EAU

DECEMBER 2018

PROJECT ID: 1633-06-74

COUNTY: TREMPEALEAU

ORDER OF SHEETS

TOTAL SHEETS = 138

28

DESIGN DESIGNATION

A.A.D.T.	2019	=	4,700
A A.D.T.	2039	=	5,200
D.H.V.		=	627
D.D.		=	60/40
T.		=	6.8%
DESIGN SPEED		=	60 MPH
ESALS		=	830,000

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	955.35
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE	300 EB	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

GALESVILLE - WHITEHALL

(BRANCH NORTH FK BEAVER CR B-61-0238)

USH 53

TREMPEALEAU COUNTY

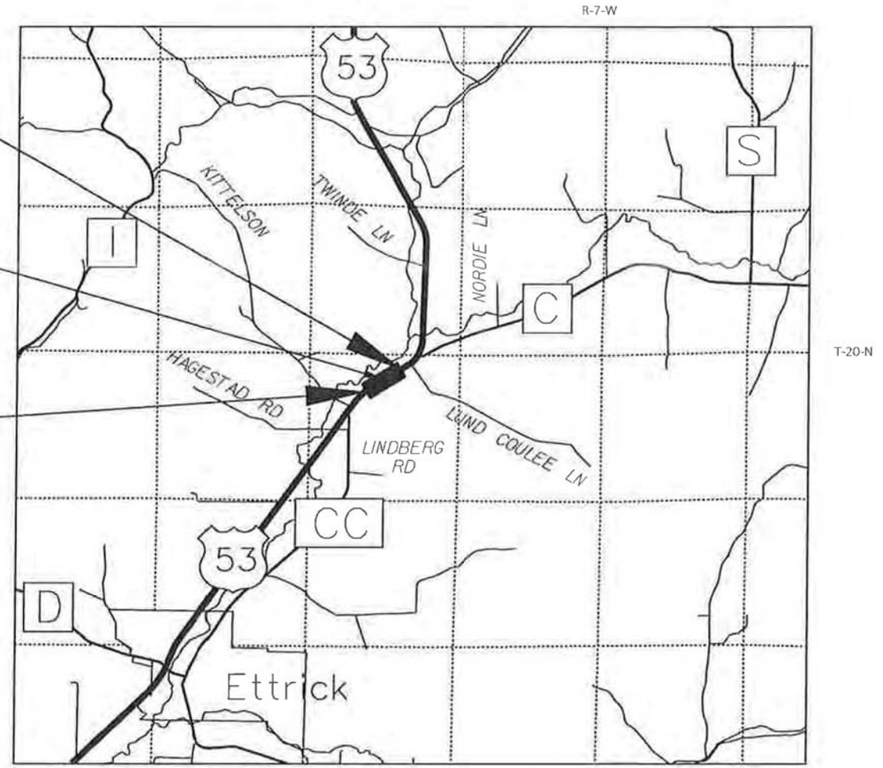
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1633-06-74	WISC 2019016	1

STATE PROJECT NUMBER
1633-06-74

END PROJECT 1633-06-74
STA 106+50.00

EXISTING STRUCTURE B-61-0236
PROPOSED STRUCTURE B-61-0238

BEGIN PROJECT 1633-06-74
STA 103+10.00
Y=378,385.79
X=875,731.04



LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.064 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES. TREMPEALEAU COUNTY, NAD83 (2011), WISCRS TREMPEALEAU CO. NAVD88(2012) IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

PLANS PREPARED BY

KL Engineering
[A] Better Experience

WISCONSIN
JEFFREY D. SMITH
E-36291
VERONA, WI
PROFESSIONAL ENGINEER

7-23-18 (DATE)

(SIGNATURE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SEH/KL ENGINEERING, INC.
Designer	KL ENGINEERING, INC.
Project Manager	NICOLE PASSUELLO
Regional Examiner	JENNIFER OLDENBURG
Regional Supervisor	JEFFREY OLSON

APPROVED FOR THE DEPARTMENT

DATE: 7/20/18 Nicole Passuello (Signature)

E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\010101-TI.DWG

PLOT DATE : 7/13/2018 3:23 PM

PLOT BY : KL ENGINEERING

PLOT NAME :

ABBREVIATIONS

BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
BLDG.	BUILDING
C/L	CENTERLINE
C.E.	COMMERCIAL ENTRANCE
CONC.	CONCRETE
CMCP	CORRUGATED METAL CULVERT PIPE
CP	CULVERT PIPE
CPCS	CULVERT PIPE CORRUGATED STEEL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CPT	CONSTRUCTION PERMIT
CSW	CONCRETE SIDEWALK
CTR	CENTER
E.A.T.	ENERGY ABSORBING TERMINAL
EB	EASTBOUND
ELEC	ELECTRIC
EX.	EXISTING
FO	FIBER OPTIC
F.E.	FIELD ENTRANCE
GAS	GAS
HMA	HOT MIX ASPHALT
HSE.	HOUSE
IE	INVERT ELEVATION
LHF	LEFT HAND FORWARD
LT	LEFT
MH	MANHOLE
MAX.	MAXIMUM
MIN.	MINIMUM
NB	NORTHBOUND
NC	NORMAL CROWN
NOR.	NORMAL
NTS	NOT TO SCALE
P.E.	PRIVATE ENTRANCE
P.L.	PROPERTY LINE
PLE	PERMANENT LIMITED EASEMENT
PROP.	PROPOSED
PRW	PROPOSED RIGHT-OF-WAY
RAD	RADIUS
RCCP	REINFORCED CONCRETE CULVERT PIPE
REQ'D.	REQUIRED
RHF	RIGHT HAND FORWARD
R/L	REFERENCE LINE
RT	RIGHT
RW	RIGHT-OF-WAY LINE
SAN	SANITARY SEWER
SB	SOUTHBOUND
S.D.D.	STANDARD DETAIL DRAWING
SHLD	SHOULDER
SF	SQUARE FEET
SS	STORM SEWER
STA	STATION
SW	SIDEWALK
SY	SQUARE YARD
TEL	TELEPHONE
TLE	TEMPORARY LIMITED EASEMENT
TYP.	TYPICAL
WAT	WATER
WB	WESTBOUND

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

UTILITY CONTACTS

COMMUNICATIONS

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(CENTURY TEL OF CENTRAL WI)
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RYAN.NIEMEIER@CENTURYLINK.COM

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RICE LAKE, WI 54868
(715) 719-0561
JAMEY.OLDEEN@CHARTER.COM

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N28988 STATE ROAD 93
P.O. BOX 277
ARCADIA, WI 54612-0277
(608) 323-3381
THOLTAN@RIVERLANDENERGY.COM

COMMUNICATIONS

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TRI-COUNTY COMMUNICATIONS COOPERATIVE
417 5TH AVE N
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STRUM, WI 54770
(715) 695-2691
BWEBB@TCCPRO.NET

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0 - 2	2 - 6	6 & OVER	0 - 2	2 - 6	6 & OVER	0 - 2	2 - 6	6 & OVER	0 - 2	2 - 6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	0.70 - 0.95											
CONCRETE	0.80 - 0.95											
BRICK	0.70 - 0.80											
DRIVES, WALKS	0.75 - 0.85											
ROOFS	0.75 - 0.95											
GRAVEL ROADS, SHOULDERS	0.40 - 0.60											

TOTAL PROJECT AREA = 0.96 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.10 ACRES

GENERAL NOTES

THE LOCATION OF EXISTING UTILITY INSTALLATIONS AS SHOWN IN THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

UTILITY REFERENCE LINES ON THE CROSS SECTIONS ARE FOR APPROXIMATE HORIZONTAL REFERENCE ONLY.

REMOVAL ITEMS REQUIRING RESTORATION OF CONCRETE OR ASPHALT SHALL BE REMOVED TO AN EXISTING JOINT OR SAWED AS DETERMINED BY THE ENGINEER.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY LOCATIONS AS NEEDED. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

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

EXCAVATION BELOW SUBGRADE (EBS) LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

CONTRACTOR IS RESPONSIBLE FOR RESHAPING AND FINISHING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY THEIR OPERATION OUTSIDE THE PLAN CONSTRUCTION LIMITS.

THE EXACT LOCATION OF DRIVEWAYS IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER. ALL DRIVEWAYS ARE TO BE REPLACED IN KIND.

ALL GRADES PROVIDED ALONG RADII ARE ALONG THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

THE CONTRACTOR'S HMA PAVING OPERATION SHALL BE CONSISTENT WITH THE TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING LANE.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

HMA PAVEMENT WHEN INDICATED ON THE PLANS, SHALL CONSIST OF COURSES AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS.

LOCATION	TOTAL DEPTH	LAYERS	GRADATION	TRAFFIC	BINDER	DESIGNATION
USH 53	6-INCH	4 1/2" LOWER	3	MT	58-28	S
		1 1/2" UPPER	5	MT	58-34	H

ORDER OF DETAIL SHEETS

DESIGN CONTACT

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MADISON, WI 53719
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chalverson@klengineering.com

DNR LIAISON

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AmyL.Lesik@wisconsin.gov

WISDOT

NICOLE PASSUELLO
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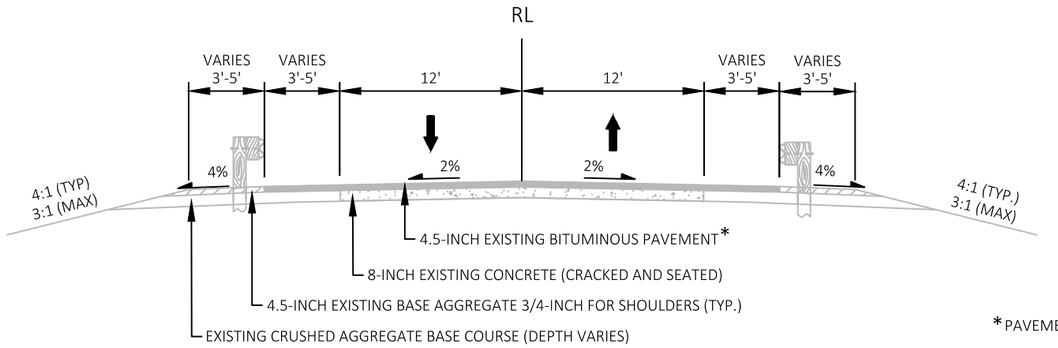
2



*PAVEMENT DEPTH MAY VARY THROUGHOUT THE LIMITS OF THE PROJECT

EXISTING TYPICAL SECTION - USH 53
STA 103+10.00 - STA 106+50.00

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	EXISTING TYPICAL SECTION	SHEET 3	E

2

LEGEND

(1) HMA PAVEMENT, 6-INCH
LOWER: 4 1/2-INCH, (3MT 58-28S)
UPPER: 1 1/2-INCH, (5MT 58-34H)

(2) BASE AGGREGATE DENSE 1 1/4-INCH, 12-INCH

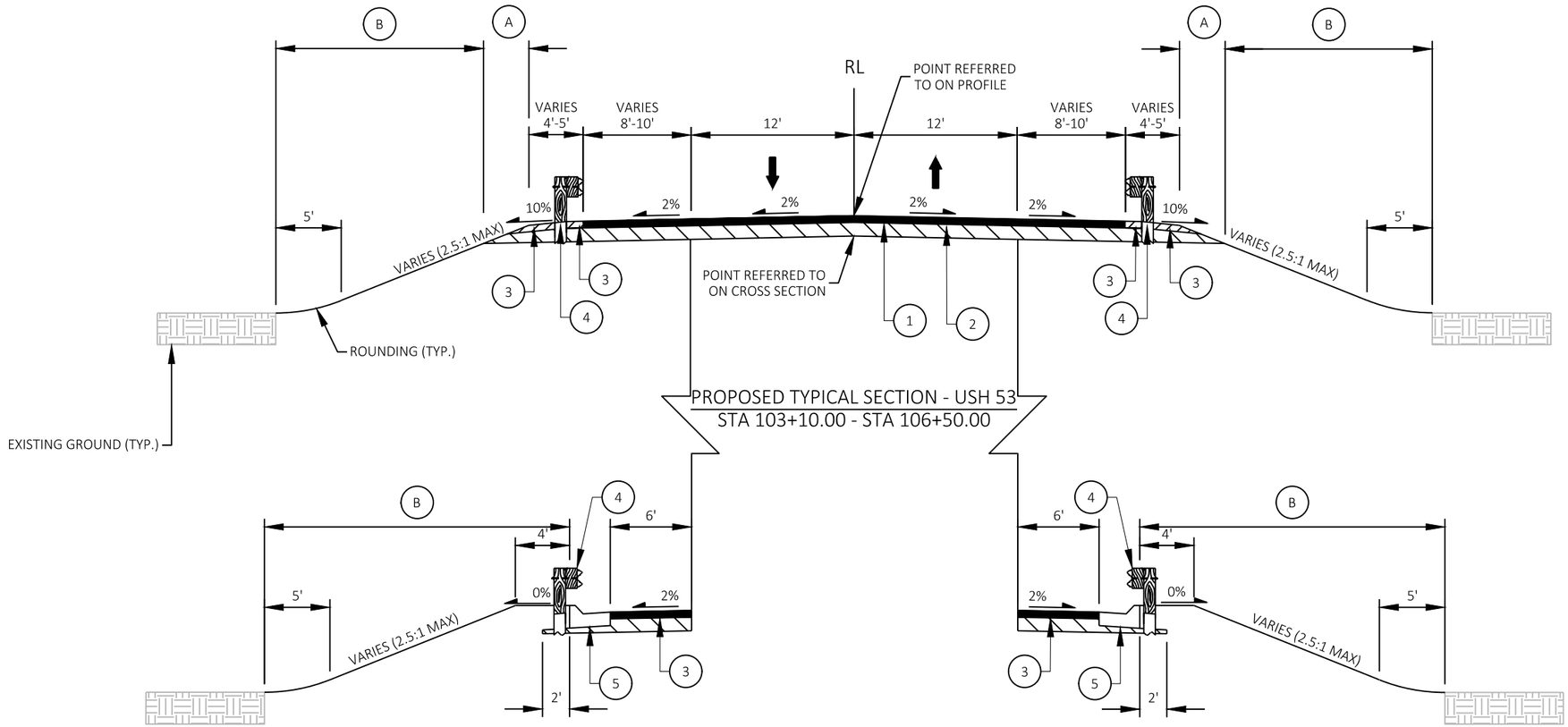
(3) BASE AGGREGATE DENSE 3/4-INCH, 6-INCH

(4) MGS GUARDRAIL 3, MGS THRIE BEAM TRANSITION, OR MGS GUARDRAIL TERMINAL EAT (SEE MGS GUARDRAIL DETAIL FOR LOCATIONS)

(5) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D

(A) SEEDING MIXTURE NO. 30 & FERTILIZER TYPE A

(B) SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, FERTILIZER TYPE A

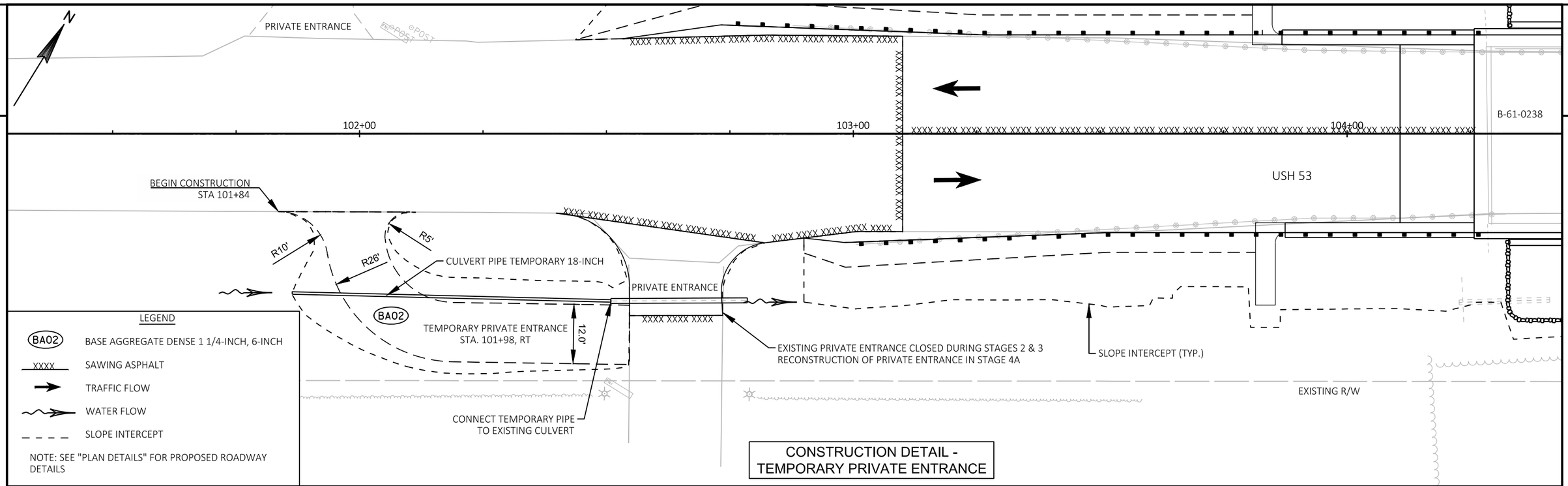


PROPOSED TYPICAL SECTION - USH 53
STA 103+10.00 - STA 106+50.00

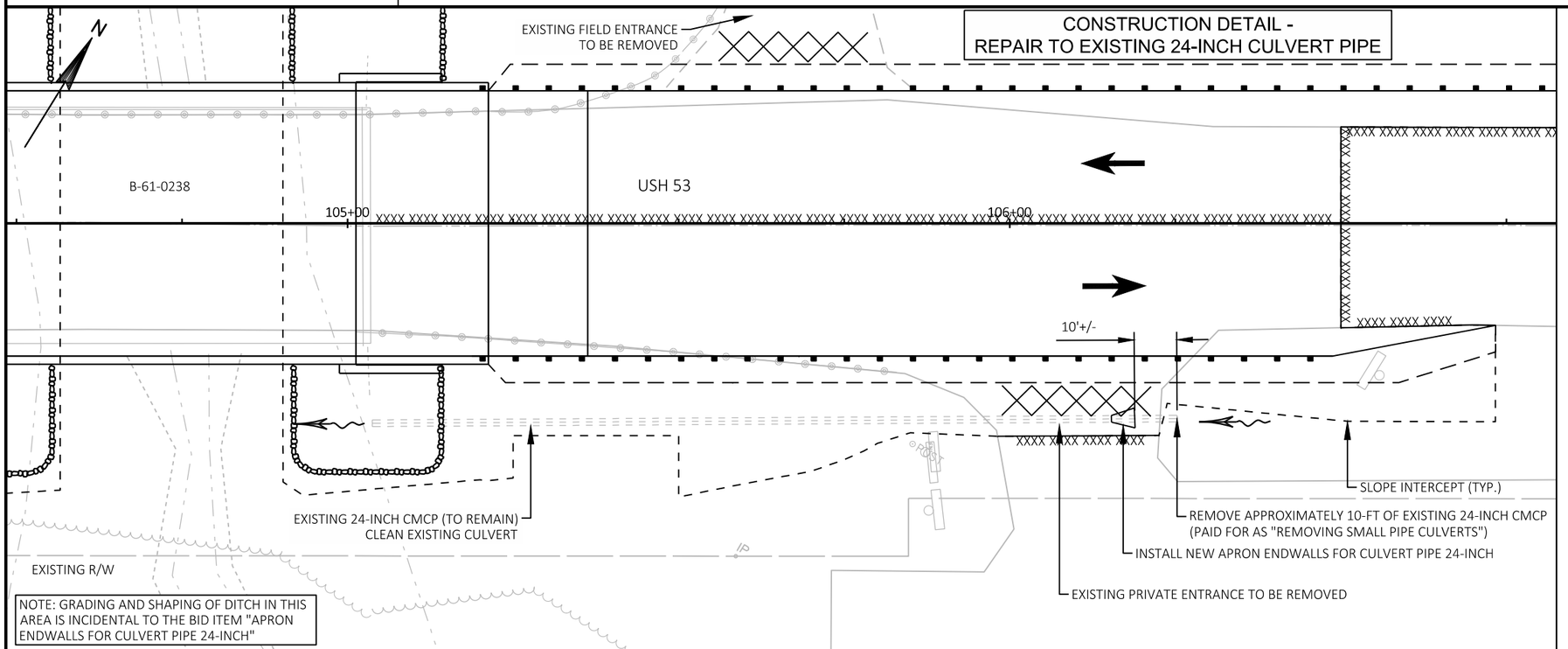
PARTIAL PROPOSED TYPICAL SECTION - USH 53
STA 103+86.84 - STA 104+25.75

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	PROPOSED TYPICAL SECTION	SHEET 4	E

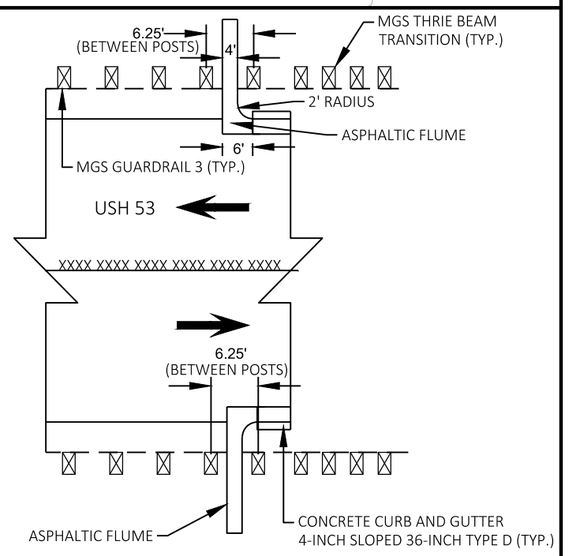
FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\TYPICAL SECTIONS\020301-TS PROP.DWG
LAYOUT NAME - PROP
PLOT DATE : 7/20/2018 11:48 AM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



CONSTRUCTION DETAIL - TEMPORARY PRIVATE ENTRANCE



CONSTRUCTION DETAIL - REPAIR TO EXISTING 24-INCH CULVERT PIPE



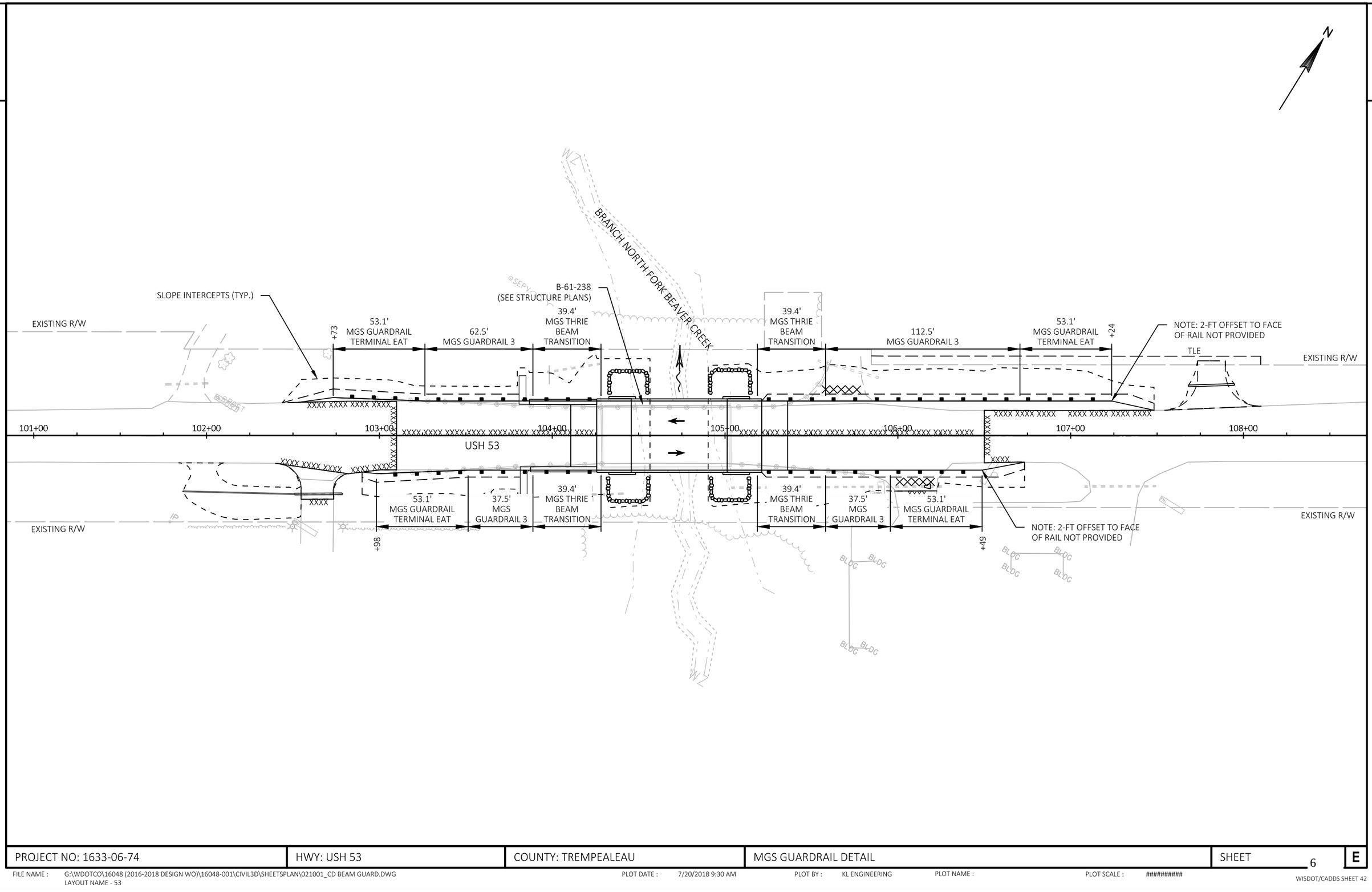
CONSTRUCTION DETAIL - ASPHALTIC FLUMES

SEE "MGS GUARDRAIL DETAIL" FOR GUARDRAIL DETAILS NOT SHOWN.

REFER TO S.D.D. "CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES" FOR ADDITIONAL DETAILS NOT SHOWN

NOTE: LOCATE AND CONSTRUCT ASPHALTIC FLUMES SUCH THAT GUARD RAIL POSTS WILL NOT CONFLICTS WITH LOCATION OF ASPHALTIC FLUME.

2

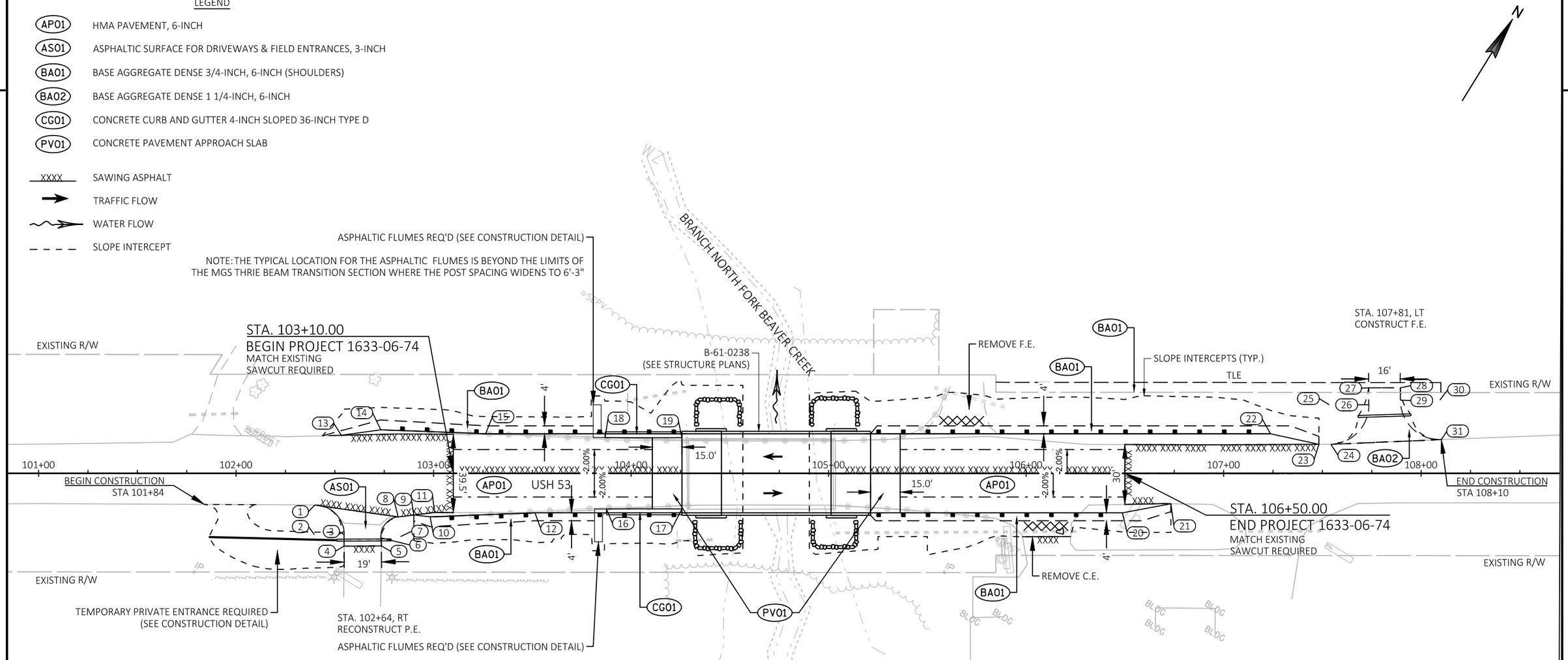


PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	MGS GUARDRAIL DETAIL	SHEET 6	E

2

LEGEND

- AP01 — HMA PAVEMENT, 6-INCH
- AS01 — ASPHALTIC SURFACE FOR DRIVEWAYS & FIELD ENTRANCES, 3-INCH
- BA01 — BASE AGGREGATE DENSE 3/4-INCH, 6-INCH (SHOULDERS)
- BA02 — BASE AGGREGATE DENSE 1 1/4-INCH, 6-INCH
- CG01 — CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D
- PV01 — CONCRETE PAVEMENT APPROACH SLAB
- XXXX — SAWING ASPHALT
- TRAFFIC FLOW
- WATER FLOW
- SLOPE INTERCEPT



POINT REFERENCE TABLE				
POINT NO.	STATION	OFFSET	ELEVATION	COMMENT
1	102+39.81	16.05' RT	802.99	MATCH EXISTING & BEGIN 15-FT RADIUS
2	102+39.66	31.05' RT	801.85	15-FT RADIUS
3	102+54.66	30.97' RT	802.89	MATCH EXISTING
4	102+54.69	36.80' RT	802.87	END 15-FT RADIUS
5	102+73.57	36.72' RT	802.82	MATCH EXISTING
6	102+73.29	32.68' RT	802.83	BEGIN 10-FT RADIUS
7	102+83.27	31.99' RT	801.14	10-FT RADIUS
8	102+82.05	22.06' RT	802.86	END 10-FT RADIUS & MATCH EXISTING
9	102+90.00	21.09' RT	802.85	PAVED SHLDR BREAK
10	102+98.23	22.00' RT	802.81	PAVED SHLDR BREAK

POINT REFERENCE TABLE				
POINT NO.	STATION	OFFSET	ELEVATION	COMMENT
11	103+00.45	19.81' RT	802.84	---
12	103+51.35	20.00' RT	802.73	PAVED SHLDR BREAK
13	102+53.25	19.22' LT	802.94	MATCH EXISTING
14	102+73.25	22.00' LT	802.87	PAVED SHLDR BREAK
15	103+26.35	20.00' LT	802.78	PAVED SHLDR BREAK
16	103+87.46	18.00' RT	802.80	BEGIN CURB AND GUTTER
17	104+25.75	18.00' RT	802.93	END CURB AND GUTTER
18	103+86.84	18.00' LT	802.80	BEGIN CURB AND GUTTER
19	104+25.75	18.00' LT	802.93	END CURB AND GUTTER

POINT REFERENCE TABLE				
POINT NO.	STATION	OFFSET	ELEVATION	COMMENT
20	106+48.77	20.00' RT	803.49	PAVED SHLDR BREAK & END MGS GUARDRAIL
21	106+73.35	15.39' RT	803.76	MATCH EXISTING
22	107+23.78	20.00' LT	803.76	PAVED SHLDR BREAK & END MGS GUARDRAIL
23	107+48.20	14.66' LT	803.99	MATCH EXISTING & PAVED SHLDR BREAK
24	107+54.31	14.67' LT	804.02	MATCH EXISTING & BEGIN 25-FT RADIUS
25	107+53.47	34.65' LT	803.07	25-FT RADIUS
26	107+73.47	34.65' LT	803.56	END 25-FT RADIUS
27	107+73.47	43.21' LT	803.19	MATCH EXISTING
28	107+89.47	43.21' LT	802.97	MATCH EXISTING
29	107+89.47	37.03' LT	803.24	BEGIN 25-FT RADIUS
30	108+09.47	37.03' LT	802.87	25-FT RADIUS
31	108+10.31	17.04' LT	804.14	END 25-FT RADIUS & MATCH EXISTING

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	PLAN DETAILS	SHEET 7	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\PLAN DETAILS\021201-PD.DWG
LAYOUT NAME - 53
PLOT DATE : 7/20/2018 10:47 AM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2

LEGEND

EROSION MAT URBAN CLASS I TYPE B

SILT FENCE

RIPRAP MEDIUM

SLOPE INTERCEPT

TEMPORARY DITCH CHECKS

SURFACE WATER FLOW

N

BRANCH NORTH FORK BEAVER CREEK

STA. 103+10.00
BEGIN PROJECT 1633-06-74
MATCH EXISTING
SAWCUT REQUIRED

B-61-0238
(SEE STRUCTURE PLANS)

EXISTING R/W

TLE

SLOPE INTERCEPTS (TYP.)

EXISTING R/W

101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00

BEGIN CONSTRUCTION
STA 101+84

USH 53

END CONSTRUCTION
STA 108+10

STA. 106+50.00
END PROJECT 1633-06-74
MATCH EXISTING
SAWCUT REQUIRED

EXISTING R/W

EXISTING R/W

SILT FENCE (TYP.)

SEE STRUCTURE PLANS FOR RIPRAP DETAILS
AROUND BRIDGE ABUTMENTS (TYP.)

BLDG

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	EROSION CONTROL	SHEET 8	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\EROSION CONTROL\022001-EC.DWG
LAYOUT NAME - 53

PLOT DATE : 7/20/2018 9:26 AM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

LEGEND

P4EW MARKING LINE EPOXY 4-INCH (WHITE)

P4EY MARKING LINE EPOXY 4-INCH (YELLOW)

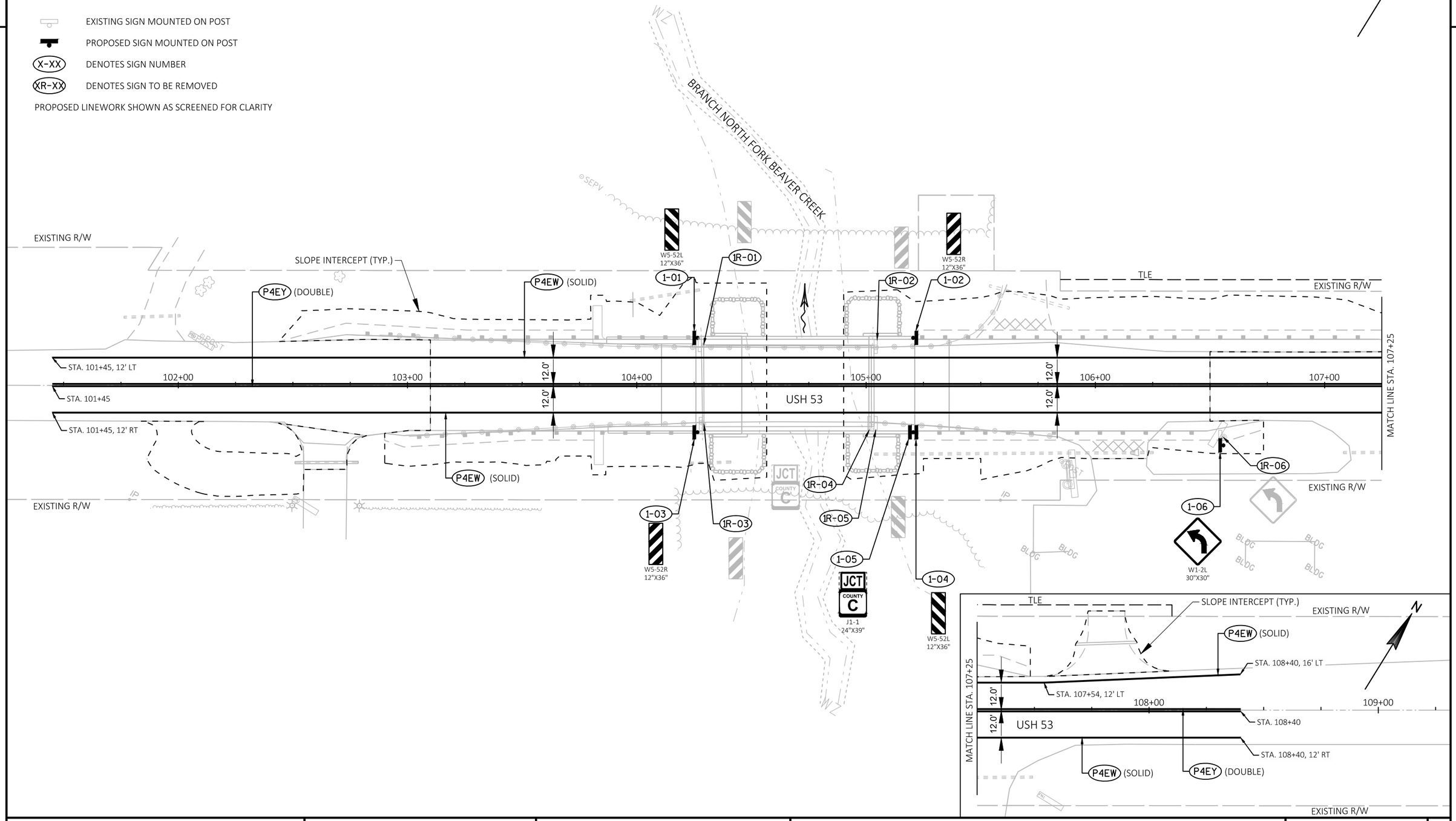
EXISTING SIGN MOUNTED ON POST

PROPOSED SIGN MOUNTED ON POST

X-XX DENOTES SIGN NUMBER

XR-XX DENOTES SIGN TO BE REMOVED

PROPOSED LINEWORK SHOWN AS SCREENED FOR CLARITY



PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	PERMANENT SIGNING AND PAVEMENT MARKING	SHEET 9	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\SIGNING_MARKING\023201-PS.DWG
LAYOUT NAME - 53

PLOT DATE : 7/20/2018 10:43 AM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

GENERAL NOTES FOR TRAFFIC CONTROL

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

2) A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE WORK AREAS IF WARRANTED BY CONDITIONS OR AS DIRECTED BY THE ENGINEER.

3) ALL SIGNS ARE 48" X 48" UNLESS NOTED.

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

5) FOR NIGHTTIME OPERATION, ALL DRUMS IN TAPERS SHALL HAVE A TYPE C STEADY BURN WARNING LIGHT.

6) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.

7) DIMENSIONS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE FACE OF BARRIER AND ADJACENT TO TRAFFIC.

8) WHEN A SEGMENT OF THE PROJECT IS NOT SHOWN ON THE STAGING PLANS, USE THE SAME TRAFFIC CONTROL AS THE PREVIOUS STAGE FOR THAT SEGMENT UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER.

9) EXISTING AND ADVANCE WARNING TRAFFIC SIGNS MAY REQUIRE RELOCATION DURING CONSTRUCTION STAGING, INCIDENTAL TO THE CONTRACT.

10) MAINTAIN LOCAL ACCESS AT ALL TIMES UNLESS OTHERWISE NOTED IN THE TRAFFIC CONTROL PLANS.

TEMPORARY PAVEMENT MARKING LEGEND

T4W	TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
T18W	TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)
R4W	MARKING REMOVAL LINE 4-INCH (WHITE)
R4Y	MARKING REMOVAL LINE 4-INCH (YELLOW)

TRAFFIC CONTROL LEGEND

TRAFFIC CONTROL BARRICADE TYPE III

TRAFFIC CONTROL BARRICADE TYPE III (WITH ATTACHED SIGN)

TRAFFIC CONTROL SIGNS (ON PERMANENT SUPPORT)

TRAFFIC CONTROL SIGNS (ON TEMPORARY SUPPORT)

TRAFFIC CONTROL DRUMS

CONCRETE BARRIER TEMPORARY PRECAST

MB — TRAFFIC CONTROL SIGNS PCMS

CC — CRASH CUSHIONS TEMPORARY

WOOD POST (BREAKAWAY - FOR TEMPORARY SIGNAL)

MARKING REMOVAL (SEE TRAFFIC CONTROL PLANS FOR LOCATIONS)

WORK AREA

DIRECTION OF TRAFFIC

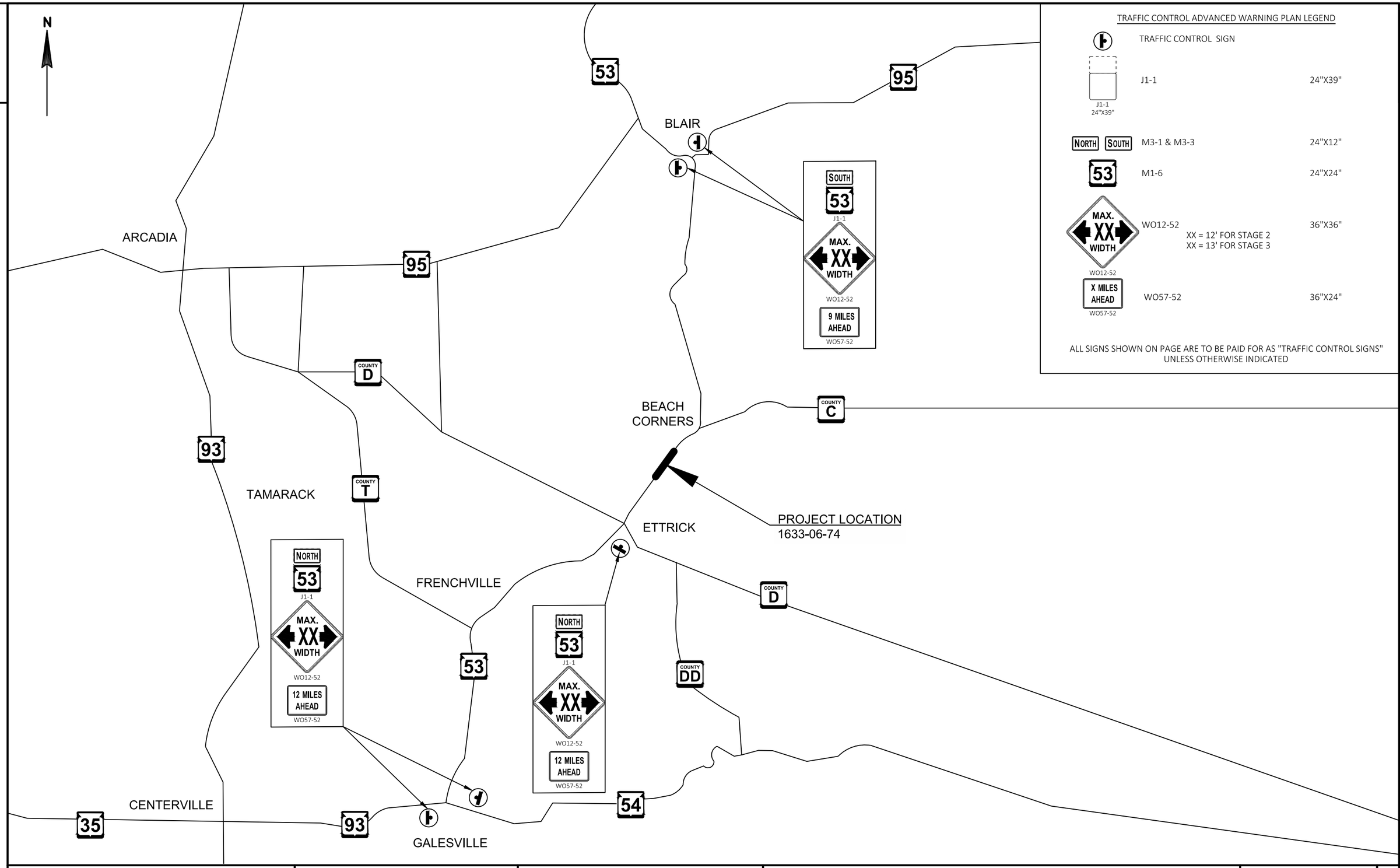
TEMPORARY SIGNAL WITH BLACKPLATE AND 12-INCH LENSES ON A BREAKAWAY POLE

NON-INTRUSIVE DETECTION AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	TRAFFIC CONTROL - NOTES & LEGEND	SHEET 10	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\NOTES AND LEGEND.DWG
LAYOUT NAME - Plan 1 IN 100 FT
PLOT DATE : 7/20/2018 12:21 PM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : 1:1



TRAFFIC CONTROL ADVANCED WARNING PLAN LEGEND

	TRAFFIC CONTROL SIGN	
J1-1 24"X39"	J1-1	24"X39"
NORTH SOUTH	M3-1 & M3-3	24"X12"
53	M1-6	24"X24"
MAX. XX WIDTH WO12-52	WO12-52 XX = 12' FOR STAGE 2 XX = 13' FOR STAGE 3	36"X36"
X MILES AHEAD WO57-52	WO57-52	36"X24"

ALL SIGNS SHOWN ON PAGE ARE TO BE PAID FOR AS "TRAFFIC CONTROL SIGNS" UNLESS OTHERWISE INDICATED

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	TRAFFIC CONTROL - ADVANCED SIGNING	SHEET 11	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\025000-TC-ADVANCED SIGNING.DWG
LAYOUT NAME - Advanced Warning

PLOT DATE : 7/20/2018 12:21 PM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : 1 IN:2 MI

2

STAGE 1 - USH 53

CONSTRUCTION OPERATIONS - STAGE 1A:

- CONSTRUCT TEMPORARY PRIVATE ENTRANCE (SEE CONSTRUCTION DETAIL)
- FILL EXISTING RUMBLE STRIPS STATION 101+45 - STA 103+10 (CENTER)

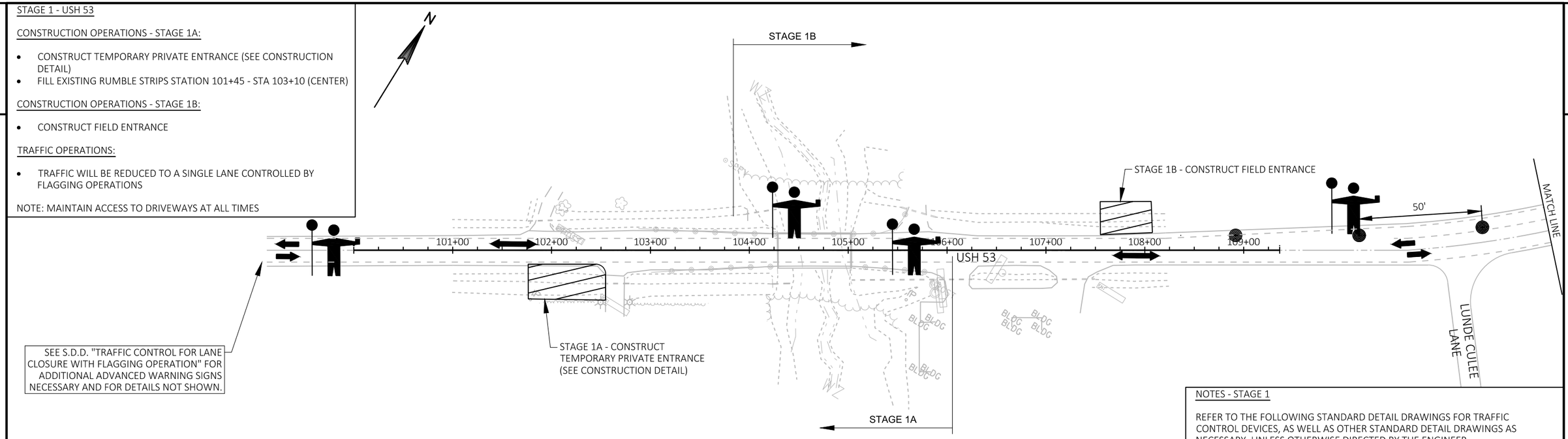
CONSTRUCTION OPERATIONS - STAGE 1B:

- CONSTRUCT FIELD ENTRANCE

TRAFFIC OPERATIONS:

- TRAFFIC WILL BE REDUCED TO A SINGLE LANE CONTROLLED BY FLAGGING OPERATIONS

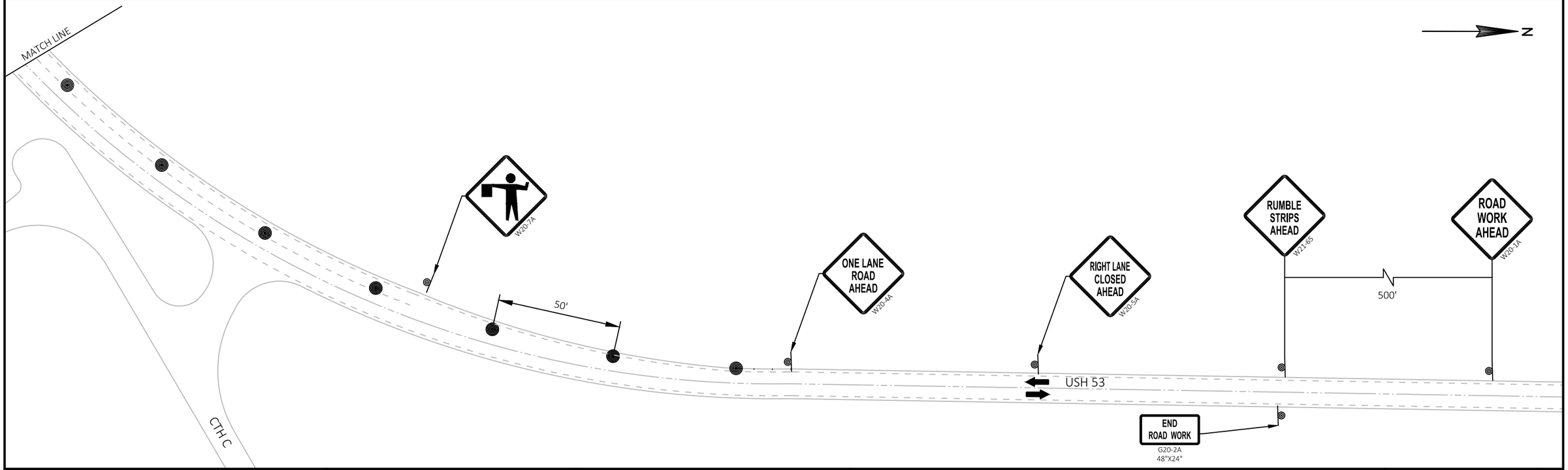
NOTE: MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES



NOTES - STAGE 1

REFER TO THE FOLLOWING STANDARD DETAIL DRAWINGS FOR TRAFFIC CONTROL DEVICES, AS WELL AS OTHER STANDARD DETAIL DRAWINGS AS NECESSARY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER

- TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION



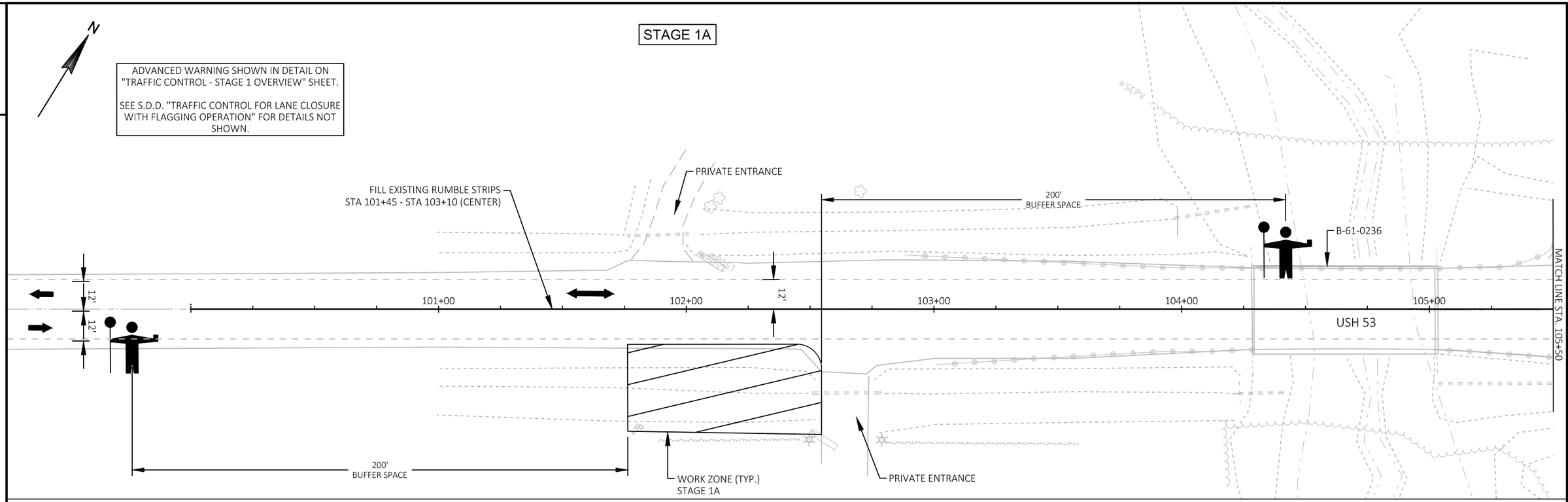
PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	TRAFFIC CONTROL - STAGE 1 OVERVIEW	SHEET 12	E

2

STAGE 1A

ADVANCED WARNING SHOWN IN DETAIL ON "TRAFFIC CONTROL - STAGE 1 OVERVIEW" SHEET.

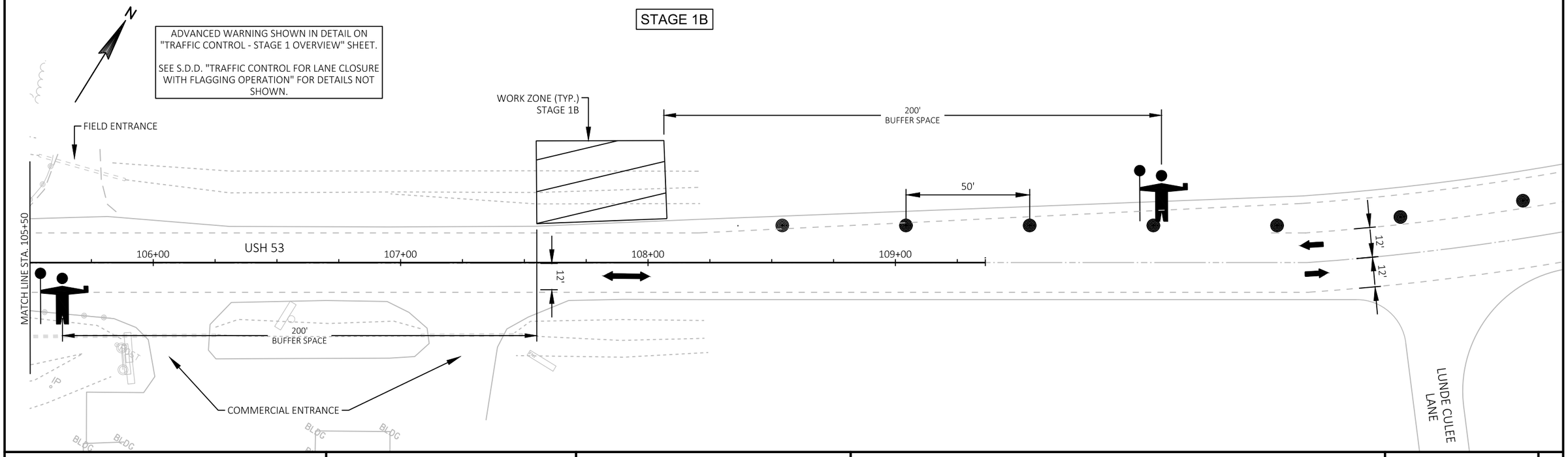
SEE S.D.D. "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" FOR DETAILS NOT SHOWN.



STAGE 1B

ADVANCED WARNING SHOWN IN DETAIL ON "TRAFFIC CONTROL - STAGE 1 OVERVIEW" SHEET.

SEE S.D.D. "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" FOR DETAILS NOT SHOWN.



PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	TRAFFIC CONTROL - STAGE 1	SHEET 13	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\025001-TC-STAGE 1.DWG
LAYOUT NAME - 025001
PLOT DATE : 7/20/2018 12:22 PM
PLOT BY : KL ENGINEERING
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2

STAGE 2 - USH 53

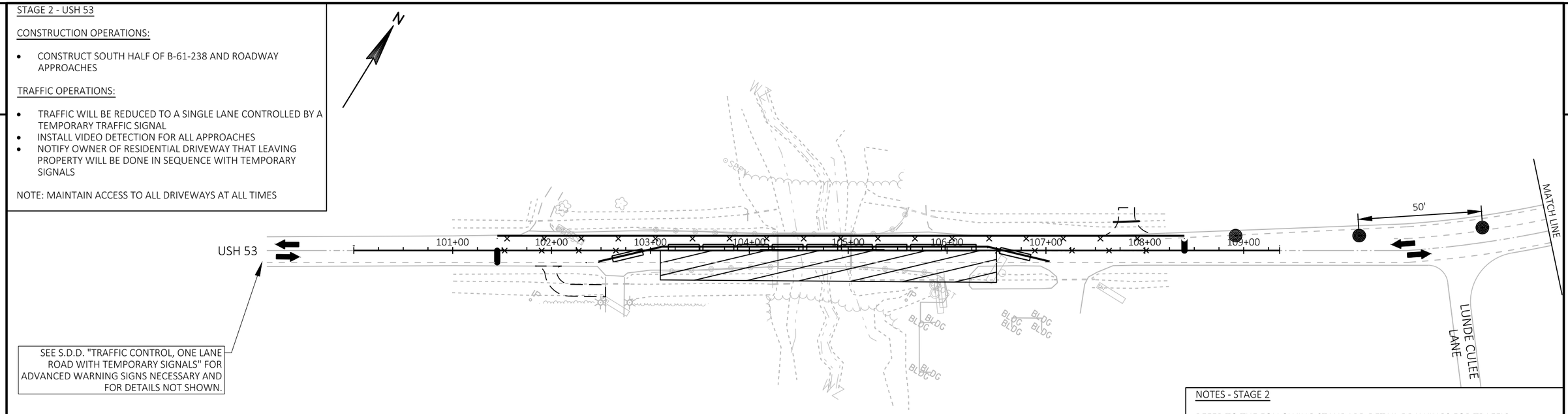
CONSTRUCTION OPERATIONS:

- CONSTRUCT SOUTH HALF OF B-61-238 AND ROADWAY APPROACHES

TRAFFIC OPERATIONS:

- TRAFFIC WILL BE REDUCED TO A SINGLE LANE CONTROLLED BY A TEMPORARY TRAFFIC SIGNAL
- INSTALL VIDEO DETECTION FOR ALL APPROACHES
- NOTIFY OWNER OF RESIDENTIAL DRIVEWAY THAT LEAVING PROPERTY WILL BE DONE IN SEQUENCE WITH TEMPORARY SIGNALS

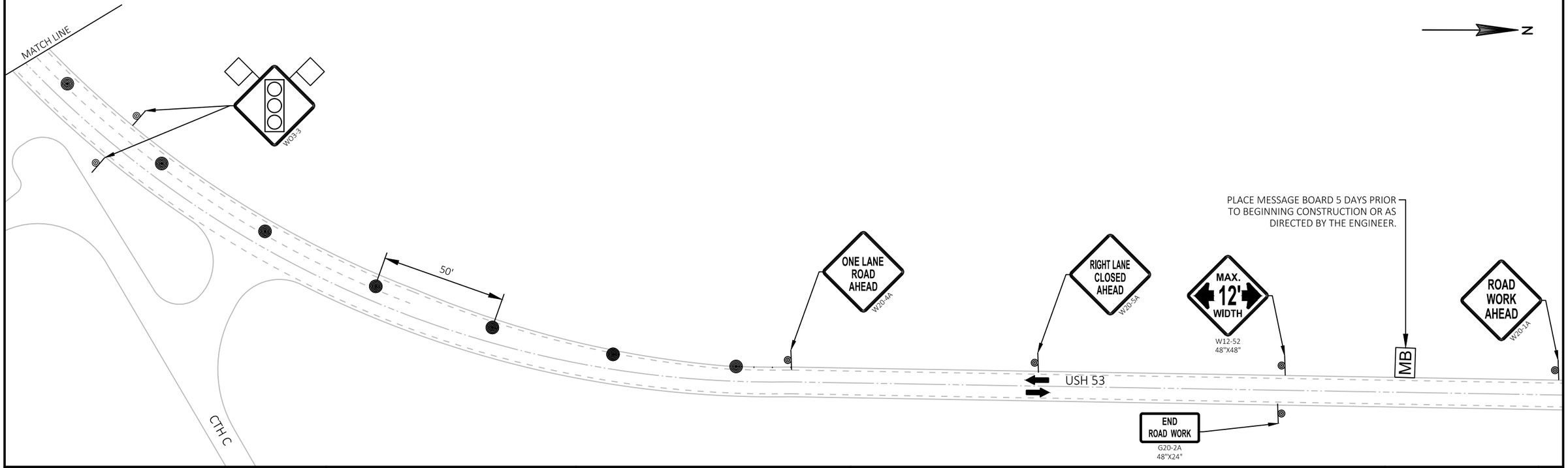
NOTE: MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES



NOTES - STAGE 2

REFER TO THE FOLLOWING STANDARD DETAIL DRAWINGS FOR TRAFFIC CONTROL DEVICES, AS WELL AS OTHER STANDARD DETAIL DRAWINGS AS NECESSARY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER

- TRAFFIC CONTROL, ONE LANE WITH TEMPORARY SIGNALS
- BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION SHEETS A AND B FOR TEMPORARY TRAFFIC SIGNAL INSTALLATION



PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	TRAFFIC CONTROL - STAGE 2 OVERVIEW	SHEET 14	E

NOTES:
* PLACE SIGN 1500-FT FROM STOP BAR

- BARRIER IS PINNED ON EXISTING STRUCTURE
STA 104+29.24 - STA 105+02.29

ADVANCED WARNING SHOWN IN DETAIL ON "TRAFFIC CONTROL - STAGE 3 OVERVIEW" SHEET.

SEE S.D.D. "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR DETAILS NOT SHOWN.

PLACE MESSAGE BOARD 5 DAYS PRIOR TO BEGINNING CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.

PRIVATE ENTRANCE

PROVIDE AREA FOR CONTRACTOR TO GAIN ACCESS TO WORK ZONE

TRANSITION PINNED BARRIER PER S.D.D.

BARRIER TO BE PINNED TO EXISTING STRUCTURE

TRANSITION PINNED BARRIER PER S.D.D.

FIELD ENTRANCE

B-61-0236

R4W

MATCH LINE STA. 106+25

USH 53

4:1 TAPER (62.5')

+10

T4W

R4Y (DOUBLE)

T18W

101+00 102+00 103+00 104+00 105+00 106+00

11'

13'

Ø1 Ø2

15'

CC

90'

12.5'

MB

MAX. 12' WIDTH

* W12-52 48"X48"

STOP HERE ON RED R10-6 24"X36"

W1-6 48"X24"

PRIVATE ENTRANCE

TEMPORARY PRIVATE ENTRANCE

TEMPORARY SHORING

WORK ZONE (TYP.)

COMMERCIAL DRIVEWAY - REMOVED IN STAGE 2

W1-6 48"X24"

+41

4:1 TAPER (62.5')

140'

FIELD ENTRANCE (CONSTRUCTED IN STAGE 1)

R4W

T4W

15'

50'

MATCH LINE STA. 106+25

107+00 108+00 109+00

Ø4

T18W

USH 53

R4Y (DOUBLE)

Ø3

PROVIDE AREA FOR CONTRACTOR TO GAIN ACCESS TO WORK ZONE

COMMERCIAL ENTRANCE

WORK ZONE (TYP.)

ADVANCED WARNING SHOWN IN DETAIL ON "TRAFFIC CONTROL - STAGE 2 OVERVIEW" SHEET.

SEE S.D.D. "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR DETAILS NOT SHOWN.

LUNDE CULEE LANE

BLDG

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	TRAFFIC CONTROL - STAGE 2	SHEET 15	E

2

STAGE 3 - USH 53

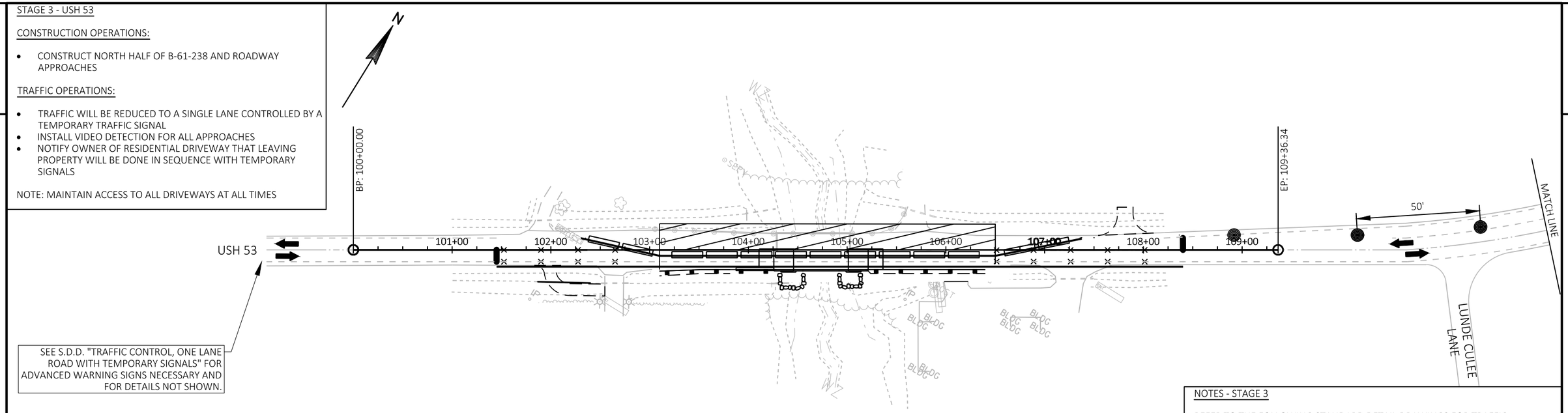
CONSTRUCTION OPERATIONS:

- CONSTRUCT NORTH HALF OF B-61-238 AND ROADWAY APPROACHES

TRAFFIC OPERATIONS:

- TRAFFIC WILL BE REDUCED TO A SINGLE LANE CONTROLLED BY A TEMPORARY TRAFFIC SIGNAL
- INSTALL VIDEO DETECTION FOR ALL APPROACHES
- NOTIFY OWNER OF RESIDENTIAL DRIVEWAY THAT LEAVING PROPERTY WILL BE DONE IN SEQUENCE WITH TEMPORARY SIGNALS

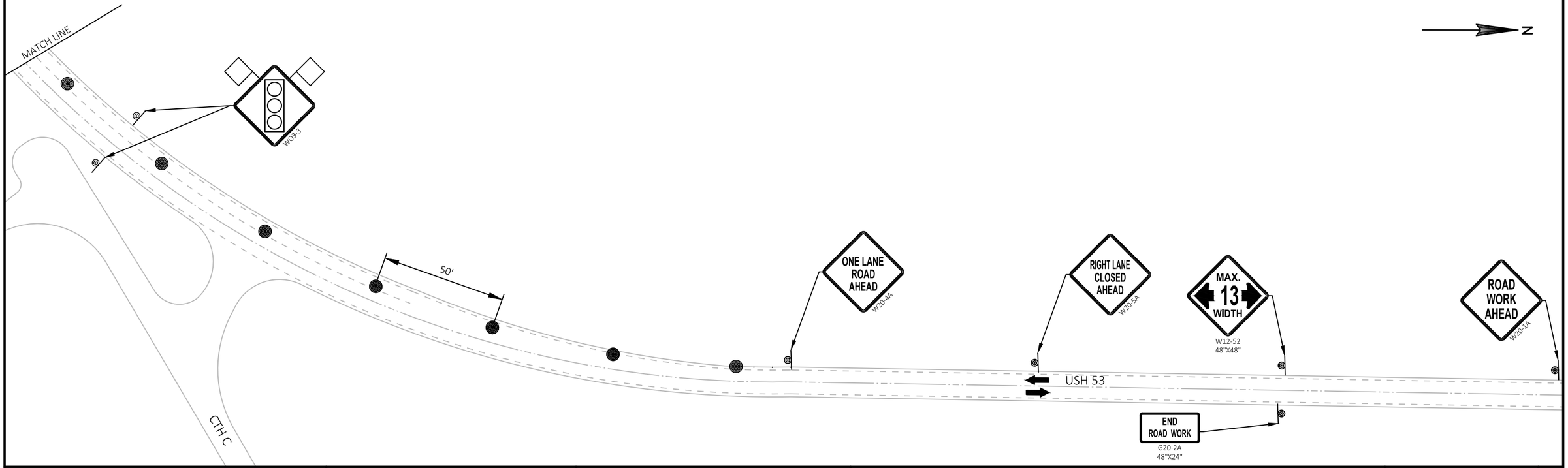
NOTE: MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES



NOTES - STAGE 3

REFER TO THE FOLLOWING STANDARD DETAIL DRAWINGS FOR TRAFFIC CONTROL DEVICES, AS WELL AS OTHER STANDARD DETAIL DRAWINGS AS NECESSARY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER

- TRAFFIC CONTROL, ONE LANE WITH TEMPORARY SIGNALS
- BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION SHEETS A AND B FOR TEMPORARY TRAFFIC SIGNAL INSTALLATION



PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	TRAFFIC CONTROL - STAGE 3 OVERVIEW	SHEET 16	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\025003-TC-STAGE 3.DWG
LAYOUT NAME - OVERVIEW

PLOT DATE : 7/20/2018 12:22 PM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : ##########

NOTE:
* PLACE SIGN 1500-FT FROM STOP BAR

ADVANCED WARNING SHOWN IN DETAIL ON "TRAFFIC CONTROL - STAGE 3 OVERVIEW" SHEET.

SEE S.D.D. "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR DETAILS NOT SHOWN.

PRIVATE ENTRANCE

STOP HERE ON RED
R10-6
24"X36"

PROVIDE AREA FOR CONTRACTOR TO GAIN ACCESS TO WORK ZONE

WORK ZONE (TYP.)

FIELD ENTRANCE - REMOVED IN STAGE 3

B-61-0236

Ø1

R4Y (DOUBLE - REMOVED IN STAGE 2)

T18W

4.5:1 TAPER (75')

+10

101+00 102+00 103+00 104+00 105+00 106+00

MATCH LINE STA. 106+25

Ø2

15'

R4W

11'

14'

Ø1

90'

T4W

MAX. 13' WIDTH
* W12-52
48"X48"

STOP HERE ON RED
R10-6
24"X36"

W1-6
48"X24"

PRIVATE ENTRANCE

TEMPORARY PRIVATE ENTRANCE

TEMPORARY SHORING

COMMERCIAL DRIVEWAY - REMOVED IN STAGE 2

BLDG

WORK ZONE (TYP.)

+50

5:1 TAPER (87.5')

12.5'

90'

PROVIDE AREA FOR CONTRACTOR TO GAIN ACCESS TO WORK ZONE

FIELD ENTRANCE (CONSTRUCTED IN STAGE 1)

W1-6
48"X24"

15'

STOP HERE ON RED
R10-6
24"X36"

EP: 109+36.34

50'

CC

MATCH LINE STA. 106+25

107+00 108+00 109+00

Ø4

USH 53

T18W

R4Y (DOUBLE - REMOVED IN STAGE 1)

11'

R4W

Ø3

T4W

COMMERCIAL ENTRANCE

STOP HERE ON RED
R10-6
24"X36"

ADVANCED WARNING SHOWN IN DETAIL ON "TRAFFIC CONTROL - STAGE 3 OVERVIEW" SHEET.

SEE S.D.D. "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR DETAILS NOT SHOWN.

LUNDE CULEE LANE

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	TRAFFIC CONTROL - STAGE 3	SHEET 17	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\025003-TC-STAGE 3.DWG
LAYOUT NAME - 025003

PLOT DATE : 7/20/2018 12:22 PM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : ##########

2

STAGE 4 - USH 53

CONSTRUCTION OPERATIONS - STAGE 4A:

- CONSTRUCT SHOULDERS ON NORTH SIDE OF ROAD

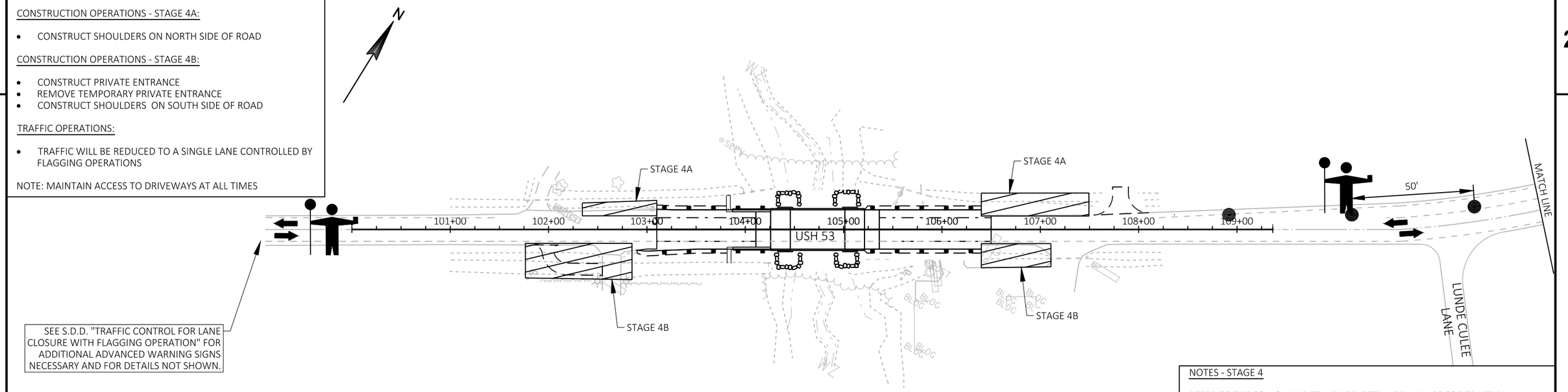
CONSTRUCTION OPERATIONS - STAGE 4B:

- CONSTRUCT PRIVATE ENTRANCE
- REMOVE TEMPORARY PRIVATE ENTRANCE
- CONSTRUCT SHOULDERS ON SOUTH SIDE OF ROAD

TRAFFIC OPERATIONS:

- TRAFFIC WILL BE REDUCED TO A SINGLE LANE CONTROLLED BY FLAGGING OPERATIONS

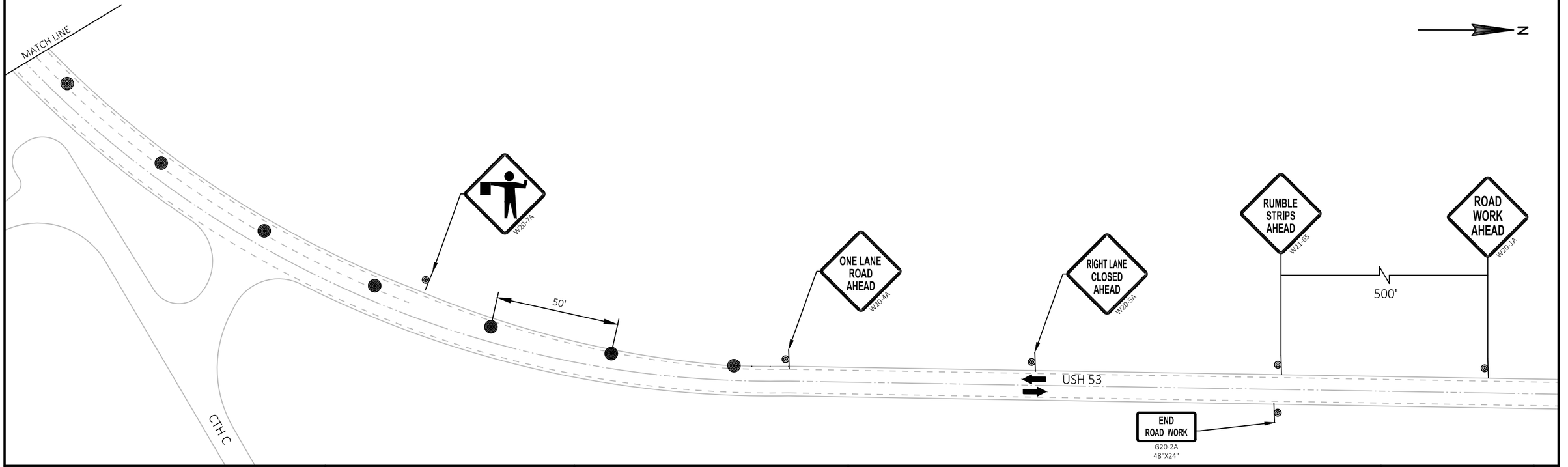
NOTE: MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES



NOTES - STAGE 4

REFER TO THE FOLLOWING STANDARD DETAIL DRAWINGS FOR TRAFFIC CONTROL DEVICES, AS WELL AS OTHER STANDARD DETAIL DRAWINGS AS NECESSARY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER

- TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

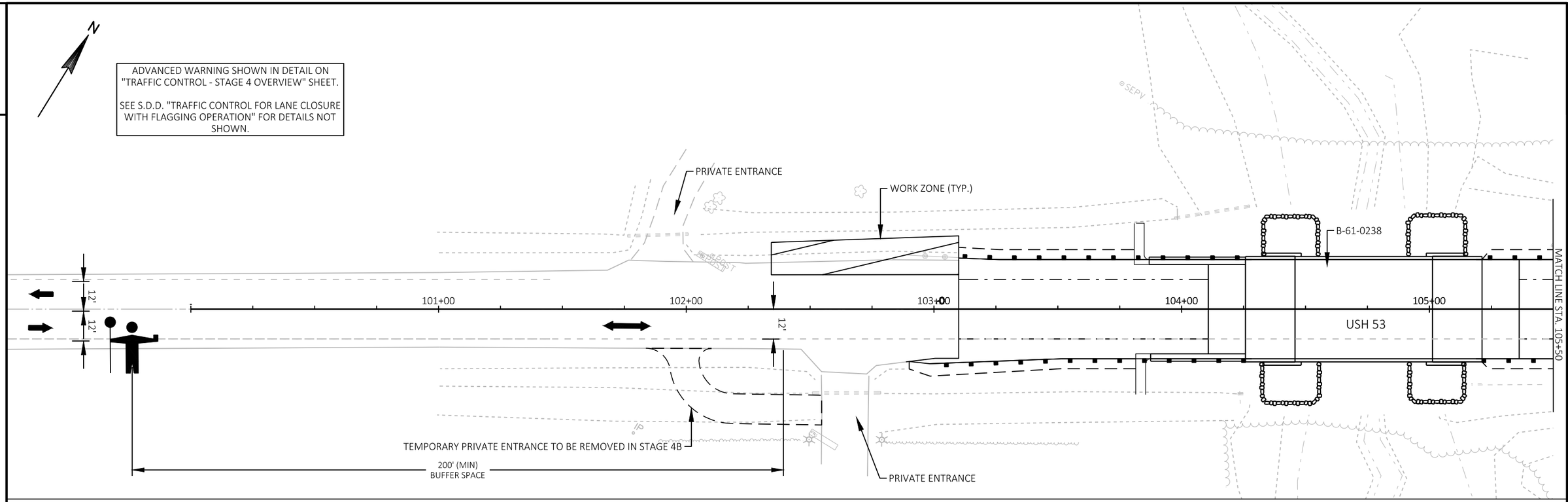


PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	TRAFFIC CONTROL - STAGE 4 OVERVIEW	SHEET 18	E

2

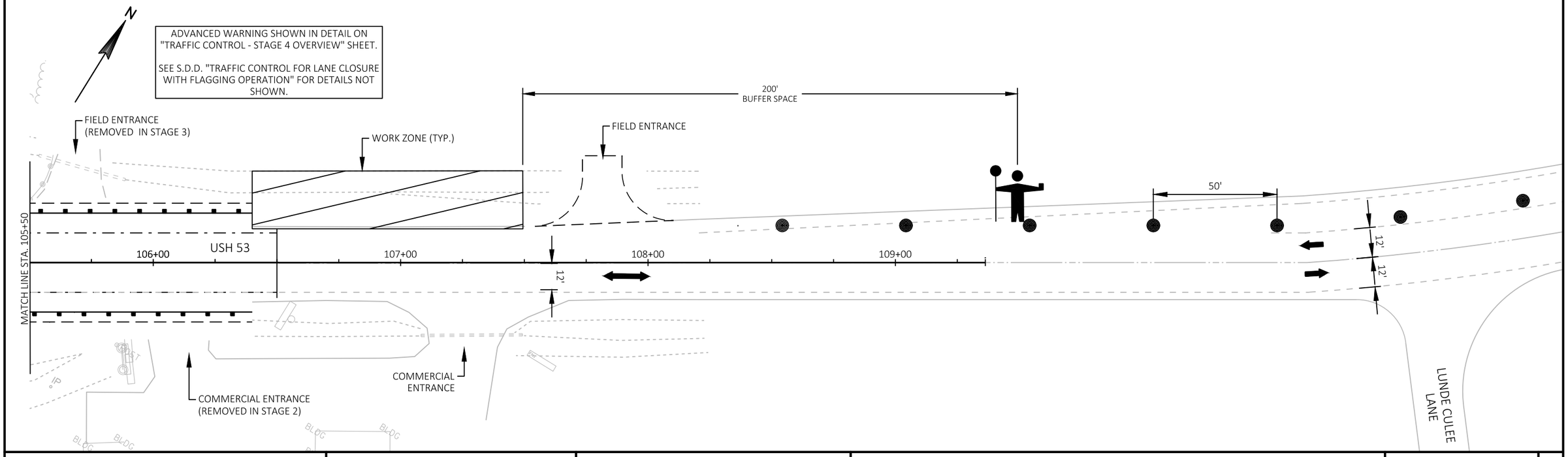
ADVANCED WARNING SHOWN IN DETAIL ON "TRAFFIC CONTROL - STAGE 4 OVERVIEW" SHEET.

SEE S.D.D. "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" FOR DETAILS NOT SHOWN.



ADVANCED WARNING SHOWN IN DETAIL ON "TRAFFIC CONTROL - STAGE 4 OVERVIEW" SHEET.

SEE S.D.D. "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

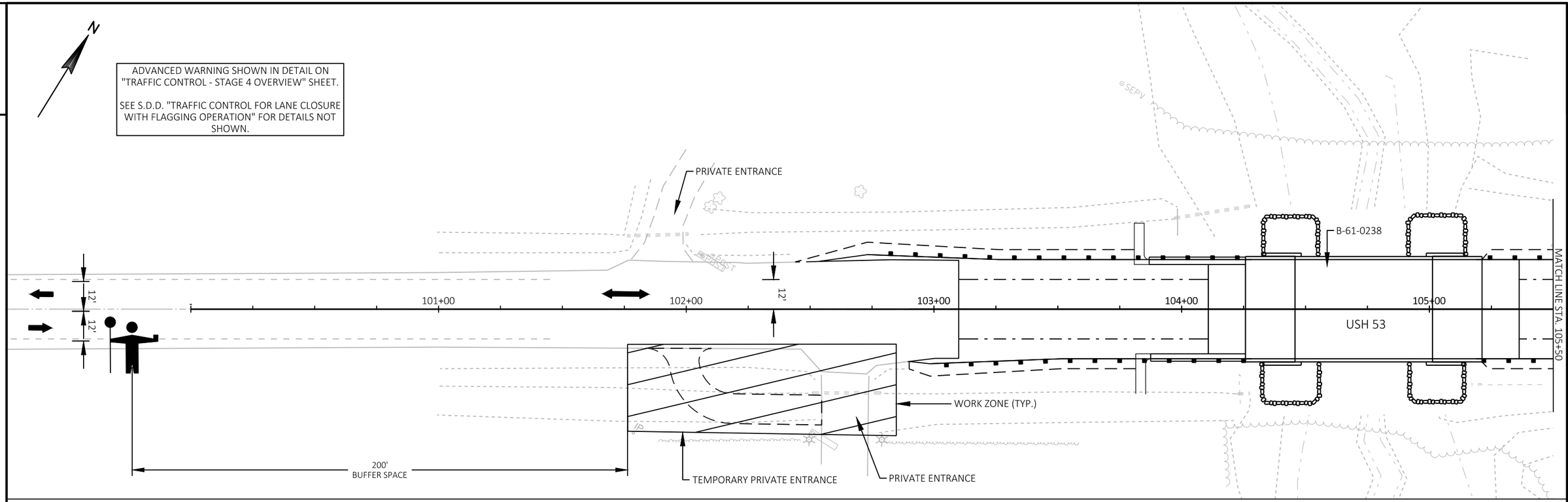


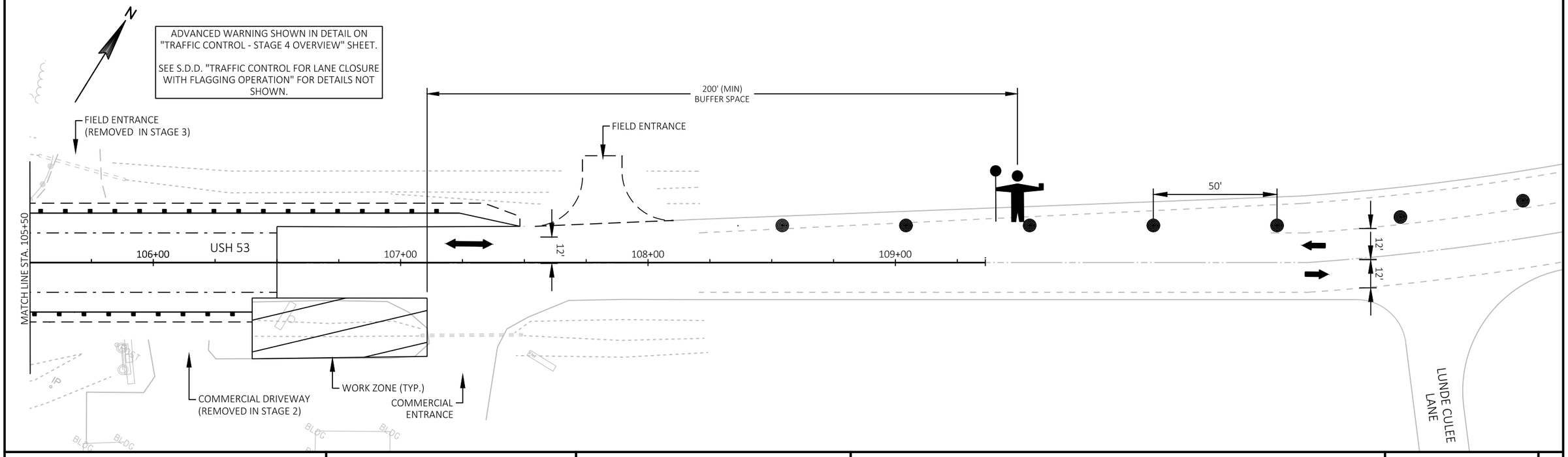
PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	TRAFFIC CONTROL - STAGE 4 A	SHEET 19	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\025004-TC-STAGE 4.DWG
LAYOUT NAME - 025004A

PLOT DATE : 7/20/2018 12:22 PM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : ##########

2





PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	TRAFFIC CONTROL - STAGE 4B	SHEET 20	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\025004-TC-STAGE 4B.DWG
LAYOUT NAME - 025004B

PLOT DATE : 7/20/2018 12:23 PM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : ##########

2

SEQUENCE OF OPERATION

	PHASE 1*			PHASE 2			PHASE 3**			PHASE 4		
	⇩		⇧	⇨			⇧			⇦		
RESIDENTIAL DRIVEWAY SIGNALS	G	Y	R	R	R	R	R	R	R	R	R	R
EB USH 53 SIGNALS	R	R	R	G	Y	R	R	R	R	R	R	R
COMMERCIAL DRIVEWAY SIGNALS	R	R	R	R	R	R	G	Y	R	R	R	R
WB USH 53 SIGNALS	R	R	R	R	R	R	R	R	R	G	Y	R
DURATION (S)†	-	3	1	-	4	22	-	3	1	-	4	22
MINIMUM GREEN TIME (S)	6	-	-	10	-	-	6	-	-	10	-	-
MAXIMUM GREEN TIME (S)	12	-	-	40	-	-	12	-	-	40	-	-
EXTENSION TIME (S/VEH)	0	-	-	5	-	-	0	-	-	5	-	-
DETECTOR DELAY (S)	10	-	-	0	-	-	10	-	-	0	-	-

* PHASE 1 SHALL ALWAYS BE FOLLOWED BY PHASE 2, PHASE 3 AND 4 SHALL NEVER FOLLOW PHASE 1.

** PHASE 3 SHALL ALWAYS BE FOLLOWED BY PHASE 4, PHASE 1 AND 2 SHALL NEVER FOLLOW PHASE 3.

† THE CONTRACTOR SHALL MONITOR TRAFFIC AND INCREASE THE ALL RED TIME IF VEHICLES FAIL TO CLEAR THE WORK ZONE DURING THE ALL RED TIME. ANY SIGNAL TIMING CHANGES SHALL BE APPROVED BY THE ENGINEER.

NOTES:

1. PHASE 1, PHASE 2, PHASE 3, AND PHASE 4 WILL EACH ACTIVATE ONLY WHEN CALLED.
2. PHASE 1, PHASE 2, PHASE 3, AND PHASE 4 WILL EACH REST IN RED WHEN NO DEMAND IS PRESENT.
3. TIMINGS ACTUATED BASED ON TEMPORARY NON-INTRUSIVE DETECTION SYSTEM IN PLACE.

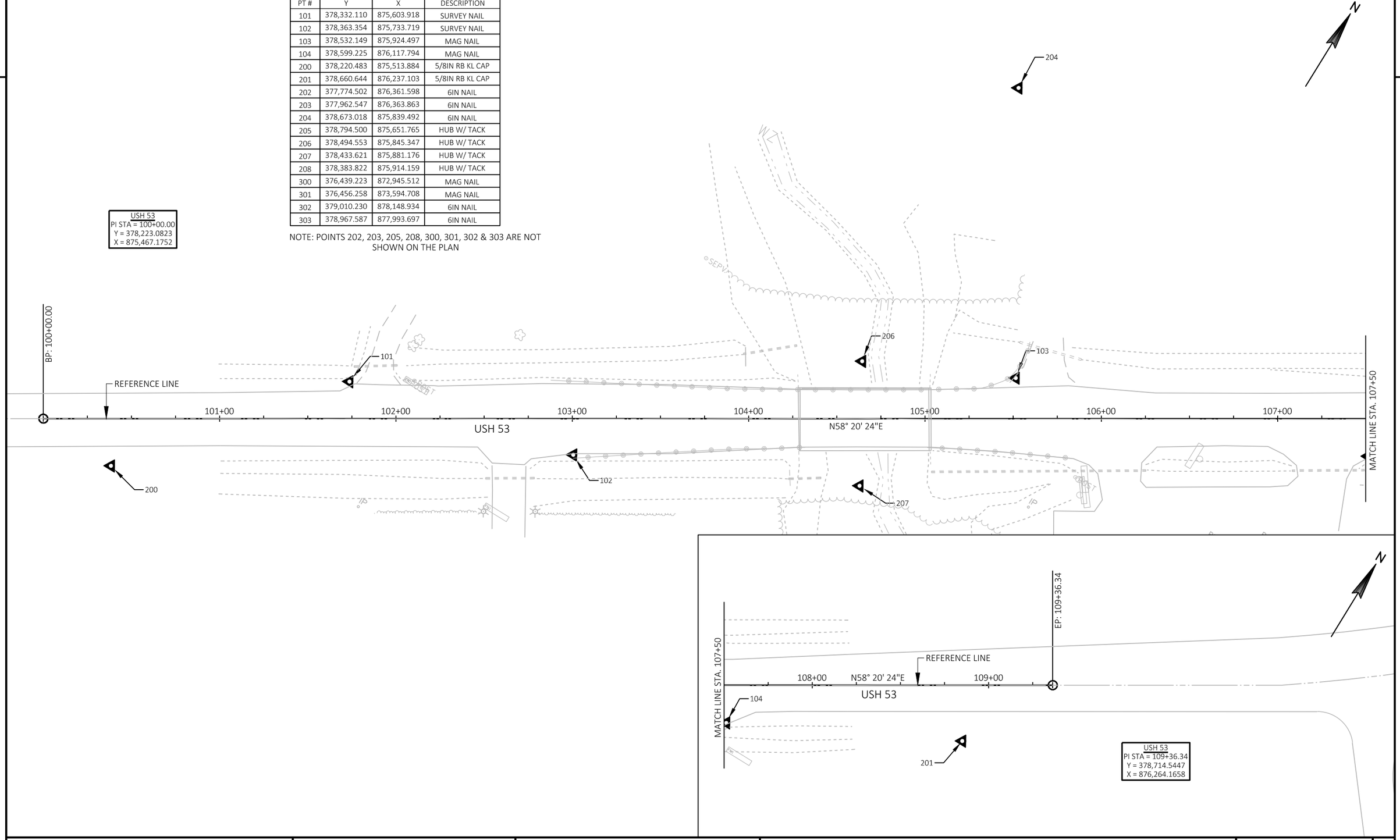
TEMPORARY TRAFFIC SIGNALS - B-61-0238

2

PT #	Y	X	DESCRIPTION
101	378,332.110	875,603.918	SURVEY NAIL
102	378,363.354	875,733.719	SURVEY NAIL
103	378,532.149	875,924.497	MAG NAIL
104	378,599.225	876,117.794	MAG NAIL
200	378,220.483	875,513.884	5/8IN RB KL CAP
201	378,660.644	876,237.103	5/8IN RB KL CAP
202	377,774.502	876,361.598	6IN NAIL
203	377,962.547	876,363.863	6IN NAIL
204	378,673.018	875,839.492	6IN NAIL
205	378,794.500	875,651.765	HUB W/ TACK
206	378,494.553	875,845.347	HUB W/ TACK
207	378,433.621	875,881.176	HUB W/ TACK
208	378,383.822	875,914.159	HUB W/ TACK
300	376,439.223	872,945.512	MAG NAIL
301	376,456.258	873,594.708	MAG NAIL
302	379,010.230	878,148.934	6IN NAIL
303	378,967.587	877,993.697	6IN NAIL

NOTE: POINTS 202, 203, 205, 208, 300, 301, 302 & 303 ARE NOT SHOWN ON THE PLAN

USH 53
PI STA = 100+00.00
Y = 378,223.0823
X = 875,467.1752



USH 53
PI STA = 109+36.34
Y = 378,714.5447
X = 876,264.1658

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	ALIGNMENT DIAGRAM AND CONTROL POINTS	SHEET 22	E

1633-06-74

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0004	203.0210.S	Abatement of Asbestos Containing Material (structure) 001. B-61-236	LS	1.000	1.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 001. 104+66	LS	1.000	1.000
0008	204.0100	Removing Pavement	SY	710.000	710.000
0010	204.0165	Removing Guardrail	LF	500.000	500.000
0012	205.0100	Excavation Common	CY	900.000	900.000
0014	206.1000	Excavation for Structures Bridges (structure) 001. B-61-238	LS	1.000	1.000
0016	210.1500	Backfill Structure Type A	TON	256.000	256.000
0018	213.0100	Finishing Roadway (project) 01. 1633-06-74	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	95.000	95.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,326.000	1,326.000
0024	312.0110	Select Crushed Material	TON	70.000	70.000
0026	415.0410	Concrete Pavement Approach Slab	SY	128.000	128.000
0028	455.0605	Tack Coat	GAL	70.000	70.000
0030	460.2000	Incentive Density HMA Pavement	DOL	220.000	220.000
0032	460.6223	HMA Pavement 3 MT 58-28 S	TON	255.000	255.000
0034	460.6445	HMA Pavement 5 MT 58-34 H	TON	85.000	85.000
0036	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	10.000	10.000
0038	465.0315	Asphaltic Flumes	SY	20.000	20.000
0040	502.0100	Concrete Masonry Bridges	CY	324.000	324.000
0042	502.3200	Protective Surface Treatment	SY	447.000	447.000
0044	502.3210	Pigmented Surface Sealer	SY	86.000	86.000
0046	503.0136	Prestressed Girder Type I 36-Inch	LF	324.000	324.000
0048	505.0400	Bar Steel Reinforcement HS Structures	LB	5,420.000	5,420.000
0050	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	44,000.000	44,000.000
0052	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	1,470.000	1,470.000
0054	505.0905	Bar Couplers No. 5	EACH	289.000	289.000
0056	505.0906	Bar Couplers No. 6	EACH	56.000	56.000
0058	505.0908	Bar Couplers No. 8	EACH	24.000	24.000
0060	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	12.000	12.000
0062	506.4000	Steel Diaphragms (structure) 001. B-61-238	EACH	5.000	5.000
0064	511.1200	Temporary Shoring (structure) 001. B-61-238	SF	518.000	518.000
0066	516.0500	Rubberized Membrane Waterproofing	SY	26.000	26.000
0068	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	1.000	1.000
0070	520.2018	Culvert Pipe Temporary 18-Inch	LF	65.000	65.000
0072	520.3312	Culvert Pipe Class III-A 12-Inch	LF	28.000	28.000
0074	520.3318	Culvert Pipe Class III-A 18-Inch	LF	28.000	28.000

1633-06-74

Line	Item	Item Description	Unit	Total	Qty
0076	520.8700	Cleaning Culvert Pipes	EACH	3.000	3.000
0078	550.2126	Piling CIP Concrete 12 3/4 X 0.375-Inch	LF	1,020.000	1,020.000
0080	601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF	80.000	80.000
0082	603.8000	Concrete Barrier Temporary Precast Delivered	LF	650.000	650.000
0084	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,125.000	1,125.000
0086	606.0200	Riprap Medium	CY	4.000	4.000
0088	606.0300	Riprap Heavy	CY	188.000	188.000
0090	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	230.000	230.000
0092	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0094	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0096	614.2300	MGS Guardrail 3	LF	250.000	250.000
0098	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0100	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0102	618.0100	Maintenance And Repair of Haul Roads (project) 001. 1633-06-74	EACH	1.000	1.000
0104	619.1000	Mobilization	EACH	1.000	1.000
0106	624.0100	Water	MGAL	40.000	40.000
0108	625.0500	Salvaged Topsoil	SY	1,310.000	1,310.000
0110	627.0200	Mulching	SY	200.000	200.000
0112	628.1504	Silt Fence	LF	1,390.000	1,390.000
0114	628.1520	Silt Fence Maintenance	LF	4,160.000	4,160.000
0116	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0118	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0120	628.2008	Erosion Mat Urban Class I Type B	SY	1,435.000	1,435.000
0122	628.7504	Temporary Ditch Checks	LF	40.000	40.000
0124	629.0205	Fertilizer Type A	CWT	7.500	7.500
0126	630.0130	Seeding Mixture No. 30	LB	24.000	24.000
0128	630.0200	Seeding Temporary	LB	35.500	35.500
0130	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	5.000	5.000
0132	637.2210	Signs Type II Reflective H	SF	6.500	6.500
0134	637.2230	Signs Type II Reflective F	SF	18.250	18.250
0136	638.2602	Removing Signs Type II	EACH	6.000	6.000
0138	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
0140	642.5001	Field Office Type B	EACH	1.000	1.000
0142	643.0300	Traffic Control Drums	DAY	3,055.000	3,055.000
0144	643.0310.S	Temporary Portable Rumble Strips	LS	1.000	1.000
0146	643.0420	Traffic Control Barricades Type III	DAY	535.000	535.000
0148	643.0705	Traffic Control Warning Lights Type A	DAY	1,070.000	1,070.000
0150	643.0715	Traffic Control Warning Lights Type C	DAY	685.000	685.000
0152	643.0900	Traffic Control Signs	DAY	1,840.000	1,840.000

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Line	Item	Item Description	Unit	Total	Qty
0154	643.1050	Traffic Control Signs PCMS	DAY	10.000	10.000
0156	643.5000	Traffic Control	EACH	1.000	1.000
0158	645.0111	Geotextile Type DF Schedule A	SY	70.000	70.000
0160	645.0120	Geotextile Type HR	SY	328.000	328.000
0162	645.0130	Geotextile Type R	SY	6.000	6.000
0164	646.1020	Marking Line Epoxy 4-Inch	LF	2,780.000	2,780.000
0166	646.9000	Marking Removal Line 4-Inch	LF	1,760.000	1,760.000
0168	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	2,360.000	2,360.000
0170	649.0850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	24.000	24.000
0172	650.4500	Construction Staking Subgrade	LF	250.000	250.000
0174	650.5000	Construction Staking Base	LF	250.000	250.000
0176	650.6500	Construction Staking Structure Layout (structure) 001. B-61-0238	LS	1.000	1.000
0178	650.9910	Construction Staking Supplemental Control (project) 01. 1633-06-74	LS	1.000	1.000
0180	650.9920	Construction Staking Slope Stakes	LF	250.000	250.000
0182	661.0100	Temporary Traffic Signals for Bridges (structure) 001. B-61-0238	LS	1.000	1.000
0184	690.0150	Sawing Asphalt	LF	626.000	626.000
0186	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0188	715.0502	Incentive Strength Concrete Structures	DOL	1,944.000	1,944.000
0190	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0192	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000
0194	SPV.0090	Special 001. Fill Existing Rumble Strips	LF	165.000	165.000

3

REMOVING SMALL PIPE CULVERTS

203.0100

CATEGORY	LOCATION	STATION	O□□SET	(EAC□)	SI□E □TYPE	COMMENTS
0010	US□ 53					
		102□64	34' RT	1	1□-INC□ CMCP	---
		106□10	29' RT	1	24-INC□ CMCP	PARTIAL REMO□AL (10-□T)
	PRO□ECT 1□□□□□□□□□TOTAL			**2**		

REMOVING PAVEMENT

204.0100□

CATEGORY	LOCATION	STATION TO STATION	(SY)
0010	US□ 53		
		103□10 - 104□26	320
		105□21 - 106□50	390
	PRO□ECT 1□□□□□□□□□TOTAL		**□1□**

□CRAC□E□ AN□ SEATE□ CONCRETE PA□EMENT UN□ER ASP□ALTIC SUR□ACE

REMOVING GUARDRAIL

204.0165

CATEGORY	LOCATION	STATION TO STATION	LT.□RT.	(L□)
0010	US□ 53			
		102□□□ - 105□60	LT	2□6
		103□01 - 104□32	RT	132
		105□01 - 105□□3	RT	□2
	PRO□ECT 1□□□□□□□□□TOTAL			□□□

EARTHWORK

CATEGORY	STAGE	□I□ISION	LOCATION	205.0100 E□□□□□□□□□ C□□ □ □□ (1)		S□□□□□d□ U□□□□□□□ P□□□□ □□□ M□□r□□□		R□d□□□d E□S □□ □□□	U□□□□□□d□d □□□	E□□□d□d □□□	M□□□ Ord□□□□ □-	□ □□□	20□□0100 □□rr□□
				C□□ (2)	E□S E□□□□□□□□ (3)	M□□r□□ (4)	A□□□□□□ M□□r□□ (5)	(□) □□□□r 0.□0		(10) □□□□r 1.25	(11)		
				(CY)	(CY)	(CY)	(CY)	(CY)	(CY)	(CY)	(CY)	(CY)	(CY)
			US□ 53	□5□	43	---	□5□	34	6□	40	□16	□16	
				□5□	43	---	□5□	34	6□	40	□16	□16	---
T□□□□E□□□□□□□□ C□□ □ □□				□□□									

1) C□□ □ □□E□□□□□□□ □□ □□□ □□□ □□□□□ C□□□□d E□S E□□□□□□□ □□□□ □□
2) S□□□□□d U□□□□□□□ P□□□□ □□□M□□r□□□ □□□d□d □□C□□
3) E□S E□□□□□□□ □□ □□ □□□□□□d □□□S□□□□Cr□□□ M□□□r□□
4) S□□□□□d U□□□□□□□P□□□□ □□□M□□r□□
5) A□□□□□□ M□□r□□□ C□□- S□□□□□d U□□□□□□□P□□□□ □□□M□□r□□
6) R□d□□□d E□S □□ □□□- E□□□□□□d E□S □ □□r□□□ □□□□□□ □□ □□□ □□□d□ □□□ 1□1 □□□□. E□S □□ □□□R□d□□□□□ □□□□r □ 0.□
□) E□□□d□d □□□ □□□□r □ 1.25
□) T□□ M□□□Ord□□□ □ □r - □ □□ □□□□□□d □r □□ □□□□□□. P□□ □□□□□□ □d□□□□ □□ □□□□□ □□□ □□r□□□□ □□ □□□□□□. M□□□ □d□□□□ □ □□r□□□ □□□ □□r□□□□ □□□ □□□□□□.

CONCRETE PAVEMENT APPROACH SLAB

415.0410

CATEGORY	LOCATION	STATION TO STATION	(SY)
0010	US□ 53		
		104□11 - 104□26	60
		105□21 - 105□36	6□
	PRO□ECT 1□□□□□□□□□TOTAL		**12□**

BASE AGGREGATE DENSE □ SELECT CRUSHED MATERIAL

CATEGORY	LOCATION	STATION TO STATION	305.0110 3/4 - INC□ (TON)	305.0120 1 1/4- INC□ (TON)	312.0110 SELECT CRUS□E□ MATERIAL (TON)	COMMENTS
0010	US□ 53					
		101□9□□RT.	---	33	---	TEMP. □RI□E□ AY
		102□64□RT.	---	20	---	□RI□E□ AY
		103□10 - 104□26	36	39□	---	---
		105□21 - 106□50	59	514	---	---
		UN□ISTRI□UTE□	---	96	□0	---
	PRO□ECT 1□□□□□□□□□TOTAL		□□	**1**□□□	□□	

ASPHALTIC ITEMS

CATEGORY	LOCATION	STATION TO STATION	455.0605 TAC□ COAT (GAL)	460.6223 □MA PA□EMENT 3 MT 5□-2□S (TON)	460.6445 □MA PA□EMENT 5 MT 5□-34 □ (TON)	465.0120 ASP□ALTIC SUR□ACE □RI□E□ AYS AN□ □IEL□ ENTRANCES (TON)	465.0315 ASP□ALTIC □LUMES (SY)
0010	US□ 53						
		102□64□RT.	---	---	---	10	20
		103□10 - 104□11	30	111	3□	---	---
		105□36 - 106□50	40	144	4□	---	---
	PRO□ECT 1□□□□□□□□□TOTAL		□□	**2**□□	□□	**1**□	**2**□

3

CULVERT PIPE

CATEGORY	LOCATION	STATION	O□□SET	520.1024	520.201□	520.3312	520.331□	520.□□00		
				PIPE T□IC□NESS STEEL (IN)	APRON EN□□ ALLS □OR CUL□ERT PIPE 24-INC□ (EA)	CUL□ERT PIPE TEMPORARY 1□-INC□ (L□)	CUL□ERT PIPE CLASS III-A 12-INC□ (L□)	CUL□ERT PIPE CLASS III-A 1□-INC□ (L□)	CLEANING CUL□ERT PIPES (EA)	COMMENTS
0010	US□ 53									
		102□19	33.0' RT	---	---	65	---	---	---	---
		102□64	33.□' RT	0.064	---	---	--	2□	---	---
		104□00	LT	---	---	---	---	---	1	1
		104□22	RT	---	---	---	---	---	1	1
		106□15	RT	---	---	---	---	---	1	1
		106□15	24.5' RT	---	1	---	---	---	---	---
		10□□3	29.2' LT	0.064	---	---	2□	--	---	---
	PRO□ECT 1□□□□□□□□ TOTAL				**1**	□□	**2□**	**2□**	□	

CURB AND GUTTER

CATEGORY	STAGE	STATION TO STATION	LT./RT.	601.0553 CONCRETE CUR□ AN□ GUTTER 4-INC□ SLOPE□ 36-INC□ TYPE □ (L□)
0010	US□ 53			
		103□□□ - 104□26	LT	40
		103□□□ - 104□26	RT	40
	PRO□ECT 1□□□□□□□□ TOTAL			□□

3

CONCRETE BARRIER TEMPORAR□ PRECAST

CATEGORY	LOCATION	STAGE	STATION TO STATION	603.□000 □ELI□ERE□ (L□)	603.□125 INSTALLE□ (L□)
0010	US□ 53				
		STAGE 2	102□35 - 10□□00 LT	4□5.0	4□5.0
		STAGE 3	102□35 - 10□□50 RT	1□5.0	650.0
	PRO□ECT 1□□□□□□□□ TOTAL			□□□.□	**1□12□.□**

□NOTE□CONCRETE □ARRIER TEMPORARY PRECAST IS PINNE□ TO EXISTING □RI□GE □EC□
STA 104□29.24 - STA 105□02.29 IN STAGE 2

RIPRAP

CATEGORY	LOCATION	STATION	LT./RT.	606.0200 RIPRAP ME□IUM (CY)	645.0130 GEOTEXTILE TYPE R (SY)
0010	US□ 53				
		103□□0	LT	2	3
		103□□0	RT	2	3
	PRO□ECT 1□□□□□□□□ TOTAL			□	□

MGS GUARDRAIL

CATEGORY	LOCATION	STATION TO STATION	LT./RT.	614.2300 MGS GUAR□RAIL 3 (L□)	614.2500 MGS T□RIE □EAM TRANSITION (L□)	614.2610 MGS GUAR□RAIL TERMINAL EAT (EAC□)
0010	US□ 53					
		102□□3 - 104□26	LT	62.5	39.4	1
		102□9□ - 104□26	RT	3□.5	39.4	1
		105□21 - 10□□24	LT	112.5	39.4	1
		105□21 - 106□49	RT	3□.5	39.4	1
	PRO□ECT 1□□□□□□□□ TOTAL			**2□□.□**	**1□□.□**	□

CRASH CUSHIONS TEMPORAR□

CATEGORY		STATION	O/S	614.0905 (EAC□)	□AC□ □I□T□	O□□ECT MAR□ING PATTERN	CRAS□ TEST LE□EL	TRA□□IC □IRECTION	TRA□□IC LOCATION	CRAS□ CUS□ION S□IEL□S
0010	STAGE 2	US□ 53								
		102□25	12.0' RT	1	4	OM-3R (□ 5-5□R)	TL-3	UNI□IRECTIONAL	LT	TEMPORARY CONCRETE □ARRIER ON OUTSI□E S□OUL□ER
		STAGE 2 SU□TOTAL		1						
	STAGE 3									
		US□ 53								
		10□□59	12.0' RT	1	4	OM-3R (□ 5-5□R)	TL-3	UNI□IRECTIONAL	LT	TEMPORARY CONCRETE □ARRIER ON OUTSI□E S□OUL□ER
		STAGE 3 SU□TOTAL		1						
		PRO□ECT 1□□□□□□□□ TOTAL		**2**						

WATER

CATEGORY	LOCATION	TAS□	624.0100 (MGAL)
0010	US□ 53	□UST CONTROL	20
		COMPACTION	20
	PRO□ECT 1□□□□□□□□ TOTAL		□□

LANDSCAPING

CATEGORY	LOCAITON	STATION TO STATION	625.0500 SAL□AGE□ TOPSOIL (SY)	62□.0200 MULC□ING (SY)	629.0205 □ERTILI□ER TYPE A (C□ T)	630.0130 SEE□ING MIXTURE NO. 30 (L□)	630.0200 SEE□ING TEMPORARY (L□)
0010	US□ 53						
		103□10 - 104□26	562	---	3.19	10.12	15.1□
		105□21 - 106□50	531	---	3.01	9.56	14.33
		UN□ISTRI□UTE□	21□	200	1.30	4.32	6.00
	PRO□ECT 1□□□□□□□□ TOTAL		**1□□1□**	**2□□**	□.□□	**2□.□□**	□□.□□

EROSION CONTROL

CATEGORY	LOCATION	STATION TO STATION	62□.1504 SILT □ENCE (L□)	62□.1520 SILT □ENCE MAINTENANCE (L□)	62□.200□ EROSION MAT UR□AN CLASS I TYPE □ (SY)	62□.□504 TEMPORARY □ITC□ C□EC□S (L□)
0010	US□ 53					
		103□10 - 104□26	552	1□656	61□	32
		105□21 - 106□50	55□	1□6□1	531	---
		UN□ISTRI□UTE□	2□1	□33	2□□	□
	PRO□ECT 1□□□□□□□□ TOTAL		**1□□□**	**□1□□**	**1□□□**	□□

EROSION CONTROL MOBIL□ATION

CATEGORY	LOCATION	62□.1905 MO□ILI□ATION EROSION CONTROL (EA)	62□.1910 MO□ILI□ATION EMERGENCY EROSION CONTROL (EA)
0010	US□ 53	5	5
	PRO□ECT 1□□□□□□□□ TOTAL	□	□

PERMANENT SIGNING T□PE II

CATEGORY	SIGN □	SIGN CO□E	SIGN SI□E □	X	□	63□.2210 SIGNS TYPE II RE□LECTI□E □ (S□)	63□.2230 SIGNS TYPE II RE□LECTI□E □ (S□)	634.0616 POSTS □ OO□ 4X6-INC□ 16-□T (EAC□)	SIGN MOUNTE□ ON SAME POST AS	COMMENTS
0010	1-01	□ 2-52L	12	X	36	---	3.00	1	---	□A□AR□ PANEL (LE□T)
	1-02	□ 2-52R	12	X	36	---	3.00	1	---	□A□AR□ PANEL (RIG□T)
	1-03	□ 2-52R	12	X	36	---	3.00	1	---	□A□AR□ PANEL (RIG□T)
	1-04	□ 2-52L	12	X	36	---	3.00	1	---	□A□AR□ PANEL (LE□T)
	1-05	□1-1	24	X	39	6.50	---	---	---	□CT. CT□ C (MOUNT OPPOSITE 1-04 ON SAME POST)
	1-06	□ 1-2L	30	X	30	---	6.25	1	---	LE□T CUR□E
	PRO□ECT 1□□□□□□□□ TOTAL					□.□□	**1□.2□**	□		

REMOVING SIGNS

CATEGORY	SIGN □	SIGN CO□E	63□.2602 REMO□ING SIGNS TYPE II (EAC□)	63□.3000 REMO□ING SMALL SIGN SUPPORTS (EAC□)	SIGN MOUNTE□ ON SAME POST AS	COMMENTS
0010	1R-01	□ 5-52L	1	1	---	□A□AR□ PANEL (LE□T)
	1R-02	□ 5-52R	1	1	---	□A□AR□ PANEL (RIG□T)
	1R-03	□ 5-52R	1	1	---	□A□AR□ PANEL (RIG□T)
	1R-04	□1-1	1	1	1R-05	□UNCTION OR EN□ ASSEM□LY
	1R-05	□ 5-52L	1	---	1R-04	□A□AR□ PANEL (LE□T)
	1R-06	□ 1-2L	1	1	---	LE□T CUR□E
	PRO□ECT 1□□□□□□□□ TOTAL		□	□		

TRAFFIC CONTROL

CATEGORY	STAGE	□NO. O□ □AYS	643.0300 □RUMS (□AY)	643.0420 □ARRICA□ES TYPE III (□AY)	643.0□05 □ ARNING LIG□TS TYPE A (□AY)	643.0□15 TYPE C (□AY)	643.0900 SIGNS (□AY)	643.1050 SIGNS PCMS (□AY)	643.0310.S□□ TEMPORARY PORTA□LE RUM□LE STRIPS (LS)
0010	A□□ANCE□ □ ARNING	100	---	---	---	---	500	---	---
	STAGE 1A	1	25	---	---	---	11	---	---
	STAGE 1□	2	49	---	---	---	22	---	---
	STAGE 2	35	1□565	350	□00	350	□00	---	---
	STAGE 3	2□	1□20□	135	2□0	2□0	540	---	---
	STAGE 4	3	□4	---	---	---	33	---	---
	STAGE 4□	2	49	---	---	---	22	---	---
	UN□ISTRI□UTE□	---	□5	50	100	65	12	10	1
	PRO□ECT 1□□□□□□□□ TOTAL		□□□□	□□□	**1**□□□	□□□	**1**□□□	**1**□	**1**

□□OR IN□ORMATIONAL PURPOSES ONLY

□□SEE S.□.□. "TRA□□IC CONTROL □OR LANE CLOSURE □ IT□ □LAGGING OPERATION" □OR LAYOUT □□ETAILS AN□ SPACING

PAVEMENT MARKING

CATEGORY	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE SOLID (LF)	646.1020 MARKING LINE EPOXY 4-INCH YELLOW SOLID (LF)	646.9000 MARKING REMOVAL LINE 4-INCH WHITE SOLID (LF)	646.9000 MARKING REMOVAL LINE 4-INCH YELLOW SOLID (LF)
0010	US 53	1,390	1,390	1,050	10
	PROJECT 1 TOTAL	1,390	1,390	1,050	10
		2,800		**1,060**	

TEMPORARY PAVEMENT MARKING

CATEGORY	LOCATION	STAGE	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH WHITE SOLID (LF)	649.0150 TEMPORARY MARKING STOP LINE REMOVABLE TAPE 12-INCH (LF)
0010	US 53			
		STAGE 2	1,155	24
		STAGE 3	1,205	---
	PROJECT 1 TOTAL		**2,360**	**24**

CONSTRUCTION STAKING

CATEGORY	LOCATION	STATION TO STATION	650.4500 CONSTRUCTION STAKING SUBGRADE (LF)	650.5000 CONSTRUCTION STAKING BASE (LF)	650.9920 CONSTRUCTION STAKING SLOPE STAKES (LF)
0010	US 53				
		103+10 - 104+26	120	120	120
		105+21 - 106+50	130	130	130
	PROJECT 1 TOTAL		**250**	**250**	**250**

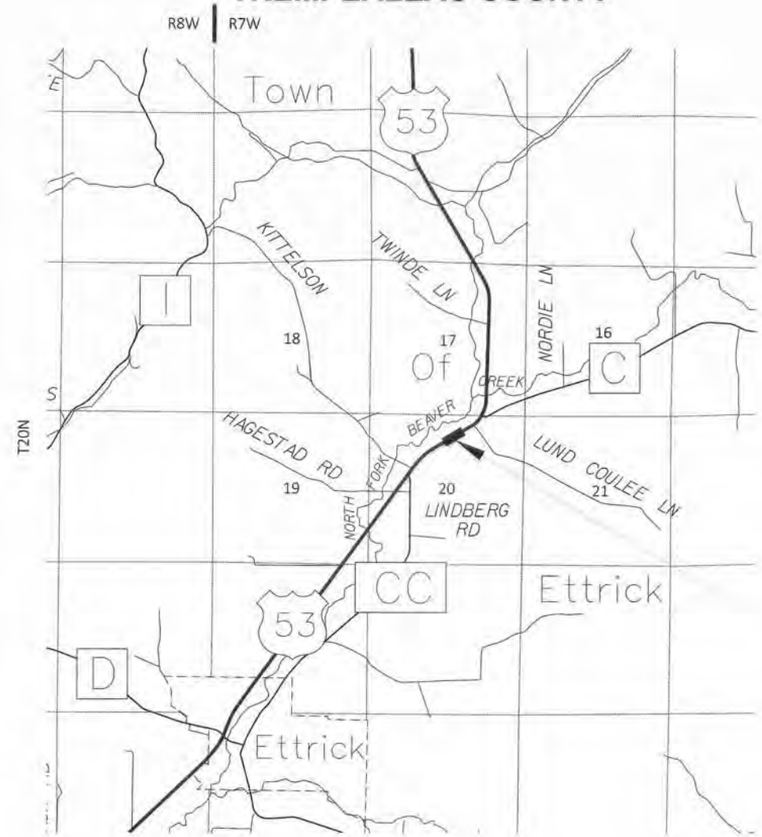
SAWING ASPHALT

CATEGORY	LOCAITON	STATION TO STATION	LT./RT.	690.0150 (LF)
0010	US 53			
		102+64	RT	19
		103+10 - 104+26	---	116
		102+40 - 103+10	---	166
		105+21 - 106+50	---	140
		106+10	RT	24
		105+21 - 105+44	---	152
	PROJECT 1 TOTAL			**2,617**

FILL EXISTING RUMBLE STRIPS

CATEGORY	LOCATION	STATION TO STATION	SP-0090.001 (LF)
0010	US 53		
		101+45 - 103+10	165
	PROJECT 1 TOTAL		**165**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PROJECT PLAT TITLE SHEET
1633-06-24
GALESVILLE - WHITEHALL
(BRANCH NORTH FORK BEAVER CREEK BRIDGE B-61-0236)
USH 53
TREMPEALEAU COUNTY



PROJECT LOCATION

LAYOUT
SCALE 0 0.5 MI.

THE NOTES,CONVENTIONAL SIGNS, AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT 1633-06-24

NOTES:

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

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY ¾" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

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

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

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

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

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE WISCONSIN DEPARTMENT OF TRANSPORTATION NORTHWEST REGION EAU CLAIRE OFFICE.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: WISDOT RIGHT OF WAY PLAT PROJECTS: DJ5689, DJ5588 & DJ5297.

CONVENTIONAL SYMBOLS

SECTION LINE		SECTION CORNER SYMBOL	R/W MONUMENT (TO BE SET)
QUARTER LINE			NON-MONUMENTED R/W POINT
SIXTEENTH LINE		SECTION CORNER MONUMENT	FOUND IRON PIN (1-INCH UNLESS NOTED) IP
NEW REFERENCE LINE		GEODETIC SURVEY MONUMENT	
NEW R/W LINE		SIXTEENTH CORNER MONUMENT	
EXISTING R/W OR HE LINE		SIGN	OFF-PREMISE SIGN
PROPERTY LINE	P.L.		
LOT, TIE & OTHER MINOR LINES			
SLOPE INTERCEPT			COMPENSABLE / NON-COMPENSABLE
CORPORATE LIMITS		ELECTRIC POLE	
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)	W (TYPE)	TELEPHONE POLE	
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)		PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)	
TEMPORARY LIMITED EASEMENT AREA		ACCESS RESTRICTED BY ACQUISITION	
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)		NO ACCESS (BY STATUTORY AUTHORITY)	
TRANSMISSION STRUCTURES		ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)	
BUILDING / TO BE REMOVED		NO ACCESS (NEW HIGHWAY)	
BRIDGE		PARCEL NUMBER (25)	UTILITY NUMBER (40)
		PARALLEL OFFSETS	

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC	PROPERTY LINE	PL
AHEAD	AH	RECORDED AS	(100')
ALUMINUM	ALUM	REEL / IMAGE	R/I
AND OTHERS	ET AL	REFERENCE LINE	R/L
BACK	BK	REMAINING	REM
BLOCK	BLK	RESTICTIVE DEVELOPMENT EASEMENT	RDE
CENTERLINE	C/L	RIGHT	RT
CERTIFIED SURVEY MAP	CSM	RIGHT OF WAY	R/W
CONCRETE	CONC	SECTION	SEC
COUNTY	CO	SEPTIC VENT	SEPV
COUNTY TRUNK HIGHWAY	CTH	SQUARE FEET	SF
DISTANCE	DIST	STATE TRUNK HIGHWAY	STH
CORNER	COR	STATION	STA
DOCUMENT NUMBER	DOC	TELEPHONE PEDESTAL	TP
EASEMENT	EASE	TEMPORARY LIMITED EASEMENT	TLE
EXISTING	EX	TRANSPORTATION PROJECT PLAT	TPP
GAS VALVE	GV	UNITED STATES HIGHWAY	USH
GRID NORTH	GN	VOLUME	V
HIGHWAY EASEMENT	HE		
IDENTIFICATION	ID		
LAND CONTRACT	LC		
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

CONVENTIONAL UTILITY SYMBOLS

W	WATER
G	GAS
T	TELEPHONE
OH	OVERHEAD TRANSMISSION LINES
E	ELECTRIC
TV	CABLE TELEVISION
FO	FIBER OPTIC
SAN	SANITARY SEWER
SS	STORM SEWER

PROJECT NUMBER	1633-06-24 -4.01
SHEET	2 OF 2
AMENDMENT NO:	

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\RW\TITLE SHEET.DWG
LAYOUT NAME: TITLE SHEET
PLOT DATE : 9/16/2015 3:04 PM PLOT BY : KL ENGINEERING PLOT NAME : _____ APPRAISAL PLAT DATE : _____

TRANSPORTATION PROJECT PLAT NO: 1633-06-24 - 4.01

THAT PART OF THE THE NW ¼ OF THE NE ¼ OF SECTION 20, T20N, R7W, TOWN OF ETTRICK, TREMPEALEAU COUNTY ,WISCONSIN

RELOCATION ORDER USH 53, GALESVILLE - WHITEHALL (BRANCH NORTH FORK BEAVER CREEK BRIDGE B-61-0236)

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTEREST TO WISDOT
ALL AREAS SHOWN IN ACRES UNLESS OTHERWISE NOTED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	TLE ACRES
1	TENNESON'S 3T DAIRIES, A WISCONSIN GENERAL PARTNERSHIP	FEE/TLE	---	0.33	0.33	0.02

Accepted for Recording and filing in the Register of Deeds in Trempealeau County, WI at 12:21pm on March 26, 2018 as Document Number: 449944 and filed in Plat Cabinet A pages 131 & 132
Rose Ottem
Register of Deeds
Trempealeau County

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1633-06-24 - 4.01
SHEET 1 OF 2

UTILITY INTERESTS TABLE

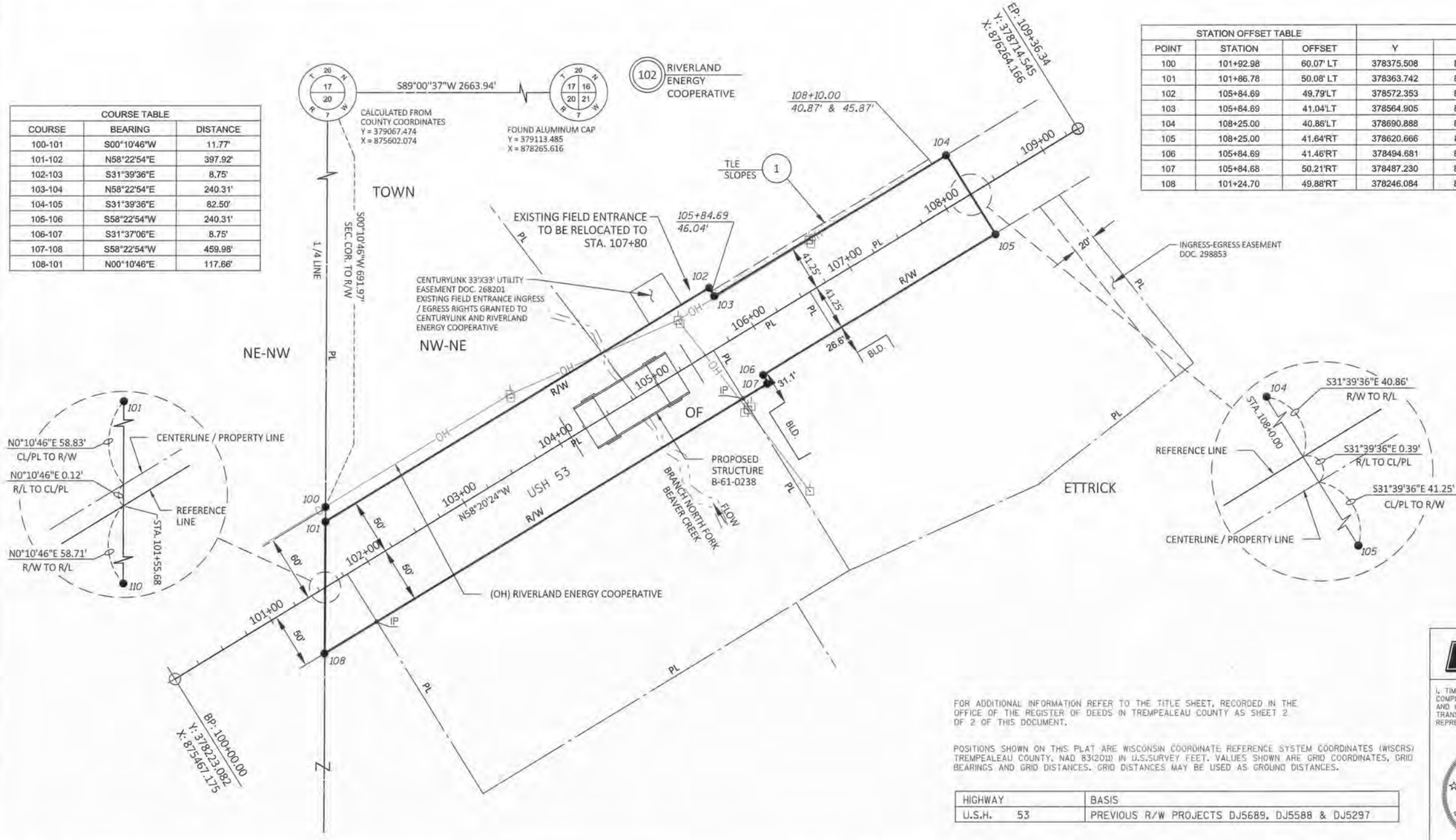
UTIL	OWNER	PARCEL	RECORDING INFORMATION	EASEMENT DESCRIPTION
102	RIVERLAND ENERGY COOPERATIVE	1	DOC. 121965	BLANKET

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
102	RIVERLAND ENERGY COOPERATIVE	RELEASE OF RIGHTS

COURSE TABLE		
COURSE	BEARING	DISTANCE
100-101	S00°10'46"W	11.77'
101-102	N58°22'54"E	397.92'
102-103	S31°39'36"E	8.75'
103-104	N58°22'54"E	240.31'
104-105	S31°39'36"E	82.50'
105-106	S58°22'54"W	240.31'
106-107	S31°37'06"E	8.75'
107-108	S58°22'54"W	459.98'
108-101	N00°10'46"E	117.66'

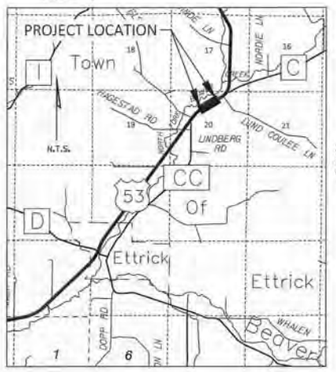
STATION OFFSET TABLE				
POINT	STATION	OFFSET	Y	X
100	101+92.98	60.07' LT	378375.508	875599.906
101	101+86.78	50.08' LT	378363.742	875599.869
102	105+84.69	49.79'LT	378572.353	875938.719
103	105+84.69	41.04'LT	378564.905	875943.312
104	108+25.00	40.86'LT	378690.888	876147.949
105	108+25.00	41.64'RT	378620.666	876191.251
106	105+84.69	41.46'RT	378494.681	875986.612
107	105+84.68	50.21'RT	378487.230	875991.200
108	101+24.70	49.88'RT	378246.084	875599.500



GN

SCALE, FEET
0 50 100

LOCATION SKETCH



FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN TREMPEALEAU COUNTY AS SHEET 2 OF 2 OF THIS DOCUMENT.

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

HIGHWAY	BASIS
U.S.H. 53	PREVIOUS R/W PROJECTS DJ5689, DJ5588 & DJ5297

KL Engineering
We Better Experience

I, TIMOTHY M. HELD, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1633-06-24-4.01 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN TIMOTHY M. HELD S-2591 MADISON, WI LAND SURVEYOR

03/19/2018
TIMOTHY M. HELD DATE
AGENT FOR KL ENGINEERING, INC.
P.L.S. NUMBER 2591

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

3/19/2018
MICHAEL PILLER DATE

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\RW\040101-RP.DWG
PLOT DATE : 3/19/2018 10:41 AM
PLOT BY : KL ENGINEERING
PLOT NAME :
1 IN:100 FT
APPRAISAL PLAT DATE : _____

FILL EXISTING RUMBLE STRIPS
STA 101+45 - STA 103+10
(CENTER)

STA. 101+91, LT
EXISTING P.E.
TO REMAIN

SHANE A SLABY

STA. 103+99, LT
EXISTING DITCH CHECK TO REMAIN

BRANCH NORTH FORK
BEAVER CREEK

P.I.

STATION 104+66
STRUCTURE B-61-0236 TO BE REMOVED
3-SPAN DECK GIRDER
75' OVERALL LENGTH
33.8' OVERALL WIDTH

SEE CONSTRUCTION DETAIL FOR
GUARDRAIL LAYOUT INFORMATION

REMOVING GUARDRAIL
STA.102+88 - STA. 105+60 LT.

RIVERLAND ENERGY
COOPERATIVE (OH)

CENTURYLINK (FO)

CENTURYLINK (TEL)

TRI COUNTY COMMUNICATIONS (FO)

CHARTER (FO)

TRI COUNTY COMMUNICATIONS (FO)

CENTURYLINK (TEL)

CHARTER (FO)

STA. 107+83, LT
CONSTRUCT F.E.
12-INCH CULVERT PIPE
CLASS III-A REQ'D

EXISTING R/W

BM-20

BM-1

STA. 105+70, LT
REMOVE F.E.

RIVERLAND ENERGY
COOPERATIVE (OH)

TLE

TENNESON'S 3T DAIRIES

BM-21

EXISTING R/W

BEGIN PROJECT I.D. 1633-06-74
STA 103+10.00

Y=378,385.79
X=875,731.04
MATCH EXISTING
SAWCUT REQ'D.

B-61-0238

N58°20'24"E

USH 53

B.A.D.

END CONSTRUCTION
STA 108+10

BEGIN CONSTRUCTION
STA 101+84

EXISTING R/W

STA. 102+64, RT
RECONSTRUCT P.E.
REMOVE SMALL PIPE CULVERT
18-INCH CULVERT PIPE CLASS III-A REQ'D

STRUCTURE B-61-0238
STA 104+25.75 - STA 105+21.25

STA. 106+10, RT
REMOVE C.E.
EXISTING SMALL PIPE CULVERT
TO REMAIN STA 105+04 - STA 106+25
(SEE CONSTRUCTION DETAIL)

STA. 107+26, RT
EXISTING C.E.
TO REMAIN

CENTURYLINK (TEL)

EXISTING R/W

STA. 101+98, RT
TEMPORARY P.E.
CP TEMPORARY 18-INCH REQ'D
(SEE CONSTRUCTION DETAIL)

DENNIS PIEPER

SLOPE INTERCEPT (TYP.)

STA. 104+23, RT
EXISTING DITCH CHECK TO REMAIN

BM-2

STA. 105+87, RT
PRIVATE SIGN TO REMAIN

JOHN B. & BRENDA S.
EMERSON

END PROJECT I.D. 1633-06-74
STA 106+50.00
MATCH EXISTING
SAWCUT REQ'D.

REMOVING GUARDRAIL
STA.103+01 - STA. 104+32 RT.

SPECIAL DITCHING REQUIRED
STA. 102+91 - STA. 103+65, RT.

DELINEATED WETLAND LIMITS
(TYP.)

REMOVING GUARDRAIL
STA. 105+01 - STA. 105+83 RT.

VCL = 100.00
K = 129.77

-0.28%

0.50%

0.10%

PROPOSED PROFILE

EXISTING GROUND

SPECIAL DITCHING

STA 103+10.00
EL 803.22

VPC STA 103+25.00
VPC EL 803.18

VPI STA 103+75.00
VPI EL 803.04

VPT STA 104+25.00
VPT EL 803.29

STA 105+25.00
EL 803.78

STA 106+50.00
EL 803.91

STA. 104+65
STRUCTURE B-61-0238 REQUIRED
1-SPAN PRESTRESSED GIRDER
55.0' OVERALL LENGTH
40' CLEAR ROADWAY WIDTH
0° SKEW

EXISTING PROFILE ELEVATION

PROPOSED PROFILE ELEVATION

803.54	803.31	803.20	803.21	803.25	803.14	803.28	803.19	794.02	803.41	798.89	803.66	803.45	803.81	803.65	803.86	803.91	803.91	804.14	804.33	804.41

BENCHMARKS				
NO.	STATION	ELEV.	DESCRIPTION	OFFSET
BM-1	105+46	802.97	SURVEY NAIL IN PPOL #15742	38.9'LT
BM-2	105+55	804.50	SURVEY NAIL IN PPOL	61.0'RT
BM-20	99+07	802.49	RR SPIKE IN WOOD POST W/ METER	36.7'LT
BM-21	109+18	804.70	RR SPIKE IN PPOL #15741	41.7'LT

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	PLAN AND PROFILE: USH 53	SHEET 32	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\PLAN AND PROFILE\050101-PP-USH 53.DWG
LAYOUT NAME - 050101

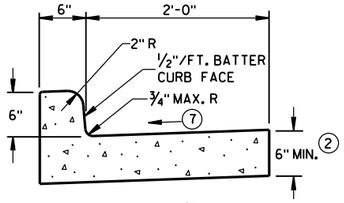
PLOT DATE : 7/20/2018 12:27 PM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 44

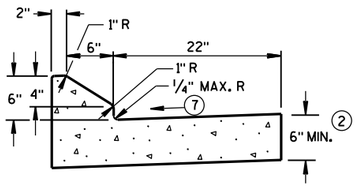
Standard Detail Drawing List

08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
09G02-05A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
12A03-10	NAME PLATE (STRUCTURES)
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	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)
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D33-04	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

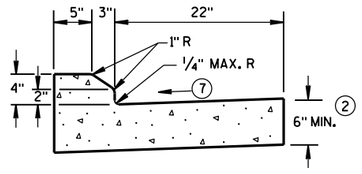
6



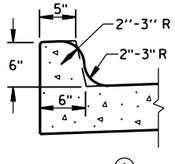
TYPES A (1) & D



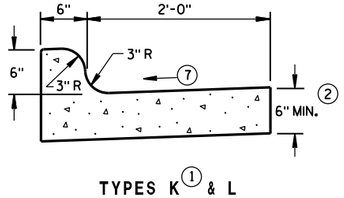
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

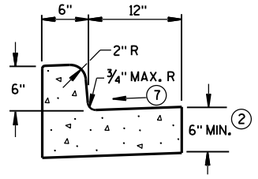


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



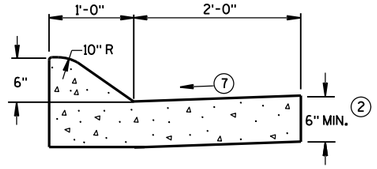
TYPES K (1) & L

CONCRETE CURB & GUTTER 30"

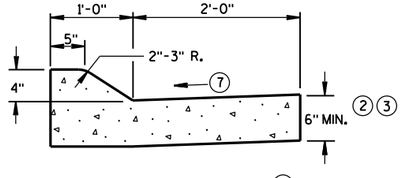


TYPES A (1) & D

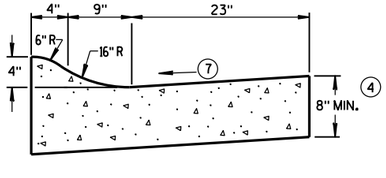
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A (1) & D

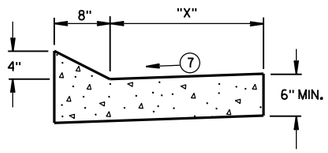


4" SLOPED CURB TYPES A (1) & D



4" SLOPED CURB TYPES R (1) & T (5)

CONCRETE CURB & GUTTER 36"



TYPES TBT & TBTT (1)

CONCRETE CURB & GUTTER

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

GENERAL NOTES

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

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

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

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

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

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

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

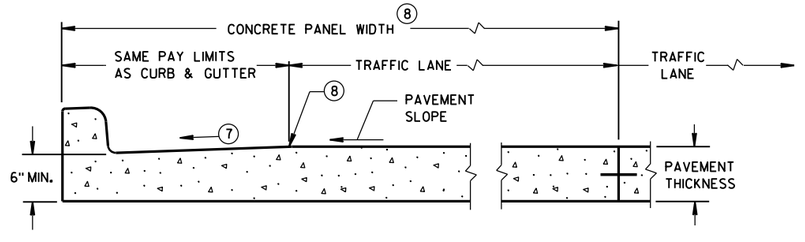
(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

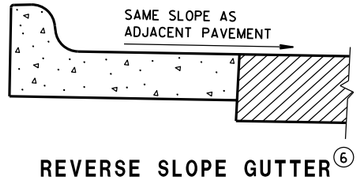
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB & GUTTER

* BIKE LANE IS NOT SHOWN.

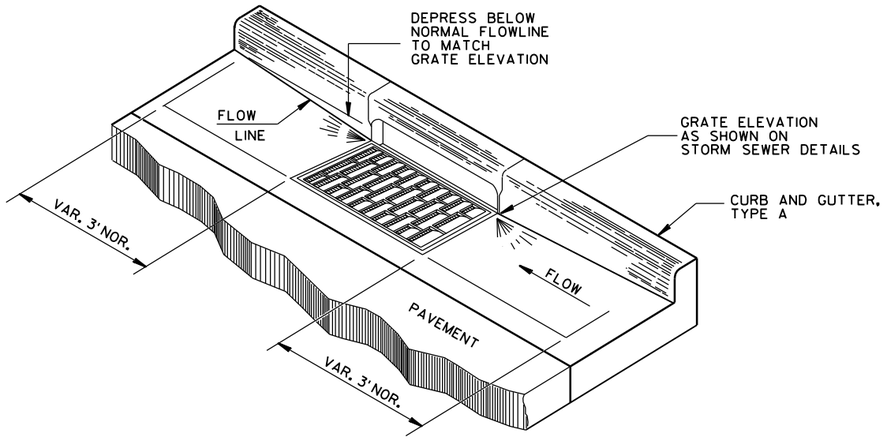


REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 8 D 1-20a



DETAIL OF CURB AND GUTTER AT INLETS

(TYPE H INLET COVER SHOWN)

GENERAL NOTES

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

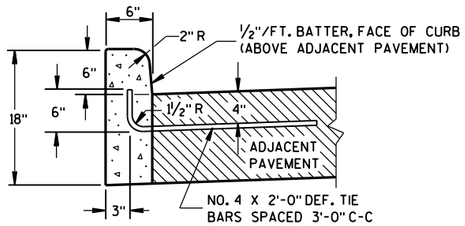
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

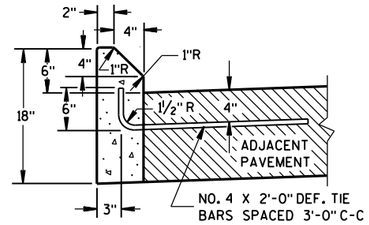
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

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

(9) REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

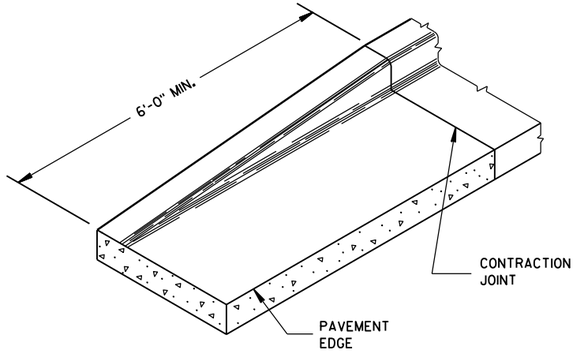


TYPES A(1) & D

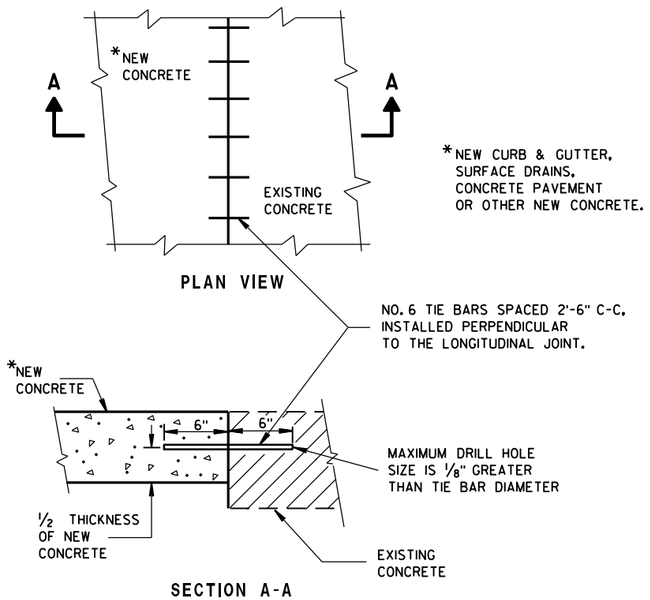


TYPES G(1) & J

CONCRETE CURB



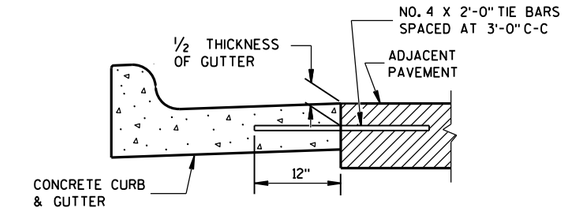
END SECTION CURB & GUTTER



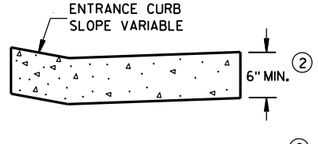
PLAN VIEW

SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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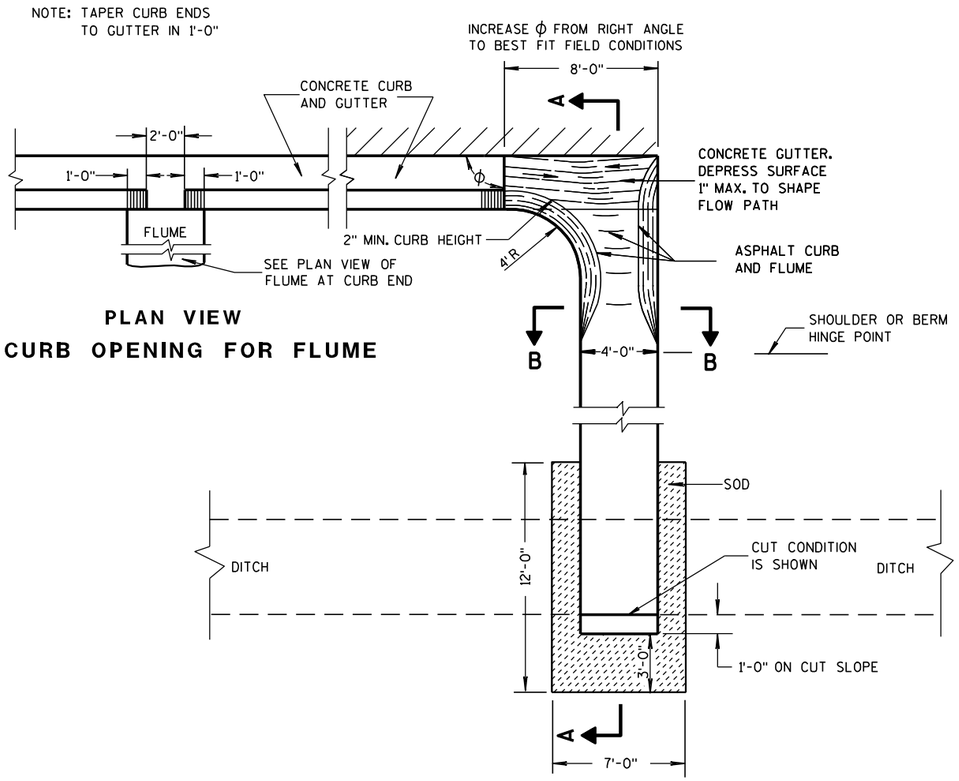
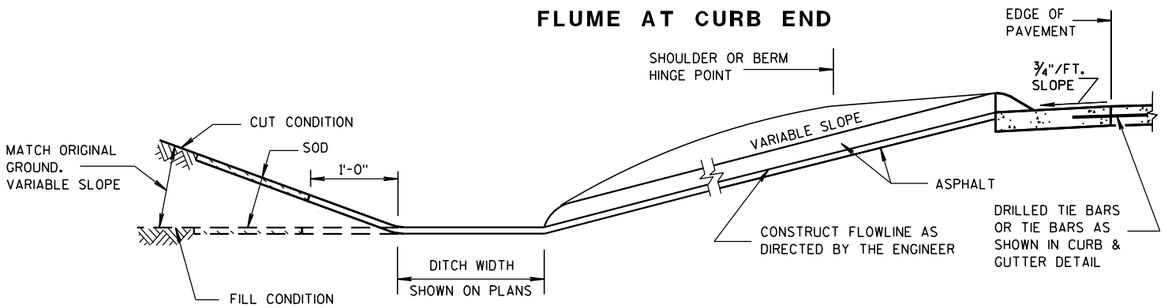
S.D.D. 8 D 1-20b

ASPHALTIC FLUME

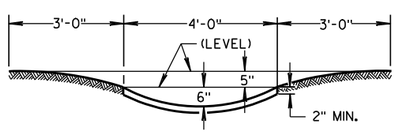


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

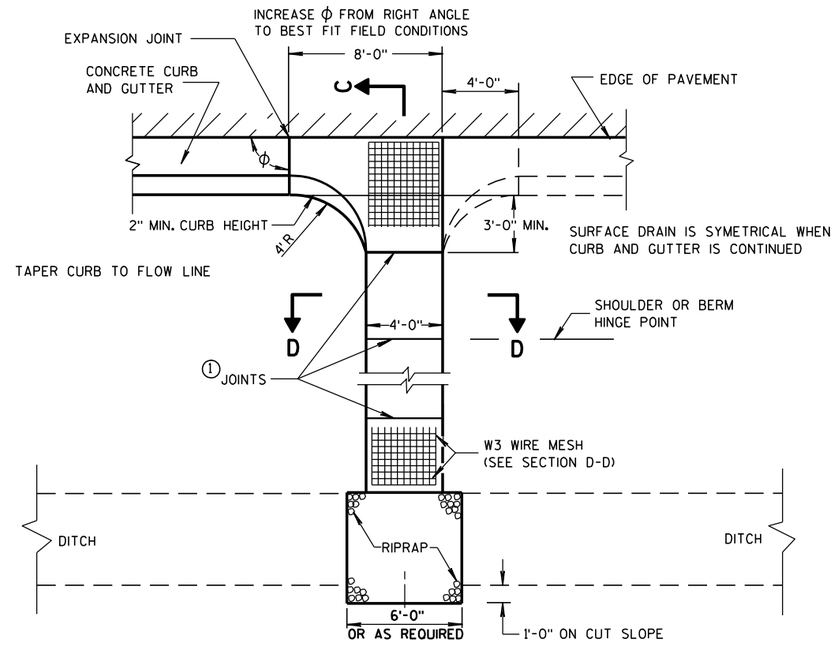
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

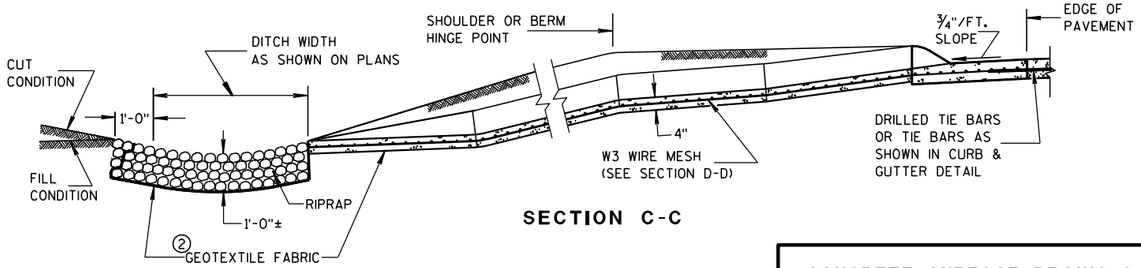
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

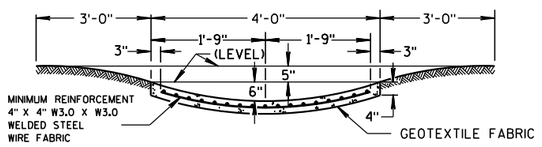
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

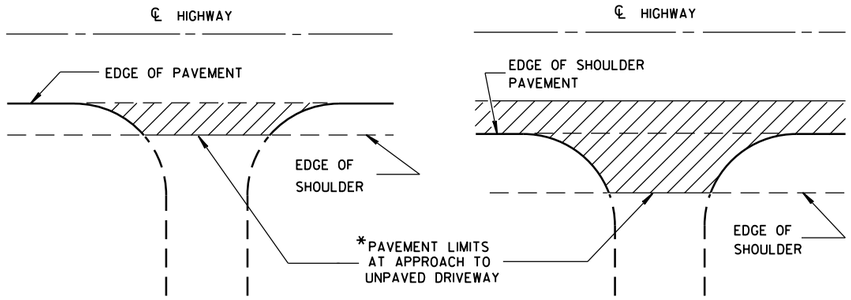
FHWA

6

S.D.D. 8 D 4-5

6

S.D.D. 8 D 4-5

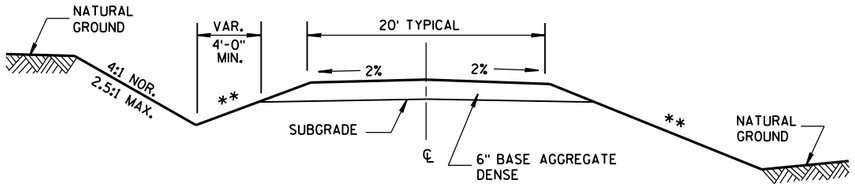


*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

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

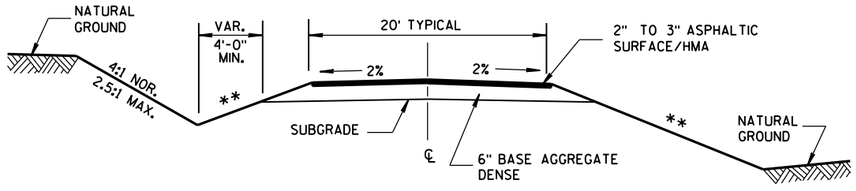


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

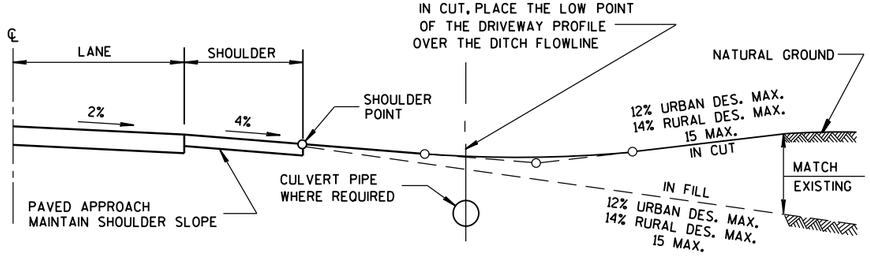
** SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

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



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE



TYPICAL DRIVEWAY PROFILES

DRIVEWAYS WITHOUT CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERV
FHWA

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S.D.D. 8 D 21-1

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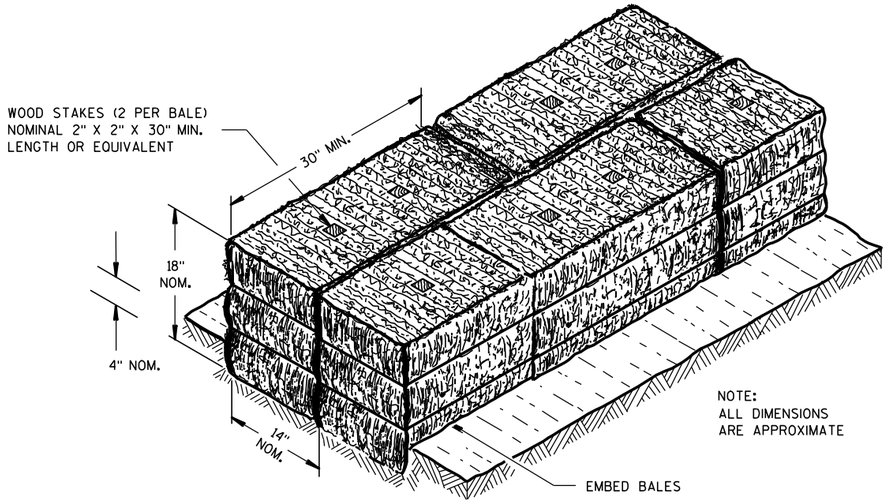
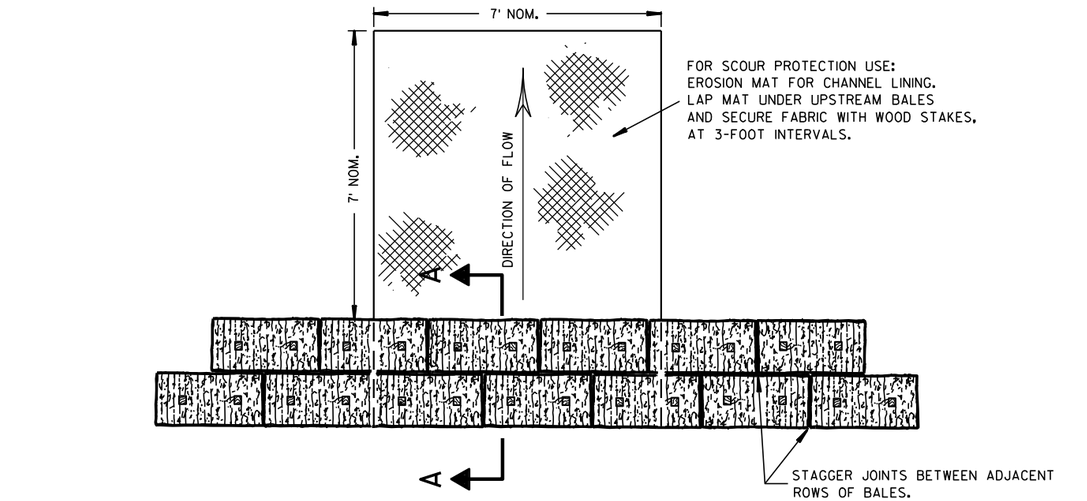
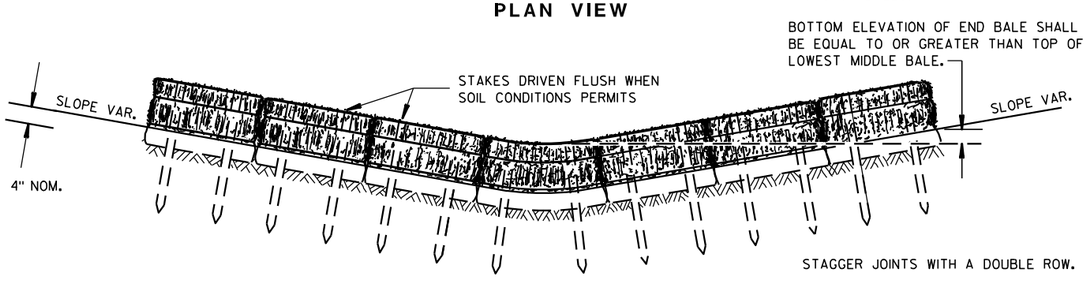
S.D.D. 8 D 21-1



SECTION A-A



PLAN VIEW



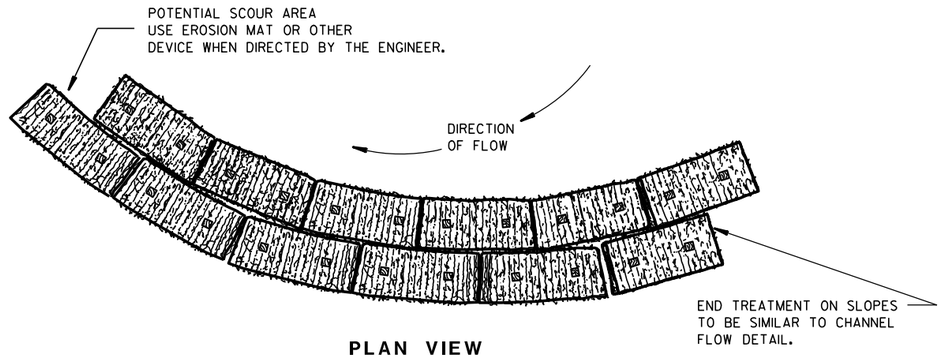
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

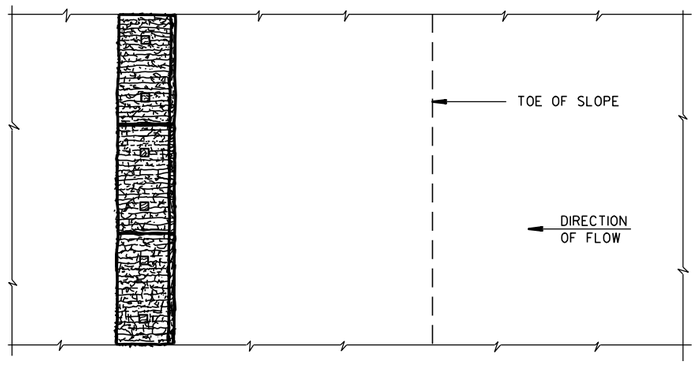
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

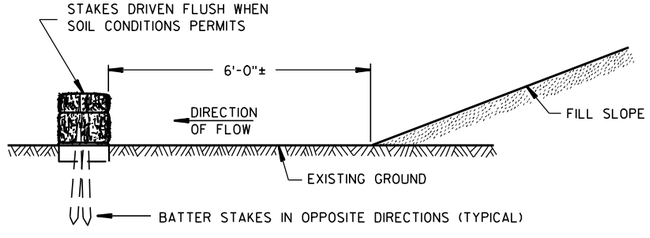


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

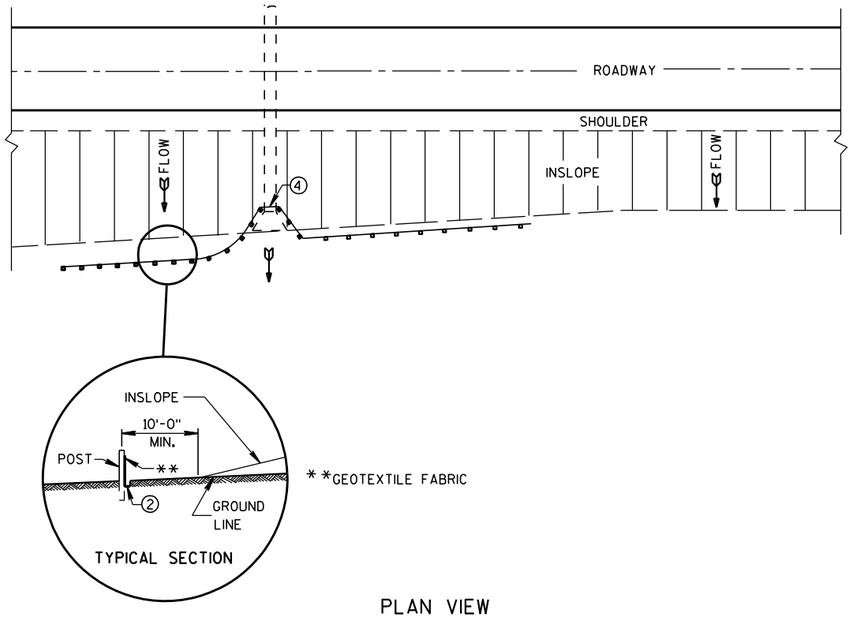
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

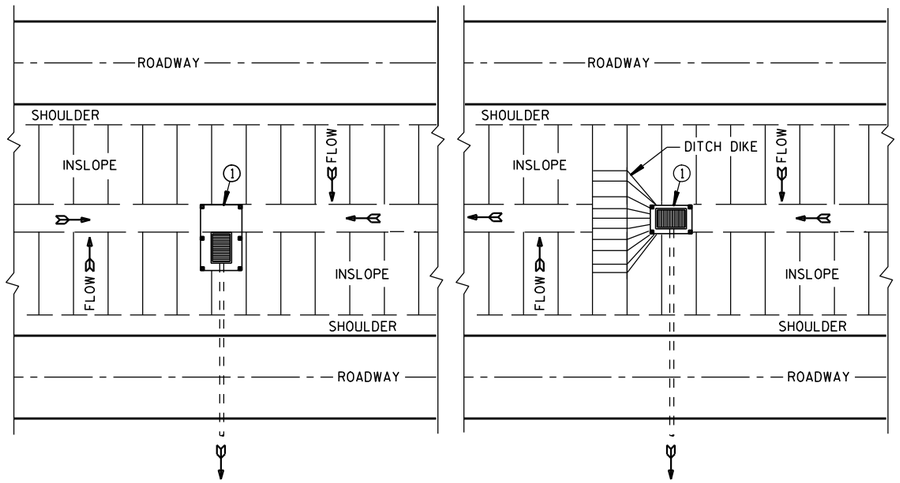
6

S.D.D. 8 E 8-3



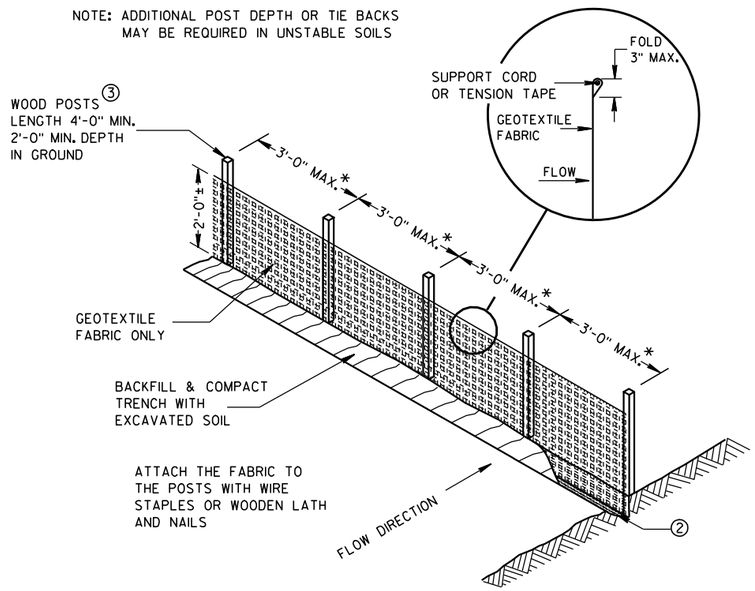
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



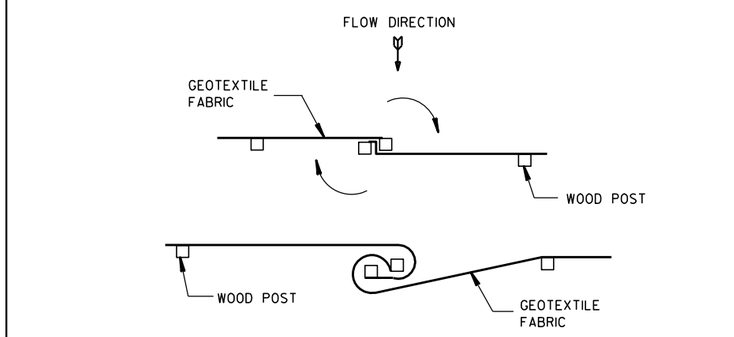
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

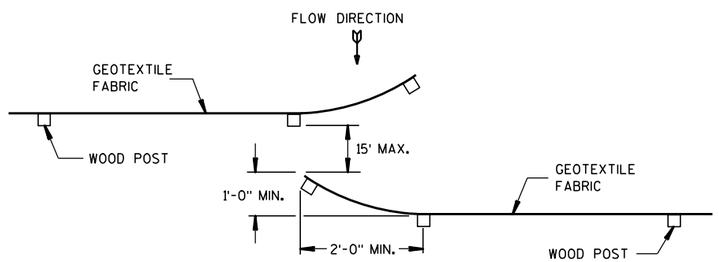


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE



TWIST METHOD



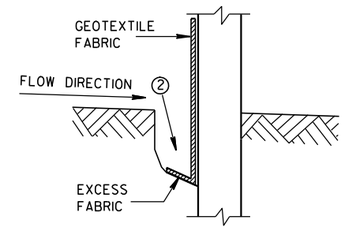
HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5

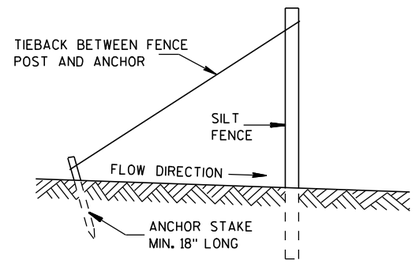
GENERAL NOTES

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 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

METAL APRON ENDWALLS

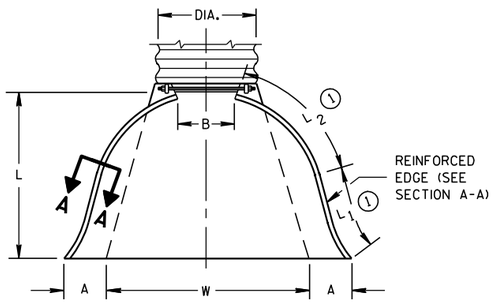
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 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

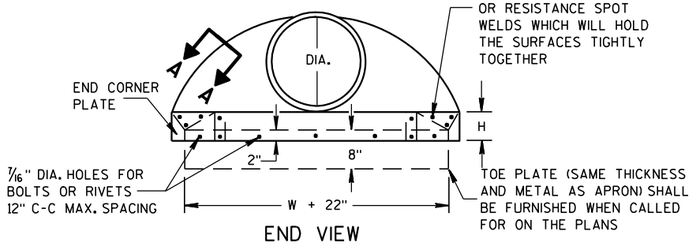
REINFORCED CONCRETE APRON ENDWALLS

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

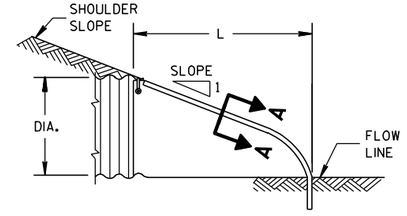
*MINIMUM
**MAXIMUM



PLAN VIEW

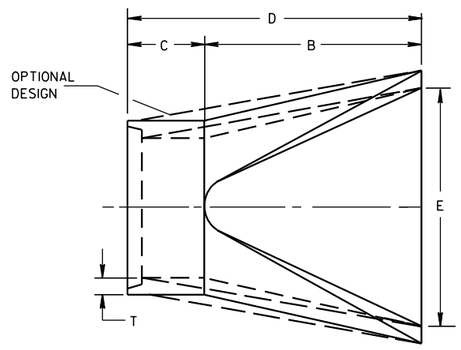


END VIEW

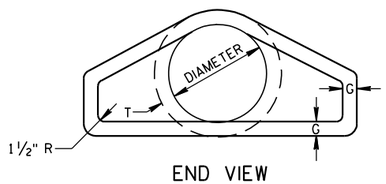


SIDE ELEVATION

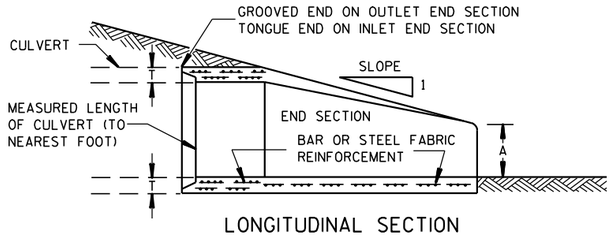
METAL ENDWALLS



PLAN

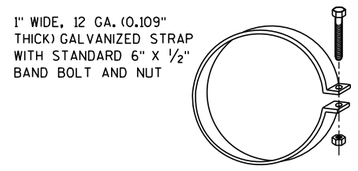


END VIEW



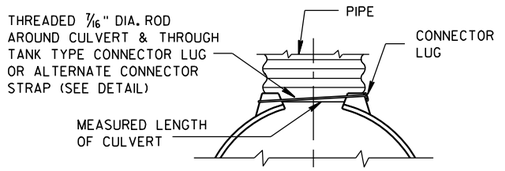
LONGITUDINAL SECTION

CONCRETE ENDWALLS

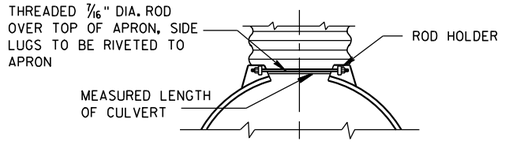


ALTERNATE FOR TYPE 1 CONNECTION

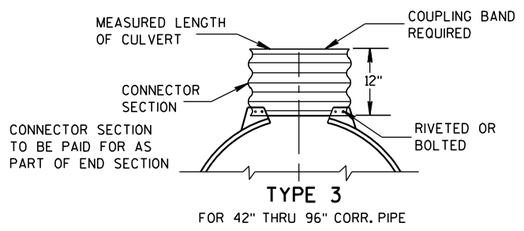
END SECTION CONNECTOR STRAP



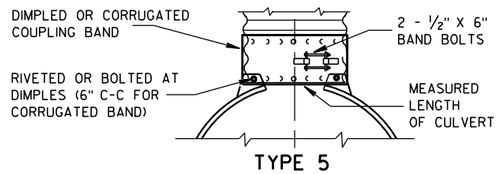
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

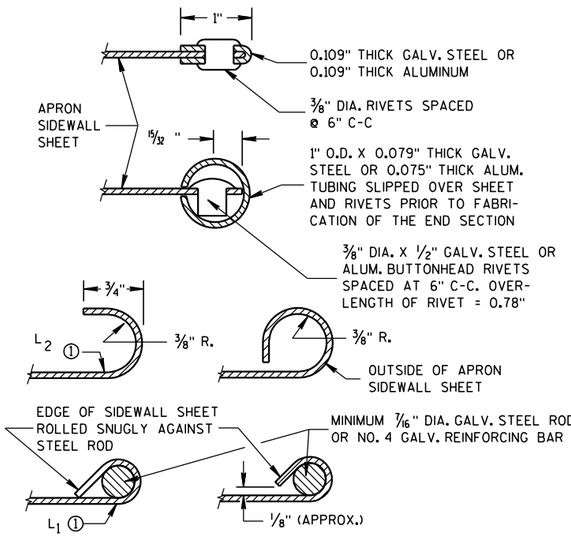
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

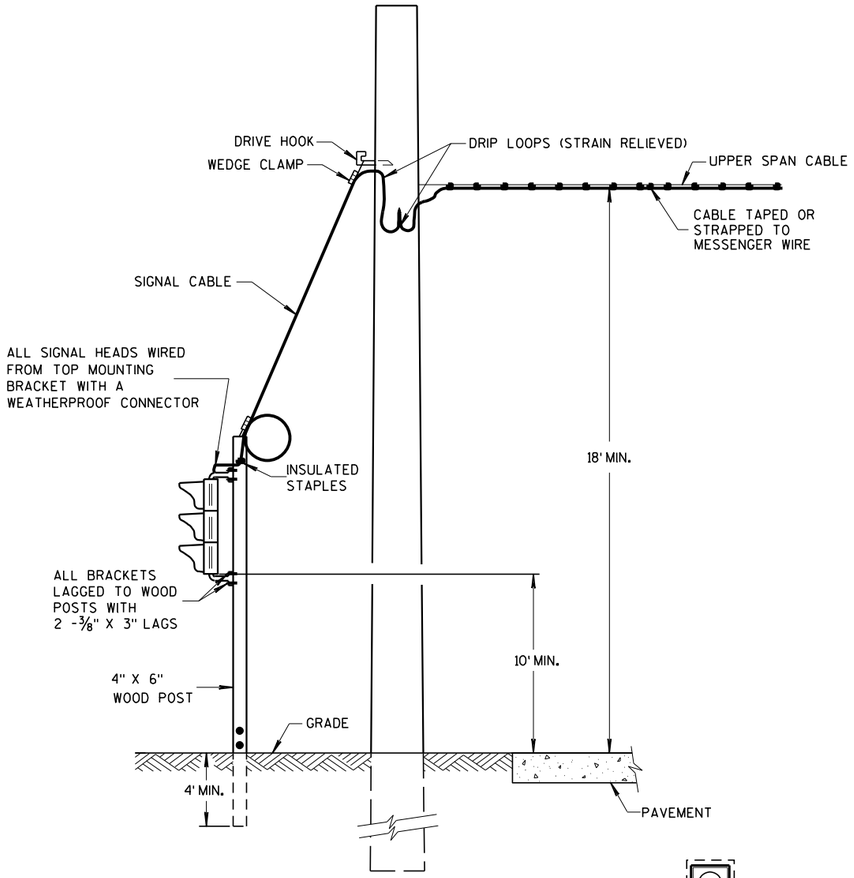
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

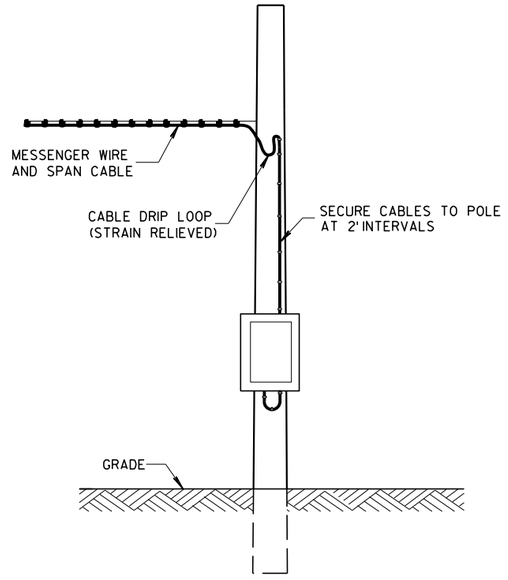
APPROVED
11/30/94 — DATE
/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 1-11



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION

GENERAL NOTES

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

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAYBE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

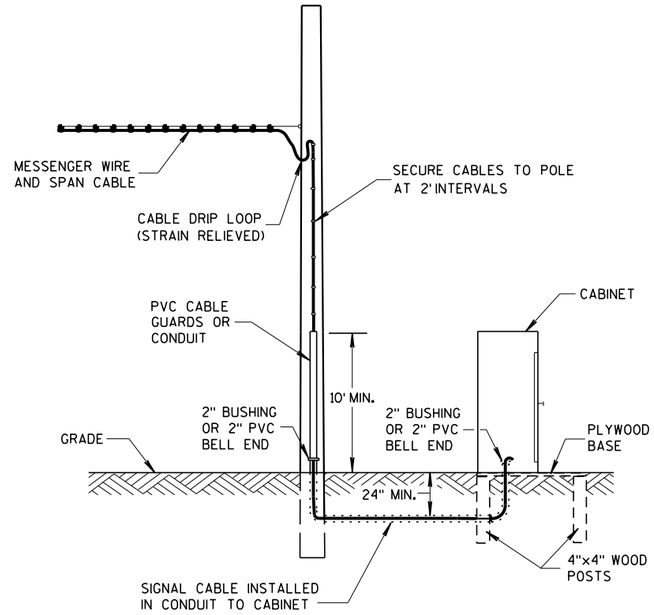
WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.

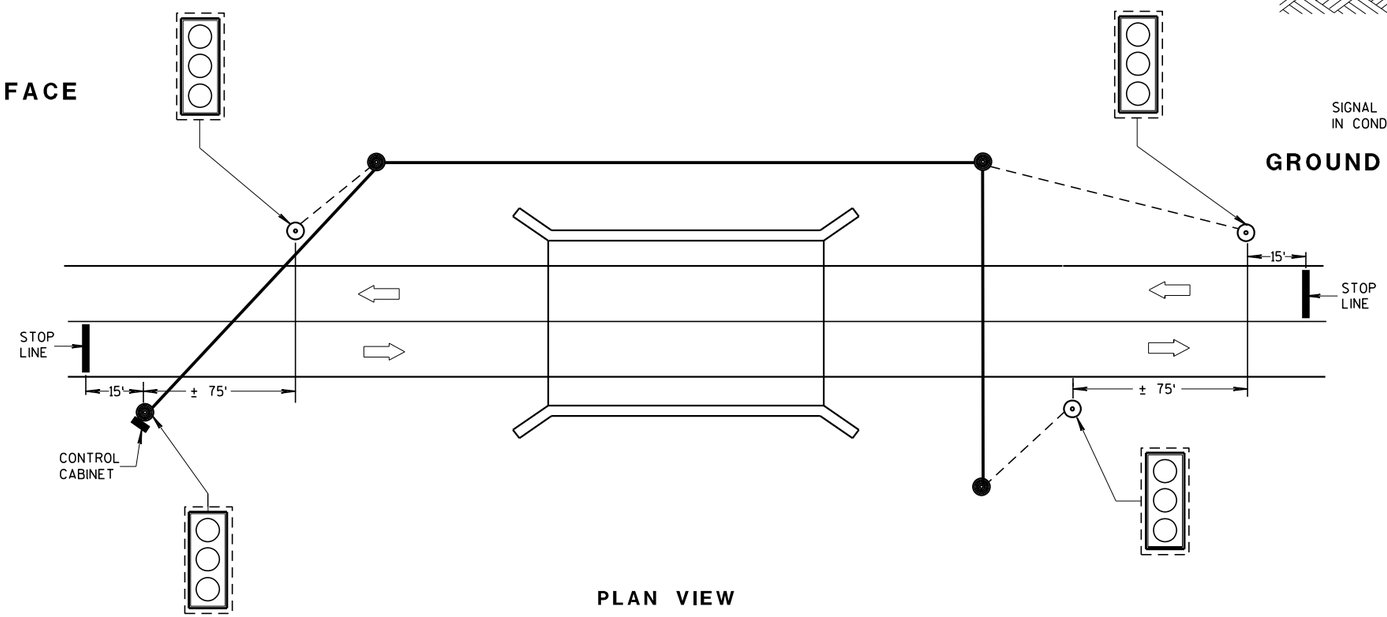
SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



GROUND MOUNT CABINET INSTALLATION

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE**
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/ CURBS	2 FT

**NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE.



PLAN VIEW

TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND

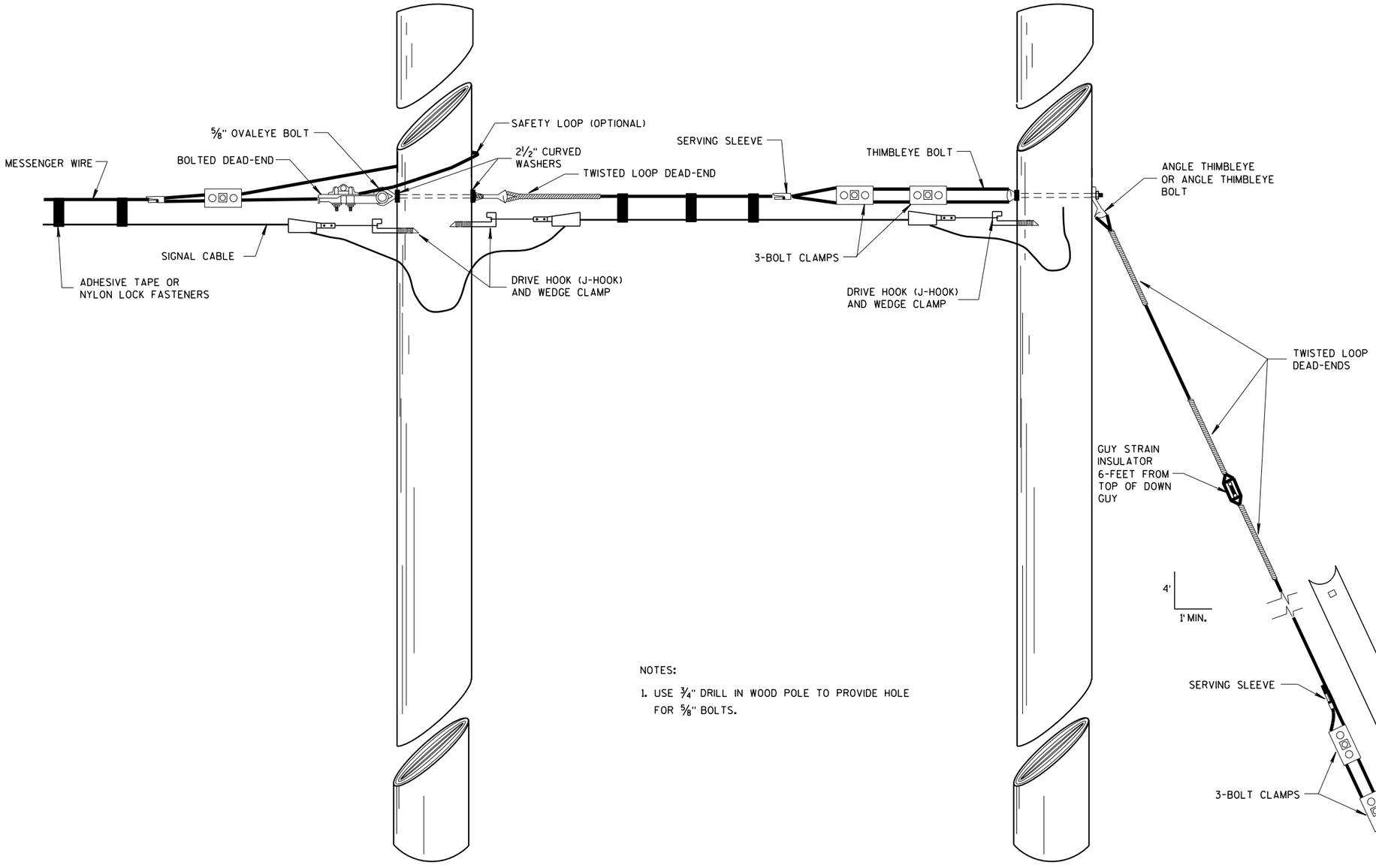
- WOOD POLE (NON-BREAKAWAY)
- WOOD POST (BREAKAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- LED TRAFFIC SIGNAL FACE WITH BACKPLATE (3-12")
- DIRECTION OF TRAFFIC

MINIMUM POLE LENGTHS	CLASS	MINIMUM BURIAL DEPTHS
25 FEET	V	5 FEET
30 FEET	V	6 FEET
35 FEET	IV	7 FEET
40 FEET	IV	8 FEET
45 FEET	IV	9 FEET

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICA
FHWA



SPAN WIRE POLE

GUY POLE

NOTES:

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE HOLE FOR 5/8" BOLTS.

TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL ENGINEER
FHWA

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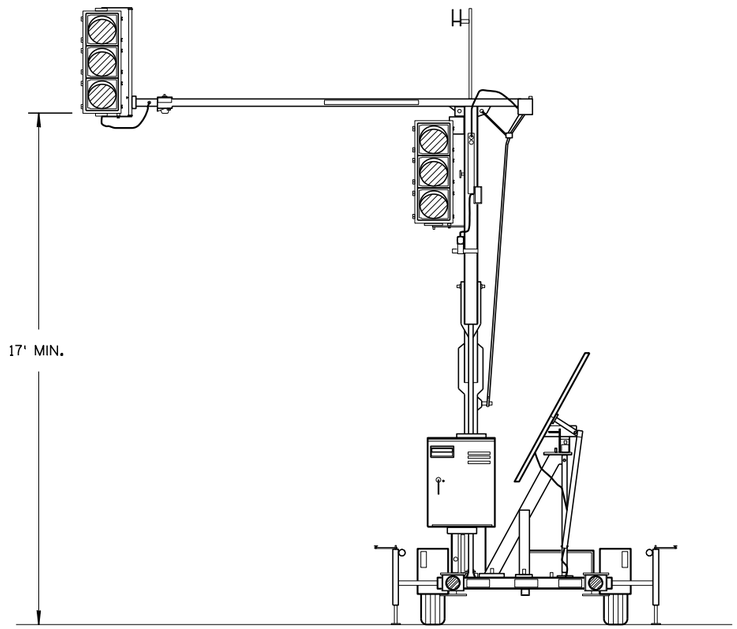
S.D.D. 9 G 2-5b

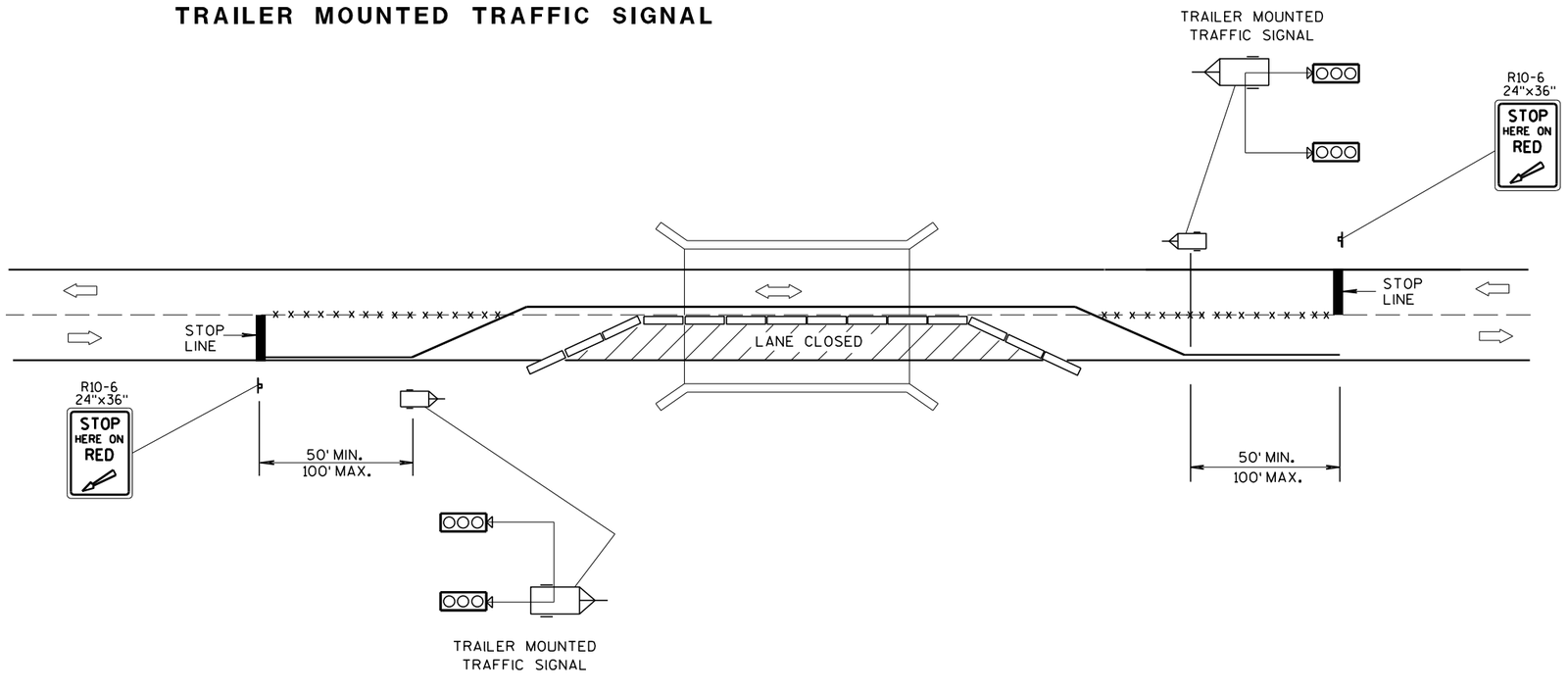


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- POST MOUNTED SIGN
- REMOVING PAVEMENT MARKING
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- DIRECTION OF TRAFFIC FLOW

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 G 2-5c

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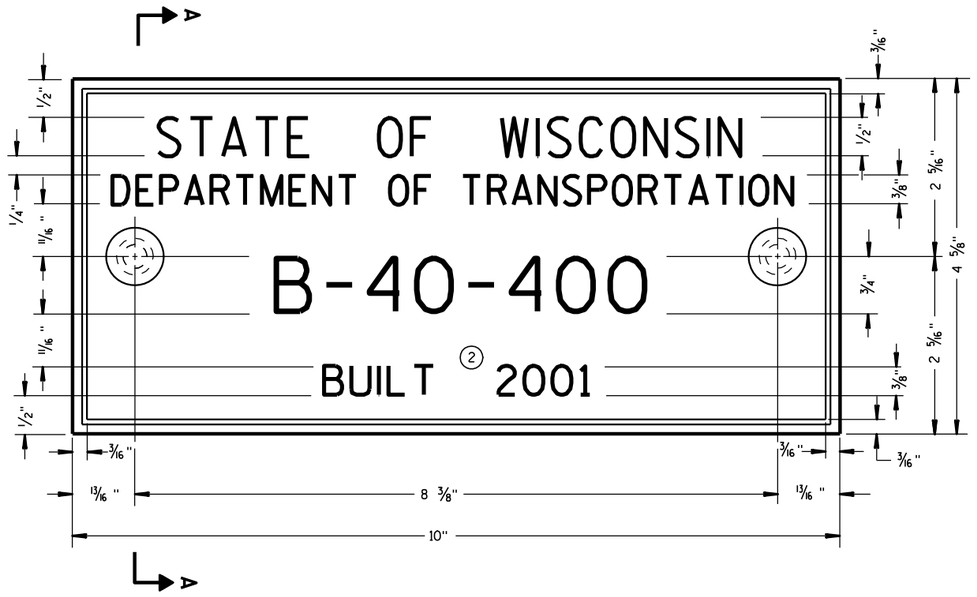
S.D.D. 9 G 2-5c



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

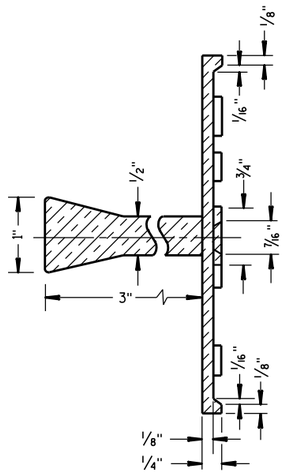
GENERAL NOTES

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

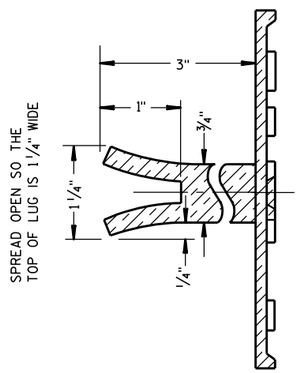
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

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



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

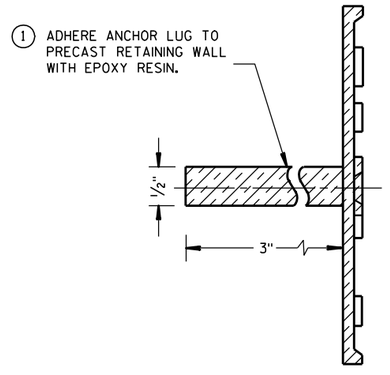
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

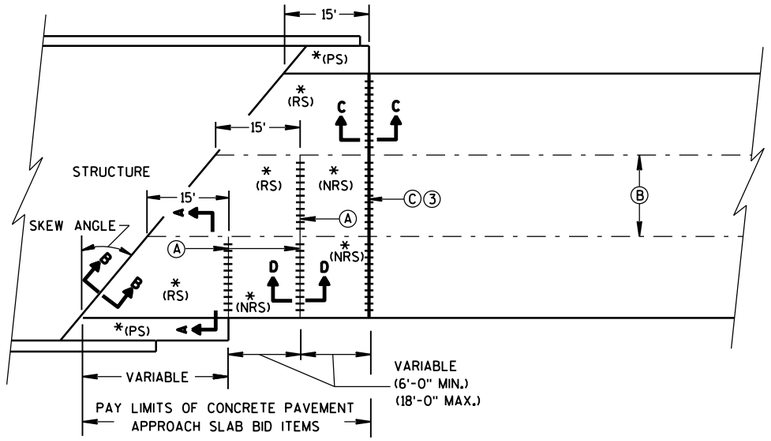
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

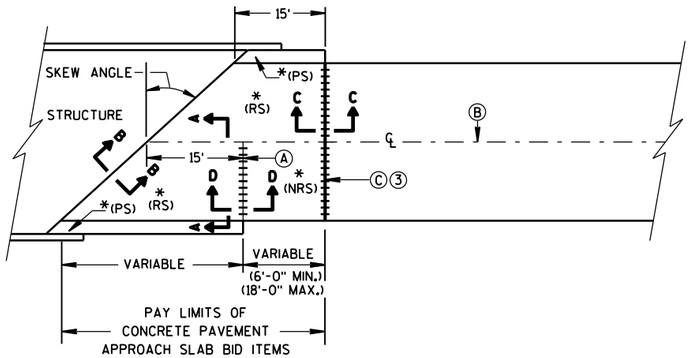
FHWA

6

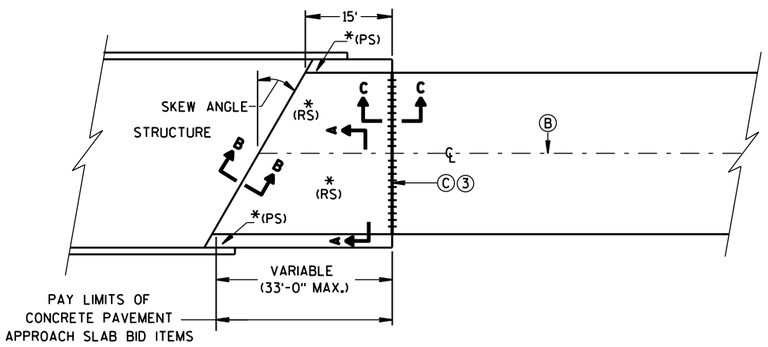
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

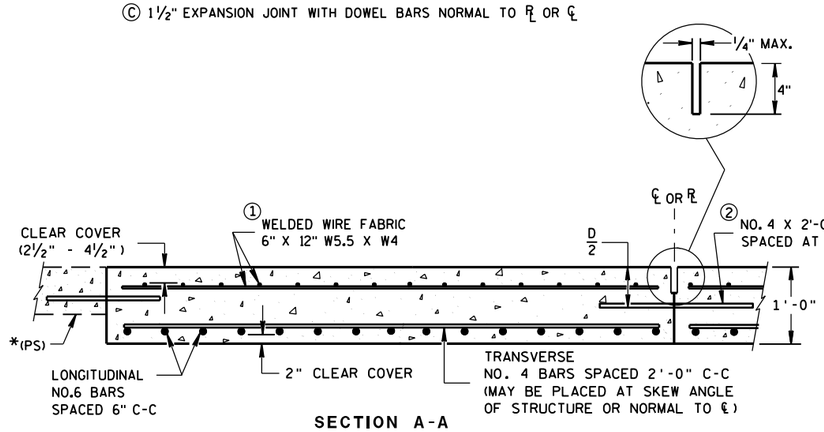
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

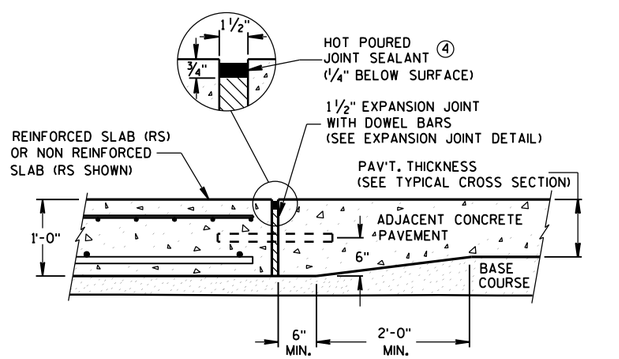
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

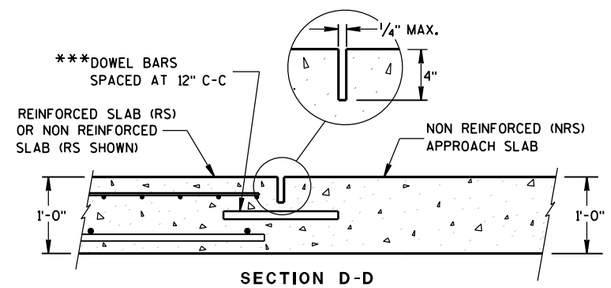
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

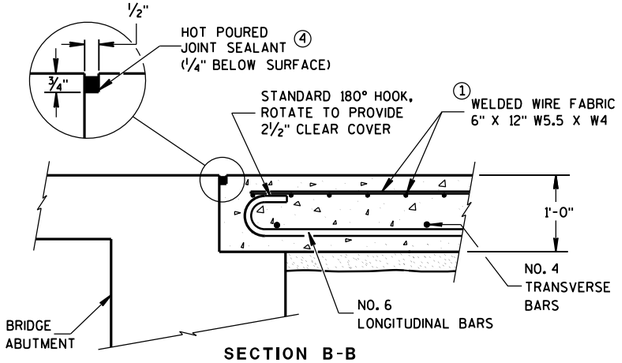
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

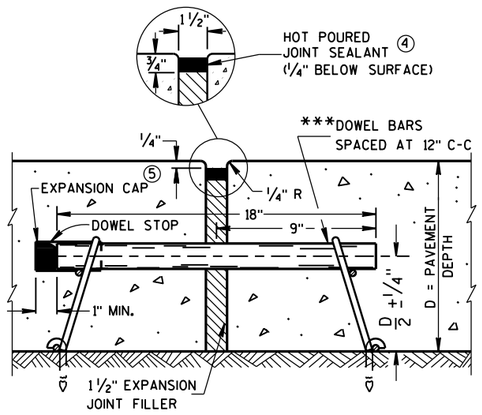
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

6

S.D.D. 13 B 2-8a

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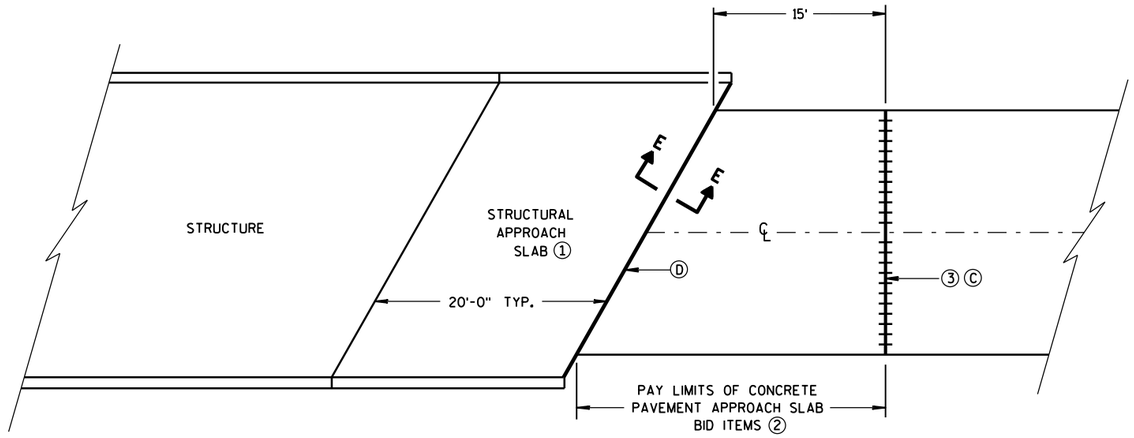
S.D.D. 13 B 2-8a



GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

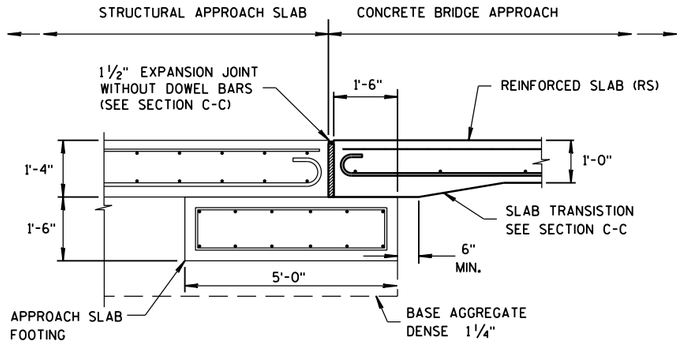
(1) SEE BRIDGE PLAN.

(2) CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.

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

(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄

(D) 1½" EXPANSION JOINT (NO DOWELS)



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2015
DATE

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

FHWA

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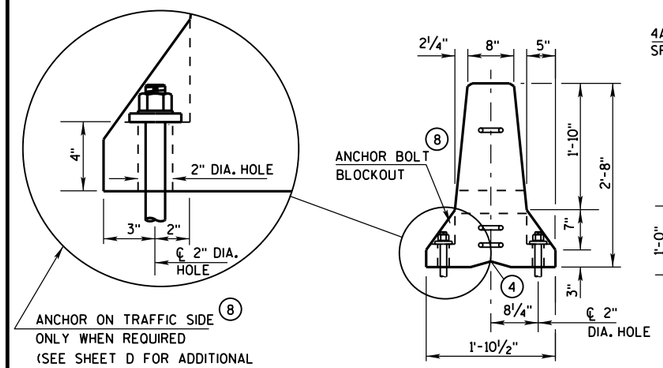
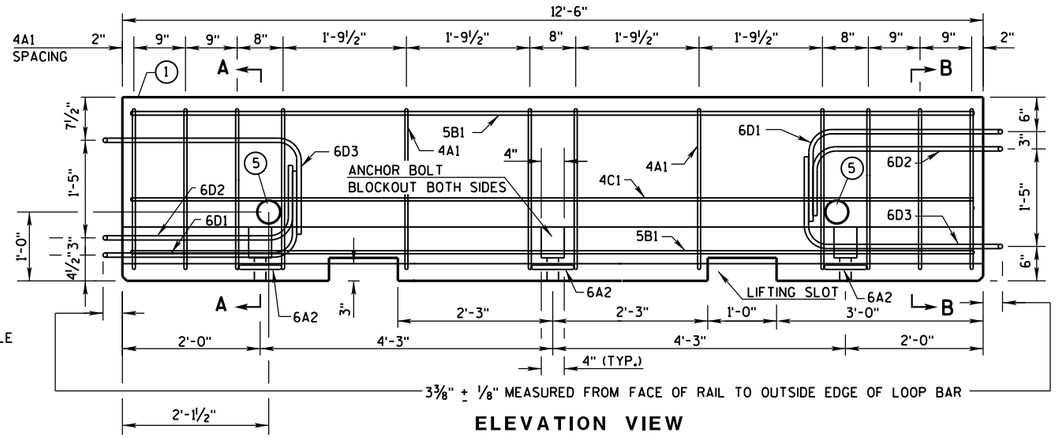
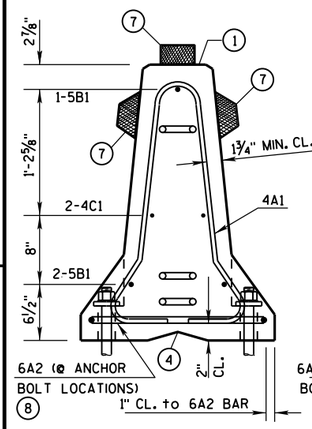
S.D.D. 13 B 2-8b



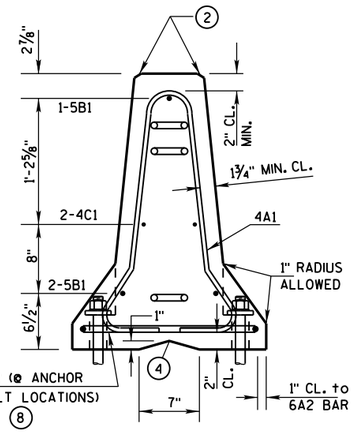
END VIEW



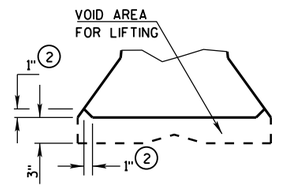
ELEVATION VIEW



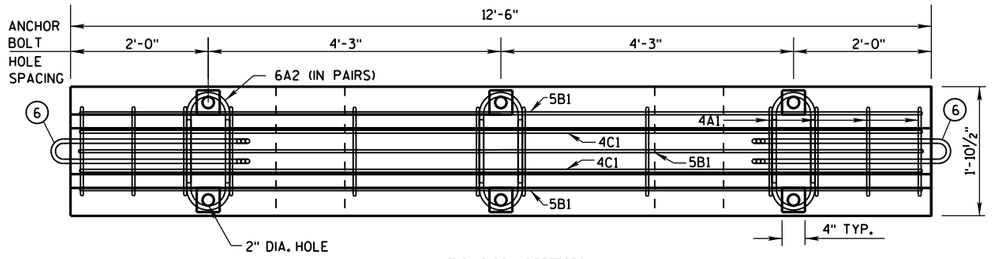
SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)

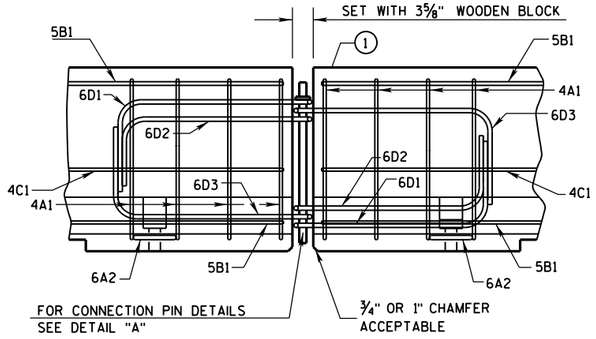


DETAIL "B"
LIFTING SLOT DETAIL

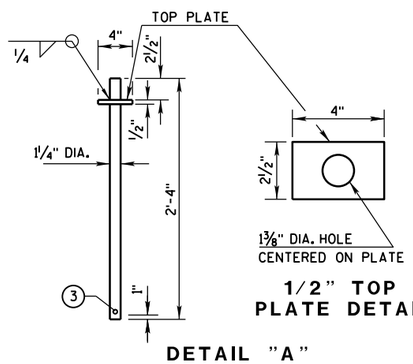


PLAN VIEW

DETAILS OF BARRIER SECTION

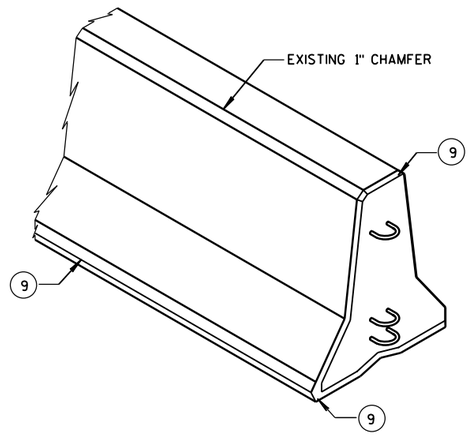


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(a) THRU 14B7-15(i).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.

(9) 1" CHAMFER OPTIONAL.

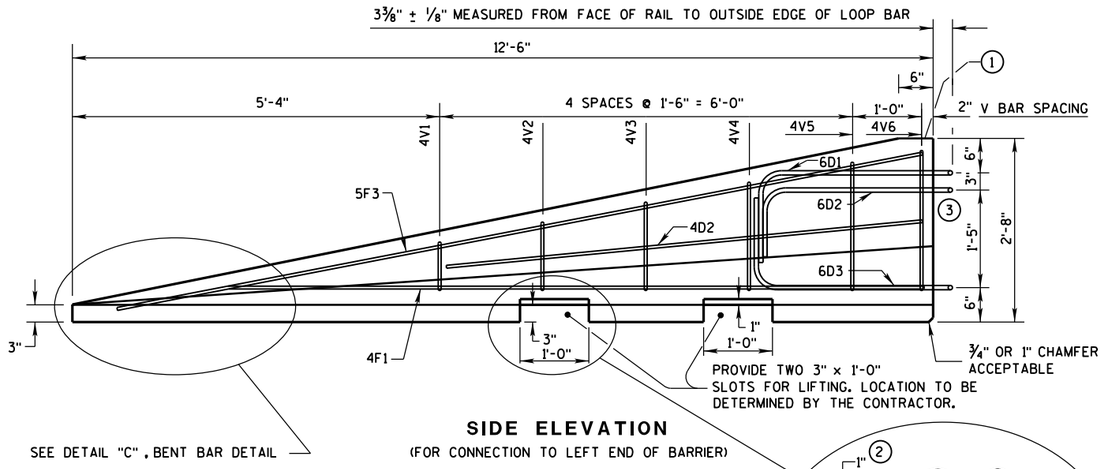
f'c = 4,000 psi

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

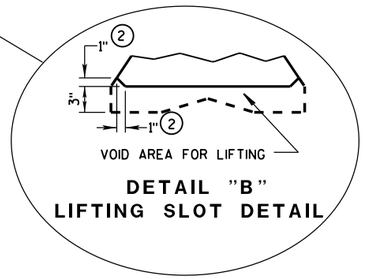
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

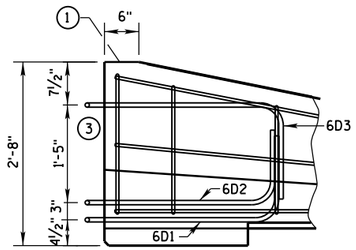
S.D.D. 14 B 7-15a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



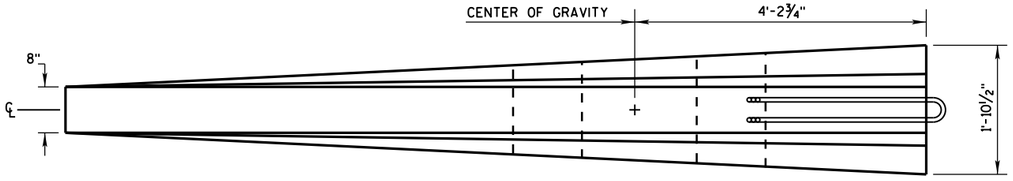
DETAIL "B"
LIFTING SLOT DETAIL



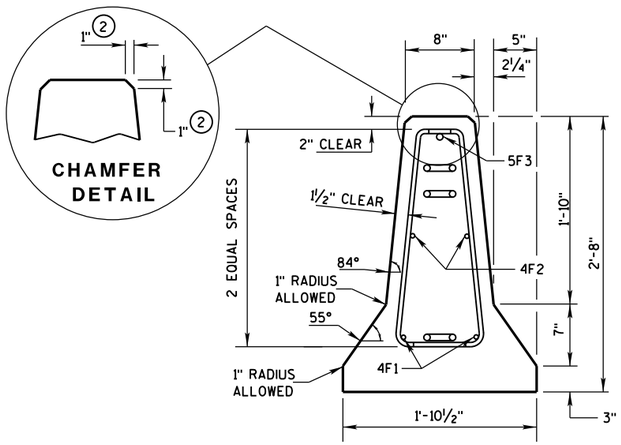
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

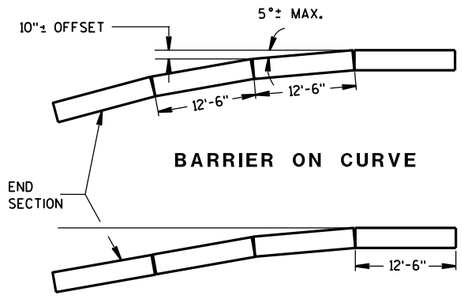
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



PLAN VIEW



END SECTION **FRONT ELEVATION**



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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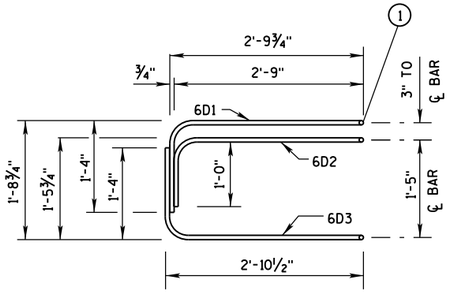
S.D.D. 14 B 7-15b

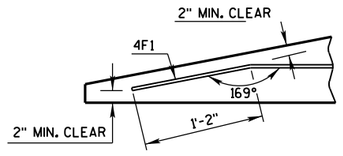
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

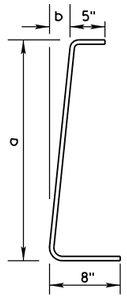
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

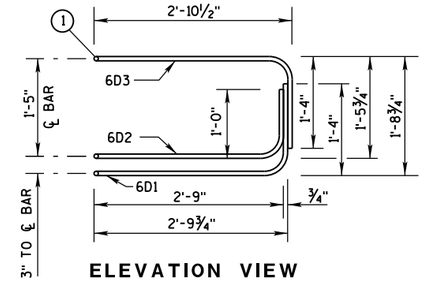
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

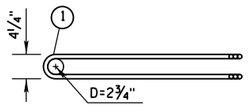
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

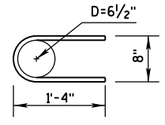
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



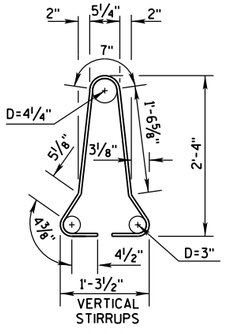
ELEVATION VIEW



PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



4A1

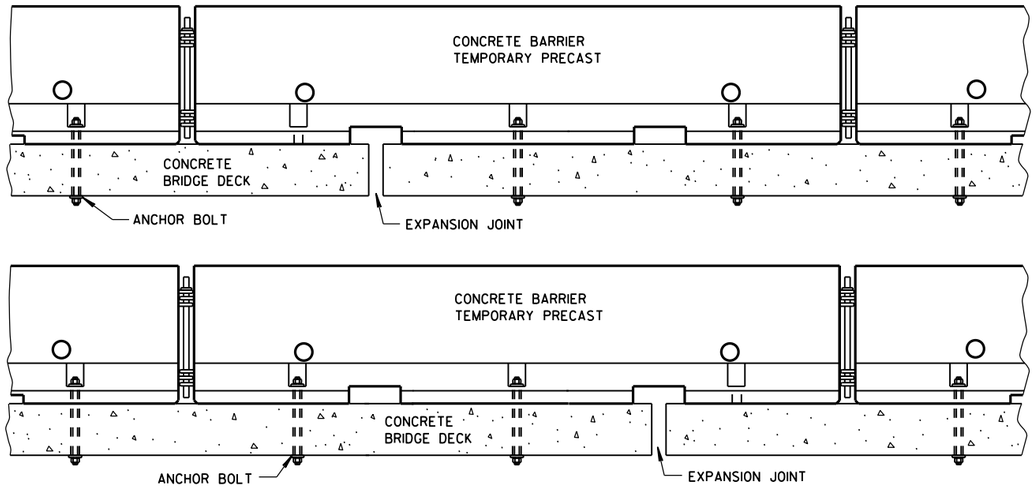
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 7-15c



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)

GENERAL NOTES

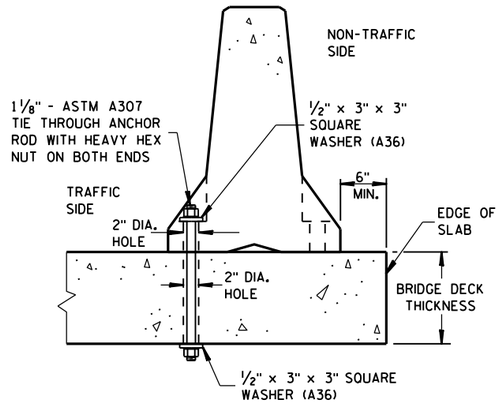
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERICAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(1) 1⅛" DIAMENTER A307 THREADED ROD. ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL. ASTM A563A HEAVY HEX NUT.

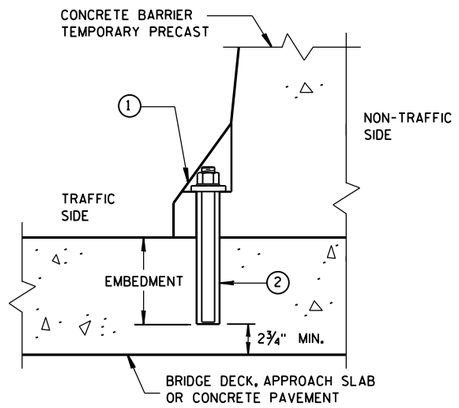
(2) ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

(3) ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THAN DRIVE ASPHALT ANCHOR PIN.



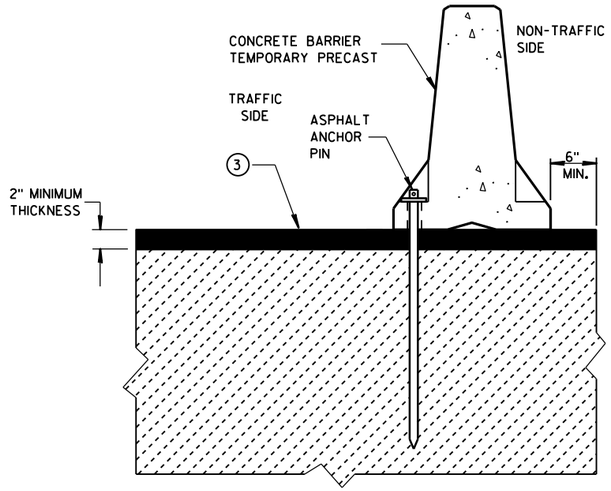
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

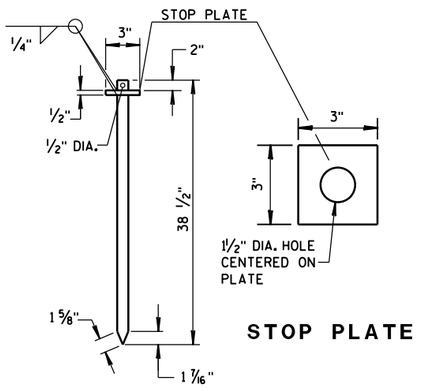


REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



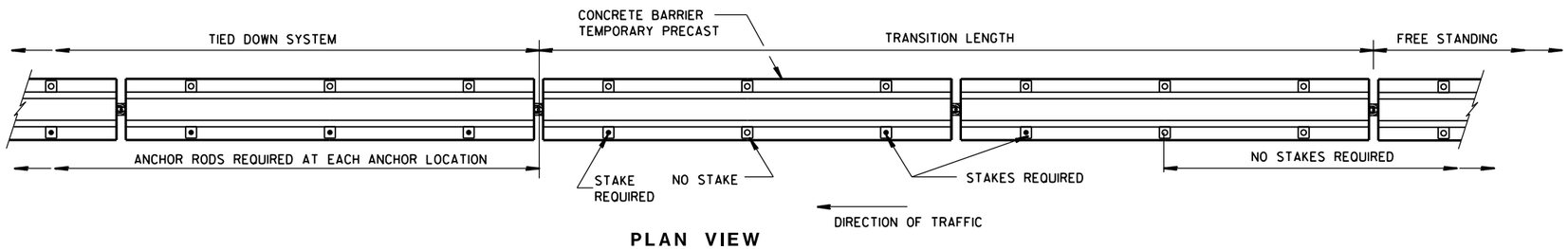
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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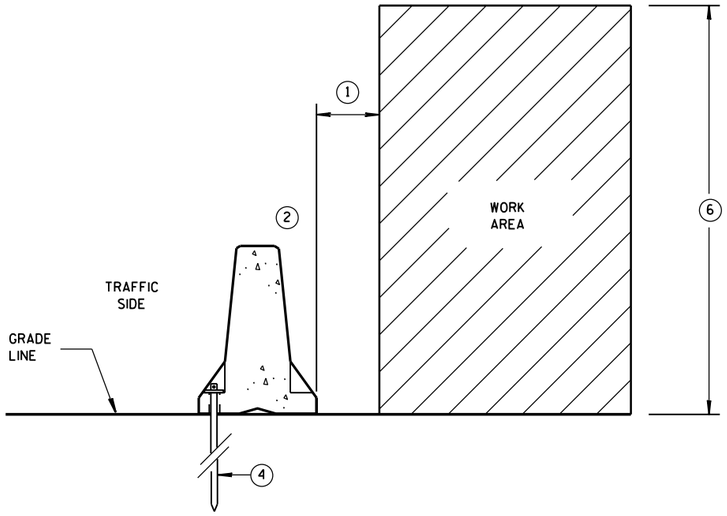
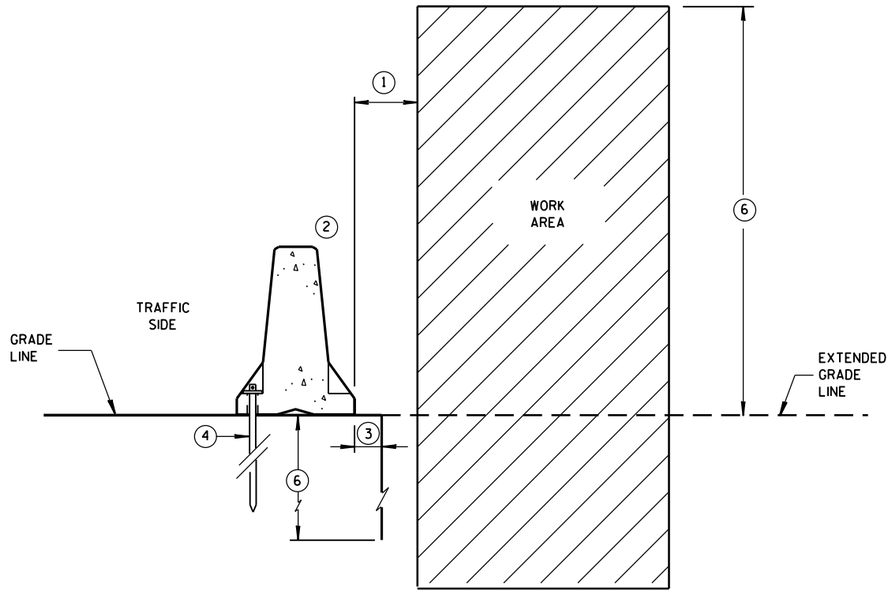
S.D.D. 14 B 7-15d



ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

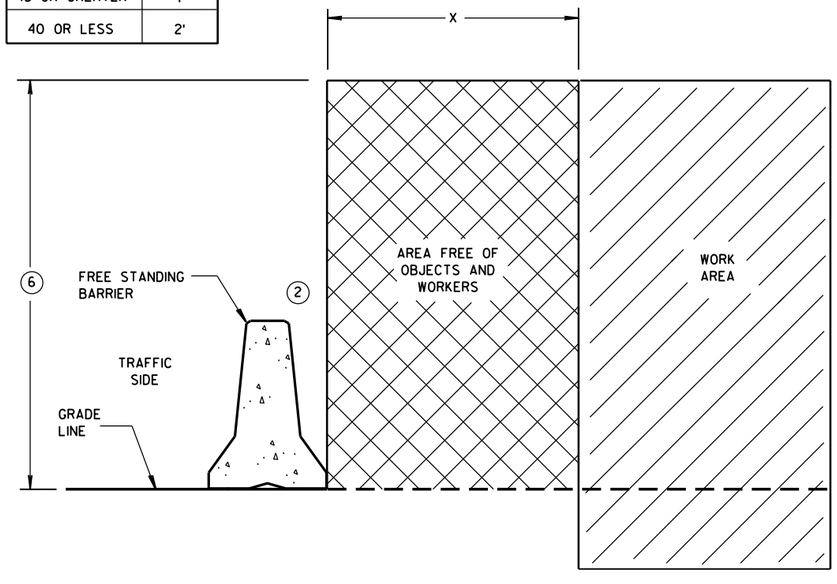


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

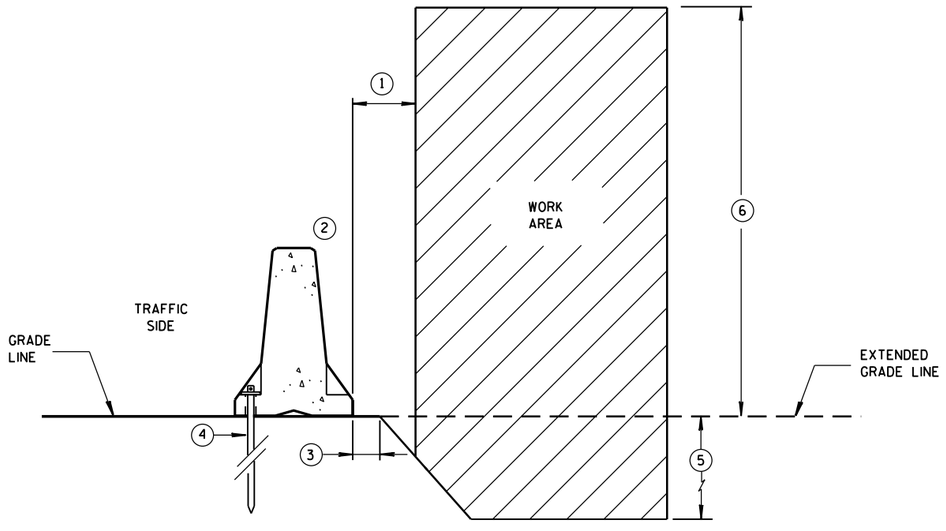
GENERAL NOTES

1. WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
2. OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
3. SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
4. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
5. DEPTH OF 3 FEET OR MORE.
6. Y = 6'-6".

POSTED SPEED MPH	X
45 OR GREATER	4'
40 OR LESS	2'



FREE STANDING BARRIER SPACE REQUIREMENTS



ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 7-15e

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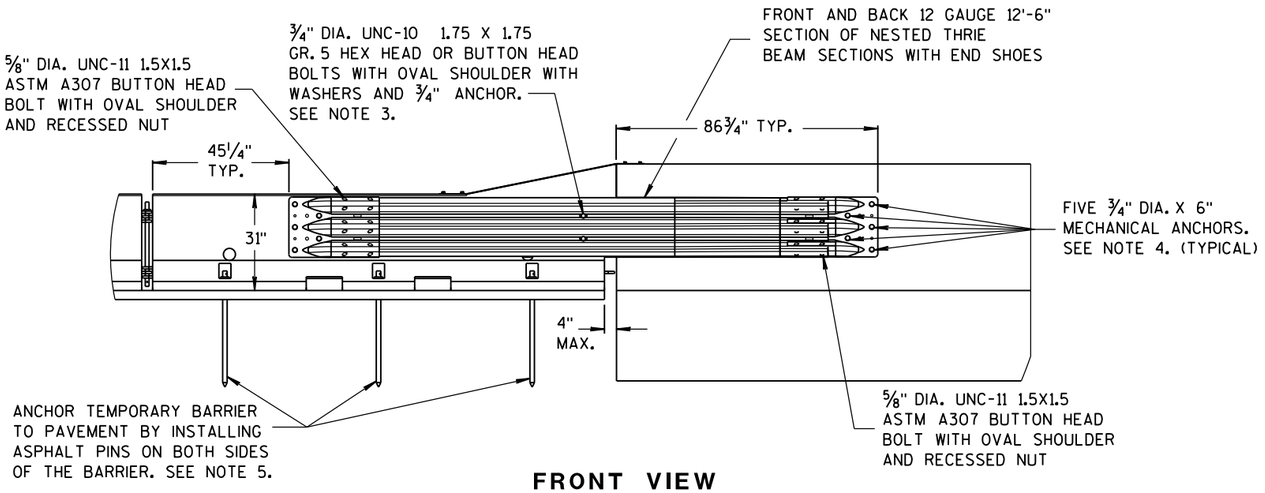
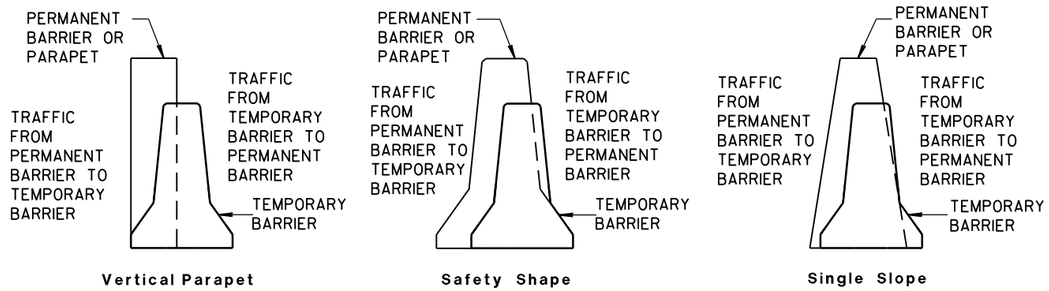
S.D.D. 14 B 7-15e



FRONT VIEW

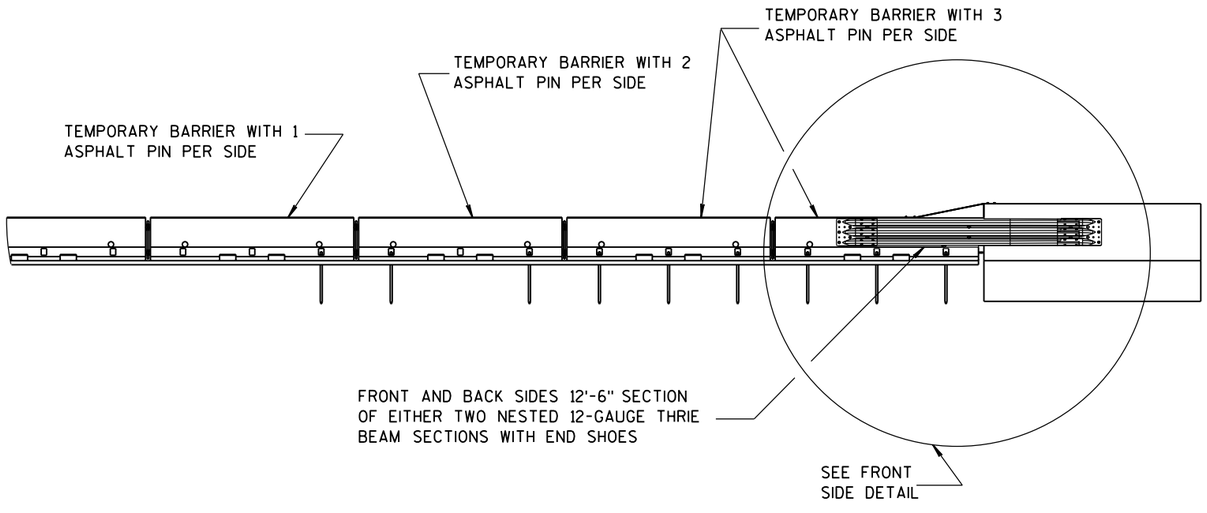


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

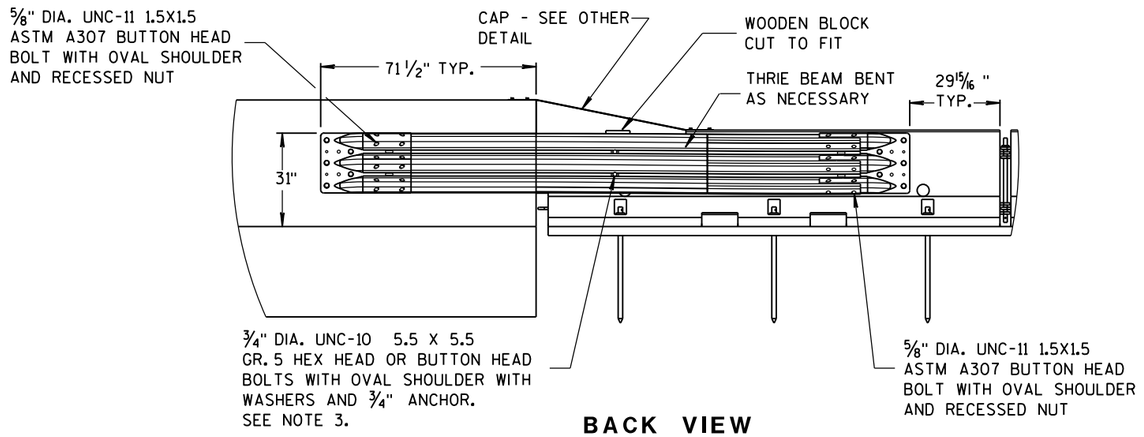
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS REGARDLESS OF TRAFFIC.

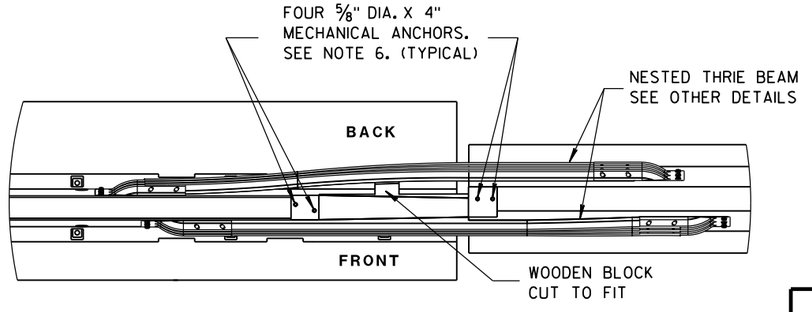
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



FRONT VIEW



BACK VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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S.D.D. 14 B 7-15f

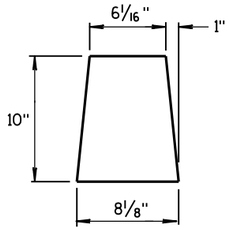
GUSSET 1

GUSSET 2

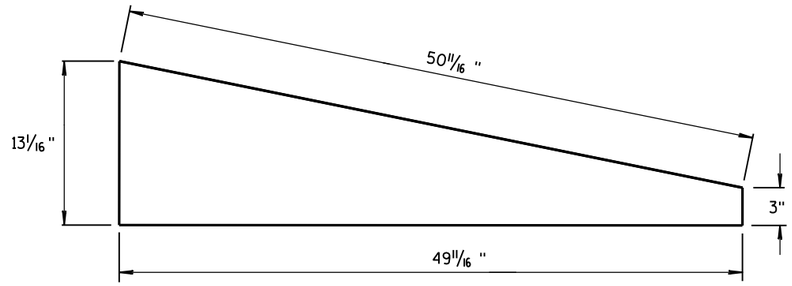
GUSSET 3

GUSSET 4

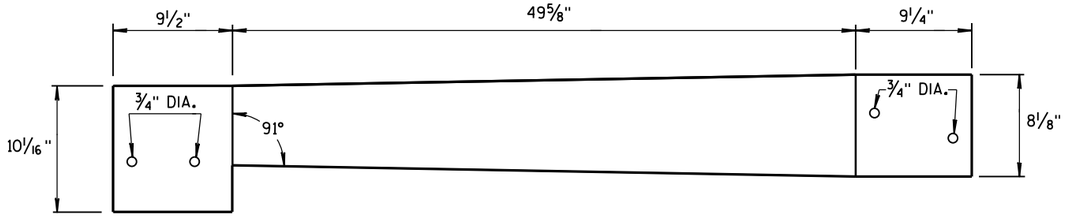
GUSSETS

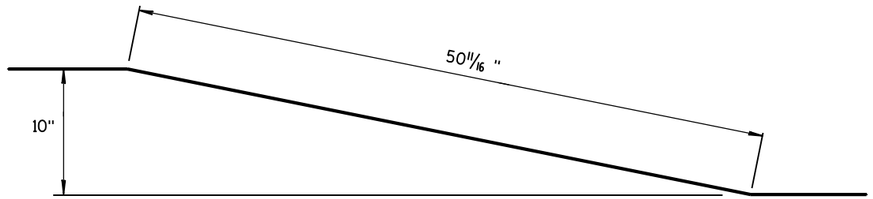


END PLATE

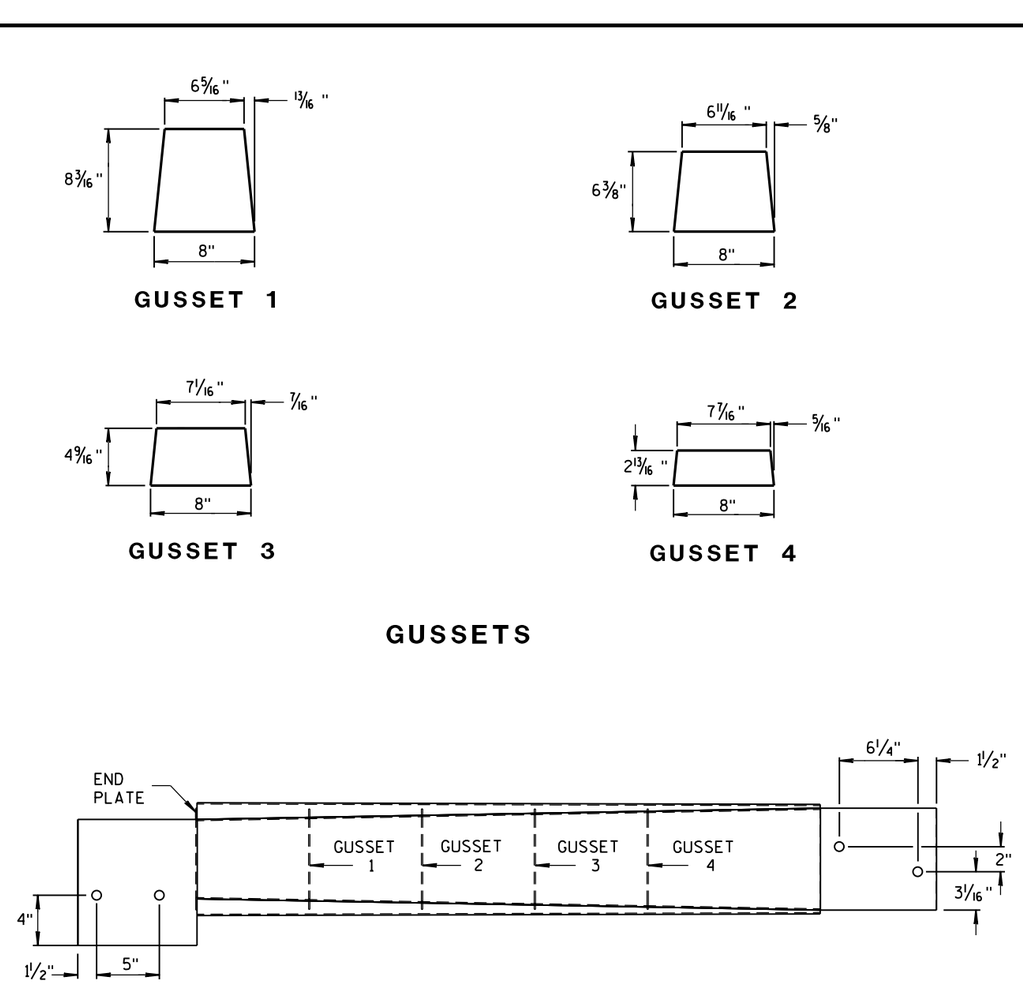


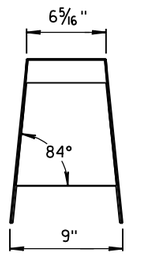
SIDE PLATE





TOP PLATE





SECTION C-C

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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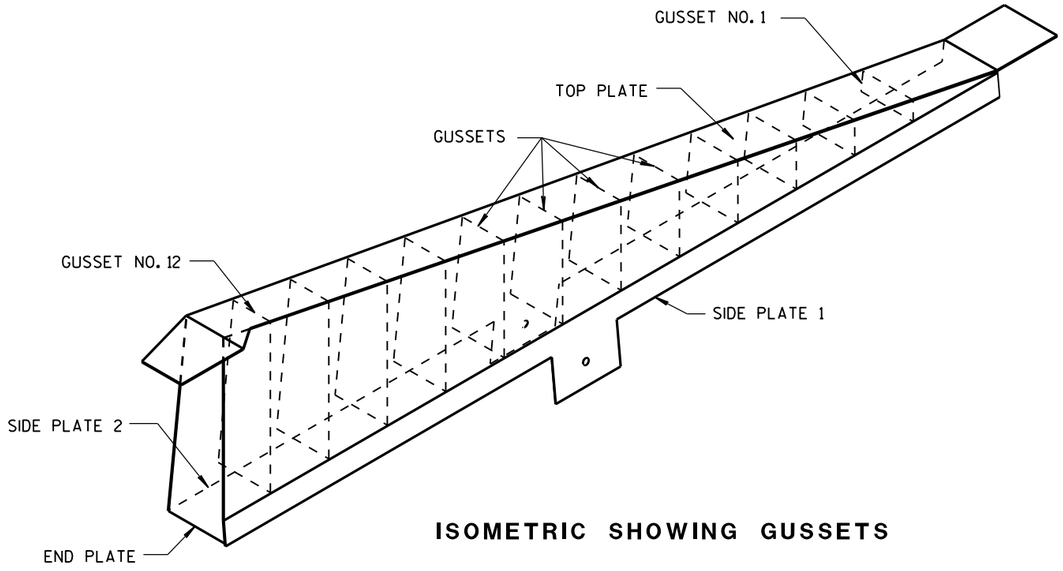
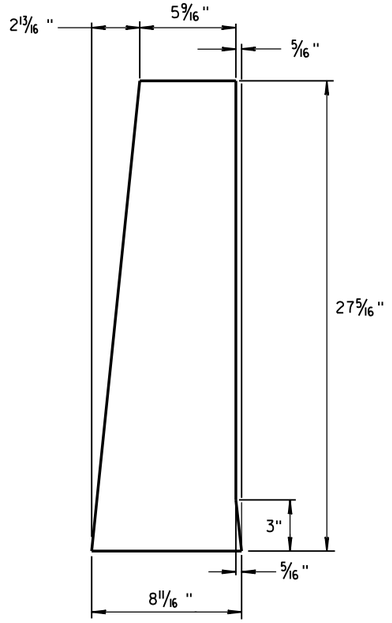
S.D.D. 14 B 7-15g

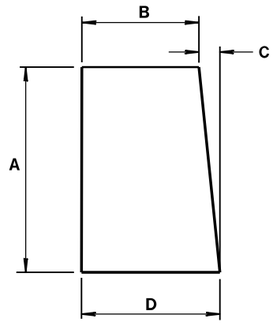


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



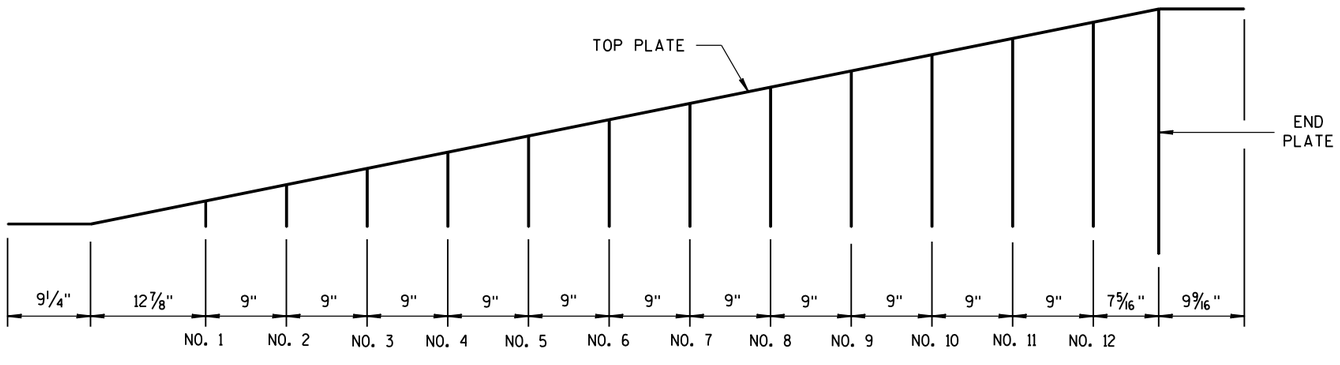
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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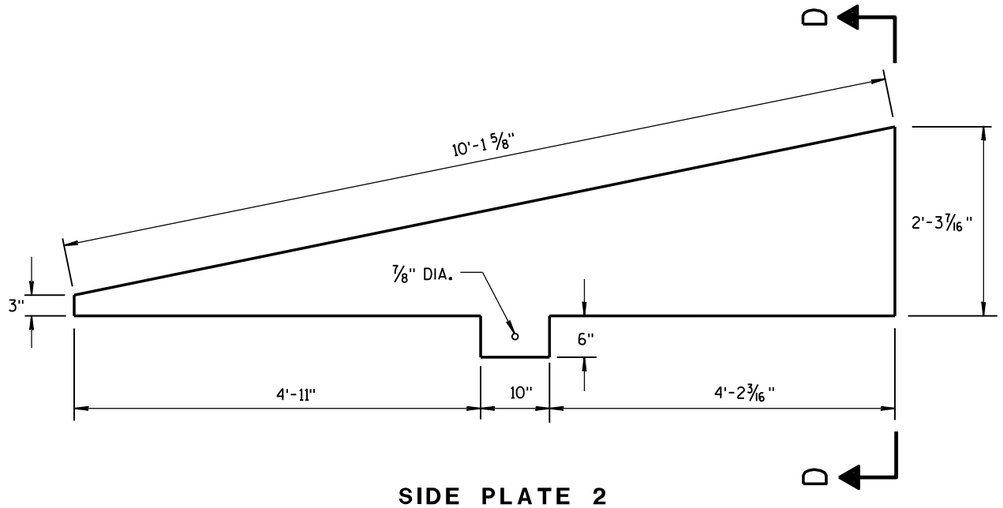
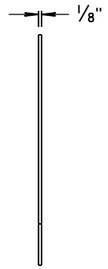
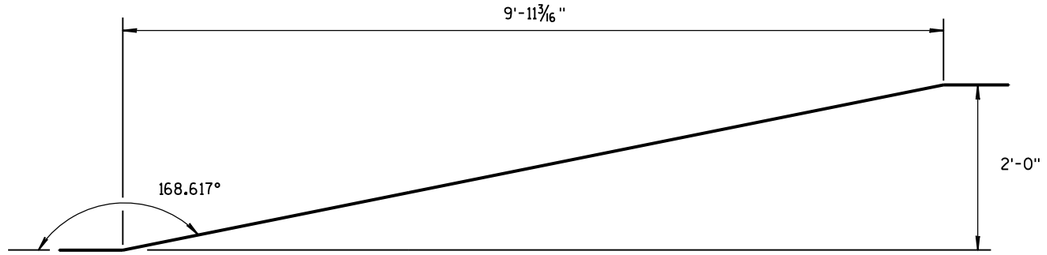
S.D.D. 14 B 7-15h



SIDE PLATE 2

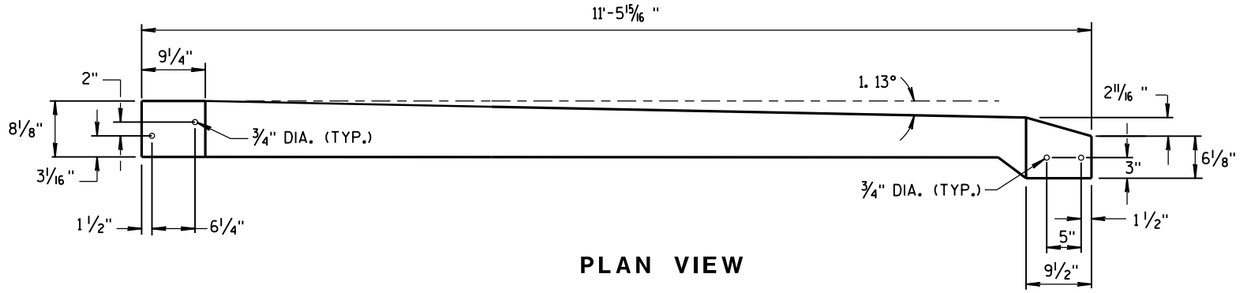


END VIEW



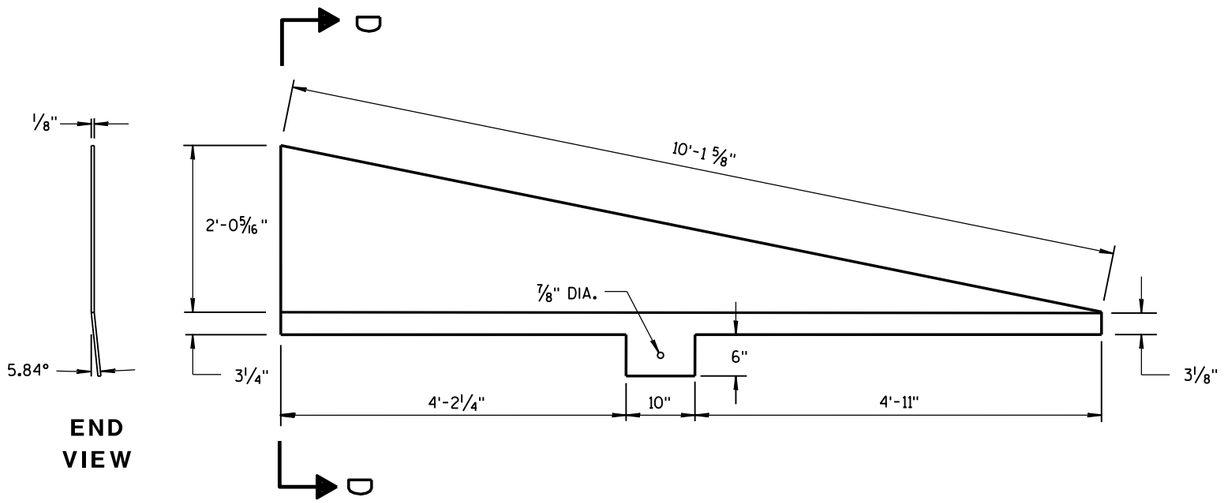
SIDE VIEW

TOP PLATE



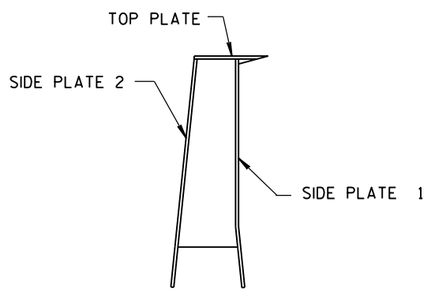
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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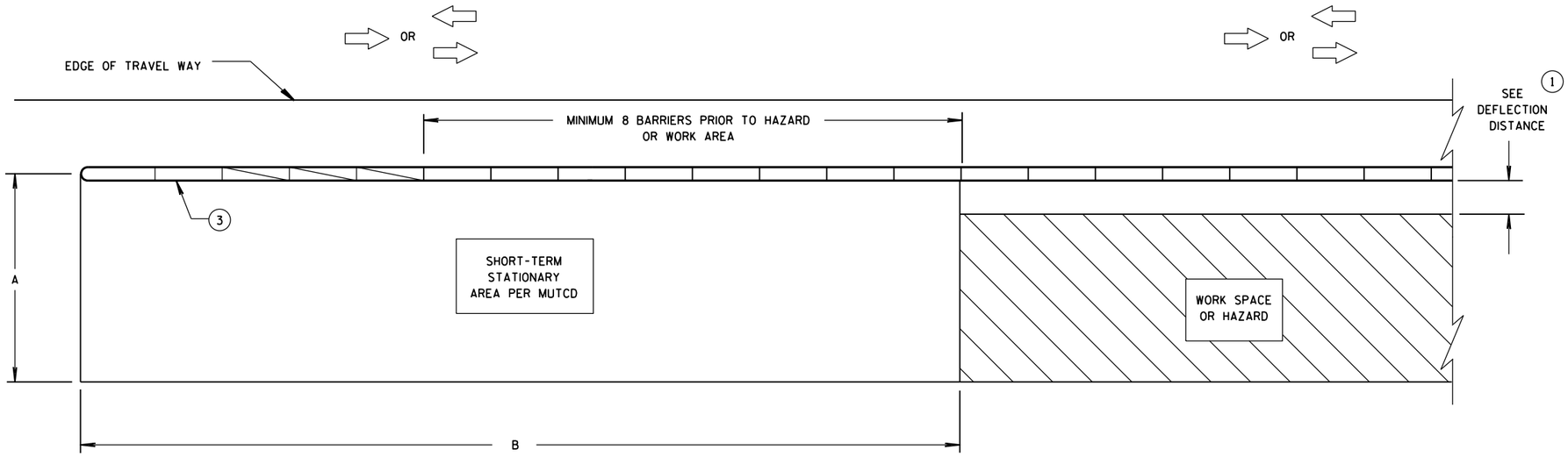
S.D.D. 14 B 7-15i



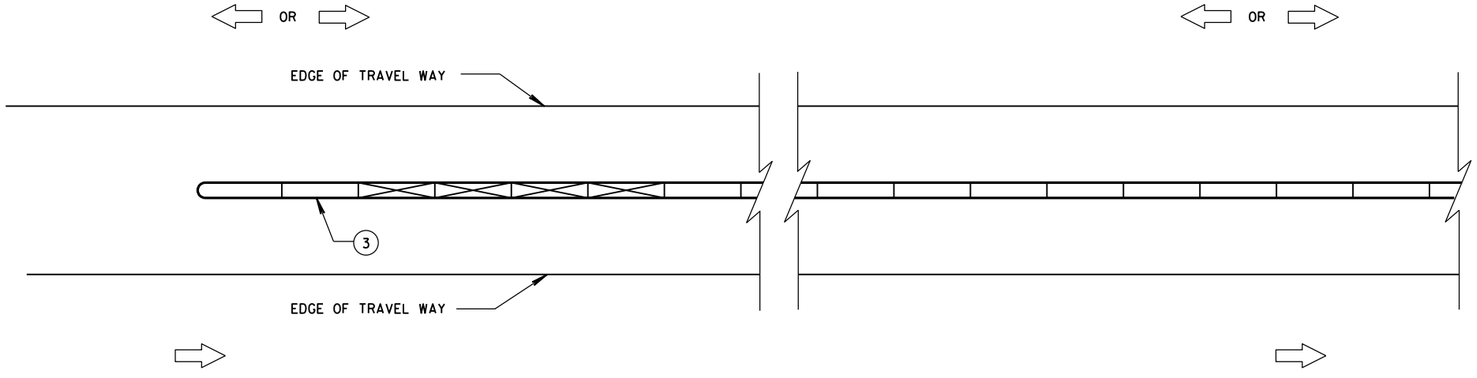
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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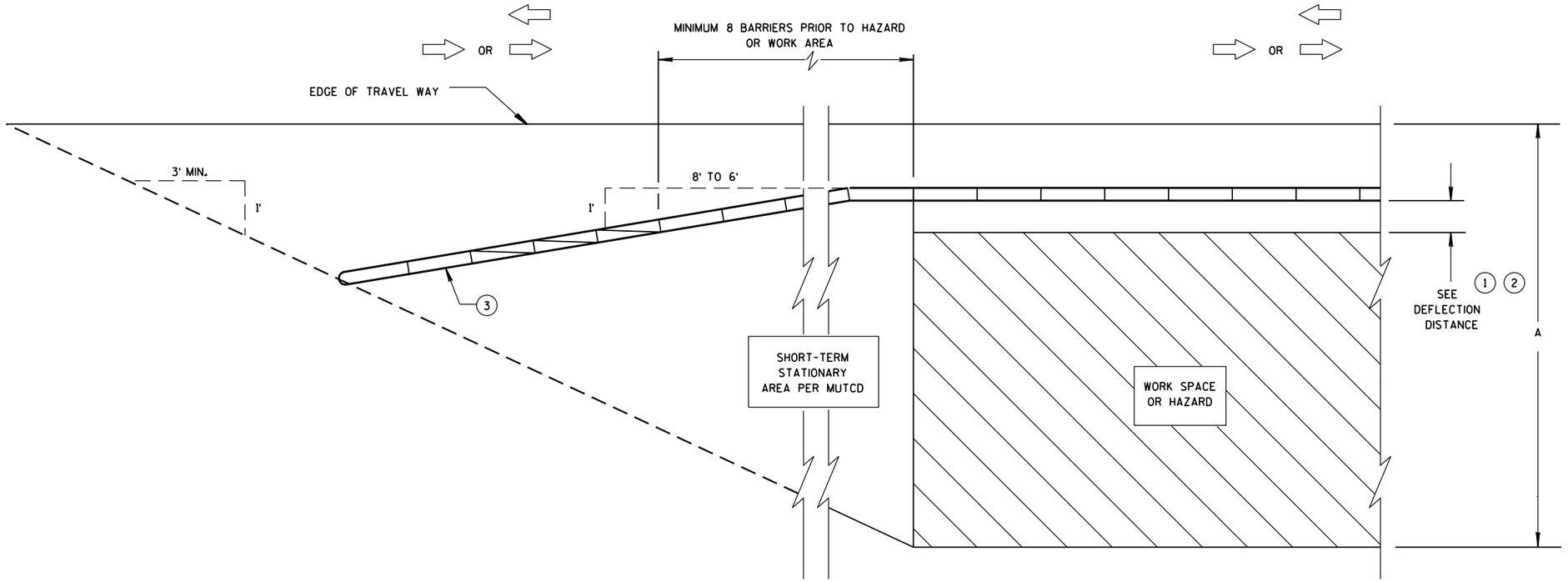
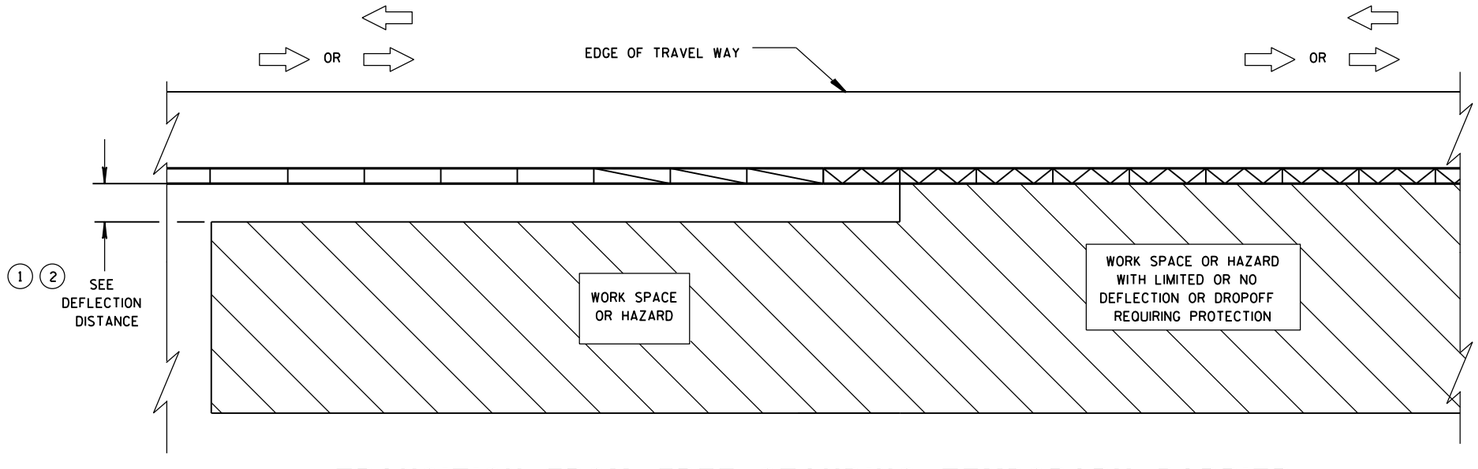
S.D.D. 14 B 8-2a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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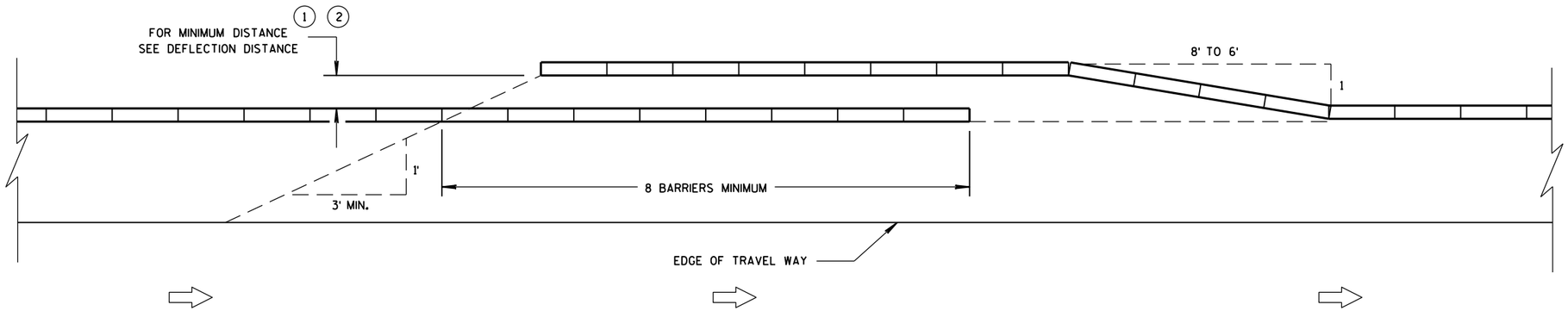
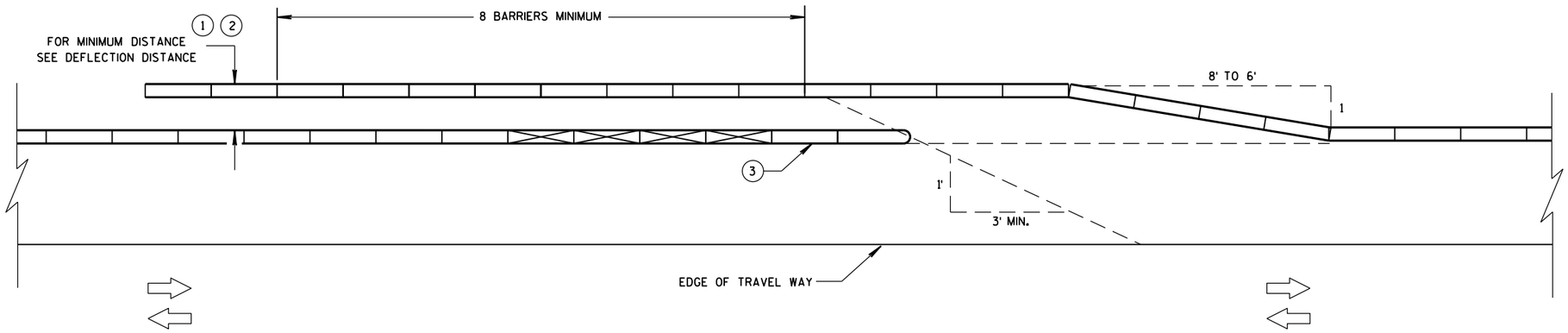
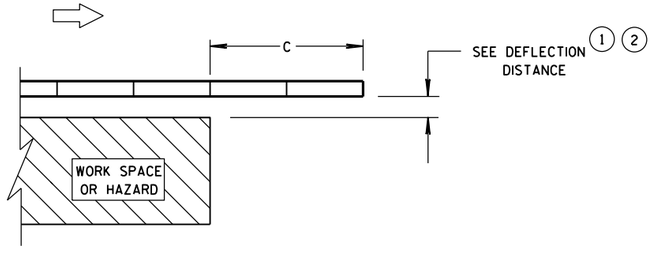


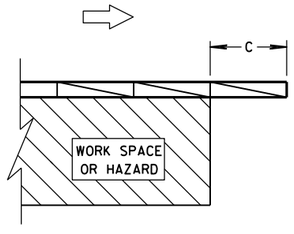
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

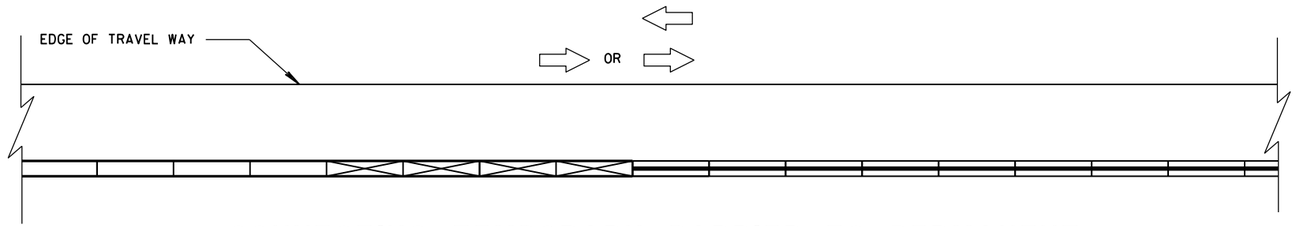
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

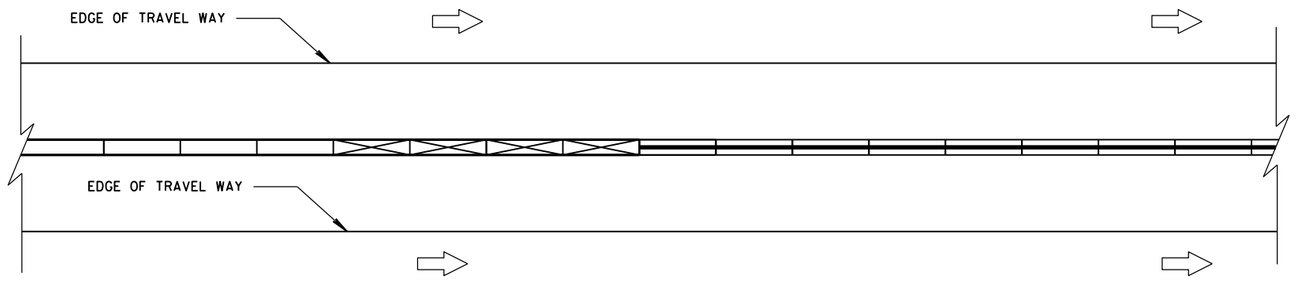
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2c



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

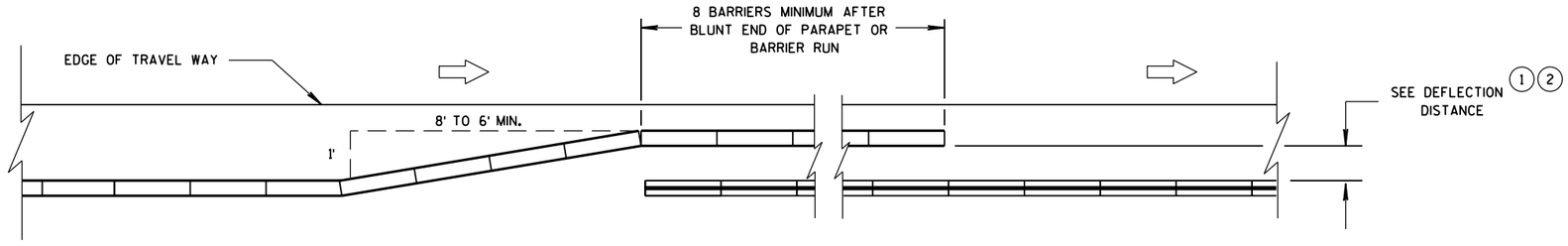
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

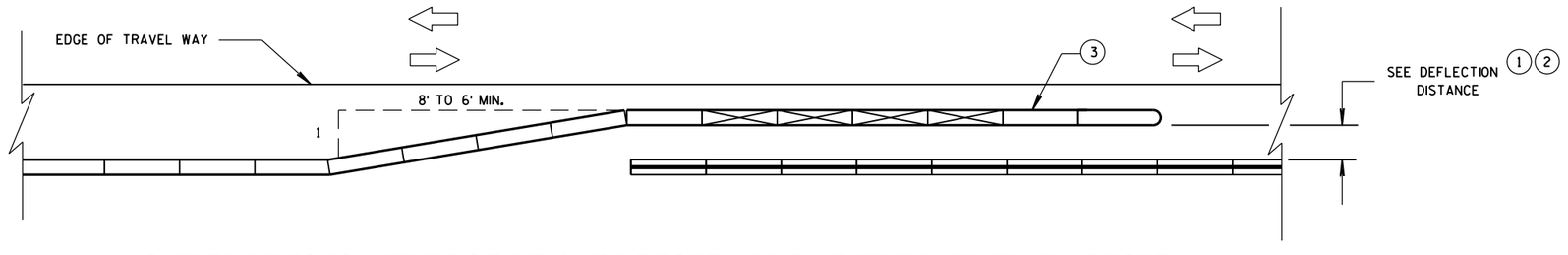
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

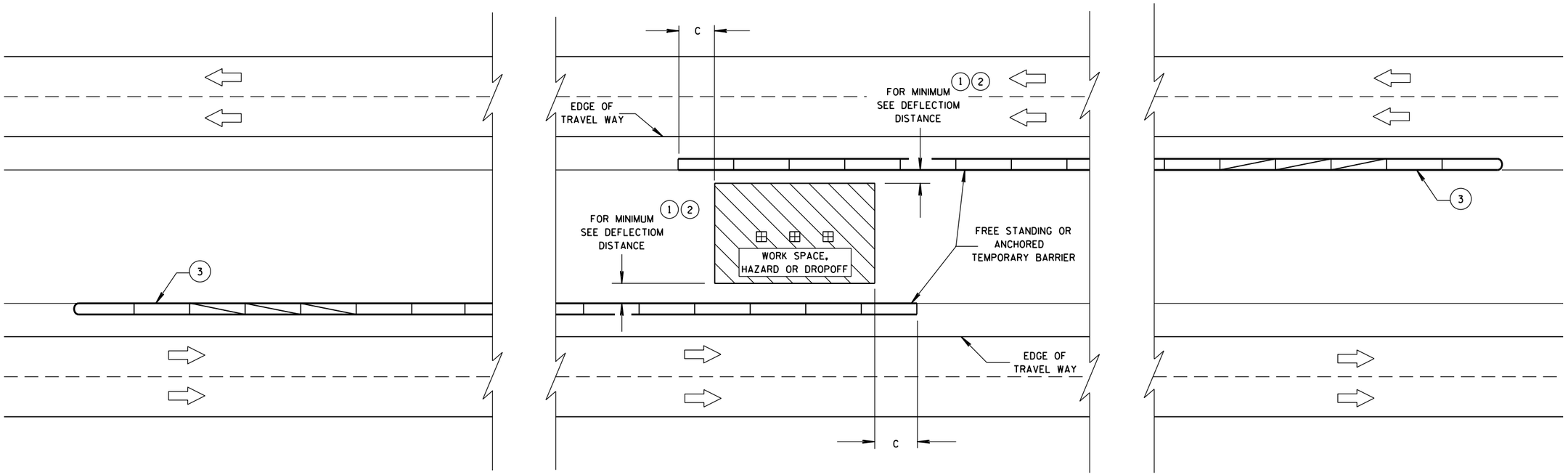
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINNER
FHWA

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S.D.D. 14 B 8-2e

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S.D.D. 14 B 8-2e

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.

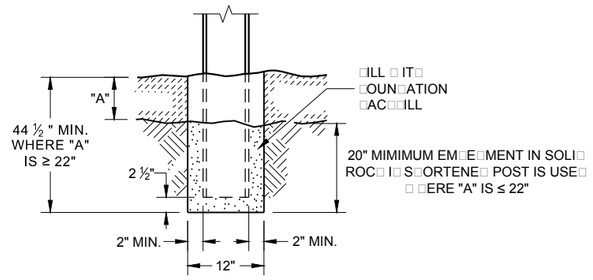
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS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

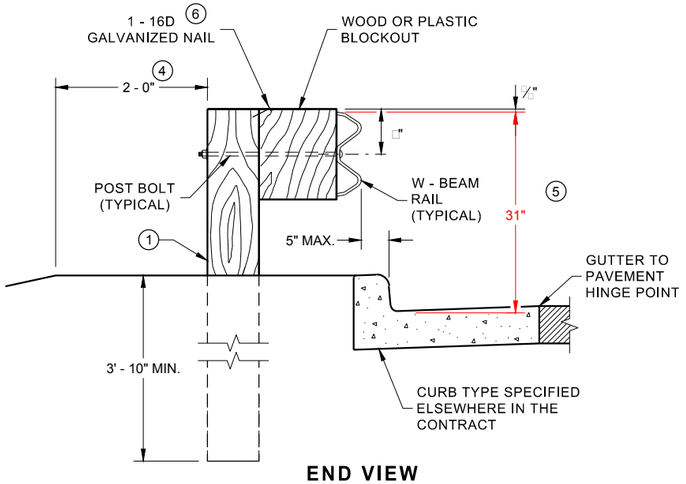
5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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.

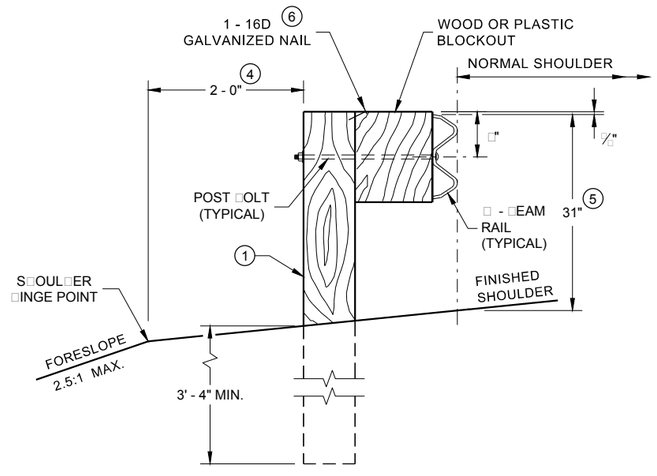
□ TOTAL POST LENGT□ □OR TYPE □ IS □' - 0".
TOTAL POST LENGT□ □OR OT□ER MGS TYPES IS 6' - 0".



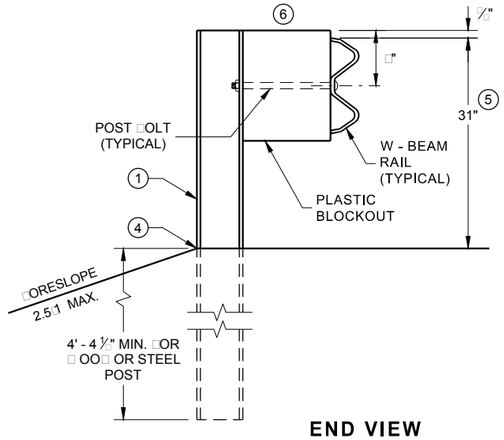
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



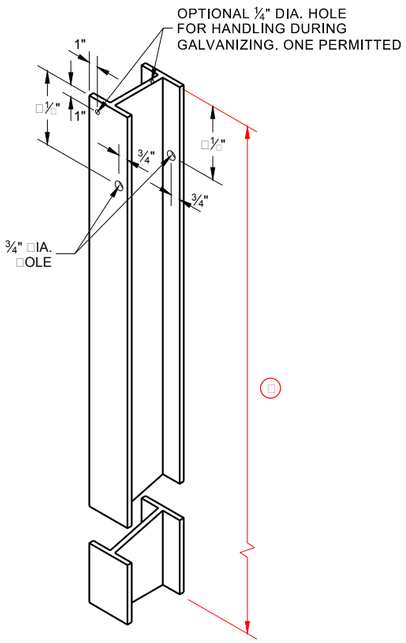
END VIEW
LOCATED ALONG A CURBED ROADWAY



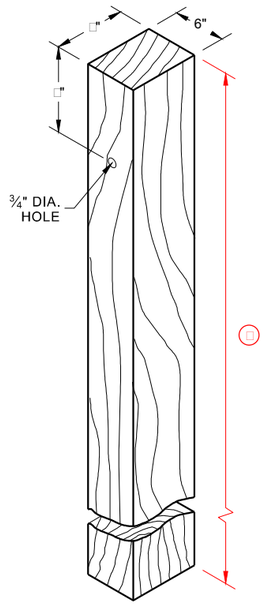
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



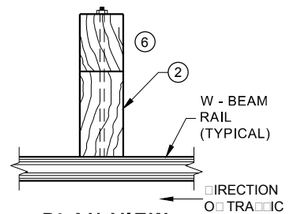
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



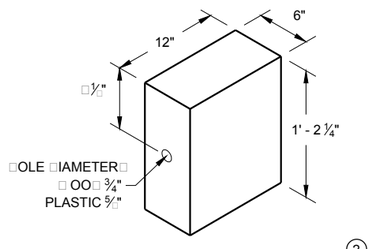
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



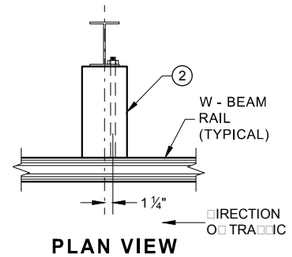
WOOD POST (6" X 8") NOMINAL (1)



PLAN VIEW WOOD POST, BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)



PLAN VIEW STEEL POST, PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE O□ □ ISCONSIN
□EPARTMENT O□ TRANSPORTA□ 61

SDD14B42 - 06a

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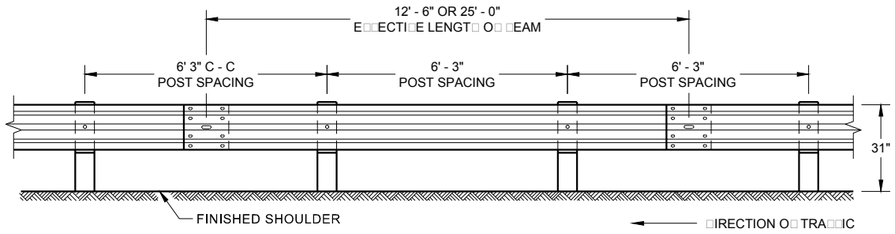
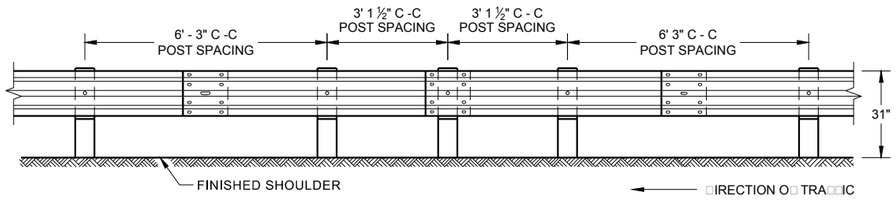
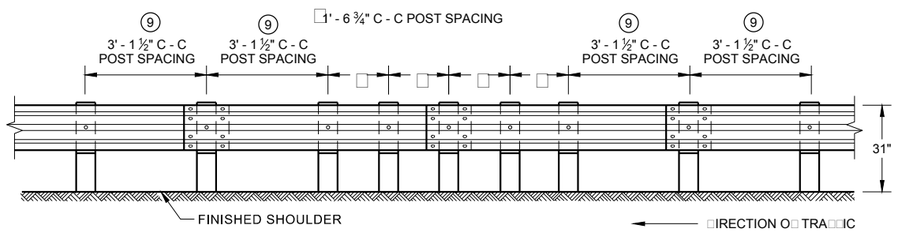


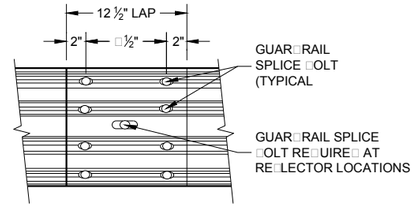
FRONT VIEW
POST SPACING STANDARD INSTALLATION



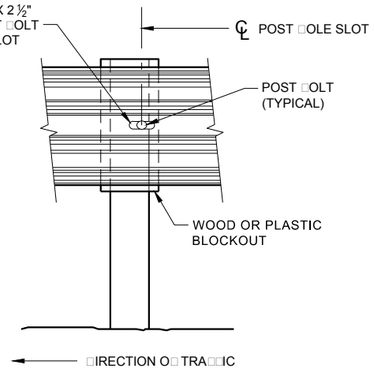
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



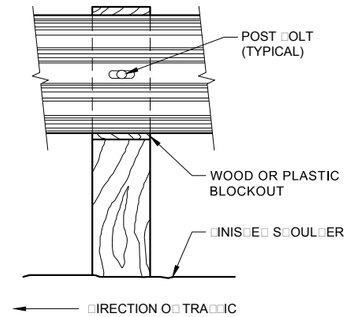
FRONT VIEW
QUARTER POST SPACING (QS)



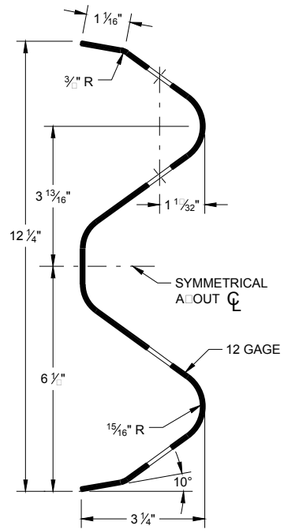
FRONT VIEW
MID-SPAN BEAM SPLICE



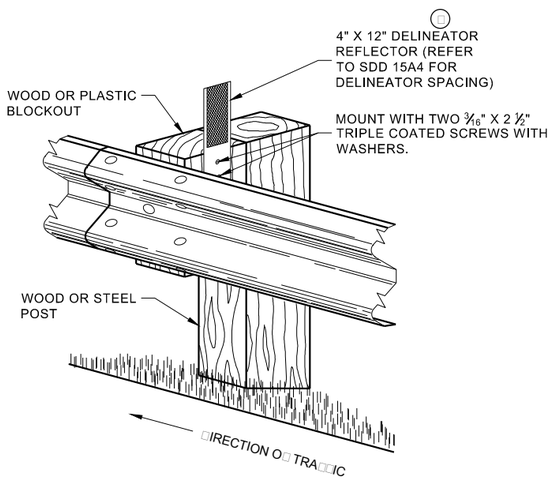
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

⑪ □O NOT INSTALL RE□LECTORS ON T□E □IRST 50 □EET O□ T□E APPROAC□ EN□ O□ T□E ENERGY A□SOR□ING TERMINAL. RAIL SPLICE LOCATIONS ARE T□E ONLY ACCEPTA□LE LOCATIONS □OR RE□LECTORS.

⑨ 25 □EET O□ □AL□ POST SPACING IS RE□UIRE□ ON APPROAC□ AN□ □EPARTURE EN□S O□ □UARTER 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" □IAMETER □□44 □LAT □ AS□ER. POST □OLTS MAY □E LONGER I□ MULTIPLE □LOC□OUTS ARE □EING USE□.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSE□ (□R) □EA□Y □EX NUT.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE O□ □ ISCONSIN
□EPARTMENT O□ TRANSPORTA□

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SDD 14B42 - 06b

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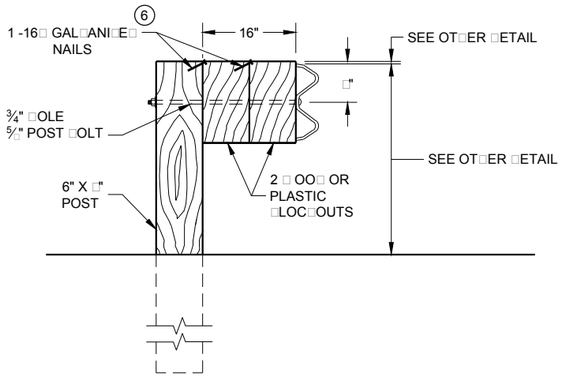
SDD 14B42 - 06b

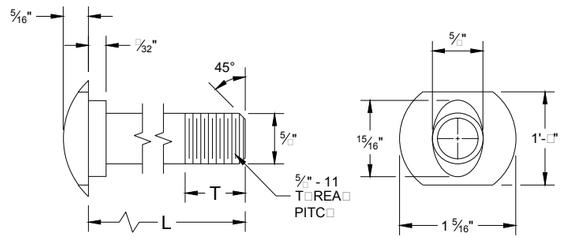


DETAIL FOR 16" BLOCKOUT DEPTH

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

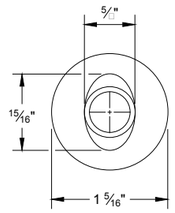
NOTE:

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

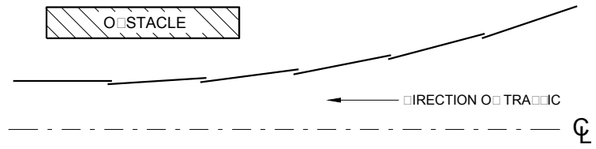


POST BOLT TABLE

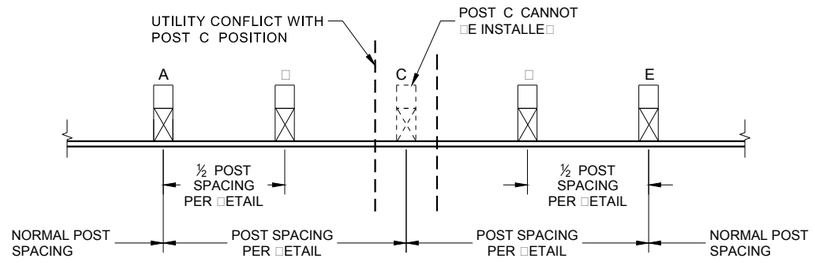
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
1□"	4"
21"	4 1/16"
25"	4"



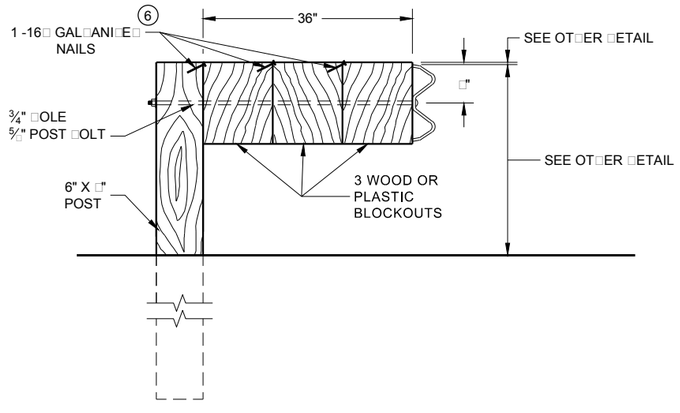
ALTERNATE BOLT HEAD



PLAN VIEW
BEAM LAPPING DETAIL



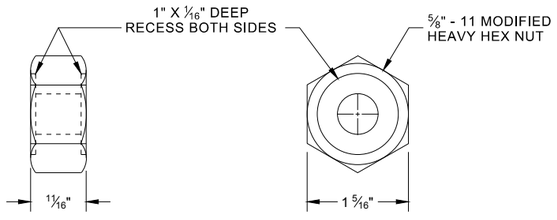
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



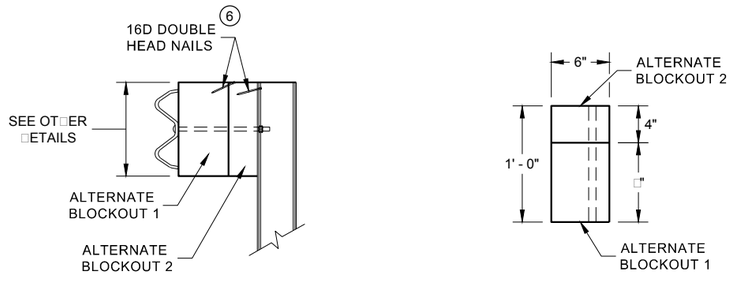
DETAIL FOR 36" BLOCKOUT DEPTH

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.



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW

PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

⑥ □ □EN USING STEEL POST A□ □ OO□ □LOC□OUTS□INSTALL □OUR 16□ GAL□ANI□E□ NAILS. INSTALL NAILS AT T□E □AC□ CORNERS O□ T□E □LOC□ AN□ □EN□ T□E NAILS O□ER T□E □LANGE O□ T□E STEEL POST.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE O□ □ ISCONSIN
□EPARTMENT O□ TRANSPORTA┐63

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SDD 14B42 - 06c

SDD 14B42 - 06c

GENERAL NOTES

(A) T□E SLOPE IN T□E AREA □OUN□E□ □Y T□E GRA□ELINE□T□E □INGE POINT LINE (□PL) AN□ T□E CLEAR □ONE LIMITS (C□L) S□ALL □E 4□1 OR □LATTER.

(□) A□TER □INAL ASSEM□LY□REC□EC□ CA□LE TO □E SURE IT IS TAUT AN□ □AS NOT RELAXE□

(C) □I□□ERENT MANU□ACTURERS RE□UIRE □I□□ERENT PER□ORATE□ □ - □EAM RAIL EN□ PANELS. SEE MANU□ACTURER'S IN□ORMATION.

(□) ATTAC□ ALUMINUM S□EET TO E.A.T. □EA□ USING 4 STAINLESS STEEL SEL□ - TAPPING SCRE□ S. ONE SCRE□ PER CORNER.

(E) □AR□□ ARE MAY □ARY □ET□ EEN MANU□ACTURER. SEE MANU□ACTURER'S □RA□ ING □OR IN□ORMATION.

□IMENSIONS MAY □ARY□MANU□ACTURER'S IN□ORMATION.

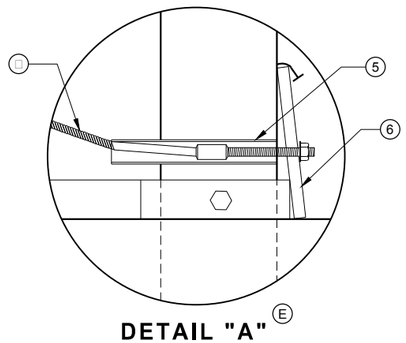
SEE S□□ 14□42 □OR MORE IN□ORMATION.

□O NOT ATTAC□ □LOC□OUTS TO POST 1 AN□ 2.

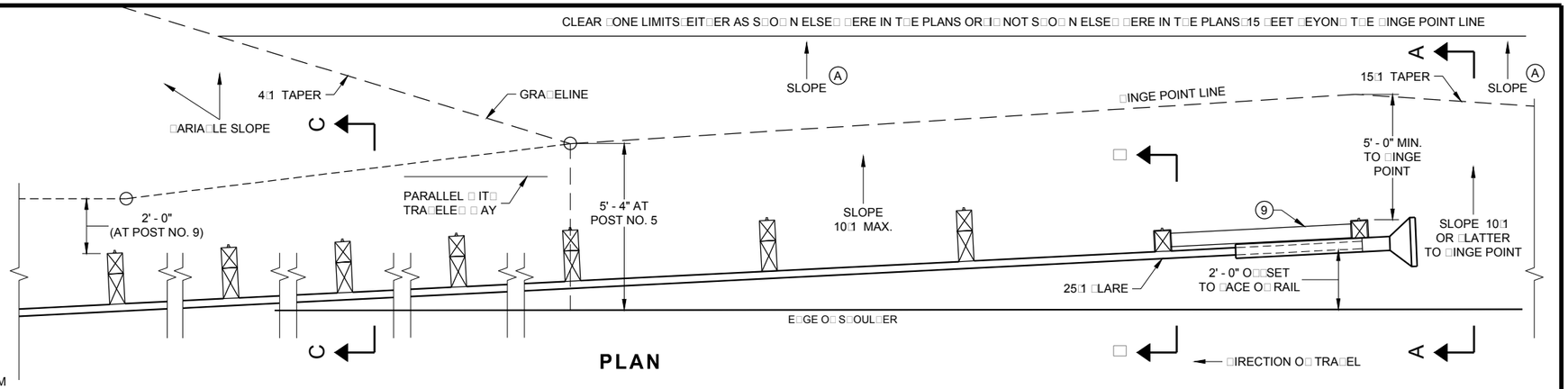
□O NOT INSTALL RE□LECTORS ON T□E □IRST 50 □EET O□ T□E APPROAC□ EN□ O□ T□E ENERGY A□SOR□ING TERMINAL.

SEE MANU□ACTURER'S □RA□ ING □OR SPLICE LOCATION□□AR□□ ARE □IMENSIONS AN□ INSTALLATION INSTRUCTIONS.

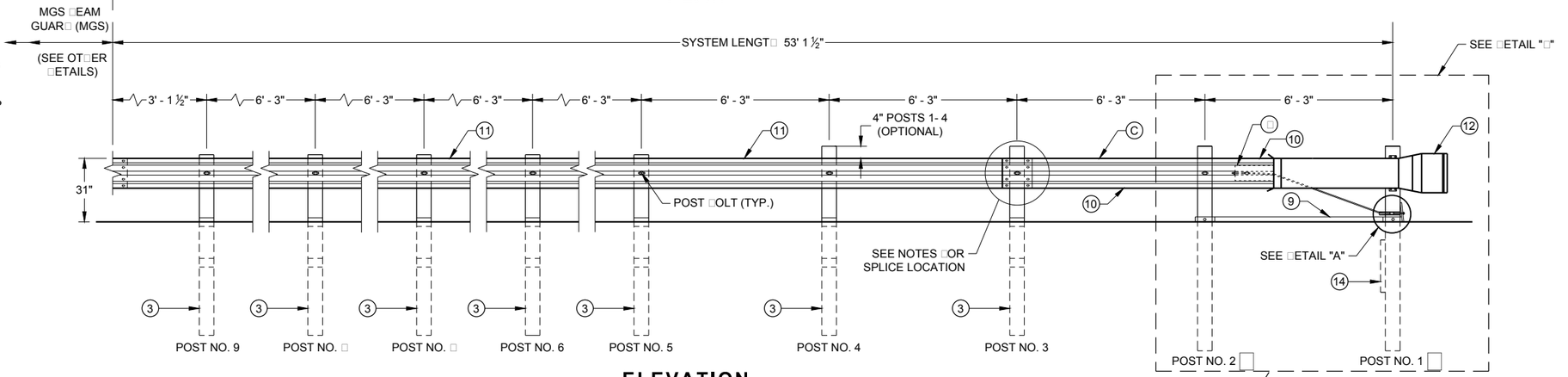
T□E CENTER O□ T□E UPPER 3 ½" □IAMETER □OLE ON POST NUM□ER 3 T□ROUG□ POST 9 IS TO □E □LUS□ □ IT□ T□E GROUN□ LINE UP TO A MAXIMUM O□ 2" A□O□E GROUN□ LINE. □ OO□ □LOC□S ON POSTS NUM□ERE□ 3 T□ROUG□ 9 MAY □E A□□USTE□ UP TO 3" A□O□E T□E TOP O□ POST.



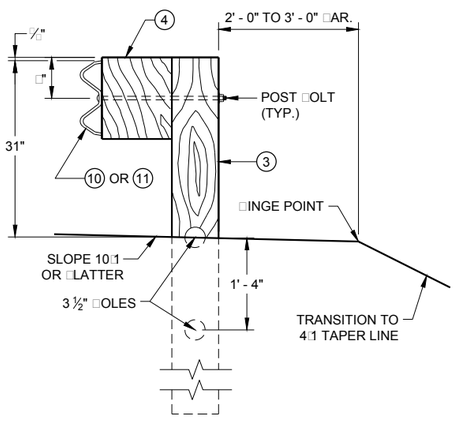
DETAIL "A" (E)



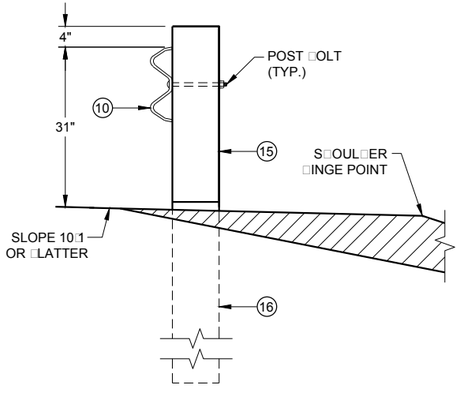
PLAN



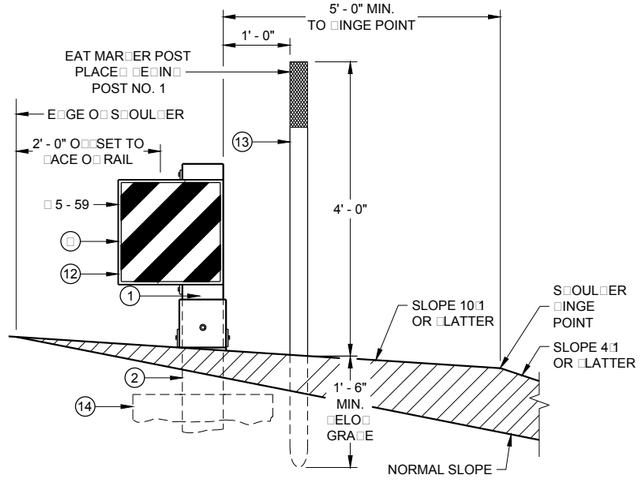
ELEVATION



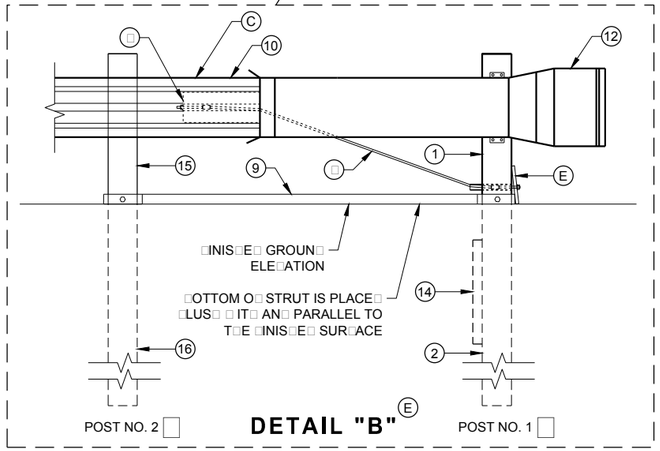
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



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 O□ □ ISCONSIN
□EPARTMENT O□ TRANSPORTA□ 64

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SDD 14B44 - 04a

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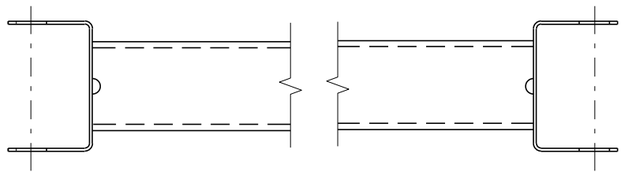
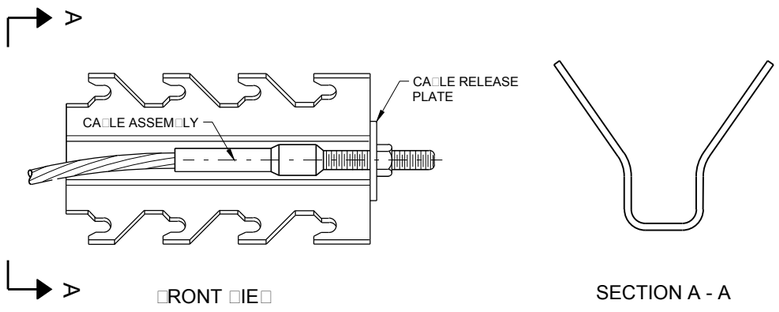
SDD 14B44 - 04a

BILL OF MATERIALS

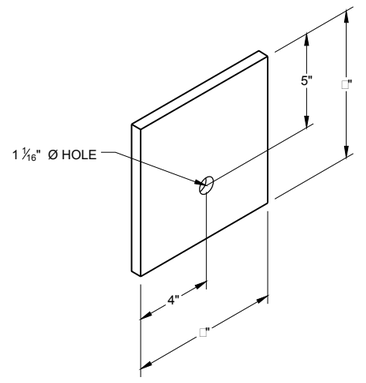
PART NO.	□ESCRIPTION MATERIALS PRO□□E□ □Y MGS EAT MANU□ACTURER. SEE MANUGACTURER'S □ETAILS □OR MORE IN□ORMATION.
①	UPPER POST NO. 1 6" X 6" TU□E
②	LO□ ER POST NO. 1
③	□ OO□ CRT
④	□ OO□ □LOC□OUT
⑤	PIPE SLEE□E
⑥	□EARING PLATE
⑦	□CT CA□LE ASSEM□LY
⑧	ANC□OR CA□LE □OX
⑨	GROUN□ STRUT
⑩	PER□ORATE□ □ -□EAM RAIL EN□ PANEL□12'-6" LONG.
⑪	STAN□AR□ □ -□EAM RAIL. MULTIPLE SECTIONS RE□UIRE□. SECTIONS □ARY IN LENGT□.
⑫	IMPACT □EA□
⑬	EAT MAR□ER POST - YELLO□ (SEE APPRO□E□ PRO□UCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LO□ ER POST NO. 2



GENERIC GROUND STRUT ⑨Ⓔ



GENERIC ANCHOR CABLE BOX ⑨Ⓔ



BEARING PLATE ⑥Ⓔ

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

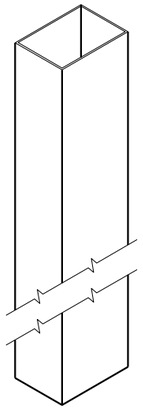
STATE O□ □ ISCONSIN
□EPARTMENT O□ TRANSPORTA1 65

6

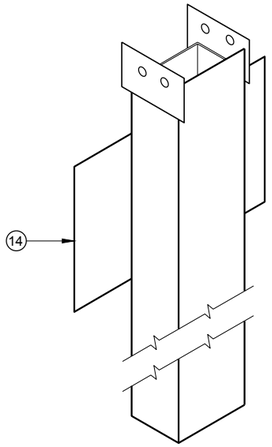
SDD 14B45 - 04b

6

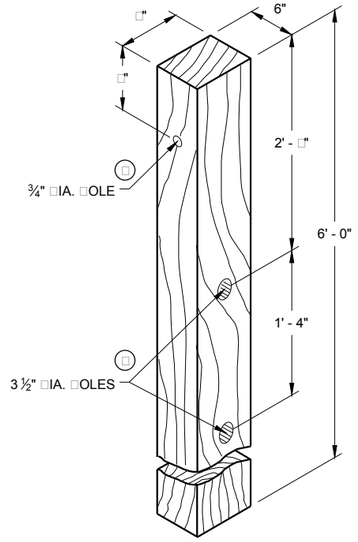
SDD 14B45 - 04b



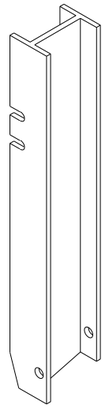
UPPER POST NO. 1 (1) (E)



LOWER POST NO. 1 (2) (E)



WOOD CRT POST (3) (E)
POSTS NUM□ER 3-9



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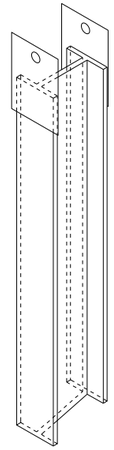

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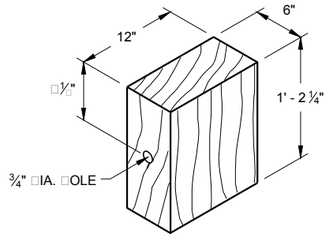
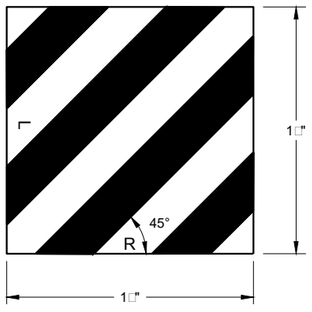
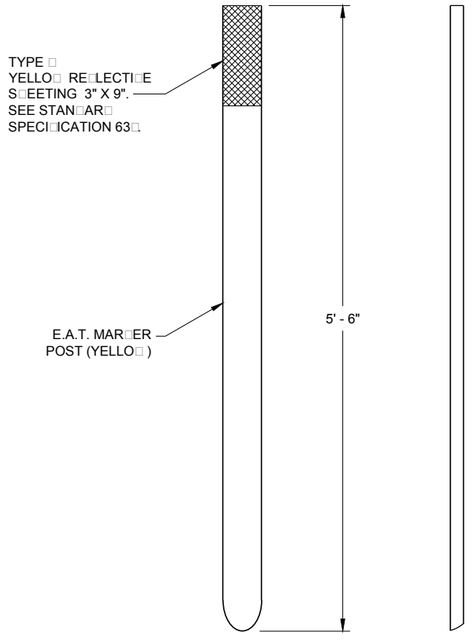


WOOD BLOCKOUT (4)
RE□'□. AT ALL POSTS EXCEPT POST NO'S 1 □ 2



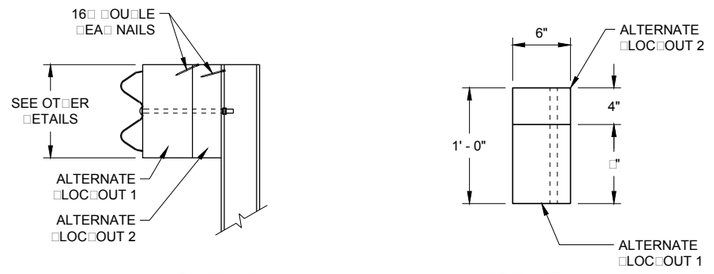
□ 5 - 59

REFLECTIVE SHEETING DETAIL (E)



□RONT □IE□ SI□E □IE□

E.A.T. MARKER POST (13)



SI□E □IE□ TOP □IE□

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE O□ □ ISCONSIN
□EPARTMENT O□ TRANSPORTATION

APPRO□E□
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|S□ R□d□□□T□□□r
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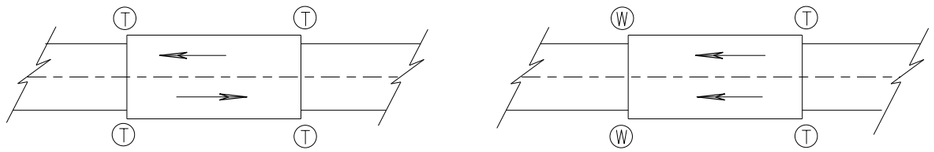
SDD 14B44 - 04c

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

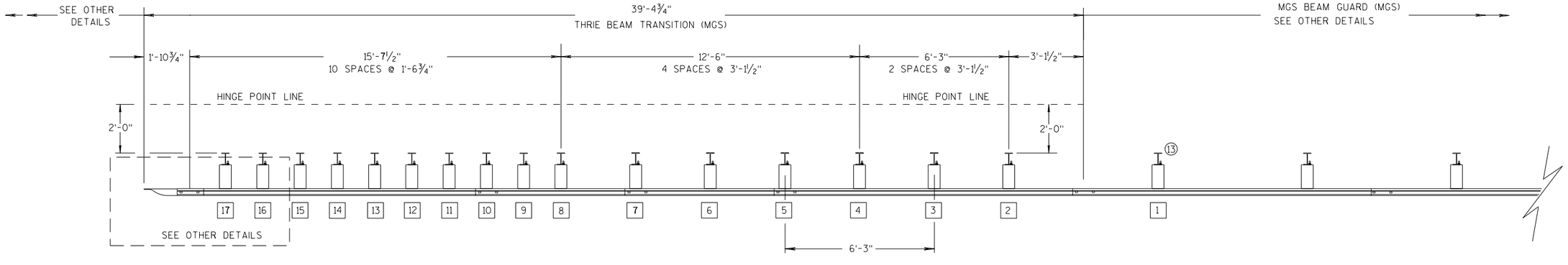
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

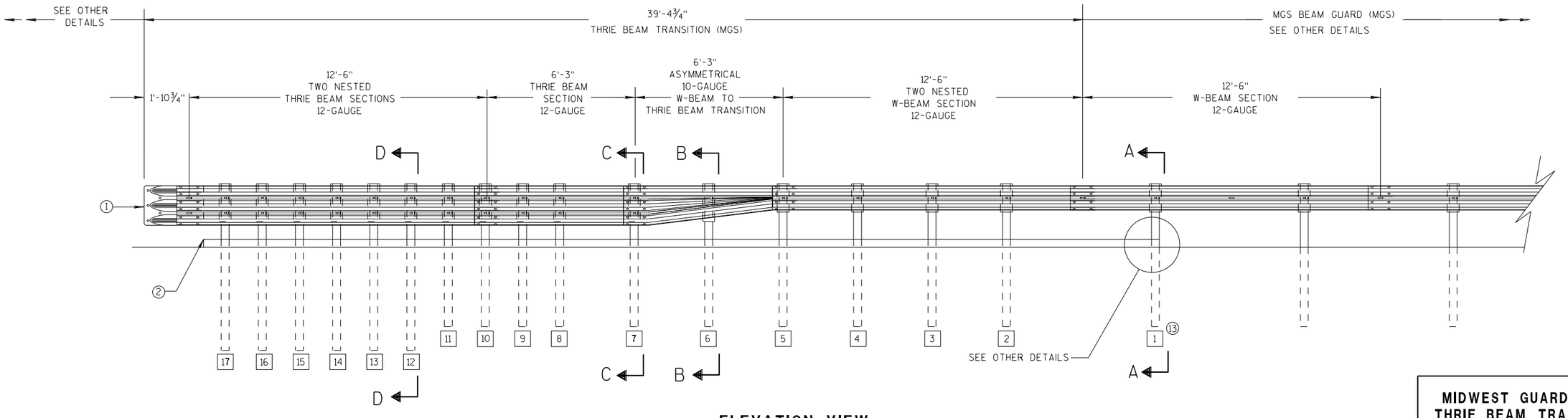
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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

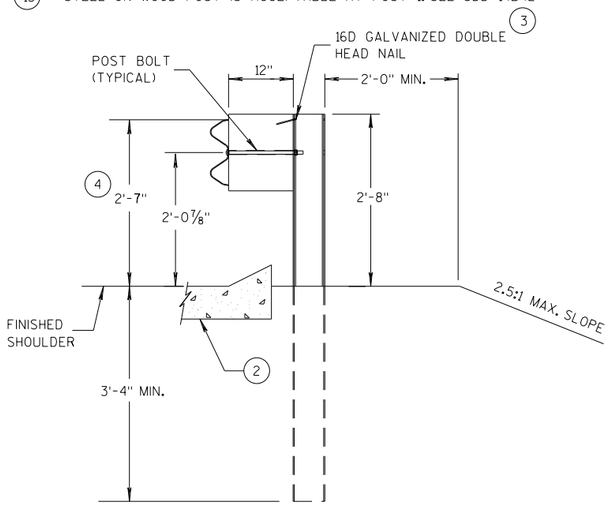
GENERAL NOTES

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

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

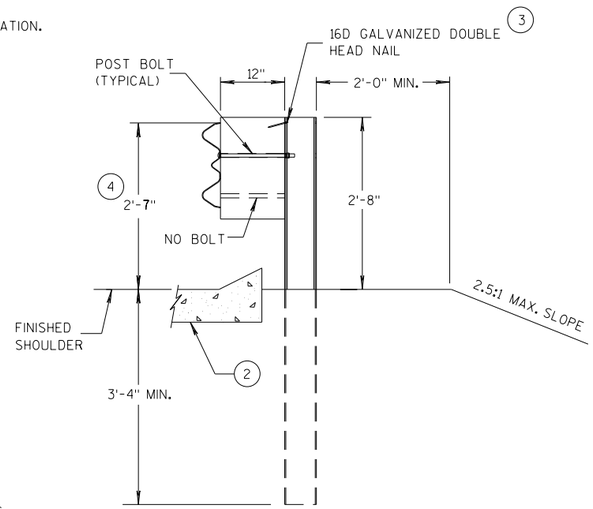
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



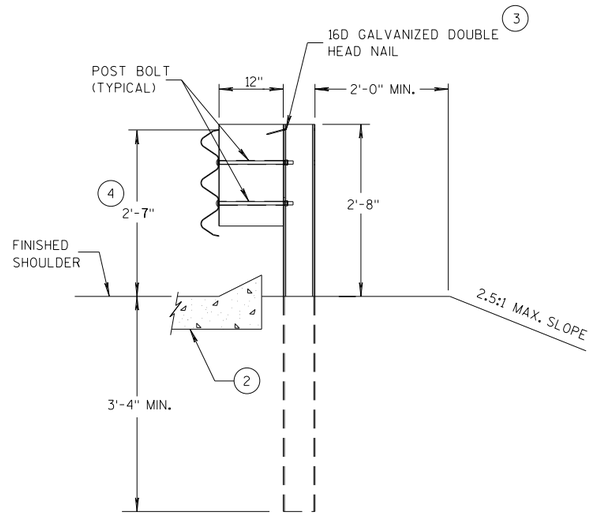
SECTION A-A (13)

POSTS 1-5



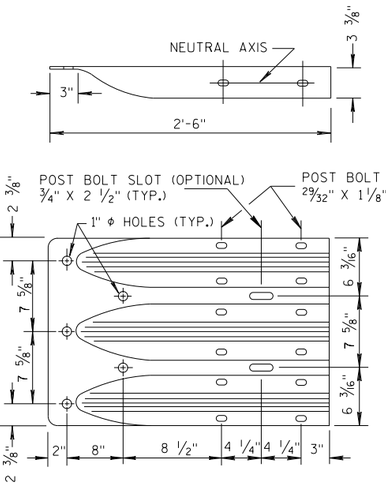
SECTION B-B

POST 6

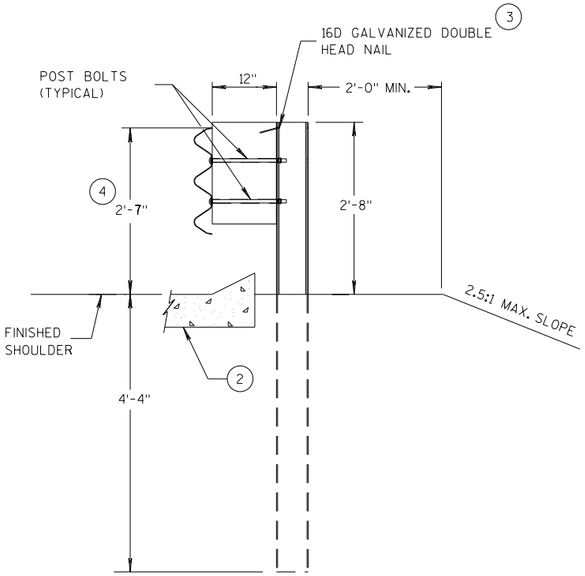


SECTION C-C

POSTS 7-11

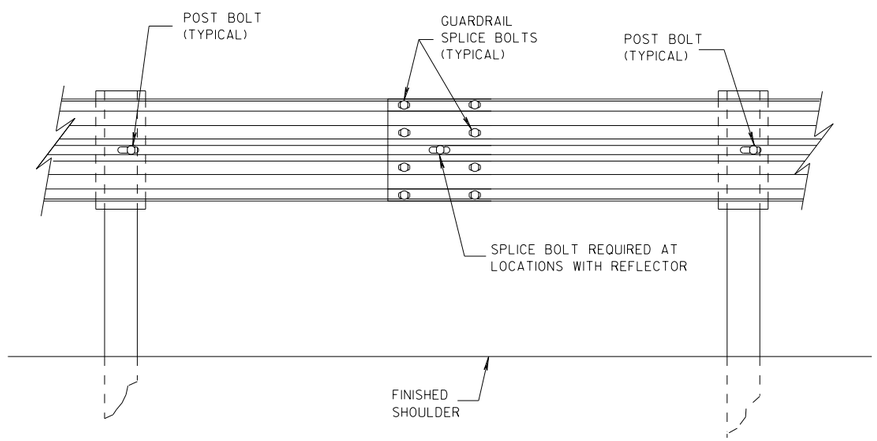


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

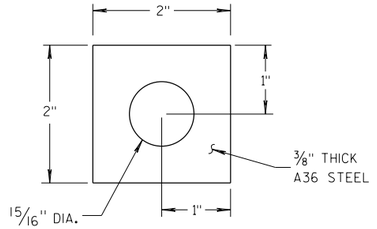
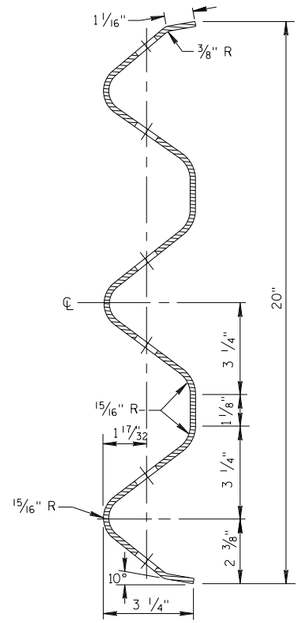


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

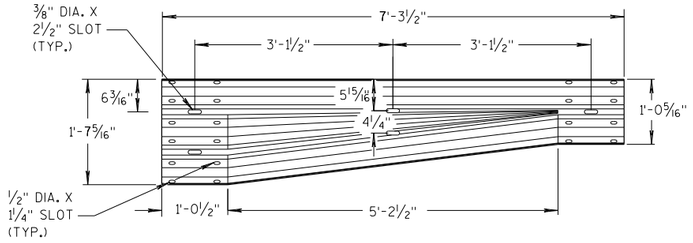
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 68

6

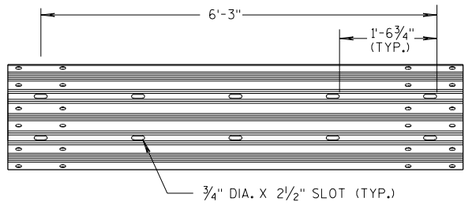
S.D.D. 14 B 45-5b

6

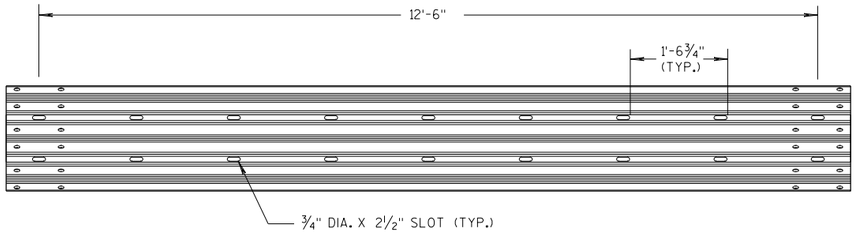
S.D.D. 14 B 45-5b



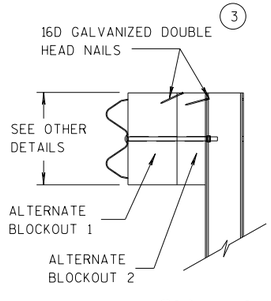
W-BEAM TO THRIE BEAM TRANSITION SECTION



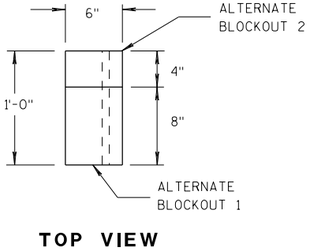
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

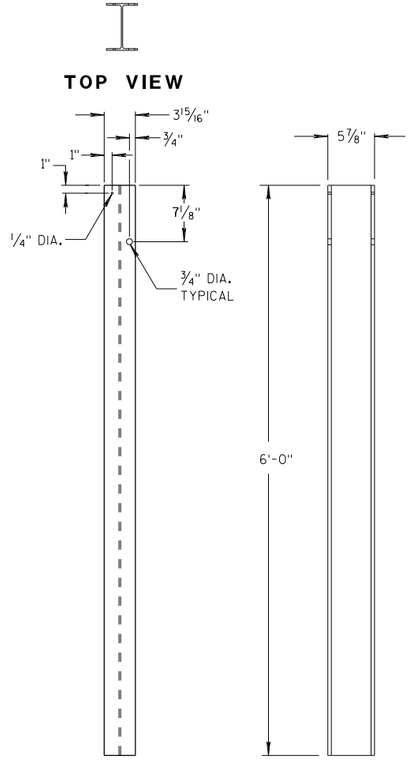


SIDE VIEW



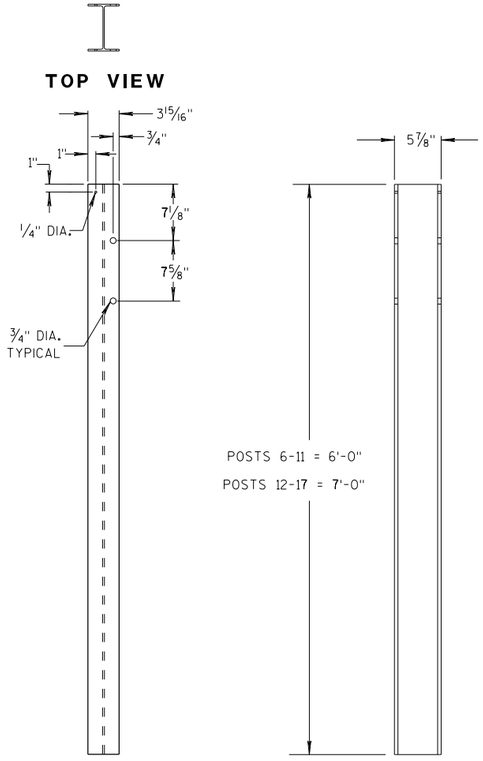
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



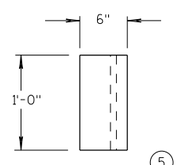
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

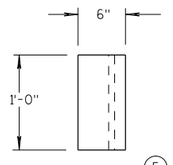


FRONT VIEW SIDE VIEW

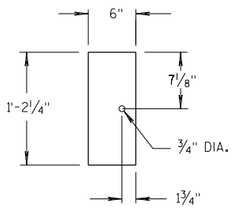
STEEL POSTS 6-17



TOP VIEW (5)

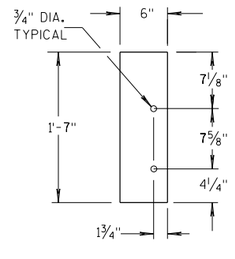


TOP VIEW (5)



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.

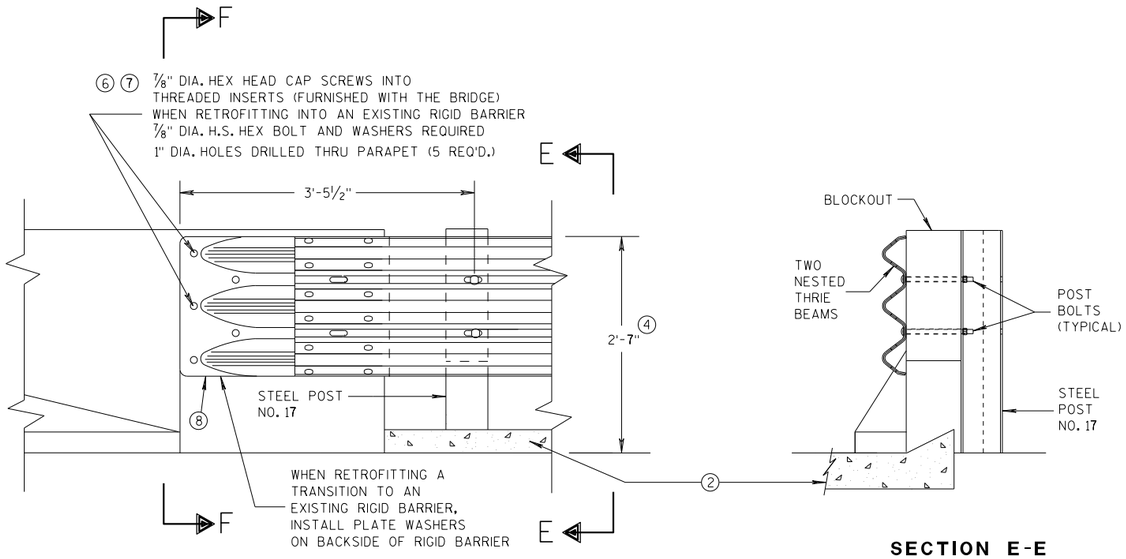
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

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.

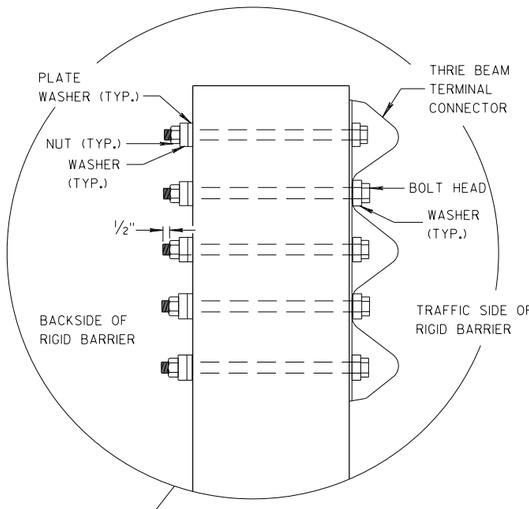
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

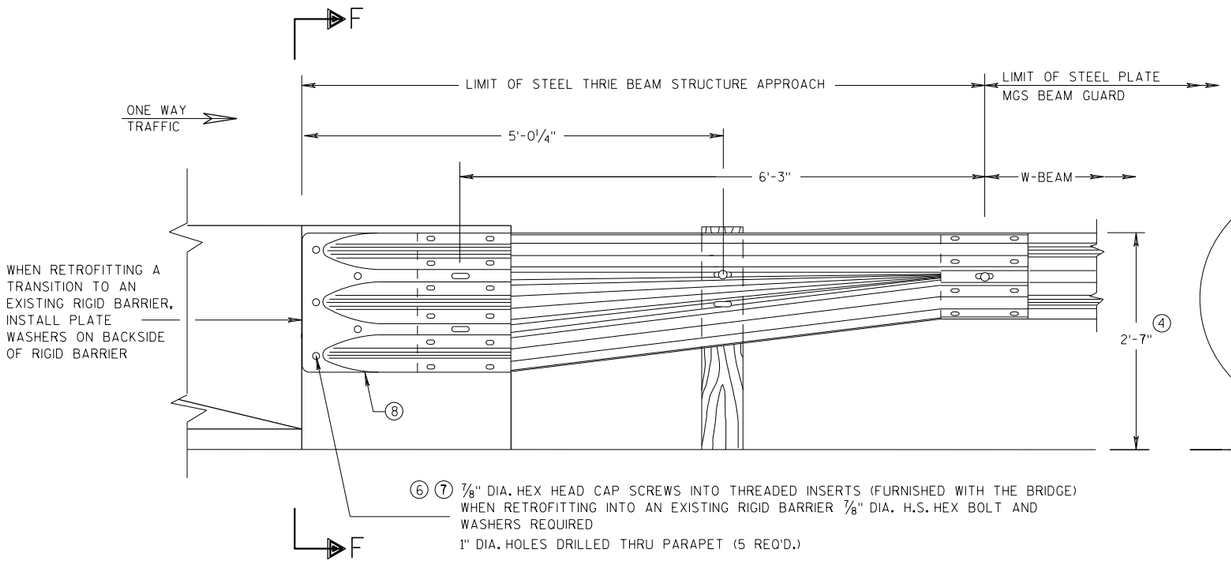
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

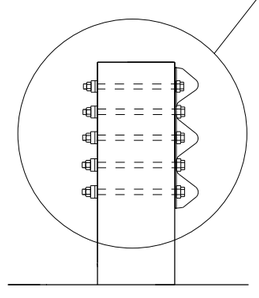
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

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

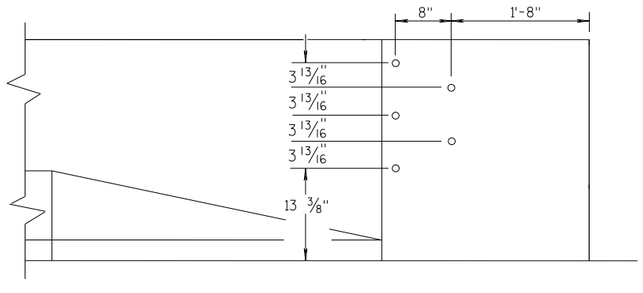




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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

6

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

GENERAL NOTES

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

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

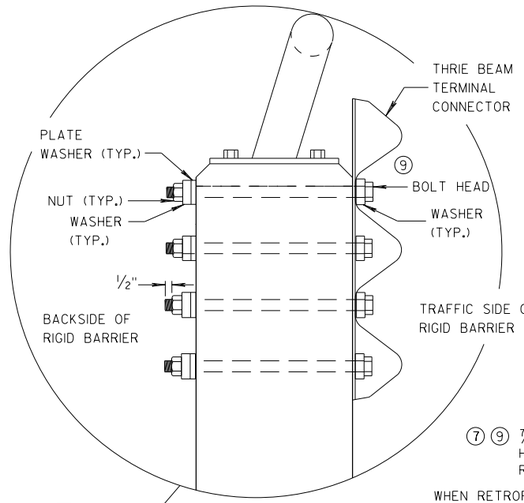
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

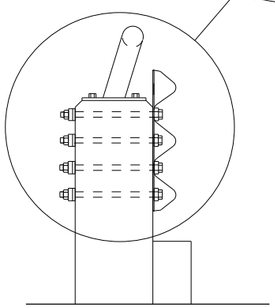
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

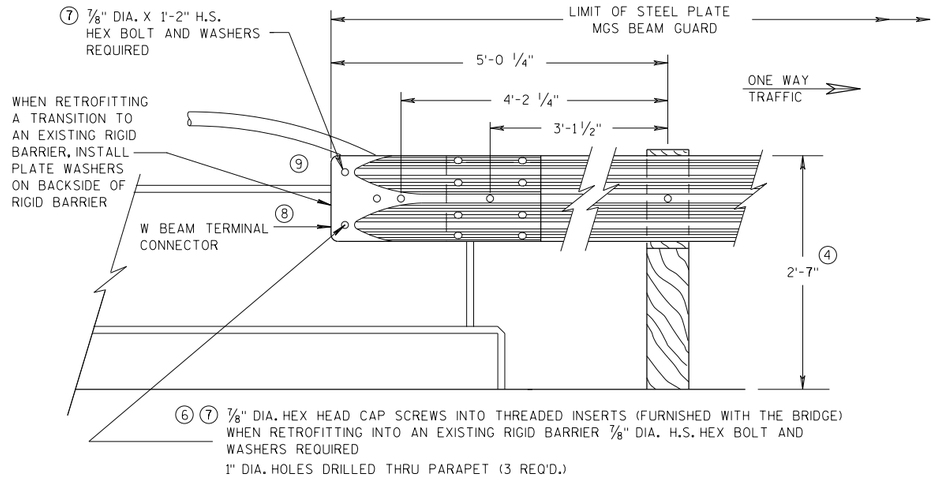
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

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





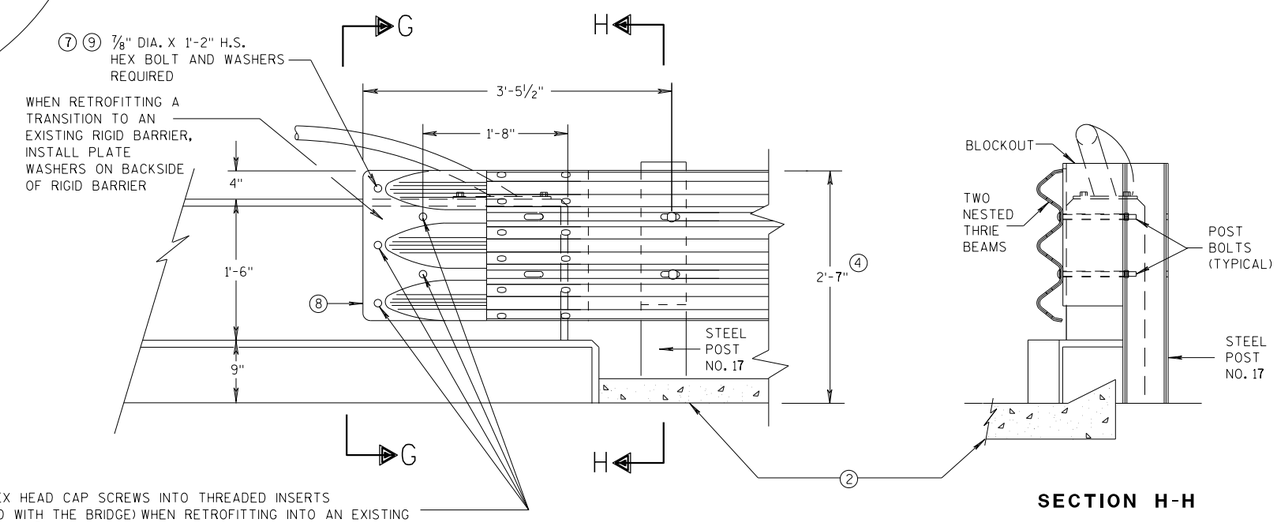
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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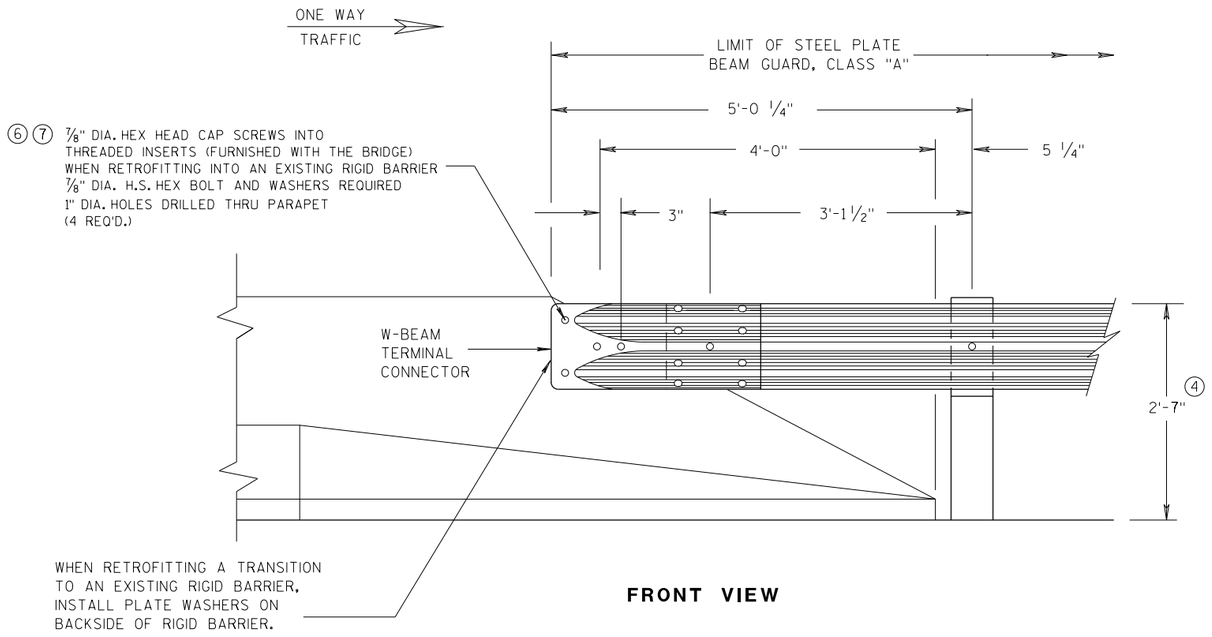


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

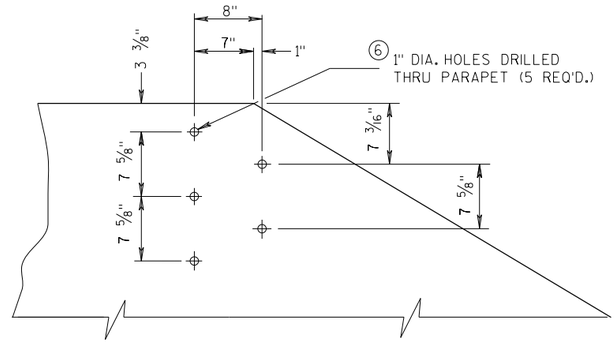
GENERAL NOTES

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

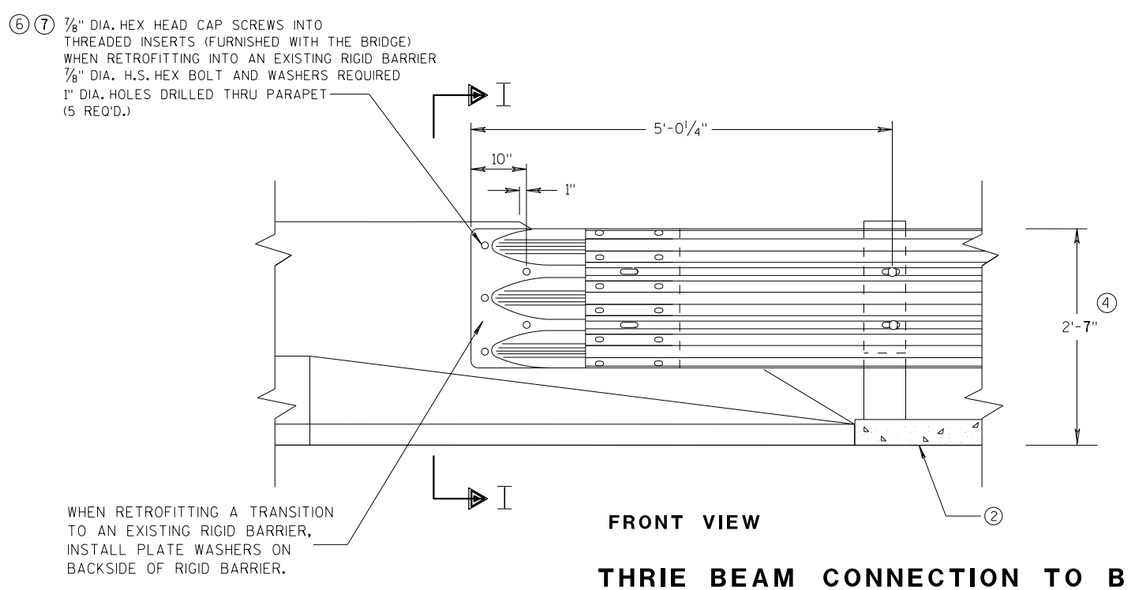
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

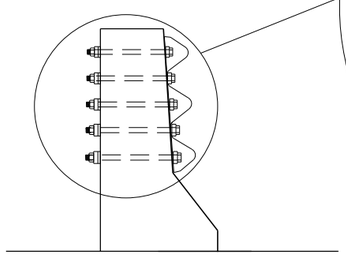
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



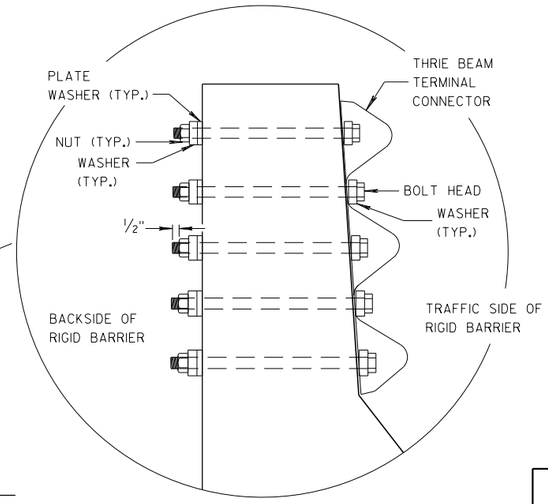
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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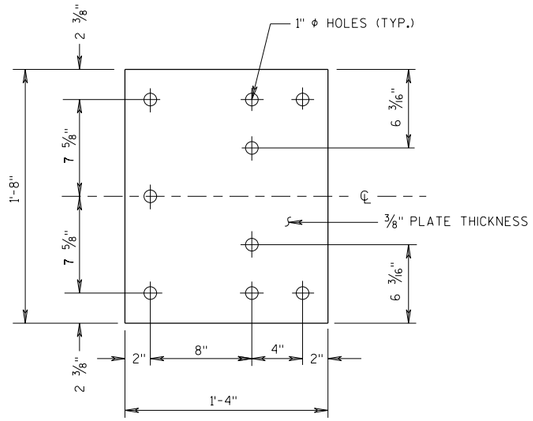
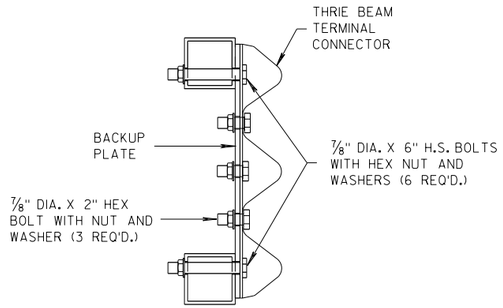
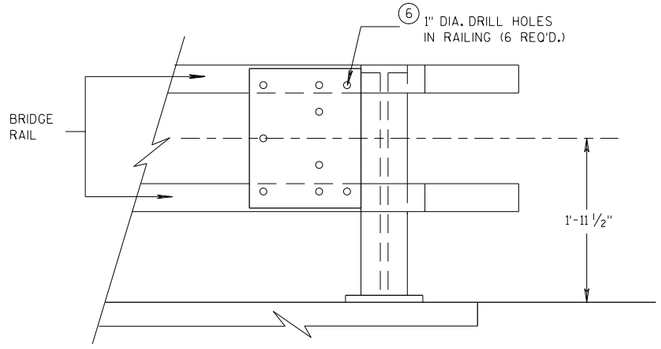


BACK-UP PLATE DETAIL



SECTION J-J

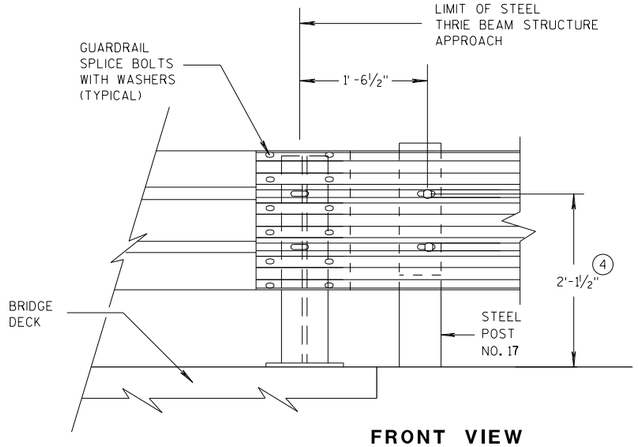


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

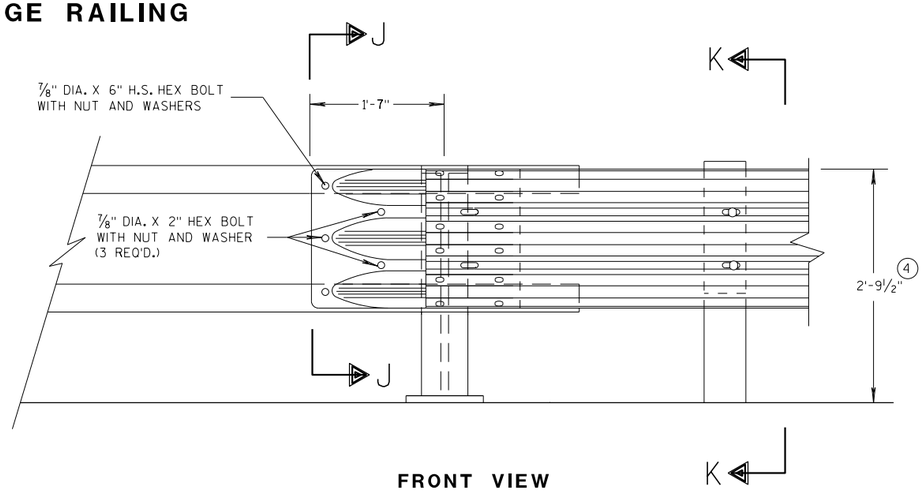
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

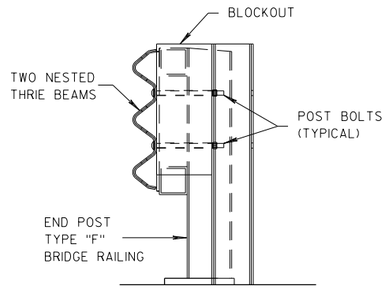


FRONT VIEW

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
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE
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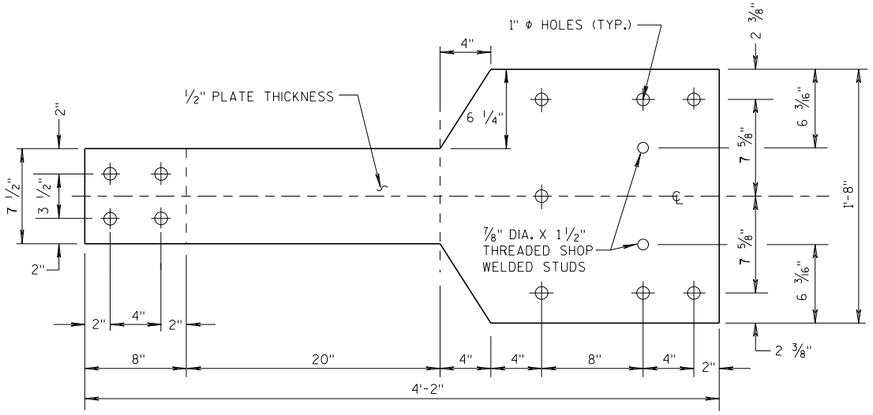
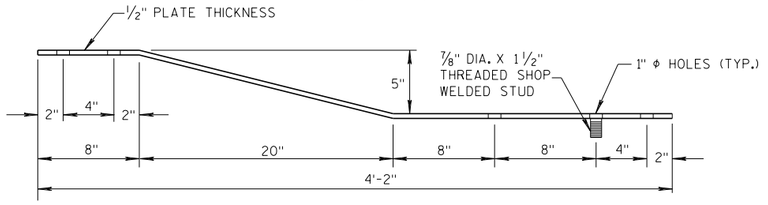
GENERAL NOTES

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

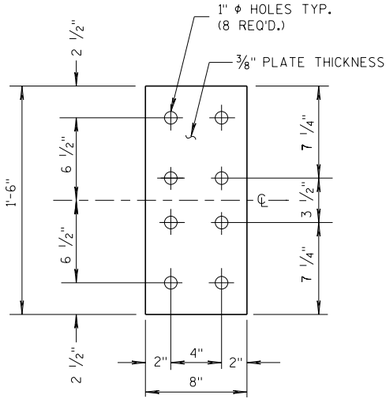


FRONT VIEW



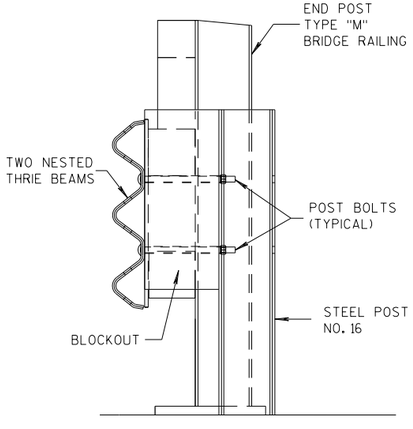
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

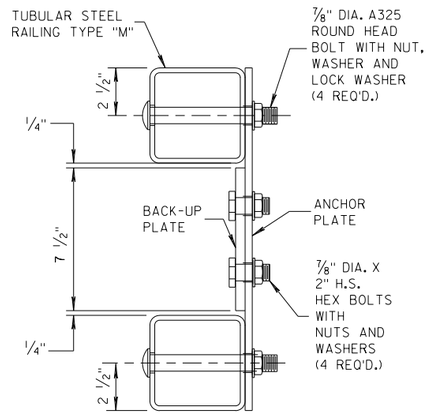


FRONT VIEW

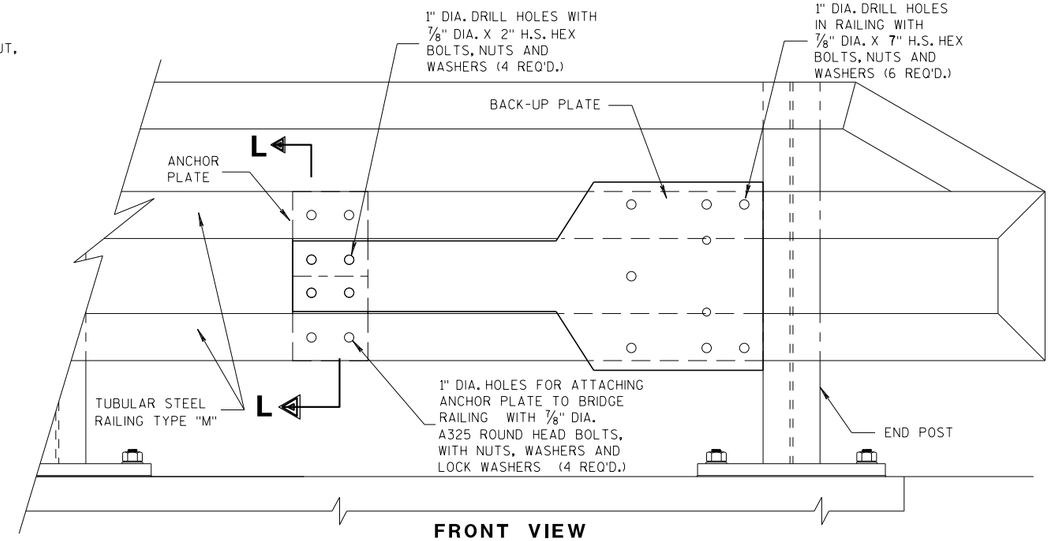
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

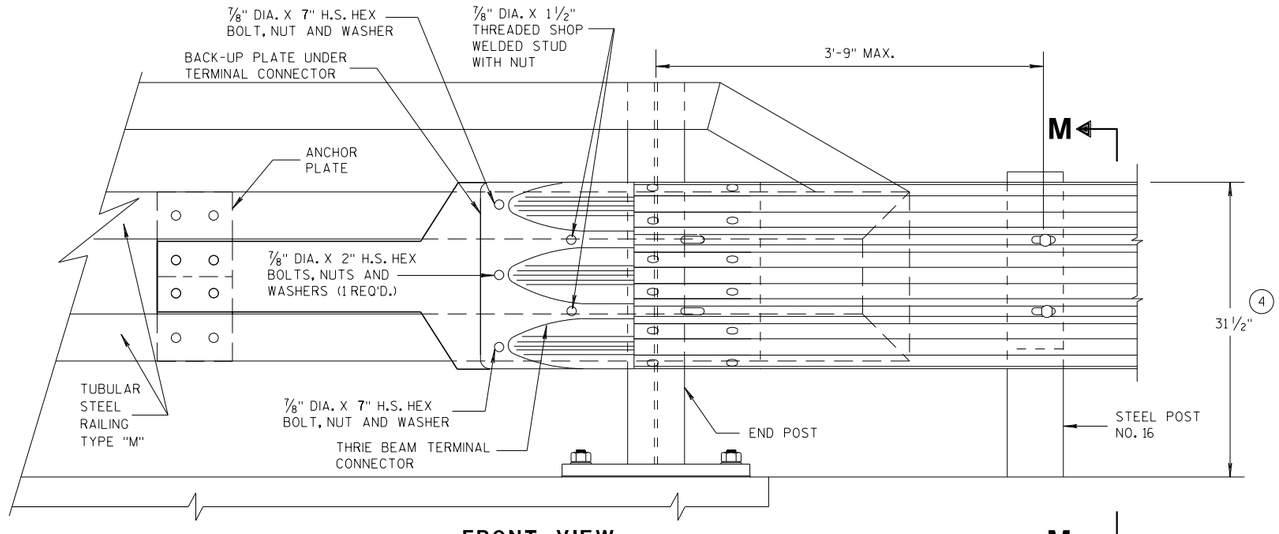


SECTION L-L

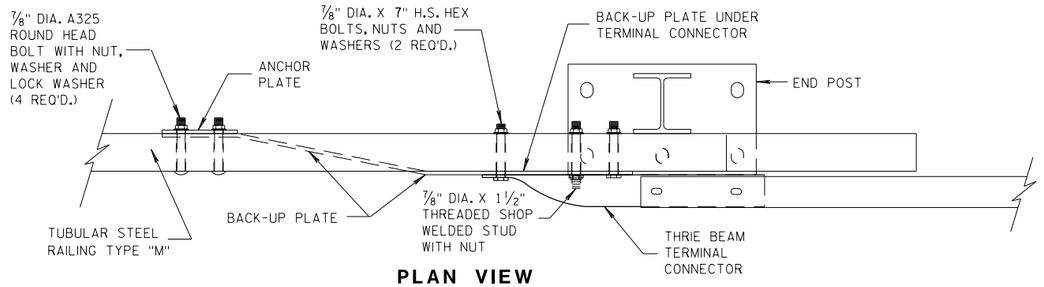


FRONT VIEW

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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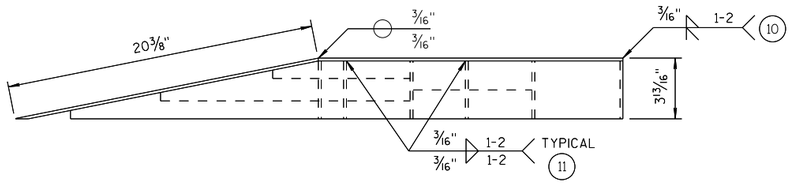

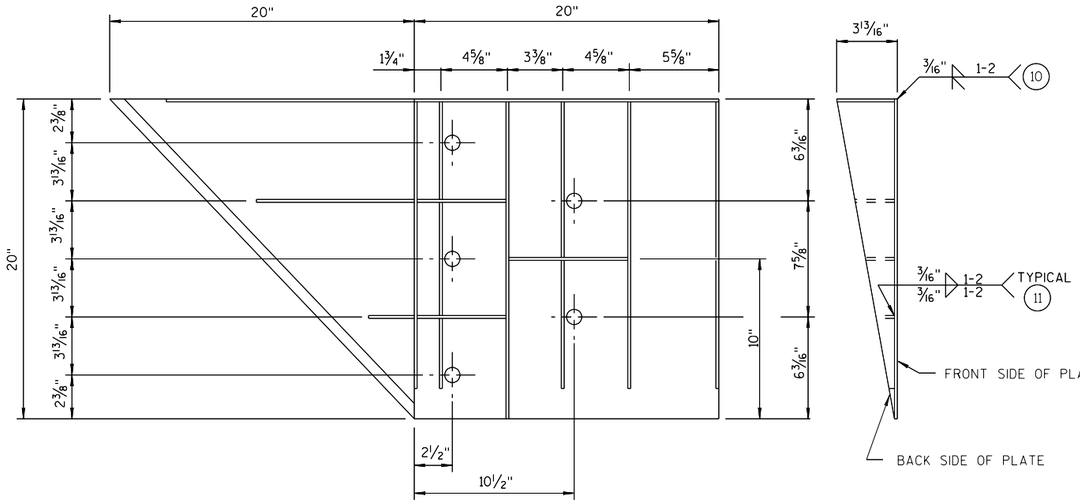

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

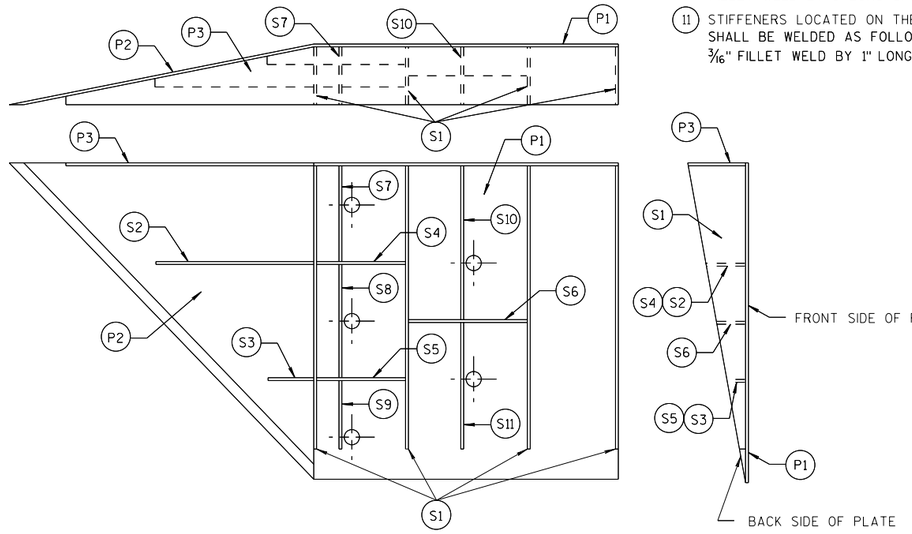

PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

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

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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ROADWAY STANDARDS I
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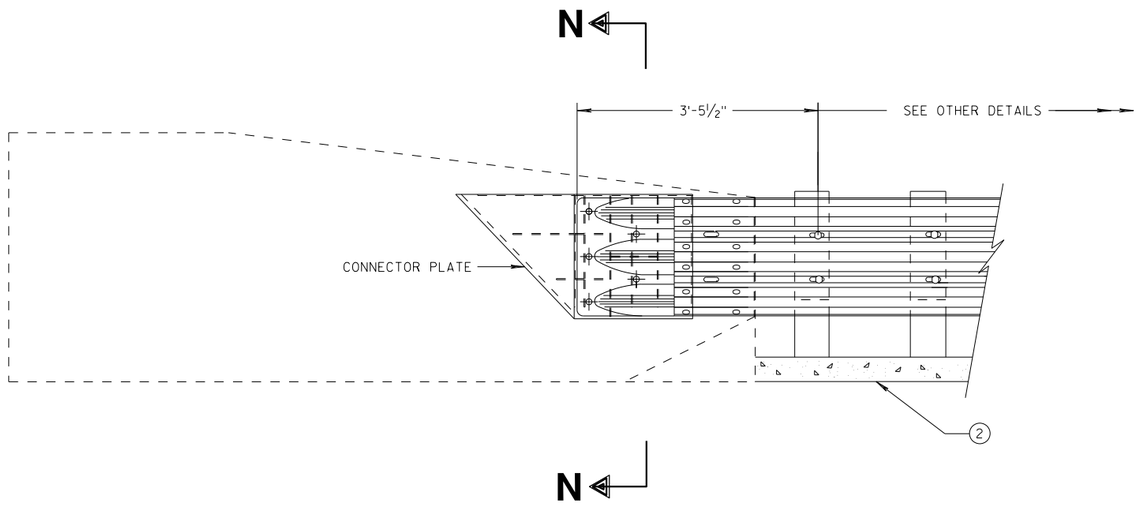
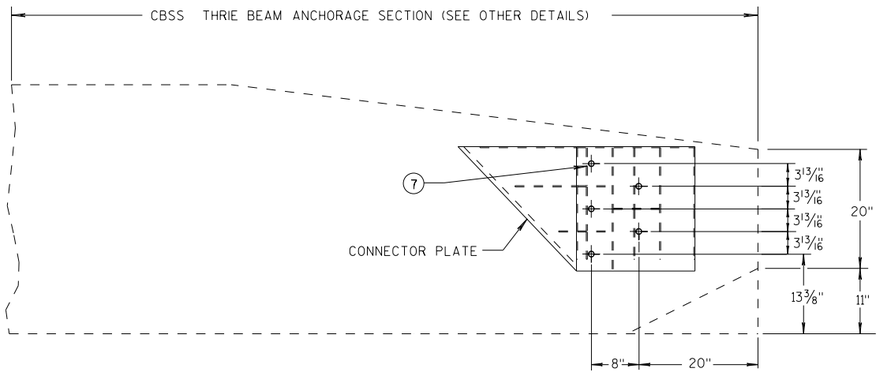


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



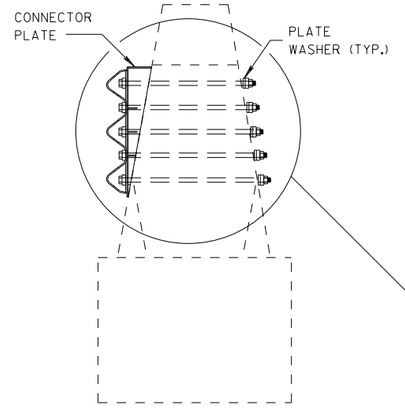
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

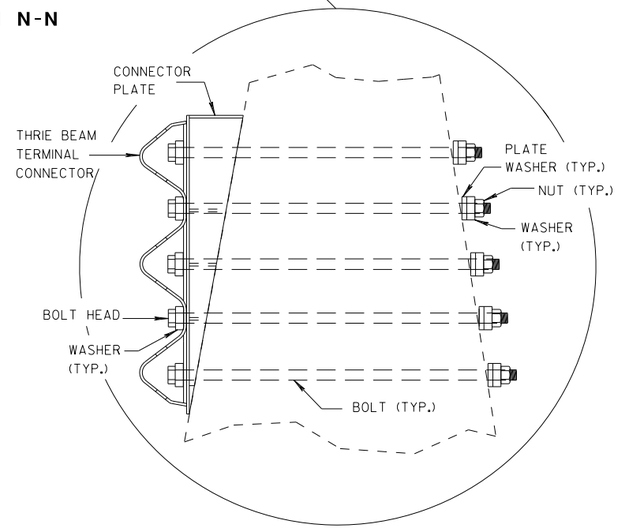
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
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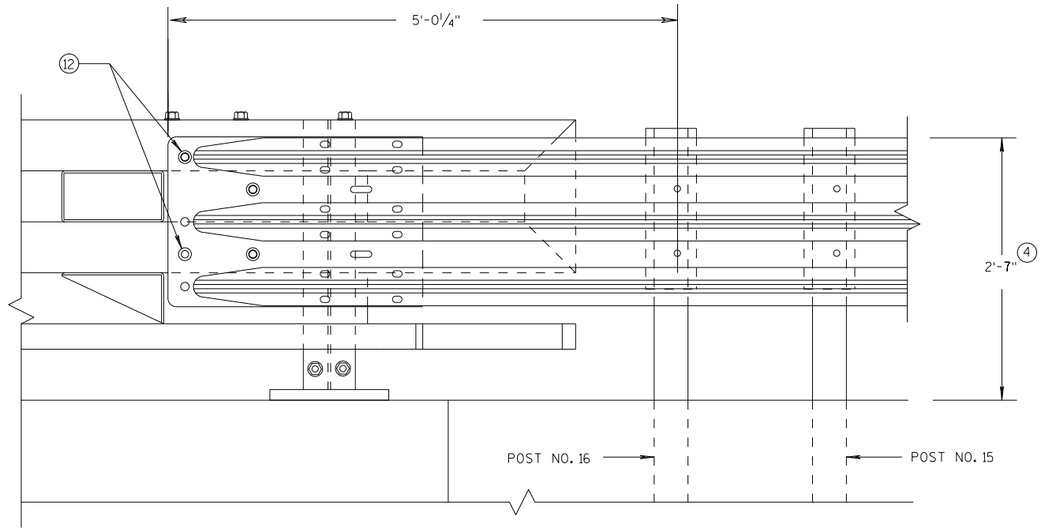
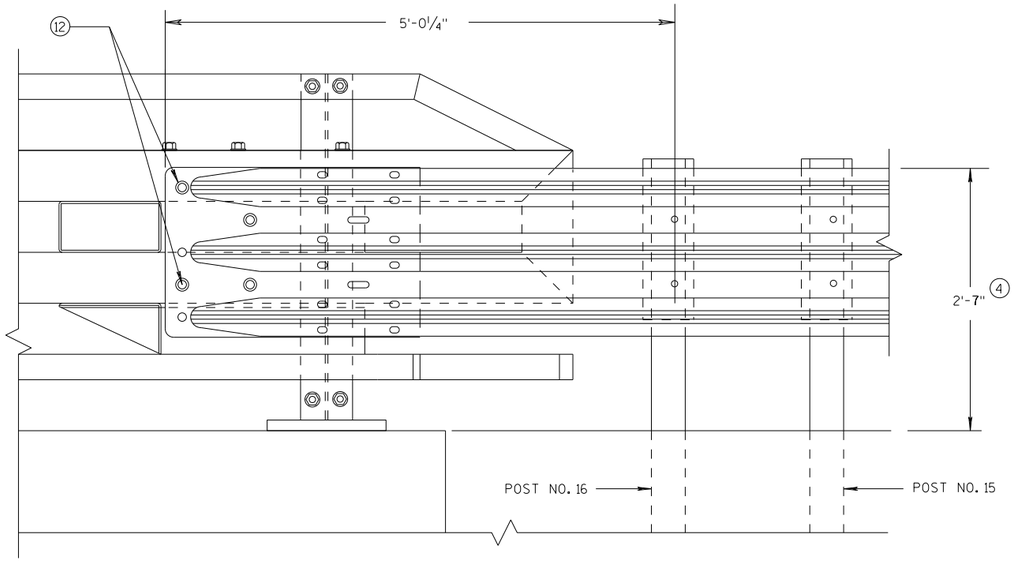


ELEVATION OF DETAIL AT NY3 END POST

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
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APPROVED
7/2018
DATE
/S/ Rodney Taylor
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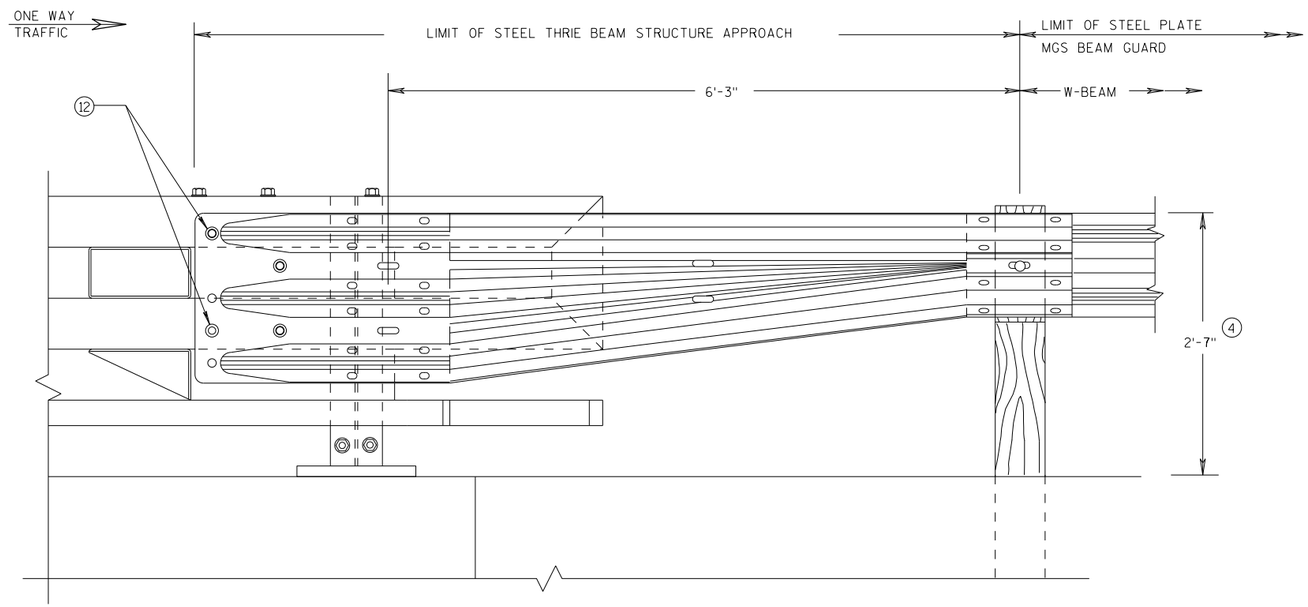


FRONT VIEW

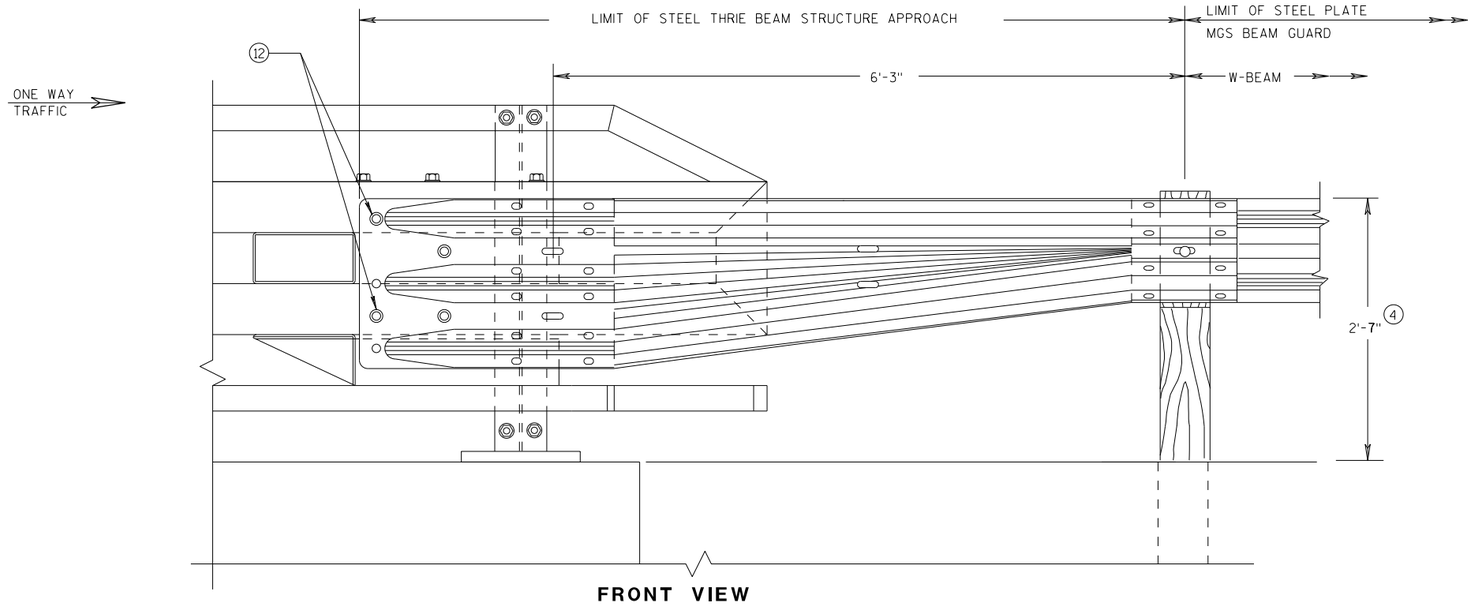
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(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 $\frac{1}{2}$-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
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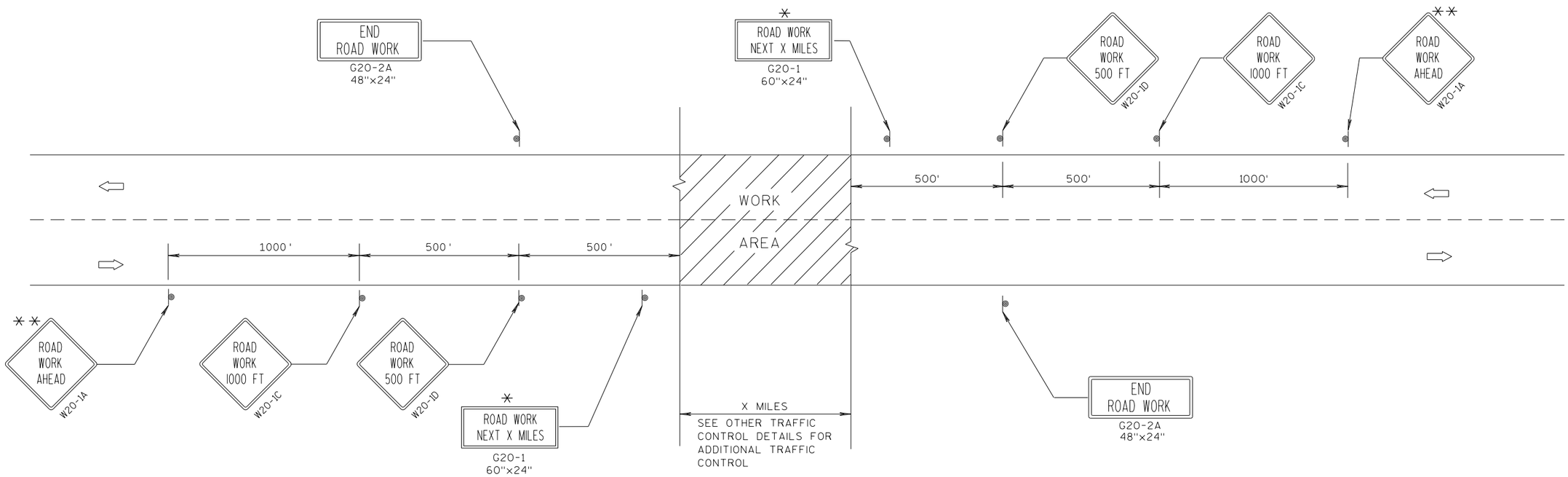
TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

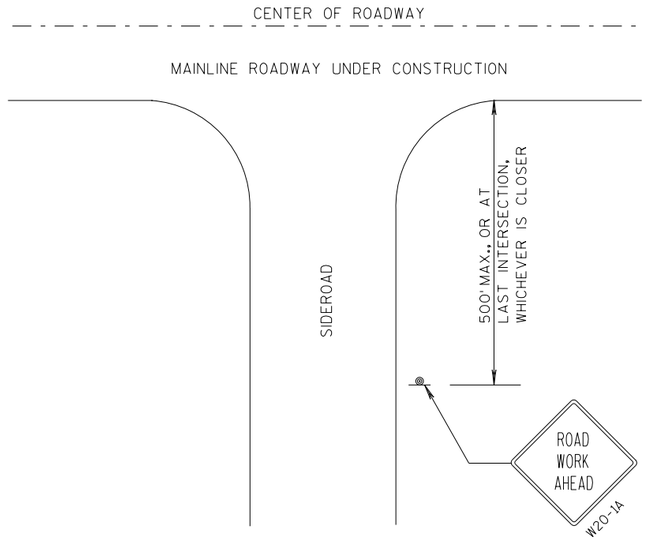
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
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FHWA

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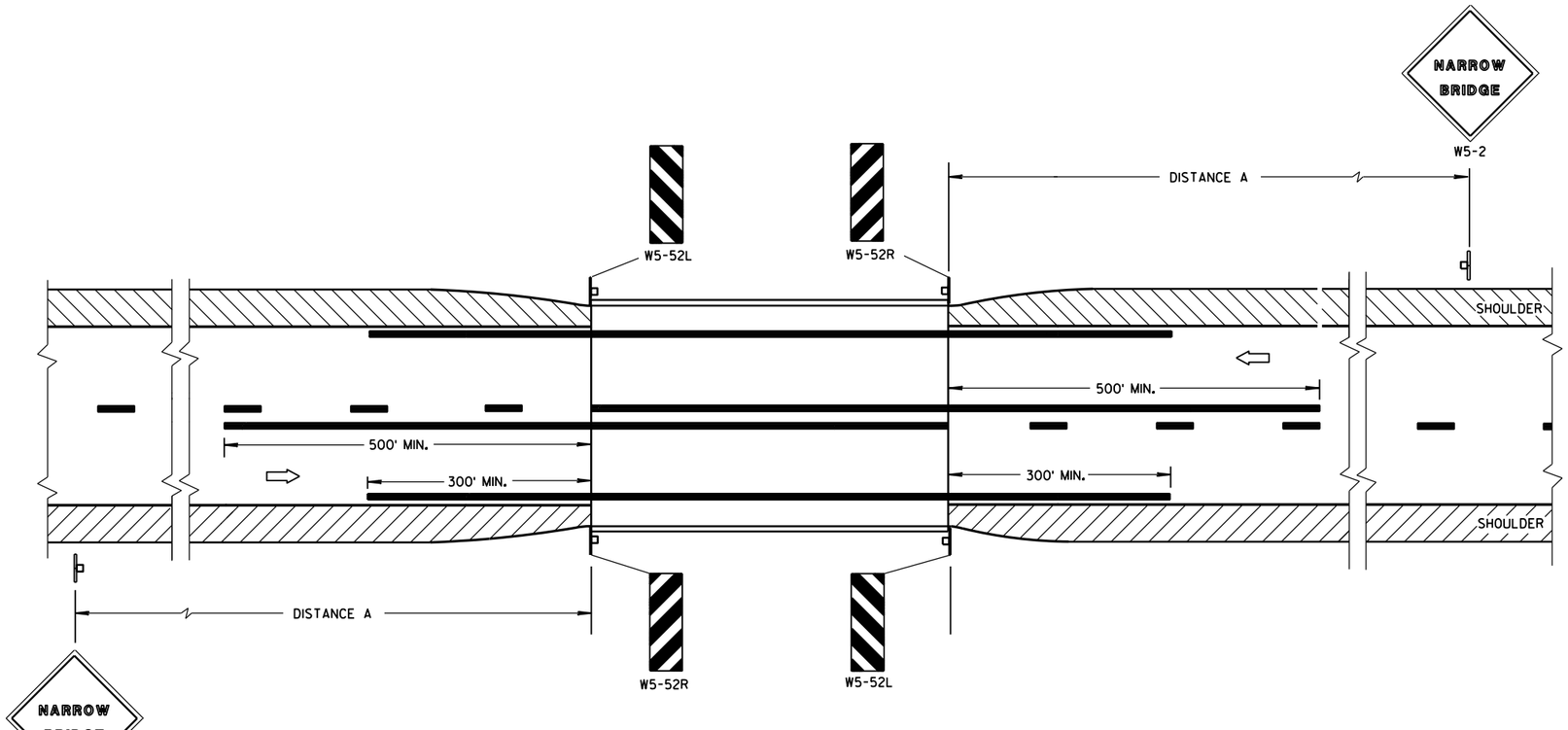


SITUATION 1

WARRANTING CRITERIA:

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

DISTANCE TABLE

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

GENERAL NOTES

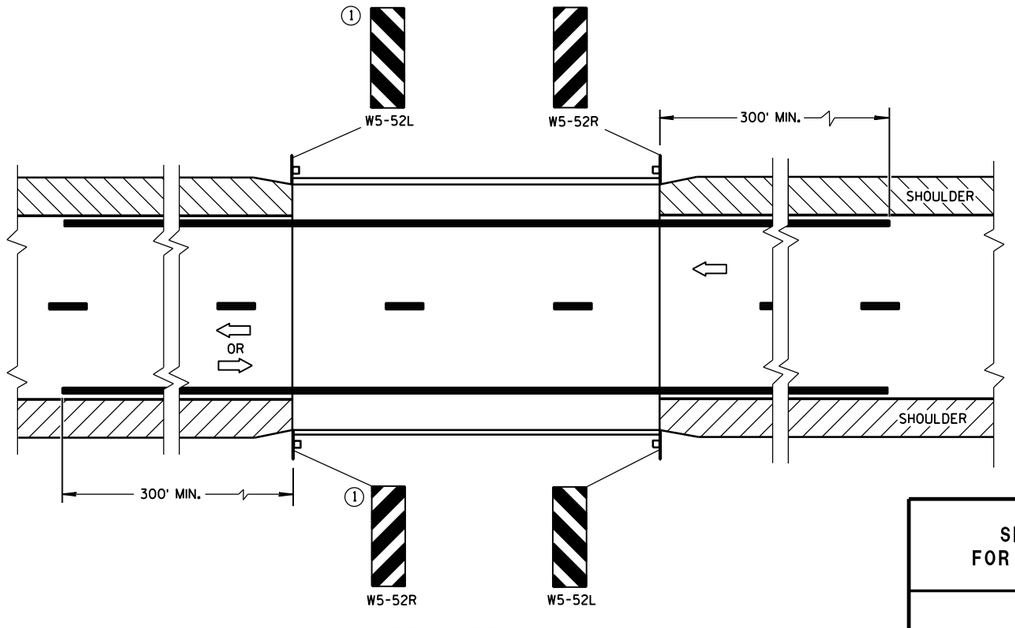
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 15 C 6-9

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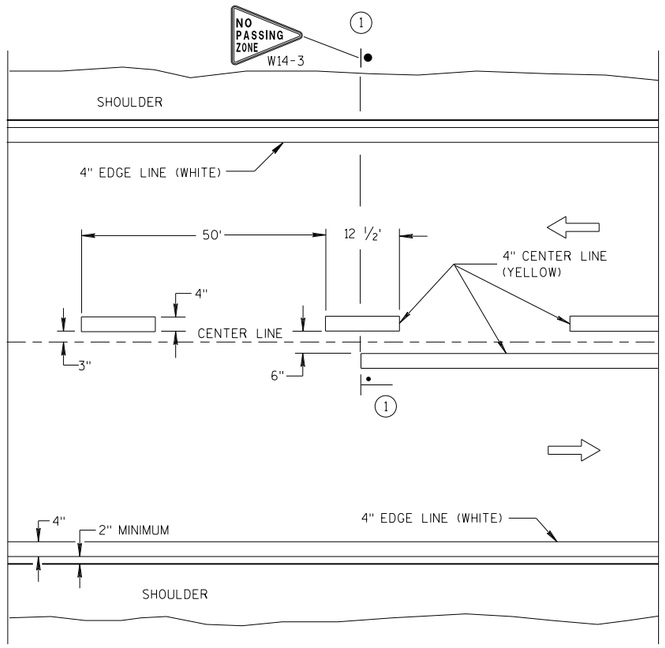
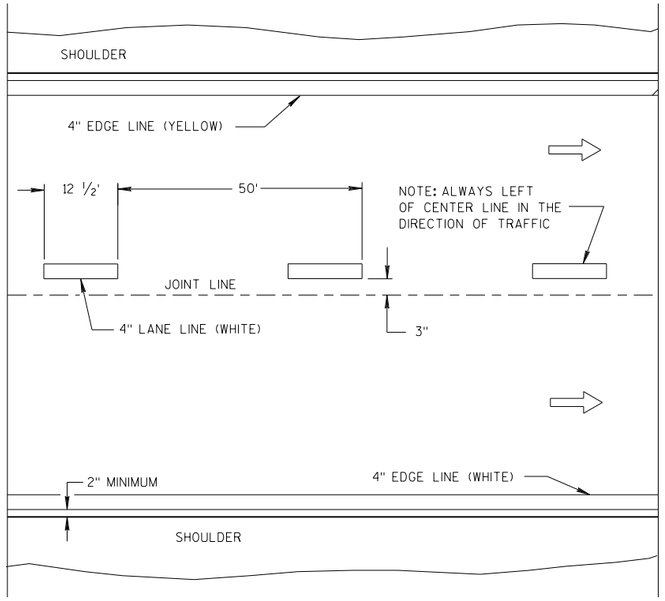


TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

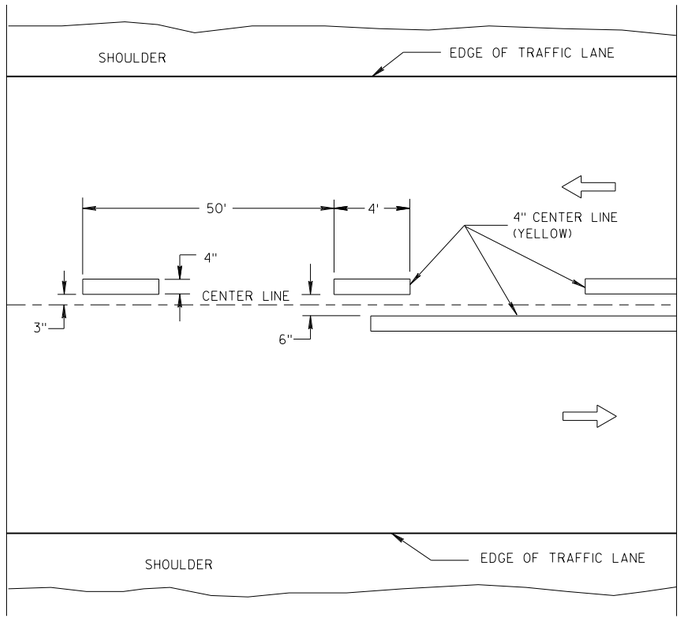
GENERAL NOTES

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

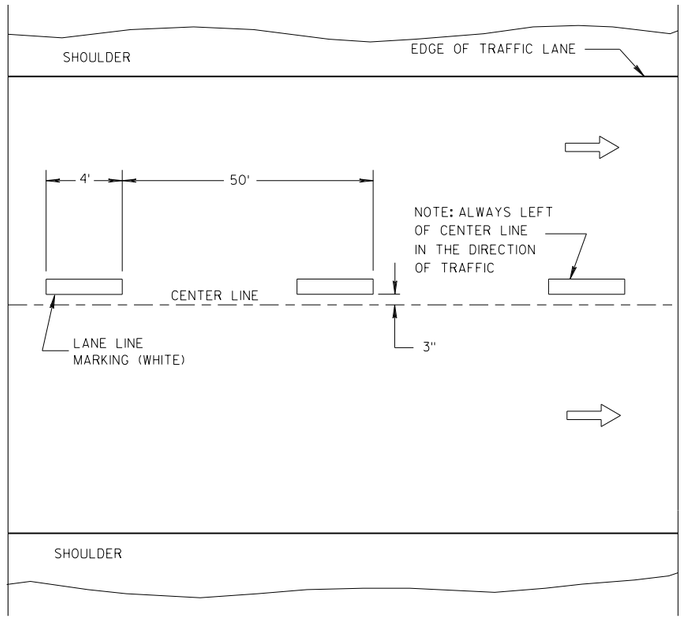
(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LEGEND

"T" MARKING

POST MOUNTED SIGN

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER

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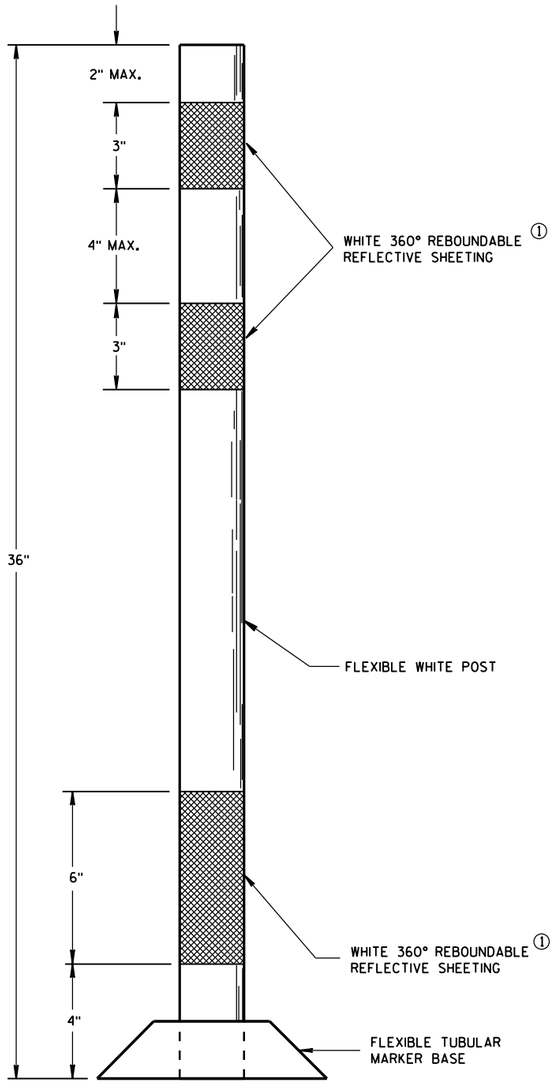
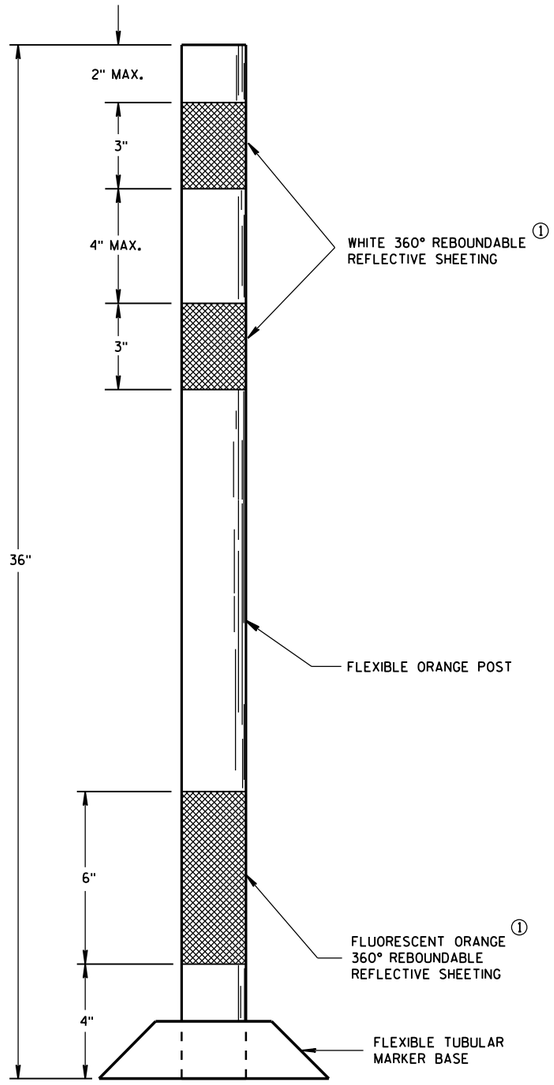


FLEXIBLE
TUBULAR MARKER POST
PERMANENT CROSSOVER



FLEXIBLE
TUBULAR MARKER POST
WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

6

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CHANNELIZING DEVICES
FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENGR
FHWA

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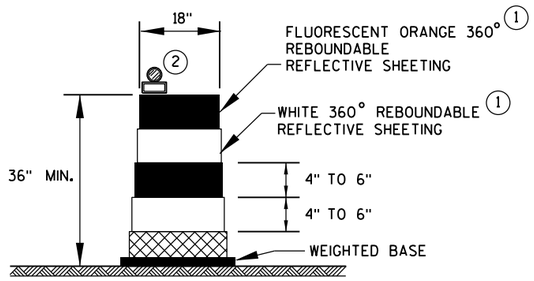
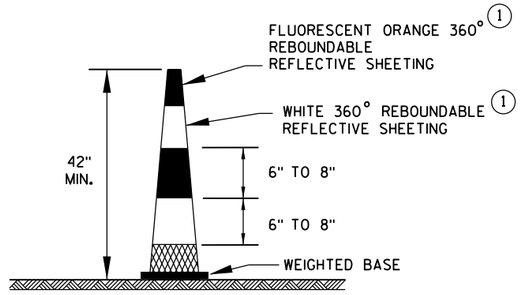


DRUM

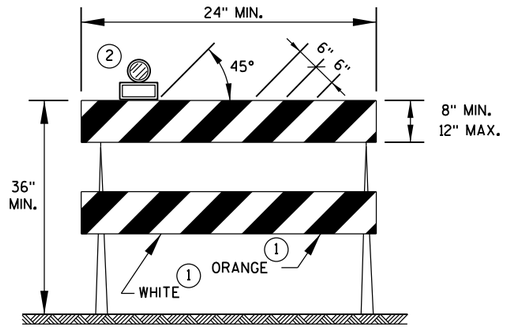


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

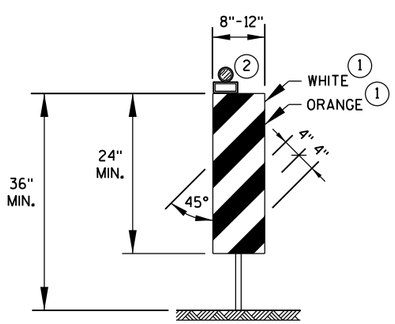
GENERAL NOTES

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.



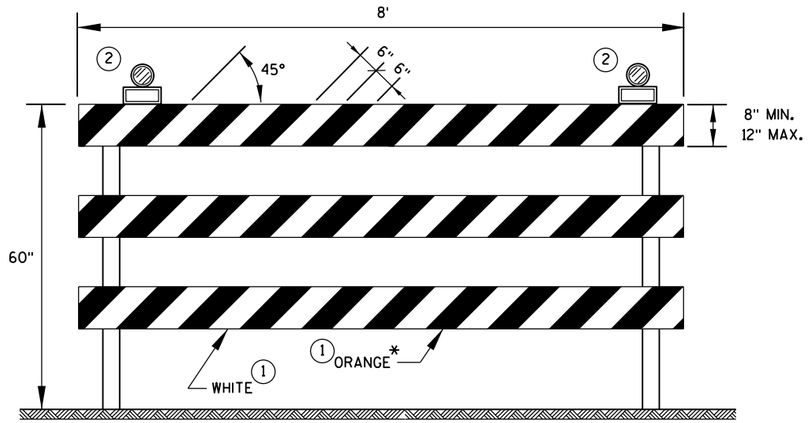
TYPE 2 BARRICADE

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



VERTICAL PANEL

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



TYPE 3 BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENG
FHWA

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LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

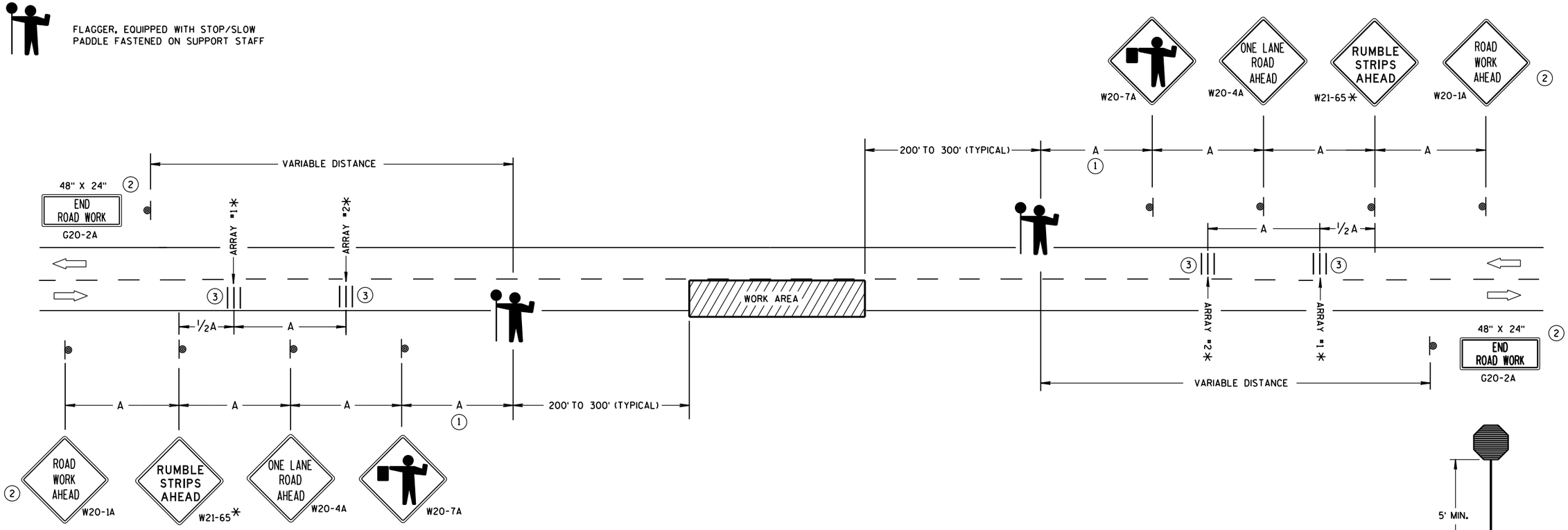
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

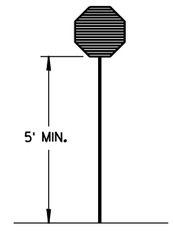
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

W03-4

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





STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

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

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

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

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

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

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

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
/S/ Andrew Heldtke
WORK ZONE ENG
FHWA

6
S.D.D. 15 C 12-6

GENERAL NOTES

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

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

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

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

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

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.

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

TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

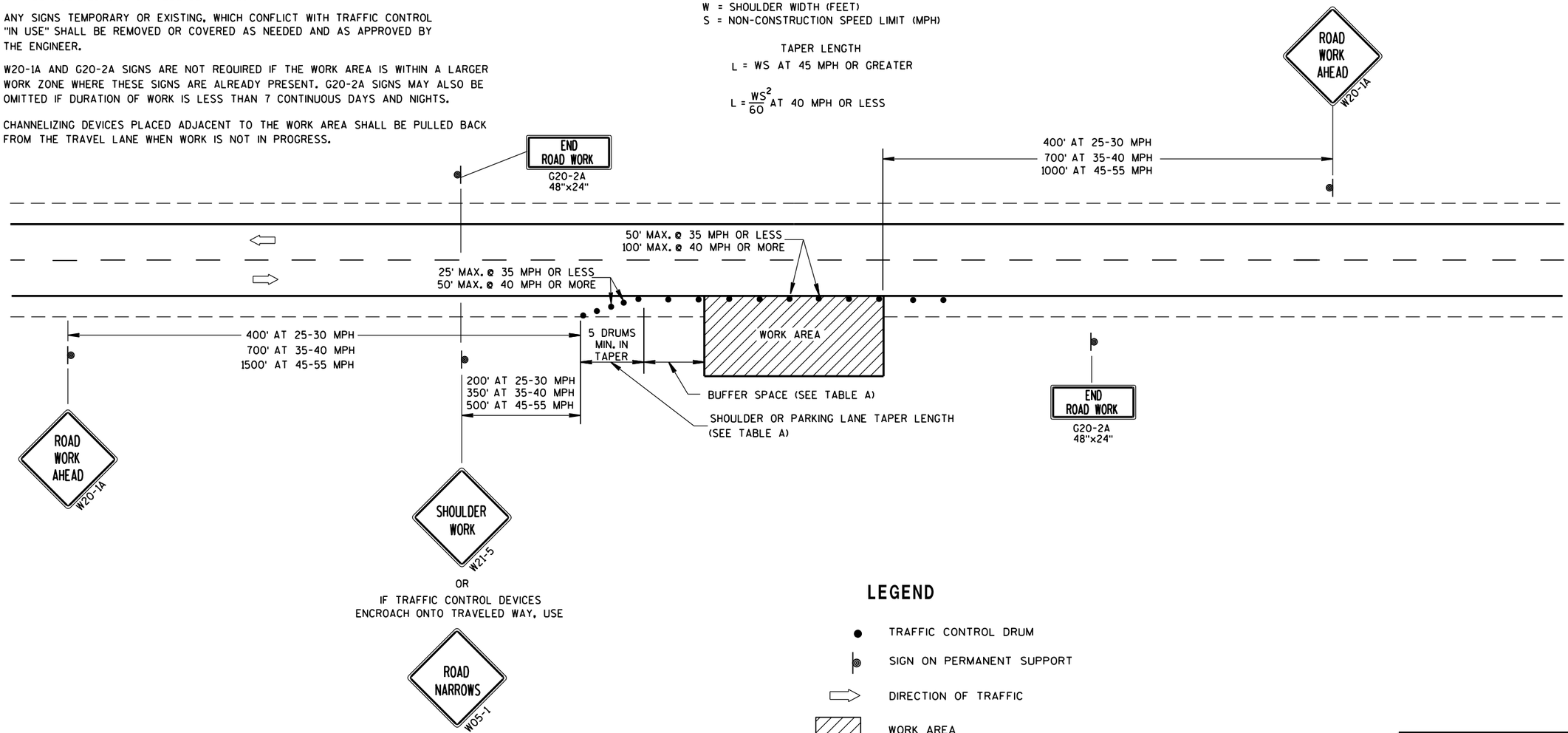
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible] FIC

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S.D.D. 15 D 28-3

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S.D.D. 15 D 28-3

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" x 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC
- 4" X 6" WOOD POST
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE

W057-52
36"x24"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET.)

GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

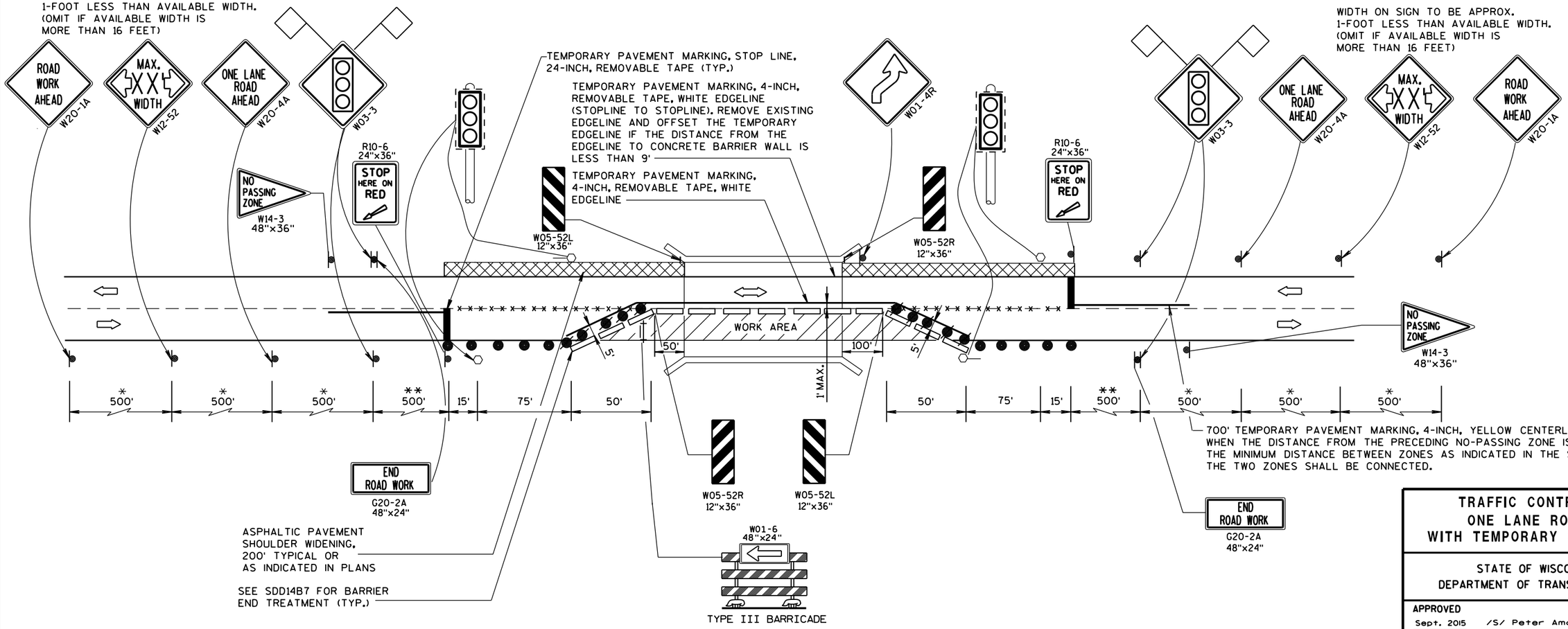
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

* 500-FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350-FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200-FOOT TYPICAL SPACING.

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.



TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER

FHWA

C

6

S.D.D. 15 D 33-4

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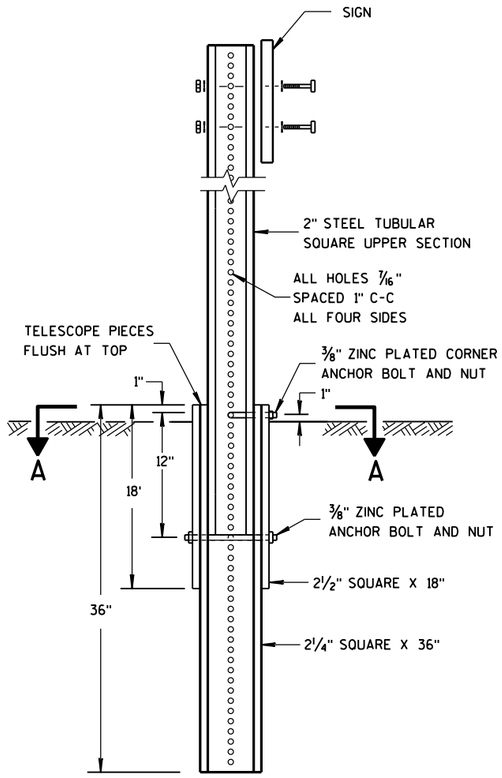
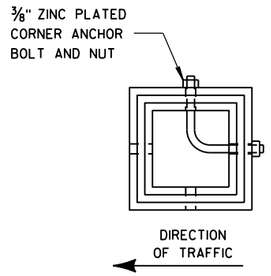
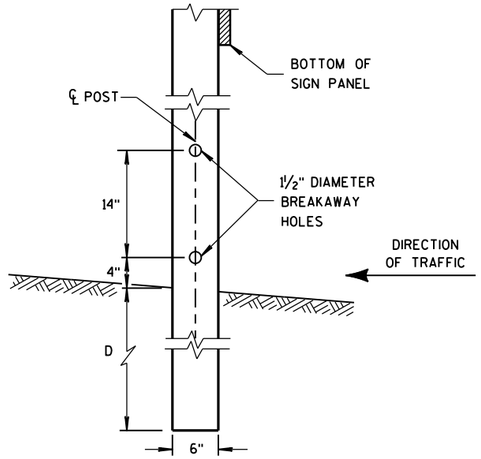
S.D.D. 15 D 33-4



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



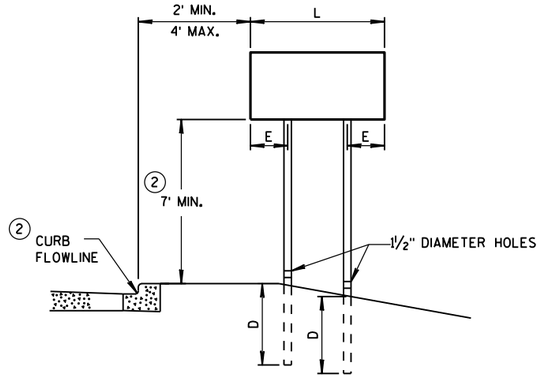
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

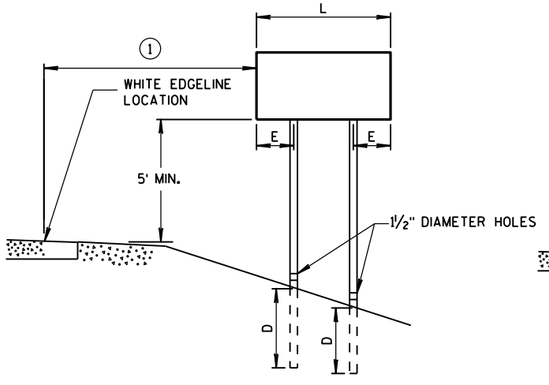
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

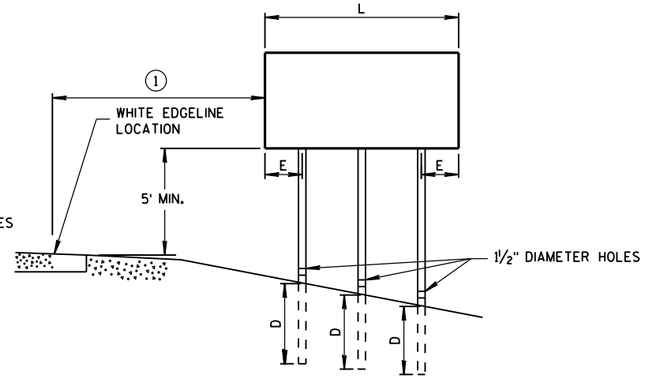
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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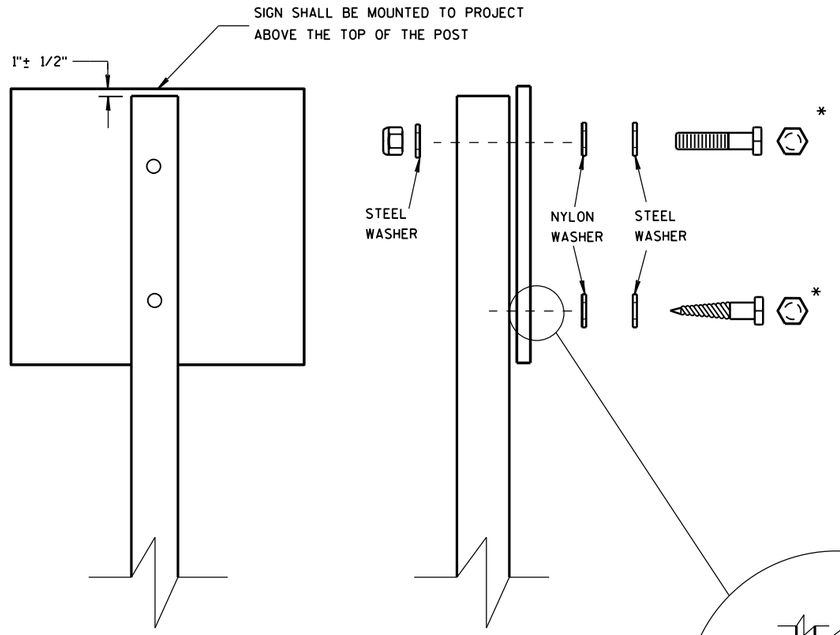
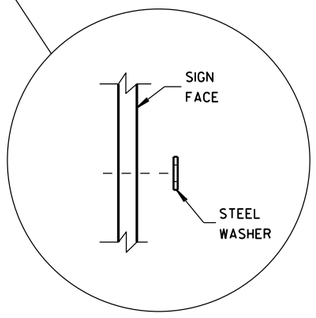
S.D.D. 15 D 38-2a





WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

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 FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

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S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

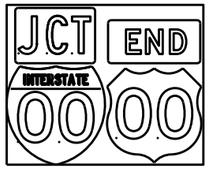
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

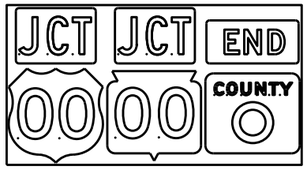
FHWA

TYPICAL ASSEMBLIES

J1-1

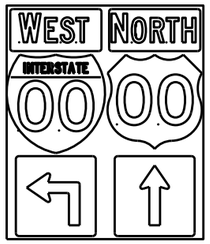


J1-2

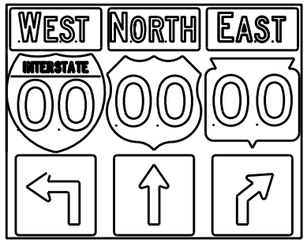


J1-3

J2-1



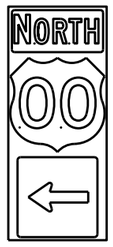
J2-2



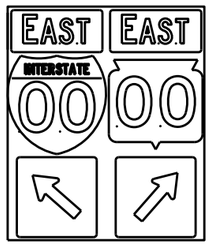
J2-3

JV

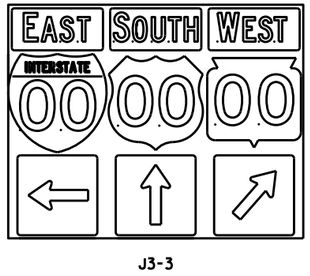
(Typical Vertical J-Assembly
See Note 10 and 11)



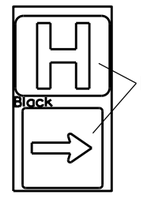
J3-1



J3-2

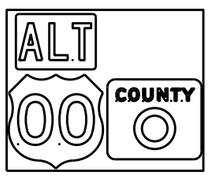


J3-3

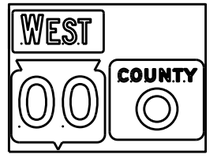


JH-1

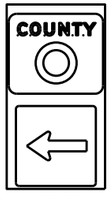
J4-1



J4-2



J4-2



J13-1

J12-1

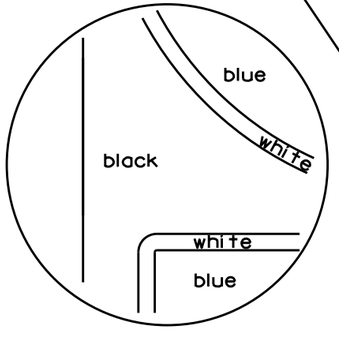
J32-1

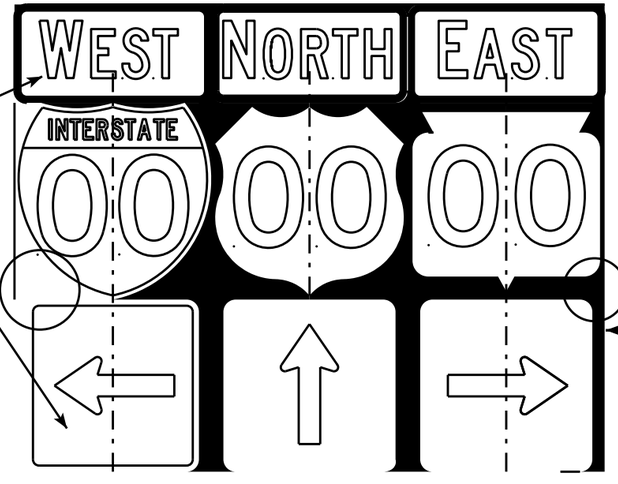
J33-1

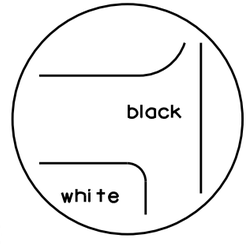
J23-1

J22-1

blue background
with interstate







black background

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

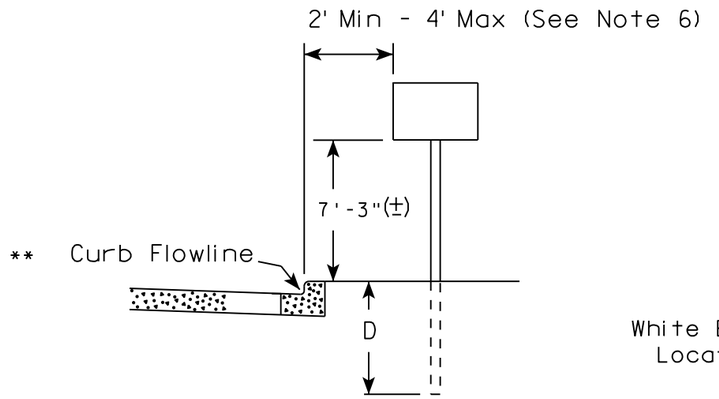
DATE 2/06/14 PL... A2-1S.8

PROJECT NO: | SHEET NO: E

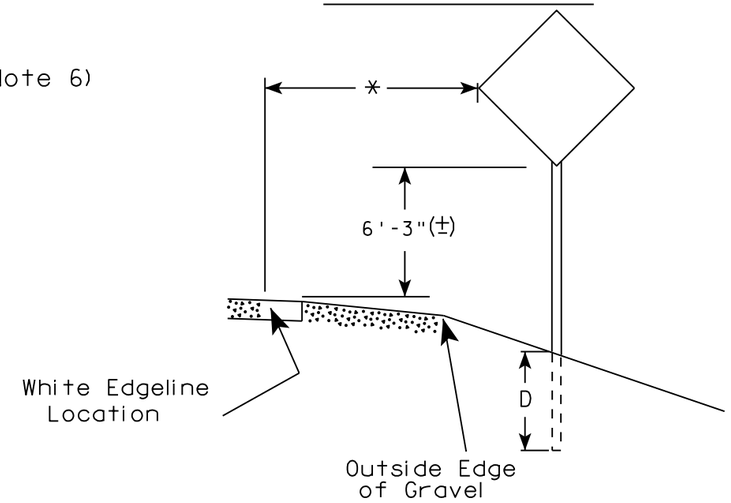
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

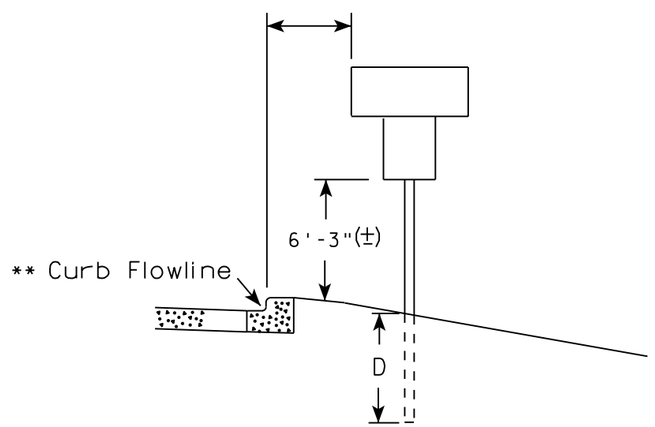
WISDOT/CADDS SHEET 42

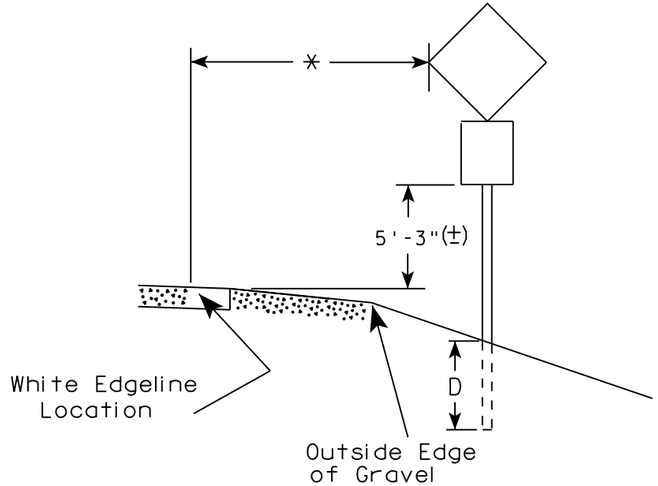
URBAN AREA



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 barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), 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" (±).

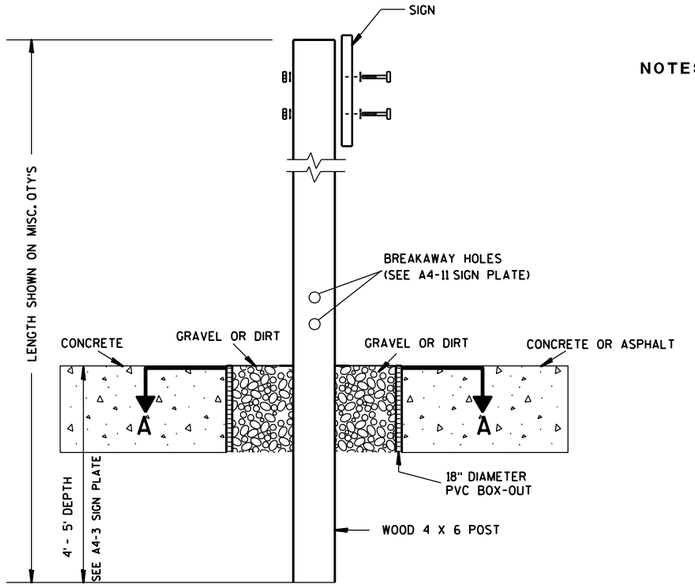
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

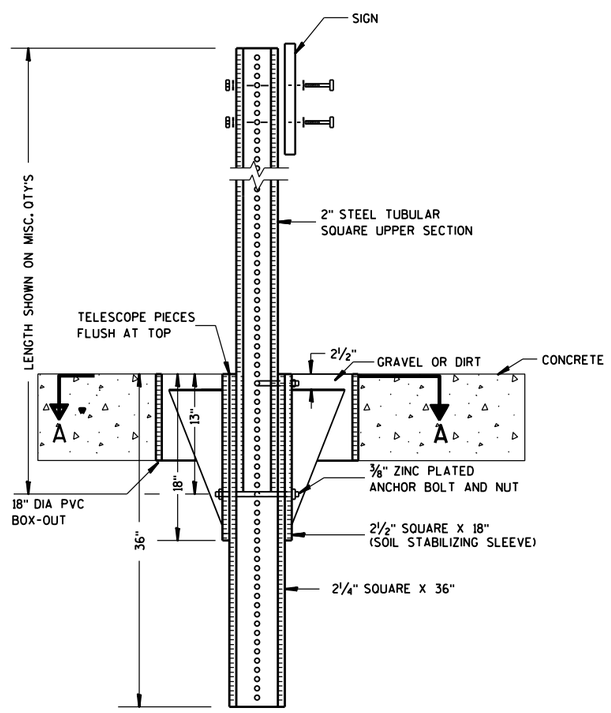
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 90	E



ELEVATION VIEW

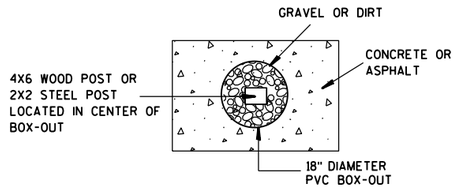
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

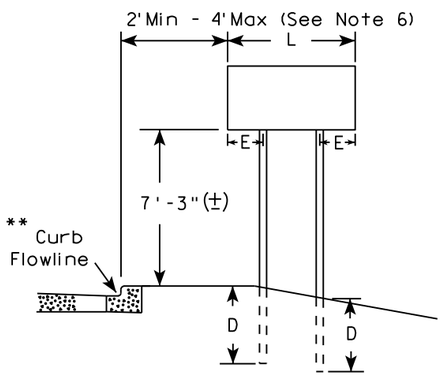
APPROVED Matthew R Rauch
for State Traffic Engineer

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

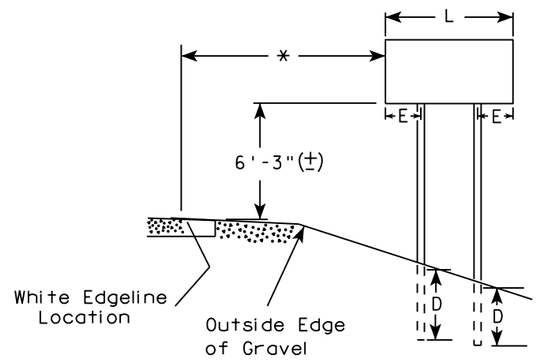
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

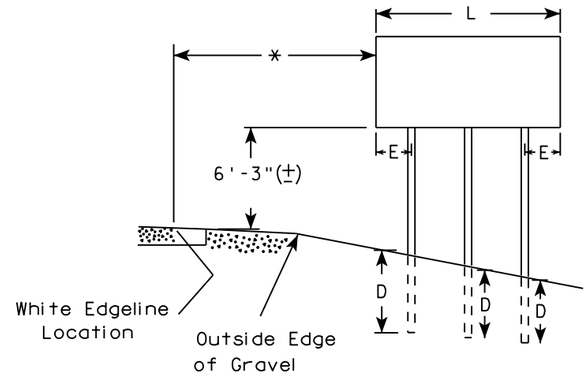
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

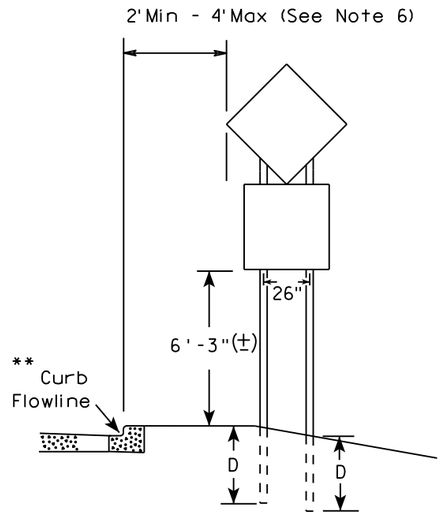
URBAN AREA



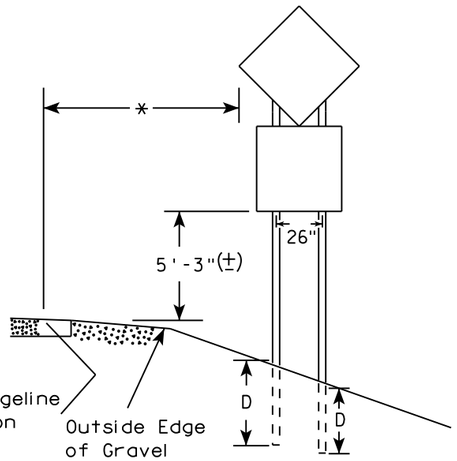
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
	L	E
	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

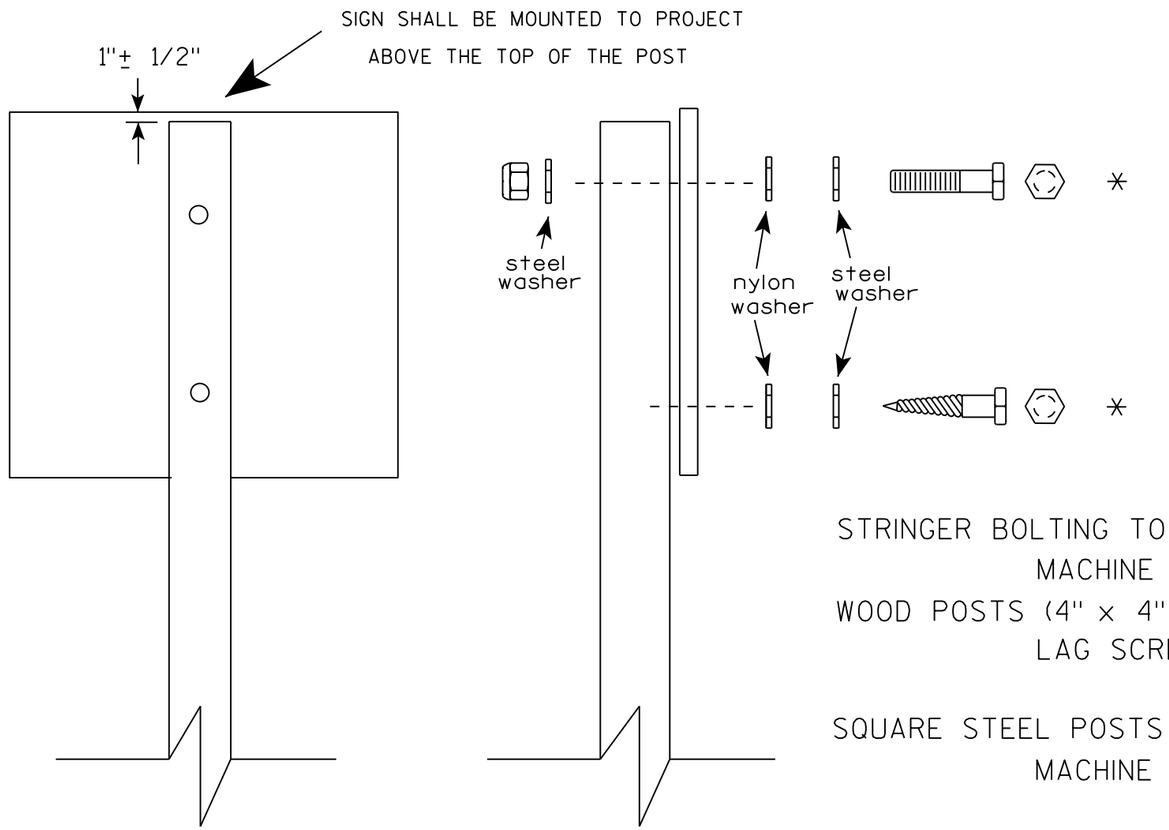
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 92	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 4" or 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

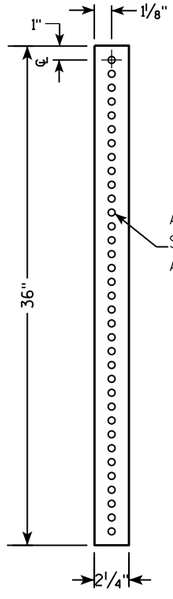
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

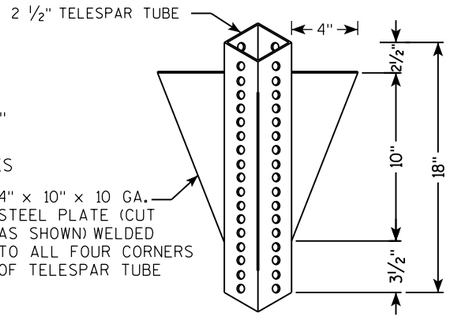
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

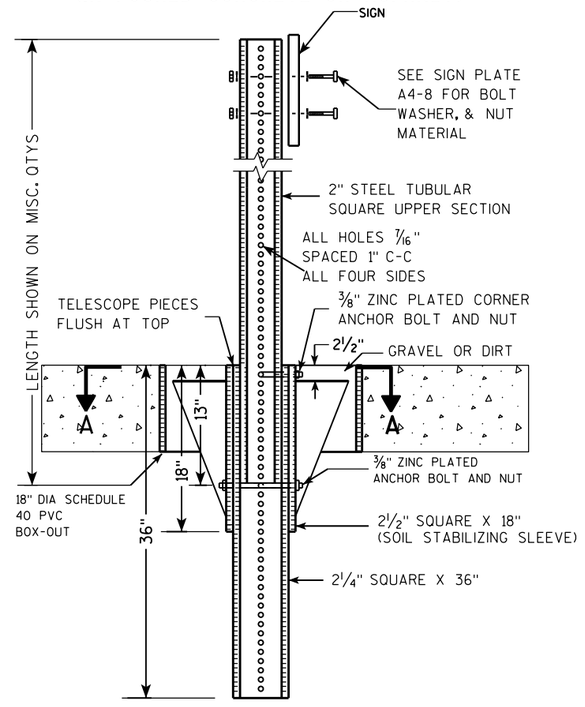
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



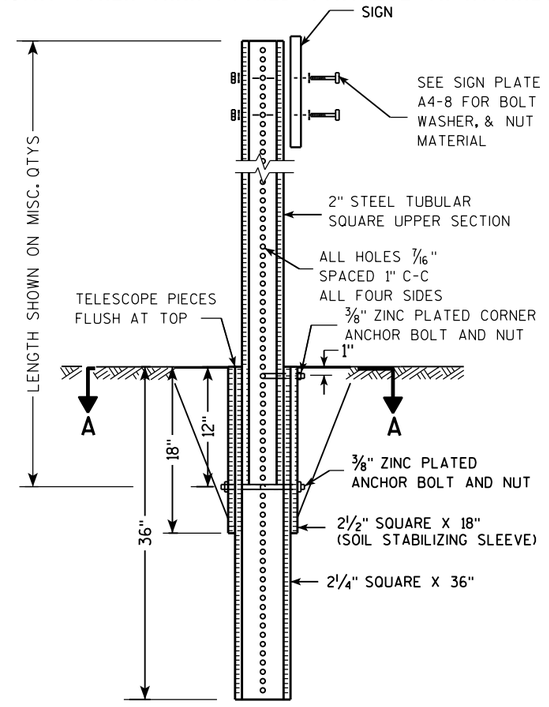
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

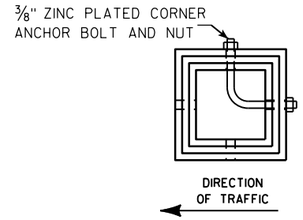


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

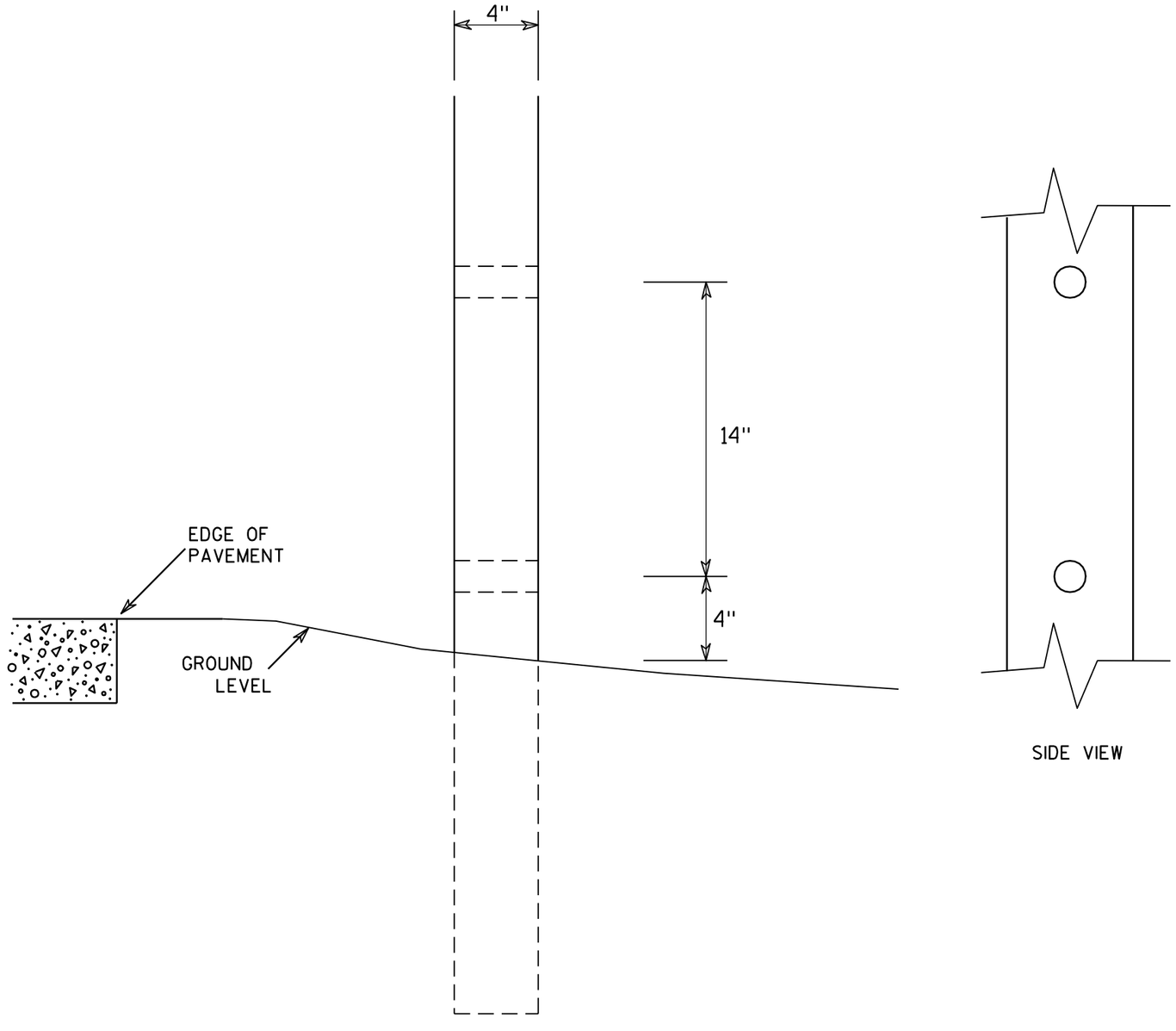
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 94 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

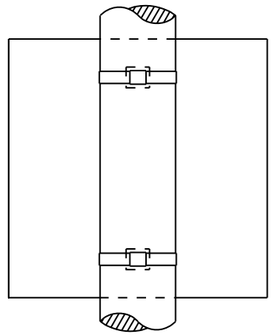
APPROVED Chester J Spang for State Traffic Engineer

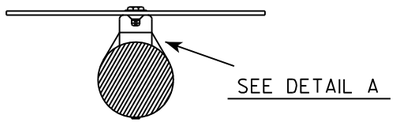
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 95	E

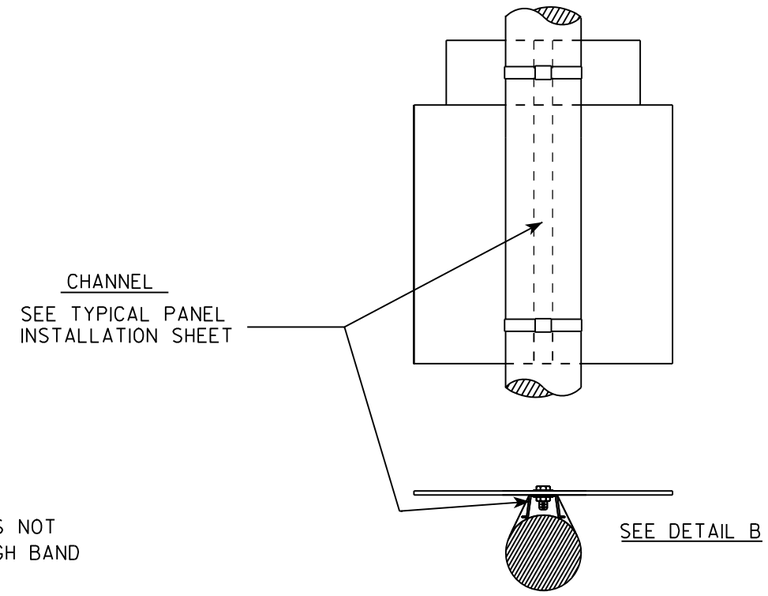
BANDING

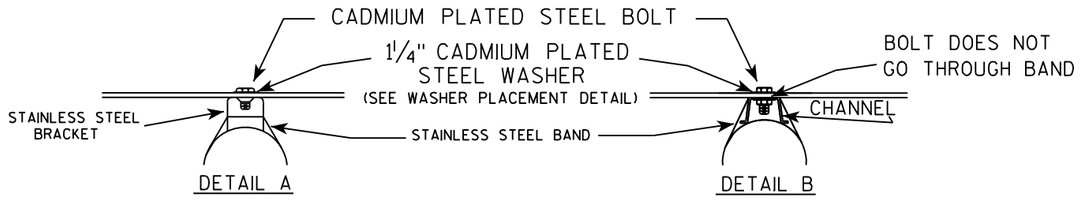
SINGLE SIGN



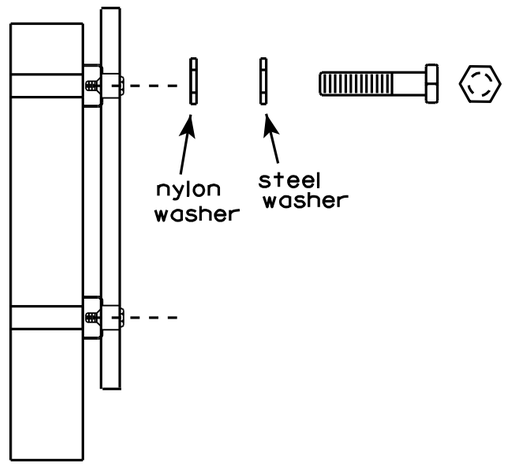


"J" ASSEMBLY





WASHER PLACEMENT



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

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

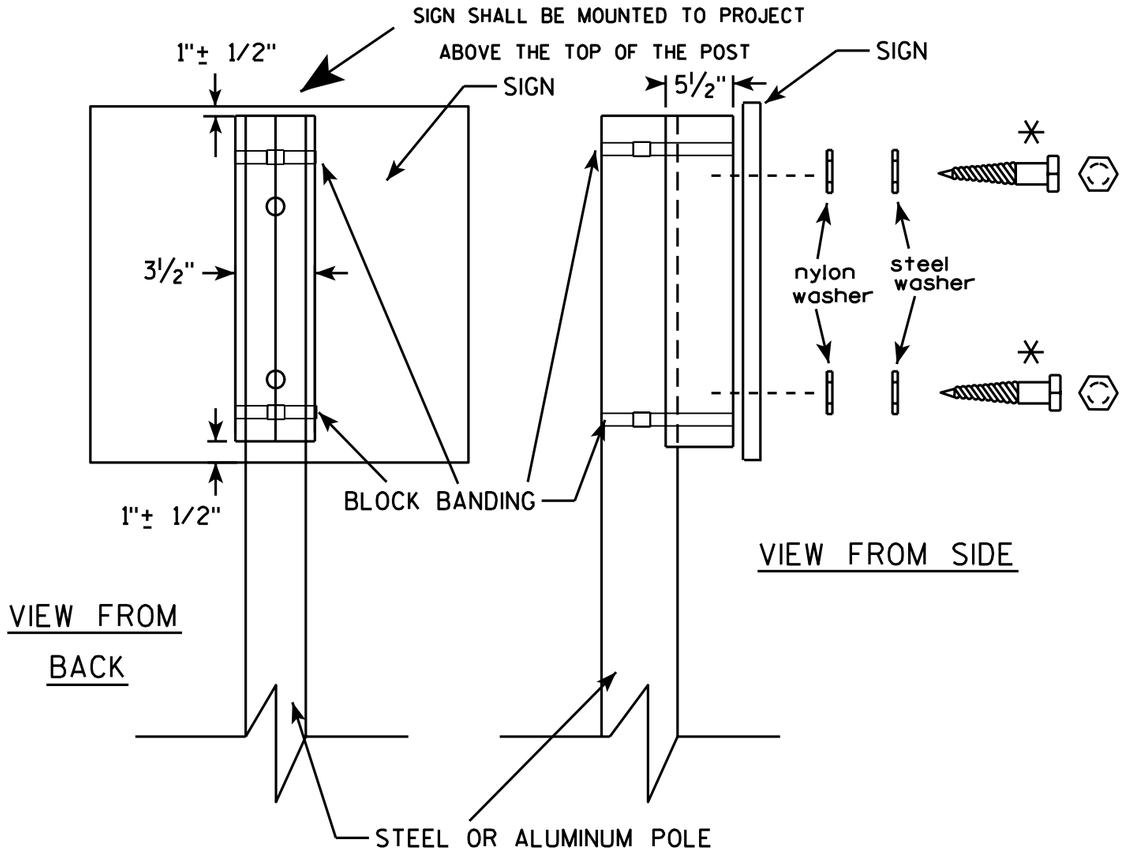
STANDARD SIGN
SIGN BANDING DETAILS

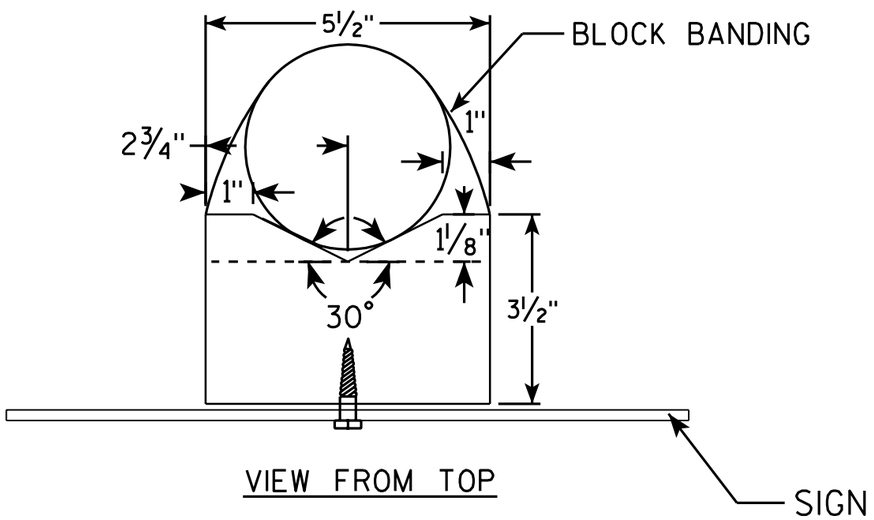
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 96	E





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, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. 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

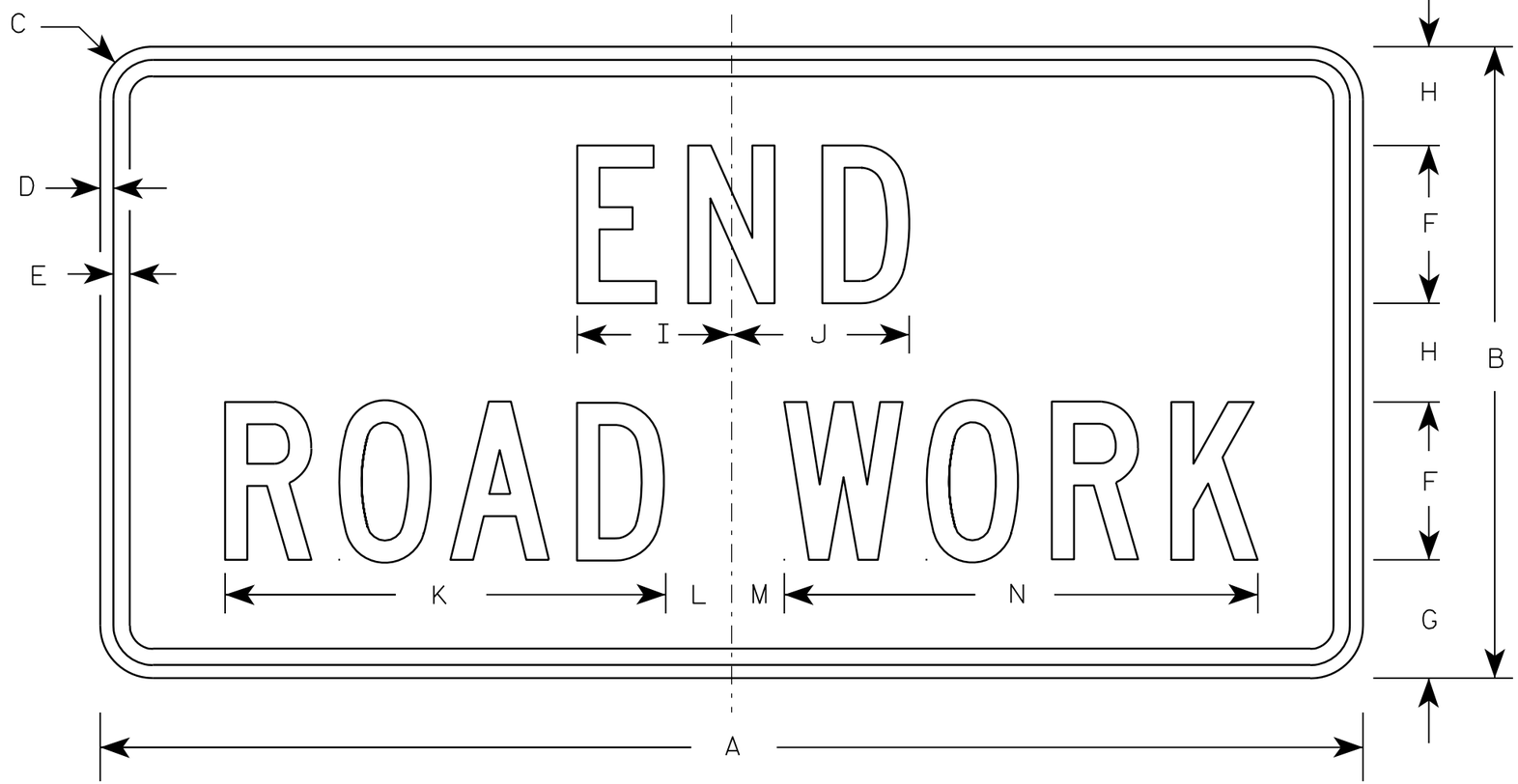
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO: 97 E

FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph
WISDOT/CADDS SHEET 42



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - 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.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

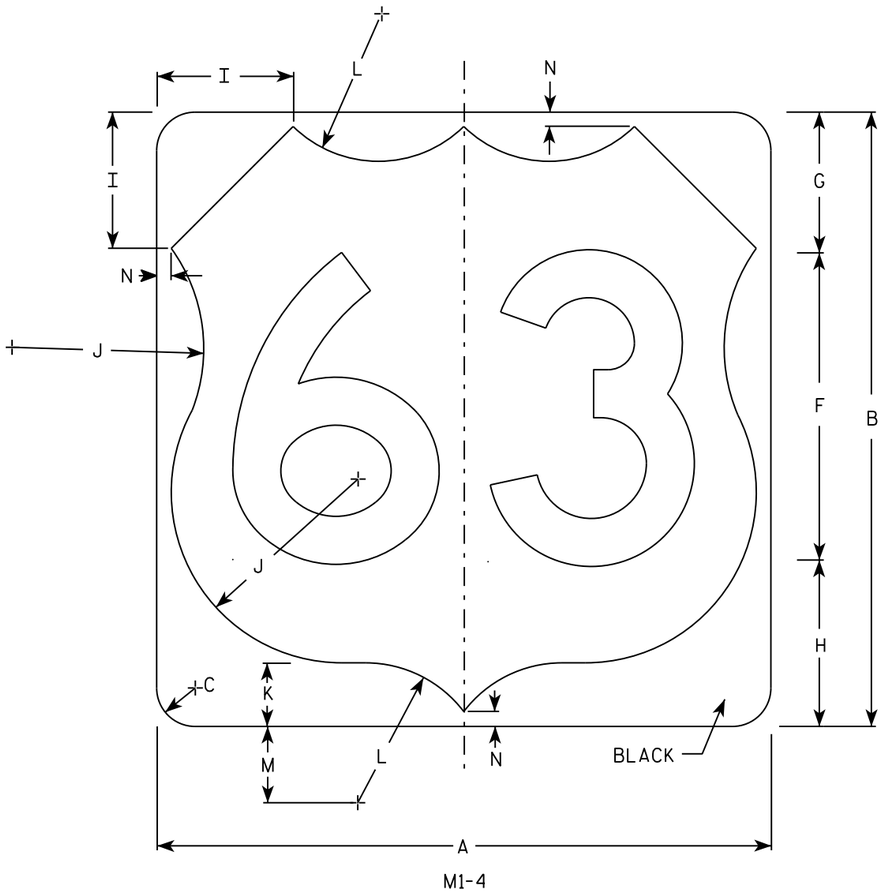
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

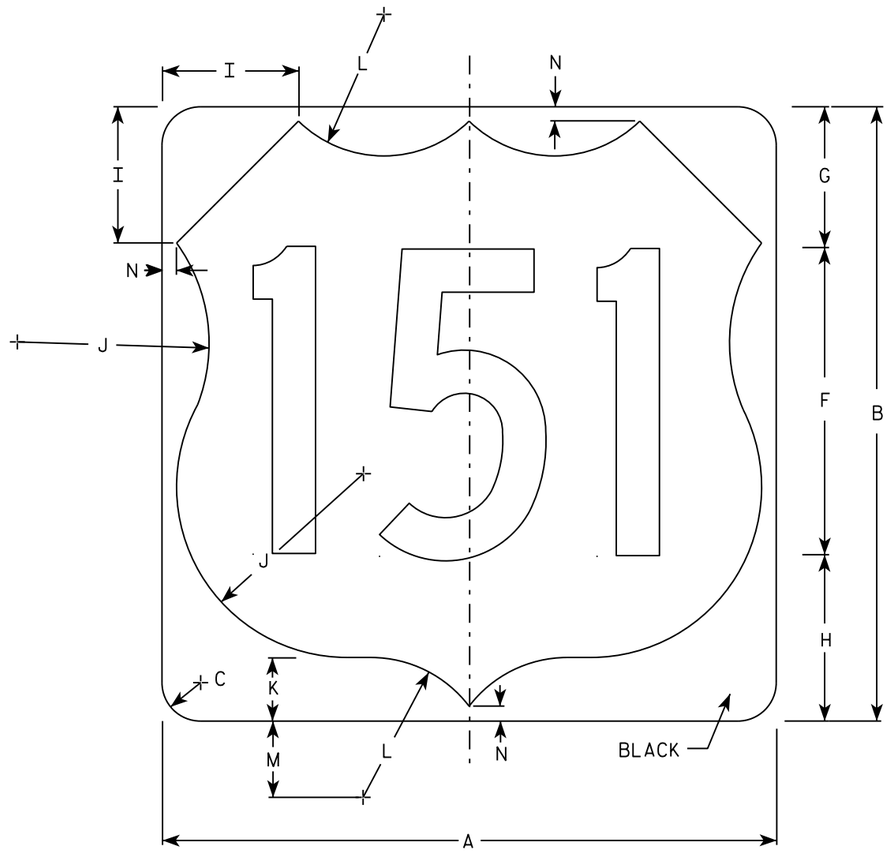
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 98	E

NOTES

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



M1-4



M1-4

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	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0

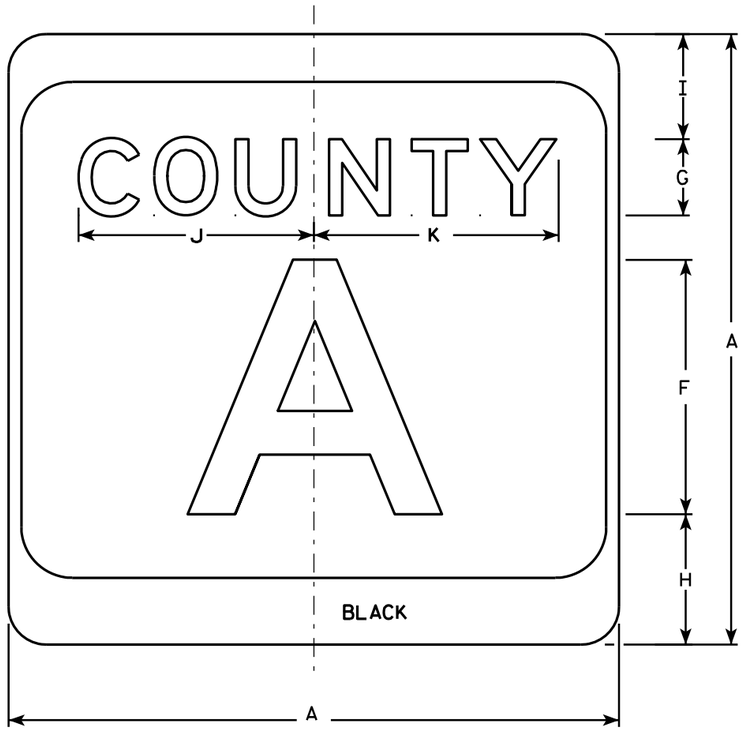
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

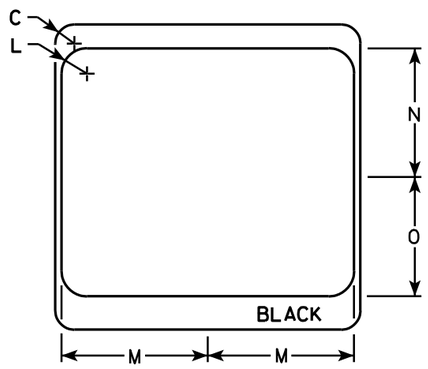
APPROVED Matthew R Rauch
for State Traffic Engineer

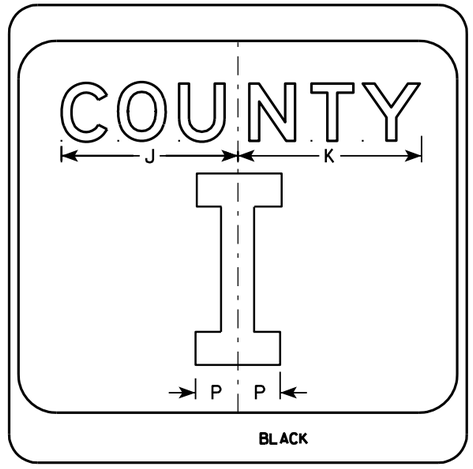
DATE 3/16/18 PLATE NO. M1-4.10

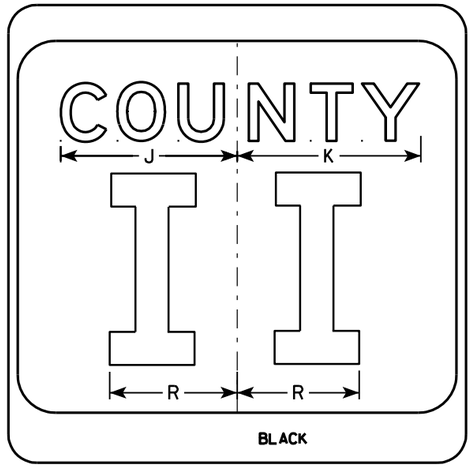
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 99	E



M1-5A







NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

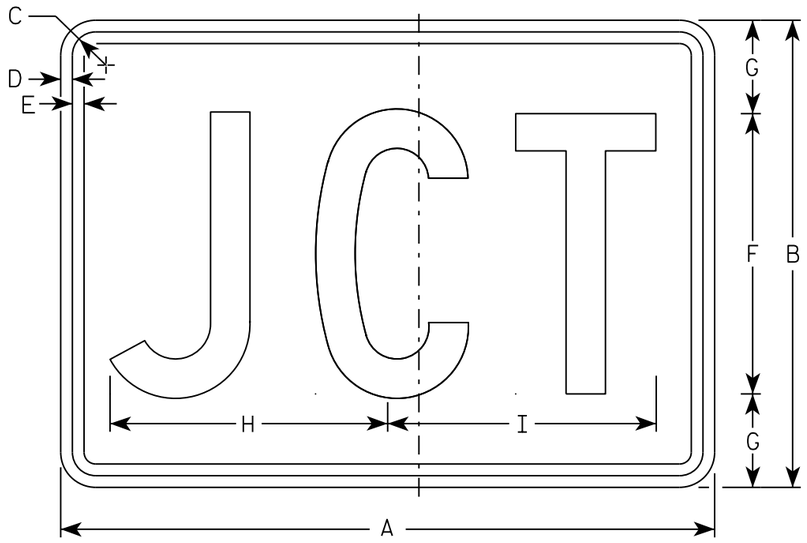
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

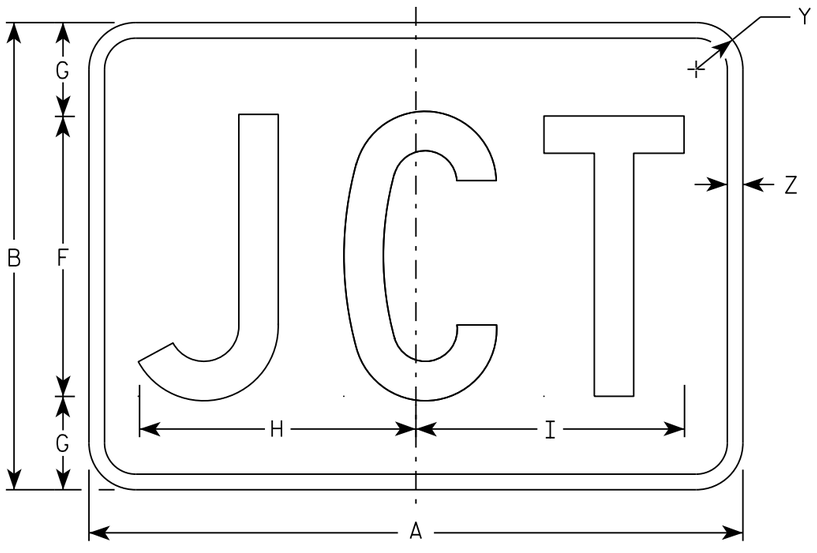
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 100	E



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

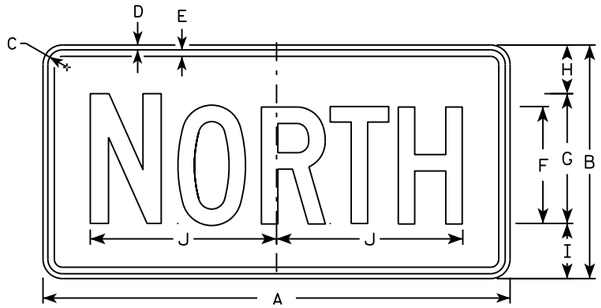
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

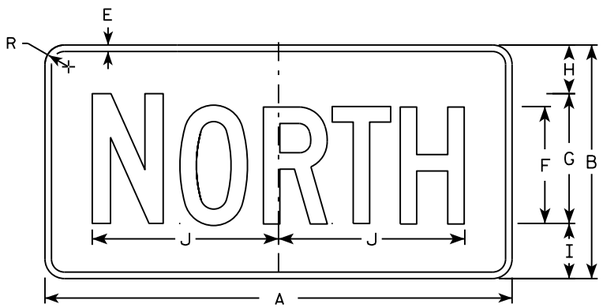
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 101 12-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



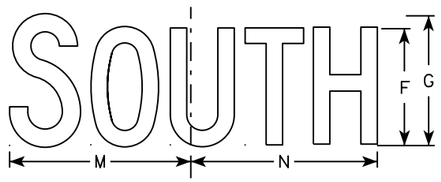
M3-1
MM3-1
MP3-1



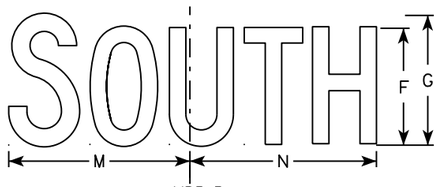
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

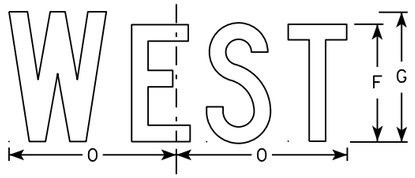
MB3-2
MK3-2
MN3-2



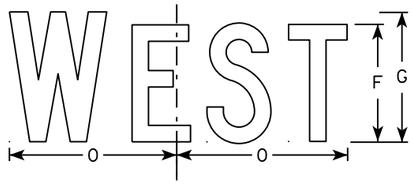
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

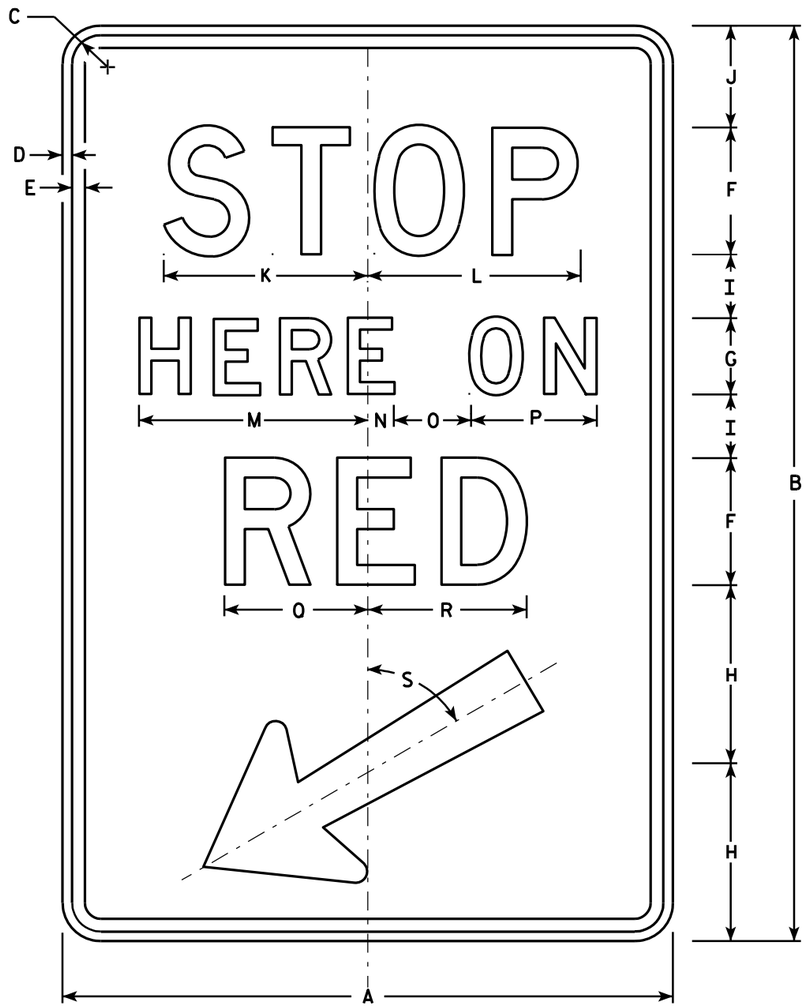
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

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

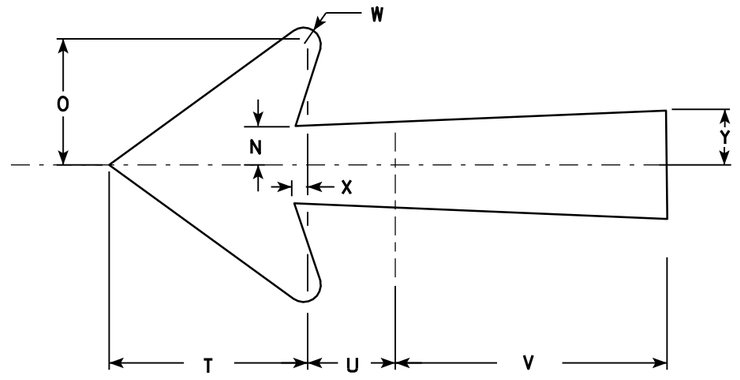
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



R10-6

NOTES

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



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
2M	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
3																											
4																											
5																											

STANDARD SIGN
R10-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-6.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 103	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R106.DGN PLOT DATE : 05-APR-2011 09:50 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.959043:1.000000

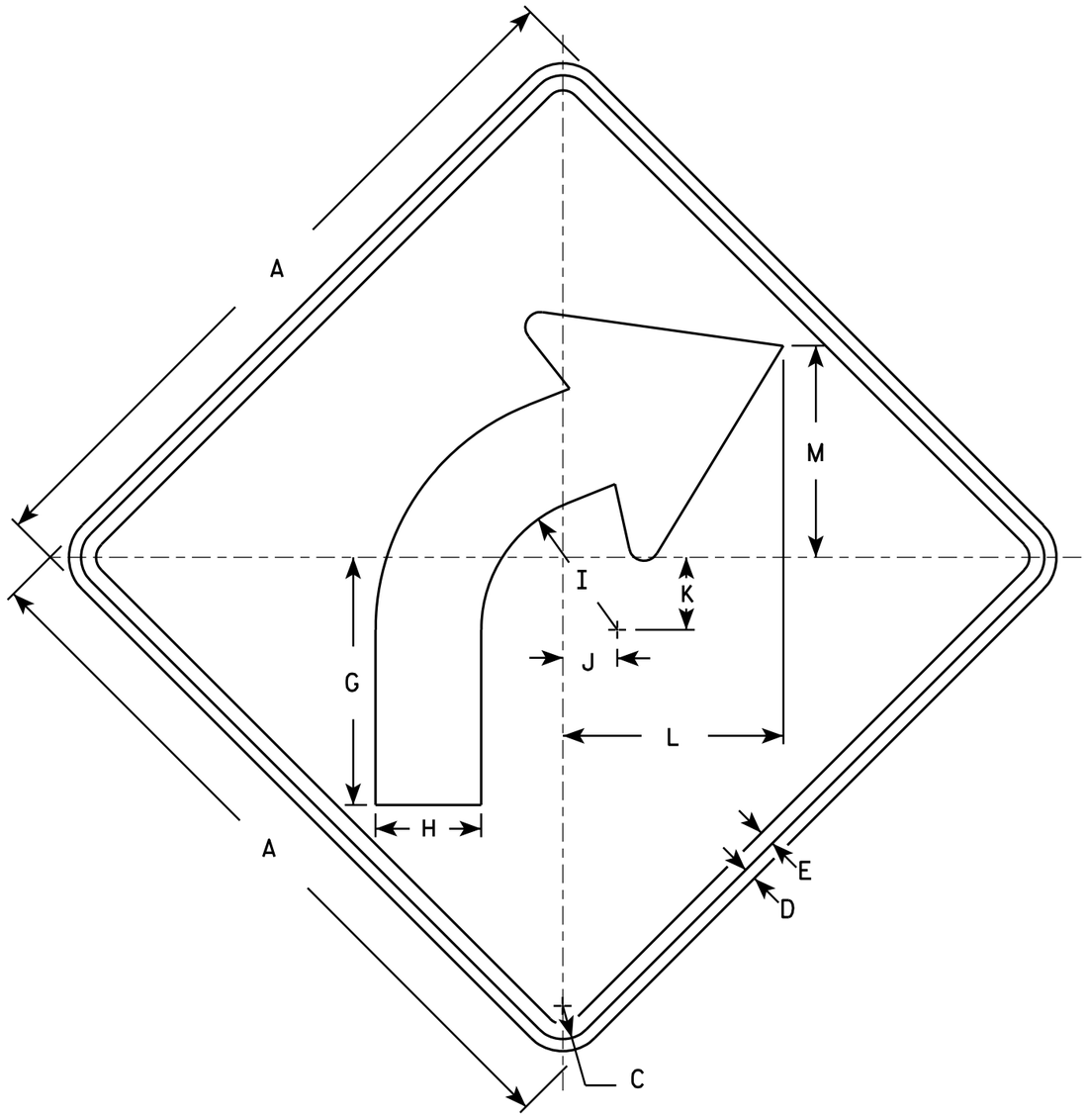
WISDOT/CADDS SHEET 42

7

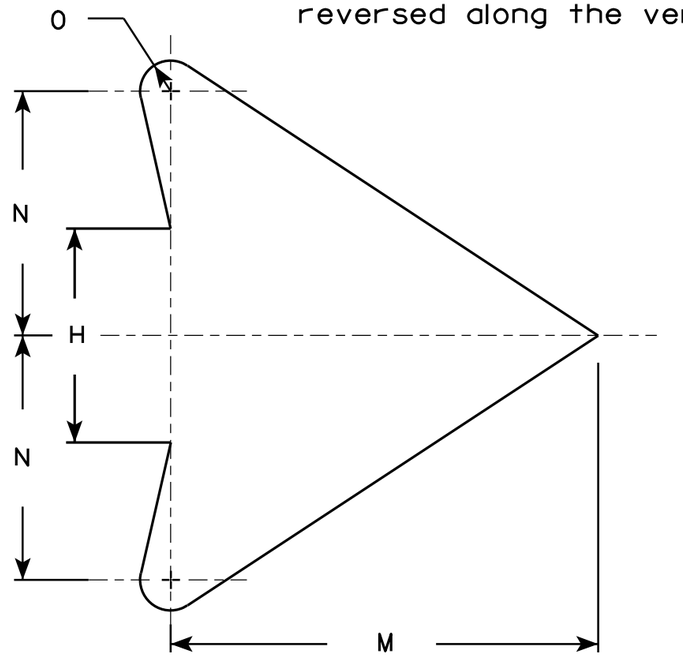
7

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



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	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

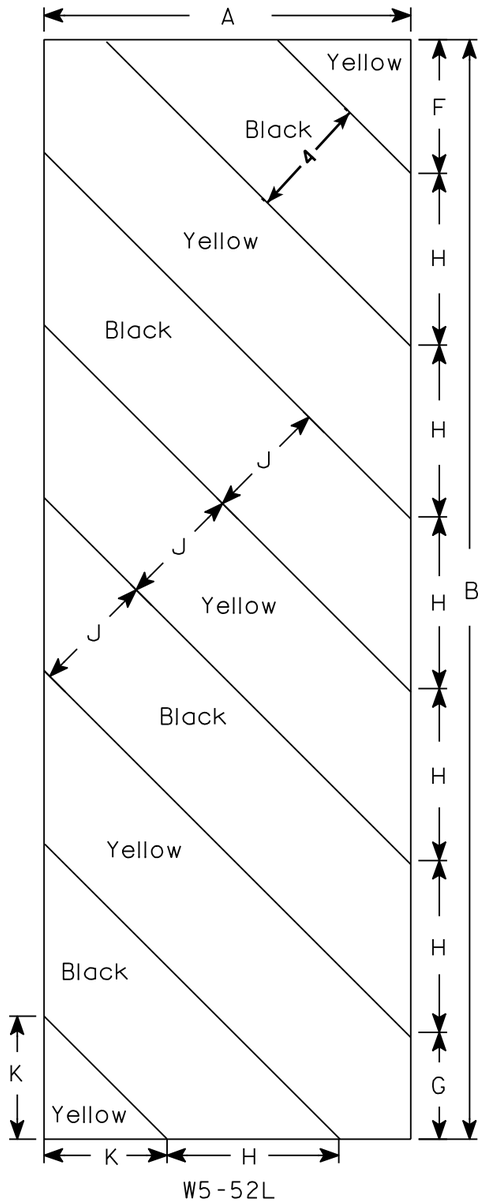
STANDARD SIGN
W1-2

WISCONSIN DEPT OF TRANSPORTATION

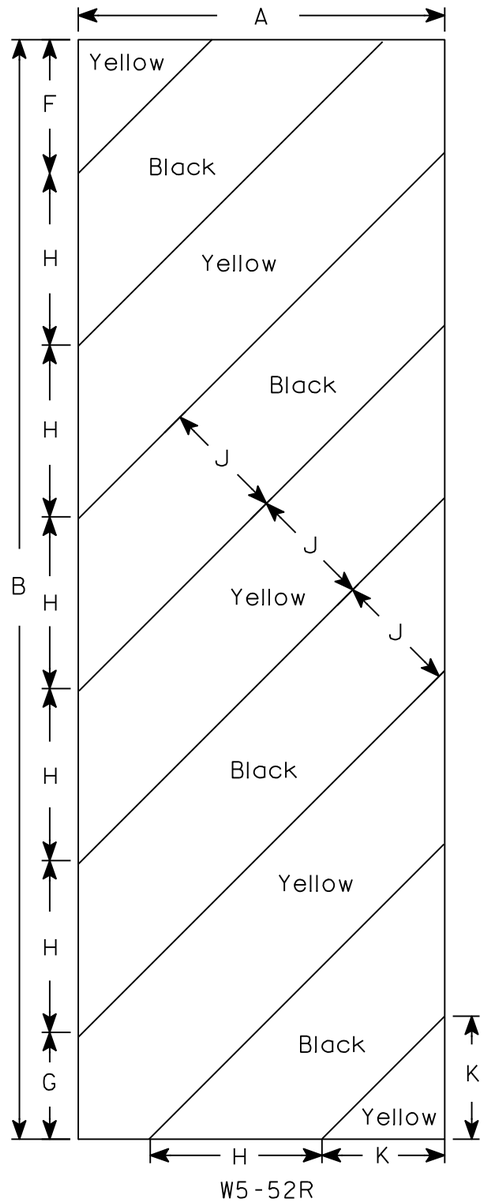
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 104	E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

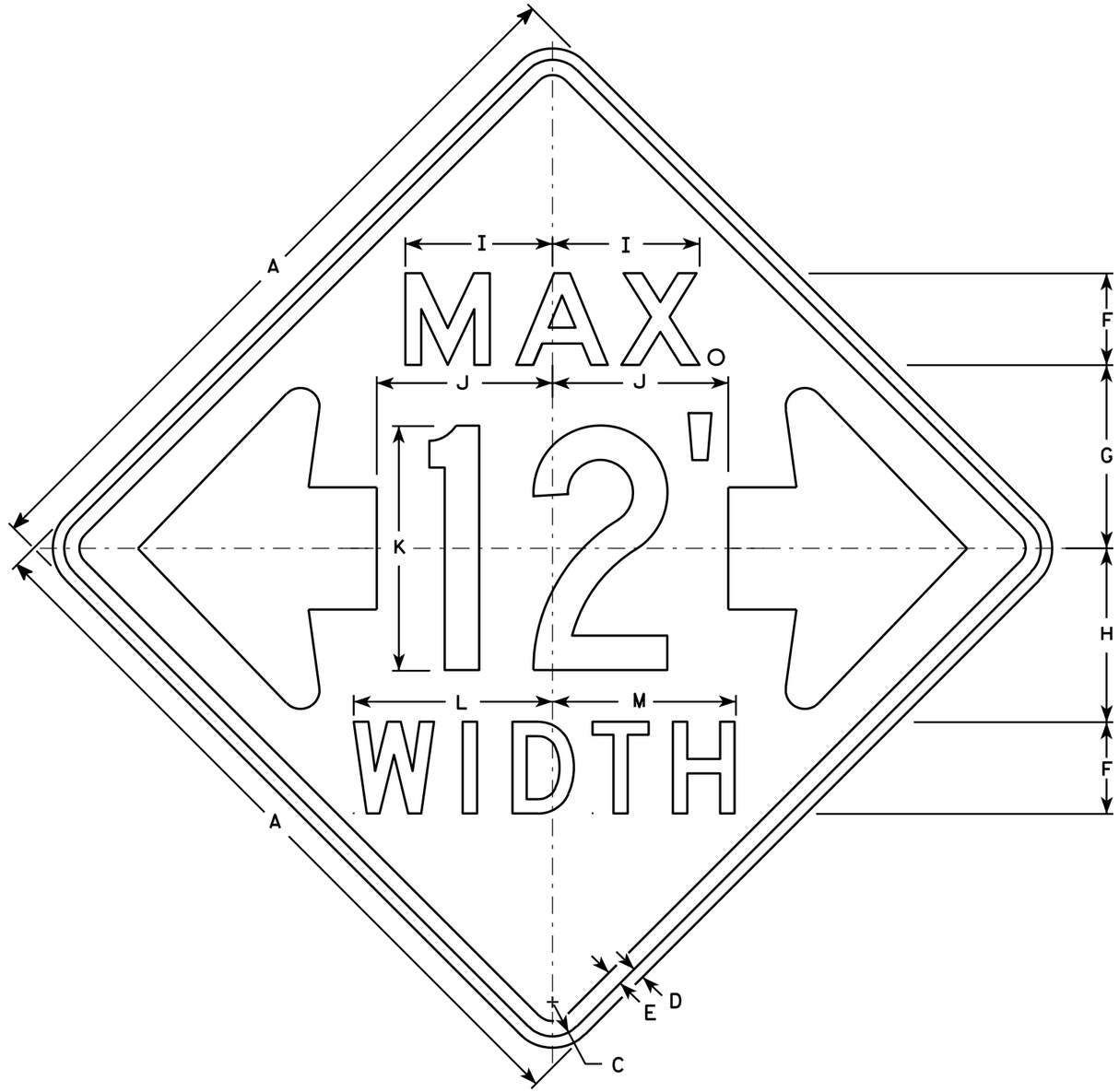
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

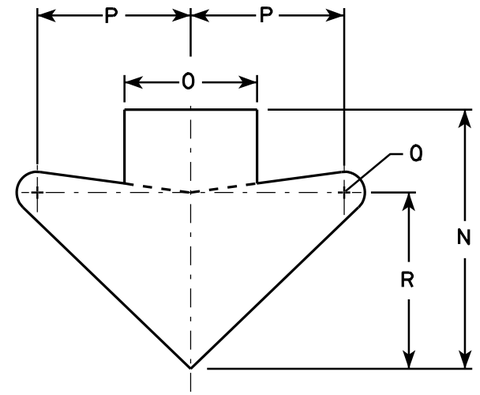
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 105 | E



W12-52

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



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

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

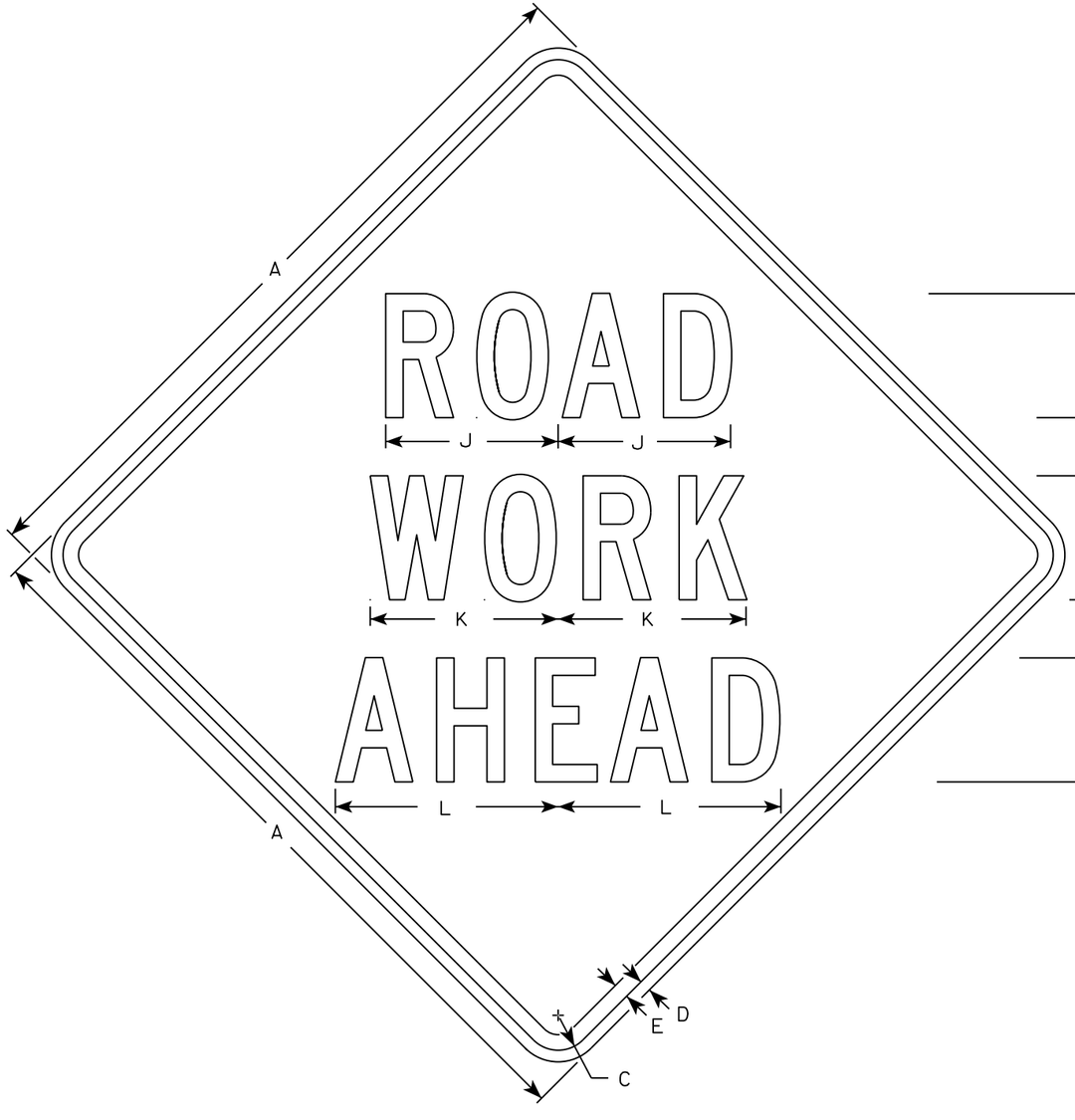
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

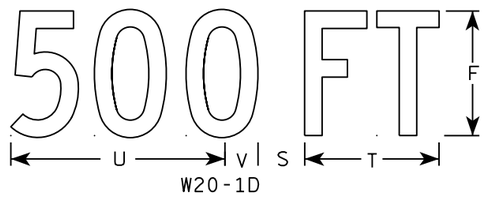
7

7

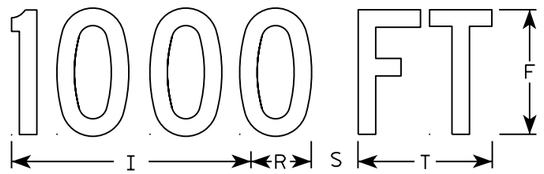
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 106 | E



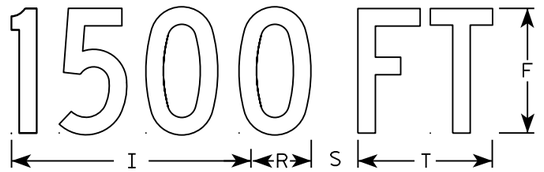
W20-1A



W20-1D

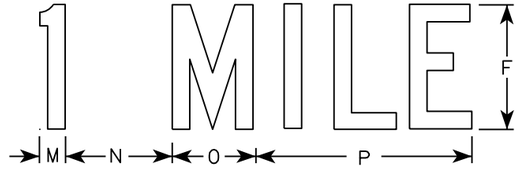


W20-1C

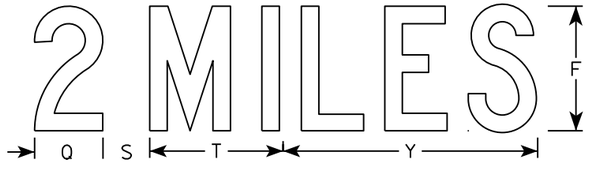


W20-1B

W20-1G



W20-1F



W20-1E

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.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	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		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		2 1/4	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		2 1/4	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		2 1/4	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		2 1/4	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		2 1/4	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, F & G

WISCONSIN DEPT OF TRANSPORTATION

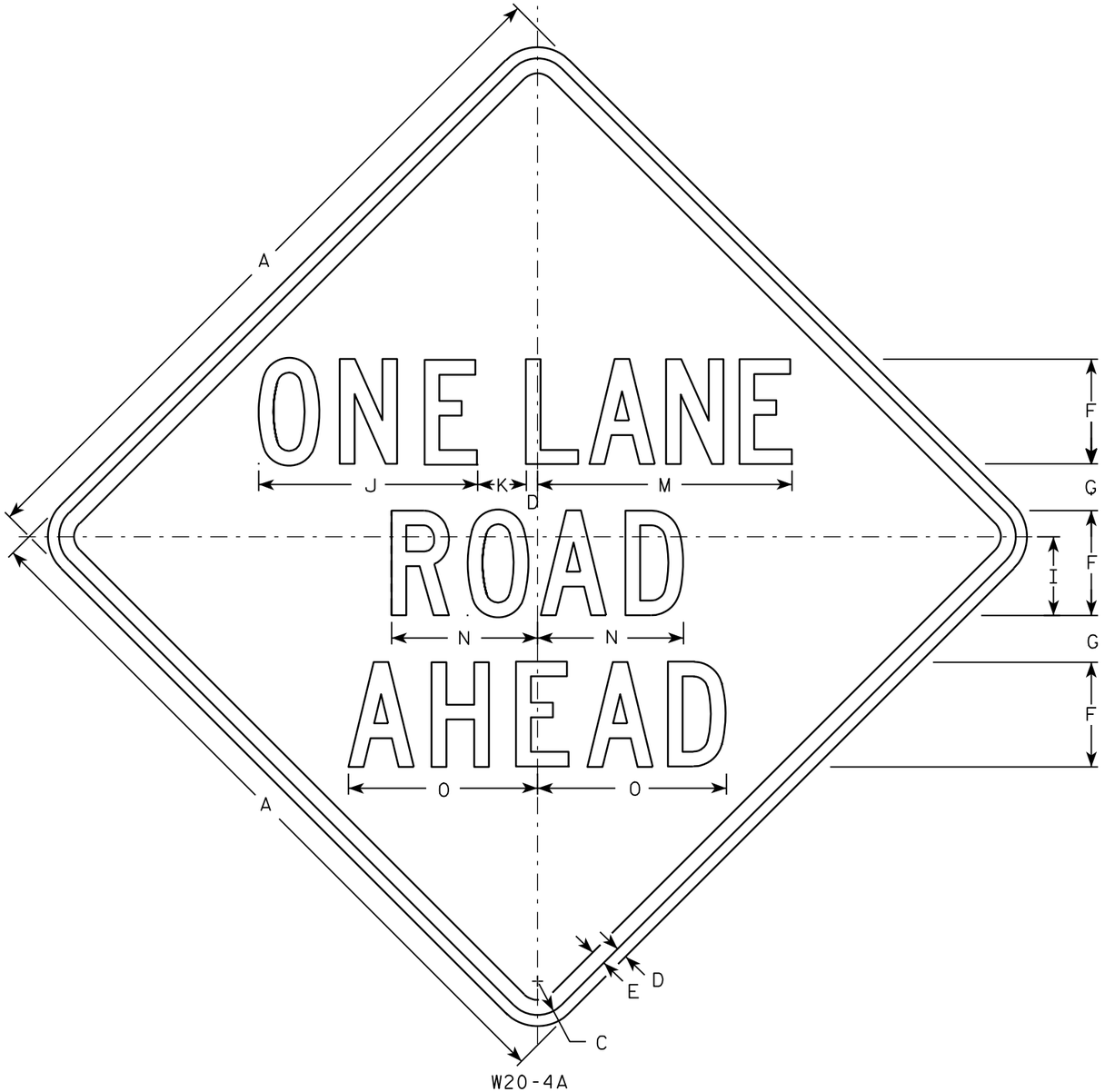
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

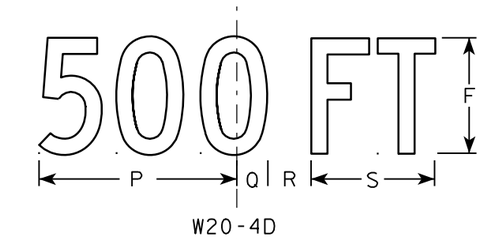
PROJECT NO:

SHEET NO: E

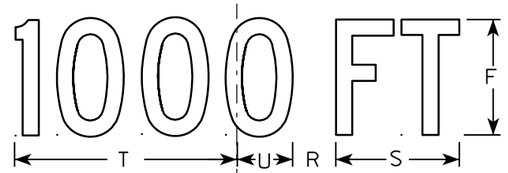
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



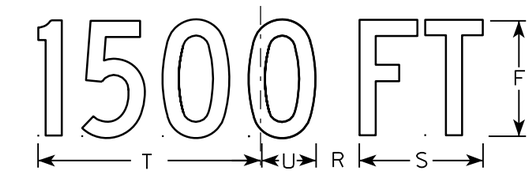
W20-4A



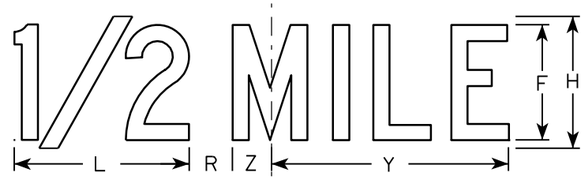
W20-4D



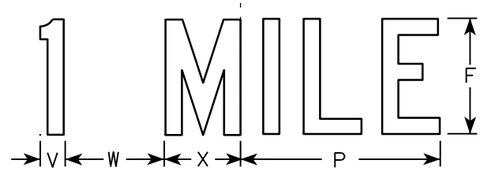
W20-4C



W20-4B



W20-4G



W20-4F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - 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	36		1 5/8	5/8	3/4	5	2 3/8	6	3 3/4	10 3/8	2 3/8	8	13 1/2	7	8 7/8	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	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-4A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

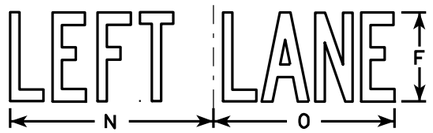
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-4.9

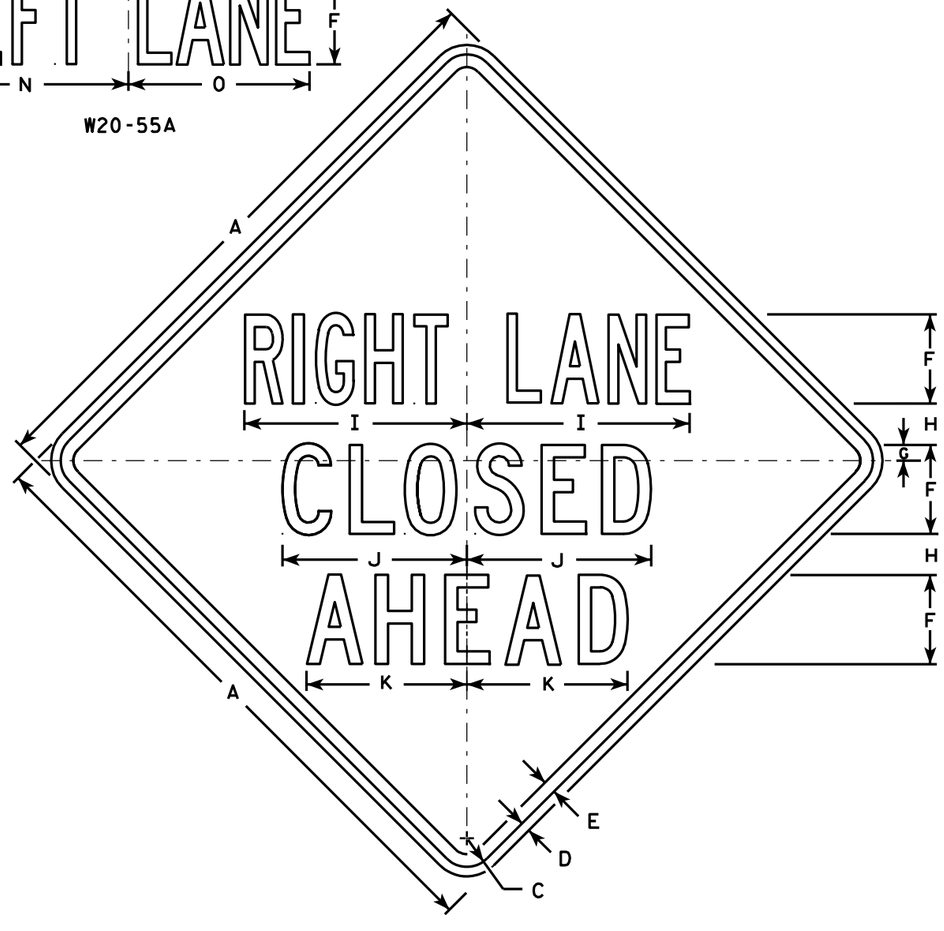
PROJECT NO:

SHEET NO: 108 E

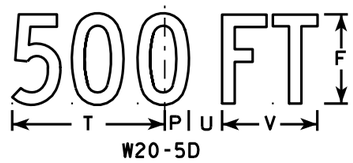
W20-56A



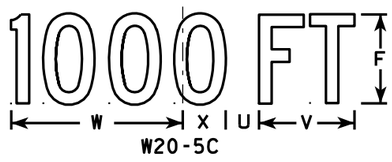
W20-55A



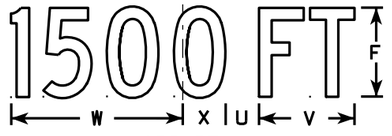
W20-5A



W20-5D



W20-5C



W20-5B

W20-5G

W20-5F

NOTES

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

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	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

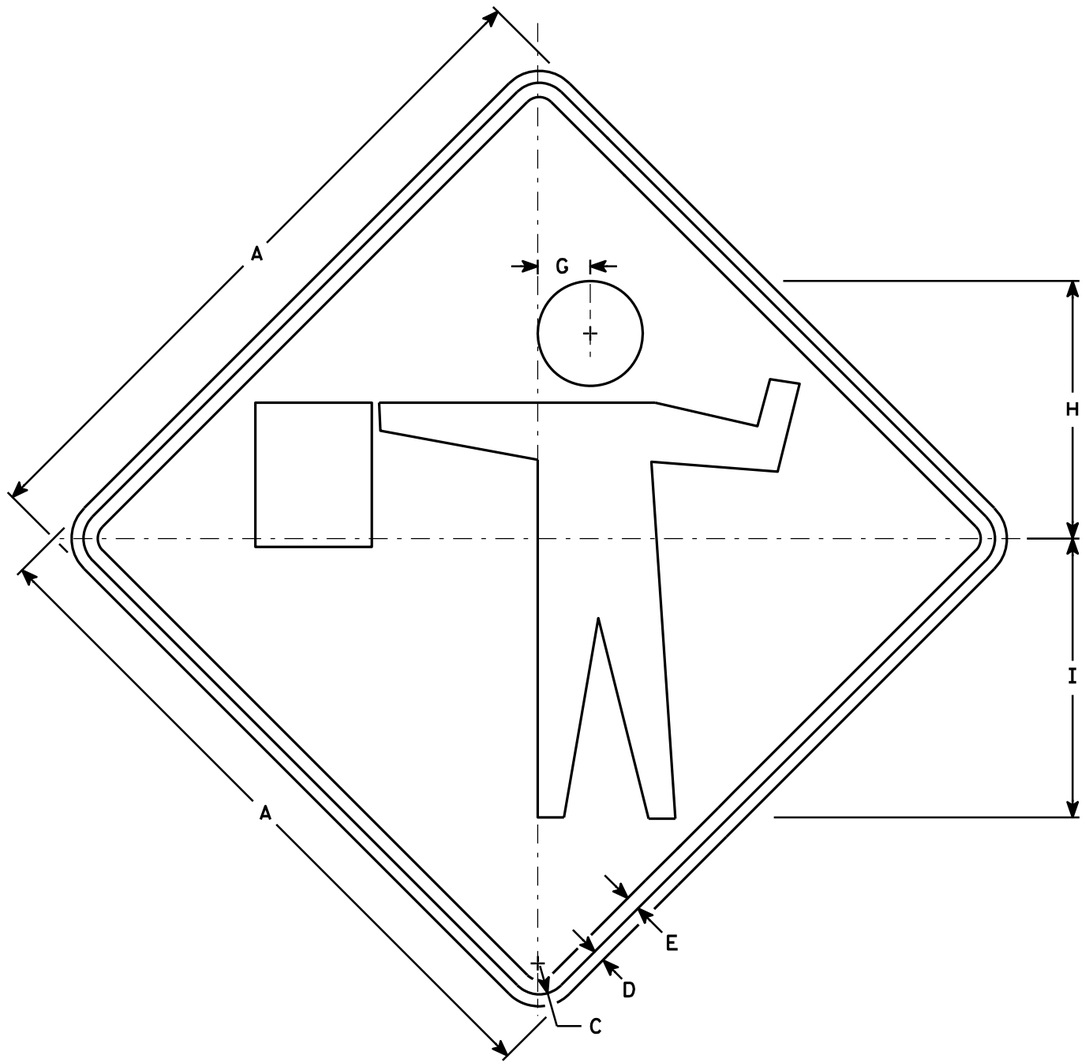
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 109 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W20-7A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. 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	36		1 5/8	5/8	3/4		2 3/4	13 1/2	14 5/8																		9.00
2S	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
2M	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
3	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
4	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
5	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00

STANDARD SIGN
W20-7A

WISCONSIN DEPT OF TRANSPORTATION

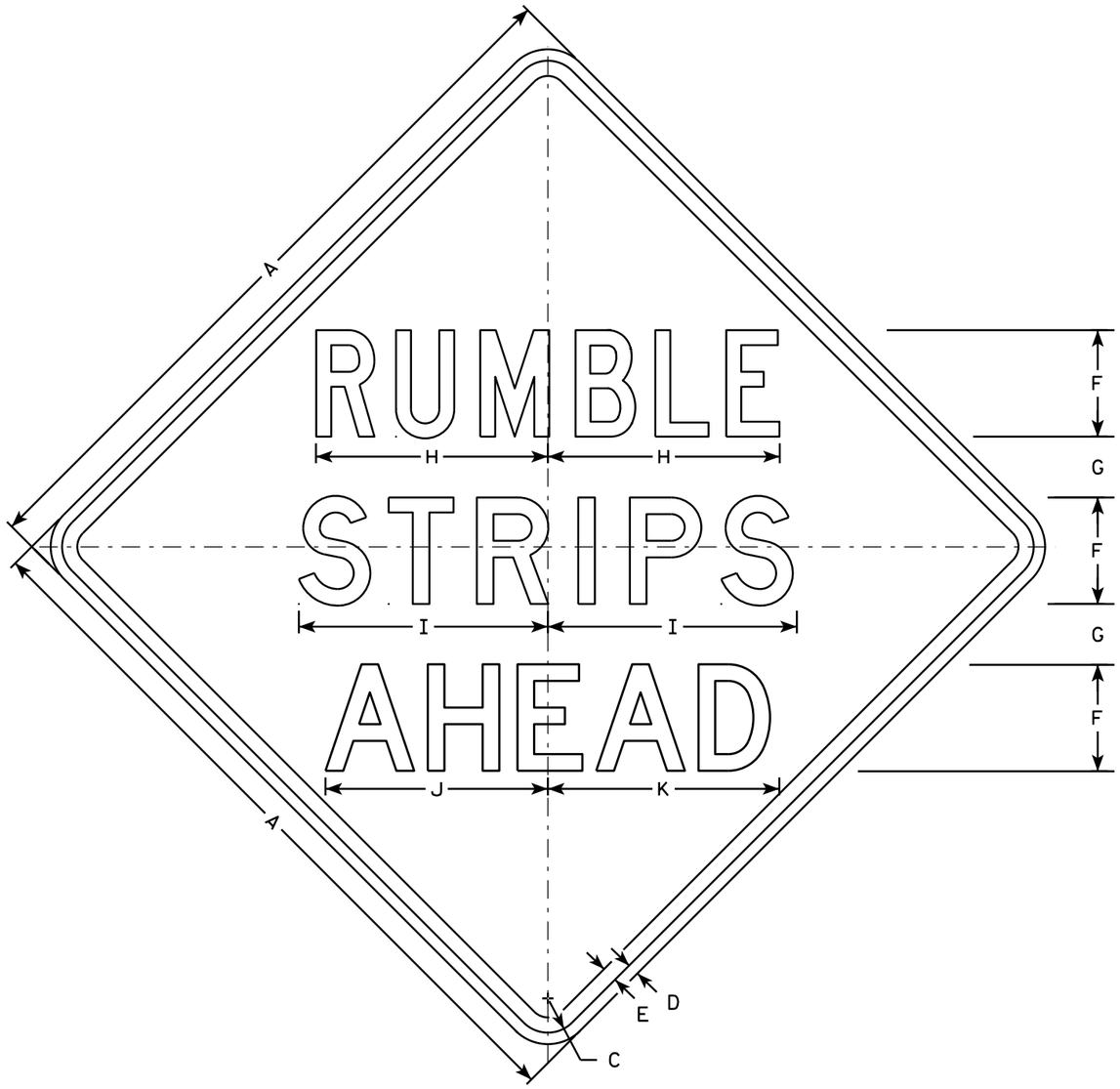
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-7A.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 110 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W207A.DGN PLOT DATE : 18-MAR-2011 13:14 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 7.945391:1.000000 WISDOT/CADDS SHEET 42



W21-65

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 C
   Lines 2 and 3 are Series D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 1/4	10 7/8	11 5/8	11	11 5/8																9.0
2S	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
2M	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
3	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
4	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
5	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0

STANDARD SIGN

W21-65

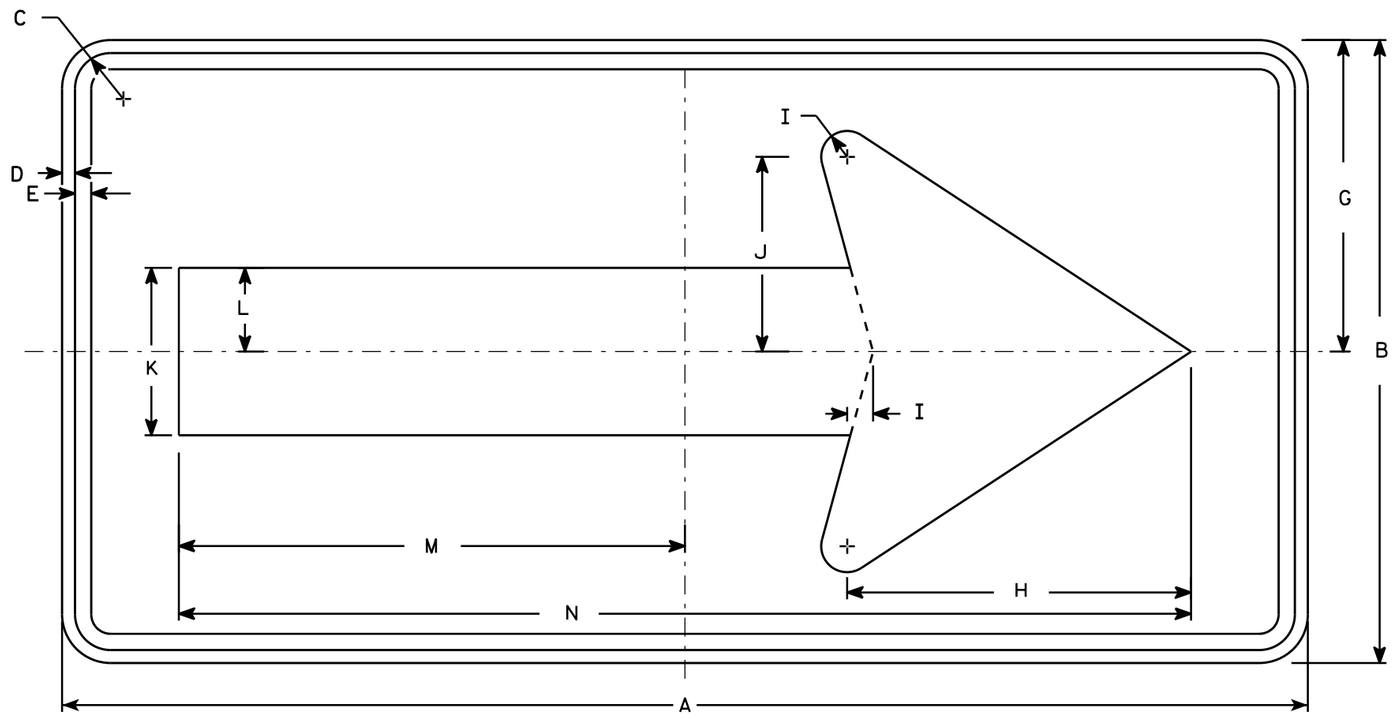
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/28/14 PLATE W21-65.1

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W2165.dgn PLOT DATE : 28-MAY-2014 13:24 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 9.729210:1.000000 WISDOT/CADDS SHEET 42



W01-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. 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	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

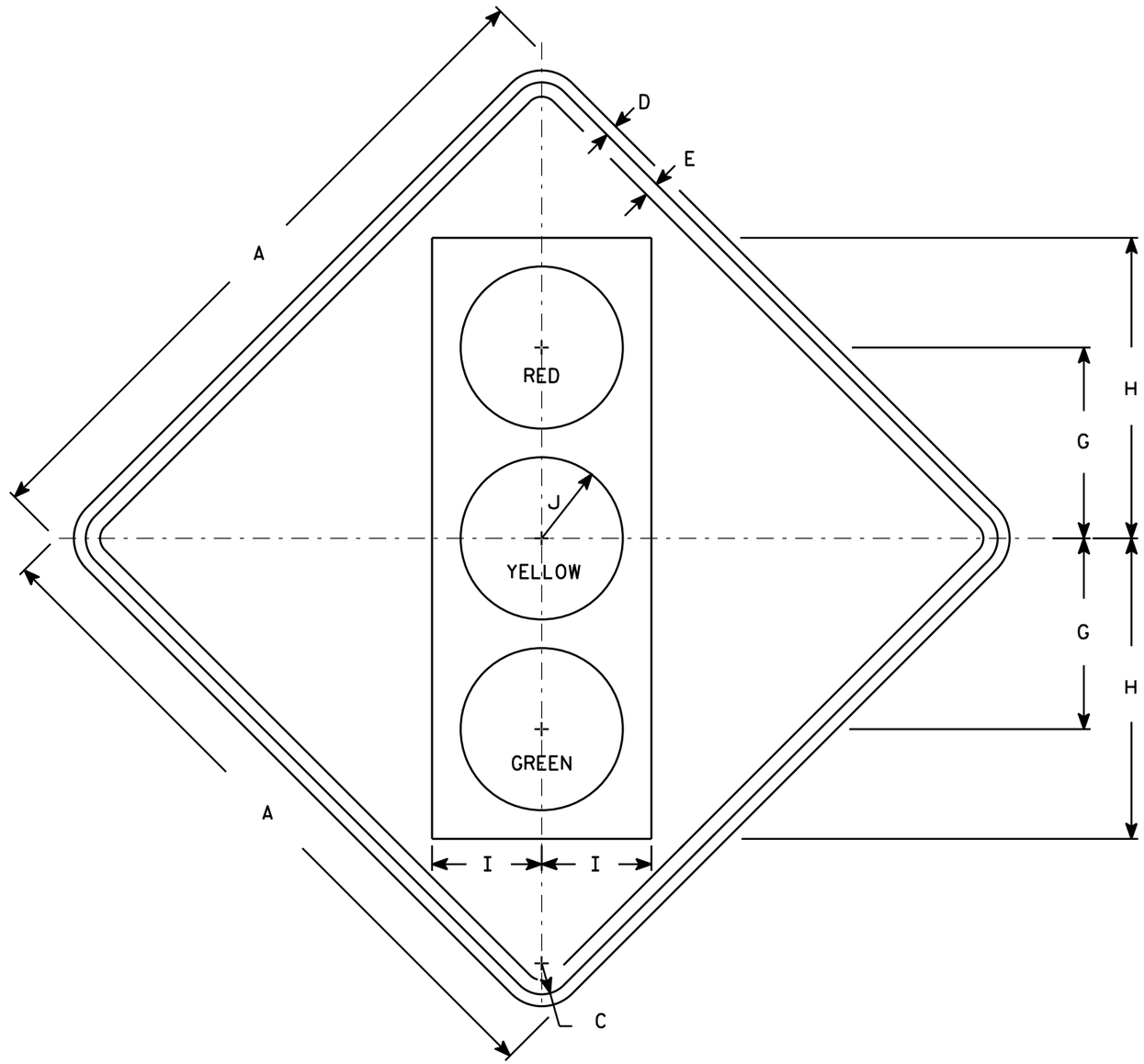
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



W03-3

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - 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. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2S	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
2M	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
3	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

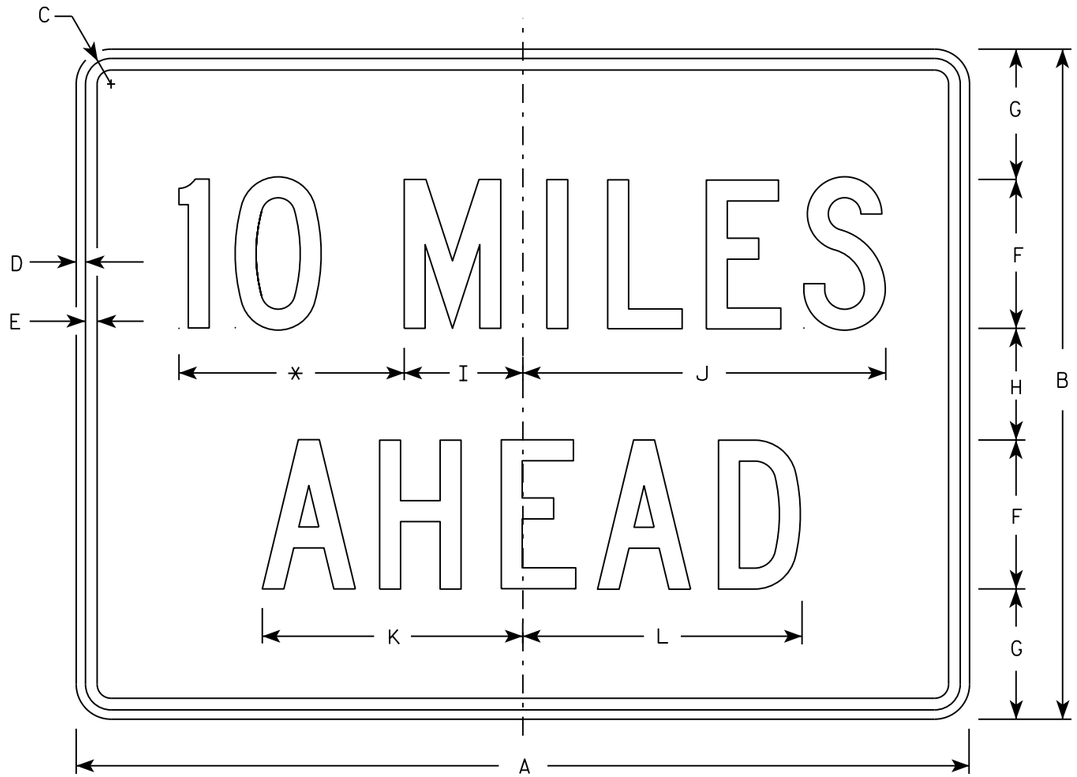
STANDARD SIGN
W03-3

WISCONSIN DEPT OF TRANSPORTATION

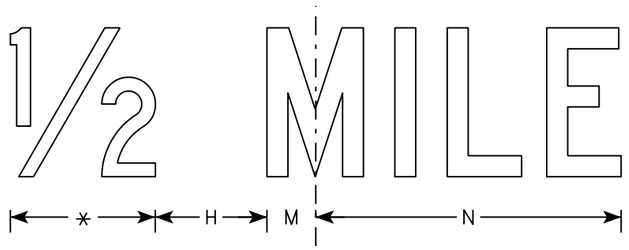
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 113 W03-3.1

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



W057-52



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.
5. Substitute appropriate numerals to the nearest quarter mile and optically adjust spacing to achieve proper balance.

* 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	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	12													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0

STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

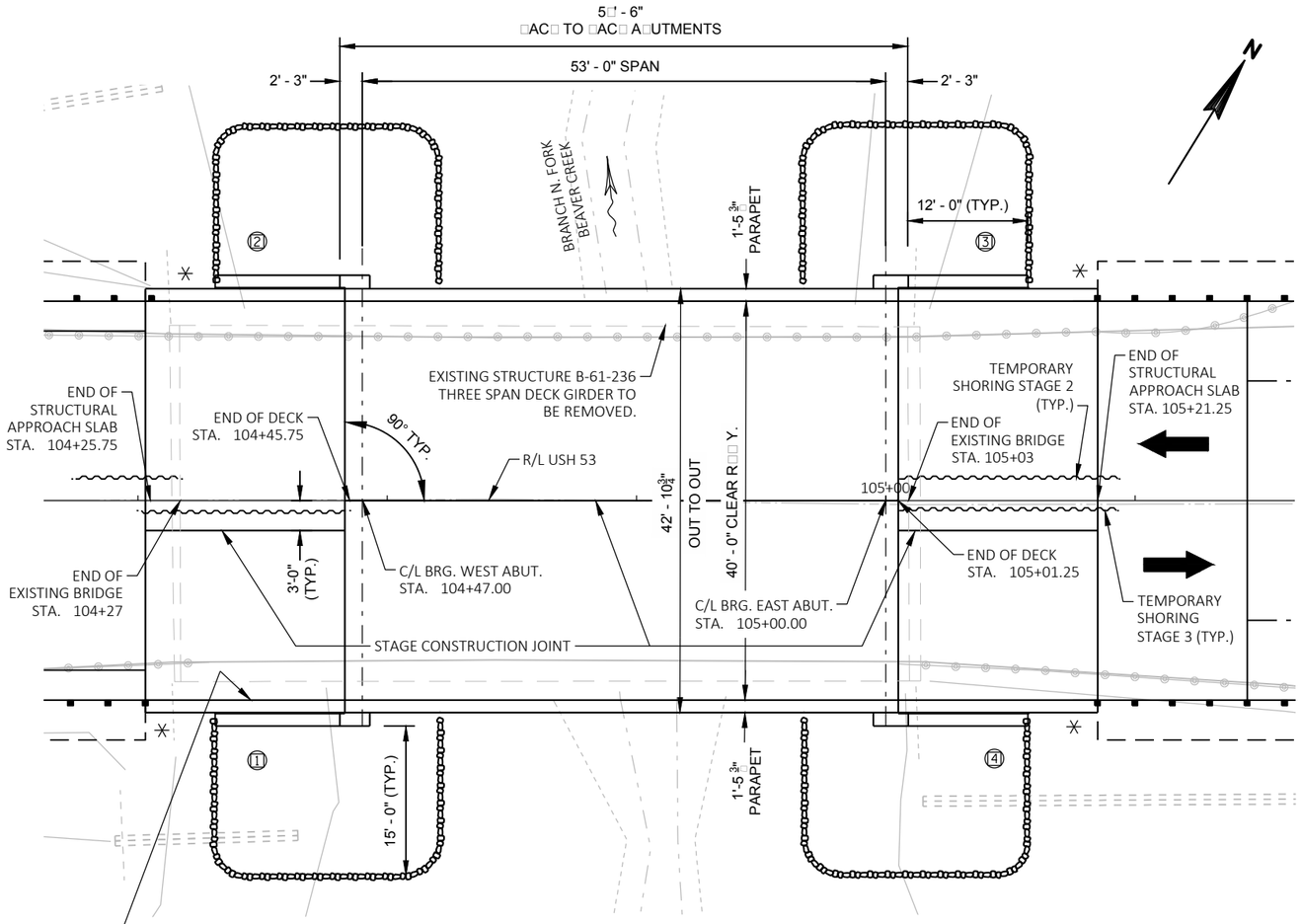
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W057-52.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 114	E

STATE PROJECT NUMBER

1633-06-74



PLAN

SINGLE SPAN - 36" PRESTRESSED GIRDERS

LEGEND

✳ PROVIDE ANCHOR ASSEMBLY FOR THRIE BEAM GUARD RAIL ATTACHMENT

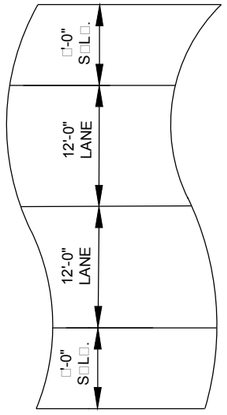
(11) INDICATES WING NUMBER

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF=1.15
OPERATING RATING FACTOR: RF=1.50
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 220 KIPS

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

MATERIAL PROPERTIES:
CONCRETE MASONRY SUPERSTRUCTURE.....f'c = 4,000 P.S.I.
CONCRETE MASONRY SUBSTRUCTURE.....f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60.....f'c = 60,000 P.S.I.
36" PRESTRESSED GIRDER, CONCRETE MASONRY....f'c = 8,000 P.S.I.
STRANDS-0.5" DIA. WITH ULT. TENSILE STRENGTH OF 270,000 P.S.I.



TRAFFIC VOLUME

USH 53
A.A.D.T. = 5,700 (2040)
RDS = 60 MPH

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100} = 440 C.F.S.
VEL. = 5.9 F.P.S.
H.W. = ELEV. 795.89
WATERWAY AREA = 74 SQ. FT.
DRAINAGE AREA = 1.17 SQ. MI.
ROAD OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

NOTE:
STRUCTURE IS LOCATED IN BACKWATER FROM THE DOWNSTREAM NORTH FORK BEAVER CREEK FLOODPLAIN. BACKWATER ELEVATION ANTICIPATED TO BE ABOVE BEAM SEAT ELEVATION.

2 YEAR FREQUENCY

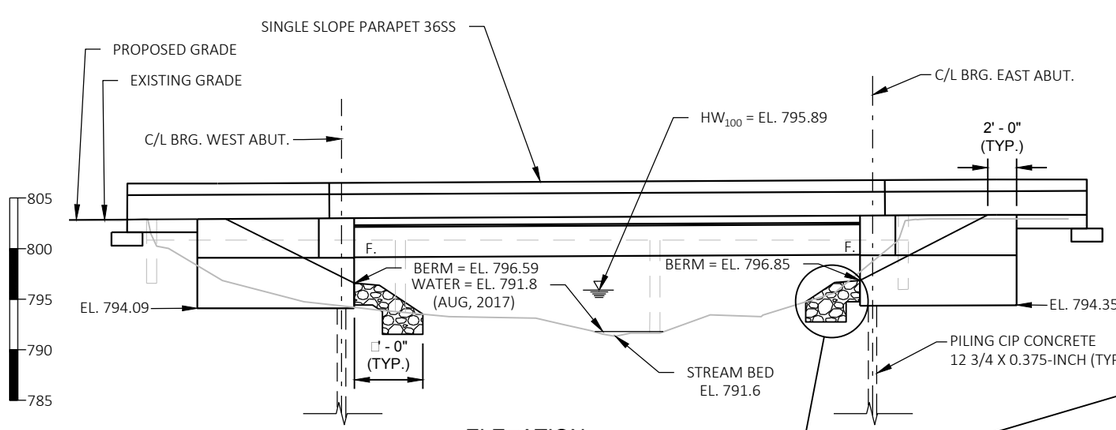
Q_2 = 75 C.F.S.
$H.W._2$ = ELEV. 793.56
VEL. = 4.2 FT/S

LIST OF DRAWINGS

FOUNDATION DATA

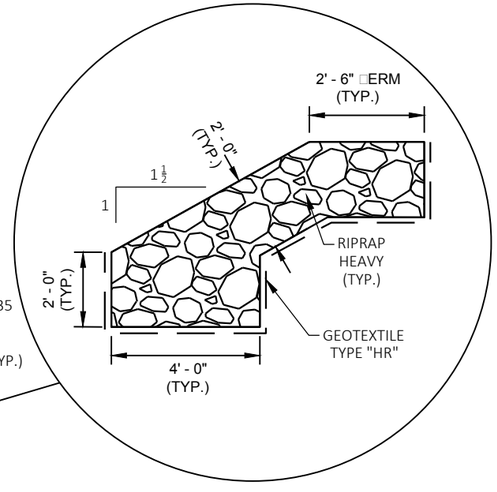
ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 12 3/4 X 0.375-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 210 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 95-FT LONG AT WEST ABUTMENT AND 75-FT LONG AT EAST ABUTMENT.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.50 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.



ELE□ATION

NORMAL TO BRANCH NORTH FORK BEAVER CREEK



WISCONSIN
CHAD D. HALVERSON
E-34364
MADISON, WI
PROFESSIONAL ENGINEER

JUNE 19, 2018

STRUCTURE DESIGN CONTACTS
BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
CHAD HALVERSON (608) 663-1218

NO.	DATE	REVISION	BY

KL Engineering [A] Better Experience

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/02/18
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-61-238

USH 53 OVER BRANCH N. FORK BEAVER CREEK

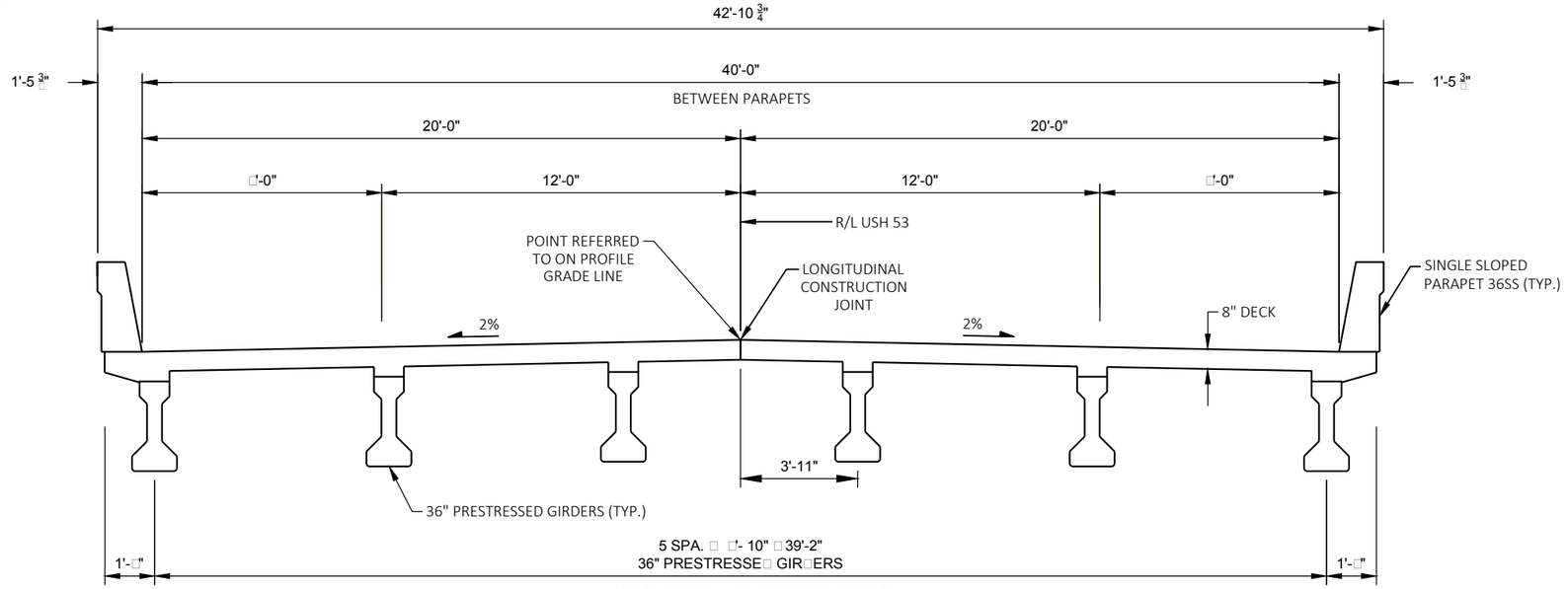
COUNTY	TOWN ~~/CITY/VILLAGE~~
TREMPEALEAU	ETTRICK

DESIGN SPEC. AASHTO LRFD DESIGN SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CDH	CAH	JAL	CDH

GENERAL PLAN

SHEET 1 OF 15
115



PROPOSED CROSS SECTION

(LOOKING EAST)

GENERAL NOTES

STATE PROJECT NUMBER

1633-06-74

DRAWINGS SHALL NOT BE SCALED.

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.

⚠ AT THE BACKFACE OF ABUTMENT ALL VOLUME (WITHIN THE PAY LIMITS SHOWN BELOW) WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURAL BACKFILL.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND STRUCTURAL APPROACH SLABS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND TOP OF THE PARAPETS.

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 IN THE ABUTMENT DETAILS.

THE EXISTING STRUCTURE B-61-236, IS A THREE-SPAN DECK GIRDER BRIDGE WITH A WIDTH OF 36 FT AND A LENGTH OF 76 FT IS TO BE REMOVED.

ALL FIELD CONNECTIONS SHALL BE MADE WITH $\frac{3}{4}$" DIAMETER FRICTION TYPE HIGH - TENSILE STRENGTH BOLTS UNLESS SHOWN OR NOTED OTHERWISE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER SHEET.

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF THE EXCAVATION FOR STRUCTURES.

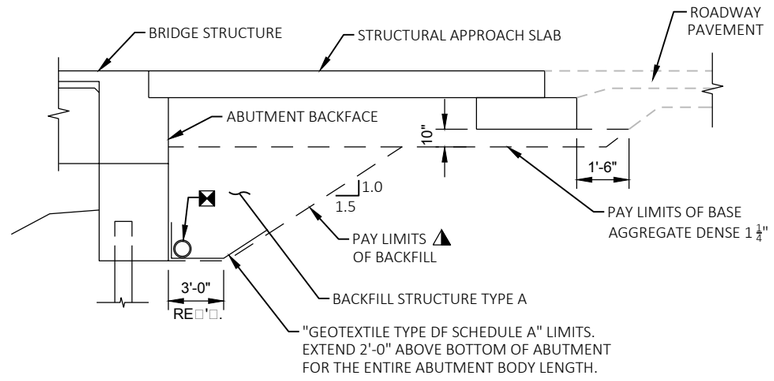
BENCHMARK TABLE

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
BM-1	105+46	38.9' LT	SURVEY NAIL IN PPOL #15742	802.97
BM-2	105+55	61.0' RT	SURVEY NAIL IN PPOL	804.50
BM-20	99+07	36.7' LT	RR SPIKE IN WOOD POST W/METER	802.49
BM-21	109+18	41.7' LT	RR SPIKE IN PPOL #15741	804.70

LEGEND

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

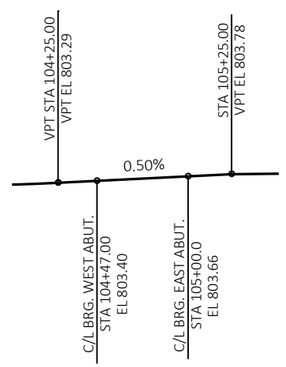
PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



TYPICAL SECTION THRU ABUTMENT

TOTAL ESTIMATED QUANITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	E. ABUT	1. ABUT	SUPER.	STRUCT. APPR. SLAB	TOTAL
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-61-236	LS	---	---	---	---	1
203.0600.S	REMOVING OLD STRUCTURE OVER WATER AT IT'S MINIMAL DEPTH 104.66	LS	---	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-61-23	LS	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	120	120	---	---	256
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	---	---	---	266	266
502.0100	CONCRETE MASONRY BRIDGES	CY	49	49	110	116	324
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	269	100	440
502.3210	PIGMENTED SURFACE SEALER	SY	---	---	50	36	86
503.0136	PRESTRESSED GIRDER TYPE I 36-INCH	LF	---	---	324	---	324
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,210	2,210	---	---	5,420
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	18,400	18,400	2,640	2,160	44,000
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	---	---	1,460	---	1,460
505.0905	BAR COUPLERS NO. 5	EACH	---	---	205	24	229
505.0906	BAR COUPLERS NO. 6	EACH	10	10	20	---	56
505.0908	BAR COUPLERS NO. 8	EACH	---	---	---	24	24
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	---	---	12	---	12
506.4000	STEEL DIAPHRAGMS B-61-23	EACH	---	---	5	---	5
511.1200	TEMPORARY SHORING B-61-23	SF	281	231	---	---	512
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	13	13	---	---	26
550.2126	PILING CIP CONCRETE 12 3/4 X 0.375-INCH	LF	450	570	---	---	1,020
606.0300	RIPRAP MEDIUM	CY	94	94	---	---	188
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	115	115	---	---	230
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	---	---	---	4	4
645.0111	GEOTEXTILE TYPE DD SCHEDULE A	SY	35	35	---	---	70
645.0120	GEOTEXTILE TYPE HR	SY	164	164	---	---	328
	NON-BID ITEMS						
	FILLER	SIZE					12" X 34"



PROFILE GRADE LINE RTL USH 53

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-238

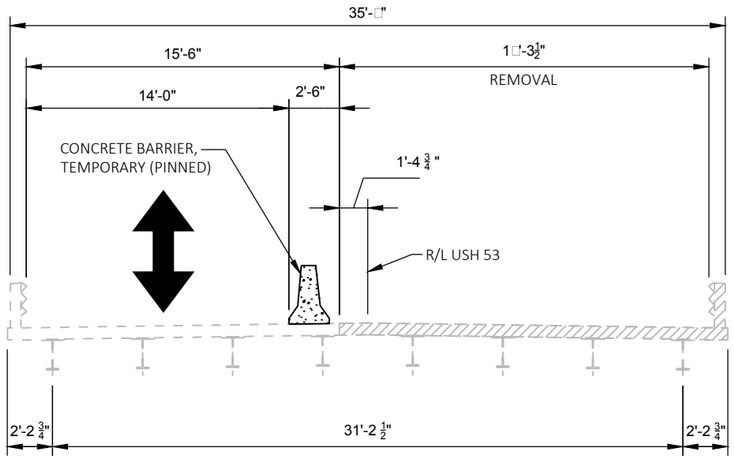
DRAWN BY JAL | PLANS CK'D. CDH

CROSS SECTIONS, NOTES & QUANTITIES

SHEET 2 OF 15

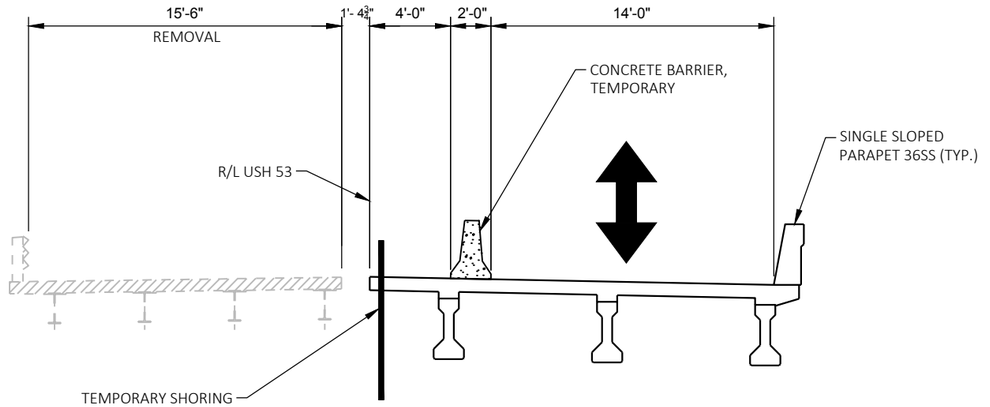
116

STATE PROJECT NUMBER
1633-06-74



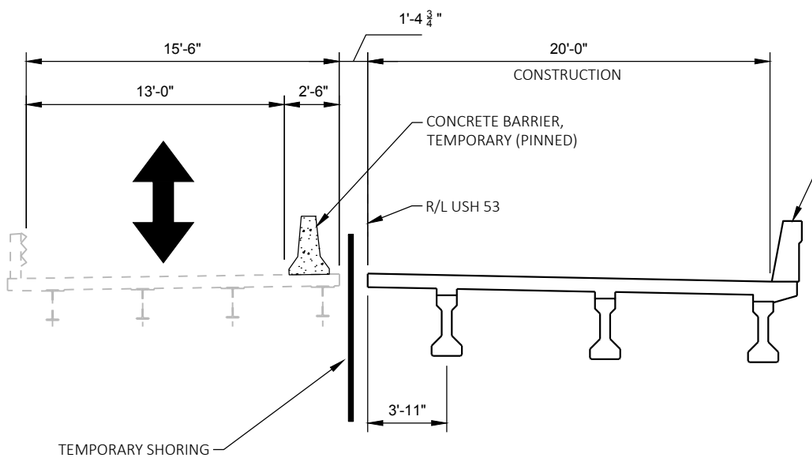
STAGE 2 - REMO□AL

(LOOKING EAST)



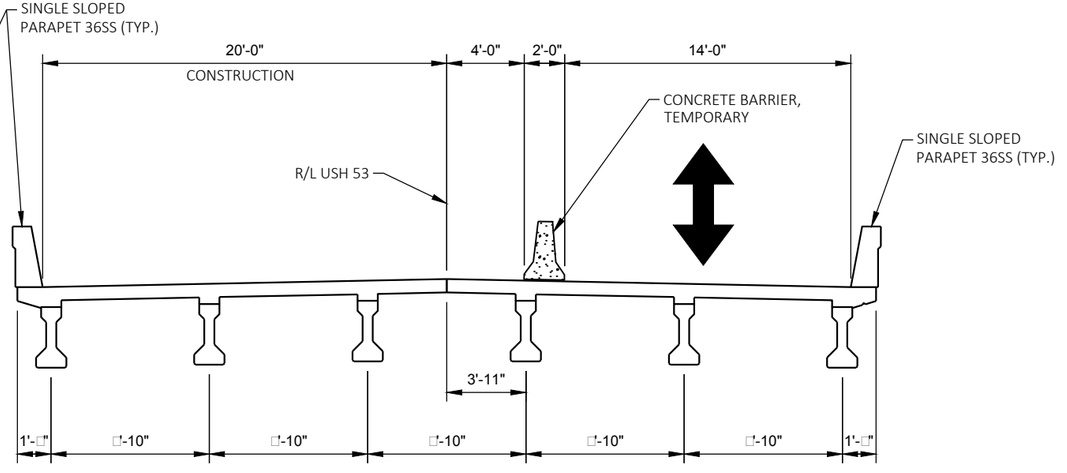
STAGE 3 - REMO□AL

(LOOKING EAST)



STAGE 2 - CONSTRUCTION

(LOOKING EAST)



STAGE 3 - CONSTRUCTION

(LOOKING EAST)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

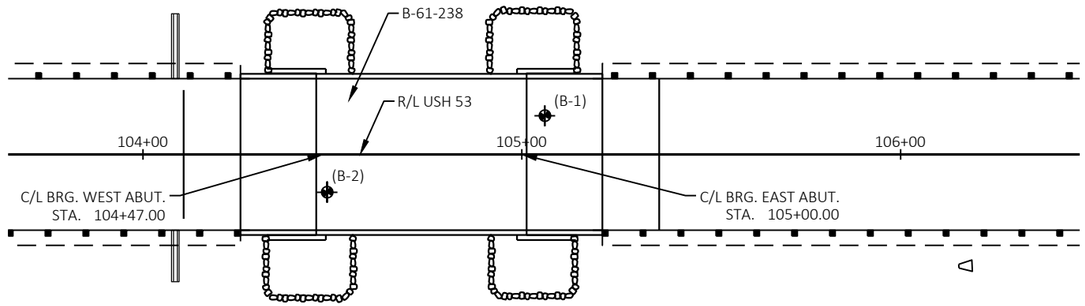
STRUCTURE B-61-238

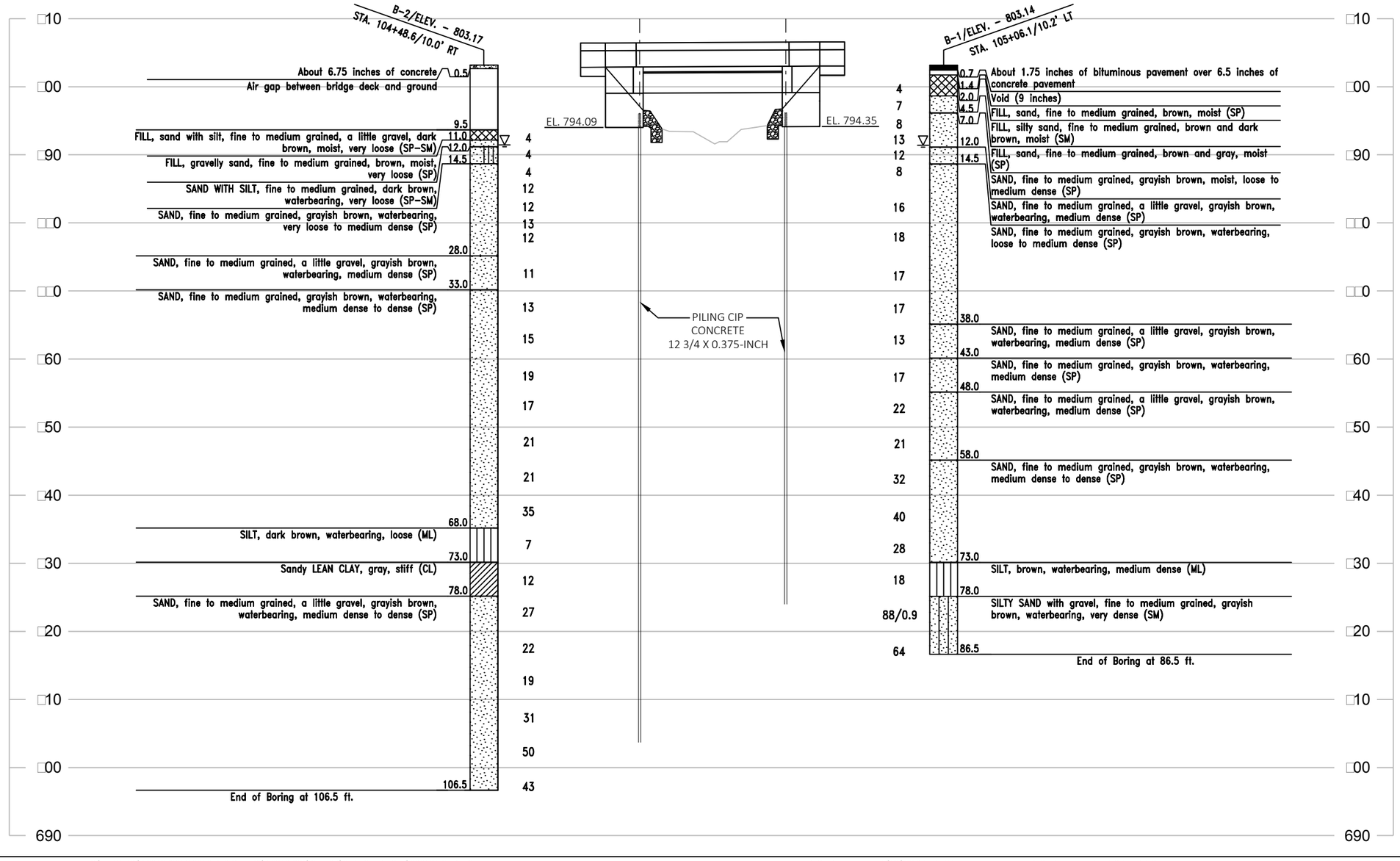
DRAWN BY JAL | PLANS CK'D. CDH

STAGING DETAILS

SHEET 3 OF 15
117

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	9/22/2017	378497.40	875892.60
B-2	9/21/2017	378450.03	875854.26
BORINGS COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD TREMPEALEAU COUNTY			





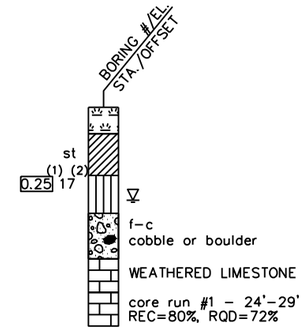
STATE PROJECT NUMBER

1633-06-74

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
boulders or cobbles	LIMESTONE	BEDROCK (unknown)
shale	SANDSTONE	IGNEOUS/ meta

LEGEND OF BORING



(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' voLUE 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-61-238

DRAWN BY JAL | PLANS CK'D. CDH

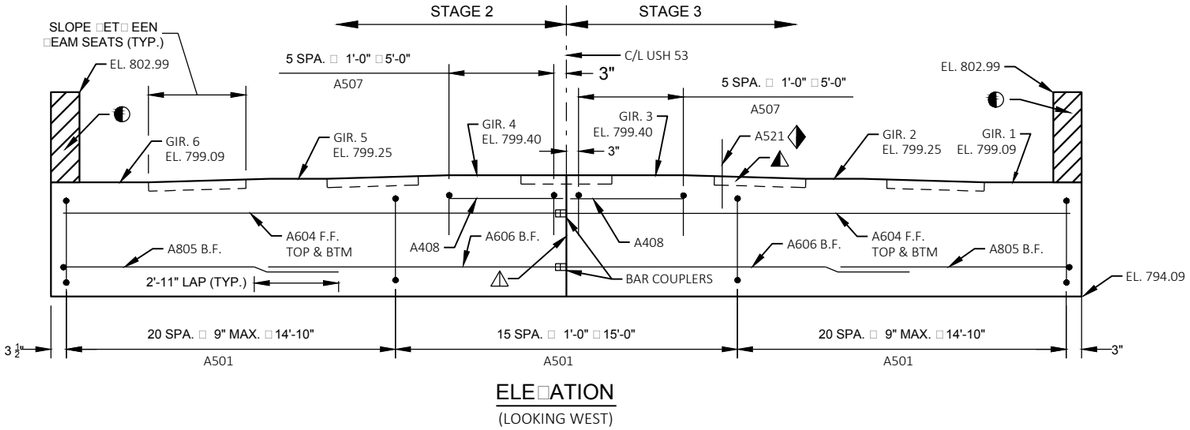
SUBSURFACE EXPLORATION

SHEET: 4 OF 15

118

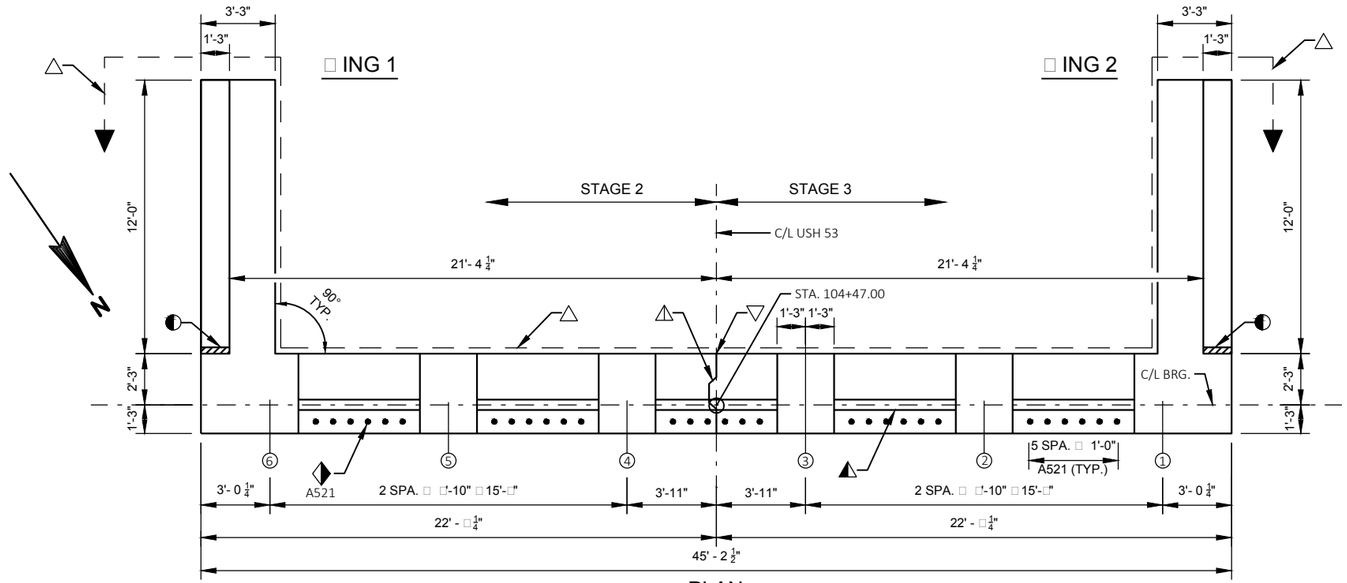
STATE PROJECT NUMBER

1633-06-74

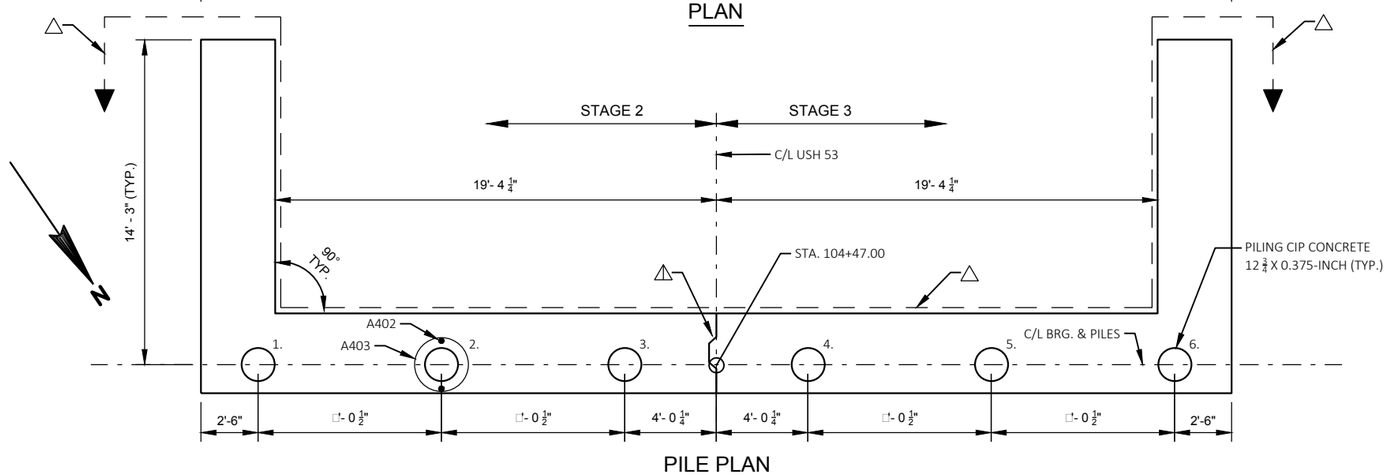


ELE□ATION

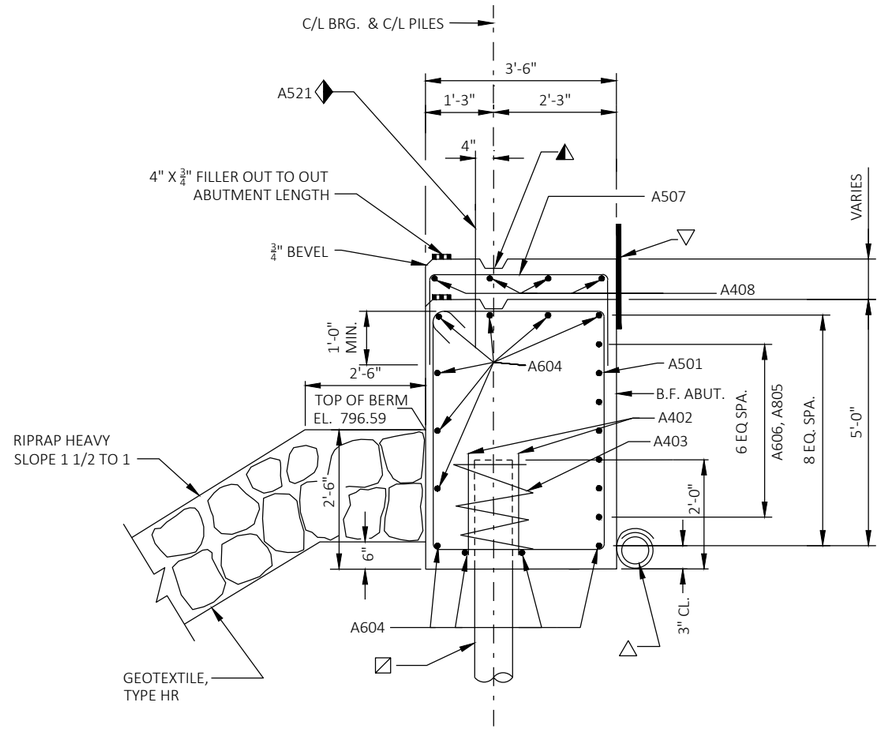
(LOOKING WEST)



PLAN



PILE PLAN



SECTION T□RU □O□Y

LEGEN□

- A521 BARS (COATED) AT 1'-0" (2'-0" LONG) THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 6"
- VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2" X 8". 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE.
- ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 12 3/4 X 0.375-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 95-FT LONG AT WEST ABUTMENT.
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SCREEN REQUIRED. SEE DETAIL ON "EAST ABUTMENT DETAILS" SHEET.
- 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-238

DRAWN BY JAL | PLANS CK'D. CDH

WEST ABUTMENT

SHEET 5 OF 15

119

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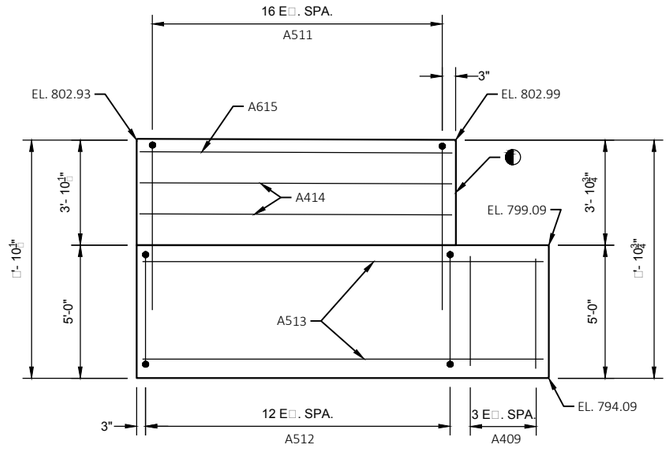
1633-06-74



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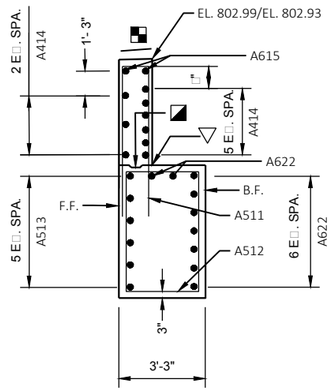

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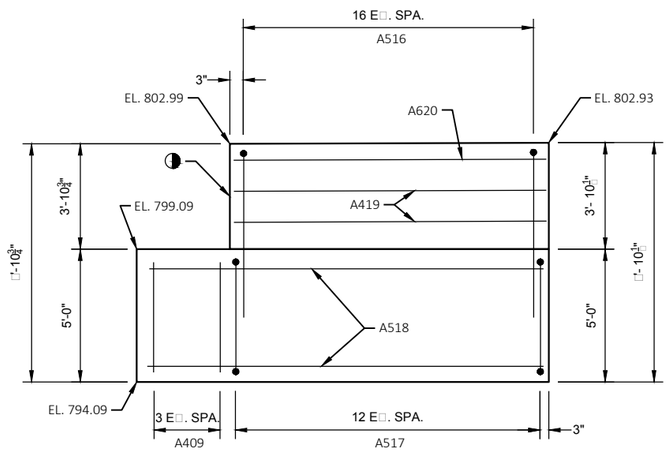

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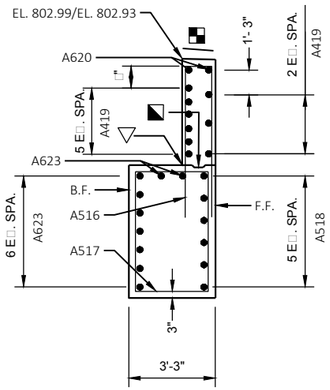


□ ING 2 SECTION

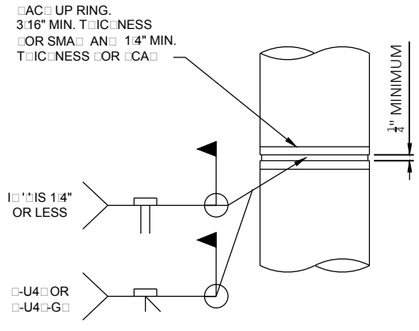
□. A□UT □ILL O□ □ARS

TOTAL COATE□ □1□□00 L□S

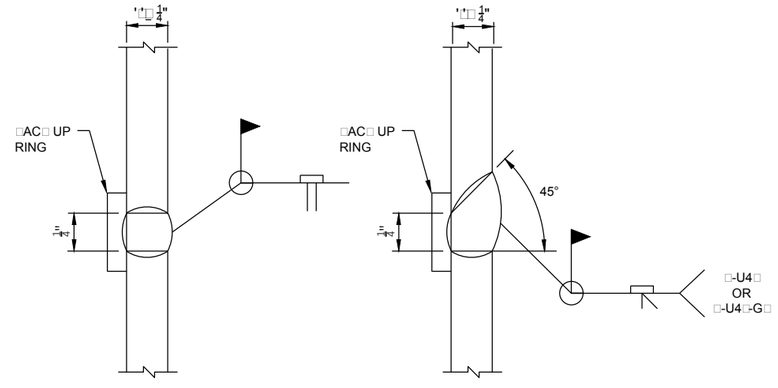
TOTAL UNCOATE□ □2□□10 L□S

□AR MAR□	NO. RE□'□. STAGE 2	NO. RE□'□. STAGE 3	LENGT□	COAT	STAINLESS STEEL	□ENT	□AR SERIES	LOCATION
A501	2□	2□	16'-0"			X		□O□Y - STIRRUPS
A402	6	6	2'-3"					PILES - 2 PER □O□Y PILE
A403	3	3	2□'-0"			X		PILES - 1 PER □O□Y PILE
A604	11	11	22'-5"					A□UT □O□Y - □ORI□. - TOP □.□. □TM
A□05	□	□	13'-2"			X		A□UT □O□Y - □ORI□. - □.□.
A606	□	□	13'-4"					A□UT □O□Y - □ORI□. - □.□.
A50□	6	6	5'-11"			X		A□UT □O□Y - □ERT. - TOP
A40□	4	4	5'-0"					A□UT □O□Y - □ORI□.- TOP
A409	4	4	4'-6"					A□UT □O□Y - □ERT. - EN□S
A511	1□	--	12'-4"	X		X		□ ING 1 - □ERTICAL
A512	13	--	15'-□"	X		X		□ ING 1 - STIRRUP
A513	6	--	15'-0"	X				□ ING 1 - □ORI□ONTAL
A414	9	--	11'-□"	X				□ ING 1 - □ORI□ONTAL
A615	2	--	11'-□"	X				□ ING 1 - □ORI□ONTAL TOP
A516	--	1□	12'-4"	X		X		□ ING 2 - □ERTICAL
A51□	--	13	15'-□"	X		X		□ ING 2 - STIRRUP
A51□	--	6	15'-0"	X				□ ING 2 - □ORI□ONTAL
A419	--	9	11'-□"	X				□ ING 2 - □ORI□ONTAL
A620	--	2	11'-□"	X				□ ING 2 - □ORI□ONTAL TOP
A521	15	15	2'-0"	X				A□UT. □ERT. □O□ EL
A622	9	--	14'-0"	X				□ ING 1 - □ORI□ONTAL
A623	--	9	14'-0"	X				□ ING 2 - □ORI□ONTAL

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



CAST-IN-PLACE 'PIPE PILE'



C.I.P. PILE □ EL□ □ETAIL

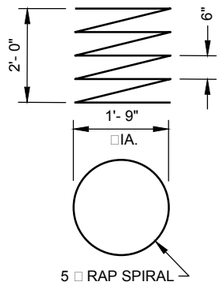
PILE □ETAILS

LEGEN□

- SLOPE 2% FOR DRAINAGE
- BAR LENGTH HAS BEEN COMPUTED TO THE C/L OF CONSTRUCTION JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURE RECOMMENDATIONS.
- 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2" X 6". (R.M.W. @ BACKFACE & 3/4" "V" GROOVE @ FRONTFACE IF JOINT IS USED).
- 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

NOTES

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 12 3/4 X 0.375-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 210 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 95-FT LONG AT WEST ABUTMENT.



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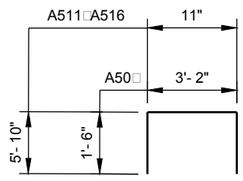

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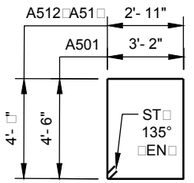

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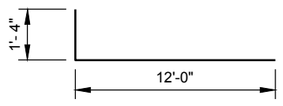


A□05

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-238

DRAWN BY JAL | PLANS CK'D. CDH

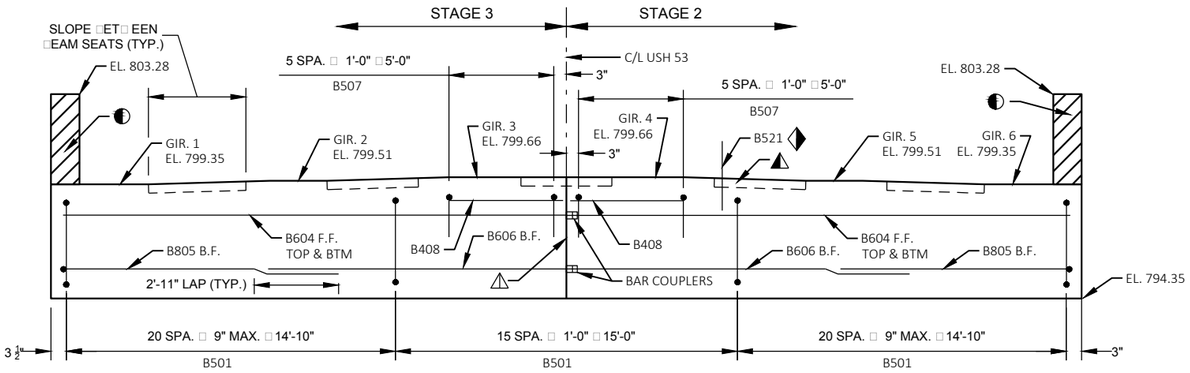
WEST ABUTMENT DETAILS

SHEET 6 OF 15

120

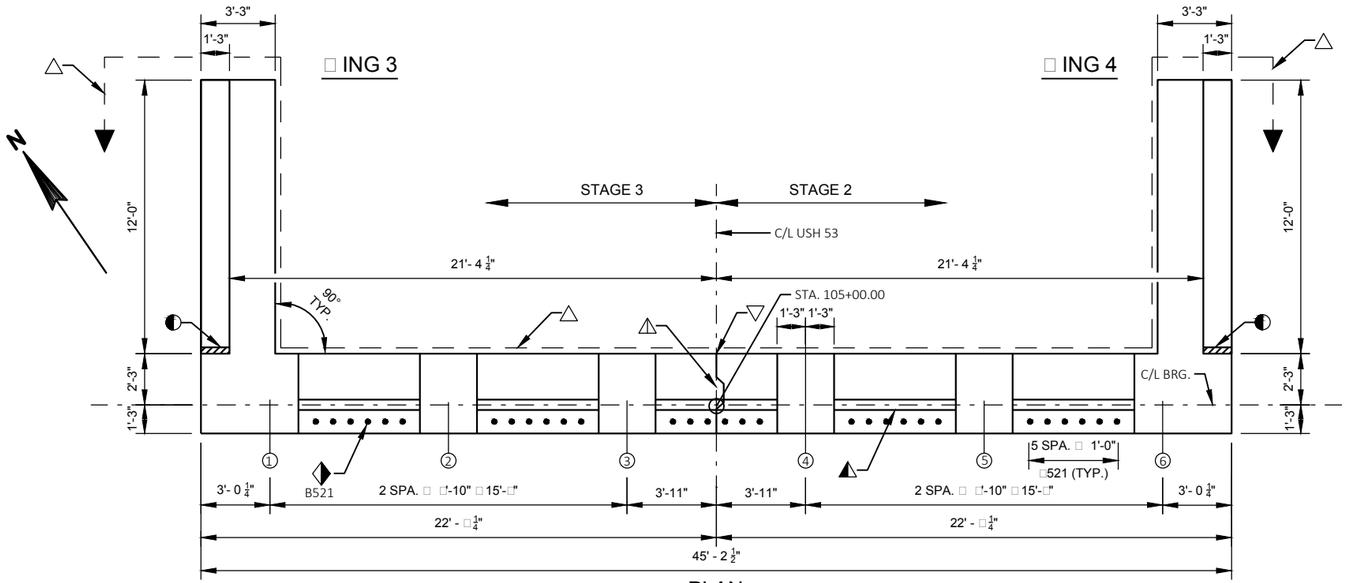
STATE PROJECT NUMBER

1633-06-74

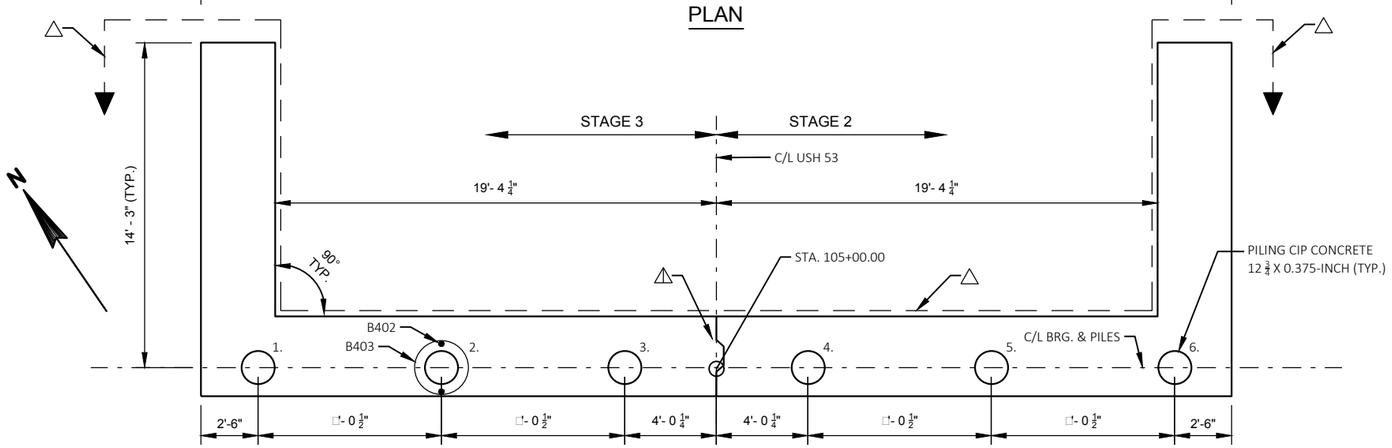


ELE□ATION

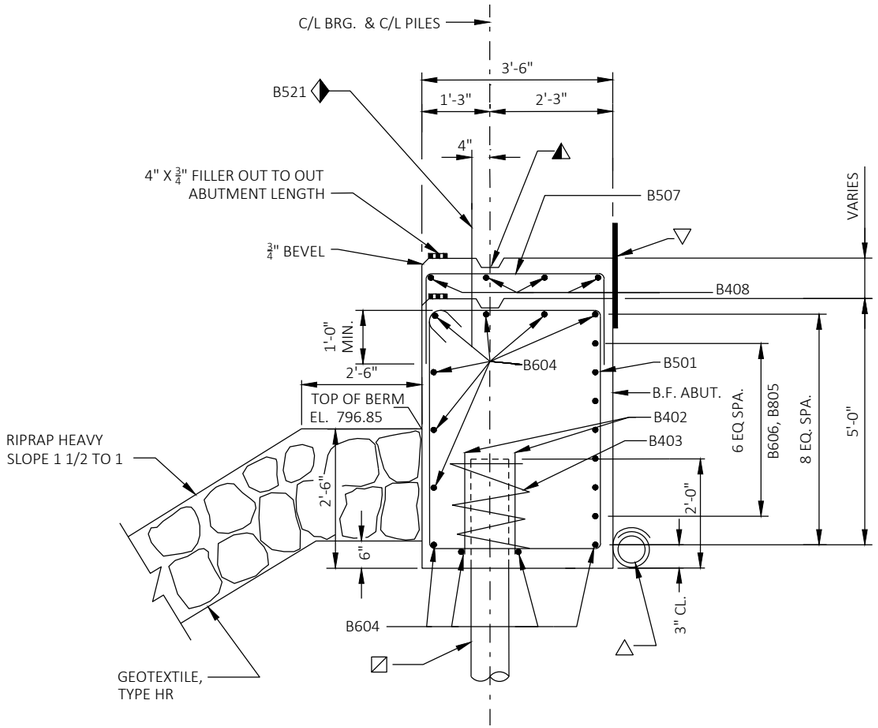
(LOOKING EAST)



PLAN



PILE PLAN



SECTION T□RU □O□Y

LEGEN□

- ◆ B521 BARS (COATED) AT 1'-0" (2'-0" LONG) THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ◭ KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 6"
- ⚠ VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2" X 8". 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE.
- ⊠ ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 12 3/4 X 0.375-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 75-FT LONG AT WEST ABUTMENT.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SCREEN REQUIRED. SEE DETAIL ON "EAST ABUTMENT DETAILS" SHEET.
- ◐ 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- ▽ 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-238

DRAWN BY JAL | PLANS CK'D. CDH

EAST ABUTMENT

SHEET 7 OF 15

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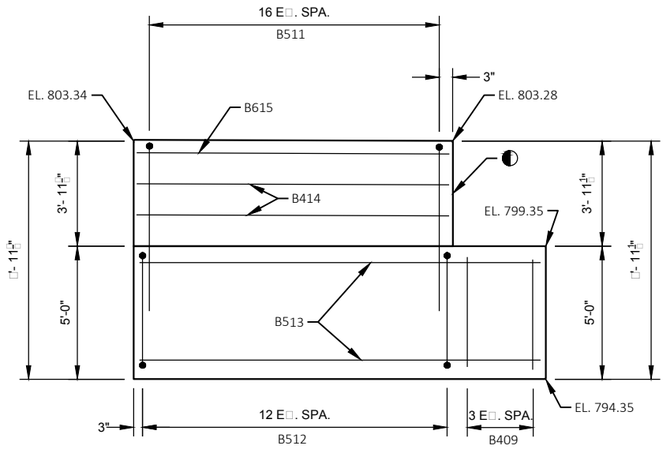
STATE PROJECT NUMBER

1633-06-74



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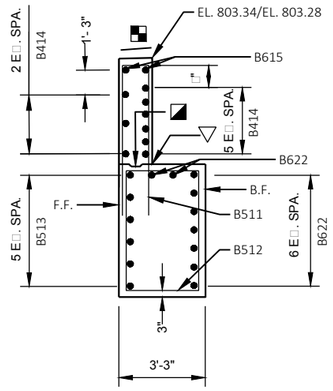

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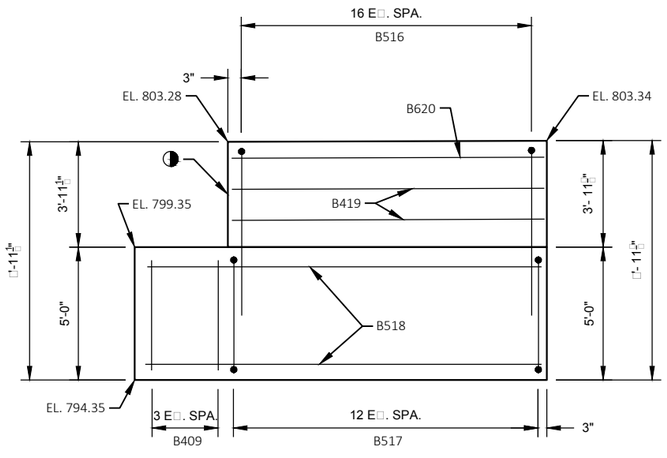
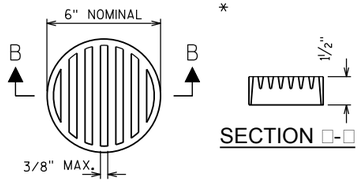


□ ING 4 ELE□ATION

□ ING 4 SECTION



*

SECTION □-□

RO□ENT S□IEL□ □ETAIL

*DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL. THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH". THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

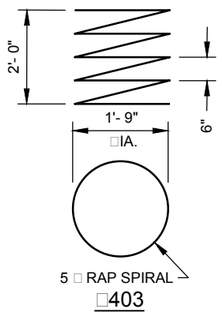
E. A□UT □ILL O□ □ARS

TOTAL COATE□ □ 1□□00 L□S

TOTAL UNCOATE□ □ 2□□10 L□S

□AR MAR□	NO. RE□'□. STAGE 2	NO. RE□'□. STAGE 3	LENGT□	COAT	STAINLESS STEEL	□ENT	□AR SERIES	LOCATION
□501	2□	2□	16'-0"			X		□O□Y - STIRRUPS
□402	6	6	2'-3"					PILES - 2 PER □O□Y PILE
□403	3	3	2□'-0"			X		PILES - 1 PER □O□Y PILE
◆ □604	11	11	22'-5"					A□UT □O□Y - □ORI□. - TOP □.□. □TM
□□05	□	□	13'-2"			X		A□UT □O□Y - □ORI□. - □.□.
◆ □606	□	□	13'-4"					A□UT □O□Y - □ORI□. - □.□.
□50□	6	6	5'-11"			X		A□UT □O□Y - □ERT. - TOP
□40□	4	4	5'-0"					A□UT □O□Y - □ORI□.- TOP
□409	4	4	4'-6"					A□UT □O□Y - □ERT. - EN□S
□511	--	1□	12'-4"	X		X		□ ING 3 - □ERTICAL
□512	--	13	15'-□"	X		X		□ ING 3 - STIRRUP
□513	--	6	15'-0"	X				□ ING 3 - □ORI□ONTAL
□414	--	9	11'-□"	X				□ ING 3 - □ORI□ONTAL
□615	--	2	11'-□"	X				□ ING 3 - □ORI□ONTAL TOP
□516	1□	--	12'-4"	X		X		□ ING 4 - □ERTICAL
□51□	13	--	15'-□"	X		X		□ ING 4 - STIRRUP
□51□	6	--	15'-0"	X				□ ING 4 - □ORI□ONTAL
□419	9	--	11'-□"	X				□ ING 4 - □ORI□ONTAL
□620	2	--	11'-□"	X				□ ING 4 - □ORI□ONTAL TOP
□521	15	15	2'-0"	X				A□UT. □ERT. □O□ EL
□622	--	9	14'-0"	X				□ ING 3 - □ORI□ONTAL
□623	9	--	14'-0"	X				□ ING 4 - □ORI□ONTAL

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



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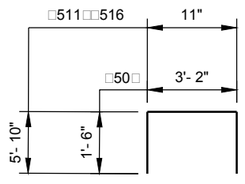

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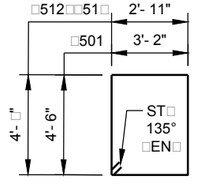

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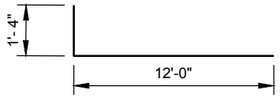

□□05

LEGEN□

- SLOPE 2% FOR DRAINAGE
- ◆ BAR LENGTH HAS BEEN COMPUTED TO THE C/L OF CONSTRUCTION JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURE RECOMMENDATIONS.
- OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2" X 6". (R.M.W. @ BACKFACE & 3/4" "V" GROOVE @ FRONTFACE IF JOINT IS USED).
- 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
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NOTES

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 12 3/4 X 0.375-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 210 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 75-FT LONG AT EAST ABUTMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-238

DRAWN BY JAL | PLANS CK'D. CDH

EAST ABUTMENT DETAILS

SHEET 8 OF 15

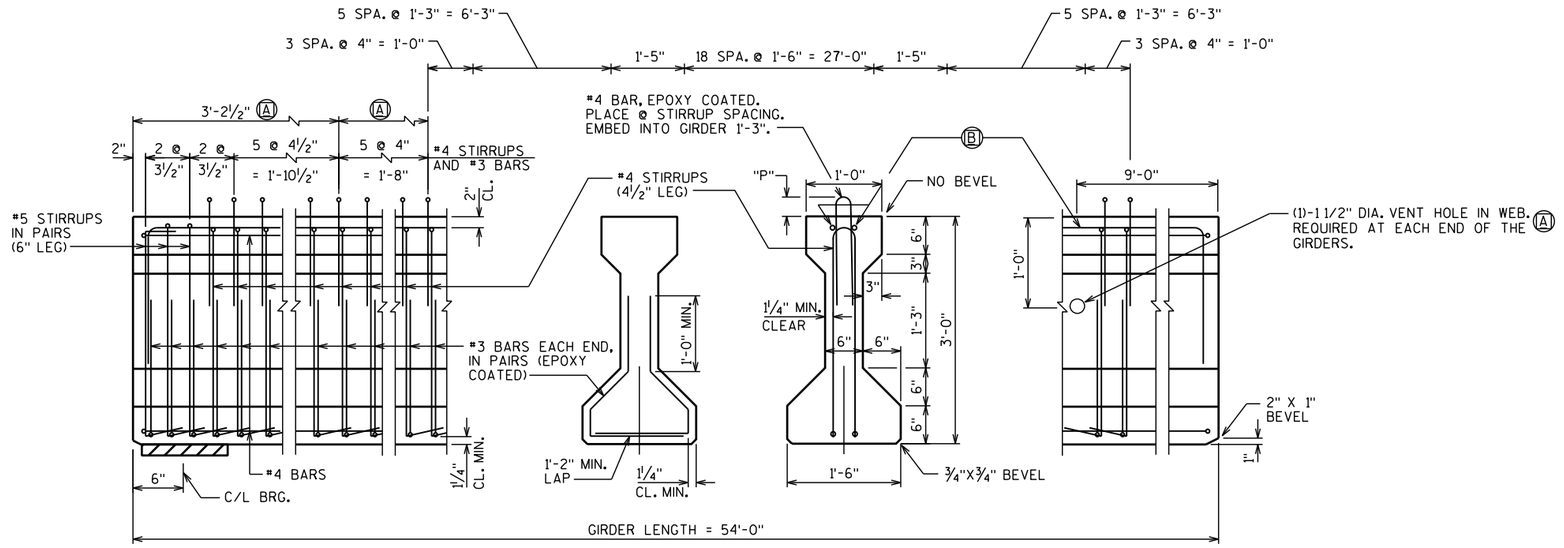
122

8

8

STATE PROJECT NUMBER

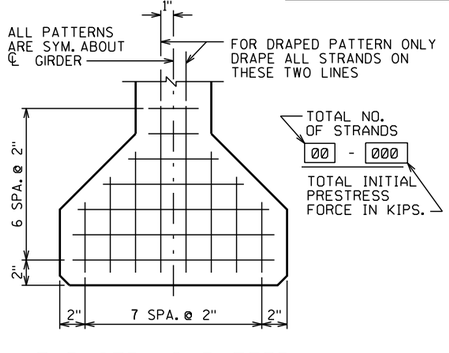
1633-06-74



SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 2-#5 BARS BEND DOWN MIN. 16 BAR DIA. AT ENDS. LAP 2'-11" MIN.



TYP. STRAND PATTERN

TOP VIEW OF GIRDER ENDS

DEAD LOAD DEFLECTION DIAGRAM

DECK HAUNCH DETAIL

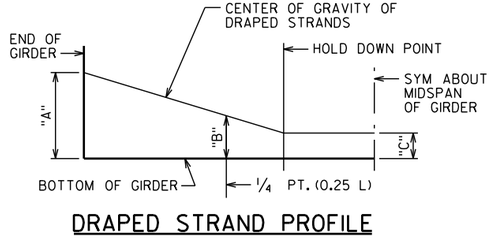
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

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

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

NOTE: AN AVERAGE HAUNCH ('T') OF 2.5" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



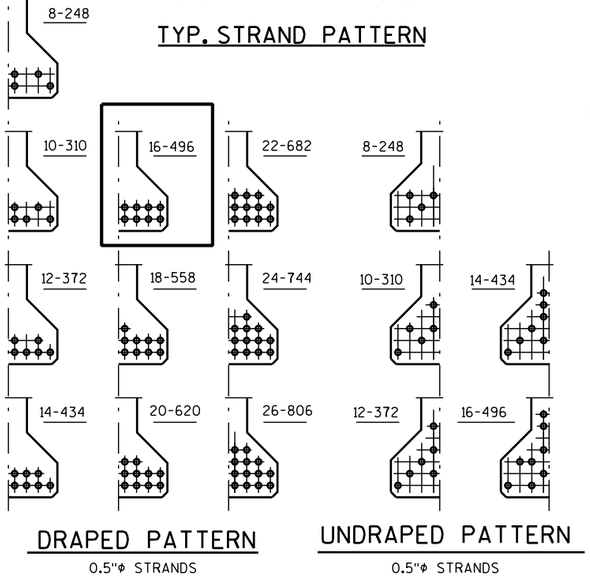
DRAPED STRAND PROFILE

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	1.23

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



DRAPED PATTERN

0.5"ϕ STRANDS

UNDRAPED PATTERN

0.5"ϕ STRANDS

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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST 1/3 OF GIRDER	MID 1/3 OF GIRDER	END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
53'-0"	1-6	54'-0"	0.15	0.28	0.39	0.45	0.47	0.45	0.39	0.28	0.15	8000	6"	6"	6"	0.5	16	6.4	27	9	12	3		

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STRUCTURE B-61-238

DRAWN BY JAL | PLANS CK'D. CDH

36" PRESTRESSED GIRDER DETAILS

SHEET 9 OF 15

123

SCALE =

8

8

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NOTES

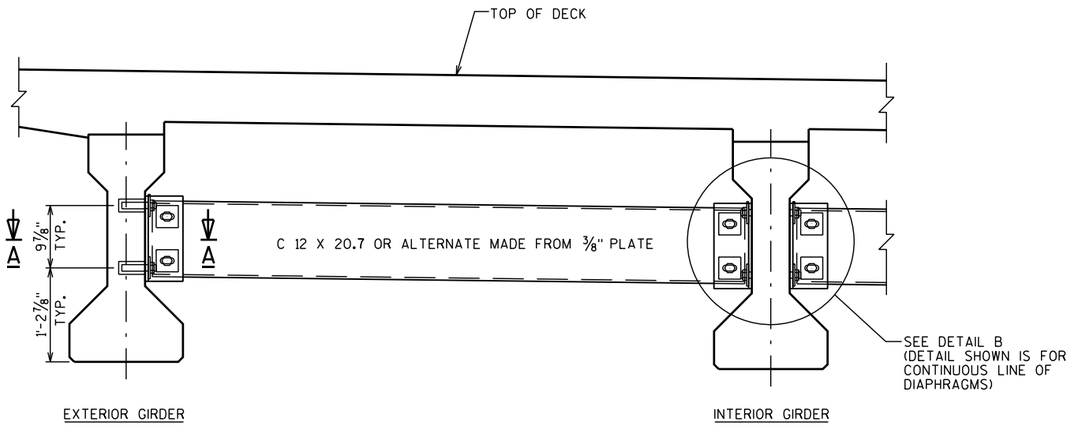
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-61-238", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

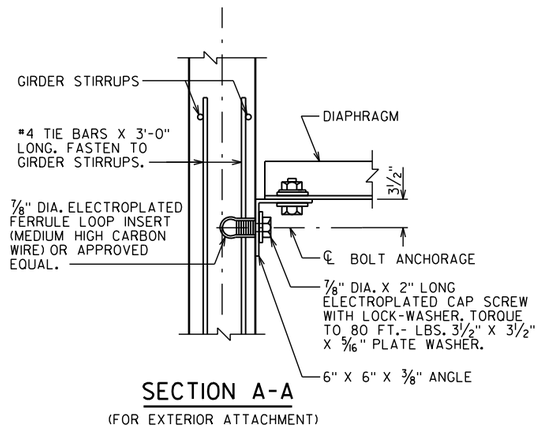
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

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

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

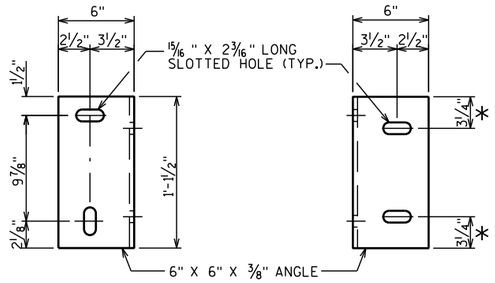


PART TRANSVERSE SECTION AT DIAPHRAGM



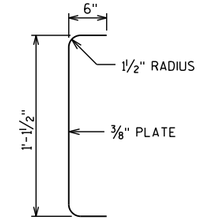
SECTION A-A

(FOR EXTERIOR ATTACHMENT)

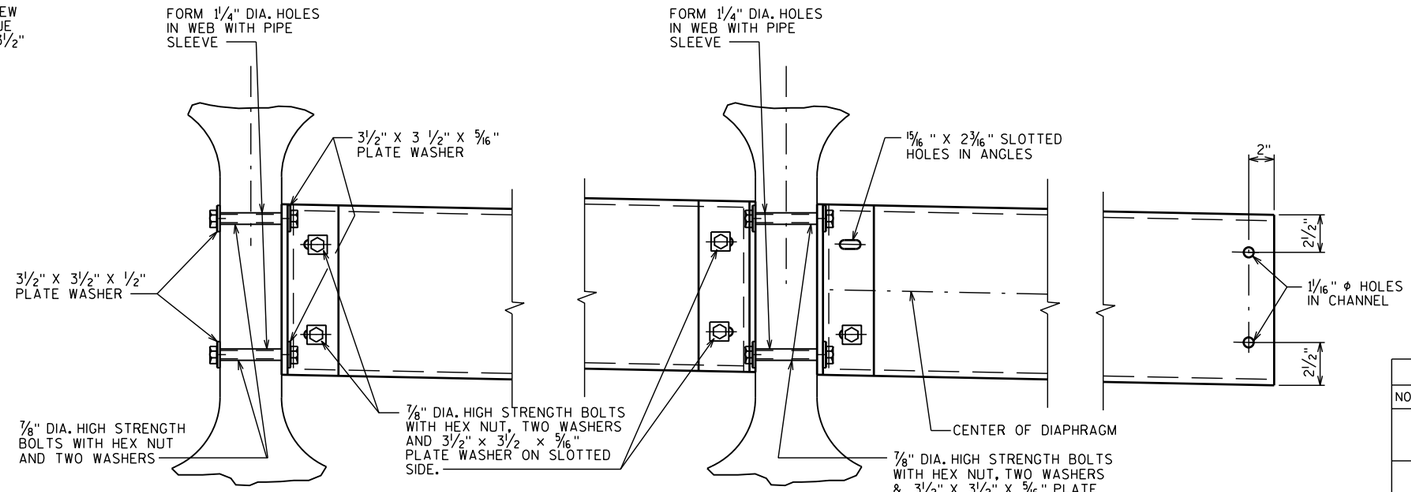


DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU ALTERNATE DIAPHRAGM



DETAIL B

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STRUCTURE B-61-238

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STEEL DIAPHRAGM

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8

8

SCALE =

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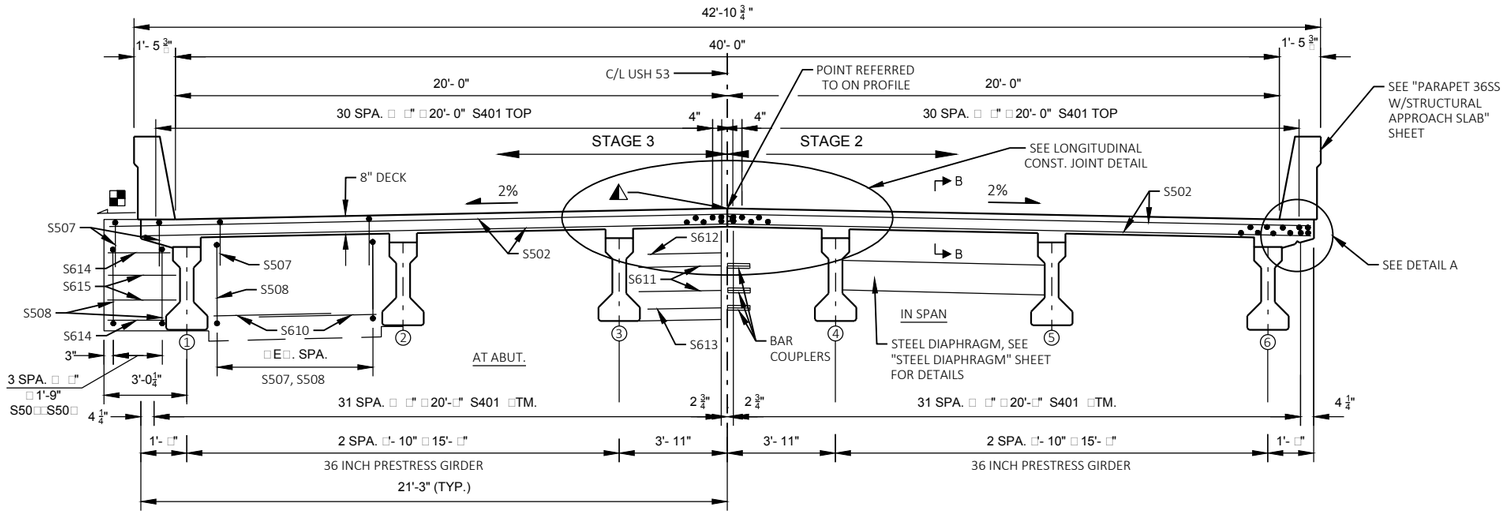
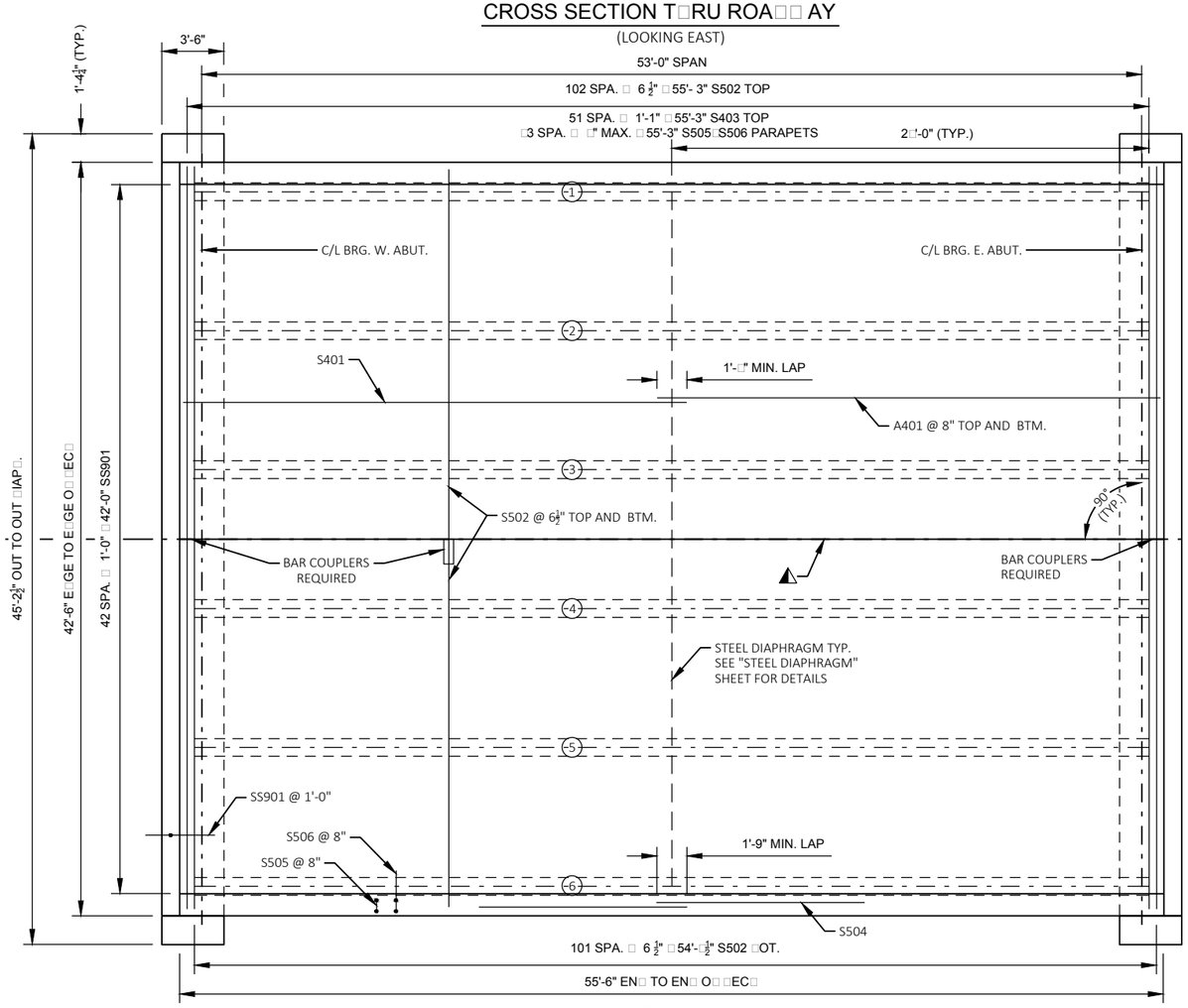
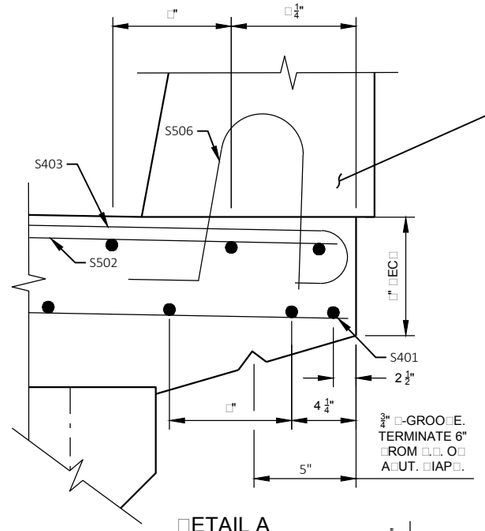


CROSS SECTION THRU ROADWAY

(LOOKING EAST)

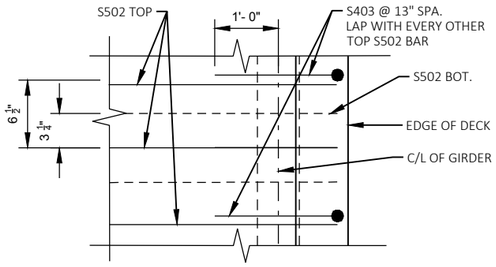


PLAN



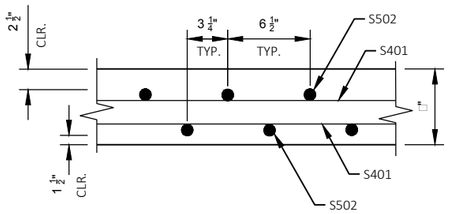
DETAIL A

(TYP. BOTH SIDES)

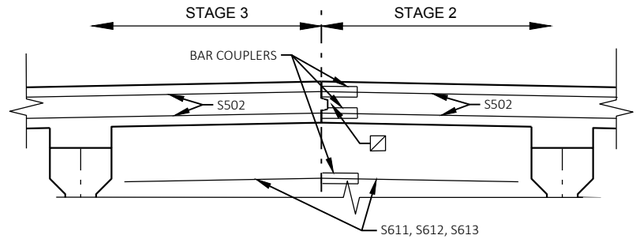


ADDITIONAL OVERHANG REINFORCEMENT DETAIL

(PLAN)



SECTION - -



LONGITUDINAL CONST. JOINT DETAIL

LEGEND

- LONGITUDINAL CONST. JOINT
- HORIZONTAL KEYWAY CONST. JOINT: KEYWAY FORMED BY BEVELED 2" X 2"
- SLOPE 2% FOR DRAINAGE

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-238

DRAWN BY JAL | PLANS CK'D. CDH

SUPERSTRUCTURE

SHEET 11 OF 15
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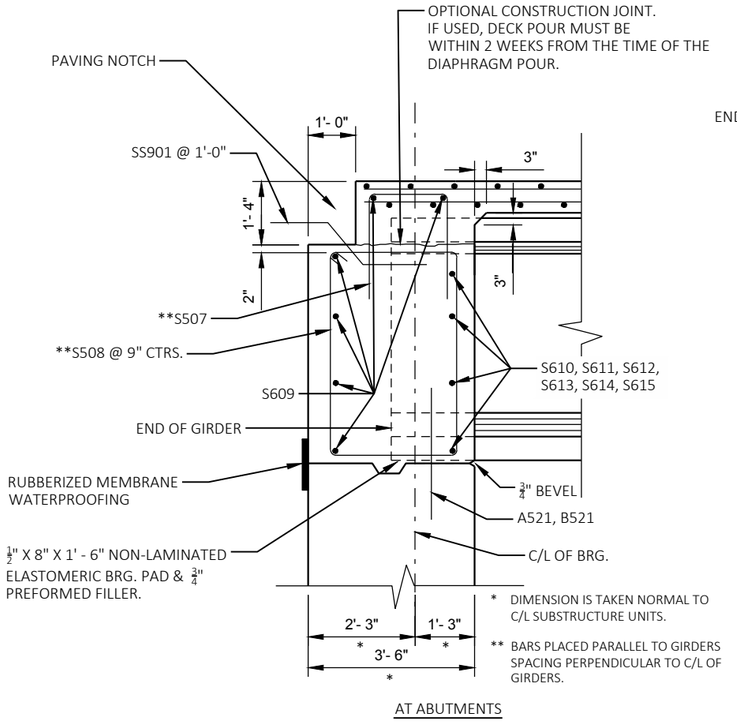
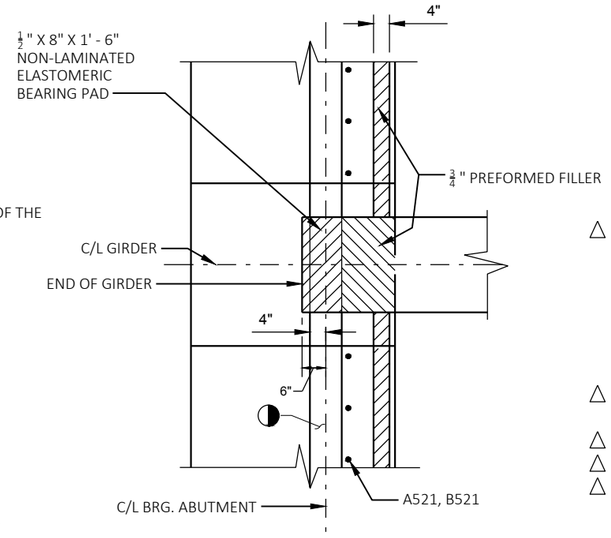
1633-06-74



AT ABUTMENTS

PART LONGITU□INAL SECTION



□EARING PA□ □ETAIL

SUPERSTRUCTURE

□ILL O□ □ARS

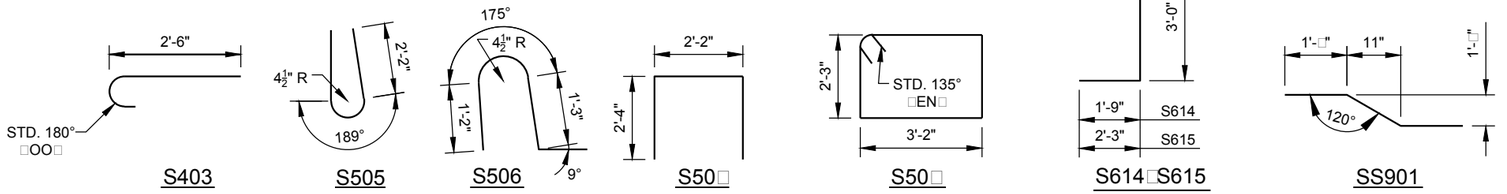
TOTAL STAINLESS □ 1□410 L□S

TOTAL COATE□ □ 20□4□0 L□S

□AR MAR□	NO. RE□'□.		LENGT□	COAT	STAINLESS STEEL	□ENT	LOCATION
	STAGE 2	STAGE 3					
S401	132	132	2□'-5"	X			□EC□ - LONGITU□INAL - TOP □ □OTTOM
△ S502	205	205	21'-1"	X			□EC□ - TRANS□ERSE - TOP □ □OTTOM
S403	52	52	3'-0"	X		X	□EC□ - TRANS□ERSE - TOP E□GES
S504	16	16	2□'-6"	X			PARAPET 36SS - □ORI□ONTAL
S505	□4	□4	5'-□"	X		X	PARAPET 36SS - □ERT
S506	□4	□4	4'-5"	X		X	PARAPET 36SS - □ERT
S50□	53	53	6'-□"	X		X	A□UT. □IAP□RAGM - □ERT
S50□	53	53	11'-6"	X		X	A□UT. □IAP□RAGM - STIRRUP
△ S609	12	12	22'-5"	X			A□UT. □IAP□RAGM - □ORI□. □.□.
S610	32	32	5'-3"	X			A□UT. □IAP□RAGM - □ORI□. □□
△ S611	4	4	3'-6"	X			A□UT. □IAP□RAGM - □ORI□. □□ □ CONSTR. □OINT
△ S612	2	2	3'-3"	X			A□UT. □IAP□RAGM - □ORI□. □□ □ CONSTR. □OINT
△ S613	2	2	3'-0"	X			A□UT. □IAP□RAGM - □ORI□. □□ □ CONSTR. □OINT
S614	4	4	4'-□"	X		X	A□UT. □IAP□RAGM - □ORI□. - EN□S
S615	4	4	5'-1"	X		X	A□UT. □IAP□RAGM - □ORI□. - EN□S
SS901	43	43	5'-0"		X	X	A□UT. □IAP□. TO APPROAC□ SLA□

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

BENDING DIMENSIONS ARE TO OUT OF BARS.



LEGEN□

△ BAR COUPLER REQUIRED. BAR LENGTH HAS BEEN CALCULATED TO THE C/L JOINT.
BARS MUST ACCOMODATE THE BAR COUPLER MANUFACTURER'S SPECIFICATIONS.

◑ KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 6".

TOP O□ □EC□ ELE□ATIONS

TOP O□ □EC□ GRA□ES	□ . A□□□	1□10	2□10	3□10	4□10	5□10	6□10	□10	□10	9□10	E. A□□□
S□□□□□	104□4□.00	104□52.30	104□5□.60	104□62.90	104□6□.20	104□□3.50	104□□□.□0	104□□4.10	104□□9.40	104□94.□0	105□00.00
□□□□ L□□□O□□□d□Ed□□ □□□□□□	□03.00	□03.03	□03.05	□03.0□	□03.11	□03.13	□03.16	□03.19	□03.21	□03.24	□03.26
G□rd□r 1	□03.01	□03.04	□03.06	□03.09	□03.12	□03.14	□03.1□	□03.20	□03.22	□03.25	□03.2□
G□rd□r 2	□03.1□	□03.20	□03.22	□03.25	□03.2□	□03.30	□03.33	□03.36	□03.3□	□03.41	□03.43
G□rd□r 3	□03.32	□03.35	□03.3□	□03.40	□03.43	□03.45	□03.4□	□03.51	□03.53	□03.56	□03.5□
Cr□□ □S□□□□ L□□□	□03.40	□03.43	□03.45	□03.4□	□03.51	□03.53	□03.56	□03.59	□03.61	□03.64	□03.66
G□rd□r 4	□03.32	□03.35	□03.3□	□03.40	□03.43	□03.45	□03.4□	□03.51	□03.53	□03.56	□03.5□
G□rd□r 5	□03.1□	□03.20	□03.22	□03.25	□03.2□	□03.30	□03.33	□03.36	□03.3□	□03.41	□03.43
G□rd□r 6	□03.01	□03.04	□03.06	□03.09	□03.12	□03.14	□03.1□	□03.20	□03.22	□03.25	□03.2□
□□□□ L□□□O□□□d□Ed□□ □□□□□□	□03.00	□03.03	□03.05	□03.0□	□03.11	□03.13	□03.16	□03.19	□03.21	□03.24	□03.26

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-238

DRAWN BY JAL | PLANS CK'D. CDH

SUPERSTRUCTURE DETAILS

SHEET 12 OF 15
126

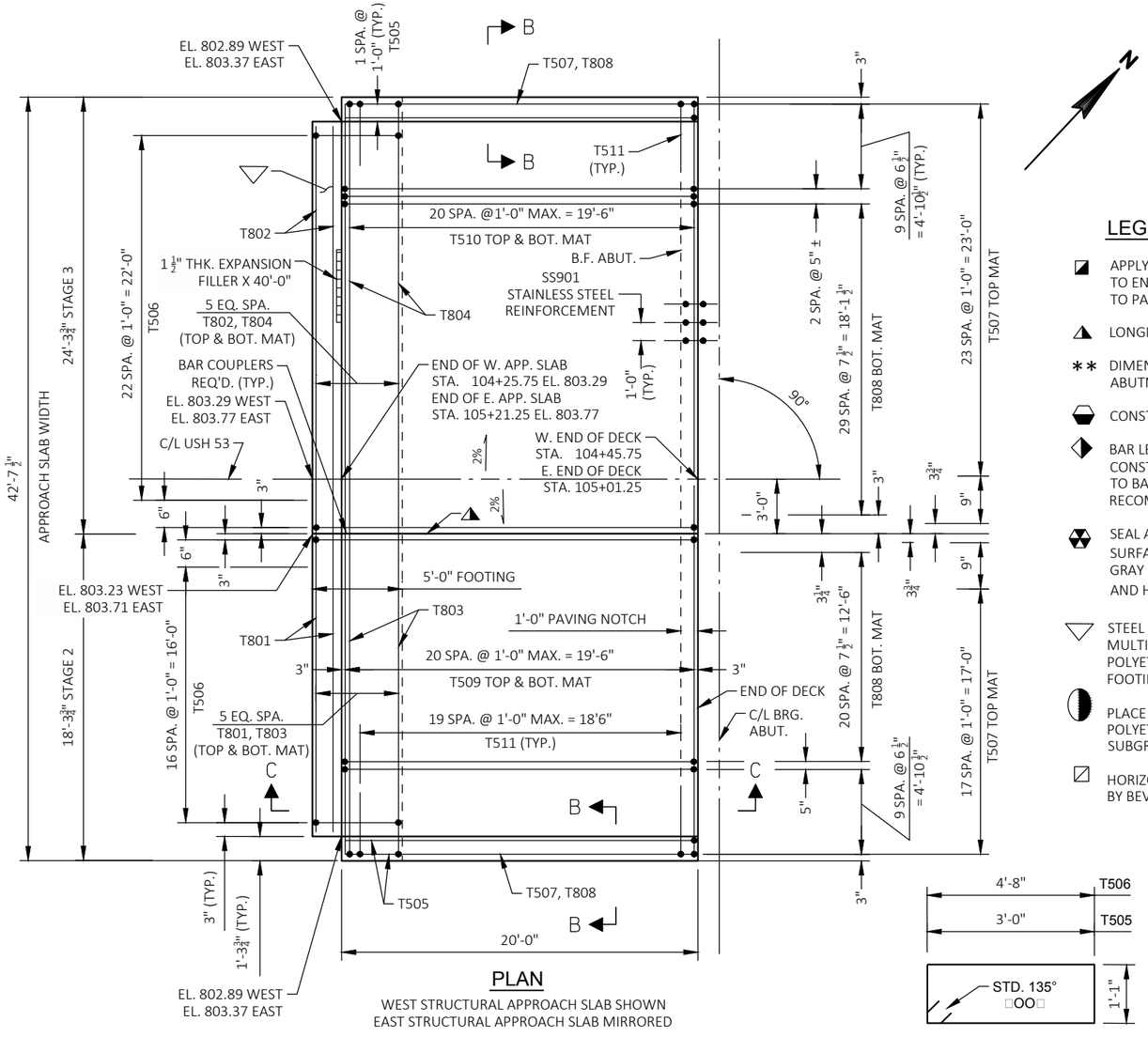
STATE PROJECT NUMBER
1633-06-74

APPROAC□ SLA□ □ILL O□ □ARS

TOTAL COATE□ □ EIG□T □ 1□900 L□S

□AR MAR□	NO. RE□'□. STAGE 2	NO. RE□'□. STAGE 3	LENGT□	COAT	□ENT	□AR SERIES	LOCATION
T□01	□	--	16'-10"	X			□OOTING - □ORI□ONTAL - STAGE 2
T□02	--	□	22'-10"	X			□OOTING - □ORI□ONTAL - STAGE 3
T□03	16	--	1□'-1"	X			□OOTING - □ORI□ONTAL - STAGE 2
T□04	--	16	24'-1"	X			□OOTING - □ORI□ONTAL - STAGE 3
T505	4	4	□'-10"	X	X		□OOTING - STIRRUP
T506	36	4□	12'-2"	X	X		□OOTING - STIRRUP
T50□	3□	50	19'-□"	X			APPROAC□ SLA□ - LONGITU□INAL - TOP
T□0□	64	□0	21'-6"	X	X		APPROAC□ SLA□ - LONGITU□INAL - □OTTOM
T509	□4	--	1□'-1"	X			APPROAC□ SLA□ - TRANS□ERSE - TOP □ □OTTOM - STAGE 2
T510	--	□4	24'-1"	X			APPROAC□ SLA□ - TRANS□ERSE - TOP □ □OTTOM - STAGE 3
T511	40	40	4'-1"	X	X		APPROAC□ SLA□ - TRANS□ERSE - TOP E□GES O□ SLA□

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



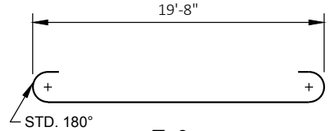
PLAN

WEST STRUCTURAL APPROACH SLAB SHOWN
EAST STRUCTURAL APPROACH SLAB MIRRORED

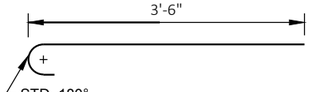
LEGEN□

- APPLY PROTECTIVE SURFACE TREATMENT TO ENTIRE PAVING NOTCH SURFACE PRIOR TO PAVING THE STRUCTURAL APPROACH SLAB.
- LONGITUDINAL CONST. JOINT
- ** DIMENSION MEASURED NORMAL TO ABUTMENT BODY
- CONST. JOINT - STRIKE OFF AS SHOWN
- BAR LENGTH HAS BEEN COMPUTED TO C/L OF CONSTRUCTION JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.
- SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE)
- STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN.) TOTAL THK. OF POLYETHELENE SHEETS OVER THE ENTIRE TOP OF FOOTING.
- PLACE MULTIPLE LAYERS (0.03" MIN.) TOTAL THK. OF POLYETHELENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.
- HORIZONTAL KEYWAY CONSTRUCTION JOINT FORMED BY BEVELED 2" X 2".

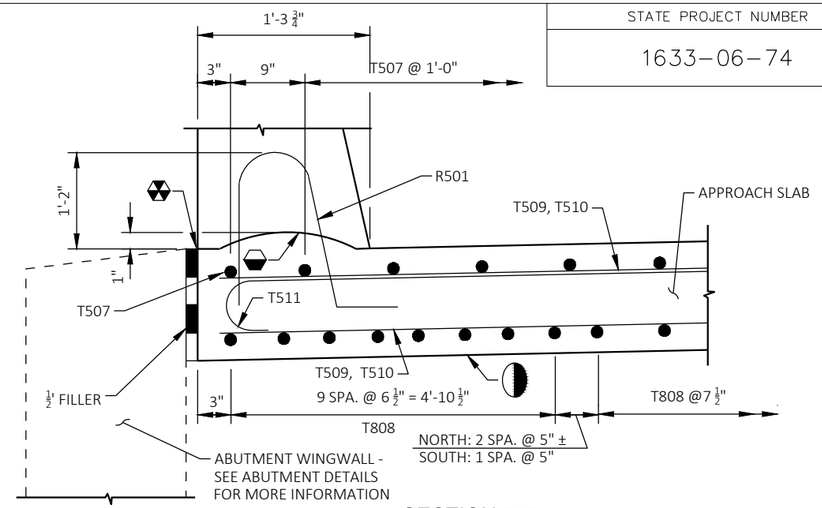
T505□T506



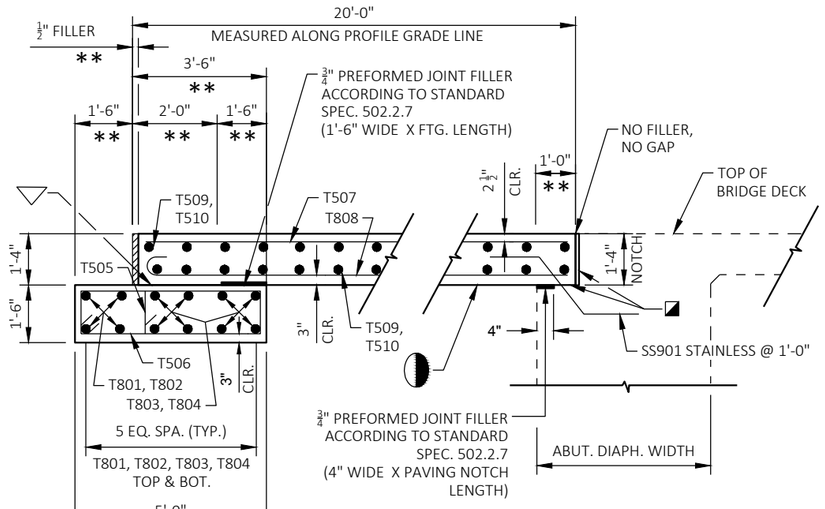
T□0□



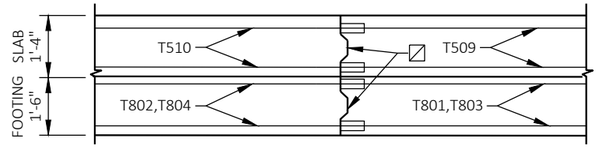
T511



SECTION □-□



SECTION C-C



LONGITU□INAL CONSTRUCTION □OINT □ETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-238

DRAWN BY	STD	PLANS CK'D.	CDH

STRUCTURAL APPROACH SLAB

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STATE PROJECT NUMBER
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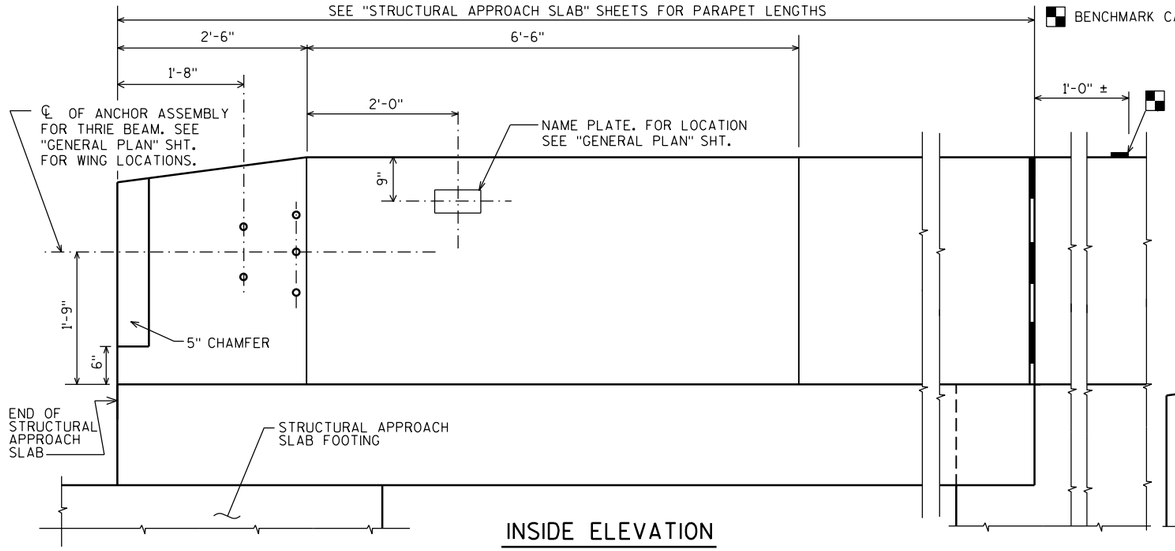
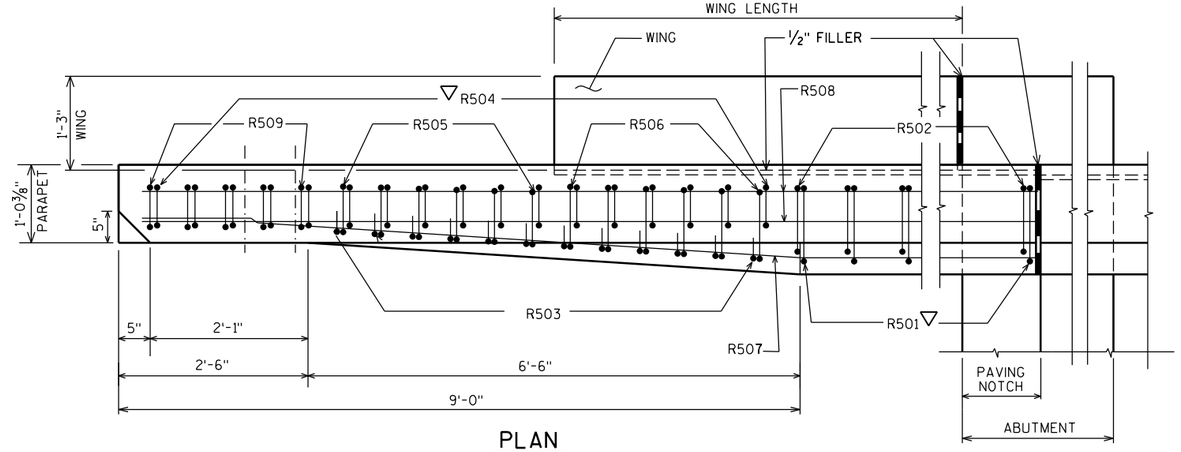
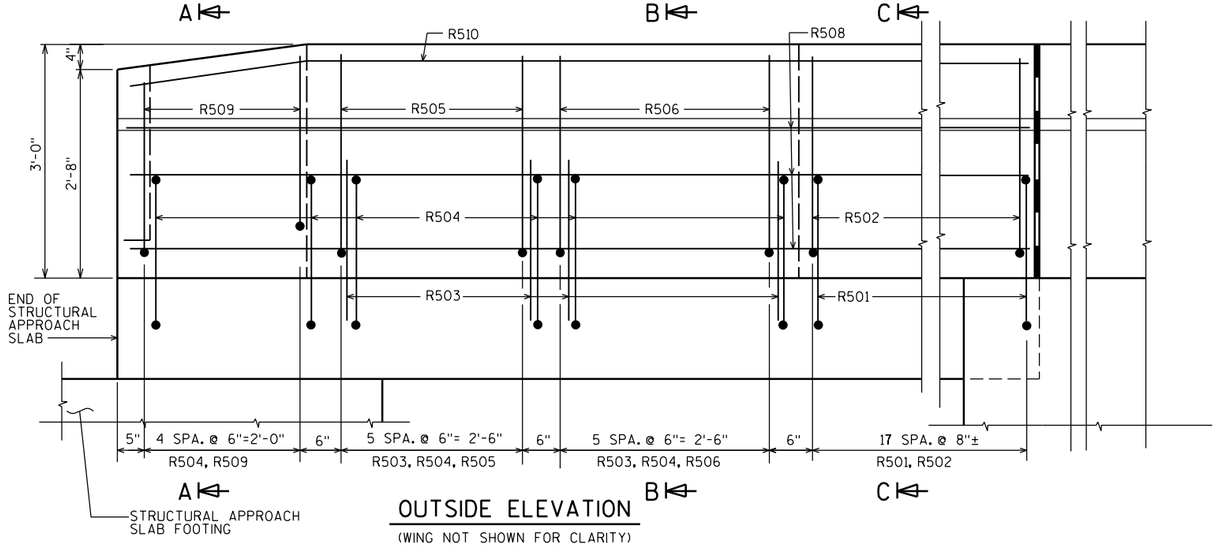


INSIDE ELEVATION

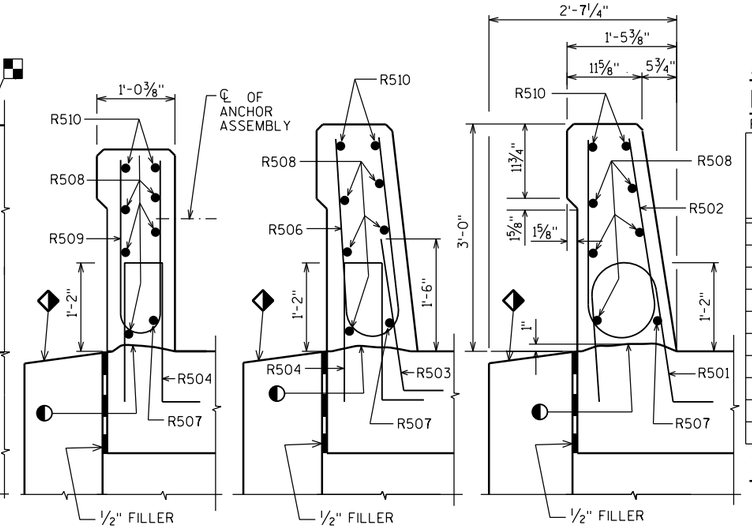


PLAN



OUTSIDE ELEVATION

(WING NOT SHOWN FOR CLARITY)

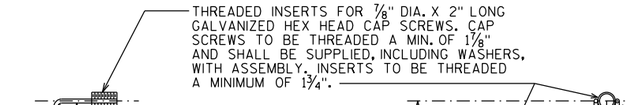


APPROACH SLAB PARAPET BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPETS

BAR MARK	NO. REQ'D.		LENGTH	COAT	BENT	LOCATION
	STAGE 2	STAGE 3				
R501	36	36	4'-5"	X	X	PARAPET VERT.
R502	36	36	5'-8"	X	X	PARAPET VERT.
R503	24	24	2'-9"	X	X	PARAPET VERT.
R504	34	34	4'-4"	X	X	PARAPET VERT.
R505	12	12	5'-5"	X	X	PARAPET VERT.
R506	12	12	5'-6"	X	X	PARAPET VERT.
R507	2	2	19'-7"	X	X	PARAPET HORIZ.
R508	10	10	19'-7"	X		PARAPET HORIZ.
R509	10	10	4'-9"	X	X	PARAPET VERT.
R510	4	4	19'-7"	X	X	PARAPET HORIZ.

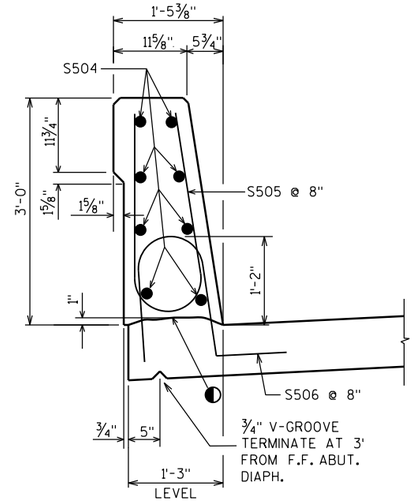
TOTAL COATED WEIGHT = 2,230 LBS



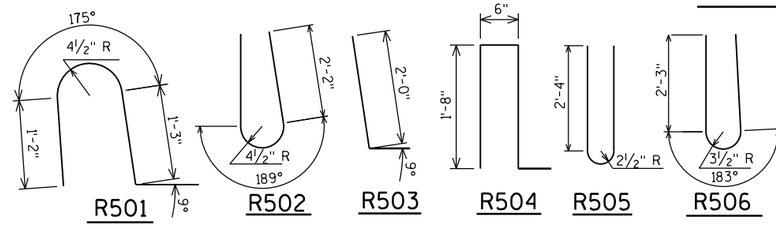
DETAIL OF ANCHOR ASSEMBLY

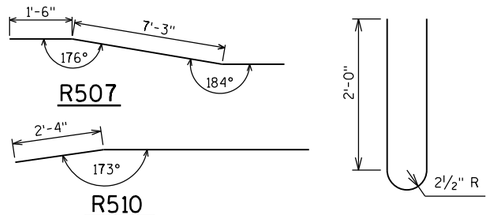
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

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



SECTION THRU PAPAPET ON BRIDGE





LEGEND

- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ◆ SLOPE 2% FOR DRAINAGE
- ▽ R501 AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-238

DRAWN BY	JAL	PLANS CK'D.	CDH

PARAPET 36SS WITH STRUCTURAL APPROACH SLAB

SHEET 14 OF 15

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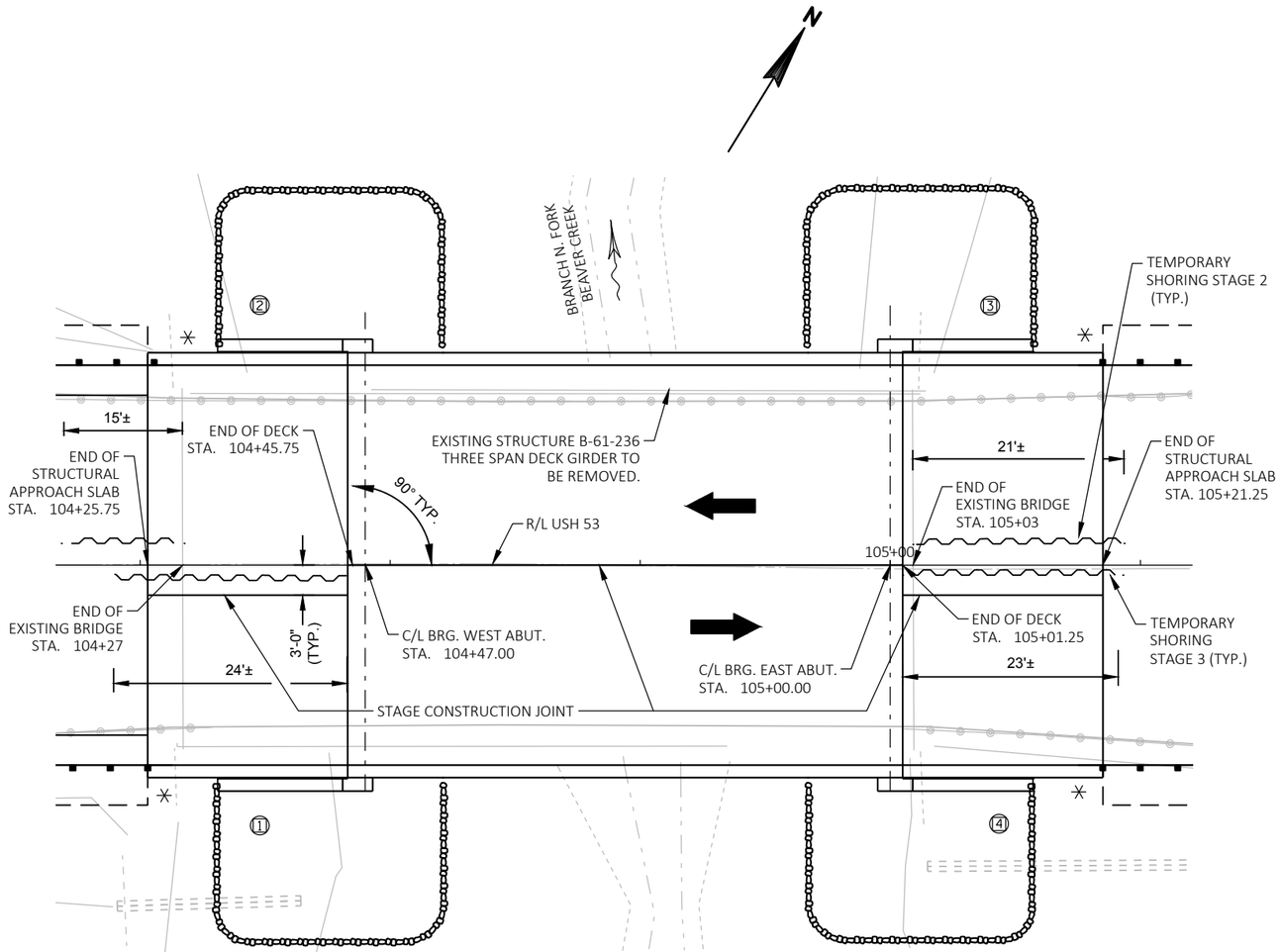
8

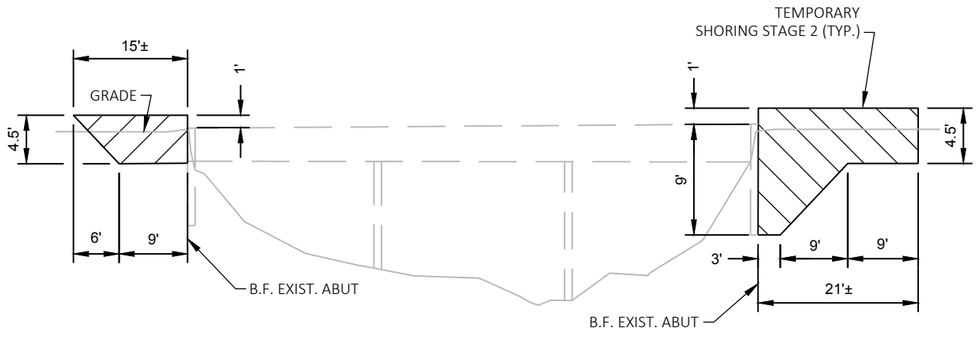
8

SCALE =

STATE PROJECT NUMBER
1633-06-74

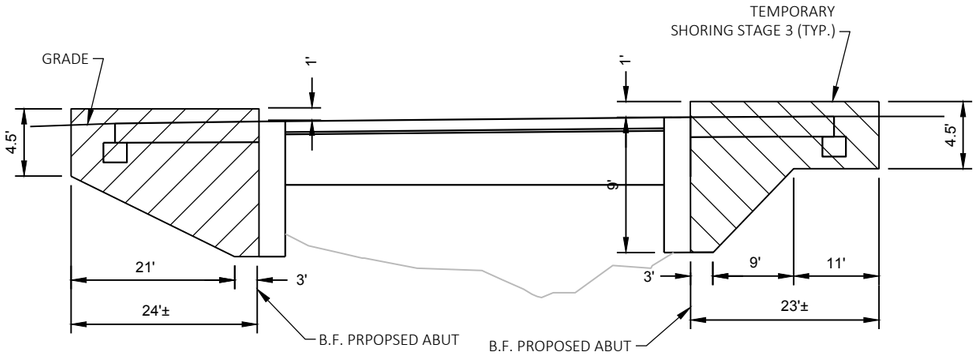


PLAN



EXISTING STRUCTURE - STAGE 2

(LOOKING NORTH)



EXISTING STRUCTURE - STAGE 3

(LOOKING NORTH)

NOTES

SEE 'STAGING DETAILS' SHEET FOR ADDITIONAL INFORMATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-238

DRAWN BY JAL | PLANS CK'D. CDH

TEMPORARY SHORING

SHEET 15 OF 15

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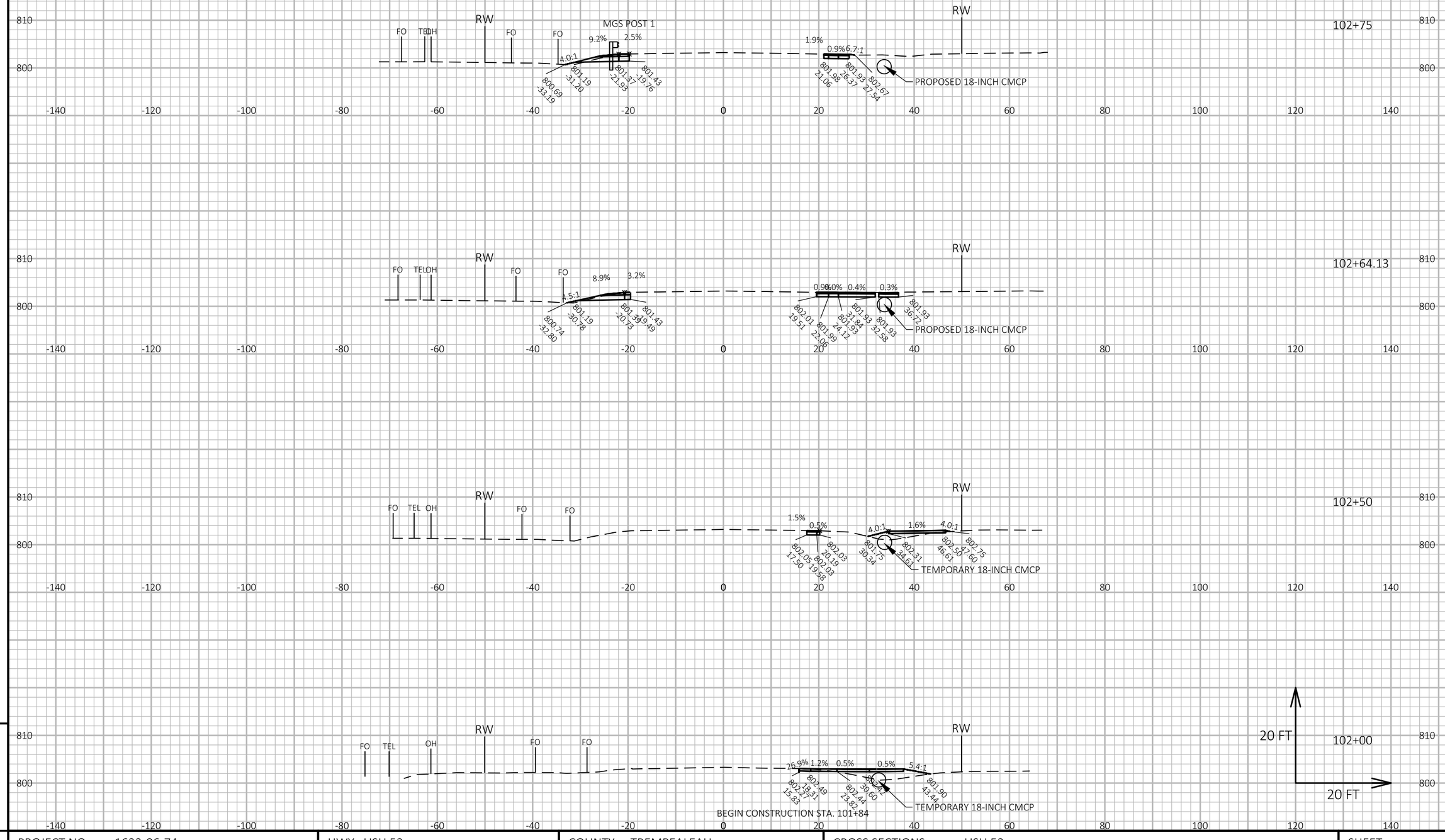
USH 53

STATION	Distance	Area				Incremental Volume (Unadjusted)				Cumulative Vol (CY)			Mass Ordinate
						Salvaged/Unusable					Expanded	Reduced EBS	
		Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut	Pavement Material	Fill	EBS	Cut	Fill	In Fill	
						Note 1	Note 2	Note 3		1.00	1.25	0.80	
		(SF)	(SF)	(SF)	(SF)	(CY)	(CY)	(CY)	(CY)	Note 1		Note 4	Note 5
102+00		2	0	22	0								
102+50	50	3	0	11	0	5	0	30	0	5	38	0	-33
102+64	14	25	0	1	1	7	0	3	0	12	41	0	-29
102+75	11	14	0	1	1	8	0	0	0	20	41	1	-21
102+99	24	18	0	1	1	14	0	1	1	34	42	1	-8
103+00	1	18	0	1	1	1	0	0	0	34	42	1	-7
103+24	24	80	0	0	4	43	0	1	2	77	40	3	37
103+27	3	80	0	0	4	9	0	0	0	86	40	3	47
103+50	23	82	0	0	4	70	0	0	3	156	36	6	120
103+52	2	83	0	0	4	6	0	0	0	162	36	6	126
104+00	48	77	0	1	4	141	0	1	7	303	31	12	273
104+25	25	67	0	30	3	67	0	15	3	370	46	15	325
105+21		58	0	21	3								
105+50	29	78	0	0	4	72	0	11	4	72	10	3	62
105+96	46	77	0	0	4	131	0	0	7	204	4	8	200
106+00	4	78	0	0	4	12	0	0	1	216	3	9	213
106+24	24	83	0	0	4	71	0	0	4	287	-1	11	288
106+49	25	79	0	0	4	75	0	0	4	362	-4	14	367
106+50	1	79	0	0	4	4	0	0	0	366	-4	15	371
106+71	21	39	0	0	2	45	0	0	2	411	-7	16	418
106+99	28	24	0	0	1	33	0	0	2	445	-8	18	453
107+00	1	24	0	0	1	1	0	0	0	446	-8	18	454
107+24	24	17	0	0	1	18	0	0	1	464	-9	19	473
107+81	58	4	0	4	0	23	0	4	1	486	-5	19	492
						857	0	67	43				

NOTES:

1-CUT	CUT INCLUDES SALVAGED/UNSABLE PAVEMENT MATERIAL
2-SALVAGED/UNSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN THE CROSS SECTIONS
3-FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME OR SELECT FILL
4-REDUCED EBS IN FILL	REDUCED EBS EXCAVATION THAT CAN BE USED IN FILL
5-MASS ORDINATE	IF EBS TO BE BACKFILLED WITH OR BORRROW: CUT-(FILL * FILL FACTOR AREA UNDER INSIDE 1:1'S EXTENDED DOWN FROM SUBGRADE SHOULDER POINTS (+) MASS ORDINATE INDICATES WASTE (-) MASS ORDINATE INDICATES BORROW



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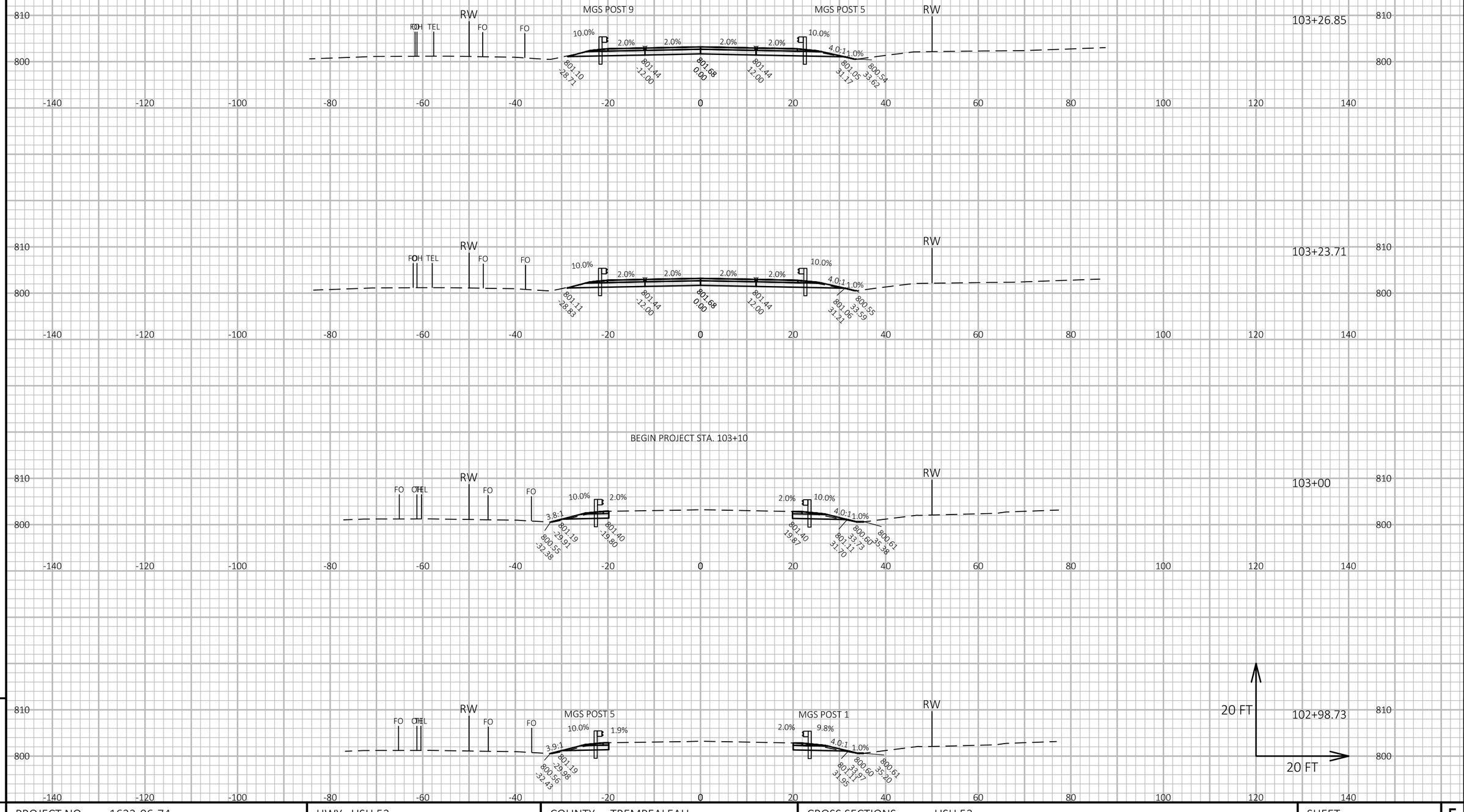
9

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	CROSS SECTIONS: USH 53	SHEET 131	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\CROSS SECTION\090101-XS.DWG
LAYOUT NAME - 53 - (1)

PLOT DATE : 7/20/2018 9:06 AM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



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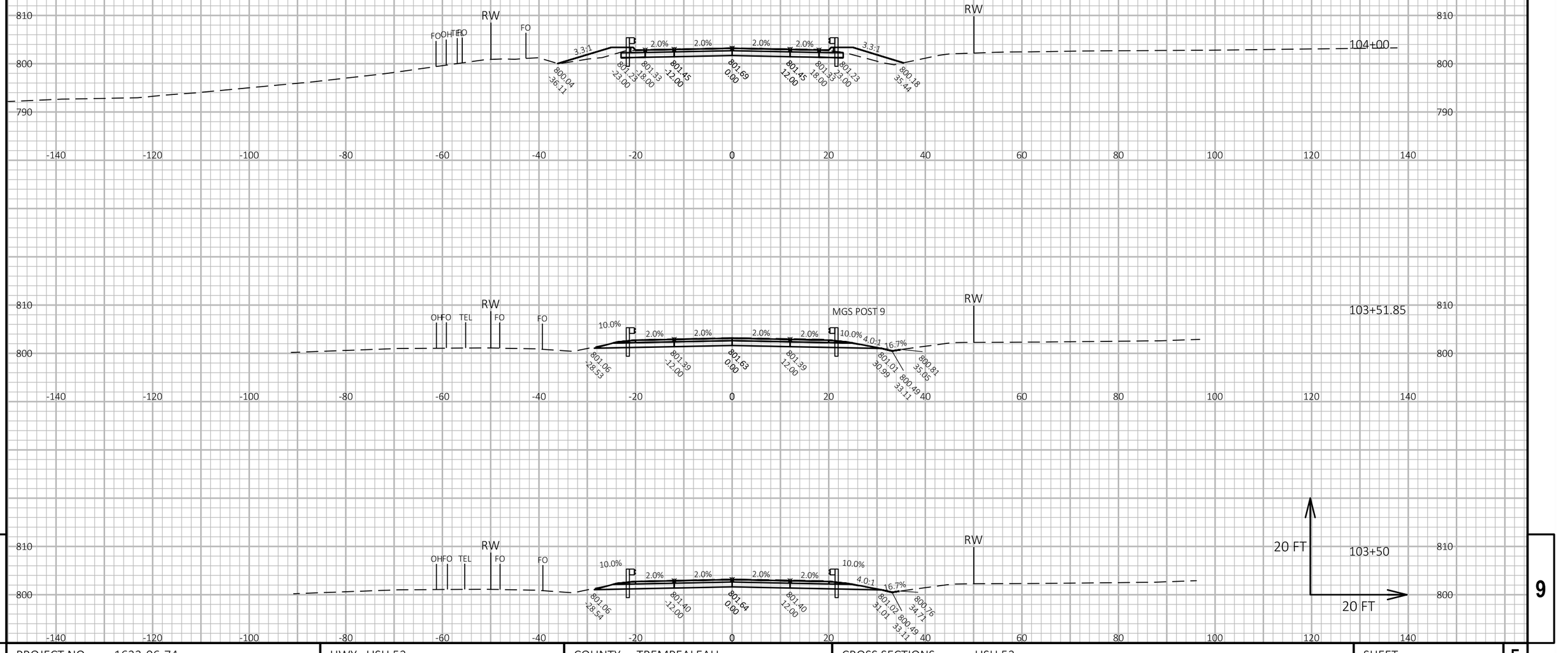
9

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	CROSS SECTIONS: USH 53	SHEET 132 E



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PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	CROSS SECTIONS: USH 53	SHEET 133	E

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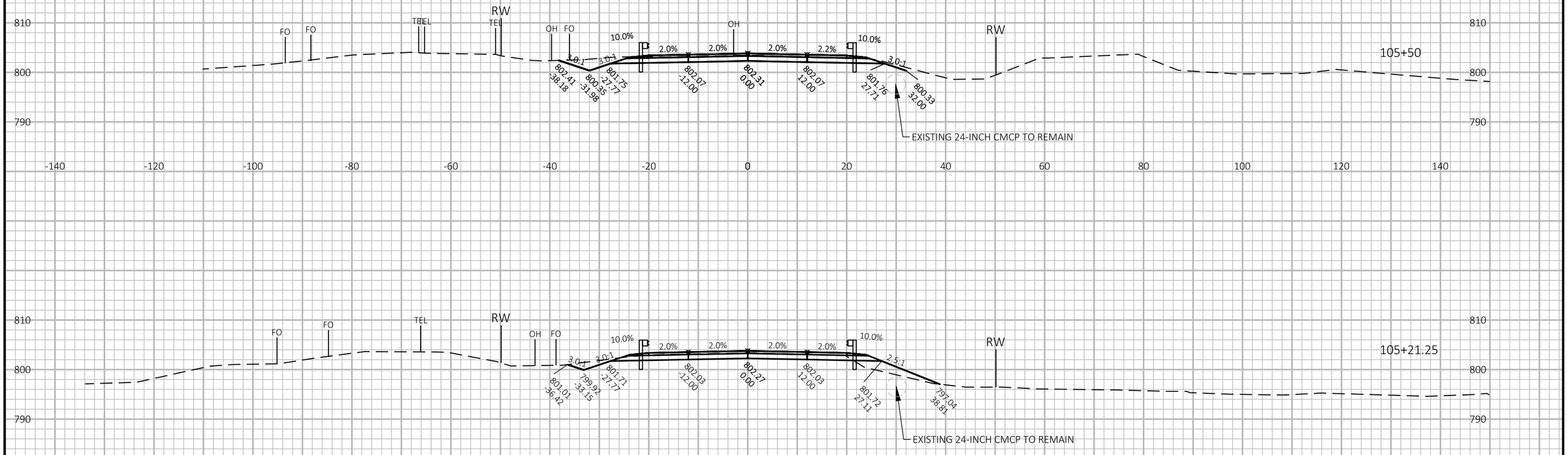
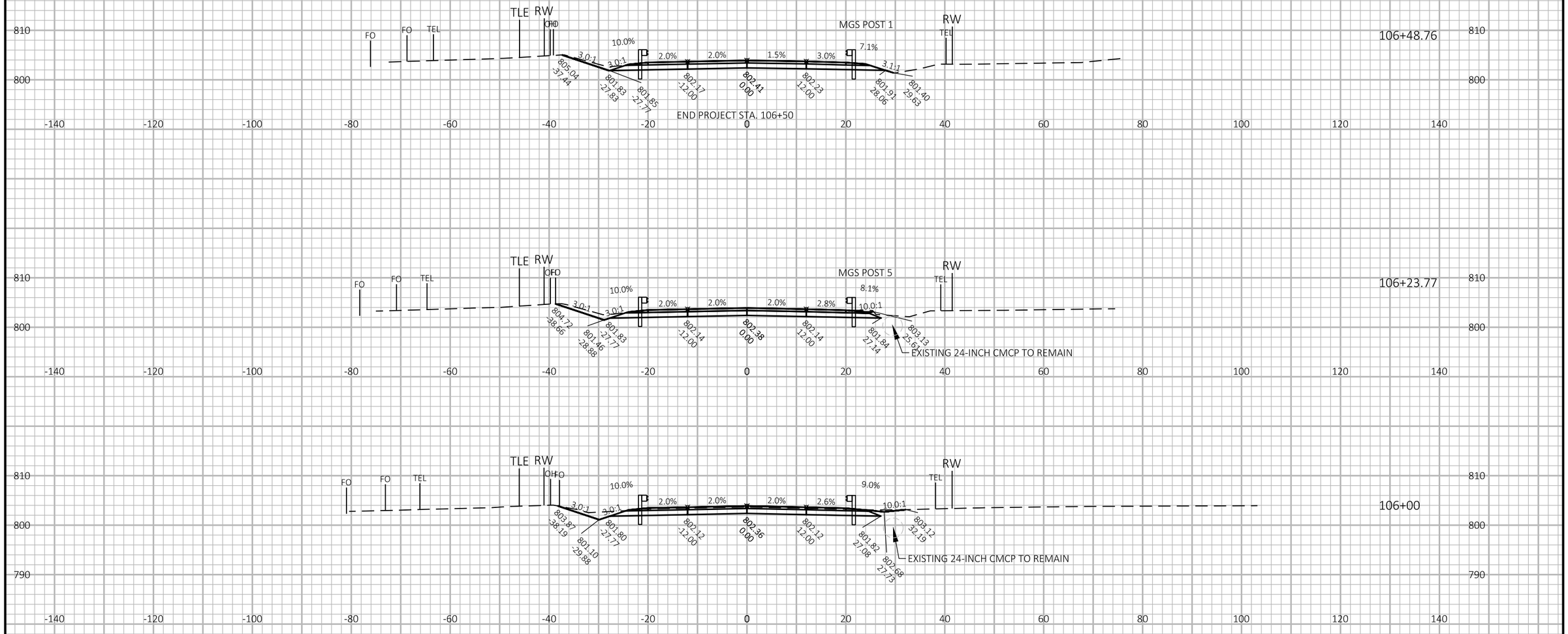
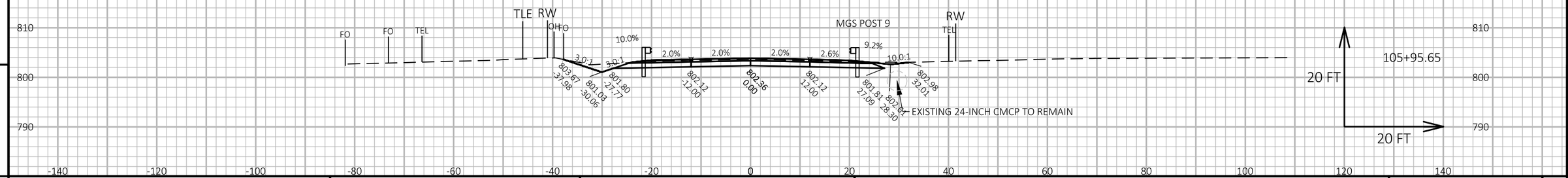
LAYOUT NAME - 53 - (3)

PLOT DATE : 7/20/2018 9:06 AM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	CROSS SECTIONS: USH 53	SHEET 134 E





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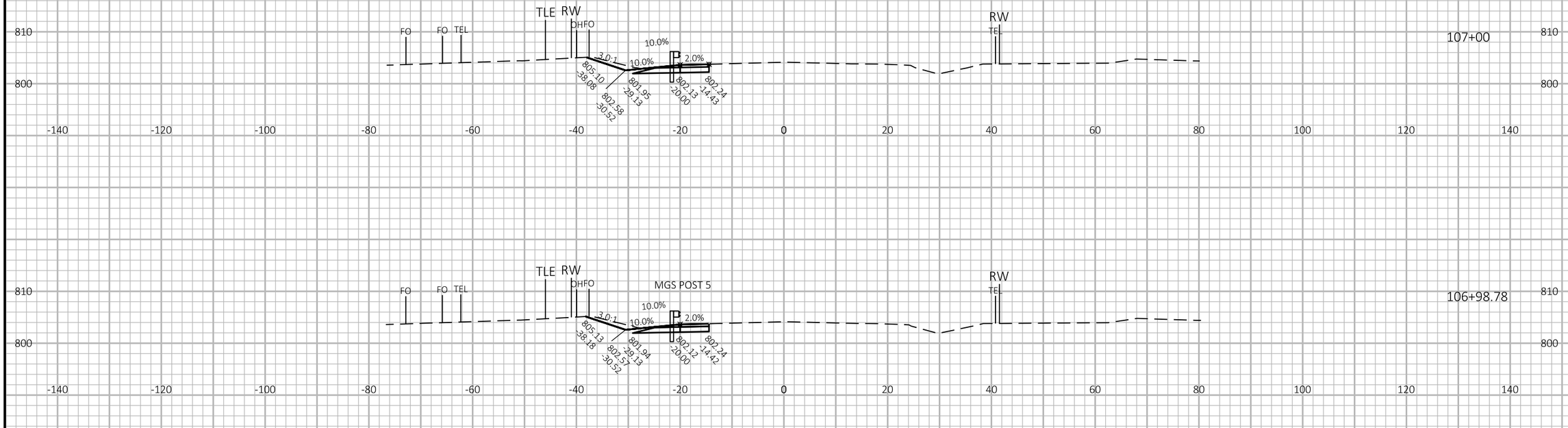
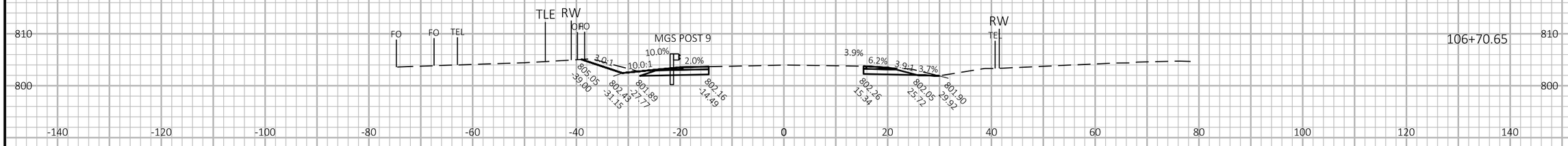
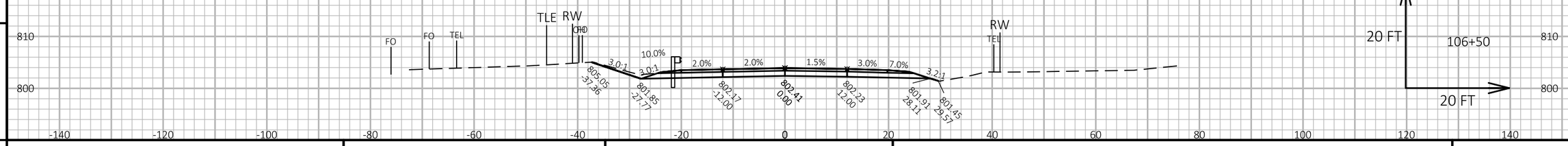
PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	CROSS SECTIONS: USH 53	SHEET 135	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\CROSS SECTION\090101-XS.DWG
LAYOUT NAME - 53 - (5)

PLOT DATE : 7/20/2018 9:07 AM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.







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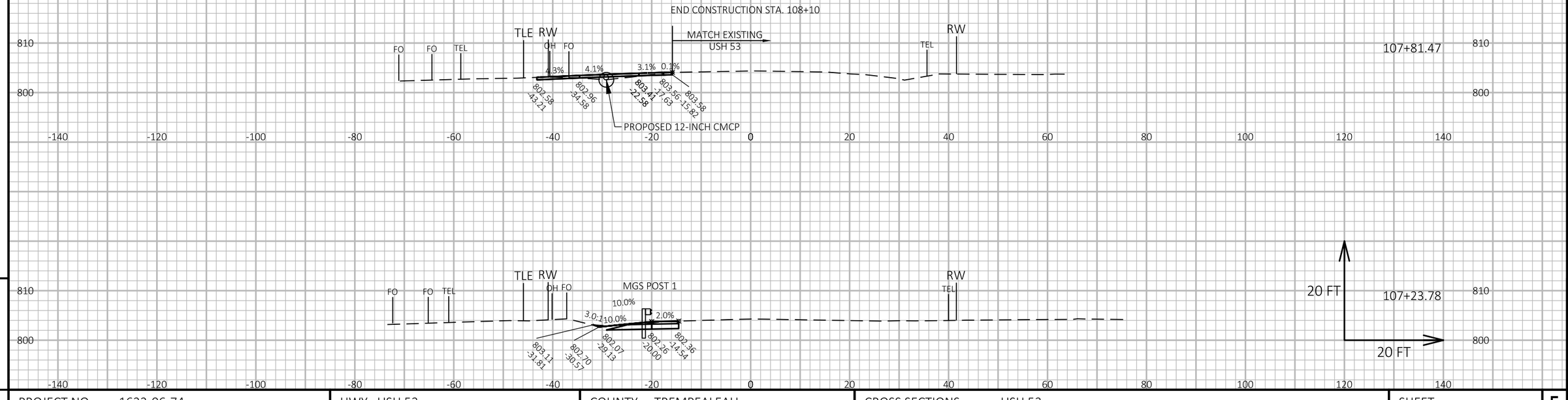
PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	CROSS SECTIONS: USH 53	SHEET 136	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\CROSS SECTION\090101-XS.DWG
LAYOUT NAME - 53 - (6)

PLOT DATE : 7/20/2018 9:07 AM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 1633-06-74	HWY: USH 53	COUNTY: TREMPEALEAU	CROSS SECTIONS: USH 53	SHEET 137	E

FILE NAME : G:\WDOTCO\16048 (2016-2018 DESIGN WO)\16048-001\CIVIL3D\SHEETSPLAN\CROSS SECTION\090101-XS.DWG
LAYOUT NAME - 53 - (7)

PLOT DATE : 7/20/2018 9:07 AM PLOT BY : KL ENGINEERING PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

Wisconsin Department of Transportation

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