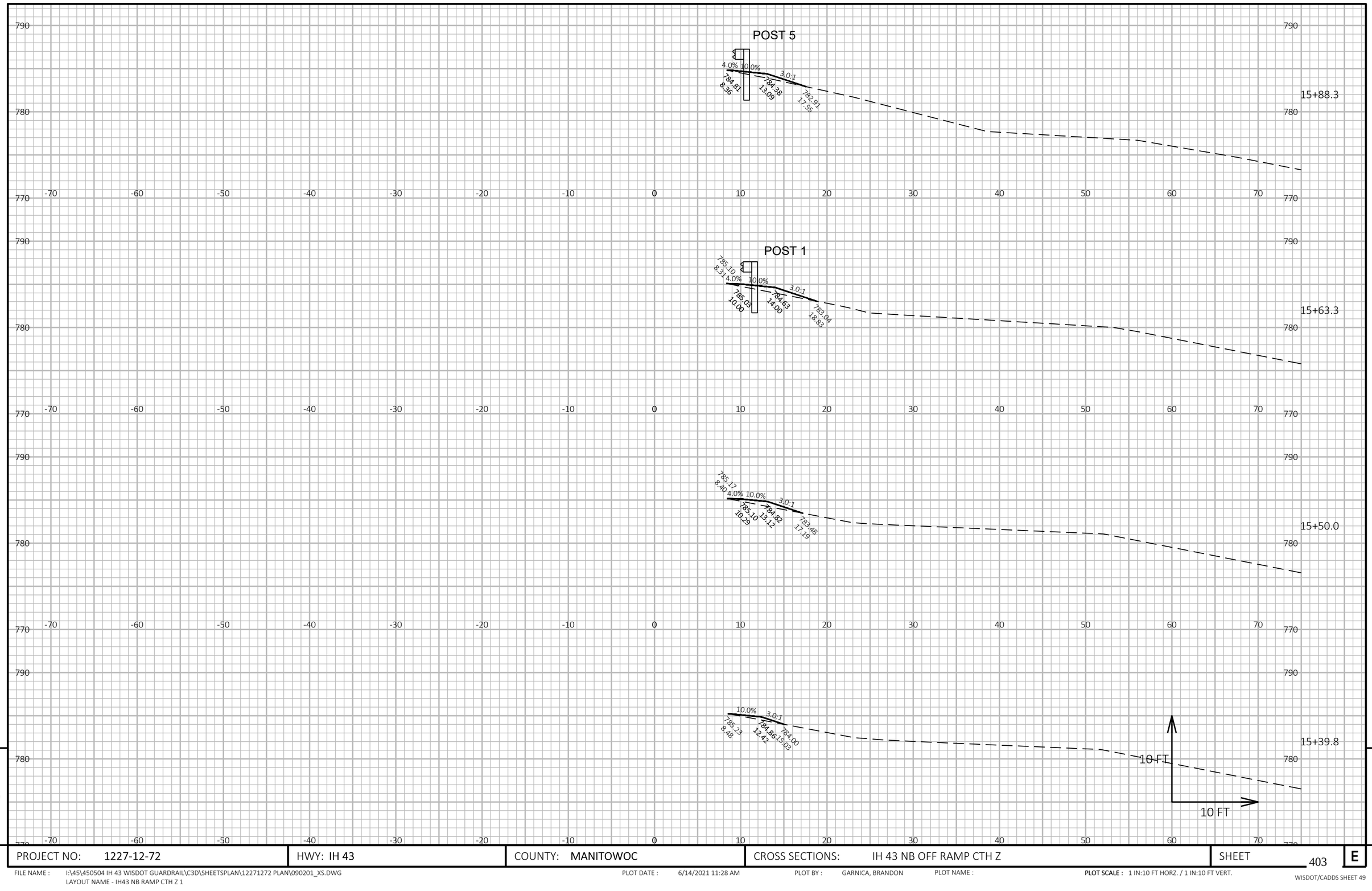
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: COOPERSTOWN RD	SHEET 402	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090203_XS.DWG
LAYOUT NAME - Cooperstown EB 6

PLOT DATE : 6/14/2021 11:27 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

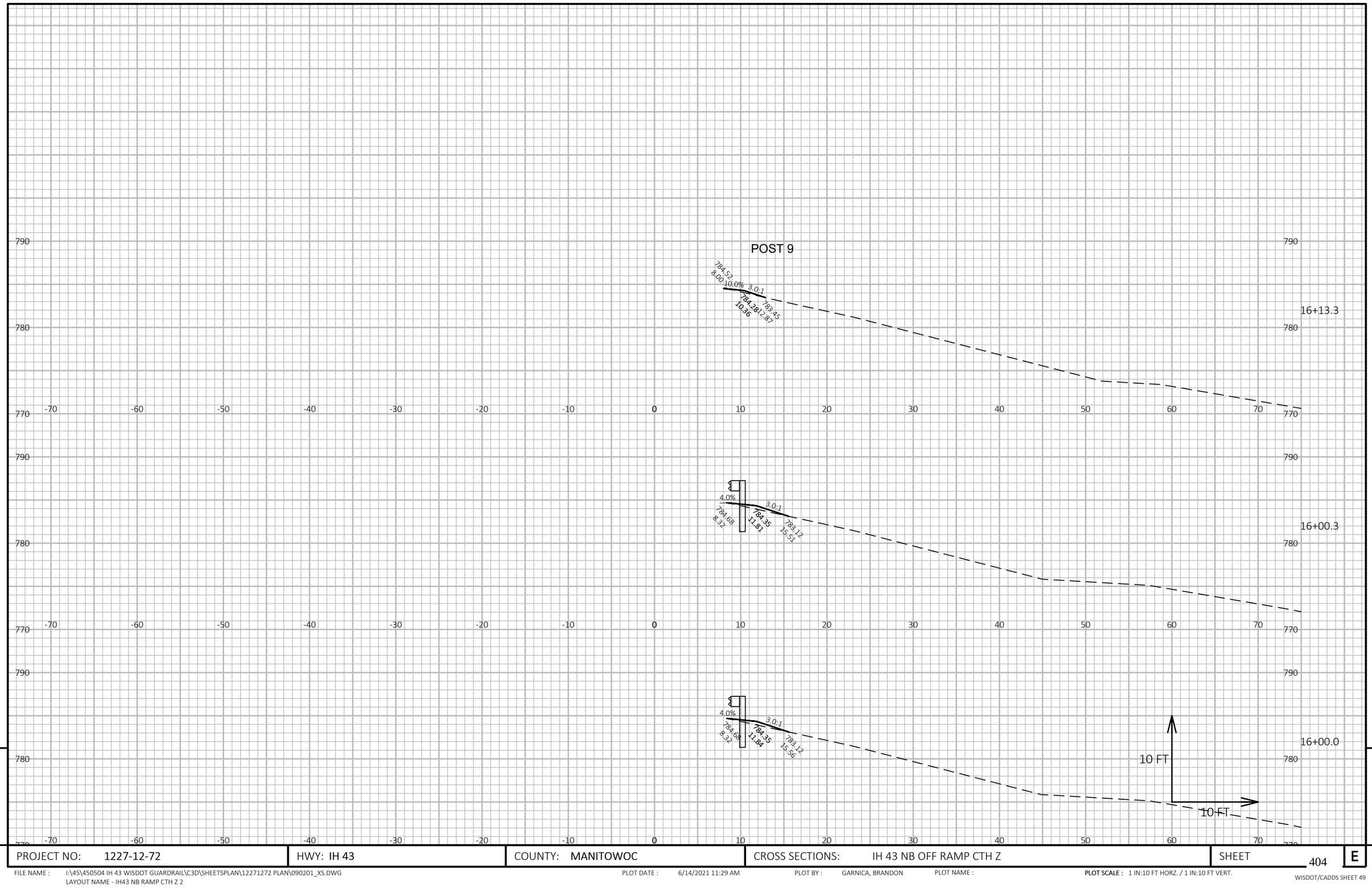
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB OFF RAMP CTH Z	SHEET 403	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB RAMP CTH Z 1

PLOT DATE : 6/14/2021 11:28 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB OFF RAMP CTH Z	SHEET 404	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB RAMP CTH Z 2

PLOT DATE : 6/14/2021 11:29 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

790
780
770
760
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

783.25
10.00
10.0%
2.5:1
783.45
8.00
781.55
14.24

17+00.0

790
780
770
760
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

783.88
10.00
10.0%
784.08
8.00
783.48
11.00

16+50.0

10 FT
10 FT

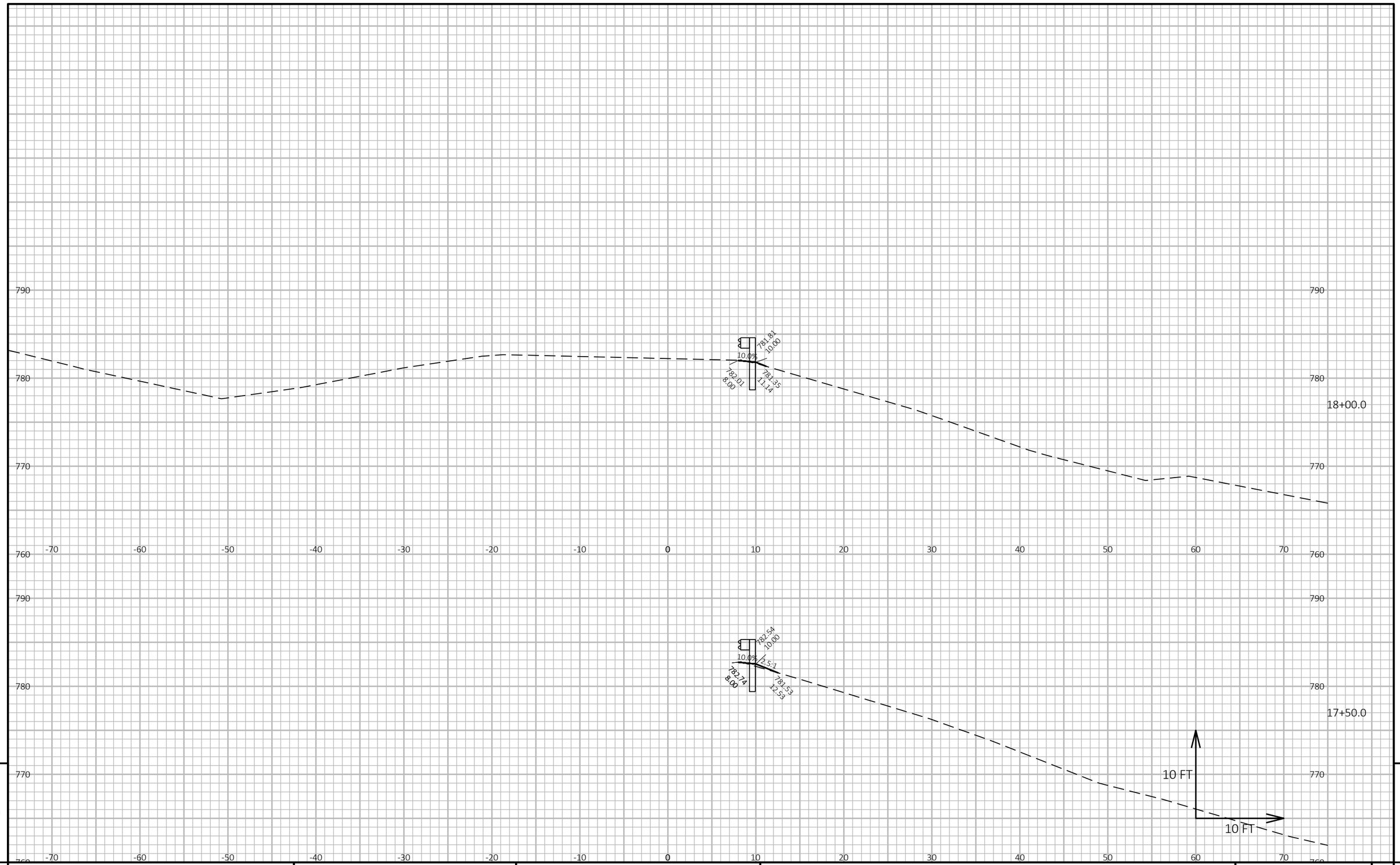
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB OFF RAMP CTH Z	SHEET 405	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB RAMP CTH Z 3

PLOT DATE : 6/14/2021 11:29 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

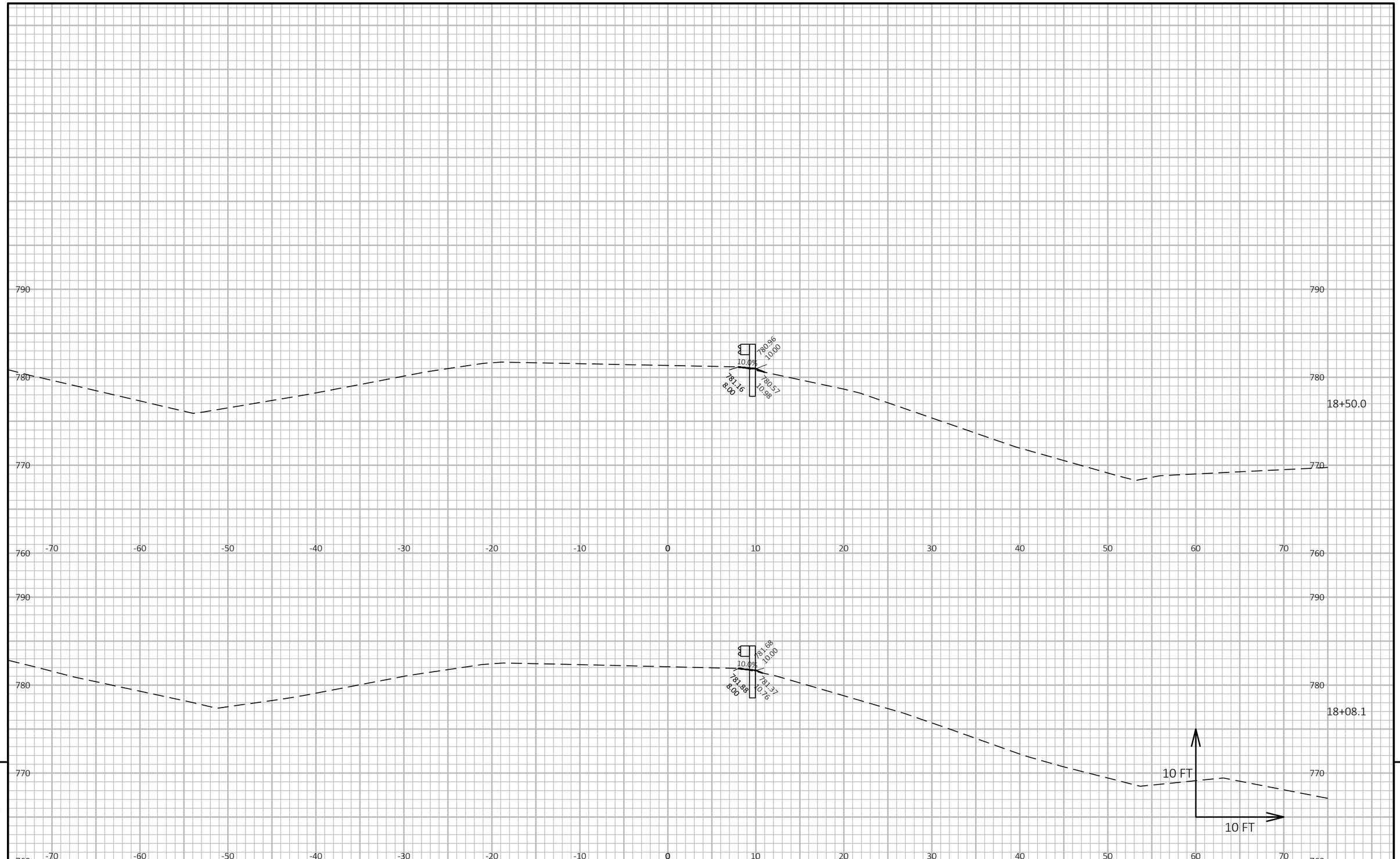
PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB OFF RAMP CTH Z	SHEET 406	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB RAMP CTH Z 4

PLOT DATE : 6/14/2021 11:30 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

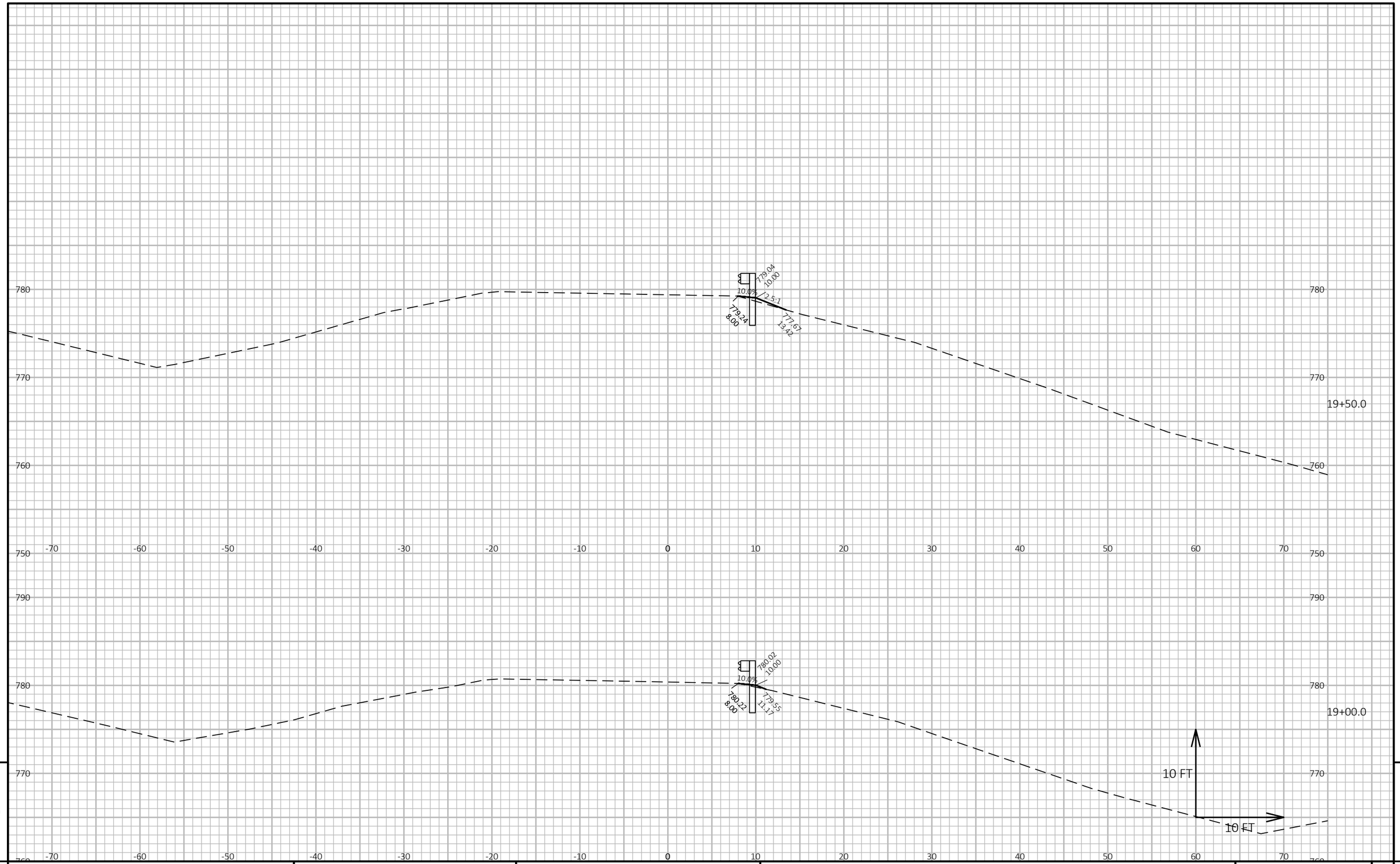
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB OFF RAMP CTH Z	SHEET 407	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB RAMP CTH Z 5

PLOT DATE : 6/14/2021 11:30 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

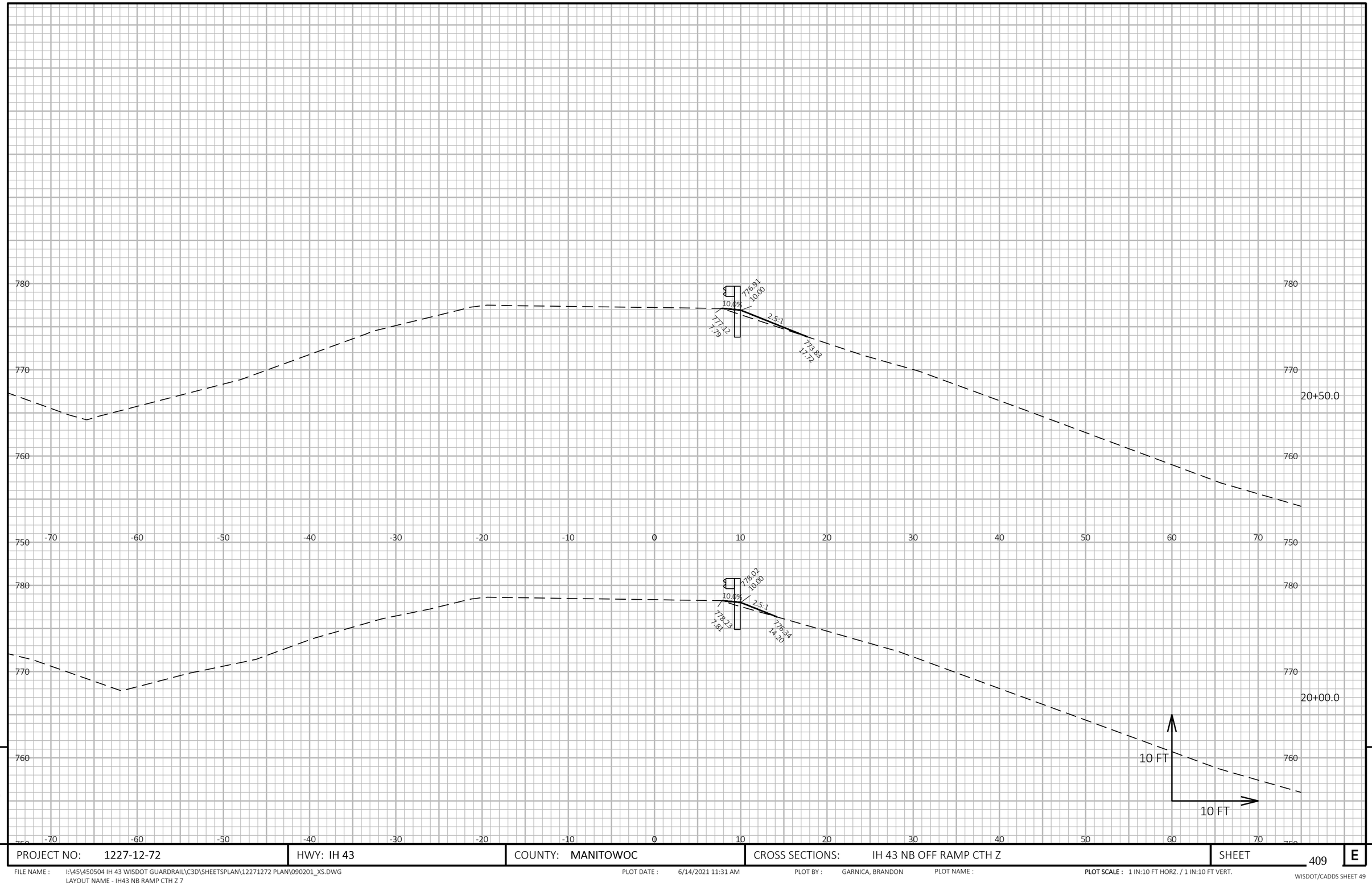
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB OFF RAMP CTH Z	SHEET 408	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\122712272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB RAMP CTH Z 6

PLOT DATE : 6/14/2021 11:31 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

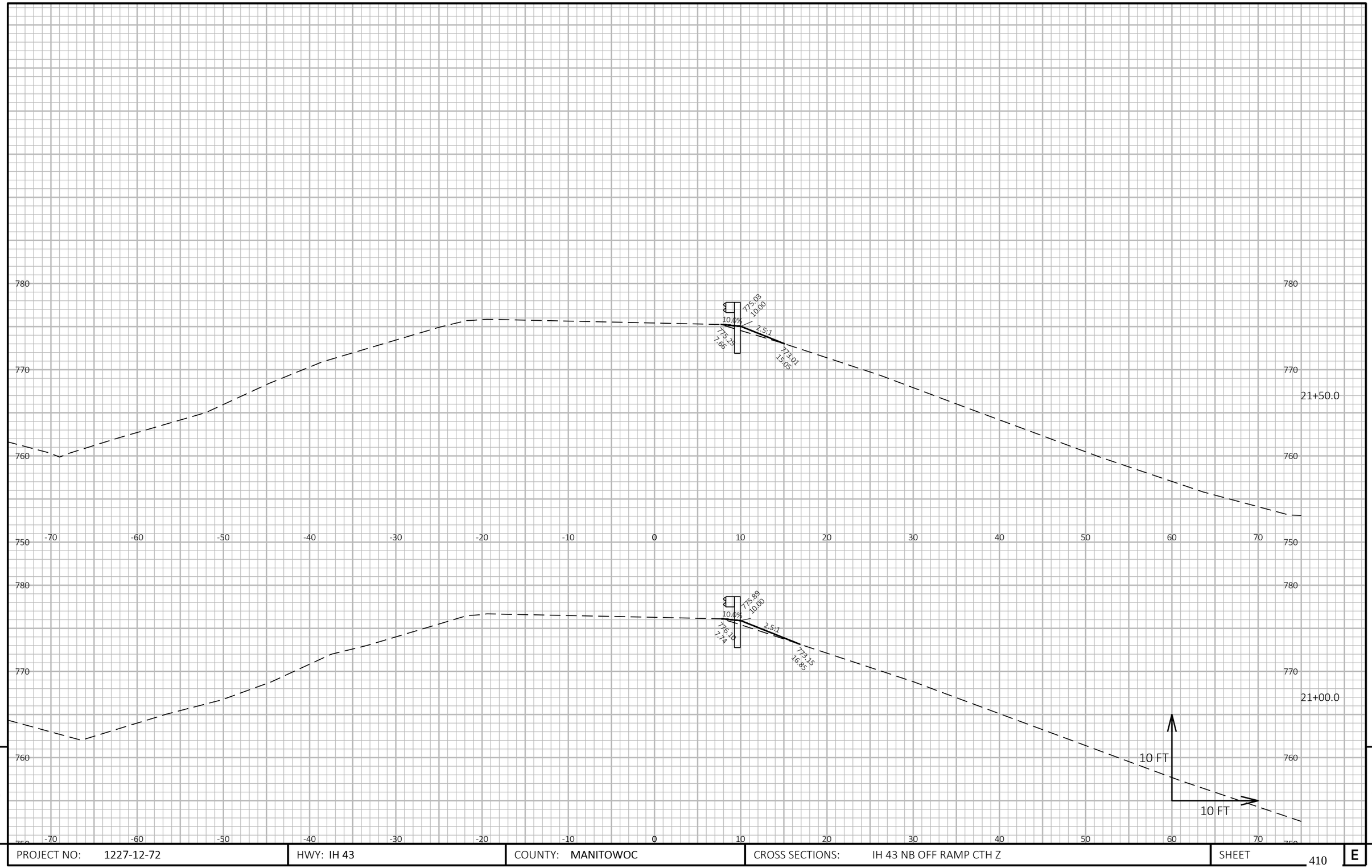
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB OFF RAMP CTH Z	SHEET 409	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB RAMP CTH Z 7

PLOT DATE : 6/14/2021 11:31 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

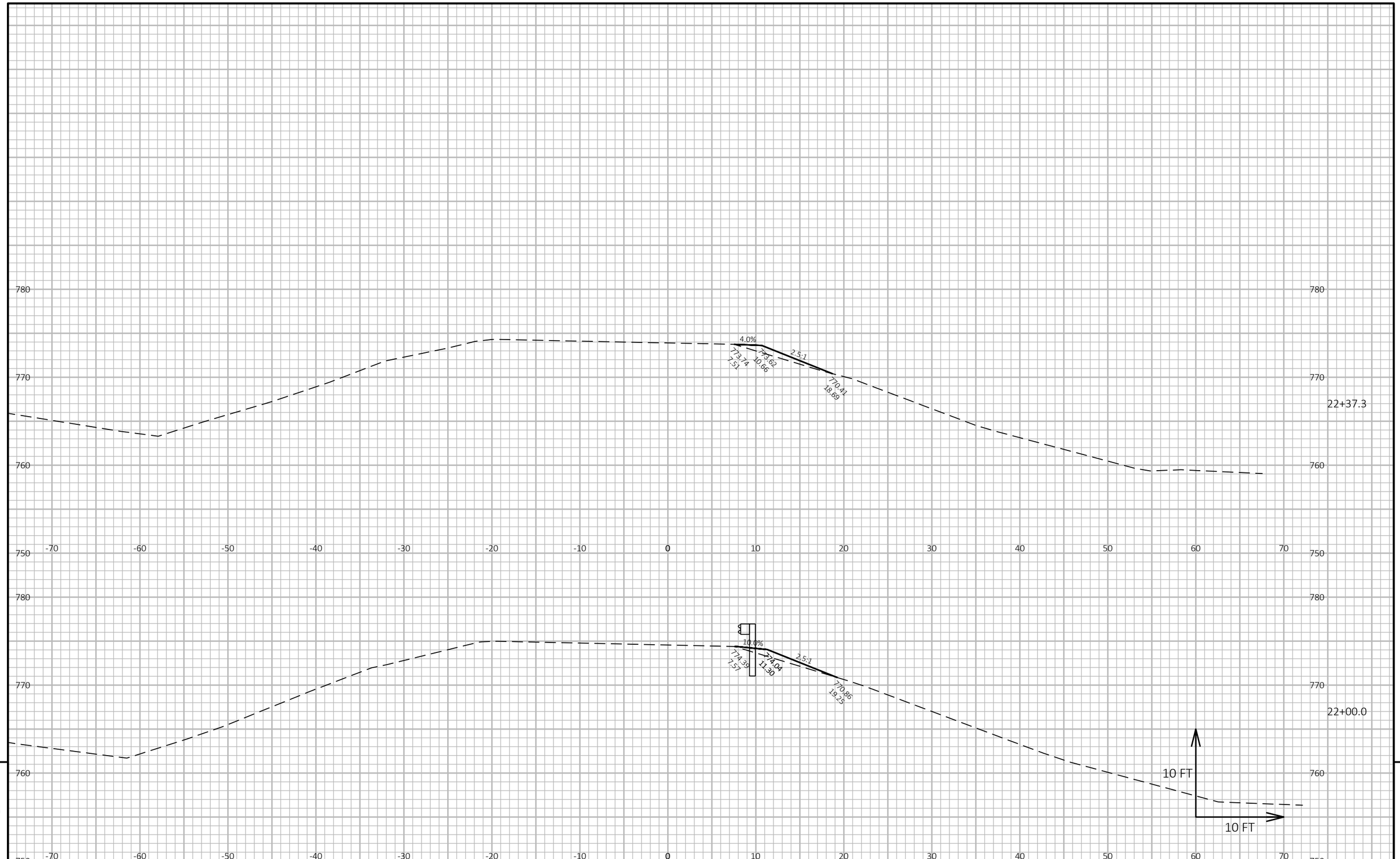
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB OFF RAMP CTH Z	SHEET 410	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB RAMP CTH Z 8

PLOT DATE : 6/14/2021 11:32 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

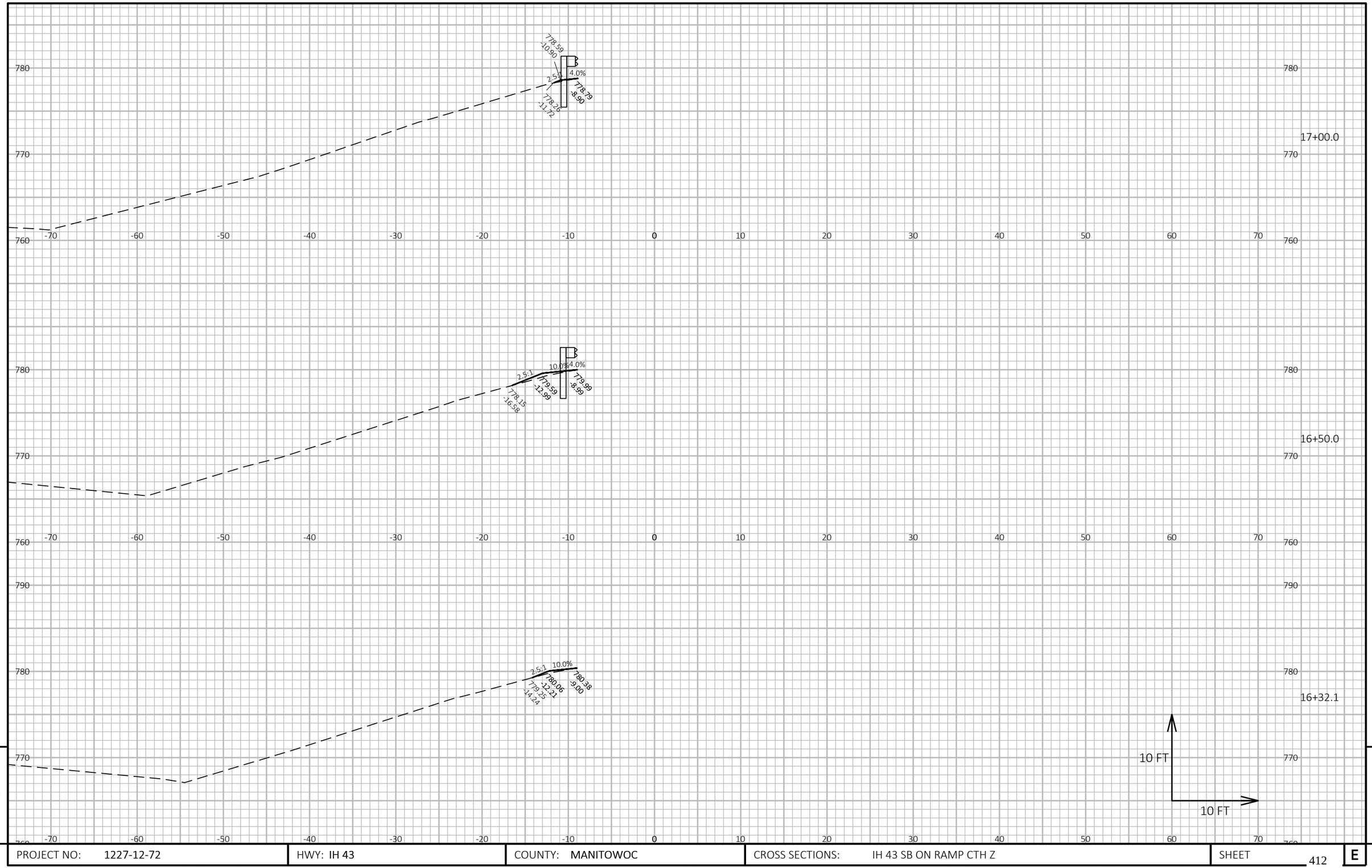
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB OFF RAMP CTH Z	SHEET 411	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 NB RAMP CTH Z 9

PLOT DATE : 6/14/2021 11:32 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

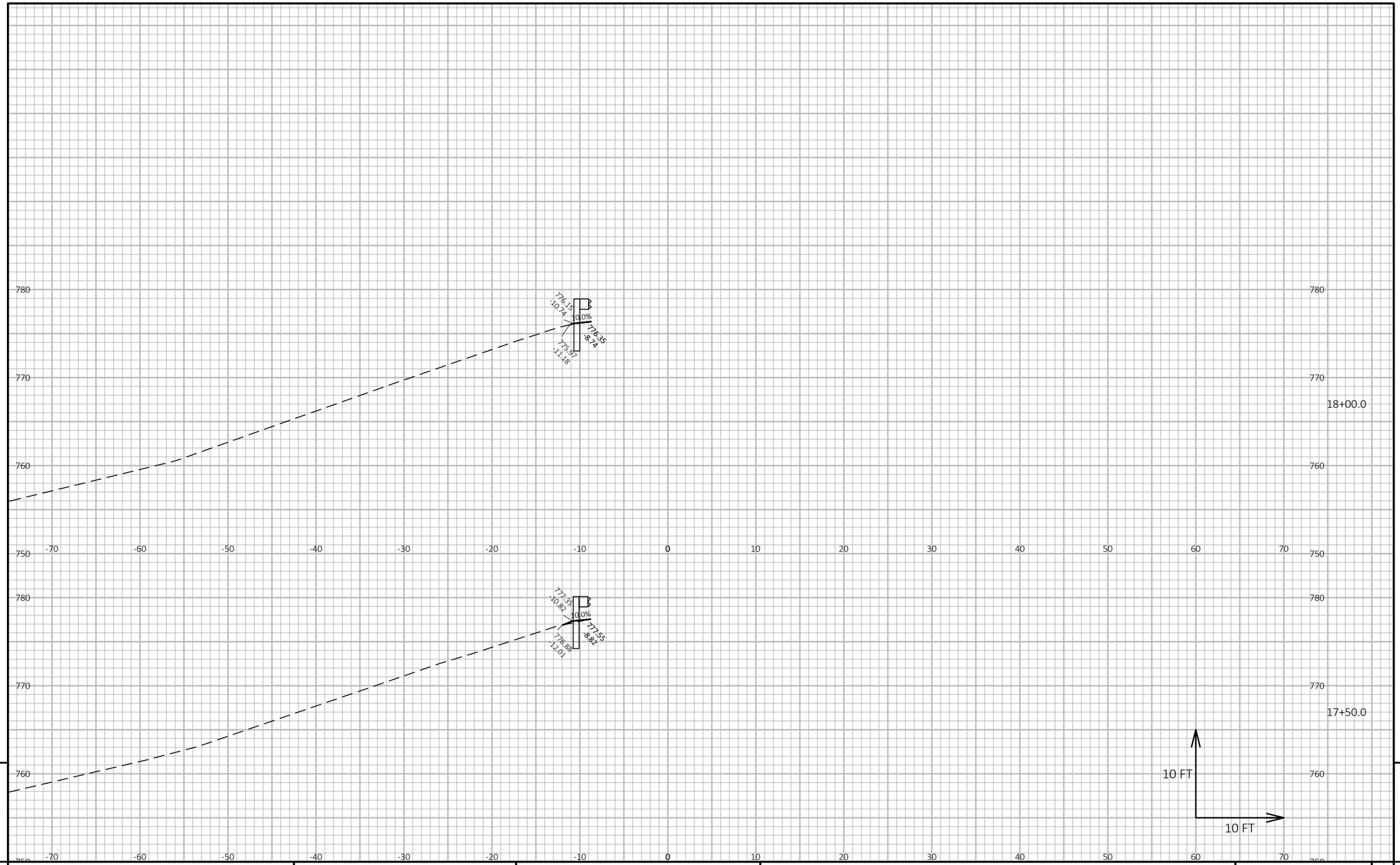
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB ON RAMP CTH Z	SHEET 412	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB RAMP CTH Z 1

PLOT DATE : 6/14/2021 11:33 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB ON RAMP CTH Z	SHEET 413	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB RAMP CTH Z 2

PLOT DATE : 6/14/2021 11:33 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

780
770
760
750
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

774.48
-10.57
10.0%
774.38
-8.57
773.98
-11.06

775.10
-10.65
10.0%
775.30
-8.65
774.90
-11.06

19+00.0

18+50.0

10 FT
10 FT

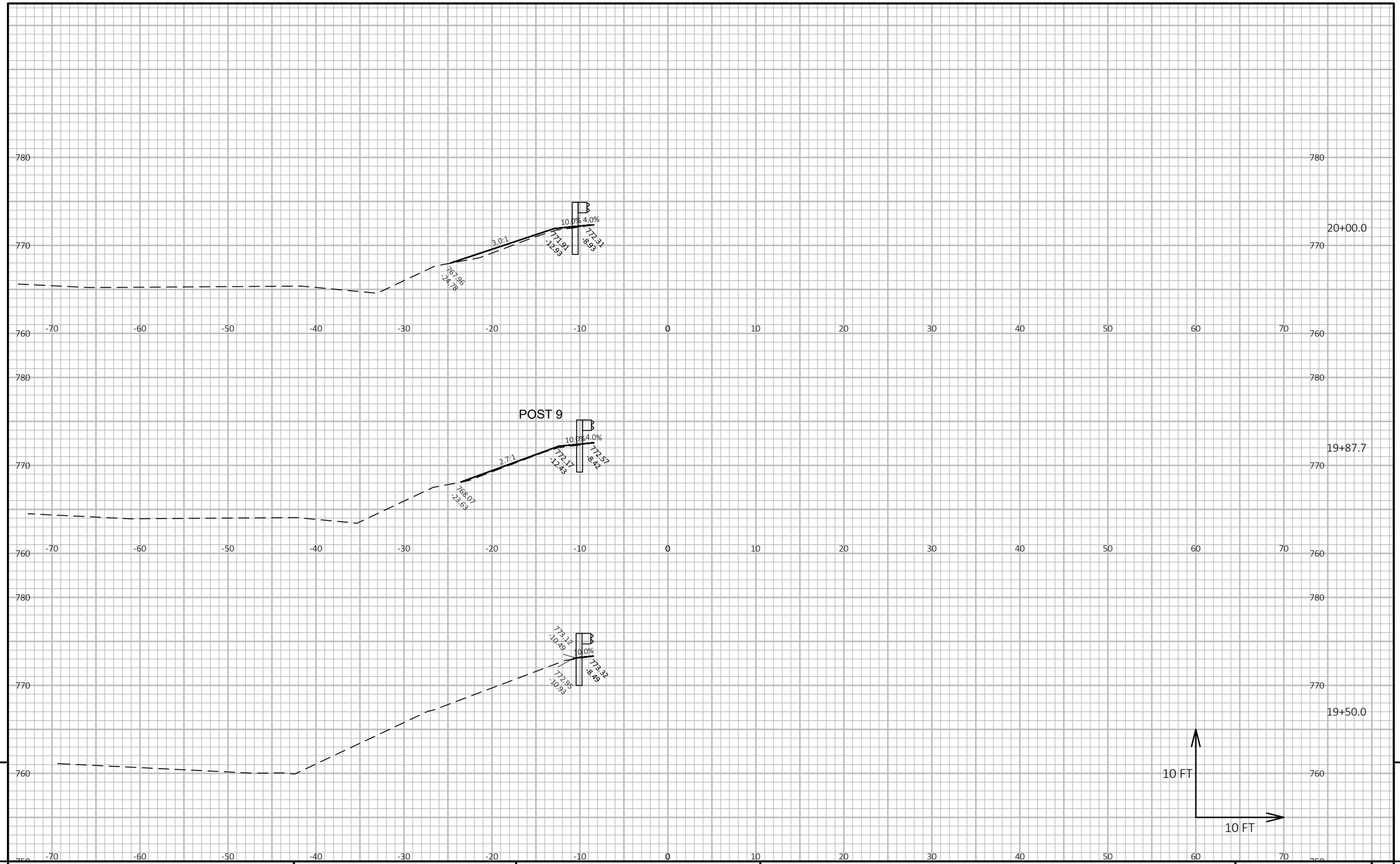
9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB ON RAMP CTH Z	SHEET 414	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB RAMP CTH Z 3

PLOT DATE : 6/14/2021 11:33 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



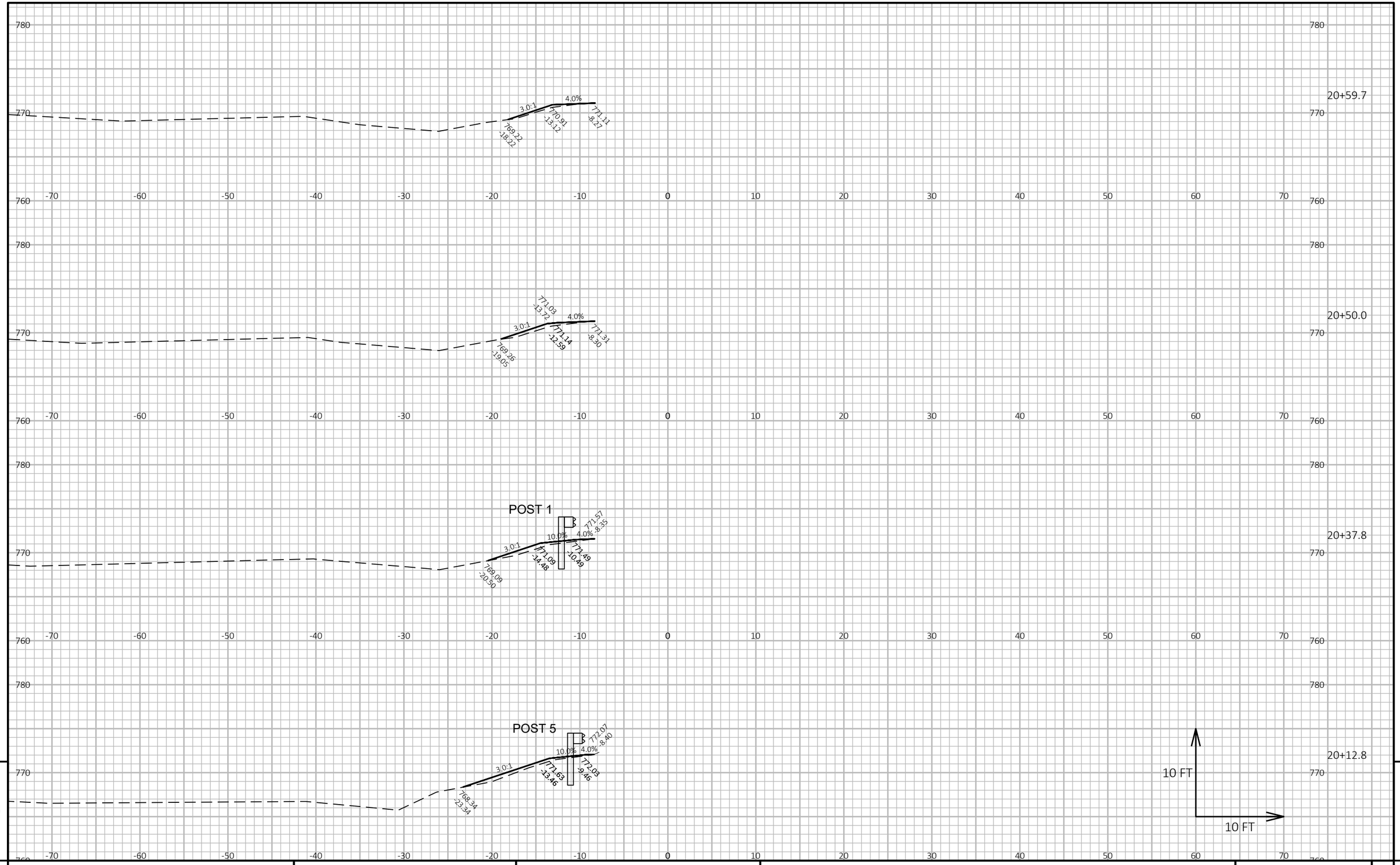
9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB ON RAMP CTH Z	SHEET 415	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB RAMP CTH Z 4

PLOT DATE : 6/14/2021 11:34 AM PLOT BY : GARNICA, BRANDON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 1227-12-72	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB ON RAMP CTH Z	SHEET 416	E

FILE NAME : I:\45\450504 IH 43 WISDOT GUARDRAIL\C3D\SHEETSPLAN\12271272 PLAN\090201_XS.DWG
LAYOUT NAME - IH43 SB RAMP CTH Z 5

PLOT DATE : 6/14/2021 11:34 AM PLOT BY : GARNICA, BRANDON PLOT NAME :

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

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

GRE DECEMBER 2021

PROJECT ID: 1227-12-73

WITH: 1227-12-71 & 1227-12-72

COUNTY: MANITOWOC

ORDER OF SHEETS

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

TOTAL SHEETS = 32

28

N

DESIGN DESIGNATION

A.A.D.T.	2023	=	21,140
A.A.D.T.	2043	=	23,500
D.H.V.		=	3,000
D.D.		=	58/42
T. (A.A.D.T)		=	15.2%
DESIGN SPEED		=	70 MPH
ESALS		=	12,000,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (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

MANITOWOC - GREEN BAY

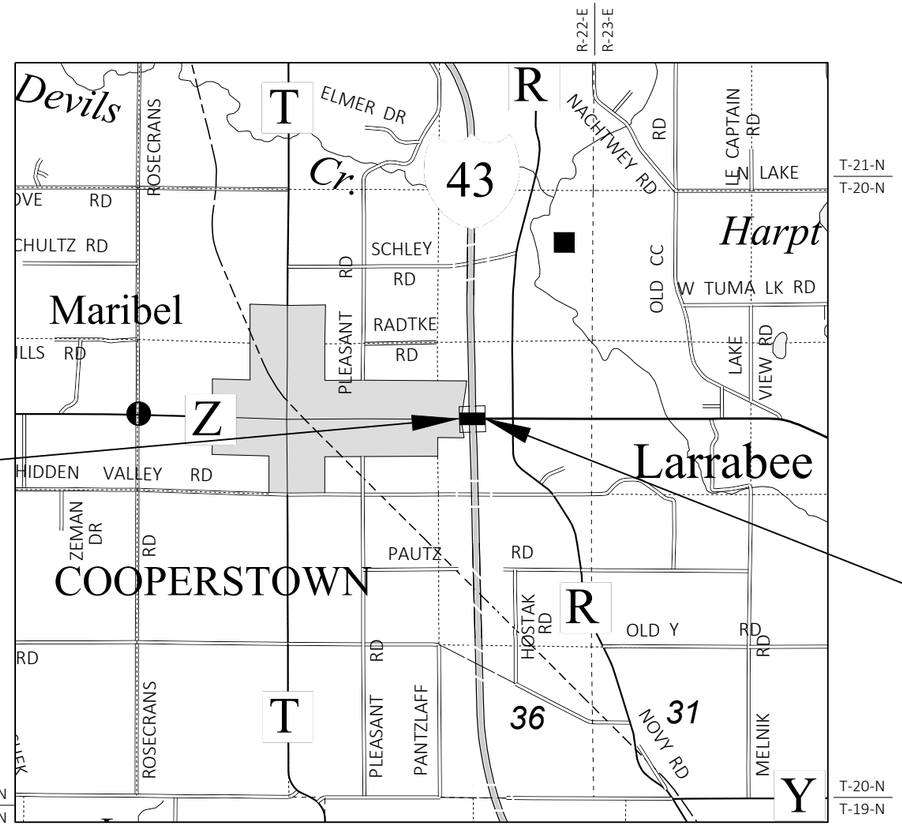
PLEASANT RD - CTH R

CTH Z

MANITOWOC COUNTY

STATE PROJECT NUMBER
1227-12-73

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1227-12-73	———	———



LAYOUT

SCALE 0 2.0 MI

TOTAL NET LENGTH OF CENTERLINE = 0.173 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MANITOWOC COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION
Designer	J. MATERNOSKI
Project Manager	B. HAEN
Regional Examiner	
Regional Supervisor	D. SEGERSTROM

APPROVED FOR THE DEPARTMENT

DATE: 9/15/21 Brian Haen (Signature)

E

FILE NAME : C:\CIVIL 3D PROJECTS\12271200\SHEETSPLAN\1227-12-73\010101-TI.DWG PLOT DATE : 7/21/2021 3:35 PM PLOT BY : SMITH, JENNIFER B PLOT NAME :

GENERAL NOTES

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

THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES

PROJECT OVERVIEW

TYPICAL SECTIONS

CONSTRUCTION DETAILS

DNR LIAISON

MATT SCHAEVE
DNR NORTHEAST REGIONAL HEADQUARTERS
2984 SHAWANO AVE.
GREEN BAY, WI 54313
(920) 366-1544
matthew.schaeve@wisconsin.gov

MANITOWOC COUNTY HIGHWAY COMMISSIONER

MARC HOLSEN
MANITOWOC CO. HIGHWAY DEPT.
3500 STH 310
MANITOWOC, WI 54220
(920) 683-4353
marc.holsen@co.manitowoc.wi.us

NE REGION SURVEY COORDINATOR

CORMAC MCINNIS, RLS
944 VANDERPERREN WAY
GREEN BAY, WI 54304
(920)492-5638
cormac.mcinnis@dot.wi.gov

UTILITIES CONTACTS

CENTURYLINK - COMMUNICATION LINE
JASON BUSSE
3235 INTERTECH DR SUITE 600
BROOKFIELD, WI 53045
(715) 415-3214, (414) 224-6713
JASON.BUSSE@LUMEN.COM

CHARTER COMMUNICATIONS - COMMUNICATION LINE
VINCENT ALBIN
3520 DESTINATION DR
APPLETON, WI 54915
(920) 378-7982, (920) 831-9249
VINCE.ALBIN@CHARTER.COM

WISCONSIN PUBLIC SERVICE CORPORATION - GAS/PETROLEUM
JOEL SAWICKI
800 COLUMBUS ST
P.O. BOX 236
TWO RIVERS, WI 54241-0236
(920) 657-1862
JOEL.SAWICKI@WISCONSINPUBLICSERVICE.COM

WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRICITY
CHARLES WINDUS
2850 S ASHLAND AVE
GREEN BAY, WI 54307
(920) 606-1141, (920) 617-5281
CHARLES.WINDUS@WISCONSINPUBLICSERVICE.COM

2

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE	O-2	2-6	6 & OVER	O-2	2-6	6 & OVER	O-2	2-6	6 & OVER	O-2	2-6	6 & OVER
ROW CROPS	0.08 0.22	0.16 0.30	0.22 0.38	0.12 0.26	0.20 0.34	0.27 0.44	0.15 0.30	0.24 0.37	0.33 0.50	0.19 0.34	0.28 0.41	0.38 0.56
MEDIAN STRIP TURF	0.19 0.24	0.20 0.26	0.24 0.30	0.19 0.25	0.22 0.28	0.26 0.33	0.20 0.26	0.23 0.30	0.30 0.37	0.20 0.27	0.25 0.32	0.30 0.40
SIDE STRIP TURF			0.25 0.32			0.27 0.34			0.28 0.36			0.30 0.38
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 = 71.80 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.20 ACRES

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

2

END PROJECT
STA 15'WB'+87.00
Y=368,174.870
X=200,746.903

CTH Z WB R/L

CTH Z

60'EB'

10'WB'

CTH Z EB R/L

STH 147

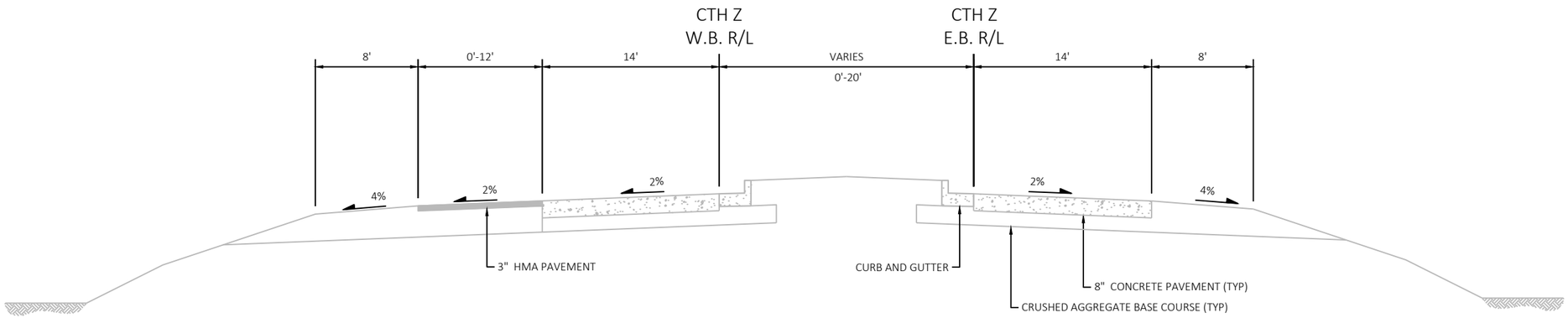
BEGIN PROJECT
STA 6'WB'+73.00
Y=368,158.797
X=199,833.240

IH 43

PROJECT NO: 1227-12-73	HWY: CTH Z	COUNTY: MANITOWOC	PROJECT OVERVIEW	SHEET 3	E

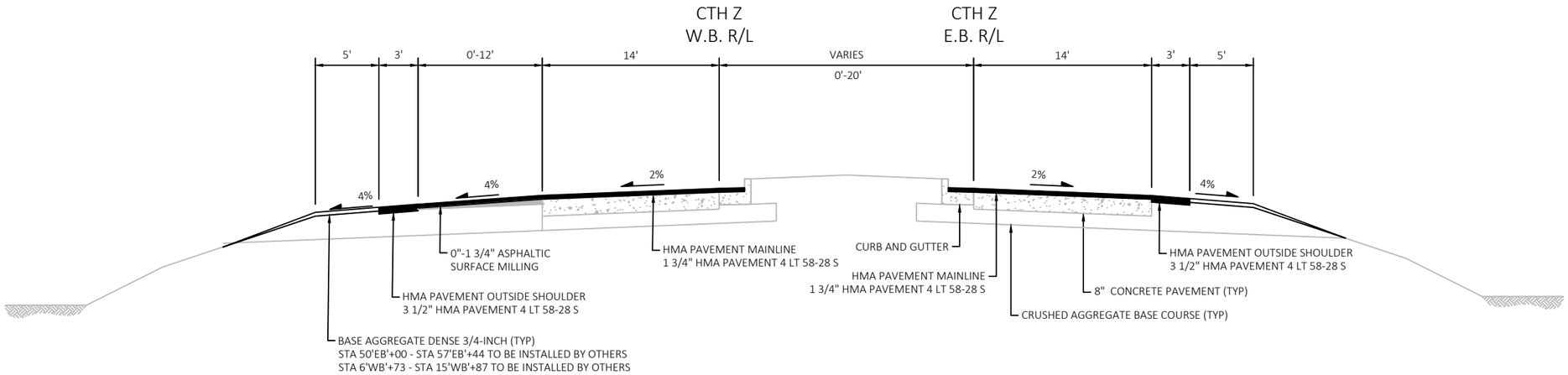
FILE NAME : C:\CIVIL 3D PROJECTS\12271200\SHEETSPLAN\1227-12-73\020201-PO.DWG
LAYOUT NAME - 020201-po

PLOT DATE : 7/21/2021 5:09 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1 IN:100 FT



EXISTING TYPICAL SECTION

50'EB'+00 - 57'EB'+44
6'WB'+73 - 15'WB'+87

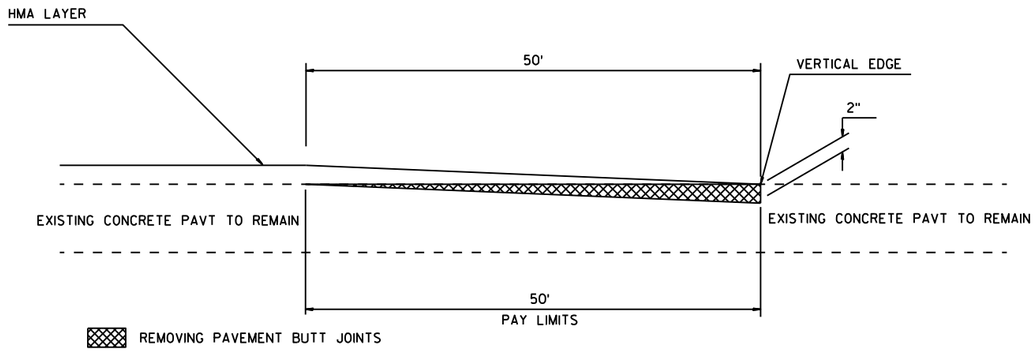


FINISHED TYPICAL SECTION

50'EB'+00 - 57'EB'+44
6'WB'+73 - 15'WB'+87

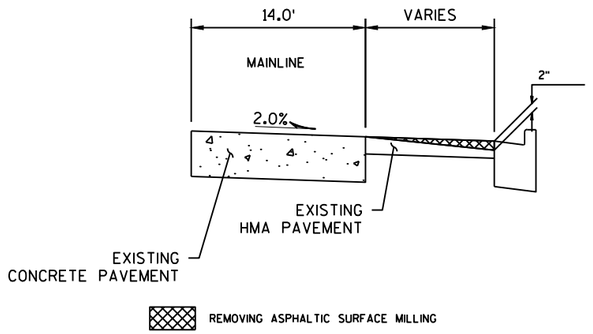
PROJECT NO: 1227-12-73	HWY: CTH Z	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 4	E

2



REMOVING PAVEMENT BUTT JOINT DETAIL

STH 147



ASPHALTIC SURFACE MILLING AT DRIVEWAY ENTRANCE WITH CURB & GUTTER

STH 147

1227-12-73

Line	Item	Item Description	Unit	Total	Qty
0006	204.0105	Removing Pavement Butt Joints	SY	133.000	133.000
0014	204.0120	Removing Asphaltic Surface Milling	SY	333.000	333.000
0034	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	16.900	16.900
0050	416.0620	Drilled Dowel Bars	EACH	112.000	112.000
0056	455.0605	Tack Coat	GAL	284.000	284.000
0066	460.2000	Incentive Density HMA Pavement	DOL	320.000	320.000
0074	460.5224	HMA Pavement 4 LT 58-28 S	TON	487.000	487.000
0160	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0190	619.1000	Mobilization	EACH	0.002	0.002
0268	646.1020	Marking Line Epoxy 4-Inch	LF	3,664.000	3,664.000
0286	646.8220	Marking Island Nose Epoxy	EACH	1.000	1.000
0292	650.8000	Construction Staking Resurfacing Reference	LF	1,658.000	1,658.000
0298	650.9910	Construction Staking Supplemental Control (project) 03. 1227-12-73	LS	1.000	1.000
0302	690.0250	Sawing Concrete	LF	164.000	164.000
0320	SPV.0180	Special 01. Base Patching Concrete HES	SY	44.000	44.000

3

3

REMOVING PAVEMENT

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0105 REMOVING PAVEMENT BUTT JOINGS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
0010	CTH Z WB	6'WB'+73	-	7'WB'+23	LT/RT	133	-
0010	CTH Z WB	9'WB'+00	-	12'WB'+00	LT	-	333
				PROJECT TOTAL		**133**	**333**

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA
0010	CTH Z EB	50'EB'+00	-	57'EB'+44	RT	7.4
0010	CTH Z WB	6'WB'+73	-	15'WB'+87	LT	9.5
				PROJECT TOTAL		**16.9**

BASE PATCHING CONCRETE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	416.0620 DRILLED DOWEL BARS EACH	690.0150 SAWING CONCRETE LF	SPV.0180.02 BASE PATCHING CONCRETE HES SY
0010	CTH Z EB	50'EB'+00	-	57'EB'+44	RT	28	34	9
0010	CTH Z WB	6'WB'+73	-	15'WB'+87	LT	84	106	35
				PROJECT SUBTOTAL		**112**	***140**	**44**
				PROJECT TOTAL		**112**	**164**	**44**

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE**

3

3

HMA ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	455.0605 TACK COAT GAL	HMA PAVEMENT 4 LT 58-28 S 460.5224 TON	HMA PAVEMENT 4 LT 58-28 S INCENTIVE DENSITY HMA TON*	REMARKS
0010	CTH Z EB	50'EB'+00	-	57'EB'+44	LT/RT	81	125	125	MAINLINE
0010	CTH Z EB	50'EB'+00	-	57'EB'+44	LT/RT	12	51	51	SHOULDERS
0010	CTH Z EB	50'EB'+00	-	57'EB'+44	LT/RT	2	3	3	INTERSECTION
0010	CTH Z WB	6'WB'+73	-	15'WB'+87	LT/RT	126	194	194	MAINLINE
0010	CTH Z WB	6'WB'+73	-	15'WB'+87	LT/RT	7	27	27	SHOULDERS
0010	CTH Z WB	6'WB'+73	-	15'WB'+87	LT/RT	56	87	87	INTERSECTION
				PROJECT TOTAL		**284**	**487**	**487**	

* Tonnage is eligible for Incentive Density HMA Pavement 460.2000.

ADJUSTING INLET COVERS

CATEGORY	ROADWAY	STATION	OFFSET	611.8115 ADJUSTING INLET COVERS EACH
0010	CTH Z WB	14'WB'+70	RT	1
		PROJECT TOTAL		**1**

PAVEMENT MARKING SUMMARY

CATEGORY	ROADWAY	STATION	TO	STATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE SOLID LF	646.1020 MARKING LINE EPOXY 4-INCH YELLOW SOLID LF	646.8220 MARKING ISLAND NOSE EPOXY YELLOW EACH
0010	CTH Z EB	50'EB'+00	-	57'EB'+44	744	744	-
0010	CTH Z WB	6'WB'+73	-	15'WB'+87	1,083	1,093	-
0010	CTH Z WB	11'WB'+02	-	11'WB'+02	-	-	1
				PROJECT TOTAL	**3,664**		**1**

3

CONSTRUCTION STAKING

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF
0010	CTH Z EB	50'EB'+00	-	57'EB'+44	RT	744
0010	CTH Z WB	6'WB'+73	-	15'WB'+87	LT	914
				PROJECT TOTAL		**1,658**

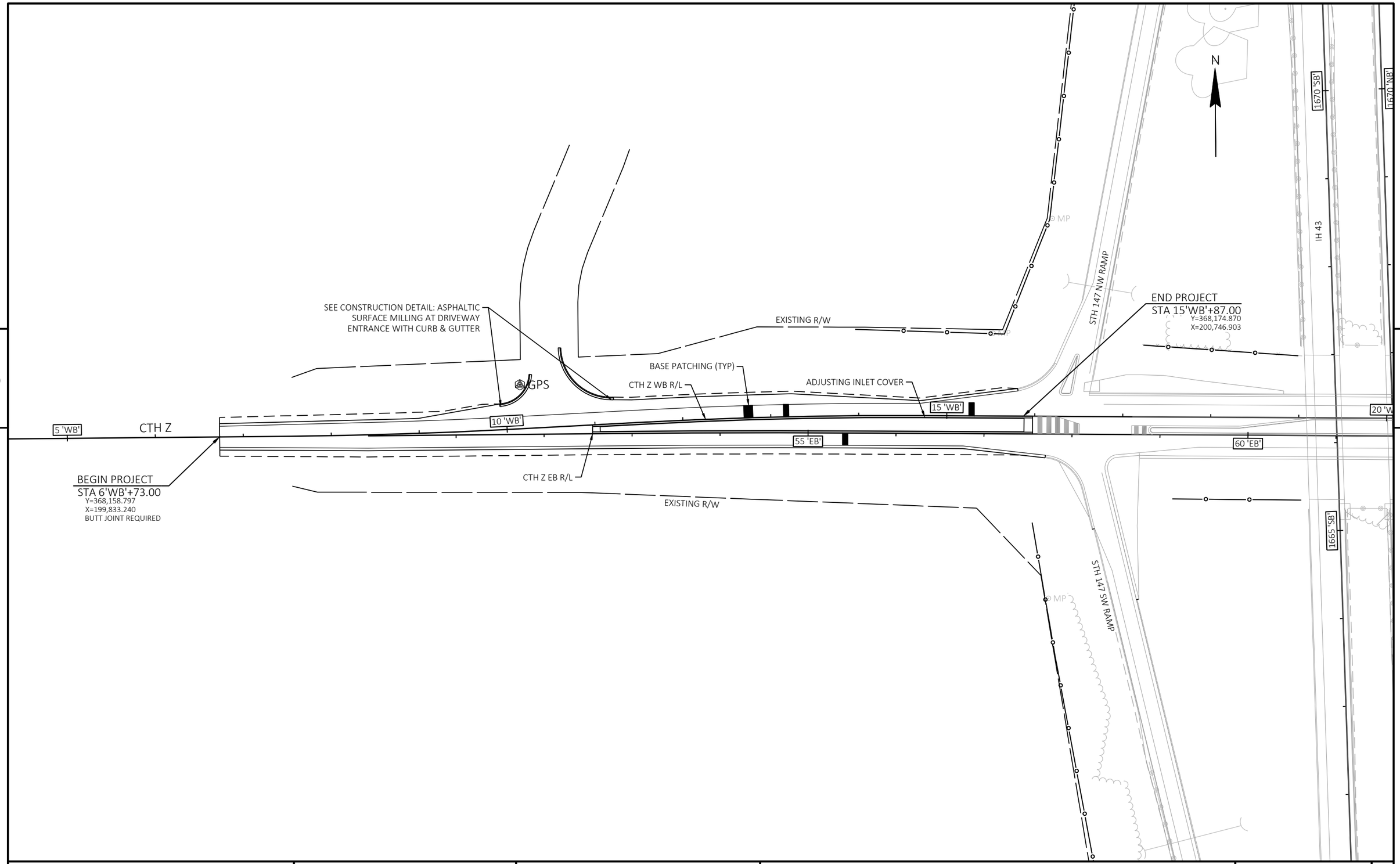
CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

CATEGORY	LOCATION	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL LS
0010	1227-12-73	1
	PROJECT TOTAL	**1**

SAWING CONCRETE

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	690.0250 SAWING CONCRETE LF
0010	CTH Z WB	6'WB'+73	-	7'WB'+23	LT/RT	*24
				PROJECT TOTAL		**164**

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE**



PROJECT NO: 1227-12-73	HWY: CTH Z	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 10	E

FILE NAME : N:\PDS\C3D\12271200\SHEETSPLAN\1227-12-73\050201-PN.DWG
LAYOUT NAME - 050201-pn

PLOT DATE : 7/22/2021 6:33 AM PLOT BY : MALUEG, RYAN P PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 44

Standard Detail Drawing List

13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE
13C14-07C	BASE PATCHING CONCRETE
13C19-03	HMA LONGITUDINAL JOINTS
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C08-20B	PAVEMENT MARKING (TURN LANES)
15C08-20C	PAVEMENT MARKING (TURN LANES)
15C18-05A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C18-05B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE

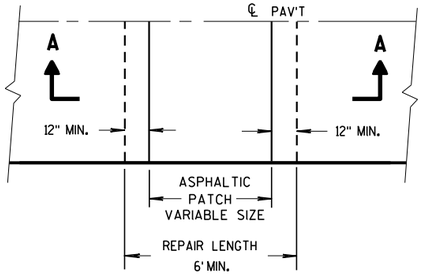
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

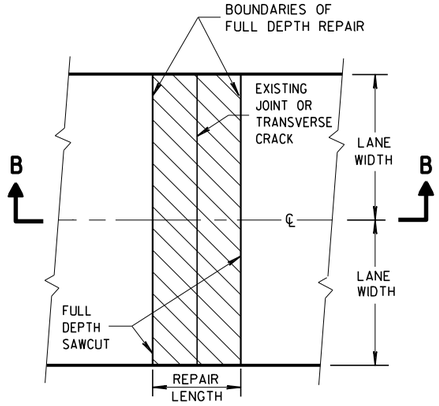
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

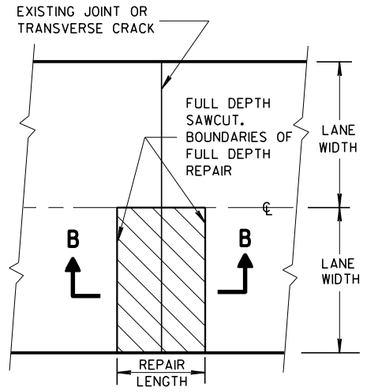
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

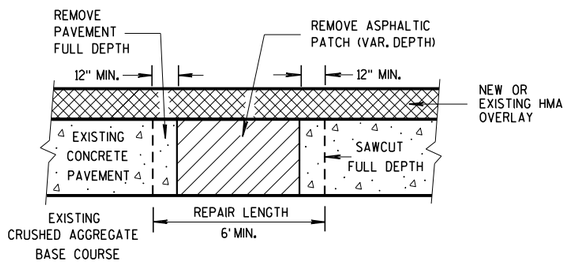


PLAN VIEW
(DOUBLE LANE REPAIR)



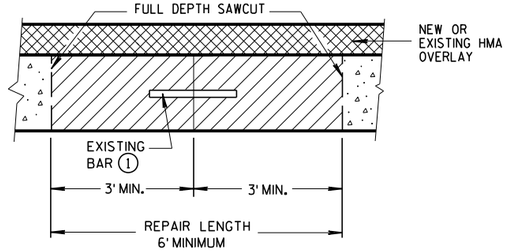
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

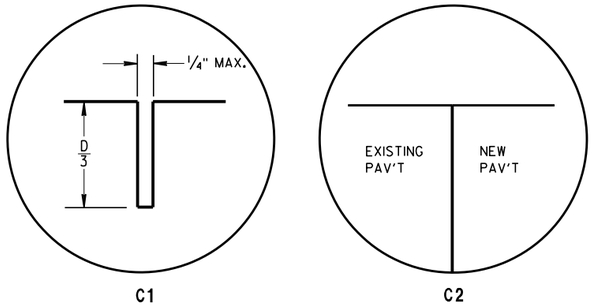
CONCRETE REMOVAL

BASE PATCHING CONCRETE

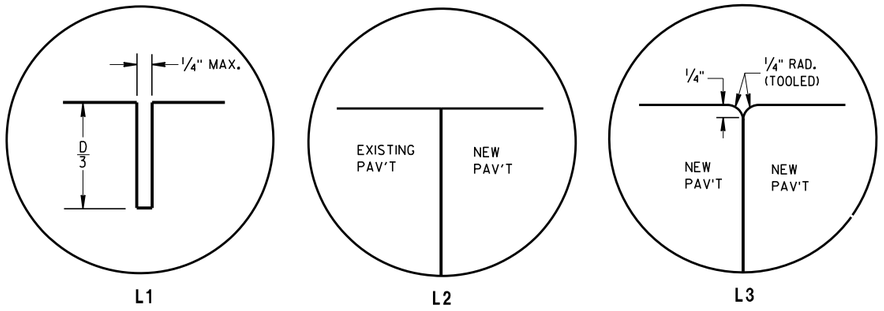
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 13 C 14-7a

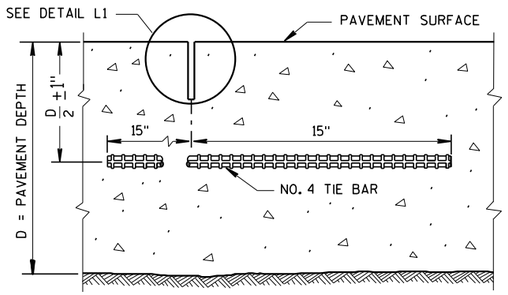
6



TRANSVERSE JOINTS

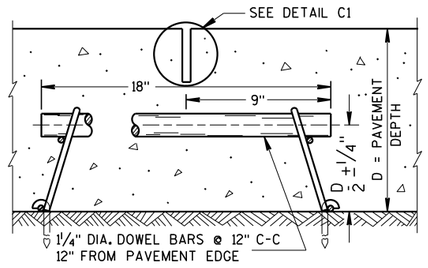


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

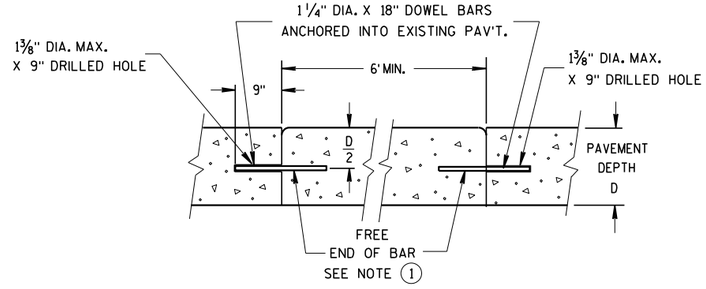
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

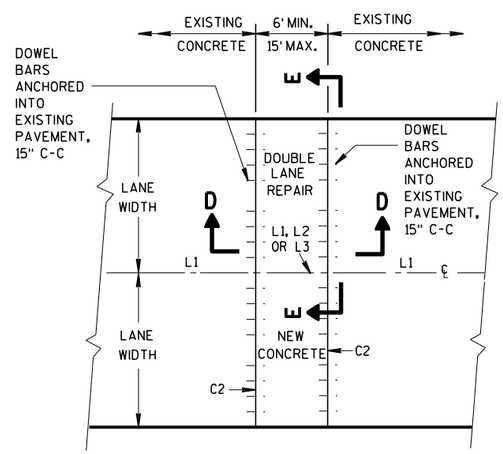
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

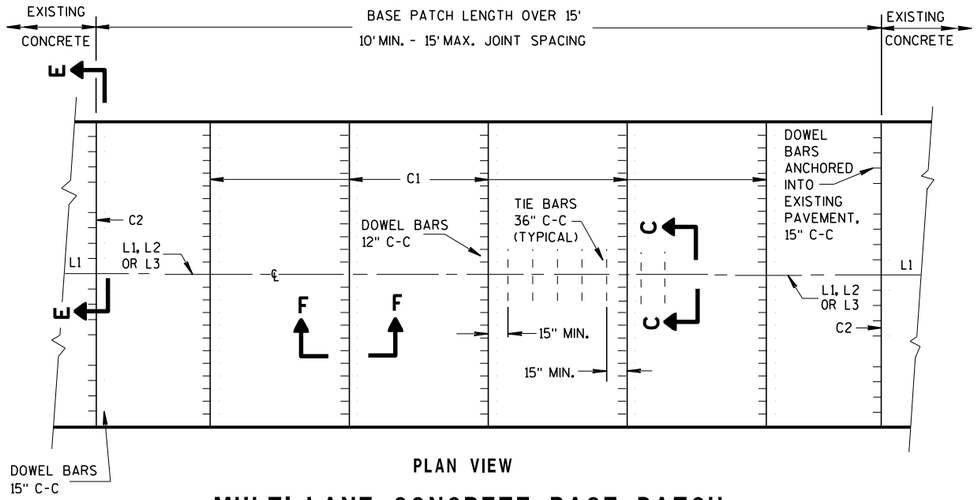


SECTION D-D



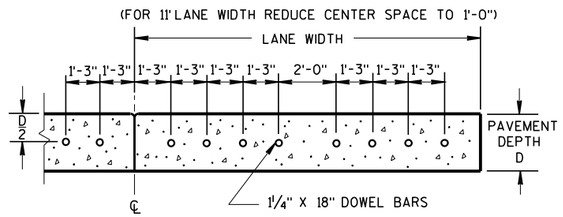
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

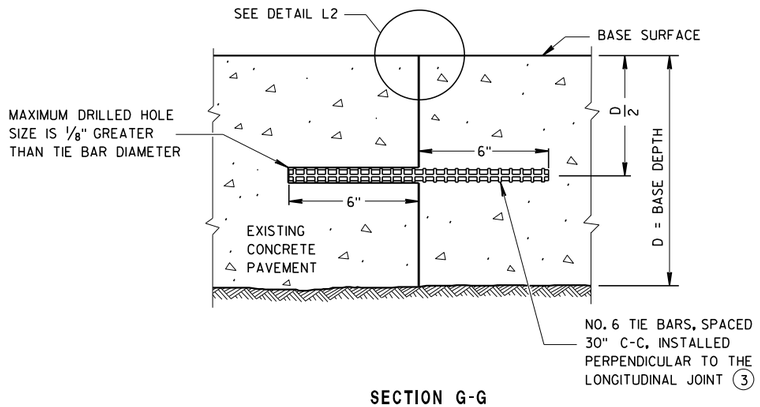


SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

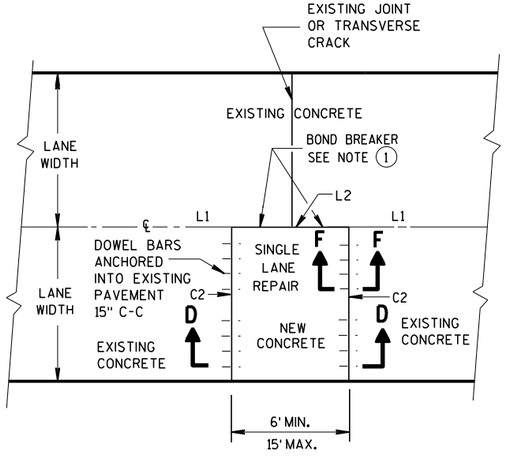
BASE PATCHING CONCRETE

6
S.D.D. 13 C 14-7b



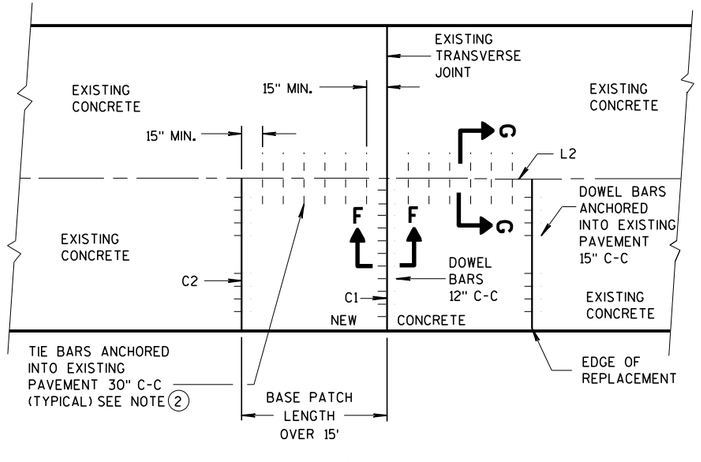
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

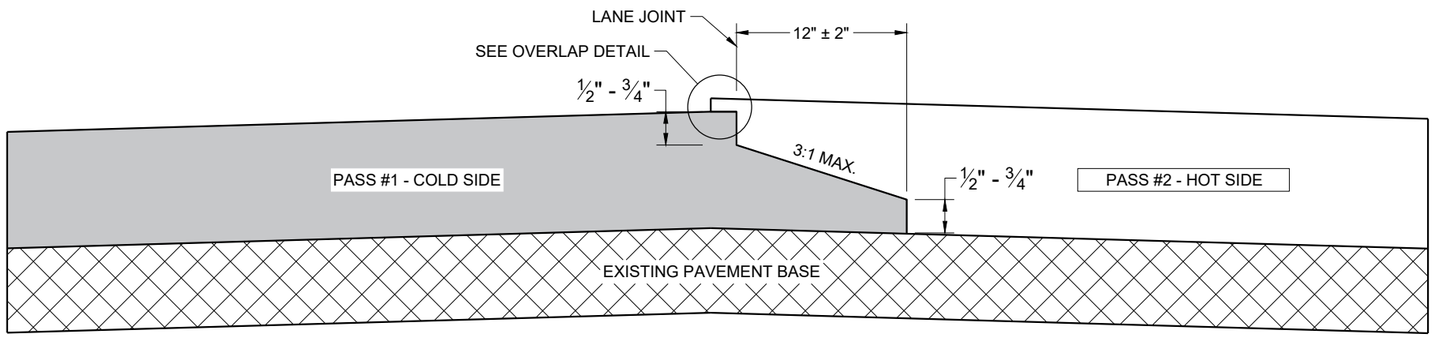
(3) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

BASE PATCHING CONCRETE

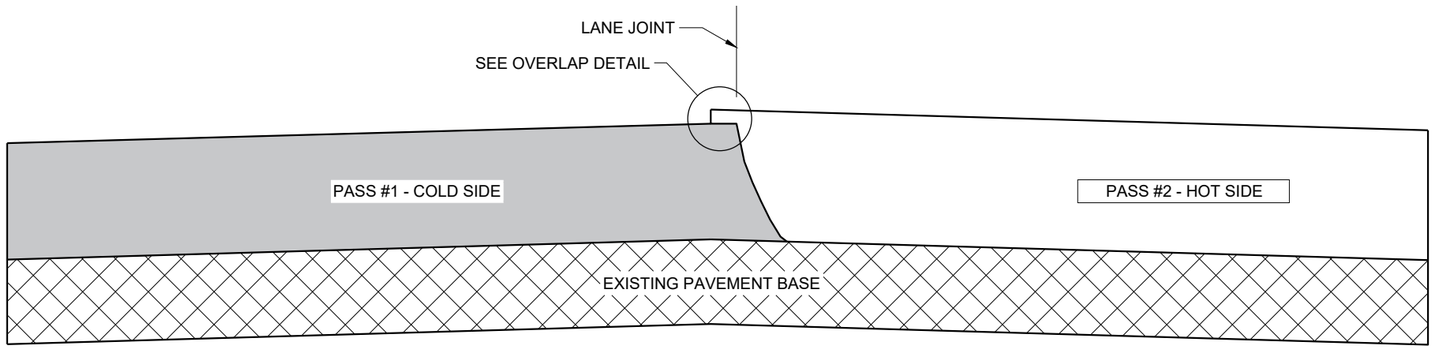
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUPERVISOR
FHWA

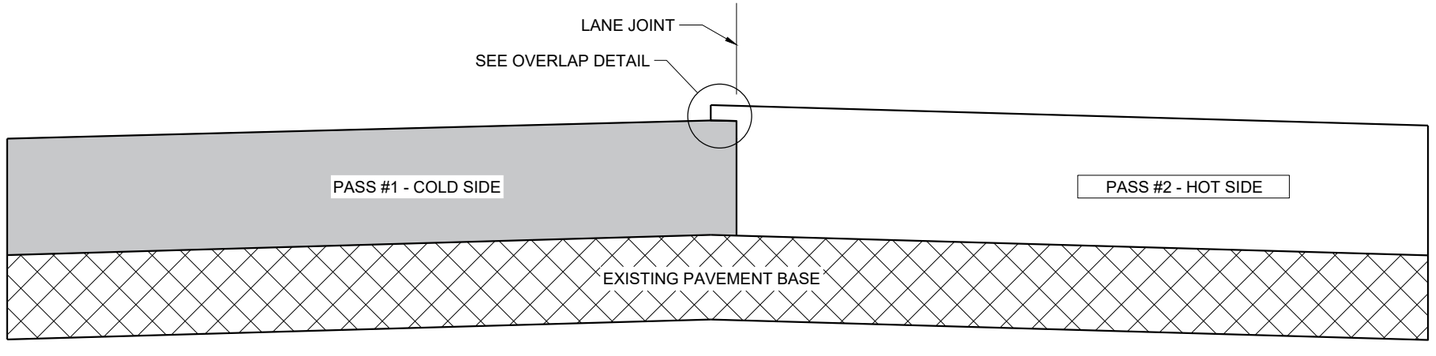
6
S.D.D. 13 C 14-7c



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

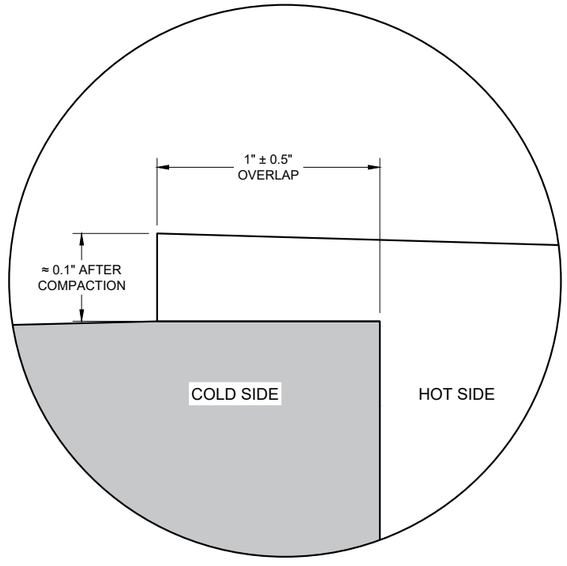
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

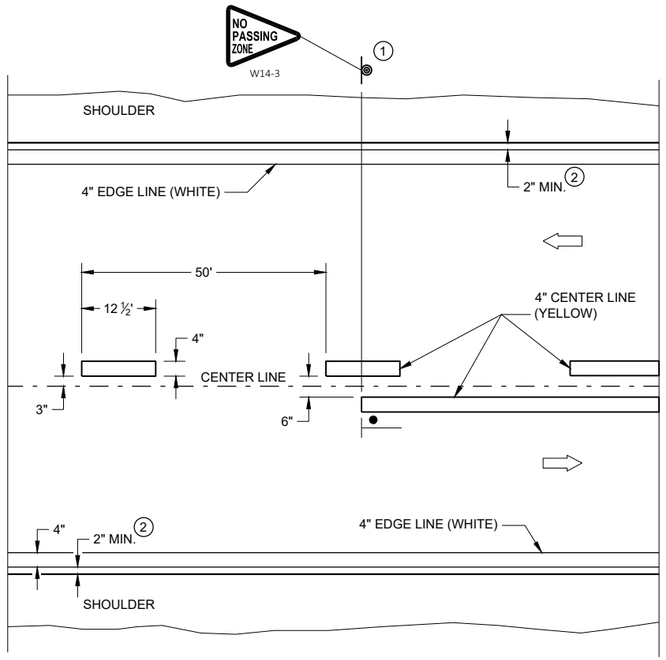
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

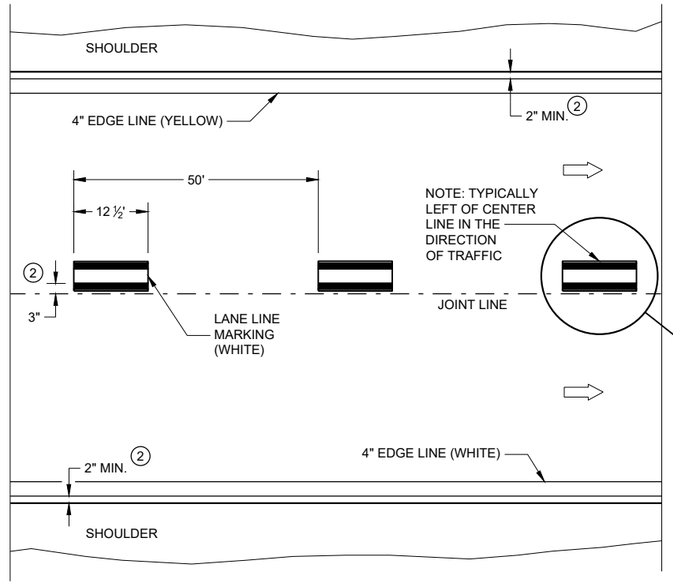
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

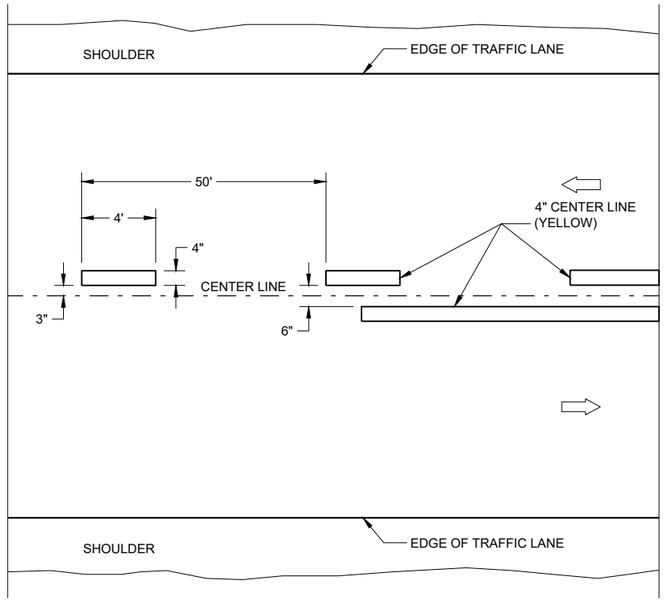


TWO WAY TRAFFIC

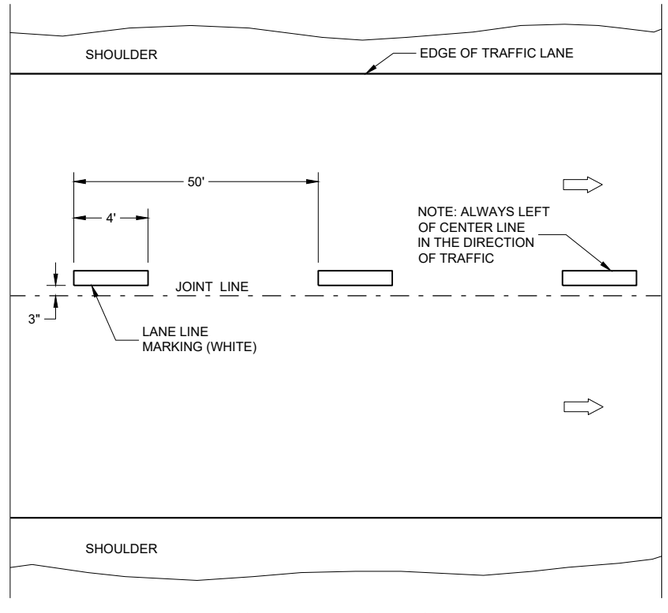


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

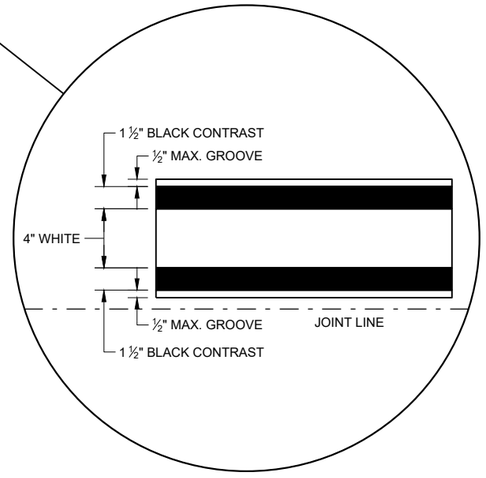
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

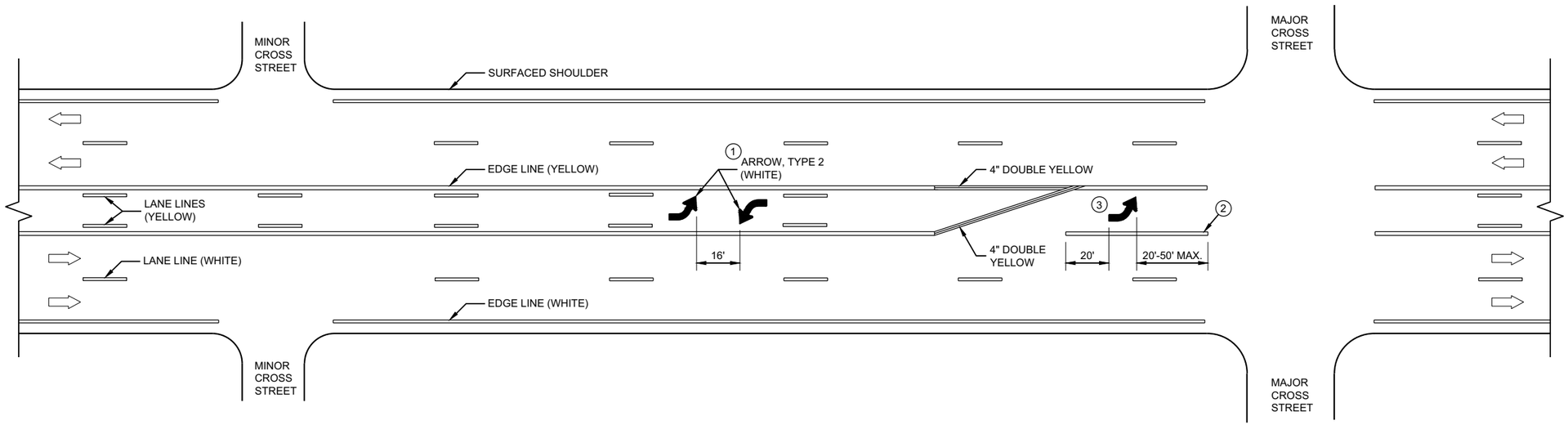
SDD 15C08 - 20a

SDD 15C08 - 20a

GENERAL NOTES

1. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
2. 8" WHITE
3. TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

6

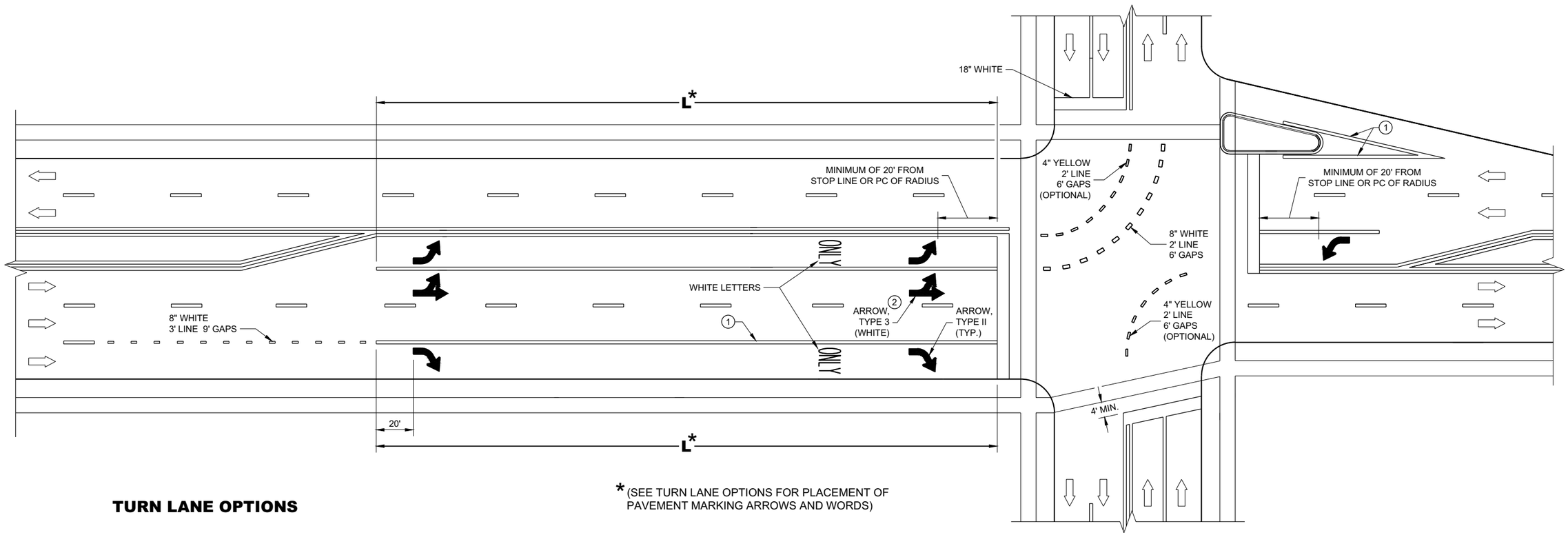
6

SDD 15C08 - 20b

SDD 15C08 - 20b

PAVEMENT MARKING (TURN LANES)

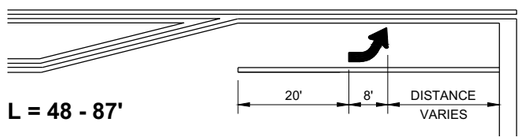
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



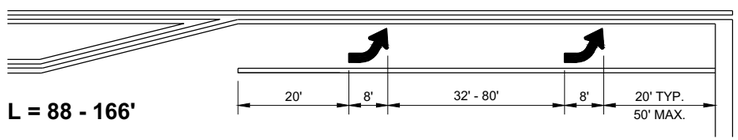
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

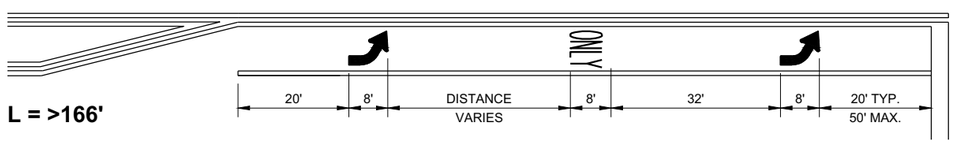
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

1. 8" WHITE
2. QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

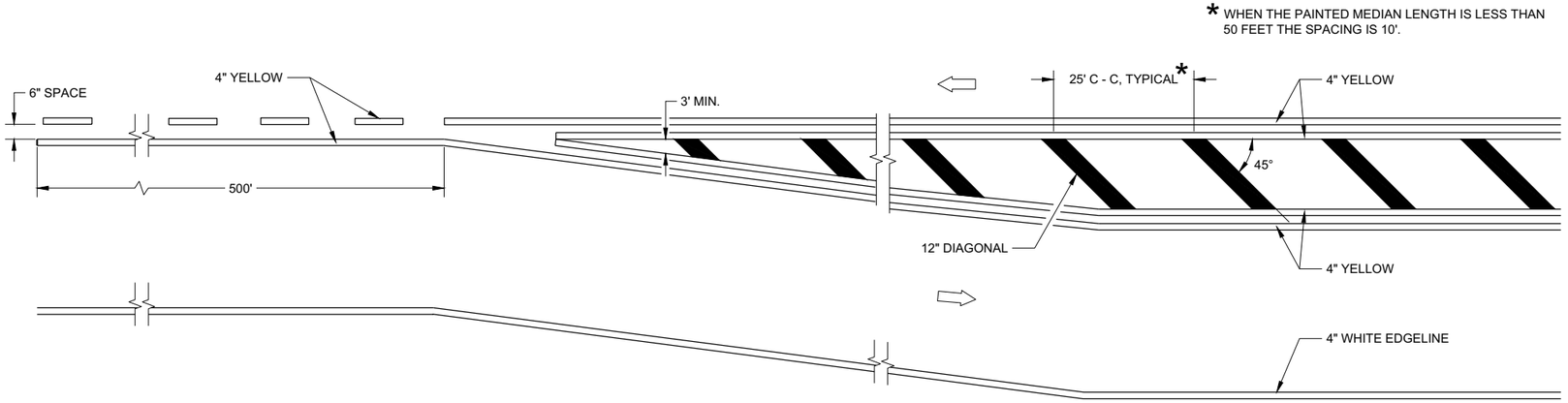
6

SDD 15C08 - 20c

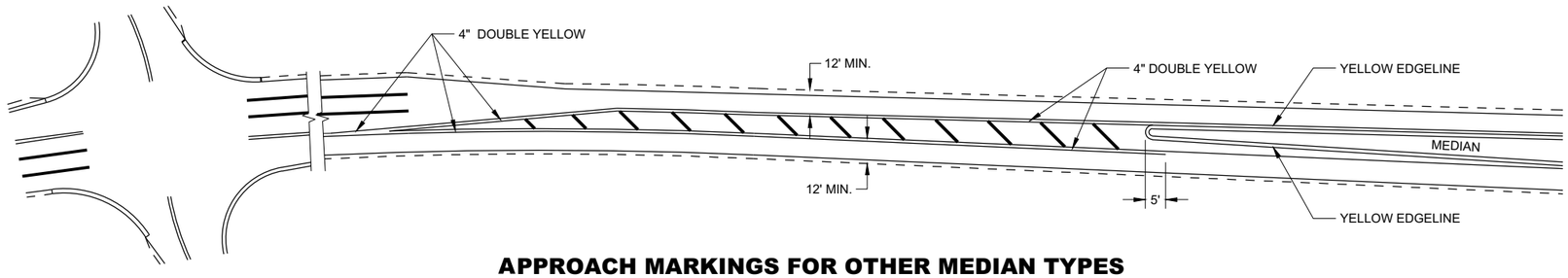
GENERAL NOTES

DIAGONALS ARE OPTIONAL WHEN PAINED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

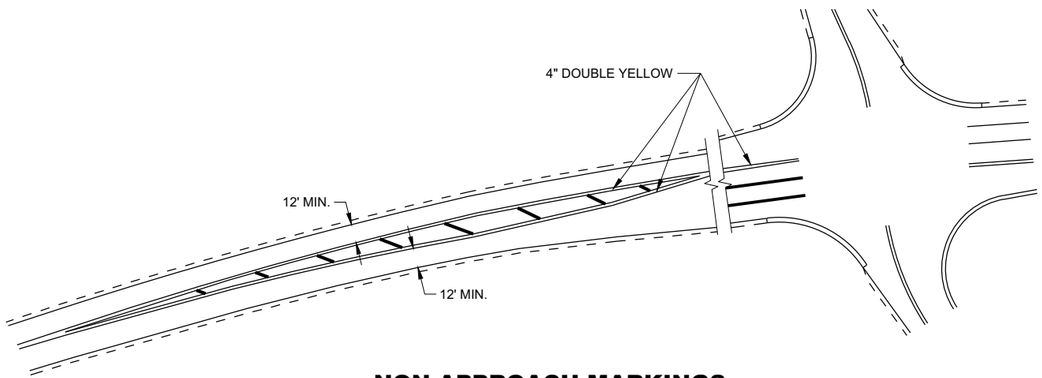
⇨ DIRECTION OF TRAVEL



MEDIAN ISLAND DETAIL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON-APPROACH MARKINGS

MEDIAN ISLAND PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2021
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAF ENGINEER

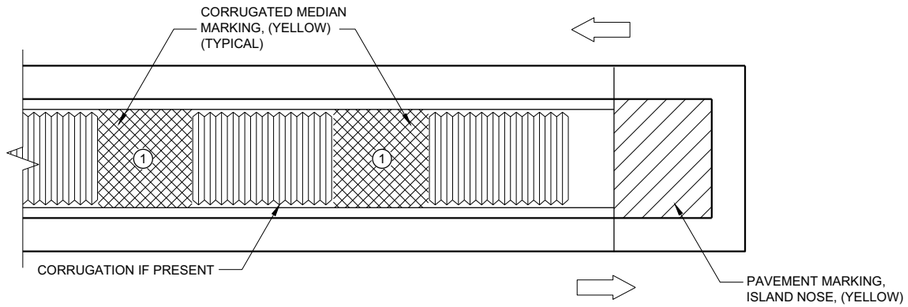
FHWA

6

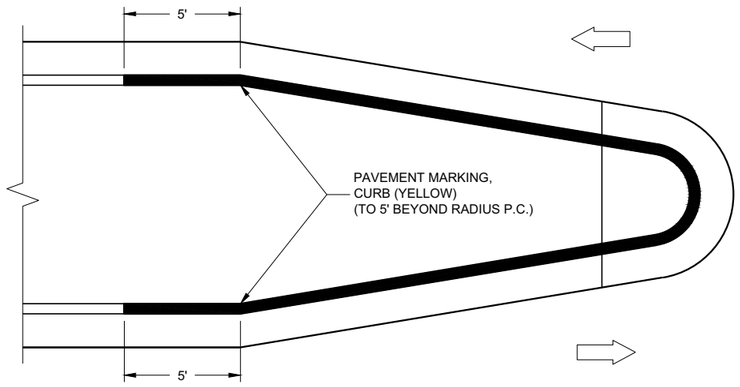
SDD 15C18 - 05a

6

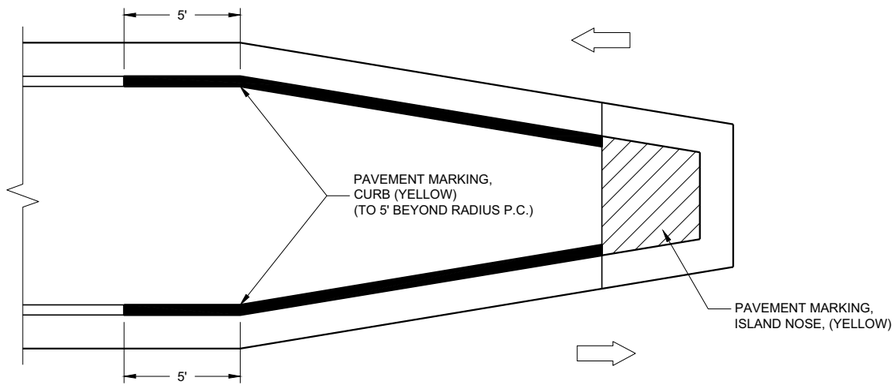
SDD 15C18 - 05a



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

**PAVEMENT MARKINGS,
MEDIAN ISLAND NOSE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2021
DATE

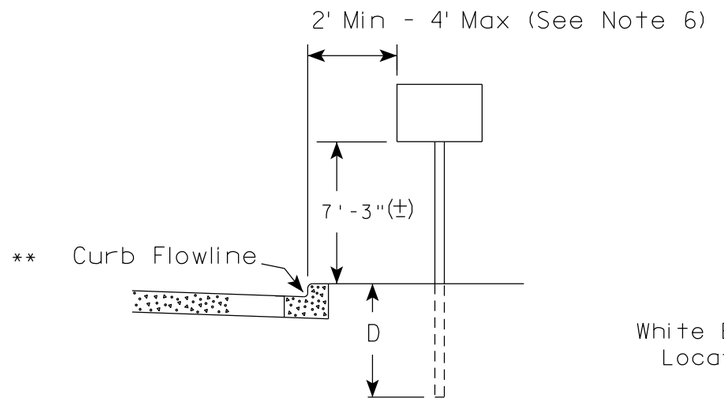
/S/ Matthew R. Rauch
STATE SIGNING AND MAR ENGINEER

FHWA

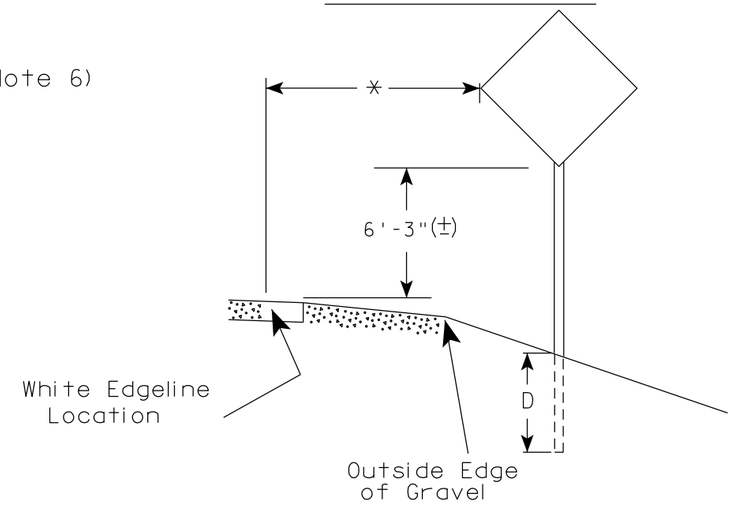
6

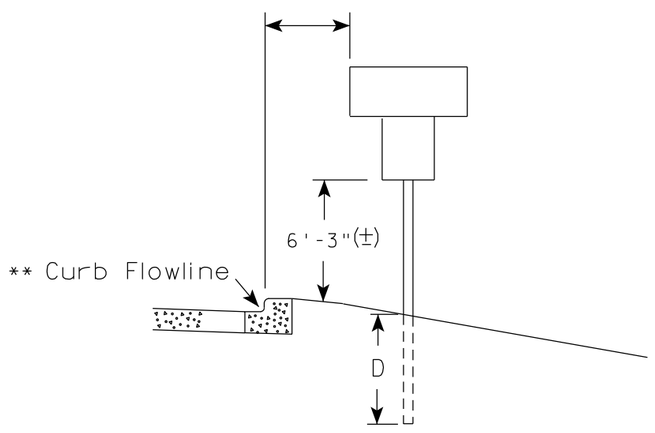
SDD15C18 - 05b

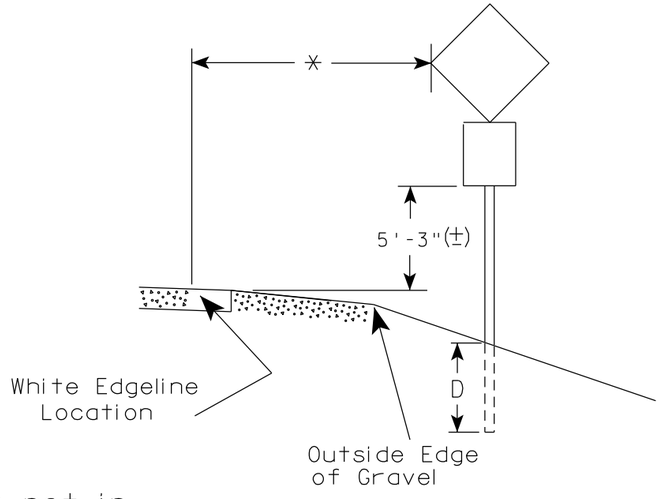
URBAN AREA



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.

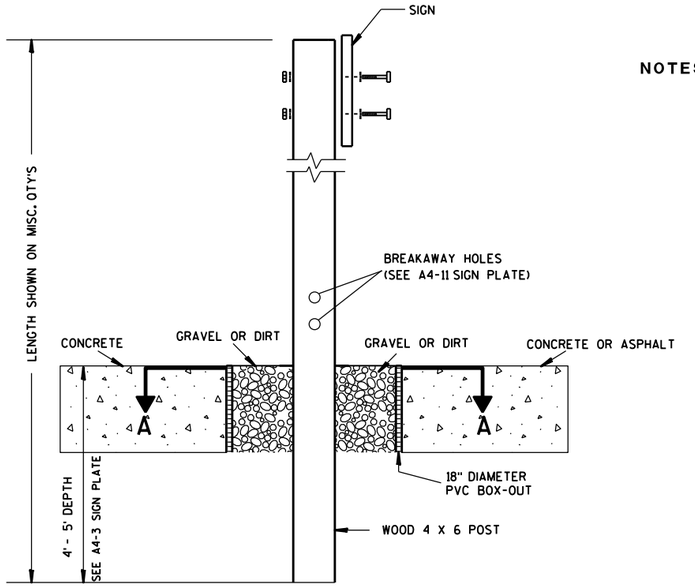
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

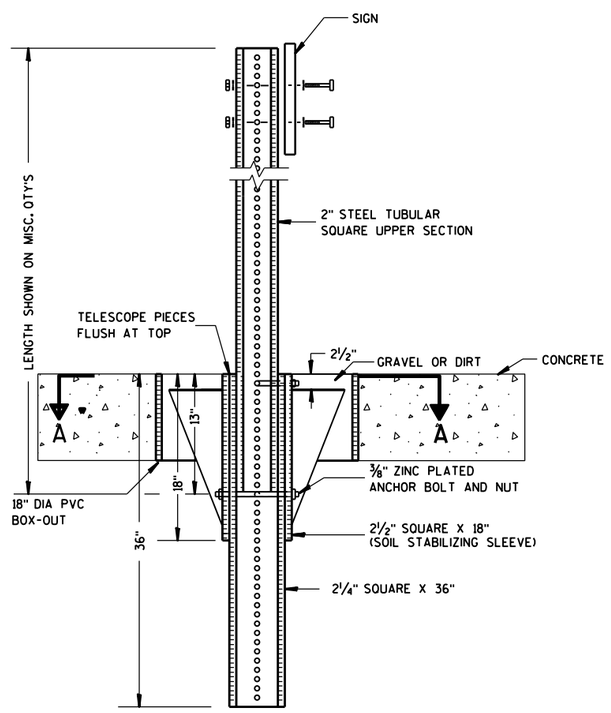
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 21	E



ELEVATION VIEW

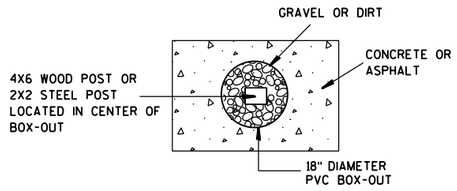
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

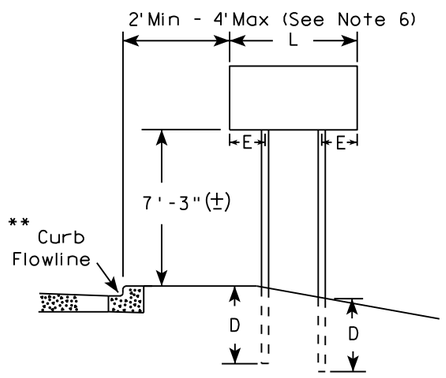
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

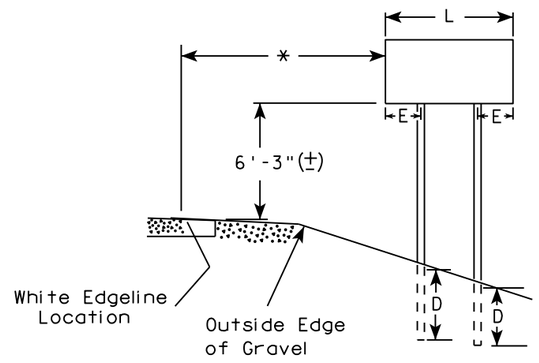
DATE 1/27/14 PLATE NO. A4-3B.1

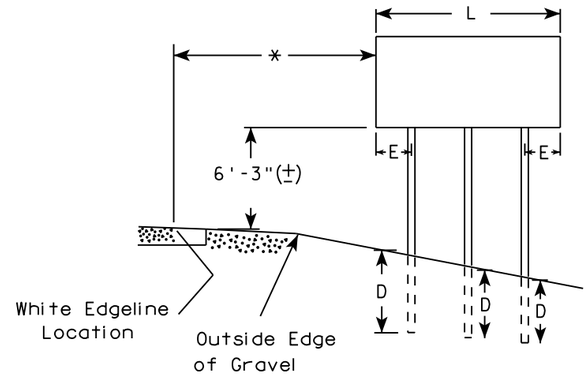
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

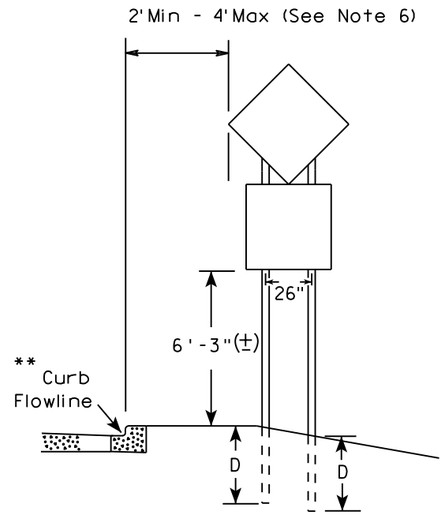
URBAN AREA



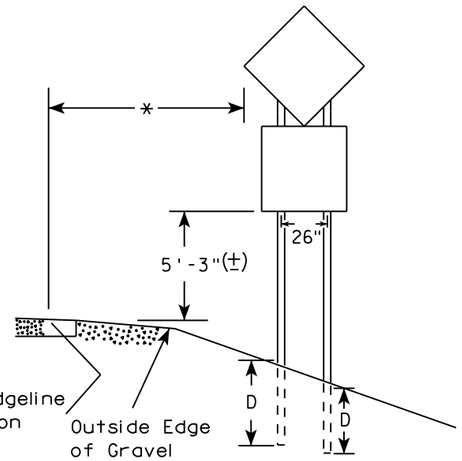
RURAL AREA (See Note 3)







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'

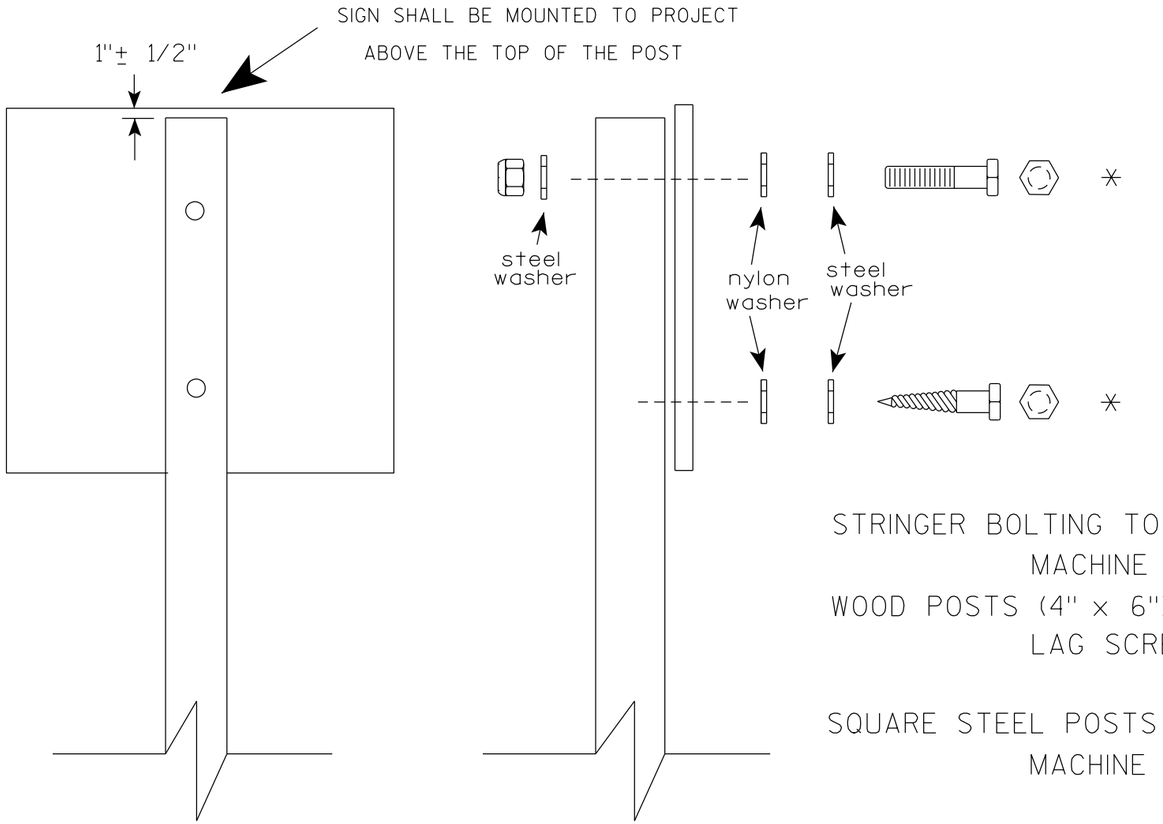
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

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: 23	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

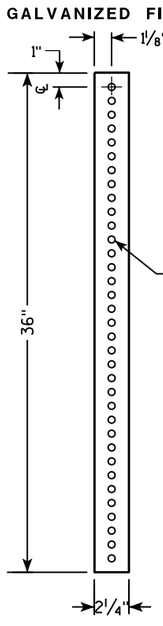
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

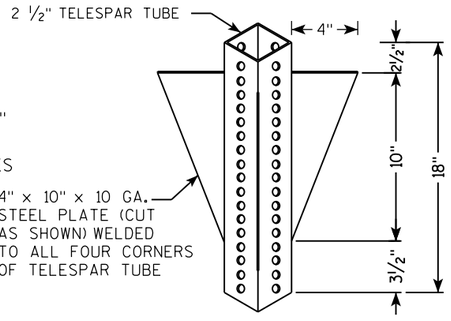
SHEET NO: 24 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

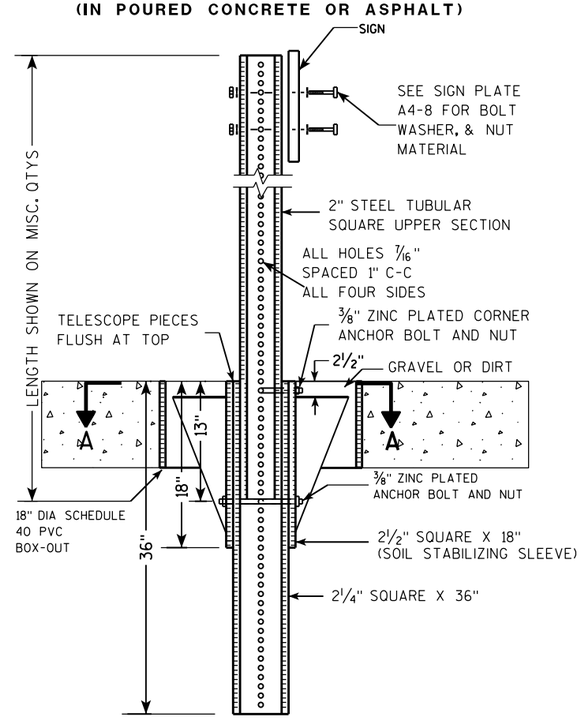
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



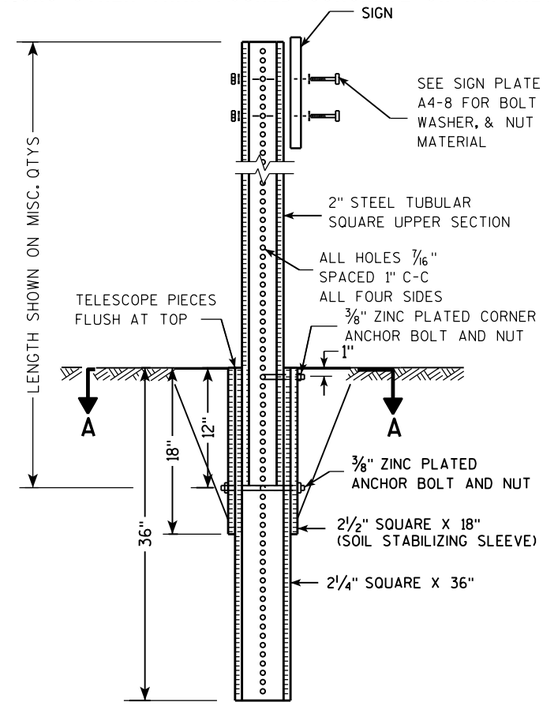
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

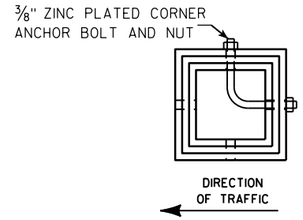


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

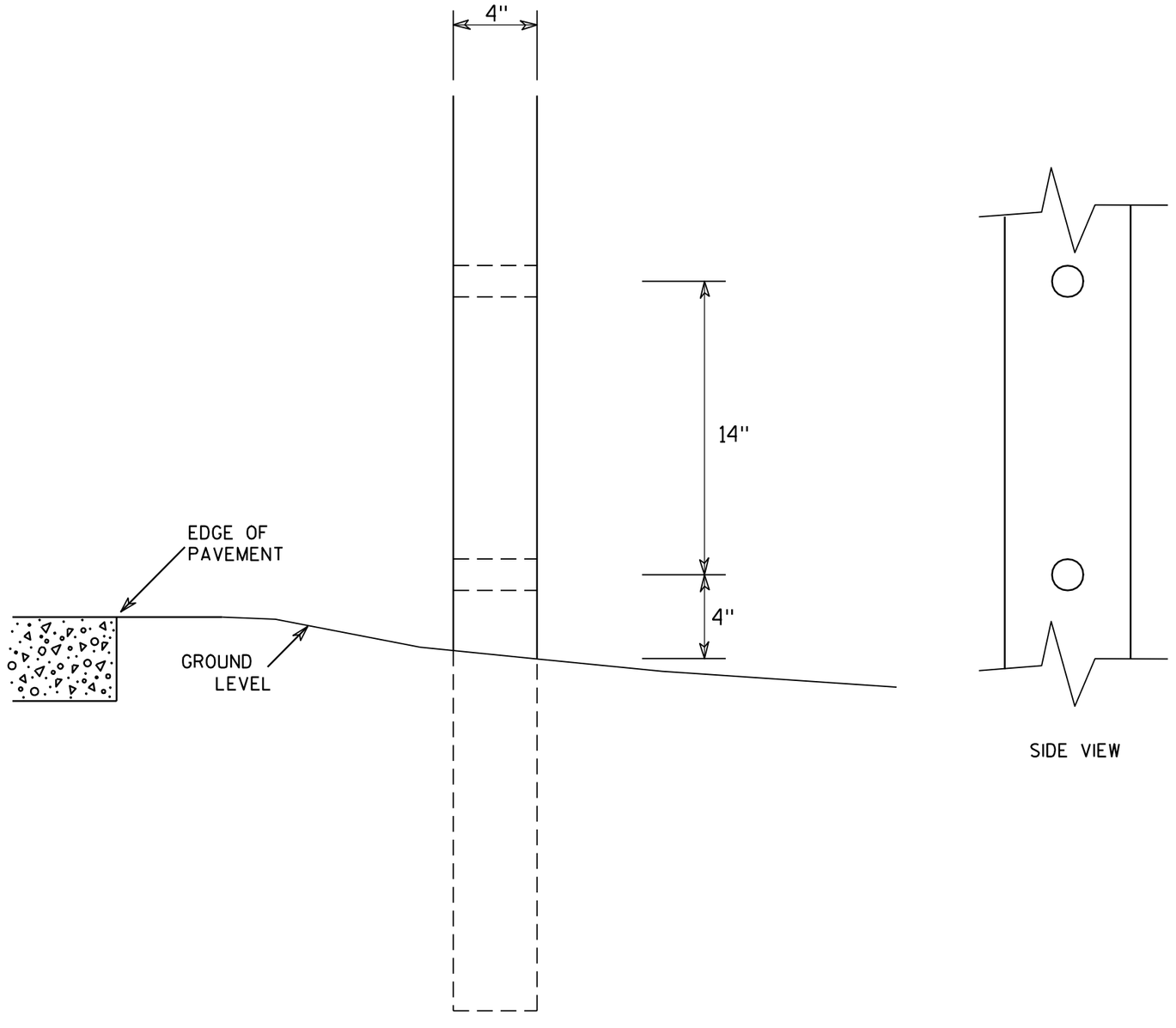
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 25 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

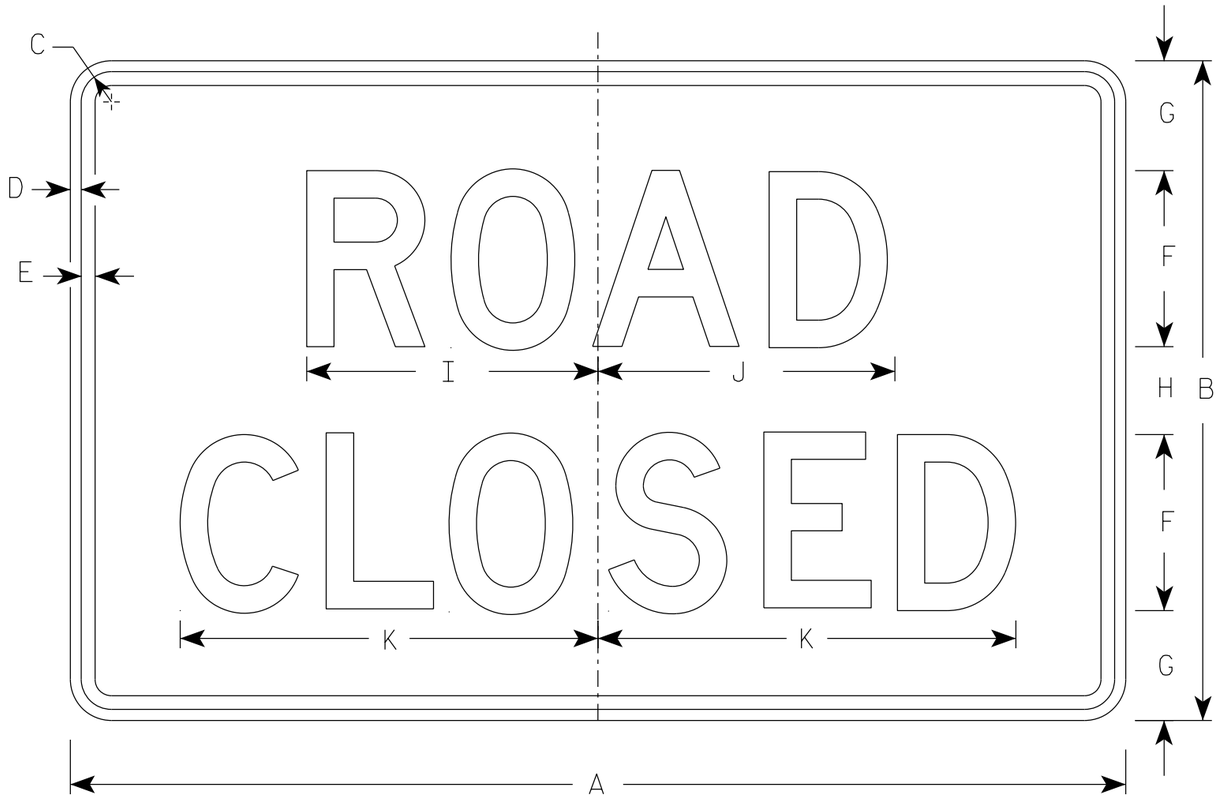
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

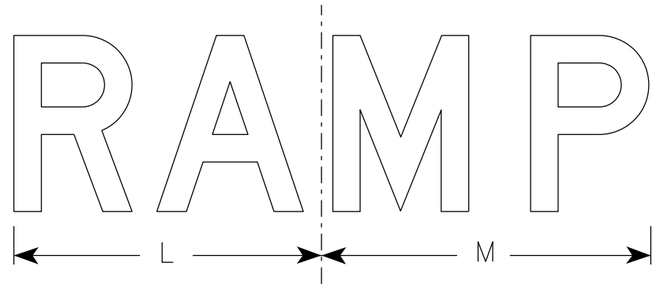
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 26	E



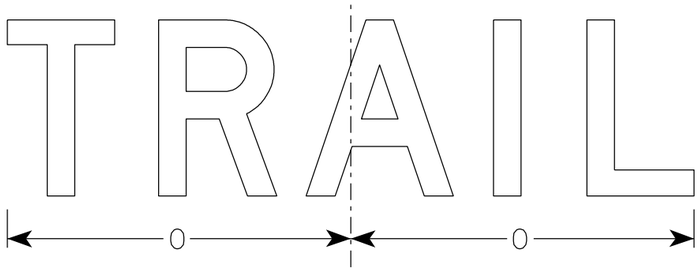
R11-2

NOTES

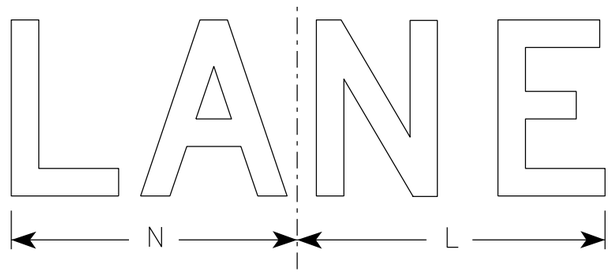
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2T



R11-2L

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	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

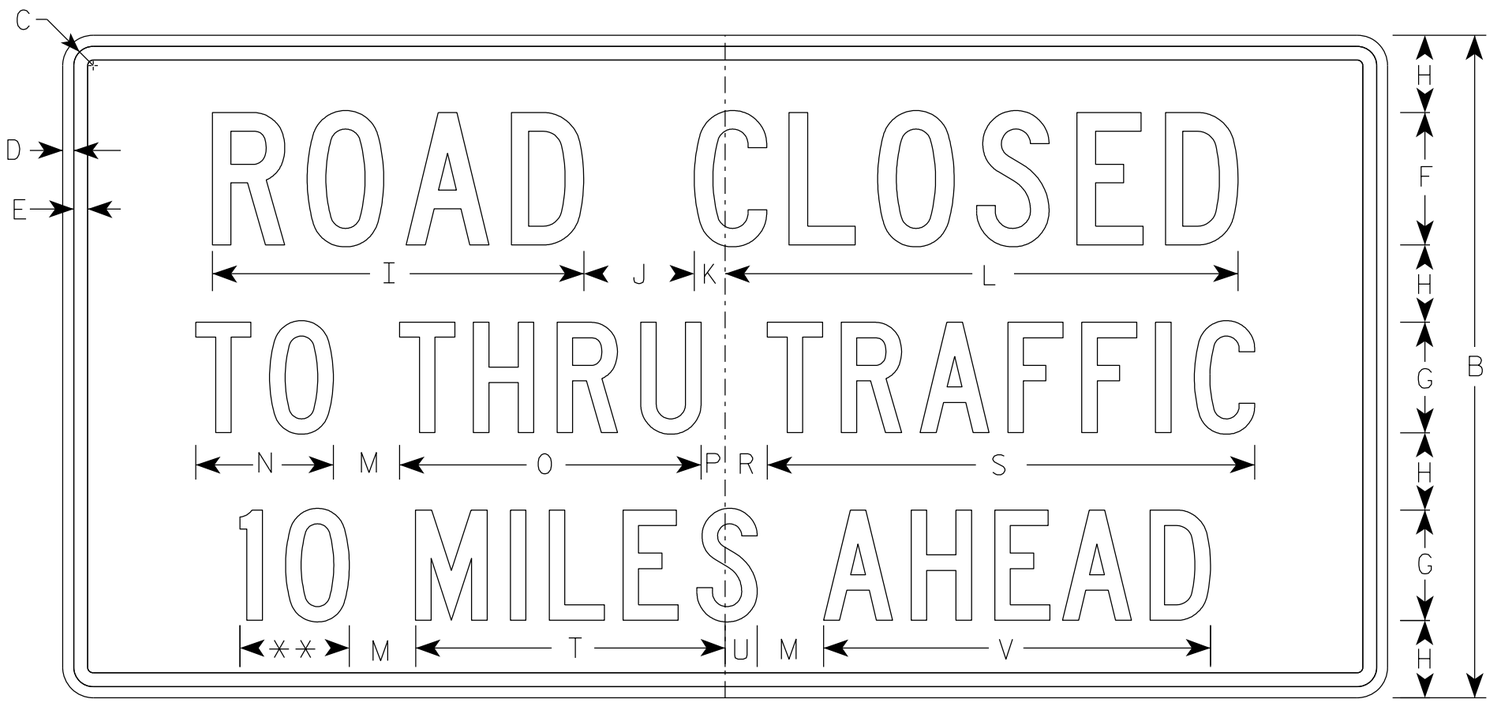
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 27	E

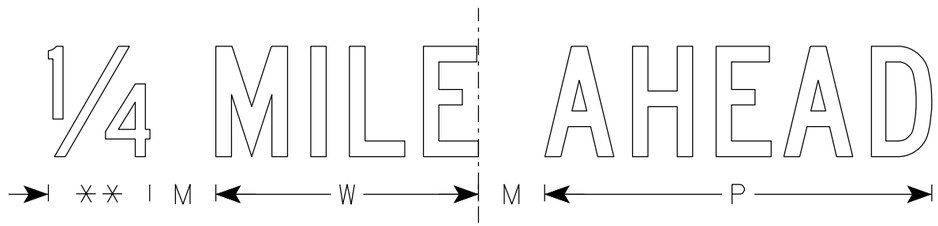
NOTES

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



R11-3

** See Note 5



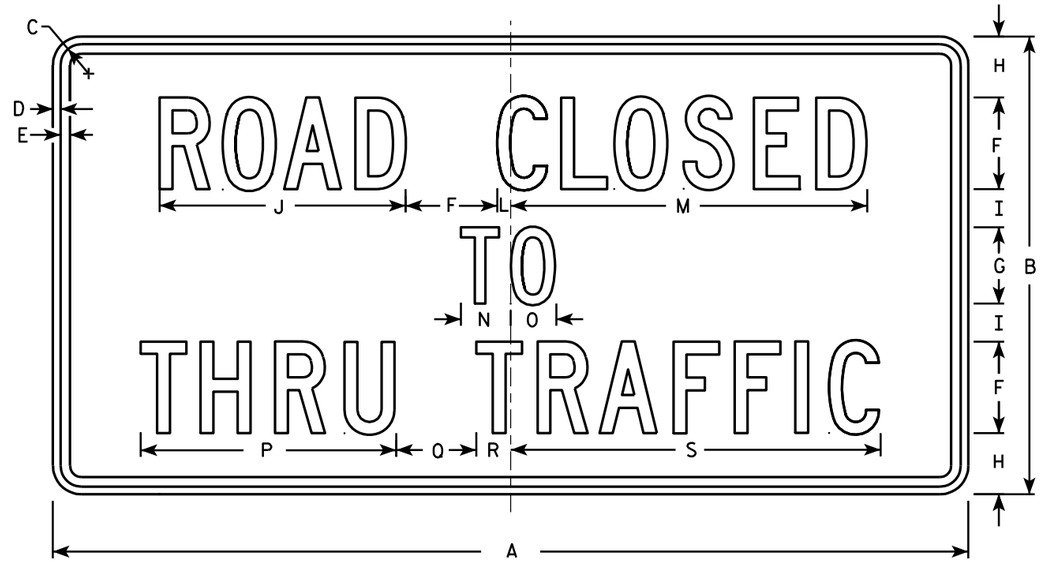
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/4	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8				4.5
2S	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
2M	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 6/14/2021 PLATE NO. R11-3.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 28	E



R11-4

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

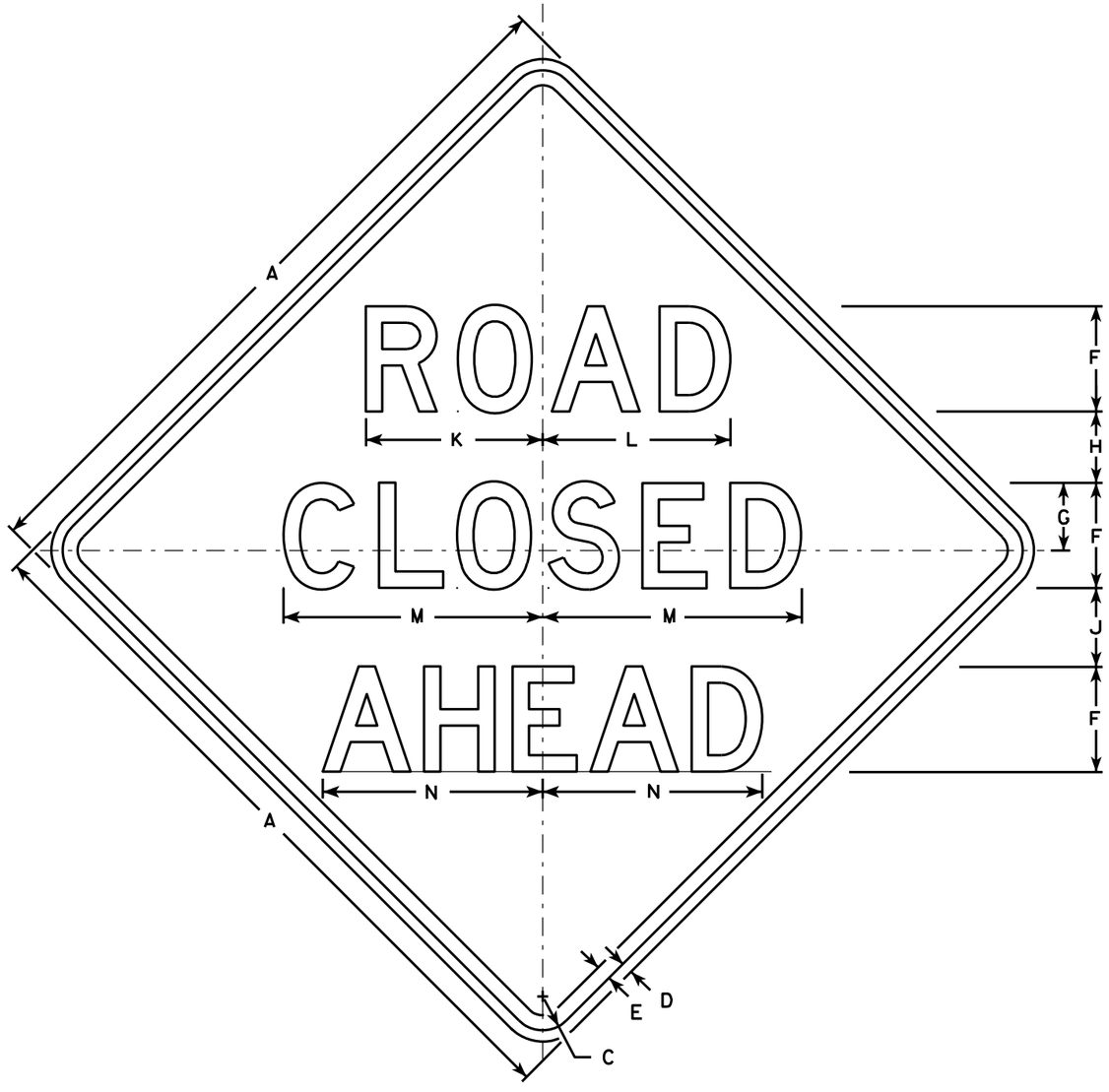
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

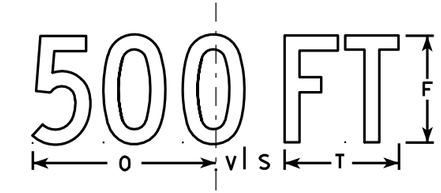
APPROVED Matthew R Rauch for State Traffic Engineer

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

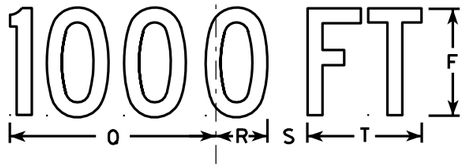
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 29 | E



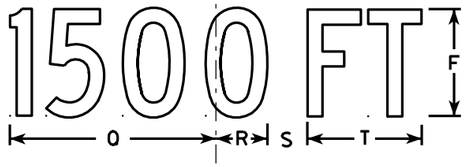
W20-3A



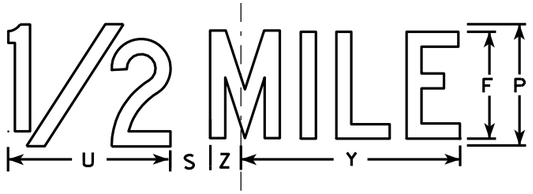
W20-3D



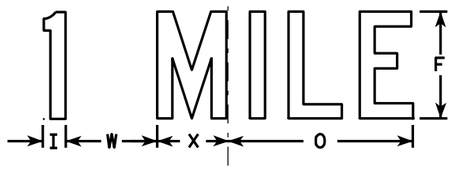
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 30 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov