GRE

DECEMBER 2025

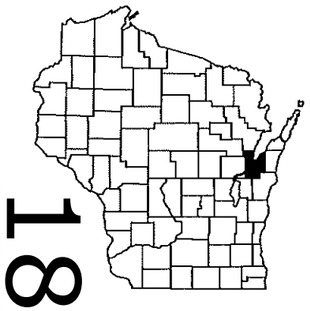
PROJECT ID: 4538-02-73

WITH: N/A

COUNTY: BROWN

ORDER OF SHEETS

TOTAL SHEETS = 118



18

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

BROWN CO, CTH KB

NESHOTA RIVER BRIDGE

CTH KB
BROWN COUNTY

STATE PROJECT NUMBER
4538-02-73

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4538-02-73	WISC 2026080	1

DESIGN DESIGNATION

A.A.D.T.	2026	=	1,640
A.A.D.T.	2046	=	1,970
D.H.V.		=	5.3
D.D.		=	50/50
T.		=	6.2%
DESIGN SPEED		=	55 MPH
ESALS		=	250,000

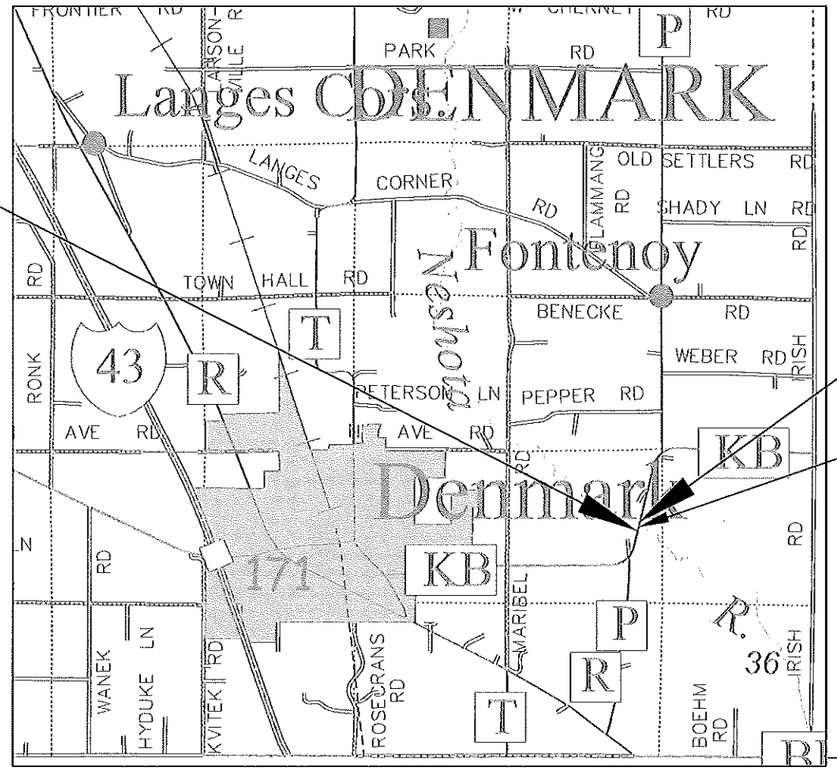
CONVENTIONAL SYMBOLS

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'FB)
- 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

BEGIN PROJECT
STA 104+07.02
Y=506,788.214
X=158,855.196



END PROJECT
STA 109+01.24

STRUCTURE B-05-0485
STA 106+54.17

LAYOUT
SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.094 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATE SYSTEM (WISCRS), BROWN 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).

ACCEPTED FOR
BROWN COUNTY
7/28/25
Date
(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY
AECOM

WISCONSIN
KELLY J WOLF
39796-6
PRAIRIE DU SAC
WIS.
PROFESSIONAL ENGINEER

7-22-25
DATE:
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AECOM
Designer	AECOM
Project Manager	MICHAEL COHEN
Regional Examiner	
Regional Supervisor	KIMBERLY SLEZAK

APPROVED FOR THE DEPARTMENT
DATE: 7/30/25
(Signature)

E

FILE NAME : C:\USERS\WOLFK2\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\010101-TI.DWG PLOT DATE : 7/22/2025 8:21 AM PLOT BY : WOLF, KELLY PLOT NAME :

2

GENERAL NOTES

SALVAGED TOPSOIL, SEEDING, MULCHING, AND FERTILIZER HAVE BEEN COMPUTED BY A DIRECT MEASUREMENT ON THE CROSS SECTIONS PLUS FIVE (5) FEET BEYOND THE TOE OF SLOPE.

RADII, ELEVATIONS, AND DIMENSIONS ARE GIVEN AT THE PAVEMENT EDGES, UNLESS OTHERWISE NOTED IN THE PLANS.

THE CONTRACTOR SHALL NOT OPERATE BEYOND THE SLOPE INTERCEPTS AS SHOWN IN THE PLANS WHEN ADJACENT TO WETLANDS OR ENVIRONMENTALLY SENSITIVE AREAS.

EXISTING AS-BUILT SUPERELEVATIONS OF CURVE INFORMATION IN PLAN ARE FOR INFORMATION ONLY. EXISTING SUPERELEVATIONS ARE TO BE MAINTAINED WITH MILLING AND PAVING OPERATIONS.

ADJUST TRAFFIC CONTROL DEVICE LOCATIONS TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

EROSION CONTROL ITEMS SHOWN IN THE MISCELLANEOUS QUANTITIES ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY LOCATIONS TO FIT FIELD CONDITIONS.

WETLANDS, WATERWAYS, AND OTHER ENVIRONMENTALLY SENSITIVE AREAS SHALL BE PROTECTED AT ALL TIMES. DO NOT STORE EQUIPMENT OR MATERIALS NEAR THESE SITES UNLESS APPROVED BY THE ENGINEER.

THE BASE AGGREGATE DENSE (BAD) CALCULATIONS ARE BASED ON A UNIT WEIGHT OF 2.1 TONS/CY FOR 3/4-INCH BAD, 2.0 TONS/CY FOR 1 1/4-INCH BAD, AND 1.8 TONS/CY FOR BREAKER RUN.

THE HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON A UNIT WEIGHT OF 112 LBS/SY/IN OF DEPTH. THE TACK COAT CALCULATIONS ARE BASED ON AN APPLICATION RATE OF 0.07 GAL/SY FOR MILLED SURFACES AND 0.05 GAL/SY FOR NEW HMA SURFACES.

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 THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

WISDNR LIAISON

NORTHEAST REGION
JIM DOPERALSKI
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
PHONE: (920)-662-5119
JAMES.DOPERALSKI@WISCONSIN.GOV

COUNTY HIGHWAY COMMISSIONER

BROWN COUNTY
CHRIS HARDY
2198 GLENDALE AVENUE
GREEN BAY, WI 54303
PHONE: (920)-662-2160
CHRIS.HARDY@BROWNCOUNTYWI.GOV

WISDOT DESIGN CONTACT

MIKE COHEN
NORTHEAST REGION
944 VANDERPERREN WAY
GREEN BAY, WI 54304
PHONE: (920)-360-1476
MICHAEL.COHEN@DOT.WI.GOV

AECOM DESIGN CONTACT

MATT KRIPPNER
1350 DEMING WAY
MIDDLETON, WI 53562
PHONE: (608)-828-8123
MATTHEW.KRIPPNER@AECOM.COM

UTILITY CONTACTS:

COMMUNICATIONS:

BRIGHTSPEED
ATTN: XAN MARIE RYPKEMA
1120 S TRYON ST SUITE 700
CHARLOTTE, NC 28203-4244
PHONE: (704) 314-2659
XAN.RYPKEMA@BRIGHTSPEED.COM

ELECTRICITY:

WPS
ATTN: TOM GORAL
677 BAETEN RD
GREEN BAY, WI 54304
PHONE: (920) 493-2365
THOMAS.GORAL@WISCONSINPUBLICSERVICE.COM

CONVENTIONAL ABBREVIATIONS

AHEAD	AH
APRON ENDWALL	AEW
BACK	BK
BASE AGGREGATE DENSE	BAD
CENTERLINE	C/L
CONCRETE	CONC
CULVERT PIPE CORRUGATED STEEL	CPCS
CULVERT PIPE REINFORCED CONCRETE	CPRC
COUNTY TRUNK HIGHWAY	CTH
EXISTING	EX
FIELD ENTRANCE	F.E.
GAS VALVE	GV
GRID NORTH	GN
LEFT	LT
POINT OF TANGENCY	PT
PROPERTY LINE	PL
REFERENCE LINE	R/L
POINT OF CURVATURE	PC
POINT OF INTERSECTION	PI
RIGHT	RT
RIGHT OF WAY	R/W
SEPTIC VENT	SEPV
SQUARE FEET	SF
STATE TRUNK HIGHWAY	STH
STATION	STA
TELEPHONE PEDESTAL	TP
VOLUME	V

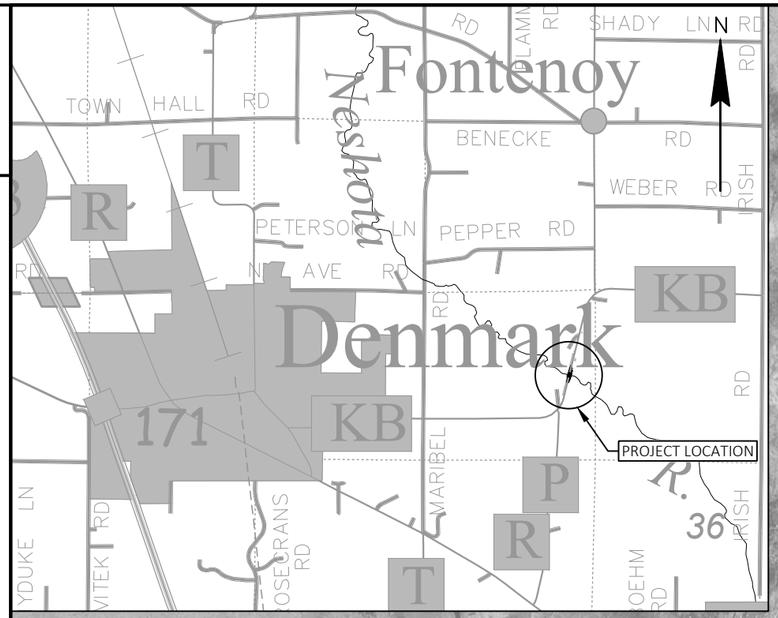
ORDER OF SECTION 2 DETAIL SHEETS

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 1.044 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.872 ACRES

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



2

2

NESHOTA RIVER

PAVEMENT REPLACEMENT WITH ADDITIONAL BASE AGGREGATE

B-05-0485

PI: 108+90.18

END PROJECT
STA 109+01.24
MATCH EXISTING
SAW CUT REQ'D

EP: 111+90.03

CTH KB

102 104 106 108 110

BP: 101+00.00

BEGIN PROJECT
STA 104+07.02
Y=506,788.214
X=158,855.196
MATCH EXISTING
SAW CUT REQ'D

BEGIN FULL-DEPTH
CONSTRUCTION
STA 105+61.92

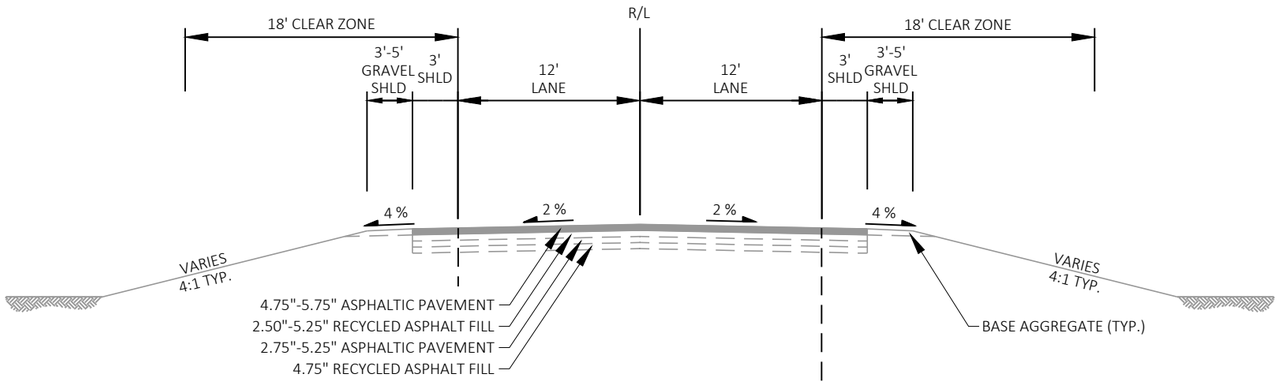
END FULL-DEPTH
CONSTRUCTION
STA 107+46.42

PAVEMENT REPLACEMENT

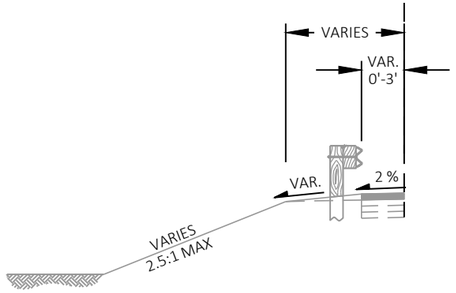
PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - 01
PLOT DATE : 10/28/2025 2:34 PM
PLOT BY : ARBUCKLE, ADRIAN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

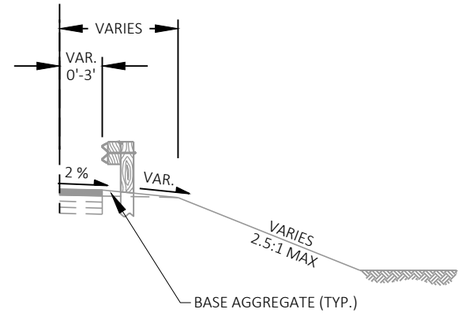
2



EXISTING TYPICAL SECTION
STA 104+07 - 106+12
STA 106+96 - 109+01



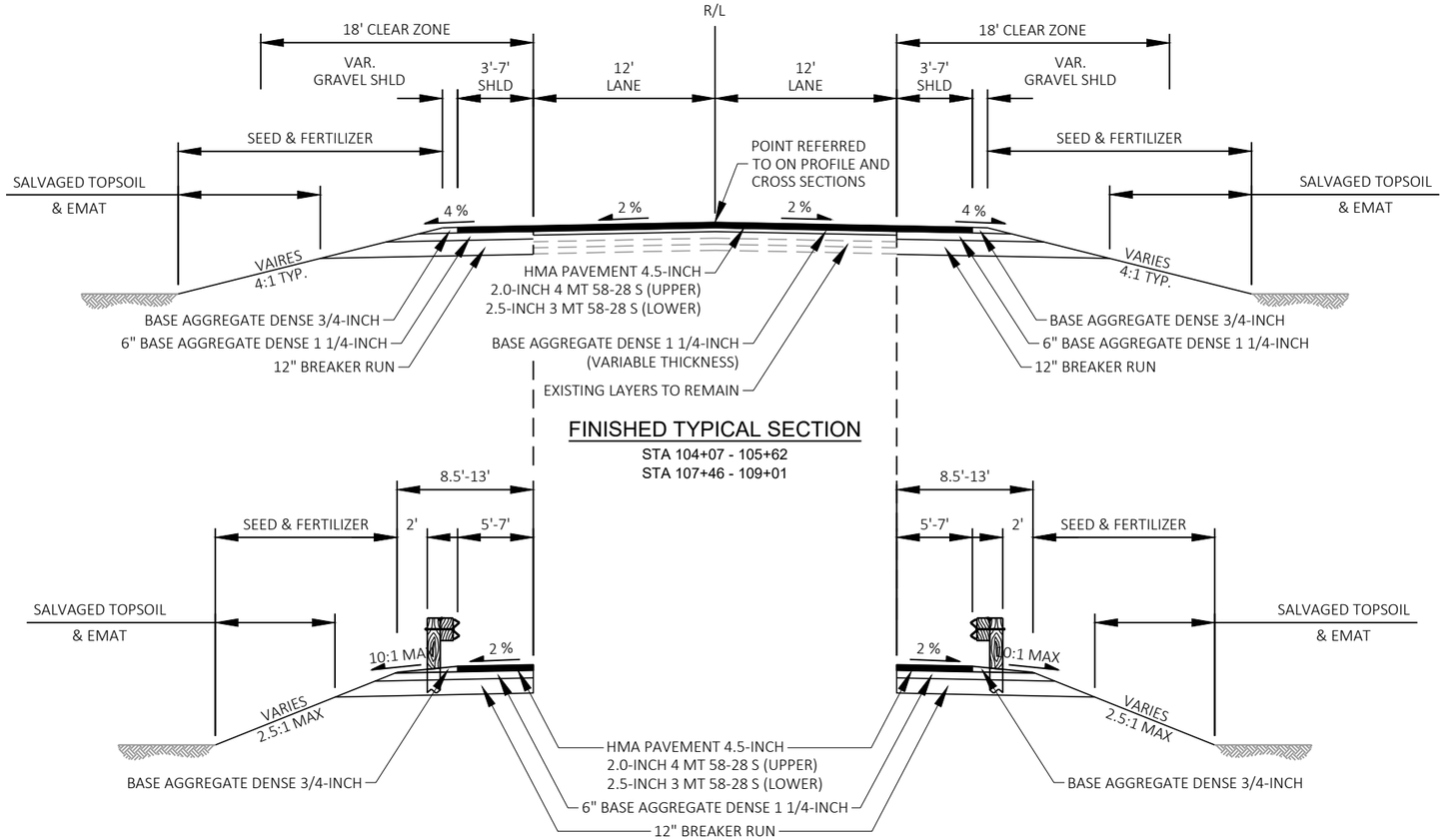
EXISTING TYPICAL SECTION
STA 105+65 - 106+12
STA 106+96 - 107+40



EXISTING TYPICAL SECTION
STA 105+66 - 106+12
STA 106+96 - 107+41

PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	PLAN: TYPICAL SECTION	SHEET 4	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 01
PLOT DATE : 5/29/2025 1:40 PM
PLOT BY : ARBUCKLE, ADRIAN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



FINISHED TYPICAL SECTION

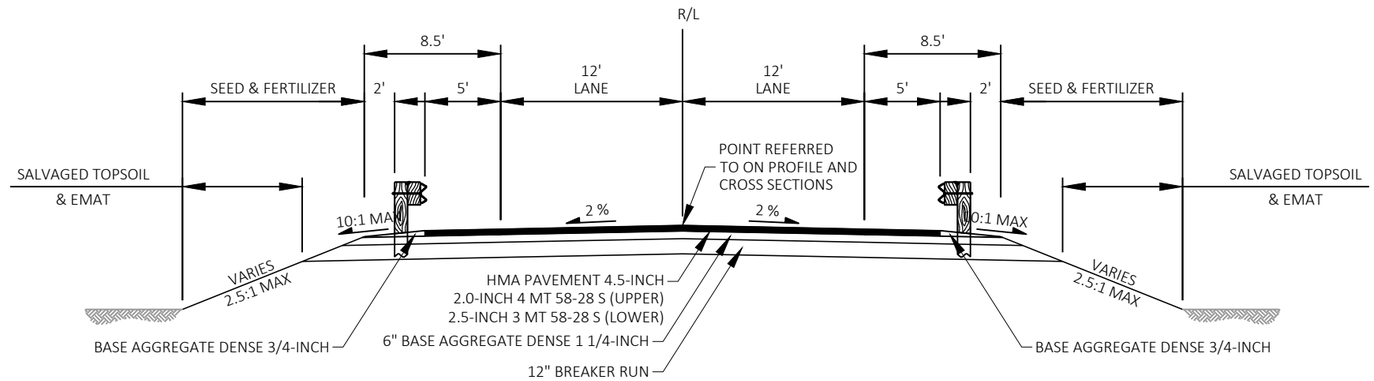
STA 104+07 - 105+62
STA 107+46 - 109+01

FINISHED TYPICAL SECTION

STA 105+09 - 105+62
STA 107+46 - 108+61

FINISHED TYPICAL SECTION

STA 104+47 - 105+62
STA 107+46 - 107+86



FINISHED TYPICAL SECTION

STA 105+62 - 106+12
STA 106+96 - 107+46

PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	PLAN: TYPICAL SECTION	SHEET 5	E

2

N

NESHOTA RIVER

EXISTING R/W

SLOPE INTERCEPT (TYP.)

CTH KB

EXISTING R/W

ROAD WORK AHEAD

W20-1A
36" X 36"

PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CONSTRUCTION DETAIL - WATERWAY MARKER	SHEET 6	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\021001-CD.DWG
LAYOUT NAME - 01

PLOT DATE : 10/28/2025 2:34 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

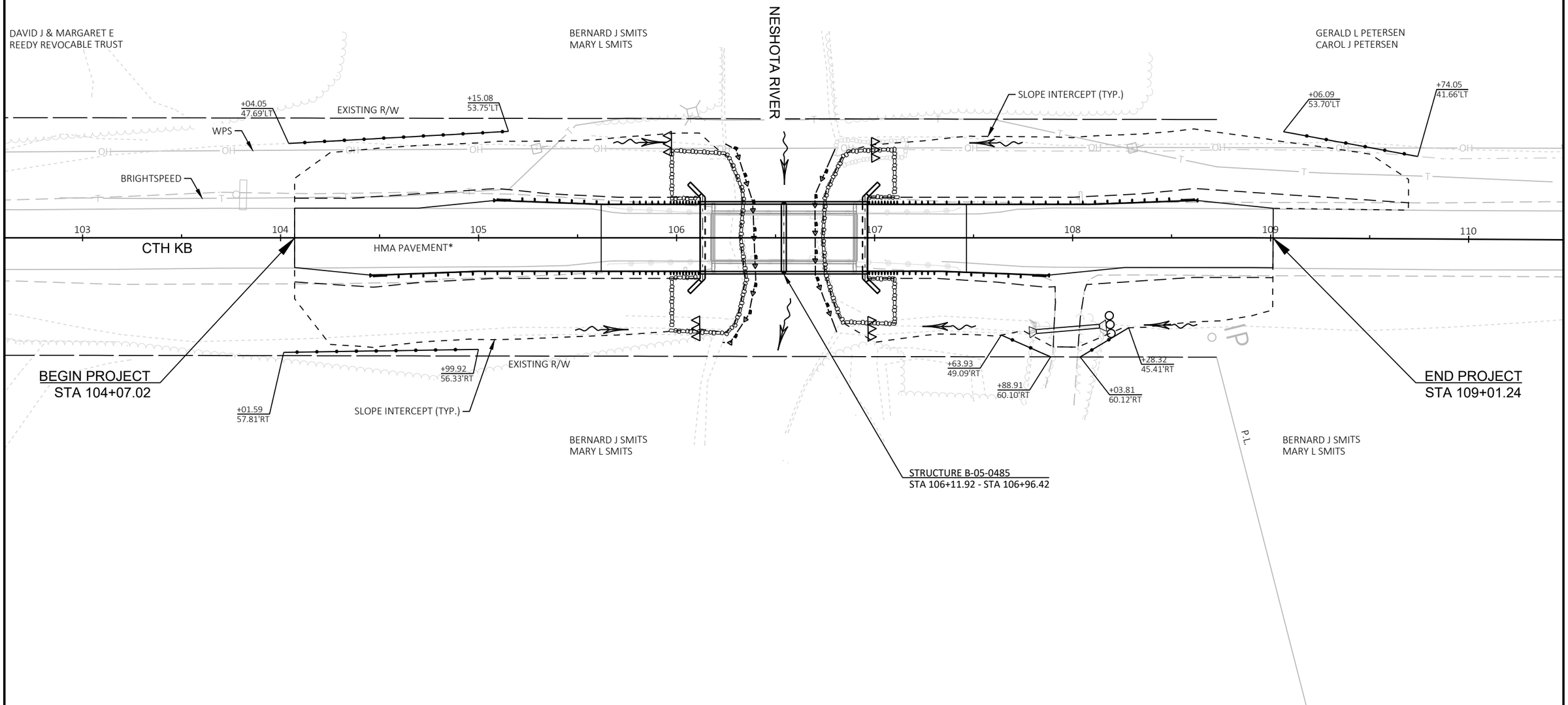
2

LEGEND

- SILT FENCE
- RIPRAP
- SLOPE INTERCEPT
- TURBIDITY BARRIER
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW

NOTE:
EROSION MAT CLASS I TYPE B URBAN TO BE USED OVER SALVAGED TOPSOIL IN ALL DISTURBED AREAS UNLESS OTHERWISE NOTED.

N



PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	EROSION CONTROL PLAN	SHEET 7	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 1
PLOT DATE : 10/28/2025 2:36 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : PLOT SCALE : ##########

2

N

W5-52L
12"X36"

REMOVE

REMOVING DELINEATORS
AND MARKERS

MARKING LINE, EPOXY, 6-INCH
WHITE

EXISTING R/W

WPS

BRIGHTSPEED

NESHOTA RIVER

REMOVE

W5-52R
12"X36"

MOVE

MARKING LINE, EPOXY, 6-INCH
YELLOW

+07.02
12.00'LT

+07.02
0.00'

+01.24
12.00'LT

+01.24
0.00'

103

CTH KB

104

105

106

107

108

109

110

+07.02
12.00'RT

+18.47
0.50'RT

+01.24
12.00'RT

EXISTING R/W

MARKING LINE, EPOXY, 6-INCH
(DOUBLE YELLOW)

REMOVE

NESHOTA RIVER

MOVE

W5-52R
12"X36"

REMOVING DELINEATORS
AND MARKERS

W5-52L
12"X36"

REMOVE

REMOVING DELINEATORS
AND MARKERS

MARKING LINE, EPOXY, 6-INCH
(12.5' LINE, 37.5 GAP, YELLOW)

P.I.

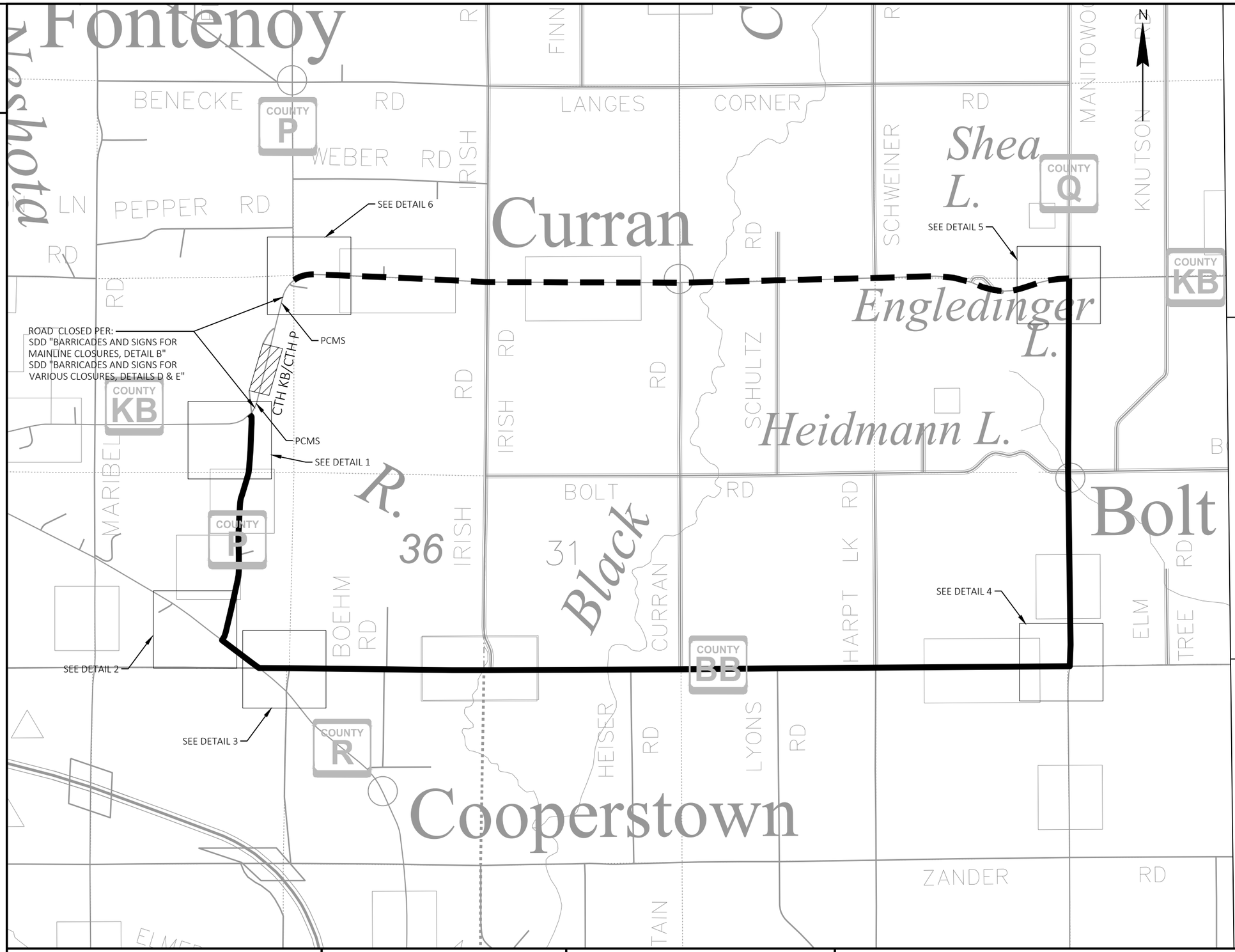
P.L

PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	PAVEMENT MARKING & PERMANENT SIGNING PLAN	SHEET 8	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 1

PLOT DATE : 10/28/2025 2:37 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42



GENERAL NOTES:

1. ALL TC COVERING SIGNS TYPE II SHALL BE PAID AS EACH CONTIGUOUS SIGN(S) COVERED PER LOCATION PER CYCLE NOT AS INDIVIDUAL CLUSTER.
2. SEE SDD "BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES" FOR SIDE ROAD SIGNING ALONG THE WORKZONE CORRIDOR.
3. DRAWINGS SHOW TC DETOUR FOR TYPICAL SITUATION. ADDITIONAL TC DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON SITE CONDITIONS AS DIRECTED BY THE ENGINEER. ALL CHANGES TO THE TC DETOUR PLAN SHALL BE REVIEWED WITH THE PROJECT MANAGER.
4. TRAFFIC CONTROL PLANS ARE NOT TO SCALE.
5. COVER, REMOVE, OR ALTER ANY EXISTING OR PROPOSED SIGNS THAT DISPLAY A CONFLICTING MESSAGE WITH THE PROPOSED DETOUR ROUTE FOR THE PHASE THAT IS ACTIVE.
6. MAINTAIN ACCESS TO DRIVEWAYS AND SIDE ROADS AT ALL TIMES.
7. WO SIGNS ARE THE SAME AS W SIGNS EXCEPT THE BACKGROUND IS ORANGE.
8. ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

PCMS MESSAGES		
PCMS SITE LOCATION	7 DAYS PRIOR TO CONSTRUCTION/STAGE	
	FRAME A (2 SECONDS)	FRAME B (2 SECONDS)
NB	BRIDGE OUT BEGINS	D.O.W. MM-DD
SB	BRIDGE OUT BEGINS	D.O.W. MM-DD

PCMS NOTES:

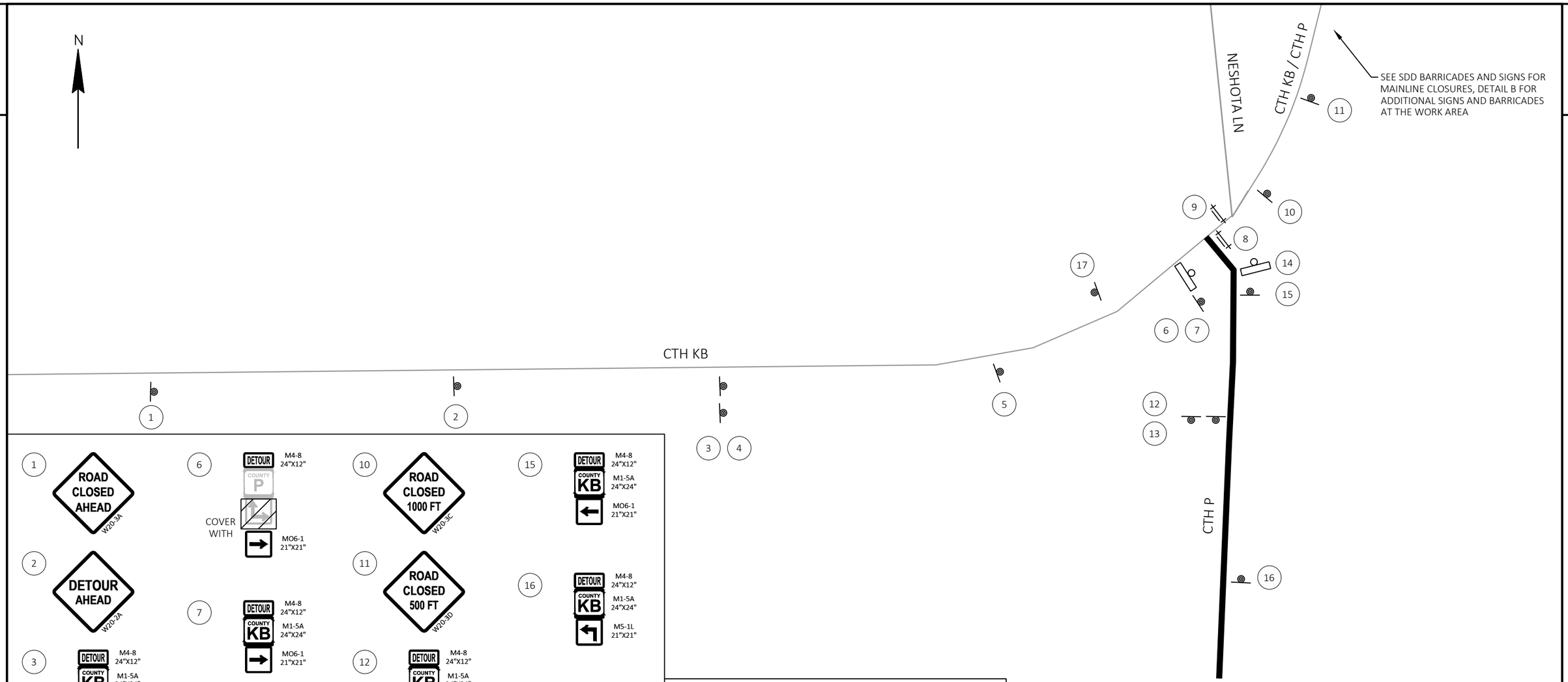
1. PCMS LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. PLACE PCMS AS FAR AWAY FROM THE LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY.
3. PLACE REFLECTORIZED DRUMS AHEAD OF PCMS ON THE SHOULDER.

LEGEND

- CTH P DETOUR ROUTE
- CTH KB AND CTH P DETOUR ROUTE
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- WORK AREA. ROAD CLOSED
- EXISTING SIGN TO BE COVERED
- SIGN ON PERMANENT SUPPORT
- SIGN ON EXISTING SUPPORT(S)
- TYPE III BARRICADE WITH SIGN

PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	DETOUR - OVERVIEW	SHEET 9	E

FILE NAME : C:\USERS\WOLFK2\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - OVERVIEW
PLOT DATE : 10/14/2025 12:42 PM PLOT BY : WOLF, KELLY PLOT NAME : PLOT SCALE : 1 IN:0.5 MI
WISDOT/CADDS SHEET 42



1 — ROAD CLOSED AHEAD W20-3A

2 — DETOUR AHEAD W20-2A

3 — DETOUR M4-8 24"X12" / COUNTY KB M1-5A 24"X24" / MO5-1R 21"X21"

4 — DETOUR M4-8 24"X12" / COUNTY P M1-5A 24"X24" / MO5-1R 21"X21"

5 — ROAD CLOSED 500 FT W20-3D

6 — DETOUR M4-8 24"X12" / COUNTY P / COVER WITH / MO6-1 21"X21"

7 — DETOUR M4-8 24"X12" / COUNTY KB M1-5A 24"X24" / MO6-1 21"X21"

8 — M4-9R 30"X24" DETOUR
TYPE III BARRICADE

9 — R11-4 60" X 30" ROAD CLOSED TO THRU TRAFFIC
TYPE III BARRICADE

10 — ROAD CLOSED 1000 FT W20-3C

11 — ROAD CLOSED 500 FT W20-3D

12 — DETOUR M4-8 24"X12" / COUNTY KB M1-5A 24"X24"

13 — DETOUR M4-8 24"X12" / COUNTY P M1-5A 24"X24"

14 — COUNTY KB / COUNTY P / COVER

15 — DETOUR M4-8 24"X12" / COUNTY KB M1-5A 24"X24" / MO6-1 21"X21"

16 — DETOUR M4-8 24"X12" / COUNTY KB M1-5A 24"X24" / M5-1L 21"X21"

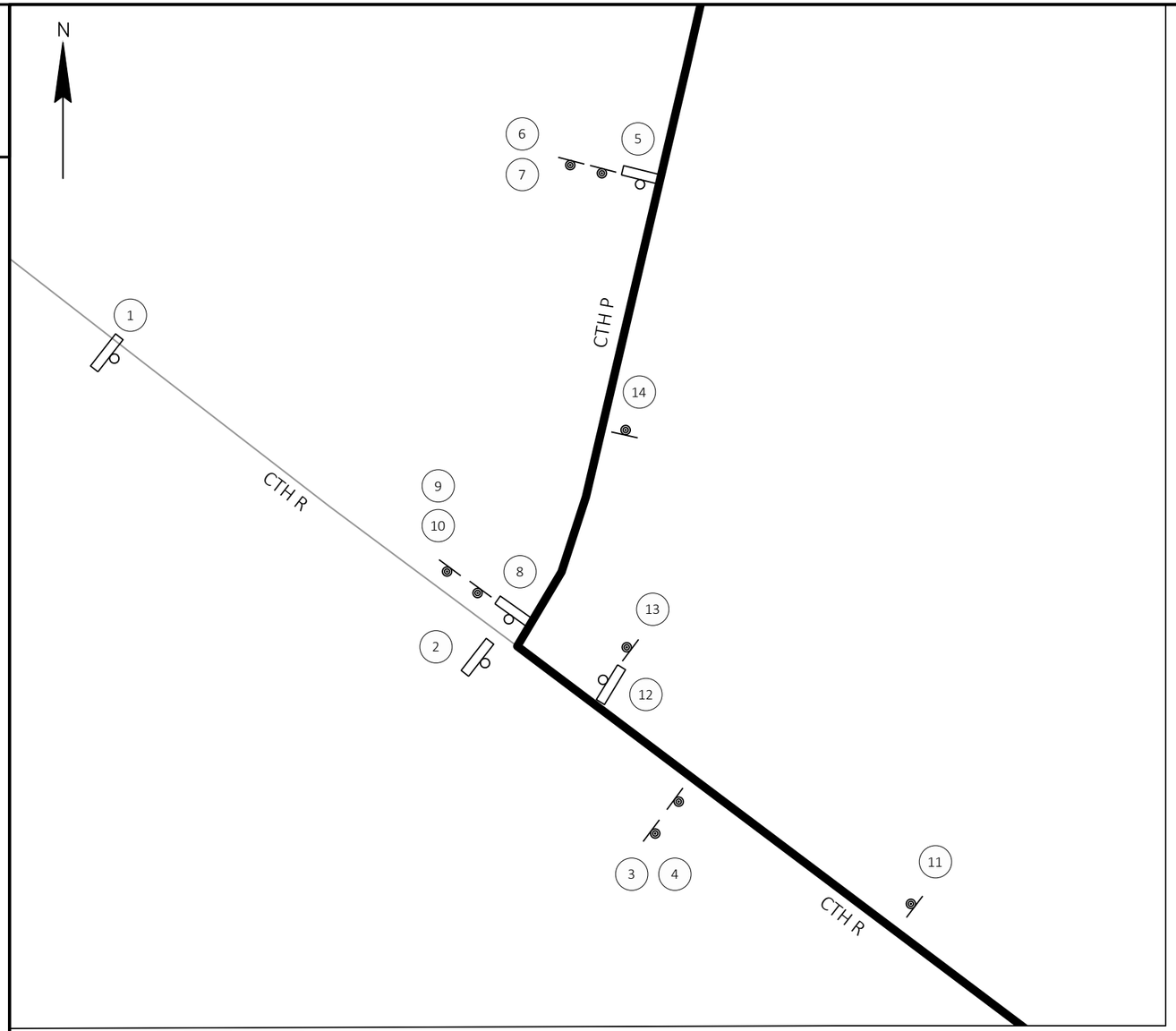
17 — END DETOUR M4-8A 24"X18" / COUNTY KB M1-5A 24"X24"

LEGEND

- CTH P DETOUR ROUTE
- CTH KB AND CTH P DETOUR ROUTE
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- WORK AREA. ROAD CLOSED
- EXISTING SIGN TO BE COVERED
- SIGN ON PERMANENT SUPPORT
- SIGN ON EXISTING SUPPORT(S)
- TYPE III BARRICADE WITH SIGN
- DIRECTION OF TRAFFIC

PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	DETOUR - DETAIL 1	SHEET 10	E

FILE NAME : C:\USERS\WOLFK2\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - DETAIL 1
PLOT DATE : 10/14/2025 12:42 PM PLOT BY : WOLF, KELLY PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42



1 — DETOUR (M4-8 24"X12") / JCT COUNTY P (M1-5A 24"X24") / MO6-1 21"X21"

2 — DETOUR (M4-8 24"X12") / COUNTY P / COVER WITH MO6-1 21"X21"

3 — DETOUR (M4-8 24"X12") / COUNTY KB (M1-5A 24"X24")

4 — DETOUR (M4-8 24"X12") / COUNTY P (M1-5A 24"X24")

5 — JCT COUNTY R

6 — DETOUR (M4-8 24"X12") / COUNTY KB (M1-5A 24"X24") / MO5-1L 21"X21"

7 — DETOUR (M4-8 24"X12") / COUNTY P (M1-5A 24"X24") / MO5-1L 21"X21"

8 — COUNTY R

9 — DETOUR (M4-8 24"X12") / COUNTY KB (M1-5A 24"X24") / MO6-1 21"X21"

10 — DETOUR (M4-8 24"X12") / COUNTY P (M1-5A 24"X24") / MO6-1 21"X21"

11 — DETOUR (M4-8 24"X12") / COUNTY KB (M1-5A 24"X24") / MO5-1R 21"X21"

12 — END DETOUR (M4-8A 24"X18") / COUNTY P

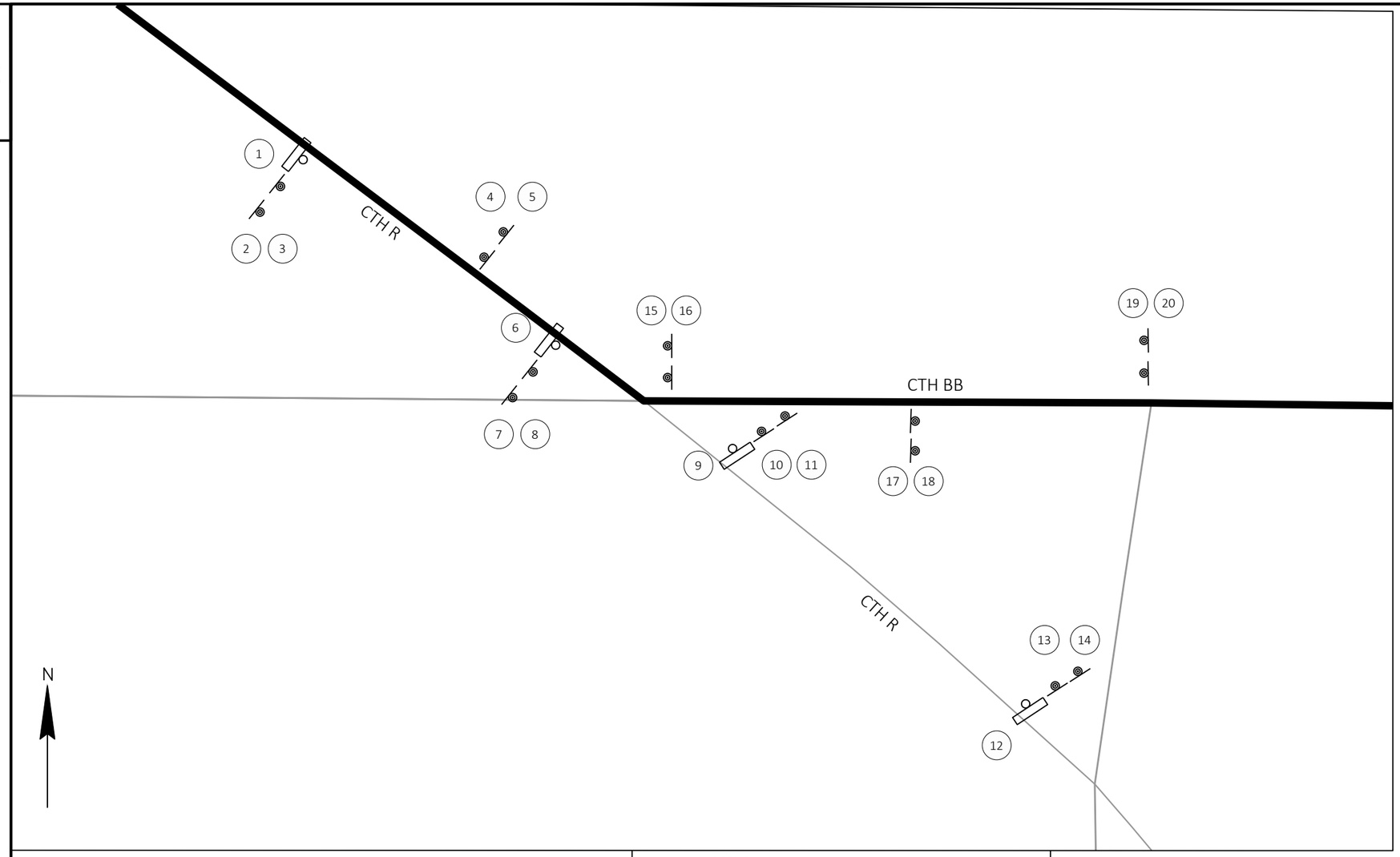
13 — DETOUR (M4-8 24"X12") / COUNTY KB (M1-5A 24"X24") / MO6-1 21"X21"

14 — DETOUR (M4-8 24"X12") / COUNTY KB (M1-5A 24"X24")

LEGEND

- CTH P DETOUR ROUTE
- CTH KB AND CTH P DETOUR ROUTE
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- WORK AREA. ROAD CLOSED
- EXISTING SIGN TO BE COVERED
- SIGN ON PERMANENT SUPPORT
- SIGN ON EXISTING SUPPORT(S)
- TYPE III BARRICADE WITH SIGN
- DIRECTION OF TRAFFIC

PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	DETOUR - DETAIL 2	SHEET 11	E



1 — JCT COUNTY BB

2 — DETOUR; COUNTY KB; M4-8 24"X12"; M1-5A 24"X24"; M5-1L 21"X21"

3 — DETOUR; COUNTY P; M4-8 24"X12"; M1-5A 24"X24"; M5-1L 21"X21"

4 — DETOUR; COUNTY KB; M4-8 24"X12"; M1-5A 24"X24"

5 — DETOUR; COUNTY P; M4-8 24"X12"; M1-5A 24"X24"

6 — COUNTY BB

7 — DETOUR; COUNTY KB; M4-8 24"X12"; M1-5A 24"X24"; M6-1 21"X21"

8 — DETOUR; COUNTY P; M4-8 24"X12"; M1-5A 24"X24"; M6-1 21"X21"

9 — COUNTY BB

10 — DETOUR; EAST; COUNTY KB; M4-8 24"X12"; M3-2 24"X12"; M1-5A 24"X24"; M6-1 21"X21"

11 — DETOUR; NORTH; COUNTY P; M4-8 24"X12"; M3-1 24"X12"; M1-5A 24"X24"; M6-1 21"X21"

12 — JCT COUNTY BB

13 — DETOUR; EAST; COUNTY KB; M4-8 24"X12"; M3-2 24"X12"; M1-5A 24"X24"; MO5-1R 21"X21"

14 — DETOUR; NORTH; COUNTY P; M4-8 24"X12"; M3-1 24"X12"; M1-5A 24"X24"; MO5-1R 21"X21"

15 — DETOUR; COUNTY KB; M4-8 24"X12"; M1-5A 24"X24"; M6-1 21"X21"

16 — DETOUR; COUNTY P; M4-8 24"X12"; M1-5A 24"X24"; M6-1 21"X21"

17 — DETOUR; COUNTY KB; M4-8 24"X12"; M1-5A 24"X24"

18 — DETOUR; COUNTY P; M4-8 24"X12"; M1-5A 24"X24"

19 — DETOUR; COUNTY KB; M4-8 24"X12"; M1-5A 24"X24"; MO5-1R 21"X21"

20 — DETOUR; COUNTY P; M4-8 24"X12"; M1-5A 24"X24"; MO5-1R 21"X21"

LEGEND

- CTH P DETOUR ROUTE
- CTH KB AND CTH P DETOUR ROUTE
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- WORK AREA. ROAD CLOSED
- EXISTING SIGN TO BE COVERED
- SIGN ON PERMANENT SUPPORT
- SIGN ON EXISTING SUPPORT(S)
- TYPE III BARRICADE WITH SIGN
- DIRECTION OF TRAFFIC

PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	DETOUR - DETAIL 3	SHEET 12	E

FILE NAME : C:\USERS\WOLFK2\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - DETAIL 3
PLOT DATE : 10/14/2025 12:42 PM
PLOT BY : WOLF, KELLY
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

1 — JCT COUNTY Q

2 — DETOUR / COUNTY P / M1-5A 24"X24" / M5-1L 21"X21" — M4-8 24"X12"

3 — DETOUR / COUNTY KB / M1-5A 24"X24" / M5-1L 21"X21" — M4-8 24"X12"

4 — DETOUR / COUNTY KB — M4-8 24"X12" / M1-5A 24"X24"

5 — DETOUR / COUNTY P — M4-8 24"X12" / M1-5A 24"X24"

6 — COUNTY Q / COUNTY BB

7 — DETOUR / COUNTY KB / M1-5A 24"X24" / M6-1 21"X21" — M4-8 24"X12"

8 — DETOUR / COUNTY P / M1-5A 24"X24" / M6-1 21"X21" — M4-8 24"X12"

9 — COUNTY BB / COUNTY Q

10 — DETOUR / COUNTY KB / M1-5A 24"X24" / M6-1 21"X21" — M4-8 24"X12"

11 — DETOUR / COUNTY P / M1-5A 24"X24" / M6-1 21"X21" — M4-8 24"X12"

12 — DETOUR / COUNTY KB — M4-8 24"X12" / M1-5A 24"X24"

13 — DETOUR / COUNTY P — M4-8 24"X12" / M1-5A 24"X24"

14 — JCT COUNTY BB

15 — DETOUR / COUNTY KB / M1-5A 24"X24" / M5-1R 21"X21" — M4-8 24"X12"

15 — DETOUR / COUNTY P / M1-5A 24"X24" / M5-1R 21"X21" — M4-8 24"X12"

LEGEND

- CTH P DETOUR ROUTE
- CTH KB AND CTH P DETOUR ROUTE
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- WORK AREA. ROAD CLOSED
- EXISTING SIGN TO BE COVERED
- SIGN ON PERMANENT SUPPORT
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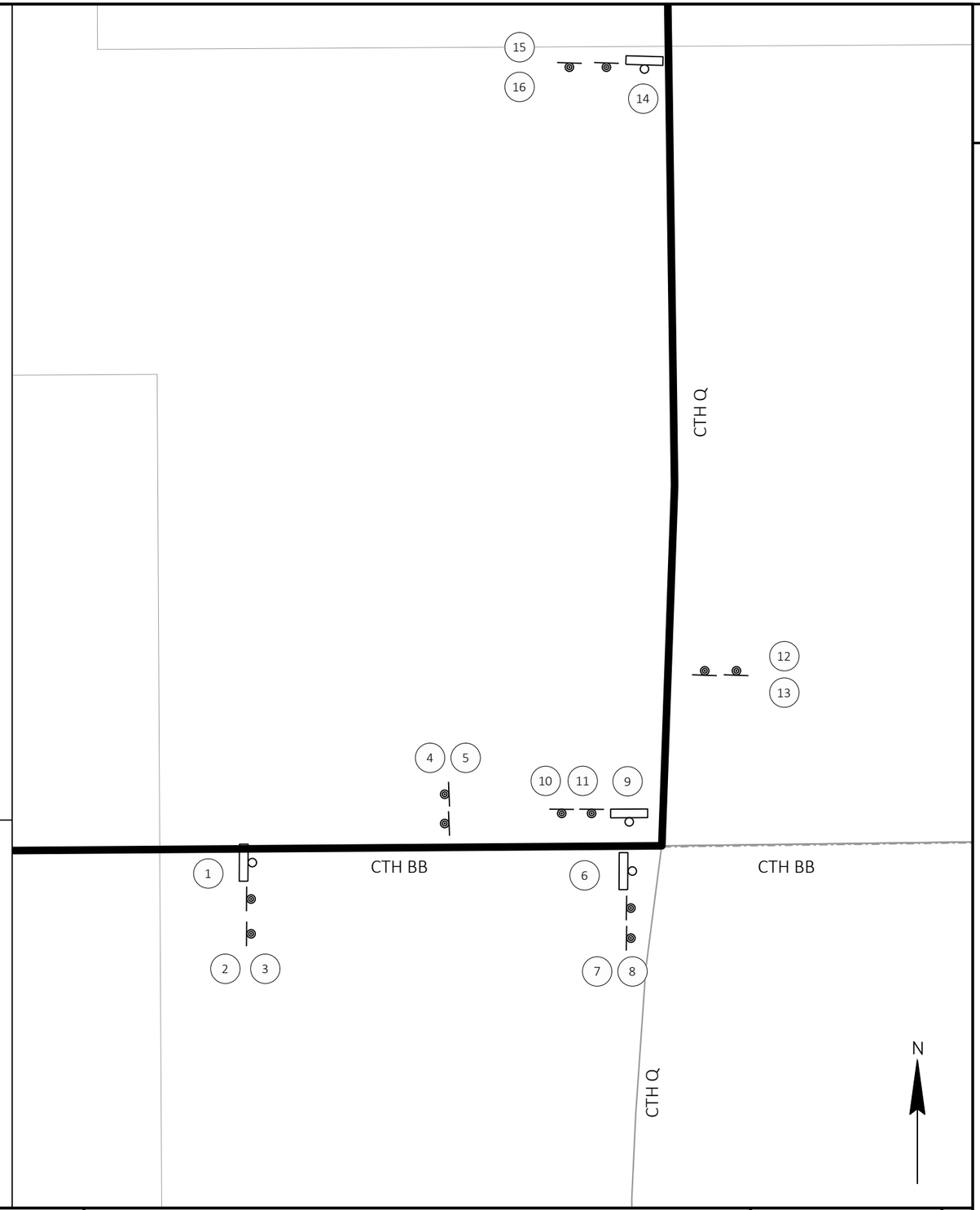
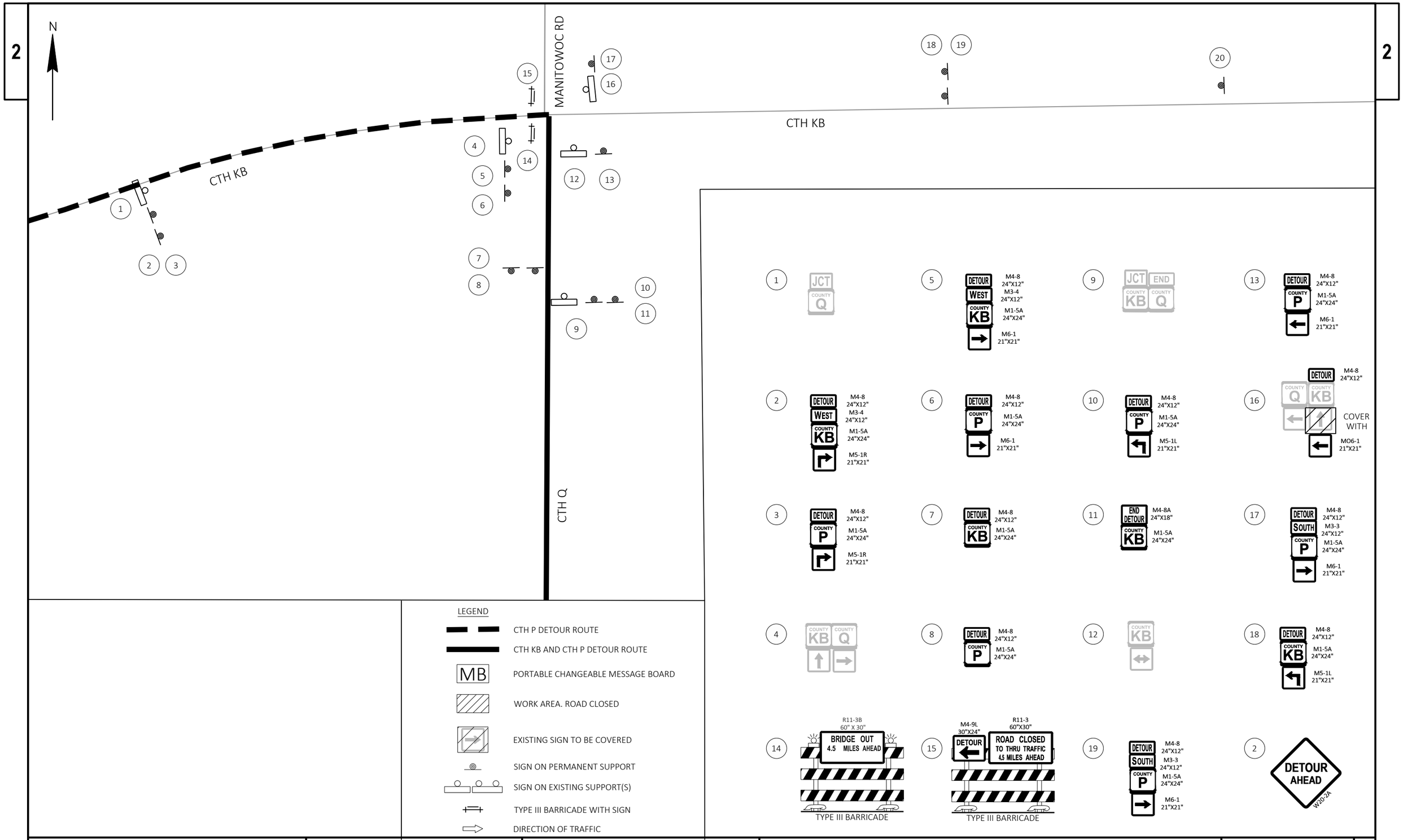
- TYPE III BARRICADE WITH SIGN
- DIRECTION OF TRAFFIC





LEGEND

- CTH P DETOUR ROUTE
- CTH KB AND CTH P DETOUR ROUTE
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- WORK AREA. ROAD CLOSED
- EXISTING SIGN TO BE COVERED
- SIGN ON PERMANENT SUPPORT
- SIGN ON EXISTING SUPPORT(S)
- TYPE III BARRICADE WITH SIGN
- DIRECTION OF TRAFFIC

PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	DETOUR - DETAIL 5	SHEET 14	E

FILE NAME : C:\USERS\WOLFK2\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - DETAIL 5
PLOT DATE : 10/14/2025 12:42 PM
PLOT BY : WOLF, KELLY
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

1 — DETOUR AHEAD (W20-2A)

2 — ROAD CLOSED AHEAD (W20-3A)

3 — Kewaunee / Denmark — COVER

4 — M4-8 24"X12" DETOUR / DETOUR M4-8 24"X12"; COUNTY KB / COUNTY P; COVER WITH / COVER WITH; MO6-1 21"X21" / MO6-1 21"X21"

5 — COUNTY P

6 — DETOUR COUNTY P — M4-8 24"X12", M1-5A 24"X24"

7 — END DETOUR COUNTY P — M4-8A 24"X18", M1-5A 24"X24"

8 — DETOUR COUNTY KB — M4-8 24"X12", M1-5A 24"X24"

9 — R11-2B 48" X 30" BRIDGE OUT — TYPE III BARRICADE

10 — ROAD CLOSED 1000 FT (W20-3C)

11 — ROAD CLOSED 500 FT (W20-3D)

LEGEND

- CTH P DETOUR ROUTE
- CTH KB AND CTH P DETOUR ROUTE
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- WORK AREA. ROAD CLOSED
- EXISTING SIGN TO BE COVERED
- SIGN ON PERMANENT SUPPORT
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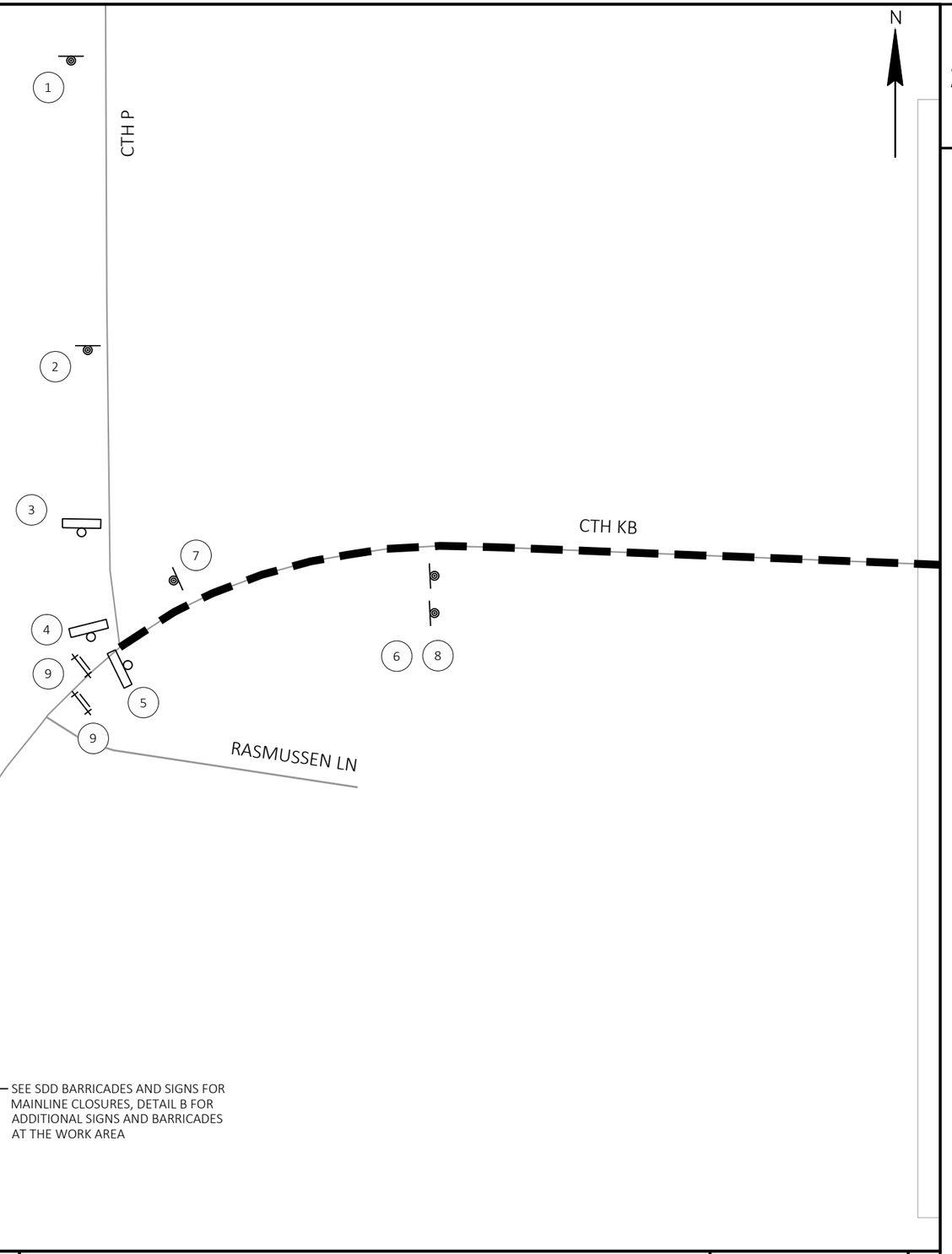
- TYPE III BARRICADE WITH SIGN
- DIRECTION OF TRAFFIC



PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	DETOUR - DETAIL 6	SHEET 15	E

Estimate Of Quantities

4538-02-73

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0008	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-05-0008	EACH	1.000	1.000
0010	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-05-0008	EACH	1.000	1.000
0012	204.0110	Removing Asphaltic Surface	SY	1,010.000	1,010.000
0014	204.0165	Removing Guardrail	LF	213.000	213.000
0016	204.0180	Removing Delineators and Markers	EACH	7.000	7.000
0018	205.0100	Excavation Common	CY	764.000	764.000
0020	206.1001	Excavation for Structures Bridges (structure) 01. B-05-0485	EACH	1.000	1.000
0022	206.5001	Cofferdams (structure) 01. B-05-0485	EACH	1.000	1.000
0024	208.0100	Borrow	CY	1,110.000	1,110.000
0026	210.1500	Backfill Structure Type A	TON	570.000	570.000
0028	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 4538-02-73	EACH	1.000	1.000
0030	213.0100	Finishing Roadway (project) 01. 4538-02-73	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	155.000	155.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	545.000	545.000
0036	311.0110	Breaker Run	TON	1,115.000	1,115.000
0038	455.0605	Tack Coat	GAL	80.000	80.000
0040	460.2000	Incentive Density HMA Pavement	DOL	260.000	260.000
0042	460.6223	HMA Pavement 3 MT 58-28 S	TON	220.000	220.000
0044	460.6224	HMA Pavement 4 MT 58-28 S	TON	180.000	180.000
0046	502.0100	Concrete Masonry Bridges	CY	353.000	353.000
0048	502.3200	Protective Surface Treatment	SY	435.000	435.000
0050	502.9000.S	Underwater Substructure Inspection (structure) 01. B-05-0485	EACH	1.000	1.000
0052	505.0400	Bar Steel Reinforcement HS Structures	LB	7,870.000	7,870.000
0054	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	34,050.000	34,050.000
0056	513.4061	Railing Tubular Type M	LF	169.000	169.000
0058	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0060	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	2.000	2.000
0062	520.3324	Culvert Pipe Class III-A 24-Inch	LF	32.000	32.000
0064	550.0020	Pre-Boring Rock or Consolidated Materials	LF	116.000	116.000
0066	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	700.000	700.000
0068	606.0300	Riprap Heavy	CY	410.000	410.000
0070	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	130.000	130.000
0072	614.2300	MGS Guardrail 3	LF	162.500	162.500
0074	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0076	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0078	618.0100	Maintenance and Repair of Haul Roads (project) 01. 4538-02-73	EACH	1.000	1.000
0080	619.1000	Mobilization	EACH	1.000	1.000
0082	624.0100	Water	MGAL	13.000	13.000
0084	625.0500	Salvaged Topsoil	SY	3,000.000	3,000.000
0086	627.0200	Mulching	SY	1,500.000	1,500.000
0088	628.1504	Silt Fence	LF	1,500.000	1,500.000
0090	628.1520	Silt Fence Maintenance	LF	1,500.000	1,500.000
0092	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0094	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0096	628.2008	Erosion Mat Urban Class I Type B	SY	3,000.000	3,000.000
0098	628.6005	Turbidity Barriers	SY	375.000	375.000

4538-02-73

Line	Item	Item Description	Unit	Total	Qty
0100	628.7504	Temporary Ditch Checks	LF	125.000	125.000
0102	628.7555	Culvert Pipe Checks	EACH	4.000	4.000
0104	629.0210	Fertilizer Type B	CWT	2.400	2.400
0106	630.0130	Seeding Mixture No. 30	LB	175.000	175.000
0108	630.0500	Seed Water	MGAL	95.000	95.000
0110	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0112	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0114	638.2102	Moving Signs Type II	EACH	2.000	2.000
0116	638.2602	Removing Signs Type II	EACH	4.000	4.000
0118	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0120	638.4000	Moving Small Sign Supports	EACH	2.000	2.000
0122	642.5001	Field Office Type B	EACH	1.000	1.000
0124	643.0300	Traffic Control Drums	DAY	93.000	93.000
0126	643.0420	Traffic Control Barricades Type III	DAY	2,200.000	2,200.000
0128	643.0705	Traffic Control Warning Lights Type A	DAY	3,520.000	3,520.000
0130	643.0900	Traffic Control Signs	DAY	22,116.000	22,116.000
0132	643.0920	Traffic Control Covering Signs Type II	EACH	7.000	7.000
0134	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0136	643.5000	Traffic Control	EACH	1.000	1.000
0138	645.0111	Geotextile Type DF Schedule A	SY	80.000	80.000
0140	645.0120	Geotextile Type HR	SY	680.000	680.000
0142	646.2020	Marking Line Epoxy 6-Inch	LF	1,800.000	1,800.000
0144	648.0100	Locating No-Passing Zones	MI	0.100	0.100
0146	650.4500	Construction Staking Subgrade	LF	478.000	478.000
0148	650.5000	Construction Staking Base	LF	478.000	478.000
0150	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0152	650.6501	Construction Staking Structure Layout (structure) 01. B-05-0485	EACH	1.000	1.000
0154	650.9911	Construction Staking Supplemental Control (project) 01. 4538-02-73	EACH	1.000	1.000
0156	650.9920	Construction Staking Slope Stakes	LF	478.000	478.000
0158	690.0150	Sawing Asphalt	LF	60.000	60.000
0160	715.0502	Incentive Strength Concrete Structures	DOL	2,574.000	2,574.000
0162	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. Station 106+54	EACH	1.000	1.000
0164	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0166	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0168	SPV.0060	Special 01. Superstructure 3/4" X 5 1/2" Drip Edges B-05-0485	EACH	1.000	1.000

3

CLEARING AND GRUBBING

CATEGORY	STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
0010	107+00	-	109+00	RT	2	2
				TOTAL 0010	2	2

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	REMARKS
0010	107+97	RT	1	35 LF - 24" CPRC
		TOTAL 0010	1	

3

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY
0010	104+07	-	105+62	LT/RT	506
0010	107+46	-	109+01	LT/RT	504
				TOTAL 0010	1,010

PREPARE FOUNDATION FOR ASPHALTIC PAVING

CATEGORY	STATION	TO	STATION	LOCATION	211.0101.01 PREPARE FOUNDATION FOR ASPHALTIC PAVING (01. 4538-02-73) EACH
0010	104+07	-	109+01	PROJECT LIMITS	1
				TOTAL 0010	1

3

EARTHWORK SUMMARY

DIVISION	FROM - TO	LOCATION	(1) 205.0100 EXCAVATION COMMON (2) CUT CY	(1) 205.0100 EXCAVATION COMMON (3) EBS CY	(2) SALVAGED/UNUSABLE PAVEMENT MATERIAL CY	(4) AVAILABLE MATERIAL CY	UNEXPANDED FILL CY	(5) EXPANDED FILL CY FACTOR 1.3	208.0100 BORROW CY	(6) MASS ORDINATE +/- CY	WASTE CY	* (3) 311.0110 BREAKER RUN TONS
1	104+07 - 106+12	CTH KB	325	0	110	215	546	710	495	-495	0	0
	106+96 - 109+69	CTH KB	362	0	109	253	668	868	615	-506	0	0
		UNDISTRIBUTED	0	77	77	0	77	100	0	100	100	140
DIVISION 1 SUBTOTAL			687	77					1,110	-1,001	100	140
CATEGORY 0010 PROJECT TOTALS			764						1,110			140

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS COLUMNS.
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT AND ASSUMES 6" OF EXISTING ASPHALT PAVEMENT THICKNESS.
3) EBS EXCAVATION TO BE BACKFILLED WITH BREAKER RUN. ALL EBS MATERIAL IS ASSUMED TO BE WASTED OFFSITE. ASSUMES APPROXIMATELY 10% OF BREAKER RUN SURFACE AREA AND 1.5 FEET DEEP.
4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL.
5) EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
6) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITH THE DIVISION. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

3

3

BASE AGGREGATE DENSE

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	* 311.0110 BREAKER RUN TON	624.0100 WATER MGAL	REMARKS
0010	104+07	-	106+12	LT/RT	65	225	465	6	
0010	106+96	-	109+69	LT/RT	90	245	510	7	
				TOTAL 0010	155	470	975	13	
0030	104+07	-	106+12	LT/RT	---	75	---	---	
				TOTAL 0030	0	75	0	0	PROFILE INCREASE ONLY
				PROJECT TOTAL	155	545	975	13	

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

HMA PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	460.6223 HMA PAVEMENT 3 MT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON
0010	104+07	-	106+12	LT/RT	40	110	90
0010	106+96	-	109+69	LT/RT	40	110	90
				TOTAL 0010	80	220	180

DRIVEWAY CULVERT PIPE

CATEGORY	STATION	LOCATION	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH EACH	520.3324 CULVERT PIPE CLASS III-A 24-INCH LF	STEEL THICKNESS (INCHES)
0010	108+00	RT	2	32	0.064
		TOTAL 0010	2	32	

3

3

GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	104+47	-	106+15	RT	53	75.0	39.4	1
0010	105+09	-	106+15	LT	54	12.5	39.4	1
0010	106+94	-	108+61	LT	53	75.0	39.4	1
0010	106+94	-	107+86	RT	53	---	39.4	1
				TOTAL 0010	213	162.5	157.6	4

RESTORATION ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0500 SEED WATER MGAL
0010	104+07	-	106+12	LT/RT	1,140	---	1,140	0.9	70	40
0010	106+96	-	109+69	LT/RT	1,300	---	1,300	1.0	70	40
0010				UNDISTRIBUTED	560	1,500	560	0.5	35	15
				TOTAL 0010	3,000	1,500	3,000	2.4	175	95

3

EROSION CONTROL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.6005 TURBIDITY BARRIERS SY	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH
0010	104+07	-	106+12	LT/RT	550	550	150	50	--
0010	106+96	-	109+69	LT/RT	640	640	150	50	3
0010				UNDISTRIBUTED	310	310	75	25	1
				TOTAL 0010	1,500	1,500	375	125	4

MOBILIZATIONS EROSION CONTROL

CATEGORY	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	PROJECT LIMITS	6	3
	TOTAL 0010	6	3

3

SIGNING

CATEGORY	STATION	LOCATION	204.0180 REMOVING DELINEATORS AND MARKERS EACH	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	105+72	LT	1	---	---	---	---	---	---	
0010	106+04	LT	---	1	3	---	1	1	---	BRIDGE HASH MARKS
0010	106+05	RT	---	1	3	---	1	1	---	BRIDGE HASH MARKS
0010	106+06	RT	---	---	---	1	---	---	1	NESHOTA RIVER
0010	106+14	RT	1	---	---	---	---	---	---	
0010	106+15	LT	1	---	---	---	---	---	---	
0010	106+94	LT	1	---	---	---	---	---	---	
0010	106+94	RT	1	---	---	---	---	---	---	
0010	107+03	LT	---	---	---	---	1	1	---	BRIDGE HASH MARKS
0010	107+04	RT	---	---	---	---	1	1	---	BRIDGE HASH MARKS
0010	107+10	LT	---	1	3	---	---	---	---	BRIDGE HASH MARKS
0010	107+10	RT	---	1	3	---	---	---	---	BRIDGE HASH MARKS
0010	107+36	LT	1	---	---	---	---	---	---	
0010	107+37	RT	1	---	---	---	---	---	---	
0010	108+03	LT	---	---	---	1	---	---	1	ROAD CURVES RIGHT
		TOTAL 0010	7	4	12	2	4	4	2	

3

TRAFFIC CONTROL

CATEGORY	LOCATION	ANTICIPATED DAYS IN SERVICE	643.0300 TRAFFIC CONTROL DRUMS NO.	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO.	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A NO.	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS NO.	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II CYCLES	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS NO.	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	REMARKS
0010	CLEARING/BIRD DETERRENT	1	23	23	---	---	---	---	6	6	---	---	---	---	
0010	PRE-WARN	7	10	70	---	---	---	---	---	---	---	---	2	14	PLACE 7 CALENDAR DAYS PRIOR TO CLOSURE
0010	DETOUR	110	---	---	20	2,200	32	3,520	197	21,670	1	7	---	---	
0010	PROJECT LIMITS	110	---	---	---	---	---	---	4	440	---	---	---	---	WATERWAY SIGNS
	TOTAL 0010			93		2,200		3,520		22,116		7		14	

3

3

PAVEMENT MARKING

CATEGORY	STATION	TO	STATION	LOCATION	646.2020 MARKING LINE EPOXY 6-INCH (YELLOW) LF	646.2020 MARKING LINE EPOXY 6-INCH (WHITE) LF	648.0100 LOCATING NO-PASSING ZONES MI
0010	104+07	-	109+01	LT/RT	800	1,000	0.1
				TOTAL 0010	1,800		0.1

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	104+07	-	106+12	LT/RT	205	205	--	205
0010	106+96	-	109+69	LT/RT	273	273	1	273
				TOTAL 0010	478	478	1	478

3

SAWING ASPHALT

CATEGORY	STATION	LOCATION	690.0150 SAWING ASPHALT LF
0010	104+07	RT/LT	30
0010	109+01	RT/LT	30
		TOTAL 0010	60

BENCHMARK TABLE				
BENCHMARK	STATION	OFFSET	ELEV	DESCRIPTION
399	106+18.55	13.75 RT	706.22	BM / DISK ON BRIDGE

DAVID J & MARGARET E REEDY REVOCABLE TRUST

BERNARD J SMITS
MARY L SMITS

NESHOTA RIVER

GERALD L PETERSEN
CAROL J PETERSEN

N

* ROADWAY CONSTRUCTION NOTES:
- STA 104+07.02 - 105+61.92, PAVEMENT REPLACEMENT OVER VARIABLE DEPTH BASE AGGREGATE DENSE 1 1/4-INCH PLUS FULL-DEPTH SHOULDER RECONSTRUCTION
- STA 105+61.92 - 106+11.92 & STA 106+96. 42 - 107+46.42, FULL-DEPTH/FULL-WIDTH RECONSTRUCTION
- STA 107+46.42 - 109+01.24, PAVEMENT REPLACEMENT PLUS FULL-DEPTH SHOULDER RECONSTRUCTION
- STA 109+01.24 - 109+69.48 LT, FULL-DEPTH SHOULDER RECONSTRUCTION

EXISTING R/W
WPS
BRIGHTSPEED
MGS GUARDRAIL TERMINAL EAT
REMOVE EXISTING STRUCTURE B-05-0008
MGS THRIE BEAM TRANSITION
MGS GUARDRAIL 3
HMA PAVEMENT*
CTH KB
N13° 45' 25"E
N14° 07' 36"E
103
104
105
106
107
108
109
110
399
15
16
10
11
12
13
14
+07.02 -20.00'LT
+07.02 -15.00'LT
+35.45 -20.00'LT
+69.52 -15.00'LT
+09.52 -24.94'LT
+09.53 -19.00'LT
+34.50 -22.33'LT
+70.50 -20.49'LT
+62.61 -17.00'LT
+61.92 0.00'
+07.02 15.00'RT
+07.02 22.27'RT
+47.03 19.00'RT
+47.02 24.94'RT
+72.00 22.33'RT
+00.11 17.00'RT
+08.00 20.49'RT
+46.42 0.00'
+31.61 20.49'RT
+33.23 17.00'RT
+61.34 22.33'RT
+86.32 19.00'RT
+86.32 24.94'RT
+00.34 -20.49'LT
+08.23 -17.00'LT
+36.34 -22.33'LT
+61.32 -24.94'LT
+61.32 -19.00'LT
+01.25 -15.00'LT
+69.48 -18.23'LT
+26.32 15.00'RT
+60.42 20.00'RT
+01.24 15.00'RT
+01.24 20.00'RT
+81.60 47.35'RT INV: 695.51
+96.48 55.11'RT
+13.48 44.61'RT INV: 695.80
P.I. 108+90.18
SLOPE INTERCEPT (TYP.)
END CONSTRUCTION STA 109+69.48 MATCH EXISTING
MGS GUARDRAIL TERMINAL EAT
SLOPE INTERCEPT (TYP.)
EXISTING R/W
STRUCTURE B-05-0485
STA 106+11.92 - STA 106+96.42
SEE STRUCTURE PLAN
MGS THRIE BEAM TRANSITION
P.I.
P.L.

BEGIN PROJECT
STA 104+07.02
X = 506,788.214
Y = 158,855.196
MATCH EXISTING
SAWCUT REQ'D

END PROJECT
STA 109+01.24
X = 507,268.241
Y = 158,972.793
MATCH EXISTING
SAWCUT REQ'D

STA 108+00, RT
BAD F.E.
1 - REMOVING SMALL PIPE CULVERTS
32 LF - CULVERT PIPE CLASS III-A 24-INCH REQ'D
2 - APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D

BERNARD J SMITS
MARY L SMITS

BERNARD J SMITS
MARY L SMITS

5

5

STA 104+07.02
EL 709.31

VCL = 318.80
K = 115.00

2.49%

0.28%

FINISHED PROFILE

EXISTING GROUND

STA 106+54.17
STRUCTURE B-05-0485 REQUIRED
2-SPAN FLAT SLAB BRIDGE
84'-6" +/- OVERALL LENGTH
34'-0" CLEAR ROADWAY WIDTH

STA 109+01.24
EL 706.25

VPC STA 104+08.29
VPC EL 709.28

VPI STA 105+67.69
VPI EL 705.31

VPT STA 107+27.09
VPT EL 705.76

HW_{100} EL. 702.08

HW_2 EL. 696.92

OBSERVED WATER
EL. 693.34 (4/12/22)

FINISHED ELEVATION
EXISTING GROUND ELEVATION

715
710
705
700
695
690
685

713.12 711.19 709.52 708.08 708.31 706.99 707.36 706.31 706.62 705.94 706.10 686.52 705.80 705.71 705.71 705.82 705.82 705.99 705.96 706.09 706.10 706.25 706.24 706.24 706.12

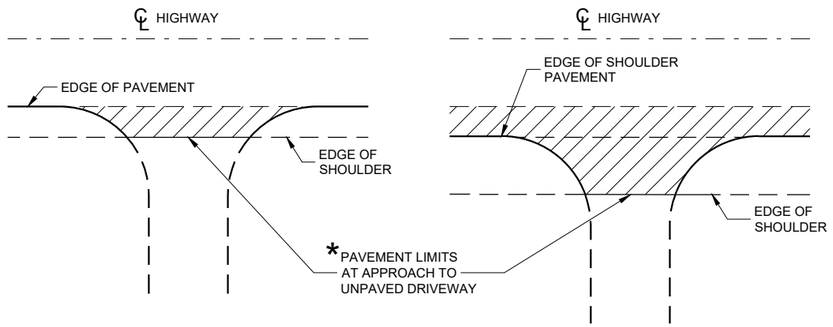
103+00'W3' 104+00'W3' 105+00'W3' 106+00'W3' 107+00'W3' 108+00'W3' 109+00'W3' 110+00'W3'

CONTROL POINT TABLE					
CONTROL POINT	STATION	OFFSET	Y COORDS	X COORDS	DESCRIPTION
10	106+95.88	20.59 LT	507073.682	158903.886	CP / 3/8 INCH REBAR
11	106+87.38	31.95 LT	507068.131	158890.834	CP /STAKE
12	106+97.12	16.81 RT	507065.990	158940.511	CP / 3/8 INCH REBAR
13	106+87.58	27.05 RT	507054.289	158948.189	CP /STAKE
14	109+37.63	16.92 LT	507307.651	158965.265	CP / 3/4 INCH REBAR
15	106+12.04	16.41 LT	506991.256	158888.016	CP / 3/4 INCH REBAR
16	105+61.90	15.87 RT	506934.878	158907.439	CP / 3/4 INCH REBAR

PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	PLAN AND PROFILE: CTH KB	SHEET 27	E

Standard Detail Drawing List

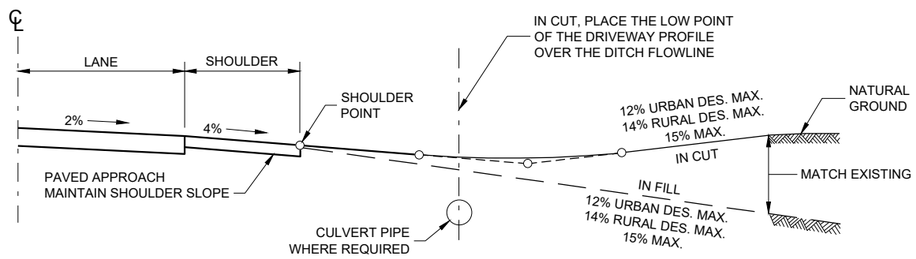
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
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)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



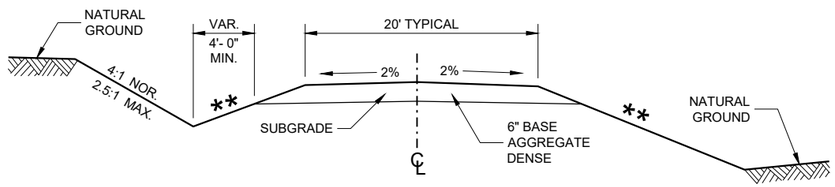
PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

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



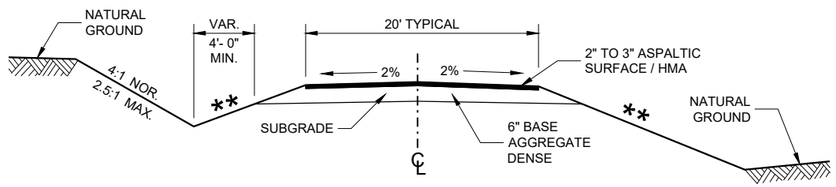
TYPICAL DRIVEWAY PROFILES



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

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

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE



TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE

6

6

SDD 08D21 - 01

SDD 08D21 - 01

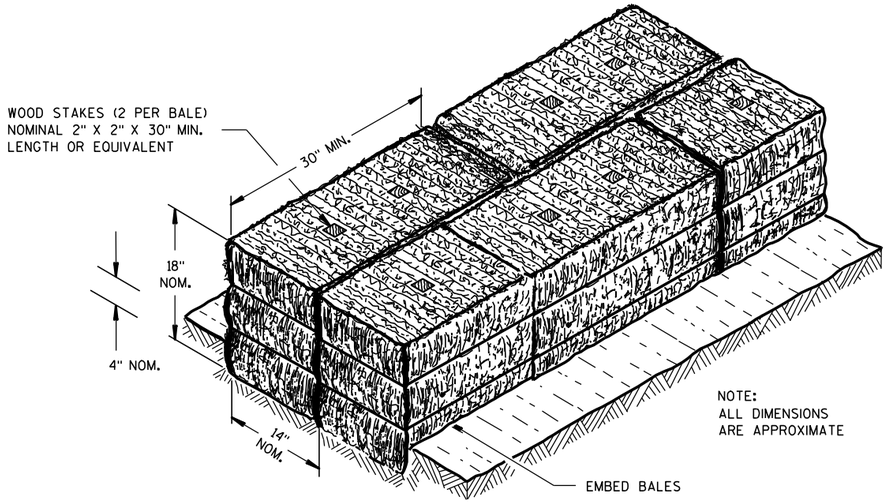
DRIVEWAYS WITHOUT CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

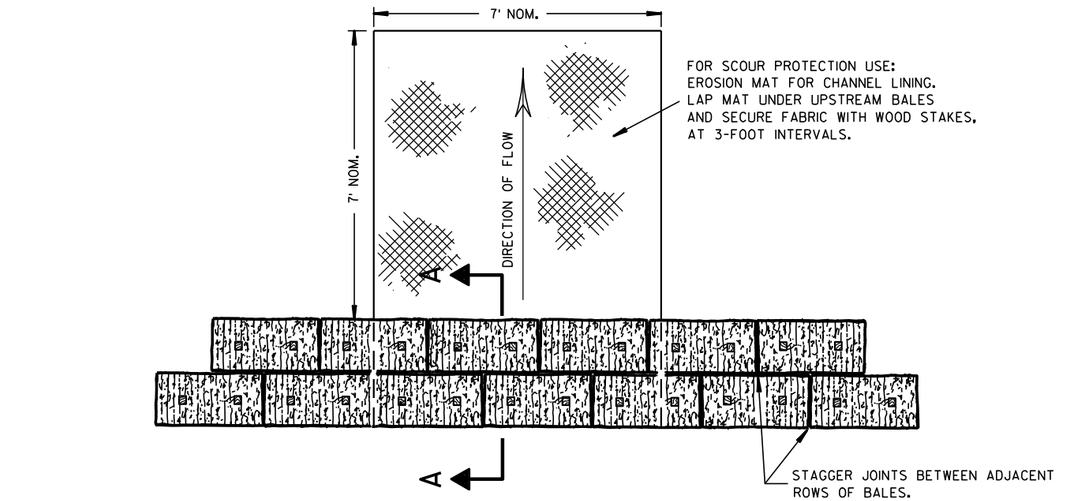
APPROVED
December 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

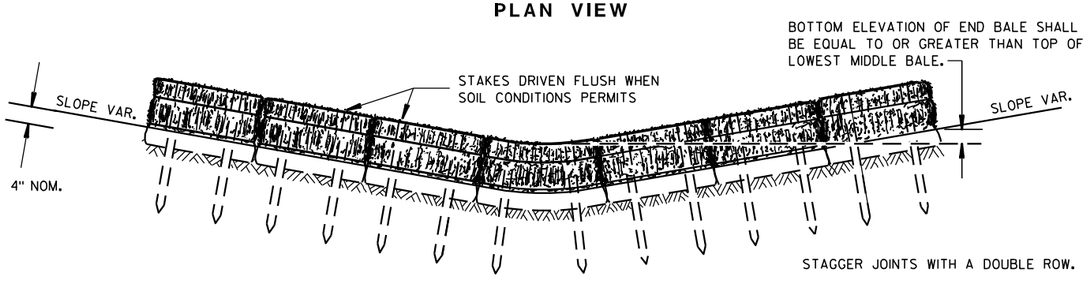
FHWA



SECTION A-A



PLAN VIEW



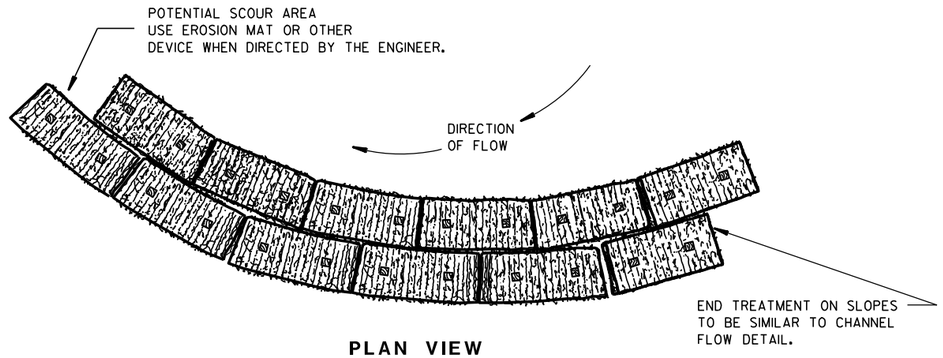
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

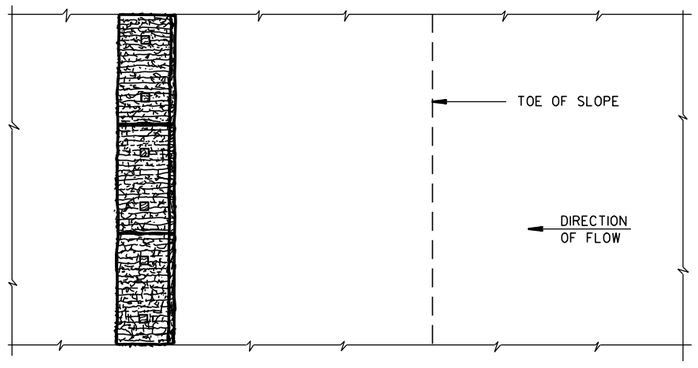
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

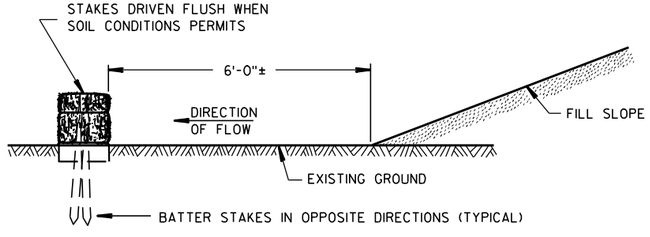


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

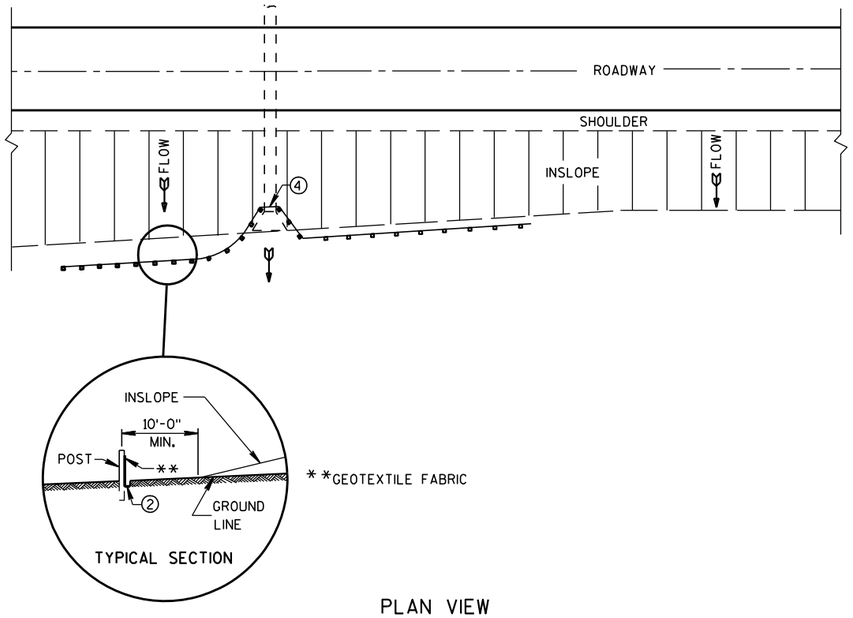
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

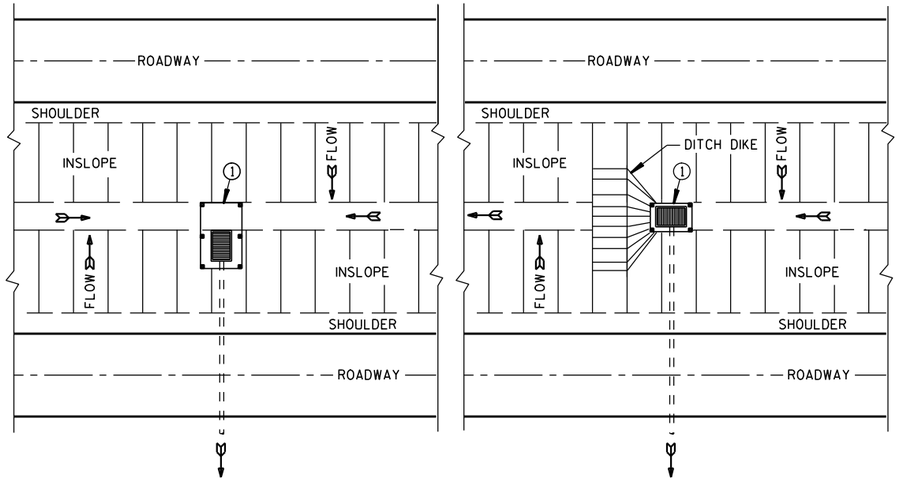
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



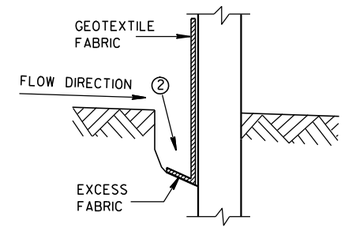
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

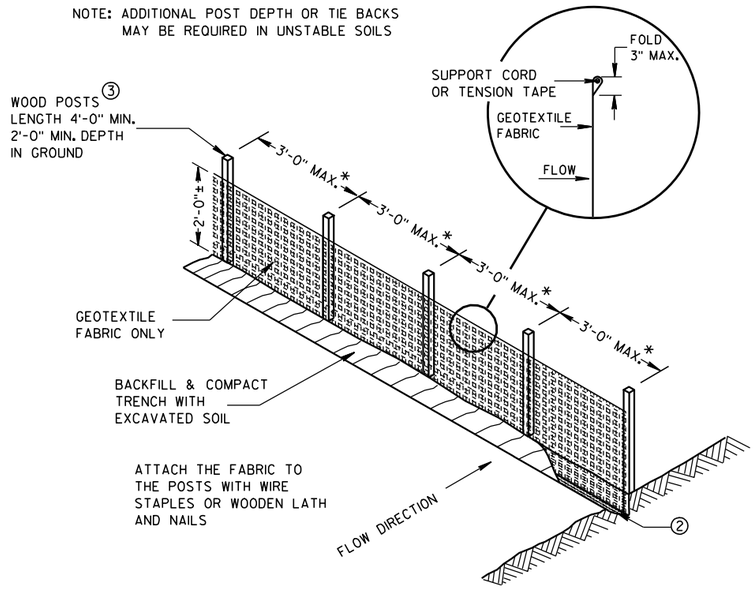
GENERAL NOTES

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

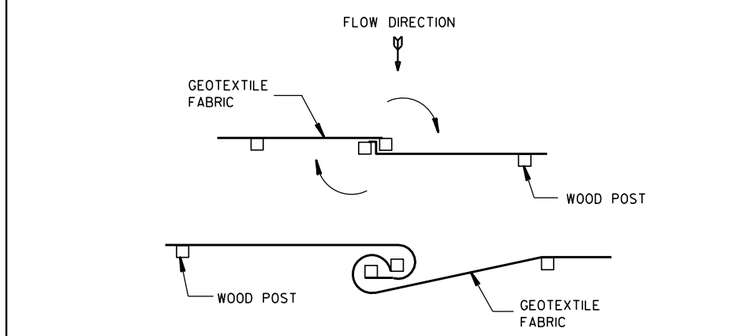
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



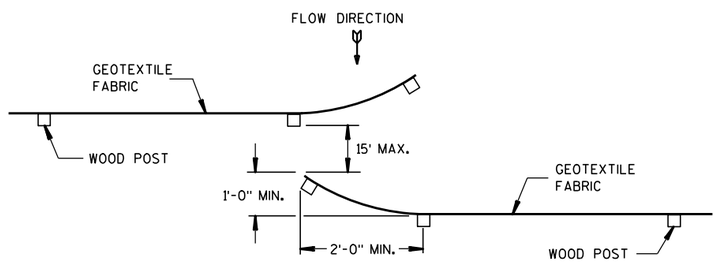
TRENCH DETAIL



SILT FENCE

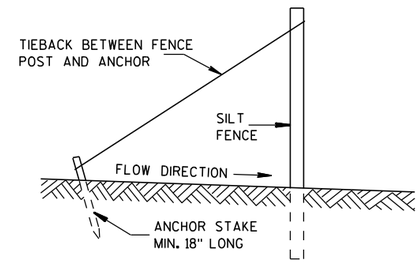


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

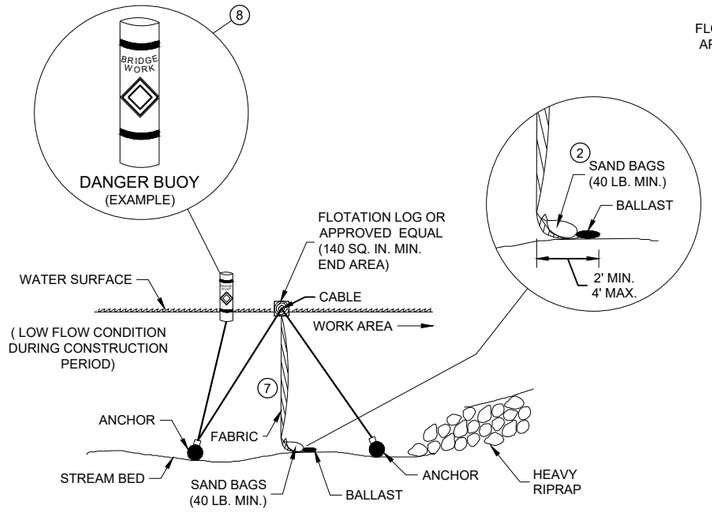
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

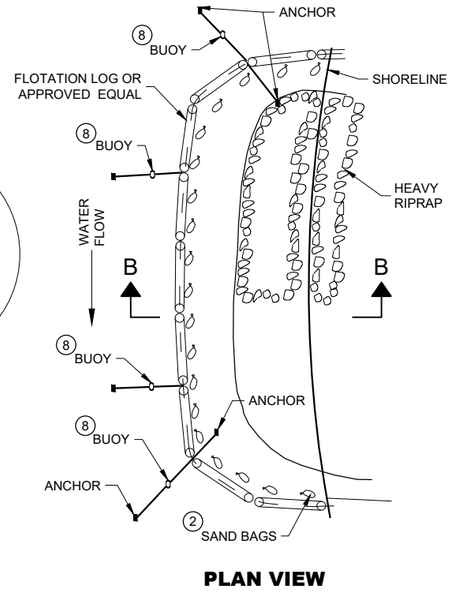
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

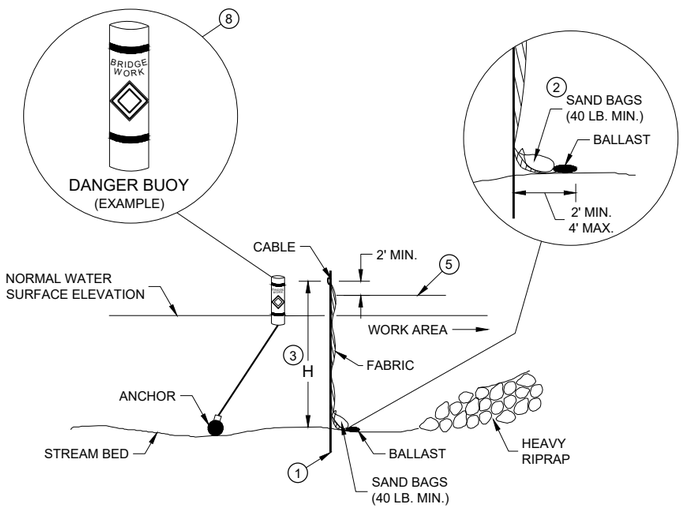


SECTION B - B

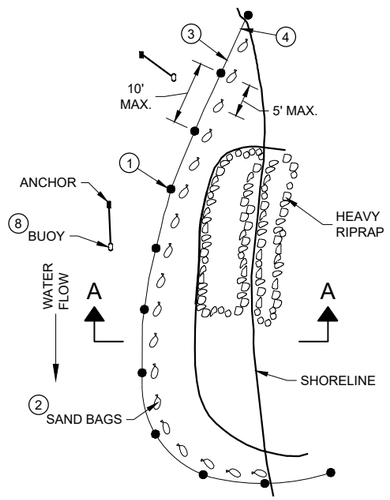


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

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

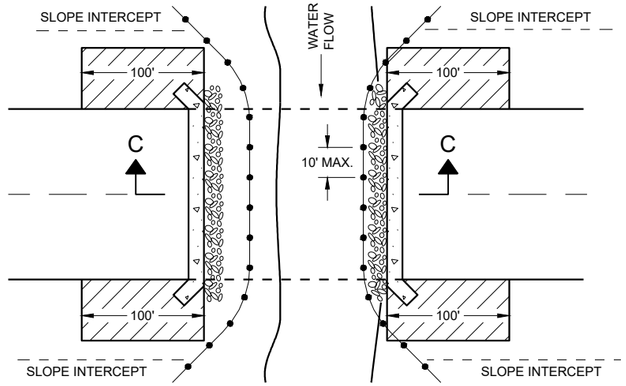
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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

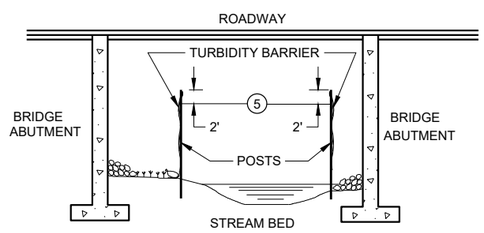
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

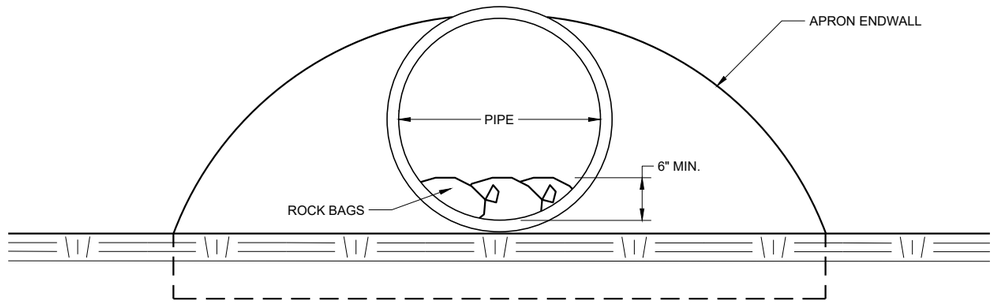
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

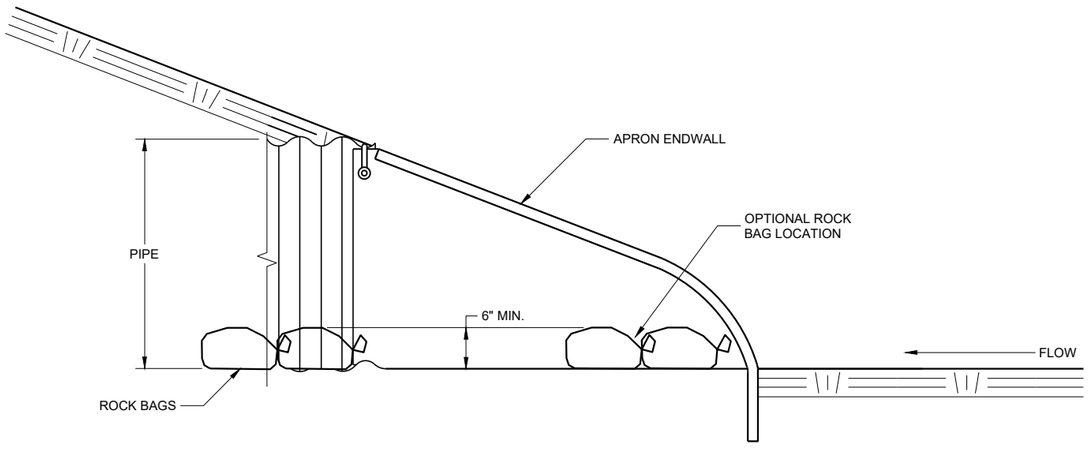
APPROVED
6/4/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6
SDD 08E11 - 02



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

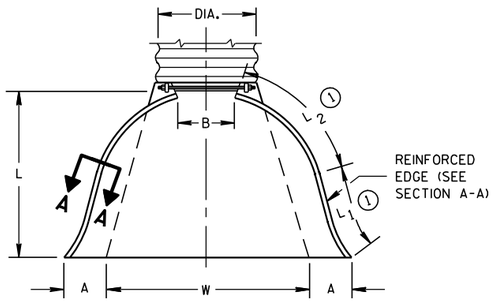
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

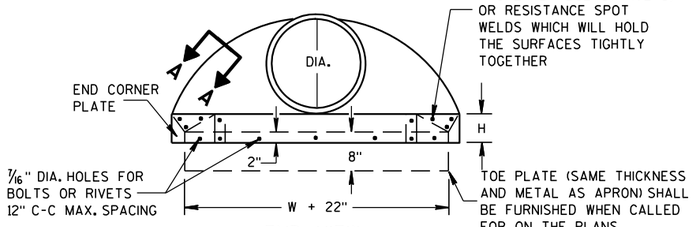
REINFORCED CONCRETE APRON ENDWALLS

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

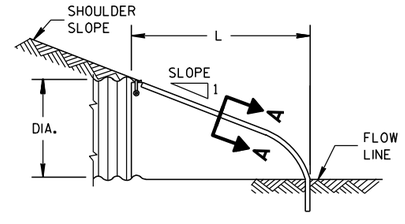
*MINIMUM
**MAXIMUM



PLAN VIEW

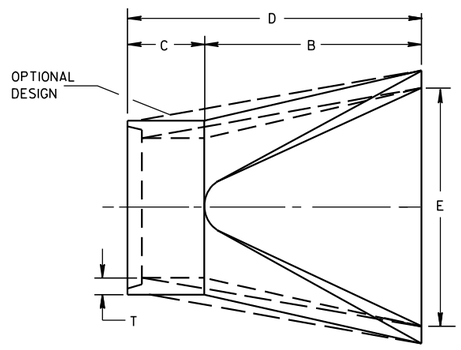


END VIEW

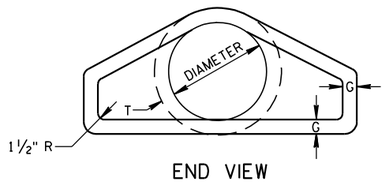


SIDE ELEVATION

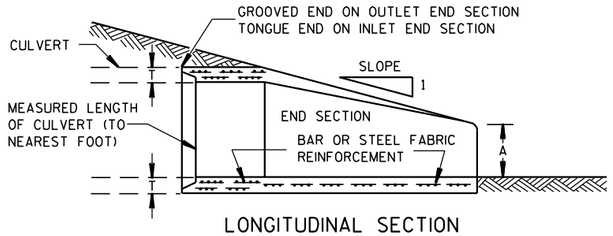
METAL ENDWALLS



PLAN

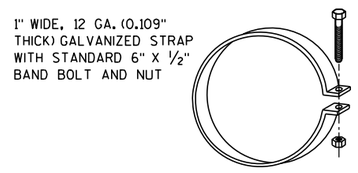


END VIEW



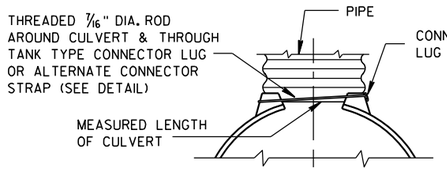
LONGITUDINAL SECTION

CONCRETE ENDWALLS

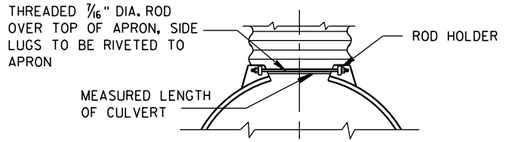


ALTERNATE FOR TYPE 1 CONNECTION

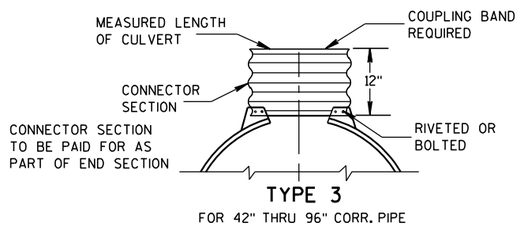
END SECTION CONNECTOR STRAP



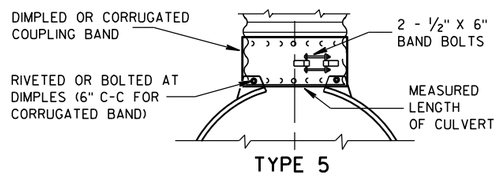
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

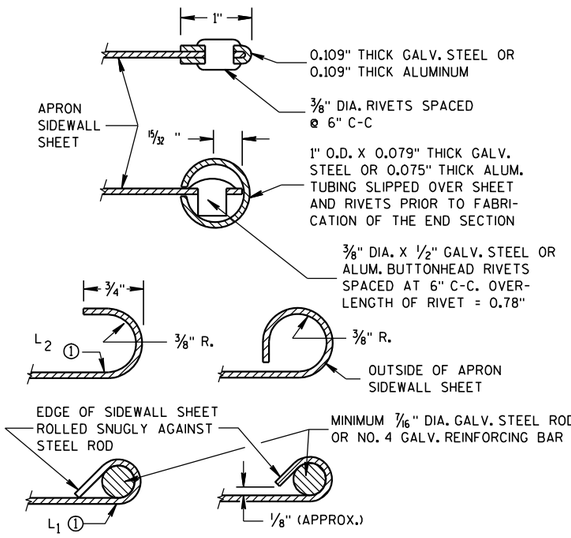
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

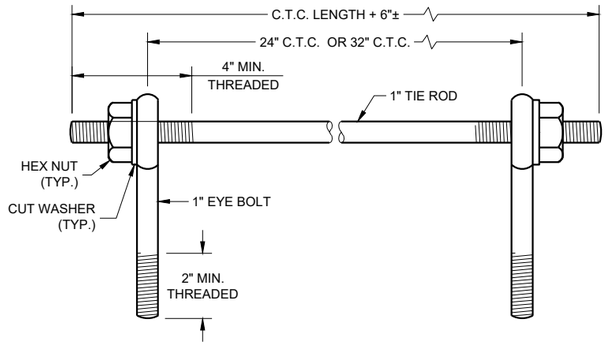
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

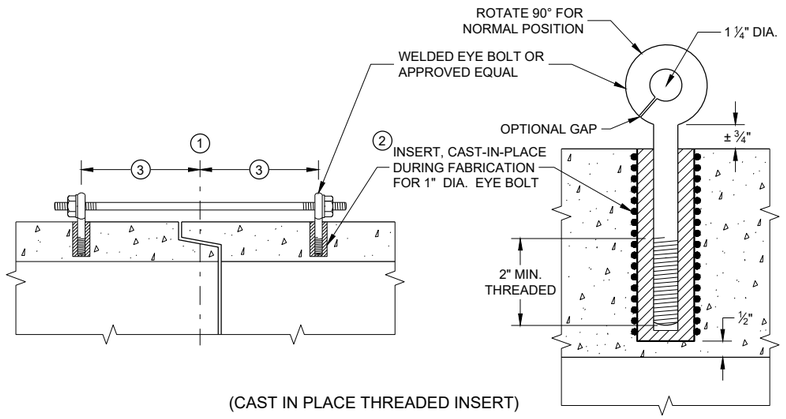
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENGINEER
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) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

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

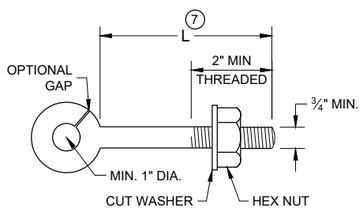
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

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

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

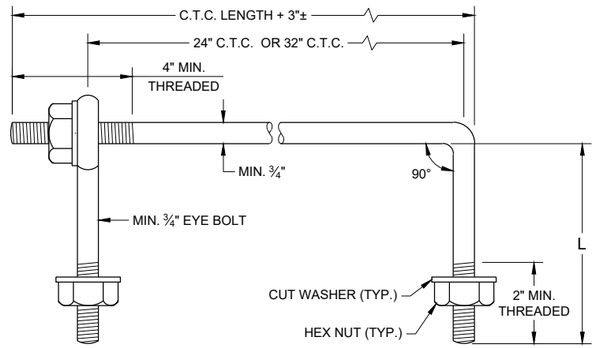
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

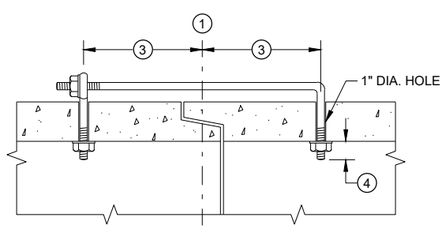


EYE BOLT (7)

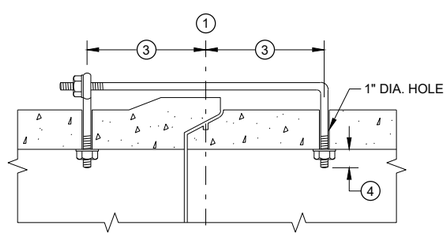
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

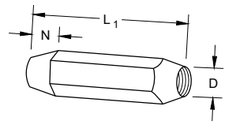
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



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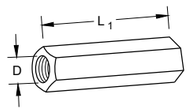
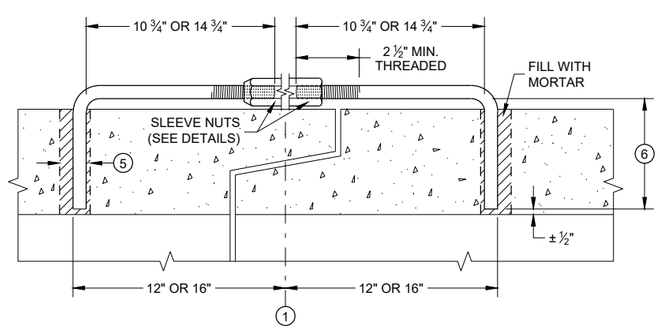


PLAIN

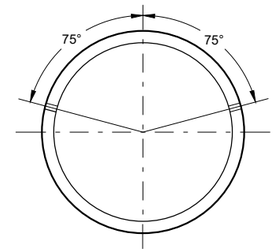
RIGHT AND LEFT THREADS

SLEEVE NUTS



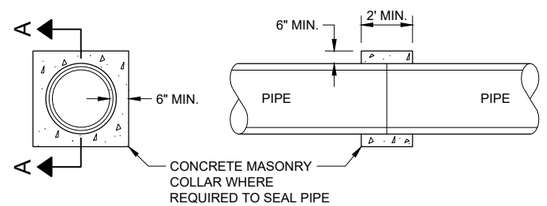
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

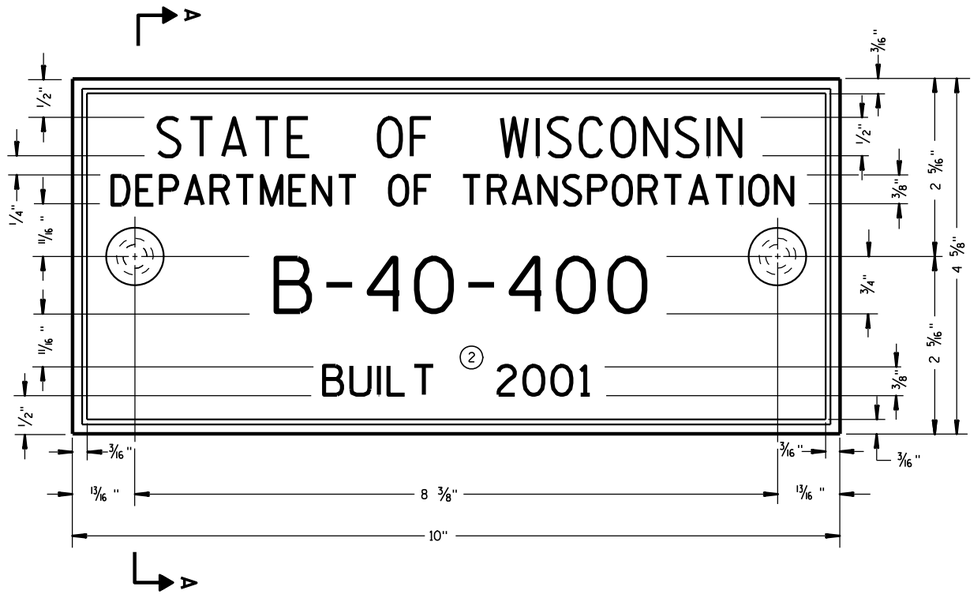
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 08F04 - 08

SDD 08F04 - 08



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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

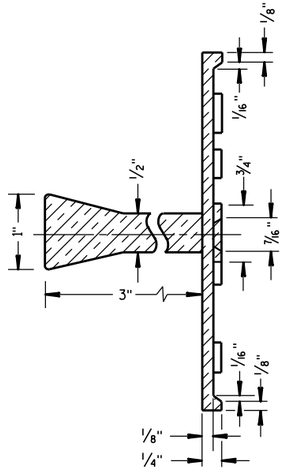
GENERAL NOTES

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

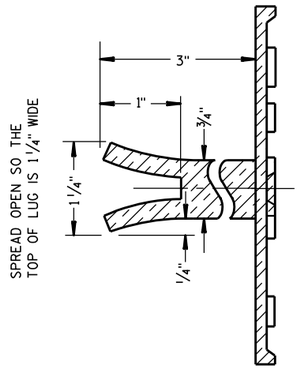
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

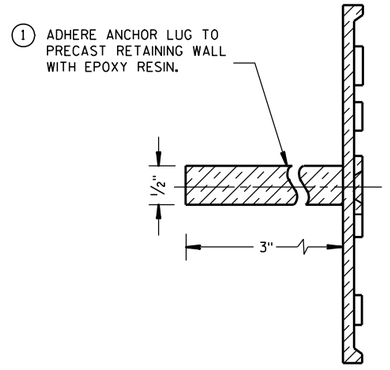
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

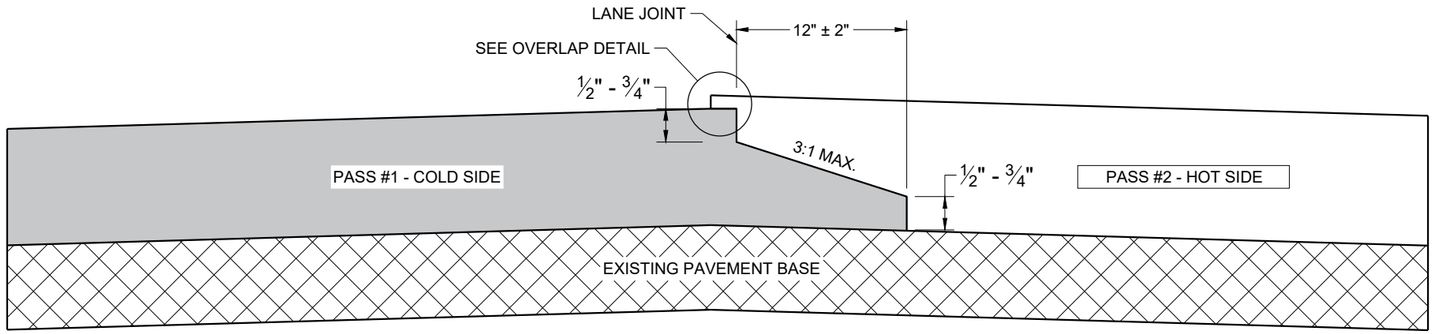
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

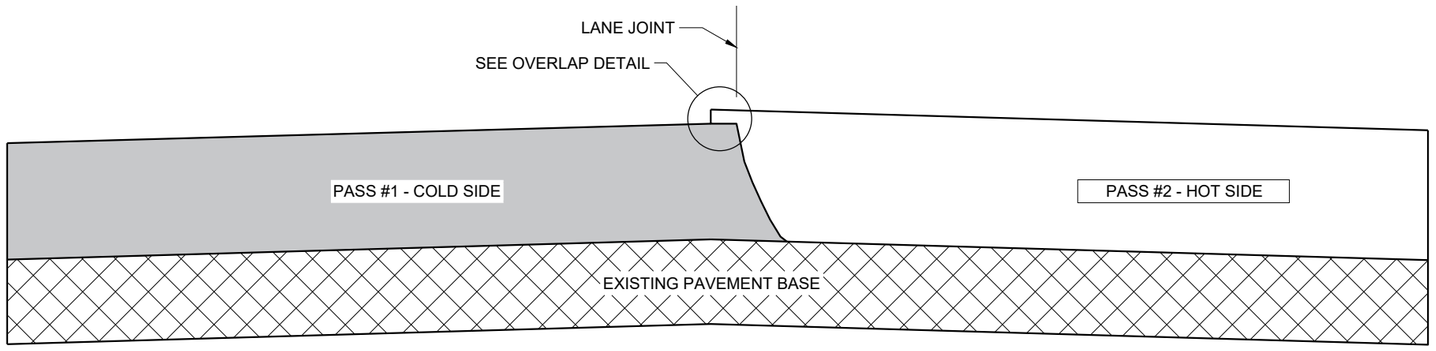
FHWA

6

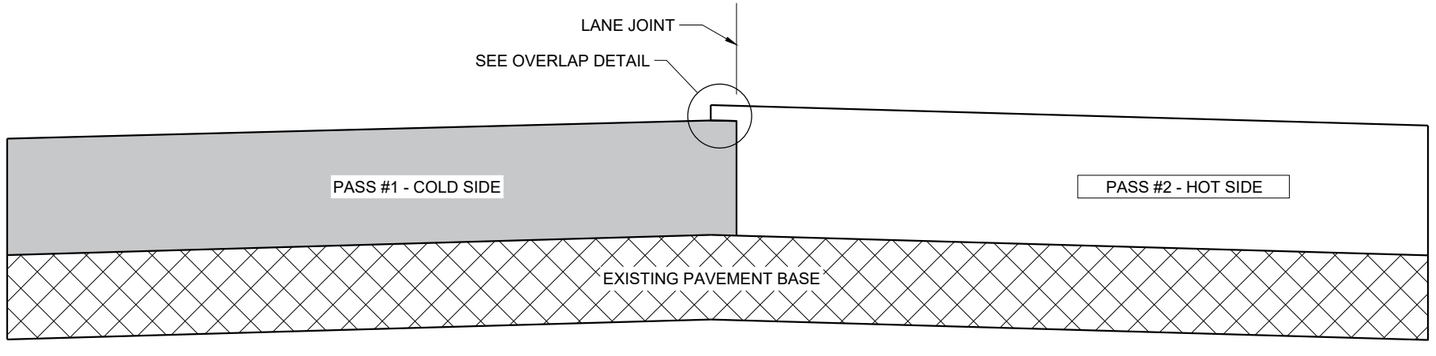
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

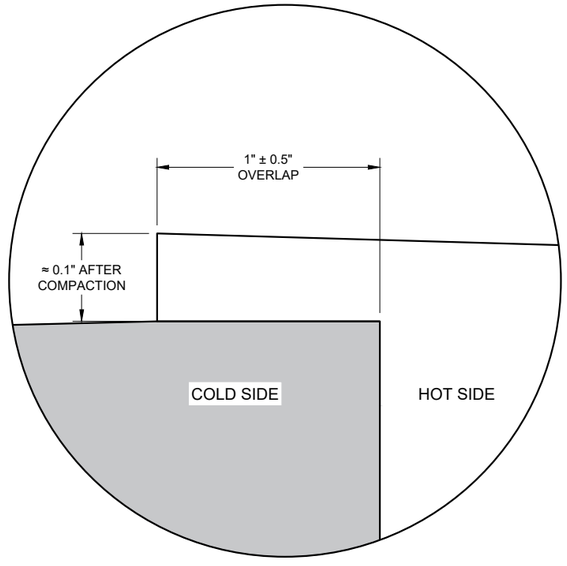
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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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

(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.

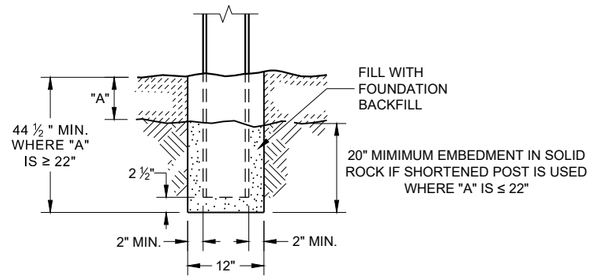
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

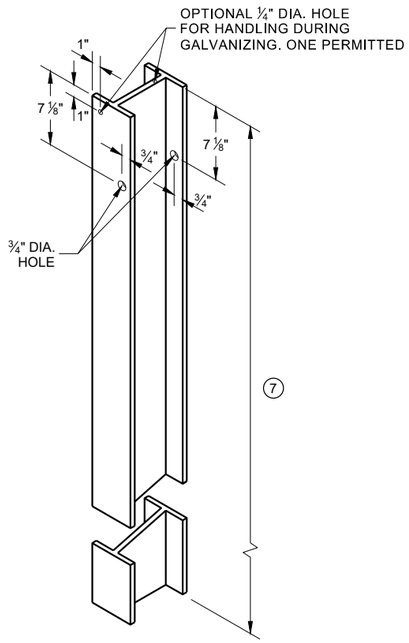
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

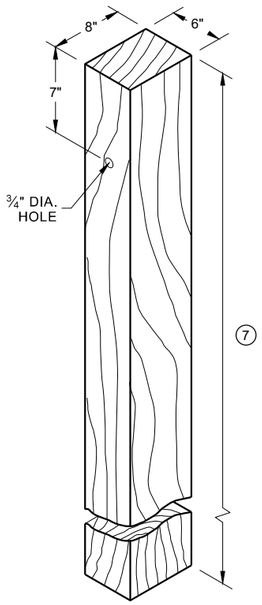
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



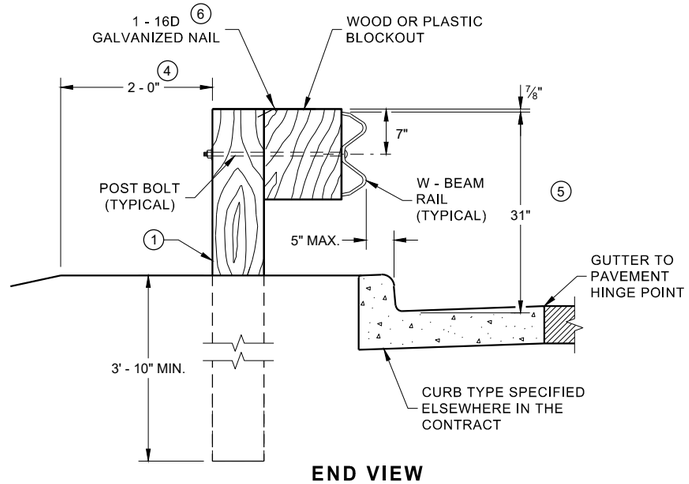
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



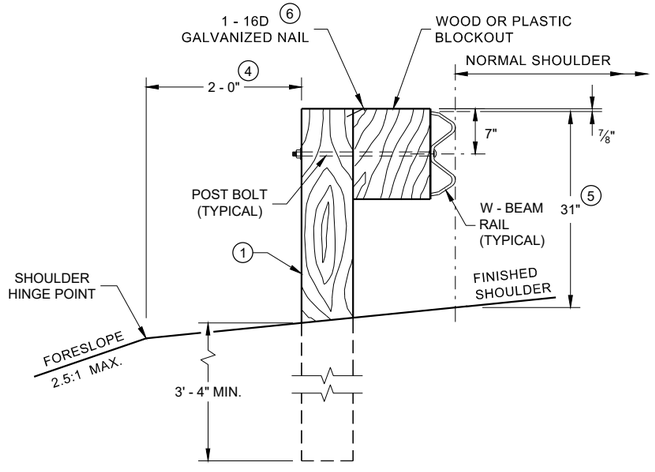
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



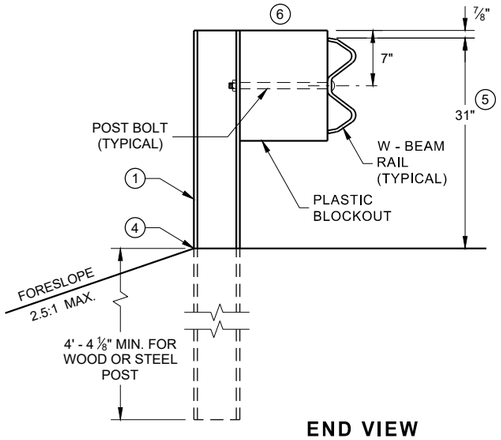
WOOD POST (6" X 8") NOMINAL (1)



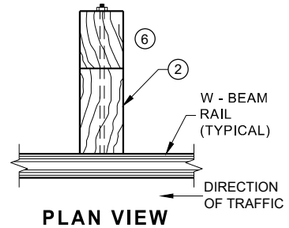
END VIEW
LOCATED ALONG A CURBED ROADWAY



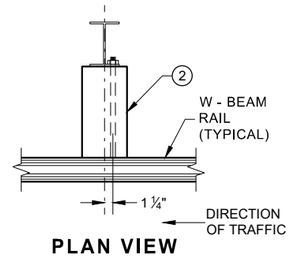
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



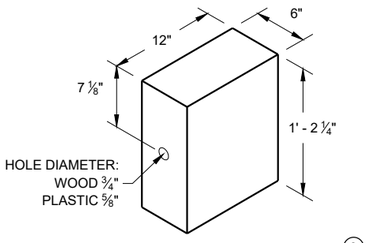
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



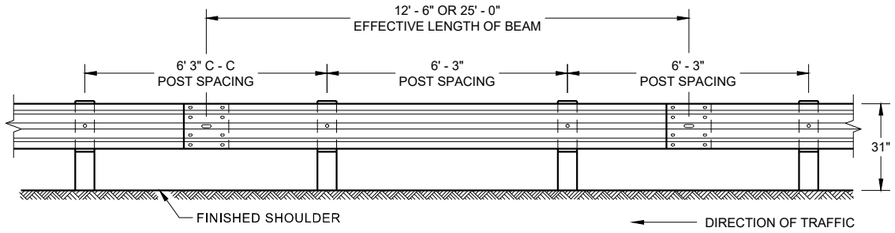
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

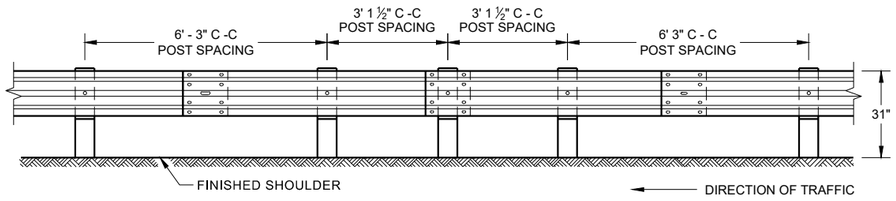
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B42 - 07a

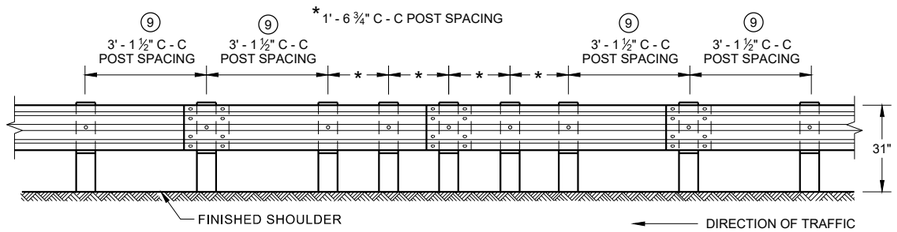
SDD 14B42 - 07a



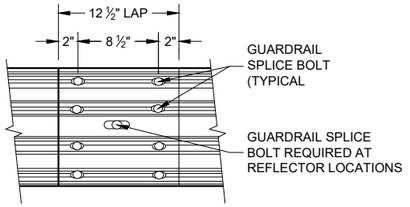
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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

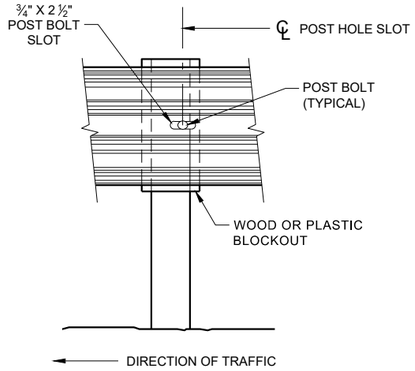
GENERAL NOTES

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

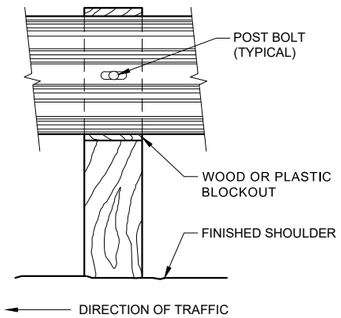
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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.

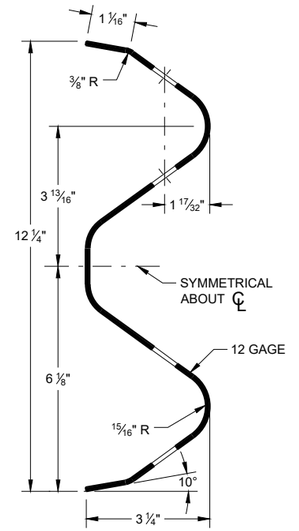
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



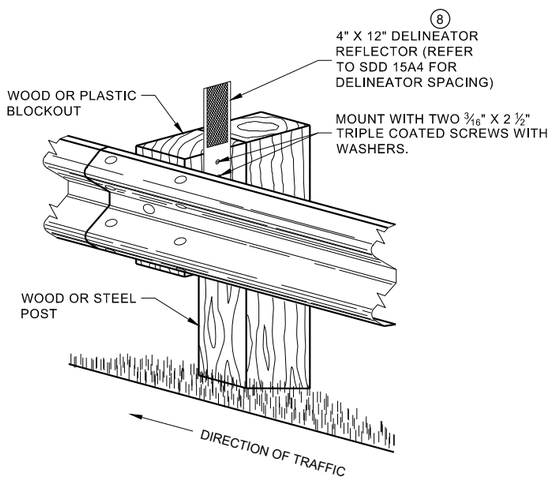
FRONT VIEW AT STEEL POST



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

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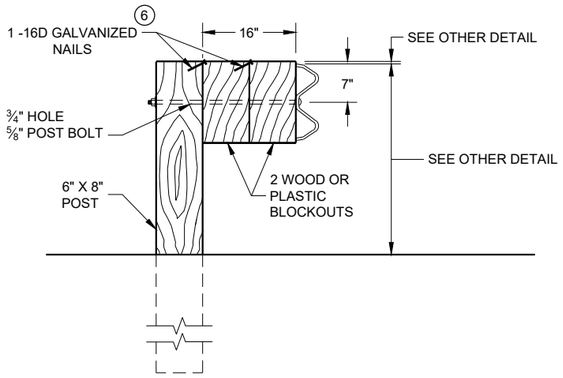
SDD 14B42 - 07b

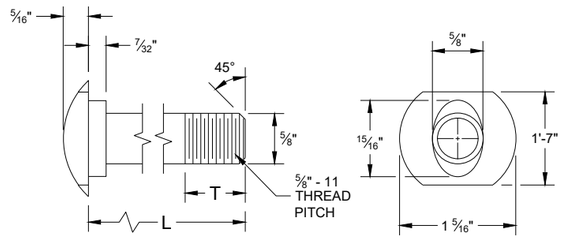


DETAIL FOR 16" BLOCKOUT DEPTH

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

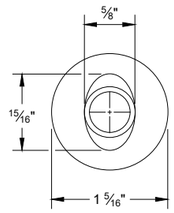
NOTE:

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

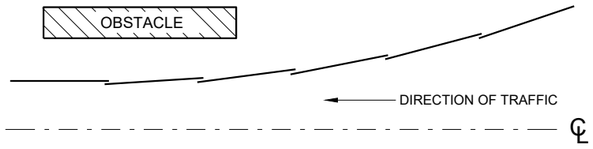


POST BOLT TABLE

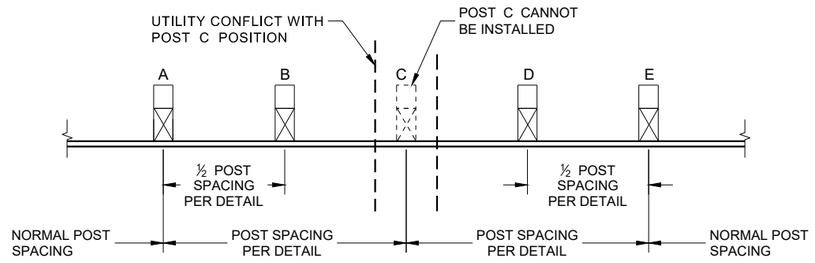
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



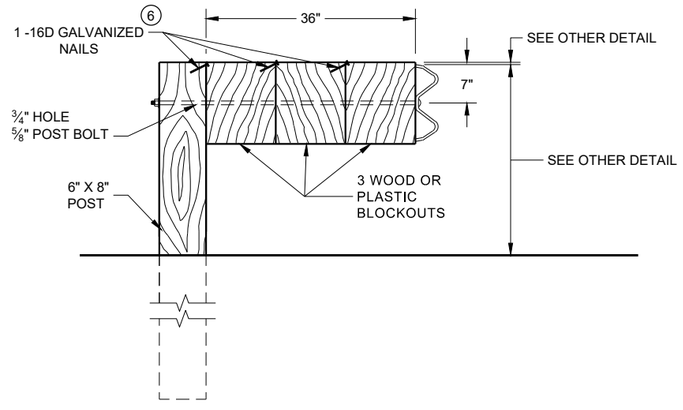
ALTERNATE BOLT HEAD



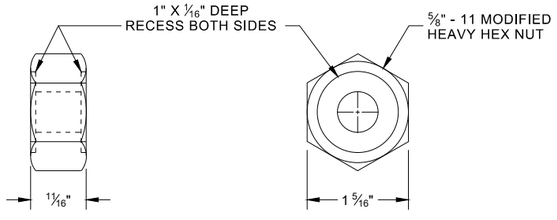
PLAN VIEW
BEAM LAPPING DETAIL



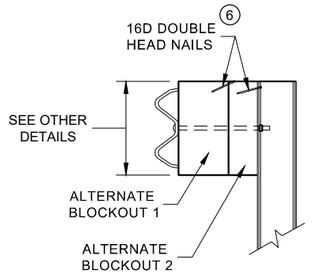
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



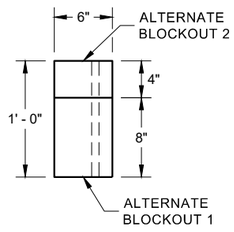
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

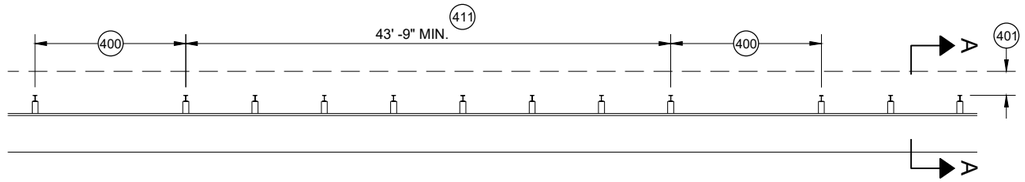
ALTERNATE WOOD BLOCKOUT DETAIL

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

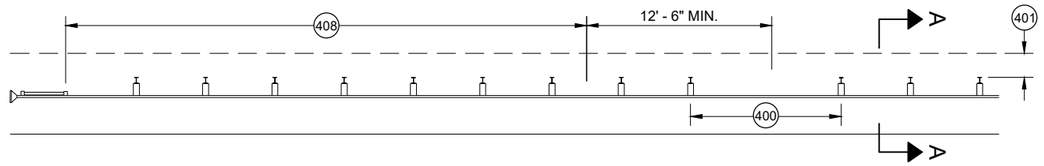
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

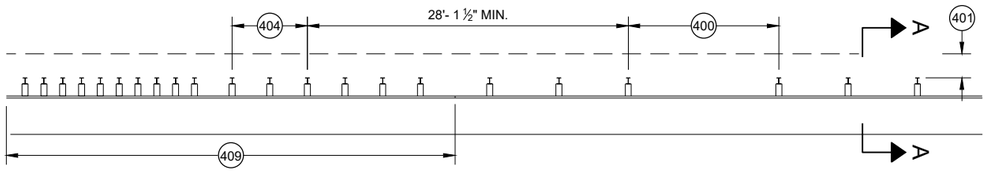
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



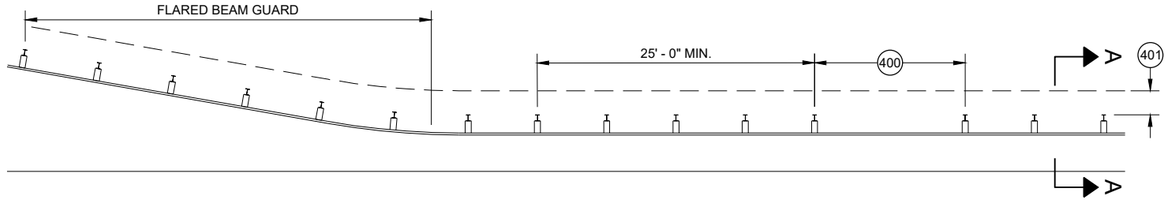
MISSING POST IN MGS GUARDRAIL



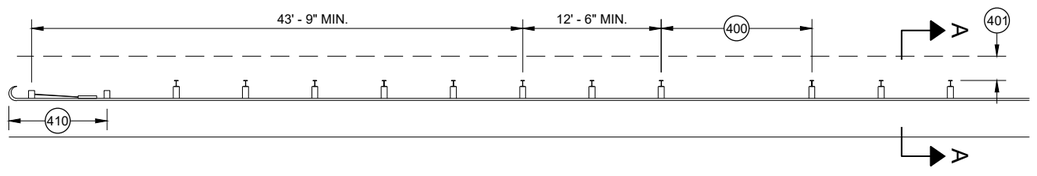
MISSING POST IN MGS GUARDRAIL NEAR EAT



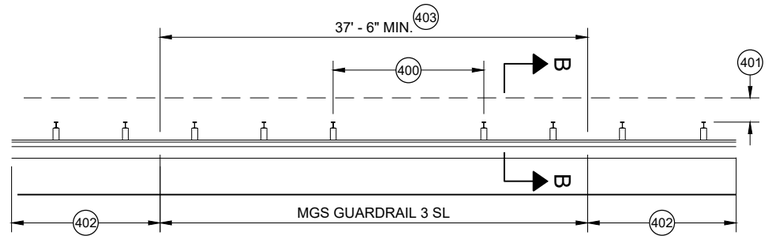
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

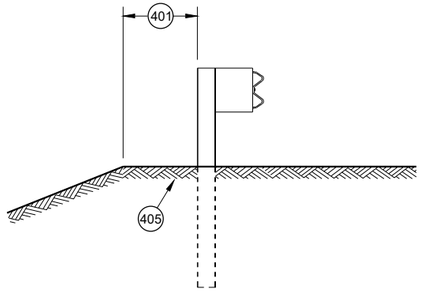


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

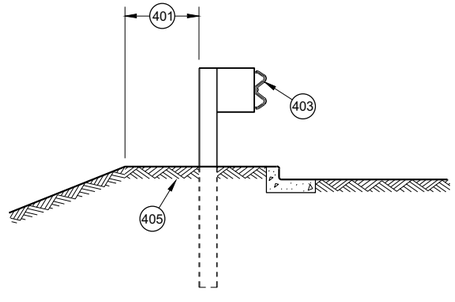


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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SDD 14B42 - 07d

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.

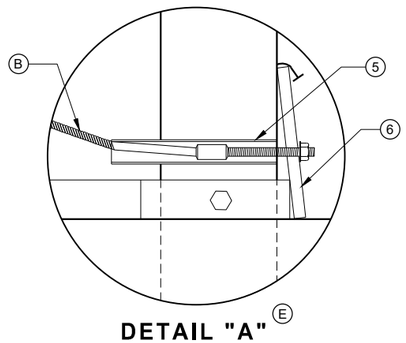
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

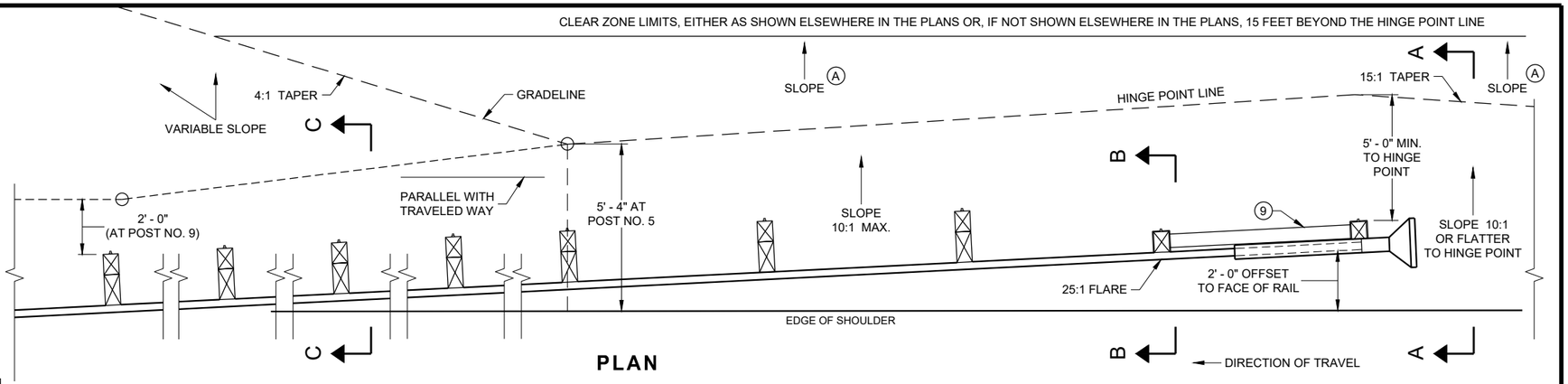
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

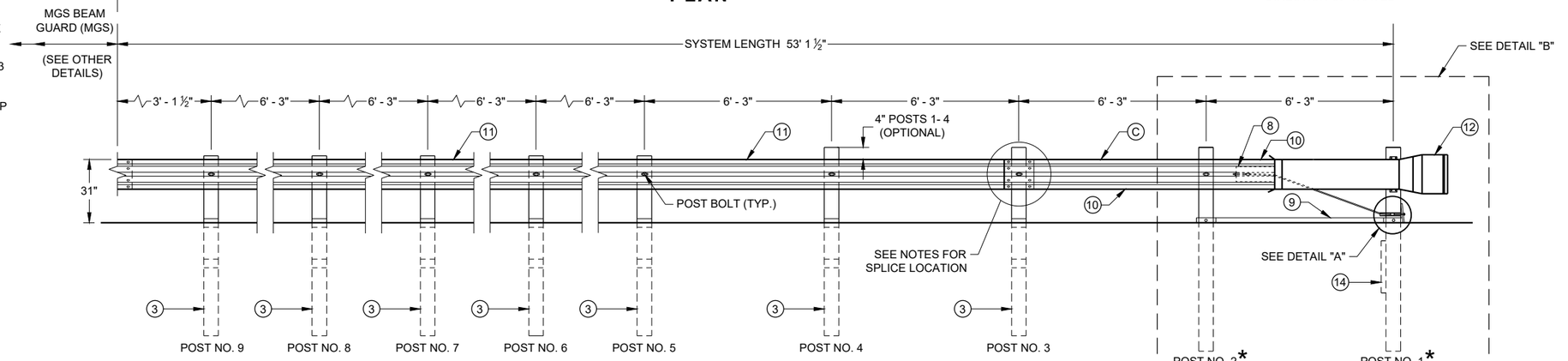
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



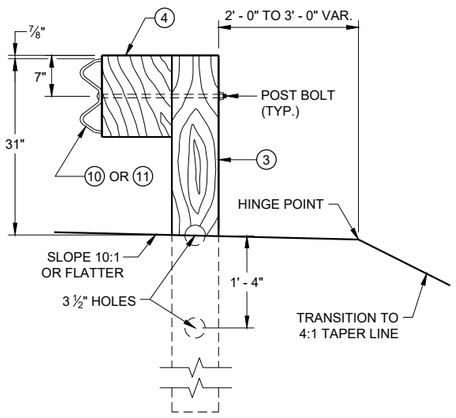
DETAIL "A" (E)



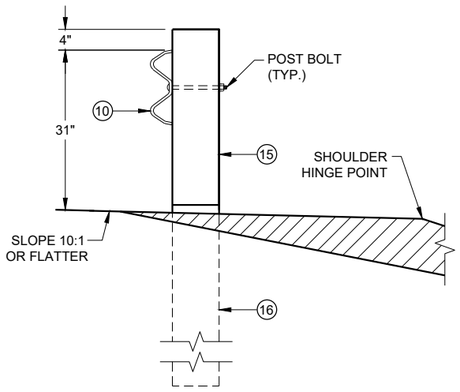
PLAN



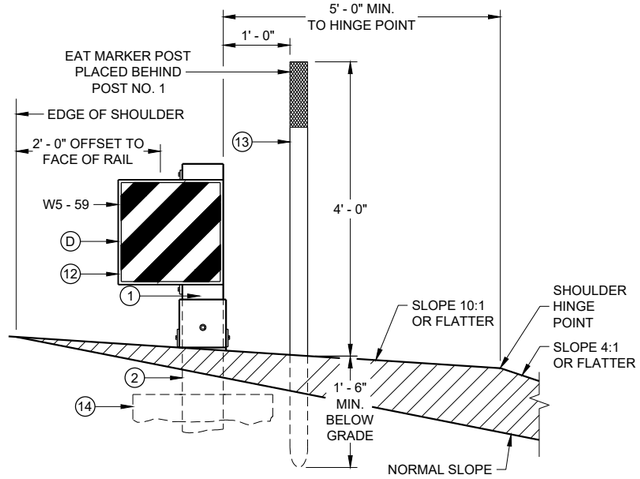
ELEVATION



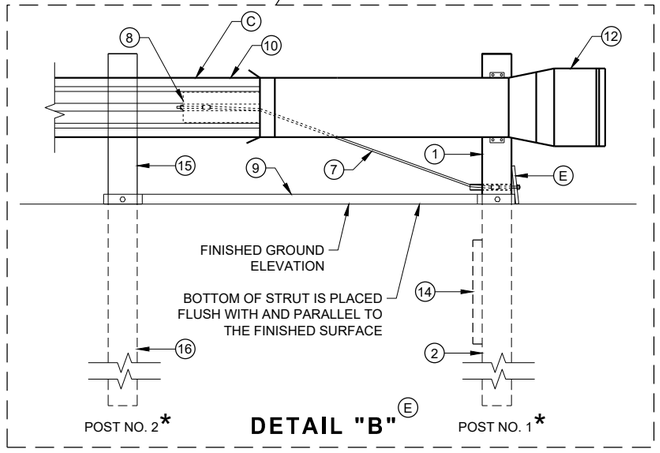
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



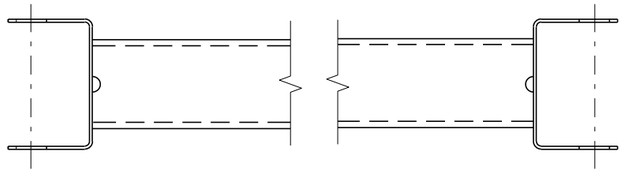
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

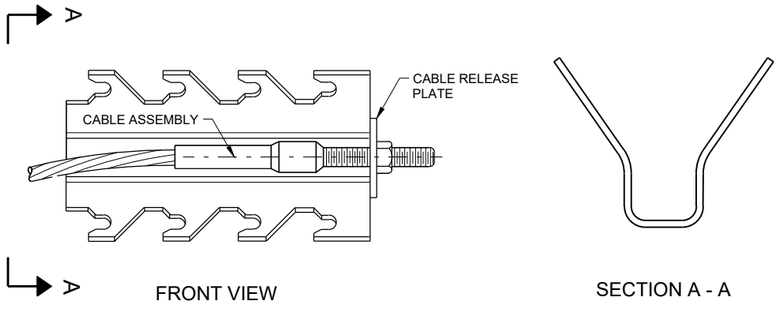
SDD 14B44 - 04a



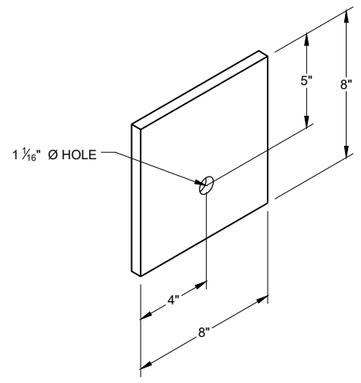
GENERIC GROUND STRUT ⑨ Ⓔ

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

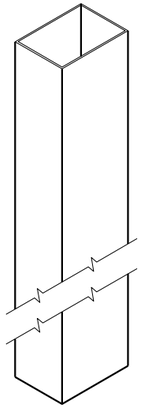
6

SDD 14B44 - 04b

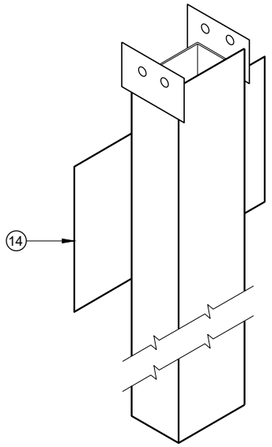
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

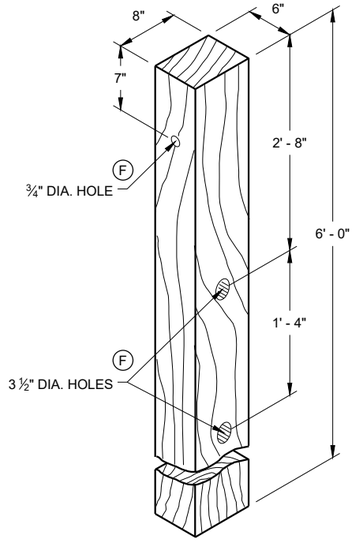
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



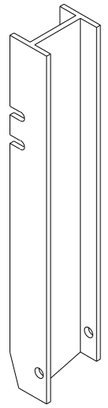
UPPER POST NO. 1 (1) (E)



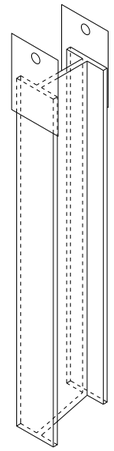
LOWER POST NO. 1 (2) (E)



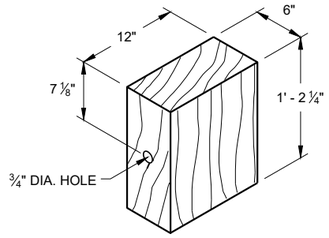
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



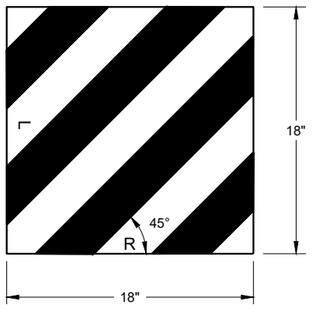
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

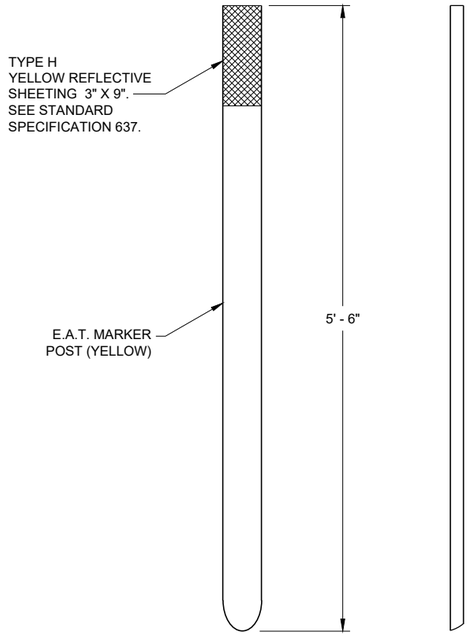


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



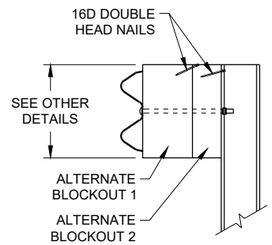
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

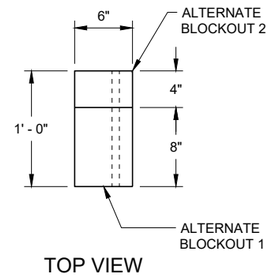


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

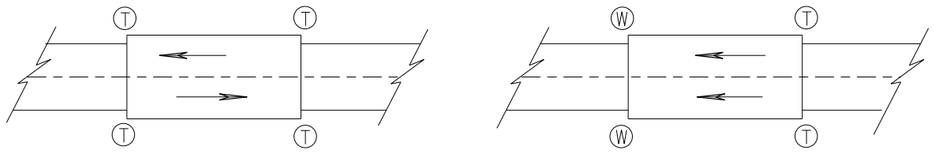
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

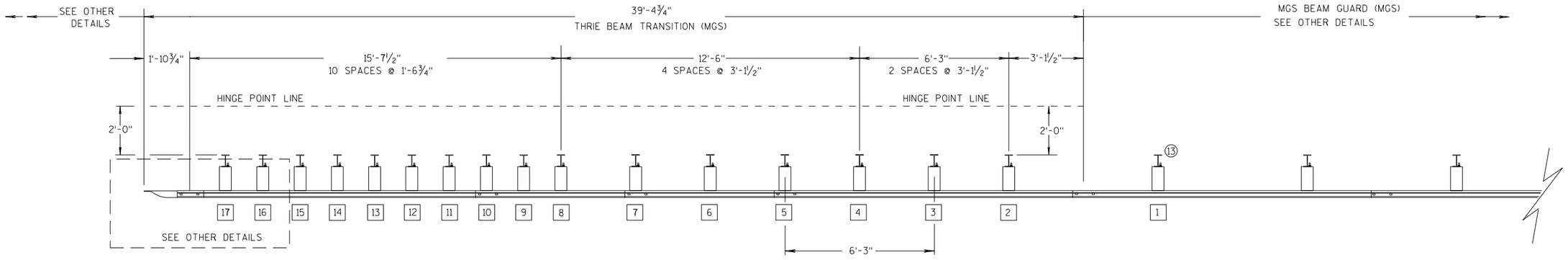
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

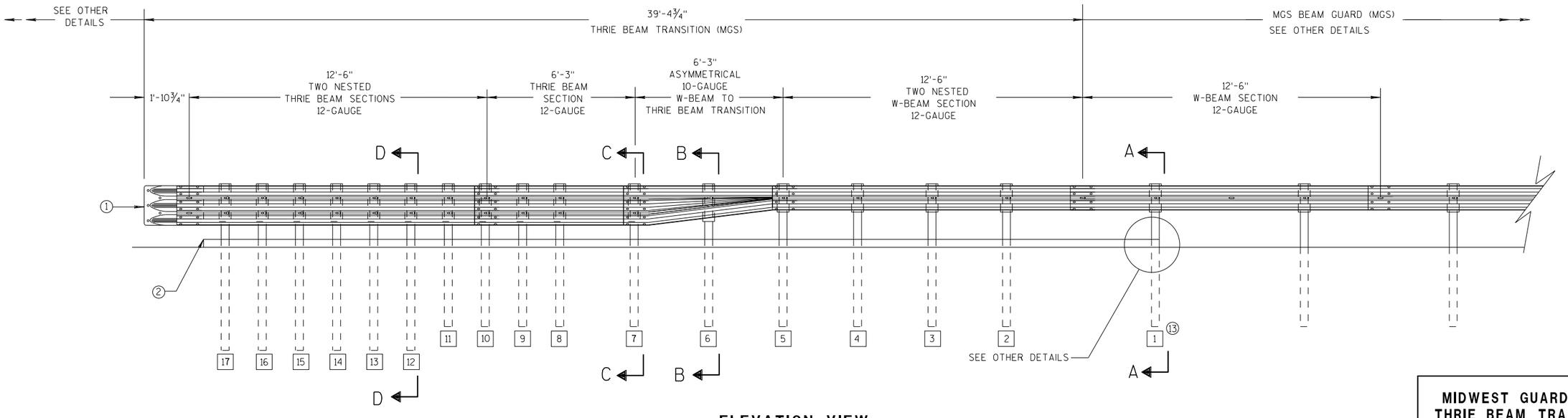
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

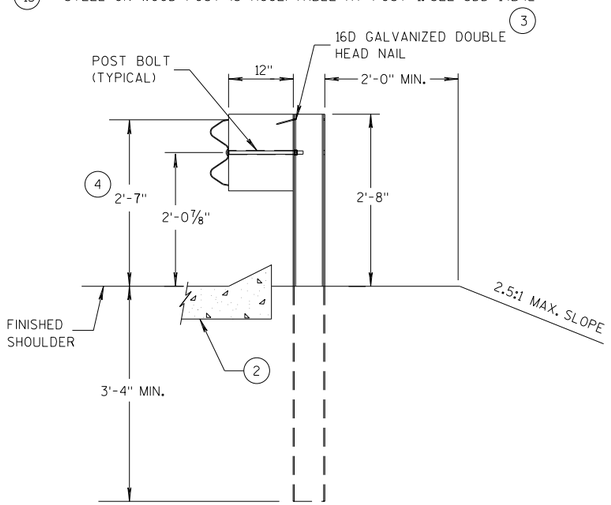
GENERAL NOTES

(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.

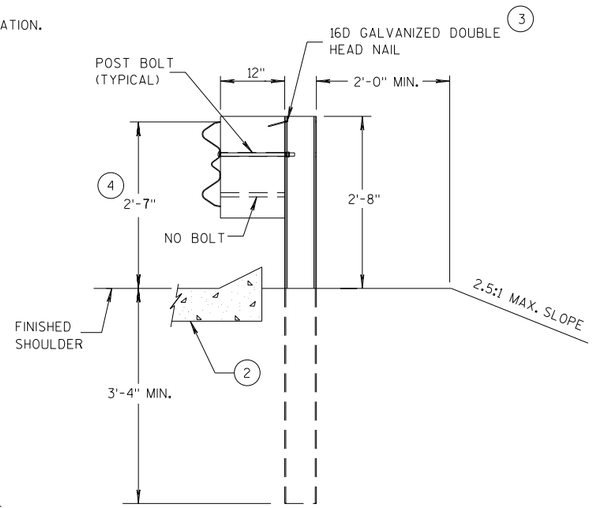
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



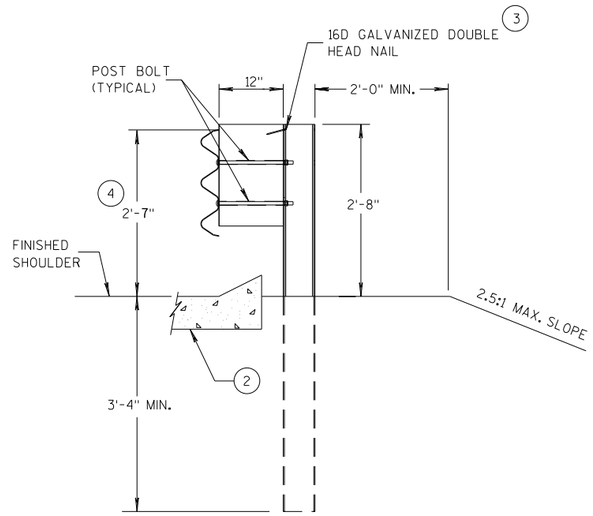
SECTION A-A (13)

POSTS 1-5



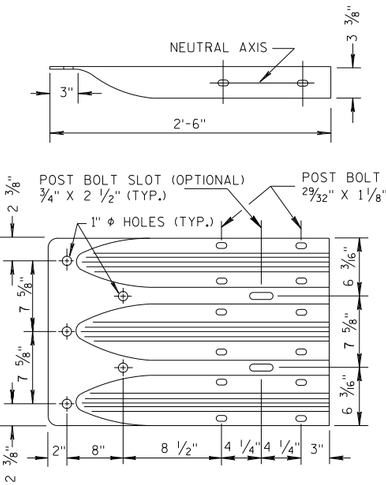
SECTION B-B

POST 6

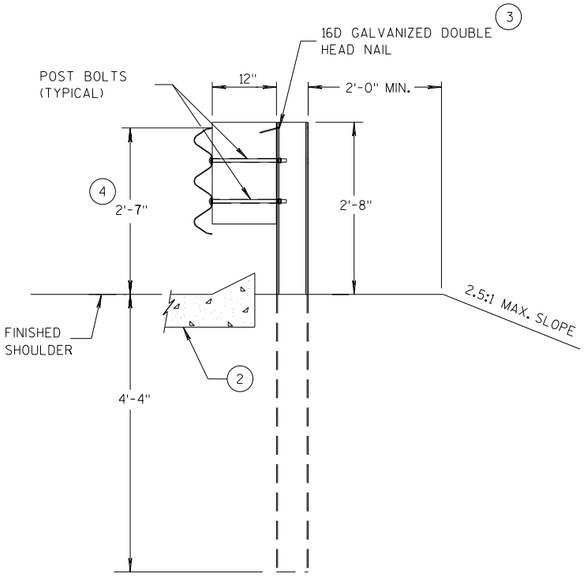


SECTION C-C

POSTS 7-11

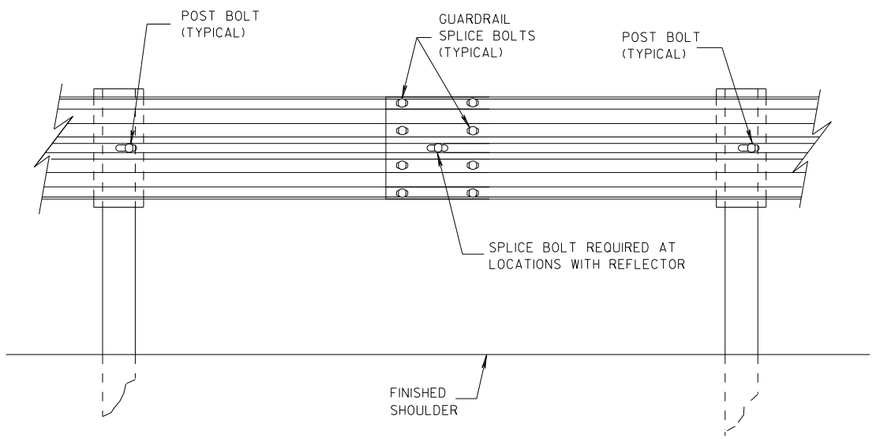


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

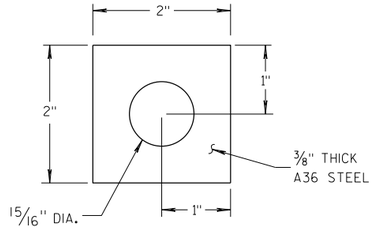
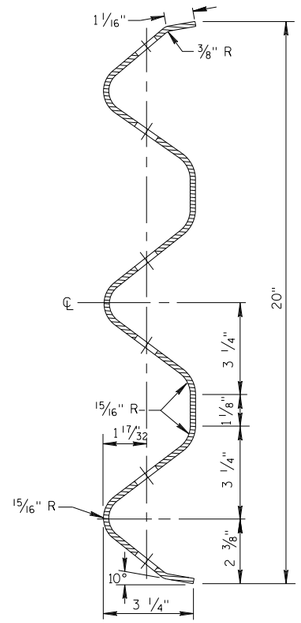


PLATE WASHER DETAIL



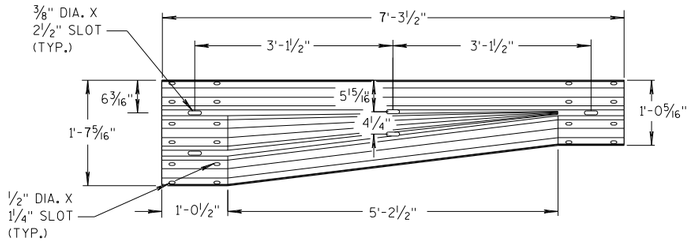
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

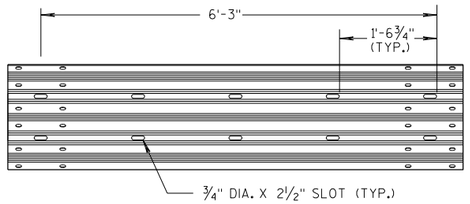
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORT

6

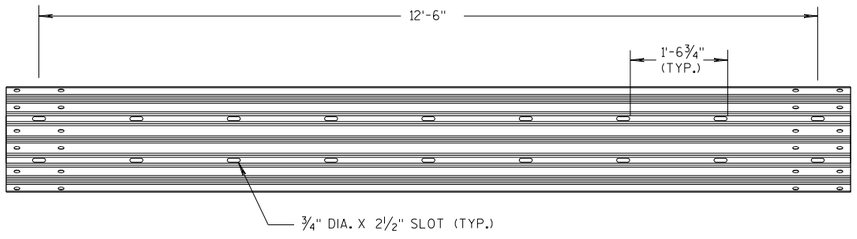
S.D.D. 14 B 45-5b



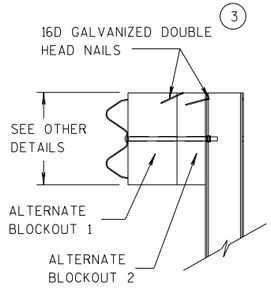
W-BEAM TO THRIE BEAM TRANSITION SECTION



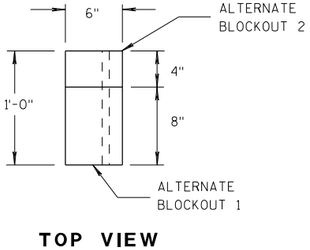
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

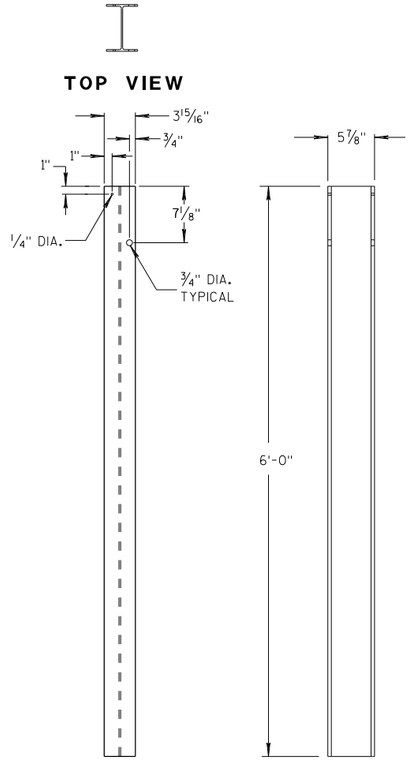


SIDE VIEW



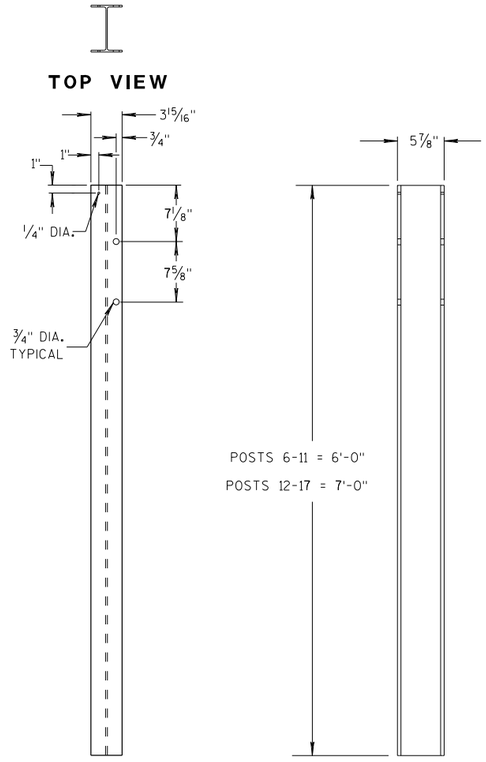
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



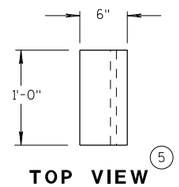
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

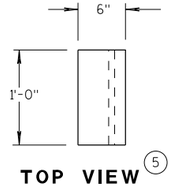


FRONT VIEW SIDE VIEW

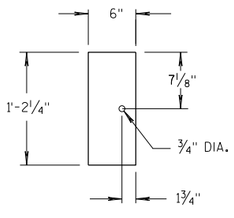
STEEL POSTS 6-17



TOP VIEW (5)

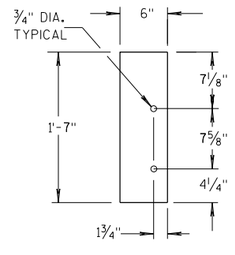


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

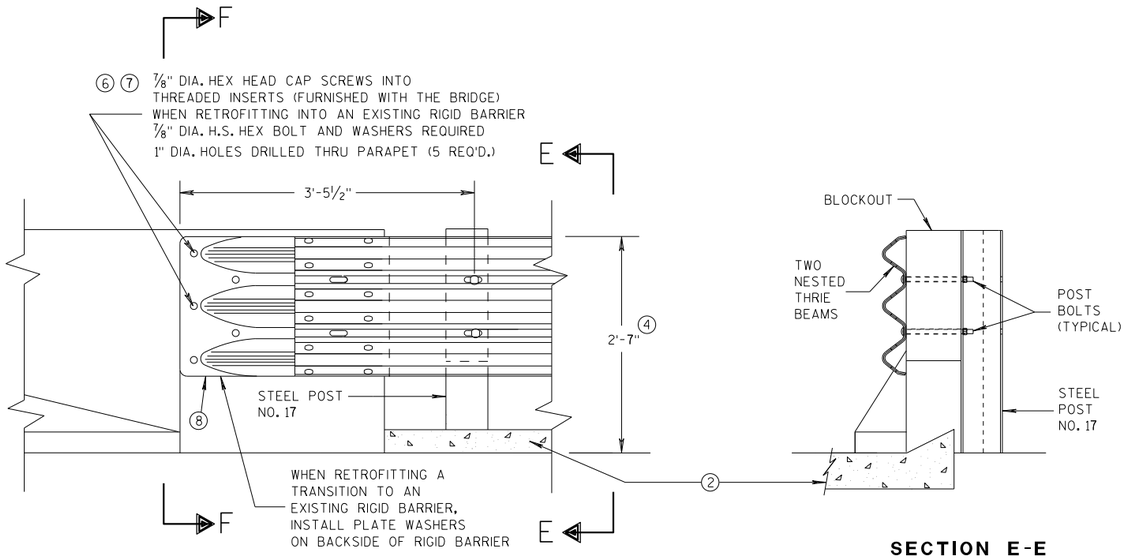
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

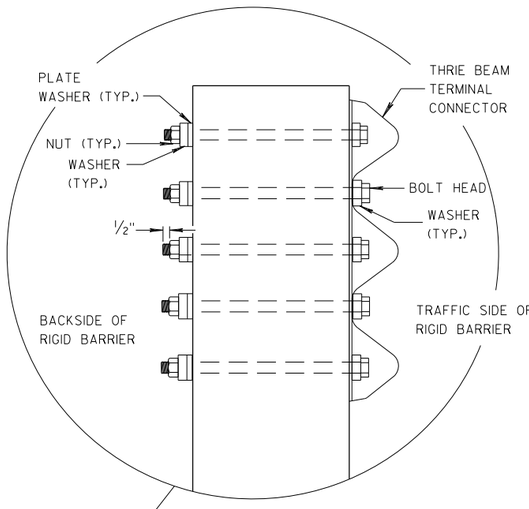
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

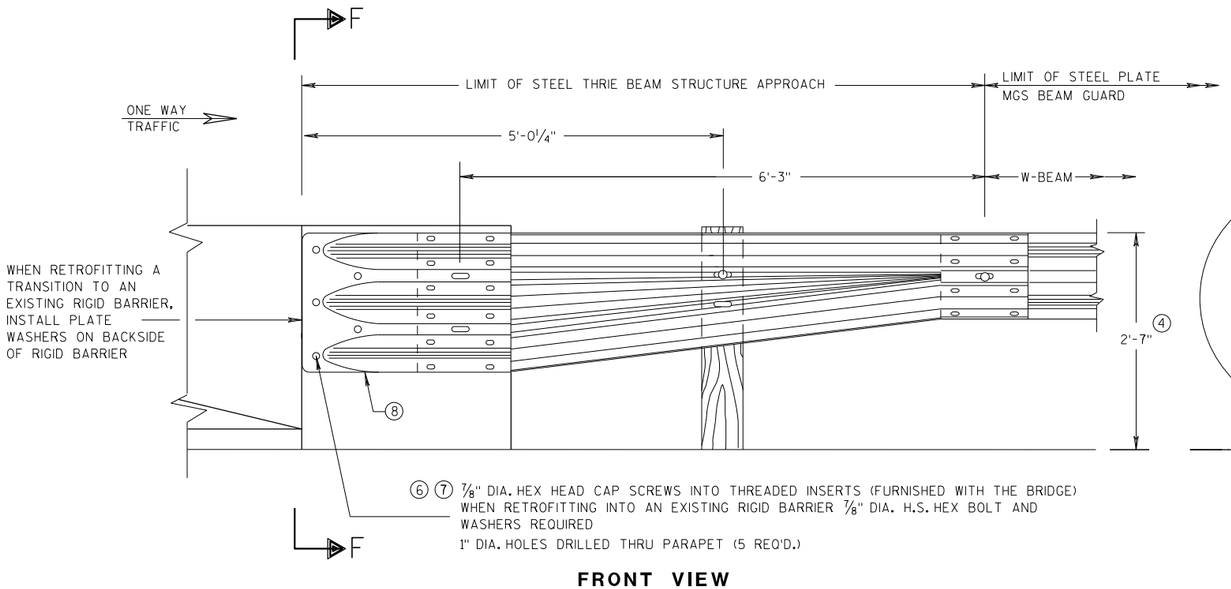
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

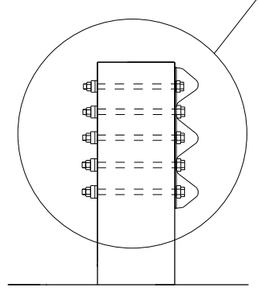
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

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

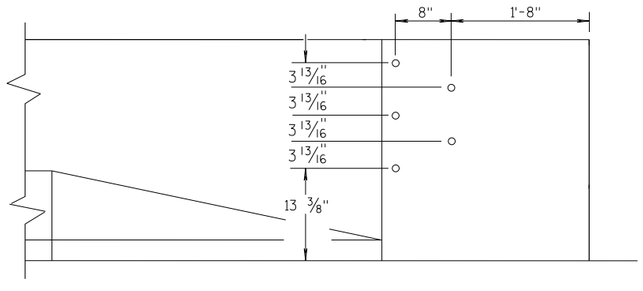




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 DATE
/S/ Rodney Taylor
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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.

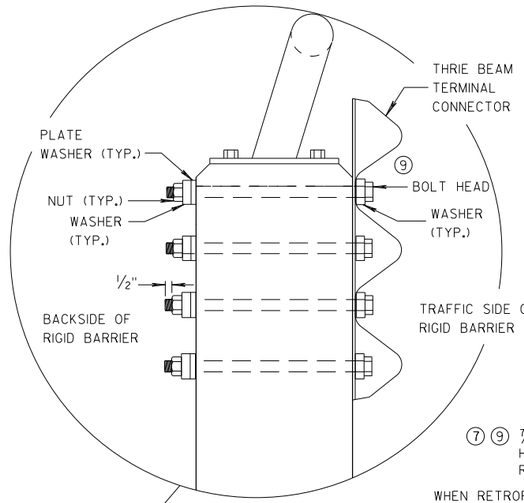
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

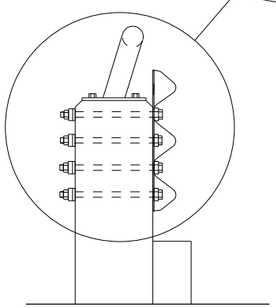
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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.

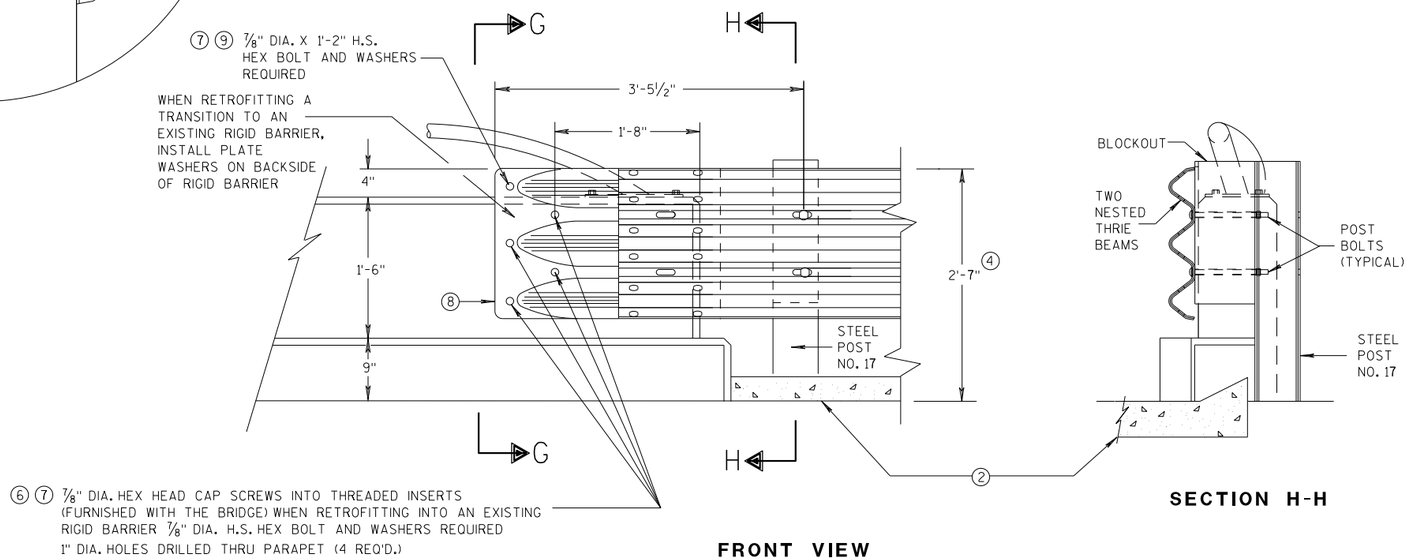
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(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.





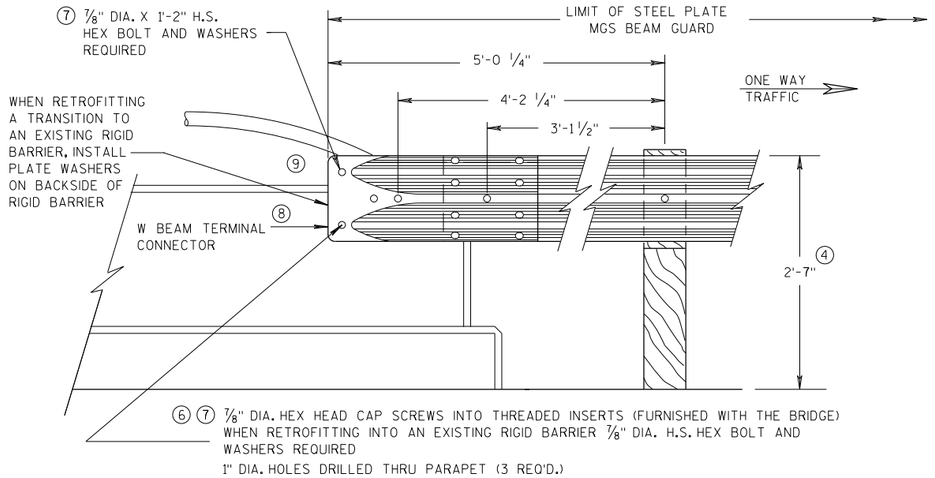
SECTION G-G



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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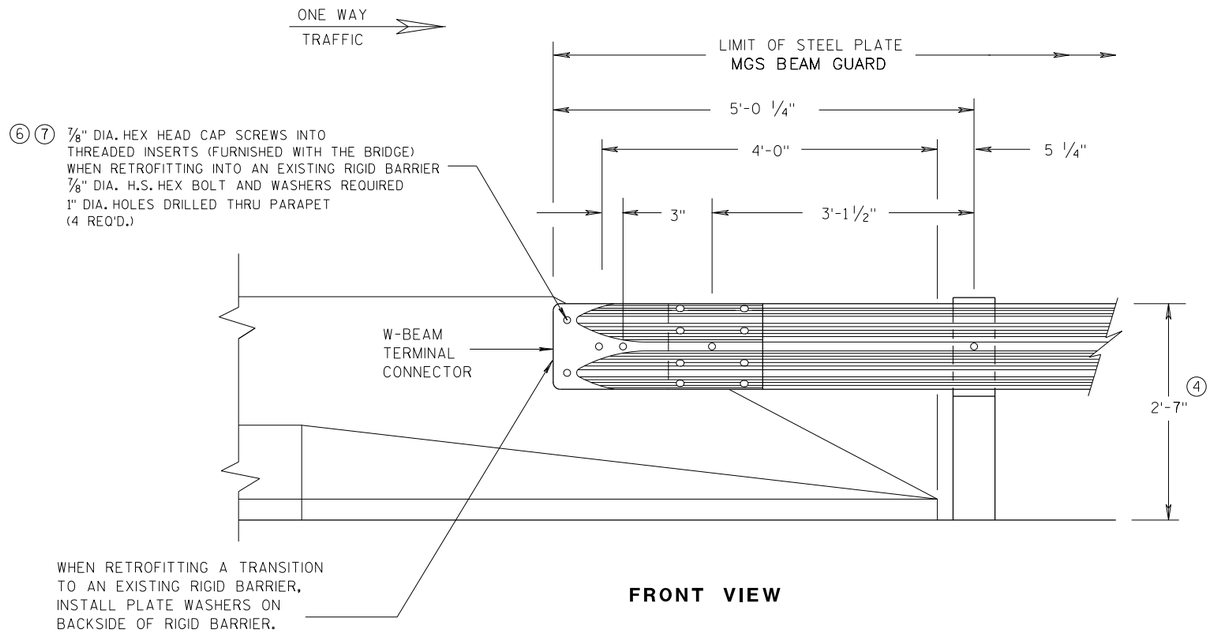

FRONT VIEW

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.

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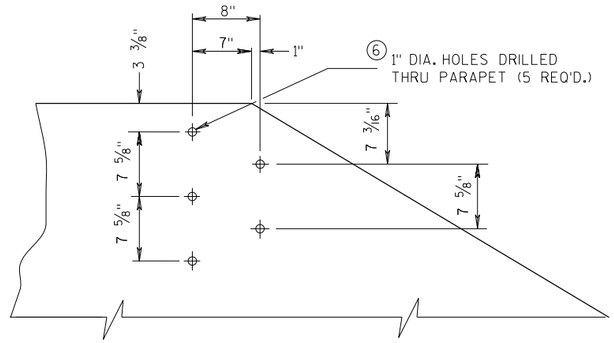
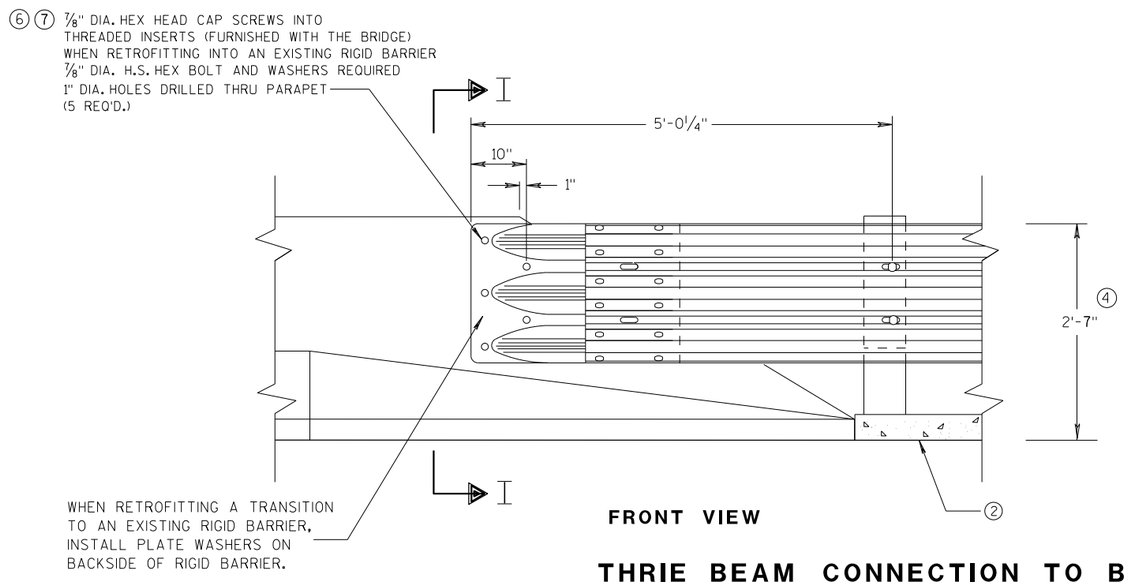
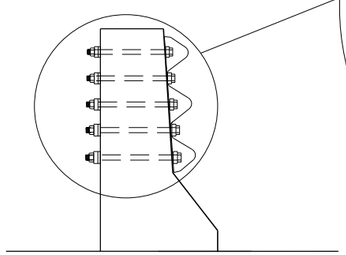


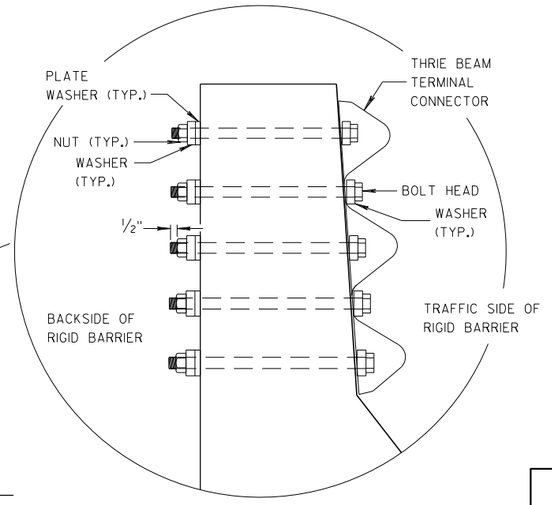
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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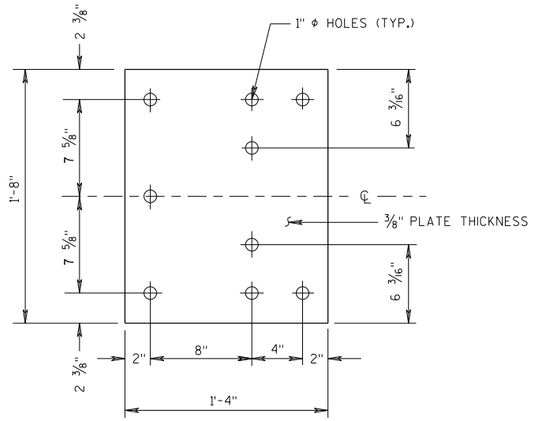
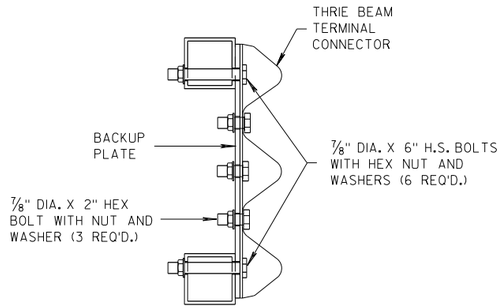
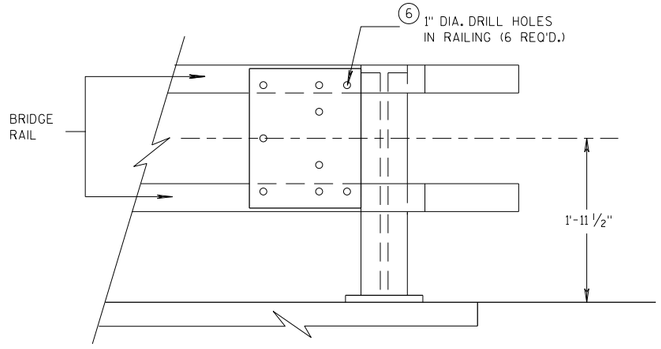


BACK-UP PLATE DETAIL



SECTION J-J

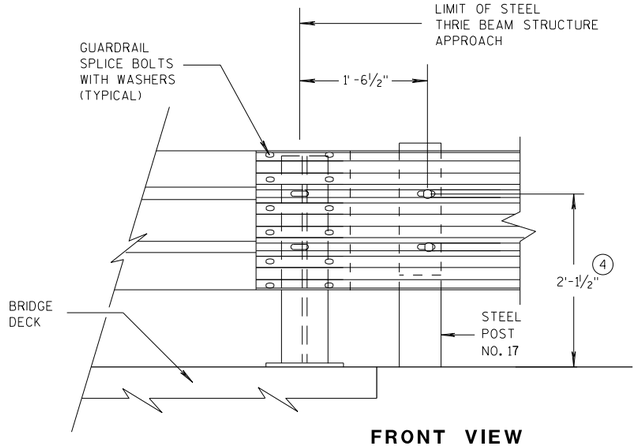


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

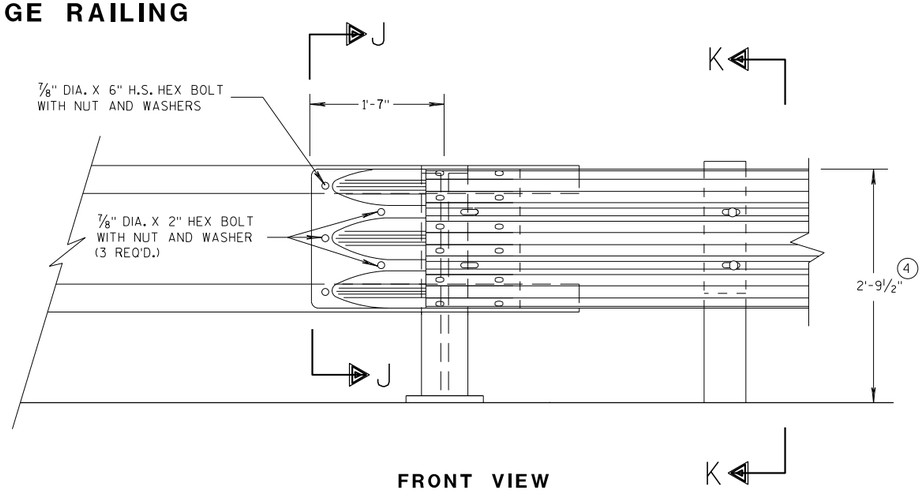
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

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

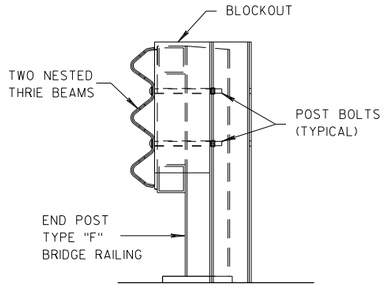


FRONT VIEW

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
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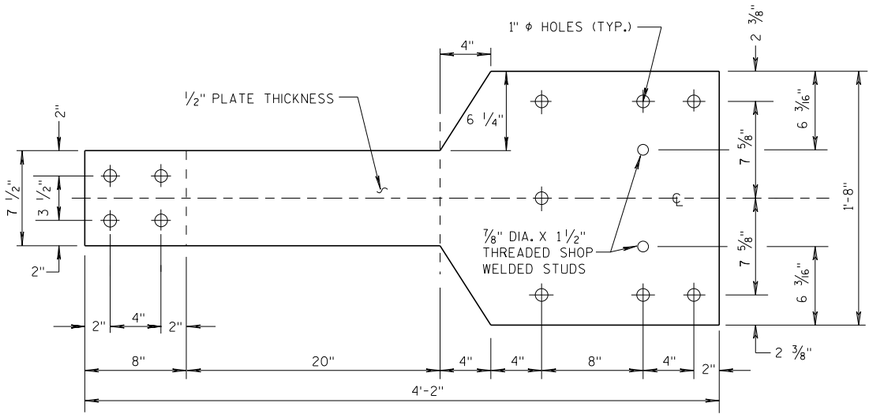
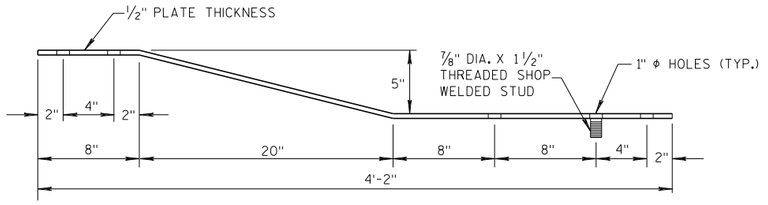
GENERAL NOTES

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

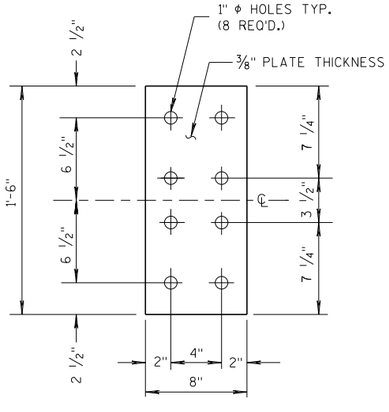


FRONT VIEW



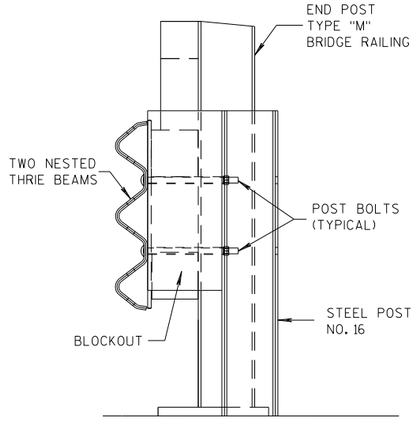
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

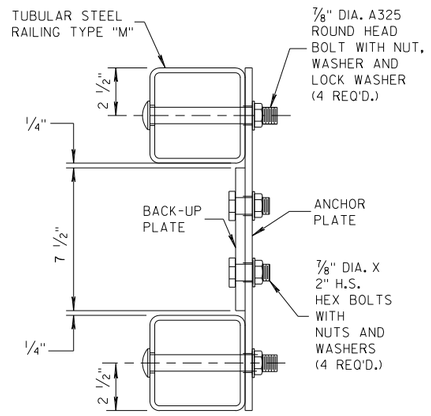


FRONT VIEW

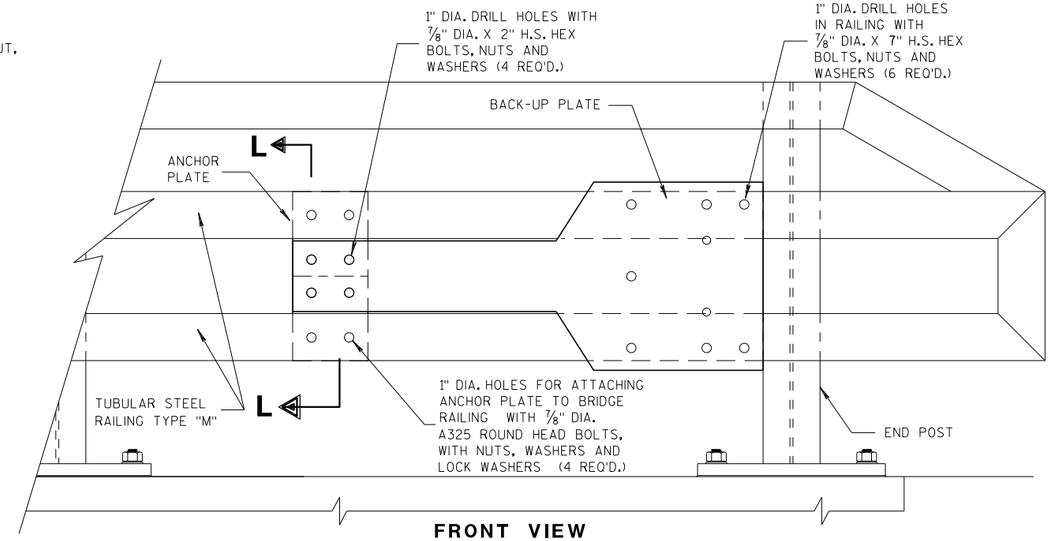
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

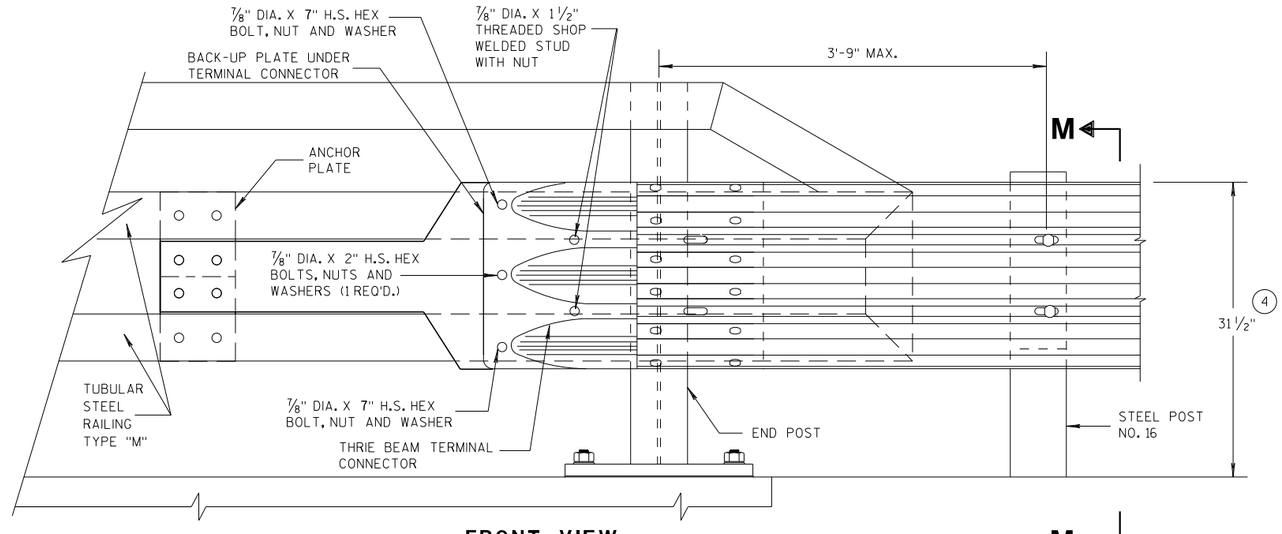


SECTION L-L

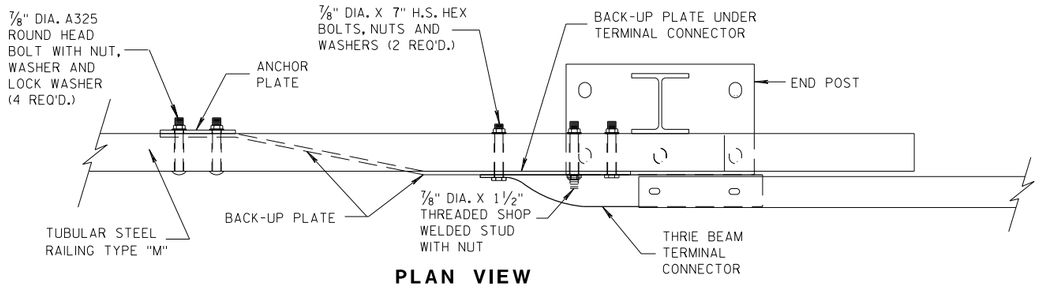


FRONT VIEW

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

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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.

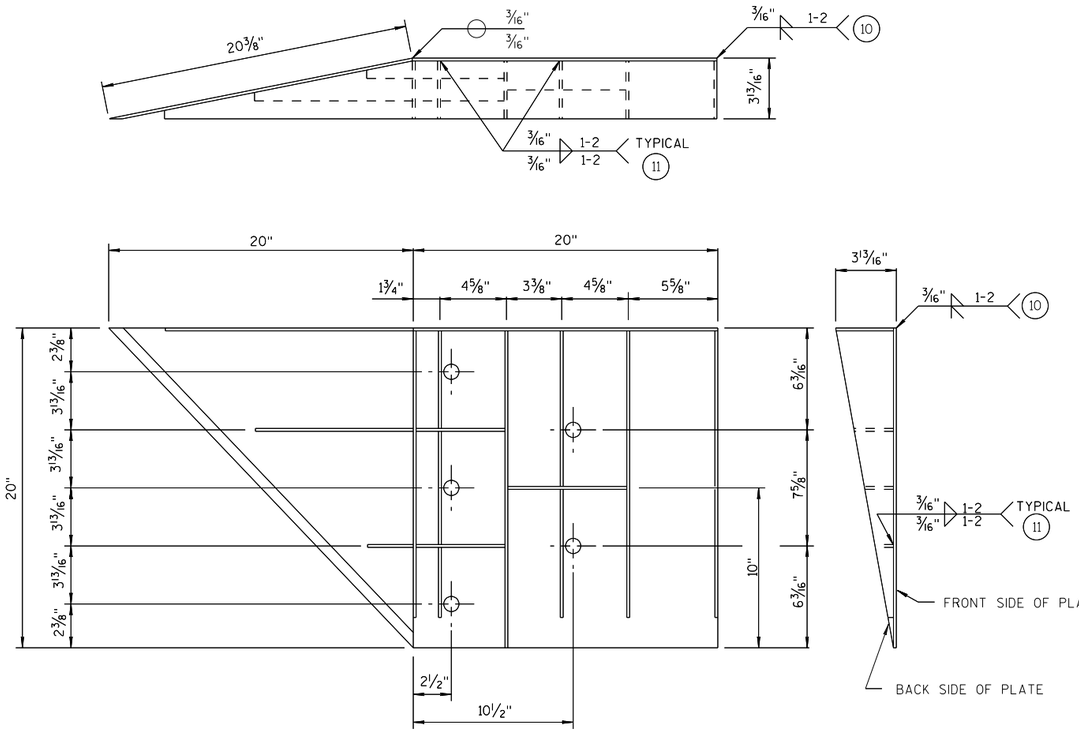
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

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)

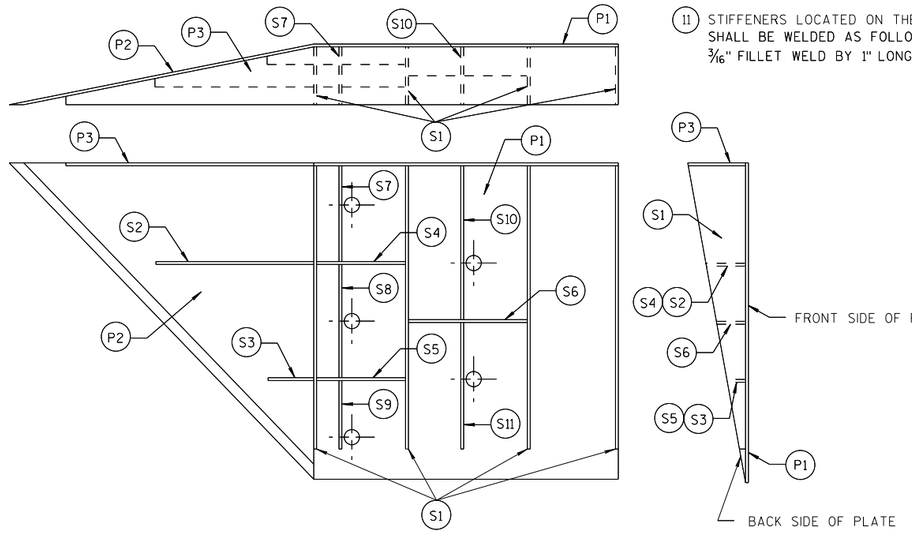


PLATE AND STIFFENER IDENTIFICATION

(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)

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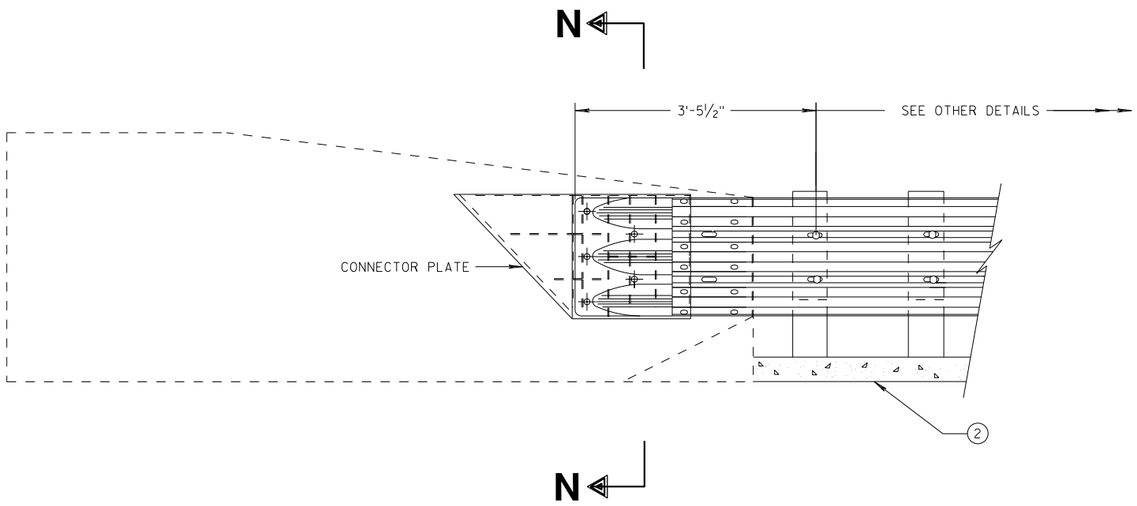
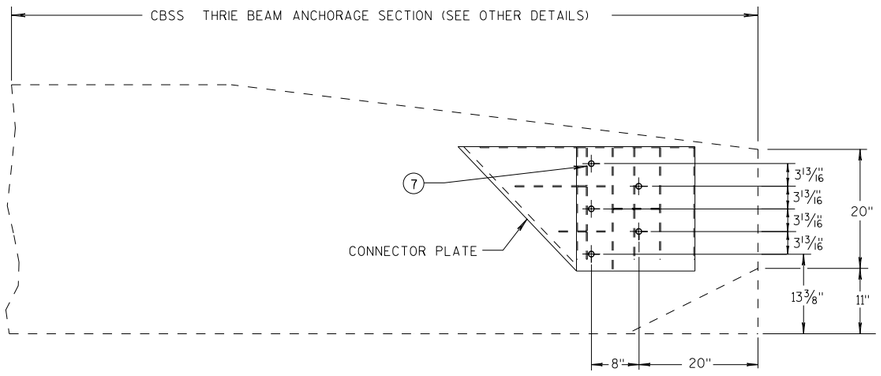


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



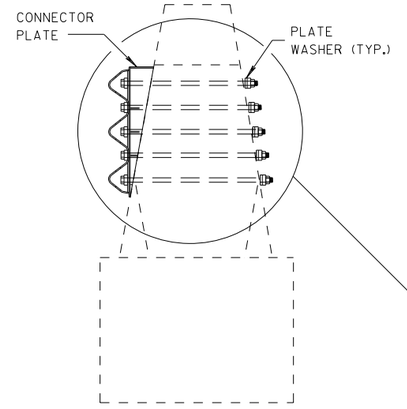
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

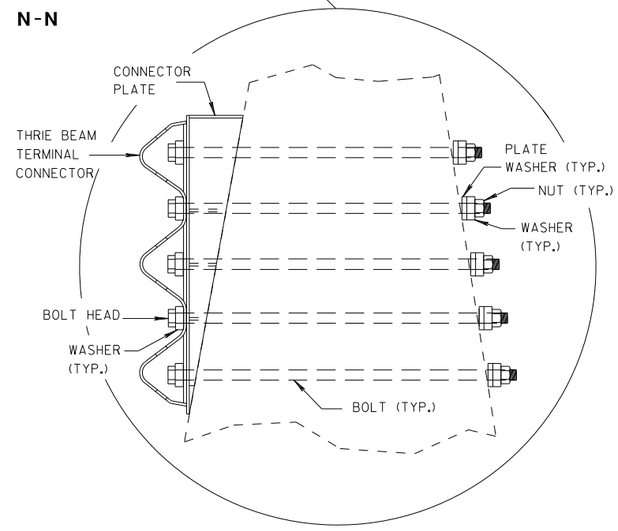
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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)

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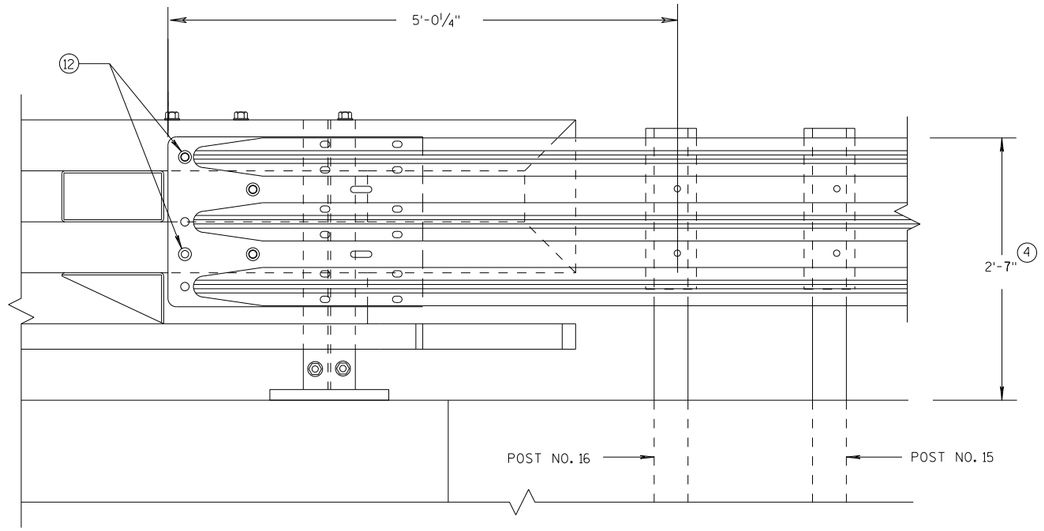
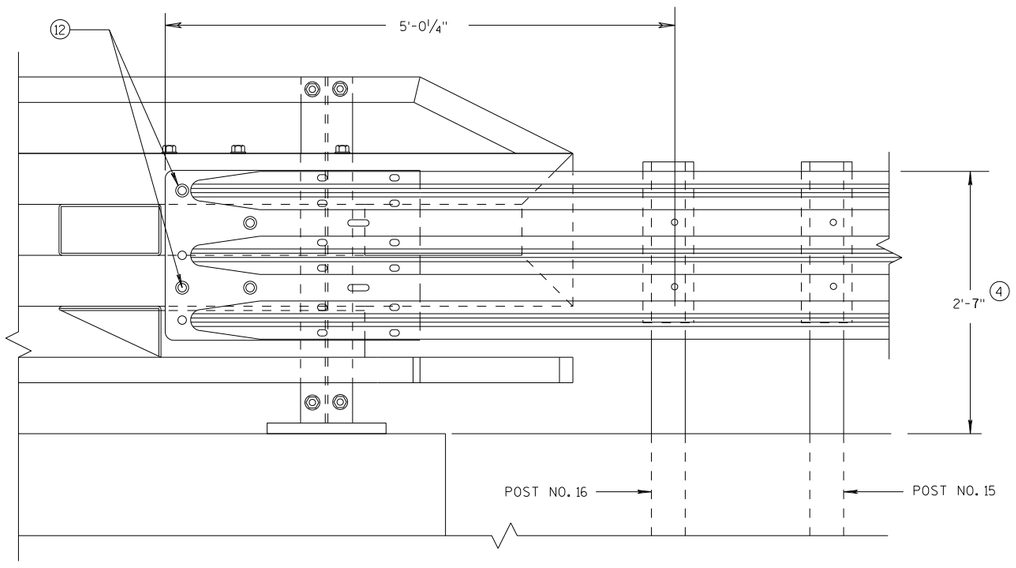


ELEVATION OF DETAIL AT NY3 END POST

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

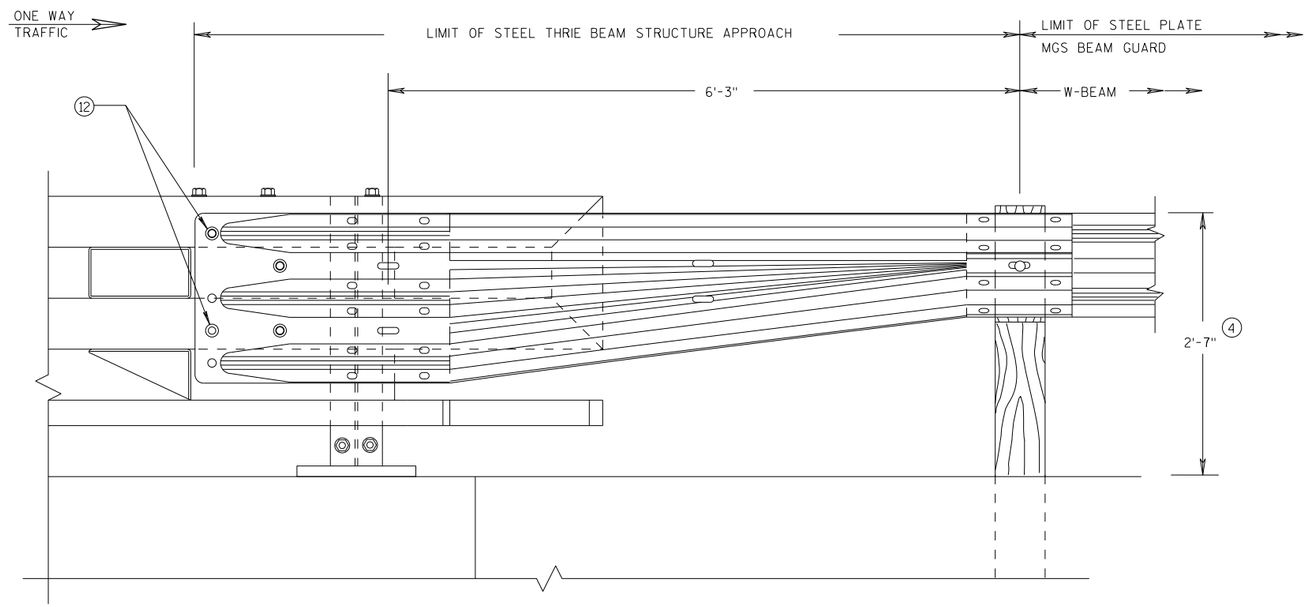
/S/ Rodney Taylor
ROADWAY STANDARDS D 55 NT
UNIT SUPERVIS

6

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

6

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



FRONT VIEW

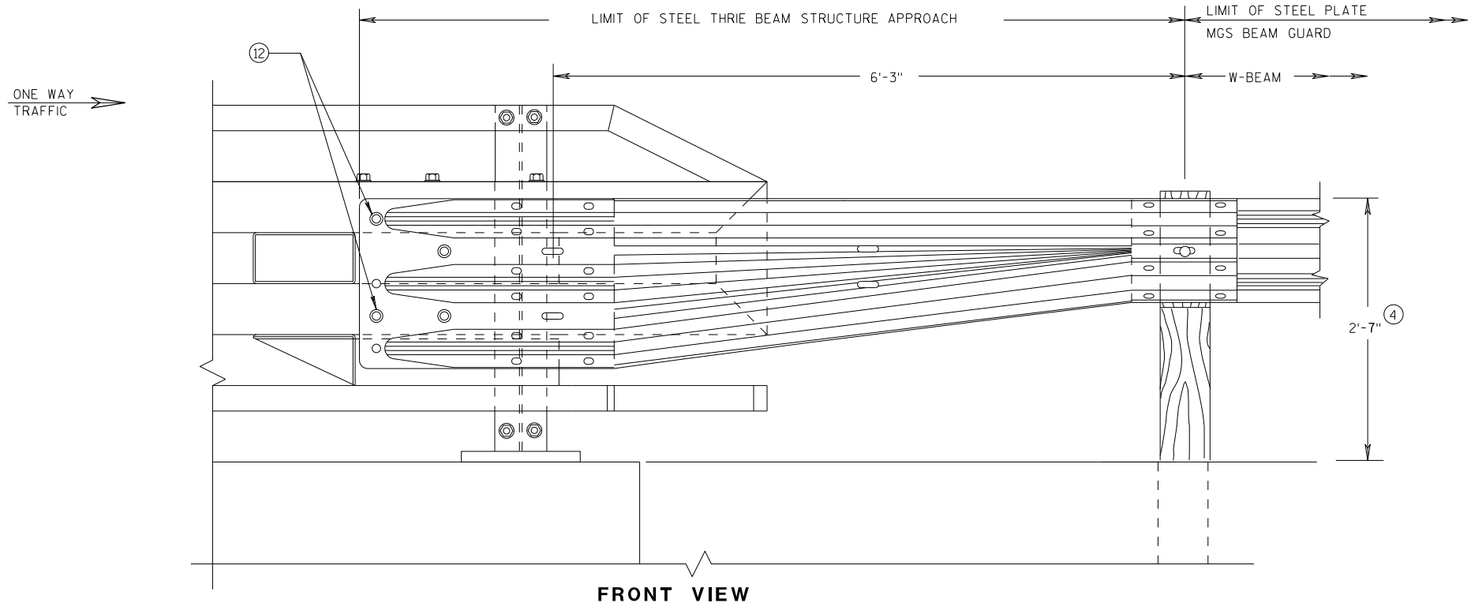
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(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

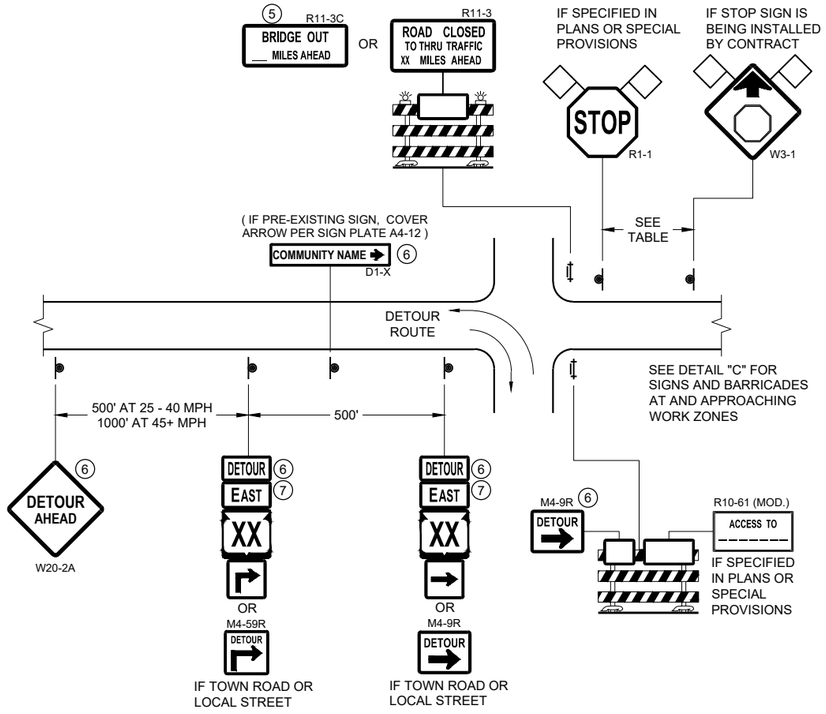
NT

6

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

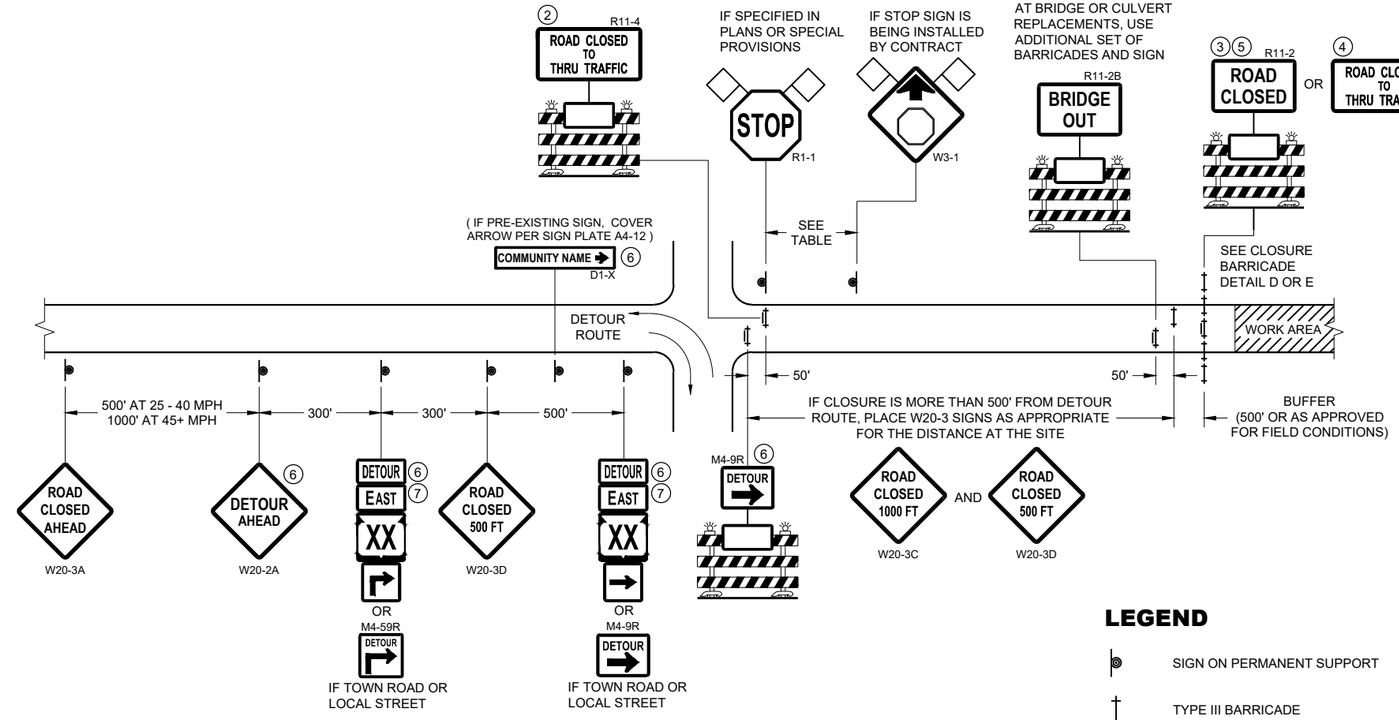
6

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



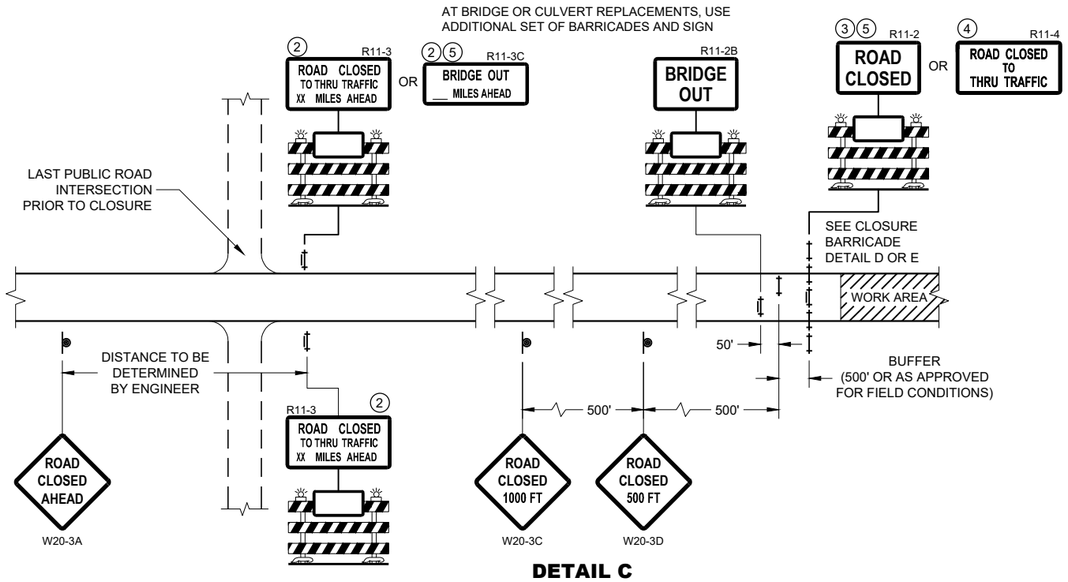
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

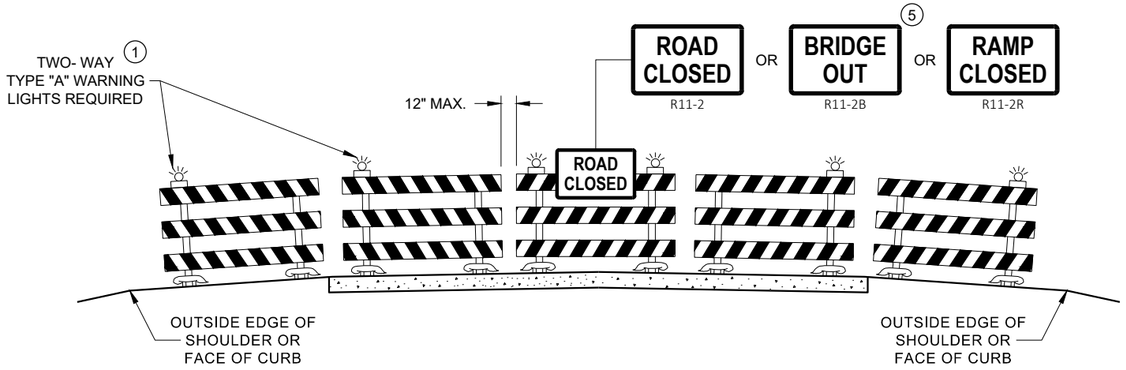
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

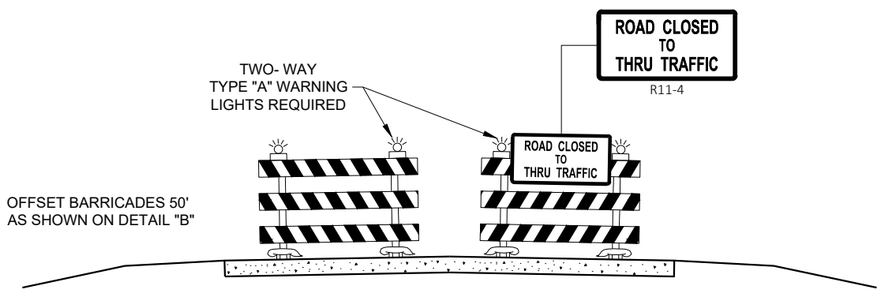
FHWA

6

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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SDD 15C02 - 09b

6

SDD 15C02 - 09b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR / EAST — M4 - 8, M3 - X
- XX — M1 - 4
- OR XX — M1 - 6
- OR COUNTY X — M1 - 5A
- OR — M05 - 1
- OR — M06 - 1
- OR — M06 - 1

GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

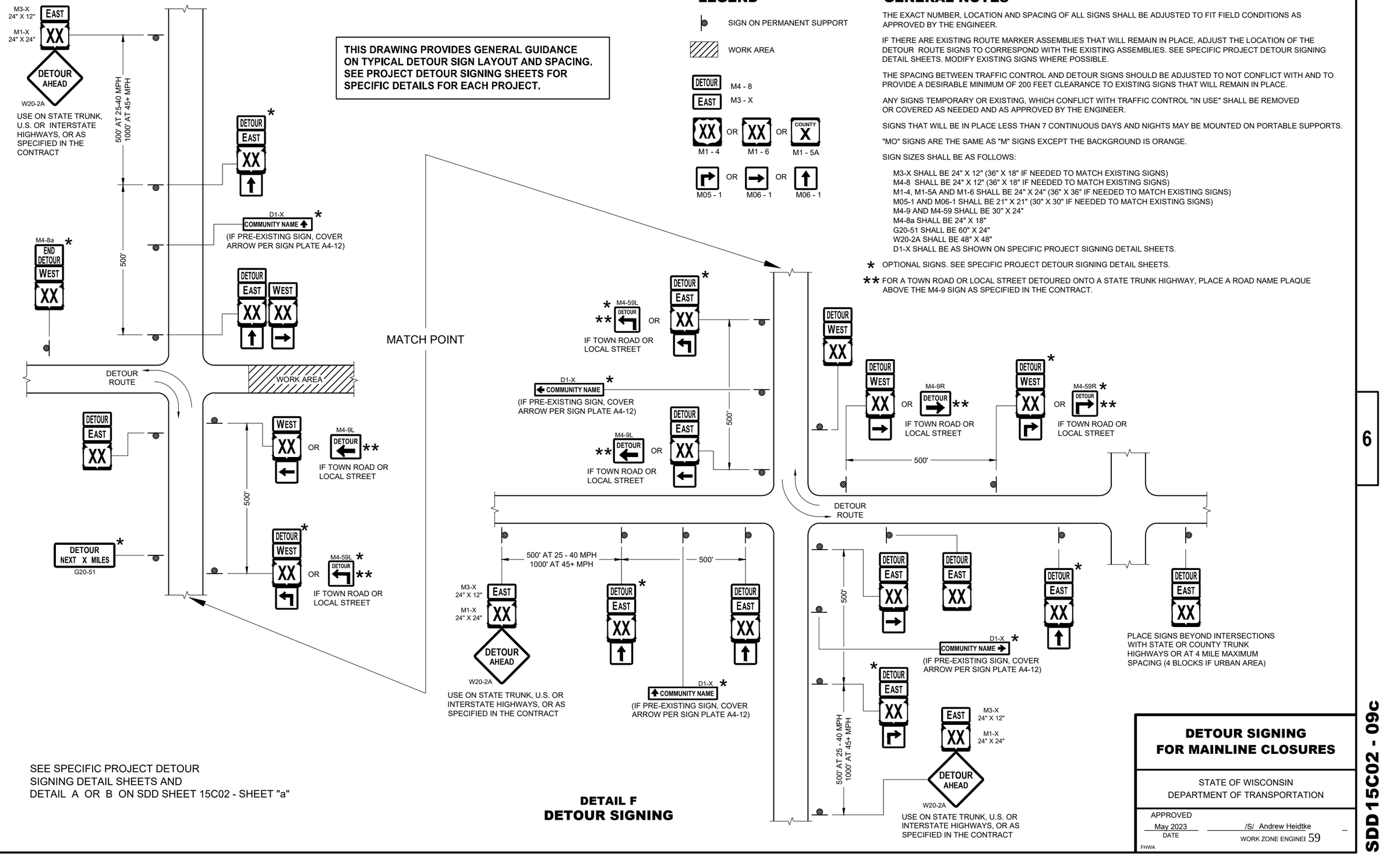
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- 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)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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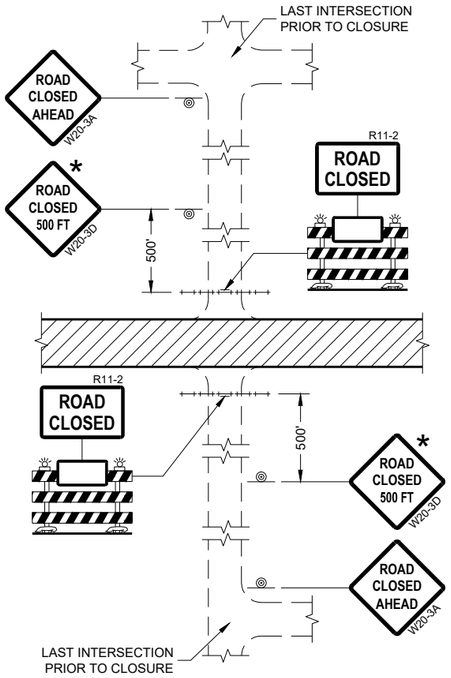
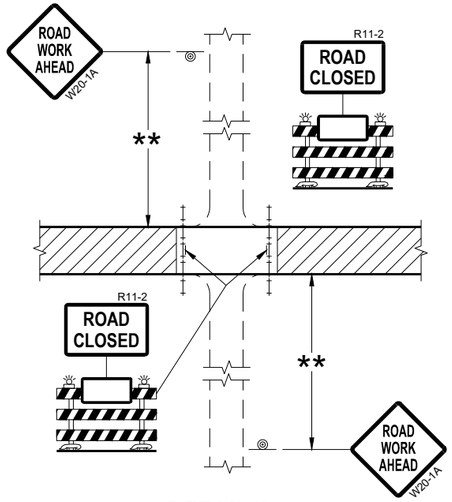
SDD 15C02 - 09c



DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)

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 (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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.

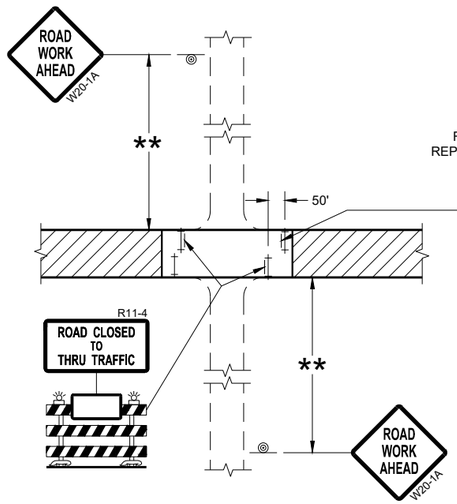
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

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

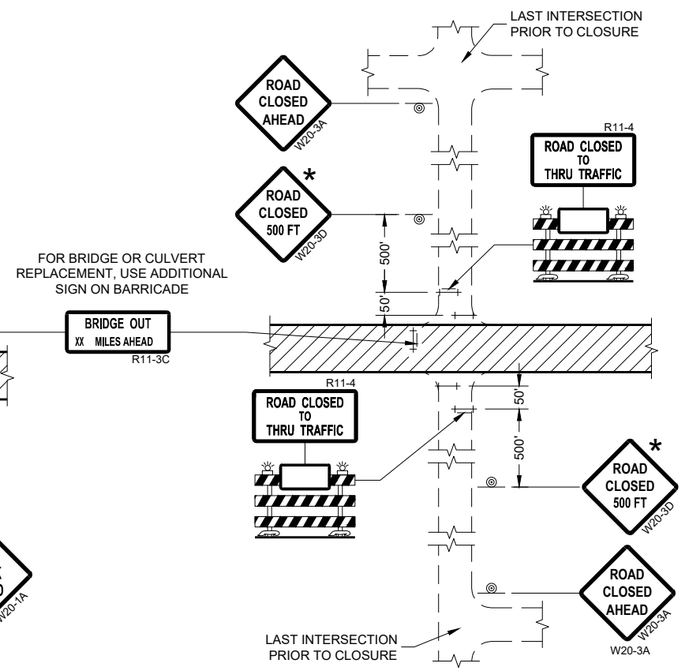
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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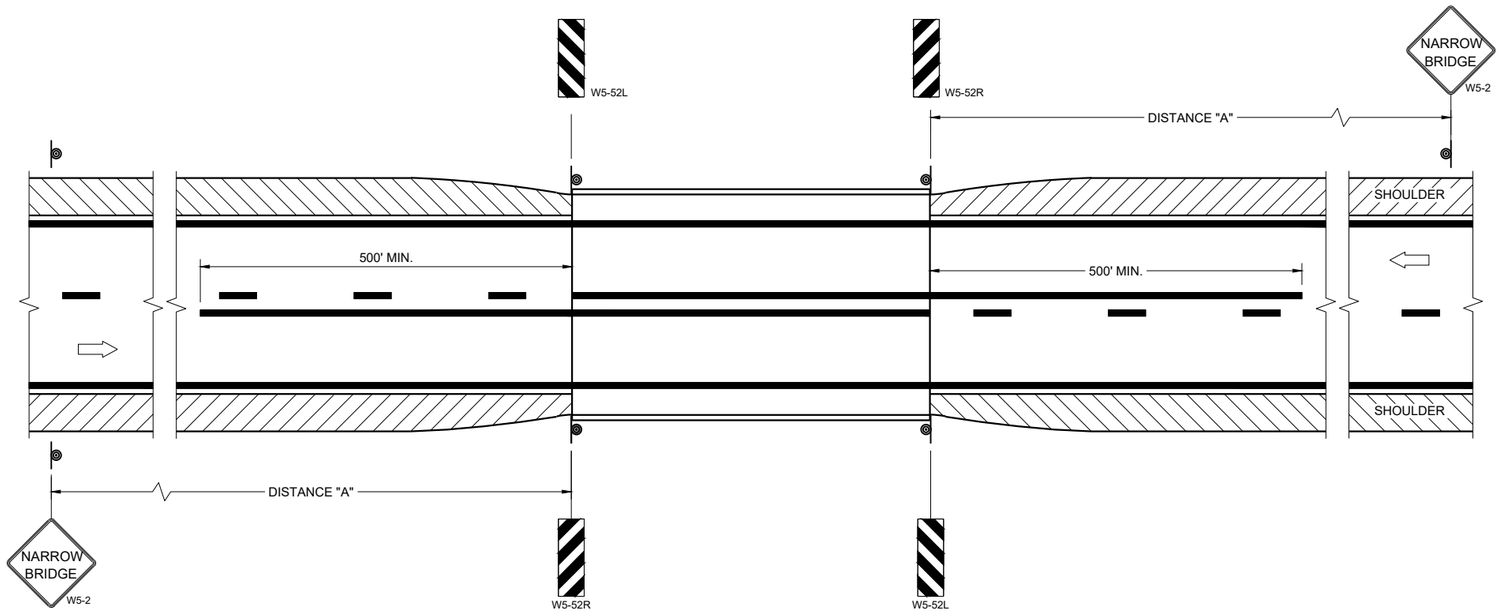
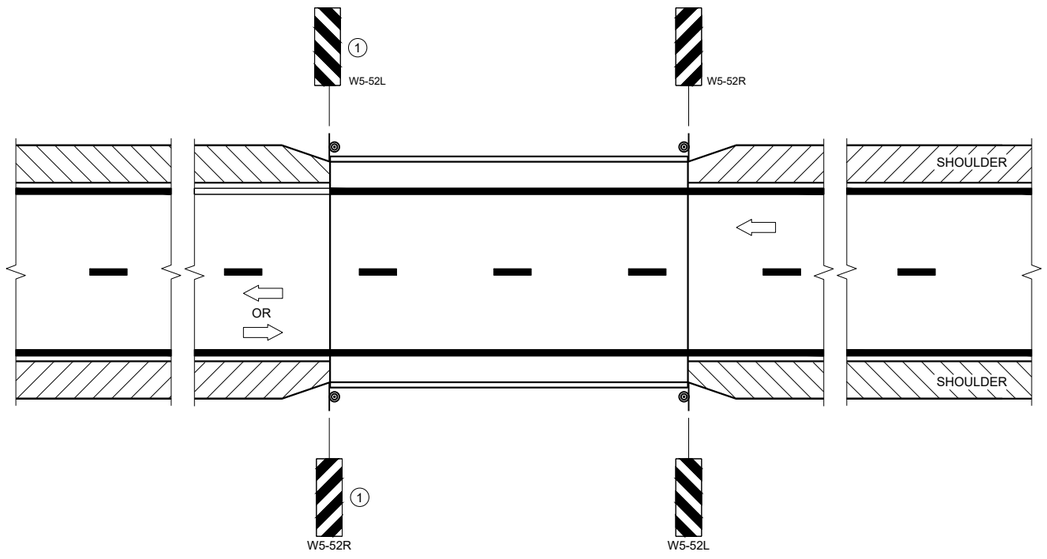
SDD 15C03 - 05



SITUATION 1

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



SITUATION 2

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

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

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

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
SDD 15C06-12

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.

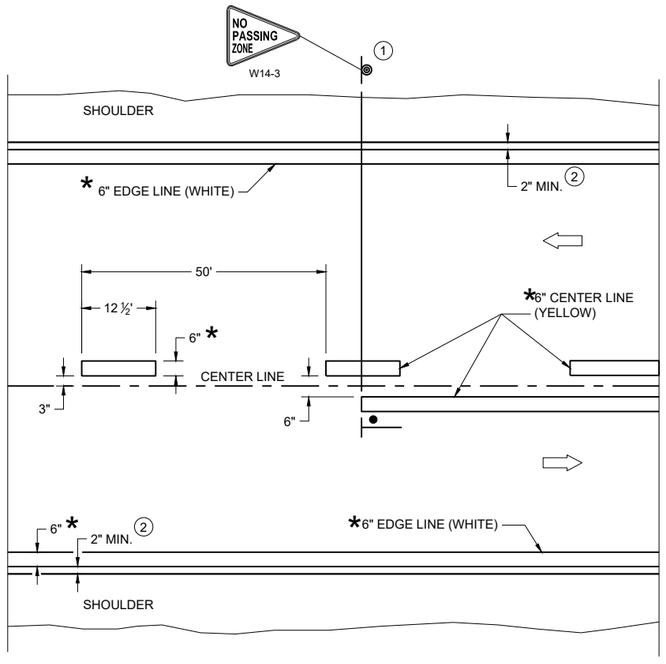
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

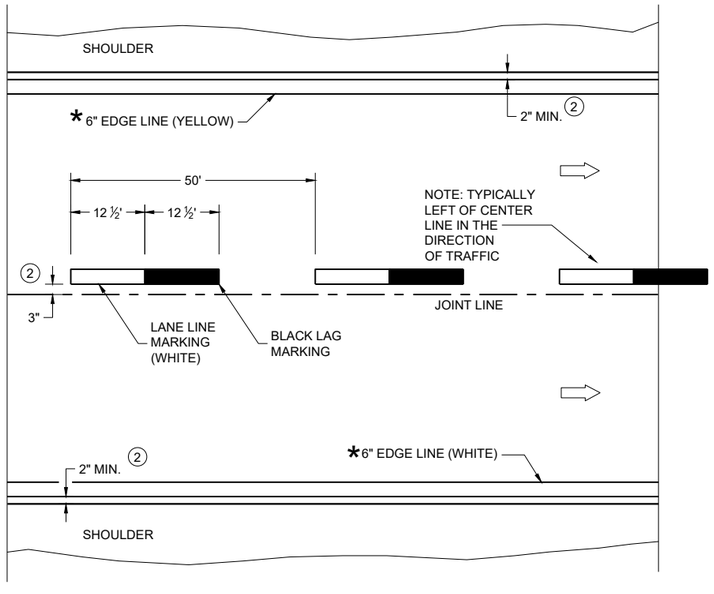
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

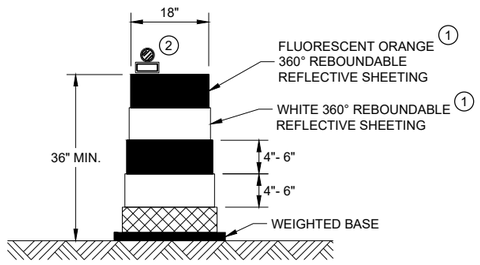
FHWA

6

SDD 15C08-24a

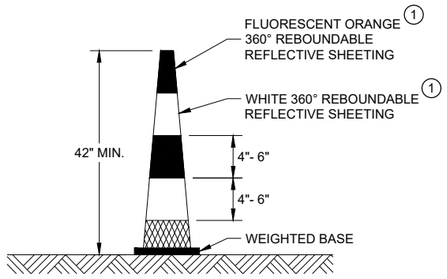
GENERAL NOTES

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



DRUM

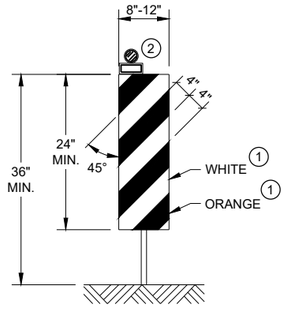
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

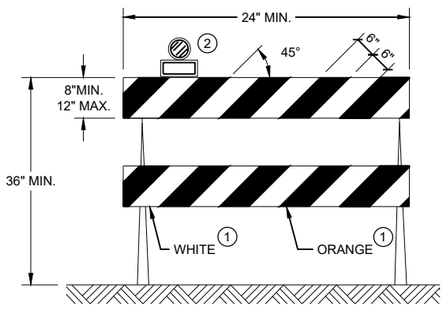
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



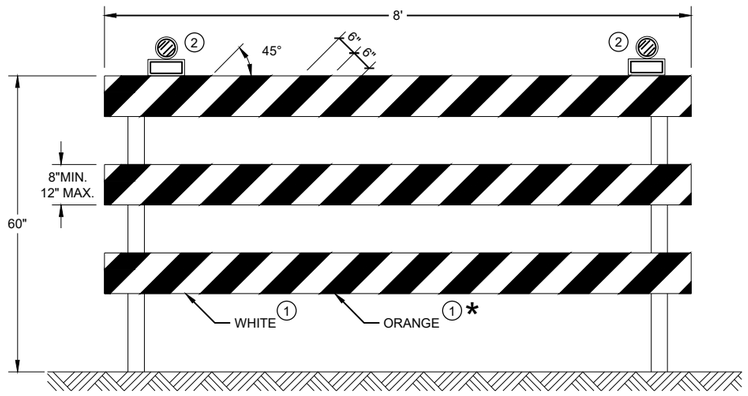
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 10b

6

SDD 15C11 - 10b

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

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.

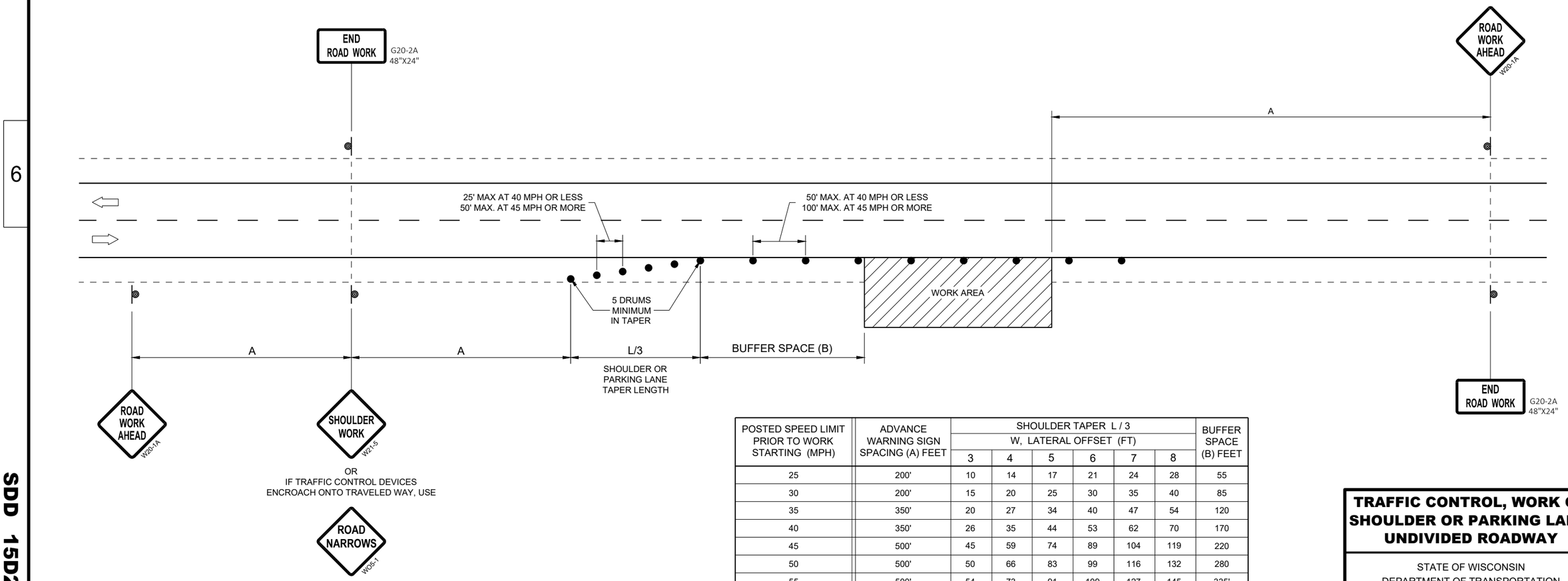
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

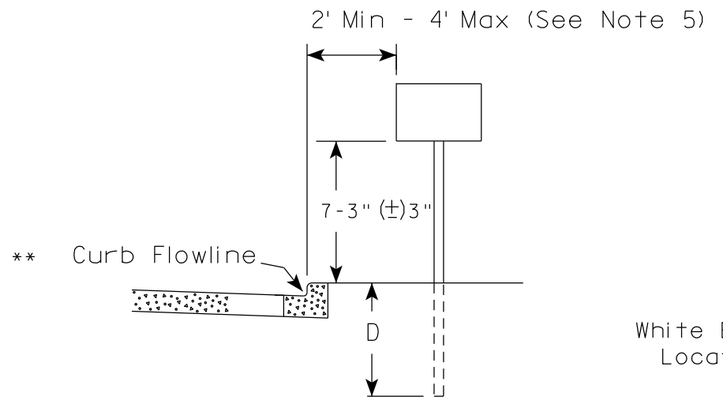
/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

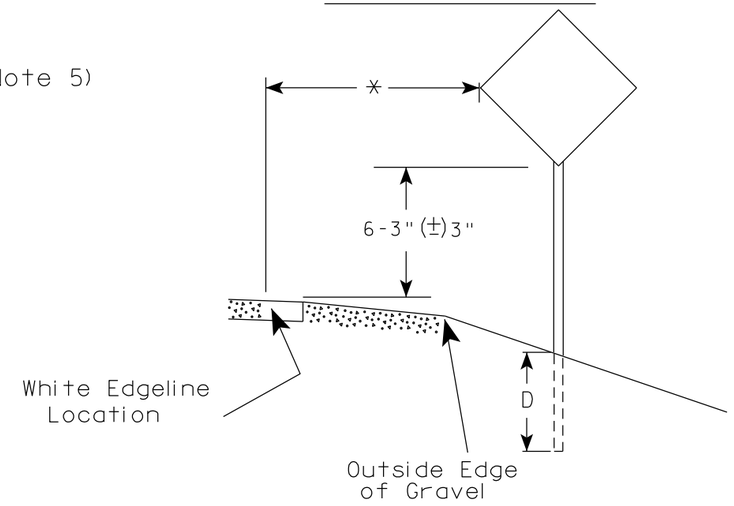
SDD 15D28 - 04

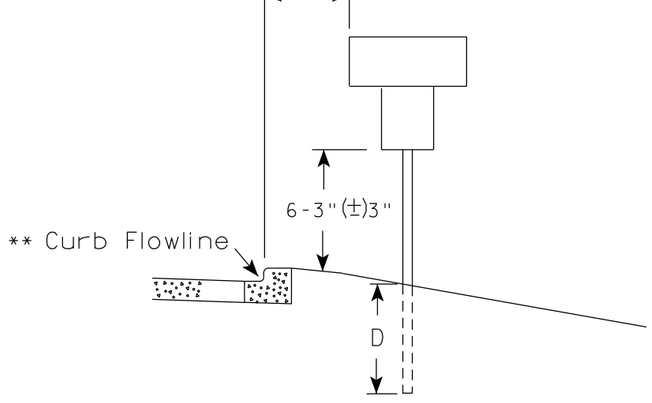
SDD 15D28 - 04

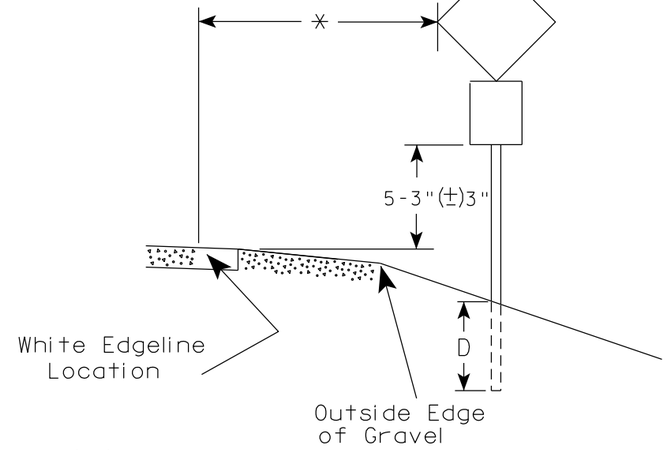
URBAN AREA



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" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

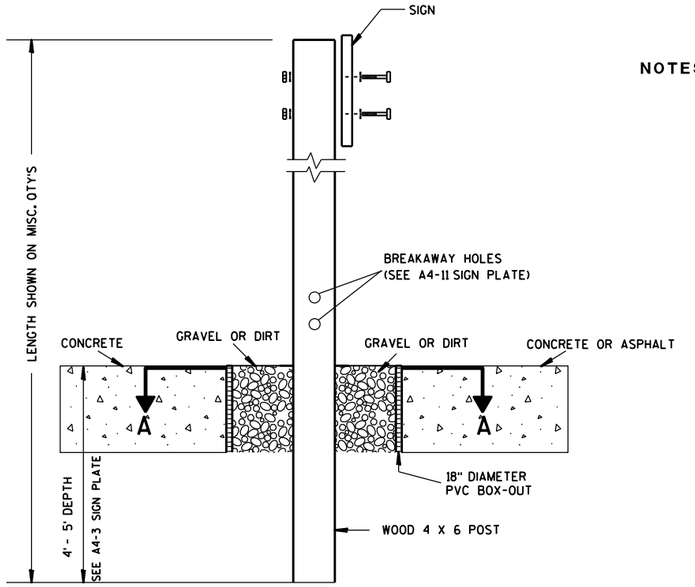
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

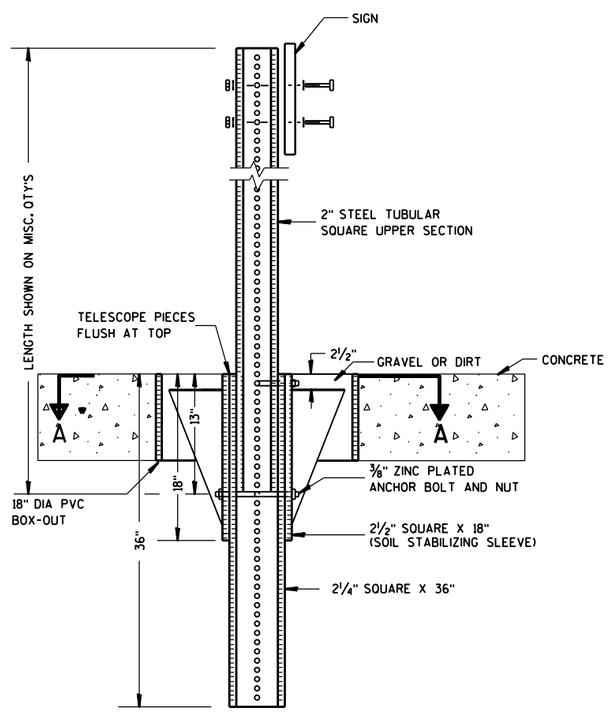
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 65	E



ELEVATION VIEW

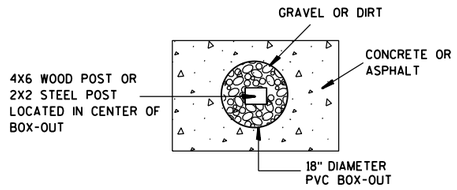
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

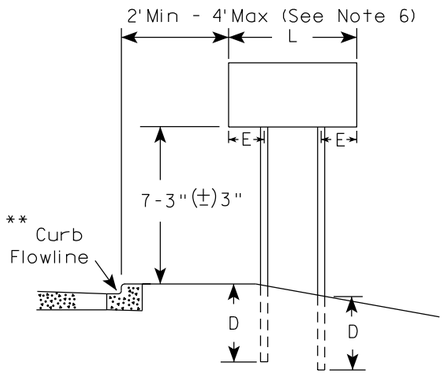
APPROVED Matthew R Rauch
for State Traffic Engineer

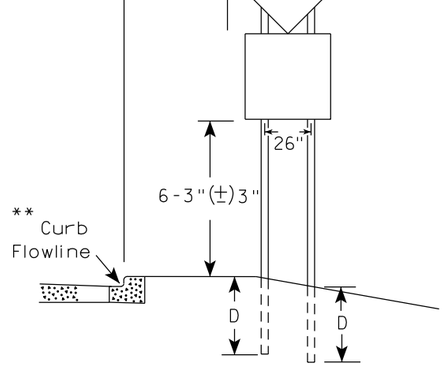
DATE 1/27/14 PLATE NO. A4-3B.1

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

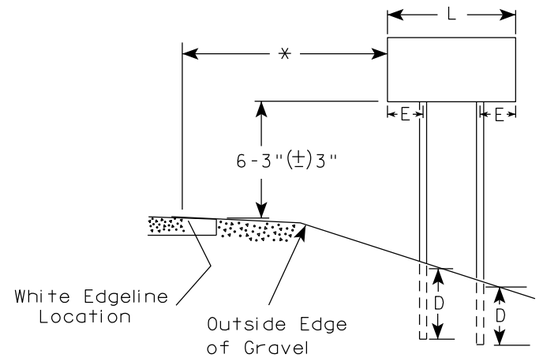
URBAN AREA

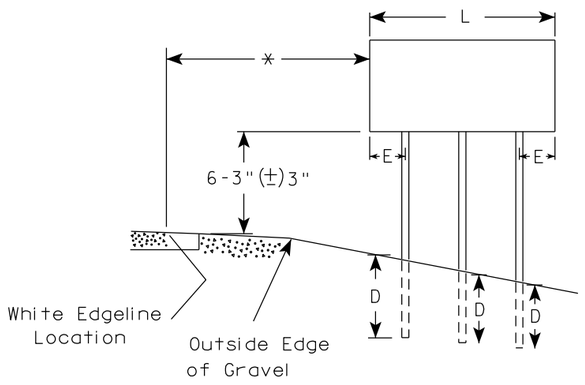


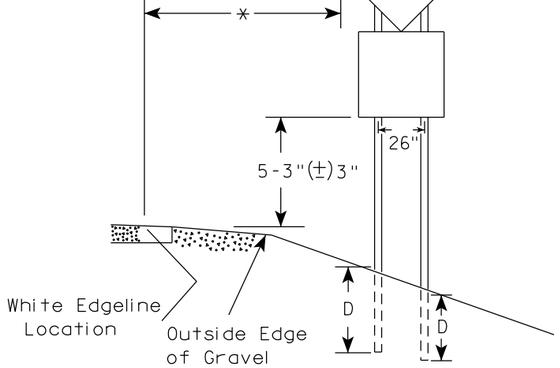


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







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" (±) 3" or 6'-3" (±) 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" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±) 3".

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

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

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

POST EMBEDMENT DEPTH

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

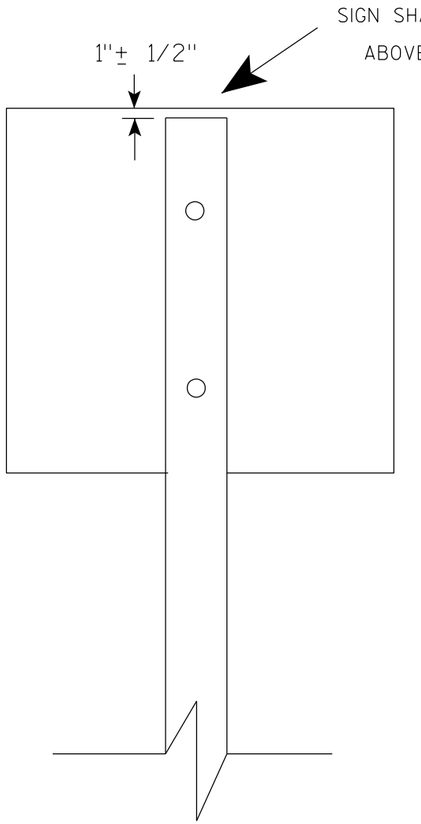
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

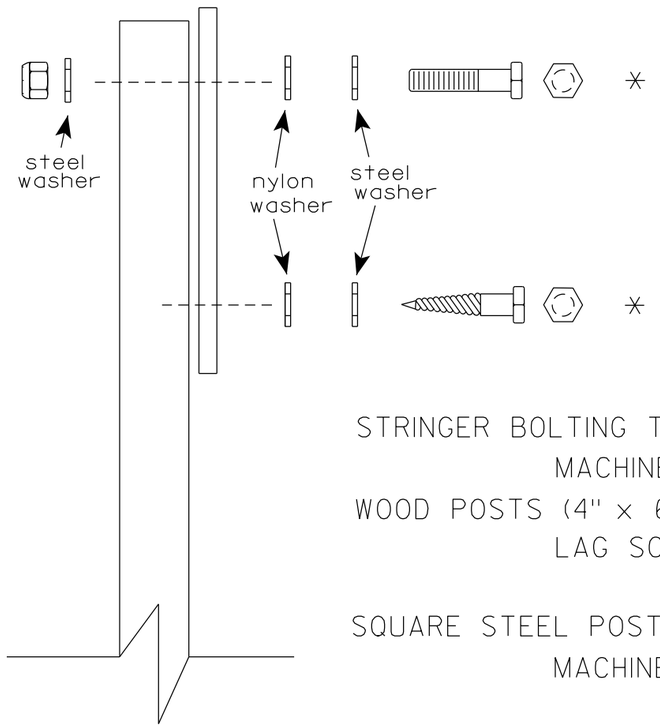
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 67	E





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

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

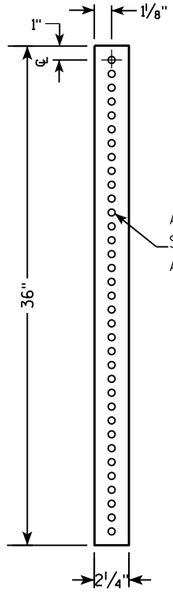
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

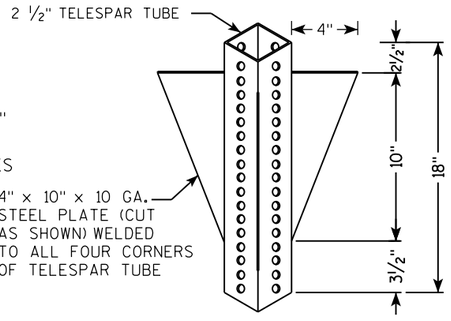
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

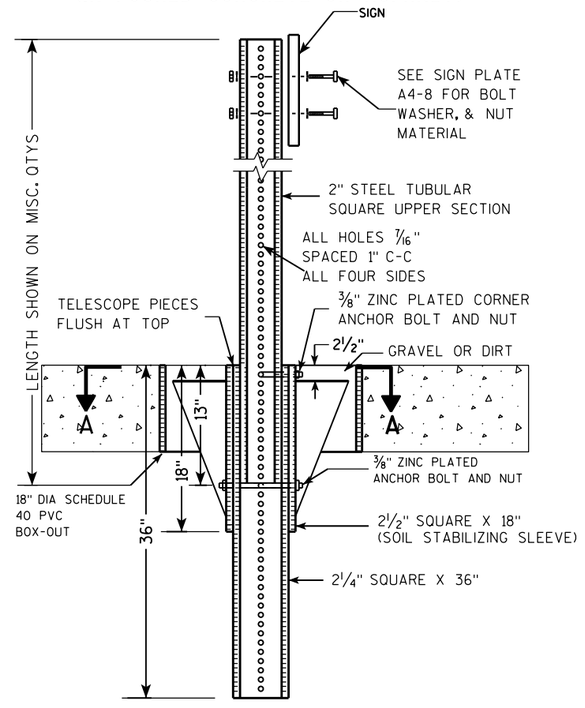
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



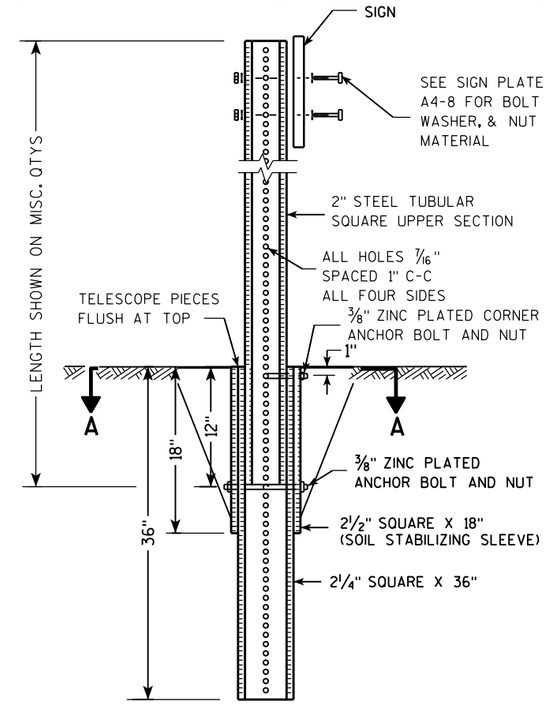
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

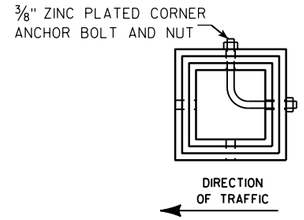


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

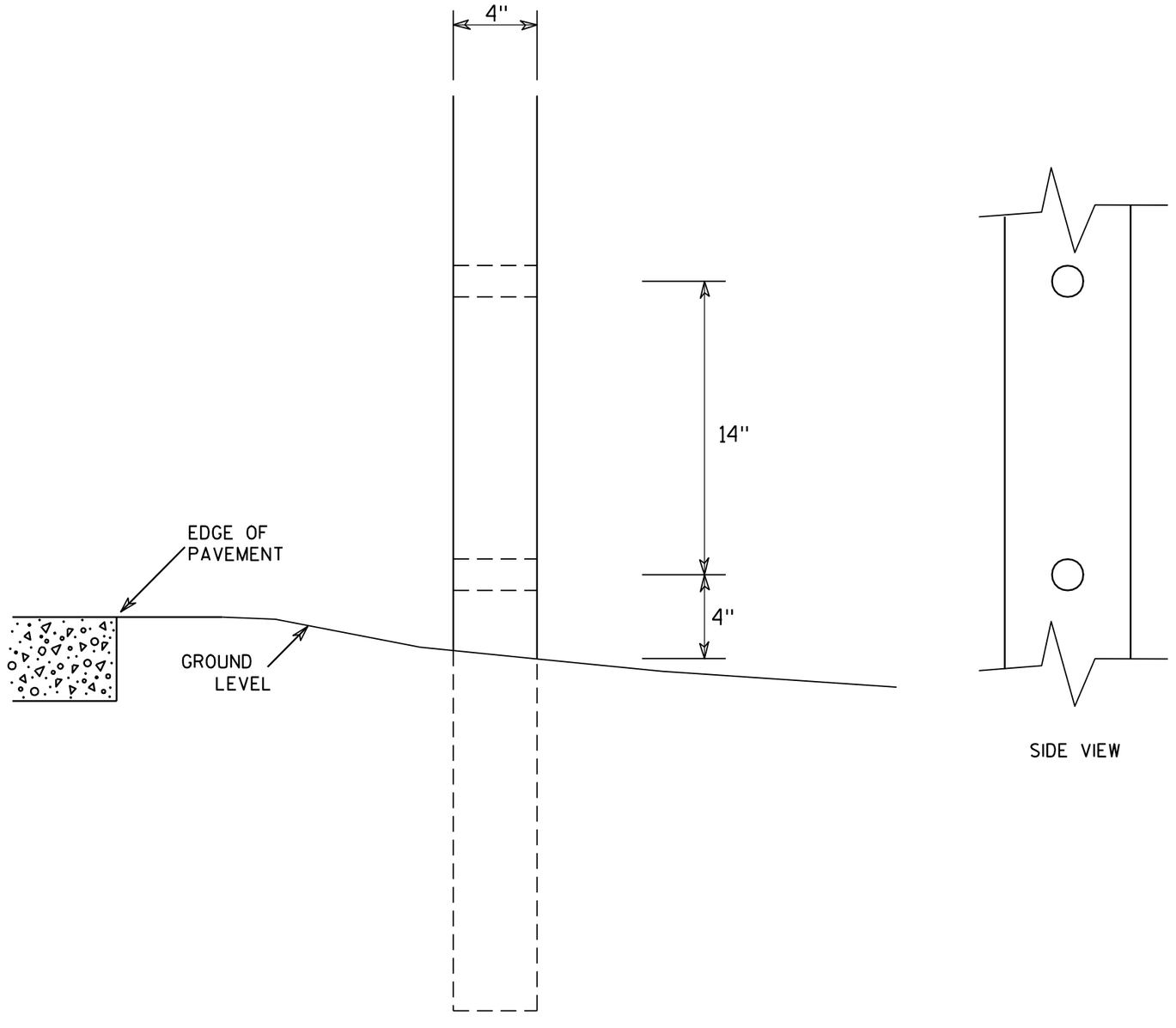
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 69 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

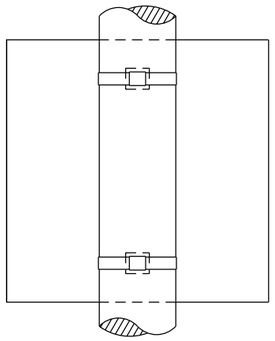
APPROVED Chester J Spang for State Traffic Engineer

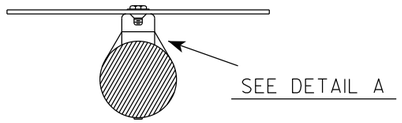
DATE 3/27/97 PLATE NO. A4-11.2

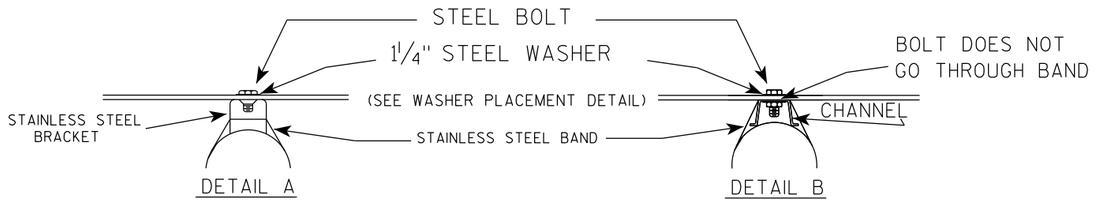
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 70	E

BANDING

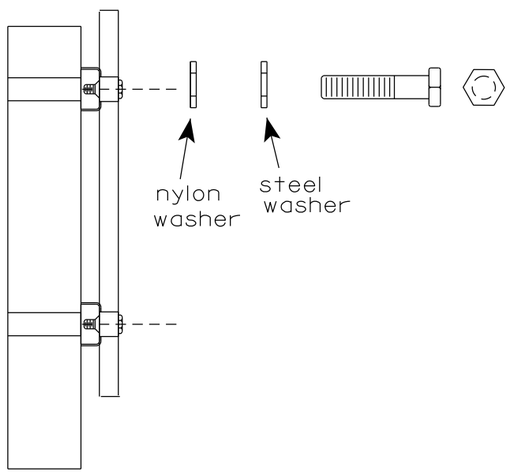
SINGLE SIGN







WASHER PLACEMENT

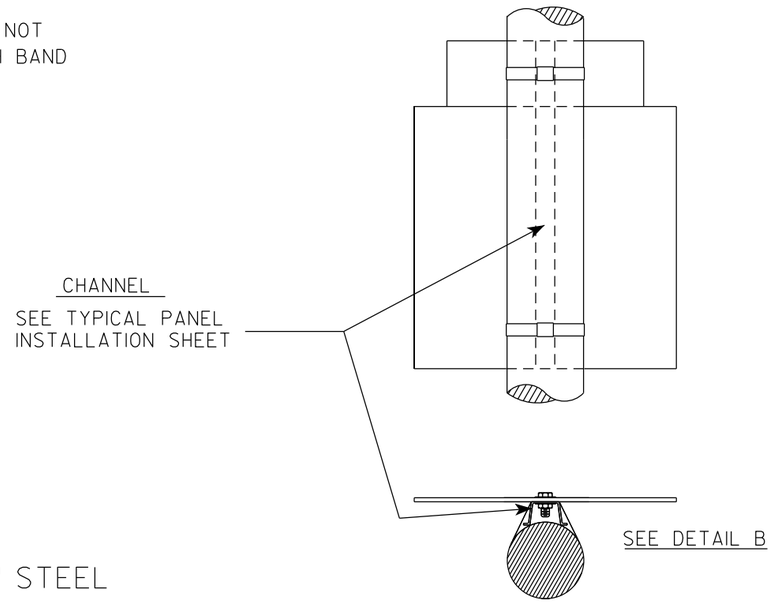


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

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

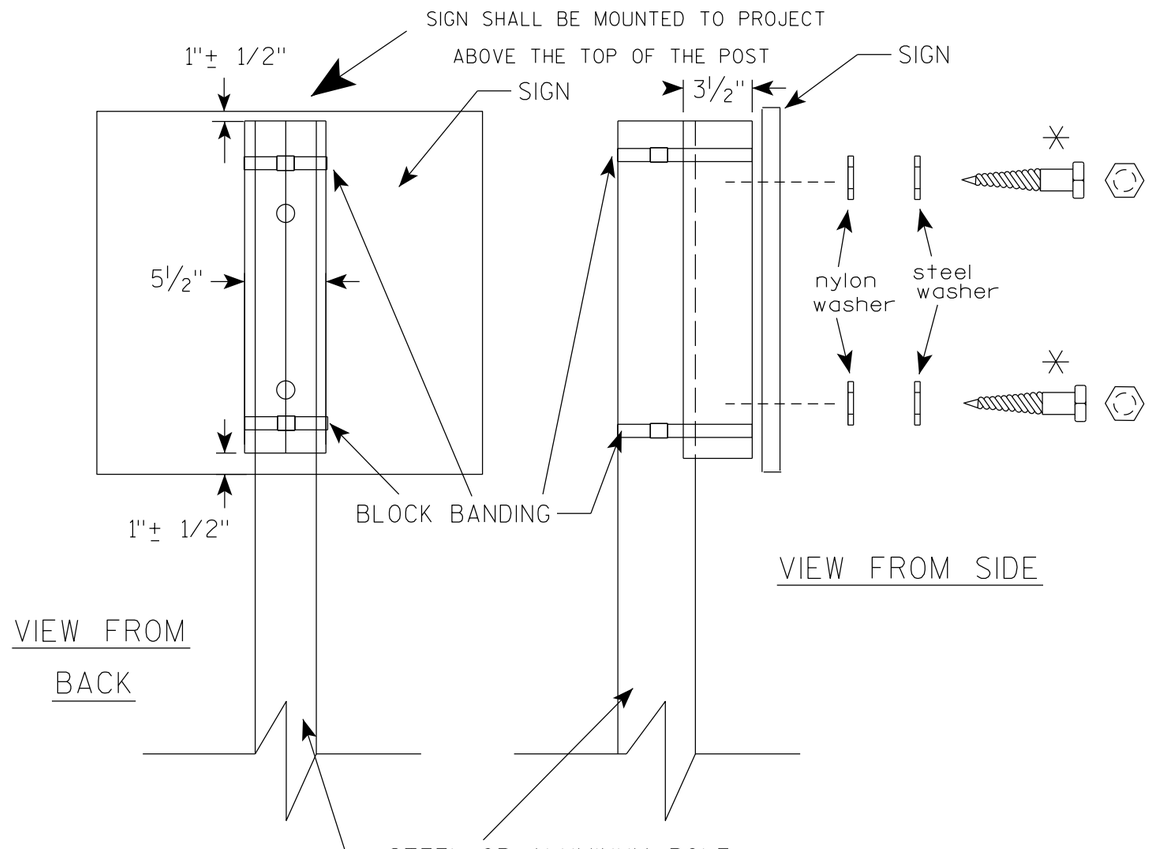
WISCONSIN DEPT OF TRANSPORTATION

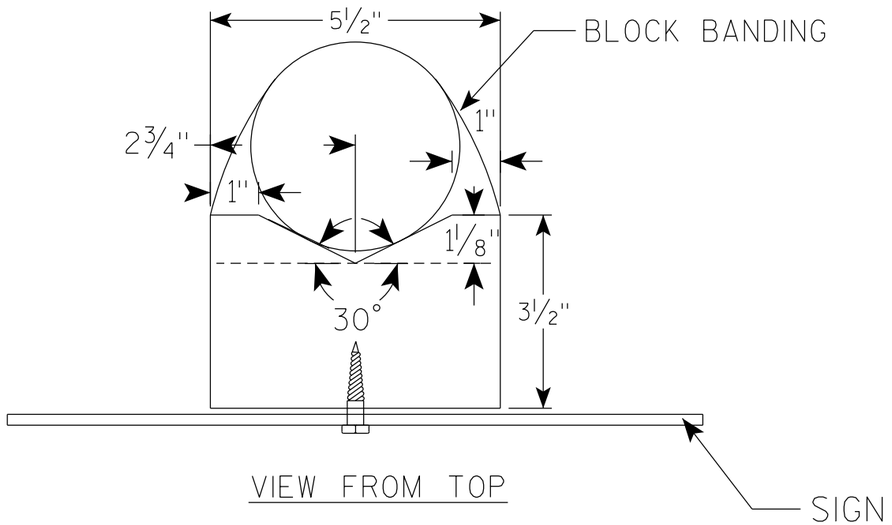
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 71	E

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





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

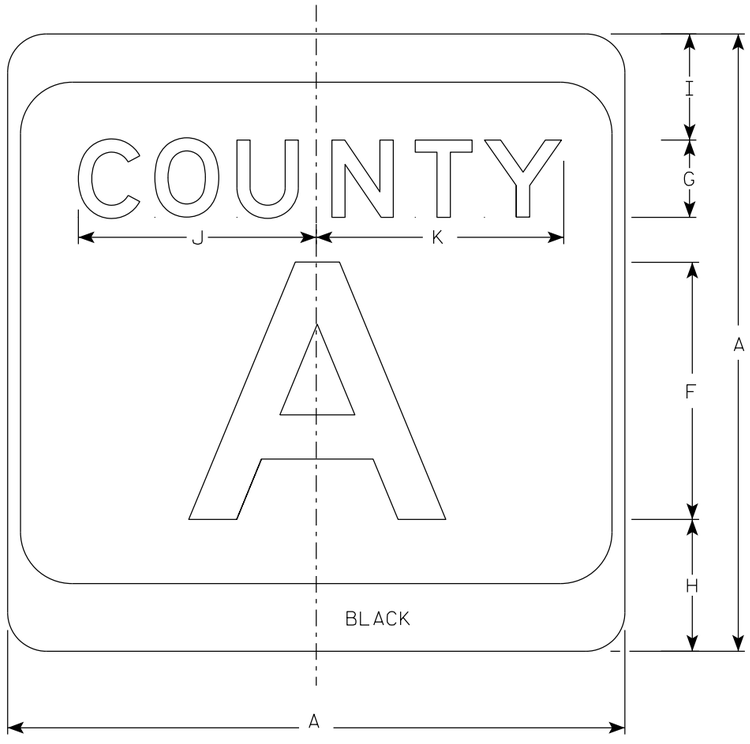
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

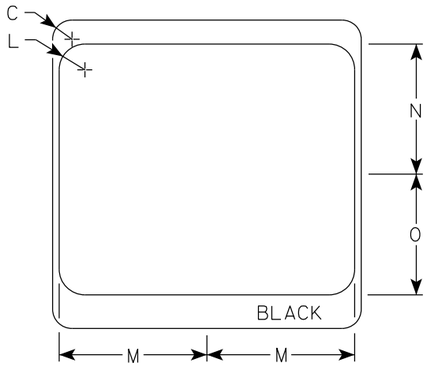
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 72 E

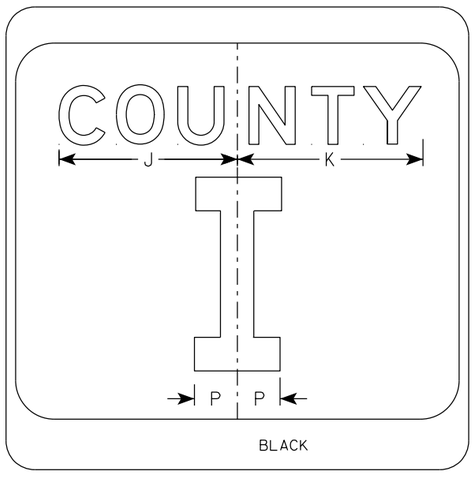


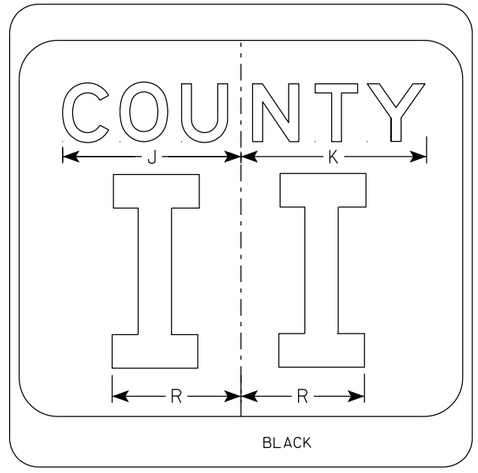
M1-5A



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White & Black
   Message - Black
3. Message Series - see Note 4
4. 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.
5. Substitute appropriate letters & optically center to achieve proper balance.





SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
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
2M	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

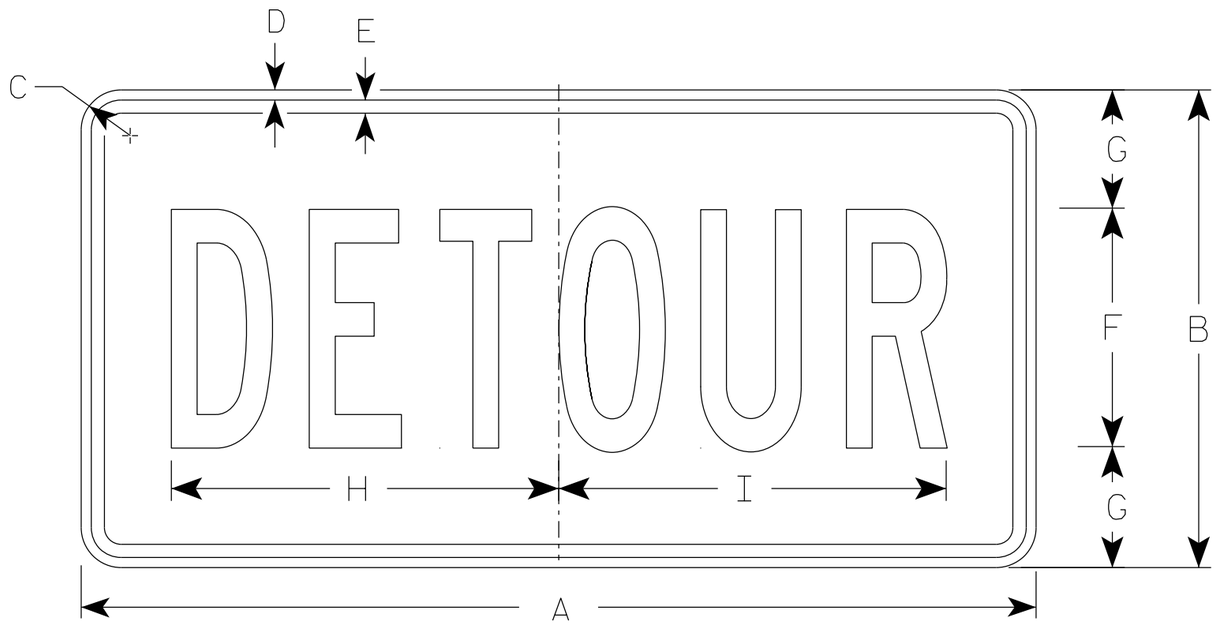
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-5A.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M15A.dgn PLOT DATE : 8-NOV 2022 8:26 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7



M4-8

NOTES

1. Sign is Type II - Type F Reflective
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 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

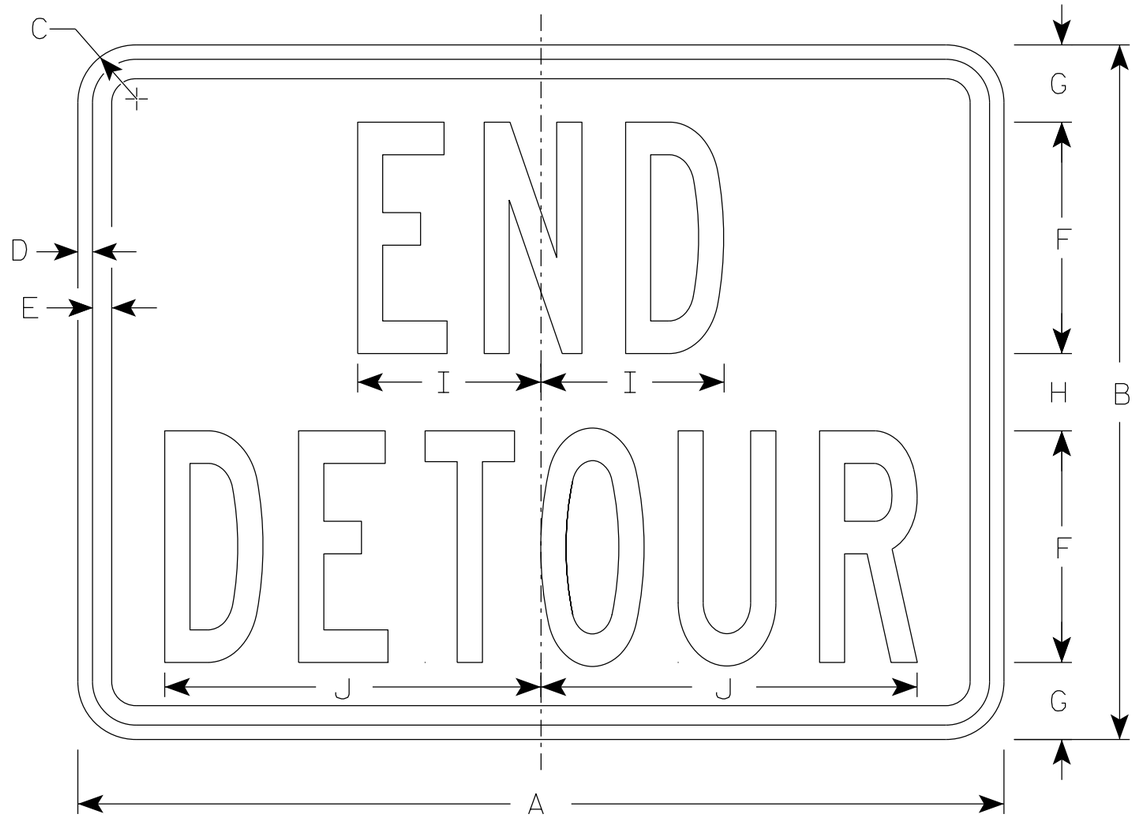
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 74	E



M4-8A

NOTES

1. Sign is Type II - Type F Reflective
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 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
2M	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
3	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
4	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
5	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0

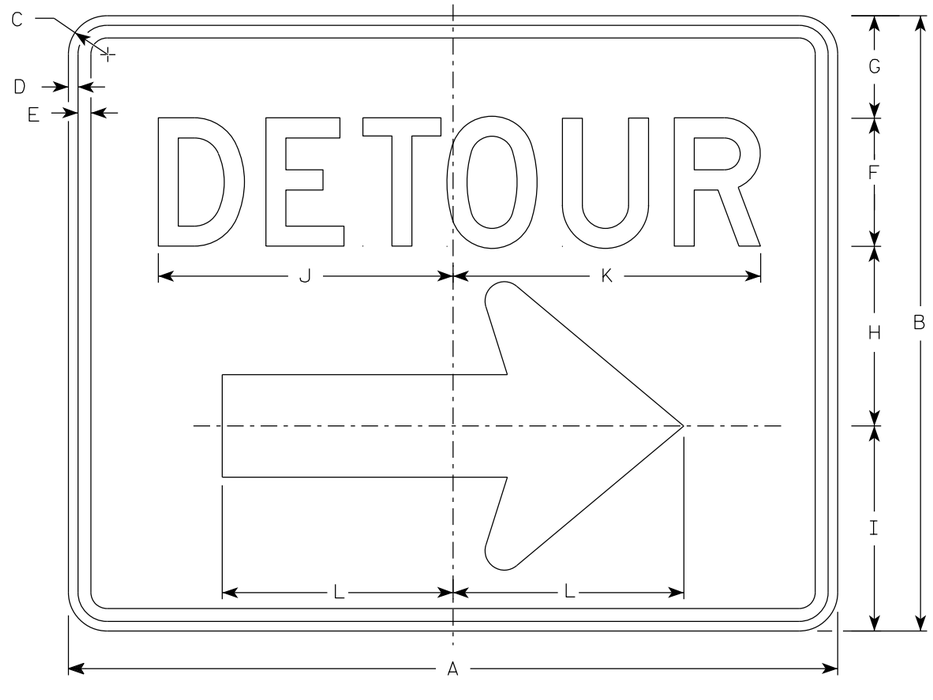
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4

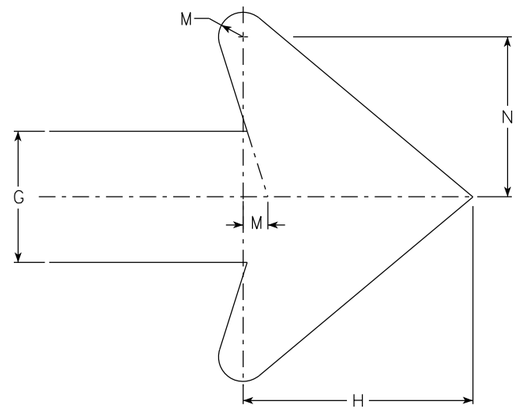
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 75 | E



M4-9R

NOTES

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



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

STANDARD SIGN
M4-9 R & L

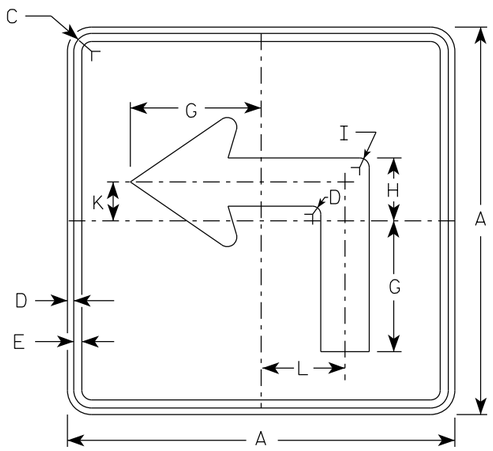
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

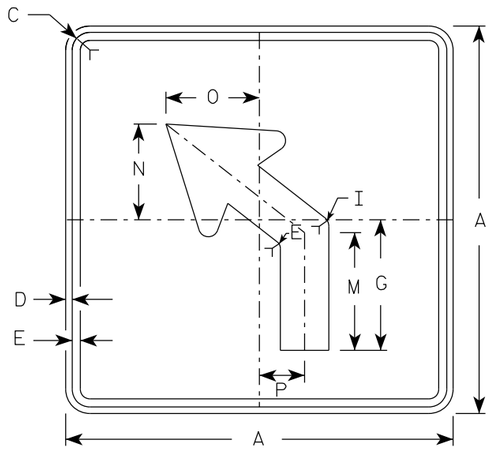
DATE 2/9/2023 PLATE NO. M4-9R.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

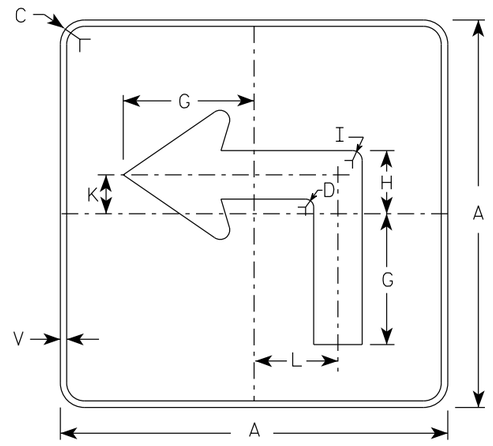
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M49R.dgn PLOT DATE : 21-MARCH 2023 1:40 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



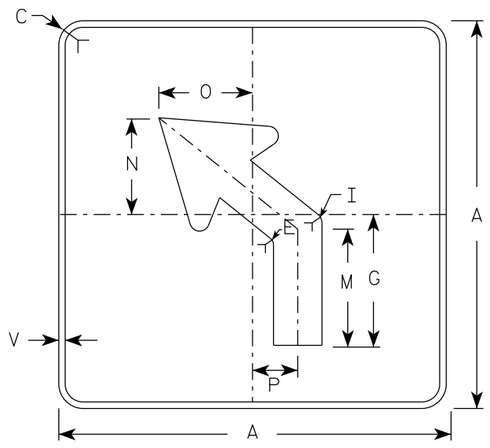
M5-1L
MM5-1L
MO5-1L
MP5-1L



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



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

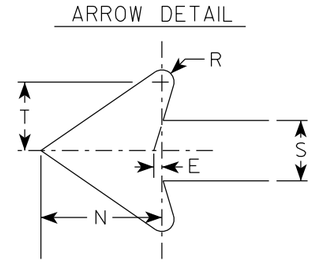


MB5-2L
MK5-2L
MN5-2L
MR5-2L

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
   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.

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	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		1/2					3.06
2M	21		1 1/2	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		1/2					3.06
3	30		1 7/8	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		1/2					6.25
4	30		1 7/8	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		1/2					6.25
5	30		1 7/8	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		1/2					6.25

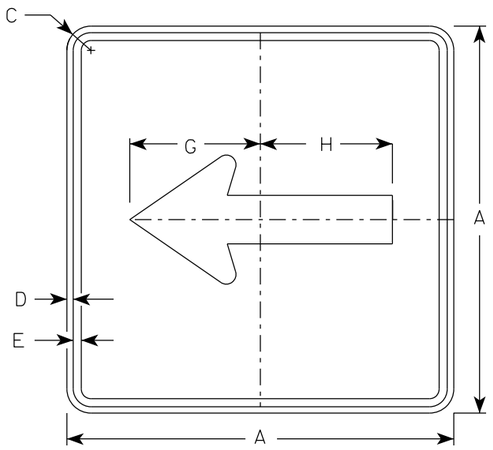
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

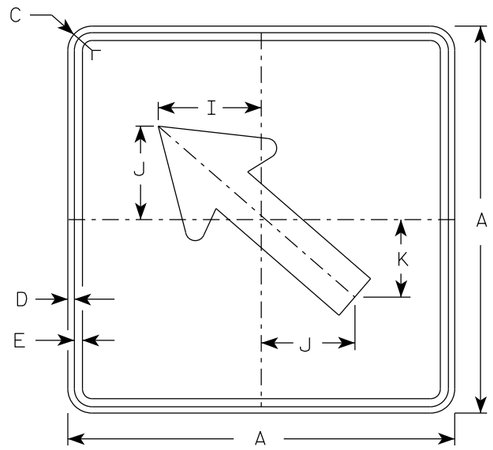
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

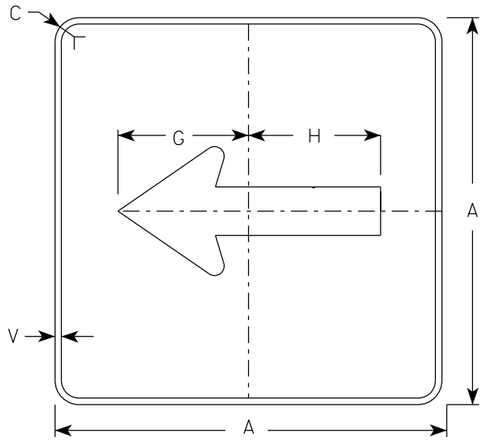
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 77 | E



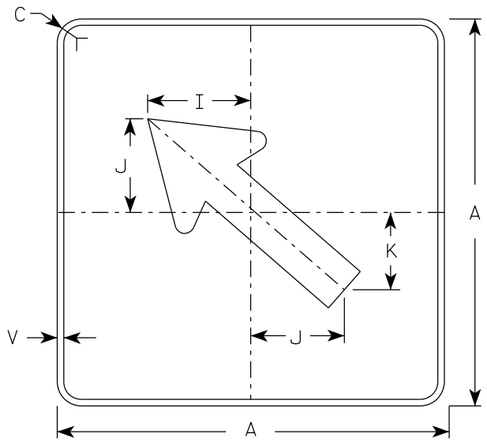
M6-1
MM6-1
MO6-1
MP6-1



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



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

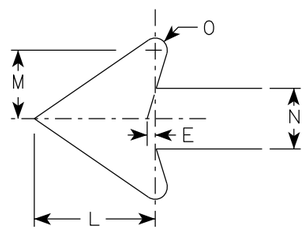


MB6-2
MK6-2
MN6-2
MR6-2

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. 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

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	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							1/2					3.06
2M	21		1 1/2	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							1/2					3.06
3	30		1 7/8	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							1/2					6.25
4	30		1 7/8	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							1/2					6.25
5	30		1 7/8	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							1/2					6.25

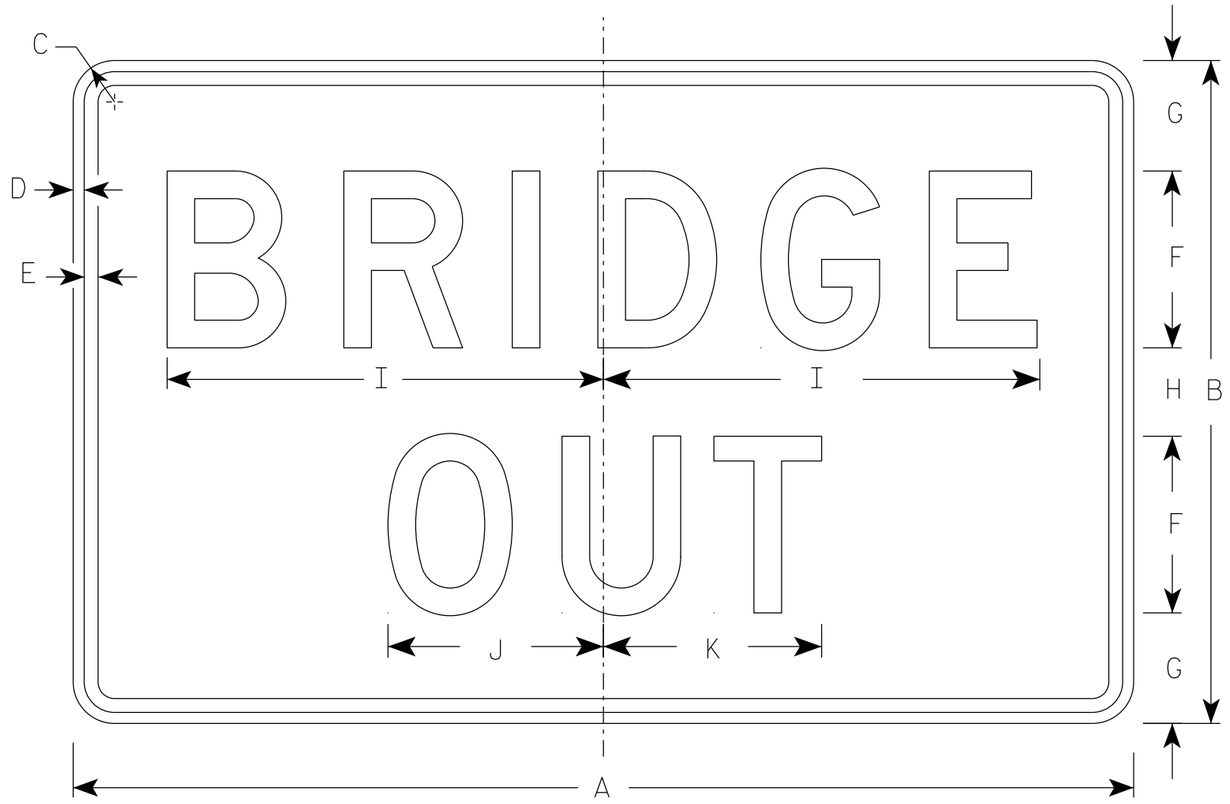
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 78 | E



R11-2B

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.

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 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

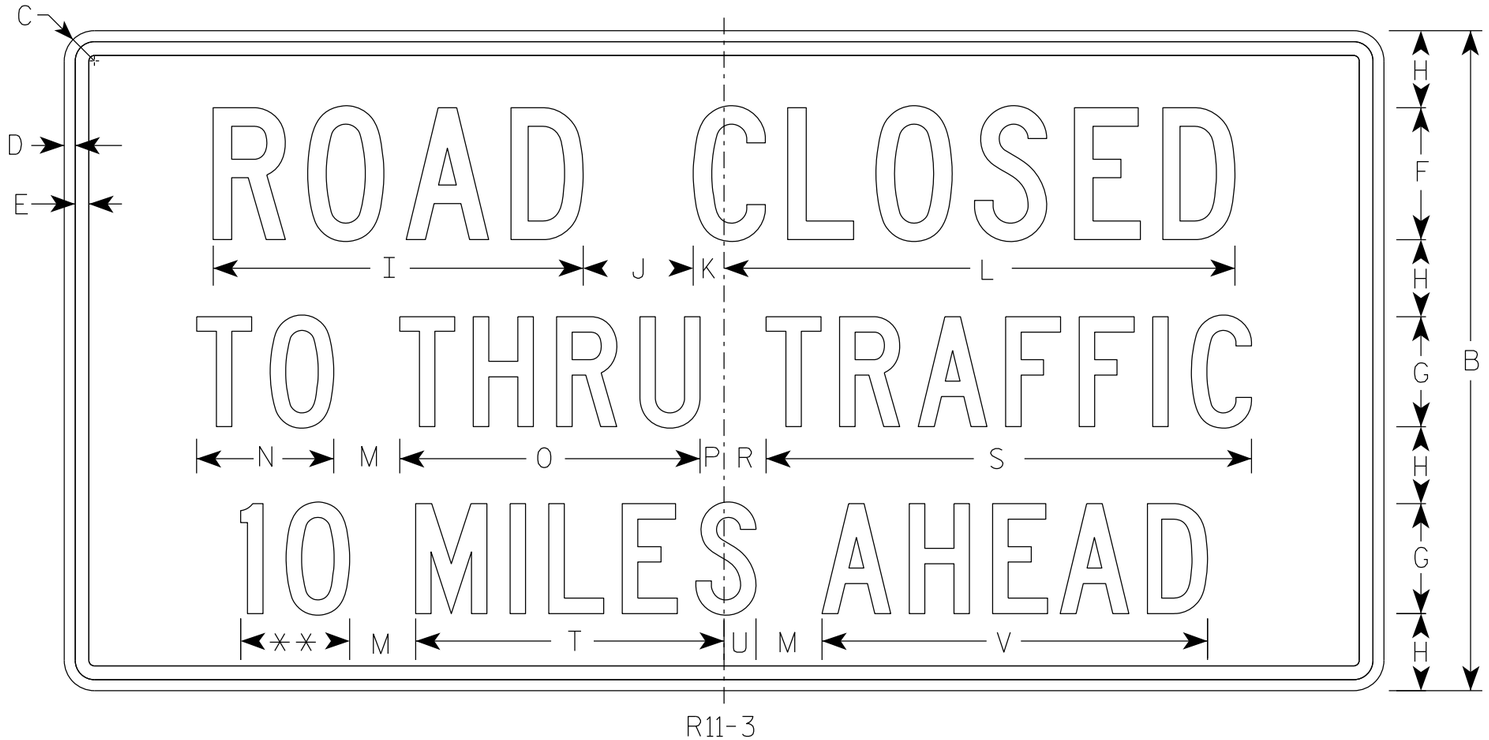
DATE 2/5/24 PLATE NO. R11-2B.3

PROJECT NO:

SHEET NO: 79 E

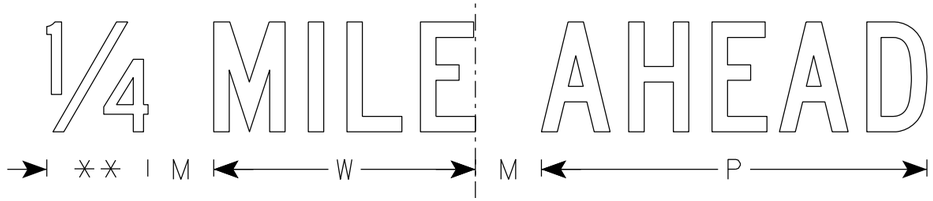
NOTES

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 1/2	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 7/8	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 7/8	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																											

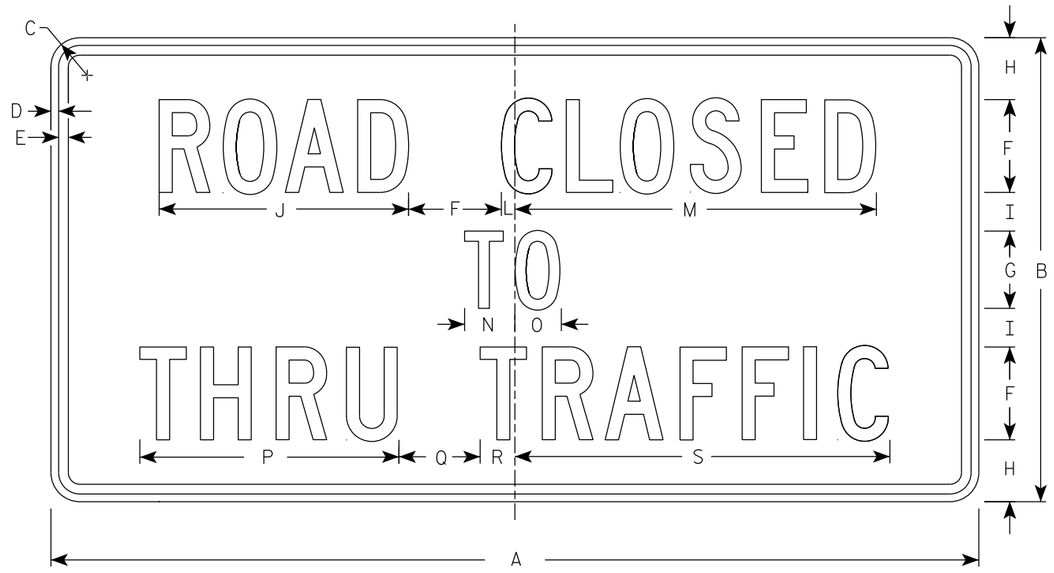
STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 80 | E



R11-4

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.

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 7/8	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 7/8	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																											

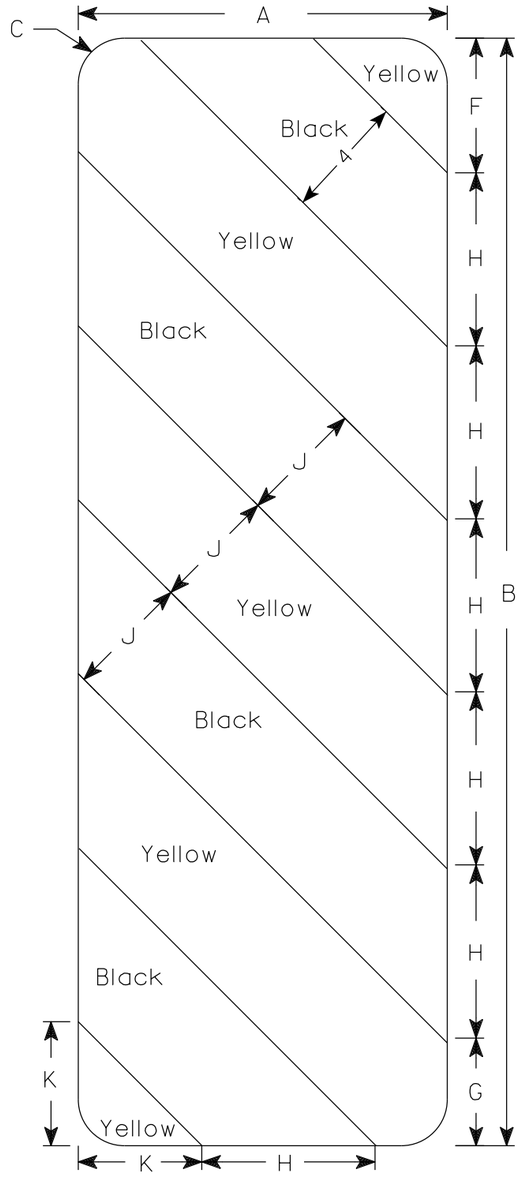
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

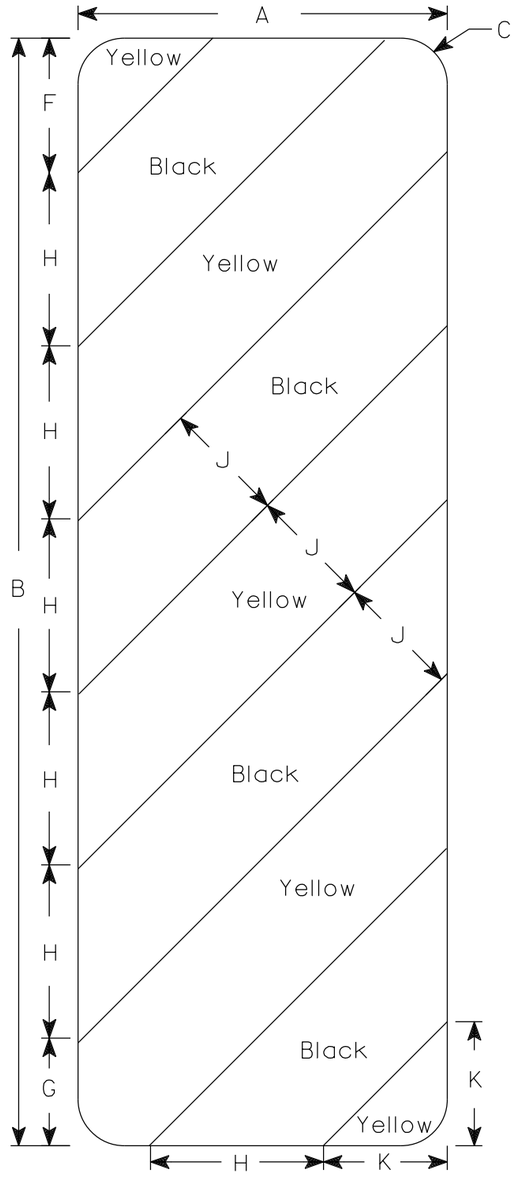
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-4.4

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 81 | E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

W5-52L & W5-52R

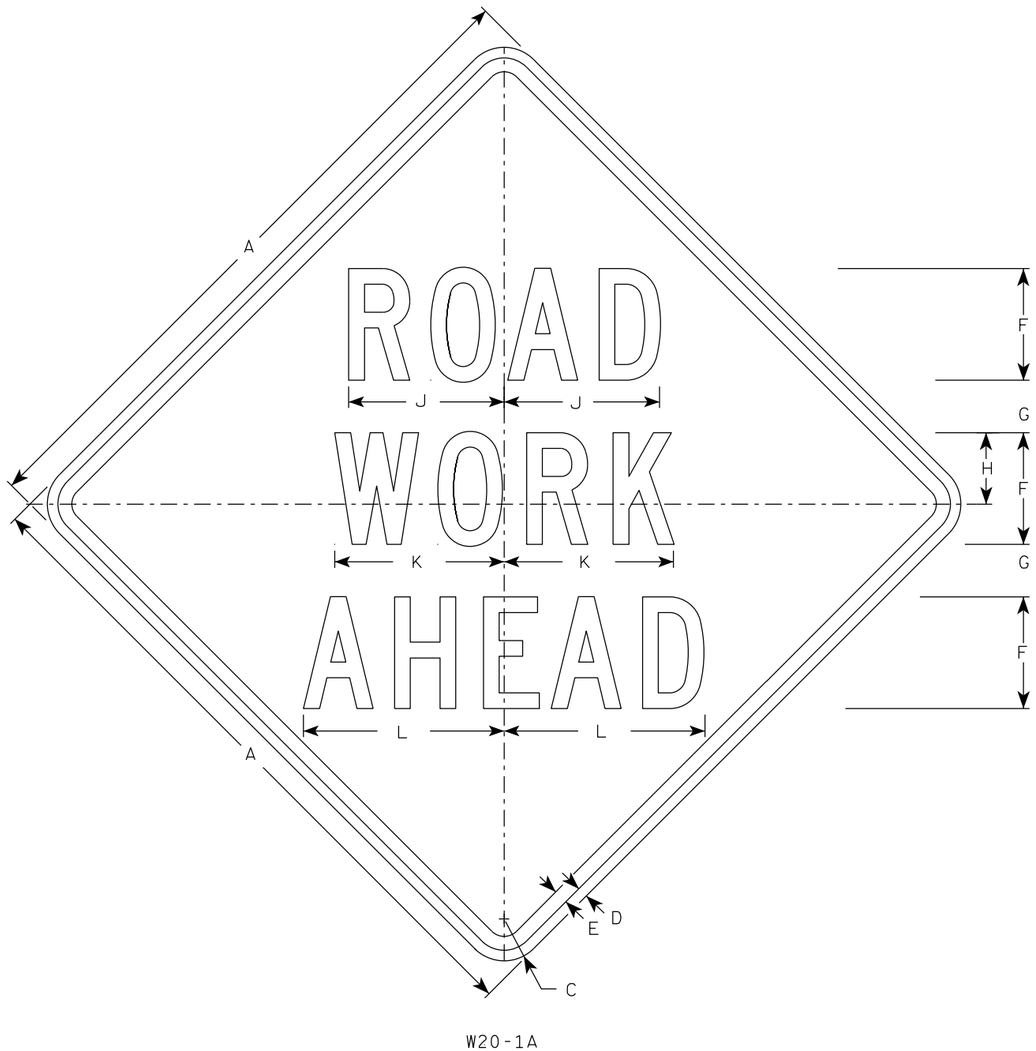
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

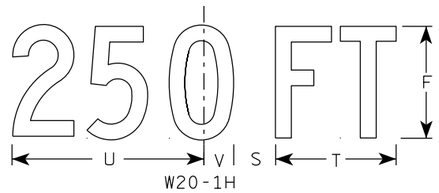
DATE 3/4/2024 PLATE NO. W5-52.10

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

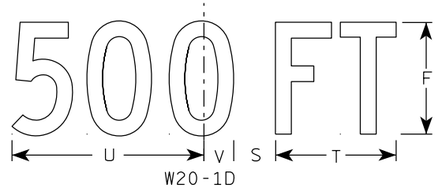
FILE NAME : C:\CAEfiles\Projects\tr_stdplate_W552.dgn PLOT DATE : 4-MARCH 2024 11:57 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



W20-1A

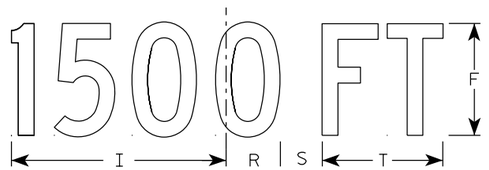


W20-1H



W20-1D

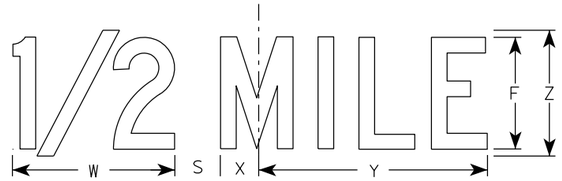
W20-1C



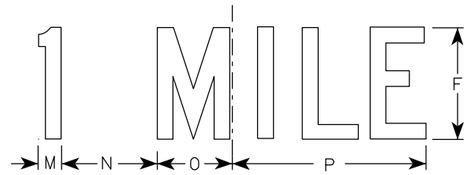
W20-1B

NOTES

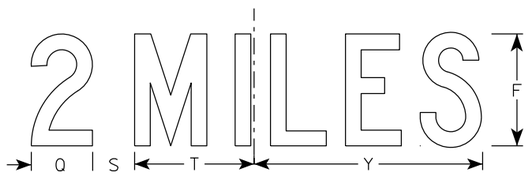
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



W20-1F



W20-1E

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		2 1/4	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

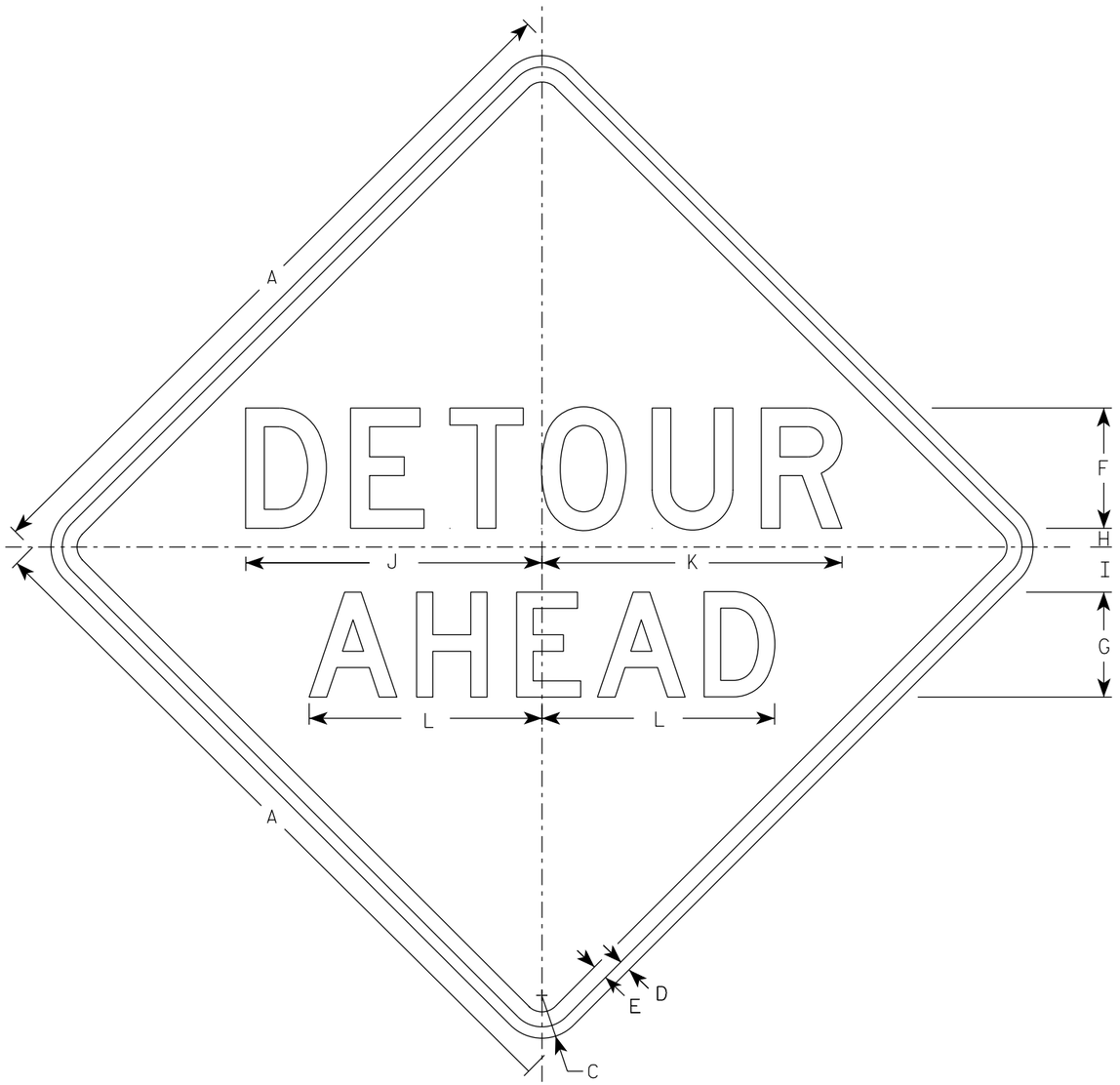
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

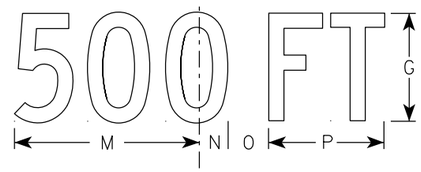
DATE 1/10/2024 PLATE NO. W20-1.12

PROJECT NO:

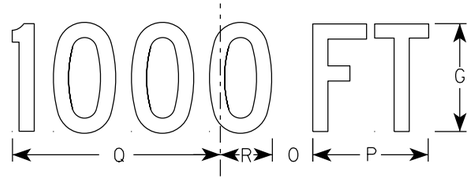
SHEET NO: 83 E



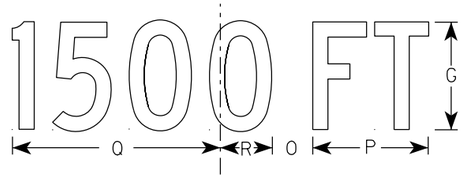
W20-2A



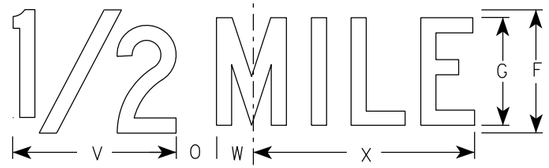
W20-2D



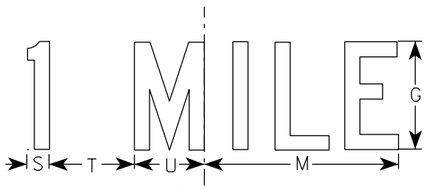
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	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		3	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		3	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		3	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		3	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		3	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

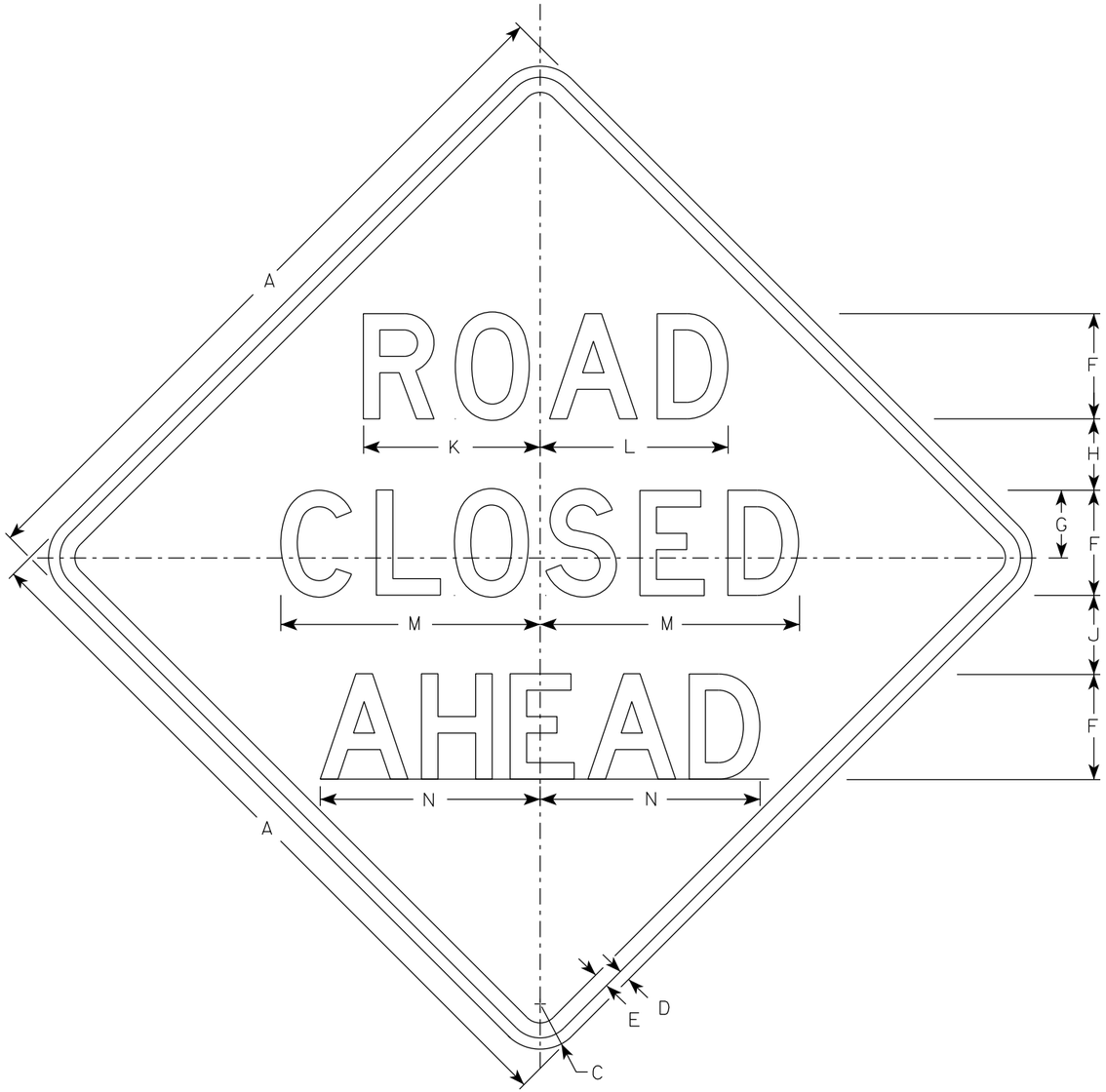
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

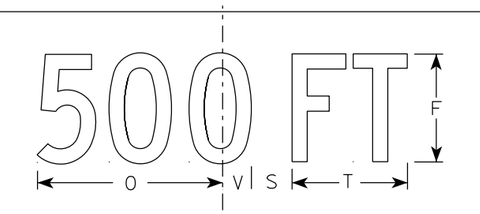
DATE 1/10/2024 PLATE NO. W20-2.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

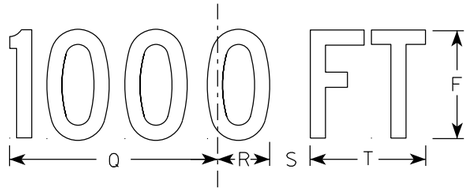
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W202.DGN PLOT DATE : 10-JAN 2024 11:36 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



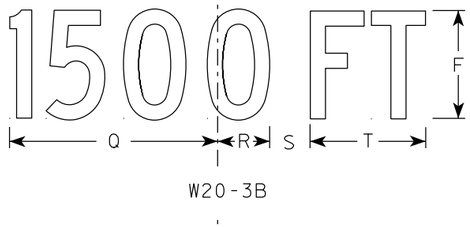
W20-3A



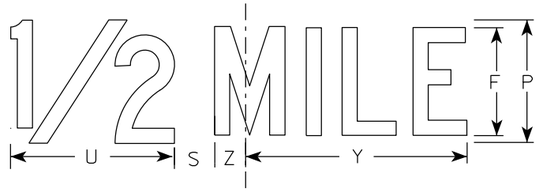
W20-3D



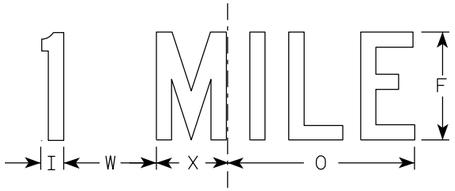
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective
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		2 1/4	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		3	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		3	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		3	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		3	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		3	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 1/10/2024 PLATE NO. W20-3.8

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W203.DGN PLOT DATE : 10-JAN 2024 12:02 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

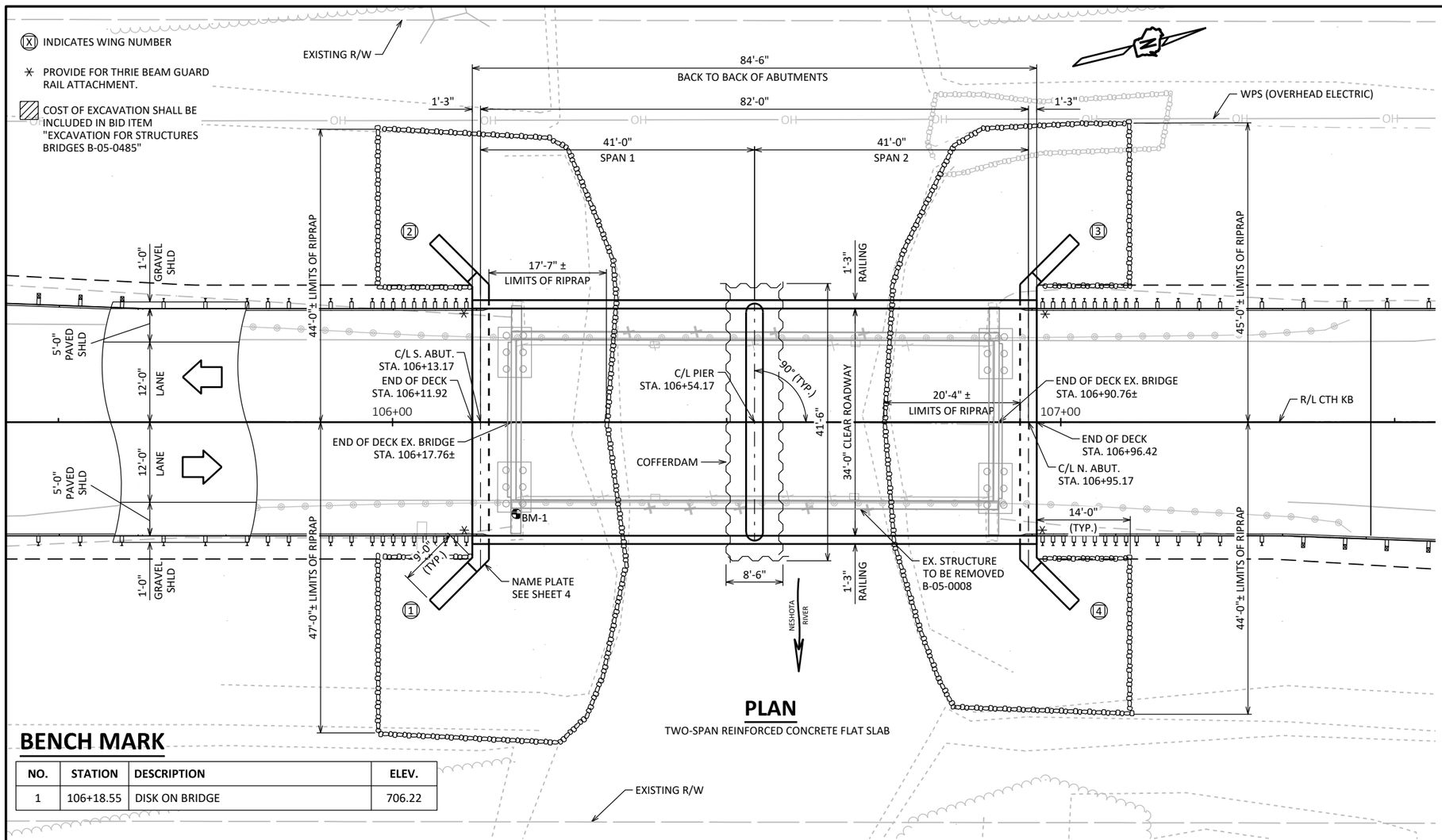
STATE PROJECT NUMBER

4538-02-73

Ⓧ INDICATES WING NUMBER

✳ PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT.

COST OF EXCAVATION SHALL BE INCLUDED IN BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-05-0485"

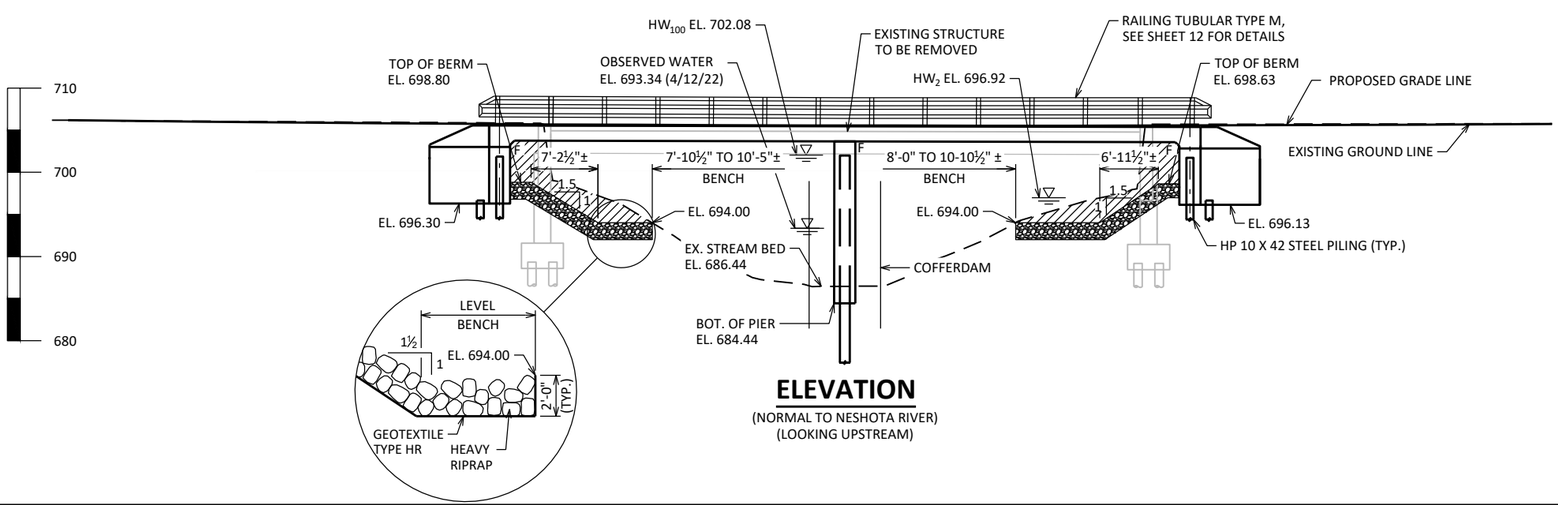


PLAN

TWO-SPAN REINFORCED CONCRETE FLAT SLAB

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
1	106+18.55	DISK ON BRIDGE	706.22



ELEVATION

(NORMAL TO NESHOTA RIVER)
(LOOKING UPSTREAM)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.28
OPERATING RATING: RF = 1.66
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE — f'_c = 4,000 PSI
ALL OTHER — f'_c = 3,500 PSI

BAR STEEL REINFORCEMENT
GRADE 60 — f_y = 60,000 PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 30'-0" LONG - BOTH ABUTMENTS.

PIER TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PRE-BORED HOLES CORED 3'-0" MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF THE PILES IN COMPRESSION USED FOR DESIGN IS 180 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5.
ESTIMATED 30'-0" LONG.

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

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 4000 C.F.S.
V_{100}= 5.6 F.P.S.
HW_{100}= 702.08
WATERWAY AREA = 720.3 SQ. FT.
DRAINAGE AREA = 44.5 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

Q_2= 750 C.F.S.
V_2= 2.0 F.P.S.
HW_2= EL. 696.92

TRAFFIC DATA

CTH KB:

ADT = 1640 (2026)
ADT = 1970 (2046)
R.D.S. = 55 MPH

LIST OF DRAWINGS:

WISCONSIN
MATTHEW S. KRIPPNER
E-42470
VERONA
WI
PROFESSIONAL ENGINEER

8/1/2025

STRUCTURE DESIGN CONTACT:

BUREAU OF STRUCTURES:
AARON BONK (608) 261-0261

CONSULTANT:
MATTHEW KRIPPNER (608) 828-8123

NO.	DATE	REVISION	BY

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED JLR 08/04/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-5-485

CTH KB OVER NESHOTA RIVER

COUNTY	TOWN
BROWN	NEW DENMARK

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
DCH	MSK	DCH	MSK

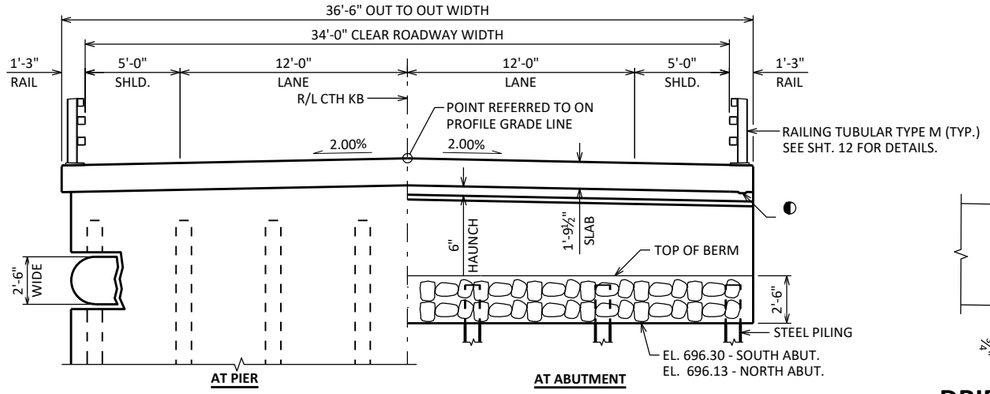
GENERAL PLAN

SHEET 1 OF 12
86

I.D.

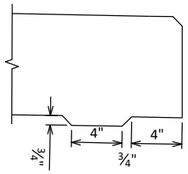
DATE: AUG. 2025

SCALE =

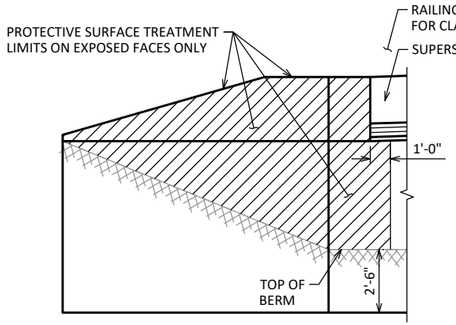


CROSS SECTION THRU ROADWAY LOOKING NORTH

◐ SEE DRIP EDGE DETAIL

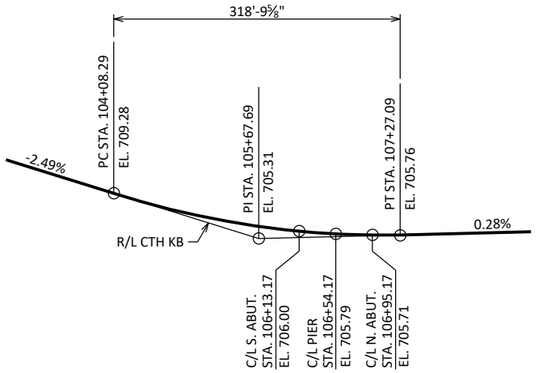


DRIP EDGE DETAIL

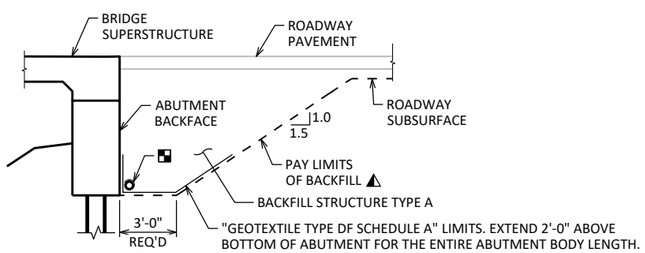


WING ELEVATION

SHOWING LIMITS OF PROTECTIVE SURFACE TREATMENT.
ALL WINGS SIMILAR.



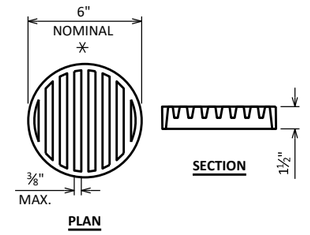
PROFILE GRADE LINE



TYPICAL SECTION THRU ABUTMENT

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

▪ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



RODENT SHIELD DETAIL

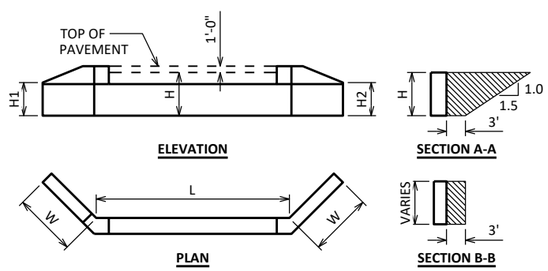
⁎ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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

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

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT.	PIER 1	NORTH ABUT.	SUPER.	TOTALS
203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-05-0008	EACH					1
203.0260	REMOVING STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS B-05-0008	EACH					1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-05-0485	EACH					1
206.5001	COFFERDAMS B-05-0485	EACH					1
210.1500	BACKFILL STRUCTURE TYPE A	TON	290		280		570
502.0100	CONCRETE MASONRY BRIDGES	CY	40	63	39	211	353
502.3200	PROTECTIVE SURFACE TREATMENT	SY	20		20	395	435
502.9000.S	UNDERWATER SUBSTRUCTURE INSPECTION B-05-0485	EACH					1
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,420	3,040	2,410		7,870
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,510	80	1,510	30,950	34,050
513.4061	RAILING TUBULAR TYPE M	LF				169	169
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10		10		20
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF		116			116
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	230	240	230		700
606.0300	RIPRAP HEAVY	CY	210		200		410
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	65		65		130
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	40		40		80
645.0120	GEOTEXTILE TYPE HR	SY	350		330		680
SPV.0060.01	SUPERSTRUCTURE 3/4" X 5 1/2" DRIP EDGES B-05-0485	EACH					1
	NON-BID ITEMS						
	FILLER	SIZE					½" & ¾"



ABUTMENT BACKFILL DIAGRAM

L = ABUTMENT BODY LENGTH AT BACKFACE (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
H1 = WING 1 HEIGHT AT TIP (FT)
H2 = WING 2 HEIGHT AT TIP (FT)
W = WING LENGTH (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H1+H2+H+H)(W)
V_{CY} = V_{CF}(EF)/27
V_{TON} = V_{CY}(2.0)

STATE PROJECT NUMBER

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GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE EXISTING STRUCTURE, B-5-8, IS A SINGLE SPAN STEEL DECK GIRDER BRIDGE ORIGINALLY CONSTRUCTED IN 1948. THE SUPERSTRUCTURE IS SUPPORTED ON CONCRETE ABUTMENTS ON TIMBER PILES. THE EXISTING BRIDGE HAS AN OVERALL LENGTH OF 72'-6" AND AN OVERALL WIDTH OF 29'-6". EXISTING STRUCTURE B-5-8 IS TO BE REMOVED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-05-0485" SHALL BE THE EXISTING GROUNDLINE.

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

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

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK, THE DECK EDGES, THE EXTERIOR 1'-0" OF THE UNDERSIDE OF THE DECK AND DIAPHRAGMS, THE EXPOSED TOP AND FRONT FACES OF THE WINGS TO 1'-0" PAST THE EDGE OF DECK ON THE ABUTMENTS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS. RIPRAP SHALL NOT BE PLACED OUTSIDE OF THE LIMITS SHOWN OR BE PLACED BELOW OBSERVED HIGH WATER MARK.

THE EXISTING STREAM BED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIER.

AT PIER, COFFERDAM AND COFFERDAM DEWATERING REQUIRED. COFFERDAM SHALL BE DEWATERED PRIOR TO PLACING PIER CONCRETE.

REMOVE AND SALVAGE THE EXISTING RAILINGS (INCLUDES RAILS, POSTS AND ALL ASSOCIATED HARDWARE). AFTER REMOVAL, THE RAILINGS ARE TO BE SET ASIDE AND SHALL REMAIN THE PROPERTY OF THE STATE OF WISCONSIN. THE CONTRACTOR WILL COORDINATE WITH BROWN COUNTY HIGHWAY DEPARTMENT, AS TO WHEN THE RAILING ARE READY TO BE PICKED UP. THIS SHALL BE INCIDENTAL TO "REMOVING STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS B-05-0008".

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-485

DRAWN BY DCH | PLANS CK'D MSK

QUANTITIES, CROSS SECTION & NOTES

SHEET 2 OF 12

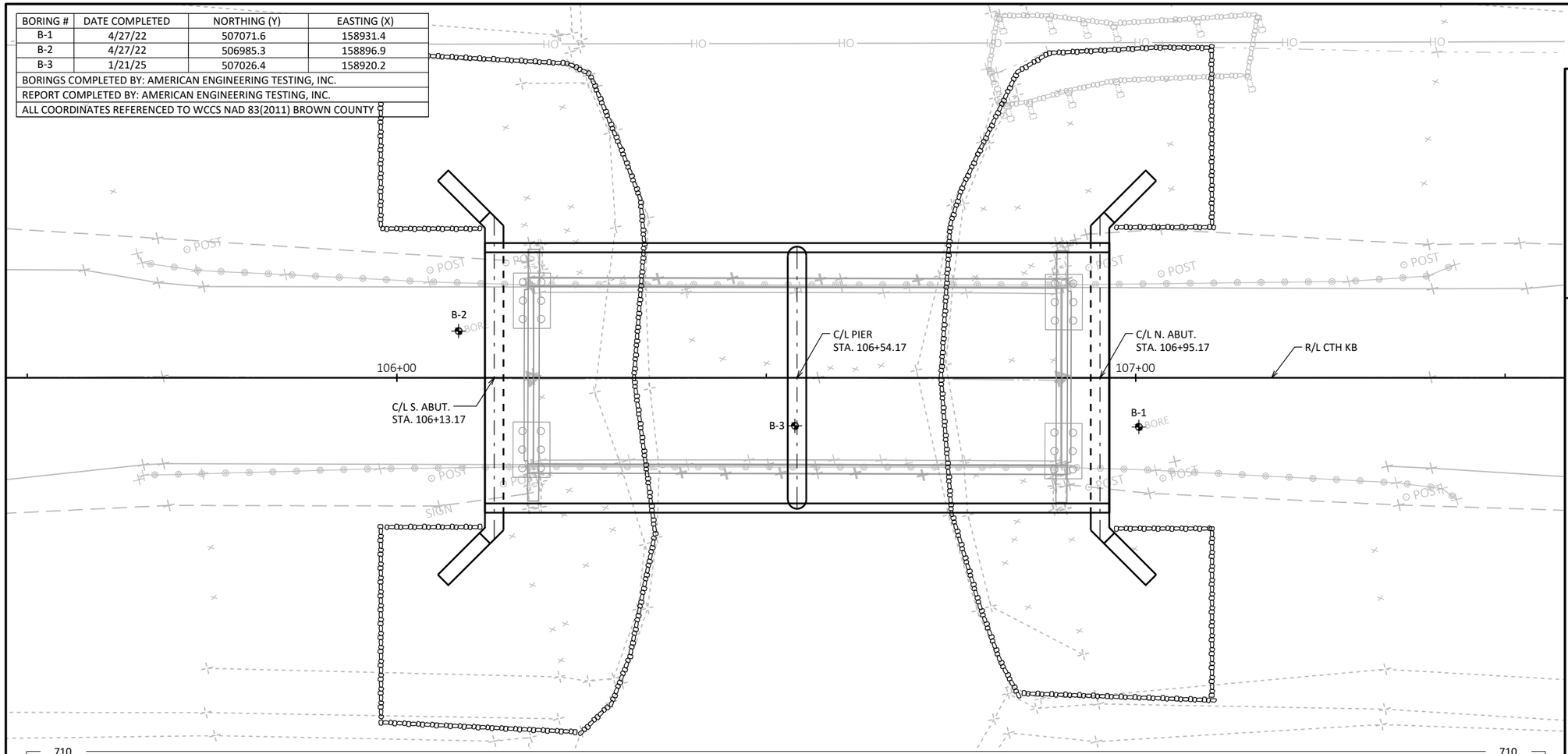
87

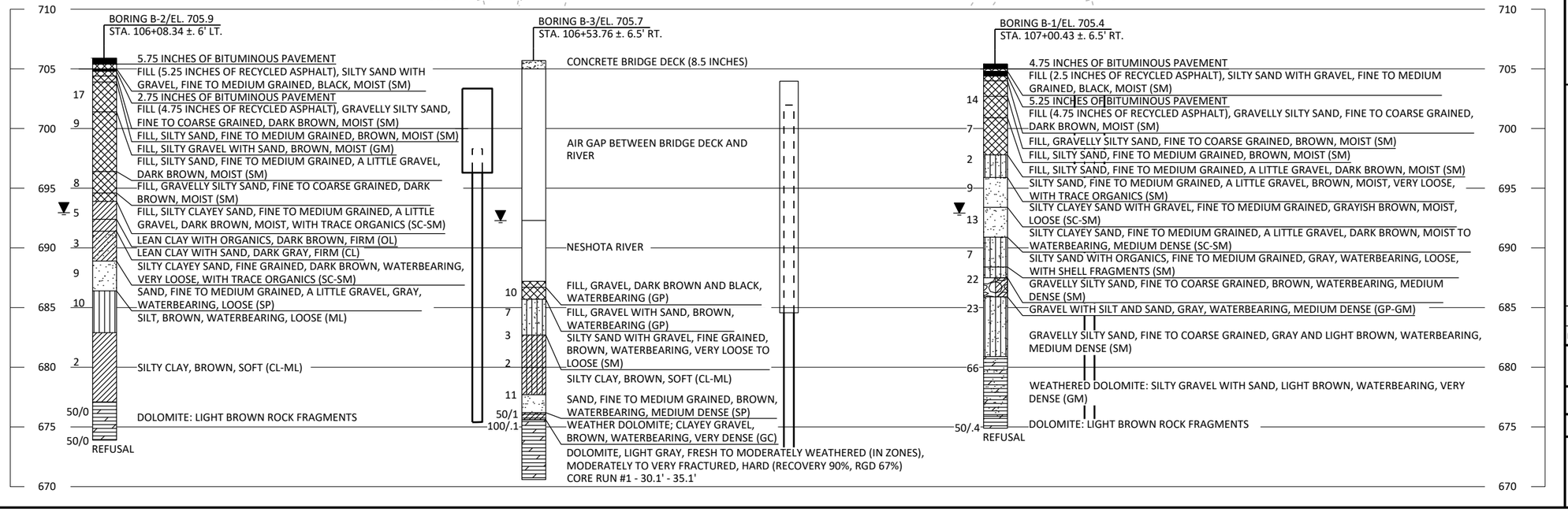
SCALE =

8

8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	4/27/22	507071.6	158931.4
B-2	4/27/22	506985.3	158896.9
B-3	1/21/25	507026.4	158920.2
BORINGS COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) BROWN COUNTY			





STATE PROJECT NUMBER

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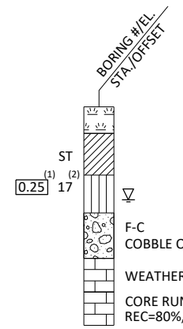
MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

AT TIME OF DRILLING
END OF DRILLING
AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-485

DRAWN BY DCH | PLANS CK'D MSK

SUBSURFACE EXPLORATION

SHEET 3 OF 12
88

SCALE =

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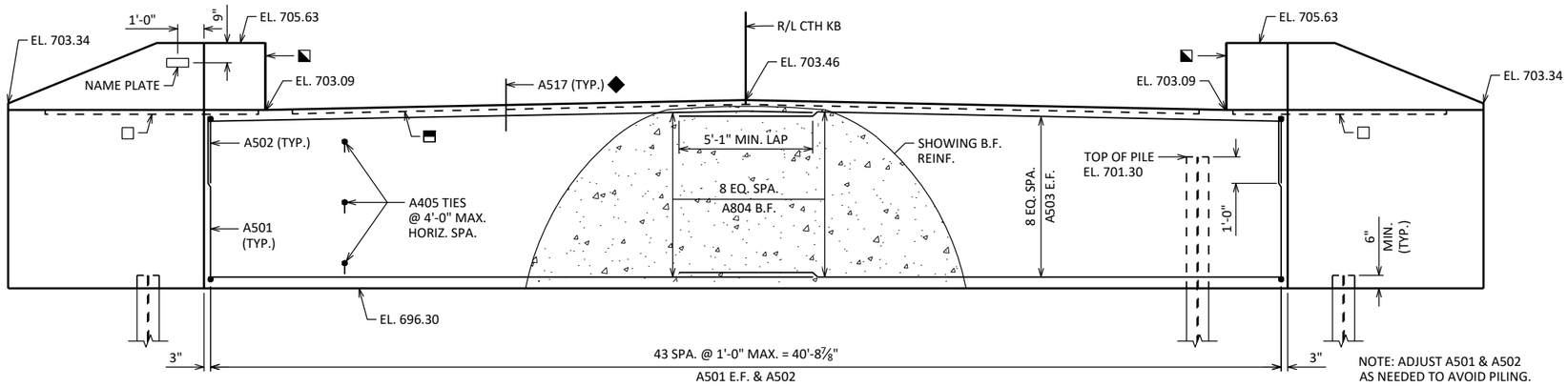


NOTE: ADJUST A501 & A502 AS NEEDED TO AVOID PILING.

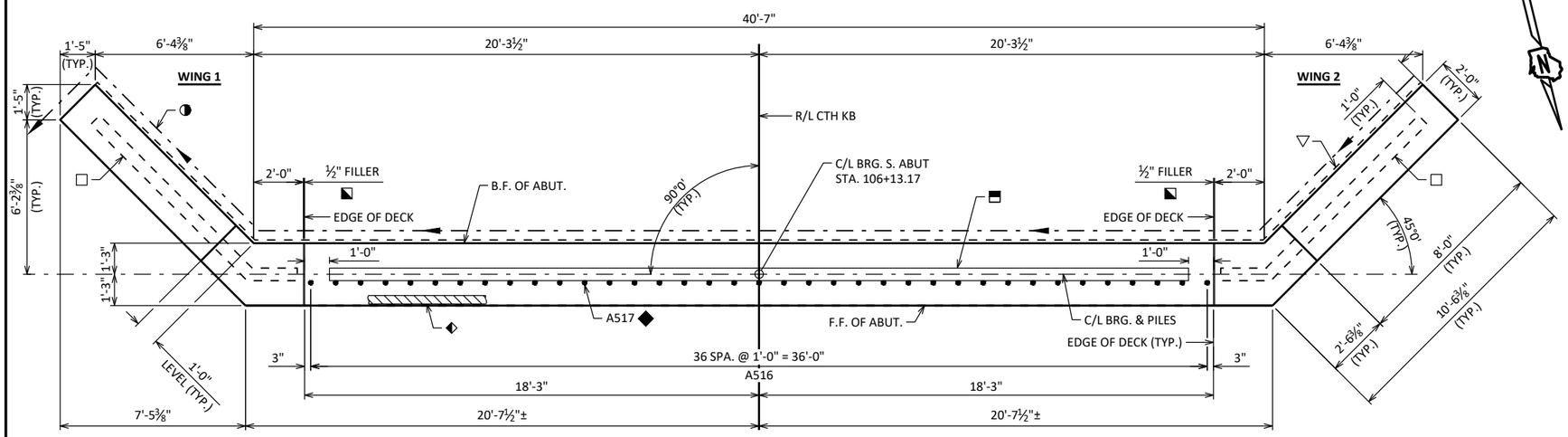
ELEVATION

(LOOKING SOUTH AT SOUTH ABUTMENT)

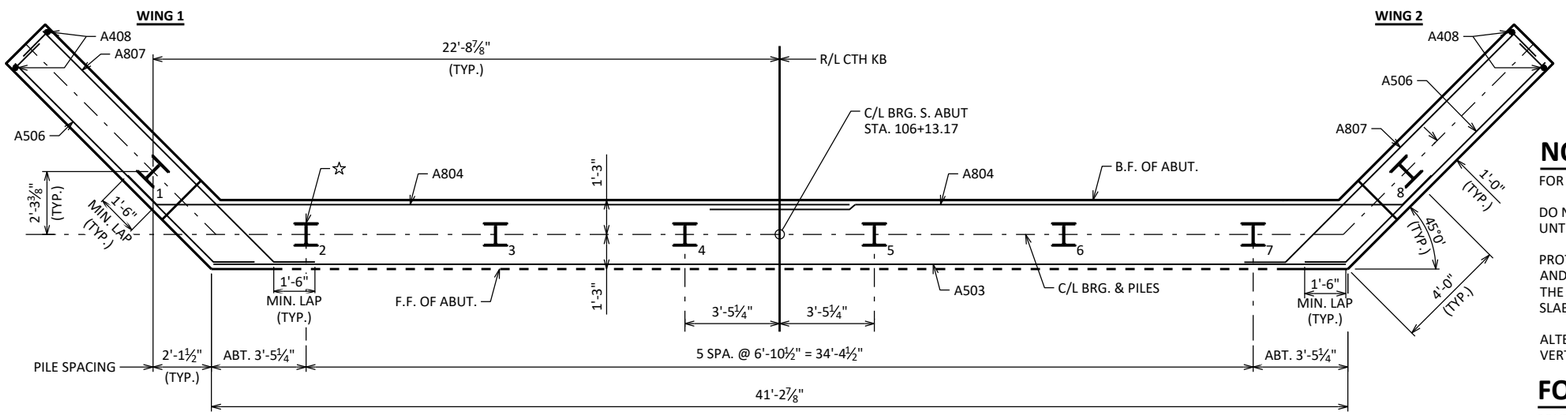
LEGEND

- ☆ SUPPORT ABUTMENTS ON PILING STEEL HP 10-INCH X 42 LB. SEE FOUNDATION DATA ON THIS SHEET AND PILE SPLICE DETAIL ON SHEET 8.
- ◑ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. DRAIN BOTH ABUTMENTS TO DOWNSTREAM SIDE OF BRIDGE. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE SHEET 2.
- ⬔ ½" FILLER TO EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)
- ◆ A517 AT 1'-0". BARS MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT PRIOR TO ITS INITIAL SET. EMBED 1'-0".
- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ◈ 4" X ¾" FILLER TO EXTEND BETWEEN EDGES OF SLAB AT ABUTMENTS AND AROUND ENTIRE PERIMETER AT TOP OF PIER.
- ⬒ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".
- □ OPTIONAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2" X 6", WITH RUBBERIZED MEMBRANE WATERPROOFING ON BACKFACE. (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES")

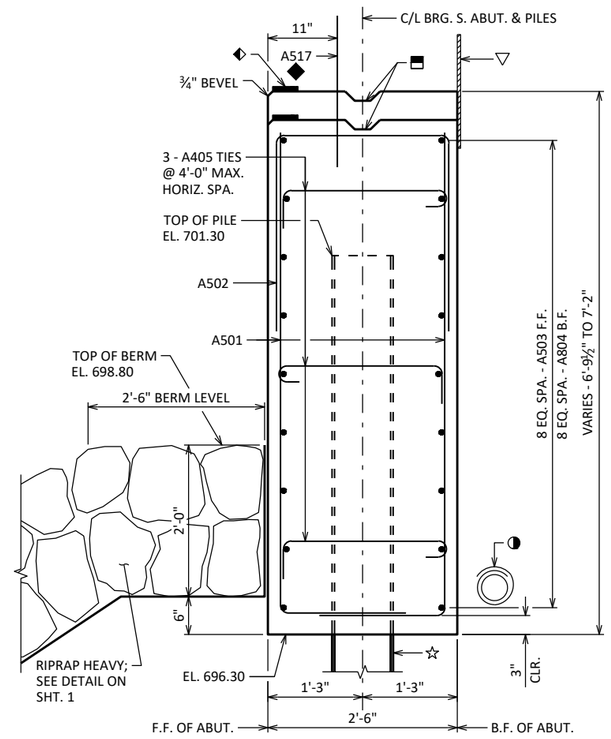
F.F. = FRONT FACE B.F. = BACK FACE E.F. = EACH FACE



PLAN



PILE PLAN



TYPICAL SECTION THRU BODY

NOTES

FOR WING DETAILS AND ELEVATIONS, SEE SHEET 5.

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP AND EXTERIOR FACE OF WINGS; AND TO THE FRONT FACE OF THE ABUTMENT FROM THE WINGS TO 1'-0" PAST THE EDGE OF SLAB.

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

FOUNDATION DATA

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS. ESTIMATED 30 FEET LONG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-485

DRAWN BY DCH PLANS CK'D MSK

SOUTH ABUTMENT

SHEET 4 OF 12

89

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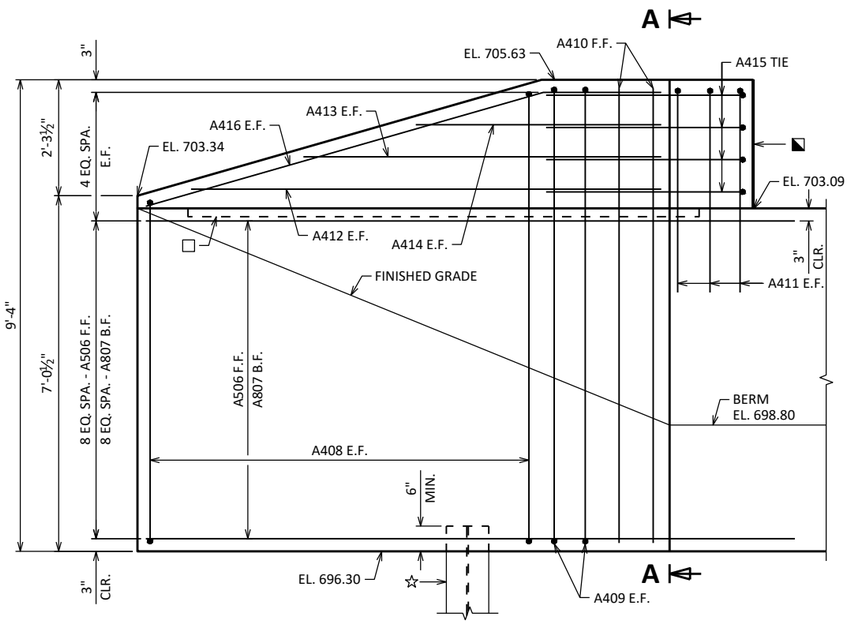
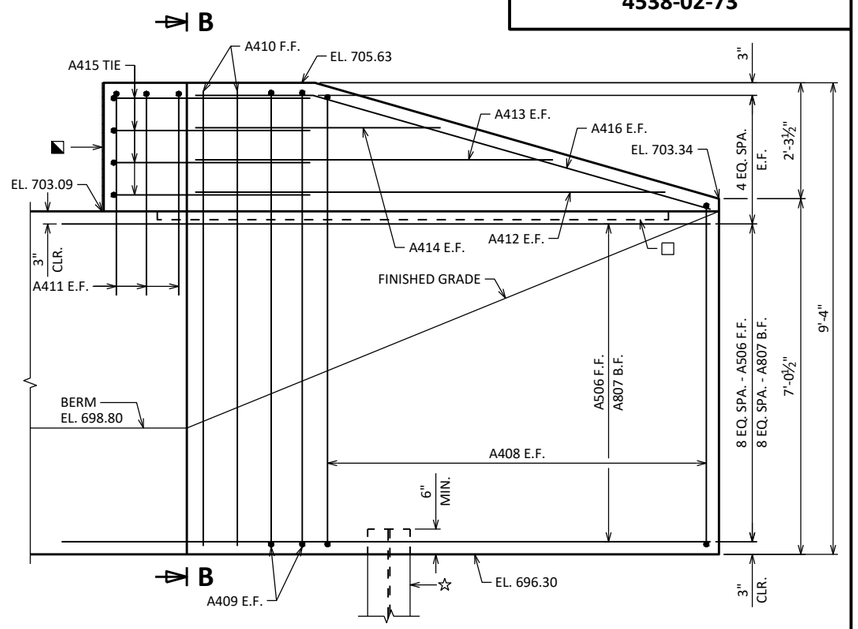
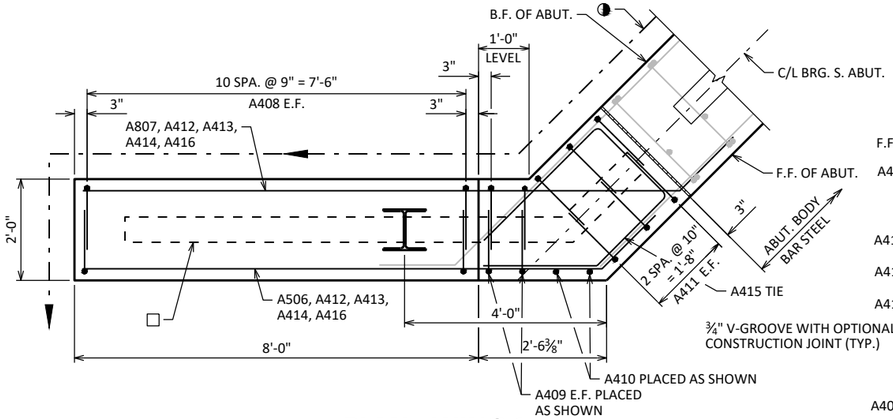


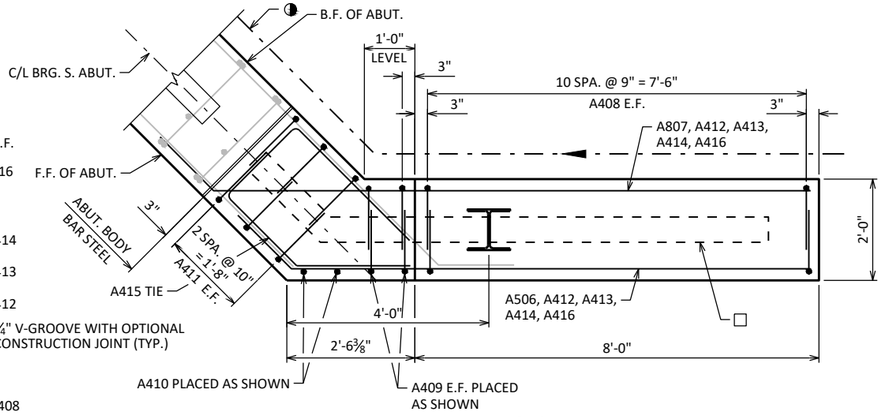
ELEVATION - WING 1



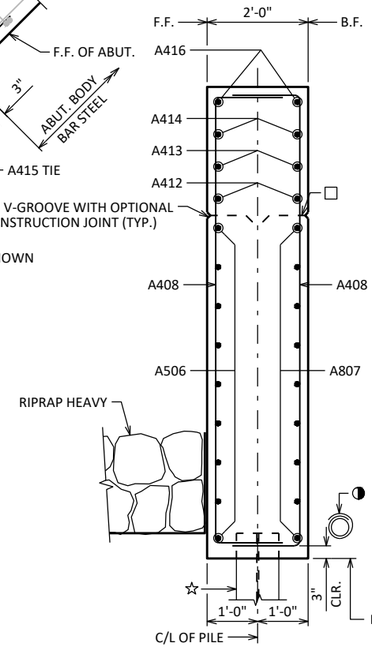
ELEVATION - WING 2



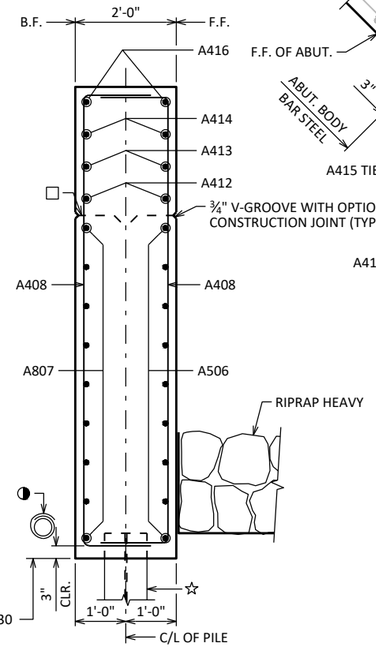
PLAN - WING 1



PLAN - WING 2



SECTION A-A



SECTION B-B

NOTE

ADJUST A408 BARS TO MISS PILING.

LEGEND

FOR SYMBOL DESCRIPTIONS SEE SHEET 4.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-485

DRAWN BY DCH | PLANS CK'D MSK

WINGS 1 & 2

SHEET 5 OF 12

90

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8

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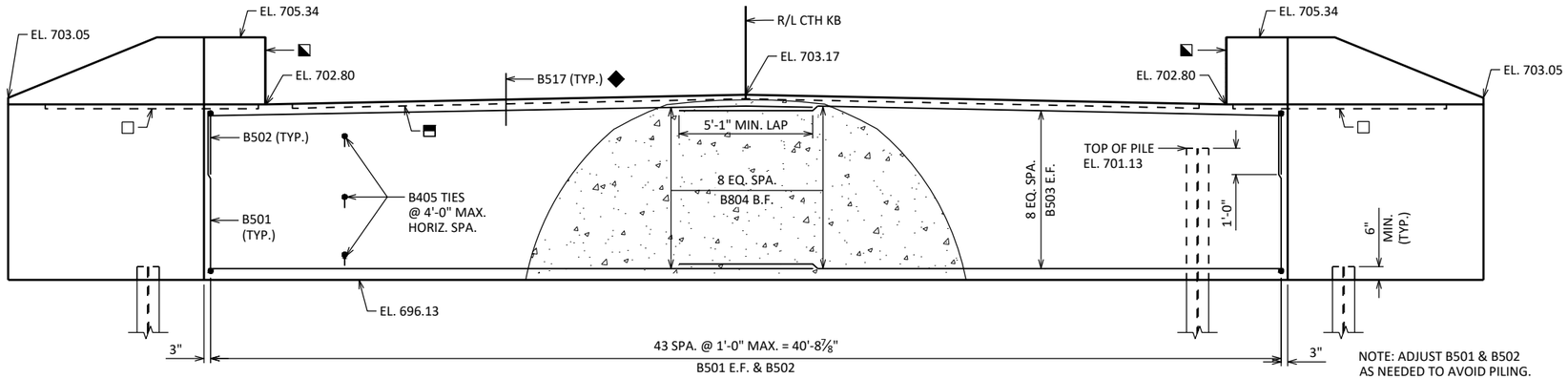


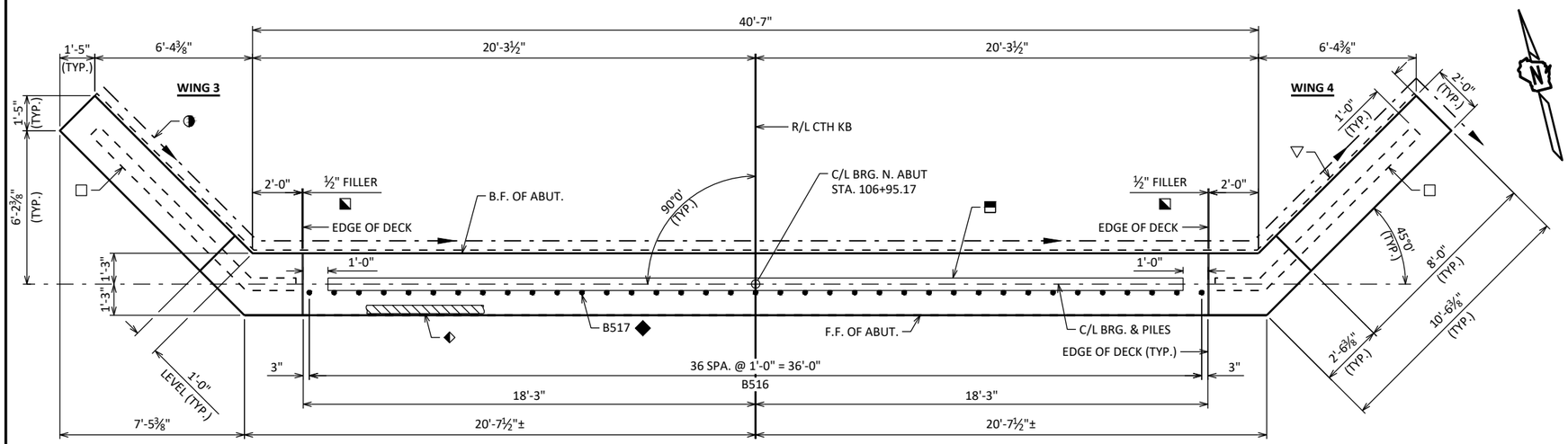
ELEVATION

(LOOKING NORTH AT NORTH ABUTMENT)

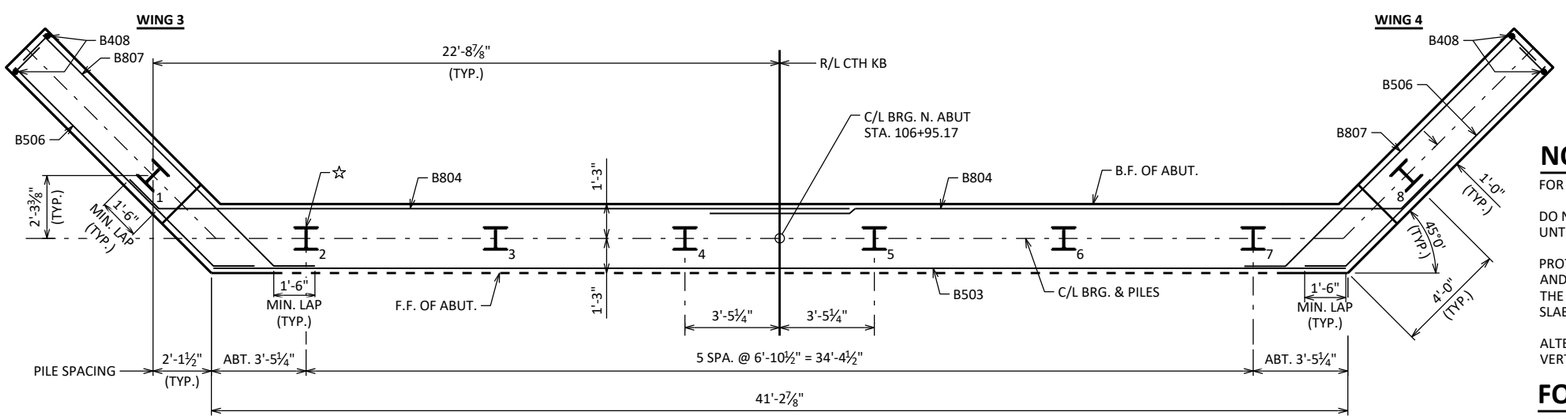
LEGEND

- ☆ SUPPORT ABUTMENTS ON PILING STEEL HP 10-INCH X 42 LB. SEE FOUNDATION DATA ON THIS SHEET AND PILE SPLICE DETAIL ON SHEET 8.
- ◑ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. DRAIN BOTH ABUTMENTS TO DOWNSTREAM SIDE OF BRIDGE. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE SHEET 2.
- ◪ ½" FILLER TO EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)
- ◆ B517 AT 1'-0". BARS MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT PRIOR TO ITS INITIAL SET. EMBED 1'-0".
- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ◆ 4" X ¾" FILLER TO EXTEND BETWEEN EDGES OF SLAB AT ABUTMENTS AND AROUND ENTIRE PERIMETER AT TOP OF PIER.
- ⬒ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".
- □ OPTIONAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2" X 6", WITH RUBBERIZED MEMBRANE WATERPROOFING ON BACKFACE. (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES")

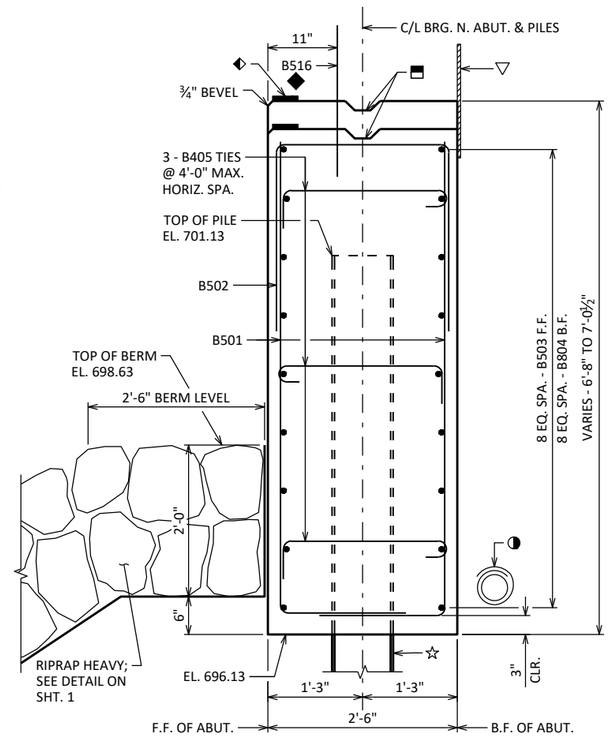
F.F. = FRONT FACE B.F. = BACK FACE E.F. = EACH FACE



PLAN



PILE PLAN



TYPICAL SECTION THRU BODY

NOTES

FOR WING DETAILS AND ELEVATIONS, SEE SHEET 7.

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP AND EXTERIOR FACE OF WINGS; AND TO THE FRONT FACE OF THE ABUTMENT FROM THE WINGS TO 1'-0" PAST THE EDGE OF SLAB.

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

FOUNDATION DATA

NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS. ESTIMATED 30 FEET LONG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-485

DRAWN BY DCH PLANS CK'D MSK

NORTH ABUTMENT

SHEET 6 OF 12

91

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8

STATE PROJECT NUMBER

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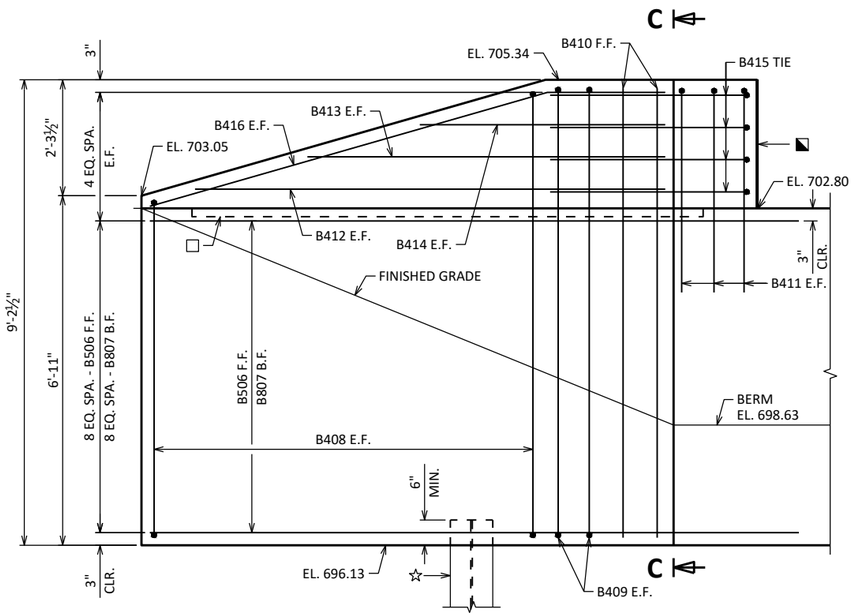
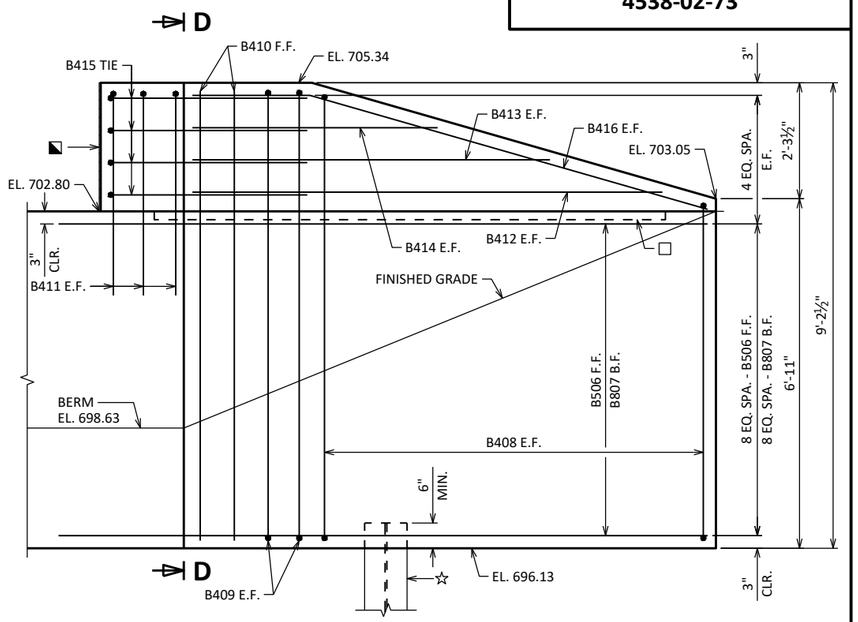
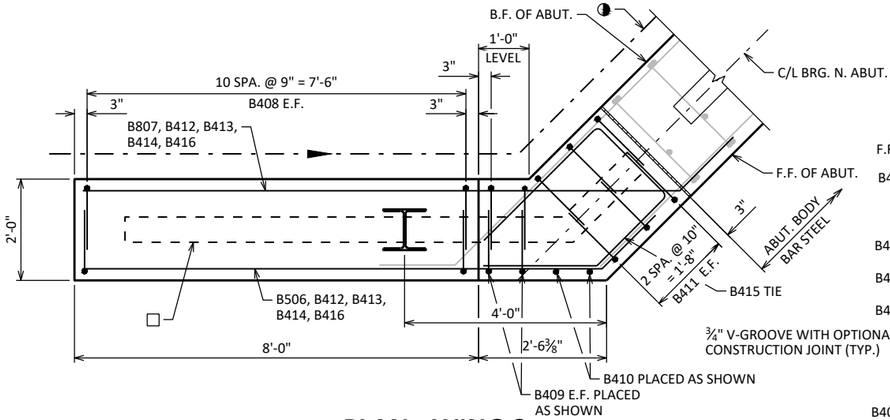


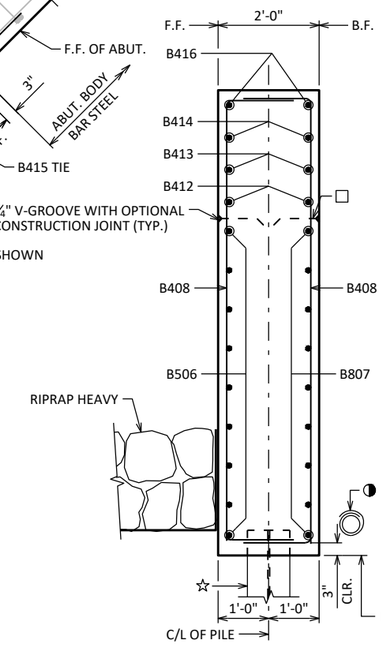
ELEVATION - WING 3



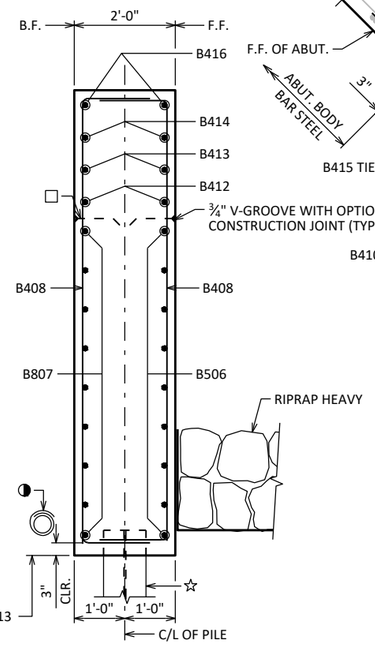
ELEVATION - WING 4



PLAN - WING 3



SECTION C-C



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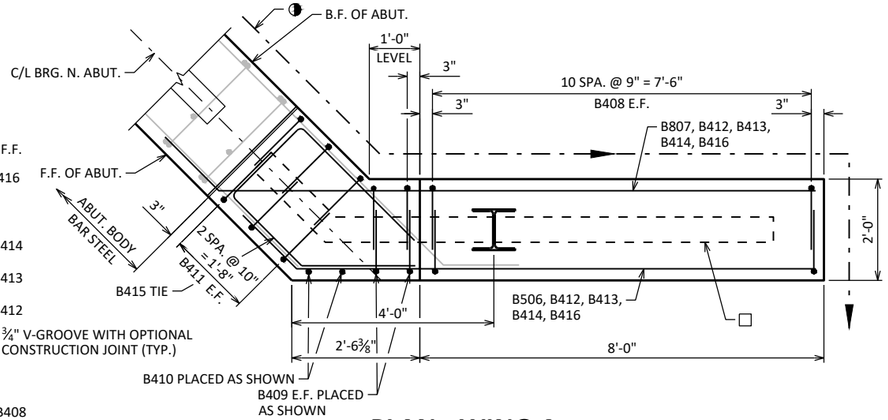

PLAN - WING 4

NOTE

ADJUST B408 BARS TO MISS PILING.

LEGEND

FOR SYMBOL DESCRIPTIONS SEE SHEET 6.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-485

DRAWN BY DCH | PLANS CK'D MSK

WINGS 3 & 4

SHEET 7 OF 12

8

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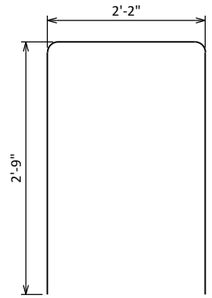
STATE PROJECT NUMBER

4538-02-73

A501, A411



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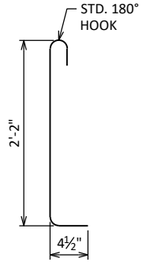

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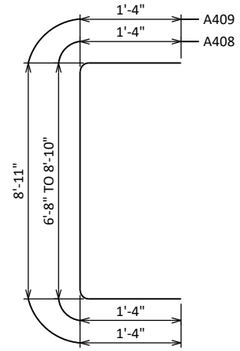
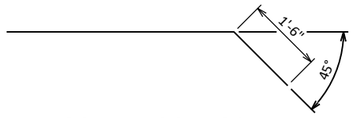
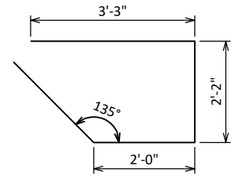


A408, A409



A804, A506, A807



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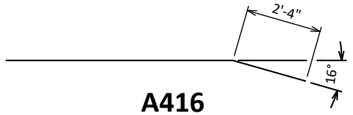

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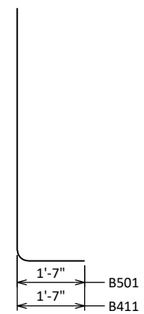
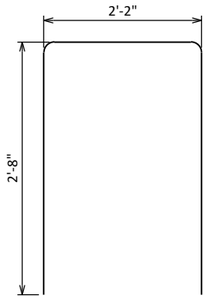


B501, B411



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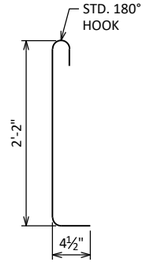

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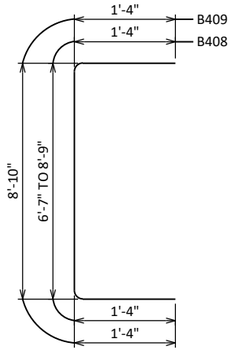
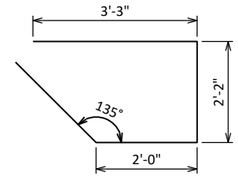


B408, B409

B804, B506, B807



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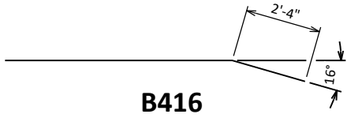


B416

SOUTH ABUTMENT BILL OF BARS

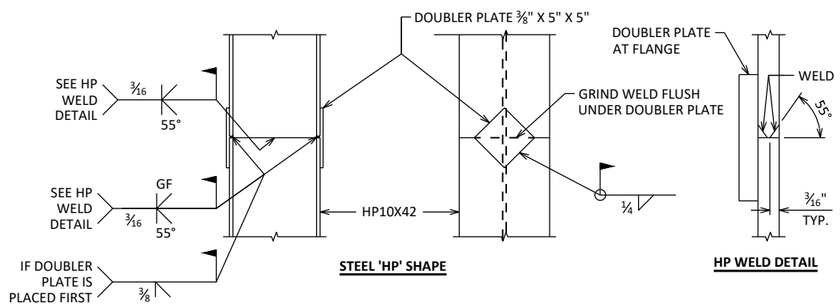
MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS						TOTAL WEIGHT = 2,420 LBS
A501	44	7'-8"	X		S. ABUTMENT E.F.	VERT.
A502	44	7'-5"	X		S. ABUTMENT TOP	VERT.
A503	9	41'-1"			S. ABUTMENT F.F.	HORIZ.
A804	18	26'-6"	X		S. ABUTMENT B.F.	HORIZ.
A405	33	3'-0"	X		S. ABUTMENT TIE	HORIZ.
COATED BARS						TOTAL WEIGHT = 1,510 LBS
A506	18	11'-9"	X		WINGS 1 & 2 BODY F.F.	HORIZ.
A807	18	13'-4"	X		WINGS 1 & 2 BODY B.F.	HORIZ.
A408	44	10'-3"	X	X	WINGS 1 & 2 E.F.	VERT.
A409	8	11'-5"	X		WINGS 1 & 2 E.F.	VERT.
A410	4	8'-11"			WINGS 1 & 2 F.F.	VERT.
A411	12	5'-9"	X		WINGS 1 & 2 E.F.	VERT.
A412	4	9'-3"			WINGS 1 & 2 UPPER E.F.	HORIZ.
A413	4	7'-1"			WINGS 1 & 2 UPPER E.F.	HORIZ.
A414	4	4'-10"			WINGS 1 & 2 UPPER E.F.	HORIZ.
A415	8	9'-5"	X		WINGS 1 & 2 UPPER TIE	HORIZ.
A416	4	10'-6"	X		WINGS 1 & 2 UPPER E.F.	HORIZ.
A517	37	2'-0"			S. ABUTMENT DOWEL	VERT.

NORTH ABUTMENT BILL OF BARS

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS						TOTAL WEIGHT = 2,410 LBS
B501	44	7'-8"	X		N. ABUTMENT E.F.	VERT.
B502	44	7'-3"	X		N. ABUTMENT TOP	VERT.
B503	9	41'-1"			N. ABUTMENT F.F.	HORIZ.
B804	18	25'-11"	X		N. ABUTMENT B.F.	HORIZ.
B405	33	3'-0"	X		N. ABUTMENT TIE	HORIZ.
COATED BARS						TOTAL WEIGHT = 1,510 LBS
B506	18	11'-9"	X		WINGS 3 & 4 BODY F.F.	HORIZ.
B807	18	13'-4"	X		WINGS 3 & 4 BODY B.F.	HORIZ.
B408	44	10'-2"	X	X	WINGS 3 & 4 E.F.	VERT.
B409	8	11'-4"	X		WINGS 3 & 4 E.F.	VERT.
B410	4	8'-9"			WINGS 3 & 4 F.F.	VERT.
B411	12	5'-9"	X		WINGS 3 & 4 E.F.	VERT.
B412	4	9'-3"			WINGS 3 & 4 UPPER E.F.	HORIZ.
B413	4	7'-1"			WINGS 3 & 4 UPPER E.F.	HORIZ.
B414	4	4'-10"			WINGS 3 & 4 UPPER E.F.	HORIZ.
B415	8	9'-5"	X		WINGS 3 & 4 UPPER TIE	HORIZ.
B416	4	10'-6"	X		WINGS 3 & 4 UPPER E.F.	HORIZ.
B517	37	2'-0"			N. ABUTMENT DOWEL	VERT.

BAR SERIES

MARK	NO. REQ'D	LENGTH
A408	4 SETS OF 11	9'-2" TO 11'-4"
B408	4 SETS OF 11	9'-1" TO 11'-3"



'HP' PILE DETAILS

NOTES

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-485

DRAWN BY DCH | PLANS CK'D MSK

ABUTMENT DETAILS

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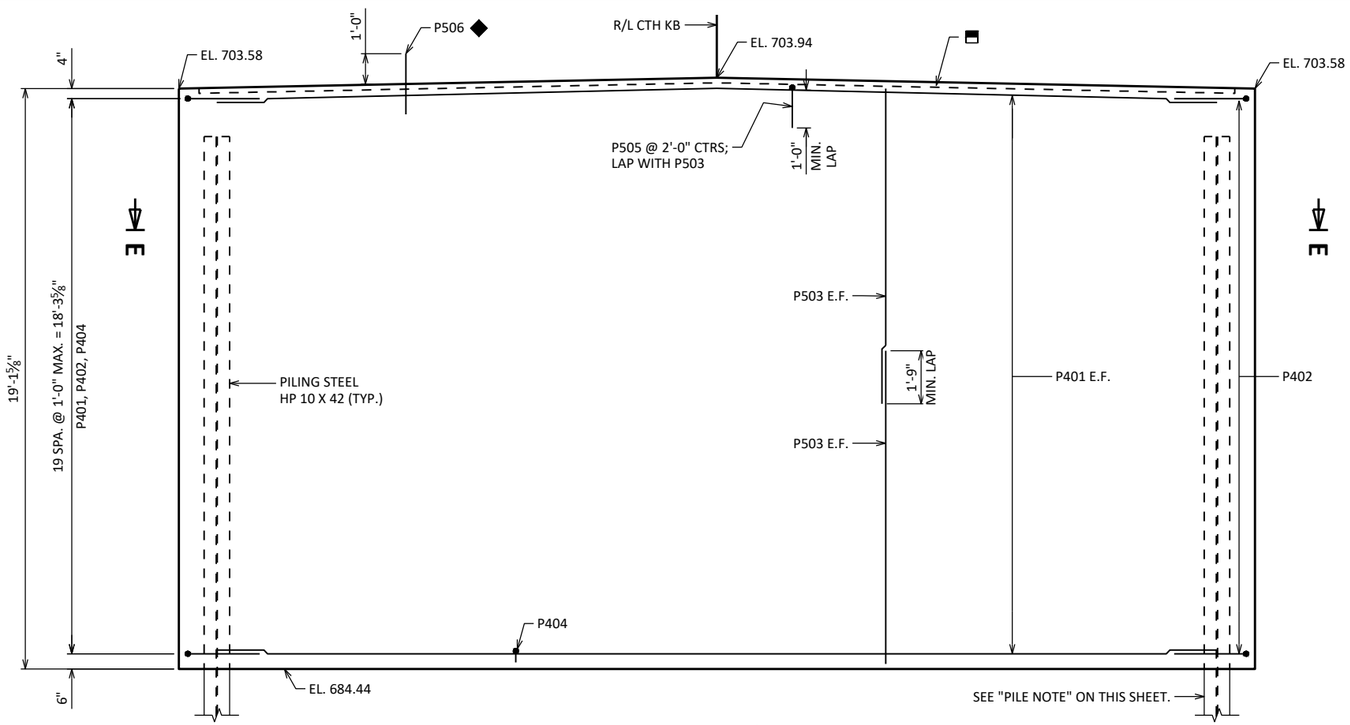
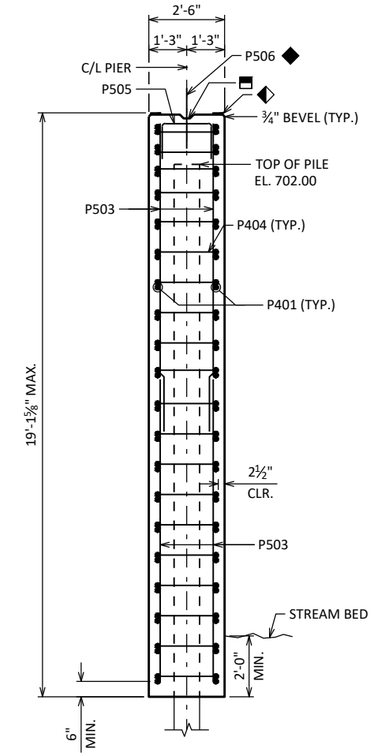
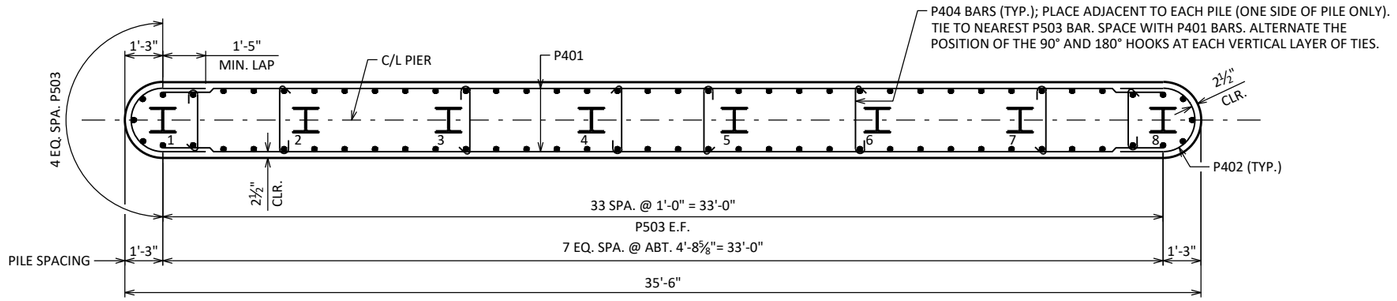


ELEVATION

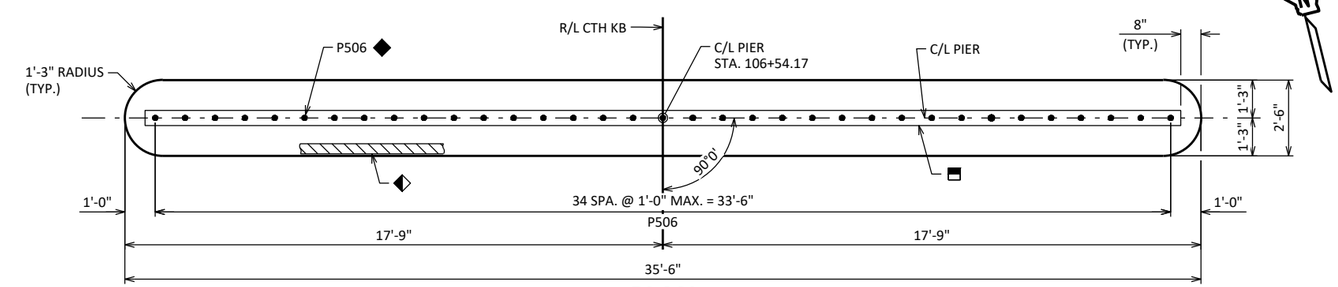
(LOOKING NORTH)



TYPICAL SECTION THRU PIER



SECTION E-E



PLAN

PIER BILL OF BARS

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS						TOTAL WEIGHT = 3,040 LBS
P401	40	33'-0"			PIER BODY E.F.	HORIZ.
P402	40	6'-2"	X		PIER BODY ENDS	HORIZ.
P503	148	10'-6"			PIER BODY	VERT.
P404	160	2'-11"	X		PIER BODY TIE	HORIZ.
P505	18	4'-7"	X		PIER BODY TOP	VERT.
COATED BARS						TOTAL WEIGHT = 80 LBS
P506	35	2'-0"			PIER DOWEL	VERT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

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

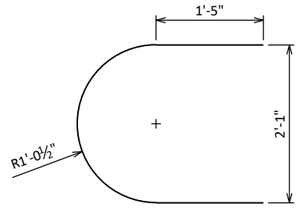
LEGEND

- P506 AT 1'-0". BARS MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT PRIOR TO ITS INITIAL SET. EMBED 1'-0".
- 4" X ¾" FILLER TO EXTEND BETWEEN EDGES OF SLAB AT ABUTMENTS AND AROUND ENTIRE PERIMETER AT TOP OF PIER.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".

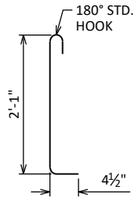
F.F. = FRONT FACE B.F. = BACK FACE E.F. = EACH FACE

FOUNDATION DATA

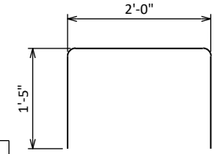
PIER TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PRE-BORED HOLES CORED 3'-0" MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF THE PILES IN COMPRESSION USED FOR DESIGN IS 180 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ESTIMATED 30'-0" LONG.



P402



P404



P505

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-485

DRAWN BY DCH | PLANS CK'D MSK

PIER

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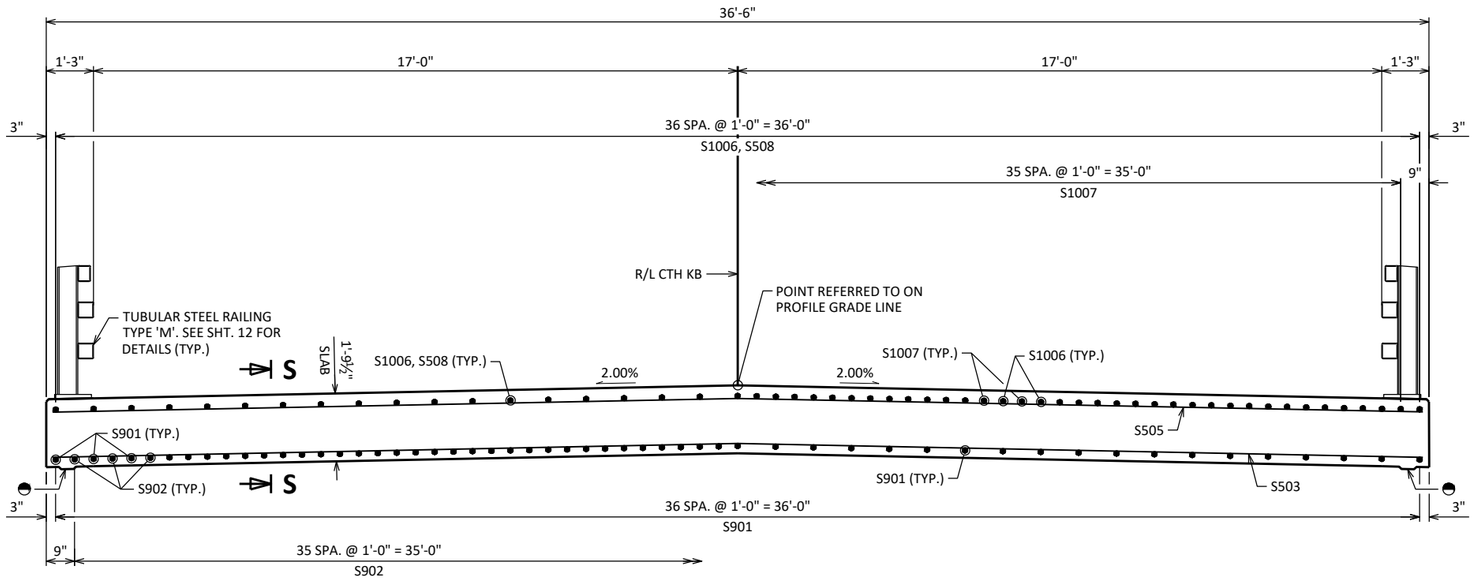
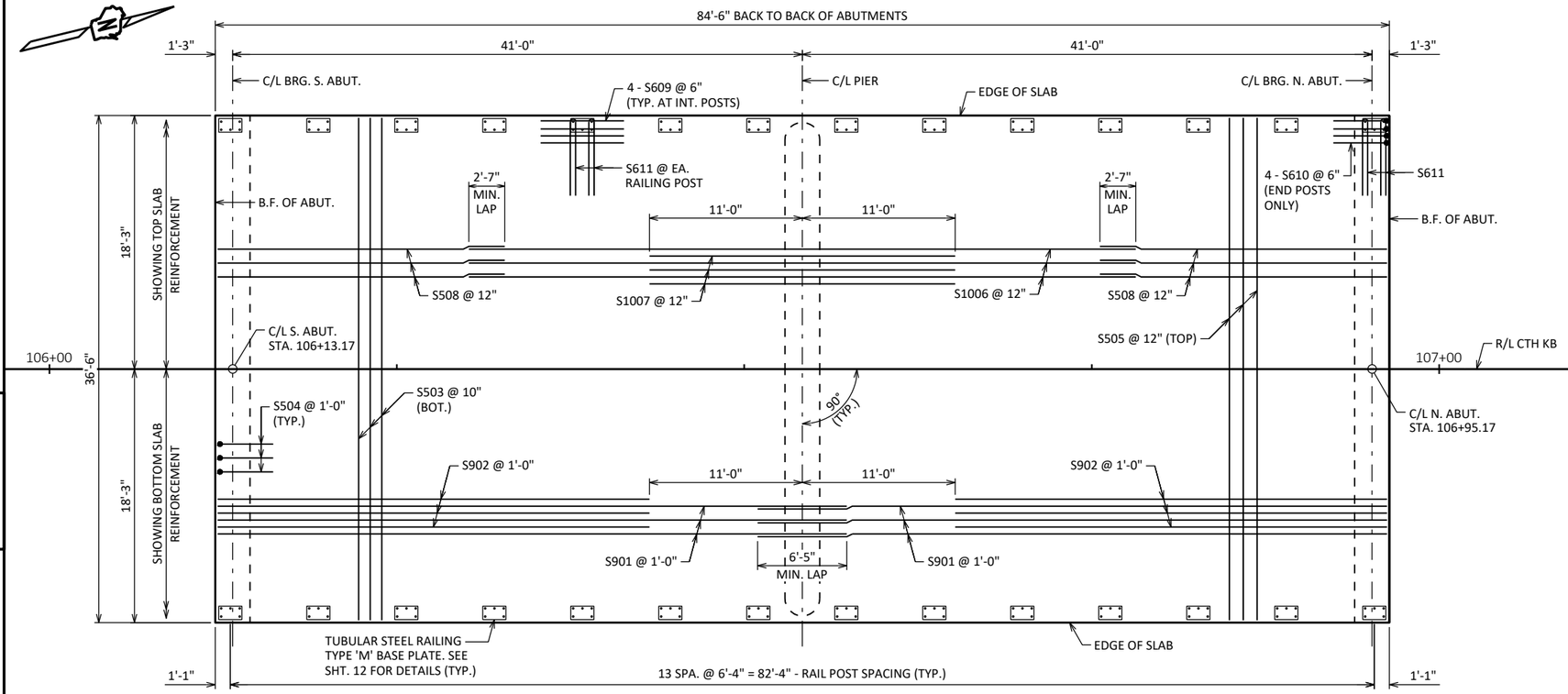
4538-02-73



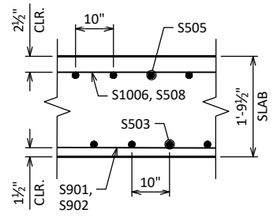
IN SPAN **AT PIER**

CROSS SECTION THRU BRIDGE

(LOOKING UPSTATION)



PLAN



SECTION S-S

NOTES

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

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF SLAB SURFACE, SIDE OF SLAB AND UNDERSIDE OF SLAB TO 1'-0" FROM THE EDGE OF SLAB.

LEGEND

◓ DRIP EDGE; SEE DETAIL ON SHEET 2.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-485

DRAWN BY DCH | PLANS CK'D MSK

SUPERSTRUCTURE

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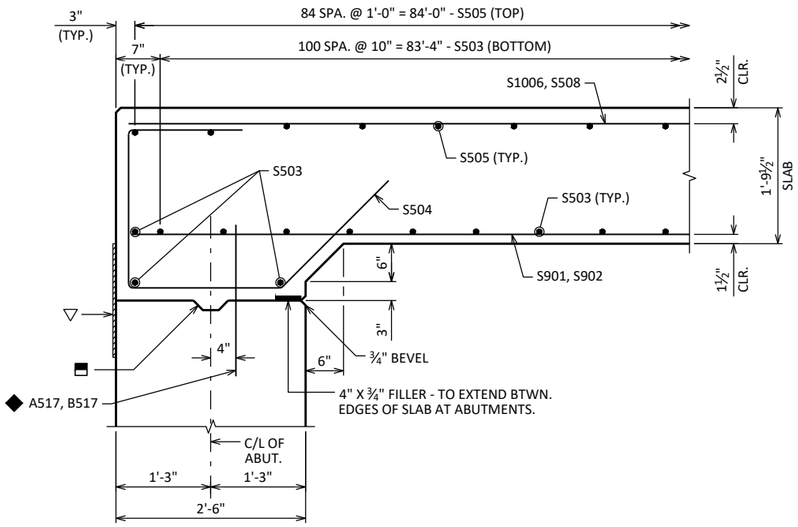
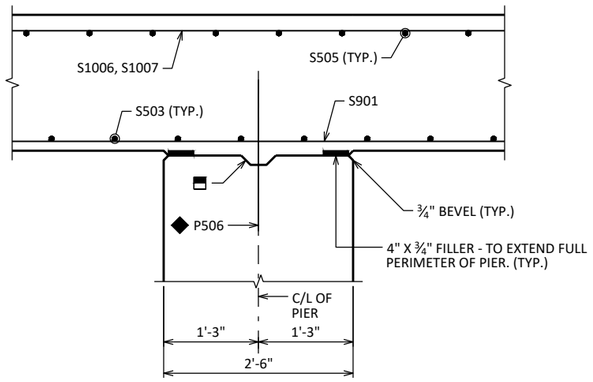
SCALE =



ABUTMENT DETAIL



PIER DETAIL

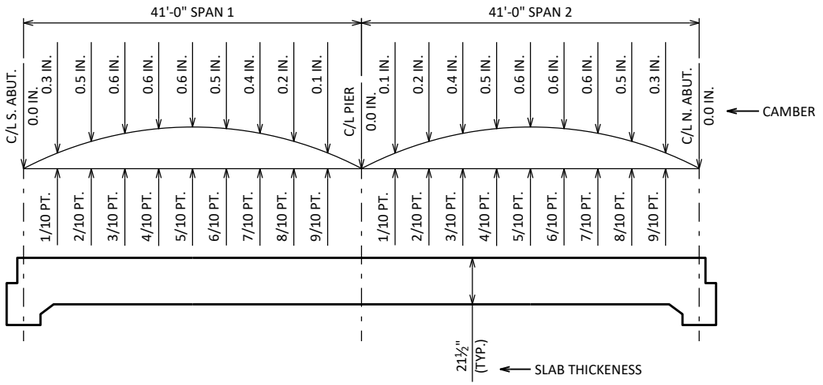
SUPERSTRUCTURE BILL OF BARS

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
COATED BARS					TOTAL WEIGHT = 30,950 LBS	
S901	37	45'-4"			SLAB BOTTOM	LONGIT.
S902	36	31'-1"			SLAB BOTTOM	LONGIT.
S503	107	36'-2"			SLAB BOTTOM	TRANSV.
S504	74	7'-5"	X		SLAB AT ABUTMENT	LONGIT.
S505	85	36'-2"			SLAB TOP	TRANSV.
S1006	37	48'-0"			SLAB TOP	LONGIT.
S1007	36	22'-0"			SLAB TOP OVER PIER	LONGIT.
S508	74	20'-8"			SLAB TOP	LONGIT.
S609	96	6'-0"			SLAB AT INTERIOR RAIL POSTS	LONGIT.
S610	16	4'-8"	X		SLAB AT END RAIL POSTS	LONGIT.
S611	56	11'-4"	X		SLAB AT RAIL POSTS	TRANSV.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

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

PARTIAL LONGITUDINAL SECTION



CAMBER AND SLAB THICKNESS DIAGRAM

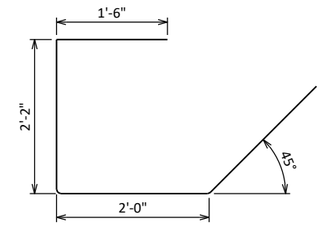
CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

LEGEND

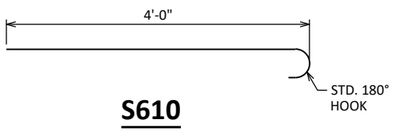
◆ A517, B517, P506 AT 1'-0". BARS MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT PRIOR TO ITS INITIAL SET. EMBED 1'-0".

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

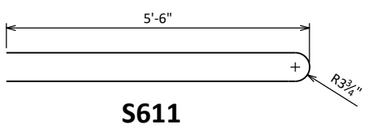
⬒ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".



S504



S610



S611

SURVEY TOP OF SLAB ELEVATIONS (FILL IN ON AS-BUILT PLANS)

LOCATION	ABUTMENT	5/10 PT.	PIER	5/10 PT.	ABUTMENT
W. GUTTER					
CROWN OR R/L					
E. GUTTER					

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS, THE C/L OF PIERS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR C/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

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

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

TOP OF DECK ELEVATIONS

	CL BRG. S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	CL BRG. PIER	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	CL BRG. N. ABUT.
WEST EDGE OF DECK	705.63	705.60	705.58	705.55	705.53	705.51	705.48	705.47	705.45	705.43	705.42	705.40	705.39	705.38	705.37	705.36	705.36	705.35	705.35	705.34	705.34
R/L CTH KB	706.00	705.97	705.95	705.92	705.90	705.88	705.85	705.84	705.82	705.80	705.79	705.77	705.76	705.75	705.74	705.73	705.73	705.72	705.72	705.71	705.71
EAST EDGE OF DECK	705.63	705.60	705.58	705.55	705.53	705.51	705.48	705.47	705.45	705.43	705.42	705.40	705.39	705.38	705.37	705.36	705.36	705.35	705.35	705.34	705.34

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-485

DRAWN BY DCH | PLANS CK'D MSK

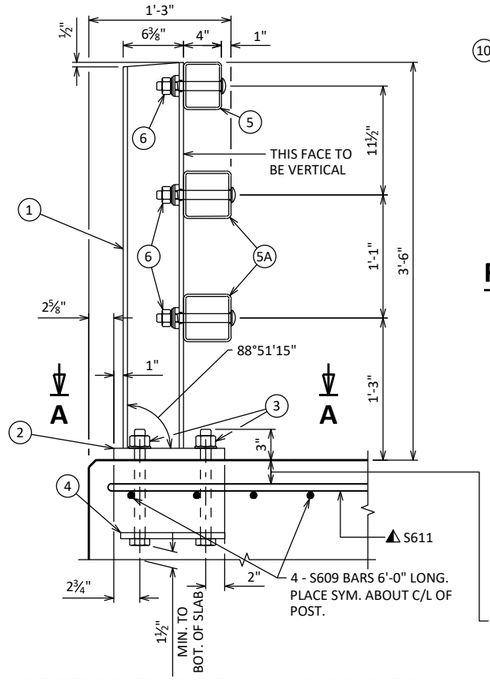
SUPERSTRUCTURE DETAILS

SHEET 11 OF 12
96

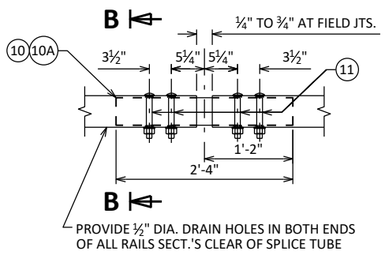
SCALE =

STATE PROJECT NUMBER

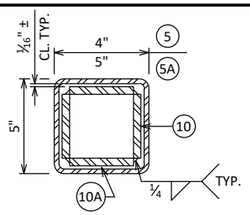
4538-02-73



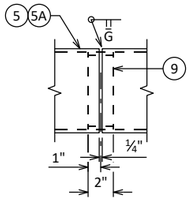
SECTION THRU RAILING ON DECK



FIELD ERECTION JOINT DETAIL

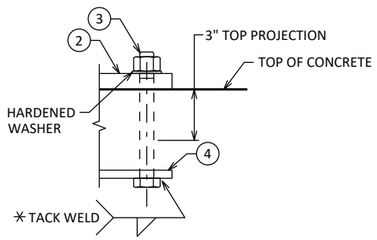


SECTION B-B

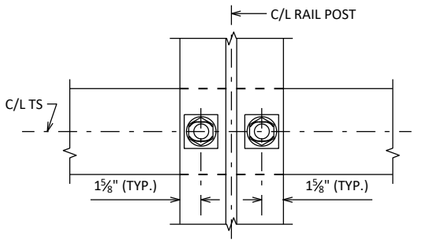


SHOP RAIL SPLICE DETAIL

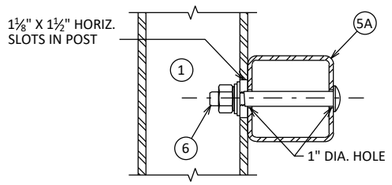
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



ANCHOR BOLTS



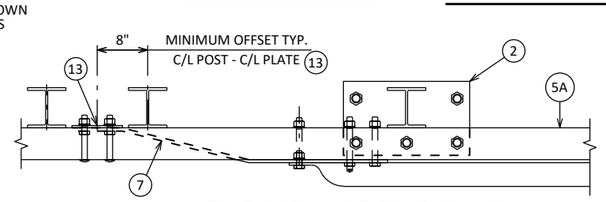
SECTION THRU POST WEB



SECTION THRU RAIL

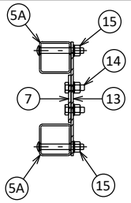
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

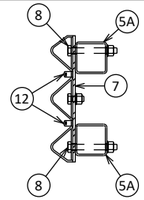


TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



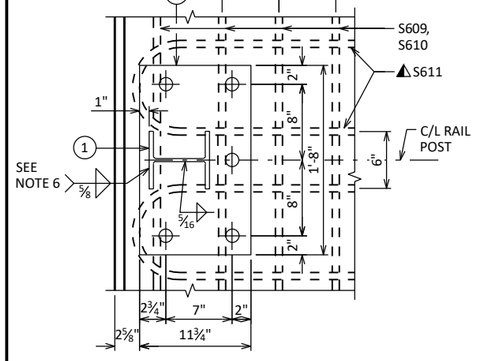
SECTION C-C



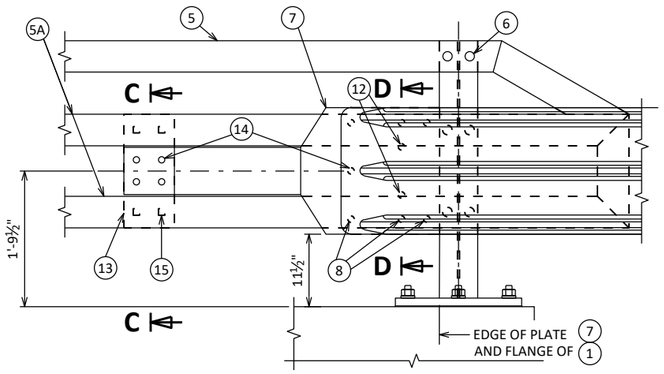
SECTION D-D

LEGEND

1. W6 X 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1¼" X 11¾" X 1'-8" WITH 1 7/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10¾" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)
4. ⅝" X 11" X 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3
5. TS 5 X 4 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
5A. TS 5 X 5 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
6. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1⅝" X 1⅝" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. ½" THK. BACK-UP PLATE WITH 2 - ⅞" X 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
8. 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
9. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
10. ⅜" X 3⅝" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16" X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS. PROVIDE 15/16" DIA. ROUND HOLES IN TUBES NO. 5 AND 5A.
12. ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. ⅜" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
14. ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

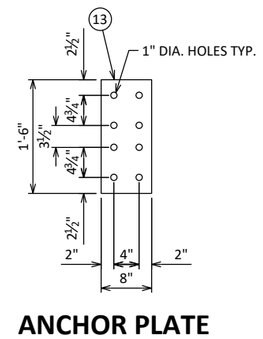


SECTION A-A



DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT

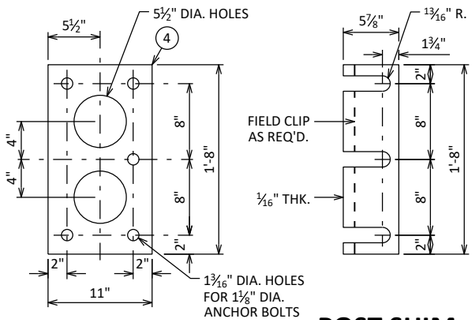


ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

GENERAL NOTES

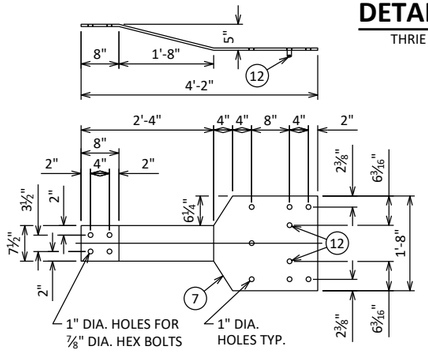
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.



ANCHOR PLATE

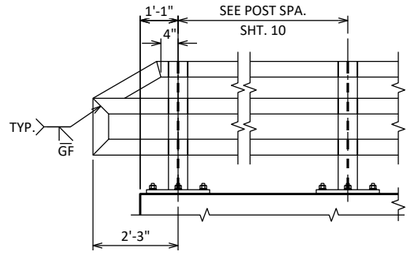
AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

▲ TIE TO TOP MAT OF STEEL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-485

DRAWN BY DCH | PLANS CK'D MSK

TUBULAR STEEL RAILING TYPE "M"

SHEET 12 OF 12

97

SCALE = 2.00

8

8

CTH KB - STA. 104+07 TO STA. 106+12

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut	Incremental Vol (CY) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Fill 1.00	Mass Ordinate Note 1
104+07		40	0	0	0	0	0	0
104+47	40	43	78	62	58	62	58	4
104+50	3	34	77	4	9	66	66	0
104+70	20	39	68	27	52	93	119	-26
104+72	2	39	69	4	6	97	125	-28
104+97	25	31	80	33	69	129	194	-65
105+00	3	31	82	3	9	133	203	-70
105+10	10	38	88	12	30	145	233	-88
105+35	25	37	79	34	77	179	310	-131
105+50	15	28	80	19	46	198	356	-158
105+60	10	36	81	12	29	210	385	-175
105+62	2	28	86	3	7	212	391	-179
105+62	0	57	80	0	0	212	392	-179
106+00	38	63	86	85	117	297	508	-211
106+12	12	62	85	27	38	325	546	-221
106+12	0	0	0	0	0	325	546	-221
				325	546			

Notes: 1 - MASS ORDINATE = CUT - FILL

CTH KB - STA. 106+96 To STA. 109+69

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut	Incremental Vol (CY) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Fill 1.00	Mass Ordinate Note 1
106+96		0	0	0	0	0	0	0
106+97	0	71	49	0	0	0	0	0
107+00	3	71	54	9	6	9	7	3
107+36	36	73	58	97	75	106	82	24
107+46	10	71	74	27	25	133	106	27
107+47	0	46	75	0	0	134	107	27
107+50	3	37	81	5	10	139	117	22
107+61	11	36	89	15	35	154	152	2
107+86	25	43	71	36	74	191	226	-35
108+00	14	47	61	23	33	213	259	-46
108+11	11	25	66	15	27	229	286	-57
108+23	12	34	110	13	39	241	325	-83
108+36	13	40	109	18	53	259	378	-119
108+50	14	30	111	18	56	277	434	-157
108+61	11	41	110	15	46	292	480	-188
109+01	40	30	60	52	126	344	605	-261
109+01	0	7	48	0	0	344	606	-262
109+50	49	7	15	13	57	357	662	-305
109+69	19	7	2	5	6	362	668	-306
				362	668			

Notes: 1 - MASS ORDINATE = CUT - FILL

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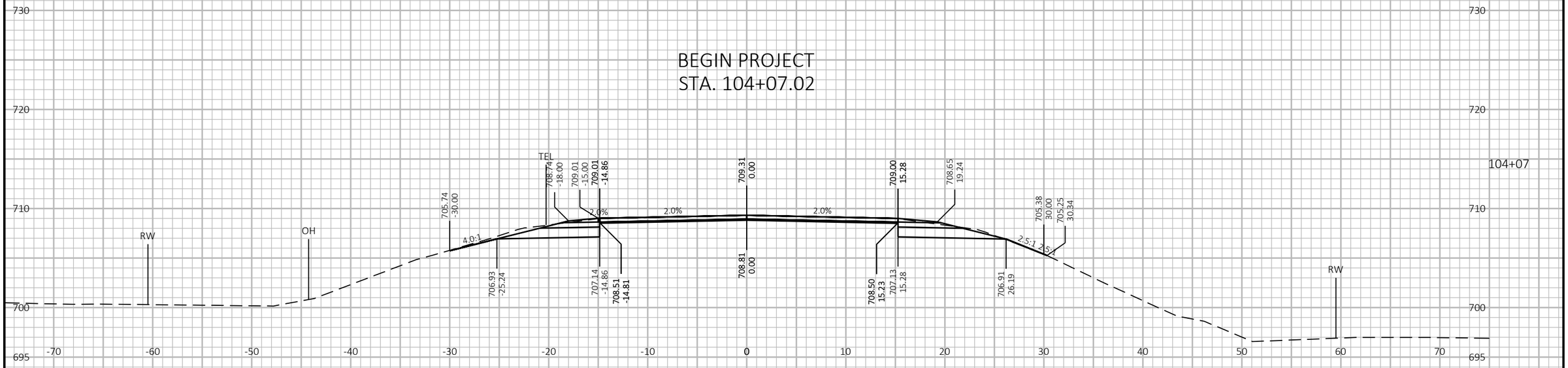
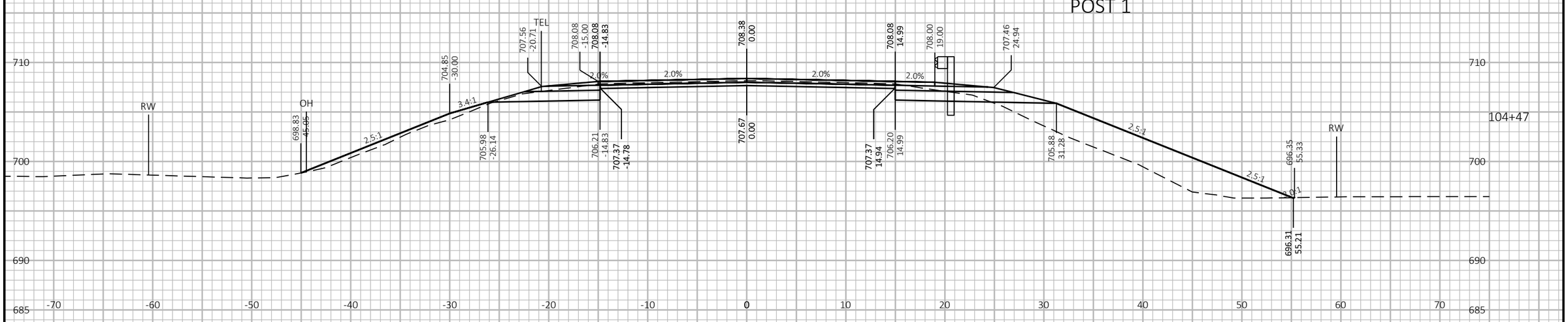
9

PROJECT NO: 4538-02-73 | HWY: CTH KB | COUNTY: BROWN | EARTHWORK DATA | SHEET 99 | E

BEGIN PROJECT
STA. 104+07.02



POST 1



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PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 100	E

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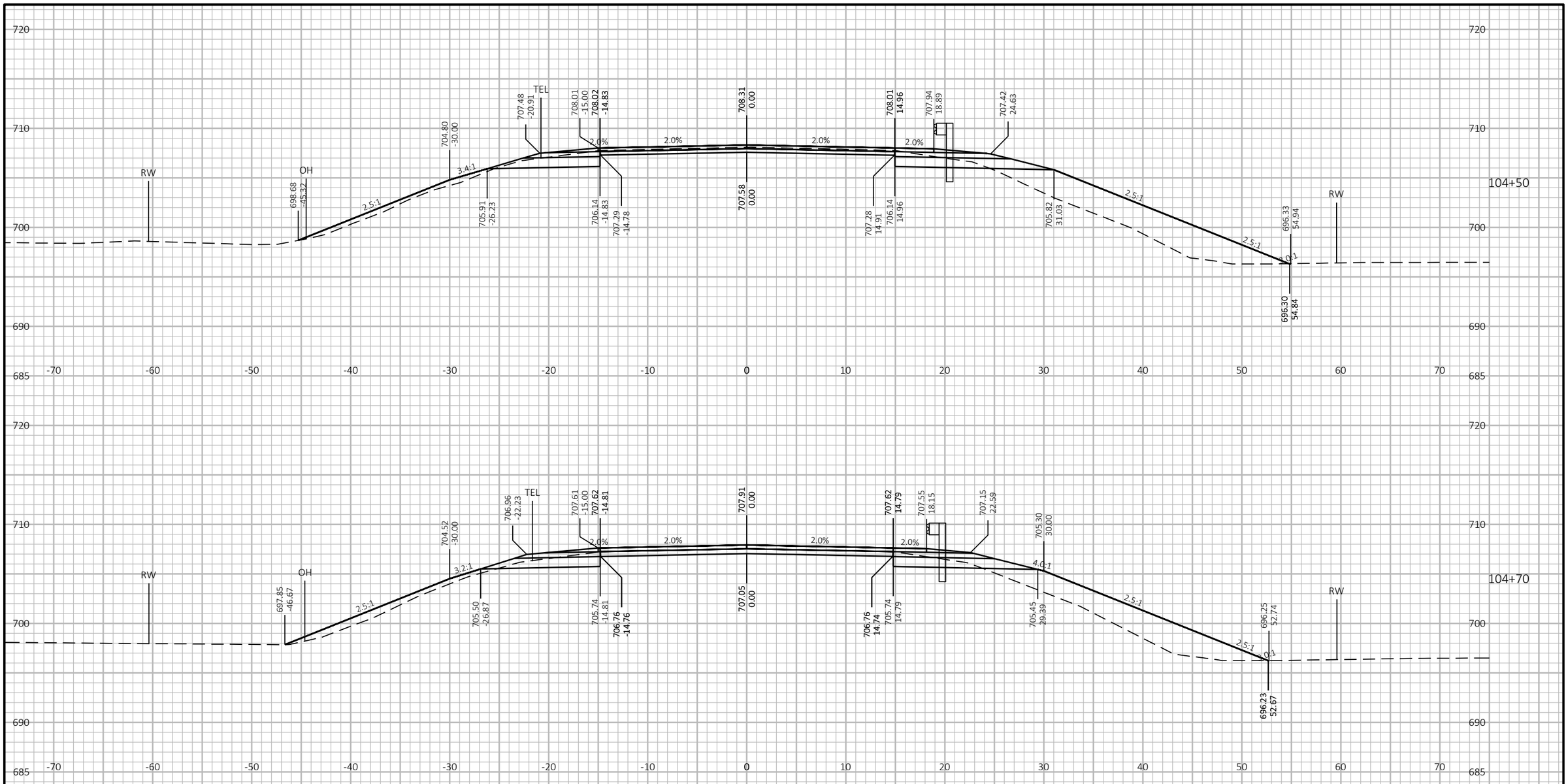
LAYOUT NAME - 01

PLOT DATE : 10/29/2025 12:24 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 101	E

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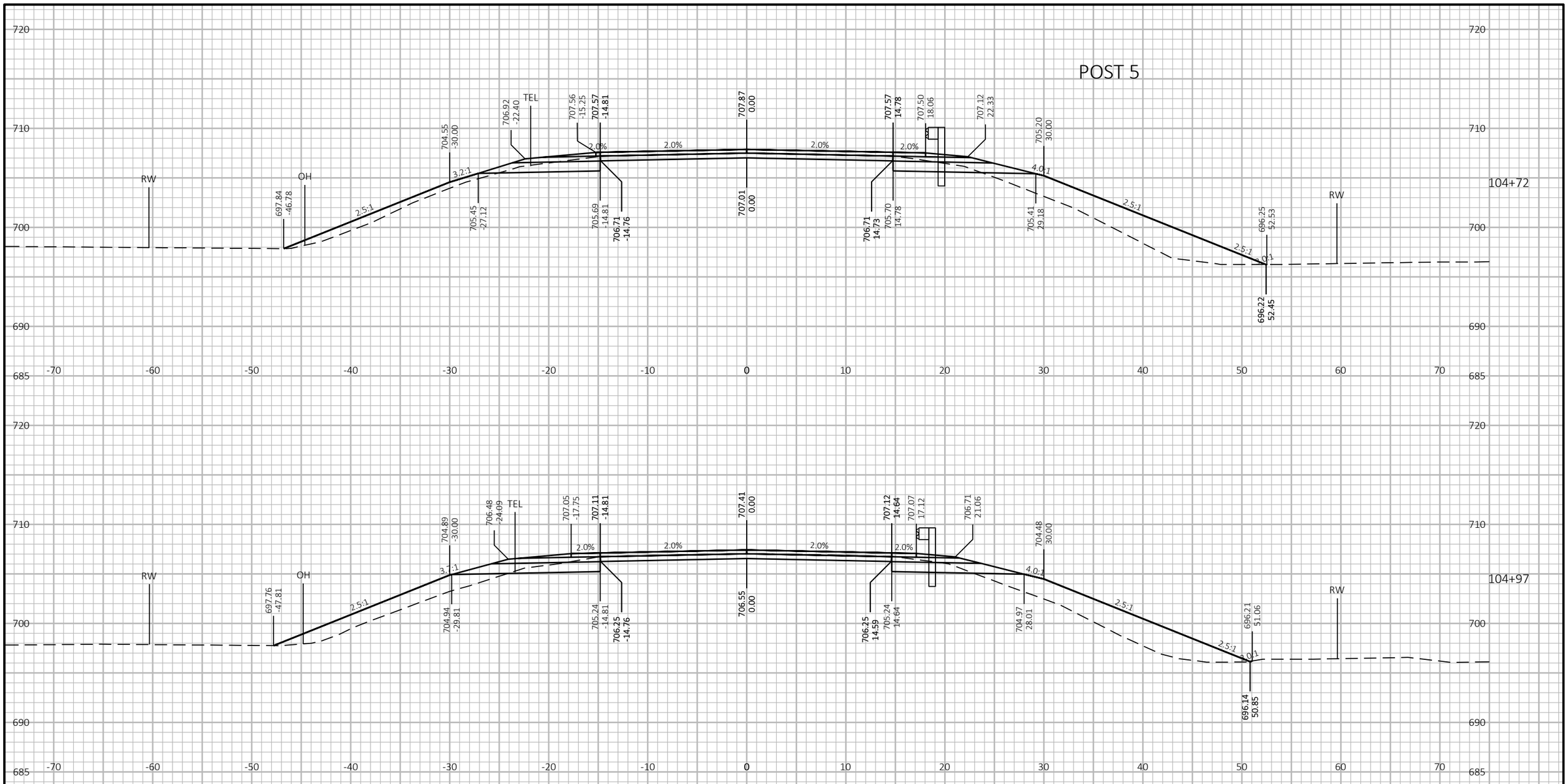
LAYOUT NAME - 02

PLOT DATE : 10/29/2025 12:24 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 102	E

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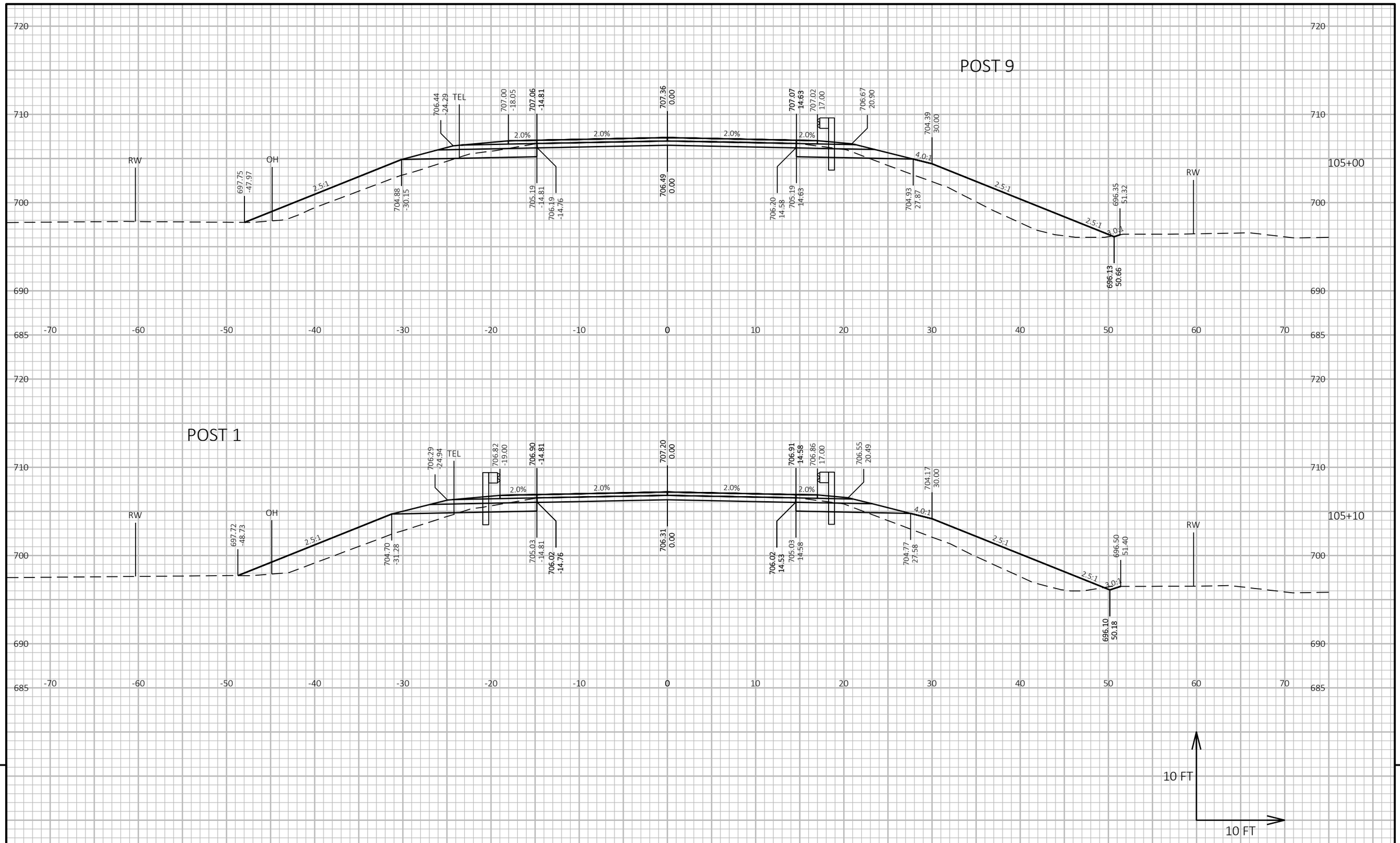
LAYOUT NAME - 03
PLOT DATE : 10/29/2025 12:24 PM
PLOT BY : ARBUCKLE, ADRIAN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 103	E

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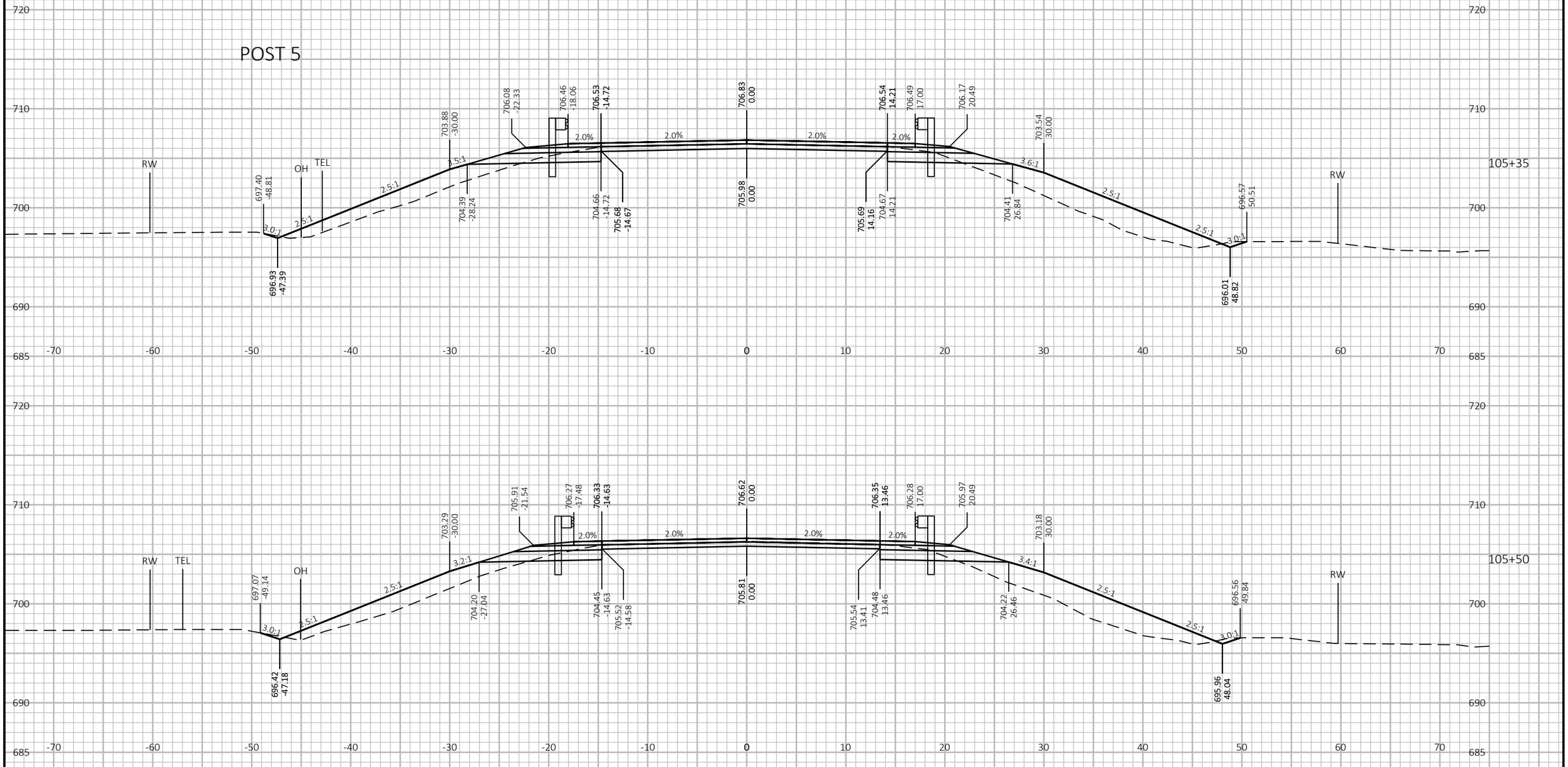
LAYOUT NAME - 04

PLOT DATE : 10/29/2025 12:24 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

POST 5



PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 104	E

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LAYOUT NAME - 05
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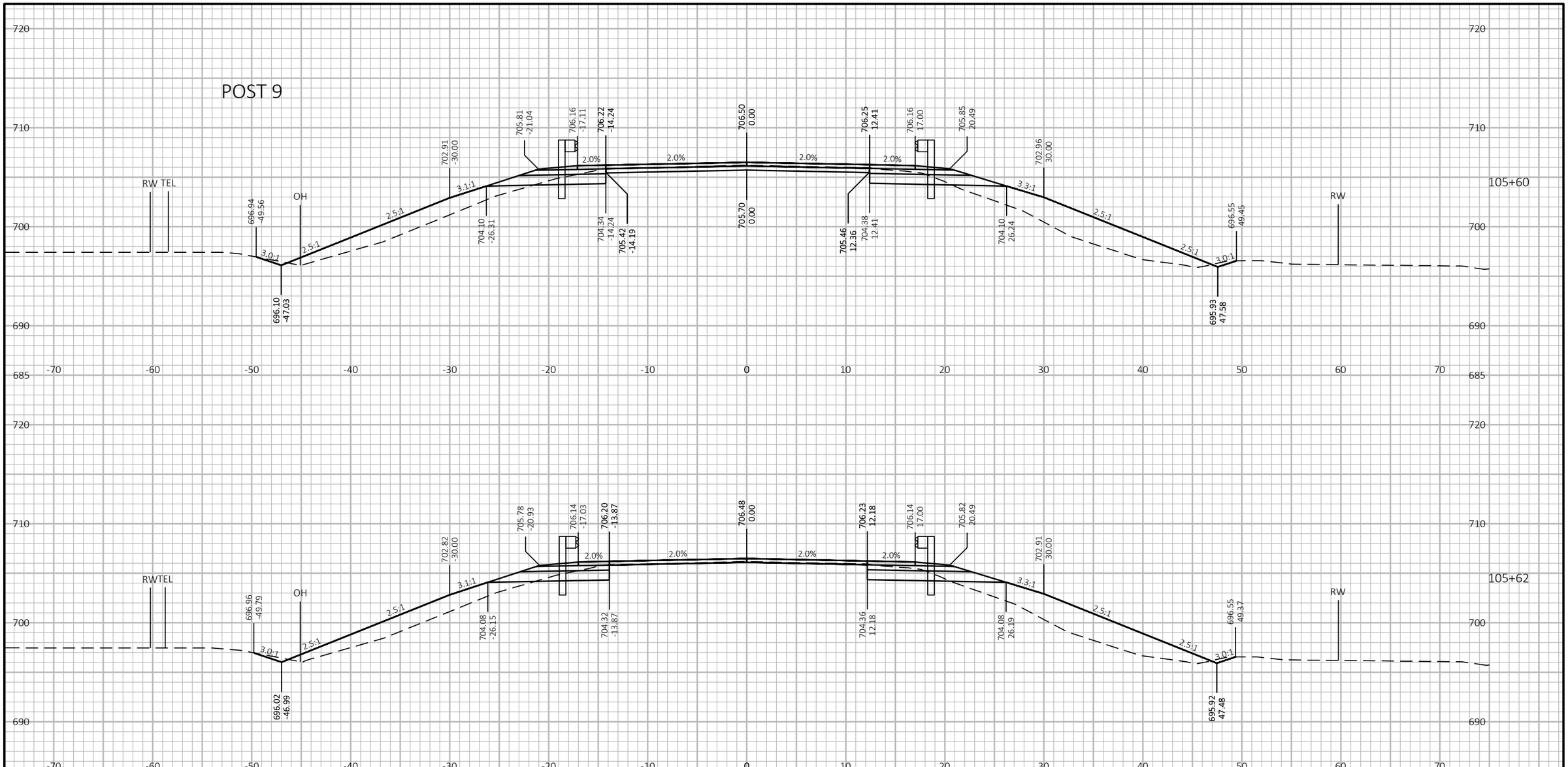
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 105	E

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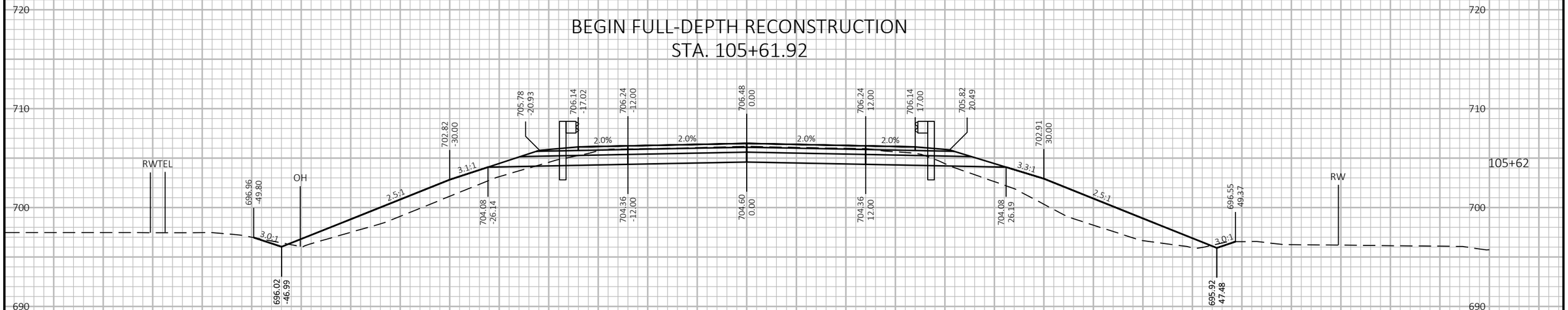
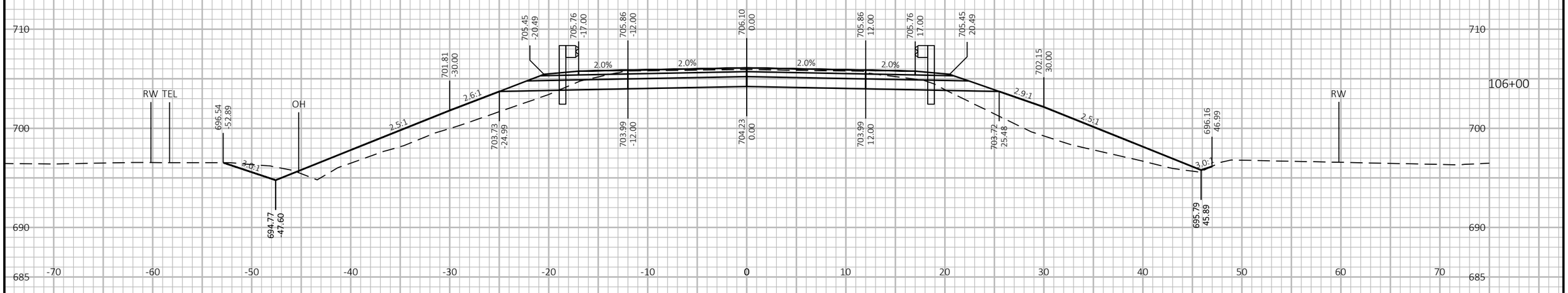
LAYOUT NAME - 06
PLOT DATE : 10/29/2025 12:24 PM
PLOT BY : ARBUCKLE, ADRIAN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

BEGIN FULL-DEPTH RECONSTRUCTION
STA. 105+61.92





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PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 106	E

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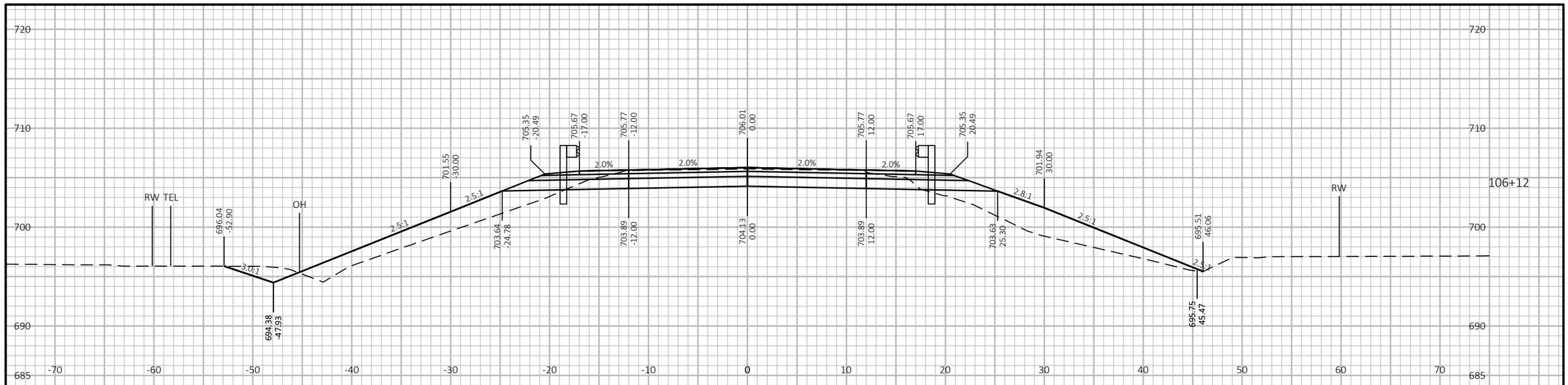
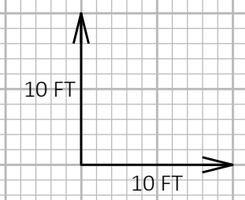
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



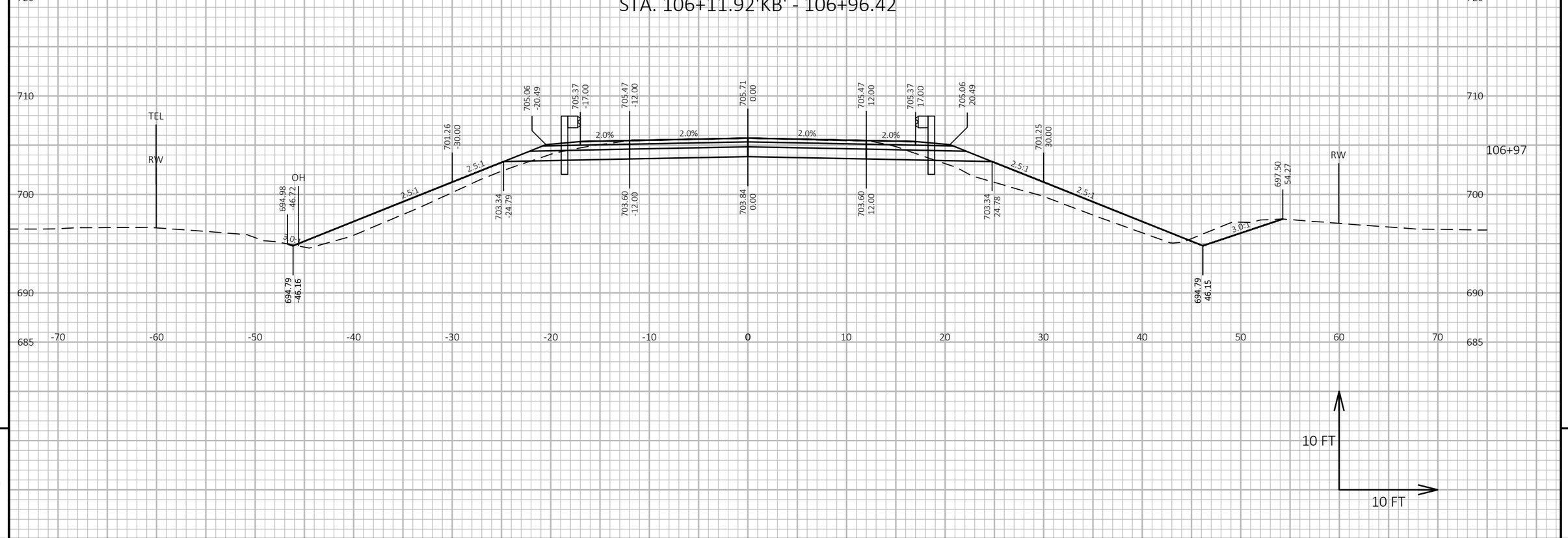
STRUCTURE B-05-0485
STA. 106+11.92'KB' - 106+96.42



PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 107	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\090201-XS-EXPLODED.DWG
LAYOUT NAME - 08
PLOT DATE : 10/29/2025 12:24 PM
PLOT BY : ARBUCKLE, ADRIAN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

STRUCTURE B-05-0485
STA. 106+11.92'KB' - 106+96.42



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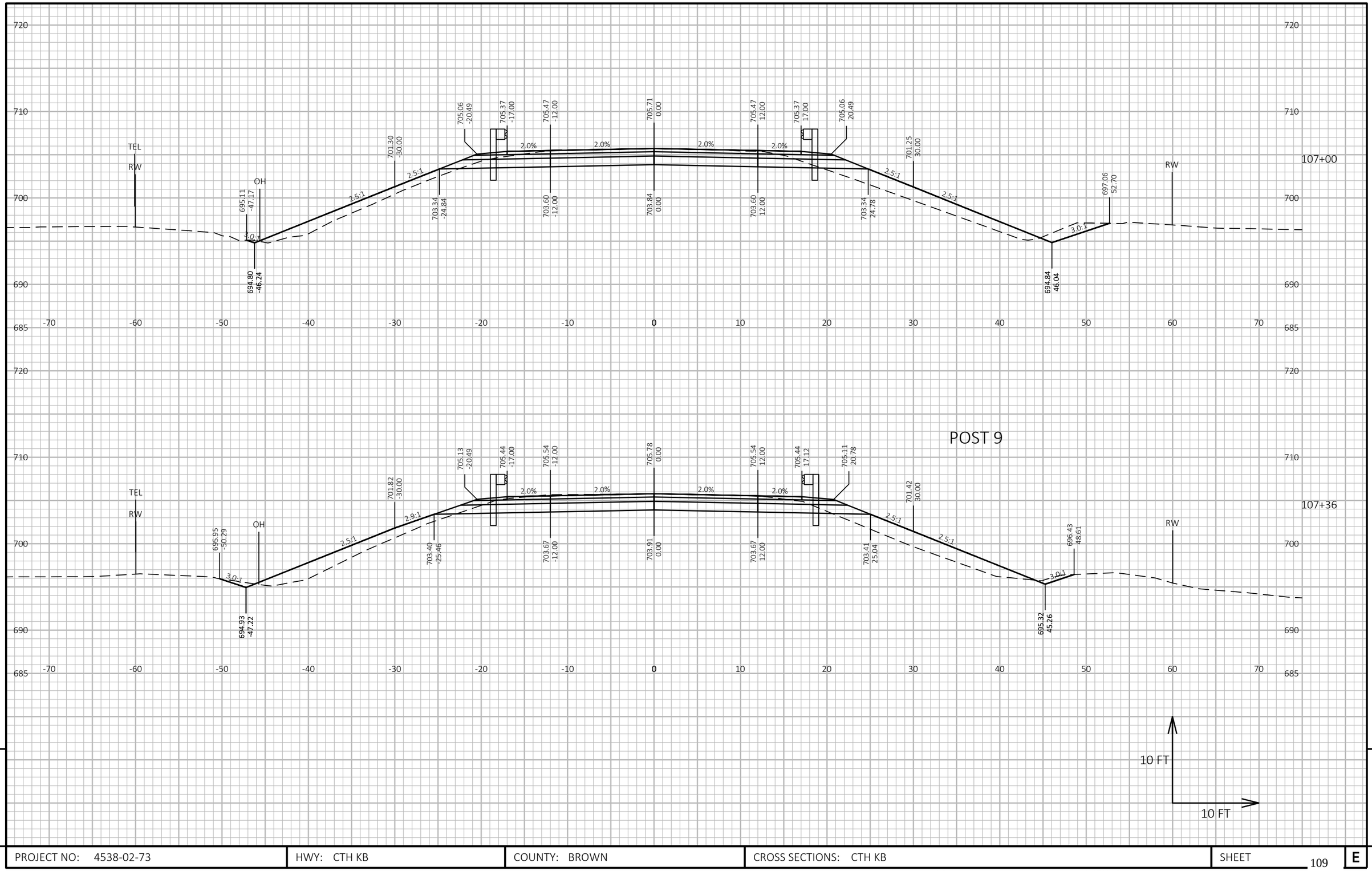
PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 108	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\090201-XS-EXPLODED.DWG
LAYOUT NAME - 09

PLOT DATE : 10/29/2025 12:24 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

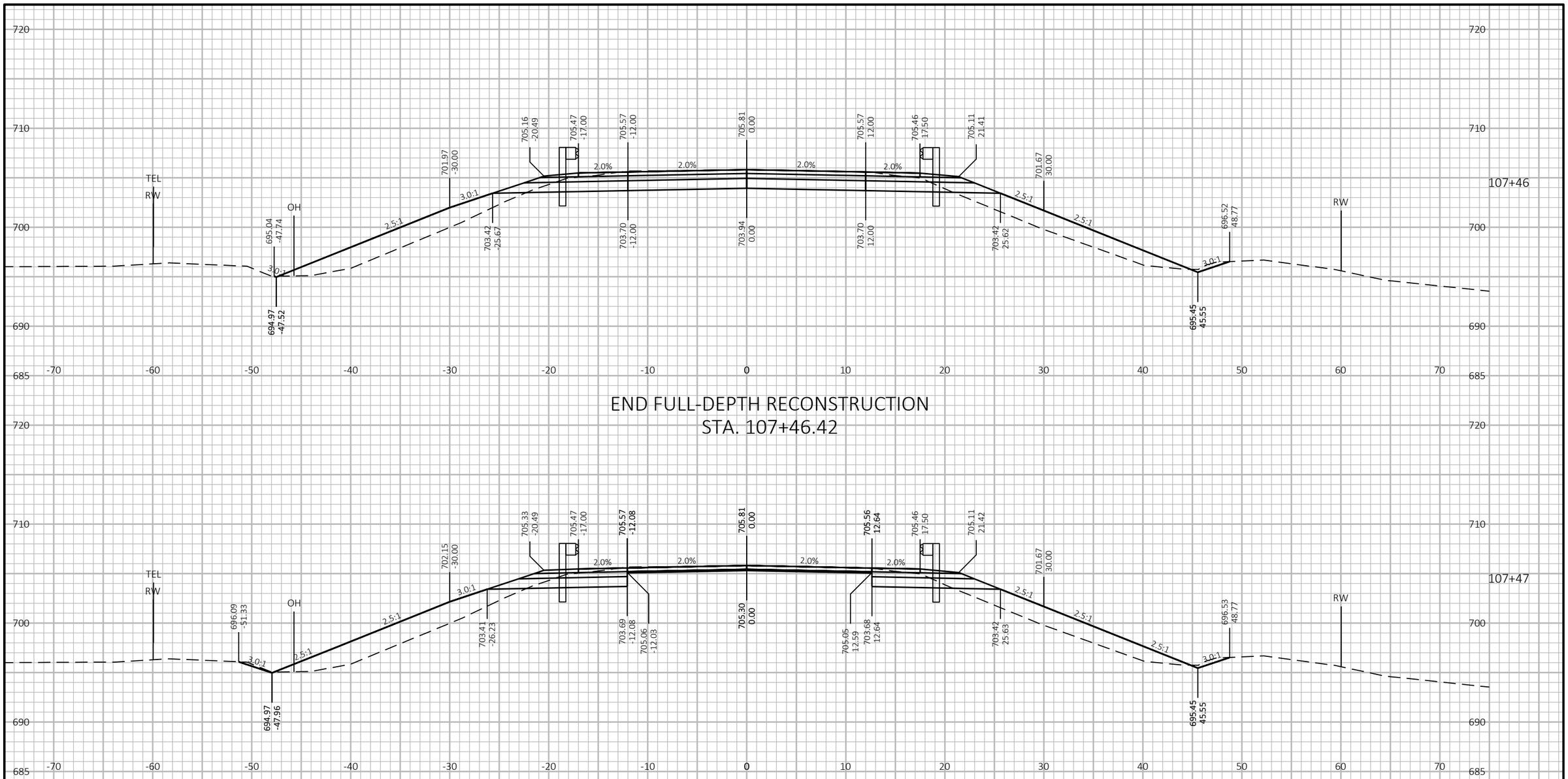


PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 109	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\090201-XS-EXPLODED.DWG
LAYOUT NAME - 10

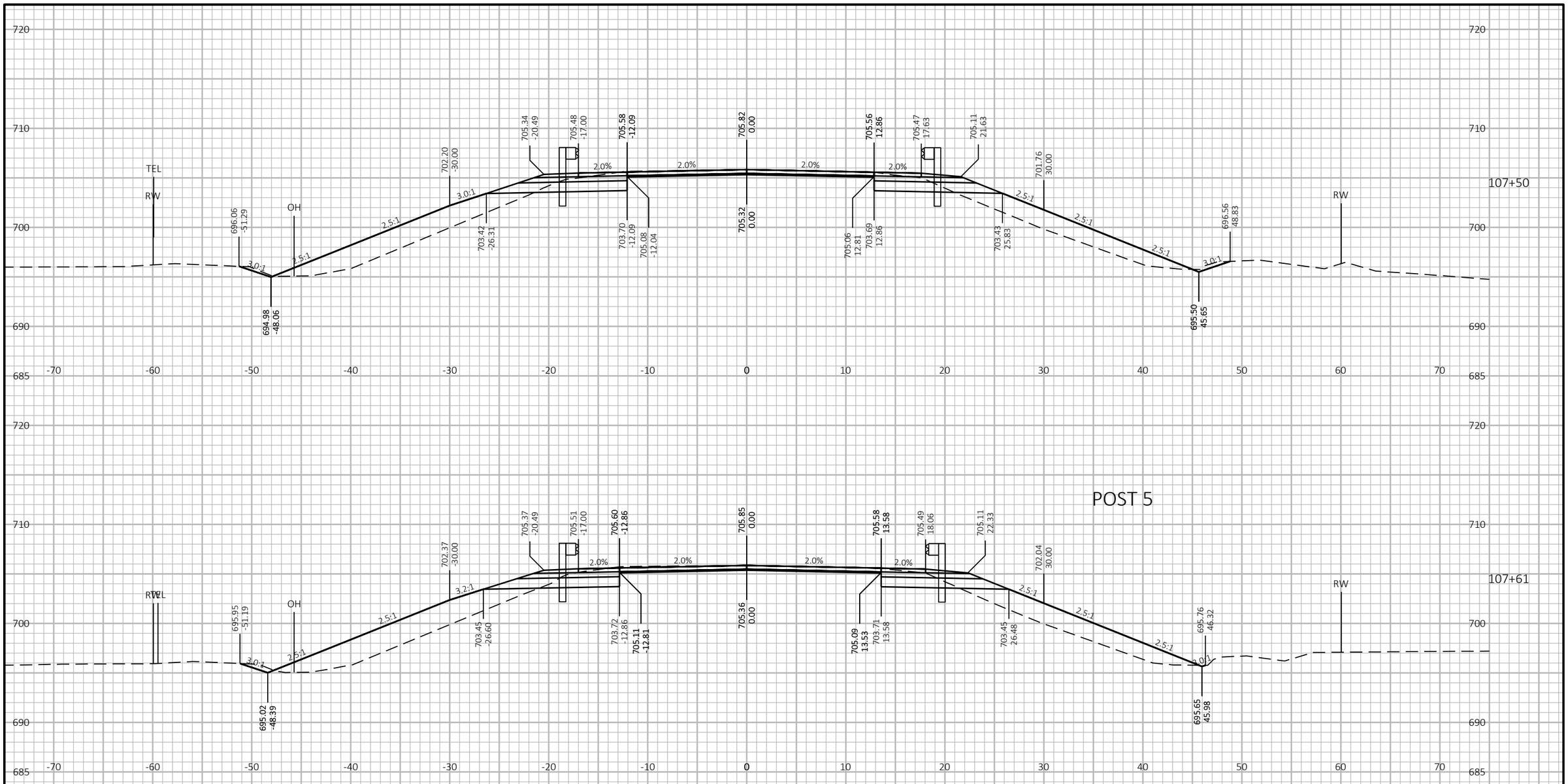
PLOT DATE : 10/29/2025 12:24 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 110	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\090201-XS-EXPLODED.DWG
LAYOUT NAME - 11
PLOT DATE : 10/29/2025 12:24 PM
PLOT BY : ARBUCKLE, ADRIAN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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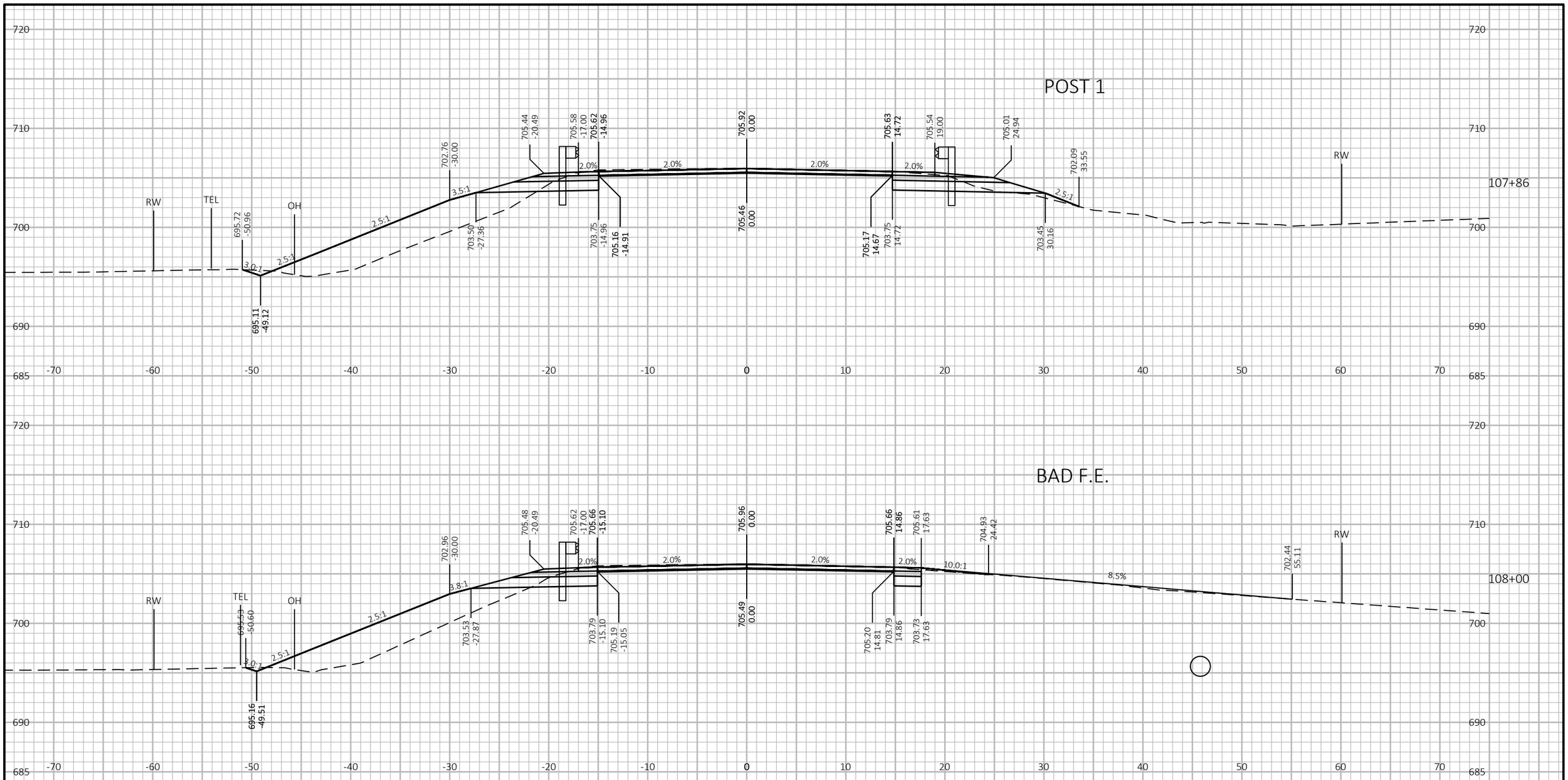
PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 111	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\090201-XS-EXPLODED.DWG
LAYOUT NAME - 12

PLOT DATE : 10/29/2025 12:24 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

POST 1



BAD F.E.

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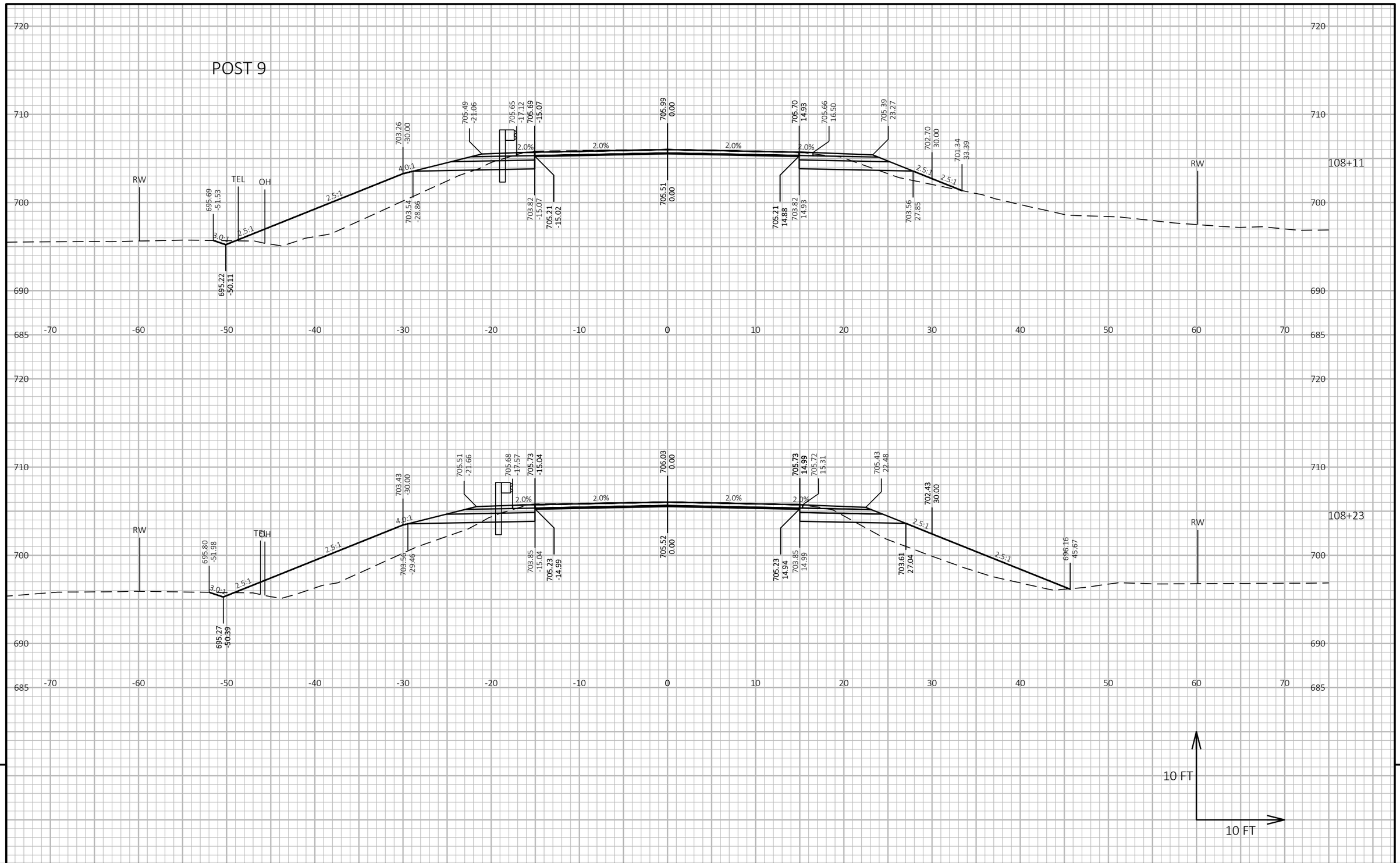
PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 112	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\090201-XS-EXPLODED.DWG
LAYOUT NAME - 13

PLOT DATE : 10/29/2025 12:24 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

POST 9



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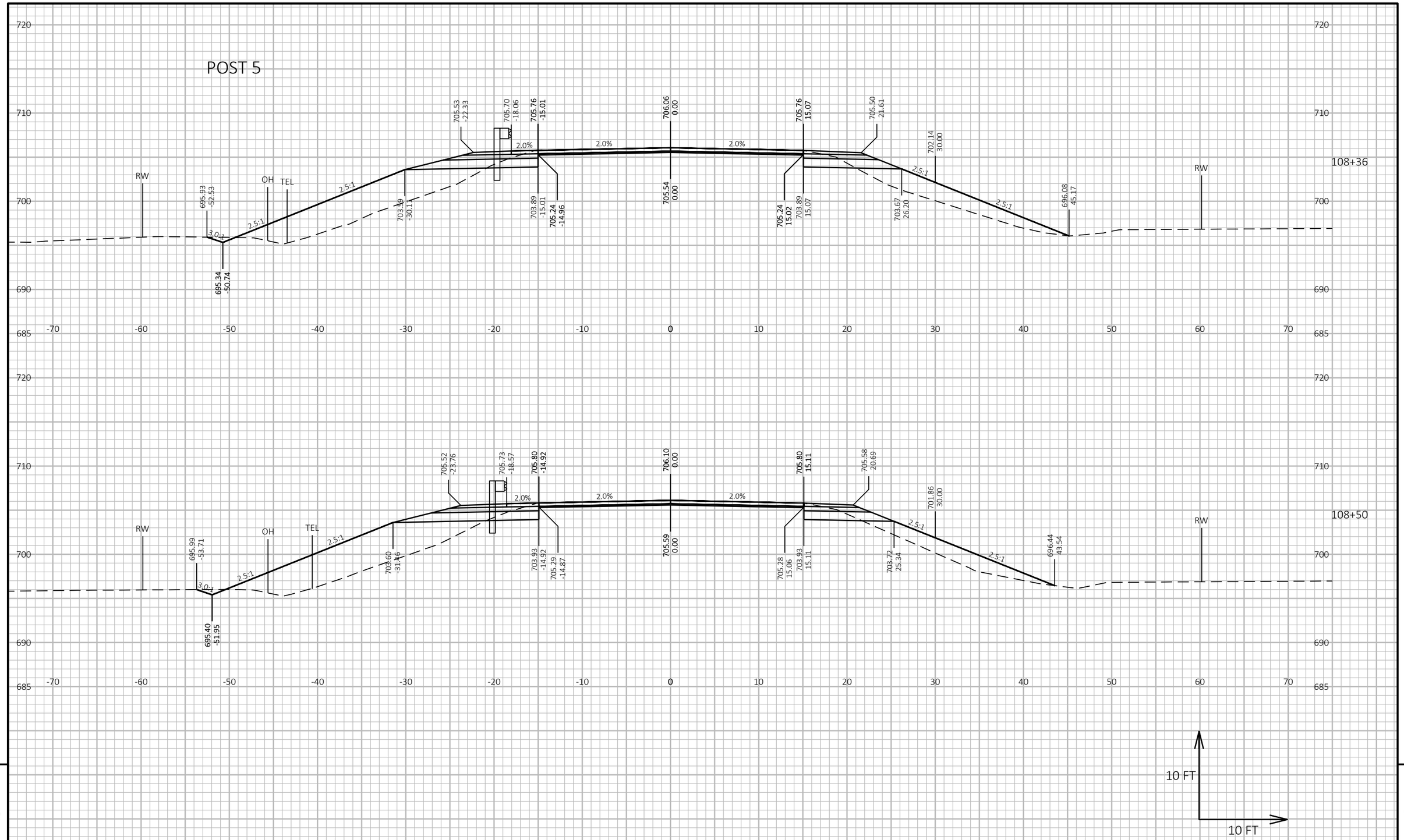
PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 113	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\090201-XS-EXPLODED.DWG
LAYOUT NAME - 14

PLOT DATE : 10/29/2025 12:24 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

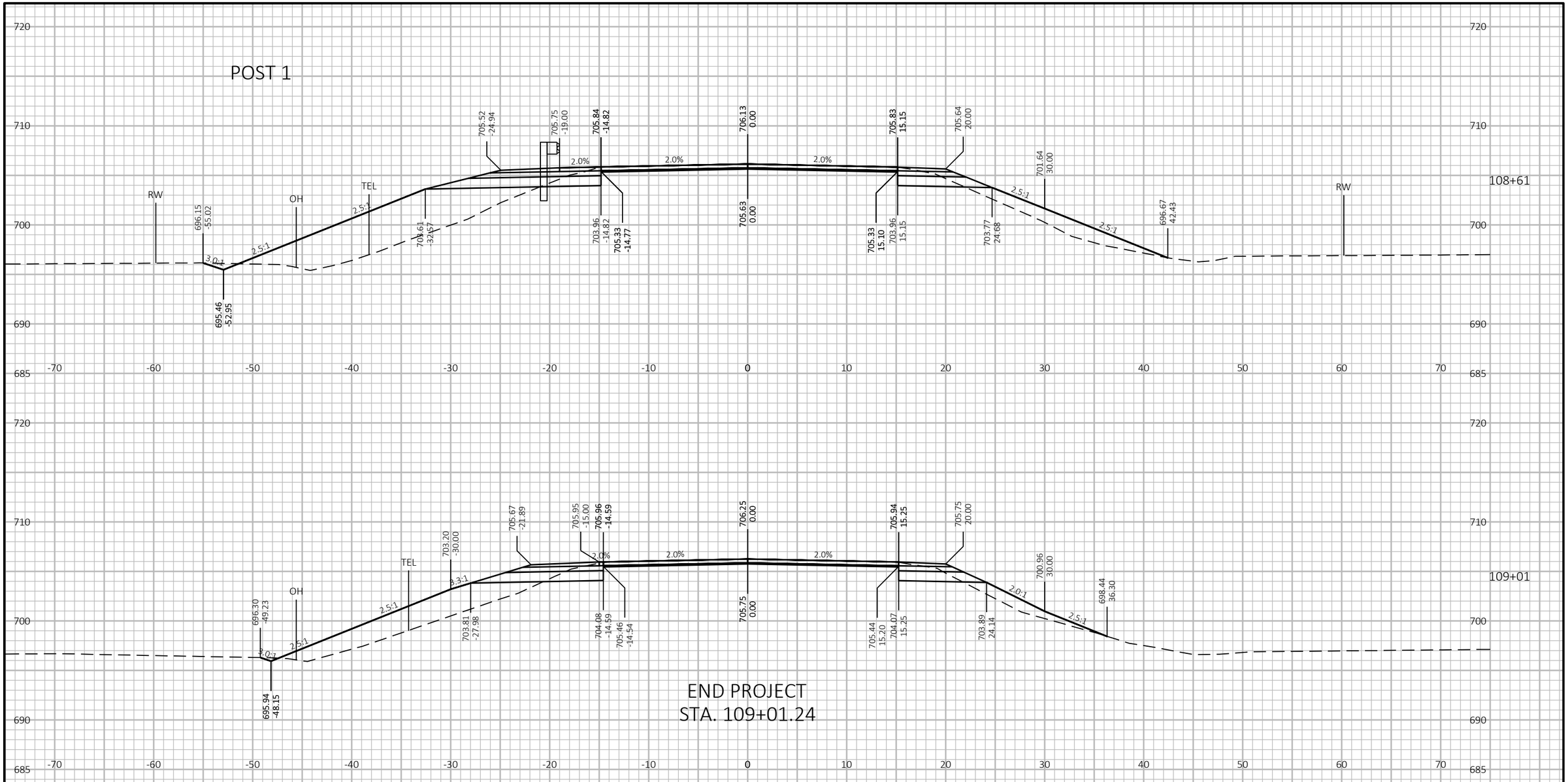


PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 114	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\090201-XS-EXPLODED.DWG
LAYOUT NAME - 15

PLOT DATE : 10/29/2025 12:24 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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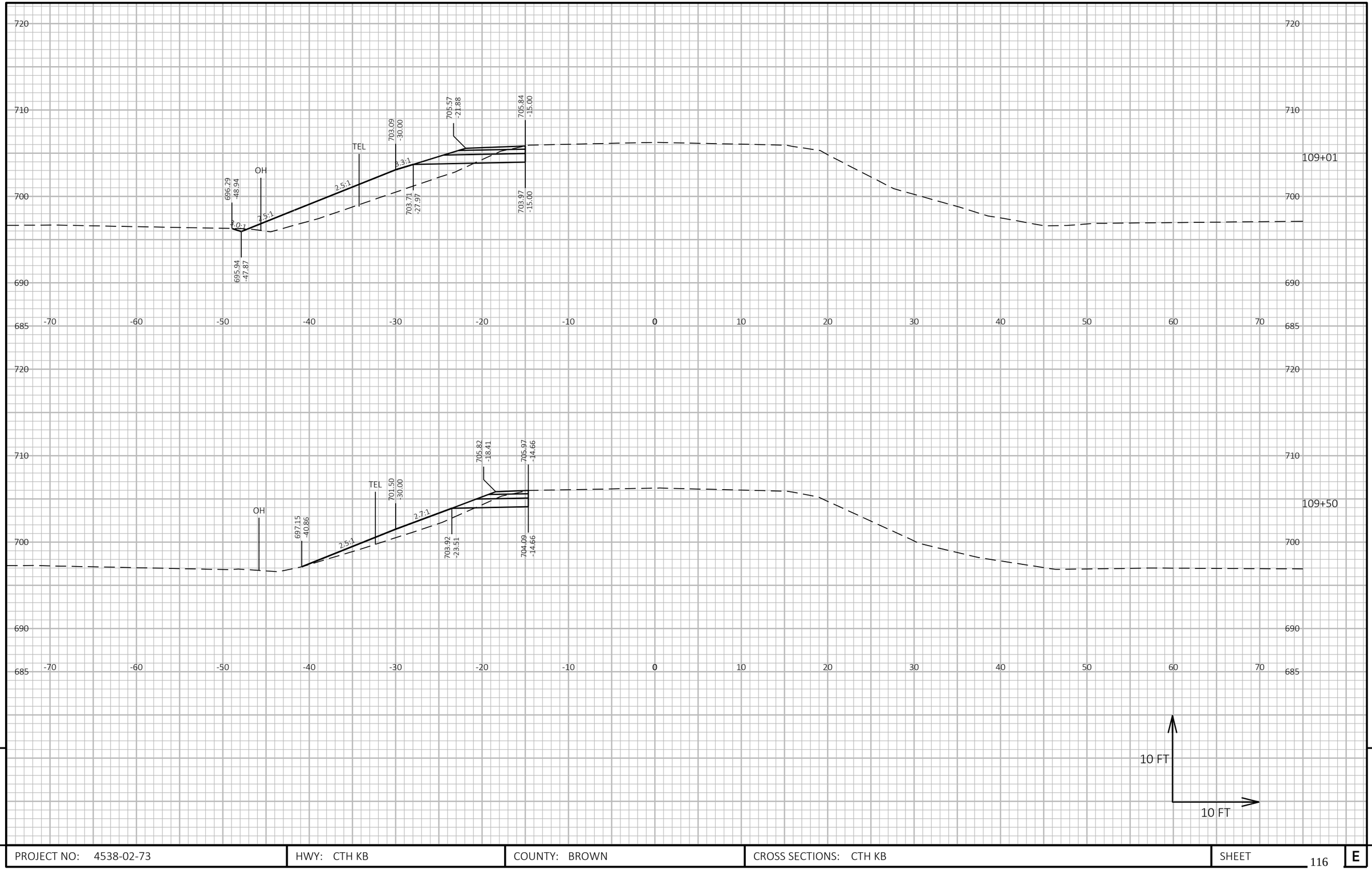
PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 115	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\090201-XS-EXPLODED.DWG
LAYOUT NAME - 16

PLOT DATE : 10/29/2025 12:24 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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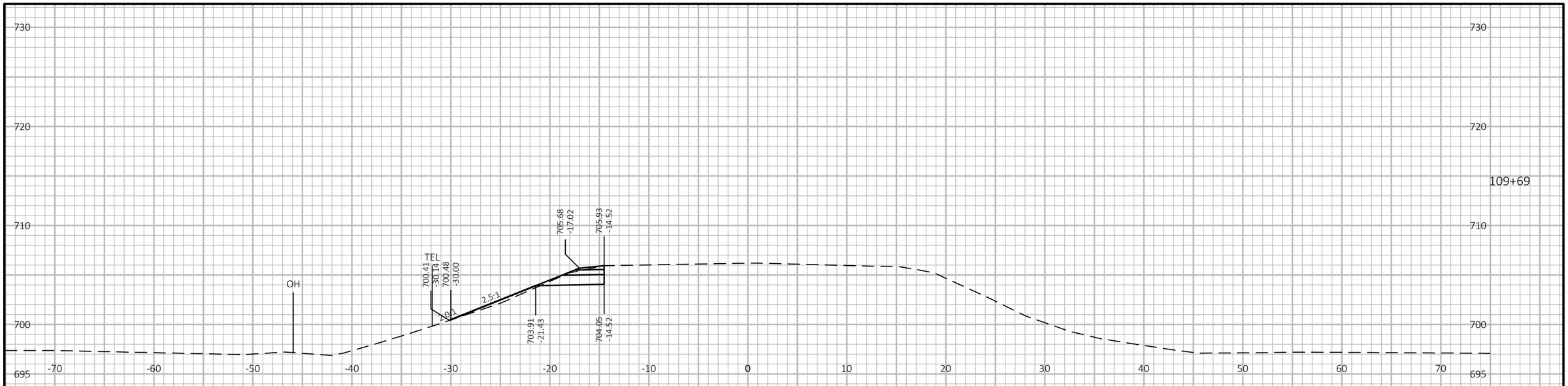
PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 116	E

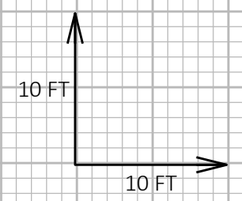
FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\090201-XS-EXPLODED.DWG
LAYOUT NAME - 17

PLOT DATE : 10/29/2025 12:24 PM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



END CONSTRUCTION
STA. 109+69.48



9 9

PROJECT NO: 4538-02-73	HWY: CTH KB	COUNTY: BROWN	CROSS SECTIONS: CTH KB	SHEET 117	E

FILE NAME : C:\ONEDRIVE\AECOM\60659441 - CTH MM AND CTH J, BROWN CO - CTH KB BRIDGE\900_CAD_GIS\910_CAD\SHEETSPLAN\090201-XS-EXPLODED.DWG
LAYOUT NAME - 18
PLOT DATE : 10/29/2025 12:24 PM
PLOT BY : ARBUCKLE, ADRIAN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
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