GRE FEBRUARY 2023

PROJECT ID: **4685-29-60**

WITH: N/A

COUNTY: **CALUMET & OUTAGAMIE**

ORDER OF SHEETS

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

TOTAL SHEETS = 460

31

N

DESIGN DESIGNATION

A.A.D.T.	(2023)	=	54,780
A.A.D.T.	(2043)	=	65,230
D.H.V.	(2043)	=	7,570
D.D.		=	51/49
T.		=	5.2%
DESIGN SPEED		=	70 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

APPLETON, STH 441

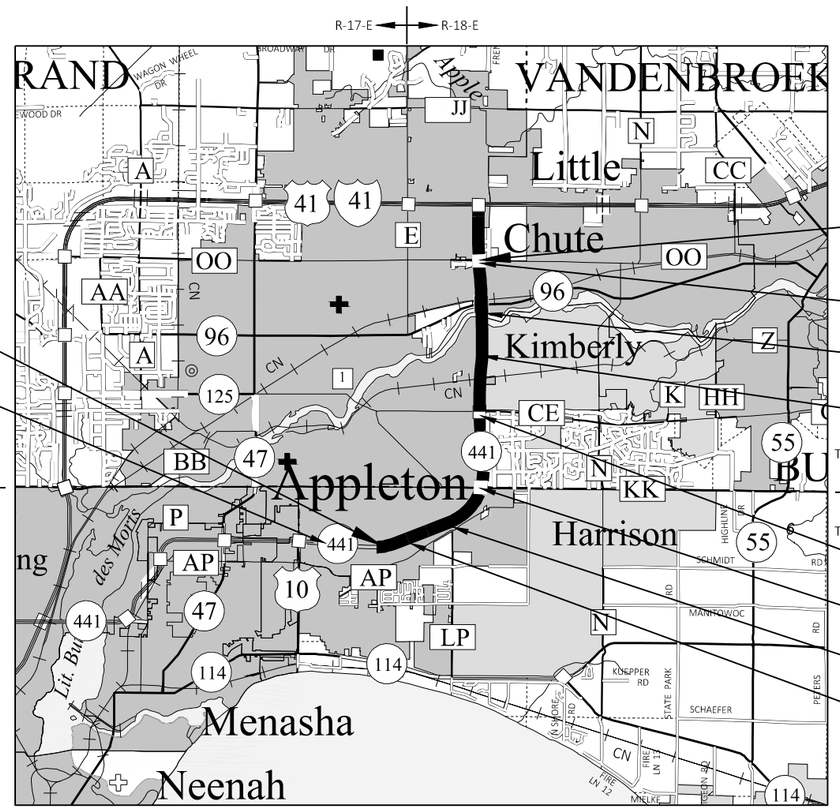
USH 10-NORTH JUNCTION IH 41

STH 441

CALUMET AND OUTAGAMIE COUNTIES

STATE PROJECT NUMBER
4685-29-60

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4685-29-60	WISC 2023242	1



BEGIN PROJECT
STA 337+69.79 NB
Y= 551,541.50
X= 833,581.57

STRUCTURE B-08-0033
(TO REMAIN)

OUTAGAMIE CO.
WINNEBAGO CO.

END PROJECT
STA 584+02.97 NB
Y= 571,604.34
X= 840,718.96

STRUCTURE B-44-0127 & B-44-0128
(TO REMAIN)

STRUCTURE B-44-0126
(TO REMAIN)

STRUCTURE B-44-0125
(TO REMAIN)

T-21-N
T-20-N

OUTAGAMIE CO.
CALUMET CO.

STRUCTURE B-44-0122 & B-44-0123
(TO REMAIN)

STRUCTURE B-08-0027 & B-08-0028
(TO REMAIN)

STRUCTURE B-08-0025 & B-08-0026
(TO REMAIN)

STRUCTURE B-08-0024
(TO REMAIN)

WINNEBAGO CO. | CALUMET CO.

LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 4.647 MI

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

ORIGINAL PLANS PREPARED BY:

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715-1943
(608) 251-4843

WISCONSIN
ERIC D. HANSON
E - 38350
MADISON, WI
PROFESSIONAL ENGINEER
10-21-22

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION / STRAND ASSOCIATES, INC.
Designer	STRAND ASSOCIATES, INC.
Project Manager	JESSE HANSEN, P.E.
Regional Examiner	NE REGION
Regional Supervisor	TAMMY RABE, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 10/27/2022 Jesse Hansen, P.E.
(Signature)

E

GENERAL NOTES

THE NB AND SB ALIGNMENTS ARE APPROXIMATELY THE INSIDE MEDIAN LANE EDGE.

THE RAMP ALIGNMENTS ARE APPROXIMATELY THE INSIDE LANE EDGE.

THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THAT AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE, EXCEPT WHERE NOTED IN THE PLANS.

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

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
(INCLUDES PERMANENT SIGNING)
EROSION CONTROL
STORM SEWER
TRAFFIC CONTROL SIGNAL
PAVEMENT MARKING
TRAFFIC CONTROL
ALIGNMENT DETAILS

UTILITIES CONTACTS

AAMFON - COMMUNICATION LINE
ATTENTION: ROBERT COLEMAN
655 SULLIVAN DR
FOND DU LAC, WI 54935
OFFICE: (920) 539-3811
E-MAIL: rcoleman@mi-tech.us

*AT&T LEGACY - COMMUNICATION LINE
ATTENTION: KENNETH M. NINE
110 N MAIN ST
CULVER, IN 46511
MOBILE: (574) 904-6336
OFFICE: (574) 842-8830
E-MAIL: knine@jmceainc.com

*AT&T WISCONSIN - COMMUNICATION LINE
ATTENTION: KYLE WEBER
221 W WASHINGTON ST
APPLETON, WI 54911
MOBILE: (920) 221-5969
E-MAIL: kw715w@att.com

*ATC MANAGEMENT, INC - ELECTRICITY-TRANSMISSION
ATTENTION: CHRIS DAILEY
W234 N2000 RIDGEVIEW PARKWAY CT
P.O. BOX 47
WAUKESHA, WI 53187
OFFICE: (262) 506-6884
E-MAIL: cdailey@atcllc.com

*CITY OF APPLETON - SEWER
ATTENTION: ERICK CARDEW
2625 E GLENDALE AVE
APPLETON, WI 54911
OFFICE: (920) 419-6214
E-MAIL: erick.cardew@appleton.org

*CITY OF APPLETON - WATER
ATTENTION: ERICK CARDEW
2625 E GLENDALE AVE
APPLETON, WI 54911
OFFICE: (920) 419-6214
E-MAIL: erick.cardew@appleton.org

*DARBOY JOINT SANITARY DISTRICT NO. 1 - WATER
ATTENTION: PAT HENNESSEY
N298 CTH N
APPLETON, WI 54915
OFFICE: (920) 788-6048
MOBILE: (920) 419-2611
E-MAIL: phennessey@darboysanitary.com

*LEVEL 3 COMMUNICATIONS LLC - COMMUNICATION LINE
ATTENTION: JASON BUSSE
3235 INTERTECH DR
SUITE 600
BROOKFIELD, WI 53045
OFFICE: (414) 224-6713
MOBILE: (715) 415-3214
E-MAIL: jason.busse@lumen.com

*NET LEC, LLC - COMMUNICATION LINE
ATTENTION: RICK VINCENT
470 SECURITY BLVD
GREEN BAY, WI 54313
OFFICE: (920) 617-7316
E-MAIL: rick.vincent@nsight.com

*PAETEC COMMUNICATION, LLC - COMMUNICATION LINE
ATTENTION: LORI KETTER
314 N DANZ AVE
GREEN BAY, WI 54302-3526
OFFICE: (920) 410-6902
E-MAIL: lori.ketter@windstream.com

*SPECTRUM - COMMUNICATION LINE
ATTENTION: VINCE ALBIN
3520 DESTINATION DR
APPLETON, WI 54915
OFFICE: (920) 831-9249
MOBILE: (920) 378-0444
E-MAIL: vince.albin@charter.com

*TDS TELECOM - COMMUNICATION LINE
ATTENTION - JEFF SHAW
202 OGDEN ST
P.O. BOX 240
MEDFORD, WI 54451
OFFICE: (715) 748-6970
MOBILE: (715) 323-8464
E-MAIL: shaw.jeff@tdstelecom.com

*US SIGNAL COMPANY, LLC - COMMUNICATION LINE
ATTENTION: BOB HODOROWICZ
1805 HAGAMAN DR
BATIVA, IL 60510
OFFICE: (224) 762-1249
E-MAIL: rhodorowicz@tkns.net

*WE ENERGIES - ELECTRICITY
ATTENTION: ZACH DUGA
800 S LYNNDALE DR
APPLETON, WI 54914
OFFICE: (920) 380-3458
MOBILE: (920) 450-9314
E-MAIL: zachary.duga@we-energies.com

*WE ENERGIES - GAS/PETROLEUM
ATTENTION: CODY JACOBSON
800 S LYNNDALE DR
APPLETON, WI 54914
OFFICE: (920) 380-3565
MOBILE: (920) 450-1170
E-MAIL: cody.jacobson@we-energies.com

*WIN, LLC - COMMUNICATION LINE
ATTENTION: KEN WHITING
4955 BULLIS FARM RD
EAU CLAIRE, WI 54701
OFFICE: (866) 206-2027
MOBILE: (920) 376-2996
E-MAIL: ken.whiting@wintechnology.com

*DENOTES DIGGERS HOTLINE MEMBER

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

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

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

NE REGION DESIGN PROJECT MANAGER
JESSE HANSEN, PE
944 VANDERPERREN WAY
GREEN BAY, WI 54304
(920)362-6095
jesse.hansen@dot.wi.gov

DESIGN CONSULTANT
ERIC HANSON, PE
STRAND ASSOCIATES, INC.
910 WEST WINGRA DRIVE
MADISON, WI 53715
(608)251-4843
eric.hanson@strand.com

CALUMET COUNTY HIGHWAY COMMISSIONER
BRIAN GLAESER
241 EAST CHESTNUT STREET
CHILTON, WI 53014
(920) 849-1434
brian.glaeser@calumetcounty.org

OUTAGAMIE COUNTY HIGHWAY COMMISSIONER
DEAN STEINGRABER
1313 HOLLAND ROAD
APPLETON, WI 54911
(920) 832-5673
dean.steingraber@outagamie.org

NE REGION ITS
JOHN MITTELSTADT
433 W ST PAUL AVE
SUITE 300
MILWAUKEE, WI 53203
(608) 205-7859
john.mittelstadt@dot.wi.gov

2

2

N

USH 10/S ONEIDA ST

300 NB

300 SB

BEGIN CONSTRUCTION
STA. 312+44 NB

STRUCTURE B-08-0033
(TO REMAIN)

CALUMET COUNTY

BEGIN PROJECT
STA 337+69.79 NB
Y=551,541.50
X=833,581.57

STRUCTURE B-08-0024
(TO REMAIN)

350 NB

350 SB

STH 441

STRUCTURE B-08-0026
(TO REMAIN)

CTH LP/LAKE PARK RD

STRUCTURE B-08-0025
(TO REMAIN)

400 NB

400 SB

410 A

410 D

CTH KK

420 A

420 D

430 B

430 C

440 B

STRUCTURE B-08-0027
(TO REMAIN)

CTH KK

CITY OF APPLETON

STRUCTURE B-08-0028
(TO REMAIN)

450 NB

450 SB

STRUCTURE B-44-0123
(TO REMAIN)

CTH CE

480 E

480 H

490 F

490 G

CTH CE

STRUCTURE B-44-0122
(TO REMAIN)

STRUCTURE B-44-0125
(TO REMAIN)

VILLAGE OF KIMBERLY

500 NB

500 SB

FOX VALLEY & LAKE SUPERIOR RAILROAD

CANADIAN NATIONAL RAILROAD

STRUCTURE B-44-0126
(TO REMAIN)

VILLAGE LIMITS

OUTAGAMIE COUNTY

CITY OF APPLETON

STH 47

FOX RIVER

STH 96

550 NB

550 SB

STH 441

580 J

580 M

590 J

590 M

CTH OO

CTH OO

END PROJECT
STA 584+02.97 NB
Y=571,604.34
X=840,718.96

STRUCTURE B-44-0128
(TO REMAIN)

600 NB

600 SB

STRUCTURE B-44-0127
(TO REMAIN)

VILLAGE OF
LITTLE CHUTE

IH 41

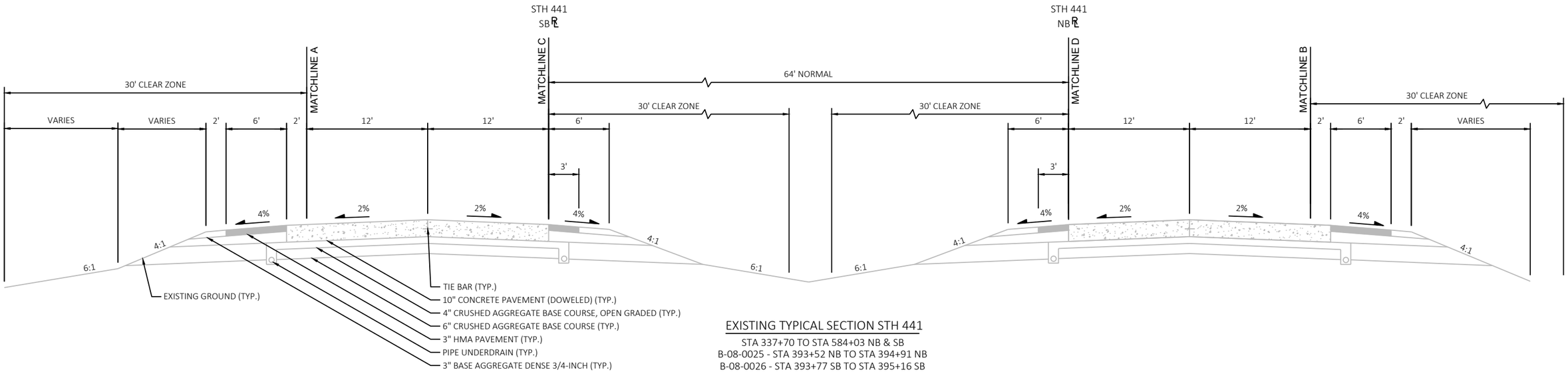
IH 41/USH 41

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - 020201-po

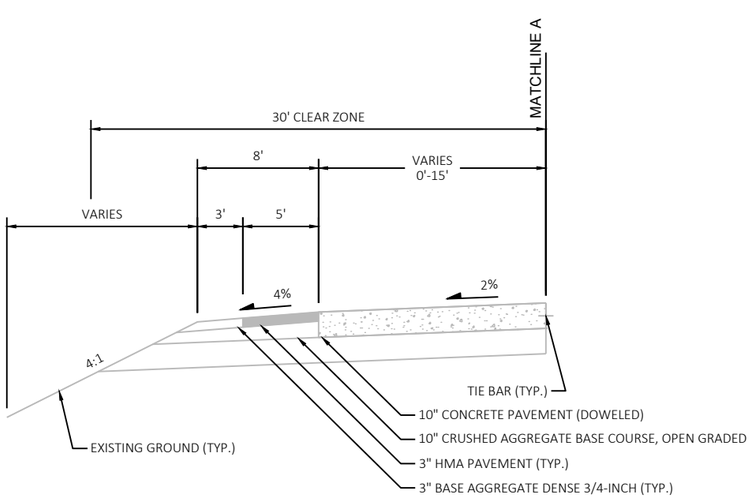
PLOT DATE : 8/19/2022 8:32 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:2000 FT

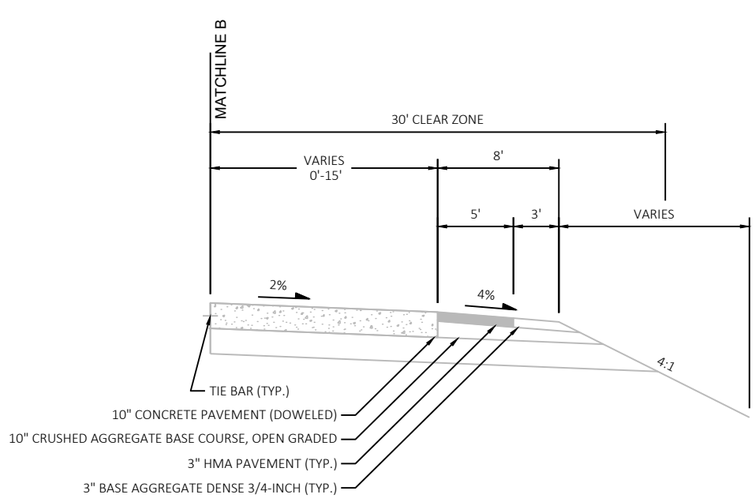
WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION STH 441

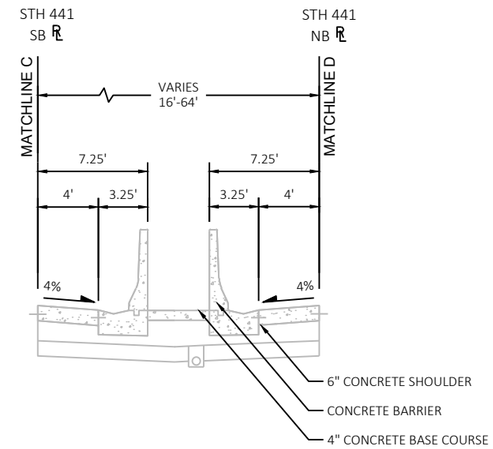
STA 337+70 TO STA 584+03 NB & SB
B-08-0025 - STA 393+52 NB TO STA 394+91 NB
B-08-0026 - STA 393+77 SB TO STA 395+16 SB
B-08-0027 - STA 424+38 NB TO STA 425+85 NB
B-08-0028 - STA 423+82 SB TO STA 425+26 SB
B-44-0122 - STA 476+93 NB TO STA 478+93 NB
B-44-0123 - STA 476+97 SB TO STA 478+97 SB
B-44-0126 - STA 540+06 NB TO STA 556+51 NB
B-44-0127 - STA 581+65 NB TO STA 584+27 NB
B-44-0128 - STA 582+61 SB TO STA 584+08 SB





EXISTING TYPICAL SECTION STH 441

STA 398+95 SB TO STA 407+00 SB
STA 400+52 NB TO STA 408+00 NB
STA 438+09 SB TO STA 450+09 SB
STA 447+50 NB TO STA 457+00 NB
STA 463+06 SB TO STA 472+64 SB
STA 471+01 NB TO STA 472+64 NB
STA 498+50 SB TO STA 500+22 SB
STA 500+00 NB TO STA 509+00 NB
STA 573+13 SB TO STA 579+00 SB
STA 574+88 NB TO STA 576+50 NB

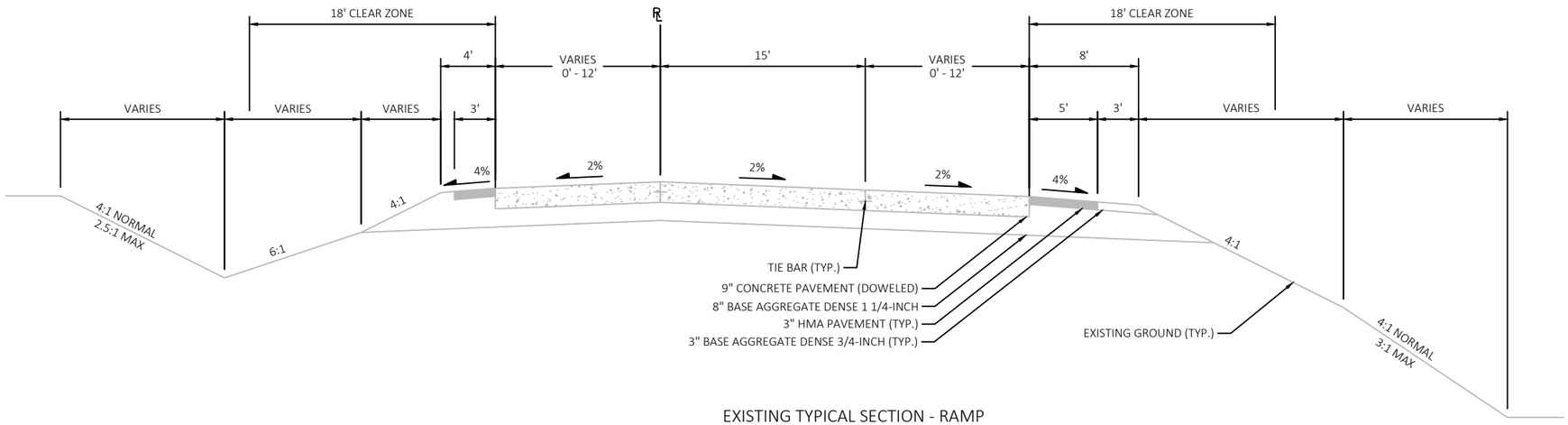


EXISTING TYPICAL SECTION STH 441

STA 497+87 NB to STA 584+03 NB

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	EXISTING TYPICAL SECTIONS	SHEET 4	E

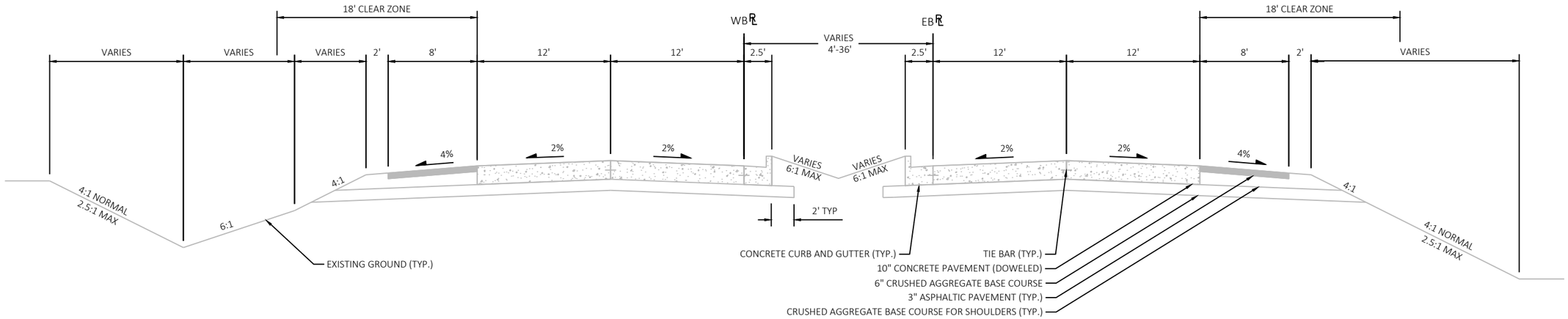
FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020301-ts
PLOT DATE : 8/30/2022 7:35 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1IN:10 FT
WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION - RAMP

STA 407+87 A TO 426+93 A
STA 426+04 B TO 440+13 B
STA 426+00 C TO 438+22 C*
STA 409+50 D TO 423+68 D*
STA 472+64 E TO 485+37 E
STA 486+31 F TO 499+40 F
STA 486+35 G TO 496+92 G*
STA 472+64 H TO 485+49 H*
STA 576+50 J TO 591+28 J
STA 575+89 M TO 592+19 M*

*TYPICAL SECTION MIRRORED FOR THESE RAMPS

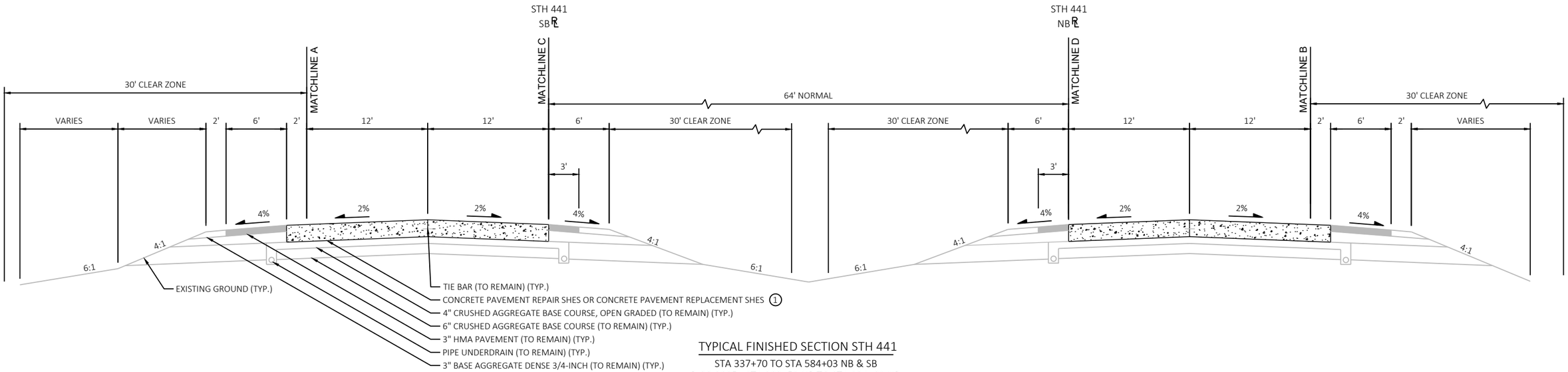


EXISTING TYPICAL SECTION CTH CE

STA 80+00 EB TO STA 91+66 EB

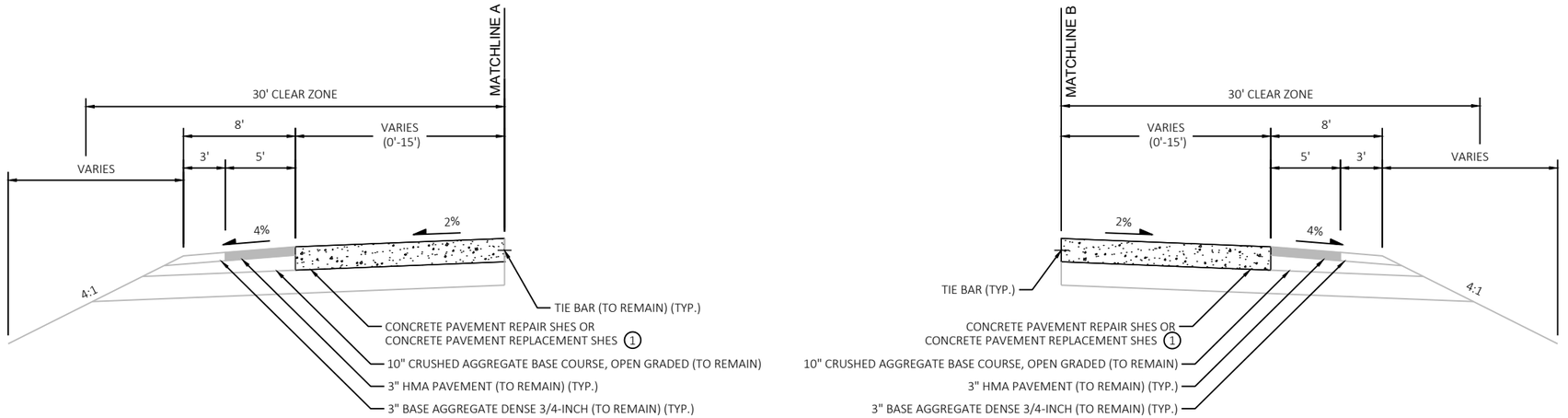
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	EXISTING TYPICAL SECTIONS	SHEET 5	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020302-ts
PLOT DATE : 8/30/2022 7:35 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1IN:10 FT



TYPICAL FINISHED SECTION STH 441

STA 337+70 TO STA 584+03 NB & SB
B-08-0025 - STA 393+52 NB TO STA 394+91 NB
B-08-0026 - STA 393+77 SB TO STA 395+16 SB
B-08-0027 - STA 424+38 NB TO STA 425+85 NB
B-08-0028 - STA 423+82 SB TO STA 425+26 SB
B-44-0122 - STA 476+93 NB TO STA 478+93 NB
B-44-0123 - STA 476+97 SB TO STA 478+97 SB
B-44-0126 - STA 540+06 NB TO STA 556+51 NB
B-44-0127 - STA 581+65 NB TO STA 584+27 NB
B-44-0128 - STA 582+61 SB TO STA 584+08 SB



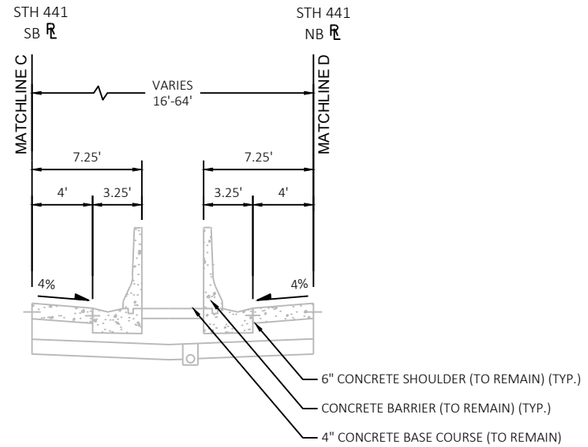
TYPICAL FINISHED SECTION STH 441

STA 398+95 SB TO STA 407+00 SB
STA 400+52 NB TO STA 408+00 NB
STA 438+09 SB TO STA 450+09 SB
STA 447+50 NB TO STA 457+00 NB
STA 463+06 SB TO STA 472+64 SB
STA 471+01 NB TO STA 472+64 NB
STA 498+50 SB TO STA 500+22 SB
STA 500+00 NB TO STA 509+00 NB
STA 573+13 SB TO STA 579+00 SB
STA 574+88 NB TO STA 576+50 NB

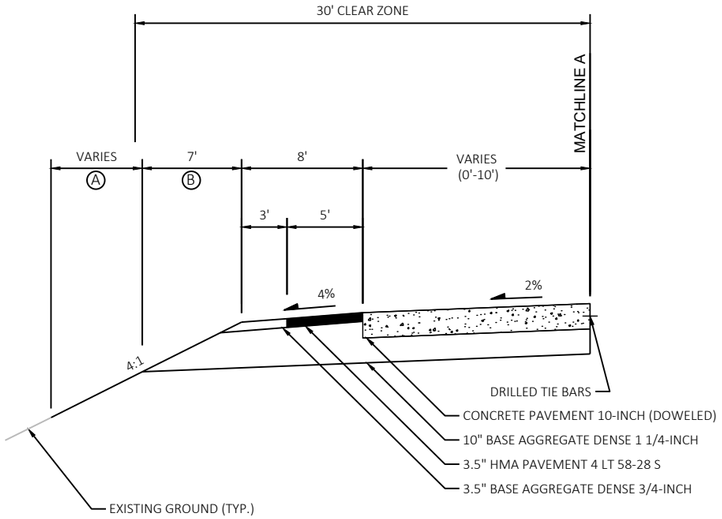
(1) SEE PLAN SHEETS FOR SPECIFIC LOCATION OF 10-INCH MINIMUM CONCRETE PAVEMENT REPAIR SHES AND CONCRETE PAVEMENT REPLACEMENT SHES.

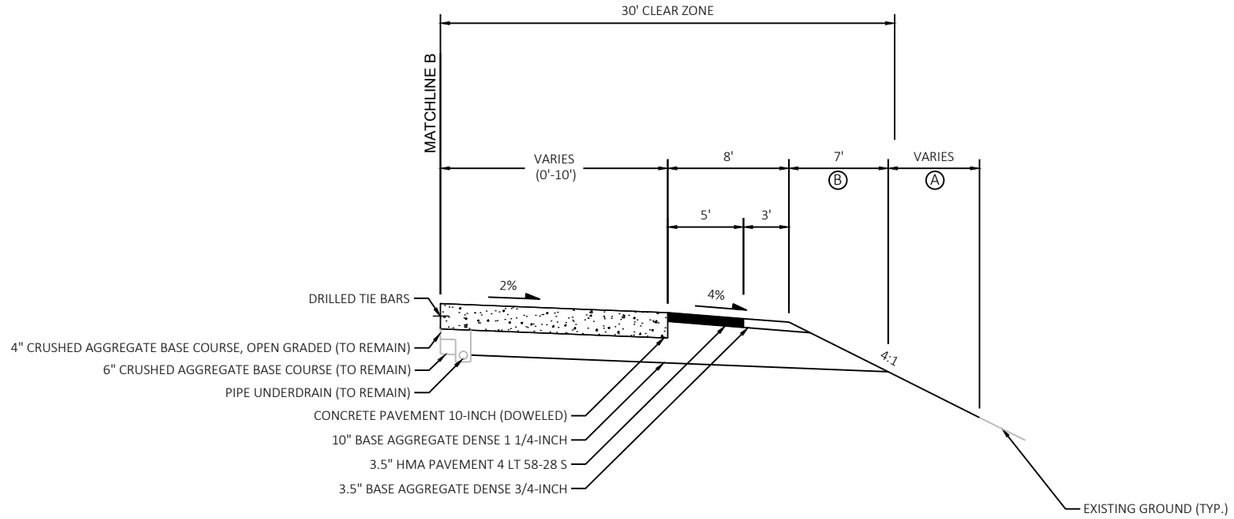
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	TYPICAL FINISHED SECTIONS	SHEET 6	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020303-ts
PLOT DATE : 8/30/2022 7:35 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1IN:10 FT
WISDOT/CADDS SHEET 42



TYPICAL FINISHED SECTION STH 441
STA 497+87 NB to STA 584+03 NB



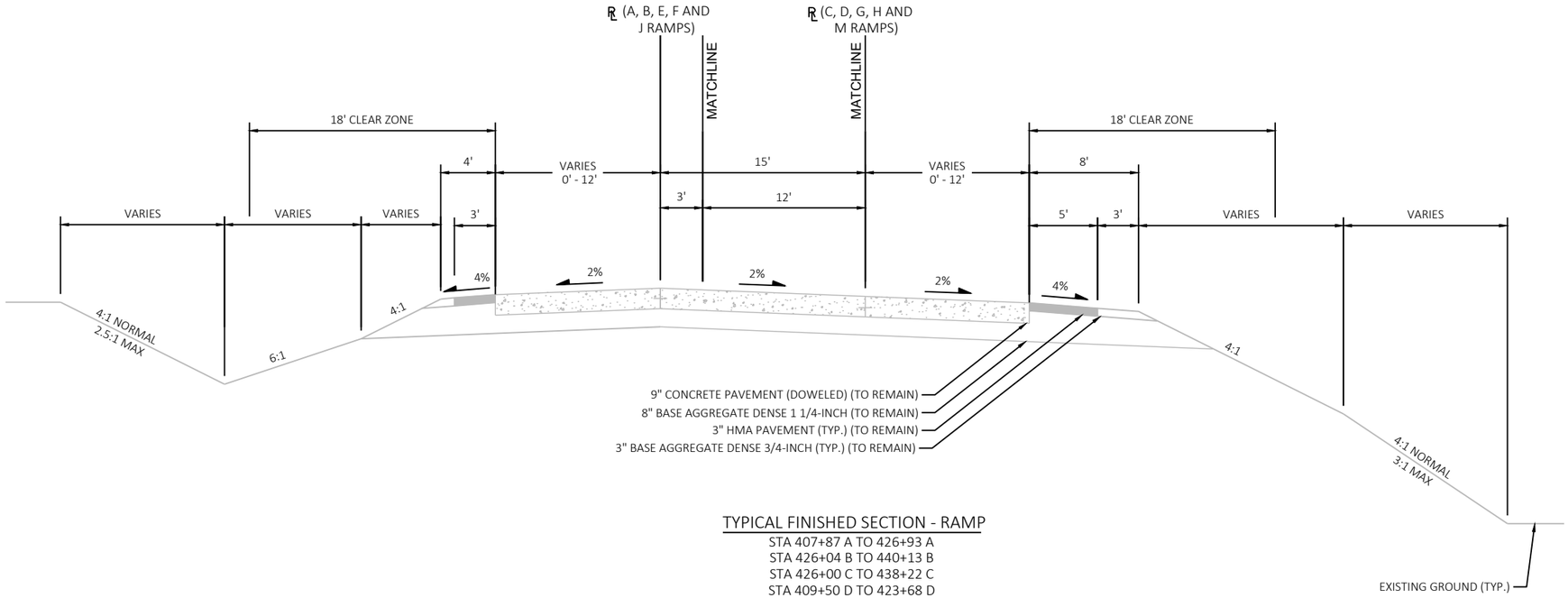


(A) *TOPSOIL OR SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, FERTILIZER TYPE B AND *EROSION MAT (*SEE EROSION CONTROL PLANS FOR TYPE AND LOCATION)

(B) SEEDING MIXTURE NO. 30 AND FERTILIZER TYPE B

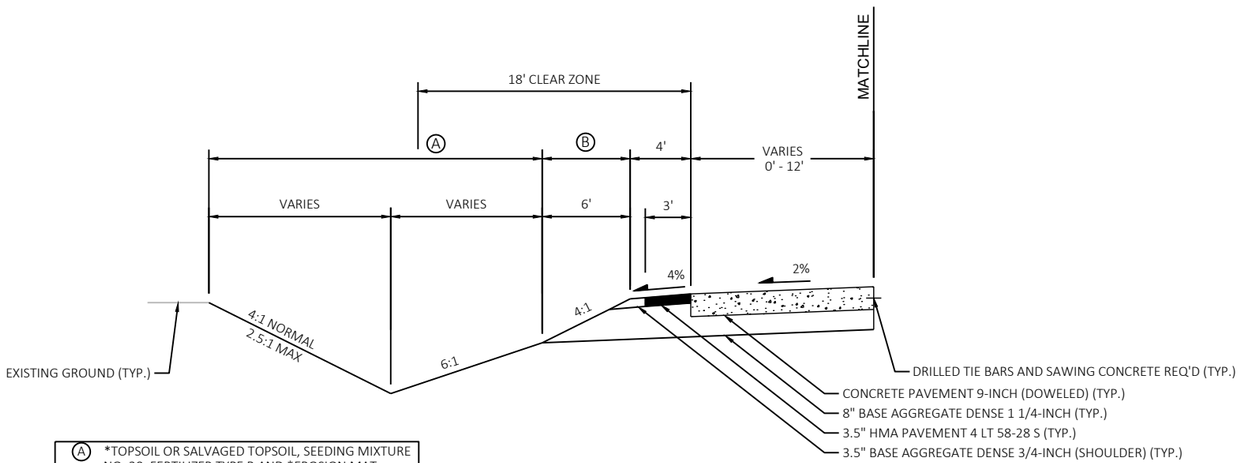
TYPICAL FINISHED SECTION STH 441
STA. 490+46 SB TO 497+70 SB
STA. 560+38 NB TO 568+68 NB

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	TYPICAL FINISHED SECTIONS	SHEET 7	E



TYPICAL FINISHED SECTION - RAMP

STA 407+87 A TO 426+93 A
STA 426+04 B TO 440+13 B
STA 426+00 C TO 438+22 C
STA 409+50 D TO 423+68 D
STA 472+64 E TO 485+37 E
STA 486+31 F TO 499+40 F
STA 486+35 G TO 496+92 G
STA 472+64 H TO 485+49 H
STA 576+50 J TO 591+28 J
STA 575+89 M TO 592+19 M

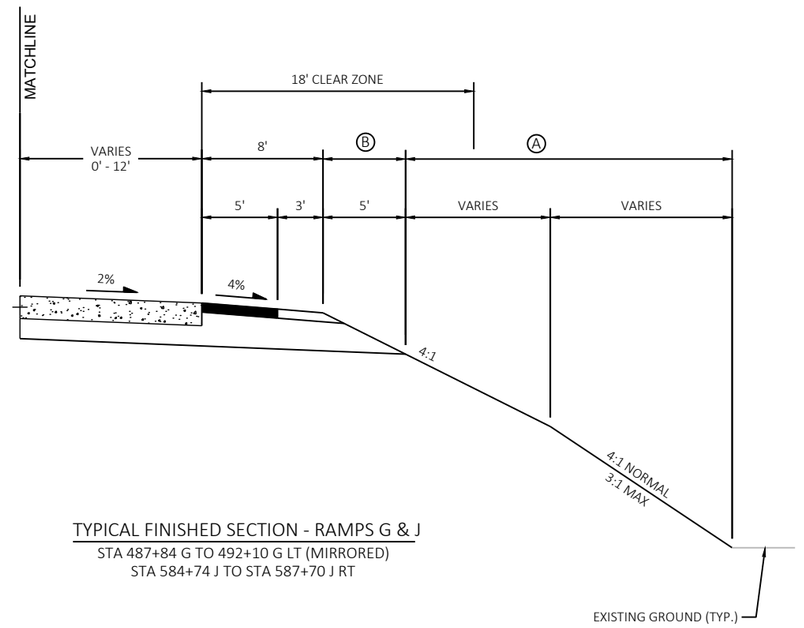


Ⓐ *TOPSOIL OR SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, FERTILIZER TYPE B AND *EROSION MAT (*SEE EROSION CONTROL PLANS FOR TYPE AND LOCATION)

Ⓑ SEEDING MIXTURE NO. 30 AND FERTILIZER TYPE B

TYPICAL FINISHED SECTION - RAMPS G & J

STA 488+04 G TO 492+36 G RT (MIRRORED)
STA 581+90 J TO 587+84 J LT



TYPICAL FINISHED SECTION - RAMPS G & J

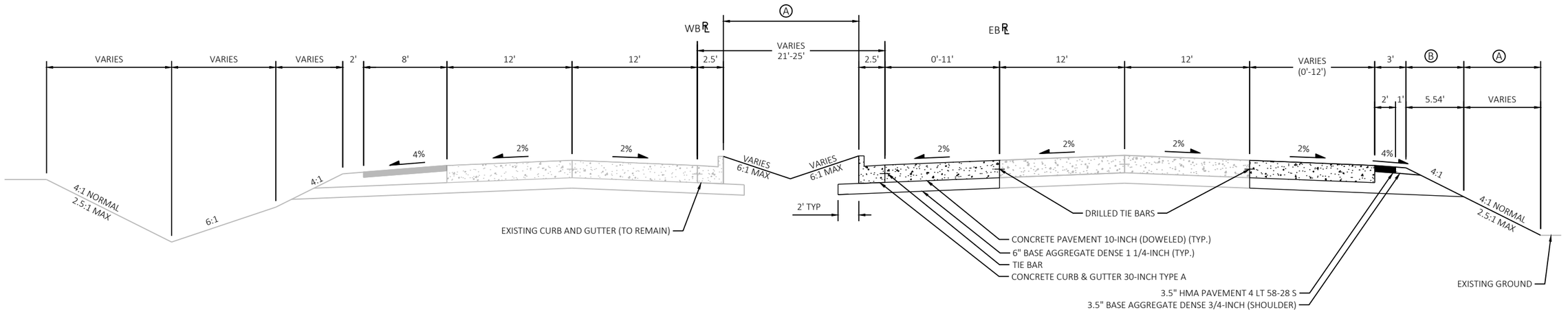
STA 487+84 G TO 492+10 G LT (MIRRORED)
STA 584+74 J TO STA 587+70 J RT

SEE PLAN DETAILS FOR ADDITIONAL INFORMATION

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	TYPICAL FINISHED SECTIONS	SHEET 8	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020305-ts
PLOT DATE : 8/30/2022 7:35 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1IN:10 FT
WISDOT/CADDS SHEET 42

2



TYPICAL FINISHED SECTION CTH CE

STA 85+26 EB TO STA 91+58 EB

(A) *TOPSOIL OR SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, FERTILIZER TYPE B AND *EROSION MAT (*SEE EROSION CONTROL PLANS FOR TYPE AND LOCATION)

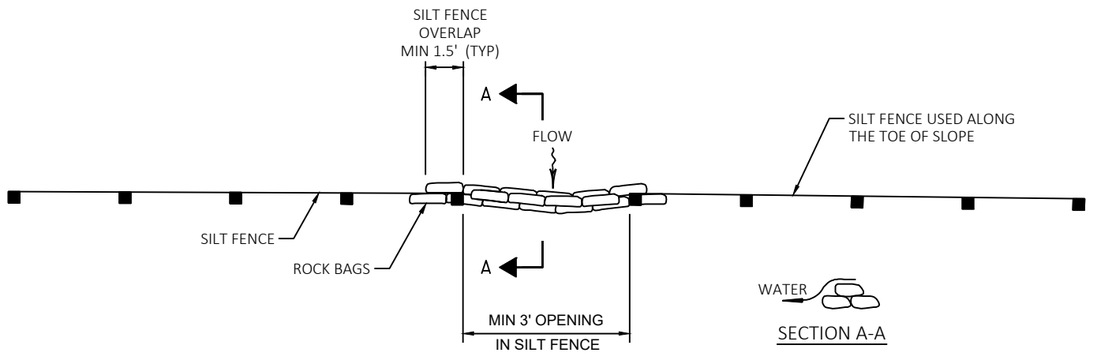
(B) SEEDING MIXTURE NO. 30 AND FERTILIZER TYPE B

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	TYPICAL SECTIONS	SHEET 9	E

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 189.3 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 9.0 ACRES

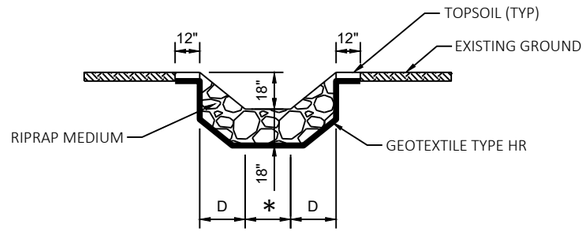


TOP VIEW

ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

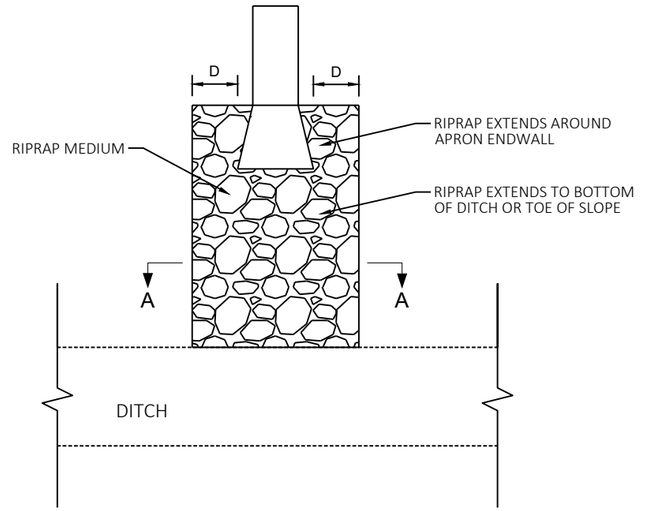
AT LOW POINTS IN SILT FENCE

NOT TO SCALE



SECTION A-A

* APRON ENDWALL WIDTH
D = PIPE DIAMETER

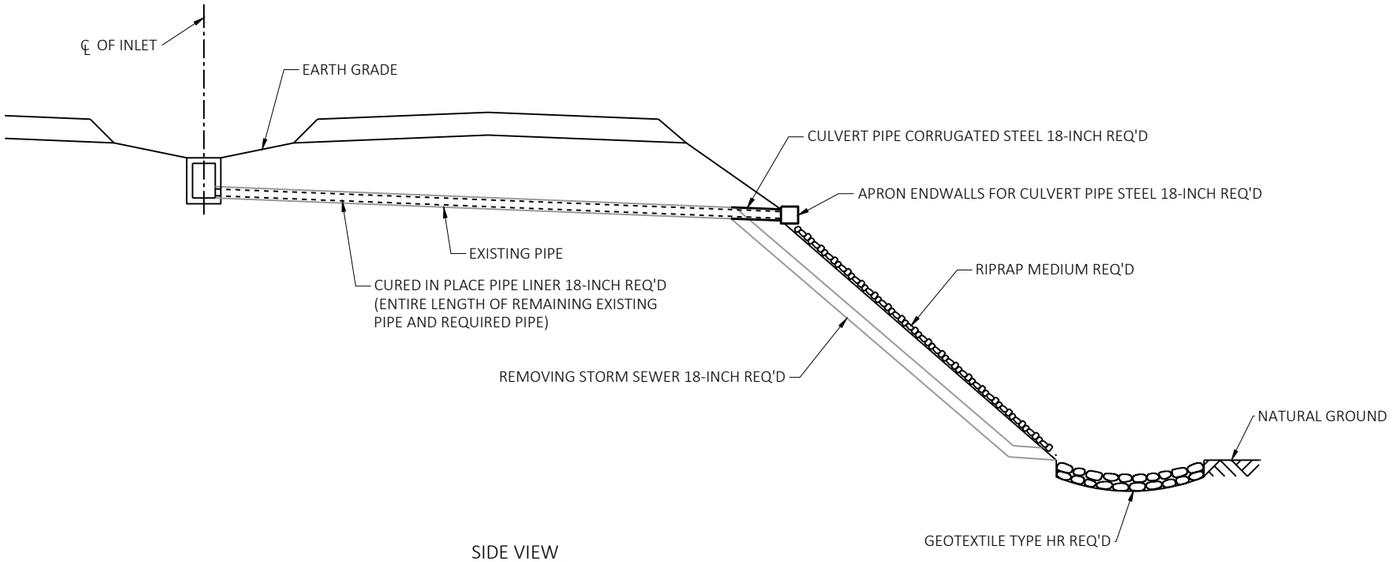


PLAN VIEW

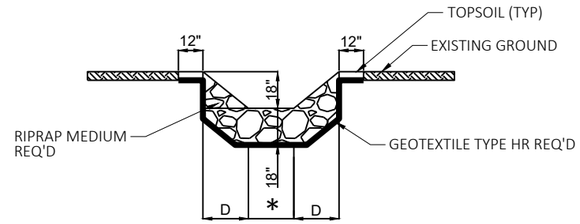
RIPRAP MEDIUM TREATMENT AT CULVERT AND STORM SEWER OUTFALLS

STA. 539+11 NB RT
STA. 556+55 NB RT
STA. 560+60 NB RT
STA. 584+25 NB RT

2



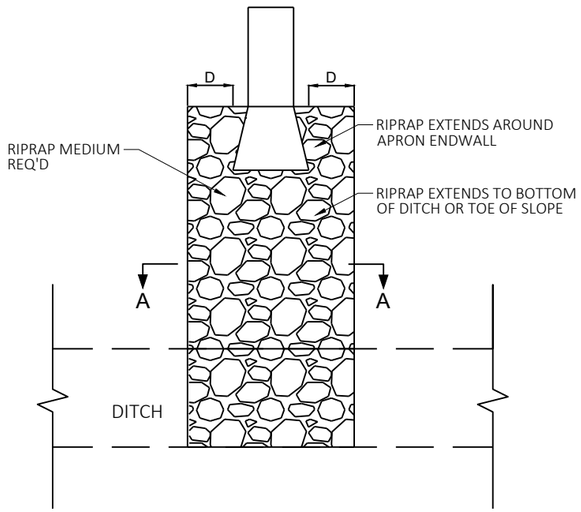
SIDE VIEW



SECTION A-A

* APRON ENDWALL WIDTH

D = PIPE DIAMETER

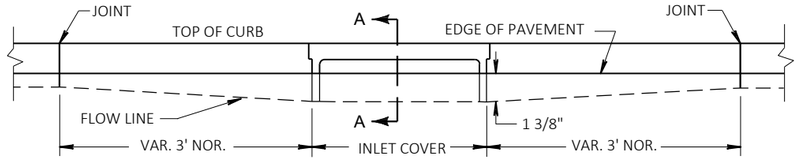


PLAN VIEW

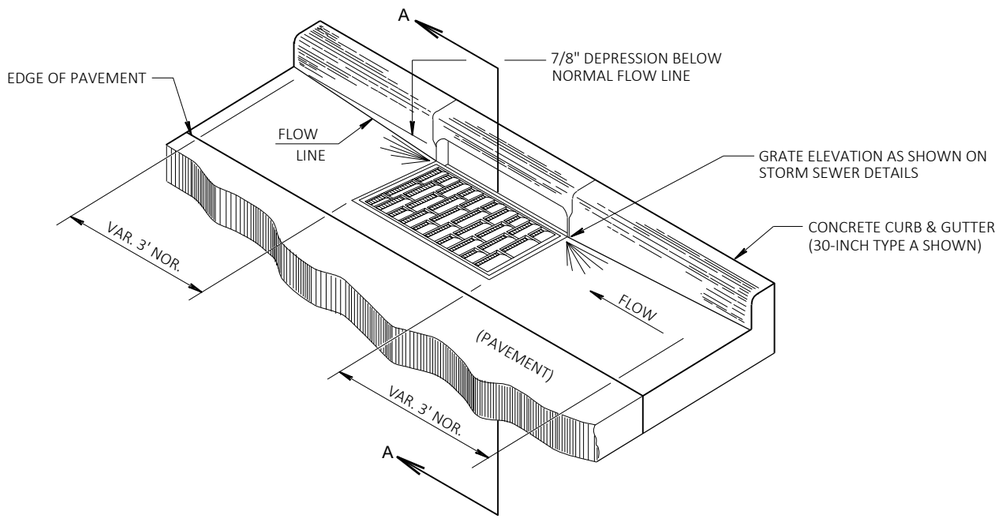
DAYLIGHT INLET

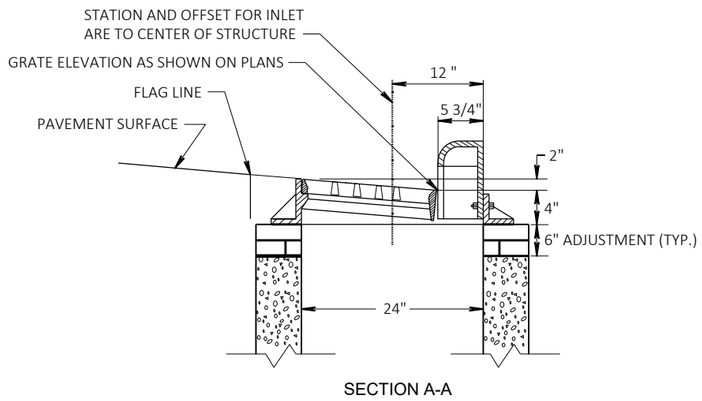
STA. 476+50 NB RT
STA. 479+02 NB RT
STA. 576+57 NB RT
STA. 582+05 SB LT
STA. 580+88 M LT

NOT TO SCALE



ELEVATION



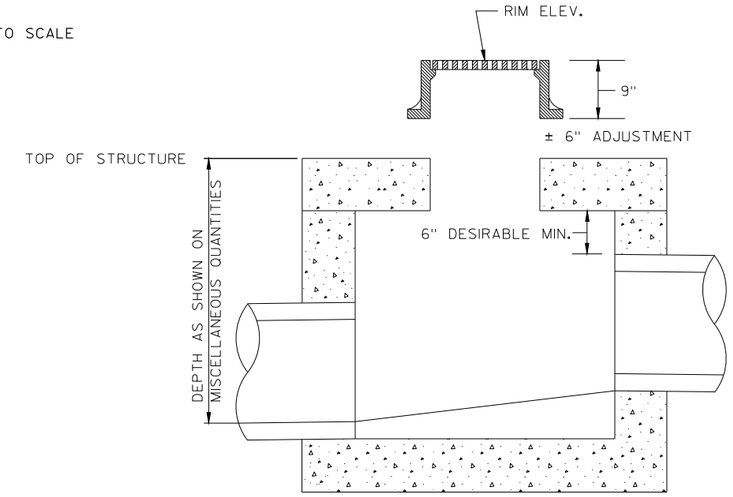


SECTION A-A

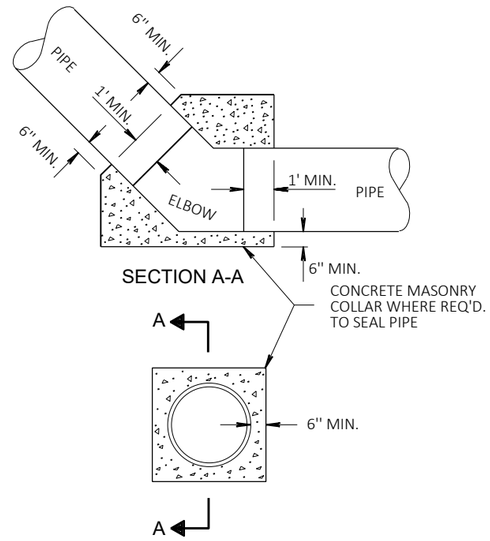
DETAIL OF CONCRETE CURB & GUTTER 30-INCH AT INLETS

(INLETS 2X3-FT - H-S SHOWN)

NOT TO SCALE



DETAIL FOR COMPUTING MANHOLE ELEVATIONS



CONCRETE COLLARS FOR PIPE AT PIPE BEND

PAID FOR AS CONCRETE COLLARS FOR PIPE

2

2

N

B-08-0024

STH 441 SB

SB

348+00 SB

349+00 SB

350+00 SB

WETLAND BOUNDARY

STEEL THRIE BEAM BULLNOSE TERMINAL

STEEL THRIE BEAM

STEEL THRIE BEAM BULLNOSE TERMINAL

347+96.11 SB
24.6' RT
POST 5

348+33.37 SB
24.6' RT
POST 12

348+95.45 SB
25.43' RT
POST 12

349+32.68 SB
26.41' RT
POST 5

349+44.77 SB
29.08' RT
POST 1

347+83.96 SB
27.0' RT
POST 1

348+01.32 NB
27.3' LT
POST 1

348+13.68 NB
25.2' LT
POST 5

348+51.43 NB
25.2' LT
POST 12

349+14.33 NB
24.37' LT
POST 12

349+52.05 NB
23.39' LT
POST 5

349+64.45 NB
25.26' LT
POST 1

350+00 NB

349+00 NB

348+00 NB

STH 441 NB

TELULAH AVENUE

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 13	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021201-pd

PLOT DATE : 8/31/2022 4:11 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 14	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021202-pd

PLOT DATE : 8/31/2022 4:12 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 15	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021203-pd
PLOT DATE : 8/31/2022 4:12 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

2

N

B-08-0026

STH 441 SB

392+00 SB

393+00 SB

394+00 SB

MATCHLINE 391+50

LAKE PARK ROAD

MATCHLINE 394+50

MGS GUARDRAIL 3 - 262.5'

MGS THRIE BEAM TRANSITION

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

6'

392+00 NB

393+00 NB

394+00 NB

CONCRETE CURB & GUTTER 4 INCH SLOPED 36-INCH TYPE TBTT REQ'D

B-08-0025

STH 441 NB

CONCRETE SURFACE DRAINS REQ'D
STATION 392+85 NB; 6.9' LT
PERPENDICULAR FLUME.
FINAL LOCATION SHALL MAINTAIN MINIMUM
POST SEPARATION DISTANCES IN SDD "CONCRETE
SURFACE DRAINS FLUME TYPE AT STRUCTURES".

10'

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

MGS GUARDRAIL 3 - 275.0'

MGS THRIE BEAM TRANSITION

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 16	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021204-pd

PLOT DATE : 8/31/2022 4:12 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

N

MGS THRIE BEAM TRANSITION

MGS GUARDRAIL 3 - 275.0'

B-08-0026

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

10'

CONCRETE SURFACE DRAINS REQ'D
STATION 395+49 SB; 34.9' LT
ANGLED FLUME.
FINAL LOCATION SHALL MAINTAIN MINIMUM
POST SEPARATION DISTANCES IN SDD "CONCRETE
SURFACE DRAINS FLUME TYPE AT STRUCTURES".

CONCRETE CURB & GUTTER 4 INCH SLOPED 36-INCH TYPE TBTT REQ'D

STH 441 SB

CONCRETE PAVEMENT 10-INCH REQ'D.
SEE MISCELLANEOUS QUANTITIES FOR
ADDITIONAL INFORMATION.

395+00 SB

396+00 SB

397+00 SB

6'

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

LAKE PARK ROAD

MGS THRIE BEAM TRANSITION

MGS GUARDRAIL 3 - 262.5'

MATCHLINE 394+50

MATCHLINE 397+50

B-08-0025

395+00 NB

396+00 NB

397+00 NB

CONCRETE SURFACE DRAINS REQ'D
STATION 394+92 NB; 4.0' LT
ANGLED FLUME.

CONCRETE CURB & GUTTER 4 INCH SLOPED 36-INCH TYPE A REQ'D

CONCRETE PAVEMENT 10-INCH REQ'D.
SEE MISCELLANEOUS QUANTITIES FOR
ADDITIONAL INFORMATION.

STH 441 NB

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 17	E

2

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 18	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021206-pd

PLOT DATE : 8/31/2022 4:12 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

STH 441 SB

401+00 SB

402+00 SB

MATCHLINE 400+50

MGS GUARDRAIL 3 - 175.0'

MGS GUARDRAIL 3 HS - 75.0'

MGS GUARDRAIL 3 - 26.5'

FINISHED HINGE POINT 2' BEHIND BACK OF POST

403+69.94 NB 6.27' LT

404+00

401+00 NB

402+00 NB

403+00 NB

403+10.68 NB 6.50' LT MGS GUARDRAIL TERMINAL TYPE 2

STH 441 NB

400+58.21 NB 41.17' RT POST 1

400+82.95 NB 41.39' RT POST 5

401+07.62 NB 41.73' RT POST 9

403+09.79 NB 46.00' RT MGS GUARDRAIL TERMINAL TYPE 2

403+68.12 NB 46.00' RT

SLOPE INTERCEPT

FINISHED HINGE POINT 2' BEHIND BACK OF POST

MGS GUARDRAIL TREATMENT EAT

MGS GUARDRAIL 3 - 100.0'

MGS GUARDRAIL 3 HS - 75.0'

MGS GUARDRAIL 3 - 26.5'

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 19	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021207-pd

PLOT DATE : 8/31/2022 4:12 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

2

STH 441 SB

420+00 SB

421+00 SB

MGS GUARDRAIL TREATMENT EAT

MGS GUARDRAIL 3 - 250.0'

FINISHED HINGE POINT 2' BEHIND BACK OF POST

419+69.76 NB
6.00' LT

EDGE OF BASE AGGREGATE SHOULDER (TYP.)

15:1 TAPER

420+89.02 NB
8.00' LT
POST 1

421+14.04 NB
7.06' LT
POST 5

421+39.05 NB
6.18' LT
POST 9

6'

420+00 NB

421+00 NB

422+00 NB

MATCH LINE 422+50

STH 441 NB

419+58.86 NB
33.00' RT

420+76.88 NB
36.00' RT
POST 1

421+01.63 NB
35.06' RT
POST 5

421+26.39 NB
34.12' RT
POST 9

10'

15:1 TAPER

FINISHED HINGE POINT 2' BEHIND BACK OF POST

SLOPE INTERCEPT (TYP.)

MGS GUARDRAIL TREATMENT EAT

MGS GUARDRAIL 3 - 275.0'

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 20	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021208-pd

PLOT DATE : 8/31/2022 4:13 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

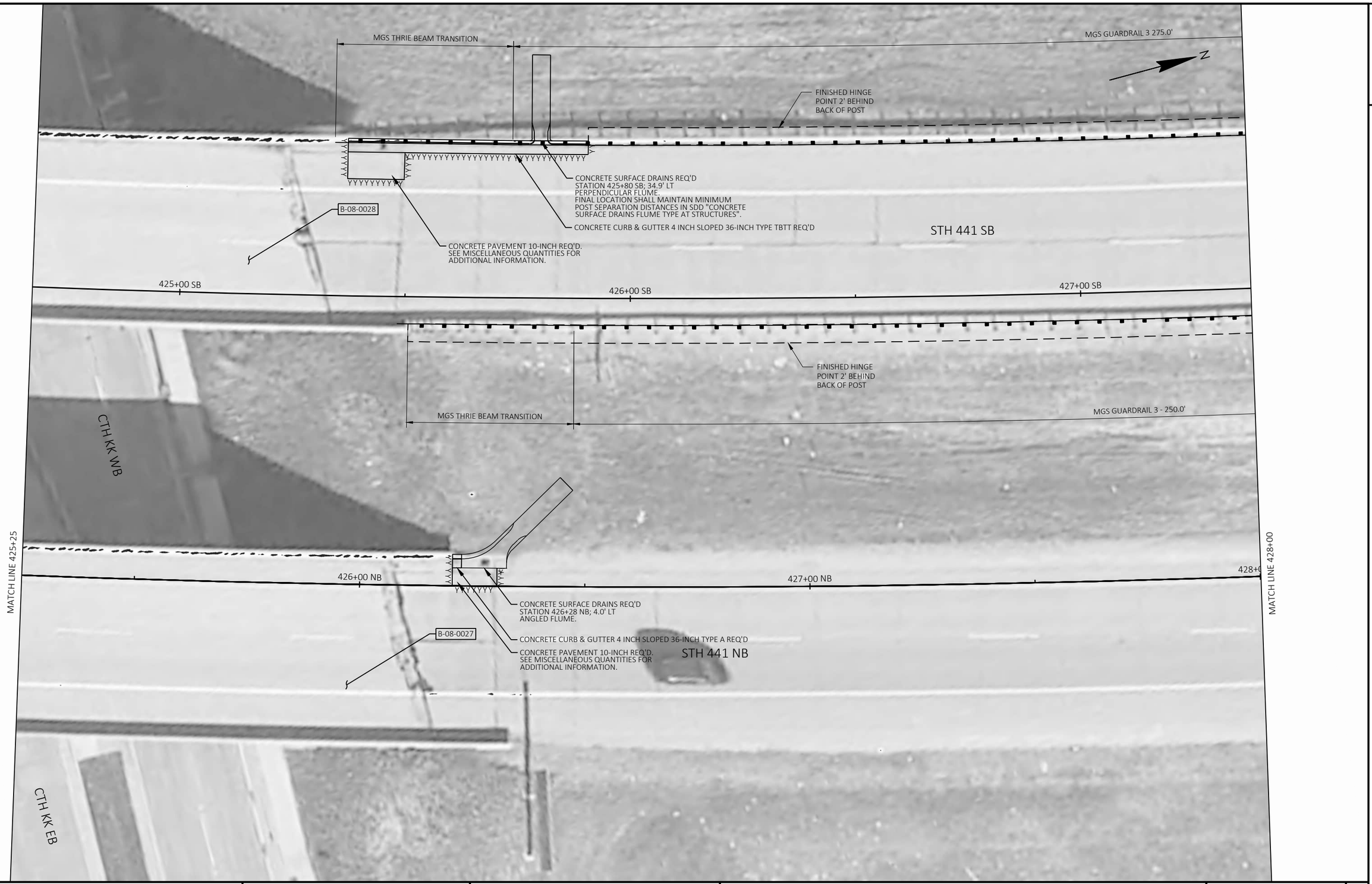
WISDOT/CADDS SHEET 42

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 21	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021209-pd
PLOT DATE : 8/31/2022 4:13 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 22	E

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 23	E

2

N

WETLAND BOUNDARY (TYP.)

SLOPE INTERCEPT (TYP.)

MGS GUARDRAIL
3 - 26.5

MGS GUARDRAIL 3 HS - 62.5'

MGS GUARDRAIL 3 - 87.5'

MGS GUARDRAIL TREATMENT EAT

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

15:1 TAPER

440+72.53 SB
46.0' LT

441+31.63 SB
46.00' LT
MGS GUARDRAIL
TERMINAL TYPE 2

10'

EDGE OF EXIT RAMP SHOULDER

443+11.21 SB
46.00' LT
POST 9

443+36.19 SB
46.87' LT
POST 5

443+61.18 SB
48.00' LT
POST 1

EDGE OF BASE AGGREGATE SHOULDER (TYP.)

15:1 TAPER

444+66.83 SB
46.9' LT

STH 441 SB

442+00 SB

443+00 SB

442+00 NB

443+00 NB

STH 441 NB

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 24	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021212-pd
PLOT DATE : 8/31/2022 4:14 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

2

N

455+41.62 SB
34.5' LT

STH 441 SB

452+00 SB

454+00 SB

455+00 SB

452+00 NB

454+00 NB

455+00 NB

STH 441 NB

452+07.62 NB
34.5' RT

453+19.20 NB
36.00' RT
POST 1

453+44.09 NB
35.06' RT
POST 5

453+69.16 NB
34.12' RT
POST 9

10'

15:1 TAPER

EDGE OF BASE
AGGREGATE
SHOULDER (TYP.)

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

MGS GUARDRAIL TREATMENT EAT

MGS GUARDRAIL 3 - 414.0'

SLOPE INTERCEPT (TYP.)

MATCH LINE 455+50

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 25	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021213-pd
PLOT DATE : 8/31/2022 4:14 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

2

MGS GUARDRAIL 3 - 326.5'

FINISHED HINGE POINT 2' BEHIND BACK OF POST

15:1 TAPER

456+00.71 SB
35.71' LT
MGS GUARDRAIL TERMINAL TYPE 2

POST

POST

STH 441 SB

456+00 SB

457+00 SB

458+00 SB

MATCH LINE 455+50

MATCH LINE 458+25

456+00 NB

457+00 NB

458+00 NB

STH 441 NB

457+86.24 NB
34.00' RT
MGS GUARDRAIL TERMINAL TYPE 2

FINISHED HINGE POINT 2' BEHIND BACK OF POST

WETLAND BOUNDARY (TYP.)

MGS GUARDRAIL 3 - 414.0'

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 26	E

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 27	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021215-pd
PLOT DATE : 8/31/2022 4:14 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

2

STH 441 SB

473+00 SB

474+00 SB

475+00 S

MGS GUARDRAIL TREATMENT EAT

MGS GUARDRAIL 3 - 250.0'

EDGE OF BASE AGGREGATE SHOULDER (TYP.)

472+30.17 SB
58.1' RT

15:1 TAPER

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

2+00 NB

473+00 NB

473+46.94 NB
8.00' LT
POST 1

473+71.92 NB
7.06' LT
POST 5

473+96.89 NB
6.12' LT
POST 9

474+00 NB

6'

475+0

MATCH LINE 475+00

STH 441 NB

473+20.72 NB
36.00' RT
POST 1

473+45.75 NB
35.07' RT
POST 5

473+70.77 NB
34.12' RT
POST 9

10'

15:1 TAPER

472+03.66 SB
98.1' RT

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

MGS GUARDRAIL TREATMENT EAT

MGS GUARDRAIL 3 - 275.0'

SLOPE INTERCEPT (TYP.)

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 28	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021216-pd

PLOT DATE : 8/31/2022 4:14 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

N

STH 441 SB

B-44-0123

94+00 EB

CTH CE WB

476+00 SB

477+00 SB

478+00 S

CTH CE EB

MGS GUARDRAIL 3 - 250'

MGS THRIE BEAM TRANSITION

FINISHED HINGE POINT 2' BEHIND BACK OF POST

6'

MATCH LINE 475+00

00 NB

476+00 NB

477+00 NB

478+0

MATCH LINE 478+00

B-44-0122

STH 441 NB

95+00 EB

10'

FINISHED HINGE POINT 2' BEHIND BACK OF POST

MGS GUARDRAIL 3 - 275.0'

MGS THRIE BEAM TRANSITION

2

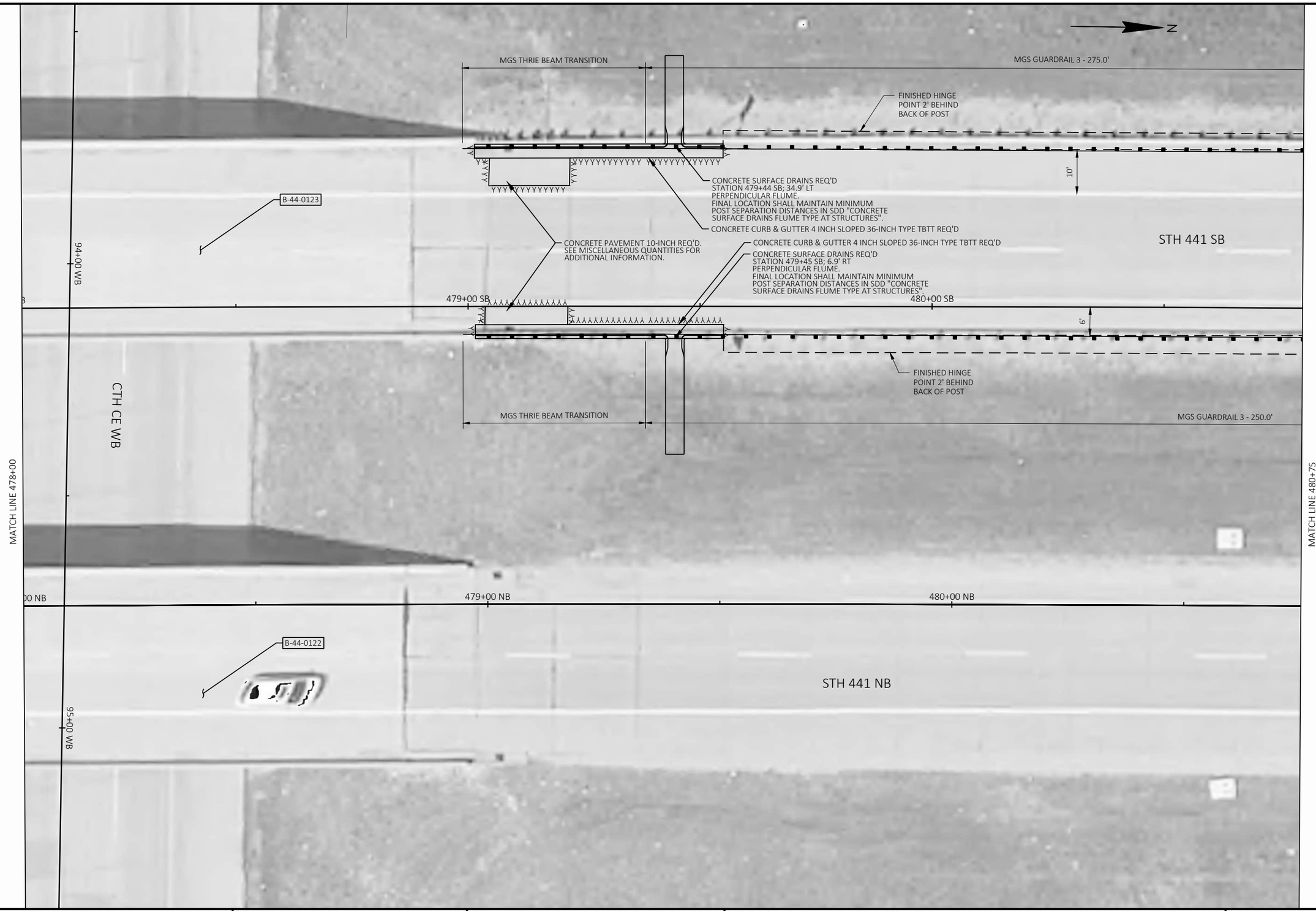
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 29	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021217-pd

PLOT DATE : 8/31/2022 4:14 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 30	E

2

2

MGS GUARDRAIL 3 - 275.0'

MGS GUARDRAIL TREATMENT EAT

FINISHED HINGE POINT 2' BEHIND BACK OF POST

10'

482+15.94 SB
34.12' LT
POST 9

482+40.89 SB
35.06' LT
POST 5

482+65.83 SB
36.00' LT
POST 1

15:1 TAPER

483+84.72 SB
34.0' LT

N

STH 441 SB

481+00 SB

482+00 SB

483+00 SB

6'

FINISHED HINGE POINT 2' BEHIND BACK OF POST

481+91.48 SB
6.12' RT
POST 9

482+16.47 SB
7.07' RT
POST 5

482+41.46 SB
8.00' RT
POST 1

15:1 TAPER

483+60.56 SB
6.0' RT

MGS GUARDRAIL 3 - 250.0'

MGS GUARDRAIL TREATMENT EAT

SLOPE INTERCEPT (TYP.)

EDGE OF BASE AGGREGATE SHOULDER (TYP.)

MATCH LINE 480+75

481+00 NB

482+00 NB

483+00 NB

STH 441 NB

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 31	E

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 32	E

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 33	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021220-PD.DWG
LAYOUT NAME - 021221-pd
PLOT DATE : 8/31/2022 4:15 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 34	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021220-PD.DWG
LAYOUT NAME - 021222-pd

PLOT DATE : 8/31/2022 4:15 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 35	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021220-PD.DWG
LAYOUT NAME - 021222A-pd

PLOT DATE : 8/31/2022 4:15 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

MGS THRIE BEAM TRANSITION

MGS GUARDRAIL 3 - 275.0'

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

10'

CONCRETE SURFACE DRAINS REQ'D
STATION 556+89 SB; 34.9' LT
PERPENDICULAR FLUME.
FINAL LOCATION SHALL MAINTAIN MINIMUM
POST SEPARATION DISTANCES IN SDD "CONCRETE
SURFACE DRAINS FLUME TYPE AT STRUCTURES".

CONCRETE CURB & GUTTER 4 INCH SLOPED 36-INCH TYPE TBTT REQ'D

CONCRETE PAVEMENT 10-INCH REQ'D.
SEE MISCELLANEOUS QUANTITIES FOR
ADDITIONAL INFORMATION.

STH 441 SB

557+00 SB

558+00 SB

559

MATCHLINE 559+00

557+00 NB

558+00 NB

559

CONCRETE PAVEMENT 10-INCH REQ'D.
SEE MISCELLANEOUS QUANTITIES FOR
ADDITIONAL INFORMATION.

CONCRETE CURB & GUTTER 4 INCH SLOPED 36-INCH TYPE A REQ'D

STH 441 NB

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

10'

MGS THRIE BEAM TRANSITION

MGS GUARDRAIL 3 - 625.0'

WISCONSIN DEPARTMENT OF
TRANSPORTATION (COMMUNICATION)

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 36	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021220-PD.DWG
LAYOUT NAME - 021223-pd

PLOT DATE : 8/31/2022 4:15 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

SLOPE INTERCEPT (TYP.)

MGS GUARDRAIL 3 - 275.0'

MGS GUARDRAIL TREATMENT EAT

FINISHED HINGE POINT 2' BEHIND BACK OF POST

EDGE OF BASE AGGREGATE SHOULDER (TYP.)

15:1 TAPER

561+30.58 SB
34.00' LT

559+61.29 SB
34.12' LT
POST 9

559+86.31 SB
35.06' LT
POST 5

560+11.33 SB
36.00' LT
POST 1

STH 441 SB

MATCHLINE 559+00

00 SB

560+00 SB

561+00 SB

562+

MATCHLINE 562+00

00 NB

560+00 NB

561+00 NB

562+

CONCRETE PAVEMENT 10-INCH REQ'D.
SEE MISCELLANEOUS QUANTITIES FOR
ADDITIONAL INFORMATION.

STH 441 NB

560+75.49 NB
25.7' RT

561+01.14 NB
27.8' RT

10'

12.5:1 TAPER

8'

560+75.49 NB
27.7' RT

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

MGS GUARDRAIL 3 - 625.0'

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 37	E

2

STH 441 SB

00 SB

563+00 SB

564+00 SB

565

00 NB

563+00 NB

564+00 NB

565+

EXIT 10

00

Northland Ave

EXIT ONLY

S-2

STH 441 NB

CONCRETE PAVEMENT 10-INCH REQ'D. SEE MISCELLANEOUS QUANTITIES FOR ADDITIONAL INFORMATION.

563+04.16 NB
41.0' RT

10'

5'

8'

10:1 TAPER

15:1 TAPER

563+33.19 NB
44.0' RT

3'

562+74.21 NB
43.92' RT
MGS GUARDRAIL TERMINAL TYPE 2

S-44-0309

MATCHLINE 562+00

MGS GUARDRAIL 3 - 625.0'

WETLAND BOUNDARY (TYP.)

FO

SLOPE INTERCEPT

WISCONSIN DEPARTMENT OF TRANSPORTATION (COMMUNICATION)

N

MATCHLINE 565+00

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 38	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021220-PD.DWG
LAYOUT NAME - 021225-pd

PLOT DATE : 8/31/2022 4:35 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

STH 441 SB

N

00 SB

566+00 SB

567+00 SB

568+

0 NB

566+00 NB

567+00 NB

568+0

STH 441 NB

567+64.37 NB
26.0' RT

567+64.41 NB
36.2' RT

10'

5'

3'

MATCHLINE 565+00

MATCHLINE 568+00

POST

POST SIGN

POST

SLOPE INTERCEPT

FO

WISCONSIN DEPARTMENT OF TRANSPORTATION (COMMUNICATION)

WETLAND BOUNDARY

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 39	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021220-PD.DWG
LAYOUT NAME - 021226-pd

PLOT DATE : 8/31/2022 4:38 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

2

N

STH 441 SB

577+00 SB

579+00 SB

580+00 SB

577+00 NB

579+00 NB

580+00 NB

MATCHLINE 580+50

STH 441 NB

577+15.80 NB
34.0' RT

578+35.98 NB
36.00' RT
POST 1

578+60.98 NB
35.06' RT
POST 5

578+86.00 NB
34.12' RT
POST 9

10'

15:1 TAPER

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

MGS GUARDRAIL TREATMENT EAT

MGS GUARDRAIL 3 - 275.0'

EDGE OF BASE AGGREGATE SHOULDER (TYP.)

SLOPE INTERCEPT (TYP.)

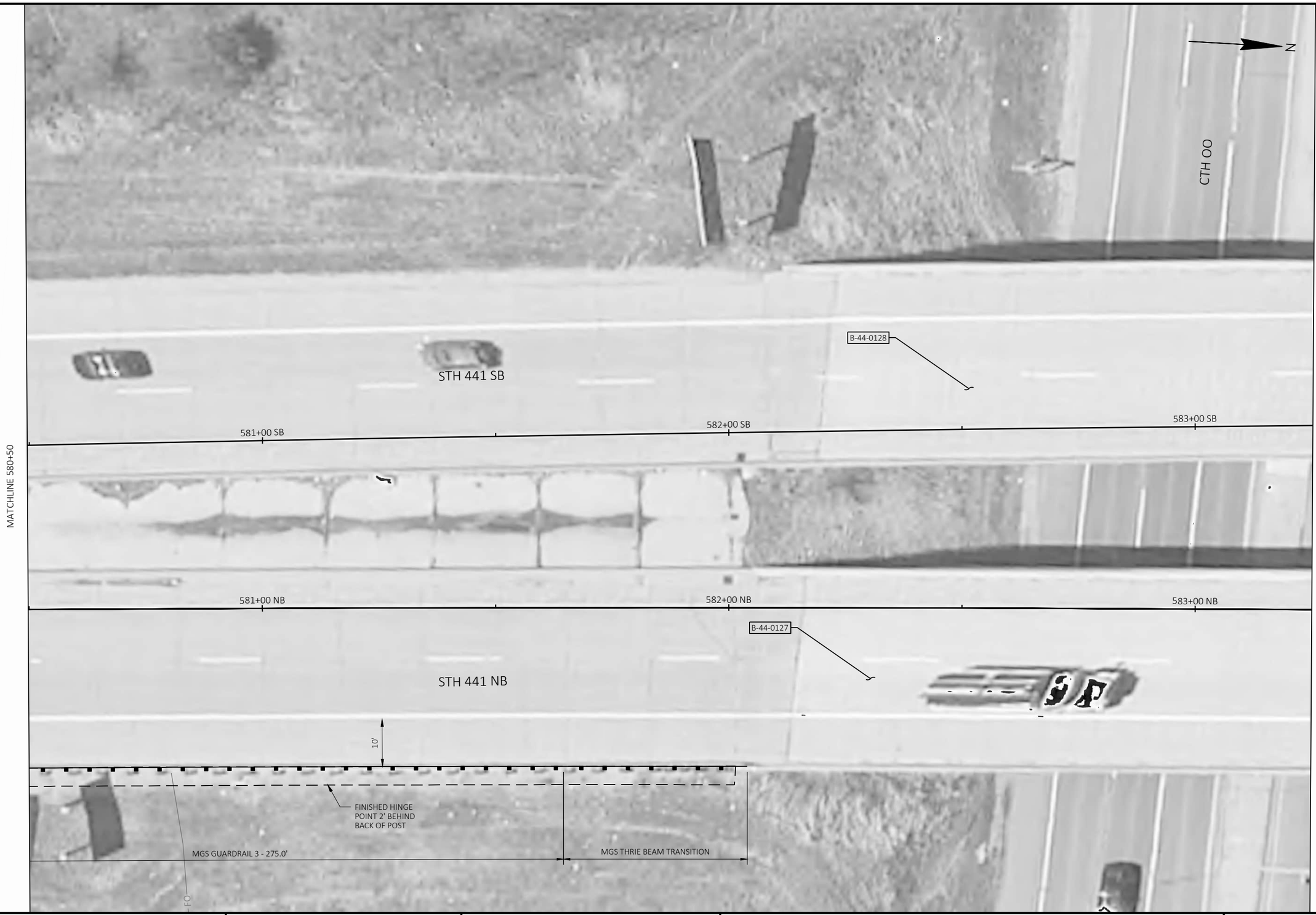
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 40	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021220-PD.DWG
LAYOUT NAME - 021227-pd

PLOT DATE : 8/31/2022 4:16 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS	SHEET 41	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021220-PD.DWG
LAYOUT NAME - 021228-pd
PLOT DATE : 8/31/2022 4:16 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

2

N

412+00 NB

413+00 NB

414+00 NB

STH 441 NB

412+00 A

413+00 A

414+00 A

RAMP A

MATCHLINE 414+75 A

413+79.67 A
24.0' RT

EDGE OF BASE AGGREGATE SHOULDER (TYP.)

SLOPE INTERCEPT

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - RAMP A	SHEET 42	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021220-PD.DWG
LAYOUT NAME - 021229-pd

PLOT DATE : 8/31/2022 4:16 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

415+00 NB

416+00 NB

STH 441 NB

RAMP A

MATCHLINE 414+75 A

MATCHLINE 417+75 A

EDGE OF BASE AGGREGATE SHOULDER (TYP.)

15:1 TAPER

MGS GUARDRAIL TREATMENT EAT

MGS GUARDRAIL 3 - 176.5'

FINISHED HINGE POINT 2' BEHIND BACK OF POST

5 FOOT MIN. BETWEEN FACE OF RAIL AND SIGN STRUCTURE BASE

414+80.28 A
4.0' LT

415+00 A

415+40.09 A
6.00' LT
POST 1

415+65.08 A
6.76' LT
POST 5

415+90.09 A
7.42' LT
POST 9

416+00 A

417+00 A

417+05.64 A
16.5' LT

417+69.76 A
16.50' LT
MGS GUARDRAIL TERMINAL TYPE 2

414+90.88 A
30.20' RT
POST 1

415+15.82 A
30.27' RT
POST 5

415+40.75 A
30.42' RT
POST 9

SLOPE INTERCEPT (TYP.)

MGS GUARDRAIL TREATMENT EAT

417+12.89 A
44.0' RT

FINISHED HINGE POINT 2' BEHIND BACK OF POST

417+68.40 A
44.00' RT
MGS GUARDRAIL TERMINAL TYPE 2

MGS GUARDRAIL 3 - 226.5'

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - RAMP A	SHEET 43	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021230-PD.DWG
LAYOUT NAME - 021230-pd
PLOT DATE : 8/31/2022 4:17 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - RAMP A	SHEET 44	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021230-PD.DWG
LAYOUT NAME - 021230A-pd
PLOT DATE : 8/31/2022 4:17 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - RAMP C	SHEET 45	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021230-PD.DWG
LAYOUT NAME - 021231-pd
PLOT DATE : 8/31/2022 4:17 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

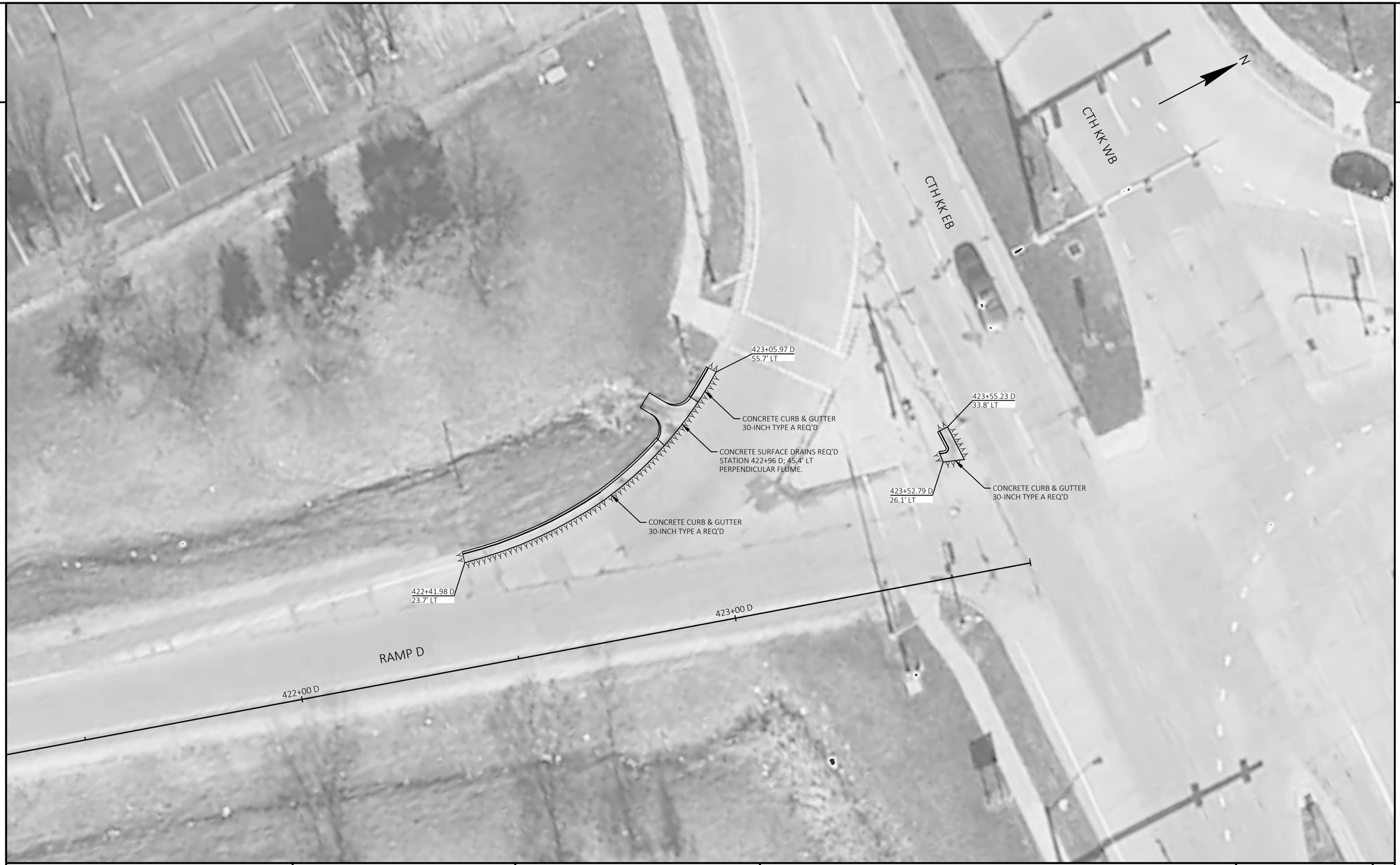
2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - RAMP C	SHEET 46	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021230-PD.DWG
LAYOUT NAME - 021231A_pd

PLOT DATE : 8/31/2022 4:18 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - RAMP D	SHEET 47	E

2

2

SLOPE INTERCEPT (TYP.)

WETLAND BOUNDARY (TYP.)

EDGE OF BASE AGGREGATE SHOULDER (TYP.)

MGS GUARDRAIL 3 - 237.5'

S-44-0307
STANDARD FOUNDATION TYPE MFII

488+00.27 G
24.0' LT

488+00.27 G
12.0' LT

3'

5'

12'

15:1 TAPER

489+38.36 G
32.00' LT

489+67.82 G
29.00' LT

10:1 TAPER

489+98.13 G
32.0' LT

MGS GUARDRAIL
TERMINAL TYPE 2

8'

S-3

S-4

S-5

487+84.10 G
0.0'

488+00 G

RAMP G

489+00 G

490+00 G

MATCHLINE 490+90 G

487+84.10 G
12.0' RT

12'

489+89.11 G
15.00' RT

489+99.06 G
16.00' RT

MGS GUARDRAIL
TERMINAL TYPE 2

4'

3'

1'

489+40.29 G
16.00' RT

10:1 TAPER

15:1 TAPER

490+58.22 G
12.00' RT

MGS GUARDRAIL 3 - 200'

ONLY

R3-5L
42"X48"
S-5

R3-6L
42"X48"
S-4

ONLY

R3-5R
42"X48"
S-3

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - RAMP G	SHEET 48	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021230-PD.DWG
LAYOUT NAME - 021232-pd

PLOT DATE : 8/31/2022 4:18 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

WETLAND BOUNDARY (TYP.)

SLOPE INTERCEPT (TYP.)

EDGE OF BASE AGGREGATE SHOULDER (TYP.)

MGS GUARDRAIL 3 - 237.5'

MGS GUARDRAIL TREATMENT EAT

15:1 TAPER

10:1 TAPER

491+66.08 G
15.0' LT

491+66.08 G
12.0' LT

492+40.70 G
23.15' LT
POST 9

492+65.88 G
24.18' LT
POST 5

492+91.08 G
25.00' LT
POST 1

493+41.73 G
19.97' LT

494+12.00 G
22.93' LT

494+00 G

RAMP G

8'

492+79.31 G
3.00' RT

493+00 G

493+73.47 G
4.00' RT

492+08.22 G
0.0'

492+08.22 G
2.0' RT

491+74.56 G
2.0' RT

492+00 G

10:1 TAPER

15:1 TAPER

MATCHLINE 490+90 G

491+00 G

4'

492+00.89 G
4.64' RT
POST 9

492+25.84 G
5.21' RT
POST 5

492+50.78 G
6.00' RT
POST 1

MGS GUARDRAIL 3 - 200.0'

MGS GUARDRAIL TREATMENT EAT

STH 441 SB

485+00 SB

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - RAMP G	SHEET 49	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021230-PD.DWG
LAYOUT NAME - 021233-pd

PLOT DATE : 8/31/2022 4:18 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

STH 441 NB

582+00 J

582+81.85 J
1.4' LT

582+81.86 J
1.7' RT

583+00 J

12.5:1 TAPER

583+64.10 J
10.7' LT

583+78.92 J
14.7' LT

1"

3"

12'

584+00 J

RAMP J

583+72.11 J
13.29' RT

583+03.01 J
18.63' RT

15:1 TAPER

583+72.13 J
18.29' RT

10:1 TAPER

584+22.33 J
23.02' RT
POST 1

584+47.36 J
21.97' RT
POST 5

MGS GUARDRAIL TREATMENT EAT

MATCHLINE 584+50 J

SLOPE INTERCEPT (TYP.)

N

WETLAND BOUNDARY (TYP.)

FO

FO

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - RAMP J	SHEET 50	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021230-PD.DWG
LAYOUT NAME - 021234-pd

PLOT DATE : 8/31/2022 4:49 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

MGS GUARDRAIL TREATMENT EAT

MGS GUARDRAIL 3 - 150.0'

S-44-0310
STANDARD FOUNDATION TYPE MFII

587+10.25 J
15.0' LT

15:1 TAPER

10:1 TAPER

584+67.36 J
14.2' LT

584+97.25 J
17.39' LT
POST 1

585+22.20 J
16.57' LT
POST 5

585+47.15 J
15.79' LT
POST 9

4'

12'

10:1 TAPER

15:1 TAPER

587+00.25 J
16.00' LT
MGS GUARDRAIL
TERMINAL TYPE 2

S-6

585+00 J

586+00 J

587+00 J

S-7

RAMP J

584+96.12 J
12.61' RT

S-8

584+96.13 J
14.61' RT

12.5:1 TAPER

12'

8'

584+70.76 J
20.94' RT
POST 9

585+19.60 J
14.5' RT

586+46.19 J
24.0' RT

MATCHLINE 584+50 J

MGS GUARDRAIL TREATMENT EAT

MGS GUARDRAIL 3 - 425.0'

MATCHLINE 587+50 J

SLOPE INTERCEPT (TYP.)

WETLAND BOUNDARY (TYP.)

N

ONLY

R3-5L
42"X48"

S-6

R3-6L
42"X48"

S-7

ONLY

R3-5R
42"X48"

S-8

WISCONSIN DEPARTMENT OF TRANSPORTATION (COMMUNICATION)

FO

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - RAMP J	SHEET 51	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021230-PD.DWG
LAYOUT NAME - 021235-pd

PLOT DATE : 8/31/2022 4:53 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

2

N

587+59.35 J
16.0' LT

587+69.59 J
12.0' LT

587+69.59 J
0.0'

1'

3'

12'

588+00 J

589+00 J

590+00 J

587+69.59 J
12.0' RT

587+69.59 J
24.1' RT

12'

8'

RAMP J

MGS THRIE BEAM TRANSITION

CONCRETE BARRIER TYPE S42 - 81.6'

588+07.97 J
32.2' RT

589+37.15 J
31.9' RT

589+66.10 J
31.8' RT

2.5'

590+18.04 J
42.2' RT

MATCHLINE 587+50 J

587+54.18 J
32.1' RT

MGS GUARDRAIL 3 - 425.0'

SLOPE INTERCEPT (TYP.)

FINISHED HINGE
POINT 2' BEHIND
BACK OF POST

C-44-70 (TO REMAIN)

CONCRETE SURFACE DRAINS REQ'D
STATION 590+25 J; 41.0' RT
PERPENDICULAR FLUME.

WISCONSIN DEPARTMENT OF TRANSPORTATION (COMMUNICATION)

FO

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - RAMP J	SHEET 52	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021230-PD.DWG
LAYOUT NAME - 021236-pd
PLOT DATE : 8/31/2022 4:19 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - RAMP M	SHEET 53	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021230-PD.DWG
LAYOUT NAME - 021237-pd
PLOT DATE : 8/31/2022 4:19 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

2

N

CTH CE WB

85+00 WB

86+00 WB

87+0

WISCONSIN DEPARTMENT OF TRANSPORTATION (ELECTRICITY)

85+88.75 EB
0.3' LT

12.5:1 TAPER

85+00 EB

86+00 EB

87+0

CONCRETE CURB & GUTTER 30-INCH TYPE A REQ'D

CTH CE EB

MATCHLINE 87+00 EB

85+25.74 EB
24.0' RT

85+50.74 EB
26.0' RT

AT&T WISCONSIN (COMMUNICATION)

85+25.74 EB
26.0' RT

12.5:1 TAPER

86+75.74 EB
35.9' RT

12'

2'

1'

SLOPE INTERCEPT (TYP.)

SIGN

SIGN

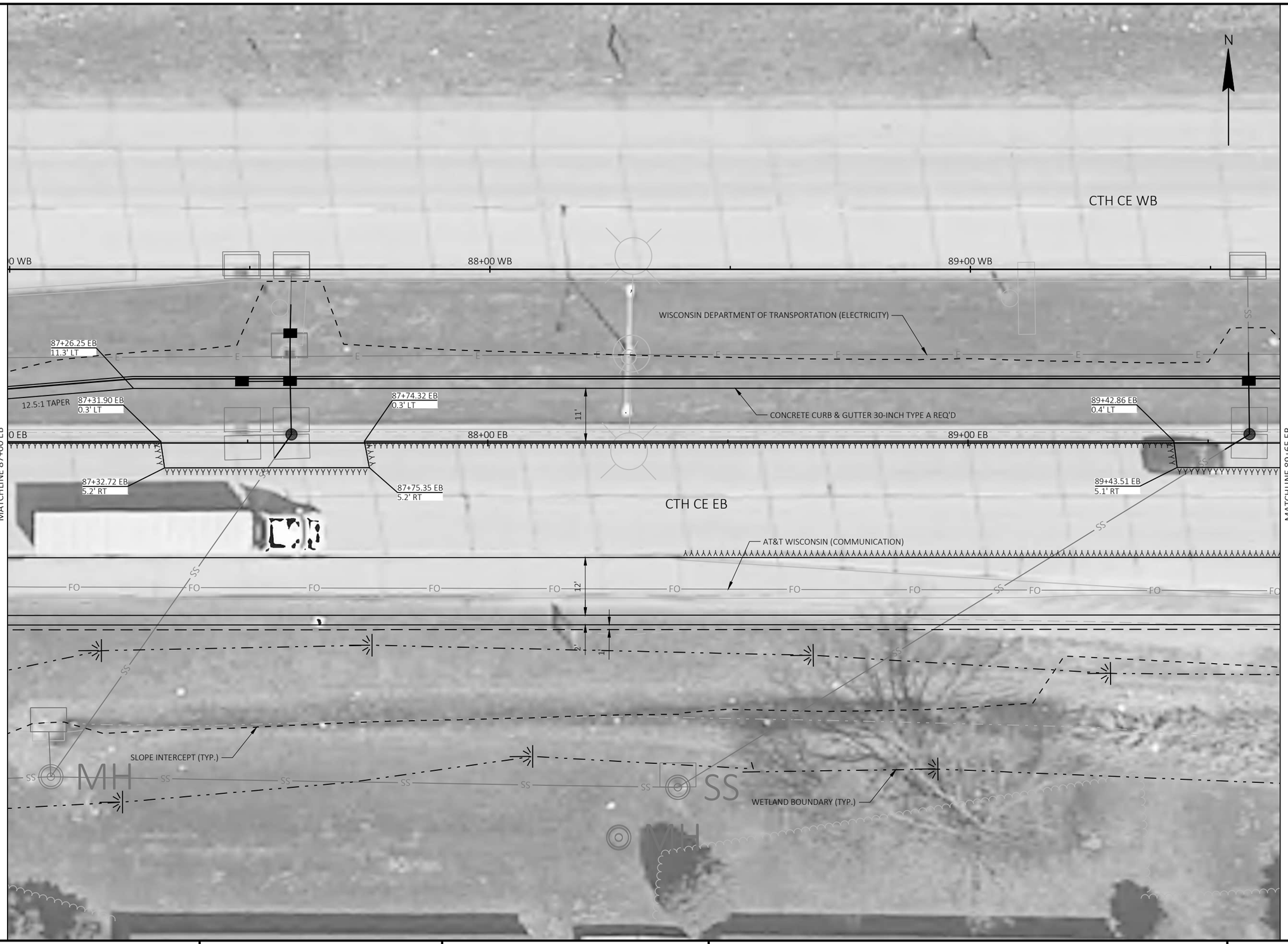
SS

MH

WETLAND BOUNDARY

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - CTH CE	SHEET 54	E

2



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - CTH CE	SHEET 55	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021230-PD.DWG
LAYOUT NAME - 021239-pd

PLOT DATE : 8/31/2022 4:19 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

CTH CE WB

90+00 WB

91+00 WB

92+00 WB

N

91+32.02 EB
24.1' LT

91+54.96 EB
23.55' LT

91+36.42 EB
16.4' LT

WISCONSIN DEPARTMENT OF TRANSPORTATION (ELECTRICITY)

SLOPE INTERCEPT (TYP.)

89+79.16 EB
0.3' LT

11'

CONCRETE CURB & GUTTER 30-INCH TYPE A REQ'D

90+00 EB

91+00 EB

92+00 EB

91+58.01 EB
0.35' LT

CONCRETE MEDIAN SLOPED NOSE REQ'D

MATCHLINE 89+65 EB

89+79.95 EB
5.1' RT

CTH CE EB

AT&T WISCONSIN (COMMUNICATION)

90+45.74 EB
23.8' RT

90+45.74 EB
35.8' RT

12'

2'

1'

WETLAND BOUNDARY (TYP.)

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN DETAILS - CTH CE	SHEET 56	E

2

EROSION CONTROL LEGEND

- SURFACE WATER FLOW
- WETLAND BOUNDARY
- CULVERT PIPE CHECK (ROCK BAGS REQ'D)
- RIPRAP MEDIUM
- SILT FENCE
- R — SILT FENCE DRAINAGE RELIEF (ROCK BAGS REQ'D)
- TEMPORARY DITCH CHECKS
- A — INLET PROTECTION TYPE A
- B — INLET PROTECTION TYPE B
- BC — PLACE INLET PROTECTION TYPE B UNTIL CURB AND GUTTER IS POURED, THEN PLACE INLET PROTECTION TYPE C

- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT CLASS 1 TYPE B, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	EROSION CONTROL	SHEET 57	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 024504-ec

PLOT DATE : 8/24/2022 10:19 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

MATCH LINE 371+50 NB

MATCH LINE 386+00 NB

STH 441 SB

372+00 SB 373+00 SB 374+00 SB 375+00 SB 376+00 SB 377+00 SB 378+00 SB 379+00 SB 380+00 SB 381+00 SB 382+00 SB 383+00 SB 384+00 SB 385+00 SB 386+

372+00 NB 373+00 NB 374+00 NB 375+00 NB 376+00 NB 377+00 NB 378+00 NB 379+00 NB 380+00 NB 381+00 NB 382+00 NB 383+00 NB 384+00 NB 385+00 NB 386+

STH 441 NB

EROSION CONTROL LEGEND

- SURFACE WATER FLOW
- WETLAND BOUNDARY
- CULVERT PIPE CHECK (ROCK BAGS REQ'D)
- RIPRAP MEDIUM
- SILT FENCE
- R — SILT FENCE DRAINAGE RELIEF (ROCK BAGS REQ'D)
- TEMPORARY DITCH CHECKS
- A — INLET PROTECTION TYPE A
- B — INLET PROTECTION TYPE B
- BC — PLACE INLET PROTECTION TYPE B UNTIL CURB AND GUTTER IS POURED, THEN PLACE INLET PROTECTION TYPE C

- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT CLASS 1 TYPE B, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.

MATCH LINE 386+00 NB

MATCH LINE 400+50 NB

STH 441 SB

387+00 SB 388+00 SB 389+00 SB 390+00 SB 391+00 SB 392+00 SB 393+00 SB 394+00 SB 395+00 SB 396+00 SB 397+00 SB 398+00 SB 399+00 SB 400+00 SB

387+00 NB 388+00 NB 389+00 NB 390+00 NB 391+00 NB 392+00 NB 393+00 NB 394+00 NB 395+00 NB 396+00 NB 397+00 NB 398+00 NB 399+00 NB 400+00 NB

STH 441 NB

LAKE PARK RD

R

A

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	EROSION CONTROL	SHEET 58	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 024505-ec

PLOT DATE : 8/19/2022 8:00 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

2

MATCH LINE 400+50 NB

401+00 SB 402+00 SB 403+00 SB 404+00 SB 405+00 SB 406+00 SB 407+00 SB 408+00 SB 409+00 SB 410+00 SB 411+00 SB 412+00 SB 413+00 SB 414+00 SB

STH 441 SB

401+00 NB 402+00 NB 403+00 NB 404+00 NB 405+00 NB 406+00 NB 407+00 NB 408+00 NB 409+00 NB 410+00 NB 411+00 NB 412+00 NB 413+00 NB 414+00 NB

STH 441 NB

408+00 A 409+00 A 410+00 A 411+00 A 412+00 A 413+00 A 414+00 A

R

MATCH LINE 414+00 NB

N

EROSION CONTROL LEGEND

- SURFACE WATER FLOW
- WETLAND BOUNDARY
- CULVERT PIPE CHECK (ROCK BAGS REQ'D)
- RIPRAP MEDIUM
- SILT FENCE
- R — SILT FENCE DRAINAGE RELIEF (ROCK BAGS REQ'D)
- TEMPORARY DITCH CHECKS
- A — INLET PROTECTION TYPE A
- B — INLET PROTECTION TYPE B
- BC — PLACE INLET PROTECTION TYPE B UNTIL CURB AND GUTTER IS POURED, THEN PLACE INLET PROTECTION TYPE C

- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT CLASS 1 TYPE B, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.

MATCH LINE 414+00 NB

414+00 SB 415+00 SB 416+00 SB 417+00 SB 418+00 SB 419+00 SB 420+00 SB 421+00 SB 422+00 SB 423+00 SB 424+00 SB 425+00 SB 426+00 SB

STH 441 SB

415+00 NB 416+00 NB 417+00 NB 418+00 NB 419+00 NB 420+00 NB 421+00 NB 425+00 NB 426+00 NB 427+00 NB

STH 441 NB

415+00 A 416+00 A 417+00 A 418+00 A 419+00 A 420+00 A 421+00 A 422+00 A 423+00 A 424+00 A 425+00 A 426+00 A

R

CTH KK (E CALUMET ST)

427+00 B

MATCH LINE 427+50 NB

N

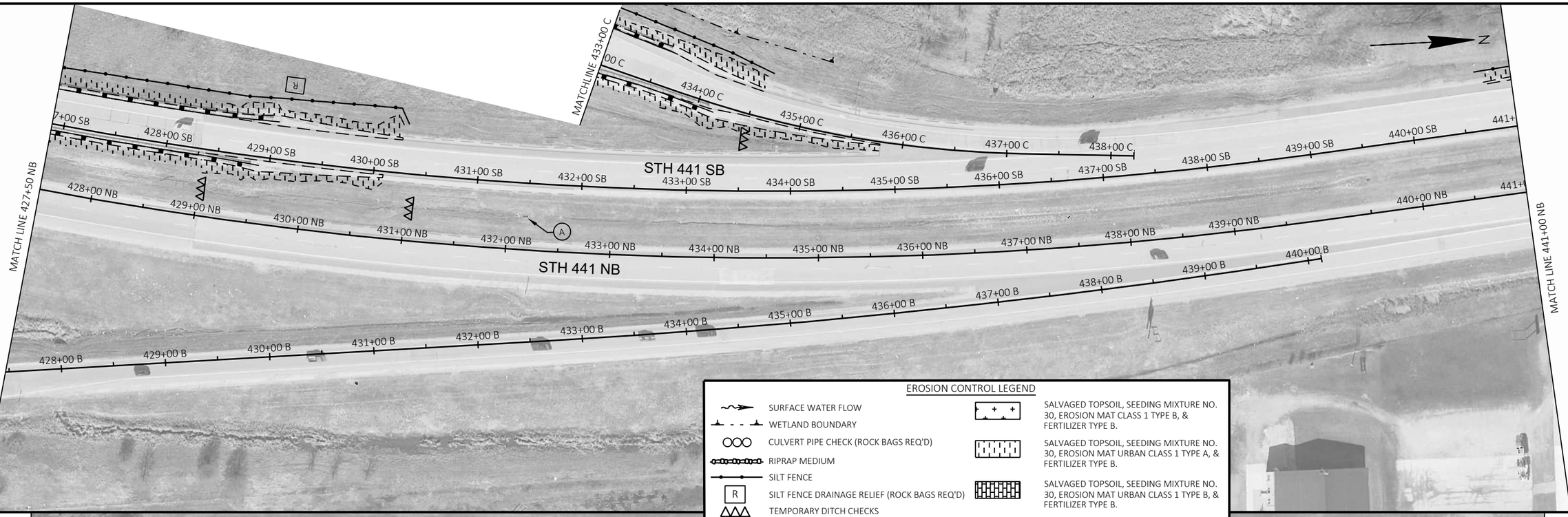
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	EROSION CONTROL	SHEET 59	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 024506-ec

PLOT DATE : 8/19/2022 8:00 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2



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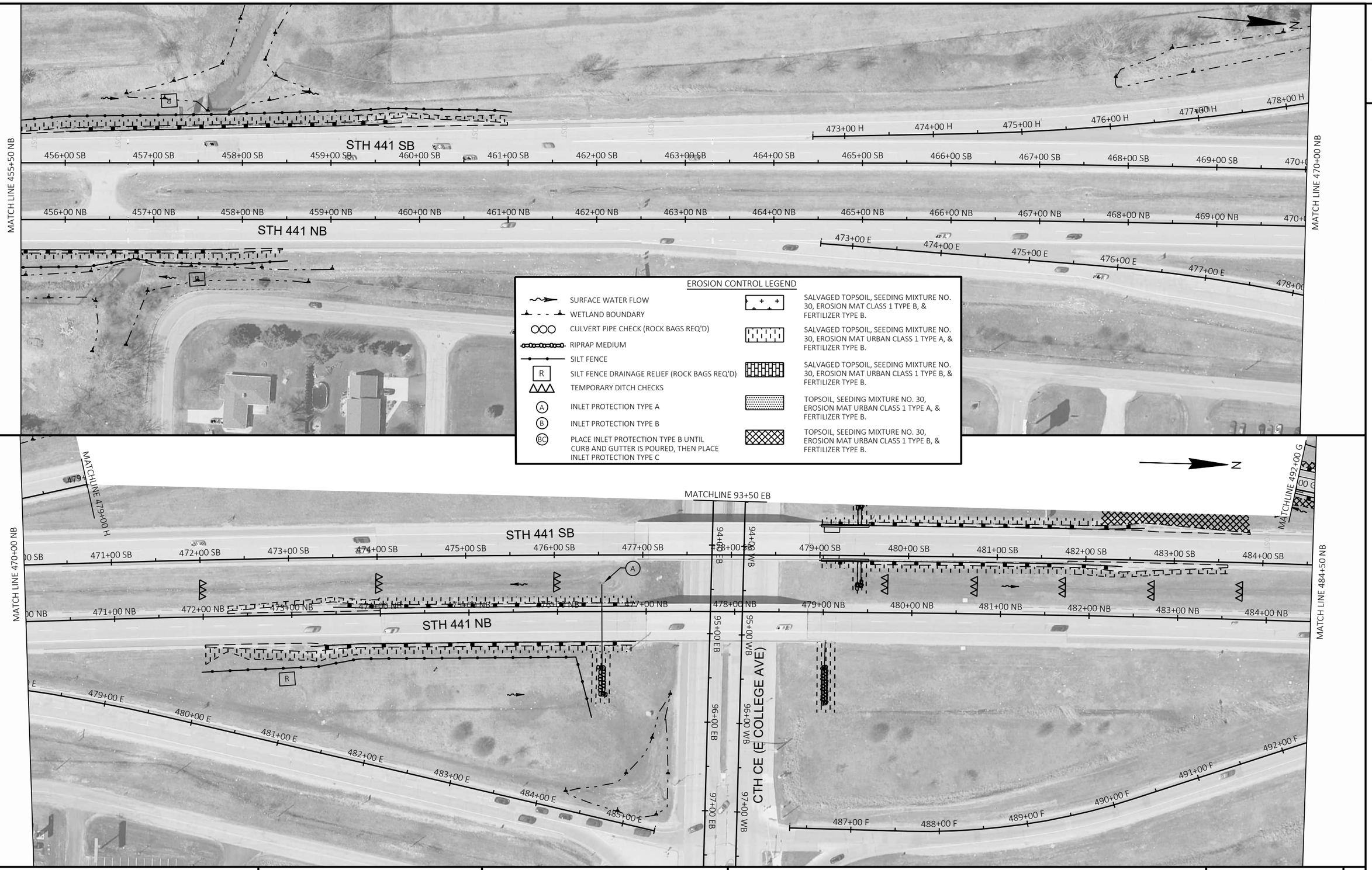
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	EROSION CONTROL	SHEET 60	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 024507-ec

PLOT DATE : 8/19/2022 8:00 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



EROSION CONTROL LEGEND

- SURFACE WATER FLOW
- WETLAND BOUNDARY
- CULVERT PIPE CHECK (ROCK BAGS REQ'D)
- RIPRAP MEDIUM
- SILT FENCE
- R — SILT FENCE DRAINAGE RELIEF (ROCK BAGS REQ'D)
- TEMPORARY DITCH CHECKS
- A — INLET PROTECTION TYPE A
- B — INLET PROTECTION TYPE B
- BC — PLACE INLET PROTECTION TYPE B UNTIL CURB AND GUTTER IS POURED, THEN PLACE INLET PROTECTION TYPE C

- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT CLASS 1 TYPE B, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.

2

MATCH LINE 484+50 NB

MATCH LINE 499+00 NB

STH 441 SB

STH 441 NB

485+00 SB 486+00 SB 487+00 SB 488+00 SB 489+00 SB 490+00 SB 491+00 SB 492+00 SB 493+00 SB 494+00 SB 495+00 SB 496+00 SB 497+00 SB 498+00 SB 499+00

485+00 NB 486+00 NB 487+00 NB 488+00 NB 489+00 NB 490+00 NB 491+00 NB 492+00 NB 493+00 NB 494+00 NB 495+00 NB 496+00 NB 497+00 NB 498+00 NB 499+

493+00 G 494+00 G 495+00 G 496+00 G

493+00 F 494+00 F 495+00 F 496+00 F 497+00 F 498+00 F 499+00 F

R

A

N

EROSION CONTROL LEGEND

- SURFACE WATER FLOW
- WETLAND BOUNDARY
- CULVERT PIPE CHECK (ROCK BAGS REQ'D)
- RIPRAP MEDIUM
- SILT FENCE
- R — SILT FENCE DRAINAGE RELIEF (ROCK BAGS REQ'D)
- TEMPORARY DITCH CHECKS
- A — INLET PROTECTION TYPE A
- B — INLET PROTECTION TYPE B
- BC — PLACE INLET PROTECTION TYPE B UNTIL CURB AND GUTTER IS POURED, THEN PLACE INLET PROTECTION TYPE C

- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT CLASS 1 TYPE B, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.

FOX VALLEY & LAKE SUPERIOR R.R.

E NEWBERRY ST

MATCH LINE 499+00 NB

MATCH LINE 513+50 NB

STH 441 SB

STH 441 NB

500+00 SB 501+00 SB 502+00 SB 503+00 SB 504+00 SB 505+00 SB 506+00 SB 507+00 SB 508+00 SB 509+00 SB 510+00 SB 511+00 SB 512+00 SB 513+00 SB

500+00 NB 501+00 NB 502+00 NB 503+00 NB 504+00 NB 505+00 NB 506+00 NB 507+00 NB 508+00 NB 509+00 NB 510+00 NB 511+00 NB 512+00 NB 513+00 NB

B BC

N

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	EROSION CONTROL	SHEET 62	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 024509-ec

PLOT DATE : 8/26/2022 11:20 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

EROSION CONTROL LEGEND

- SURFACE WATER FLOW
- WETLAND BOUNDARY
- CULVERT PIPE CHECK (ROCK BAGS REQ'D)
- RIPRAP MEDIUM
- SILT FENCE
- R — SILT FENCE DRAINAGE RELIEF (ROCK BAGS REQ'D)
- TEMPORARY DITCH CHECKS
- A — INLET PROTECTION TYPE A
- B — INLET PROTECTION TYPE B
- BC — PLACE INLET PROTECTION TYPE B UNTIL CURB AND GUTTER IS POURED, THEN PLACE INLET PROTECTION TYPE C

- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT CLASS 1 TYPE B, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	EROSION CONTROL	SHEET 63	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 024510-ec
PLOT DATE : 8/31/2022 11:22 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

2

MATCH LINE 542+50 NB

STH 96 (WISCONSIN AVE)

N

STH 441 SB

543+00 SB 544+00 SB 545+00 SB 546+00 SB 547+00 SB 548+00 SB 549+00 SB 550+00 SB 551+00 SB 552+00 SB 553+00 SB 554+00 SB 555+00 SB 556+00 SB 557+

543+00 NB 544+00 NB 545+00 NB 546+00 NB 547+00 NB 548+00 NB 549+00 NB 550+00 NB 551+00 NB 552+00 NB 553+00 NB 554+00 NB 555+00 NB 556+00 NB 557+

STH 441 NB

B

C.N. R.R.

EROSION CONTROL LEGEND

- SURFACE WATER FLOW
- WETLAND BOUNDARY
- CULVERT PIPE CHECK (ROCK BAGS REQ'D)
- RIPRAP MEDIUM
- SILT FENCE
- R — SILT FENCE DRAINAGE RELIEF (ROCK BAGS REQ'D)
- TEMPORARY DITCH CHECKS
- A — INLET PROTECTION TYPE A
- B — INLET PROTECTION TYPE B
- BC — PLACE INLET PROTECTION TYPE B UNTIL CURB AND GUTTER IS POURED, THEN PLACE INLET PROTECTION TYPE C

- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT CLASS 1 TYPE B, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.

N

MATCH LINE 557+00 NB

558+00 SB 559+00 SB 560+00 SB 561+00 SB 562+00 SB 563+00 SB 564+00 SB 565+00 SB 566+00 SB 567+00 SB 568+00 SB 569+00 SB 570+00 SB 571+00 SB

558+00 NB 559+00 NB 560+00 NB 561+00 NB 562+00 NB 563+00 NB 564+00 NB 565+00 NB 566+00 NB 567+00 NB 568+00 NB 569+00 NB 570+00 NB 571+00 NB

STH 441 SB

STH 441 NB

B

R

579+00 M

577+00 J 578+00 J 579+00 J

MATCH LINE 571+50 NB

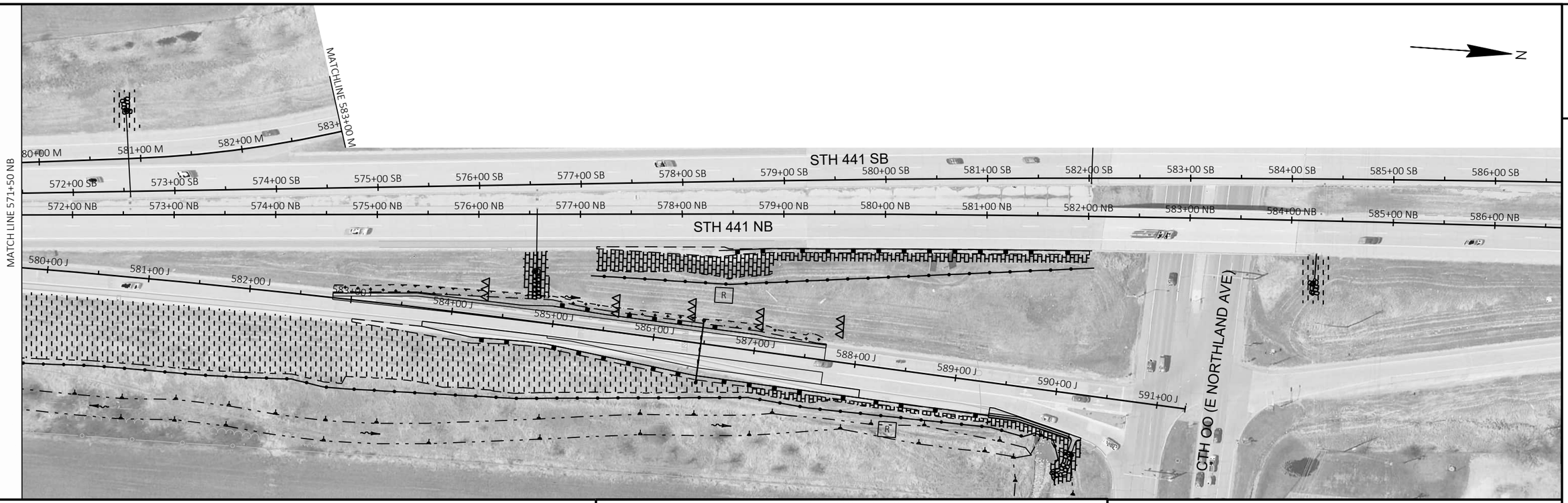
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	EROSION CONTROL	SHEET 64	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 024511-ec

PLOT DATE : 8/31/2022 11:22 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

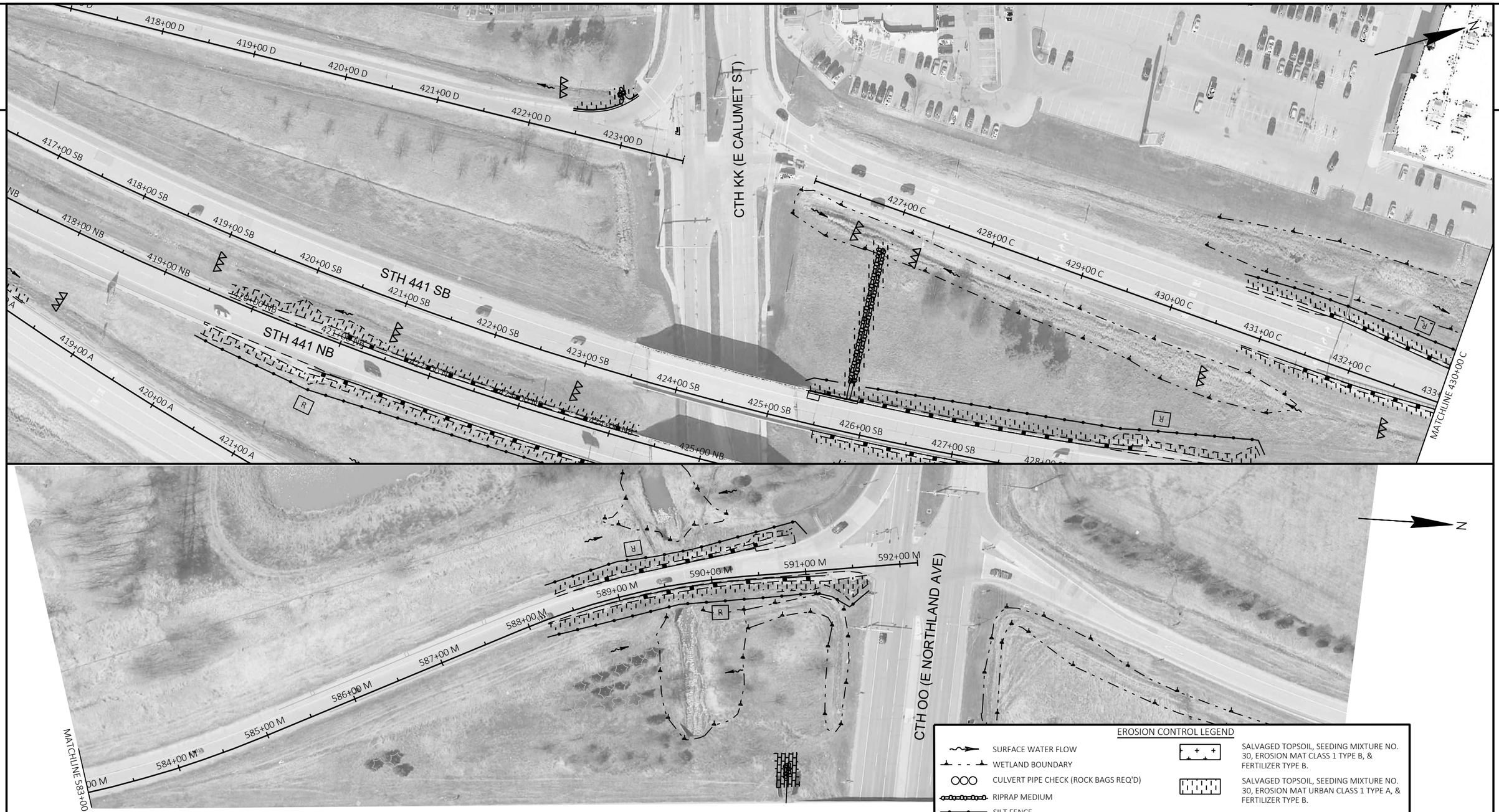
2



EROSION CONTROL LEGEND

- SURFACE WATER FLOW
- WETLAND BOUNDARY
- CULVERT PIPE CHECK (ROCK BAGS REQ'D)
- RIPRAP MEDIUM
- SILT FENCE
- R — SILT FENCE DRAINAGE RELIEF (ROCK BAGS REQ'D)
- TEMPORARY DITCH CHECKS
- A — INLET PROTECTION TYPE A
- B — INLET PROTECTION TYPE B
- BC — PLACE INLET PROTECTION TYPE B UNTIL CURB AND GUTTER IS POURED, THEN PLACE INLET PROTECTION TYPE C

- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT CLASS 1 TYPE B, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.



EROSION CONTROL LEGEND

- SURFACE WATER FLOW
- WETLAND BOUNDARY
- CULVERT PIPE CHECK (ROCK BAGS REQ'D)
- RIPRAP MEDIUM
- SILT FENCE
- R — SILT FENCE DRAINAGE RELIEF (ROCK BAGS REQ'D)
- TEMPORARY DITCH CHECKS
- A — INLET PROTECTION TYPE A
- B — INLET PROTECTION TYPE B
- BC — PLACE INLET PROTECTION TYPE B UNTIL CURB AND GUTTER IS POURED, THEN PLACE INLET PROTECTION TYPE C
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT CLASS 1 TYPE B, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	EROSION CONTROL	SHEET 66	E

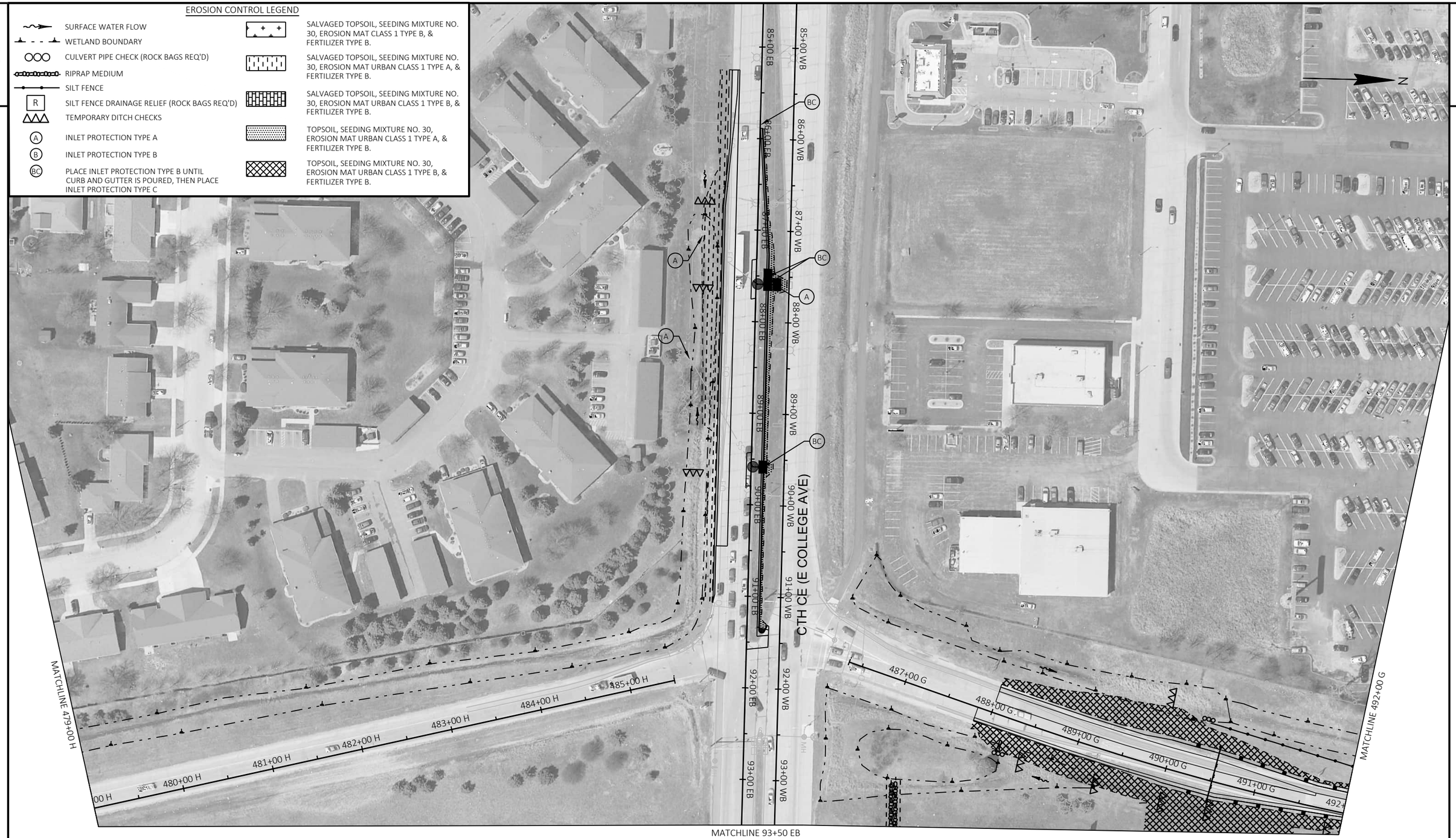
FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 024513-ec
PLOT DATE : 8/19/2022 8:02 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : ##########

2

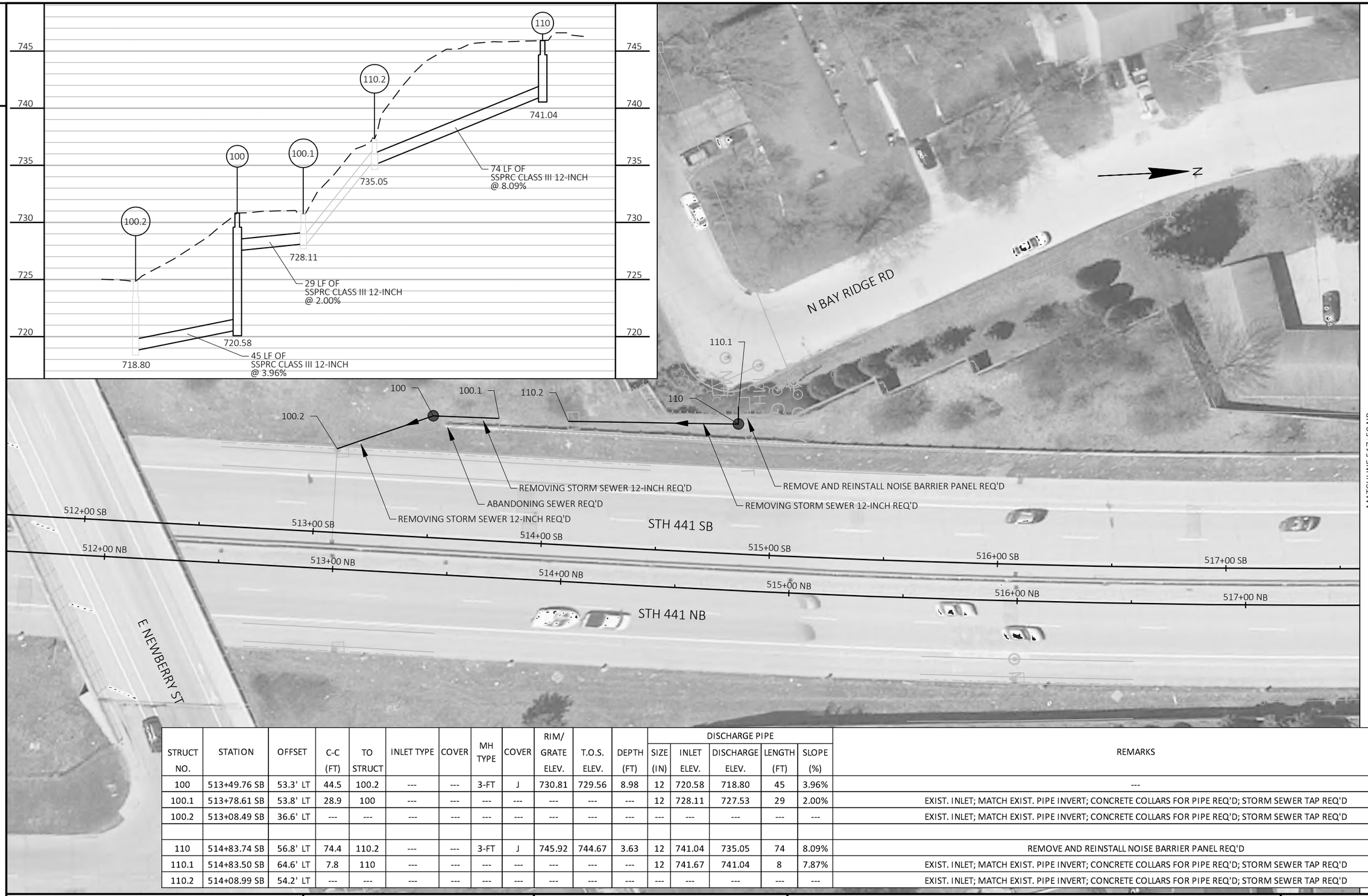
EROSION CONTROL LEGEND

- SURFACE WATER FLOW
- WETLAND BOUNDARY
- CULVERT PIPE CHECK (ROCK BAGS REQ'D)
- RIPRAP MEDIUM
- SILT FENCE
- R — SILT FENCE DRAINAGE RELIEF (ROCK BAGS REQ'D)
- TEMPORARY DITCH CHECKS
- A — INLET PROTECTION TYPE A
- B — INLET PROTECTION TYPE B
- BC — PLACE INLET PROTECTION TYPE B UNTIL CURB AND GUTTER IS POURED, THEN PLACE INLET PROTECTION TYPE C

- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT CLASS 1 TYPE B, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE A, & FERTILIZER TYPE B.
- TOPSOIL, SEEDING MIXTURE NO. 30, EROSION MAT URBAN CLASS 1 TYPE B, & FERTILIZER TYPE B.



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	EROSION CONTROL	SHEET 67



STRUCT NO.	STATION	OFFSET	C-C (FT)	TO STRUCT	INLET TYPE	COVER	MH TYPE	COVER	RIM/ GRATE ELEV.	T.O.S. ELEV.	DEPTH (FT)	DISCHARGE PIPE SIZE (IN)	DISCHARGE PIPE INLET ELEV.	DISCHARGE PIPE DISCHARGE ELEV.	DISCHARGE PIPE LENGTH (FT)	DISCHARGE PIPE SLOPE (%)	REMARKS
100	513+49.76 SB	53.3' LT	44.5	100.2	---	---	3-FT	J	730.81	729.56	8.98	12	720.58	718.80	45	3.96%	---
100.1	513+78.61 SB	53.8' LT	28.9	100	---	---	---	---	---	---	---	12	728.11	727.53	29	2.00%	EXIST. INLET; MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D; STORM SEWER TAP REQ'D
100.2	513+08.49 SB	36.6' LT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	EXIST. INLET; MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D; STORM SEWER TAP REQ'D
110	514+83.74 SB	56.8' LT	74.4	110.2	---	---	3-FT	J	745.92	744.67	3.63	12	741.04	735.05	74	8.09%	REMOVE AND REINSTALL NOISE BARRIER PANEL REQ'D
110.1	514+83.50 SB	64.6' LT	7.8	110	---	---	---	---	---	---	---	12	741.67	741.04	8	7.87%	EXIST. INLET; MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D; STORM SEWER TAP REQ'D
110.2	514+08.99 SB	54.2' LT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	EXIST. INLET; MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D; STORM SEWER TAP REQ'D

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	STORM SEWER	SHEET 69	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022520-SS.DWG
LAYOUT NAME - 022521-ss
PLOT DATE : 12/12/2022 11:37 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN: 40 FT
WISDOT/CADDS SHEET 42

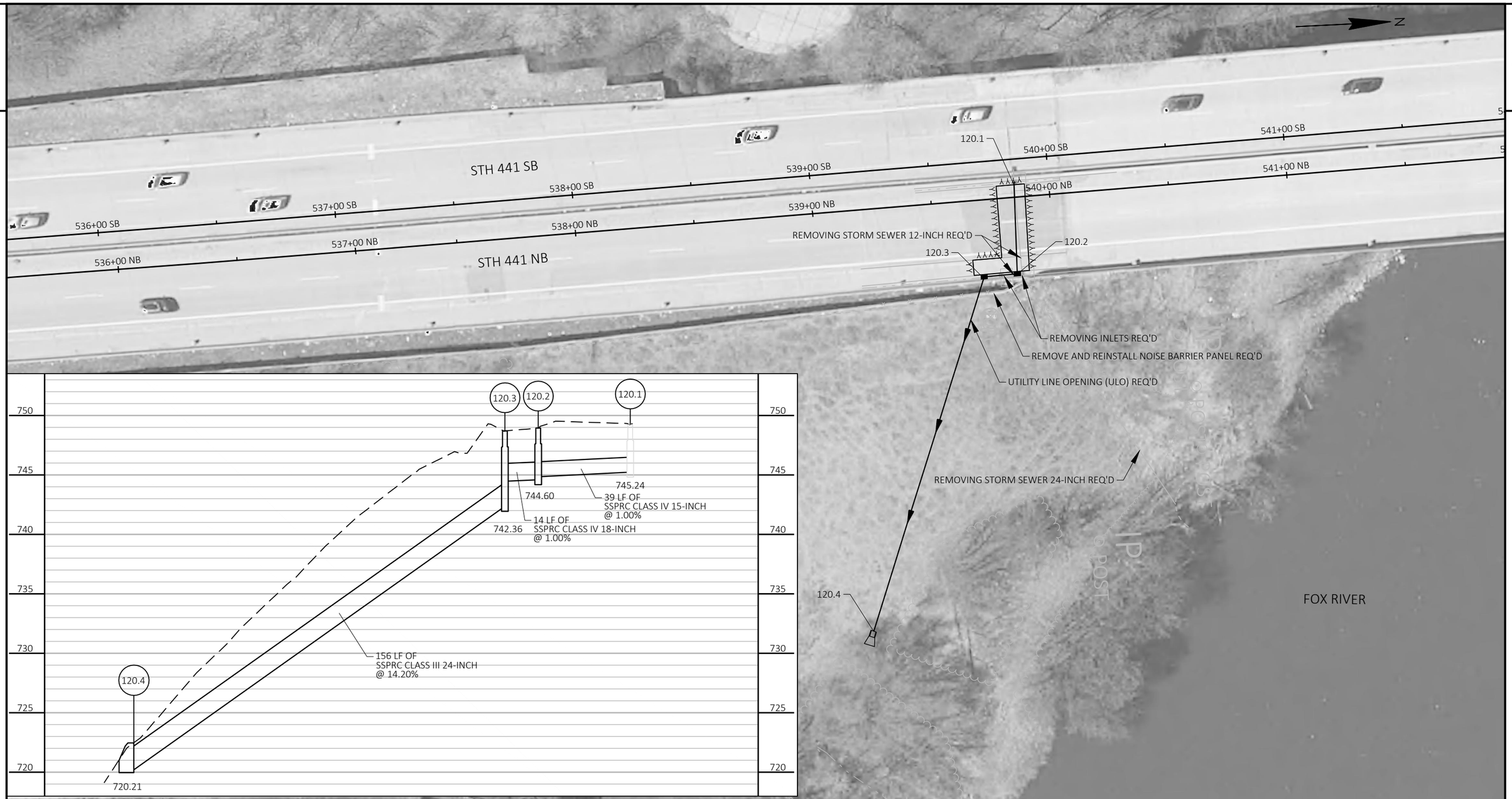
2

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	STORM SEWER	SHEET 70	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022520-SS.DWG
LAYOUT NAME - 022522-ss

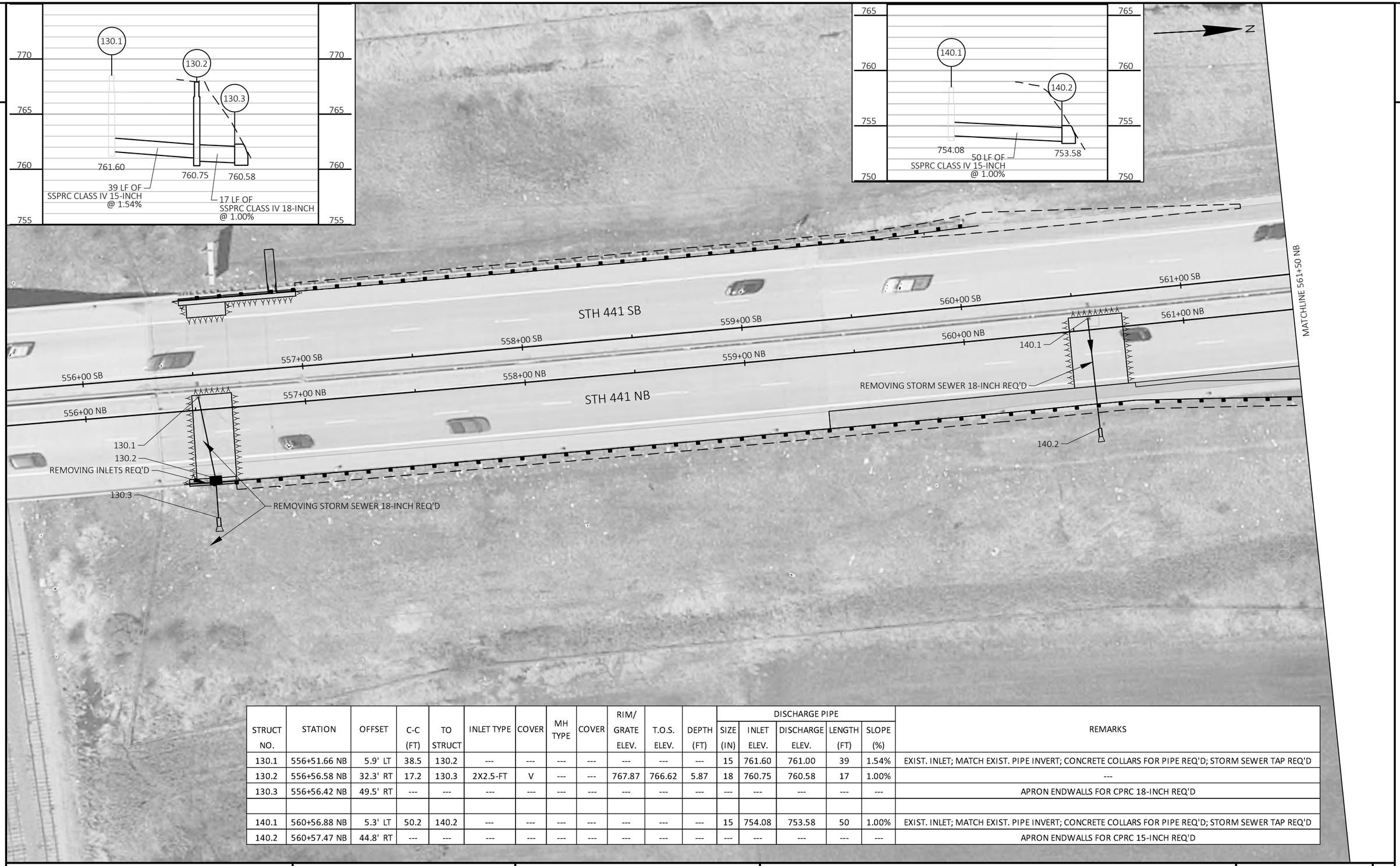
PLOT DATE : 12/12/2022 11:37 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN: 40 FT



STRUCT NO.	STATION	OFFSET	C-C (FT)	TO STRUCT	INLET TYPE	COVER	MH TYPE	COVER	RIM/ GRATE ELEV.	T.O.S. ELEV.	DEPTH (FT)	DISCHARGE PIPE SIZE (IN)	DISCHARGE PIPE INLET ELEV.	DISCHARGE PIPE DISCHARGE ELEV.	DISCHARGE PIPE LENGTH (FT)	DISCHARGE PIPE SLOPE (%)	REMARKS
120.1	539+85.45 NB	6.4' LT	38.7	120.2	---	---	---	---	---	---	---	15	745.24	744.85	39	1.00%	EXIST. INLET; MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D; STORM SEWER TAP REQ'D
120.2	539+83.74 NB	32.2' RT	14.0	120.3	4-FT	B	---	---	748.91	747.75	3.15	18	744.60	744.46	14	1.00%	FLAT TOP 2'X2.5' OPENING REQ'D
120.3	539+69.74 NB	32.4' RT	156.0	120.4	4-FT	B	---	---	748.66	747.50	5.14	24	742.36	720.21	156	14.20%	FLAT TOP 2'X2.5' OPENING REQ'D; REMOVE AND REINSTALL NOISE BARRIER PANEL REQ'D
120.4	539+11.34 NB	177.0' RT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	APRON ENDWALLS FOR CPRC 18-INCH REQ'D

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	STORM SEWER	SHEET 71	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022520-SS.DWG
LAYOUT NAME - 022523-ss
PLOT DATE : 12/12/2022 11:37 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN: 40 FT
WISDOT/CADDS SHEET 42



STRUCT NO.	STATION	OFFSET	C-C (FT)	TO STRUCT	INLET TYPE	COVER	MH TYPE	COVER	RIM/ GRATE ELEV.	T.O.S. ELEV.	DEPTH (FT)	DISCHARGE PIPE SIZE (IN)	DISCHARGE PIPE INLET ELEV.	DISCHARGE PIPE DISCHARGE ELEV.	DISCHARGE PIPE LENGTH (FT)	DISCHARGE PIPE SLOPE (%)	REMARKS
130.1	556+51.66 NB	5.9' LT	38.5	130.2	---	---	---	---	---	---	---	15	761.60	761.00	39	1.54%	EXIST. INLET; MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D; STORM SEWER TAP REQ'D
130.2	556+56.58 NB	32.3' RT	17.2	130.3	2X2.5-FT	V	---	---	767.87	766.62	5.87	18	760.75	760.58	17	1.00%	---
130.3	556+56.42 NB	49.5' RT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	APRON ENDWALLS FOR CPRC 18-INCH REQ'D
140.1	560+56.88 NB	5.3' LT	50.2	140.2	---	---	---	---	---	---	---	15	754.08	753.58	50	1.00%	EXIST. INLET; MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D; STORM SEWER TAP REQ'D
140.2	560+57.47 NB	44.8' RT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	APRON ENDWALLS FOR CPRC 15-INCH REQ'D

2

STRUCT NO.	STATION	OFFSET	C-C (FT)	TO STRUCT	INLET TYPE	COVER	MH TYPE	COVER	RIM/ GRATE ELEV.	T.O.S. ELEV.	DEPTH (FT)	DISCHARGE PIPE SIZE (IN)	DISCHARGE PIPE INLET ELEV.	DISCHARGE PIPE DISCHARGE ELEV.	DISCHARGE PIPE LENGTH (FT)	DISCHARGE PIPE SLOPE (%)	REMARKS
150.1	564+57.48 NB	9.0' LT	4.0	150.2	---	---	---	---	---	---	---	18	745.97	745.95	4	0.50%	MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D
150.2	564+57.29 NB	5.0' LT	4.0	150.3	4-FT	B	---	---	750.30	749.14	3.19	18	745.95	745.93	4	0.50%	FLAT TOP 2'X2.5' OPENING REQ'D
150.3	564+57.28 NB	1.0' LT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D

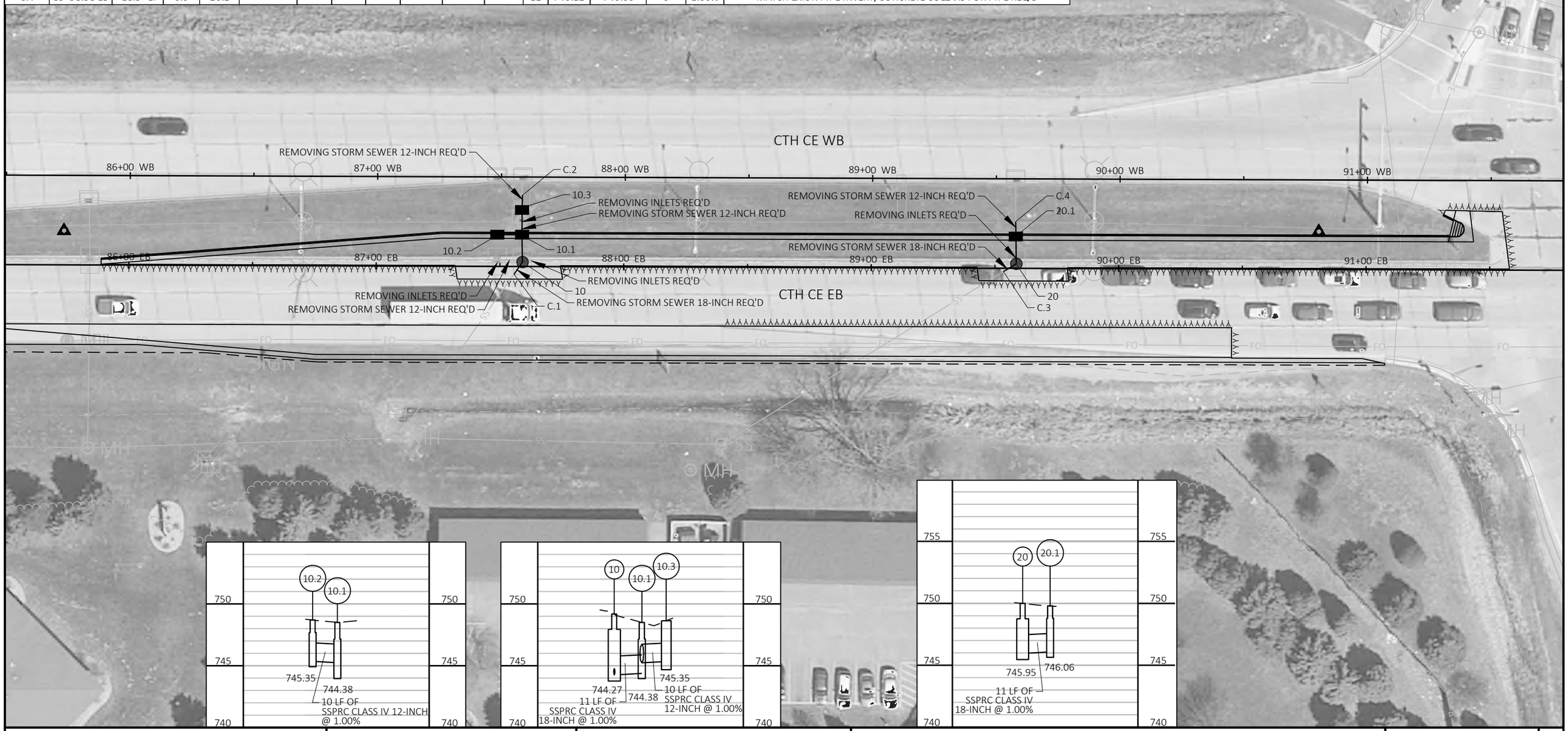
2

STRUCT NO.	STATION	OFFSET	C-C (FT)	TO STRUCT	INLET TYPE	COVER	MH TYPE	COVER	RIM/ GRATE ELEV.	T.O.S. ELEV.	DEPTH (FT)	DISCHARGE PIPE SIZE (IN)	DISCHARGE PIPE INLET ELEV.	DISCHARGE PIPE DISCHARGE ELEV.	DISCHARGE PIPE LENGTH (FT)	DISCHARGE PIPE SLOPE (%)	REMARKS
160.1	584+25.03 NB	33.4' RT	24.0	160.2	---	---	---	---	---	---	---	18	---	---	24	1.00%	EXIST. INLET; MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D; STORM SEWER TAP REQ'D
160.2	584+23.87 NB	57.3' RT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	APRON ENDWALLS FOR CPRC 18-INCH REQ'D

2

STRUCT NO.	STATION	OFFSET	C-C (FT)	TO STRUCT	INLET TYPE	COVER	MH TYPE	COVER	RIM/ GRATE ELEV.	T.O.S. ELEV.	DEPTH (FT)	DISCHARGE PIPE SIZE (IN)	DISCHARGE PIPE INLET ELEV.	DISCHARGE PIPE DISCHARGE ELEV.	DISCHARGE PIPE LENGTH (FT)	DISCHARGE PIPE SLOPE (%)	REMARKS
10	87+59.09 EB	1.7' LT	6.0	C.1	---	---	4-FT	J	749.42	748.17	3.90	18	744.27	744.21	6	1.00%	---
10.1	87+58.86 EB	12.8' LT	11.1	10	2X3-FT	H-S	---	---	749.04	748.21	3.83	18	744.38	744.27	11	1.00%	---
10.2	87+48.86 EB	12.8' LT	10.0	10.1	2X3-FT	H-S	---	---	749.05	748.22	2.87	12	745.35	745.25	10	1.00%	---
10.3	87+58.87 EB	22.8' LT	10.0	10.1	MEDIAN 1G	MS	---	---	748.46	748.46	3.11	12	745.35	745.25	10	1.00%	---
C.1	87+55.64 EB	3.2' RT	---	---	---	---	---	---	---	---	---	---	744.21	---	---	---	MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D
C.2	87+59.00 EB	28.8' LT	6.0	10.3	---	---	---	---	---	---	---	12	745.41	745.35	6	1.00%	MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D
20	89+58.58 EB	1.8' LT	6.0	C.3	---	---	4-FT	J	749.99	748.74	2.79	18	745.95	745.89	6	1.00%	---
20.1	89+58.45 EB	12.9' LT	11.1	20	2X3-FT	H	---	---	749.60	748.77	2.71	18	746.06	745.95	11	1.00%	---
C.3	89+53.47 EB	1.4' RT	---	---	---	---	---	---	---	---	---	---	745.89	---	---	---	MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D
C.4	89+58.38 EB	18.9' LT	6.0	20.1	---	---	---	---	---	---	---	12	746.12	746.06	6	1.00%	MATCH EXIST. PIPE INVERT; CONCRETE COLLARS FOR PIPE REQ'D

2



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	STORM SEWER - CTH CE	SHEET 75	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022520-SS.DWG
LAYOUT NAME - 022527-ss
PLOT DATE : 12/12/2022 11:38 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN: 40 FT
WISDOT/CADDS SHEET 42

2

LEGEND

- PULL BOX 12" X 24"
- PULL BOX 24" X 36"
- PULL BOX 24" X 42"
- SIGNAL STANDARD, PEDESTAL MOUNT
- SIGNAL POLE, MONOTUBE ARM — XX'
- LUMINAIRE (LED B)
- CONTROL CABINET BASE
- 3" CONDUIT (2" conduit from PB to T1/T2 base) (unless otherwise noted)
- LOOP DETECTOR (In 1" Conduit) — XX 3T
- MICROWAVE DETECTOR ZONE (approx location) — XX MICROWAVE
- SIGNAL HEAD NUMBER MOUNTING CONFIGURATION — X, R, Y, G
- MICROWAVE DETECTOR UNIT
- WALK/DON'T WALK INDICATOR 16" WITH COUNTDOWN TIMER
- PEDESTRIAN HEAD W/PUSH BUTTON — B

MONOTUBE STRUCTURE NUMBERS	
SB2	S-44-0123
SB6	S-44-0125

SALVAGE AND REINSTALL MONOTUBE

CTH CE (College Ave)

45 MPH Posted Speed Limit

90 WB

90 EB

Grass

Concrete Pavement

CE Trail (Asphalt)

CE Trail (concrete)

STH 441 SB Off ramp

LOOP 41 LOCATED APPROX 625' UP RAMP

PULL BOX LOCATED APPROX 325' UP RAMP

180' OF EXISTING CONDUIT

BP: 486+34.95 G

EP: 485+49.30 H

STH 441 SB On ramp

PB1 PB2 PB3 PB4 PB5

SB1 SB2 SB3 SB4 SB5 SB6 SB8

CB1

350' TO NEAR RIGHT SIGNAL

125' TO NEAR RIGHT SIGNAL

190' TO NEAR RIGHT SIGNAL

350' TO NEAR RIGHT SIGNAL

REMOVE PULL BOX

ABANDON CONDUIT

REMOVE PULL BOX

ADJUST PULL BOX

REMOVE SIGNAL

Overlap "C"

Install on SB8

Install on SB7

START CROSSING Watch For Vehicles
DON'T START Finish Crossing If Started
TIME REMAINING To Finish Crossing
DON'T CROSS
TO CROSS PUSH BUTTON

N

NOTE

WISCONSIN DOT NE REGION ELECTRICAL UNIT SHALL APPROVE FINAL LOCATIONS FOR ALL LOOP DETECTORS, PED PUSH BUTTONS, AND CONCRETE BASES IN THE FIELD PRIOR TO CONSTRUCTION AND MAKE WIRING TERMINATIONS IN THE SIGNAL CABINET. CONTACT THEM 3 DAYS IN ADVANCE AT (920) 360-3107.

GENERAL NOTE

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

NOTE

SIGNAL HEAD #1 SHALL HAVE A TUNNEL VISOR.

ADDED LOOP 41 TO 441 SB OFF RAMP
Updated 11-11-2020 (Added EVP System)
Updated 10-9-2019 (Installed Econolite Controller

CONFIGURATION WITH HEAD NUMBERS			
3-H	3-V	4-VLP	1-P
R Y G	R 3, 4, 5 Y 6, 7, 8 G 9, 10, 12	R Y EV G 1, 2	13, 14
11			

REVISION				
Rev. No.	MOVE MONOTUBE, EXTEND ARM , REPLACE LOOPS 41, 61,& 62			
	APPROVAL RECOMMENDED		APPROVED	
	REGION		CENTRAL OFFICE	
	Date	By	Date	By
1	8-25-22	RPA	8-26-22	JRI

TRAFFIC CONTROL SIGNAL

STH 441 SB & CTH CE
CITY OF APPLETON
OUTAGAMIE COUNTY

SIGNAL NO. 44-2004 CONTROLLER TYPE: Cobalt

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 10-27-2014 Robert J. Schuurmans
REGION TRAFFIC ENGINEER

APPROVED
Date 8-15-2017 Joanna L. Bush
STATE TRAFFIC ENGINEER

REGION CONTACT: RPA
DESIGNED BY: RJS
REVISED BY: RJS

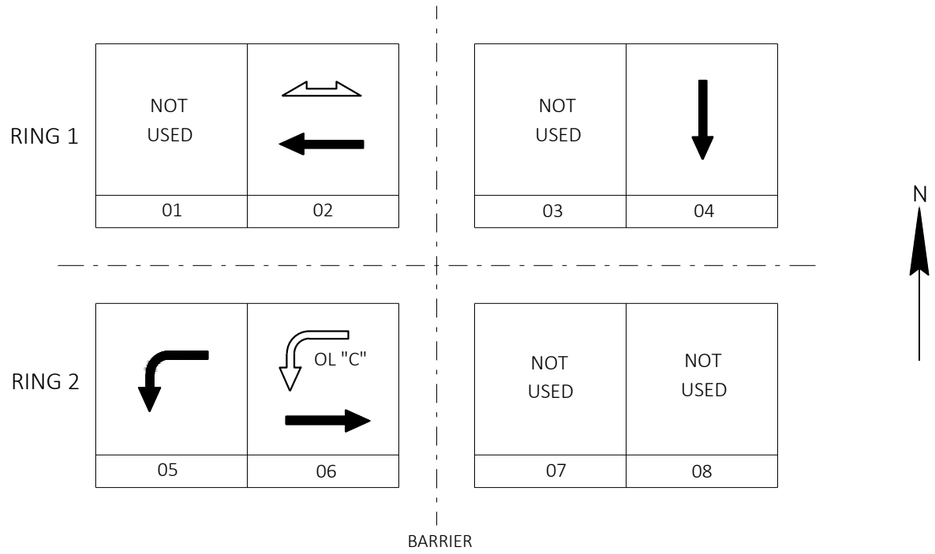
PAGE 1 OF 2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: OUTAGAMIE	TRAFFIC CONTROL SIGNAL - S44-2004	SHEET 76 E

FILE NAME : F:\D3_TRAFFI\S44-2004 (441 SB & CE)\S44-2004 FUTURE.DWG
LAYOUT NAME - S44-2004-tcs FUTURE
PLOT DATE : 9/6/2022 1:10 PM PLOT BY : TALCOTT, MATTHEW J PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
01		
02	3, 4, 5	R
03		
04	10, 11, 12	R
05	1, 2	-
06	6, 7, 8, 9	R
07		
08		
02P	13, 14	-
04P		
06P		
08P		
OLA		
OLB		
OLC	1, 2	R ←
OLD		



CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1				
2			MIN/PED	YES
3				
4				YES
5				YES
6			MIN	YES
7				
8				

TYPE OF INTERCONNECT/COMMUNICATION	
CELL MODEM	
CLOSED LOOP	
TWISTED PAIR*	
FIBER OPTIC*	X
FIBER OPTIC (ETHERNET)	
RADIO	

TYPE OF COORDINATION	
NONE	
TBC	X
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S44-0511
SIGNAL SYSTEM #:	SS-0100

EMERGENCY VEHICLE PREEMPTION

maintained by the City of Appleton

EMERGENCY VEHICLE DETECTOR	2	3	4
MOVEMENT	← →	↓	← ↙
PHASE	2+6	4	2+5
GTT CHANNEL	2 (GPS ONLY)	3 (GPS ONLY)	4 (GPS ONLY)

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	
GTT/3M	
TOMAR	
HARDWIRE	
OTHER (GPS)	X
LIFT BRIDGE	
QUEUE DETECTOR	

DETECTOR LOGIC

RACK # 1

DETECTOR CHANNEL	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR #(S)		21	41	42	51	61		
ASSIGNED PHASE		2	4	4	5	6		
OPERATION MODE		Veh	Veh	Veh	Veh	Veh		
SWITCH TO PHASE								
EXTEND								
DELAY			Yes		Yes			
DETECTOR CHANNEL	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR #(S)		22		43		62		
ASSIGNED PHASE		2		4		6		
OPERATION MODE		Veh		Veh		Veh		
SWITCH TO PHASE								
EXTEND								
DELAY								

RACK # 2

DETECTOR CHANNEL	19	17	23	21	27	25	31	29
PLAN LOOP DETECTOR #(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH TO PHASE								
EXTEND								
DELAY								
DETECTOR CHANNEL	20	18	24	22	28	26	32	30
PLAN LOOP DETECTOR #(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH TO PHASE								
EXTEND								
DELAY								

OVERLAP SPECIAL

	Protected	Permissive
OL "A"		
OL "B"		
OL "C"	5	6
OL "D"		

GENERAL NOTES:

1. PROVIDE FOR HAND CONTROL.

REVISION 1

STH 441 SB & CTH CE
CITY OF APPLETON
OUTAGAMIE COUNTY

SIGNAL NO. 44-2004

CABINET: TS2 CONTROLLER: Cobalt

DATE: 8-15-2017 PAGE NO. 2 OF 2

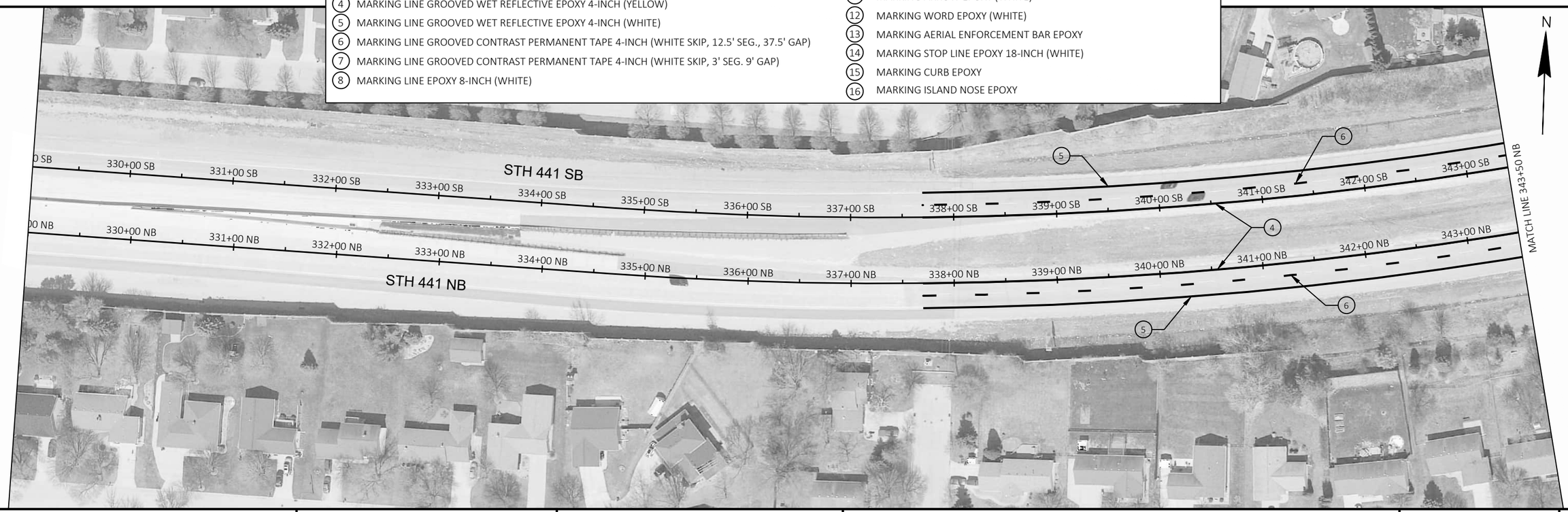
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: OUTAGAMIE	SEQUENCE OF OPERATIONS - S44-2004	SHEET 77	E

FILE NAME : F:\D3_TRAFFI\S44-2004 (441 SB & CE)\S44-2004 FUTURE.DWG
LAYOUT NAME - S44-2004-seq FUTURE
PLOT DATE : 9/6/2022 1:10 PM PLOT BY : TALCOTT, MATTHEW J PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

PAVEMENT MARKING LEGEND

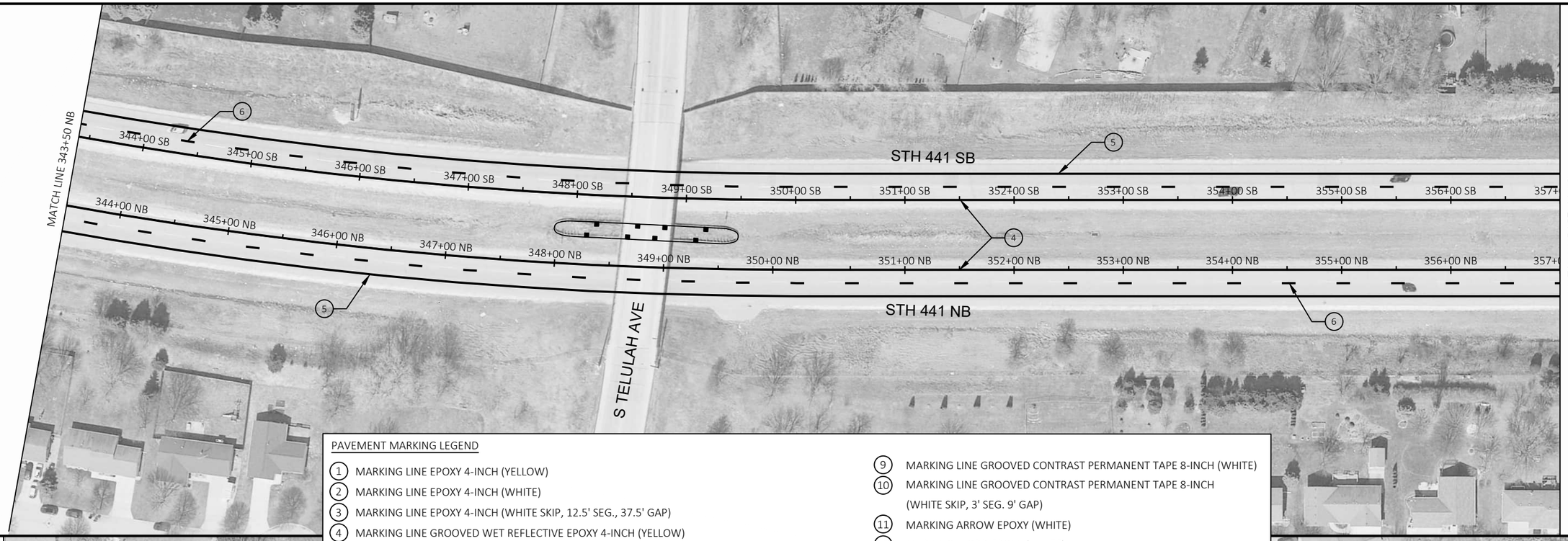
1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE EPOXY 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
4. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW)
5. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 3' SEG. 9' GAP)
8. MARKING LINE EPOXY 8-INCH (WHITE)
9. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
10. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP, 3' SEG. 9' GAP)
11. MARKING ARROW EPOXY (WHITE)
12. MARKING WORD EPOXY (WHITE)
13. MARKING AERIAL ENFORCEMENT BAR EPOXY
14. MARKING STOP LINE EPOXY 18-INCH (WHITE)
15. MARKING CURB EPOXY
16. MARKING ISLAND NOSE EPOXY



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PAVEMENT MARKING	SHEET 78	E

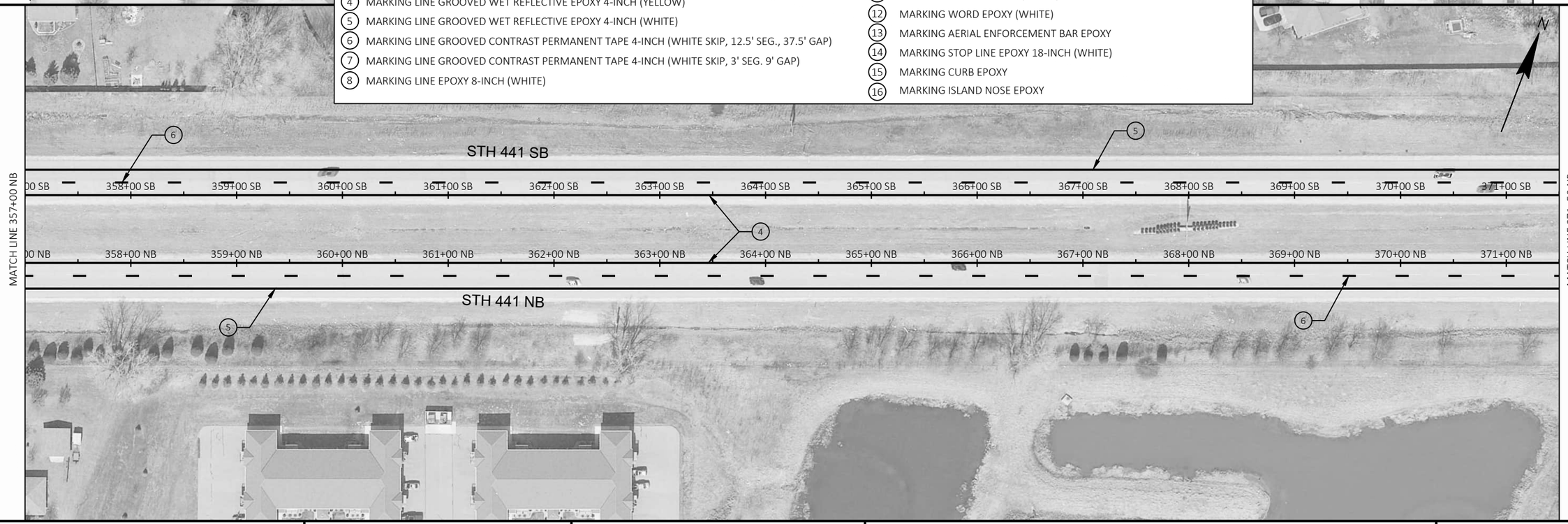
FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501-pm
PLOT DATE : 8/25/2022 1:43 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

2



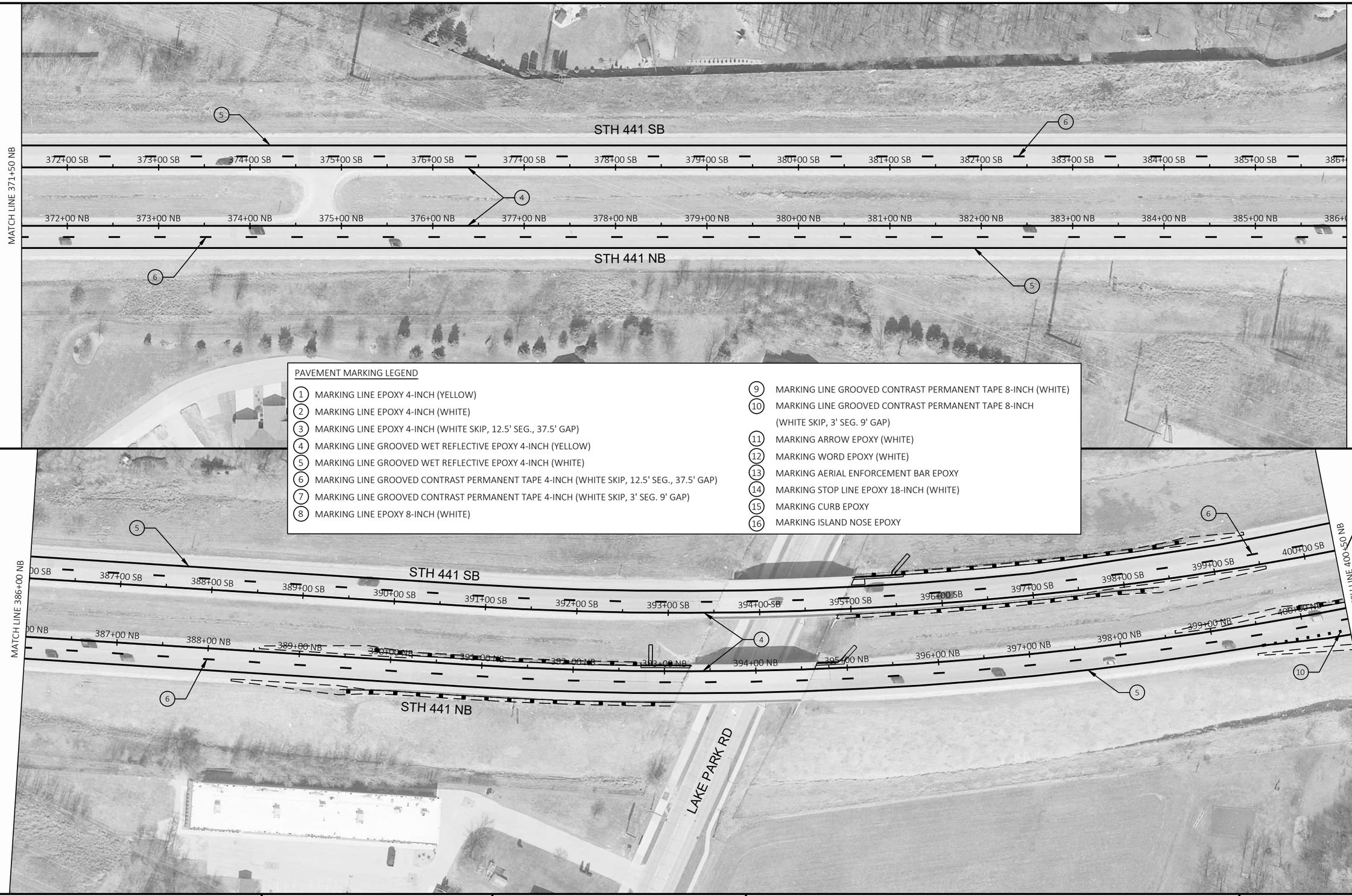
PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE EPOXY 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
4. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW)
5. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 3' SEG. 9' GAP)
8. MARKING LINE EPOXY 8-INCH (WHITE)
9. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
10. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP, 3' SEG. 9' GAP)
11. MARKING ARROW EPOXY (WHITE)
12. MARKING WORD EPOXY (WHITE)
13. MARKING AERIAL ENFORCEMENT BAR EPOXY
14. MARKING STOP LINE EPOXY 18-INCH (WHITE)
15. MARKING CURB EPOXY
16. MARKING ISLAND NOSE EPOXY



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PAVEMENT MARKING	SHEET 79	E

2

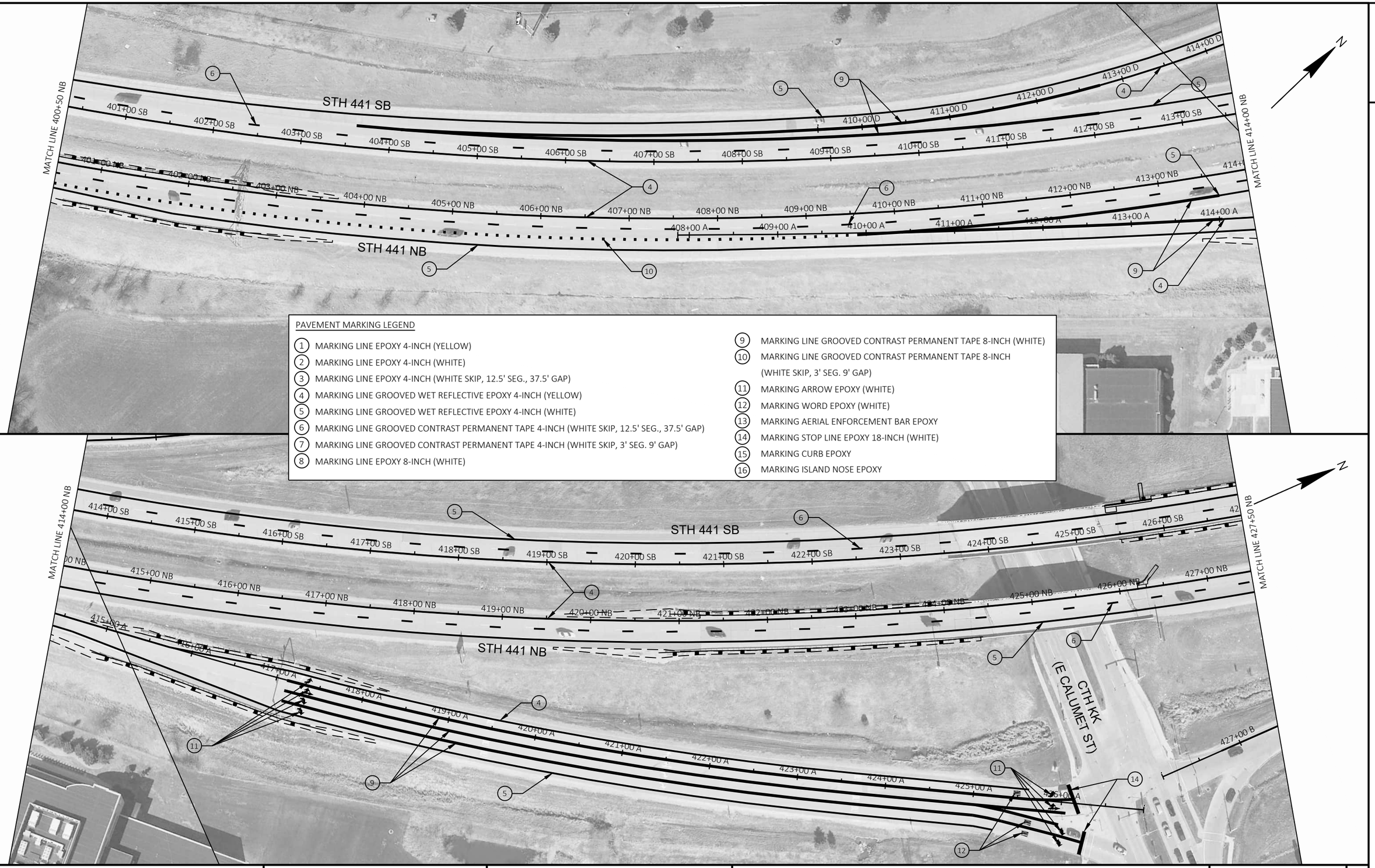


PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE EPOXY 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
4. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW)
5. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 3' SEG. 9' GAP)
8. MARKING LINE EPOXY 8-INCH (WHITE)
9. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
10. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP, 3' SEG. 9' GAP)
11. MARKING ARROW EPOXY (WHITE)
12. MARKING WORD EPOXY (WHITE)
13. MARKING AERIAL ENFORCEMENT BAR EPOXY
14. MARKING STOP LINE EPOXY 18-INCH (WHITE)
15. MARKING CURB EPOXY
16. MARKING ISLAND NOSE EPOXY

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PAVEMENT MARKING	SHEET 80	E

2



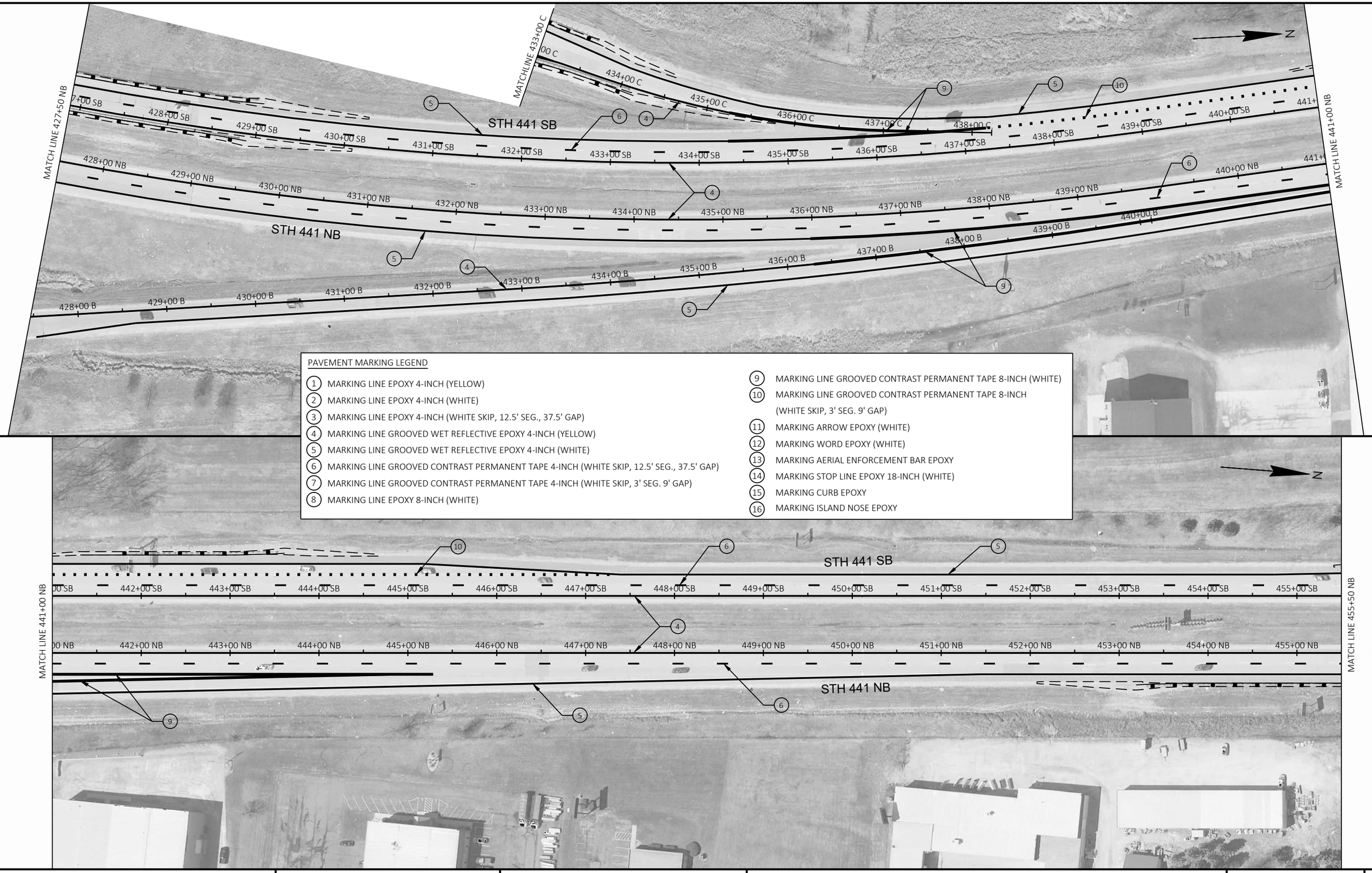
PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE EPOXY 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
4. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW)
5. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 3' SEG. 9' GAP)
8. MARKING LINE EPOXY 8-INCH (WHITE)
9. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
10. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP, 3' SEG. 9' GAP)
11. MARKING ARROW EPOXY (WHITE)
12. MARKING WORD EPOXY (WHITE)
13. MARKING AERIAL ENFORCEMENT BAR EPOXY
14. MARKING STOP LINE EPOXY 18-INCH (WHITE)
15. MARKING CURB EPOXY
16. MARKING ISLAND NOSE EPOXY

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PAVEMENT MARKING	SHEET 81	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024504-pm
PLOT DATE : 8/15/2022 2:31 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

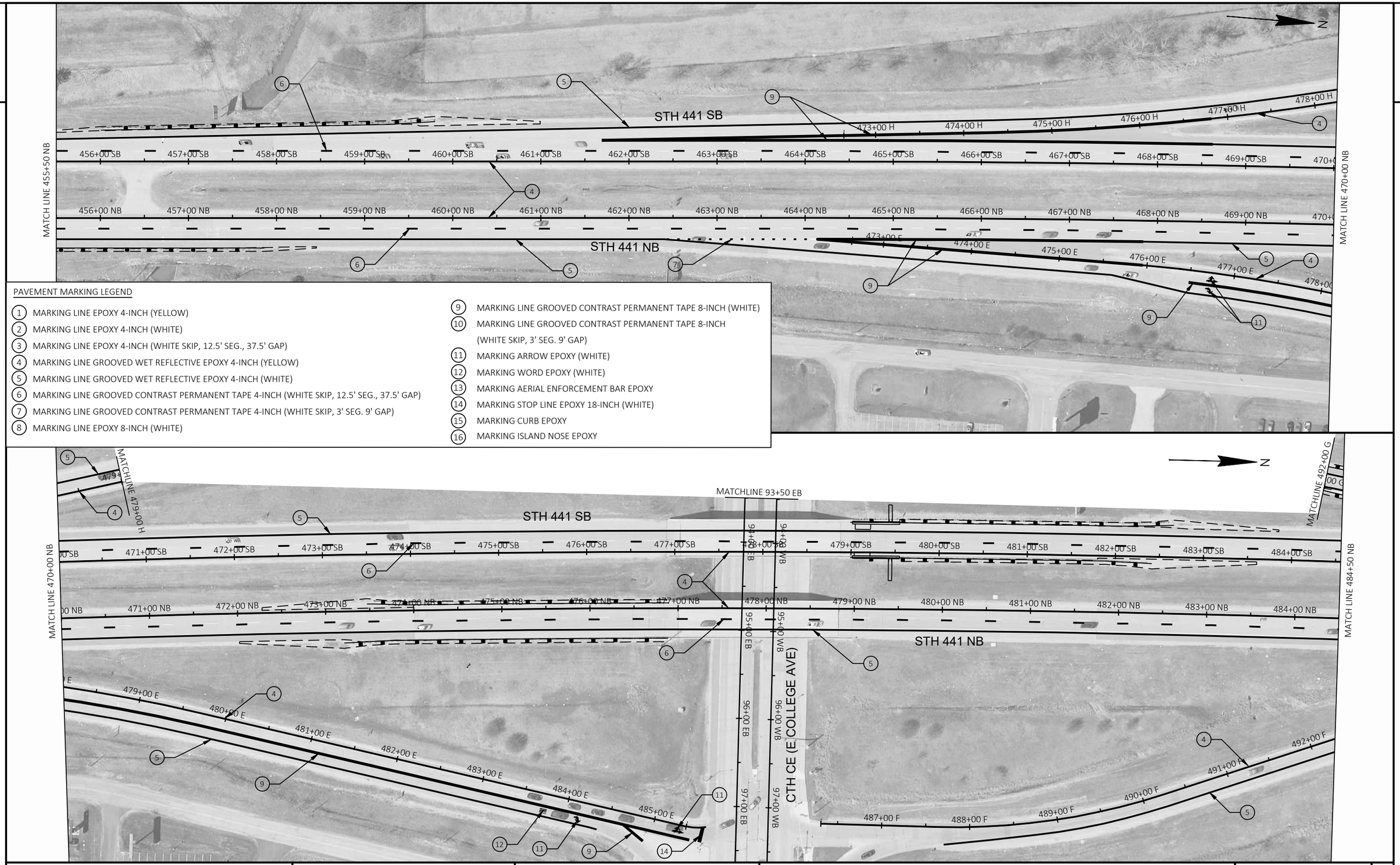


PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE EPOXY 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
4. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW)
5. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 3' SEG. 9' GAP)
8. MARKING LINE EPOXY 8-INCH (WHITE)
9. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
10. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP, 3' SEG. 9' GAP)
11. MARKING ARROW EPOXY (WHITE)
12. MARKING WORD EPOXY (WHITE)
13. MARKING AERIAL ENFORCEMENT BAR EPOXY
14. MARKING STOP LINE EPOXY 18-INCH (WHITE)
15. MARKING CURB EPOXY
16. MARKING ISLAND NOSE EPOXY

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PAVEMENT MARKING	SHEET 82	E

2

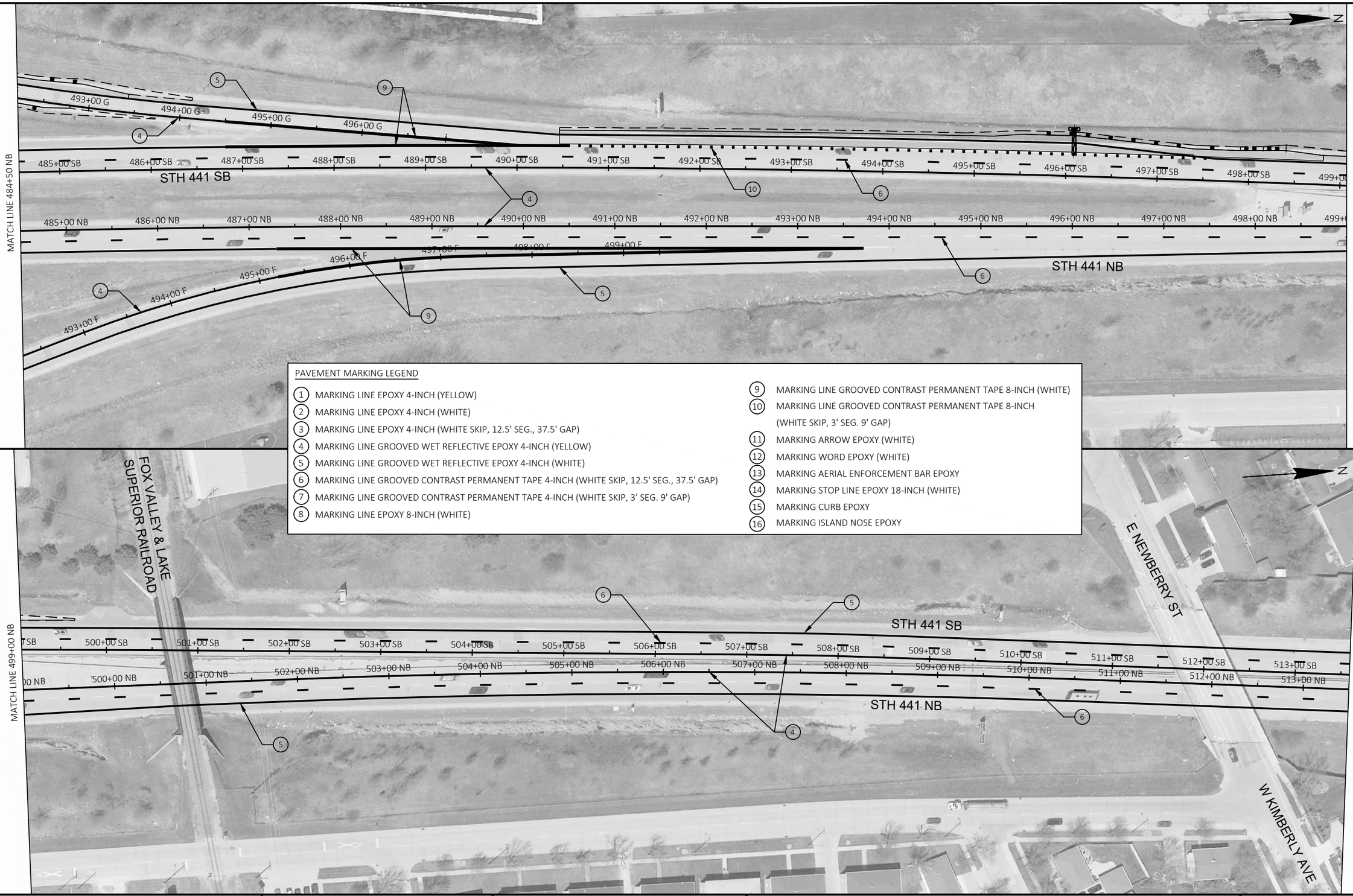


PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE EPOXY 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
4. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW)
5. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 3' SEG. 9' GAP)
8. MARKING LINE EPOXY 8-INCH (WHITE)
9. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
10. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP, 3' SEG. 9' GAP)
11. MARKING ARROW EPOXY (WHITE)
12. MARKING WORD EPOXY (WHITE)
13. MARKING AERIAL ENFORCEMENT BAR EPOXY
14. MARKING STOP LINE EPOXY 18-INCH (WHITE)
15. MARKING CURB EPOXY
16. MARKING ISLAND NOSE EPOXY

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PAVEMENT MARKING	SHEET 83	E

2

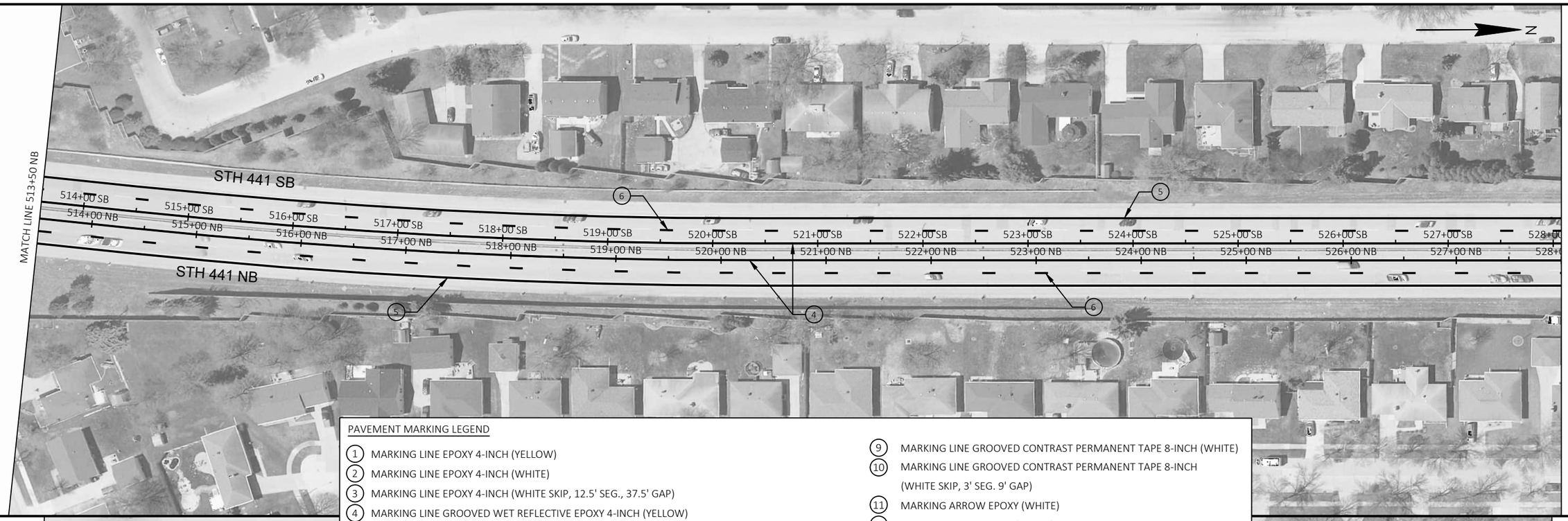


PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE EPOXY 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
4. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW)
5. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 3' SEG. 9' GAP)
8. MARKING LINE EPOXY 8-INCH (WHITE)
9. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
10. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP, 3' SEG. 9' GAP)
11. MARKING ARROW EPOXY (WHITE)
12. MARKING WORD EPOXY (WHITE)
13. MARKING AERIAL ENFORCEMENT BAR EPOXY
14. MARKING STOP LINE EPOXY 18-INCH (WHITE)
15. MARKING CURB EPOXY
16. MARKING ISLAND NOSE EPOXY

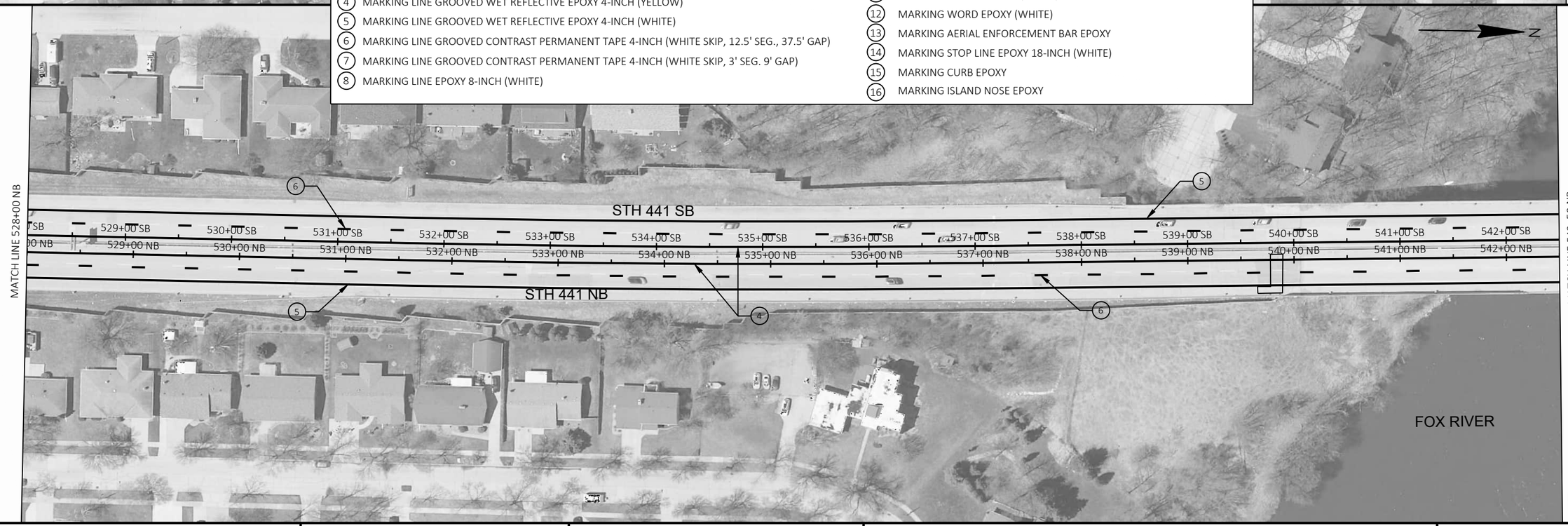
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PAVEMENT MARKING	SHEET 84	E

2



PAVEMENT MARKING LEGEND

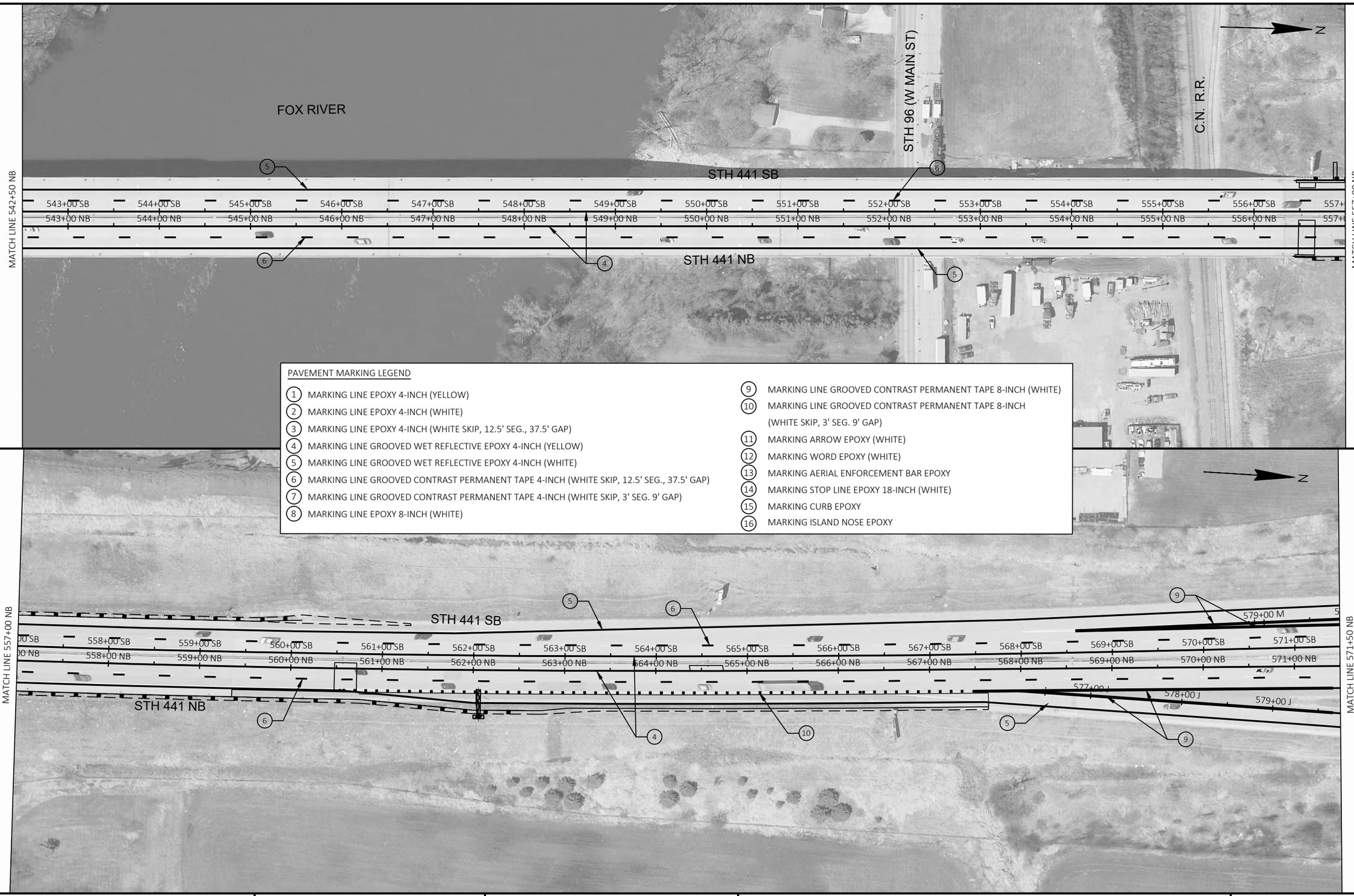
1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE EPOXY 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
4. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW)
5. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 3' SEG. 9' GAP)
8. MARKING LINE EPOXY 8-INCH (WHITE)
9. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
10. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP, 3' SEG. 9' GAP)
11. MARKING ARROW EPOXY (WHITE)
12. MARKING WORD EPOXY (WHITE)
13. MARKING AERIAL ENFORCEMENT BAR EPOXY
14. MARKING STOP LINE EPOXY 18-INCH (WHITE)
15. MARKING CURB EPOXY
16. MARKING ISLAND NOSE EPOXY



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PAVEMENT MARKING	SHEET 85	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024508-pm
PLOT DATE : 8/15/2022 2:32 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2



PAVEMENT MARKING LEGEND

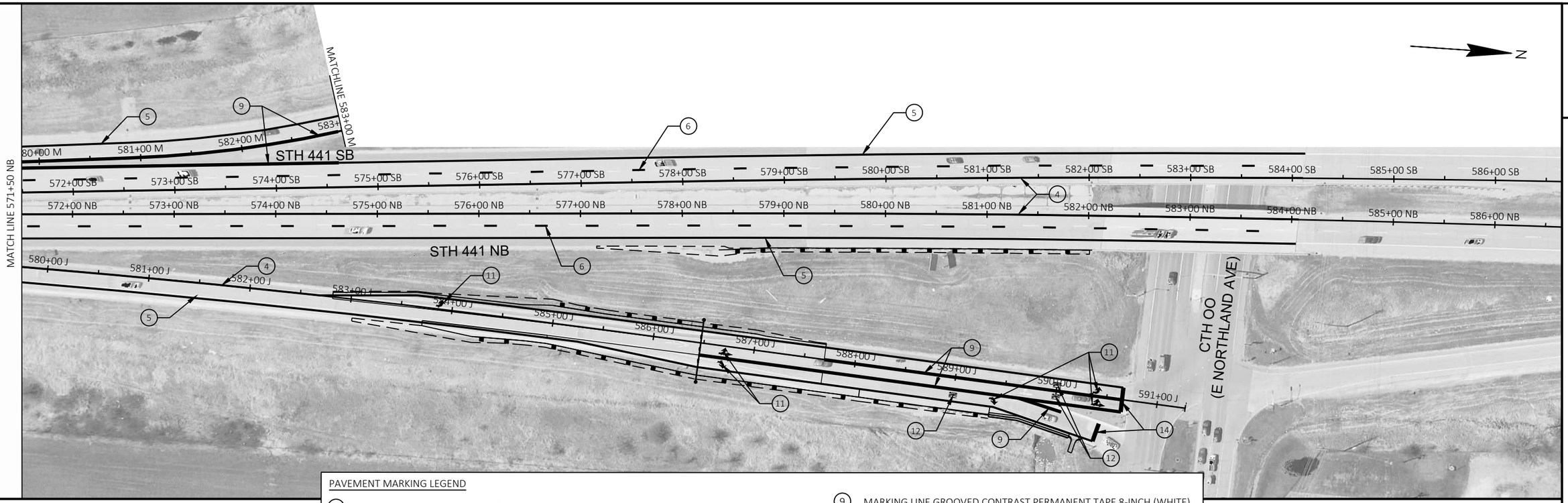
1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE EPOXY 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
4. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW)
5. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 3' SEG. 9' GAP)
8. MARKING LINE EPOXY 8-INCH (WHITE)
9. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
10. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP, 3' SEG. 9' GAP)
11. MARKING ARROW EPOXY (WHITE)
12. MARKING WORD EPOXY (WHITE)
13. MARKING AERIAL ENFORCEMENT BAR EPOXY
14. MARKING STOP LINE EPOXY 18-INCH (WHITE)
15. MARKING CURB EPOXY
16. MARKING ISLAND NOSE EPOXY

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PAVEMENT MARKING	SHEET 86	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024509-pm
PLOT DATE : 8/15/2022 2:32 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:100 FT

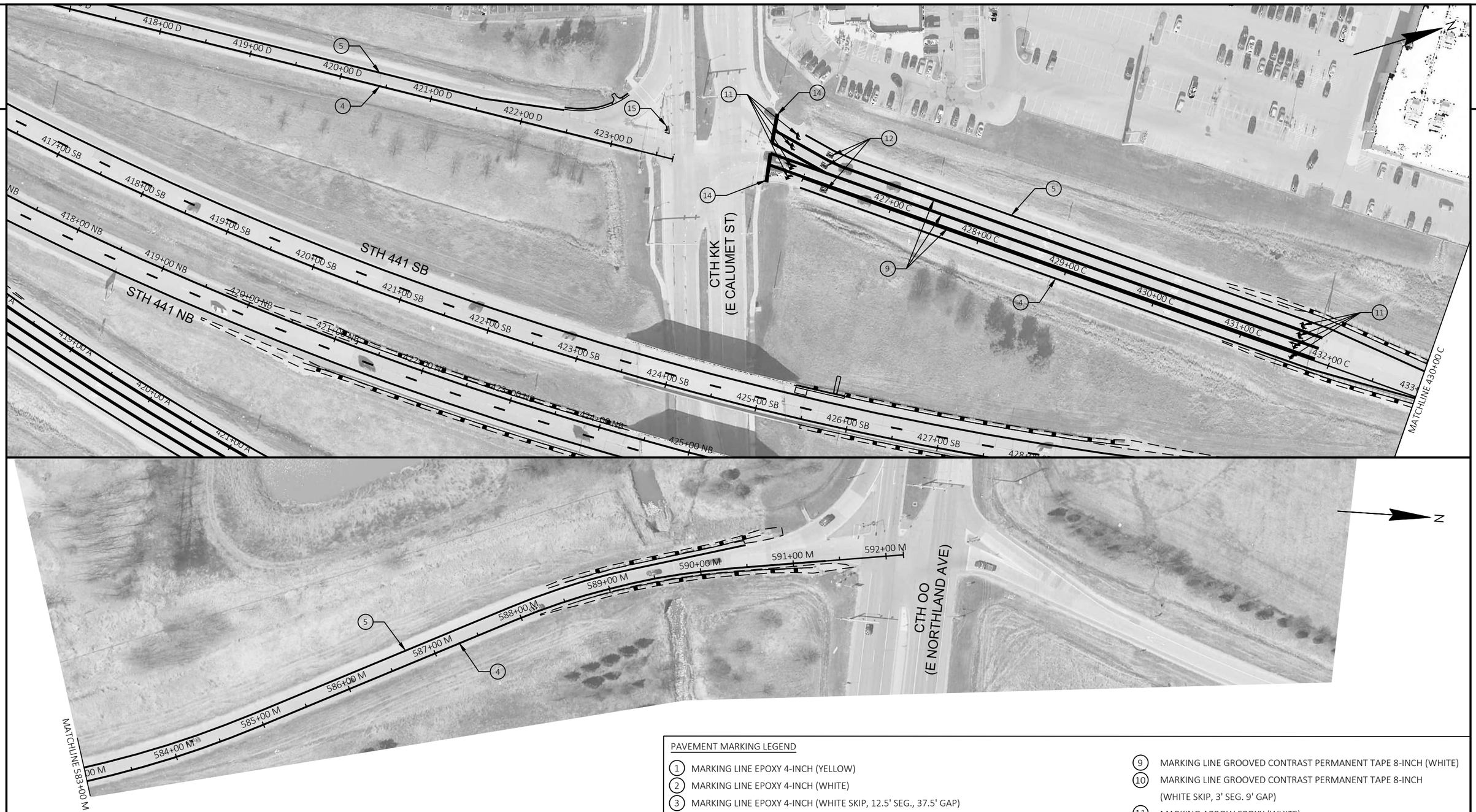
WISDOT/CADDS SHEET 44



2

PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE EPOXY 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
4. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW)
5. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 3' SEG. 9' GAP)
8. MARKING LINE EPOXY 8-INCH (WHITE)
9. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
10. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP, 3' SEG. 9' GAP)
11. MARKING ARROW EPOXY (WHITE)
12. MARKING WORD EPOXY (WHITE)
13. MARKING AERIAL ENFORCEMENT BAR EPOXY
14. MARKING STOP LINE EPOXY 18-INCH (WHITE)
15. MARKING CURB EPOXY
16. MARKING ISLAND NOSE EPOXY



PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE EPOXY 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
4. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW)
5. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 3' SEG. 9' GAP)
8. MARKING LINE EPOXY 8-INCH (WHITE)
9. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
10. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP, 3' SEG. 9' GAP)
11. MARKING ARROW EPOXY (WHITE)
12. MARKING WORD EPOXY (WHITE)
13. MARKING AERIAL ENFORCEMENT BAR EPOXY
14. MARKING STOP LINE EPOXY 18-INCH (WHITE)
15. MARKING CURB EPOXY
16. MARKING ISLAND NOSE EPOXY

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PAVEMENT MARKING	SHEET 88	E

PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE EPOXY 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
4. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW)
5. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
6. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 12.5' SEG., 37.5' GAP)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP, 3' SEG. 9' GAP)
8. MARKING LINE EPOXY 8-INCH (WHITE)
9. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
10. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP, 3' SEG. 9' GAP)
11. MARKING ARROW EPOXY (WHITE)
12. MARKING WORD EPOXY (WHITE)
13. MARKING AERIAL ENFORCEMENT BAR EPOXY
14. MARKING STOP LINE EPOXY 18-INCH (WHITE)
15. MARKING CURB EPOXY
16. MARKING ISLAND NOSE EPOXY

2

2

CTH CE (E COLLEGE AVE)

85+00 EB
85+00 WB
86+00 EB
86+00 WB
87+00 EB
87+00 WB
88+00 EB
88+00 WB
89+00 EB
89+00 WB
90+00 EB
90+00 WB
91+00 EB
91+00 WB
92+00 EB
92+00 WB
93+00 EB
93+00 WB

480+00 H
481+00 H
482+00 H
483+00 H
484+00 H
485+00 H

487+00 G
488+00 G
489+00 G
490+00 G
491+00 G

MATCHLINE 479+00 H

MATCHLINE 492+00 G

MATCHLINE 93+50 EB

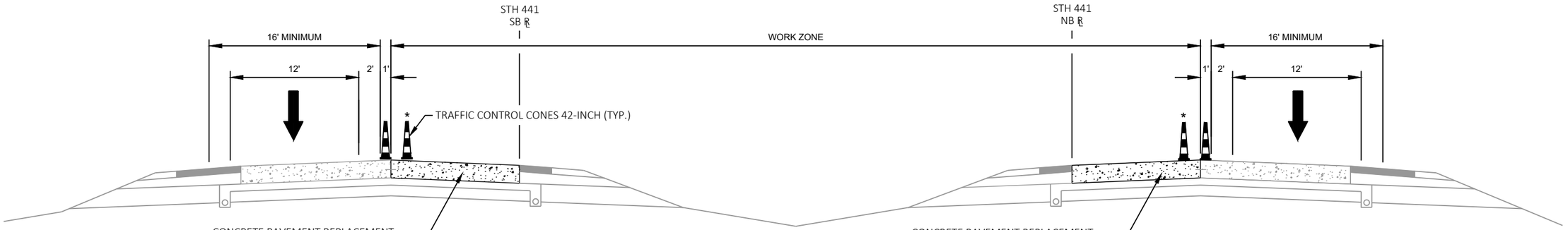
N

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PAVEMENT MARKING	SHEET 89

FILE NAME : C:\WISDOT\STND\C3D2022\TEMPLATES\SHEETS\02-PD-WDOT.DWT
LAYOUT NAME - 024512-pm

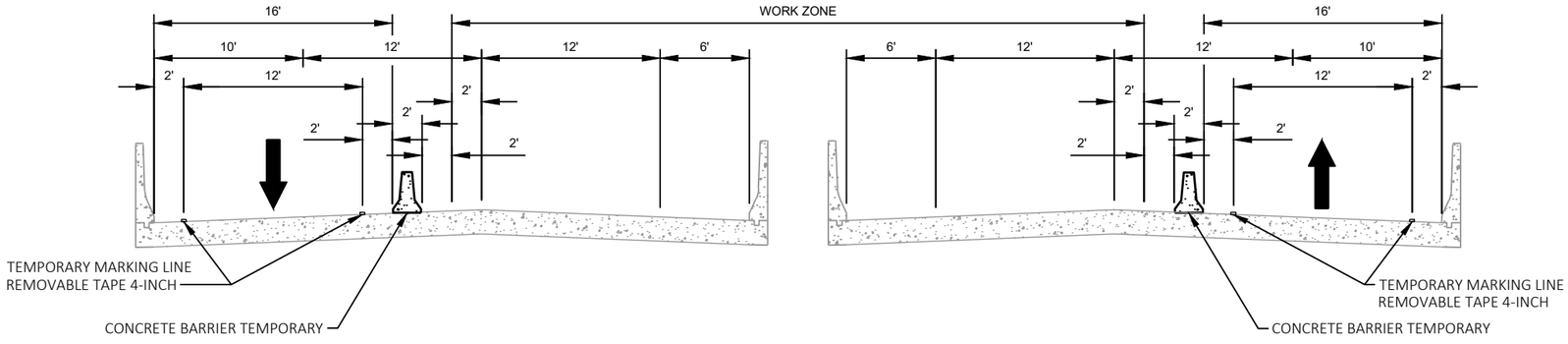
PLOT DATE : 5/9/2018 2:47 PM PLOT BY : ERIC PLOT NAME : PLOT SCALE : ##########

2



STAGE 1

* WHEN TRAFFIC CONTROL CONES ARE OUTSIDE OF AN ACTIVE WORK ZONE, PLACE THE TRAFFIC CONTROL CONE IN THE CLOSED LANE ONE FOOT FROM THE CENTERLINE

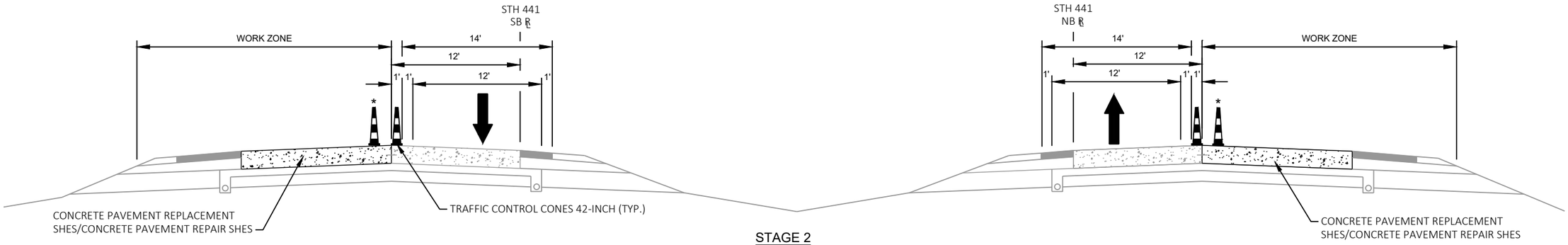


** STAGE 1

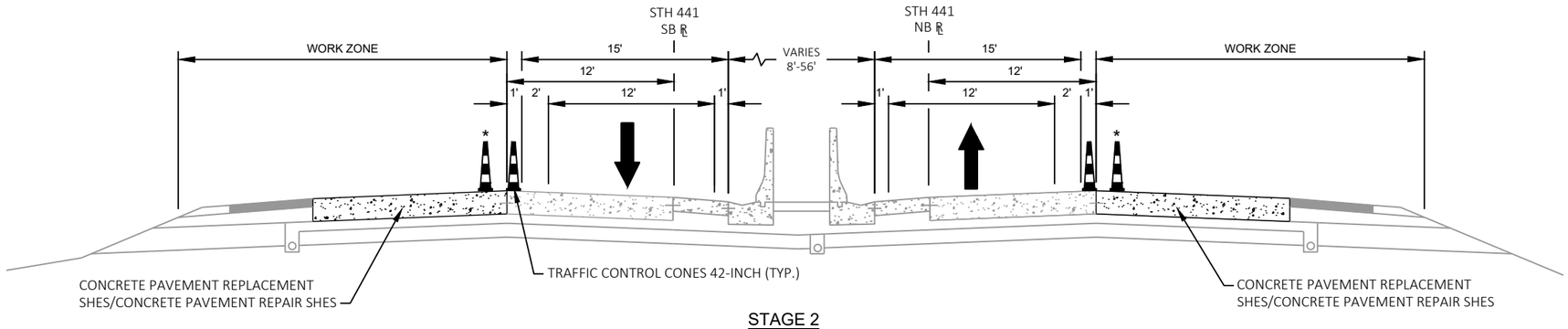
B-44-126

** FILLING CONCRETE RUMBLE STRIPS AND REMOVING RUMBLE STRIPS REQ'D (SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)

2

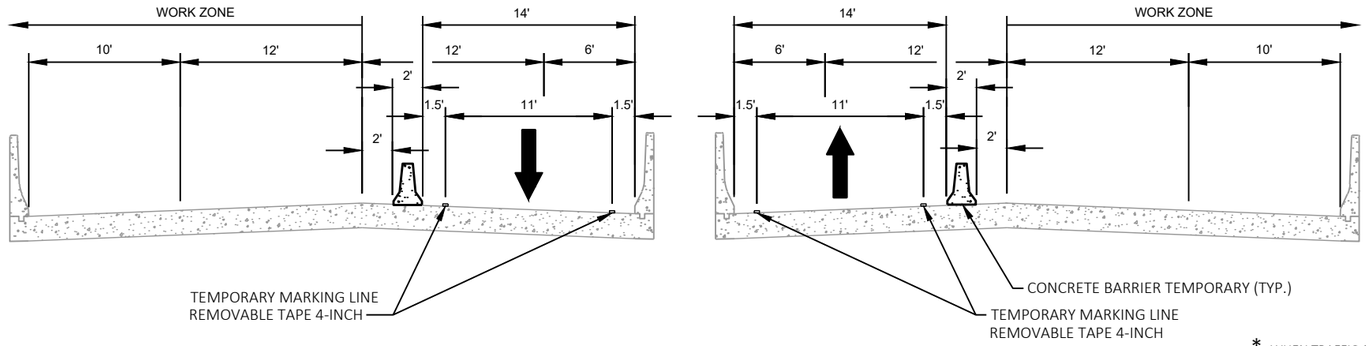


STAGE 2



STAGE 2

(LOCATIONS WITHIN MEDIAN BARRIER)



** STAGE 2

B-44-126

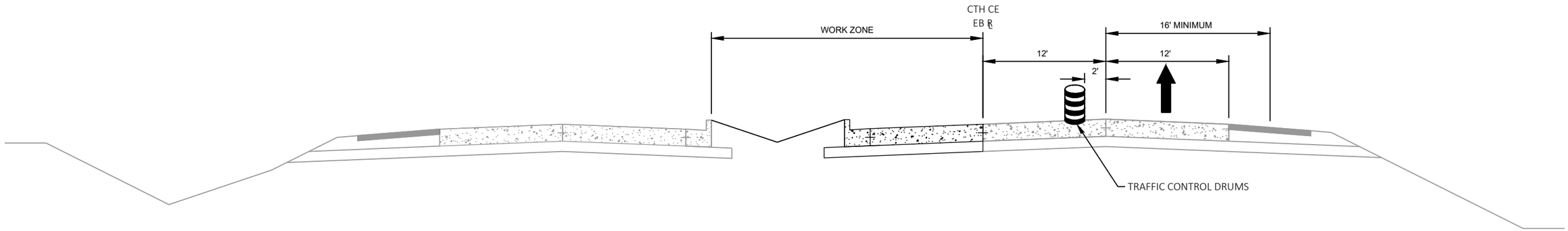
* WHEN TRAFFIC CONTROL CONES ARE OUTSIDE OF AN ACTIVE WORK ZONE, PLACE THE TRAFFIC CONTROL CONE IN THE CLOSED LANE ONE FOOT FROM THE CENTERLINE

** FILLING CONCRETE RUMBLE STRIPS AND REMOVING RUMBLE STRIPS REQ'D (SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	STAGING TYPICAL SECTIONS	SHEET 91	E

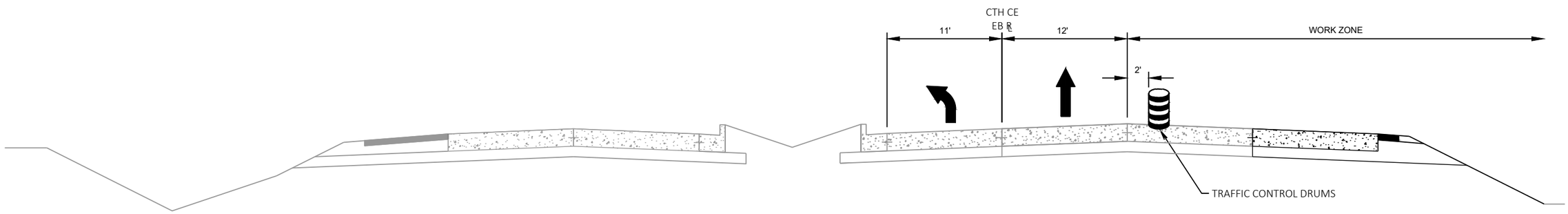
FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\025100_TC.DWG
LAYOUT NAME - 025101-tc
PLOT DATE : 6/30/2022 9:55 AM
PLOT BY : CARPENTER, ZACH
PLOT NAME :
PLOT SCALE : 1IN:10 FT
WISDOT/CADDS SHEET 42

2



STAGE 1

STA 80+00 EB TO STA 91+66 EB



STAGE 2

STA 80+00 EB TO STA 91+66 EB

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	STAGING TYPICAL SECTIONS - CTH CE	SHEET 92	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\025100_TC.DWG
LAYOUT NAME - 025102-tc
PLOT DATE : 6/30/2022 9:55 AM
PLOT BY : CARPENTER, ZACH
PLOT NAME :
PLOT SCALE : 1IN:10 FT
WISDOT/CADDS SHEET 42

2

E. MITCHELL AVE.

S. CARPENTER ST.

S. DELLWOOD ST.

E. PARK HILLS DR.

STH 441

THISTLE DOWN CT.

N

① ②

TEMPORARY PEDESTRIAN BARRICADE REQ'D

TEMPORARY PEDESTRIAN BARRICADE REQ'D

B-08-0033 WORK ZONE

TEMPORARY PEDESTRIAN BARRICADE REQ'D

① ②

TRAFFIC CONTROL SIGNS

① SIDEWALK CLOSED
R9-9
24" X 12"

② ACCESS ACROSS HWY 441 USE ONEDIA ST
R9-20 (MOD.)
30" X 12"

TRAFFIC CONTROL SIGNS FIXED MESSAGE
SIGN IS TYPE II - TYPE H REFLECTIVE
BACKGROUND COLOR = WHITE
MESSAGE = BLACK
MESSAGE SERIES C
2-INCH LETTER HEIGHT

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	B-08-0033 CLOSURE	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026240-B-8-33 Clsoure.dgn PLOT DATE : 10/28/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

TRAFFIC CONTROL NOTES

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

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

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTORS METHODS OR SEQUENCES OF OPERATION.

DO NOT PLACE TRAFFIC CONTROL DEVICES OR MARKINGS ON OR ACROSS A RAILROAD CROSSING SURFACE OR TRACK.

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

REMOVE OR COVER ANY SIGNS, TEMPORARY OR EXISTING, THAT CONFLICT WITH TRAFFIC CONTROL "IN-USE" AS APPROVED BY THE ENGINEER.

USE ROAD MACHINERY, TRUCK ENTRANCE, FLAGMEN AHEAD, ETC. SIGNS AS NEEDED AND REMOVE OR COVER THEM WHEN THE ACTIVITY OR CONDITION DOES NOT EXIST. NO WARNING LIGHT SHALL BE USED WITH A COVERED SIGN.

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

SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC/STAGING REQUIREMENTS. MAINTAIN ACCESS AT ALL TIMES.

REMOVE PAVEMENT MARKING THAT CONFLICTS WITH TRAFFIC CONTROL "IN-USE" AS DIRECTED BY THE ENGINEER.

ALL TRAFFIC CONTROL DRUM SPACING IS 50' ALONG TRAVEL LANES, UNLESS OTHERWISE NOTED.

ALL TRAVEL LANE WIDTHS ARE 12' UNLESS SHOWN OTHERWISE.

TRAFFIC CONTROL LEGEND

- WORK ZONE
- MARKING REMOVAL (WATER BLASTING ON BRIDGE DECKS)
- TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- TRAFFIC FLOW ARROW
- ARROW BOARD
- CRASH CUSHIONS TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST DELIVERED; INSTALLED (MAINTAIN 2' MIN. CLEAR FROM EDGE OF TRAVEL LANE UNLESS SHOWN OTHERWISE)
- TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C)
- SIGN MOUNTED ON POST
- SIGN MOUNTED ON TEMPORARY SUPPORT
- BARRICADES TYPE III WITH SIGN (TWO WARNING LIGHTS TYPE A REQ'D)
- BARRICADES TYPE III WITHOUT SIGN (ONE WARNING LIGHT TYPE A REQ'D)

TEMPORARY MARKING LINE LEGEND

- (4W) TEMPORARY MARKING LINE PAINT 4-INCH (WHITE)
- (4Y) TEMPORARY MARKING LINE PAINT 4-INCH (YELLOW)
- (8W) TEMPORARY MARKING LINE PAINT 8-INCH (WHITE)
- (RT-4W) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- (RT-4Y) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- (RT-8W) TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026250-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2

2

CTH CE (E. COLLEGE AVE.)

N

STH 441 SB

480 SB

MATCHLINE STA. 478+00 NB

+05 NB

480 NB

660' MERGE TAPER

STH 441 NB

4Y

MATCHLINE STA. 484+00 NB

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026251-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2

2

N

CTH CE (E. COLLEGE AVE.) EXIT RAMP

STH 441 SB

485 SB

490 SB

LANE CLOSED
R11-2L
48" X 30"

W04-1

485 NB

+65 NB

4Y

490

100' (TYP.)

STH 441 NB

MATCHLINE STA. 484+00 NB

MATCHLINE STA. 490+00 NB

CTH CE (E. COLLEGE AVE.) ENTRANCE RAMP

W03-2

ROAD WORK AHEAD
W20-1

500'

YIELD
R1-2
48" X 42"

SEE STANDARD DETAIL DRAWING "TRAFFIC

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET 97	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026252-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 42

2

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026253-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 42

2

2

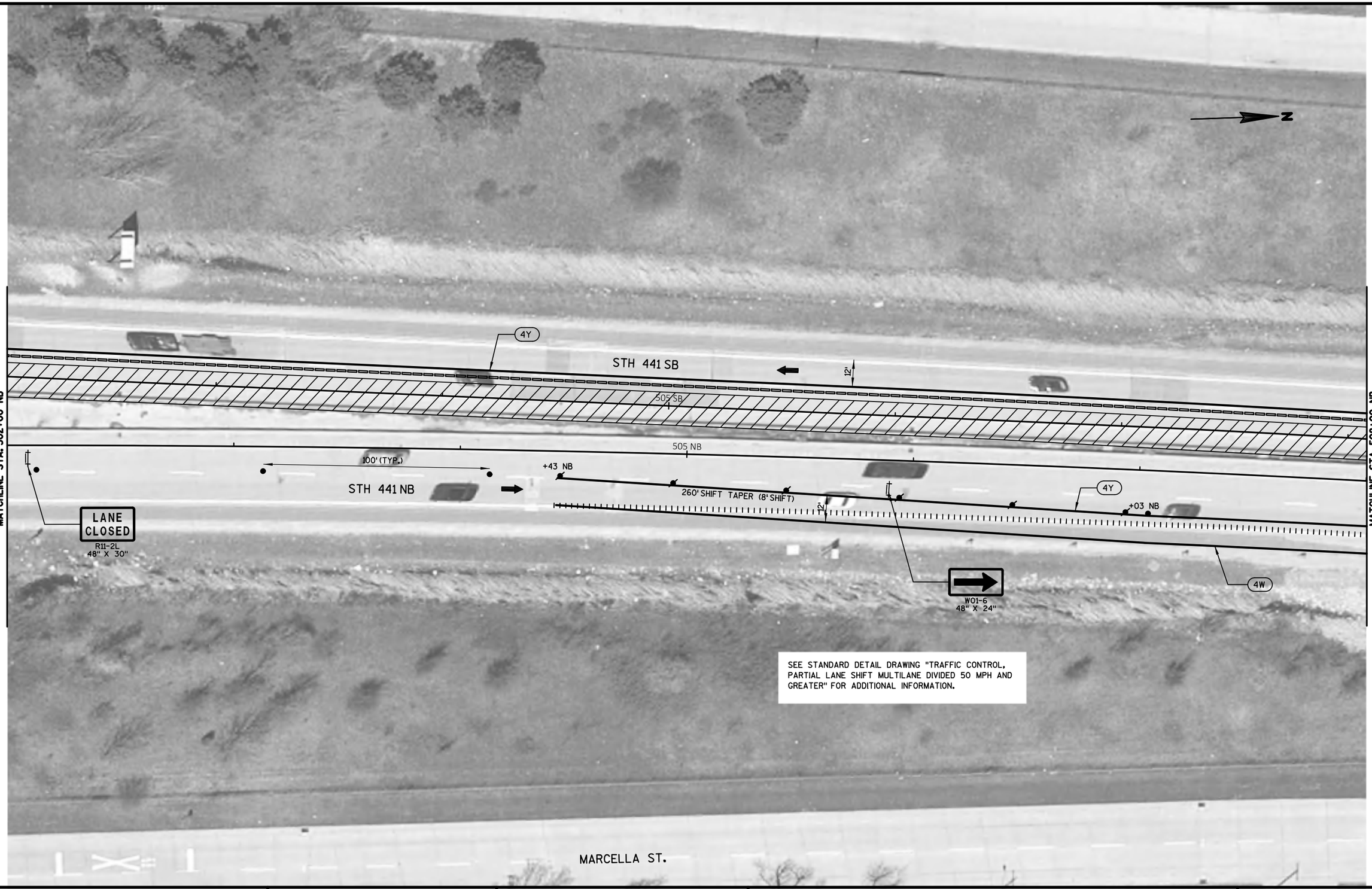
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026254-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 42

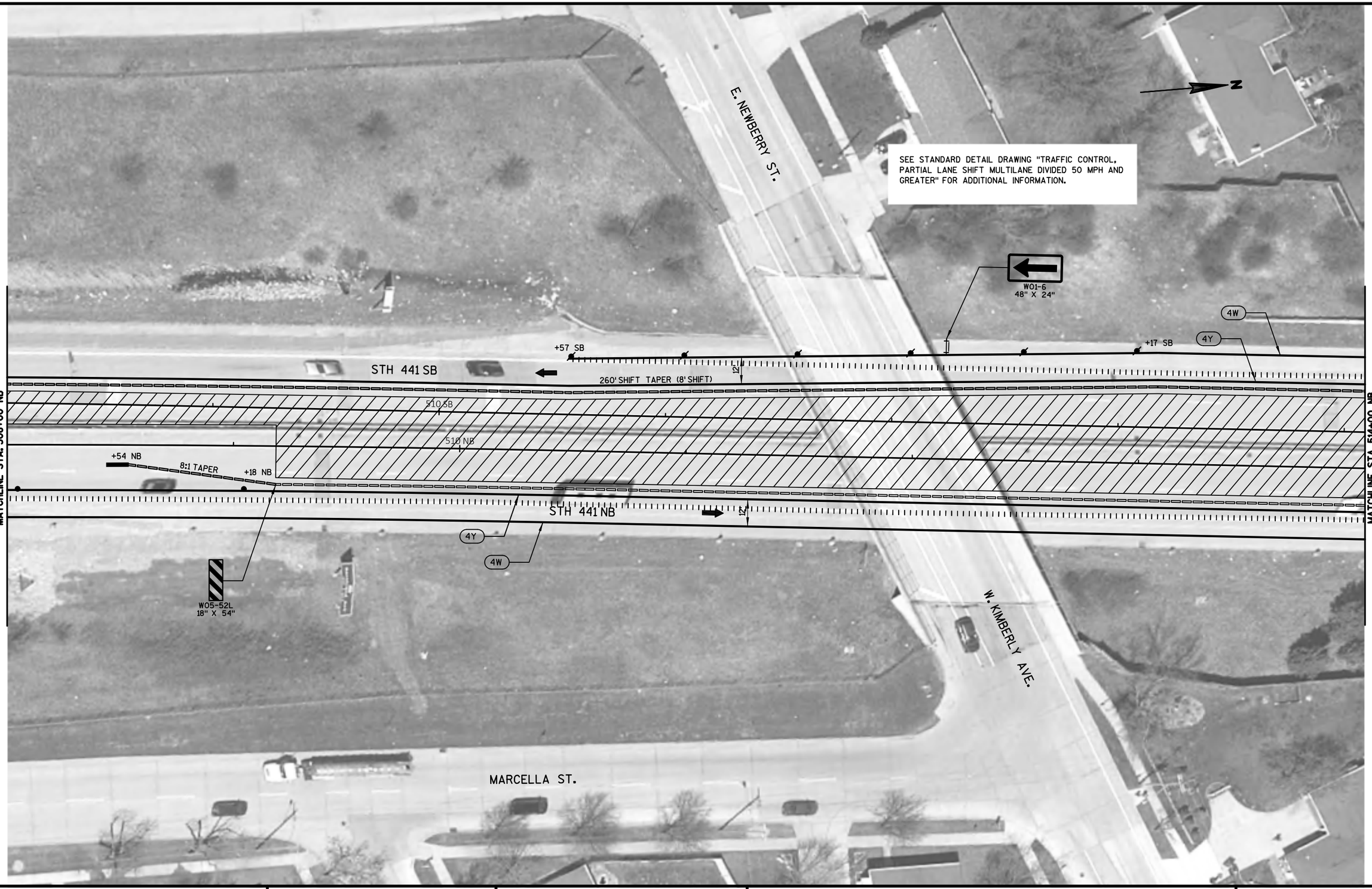
2

2



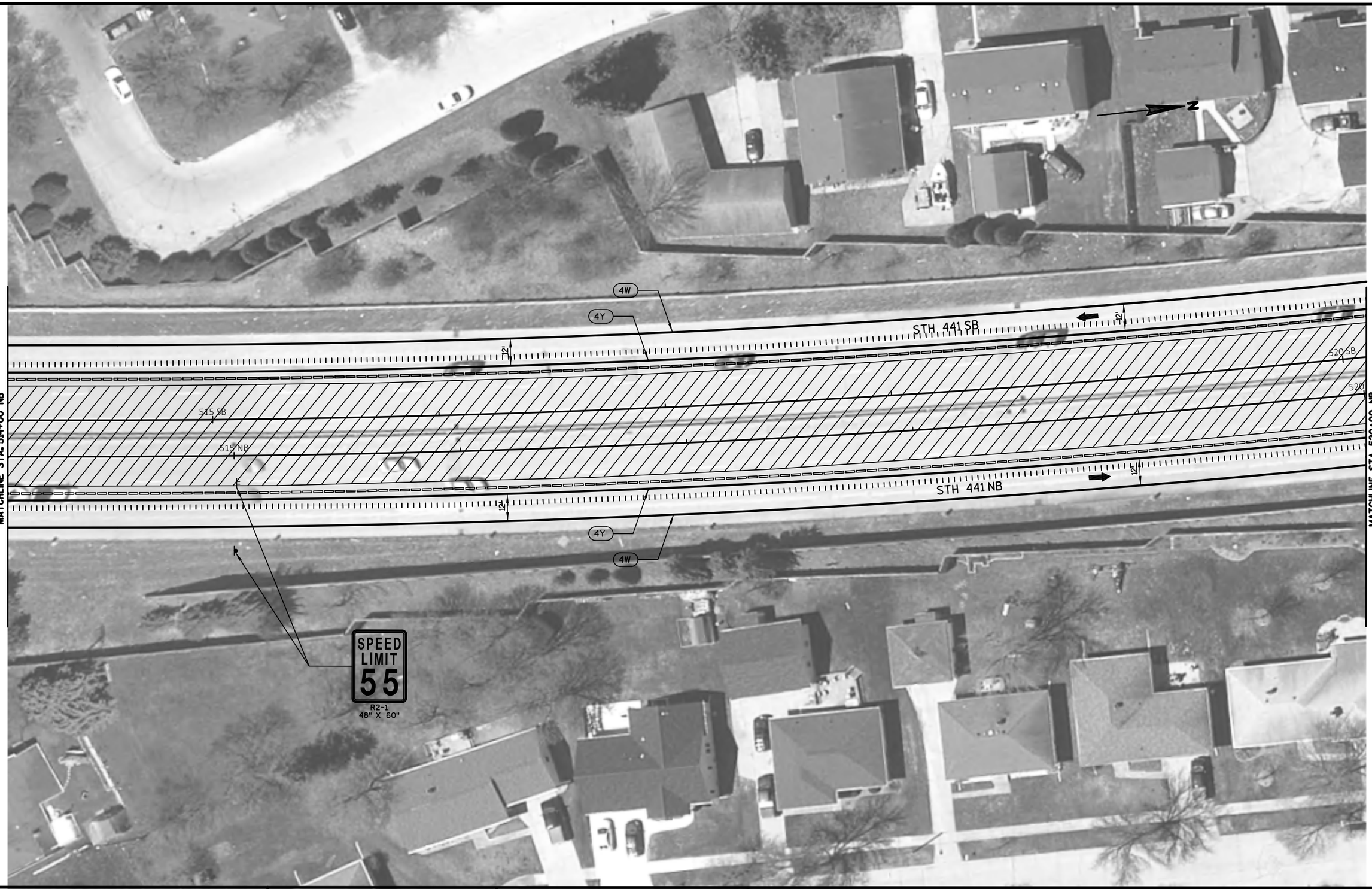
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET 100	E

2



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET 101	E

2



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026257-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

2

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026258-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$
WISDOT/CADDS SHEET 42

2

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET 104	E

2

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026260-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$
WISDOT/CADDS SHEET 42

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET 106	E

2

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026262-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2

2

W. MAIN ST.

CANADIAN NATIONAL RAILROAD

N

W05-52L
18" X 54"

LANE
CLOSED
R11-2L
48" X 30"

RT-4W

RT-4Y

STH 441 SB

12'

8:1 TAPER

SB

NB

555 SB

555 NB

MATCHLINE STA. 550+00 NB

MATCHLINE STA. 556+00 NB

STH 441 NB

12'

RT-4Y

RT-4W

W01-4L

MATCHLINE

MATCHLINE

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026263-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

N

W01-6
48" X 24"

RT-4W
RT-4Y
4W
4Y
+69 SB
260' SHIFT TAPER (8' SHIFT)
+29 SB
12'
STH 441 SB
560 SB
560 NB
STH 441 NB
12'
RT-4Y
RT-4W
4Y
4W
RCT-4W

MATCHLINE STA. 556+00 NB

MATCHLINE STA. 562+00 NB

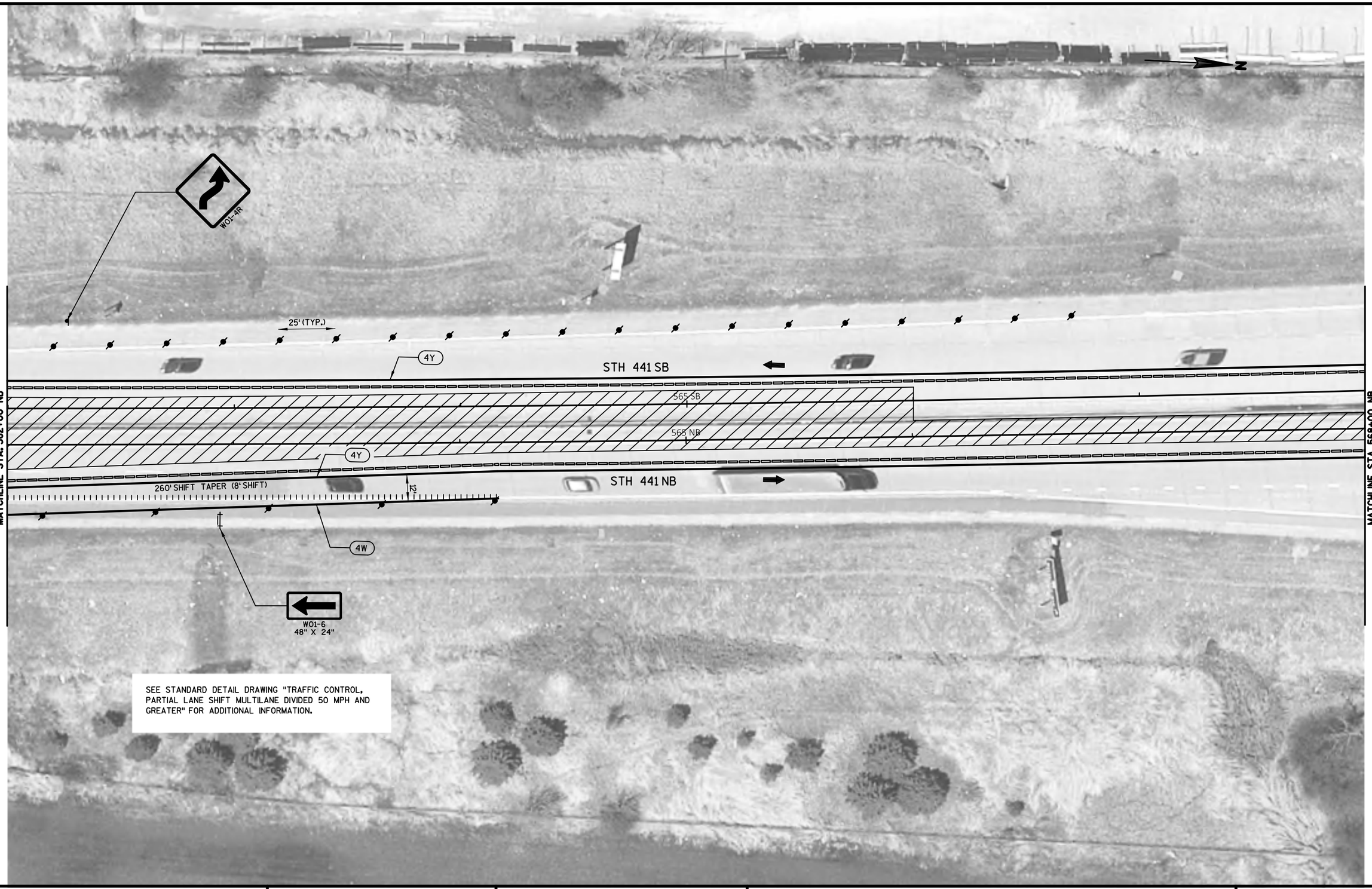
MATCHLINE

MATCHLINE

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026264-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2



SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET 110	E

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE" FOR ADDITIONAL INFORMATION.

N

R1-2
48" X 42"

W03-2

ROAD WORK AHEAD
W20-1

500'

500'

W05-52L
18" X 54"

LANE CLOSED
R11-2L
48" X 30"

CTH OO (E. NORTHLAND AVE.) ENTRANCE RAMP

4Y

STH 441 SB

100' (TYP.)

+00 SB

570 SB

570 NB

MATCHLINE STA. 568+00 NB

MATCHLINE STA. 574+00 NB

STH 441 NB

4Y

CTH OO (E. NORTHLAND AVE.) EXIT RAMP

END ROAD WORK
G20-2A
48" X 24"

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026266-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET 112	E

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET 113	E

2

2

END
ROAD WORK
G20-2A
48" X 24"

N

CTH 00 (E. NORTHLAND AVE.) EXIT RAMP

RT-4Y

STH 441 SB

660' MERGE TAPER

590 SB

590 NB

MATCHLINE STA. 586+00 NB

MATCHLINE STA. 592+00 NB

STH 441 NB

CTH 00 (E. NORTHLAND AVE.) ENTRANCE RAMP

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026269-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2

N

SEE STANDARD DETAIL DRAWINGS "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" AND "TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM" FOR ADVANCE WARNING SIGNAGE.

CTH OO (E. NORTHLAND AVE.) EXIT RAMP

STH 441 SB

595 SB

595 NB

STH 441 NB

CTH OO (E. NORTHLAND AVE.) ENTRANCE RAMP

MATCHLINE STA. 592+00 NB

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026270-Stage 1-Fox River.dgn PLOT DATE : 10/21/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

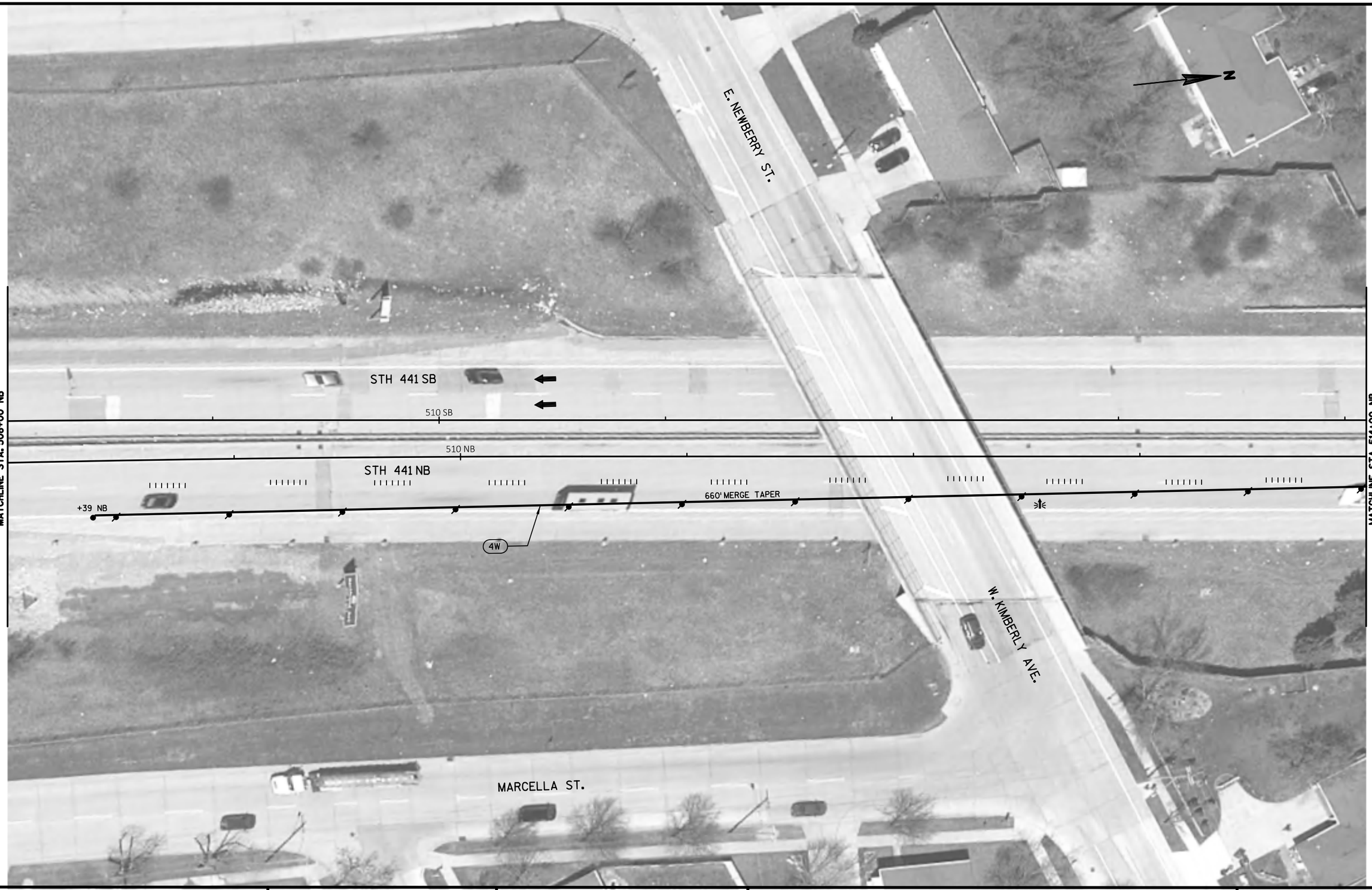
2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026355-Stage 2-Fox River.dgn PLOT DATE : 8/31/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2

2



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026356-Stage 2-Fox River.dgn PLOT DATE : 8/31/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 42

2

2

N

END
ROAD WORK
G20-2A
48" X 24"

STH 441 SB

520 SB

520

515 SB

515 NB

MATCHLINE STA. 514+00 NB

+99 NB

4W

STH 441 NB

W01-4L

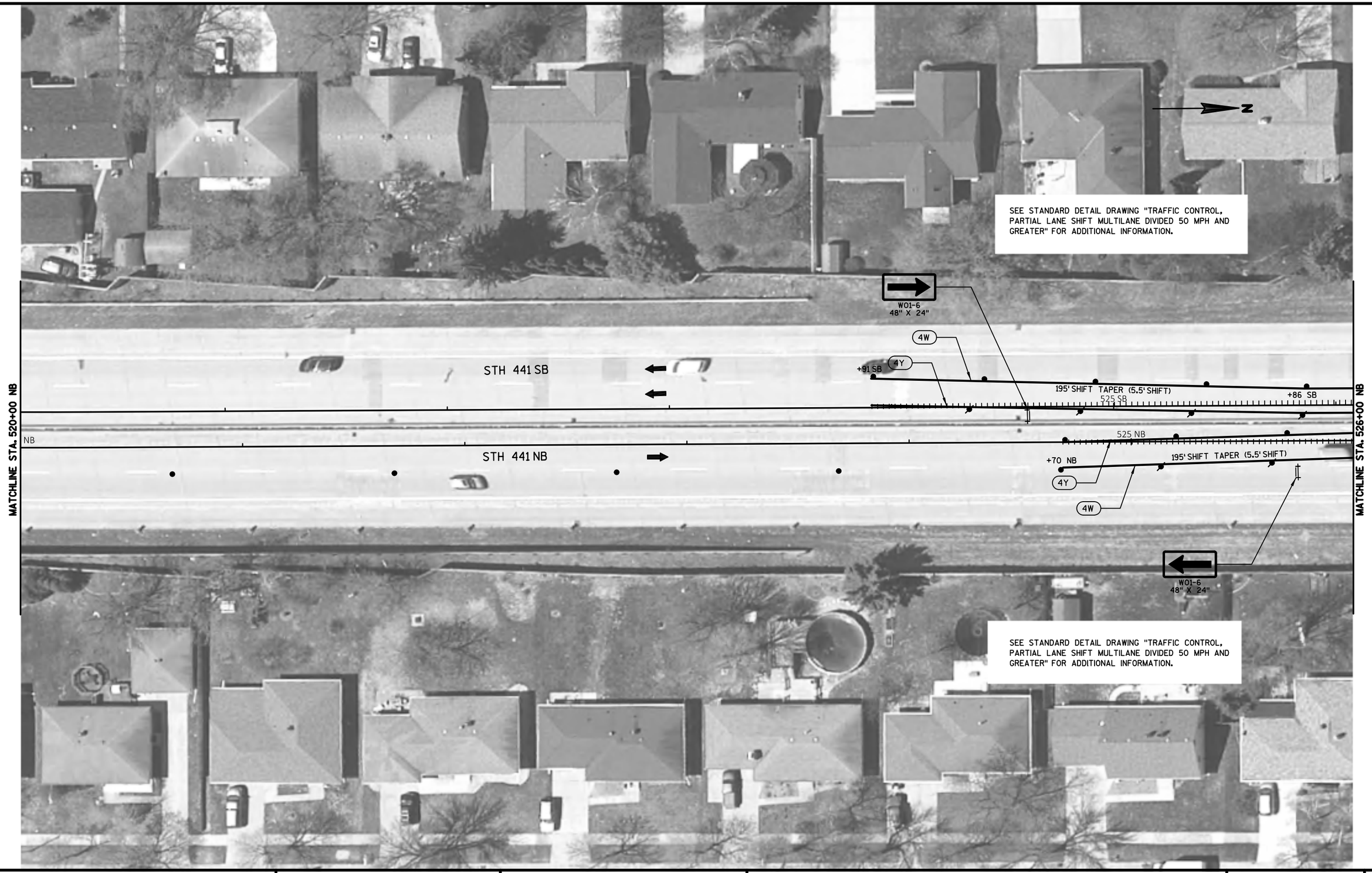
LANE
CLOSED
R11-2L
48" X 30"

MATCHLINE STA. 520+00 NB

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026357-Stage 2-Fox River.dgn PLOT DATE : 8/31/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

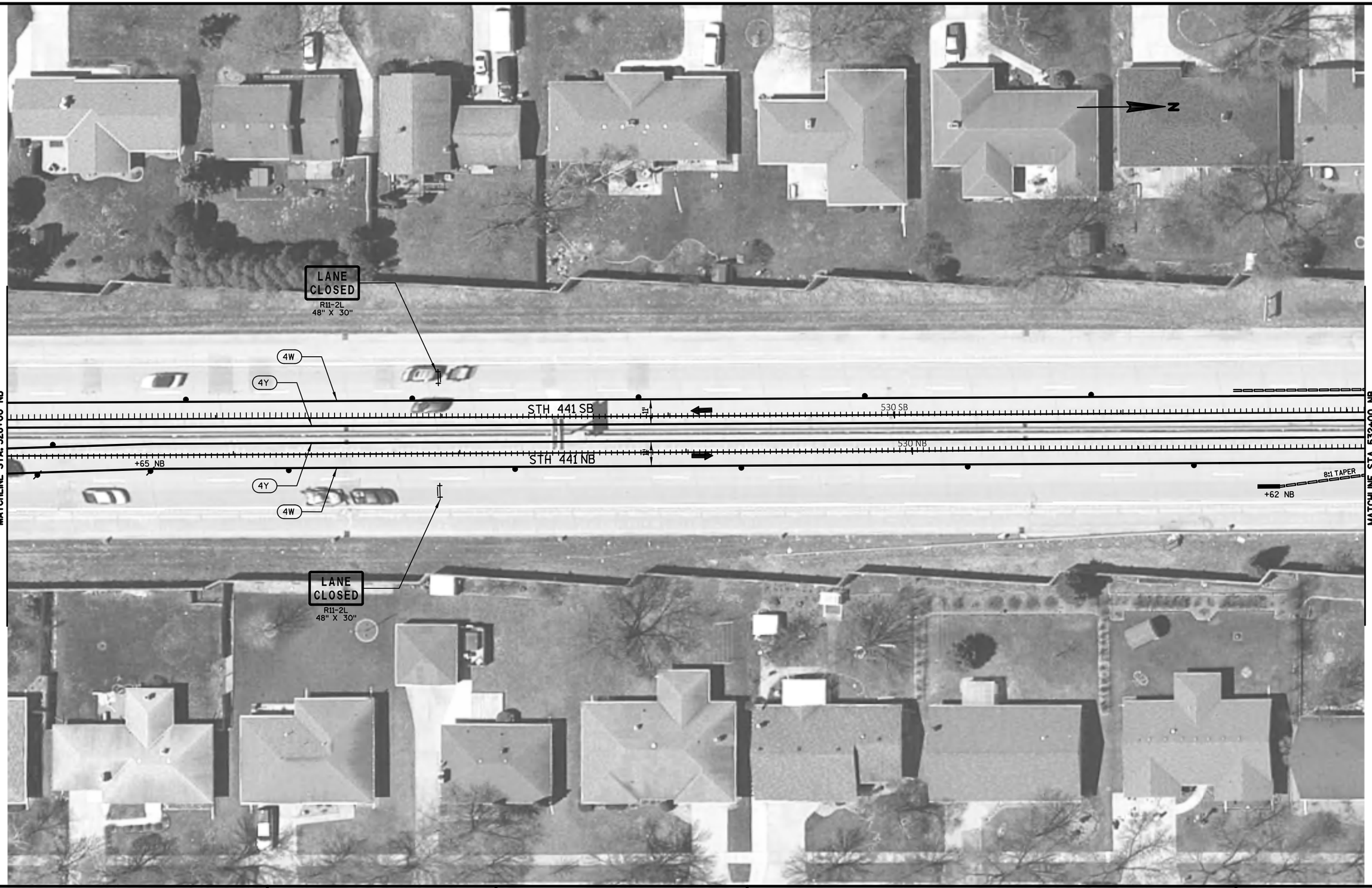
2



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026358-Stage 2-Fox River.dgn PLOT DATE : 8/31/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET 120	E

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026360-Stage 2-Fox River.dgn PLOT DATE : 8/31/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

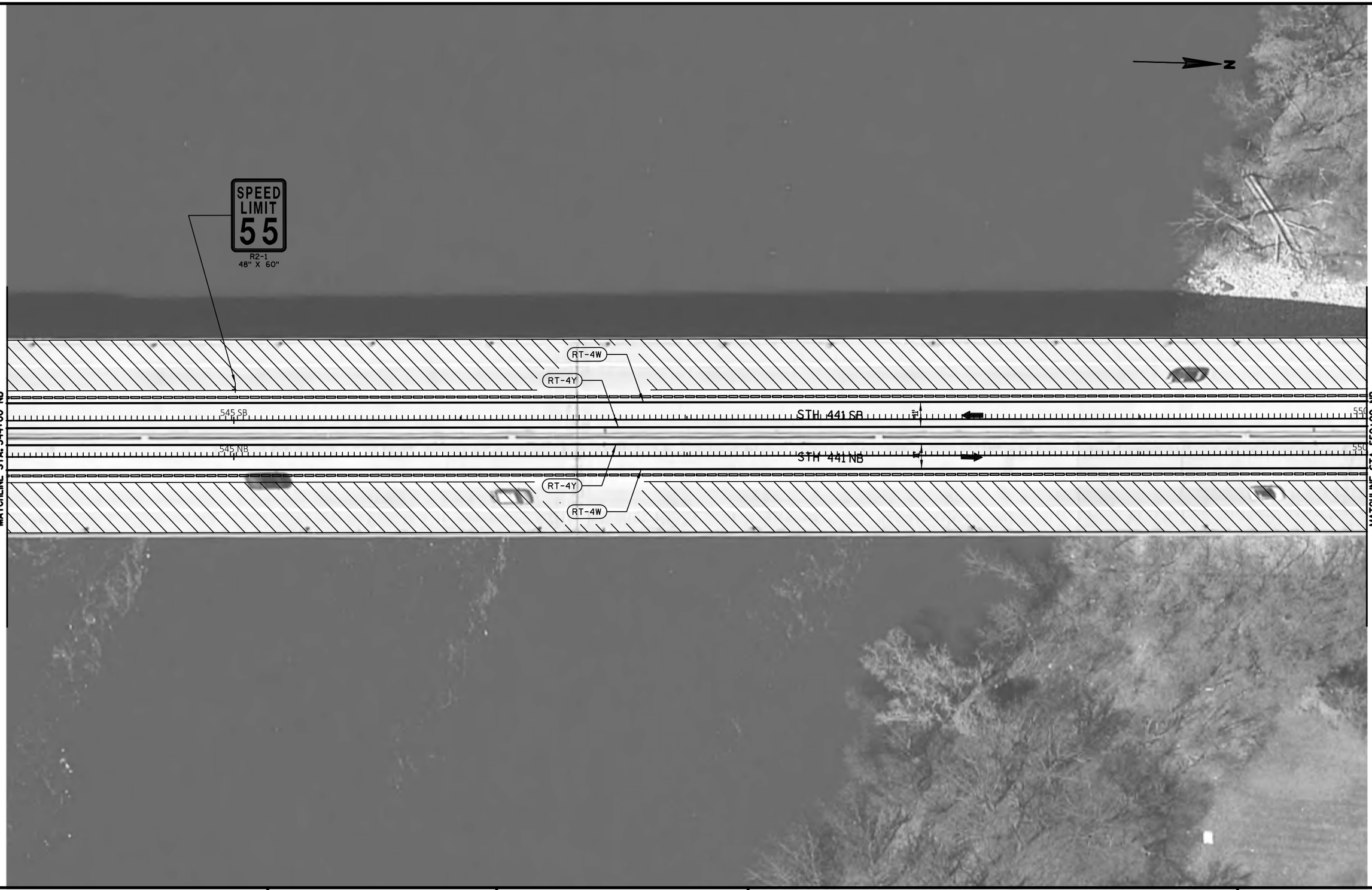
2

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026361-Stage 2-Fox River.dgn PLOT DATE : 8/31/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2



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PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026362-Stage 2-Fox River.dgn PLOT DATE : 8/31/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2

2

N

W. MAIN ST.

CANADIAN NATIONAL RAILROAD

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

W05-52R
18" X 54"

W01-6
48" X 24"

RT-4W

RT-4Y

8:1 TAPER

+44 SB

+80 SB

+94 SB

195' SHIFT TAPER (5.5' SHIFT)

+89 SB

555 SB

514+00 NB

STH 441 SB

STH 441 NB

555 NB

556+00 NB

MATCHLINE STA. 514+00

MATCHLINE STA. 556+00

RT-4Y

RT-4W

W01-4R

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET	E

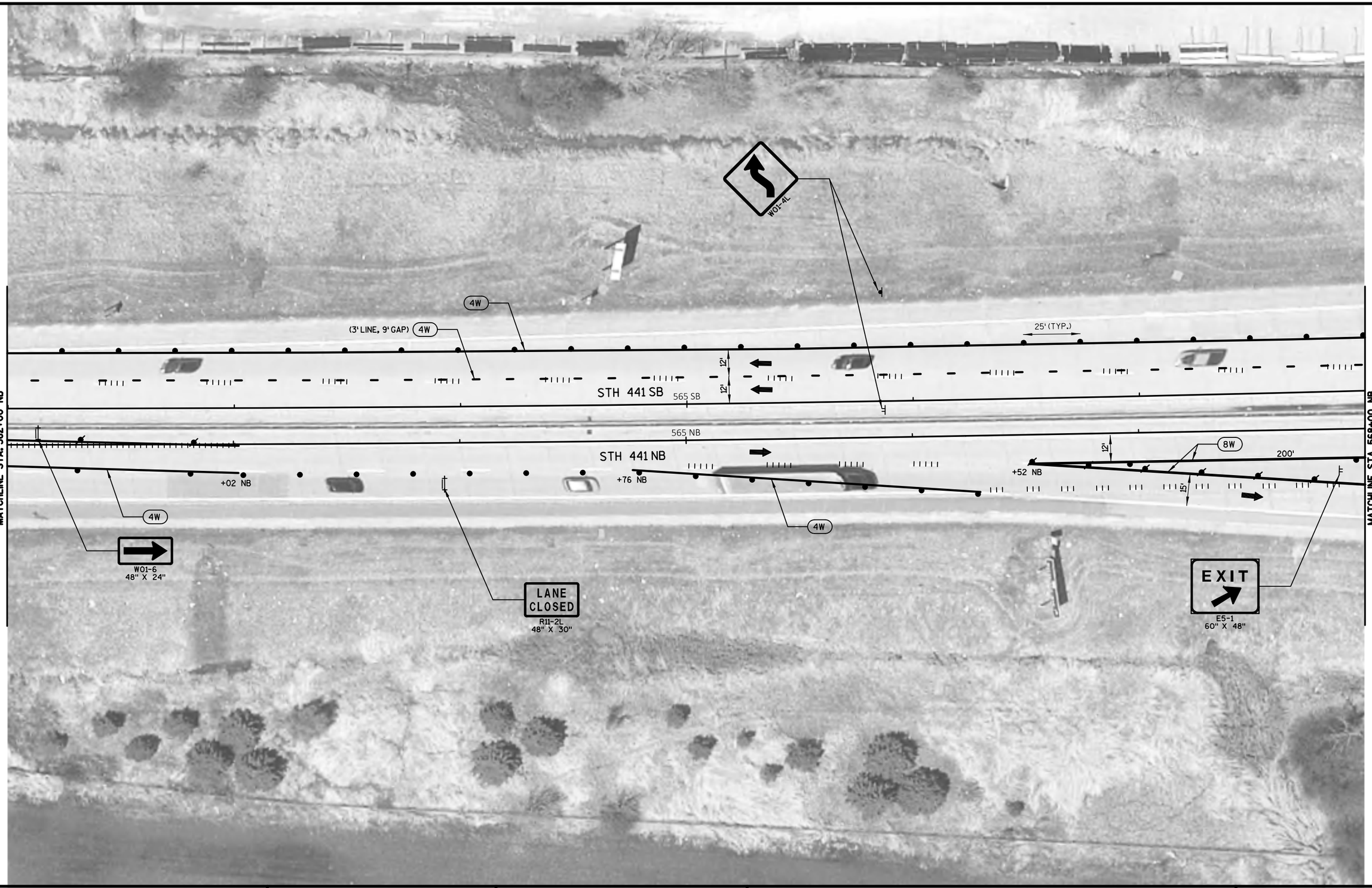
FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026363-Stage 2-Fox River.dgn PLOT DATE : 8/31/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026364-Stage 2-Fox River.dgn PLOT DATE : 8/31/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026365-Stage 2-Fox River.dgn PLOT DATE : 8/31/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2

2

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE" FOR ADDITIONAL INFORMATION.

Y=569,899.2
X=837,796.4

R=3000'

4W

4W

8W

4W (3' LINE, 9' GAP)

25' (TYP.)

CTH 00 (E. NORTHLAND AVE.) ENTRANCE RAMP

LANE CLOSED
R11-2(MOD)
48" X 30"

100' (TYP.)

15'

12'

+49 SB

200'

570 SB

STH 441 SB

570 NB

STH 441 NB

MATCHLINE STA. 568+00 NB

MATCHLINE STA. 574+00 NB

CTH 00 (E. NORTHLAND AVE.) EXIT RAMP

LANE CLOSED
R11-2(MOD)
48" X 30"

EXIT
10

TRAFFIC CONTROL
COVERING SIGNS
TYPE II REQ'D

END
ROAD WORK
G20-2A
48" X 24"

END
ROAD WORK
G20-2A
48" X 24"

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\482\Drawings\CAD\Micros\TC Sheets\026366-Stage 2-Fox River.dgn PLOT DATE : 8/31/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET 128	E

2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET 129	E

2

2

N

CTH OO (E. NORTHLAND AVE.) EXIT RAMP

SEE STANDARD DETAIL DRAWINGS "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" AND "TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM" FOR ADVANCE WARNING SIGNAGE.

STH 441 SB

590 SB

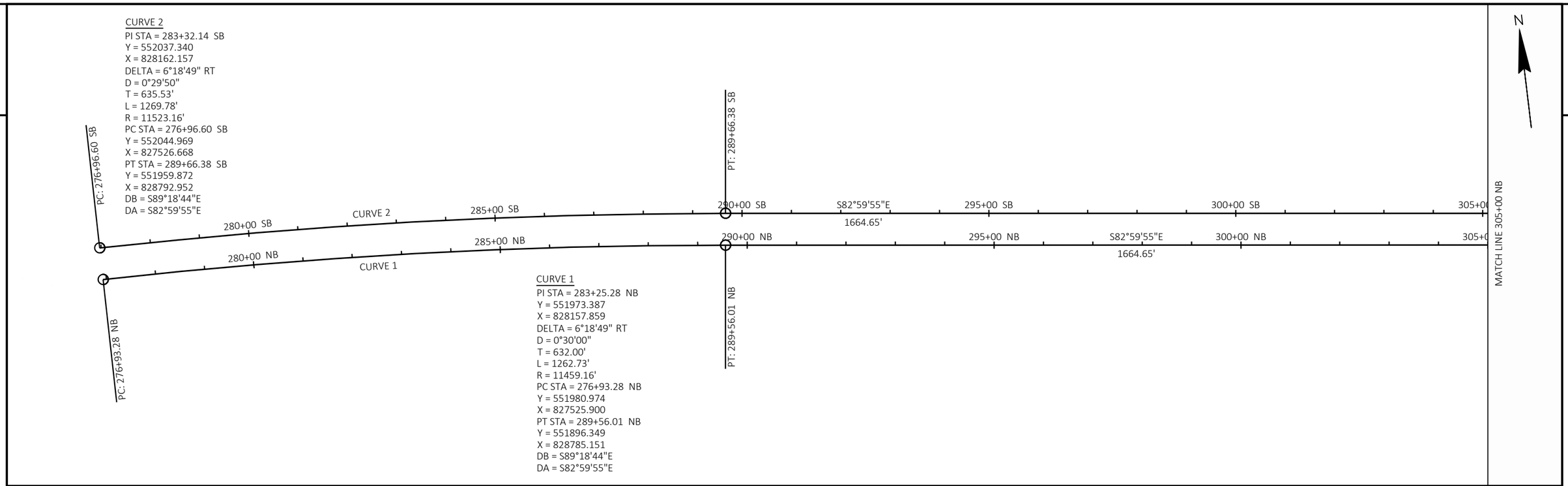
590 NB

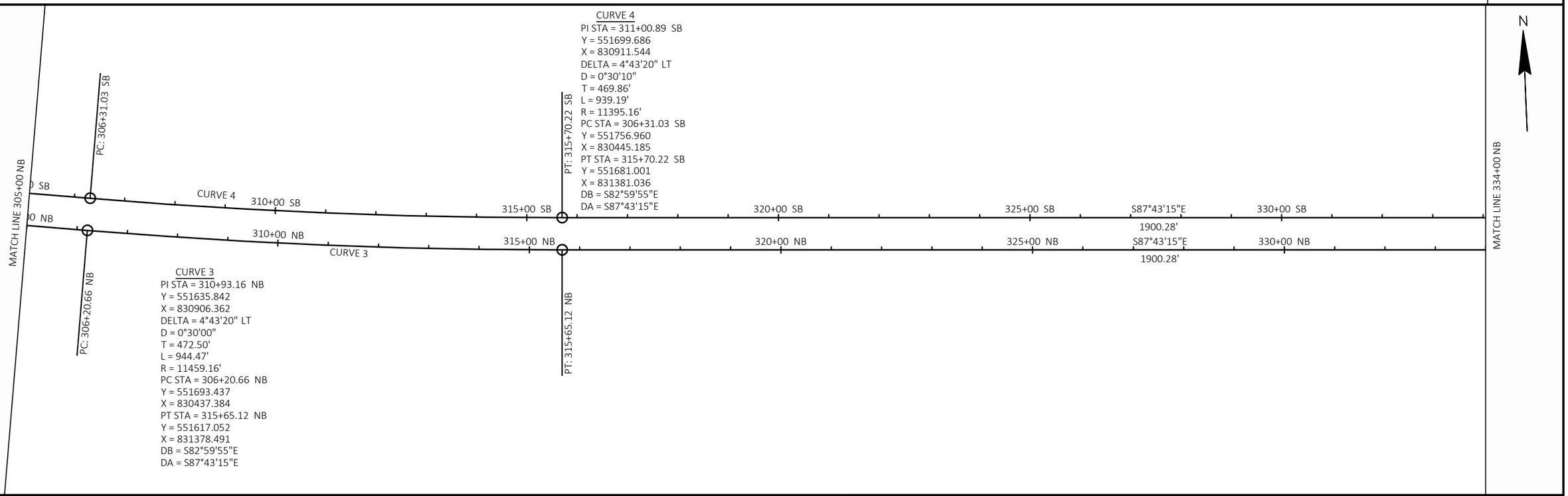
MATCHLINE STA. 586+00 NB

STH 441 NB

CTH OO (E. NORTHLAND AVE.) ENTRANCE RAMP

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CONSTRUCTION STAGING - STAGE 2	SHEET 130	E





PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	ALIGNMENT DETAILS	SHEET 131	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 027201-ad
PLOT DATE : 7/1/2022 8:47 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44

2

MATCH LINE 334+00 NB

PC: 334+70.50 SB

335+00 SB

335+00 NB

PC: 334+65.40 NB

BEGIN PROJECT
STA 337+69.79 NB
Y=551,541.50
X=833,581.57

CURVE 5
PI STA = 342+54.68 NB
Y = 551510.095
X = 834065.914
DELTA = 23°20'59" LT
D = 1°30'00"
T = 789.28'
L = 1556.64'
R = 3819.72'
PC STA = 334+65.40 NB
Y = 551541.483
X = 833277.263
PT STA = 350+01.06 NB
Y = 551793.853
X = 834802.418
DB = S87°43'15"E
DA = N68°55'46"E

CURVE 6
PI STA = 342+46.55 SB
Y = 551574.570
X = 834055.246
DELTA = 23°20'59" LT
D = 1°31'32"
T = 776.05'
L = 1530.56'
R = 3755.72'
PC STA = 334+70.50 SB
Y = 551605.432
X = 833279.809
PT STA = 350+01.06 SB
Y = 551853.574
X = 834779.409
DB = S87°43'15"E
DA = N68°55'46"E

340+00 SB
340+00 NB
CURVE 6
CURVE 5
345+00 SB
345+00 NB
STH 441 SB
STH 441 NB
350+00 SB
350+00 NB
PT: 350+01.06 SB
PT: 350+01.06 NB
STA BACK = 350+22.04 NB
STA AHEAD = 350+01.06 NB
EQUATION
355+00 SB
355+00 NB
360+00 SB
360+00 NB
N
MATCH LINE 364+50 NB

2

MATCH LINE 364+50 NB

365+00 SB
365+00 NB
370+00 SB
370+00 NB
4078.74'
N68°55'46"E
375+00 SB
375+00 NB
STH 441 SB
STH 441 NB
380+00 SB
380+00 NB
385+00 SB
385+00 NB
390+00 SB
390+00 NB
PC: 390+79.80 SB
PC: 390+79.80 NB
N
MATCH LINE 394+50 NB

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	ALIGNMENT DETAILS	SHEET 132	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 027202-ad

PLOT DATE : 7/1/2022 8:47 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

MATCH LINE 394+50 NB

MATCH LINE 425+00 NB

395+00 SB

395+00 NB

STH 441 SB

STH 441 NB

400+00 SB

400+00 NB

405+00 SB

405+00 NB

410+00 D

410+00 SB

410+00 NB

410+00 A

415+00 D

415+00 SB

415+00 NB

415+00 A

420+00 D

420+00 SB

420+00 NB

420+00 A

425+00 A

RAMP D

801.80'

N16°50'55"E

RAMP A

N29°06'07"E, 329.32'

CURVE 7

CURVE 8

CURVE 9

CURVE 10

CURVE 11

BP: 409+50.00 D

PT: 415+66.23 D

EP: 423+68.03 D
Y=555866.178
X=840559.387

PT: 423+64.07 A

BP: 407+86.85 A

PCC: 416+86.85 A

CURVE 10

PI STA = 412+62.91 D
Y = 554599.313
X = 840236.294
DELTA = 24°32'39" LT
D = 3°58'59"
T = 312.91'
L = 616.23'
R = 1438.52'
PC STA = 409+50.00 D
Y = 554364.567
X = 840029.391
PT STA = 415+66.23 D
Y = 554898.794
X = 840326.990
DB = N41°23'34"E
DA = N16°50'55"E

CURVE 11

PI STA = 418+86.47 SB
Y = 554328.994
X = 841204.447
DELTA = 73°32'31" LT
D = 1°31'32"
T = 2806.67'
L = 4820.65'
R = 3755.72'
PC STA = 390+79.80 SB
Y = 553319.948
X = 838585.434
PT STA = 439+00.45 SB
Y = 557126.575
X = 840978.745
DB = N68°55'46"E
DA = N04°36'45"W

CURVE 7

PI STA = 412+37.08 A
Y = 554492.832
X = 840316.797
DELTA = 4°30'00" LT
D = 0°30'00"
T = 450.23'
L = 900.00'
R = 11459.00'
PC STA = 407+86.85 A
Y = 554167.668
X = 840005.386
PT STA = 416+86.85 A
Y = 554841.427
X = 840601.736
DB = N43°45'44"E
DA = N39°15'44"E

CURVE 8

PI STA = 419+34.29 NB
Y = 554286.468
X = 841272.086
DELTA = 73°32'31" LT
D = 1°30'00"
T = 2854.50'
L = 4902.80'
R = 3819.72'
PC STA = 390+79.80 NB
Y = 553260.227
X = 838608.443
PT STA = 439+00.45 NB
Y = 557131.722
X = 841042.538
DB = N68°55'46"E
DA = N04°36'45"W

CURVE 9

PI STA = 420+26.35 A
Y = 555104.287
X = 840816.596
DELTA = 10°09'37" LT
D = 1°30'01"
T = 339.50'
L = 677.22'
R = 3819.00'
PC STA = 416+86.85 A
Y = 554841.427
X = 840601.736
PT STA = 423+64.07 A
Y = 555400.927
X = 840981.717
DB = N39°15'44"E
DA = N29°06'07"E

N

MATCH LINE 425+00 NB

MATCH LINE 455+00 NB

425+00 SB

425+00 NB

430+00 SB

430+00 NB

435+00 SB

435+00 NB

440+00 SB

440+00 NB

445+00 SB

445+00 NB

450+00 SB

450+00 NB

STH 441 SB

STH 441 NB

430+00 C

435+00 C

440+00 B

435+00 B

RAMP C

781.20'

N22°26'39"E

RAMP B

664.20'

N0°03'05"W

CURVE 12

CURVE 13

BP: 426+00.00 C
Y=555804.810
X=840587.341

PC: 433+81.20 C

PT: 437+13.91 C

EP: 438+21.94 C
Y=556956.867
X=840970.562

PT: 439+00.45 SB

N4°21'08"E, 108.03'

N4°36'45"W
2515.79'

N4°36'45"W
2513.65'

EP: 426+93.39 A
Y=555688.670
X=841141.886

BP: 426+04.36 B
Y=555723.656
X=841116.294

PC: 432+68.56 B

EP: 440+12.70 B

PT: 439+00.45 NB

STA BACK = 439+82.59 NB

STA AHEAD = 439+00.45 NB

EQUATION

CURVE 12

PI STA = 435+48.95 C
Y = 556681.881
X = 840949.634
DELTA = 18°05'31" LT
D = 5°26'16"
T = 167.75'
L = 332.71'
R = 1053.67'
PC STA = 433+81.20 C
Y = 556526.836
X = 840885.589
PT STA = 437+13.91 C
Y = 556849.148
X = 840962.364
DB = N22°26'39"E
DA = N04°21'08"E

CURVE 13

PI STA = 436+40.92 B
Y = 556760.216
X = 841115.364
DELTA = 5°33'26" LT
D = 0°44'48"
T = 372.36'
L = 744.14'
R = 7672.34'
PC STA = 432+68.56 B
Y = 556387.854
X = 841115.698
PT STA = 440+12.70 B
Y = 557130.796
X = 841078.972
DB = N00°03'05"W
DA = N05°36'31"W

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	ALIGNMENT DETAILS	SHEET 133	E

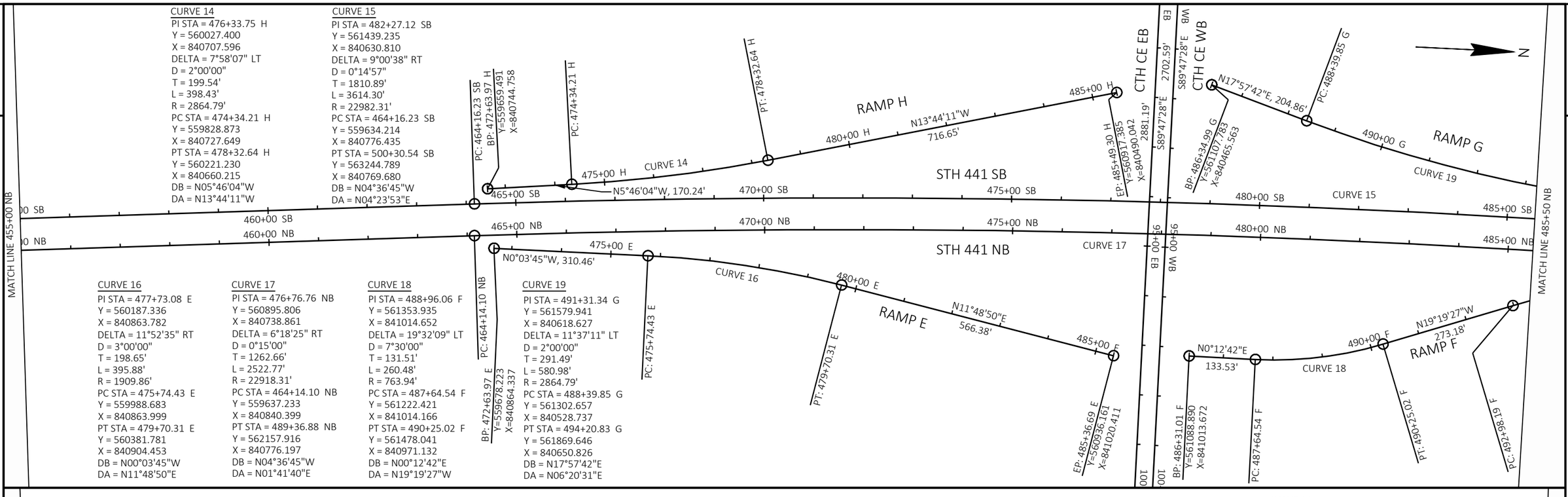
FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 027203-ad

PLOT DATE : 7/1/2022 8:47 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

CURVE 14
PI STA = 476+33.75 H
Y = 560027.400
X = 840707.596
DELTA = 7°58'07" LT
D = 2°00'00"
T = 199.54'
L = 398.43'
R = 2864.79'
PC STA = 474+34.21 H
Y = 559828.873
X = 840727.649
PT STA = 478+32.64 H
Y = 560221.230
X = 840660.215
DB = N05°46'04"W
DA = N13°44'11"W

CURVE 15
PI STA = 482+27.12 SB
Y = 561439.235
X = 840630.810
DELTA = 9°00'38" RT
D = 0°14'57"
T = 1810.89'
L = 3614.30'
R = 22982.31'
PC STA = 464+16.23 SB
Y = 559634.214
X = 840776.435
PT STA = 500+30.54 SB
Y = 563244.789
X = 840769.680
DB = N04°36'45"W
DA = N04°23'53"E



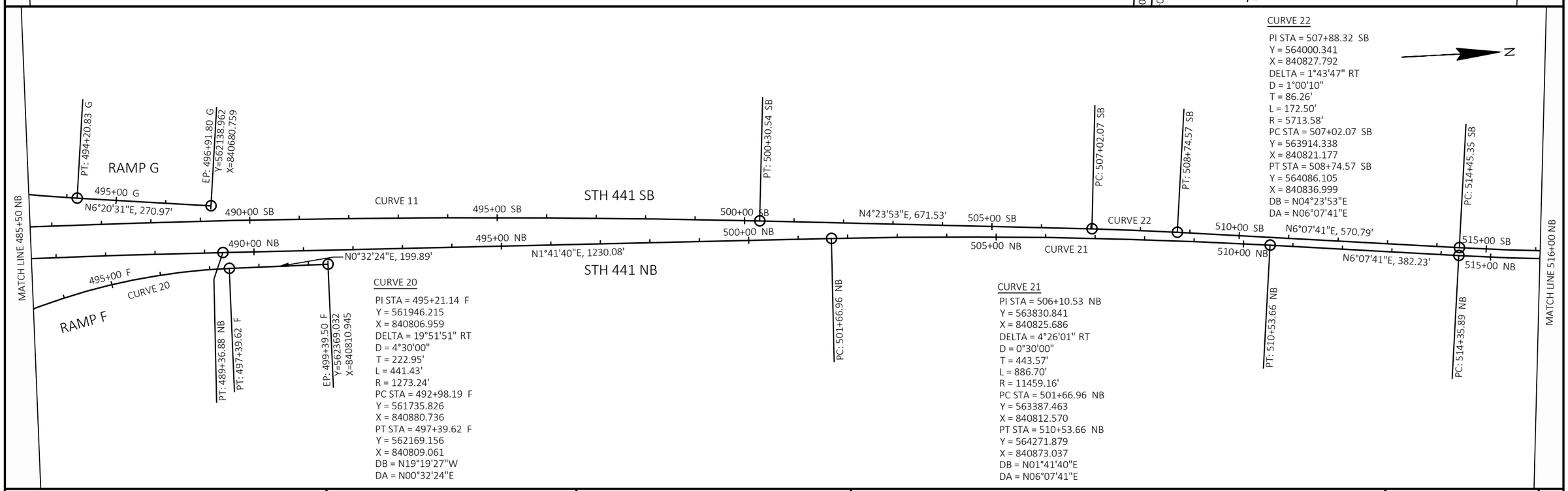
CURVE 16
PI STA = 477+73.08 E
Y = 560187.336
X = 840863.782
DELTA = 11°52'35" RT
D = 3°00'00"
T = 198.65'
L = 395.88'
R = 1909.86'
PC STA = 475+74.43 E
Y = 559988.683
X = 840863.999
PT STA = 479+70.31 E
Y = 560381.781
X = 840904.453
DB = N00°03'45"W
DA = N11°48'50"E

CURVE 17
PI STA = 476+76.76 NB
Y = 560895.806
X = 840738.861
DELTA = 6°18'25" RT
D = 0°15'00"
T = 1262.66'
L = 2522.77'
R = 22918.31'
PC STA = 464+14.10 NB
Y = 559637.233
X = 840840.399
PT STA = 489+36.88 NB
Y = 562157.916
X = 840776.197
DB = N04°36'45"W
DA = N01°41'40"E

CURVE 18
PI STA = 488+96.06 F
Y = 561353.935
X = 841014.652
DELTA = 19°32'09" LT
D = 7°30'00"
T = 131.51'
L = 260.48'
R = 763.94'
PC STA = 487+64.54 F
Y = 561222.421
X = 841014.166
PT STA = 490+25.02 F
Y = 561478.041
X = 840971.132
DB = N00°12'42"E
DA = N19°19'27"W

CURVE 19
PI STA = 491+31.34 G
Y = 561579.941
X = 840618.627
DELTA = 11°37'11" LT
D = 2°00'00"
T = 291.49'
L = 580.98'
R = 2864.79'
PC STA = 488+39.85 G
Y = 561302.657
X = 840528.737
PT STA = 494+20.83 G
Y = 561869.646
X = 840650.826
DB = N17°57'42"E
DA = N06°20'31"E

CURVE 22
PI STA = 507+88.32 SB
Y = 564000.341
X = 840827.792
DELTA = 1°43'47" RT
D = 1°00'10"
T = 86.26'
L = 172.50'
R = 5713.58'
PC STA = 507+02.07 SB
Y = 563914.338
X = 840821.177
PT STA = 508+74.57 SB
Y = 564086.105
X = 840836.999
DB = N04°23'53"E
DA = N06°07'41"E

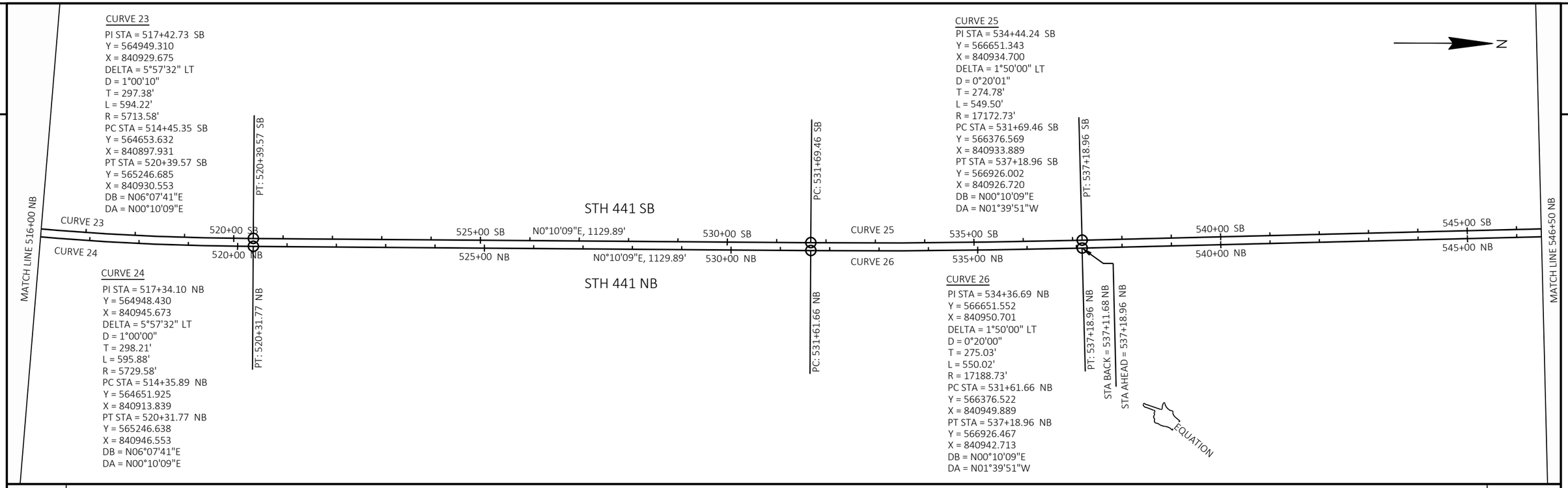


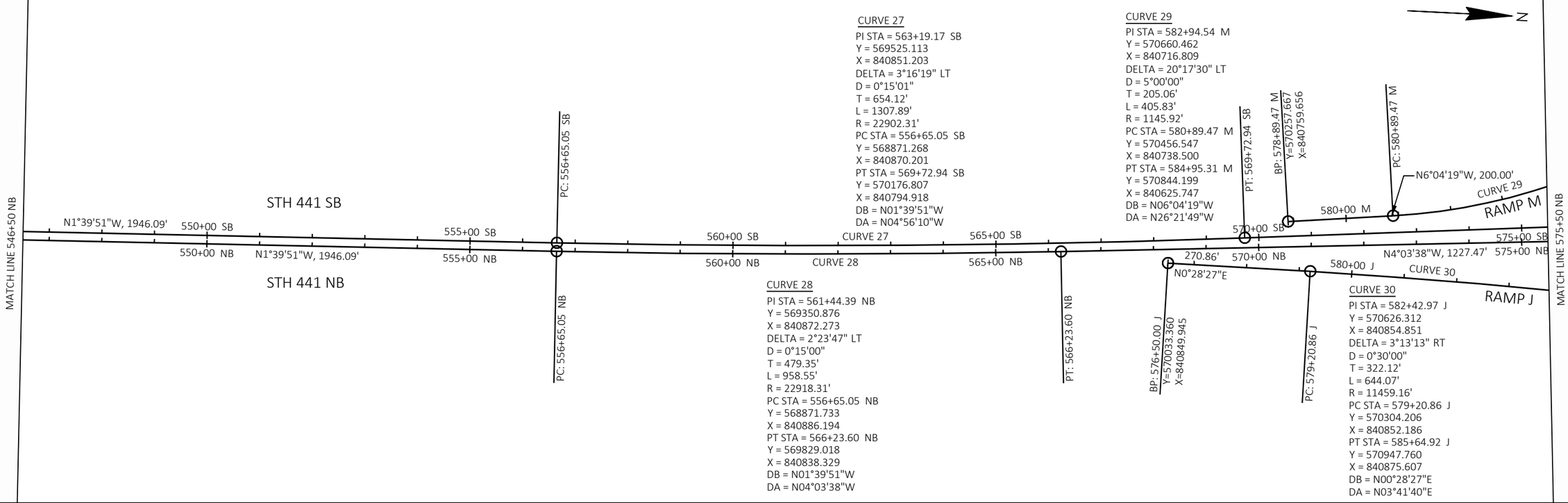
CURVE 20
PI STA = 495+21.14 F
Y = 561946.215
X = 840806.959
DELTA = 19°51'51" RT
D = 4°30'00"
T = 222.95'
L = 441.43'
R = 1273.24'
PC STA = 492+98.19 F
Y = 561735.826
X = 840880.736
PT STA = 497+39.62 F
Y = 562169.156
X = 840809.061
DB = N19°19'27"W
DA = N00°32'24"E

CURVE 21
PI STA = 506+10.53 NB
Y = 563830.841
X = 840825.686
DELTA = 4°26'01" RT
D = 0°30'00"
T = 443.57'
L = 886.70'
R = 11459.16'
PC STA = 501+66.96 NB
Y = 563387.463
X = 840812.570
PT STA = 510+53.66 NB
Y = 564271.879
X = 840873.037
DB = N01°41'40"E
DA = N06°07'41"E

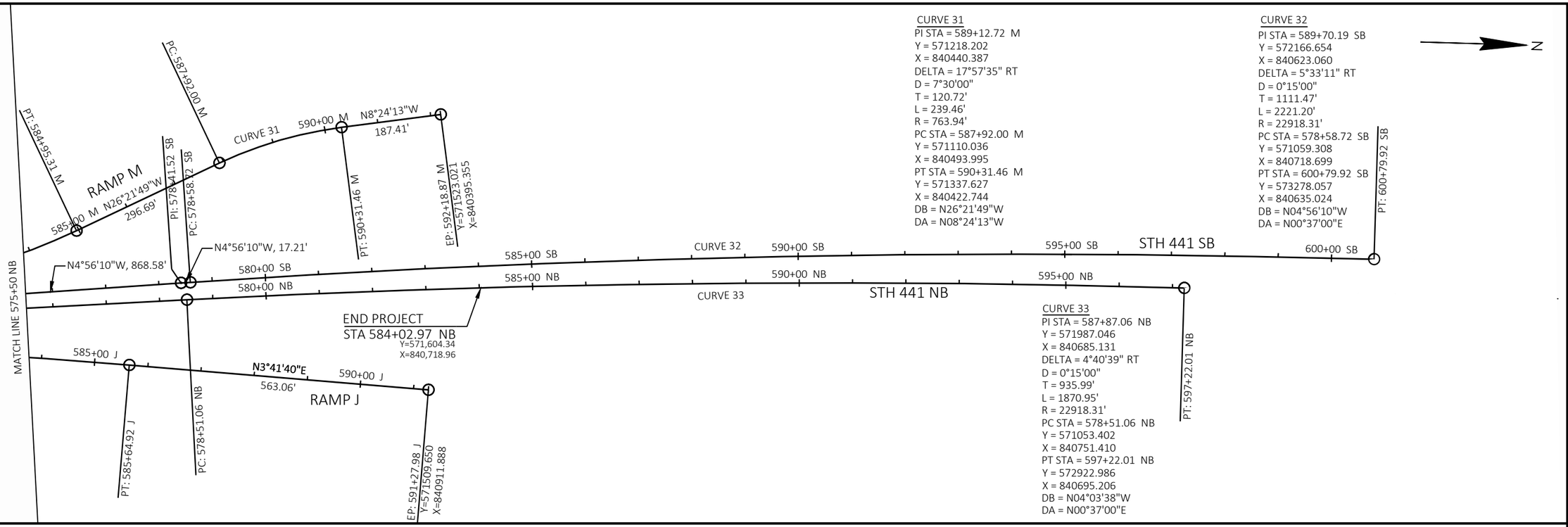
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	ALIGNMENT DETAILS	SHEET 134	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 027204-ad
PLOT DATE : 7/1/2022 8:47 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44





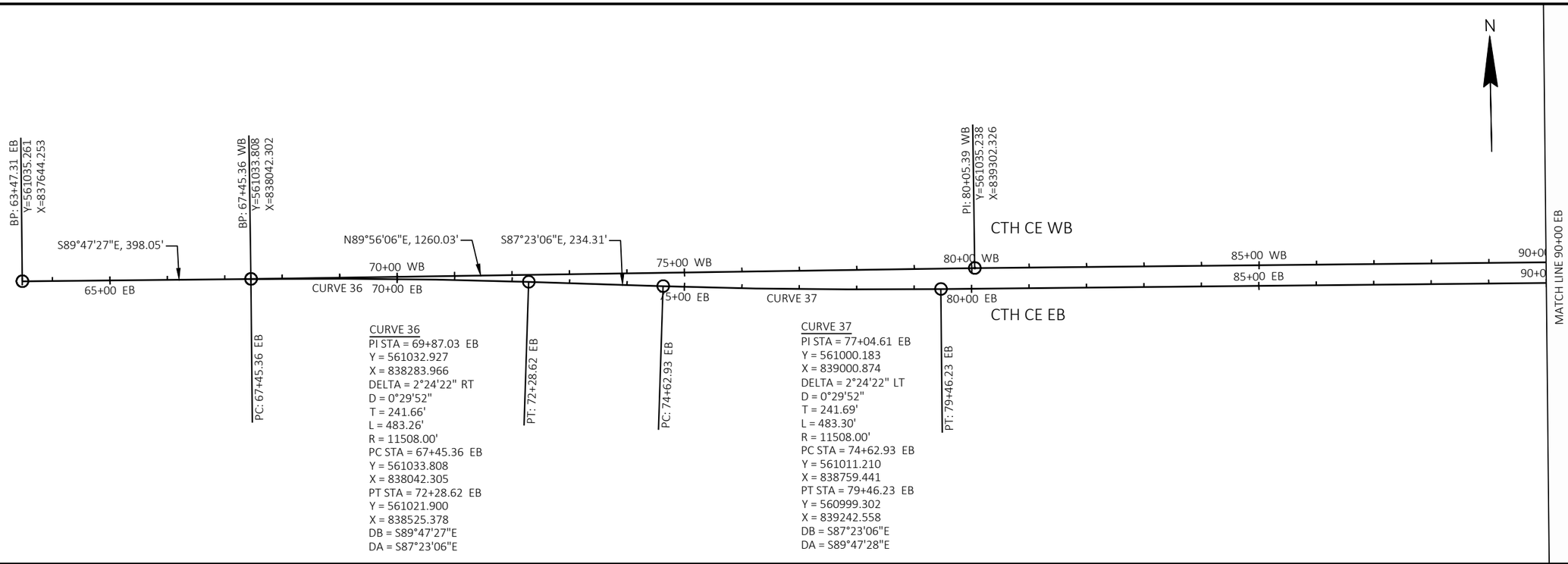
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	ALIGNMENT DETAILS	SHEET 135	E

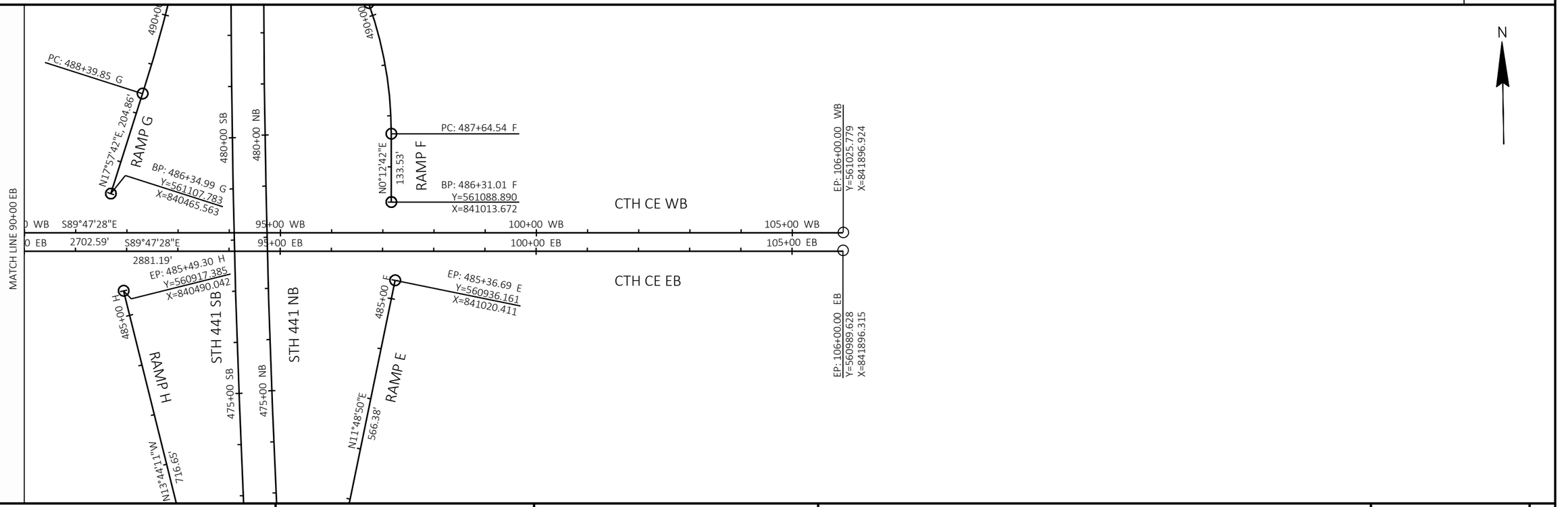


2

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	ALIGNMENT DETAILS	SHEET 136	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 027206-ad
PLOT DATE : 7/1/2022 8:47 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44





PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	ALIGNMENT DETAILS - CTH CE	SHEET 137	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 027207-ad
PLOT DATE : 8/25/2022 1:50 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44

4685-29-60

Line	Item	Item Description	Unit	Total	Qty
0002	201.0110	Clearing	SY	39.000	39.000
0004	201.0210	Grubbing	SY	84.000	84.000
0006	203.0100	Removing Small Pipe Culverts	EACH	4.000	4.000
0008	203.0330	Debris Containment (structure) 01. B-8-24	EACH	1.000	1.000
0010	203.0330	Debris Containment (structure) 02. B-44-125	EACH	1.000	1.000
0012	203.0330	Debris Containment (structure) 03. B-8-33	EACH	1.000	1.000
0014	203.0335	Debris Containment Over Waterway (structure) 01. B-44-126	EACH	1.000	1.000
0016	204.0100	Removing Concrete Pavement	SY	1,286.000	1,286.000
0018	204.0150	Removing Curb & Gutter	LF	652.000	652.000
0020	204.0157	Removing Concrete Barrier	LF	900.000	900.000
0022	204.0165	Removing Guardrail	LF	9,065.000	9,065.000
0024	204.0170	Removing Fence	LF	1,211.000	1,211.000
0026	204.0175	Removing Concrete Slope Paving	SY	152.000	152.000
0028	204.0190	Removing Surface Drains	EACH	3.000	3.000
0030	204.0220	Removing Inlets	EACH	11.000	11.000
0032	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	170.000	170.000
0034	204.0245	Removing Storm Sewer (size) 02. 18-Inch	LF	798.000	798.000
0036	204.0245	Removing Storm Sewer (size) 03. 24-Inch	LF	162.000	162.000
0038	204.0291.S	Abandoning Sewer	CY	36.000	36.000
0040	205.0100	Excavation Common	CY	7,103.000	7,103.000
0042	213.0100	Finishing Roadway (project) 01. 4685-29-60	EACH	1.000	1.000
0044	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,746.000	1,746.000
0046	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	7,190.000	7,190.000
0048	312.0110	Select Crushed Material	TON	802.000	802.000
0050	415.0090	Concrete Pavement 9-Inch	SY	1,772.000	1,772.000
0052	415.0100	Concrete Pavement 10-Inch	SY	2,920.000	2,920.000
0054	415.6000.S	Rout and Seal	LF	705.000	705.000
0056	416.0610	Drilled Tie Bars	EACH	3,123.000	3,123.000
0058	416.0620	Drilled Dowel Bars	EACH	5,512.000	5,512.000
0060	416.1010	Concrete Surface Drains	CY	16.000	16.000
0062	416.1110	Concrete Shoulder Rumble Strips	LF	11,320.000	11,320.000
0064	416.1710	Concrete Pavement Repair	SY	55.000	55.000
0066	416.1715	Concrete Pavement Repair SHES	SY	2,040.000	2,040.000
0068	416.1720	Concrete Pavement Replacement	SY	705.000	705.000
0070	416.1725	Concrete Pavement Replacement SHES	SY	4,420.000	4,420.000
0072	416.9100.S	Filling Concrete Shoulder Rumble Strips (size) 01. 30-Inch	EACH	625.000	625.000
0074	416.9112.S	Filling Concrete Shoulder Rumble Strips 12-Inch	LF	10,590.000	10,590.000
0076	420.1000	Continuous Diamond Grinding Concrete Pavement	SY	171,100.000	171,100.000
0078	460.2000	Incentive Density HMA Pavement	DOL	320.000	320.000
0080	460.5224	HMA Pavement 4 LT 58-28 S	TON	494.000	494.000
0082	465.0315	Asphaltic Flumes	SY	9.000	9.000
0084	465.0400	Asphaltic Shoulder Rumble Strips	LF	75.000	75.000
0086	502.3101	Expansion Device	LF	111.000	111.000
0088	502.3111.S	Expansion Device Modular	LF	161.000	161.000
0090	502.3200	Protective Surface Treatment	SY	191.000	191.000
0092	502.3205	Pigmented Surface Sealer Reseal	SY	3,920.000	3,920.000
0094	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	11,620.000	11,620.000
0096	505.0904	Bar Couplers No. 4	EACH	16.000	16.000
0098	505.0906	Bar Couplers No. 6	EACH	96.000	96.000

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Line	Item	Item Description	Unit	Total	Qty
0100	509.1000	Joint Repair	SY	203.000	203.000
0102	509.1500	Concrete Surface Repair	SF	360.000	360.000
0104	509.2100.S	Concrete Masonry Deck Repair	CY	64.000	64.000
0106	520.8000	Concrete Collars for Pipe	EACH	22.000	22.000
0108	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	5.000	5.000
0110	521.3112	Culvert Pipe Corrugated Steel 12-Inch	LF	20.000	20.000
0112	521.3118	Culvert Pipe Corrugated Steel 18-Inch	LF	50.000	50.000
0114	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	6.000	6.000
0116	522.1015	Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	EACH	1.000	1.000
0118	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	1.000	1.000
0120	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0122	531.2030	Drilling Shaft 30-Inch	LF	52.000	52.000
0124	531.2036	Drilling Shaft 36-Inch	LF	64.000	64.000
0126	531.5220	Foundation Single-Shaft Type MF-II (structure) 01. S-44-307	EACH	2.000	2.000
0128	531.5220	Foundation Single-Shaft Type MF-II (structure) 02. S-44-310	EACH	2.000	2.000
0130	531.6010	Foundation Two-Shaft Type FC-I (structure) 01. S-44-308	EACH	1.000	1.000
0132	531.6010	Foundation Two-Shaft Type FC-I (structure) 02. S-44-309	EACH	1.000	1.000
0134	532.5220	Monotube Full Span Type II (structure) 01. S-44-307	EACH	1.000	1.000
0136	532.5220	Monotube Full Span Type II (structure) 02. S-44-310	EACH	1.000	1.000
0138	532.6010	Truss Cantilever 4-Chord Type I (structure) 01. S-44-308	EACH	1.000	1.000
0140	532.6010	Truss Cantilever 4-Chord Type I (structure) 02. S-44-309	EACH	1.000	1.000
0142	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	635.000	635.000
0144	601.0551	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type A	LF	106.000	106.000
0146	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	305.000	305.000
0148	603.0105	Concrete Barrier Single-Faced 32-Inch	LF	900.000	900.000
0150	603.1142	Concrete Barrier Type S42	LF	82.000	82.000
0152	603.8000	Concrete Barrier Temporary Precast Delivered	LF	13,435.000	13,435.000
0154	603.8125	Concrete Barrier Temporary Precast Installed	LF	18,475.000	18,475.000
0156	604.0400	Slope Paving Concrete	SY	152.000	152.000
0158	604.9010.S	Slope Paving Repair Crushed Aggregate	CY	35.000	35.000
0160	606.0200	Riprap Medium	CY	240.000	240.000
0162	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	156.000	156.000
0164	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	156.000	156.000
0166	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	32.000	32.000
0168	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	128.000	128.000
0170	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	97.000	97.000
0172	611.0530	Manhole Covers Type J	EACH	4.000	4.000
0174	611.0606	Inlet Covers Type B	EACH	3.000	3.000
0176	611.0624	Inlet Covers Type H	EACH	1.000	1.000
0178	611.0639	Inlet Covers Type H-S	EACH	2.000	2.000
0180	611.0642	Inlet Covers Type MS	EACH	1.000	1.000
0182	611.0654	Inlet Covers Type V	EACH	1.000	1.000
0184	611.2003	Manholes 3-FT Diameter	EACH	2.000	2.000
0186	611.2004	Manholes 4-FT Diameter	EACH	2.000	2.000
0188	611.3004	Inlets 4-FT Diameter	EACH	3.000	3.000
0190	611.3225	Inlets 2x2.5-FT	EACH	1.000	1.000
0192	611.3230	Inlets 2x3-FT	EACH	3.000	3.000
0194	611.3901	Inlets Median 1 Grate	EACH	1.000	1.000
0196	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	200.000	200.000

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Line	Item	Item Description	Unit	Total	Qty
0198	612.0806	Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	EACH	4.000	4.000
0200	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	2.000	2.000
0202	614.0230	Steel Thrie Beam	LF	125.000	125.000
0204	614.0905	Crash Cushions Temporary	EACH	4.000	4.000
0206	614.2300	MGS Guardrail 3	LF	7,754.000	7,754.000
0208	614.2310	MGS Guardrail 3 HS	LF	213.000	213.000
0210	614.2340	MGS Guardrail 3 L	LF	225.000	225.000
0212	614.2500	MGS Thrie Beam Transition	LF	630.000	630.000
0214	614.2610	MGS Guardrail Terminal EAT	EACH	30.000	30.000
0216	614.2620	MGS Guardrail Terminal Type 2	EACH	16.000	16.000
0218	616.0204	Fence Chain Link 4-FT	LF	155.000	155.000
0220	616.0208	Fence Chain Link 8-FT	LF	732.000	732.000
0222	616.0210	Fence Chain Link 10-FT	LF	324.000	324.000
0224	618.0100	Maintenance And Repair of Haul Roads (project) 01. 4685-29-60	EACH	1.000	1.000
0226	619.1000	Mobilization	EACH	1.000	1.000
0228	620.0300	Concrete Median Sloped Nose	SF	30.000	30.000
0230	624.0100	Water	MGAL	163.200	163.200
0232	625.0100	Topsoil	SY	5,390.000	5,390.000
0234	625.0500	Salvaged Topsoil	SY	33,010.000	33,010.000
0236	627.0200	Mulching	SY	4,840.000	4,840.000
0238	628.1504	Silt Fence	LF	12,230.000	12,230.000
0240	628.1520	Silt Fence Maintenance	LF	24,460.000	24,460.000
0242	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0244	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0246	628.2004	Erosion Mat Class I Type B	SY	880.000	880.000
0248	628.2006	Erosion Mat Urban Class I Type A	SY	29,800.000	29,800.000
0250	628.2008	Erosion Mat Urban Class I Type B	SY	7,710.000	7,710.000
0252	628.7005	Inlet Protection Type A	EACH	19.000	19.000
0254	628.7010	Inlet Protection Type B	EACH	26.000	26.000
0256	628.7015	Inlet Protection Type C	EACH	6.000	6.000
0258	628.7504	Temporary Ditch Checks	LF	725.000	725.000
0260	628.7555	Culvert Pipe Checks	EACH	15.000	15.000
0262	628.7570	Rock Bags	EACH	860.000	860.000
0264	629.0210	Fertilizer Type B	CWT	24.100	24.100
0266	630.0130	Seeding Mixture No. 30	LB	689.000	689.000
0268	630.0300	Seeding Borrow Pit	LB	130.000	130.000
0270	630.0500	Seed Water	MGAL	864.100	864.100
0272	633.0100	Delineator Posts Steel	EACH	16.000	16.000
0274	633.0500	Delineator Reflectors	EACH	18.000	18.000
0276	633.1000	Delineators Barrier Wall	EACH	13.000	13.000
0278	633.5200	Markers Culvert End	EACH	9.000	9.000
0280	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	4.000	4.000
0282	637.1220	Signs Type I Reflective SH	SF	384.000	384.000
0284	637.2210	Signs Type II Reflective H	SF	84.000	84.000
0286	638.2102	Moving Signs Type II	EACH	13.000	13.000
0288	638.2601	Removing Signs Type I	EACH	2.000	2.000
0290	638.3100	Removing Structural Steel Sign Supports	EACH	4.000	4.000
0292	642.5201	Field Office Type C	EACH	1.000	1.000
0294	643.0300	Traffic Control Drums	DAY	26,205.000	26,205.000

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Line	Item	Item Description	Unit	Total	Qty
0296	643.0420	Traffic Control Barricades Type III	DAY	2,321.000	2,321.000
0298	643.0705	Traffic Control Warning Lights Type A	DAY	5,481.000	5,481.000
0300	643.0715	Traffic Control Warning Lights Type C	DAY	13,823.000	13,823.000
0302	643.0800	Traffic Control Arrow Boards	DAY	714.000	714.000
0304	643.0900	Traffic Control Signs	DAY	11,461.000	11,461.000
0306	643.0910	Traffic Control Covering Signs Type I	EACH	2.000	2.000
0308	643.0920	Traffic Control Covering Signs Type II	EACH	1.000	1.000
0310	643.1000	Traffic Control Signs Fixed Message	SF	7.500	7.500
0312	643.1050	Traffic Control Signs PCMS	DAY	271.000	271.000
0314	643.1070	Traffic Control Cones 42-Inch	DAY	25,200.000	25,200.000
0316	643.1200.S	Portable Automated Real-Time Traffic Queue Warning System	DAY	270.000	270.000
0318	643.3105	Temporary Marking Line Paint 4-Inch	LF	29,720.000	29,720.000
0320	643.3150	Temporary Marking Line Removable Tape 4-Inch	LF	13,620.000	13,620.000
0322	643.3205	Temporary Marking Line Paint 8-Inch	LF	910.000	910.000
0324	643.3960	Temporary Marking Removable Mask Out Tape 6-Inch	LF	165.000	165.000
0326	643.5000	Traffic Control	EACH	1.000	1.000
0328	644.1810	Temporary Pedestrian Barricade	LF	30.000	30.000
0330	645.0120	Geotextile Type HR	SY	770.000	770.000
0332	646.1020	Marking Line Epoxy 4-Inch	LF	1,130.000	1,130.000
0334	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	116,900.000	116,900.000
0336	646.1555	Marking Line Grooved Contrast Permanent Tape 4-Inch	LF	12,340.000	12,340.000
0338	646.3020	Marking Line Epoxy 8-Inch	LF	860.000	860.000
0340	646.3555	Marking Line Grooved Contrast Permanent Tape 8-Inch	LF	19,210.000	19,210.000
0342	646.4505	Marking Line Same Day Paint 4-Inch	LF	129,250.000	129,250.000
0344	646.5020	Marking Arrow Epoxy	EACH	34.000	34.000
0346	646.5120	Marking Word Epoxy	EACH	14.000	14.000
0348	646.5420	Marking Aerial Enforcement Bar Epoxy	EACH	16.000	16.000
0350	646.5520	Marking Outfall Epoxy	EACH	4.000	4.000
0352	646.6120	Marking Stop Line Epoxy 18-Inch	LF	246.000	246.000
0354	646.8120	Marking Curb Epoxy	LF	14.000	14.000
0356	646.8220	Marking Island Nose Epoxy	EACH	1.000	1.000
0358	646.9000	Marking Removal Line 4-Inch	LF	12,460.000	12,460.000
0360	646.9010	Marking Removal Line Water Blasting 4-Inch	LF	6,480.000	6,480.000
0362	646.9055	Marking Removal Line Grooved Contrast Permanent Tape 4-Inch	LF	12,800.000	12,800.000
0364	646.9155	Marking Removal Line Grooved Contrast Permanent Tape 8-Inch	LF	10,630.000	10,630.000
0366	650.4000	Construction Staking Storm Sewer	EACH	12.000	12.000
0368	650.4500	Construction Staking Subgrade	LF	3,540.000	3,540.000
0370	650.5000	Construction Staking Base	LF	620.000	620.000
0372	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	460.000	460.000
0374	650.7000	Construction Staking Concrete Pavement	LF	2,925.000	2,925.000
0376	650.7500	Construction Staking Concrete Barrier	LF	82.000	82.000
0378	650.9911	Construction Staking Supplemental Control (project) 01. 4685-29-60	EACH	1.000	1.000
0380	650.9920	Construction Staking Slope Stakes	LF	9,275.000	9,275.000
0382	652.0210	Conduit Rigid Nonmetallic Schedule 40 1-Inch	LF	670.000	670.000
0384	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	125.000	125.000
0386	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	15.000	15.000
0388	652.0800	Conduit Loop Detector	LF	256.000	256.000
0390	653.0105	Pull Boxes Steel 12x24-Inch	EACH	4.000	4.000
0392	653.0900	Adjusting Pull Boxes	EACH	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
0394	653.0905	Removing Pull Boxes	EACH	4.000	4.000
0396	654.0113	Concrete Bases Type 13	EACH	1.000	1.000
0398	655.0230	Cable Traffic Signal 5-14 AWG	LF	315.000	315.000
0400	655.0240	Cable Traffic Signal 7-14 AWG	LF	48.000	48.000
0402	655.0260	Cable Traffic Signal 12-14 AWG	LF	338.000	338.000
0404	655.0305	Cable Type UF 2-12 AWG Grounded	LF	676.000	676.000
0406	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	31.000	31.000
0408	655.0610	Electrical Wire Lighting 12 AWG	LF	300.000	300.000
0410	655.0700	Loop Detector Lead In Cable	LF	1,719.000	1,719.000
0412	655.0800	Loop Detector Wire	LF	1,120.000	1,120.000
0414	657.0545	Monotube Arms 45-FT	EACH	1.000	1.000
0416	658.0173	Traffic Signal Face 3S 12-Inch	EACH	3.000	3.000
0418	658.5070	Signal Mounting Hardware (location) 01. STH 441 SB & CTH CE	EACH	1.000	1.000
0420	659.5000.S	Lamp, Ballast, LED, Switch Disposal by Contractor	EACH	2.000	2.000
0422	690.0150	Sawing Asphalt	LF	70.000	70.000
0424	690.0250	Sawing Concrete	LF	14,865.000	14,865.000
0426	715.0603	Incentive Strength Concrete Barrier	DOL	491.000	491.000
0428	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	876.000	876.000
0430	740.0440	Incentive IRI Ride	DOL	74,645.000	74,645.000
0432	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. Station 424+50 SB	EACH	1.000	1.000
0434	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 02. Station 583+10 NB	EACH	1.000	1.000
0436	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,400.000	2,400.000
0438	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	3,040.000	3,040.000
0440	SPV.0035	Special 01. Flowable Fill Material	CY	12.000	12.000
0442	SPV.0060	Special 01. Utility Line Opening (ULO)	EACH	1.000	1.000
0444	SPV.0060	Special 02. Storm Sewer Tap	EACH	9.000	9.000
0446	SPV.0060	Special 03. Remove and Reinstall Noise Barrier Panel	EACH	4.000	4.000
0448	SPV.0060	Special 04. Storm Sewer Plug	EACH	1.000	1.000
0450	SPV.0060	Special 05. Mobilizations Emergency Shoulder Pavement Repair	EACH	2.000	2.000
0452	SPV.0060	Special 06. Remove Traffic Signal (STH 441 SB & CTH CE)	EACH	1.000	1.000
0454	SPV.0060	Special 07. Salvage and Reinstall Monotube (STH 441 SB & CTH CE)	EACH	1.000	1.000
0456	SPV.0090	Special 01. Removing Rumble Strips	LF	810.000	810.000
0458	SPV.0090	Special 02. Traffic Control Gawk Screen Furnished	LF	13,435.000	13,435.000
0460	SPV.0090	Special 03. Traffic Control Gawk Screen Installed	LF	18,475.000	18,475.000
0462	SPV.0090	Special 04. Cured In Place Pipe Liner, 18-Inch	LF	577.000	577.000
0464	SPV.0090	Special 05. Bridge Deck Crack Sealing	LF	5,272.000	5,272.000
0466	SPV.0180	Special 01. Methacrylate Flood Seal	SY	14,453.000	14,453.000

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CLEARING AND GRUBBING

CATEGORY	STATION	LOCATION	*200.0110 CLEARING SY	201.0210 GRUBBING SY
0010	514+00 SB	LT	39	39
	514+84 SB	LT	---	45
	TOTALS		39	84

* NOTE: TREES HAVE BEEN CUT DOWN PRIOR TO PROJECT AND REMAIN ON SITE.

SURFACE DRAIN LOCATIONS

CATEGORY	STATION	LOCATION	204.0190 REMOVING SURFACE DRAINS EACH	204.0220* REMOVING INLETS EACH	204.0245* REMOVING STORM SEWER 02. 18-INCH LF	204.0245* REMOVING STORM SEWER 03. 24-INCH LF	204.0291.S* ABANDONING SEWER CY	416.1010 CONCRETE SURFACE DRAINS CY
0010	392+84 NB	LT	1	---	---	---	---	2
	394+95 NB	LT	---	1	50	---	3	2
	395+57 SB	LT	---	1	90	---	---	2
	422+93 D	LT	1	---	---	---	---	1
	426+28 NB	LT	---	1	50	---	4	2
	425+80 SB	LT	---	1	50	---	---	1
	479+44 SB	RT	---	1	---	45	9	2
	479+44 SB	LT	---	1	---	---	6	1
	556+88 SB	LT	---	1	---	---	11	1
	590+21 J	RT	1	---	---	---	---	2
	TOTALS		3	7	240	45	32	16

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

STORM SEWER REMOVAL ITEMS

CATEGORY	STATION	LOCATION	*204.0220 REMOVING INLETS EACH	204.0245 REMOVING STORM SEWER 01. 12-INCH LF	204.0245 REMOVING STORM SEWER *02. 18-INCH LF	204.0245 REMOVING STORM SEWER *03. 24-INCH LF	*204.0291.S ABANDINING SEWER CY
0010	513+23 SB	LT	---	30	---	---	---
	513+53 SB	LT	---	---	---	---	4
	513+74 SB	LT	---	10	---	---	---
	514+46 SB	LT	---	82	---	---	---
	539+86 NB	RT	2	48	---	117	---
	556+52 NB	RT	1	---	135	---	---
	560+57 NB	RT	---	---	105	---	---
	564+57 NB	LT	1	---	8	---	---
	584+25 NB	RT	---	---	80	---	---
	TOTALS		4	170	328	117	4

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

EARTHWORK

CATEGORY	LOCATION	STATION - STATION	205.0100 EXCAVATION COMMON (1) CUT CY	205.0100 EXCAVATION COMMON (1) EBS EXCAVATION 5% OF CUT CY	SALVAGED PAVEMENT MATERIAL CY	AVAILABLE MATERIAL CY	EXPANDED EBS BACKFILL FACTOR 1.25 CY	UNEXPANDED FILL CY	EXPANDED FILL FACTOR 1.25 CY	MASS ORDINATE +/-	WASTE CY	312.0110 SELECT CRUSHED MATERIAL TON	*624.0100 WATER (FOR DUST CONTROL) MGAL
0010	NB MAINLINE	388+27 - 390+25	86	4	0	86	5	3	4	82	87	10	0.2
	NB MAINLINE	398+62 - 401+13	104	5	0	104	6	2	2	101	108	12	0.2
	NB MAINLINE	419+59 -421+39	110	5	0	110	7	1	2	108	115	13	0.2
	NB MAINLINE	452+08 - 453+69	50	2	0	50	3	0	0	50	53	6	0.1
	NB MAINLINE	472+02 - 473+97	83	4	0	83	5	6	8	75	80	10	0.2
	NB MAINLINE	559+36 - 568+00	1,669	83	21	1,648	104	62	77	1,571	1,675	198	3.5
	NB MAINLINE	577+16 - 578+86	37	2	0	37	2	13	17	20	22	4	0.1
	SB MAINLINE	397+88 - 399+57	65	3	0	65	4	2	3	62	66	8	0.1
	SB MAINLINE	428+40 - 430+25	80	4	0	80	5	6	7	72	77	9	0.2
	SB MAINLINE	443+11 - 444+67	29	1	0	29	2	5	6	23	24	3	0.1
	SB MAINLINE	459+30 - 460+99	47	2	0	47	3	0	0	47	50	6	0.1
	SB MAINLINE	481+91 - 483+80	87	4	0	87	5	197	246	-159	-154	10	0.2
	SB MAINLINE	490+46 - 499+65	641	32	19	621	40	145	181	440	480	76	1.3
	SB MAINLINE	559+61 - 561+31	43	2	0	43	3	7	8	35	37	5	0.1
	A RAMP	413+80 - 415+90	85	4	0	85	5	0	0	85	90	10	0.2
	C RAMP	433+17 - 435+78	136	7	0	136	8	1	1	134	143	16	0.3
	G RAMP	487+84 - 494+11	564	28	68	495	35	733	916	-421	-386	67	1.2
	J RAMP	582+82 - 589+40	2,114	106	63	2,051	132	56	70	1,981	2,113	251	4.4
	M RAMP	590+19 - 591+65	47	2	0	47	3	2	2	45	48	6	0.1
	CTH CE EB LT	85+26 - 91+00	406	20	66	340	25	0	0	340	366	48	0.9
		SUBTOTALS (0010)	6,479	324	238	6,241	405	1,240	1,550	4,691	5,096	769	13.7
				6,803									
0140	CTH CE EB RT	85+26 - 91+00	286	14	66	220	18	380	475	-254	-237	33	0.6
		SUBTOTALS (0140)		300									
		TOTALS	6,765	338	304	6,461	422	1,620	2,025	4,436	4,859	803	14.3
		ITEM TOTAL		7,103									

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100.
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL.
4) AVAILABLE MATERIAL = CUT - SALVAGED PAVEMENT MATERIAL.
5) EXPANDED EBS BACKFILL: THIS IS TO BE FILLED WITH SELECT CRUSHED MATERIAL. EBS BACKFILL EXPANSION FACTOR = 1.25.
6) EXPANDED FILL = (UNEXPANDED FILL)* EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25.
7) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - EXPANDED FILL
   PLUS MASS ORDINATE QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS MASS ORDINATE QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
8) WASTE = MASS ORDINATE + EXPANDED EBS BACKFILL
9) SELECT CRUSHED MATERIAL IS USED FOR BACKFILL OF EBS.

FINISHING ROADWAY

CATEGORY	PROJECT	213.0100.01 EACH
0010	4685-29-60	1

3

DAYLIGHT INLET SUMMARY

CATEGORY	STATION	LOCATION	* 204.0245 REMOVING STORM SEWER .02 18-INCH LF	* SPV.0090.04 CURED IN PLACE PIPE LINER, 18-INCH LF	521.1018 APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH EACH	521.3118 CULVERT PIPE CORRUGATED STEEL 18-INCH LF	* 633.5200 MARKERS CULVERT END EACH
0010	476+50 NB	RT	50	95	1	10	1
	479+02 NB	RT	50	30	1	10	1
	576+57 NB	RT	40	60	1	10	1
	582+05 SB	LT	50	70	1	10	1
	580+88 M	LT	40	85	1	10	1
	TOTALS		230	340	5	50	5

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

CULVERT PIPE ITEMS

CATEGORY	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	* 520.8000 CONCRETE COLLARS FOR PIPE EACH	521.3112 CULVERT PIPE CORRUGATED STEEL 12-INCH THICKNESS (INCHES) STEEL LF	522.0124 CULVERT PIPE REINFORCED CONCRETE CONCRETE CLASS III 24-INCH LF	* 522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	* 633.5200 MARKERS CULVERT END EACH	* SPV.0060.02 STORM SEWER TAP EACH	* SPV.0090.04 CURED IN PLACE PIPE LINER, 18-INCH LF	REMARKS
0010	518+50 NB	RT	---	1	--- ---	---	---	---	---	---	COLLAR EXISTING PIPE BEND IN FRONT OF RETAINING WALL
	518+57 SB	LT	---	1	--- ---	---	---	---	---	---	COLLAR EXISTING PIPE BEND IN FRONT OF RETAINING WALL
	522.51 NB	RT	---	1	--- ---	---	---	---	---	---	COLLAR EXISTING PIPE BEND IN FRONT OF RETAINING WALL
	524+49 NB	RT	1	2	10 0.064	---	---	---	1	---	REPLACE PIPE FROM CURB AND GUTTER INLET 10' UP SLOPE
	564+57 NB	RT	---	---	--- ---	---	---	---	---	111	---
	568+48 NB	RT	---	---	--- ---	---	---	---	---	126	---
	488+19 G	RT	1	1	--- ---	6	1	1	---	---	REMOVE EXISTING 24-INCH APRON ENDWALL
	UNDISTRIBUTED	LT/RT	2	2	10 0.064	---	---	---	---	---	---
	TOTALS		4	8	20	6	1	1	1	237	

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

STORM SEWER

CATEGORY	FROM STRUCTURE	TO STRUCTURE	522.1015 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH EACH	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	* 522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF	608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH LF	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF	* 520.8000 CONCRETE COLLARS FOR PIPE EACH	* 633.5200 MARKERS CULVERT END EACH	* SPV.0060.02 STORM SEWER TAP EACH	SPV.0060.04 STORM SEWER PLUG EACH
0010	100	100.2	---	---	---	45	---	---	---	---	---	---	---	---
	100.1	100	---	---	---	29	---	---	---	---	1	---	1	---
	100.2	---	---	---	---	---	---	---	---	---	1	---	1	---
	110	110.2	---	---	---	74	---	---	---	---	---	---	---	---
	110.1	110	---	---	---	8	---	---	---	---	1	---	1	---
	110.2	---	---	---	---	---	---	---	---	---	1	---	1	---
	120.1	120.2	---	---	---	---	---	---	39	---	1	---	1	---
	120.2	120.3	---	---	---	---	---	---	---	14	---	---	---	---
	120.3	120.4	---	---	---	---	156	---	---	---	---	---	---	---
	120.4	---	---	---	1	---	---	---	---	---	---	1	---	---
	130.1	130.2	---	---	---	---	---	---	39	---	1	---	1	1
	130.2	130.3	---	---	---	---	---	---	---	17	---	---	---	---
	130.3	---	---	1	---	---	---	---	---	---	---	1	---	---
	140.1	140.2	---	---	---	---	---	---	50	---	1	---	1	---
	140.2	---	1	---	---	---	---	---	---	---	---	1	---	---
	150.1	150.2	---	---	---	---	---	---	---	4	1	---	---	---
	150.2	150.3	---	---	---	---	---	---	---	4	---	---	---	---
	150.3	---	---	---	---	---	---	---	---	---	1	---	---	---
	160.1	160.2	---	---	---	---	---	---	---	24	1	---	1	---
	160.2	---	---	---	---	---	---	---	---	---	---	---	---	---
	10	C.1	---	---	---	---	---	---	---	6	---	---	---	---
	10.1	10	---	---	---	---	---	---	---	11	---	---	---	---
	10.2	10.1	---	---	---	---	---	10	---	---	---	---	---	---
	10.3	10.1	---	---	---	---	---	10	---	---	---	---	---	---
	C.1	---	---	---	---	---	---	---	---	---	1	---	---	---
	C.2	10.3	---	---	---	---	---	6	---	---	1	---	---	---
	20	C.3	---	---	---	---	---	---	---	6	---	---	---	---
	20.1	20	---	---	---	---	---	---	---	11	---	---	---	---
	C.3	---	---	---	---	---	---	---	---	---	1	---	---	---
	C.4	20.1	---	---	---	---	---	6	---	---	1	---	---	---

	TOTALS		1	1	1	156	156	32	128	97	14	3	8	1

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

INLETS, MANHOLES, MANHOLE COVERS, INLET COVERS, AND VANE DRAINS

CATEGORY	STRUCT. ID#	STATION	OFFSET	611.2003 MANHOLES 3-FT DIAMETER EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	611.3004 INLETS 4-FT DIAMETER EACH	611.3225 INLETS 2x2.5-FT EACH	611.3230 INLETS 2x3-FT EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	611.0530 MANHOLE COVERS TYPE J EACH	611.0606 INLET COVERS TYPE B EACH	611.0624 INLET COVERS TYPE H EACH	611.0639 INLET COVERS TYPE H-S EACH	611.0642 INLET COVERS TYPE MS EACH	611.0654 INLET COVERS TYPE V EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	SPV.0035.01 FLOWABLE FILL MATERIAL CY
0010	100	513+50 SB	53.3' LT	1	---	---	---	---	---	1	---	---	---	---	---	1	2
	110	514+84 SB	56.8' LT	1	---	---	---	---	---	1	---	---	---	---	---	1	2
	120.2	539+84 NB	32.2' RT	---	---	1	---	---	---	---	1	---	---	---	---	1	2
	120.3	539+70 NB	32.4' RT	---	---	1	---	---	---	---	1	---	---	---	---	1	2
	130.2	556+57 NB	32.3' RT	---	---	---	1	---	---	---	---	---	---	---	1	1	2
	150.2	564+57 NB	5.0' LT	---	---	1	---	---	---	---	1	---	---	---	---	1	2
	10	87+59 EB	1.7' LT	---	1	---	---	---	---	1	---	---	---	---	---	1	---
	10.1	87+59 EB	12.8' LT	---	---	---	---	1	---	---	---	---	1	---	---	1	---
	10.2	87+49 EB	12.8' LT	---	---	---	---	1	---	---	---	---	1	---	---	1	---
	10.3	87+59 EB	22.8' LT	---	---	---	---	---	1	---	---	---	---	1	---	1	---
	20	89+59 EB	1.8' LT	---	1	---	---	---	---	1	---	---	---	---	---	1	---
	20.1	89+58 EB	12.9' LT	---	---	---	---	1	---	---	---	1	---	---	---	1	---
		TOTALS		2	2	3	1	3	1	4	3	1	2	1	1	12	12

CONCRETE PAVEMENT

CATEGORY	STATION - STATION	LOCATION	* 416.0610 DRILLED TIE BARS EACH	* 416.0620 DRILLED DOWEL BARS EACH	204.0100 REMOVING CONCRETE PAVEMENT SY	415.0090 CONCRETE PAVEMENT 9-INCH SY	415.0100 CONCRETE PAVEMENT 10-INCH SY
0010	394+64 - 394+80 NB	LT	9	3	11	---	7
	426+21 - 426+31 NB	LT	4	2	8	---	4
	556+49 - 556+67 NB	LT & RT	7	60	82	---	75
	560+48 - 560+72 NB	LT & RT	10	50	87	---	87
	560+75 - 567+64 NB	RT	280	7	66	---	699
	564+36 - 564+74 NB	LT	15	9	24	---	24
	395+01 - 395+17 SB	LT	6	4	13	---	9
	425+37 - 425+50 SB	LT	5	4	13	---	8
	479+04 - 479+22 SB	LT & RT	15	15	31	---	19
	490+46 - 497+39 SB	LT	280	7	73	---	703
	556+49 - 556+67 SB	LT	7	10	18	---	12
	487+84 - 492+08 G	RT	170	9	120	459	---
	488+00 - 491+66 G	LT	145	11	180	434	---
	582+82 - 587+70 J	LT	195	11	240	609	---
	584+96 - 587+70 J	RT	110	9	110	270	---
	85+89 - 91+58 CE EB	LT & RT	235	---	70	---	677
	SUBTOTALS (CATEGORY 0010)		1,493	211	1,146	1,772	2,324
0140	85+26 - 90+46 CE EB	RT	210	11	140	---	596
	SUBTOTALS (CATEGORY 0140)		210	11	140	0	596
	TOTALS		1,703	222	1,286	1,772	2,920

* ADDITIONAL QUANTITIES LISTED ELSEWHERE.

CONCRETE PAVEMENT REPAIR/REPLACEMENT SUMMARY

CATEGORY	STATION - STATION	* 690.0250 SAWING CONCRETE LF	* 416.0610 DRILLED TIE BARS EACH	* 416.0620 DRILLED DOWEL BARS EACH	416.1710 CONCRETE PAVEMENT REPAIR SY	**416.1715 CONCRETE PAVEMENT REPAIR SHES SY	416.1720 CONCRETE PAVEMENT REPLACEMENT SY	**416.1725 CONCRETE PAVEMENT REPLACEMENT SHES SY
0010	337+70 - 390+00 NB	360	30	180	---	85	---	110
	390+00 - 450+00 NB	420	60	160	---	45	---	210
	450+00 - 520+00 NB	900	80	405	---	155	20	510
	520+00 - 584+03 NB	1,760	360	420	45	85	565	205
	337+70 - 390+00 SB	1,150	40	630	---	295	---	255
	390+00 - 450+00 SB	720	75	300	---	130	---	215
	450+00 - 520+00 SB	1,910	100	890	---	520	---	650
	520+00 - 584+03 SB	960	120	370	10	110	120	155
	426+71 - 436+30 B	260	20	145	---	35	---	100
	426+01 - 426+16 C	65	---	40	---	40	---	---
	421+78 - 423+18 D	160	25	50	---	35	---	60
	476+46 - 484+41 E	380	40	185	---	60	---	170
	486+45 - 487+91 F	190	30	90	---	10	---	125
	486+38 - 491+35 G	260	10	180	---	100	---	90
	476+63 - 484+80 H	230	---	175	---	30	---	340
	588+94 - 590+52 J	180	35	60	---	10	---	120
	589+66 - 590+96 M	80	5	50	---	10	---	25
	CTH KK	1,430	230	410	---	160	---	510
	CTH CE	1,400	160	550	---	125	---	570
	TOTALS	12,815	1,420	5,290	55	2,040	705	4,420

*ADDITIONAL QUANTITIES LISTED ELSEWHERE
**USE SHES ONLY IN AREAS NOT PROTECTED BY CONCRETE BARRIER TEMPORARY PRECAST

BASE AGGREGATE DENSE

CATEGORY	STATION - STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON	* 624.0100 WATER (FOR COMPACTION) MGAL	(FOR DUST CONTROL) MGAL
0010	388+27 - 393+09 NB	RT	51	0	0.8	---
	388+56 - 393+28 NB	LT	52	0	0.8	---
	398+61 - 403+70 NB	LT	53	0	0.8	---
	399+47 - 403+68 NB	RT	41	0	0.6	---
	419+59 - 424+39 NB	RT	51	0	0.8	---
	419+70 - 424+30 NB	LT	50	0	0.8	---
	452+08 - 458+45 NB	RT	60	0	0.9	---
	472+01 - 476+86 NB	RT	51	0	0.8	---
	472+28 - 476+87 NB	LT	54	0	0.8	---
	556+66 - 559+36 NB	RT	24	0	0.4	---
	559+36 - 560+75 NB	RT	15	0	0.2	---
	560+75 - 567+64 NB	RT	66	1,450	23.0	2.9
	577+16 - 582+.01 NB	RT	50	0	0.8	---
	394+84 - 399+57 SB	RT	58	0	0.9	---
	395+60 - 399+38 SB	LT	36	0	0.5	---
	425+51 - 430+09 SB	RT	54	0	0.8	---
	425+91 - 430+25 SB	LT	47	0	0.7	---
	440+73 - 444+67 SB	LT	38	0	0.6	---
	455+42 - 460+99 SB	LT	62	0	0.9	---
	479+55 - 483+85 SB	LT	45	0	0.7	---
	479+55 - 483+61 SB	RT	51	0	0.8	---
	490+46 - 499+60 SB	LT	96	1,600	25.0	3.2
	413+80 - 418+27 A	RT	58	0	0.9	---
	414+80 - 418+29 A	LT	37	0	0.6	---
	430+68 - 434+58 C	LT	48	0	0.7	---
	430+81 - 435+78 C	RT	63	0	0.9	---
	487+84 - 493+73 G	RT	55	650	11.0	1.3
	488+00 - 494+12 G	LT	70	890	14.0	1.8
	582+82 - 587+70 J	LT	47	690	11.0	1.4
	583+03 - 588+08 J	RT	61	720	12.0	1.4
	588+08 - 589+37 J	RT	11	0	0.2	---
	588+20 - 591+65 M	RT	44	0	0.7	---
	588+36 - 590+91 M	LT	36	0	0.5	---
	85+95 - 91+60 CE EB	LT	0	280	4.2	0.6
	UNDISTRIBUTED		82	315	6.0	0.6
	SUBTOTALS (CATEGORY 0010)		1,717	6,595	125.1	13.2
0140	85+26 - 91+08 CE EB	RT	29	595	9.4	1.2
	SUBTOTALS (CATEGORY 0140)		29	595	9.4	1.2
	TOTALS		1,746	7,190	148.9	

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

ROUT AND SEAL

CATEGORY	STATION - STATION	LOCATION	415.6000.S LF
0010	559+36 - 567+64 NB	RT	100
	490+39 - 498+75 SB	LT	140
	487+84 - 492+79 G	RT	70
	488+00 - 493+42 G	LT	175
	583+72 - 588+08 J	RT	160
	SUBTOTAL (CATEGORY 0010)		645
0140	85+26 - 91+06 CE EB	RT	60
	SUBTOTAL (CATEGORY 0140)		60
	TOTAL		705

CONTINUOUS DIAMOND GRINDING CONCRETE PAVEMENT

CATEGORY	STATION - STATION	420.1000 SY
0010	337+70 - 390+00 NB	15,200
	390+00 - 450+00 NB	16,750
	450+00 - 520+00NB	19,700
	520+00 - 584+03 NB	13,250
	337+70 - 390+00 SB	15,100
	390+00 - 450+00 SB	16,400
	450+00 - 520+00 SB	19,700
	520+00 - 584+03 SB	13,250
	KK RAMPS	21,550
	CE RAMPS	13,300
	OO SOUTHERN RAMPS	6,900
	TOTAL	171,100

HMA PAVEMENT

CATEGORY	STATION - STATION	LOCATION	460.5224 4 LT 58-28 S TON
0010	559+36 - 567+64 NB	RT	113
	490+39 - 498+75 SB	LT	114
	487+84 - 492+79 G	RT	40
	488+00 - 493+42 G	LT	83
	582+82 - 587+70 J	LT	39
	583+72 - 588+08 J	RT	76
	SUBTOTAL (CATEGORY 0010)		465
0140	85+26 - 91+06 CE EB	RT	29
	SUBTOTAL (CATEGORY 0140)		29
	TOTAL		494

CONCRETE CURB & GUTTER

CATEGORY	STATION - STATION	LOCATION	204.0150 REMOVING CURB & GUTTER LF	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0551 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A LF	601.0590 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT LF	620.0300 CONCRETE MEDIAN SLOPED NOSE SF
0010	392+74 - 393+29 NB	LT	25	---	---	55	---
	394+64 - 394+80 NB	LT	---	---	20	---	---
	426+21 - 426+23 NB	LT	2	---	5	---	---
	509+18 - 509+78 NB	RT	---	---	60	---	---
	556+45 - 556+56 NB	RT	4	---	21	---	---
	395+06 - 395+60 SB	LT	2	---	---	50	---
	425+37 - 425+91 SB	LT	2	---	---	50	---
	479+01 - 479+55 SB	LT	3	---	---	50	---
	479+02 - 479+55 SB	RT	2	---	---	50	---
	556+46 - 557+00 SB	LT	3	---	---	50	---
	423+53 - 423+57 D	LT	10	10	---	---	---
	422+42 - 423+02 D	LT	74	60	---	---	---
	85+89 - 91+58 CE EB	LT	525	565	---	---	30
	TOTALS		652	635	106	305	30

BARRIER WALL

CATEGORY	STATION - STATION	LOCATION	204.0157 REMOVING CONCRETE BARRIER LF	603.0105 CONCRETE BARRIER SINGLE-FACED 32-INCH LF	603.1142 CONCRETE BARRIER TYPE S42 LF	633.1000 DELINEATORS BARRIER WALL EACH
0010	499+00 - 582+25 NB	RT	60	60	---	---
	499+00 - 582+25 NB	MEDIAN	150	150	---	---
	499+00 - 582+25 SB	RT	60	60	---	---
	499+00 - 582+25 SB	MEDIAN	630	630	---	---
	589+40 - 590+25 J	LT	---	---	82	3
	UNDISTRIBUTED		---	---	---	10
	TOTALS		900	900	82	13

RUMBLE STRIPS

CATEGORY	LOCATION	416.1110 CONCRETE SHOULDER RUMBLE STRIPS LF	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF
0010	NB STH 441 (CTH CE - CTH OO)	4,265	75
	SB STH 441 (CTH CE - CTH OO)	3,240	---
	NB STH 441 (CTH CE - CTH OO)	2,200	---
	SB STH 441 (CTH CE - CTH OO)	1,615	---
	TOTALS	11,320	75

UNDERDRAIN SUMMARY

CATEGORY	STATION - STATION	LOCATION	612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH LF	612.0806 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH EACH	646.5520 MARKING OUTFALL EPOXY EACH	REMARKS
0010	560+75 - 567+64 NB	RT	150	2	2	TO REPLACE UNDERDRAIN OUTFALLS AS NEEDED
	490+46 - 498+81 SB	LT	50	2	2	TO REPLACE UNDERDRAIN OUTFALLS AS NEEDED
		TOTALS	200	4	4	

GUARDRAIL ITEMS

CATEGORY	STATION - STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF	614.2300 MGS GUARDRAIL 3 LF	614.2310 MGS GUARDRAIL 3 HS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2340 MGS GUARDRAIL 3 L LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH	614.0230 STEEL THRIE BEAM LF	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH
0010	347+98 - 349+68 NB	LT	350	---	---	---	---	---	---	125	2
	389+46 - 393+12 NB	RT	361	275	---	39	---	1	---	---	---
	389+75 - 393+30 NB	LT	347	263	---	39	---	1	---	---	---
	399+81 - 403+11 NB	LT	485	201	75	---	---	1	1	---	---
	400+58 - 403+10 NB	RT	209	126	75	---	---	1	1	---	---
	420+77 - 424+41 NB	RT	362	275	---	39	---	1	---	---	---
	420+89 - 424+32 NB	LT	337	250	---	39	---	1	---	---	---
	453+19 - 457+86 NB	RT	456	414	---	---	---	1	1	---	---
	473+21 - 476+89 NB	RT	361	275	---	39	---	1	---	---	---
	473+47 - 476+89 NB	LT	336	250	---	39	---	1	---	---	---
	556+42 - 562+74 NB	RT	299	625	---	39	---	---	1	---	---
	578+36 - 582+04 NB	RT	362	275	---	39	---	1	---	---	---
	394+83 - 398+38 SB	RT	349	263	---	39	---	1	---	---	---
	395+03 - 398+74 SB	LT	363	275	---	39	---	1	---	---	---
	425+34 - 429+05 SB	LT	363	275	---	39	---	1	---	---	---
	425+48 - 428+90 SB	RT	336	250	---	39	---	1	---	---	---
	441+32 - 443+61 SB	LT	175	114	63	---	---	1	1	---	---
	456+01 - 459+80 SB	LT	382	326	---	---	---	1	1	---	---
	478+99 - 482+66 SB	LT	363	275	---	39	---	1	---	---	---
	478+99 - 482+41 SB	RT	340	250	---	39	---	1	---	---	---
	495+50 - 498+40 SB	LT	---	238	---	---	---	1	1	---	---
	556+43 - 560+11 SB	LT	363	275	---	39	---	1	---	---	---
	414+91 - 417+68 A	RT	236	226	---	---	---	1	1	---	---
	415+40 - 417+70 A	LT	199	176	---	---	---	1	1	---	---
	431+25 - 433+37 C	RT	336	189	---	---	---	1	1	---	---
	431+25 - 434+17 C	LT	363	239	---	---	---	1	1	---	---
	489+98 - 492+91 G	RT	---	238	---	---	---	1	1	---	---
	498+99 - 492+51 G	LT	---	200	---	---	---	1	1	---	---
	584+22 - 589+40 J	RT	174	425	---	39	---	1	---	---	---
	584+97 - 587+00 J	LT	---	150	---	---	---	1	1	---	---
	588+57 - 590+68 M	LT	206	51	---	---	113	1	1	---	---
	588+65 - 591+21 M	RT	252	89	---	---	113	1	1	---	---
	TOTALS		9,065	7,754	213	630	225	30	16	125	2

TEMPORARY CONCRETE BARRIER ITEMS

CATEGORY	STAGE	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	SPV.0090.02 TRAFFIC CONTROL GAWK SCREEN FURNISHED LF	SPV.0090.03 TRAFFIC CONTROL GAWK SCREEN INSTALLED LF	614.0905 CRASH CUSHIONS TEMPORARY EACH
0010	STAGE 1	NB STH 441 (CTH CE - CTH OO)	6145	6,145	6,145	6,145	1
	STAGE 1	SB STH 441 (CTH CE - CTH OO)	7290	7,290	7,290	7,290	1
	STAGE 2	NB STH 441 (CTH CE - CTH OO)	---	2,940	---	2,940	1
	STAGE 2	SB STH 441 (CTH CE - CTH OO)	---	2,100	---	2,100	1
		TOTALS	13,435	18,475	13,435	18,475	4

CRASH CUSHIONS TEMPORARY ADDITIONAL INFORMAITON

LOCAITON	BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
STA. 508+45 NB, 9' RT	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	RT	BLUNT END OF CONCRETE BARRIER TEMPORARY PRECAST
STA. 571+00 SB, 8' LT	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	RT	BLUNT END OF CONCRETE BARRIER TEMPORARY PRECAST
STA. 531+50 NB, 17' RT	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	LT	BLUNT END OF CONCRETE BARRIER TEMPORARY PRECAST
STA. 552+55 SB, 18' LT	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	LT	BLUNT END OF CONCRETE BARRIER TEMPORARY PRECAST

PORTABLE AUTOMATED REAL-TIME TRAFFIC QUEUE WARNING SYSTEM

CATEGORY	LOCATION	STAGE	643.1200.S DAY	PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) EACH	PORTABLE TRAFFIC SENSORS (PTS) EACH
0010	STH 441 NB (FOX RIVER BRIDGE SEGMENT)	1	45	7	7
	STH 441 SB (FOX RIVER BRIDGE SEGMENT) (CONTINUES ONTO I-41 WB)	1	45	4	4
	I-41 EB	1	45	4	4
	STH 441 NB (FOX RIVER BRIDGE SEGMENT)	2	45	7	7
	STH 441 SB (FOX RIVER BRIDGE SEGMENT) (CONTINUES ONTO I-41 WB)	2	45	4	4
	I-41 EB	2	45	4	4
	TOTAL		270		

TRAFFIC CONTROL SUMMARY

CATEGORY	STAGE	LOCATION	DURATION (DAYS)	643.0300 TRAFFIC CONTROL DRUMS QTY	643.0300 TRAFFIC CONTROL DRUMS DAY	643.1070 TRAFFIC CONTROL CONES 42-INCH QTY	643.1070 TRAFFIC CONTROL CONES 42-INCH DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III QTY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A QTY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C QTY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS QTY	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS QTY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1050 SIGNS PCMS QTY	643.1050 SIGNS PCMS DAY
0010	STAGE 1	FOX RIVER BRIDGE SEGMENT	45	207	9,315	---	---	8	360	16	720	98	4,410	4	180	52	2,340	1	7
	STAGE 2	FOX RIVER BRIDGE SEGMENT	45	212	9,540	---	---	10	450	20	900	59	2,655	4	180	45	2,025	2	6
	STAGE 1	NB STH 441 OFF-PEAK LANE CLOSURES	40	25	1,000	150	6,000	---	---	5	200	25	1,000	2	80	15	600	1	14
	STAGE 1	SB STH 441 OFF-PEAK LANE CLOSURES	40	25	1,000	150	6,000	---	---	5	200	25	1,000	2	80	15	600	1	14
	STAGE 2	NB STH 441 OFF-PEAK LANE CLOSURES	40	25	1,000	150	6,000	---	---	5	200	25	1,000	2	80	15	600	1	14
	STAGE 2	SB STH 441 OFF-PEAK LANE CLOSURES	40	25	1,000	150	6,000	---	---	5	200	25	1,000	2	80	15	600	1	14
		SUBTOTALS			22,855		24,000		810		2,420		11,065		680		6,765		69
	STAGE 2	WIDTH RESTRICTION	85	---	---	---	---	---	---	---	---	---	---	---	---	30	2,550	---	---
		SUBTOTALS	85		---		---		---		---		---		---		2,550		---
	RAMP CLOSURES	KK NB OFF RAMP	5	15	75	---	---	10	50	20	100	15	75	---	---	15	75	3	21
		KK NB ON RAMP	5	15	75	---	---	10	50	20	100	15	75	---	---	15	75	3	21
		KK SB OFF RAMP	5	15	75	---	---	10	50	20	100	15	75	---	---	15	75	3	21
		KK NB ON RAMP	5	15	75	---	---	10	50	20	100	15	75	---	---	15	75	3	21
		CE NB OFF RAMP	5	15	75	---	---	10	50	20	100	15	75	---	---	15	75	3	21
		CE NB ON RAMP	5	15	75	---	---	10	50	20	100	15	75	---	---	15	75	3	21
		CE SB OFF RAMP	5	15	75	---	---	10	50	20	100	15	75	---	---	15	75	3	21
		SIDEROAD LANE CLOSURES	50	30	1,500	---	---	20	1,000	40	2,000	30	1,500	---	---	20	1,000	3	21
		SUBTOTALS			2,100		---	100	1,400	200	2,800	150	2,100		---	140	1,600		189
		UNDISTRIBUTED			1,250		1,200		111		261		658		34		546		13
		TOTALS			26,205		25,200		2,321		5,481		13,823		714		11,461		271

DELINEATORS

CATEGORY	STATION - STATION	LOCATION	633.0100 DELINEATOR POSTS STEEL EACH	633.0500 DELINEATOR REFLECTORS EACH
0010	490+46 SB - 499+65 SB	LT	7	9
	562+74 NB - 567+64 NB	RT	5	5
	488+00 G - 494+12 G	LT	3	3
	583+03 J - 584+22 J	RT	1	1
	TOTALS		16	18

TRAFFIC CONTROL SIGNS - MISCELLANEOUS

CATEGORY	STAGE	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I NUMBER OF CYCLES	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I NUMBER OF SIGNS	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II NUMBER OF CYCLES	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II NUMBER OF SIGNS	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH
0010	STAGE 1, NB	1	2	2	---	---	---
	STAGE 2, NB	---	---	---	1	1	1
	TOTALS			2			1

TRAFFIC CONTROL SIGNS FIXED MESSAGE

CATEGORY	LOCATION	643.1000 SF
0010	B-08-033 CLOSURE	7.5

TRAFFIC CONTROL

CATEGORY	PROJECT	643.5000 EACH
0010	4685-29-60	1

TEMPORARY PEDESTRIAN BARRICADE

CATEGORY	LOCATION	644.1810 LF
0010	B-08-033 CLOSURE	30

*MARKING REMOVAL LINE

CATEGORY	STAGE	LOCATION	646.9000 4-INCH LF	646.9010 WATER BLASTING 4-INCH LF
0010	STAGE 1	NB STH 441 (CTH CE - CTH OO)	4,550	1,630
	STAGE 1	SB STH 441 (CTH CE - CTH OO)	3,250	1,630
	STAGE 2	NB STH 441 (CTH CE - CTH OO)	2,530	1,630
	STAGE 2	SB STH 441 (CTH CE - CTH OO)	2,130	1,590
	TOTALS		12,460	6,480

*REMOVAL OF PERMANENT TAPE LISTED ELSEWHERE.

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TRAFFIC CONTROL RUMBLE STRIP ITEMS

CATEGORY	STAGE	LOCATION	416.9100.S FILLING CONCRETE SHOULDER RUMBLE STRIPS 30-INCH EACH	416.9112.S FILLING CONCRETE SHOULDER RUMBLE STRIPS 12-INCH LF	SPV.0090.01 REMOVING RUMBLE STRIPS LF
0010	STAGE 1	NB STH 441 (CTH CE - CTH OO)	210	3,530	810
	STAGE 1	SB STH 441 (CTH CE - CTH OO)	190	3,240	---
	STAGE 2	NB STH 441 (CTH CE - CTH OO)	130	2,200	---
	STAGE 2	SB STH 441 (CTH CE - CTH OO)	95	1,620	---
		TOTALS	625	10,590	810

TEMPORARY MARKING LINE SUMMARY

CATEGORY	STAGE		643.3105 TEMPORARY MARKING LINE PAINT 4-INCH (YELLOW) LF	643.3105 TEMPORARY MARKING LINE PAINT 4-INCH (WHITE) LF	643.3105 TEMPORARY MARKING LINE PAINT 4-INCH (WHITE) (3' SEG. 9' GAP) LF	643.3205 TEMPORARY MARKING LINE PAINT 8-INCH (WHITE) LF	643.3150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) LF	643.3150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) LF	643.3960 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH LF
0010	STAGE 1	NB STH 441 (CTH CE - CTH OO)	3,880	6,050	---	---	1,630	1,630	---
	STAGE 1	SB STH 441 (CTH CE - CTH OO)	5,660	3,250	---	---	2,290	1,630	165
	STAGE 2	NB STH 441 (CTH CE - CTH OO)	2,200	3,020	---	350	1,630	1,630	---
	STAGE 2	SB STH 441 (CTH CE - CTH OO)	1,620	3,840	200	560	1,590	1,590	---
	SUBTOTALS		13,360	16,160	200	910	7,140	6,480	165
	TOTALS			29,720		910		13,620	165

PAVEMENT MARKING ITEMS

CATEGORY	STATION	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH (WHITE) LF	646.1020 MARKING LINE EPOXY 4-INCH (YELLOW) LF	646.3020 MARKING LINE EPOXY 8-INCH (WHITE) LF	646.1040 MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE) LF	646.1040 MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (YELLOW) LF	646.1555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (12.5' SEG., 37.5' GAP) (WHITE) LF	646.1555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (3' SEG., 9' GAP) (WHITE) LF	646.4505 MARKING LINE SAME DAY PAINT 4-INCH LF	645.3555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE) LF	645.3555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (3' SEG., 9' GAP) (WHITE) LF	646.5020 MARKING ARROW EPOXY (WHITE) EACH	646.5120 MARKING WORD EPOXY (WHITE) EACH	646.5420 MARKING AERIAL ENFORCEMENT BAR EPOXY EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH (WHITE) LF	646.8120 MARKING CURB EPOXY (YELLOW) LF	646.8220 MARKING ISLAND NOSE EPOXY EACH
0010	337+70	390+00 NB	LT/RT	---	---	---	5,250	5,250	1,300	---	11,800	---	---	---	---	---	---	---
	390+00	450+00 NB	LT/RT	---	---	---	5,350	6,100	1,500	---	12,950	1,400	250	---	---	2	---	---
	450+00	520+00 NB	LT/RT	---	---	---	6,750	7,000	1,750	40	15,550	1,000	---	---	---	4	---	---
	520+00	584+03 NB	LT/RT	---	---	---	6,100	6,400	1,600	---	14,100	340	170	---	---	2	---	---
	337+70	390+00 SB	LT/RT	---	---	---	5,200	5,250	1,300	---	11,750	---	---	---	---	---	---	---
	390+00	450+00 SB	LT/RT	---	---	---	5,350	6,000	1,500	---	12,850	1,100	250	---	---	2	---	---
	450+00	520+00 SB	LT/RT	---	---	---	6,300	7,000	1,750	---	15,050	1,000	180	---	---	4	---	---
	520+00	584+03 SB	LT/RT	---	----	---	6,000	6,400	1,600	---	14,000	600	---	---	---	2	---	---
	48+00	91+00 EB		580	550	860	---	---	---	---	---	---	---	2	1	---	---	8	1
	408+00	427+00 A	LT/RT	---	---	---	1,500	1,150	---	---	2,650	3,250	---	8	3	---	62	---	---
	426+00	438+22 B	LT/RT	---	---	---	1,250	950	---	---	2,200	970	---	---	---	---	---	---	---
	426+00	440+13 C	LT/RT	---	---	---	1,250	950	---	---	2,200	2,250	---	8	3	---	64	---	---
	410+00	423+68 D	LT/RT	---	---	---	1,300	1,050	---	---	2,350	800	---	---	---	---	---	6	---
	472+64	485+37 E	LT/RT	---	---	---	450	950	---	---	1,400	920	---	4	1	---	30	---	---
	486+31	497+40 F	LT/RT	---	---	---	950	900	---	---	1,850	640	---	---	---	---	---	---	---
	486+00	497+00 G	LT/RT	---	---	---	1,100	800	---	---	1,900	1,300	---	6	3	---	47	---	---
	472+64	485+49 H	LT/RT	---	---	---	1,300	900	---	---	2,200	690	---	---	---	---	---	---	---
	576+50	591+28 J	LT/RT	---	---	---	1,350	1,100	---	---	2,450	1,500	---	6	3	---	43	---	---
	578+89	591+00 M	LT/RT	---	---	---	1,150	850	---	---	2,000	600	---	---	---	---	---	---	---
	SUBTOTALS			580	550	860	57,900	59,000	12,300	40	129,250	18,360	850	34	14	16	246	14	1
	TOTALS			1,130		860	116,900		12,340		129,250	19,210		34	14	16	246	14	1

MARKING REMOVAL LINE GROOVED CONTRAST PERMANENT TAPE

CATEGORY	STATION	STATION	LOCATION	646.9055 4-INCH LF	646.9155 8-INCH LF
0010	337+70	390+00 NB	LT/RT	1,300	---
	390+00	450+00 NB	LT/RT	1,750	1,155
	450+00	520+00 NB	LT/RT	1,750	1,050
	520+00	584+03 NB	LT/RT	1,600	345
	337+70	390+00 SB	LT/RT	1,300	---
	390+00	450+00 SB	LT/RT	1,750	1,075
	450+00	520+00 SB	LT/RT	1,750	1,025
	520+00	584+03 SB	LT/RT	1,600	665
	408+00	427+00 A	LT/RT	---	510
	426+00	438+22 B	LT/RT	---	645
	426+00	440+13 C	LT/RT	---	290
	410+00	423+68 D	LT/RT	---	785
	472+64	485+37 E	LT/RT	---	380
	486+31	497+40 F	LT/RT	---	670
	486+00	497+00 G	LT/RT	---	330
	472+64	485+49 H	LT/RT	---	695
	576+50	591+28 J	LT/RT	---	345
	578+89	591+00 M	LT/RT	---	665
	TOTALS			12,800	10,630

MOBILIZATIONS EMERGENCY SHOULDER PAVEMENT REPAIR

CATEGORY	LOCATION	SPV.0060.05 EACH
0010	UNDISTRIBUTED	2

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	PROJECT	618.0100.01 EACH
0010	4685-29-60	1

MOBILIZATION

CATEGORY	PROJECT	619.1000 EACH
0010	4685-29-60	1

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MOBILIZATIONS EROSION CONTROL

CATEGORY	PROJECT	628.1905 EACH
0010	4685-29-60	8

MOBILIZATIONS EMERGENCY EROSION CONTROL

CATEGORY	PROJECT	628.1910 EACH
0010	4685-29-60	4

INLET PROTECTION

CATEGORY	STATION - STATION	LOCATION	628.7005 TYPE A EACH	628.7010 TYPE B EACH	628.7015 TYPE C EACH
0010	337+70 - 394+00 NB	LT/RT	2	---	---
	394+00 - 450+00 NB	LT/RT	2	---	---
	450+00 - 520+00 NB	LT/RT	6	8	1
	520+00 - 584+03 NB	LT/RT	2	9	---
	CTH CE	LT	1	4	4
	UNDISTRIBUTED		4	5	1
	SUBTOTALS (CATEGORY 0010)		17	26	6
0140	CTH CE	RT	2	---	---
	SUBTOTALS (CATEGORY 0140)		2	---	---
	TOTALS		19	26	6

RIPRAP

CATEGORY	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
0010	392+85 NB	LT	1	5
	395+10 NB	LT	1	5
	395+65 SB	LT	26	80
	422+90 D	RT	1	5
	425+80 SB	LT	48	150
	426+45 NB	LT	1	5
	476+61 NB	RT	11	35
	479+00 NB	RT	15	35
	479+45 SB	RT	1	20
	479+45 SB	LT	18	55
	539+11 NB	RT	19	60
	556+55 NB	RT	20	65
	556+90 SB	LT	27	80
	560+60 NB	RT	21	65
	576+55 NB	RT	9	30
	580+88 M	LT	4	15
	582+00 SB	LT	4	15
	584+25 NB	RT	3	10
	590+20 J NB	RT	10	35
	TOTALS		240	770

EROSION CONTROL ITEMS

CATEGORY	STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH
0010	337+70 - 394+00 NB	LT/RT	950	1,900	30	---	90
	394+00 - 450+00 NB	LT/RT	1,380	2,760	140	---	120
	450+00 - 520+00 NB	LT/RT	1,720	3,440	170	12	120
	520+00 - 584+03 NB	LT/RT	2,480	4,960	10	---	150
	408+00 - 426+50 A	LT/RT	460	920	---	---	30
	426+71 - 436+30 B	LT/RT	---	---	20	---	---
	426+01 - 426+16 C	LT/RT	400	800	50	---	30
	421+78 - 423+18 D	LT/RT	---	---	10	---	---
	486+38 - 491+35 G	LT/RT	400	800	70	---	30
	576+50 - 590+52 J	LT/RT	1,340	2,680	50	---	60
	589+66 - 590+96 M	LT/RT	650	1,300	---	---	60
	UNDISTRIBUTED		2,450	4,900	145	3	170
	SUBTOTALS (CATEGORY 0010)		12,230	24,460	695	15	860
0140	CTH CE	RT	---	---	30	---	---
	SUBTOTALS (CATEGORY 0140)		---	---	30	---	---
	TOTALS		12,230	24,460	725	15	860

FINISHING ITEMS

CATEGORY	STATION - STATION	LOCATION	625.0100 TOPSOIL SY	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.2004 EROSION MAT CLASS I TYPE B SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0300 SEEDING BORROW PIT LB	630.0500 SEED WATER MGAL
0010	337+70 - 394+00 NB	LT/RT	---	1,690	---	---	1,690	---	1.1	30	---	38.0
	394+00 - 450+00 NB	LT/RT	---	5,210	---	---	5,210	---	3.3	94	---	120.0
	450+00 - 520+00 NB	LT/RT	1,160	3,570	---	400	3,040	1,290	3.0	85	---	110.0
	520+00 - 584+03 NB	LT/RT	---	6,780	---	---	5,190	1,580	4.3	122	---	150.0
	426+01 - 426+16 C	LT/RT	---	800	---	---	800	---	0.5	14	---	18.0
	421+78 - 423+18 D	LT/RT	---	80	---	---	80	---	0.1	1	---	1.8
	486+38 - 491+35 G	LT/RT	2,910	---	---	---	---	2,910	1.8	52	---	65.0
	588+94 - 590+52 J	LT/RT	---	6,880	---	300	6,190	390	4.3	124	---	155.0
	589+66 - 590+96 M	LT/RT	---	550	---	---	550	---	0.3	10	---	12.0
	CTH CE	LT	240	---	---	---	240	---	0.1	4	---	5.3
	UNDISTRIBUTED		1,080	6,600	4,840	180	5,960	1,540	4.8	138	130	170.0
	SUBTOTALS (CATEGORY 0010)		5,390	32,160	4,840	880	28,950	7,710	23.6	674	130	845.1
0140	CTH CE	RT	---	850	---	---	850	---	0.5	15	---	19.0
	SUBTOTALS (CATEGORY 0140)		---	850	---	---	850	---	0.5	15	---	19.0
	TOTALS		5,390	33,010	4,840	880	29,800	7,710	24.1	689	130	864.1

PERMANENT SIGNING SUMMARY

CATEGORY	SIGN NO.	LOCATION	SIGN CODE	SIGN MESSAGE	SIGN SIZE (W x H) IN	637.1220 SIGNS TYPE I REFLECTIVE SH SF	637.2210 SIGNS TYPE II REFLECTIVE H SF	REMARKS
0010	S - 1	S-44-308	---	COLLEGE AVE EXIT ONLY	180 x 126	157.50	---	SIGN STRUCTURE S-44-308
	S - 1	S-44-308	E1-5P	EXIT 8	84 x 30	17.50	---	SIGN STRUCTURE S-44-308
	S - 2	S-44-309	---	NORTHLAND AVE EXIT ONLY	216 x 126	189.00	---	SIGN STRUCTURE S-44-309
	S - 2	S-44-309	E1-5P	EXIT 10	96 x 30	20.00	---	SIGN STRUCTURE S-44-309
	S - 3	S-44-307	R3-5R	RIGHT ONLY	42 x 48	---	14.00	SIGN STRUCTURE S-44-307
	S - 4	S-44-307	R3-6L	LEFT/THROUGH	42 x 48	---	14.00	SIGN STRUCTURE S-44-307
	S - 5	S-44-307	R3-5L	LEFT ONLY	42 x 48	---	14.00	SIGN STRUCTURE S-44-307
	S - 6	S-44-310	R3-5L	LEFT ONLY	42 x 48	---	14.00	SIGN STRUCTURE S-44-310
	S - 7	S-44-310	R3-6L	LEFT/THROUGH	42 x 48	---	14.00	SIGN STRUCTURE S-44-310
	S - 8	S-44-310	R3-5R	RIGHT ONLY	42 x 48	---	14.00	SIGN STRUCTURE S-44-310
	TOTALS					384.00	84.00	

MOVING SIGNS TYPE II

CATEGORY	STATION	LOCATION	634.0616 POSTS WOOD 4X6-INCH X 16-FT EACH	638.2102 MOVING SIGNS TYPE II EACH
0010	489+21 G	RT	---	1
	489+27 G	LT	---	1
	489+58 G	RT	---	1
	490+38 G	LT	---	1
	491+57 G	RT	---	1
	491+62 G	LT	---	1
	492+82 G	RT	---	1
	584+40 J	RT	---	1
	586+30 J	LT	---	1
	586+31 J	RT	---	1
	91+37 EB	LT	---	1
	UNDISTRIBUTED	LT/RT	4	---
	SUBTOTALS (CATEGORY 0010)		4	11
0140	86+58 EB	RT	---	1
	88+30 EB	RT	---	1
	SUBTOTALS (CATEGORY 0140)		0	2
	TOTALS		4	13

FIELD OFFICE TYPE C

CATEGORY	PROJECT	642.5201 EACH
0010	4685-29-60	1

CONSTRUCTION STAKING

CATEGORY	STATION - STATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB GUTTER AND CURB & GUTTER LF	650.7000 CONCRETE PAVEMENT LF	650.7500 CONCRETE BARRIER LF	650.9911.01 SUPPLEMENTAL CONTROL 4685-29-60 EACH	650.9920 SLOPE STAKES LF
0010	337+69.79 NB - 584+02.97 NB	3,540	620	460	2,925	82	1	9,275

UTILITY LINE OPENING (ULO)

CATEGORY	STATION	LOCATION	SPV.0060.01 EACH
0010	539+63 NB	RT	1

*SIGNING REMOVAL SUMMARY

CATEGORY	LOCATION	638.2601 REMOVING SIGNS TYPE I EACH	638.3100 REMOVING STRUCTURAL STEEL SIGN SUPPORTS EACH	DESCRIPTION
0010	491+50 SB, LT	1	2	COLLEGE AVE, EXIT 8
	566+50 NB, RT	1	2	NORTHLAND AVE, EXIT 10
	TOTALS	2	4	

*DO NOT REMOVE SIGNS LISTED UNTIL THEIR REPLACEMENT SIGNS (S-1 AND S-2) ARE INSTALLED.

SAWING

CATEGORY	STATION - STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250* SAWING CONCRETE LF
0010	525+75 - 567+64 NB	RT	5	500
	490+46 - 497+39 SB	LT	10	130
	487+84 - 492+08 G	RT	10	200
	488+00 - 491+66 G	LT	10	380
	582+82 - 587+70 J	LT	6	---
	584+96 - 587+70 J	RT	21	---
	85+89 - 91+58 CE EB	LT	---	620
	SUBTOTALS (CATEGORY 0010)		62	1,830
0140	85+26 - 90+46 CE EB	RT	8	220
	SUBTOTALS (CATEGORY 0140)		8	220
	TOTALS		70	2,050

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM

CATEGORY	LOCATION	999.2000.S 01. STATION 424+50 SB EACH	999.2000.S 02. STATION 583+10 NB EACH
0010	STRUCTURE B-08-028	1	---
	STRUCTURE B-44-127	---	1
	TOTALS	1	1

REMOVE AND REINSTALL NOISE BARRIER PANEL

CATEGORY	STATION	LOCATION	SPV.0060.03 EACH
0010	514+84 SB	LT	2
	539+63 NB	RT	2
	TOTAL		4

3

CONDUIT RIGID NONMETALLIC SCHEDULE 40

CATEGORY	LOCATION FROM	TO	652.0210 1-INCH LF	652.0225 2-INCH LF	652.0235 3-INCH LF
0010	PB1	SB6	---	---	15
	PB1	PB2	---	125	---
	PB2	PB3	225	---	---
	Splice	PB4	145	---	---
	PB4	PB5	300	---	---
		TOTALS	670	125	15

LOOP DETECTORS

CATEGORY	LOCATION	LOOP NO.	# OF TURNS	652.0800 CONDUIT LF	655.0700 LEAD IN CABLE LF	655.0800 WIRE LF
0010	STH 441 SB & CE (S70-2004)	41	5	72	718	368
		61	4	92	388	376
		62	4	92	613	376
			TOTALS	256	1,719	1,120

CABLE TRAFFIC SIGNAL

CATEGORY	STH 441 SB & CE (S70-2004) FROM CB1 TO	655.0260 12-14 AWG LF	HEAD NO.	655.0230 BASE TO HEAD 5-14 AWG LF	655.0240 BASE TO HEAD 7-14 AWG LF
0010	SB2	---	6	73	---
		---	7	63	---
		---	8	53	---
	SB6	338	2	---	48
		---	3	58	---
		---	4	68	---
	TOTALS	338		315	48

Signal Indication		Conductor Color
Red	=	Red
Yellow	=	Orange
Green	=	Green
Red Arrow	=	Red w/Black Tracer
Yellow Arrow	=	Black w/White
Yellow Flashing Arrow	=	White w/Black
Green Arrow	=	Blue w/Black

PEDS

Walk	=	Green
Don't Walk	=	Red
Button	=	Black & Orange

PULL BOXES

CATEGORY	LOCATION	STEEL 653.0105 12X24-INCH EACH
0010	STH 441 SB & CE (S70-2004)	4

ADJUSTING PULL BOXES

CATEGORY	LOCATION	653.0900 EACH
0010	STH 441 SB & CE (S70-2004)	1

REMOVING PULL BOXES

CATEGORY	LOCATION	653.0905 EACH
0010	STH 441 SB & CE (S70-2004)	4

CONCRETE BASES

CATEGORY	LOCATION	654.0113 TYPE 13 EACH
0010	STH 441 SB & CE (S70-2004)	1

TRAFFIC SIGNALS

CATEGORY	LOCATION	658.0173 TRAFFIC SIGNAL FACE 3S 12-INCH EACH	657.0545 MONOTUBE ARMS 45-FT EACH	658.5070 SIGNAL MOUNTING HARDWARE (STH 441 SB & CTH CE) EACH	SPV.0060.06 REMOVE TRAFFIC SIGNAL (STH 441 SB & CTH CE) EACH	SPV.0060.07 SALVAGE AND REINSTALL MONOTUBE (STH 441 SB & CTH CE) EACH	659.5000.S LAMP, BALLAST, LED, SWITCH DISPOSAL BY CONTRACTOR EACH
0010	STH 441 SB & CE (S70-2004)	3	1	1	1	1	2

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

CATEGORY	LOCATION STH 441 SB & CE (S70-2004) FROM	TO	655.0515 (EQUIPMENT GROUNDING CONDUCTOR) (GREEN) LF
0010	PB1	SB6	31

SIGNAL LIGHTING CABLE

CATEGORY	LOCATION FROM	TO	655.0305 CABLE TYPE UF 2-12 AWG GROUNDED LF
0010	CB1	SB6	676

ELECTRICAL WIRE LIGHTING 12 AWG

CATEGORY	LOCATION FROM	TO	STH 441 SB & CE (S70-2004) 120 VOLT SYSTEM 655.0610 LF
0010	SB6	LUMINAIRES	300

5

5

LEGEND

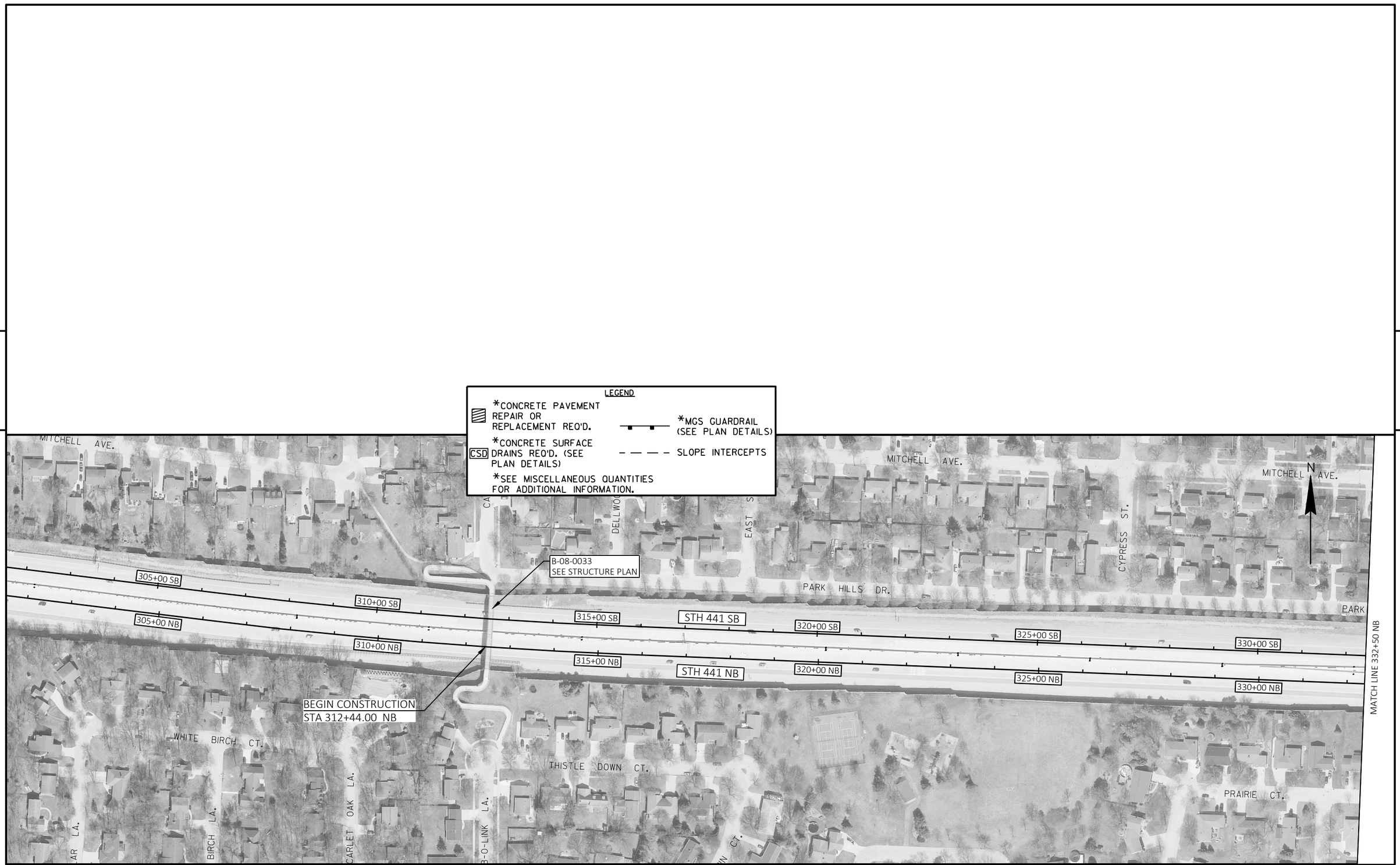
*CONCRETE PAVEMENT REPAIR OR REPLACEMENT REQ'D.

*CONCRETE SURFACE DRAINS REQ'D. (SEE PLAN DETAILS)

*SEE MISCELLANEOUS QUANTITIES FOR ADDITIONAL INFORMATION.

*MGS GUARDRAIL (SEE PLAN DETAILS)

SLOPE INTERCEPTS



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN SHEETS	SHEET 153	E

MATCH LINE 332+50 NB

HILLS DR.

GLADYS AVE.

KERNAN AVE.

RAINBOW CT.

RAINBOW CT.

MOON BEAM CT.

TELULAH AVE

MOON BEAM TR.

SYLVAN AVE.

N

335+00 SB

335+00 NB

340+00 SB

340+00 NB

345+00 SB

345+00 NB

STH 441 SB

STH 441 NB

B-08-0024
SEE STRUCTURE PLAN

R/L STH 441 SB

R/L STH 441 NB

BEGIN PROJECT
STA 337+69.79 NB
Y=551,541.50
X=833,581.57

STEEL THRIE BEAM BULLNOSE TERMINAL REQ'D.
(SEE PLAN DETAILS FOR ADDITIONAL INFORMATION)

350+00 SB

350+00 NB

355+00 SB

355+00 NB

360+00 SB

360+00 NB

MATCH LINE 361+00 NB

PARTRIDGE CT.

KERNAN AVE.

TELULAH AVE

BAYBERRY ST.

5

5

LEGEND

*CONCRETE PAVEMENT REPAIR OR REPLACEMENT REQ'D.

CSD *CONCRETE SURFACE DRAINS REQ'D. (SEE PLAN DETAILS)

*SEE MISCELLANEOUS QUANTITIES FOR ADDITIONAL INFORMATION.

*MGS GUARDRAIL (SEE PLAN DETAILS)

SLOPE INTERCEPTS

SYLVAN AVE.

BRENTWOOD CT.

SCHAEFER CIR.

N

R/L STH 441 SB

CAUTION

CAUTION

STH 441 SB

365+00 SB

370+00 SB

375+00 SB

380+00 SB

385+00 SB

390+00 SB

390+00 NB

365+00 NB

370+00 NB

375+00 NB

STH 441 NB

380+00 NB

385+00 NB

R/L STH 441 NB

MATCH LINE 361+00 NB

MATCH LINE 391+50 NB

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN SHEETS	SHEET 154	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050202-pn

PLOT DATE : 10/31/2022 11:19 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

MATCH LINE 391+50 NB

LAKE PARK RD

LAKE PARK RD.

KENSINGTON DR.

MATCH LINE 423+00 NB

MATCH LINE 452+50 NB

B-08-0026
SEE STRUCTURE PLAN

B-08-0025
SEE STRUCTURE PLAN

B-08-0028
SEE STRUCTURE PLAN

B-08-0027
SEE STRUCTURE PLAN

CSD

395+00 SB

395+00 NB

400+00 SB

400+00 NB

405+00 SB

405+00 NB

R/L STH 441 SB

R/L STH 441 NB

STH 441 SB

STH 441 NB

410+00 D

410+00 SB

410+00 NB

410+00 A

415+00 D

415+00 SB

415+00 NB

415+00 A

420+00 D

420+00 SB

420+00 NB

420+00 A

CTH KK

425+00 SB

425+00 NB

425+00 A

430+00 C

430+00 SB

430+00 NB

430+00 B

435+00 C

435+00 SB

435+00 NB

435+00 B

440+00 SB

440+00 NB

440+00 B

445+00 SB

445+00 NB

450+00 SB

450+00 NB

5

5

N

LEGEND

*CONCRETE PAVEMENT REPAIR OR REPLACEMENT REQ'D.

CSD *CONCRETE SURFACE DRAINS REQ'D. (SEE PLAN DETAILS)

*SEE MISCELLANEOUS QUANTITIES FOR ADDITIONAL INFORMATION.

*MGS GUARDRAIL (SEE PLAN DETAILS)

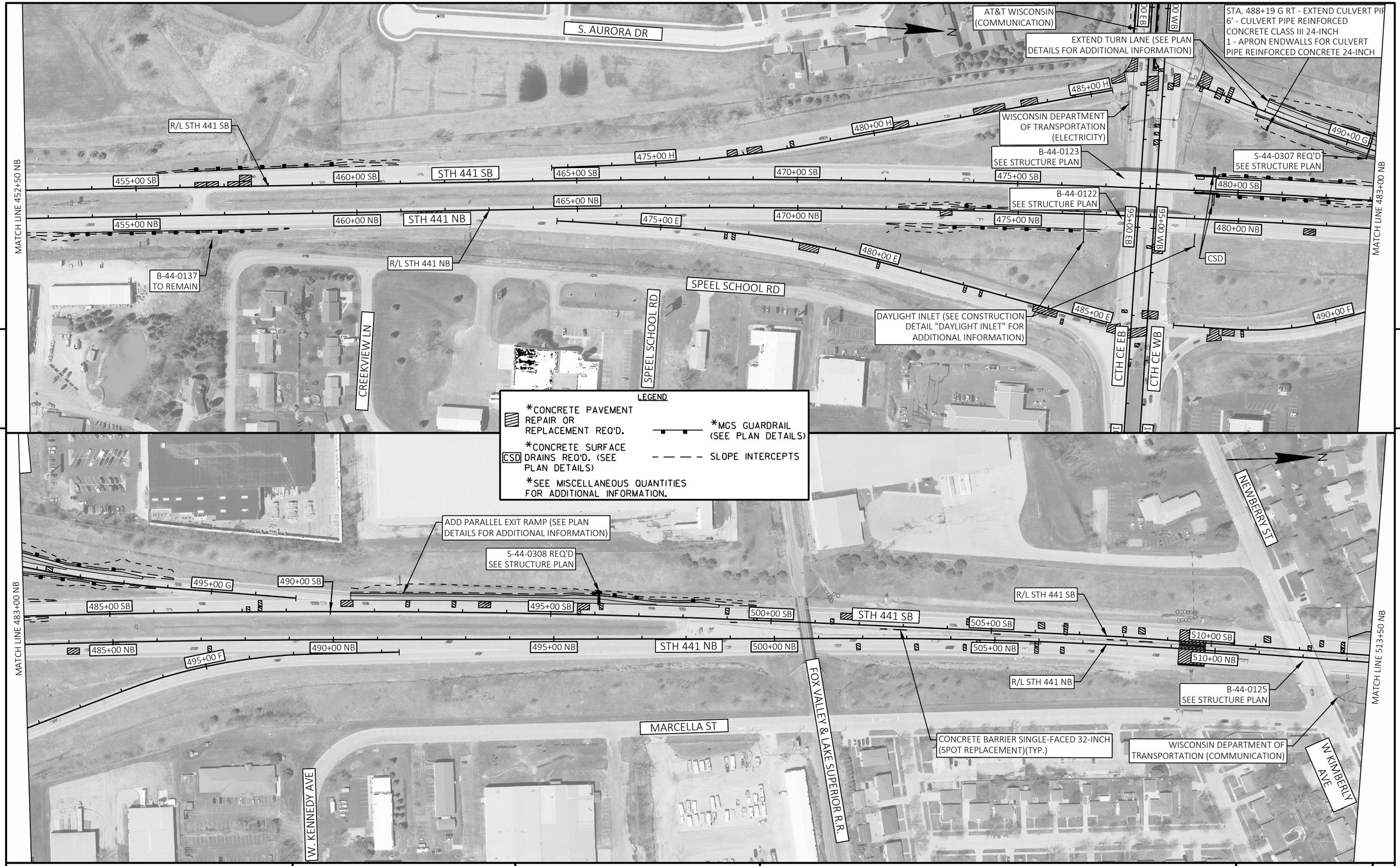
SLOPE INTERCEPTS

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN SHEETS	SHEET 155	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050203-pn

PLOT DATE : 10/31/2022 11:19 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

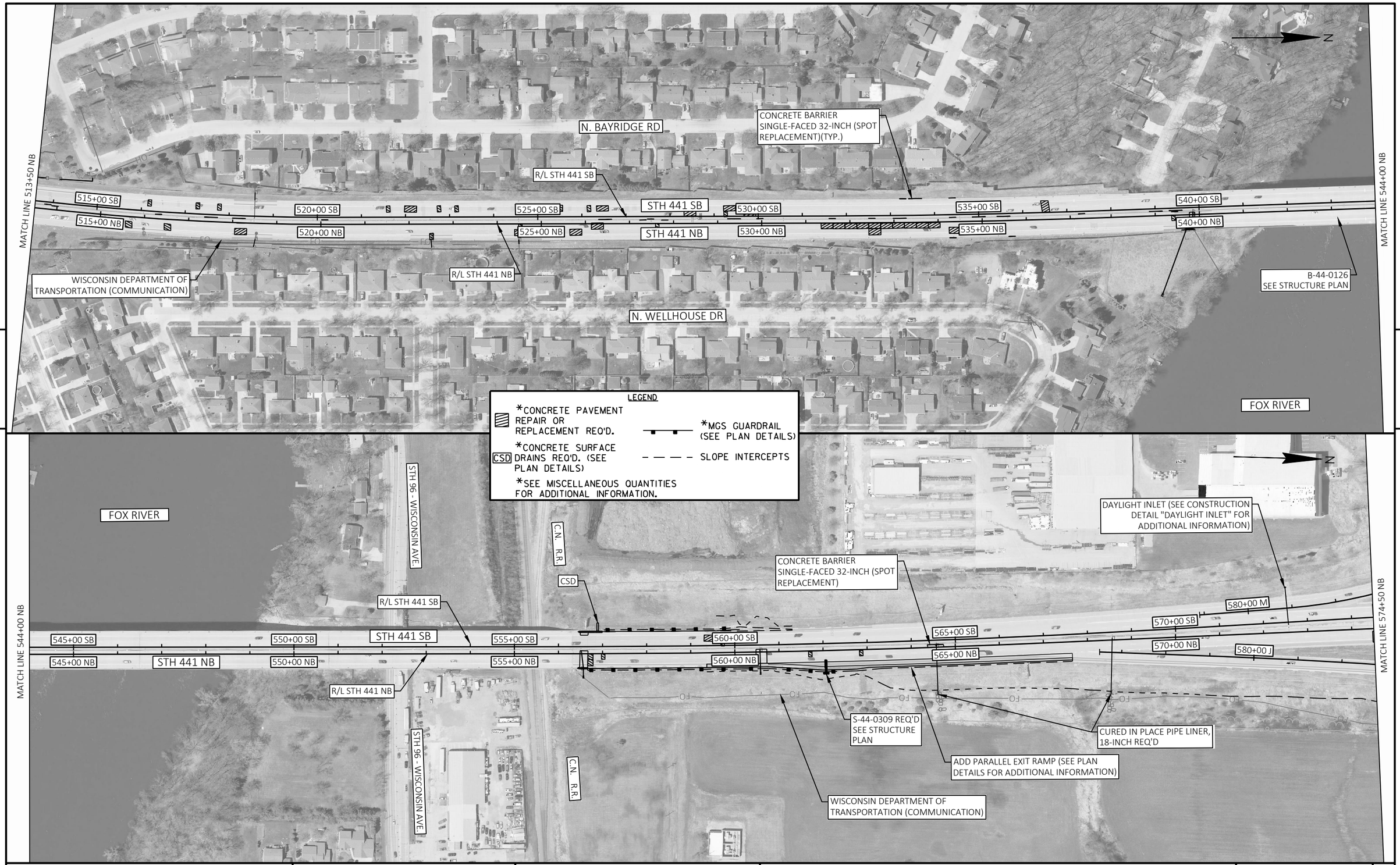


PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN SHEETS	SHEET 156	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050204-pn

PLOT DATE : 10/31/2022 11:19 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44



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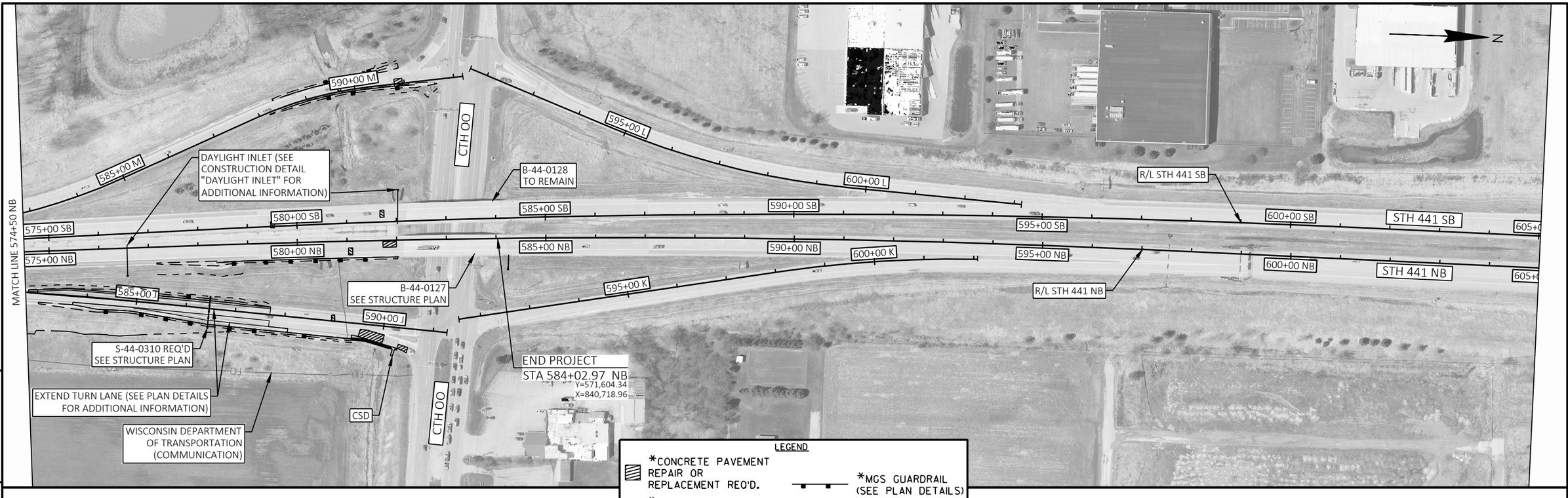
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN SHEETS	SHEET 157	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050205-pn
PLOT DATE : 10/31/2022 11:20 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44



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PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	PLAN SHEETS	SHEET 158	E

Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-03	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-06	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D15-05A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
09B02-10	CONDUIT
09B04-12	PULL BOX
09C12-09A	CONCRETE BASE TYPE 13
09C12-09B	CONCRETE BASE TYPE 13
09E08-09J	TYPE 13 POLE 35'-55' MONOTBE ARM
09E08-09K	GENERAL NOTES,HARDWARE DETAILS FOR TYPE 9/10,9/10 SPECIAL,12 & 13 POLES W/MONOTUBE ARMS
09F15-04A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
10A01-04	ELECTRICAL HANDHOLE WIRING
11B02-02	CONCRETE MEDIAN NOSE
13A03-06	CONCRETE PAVEMENT SHOULDERS
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-16A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-16B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-16C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C11-13A	RURAL DOWELED CONCRETE PAVEMENT
13C11-13B	RURAL DOWELED CONCRETE PAVEMENT
13C13-10	URBAN DOWELED CONCRETE PAVEMENT
13C16-02A	DETAIL FOR RIGHT TURN LANE/TEE INTERSECTION BYPASS LANE ON A CONRETE ROADWAY
13C16-02B	DETAIL FOR RIGHT TURN LANE/TEE INTERSECTION BYPASS LANE ON A CONRETE ROADWAY
13C18-07A	CONCRETE PAVEMENT JOINTING
13C18-07B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-07C	CONCRETE PAVEMENT JOINT TYPES
13C18-07D	CONCRETE PAVEMENT JOINT TYPES AT UTILITY FIXTURES
13C18-07F	CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER
14B07-16A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16J	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16K	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16L	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16M	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16N	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
14B22-07A	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)

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Standard Detail Drawing List

14B22-07B	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B26-04A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04F	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04G	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-04H	STEEL THRIE BEAM BULLNOSE TERMINAL
14B32-10A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-10B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-10H	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B33-02G	CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR
14B33-02H	CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B43-04A	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04B	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
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)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-03A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03D	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03E	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03F	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03G	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15A04-07B	BARRIER WALL DELINEATOR WITH REFLECTIVE SHEETING
15A04-07C	DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08D	ON RAMP LANE CLOSURE
15C02-08E	OFF RAMP LANE CLOSURE
15C02-08F	ADVANCED WIDTH RESTRICTION SIGNING
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-22A	LONGITUDINAL MARKING (MAINLINE)
15C08-22B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-22D	PAVEMENT MARKING (TURN LANES)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C14-04	AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS
15C18-06B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE
15C18-06C	MEDIAN PAVEMENT MARKINGS DOUBLE ARROW WARNING SIGN PLACEMENT
15C31-04A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15C31-04C	PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-10B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D12-10E	TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM
15D15-06A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-06D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-06E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-05	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-06A	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

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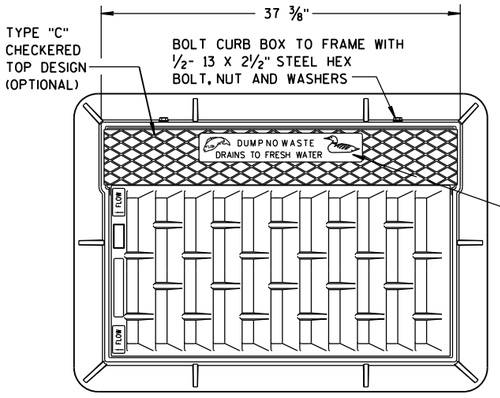
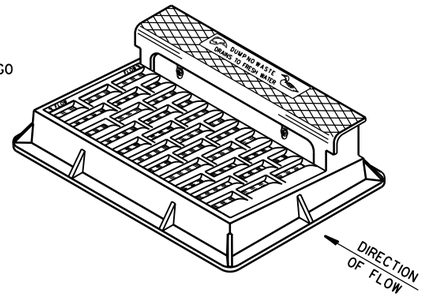
Standard Detail Drawing List

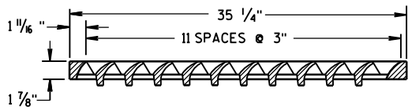
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D30-07A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-07B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-07C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-07F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D40-04C	TRAFFIC CONTROL, PARTIAL LANE SHIFT NON-FREEWAY OR MULTILANE DIVIDED 45 MPH AND UNDER
15D40-04D	TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER

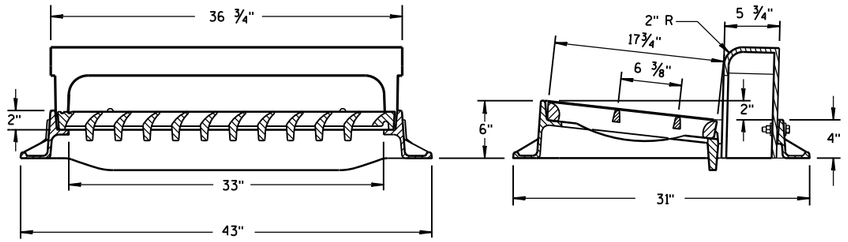


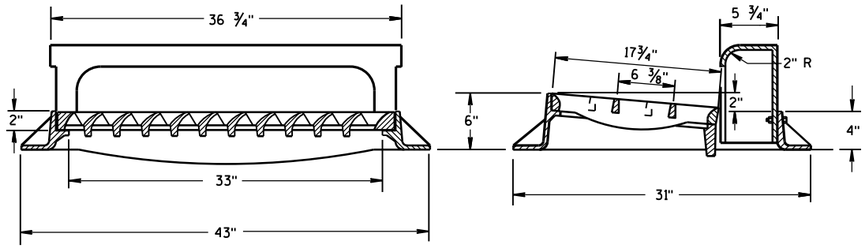
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

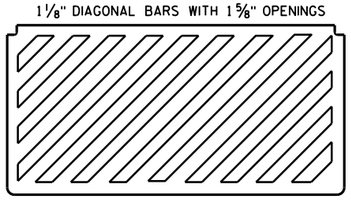






TYPE "H"

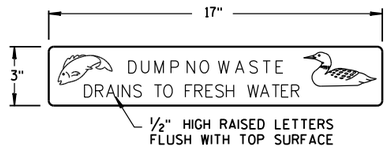
NOTE: EITHER CASTING IS ACCEPTABLE



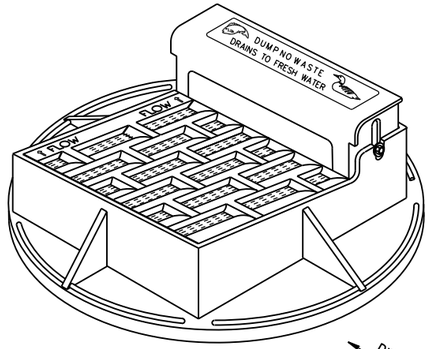
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

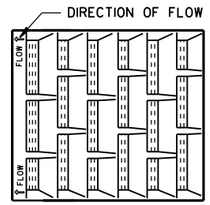
NOTE:
GRATE IS REVERSIBLE.

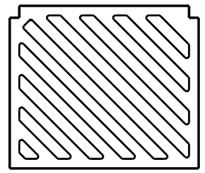
GENERAL NOTES

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

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

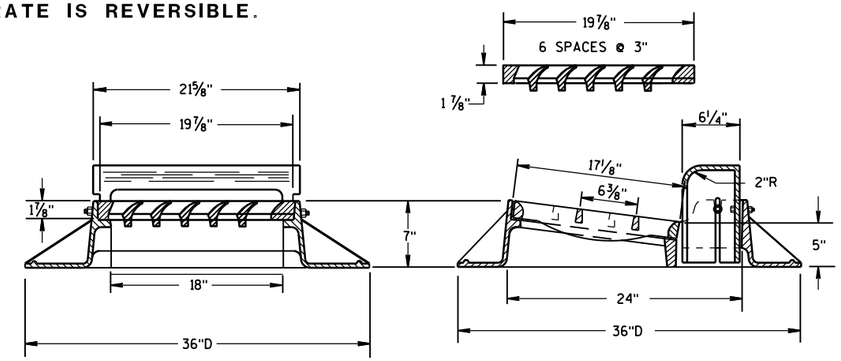




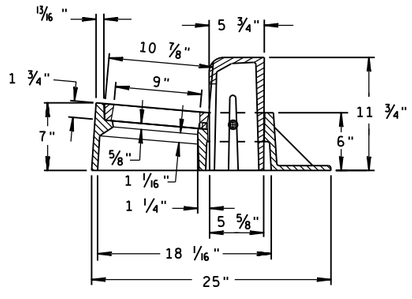
SPECIAL GRATE FOR TYPE "A" COVER

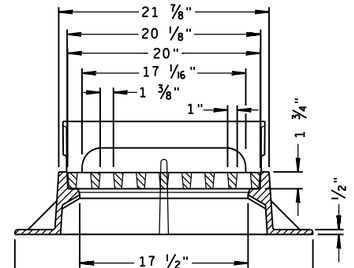
(MEASURES 19 3/4" X 17" X 1 7/8")

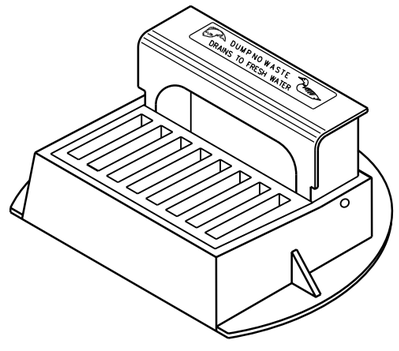
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"







TYPE "Z"

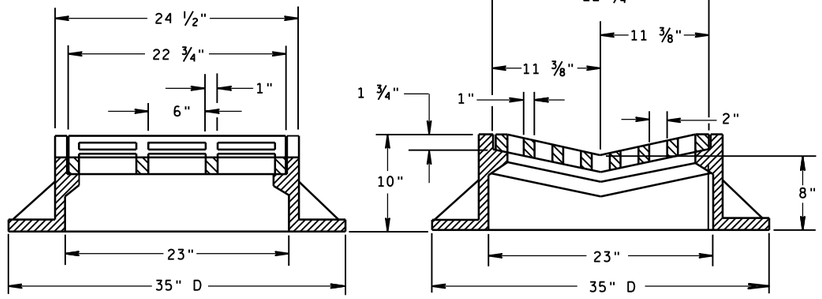
INLET COVERS
TYPE A, H, A-S, H-S & Z

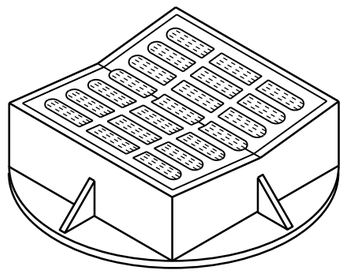
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

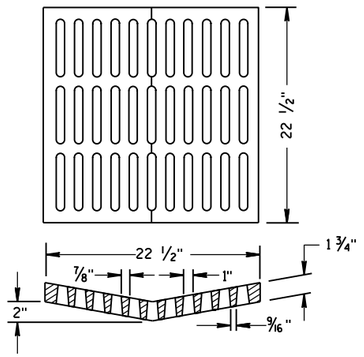
6

S.D.D. 8 A 5-19a



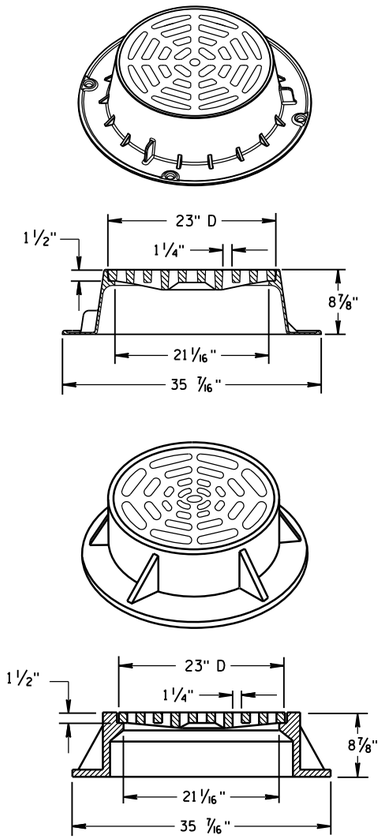


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

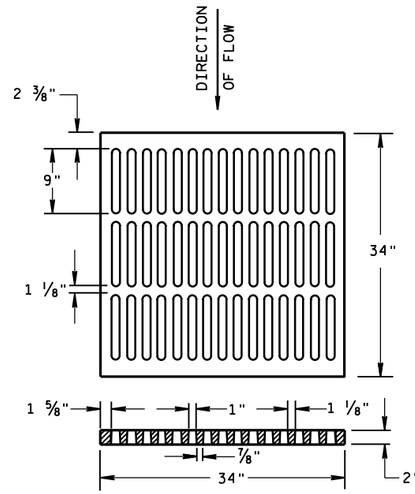
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

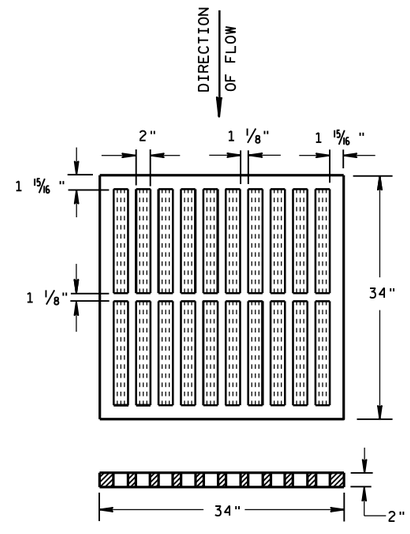
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



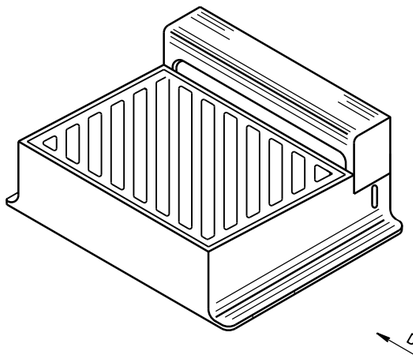
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



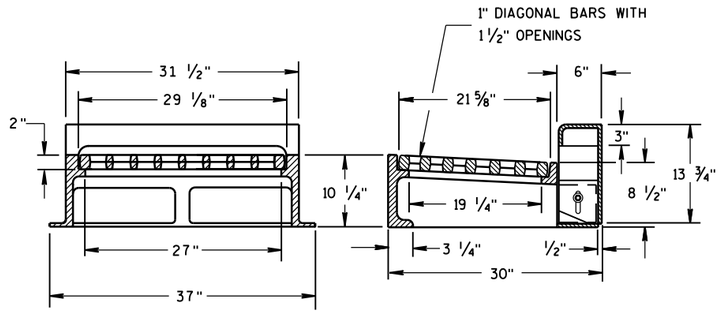
TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIRECTION OF FLOW

DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

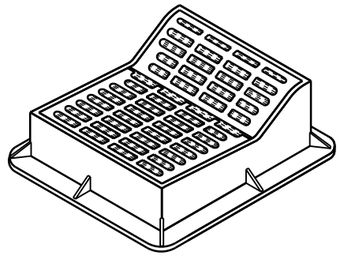
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

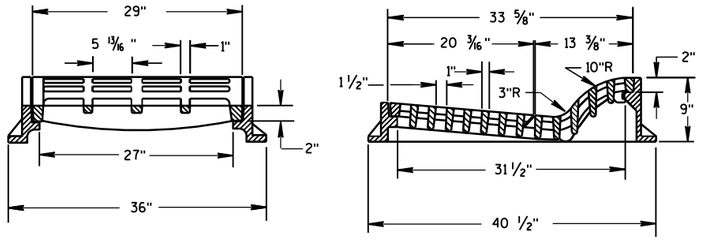
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

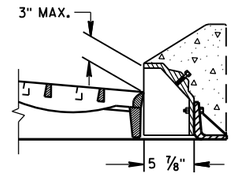
S.D.D. 8 A 5-19b





TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

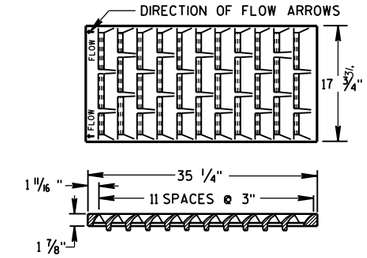
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

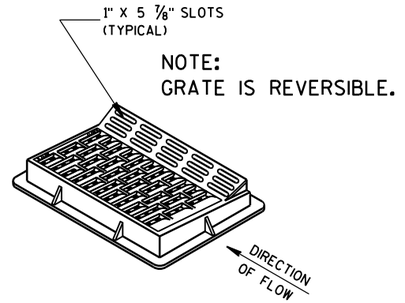
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

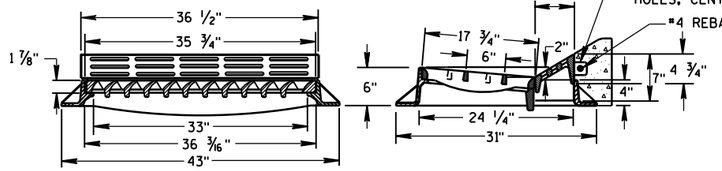
GENERAL NOTES

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

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



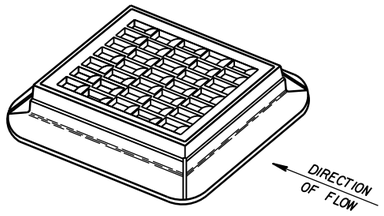


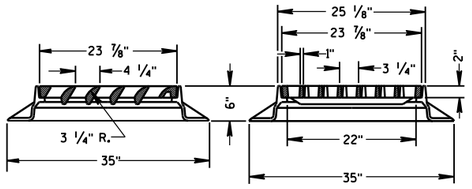


TYPE "HM"

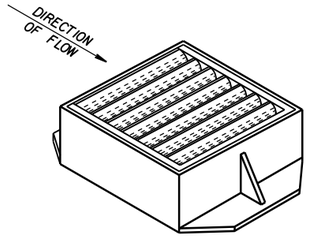
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

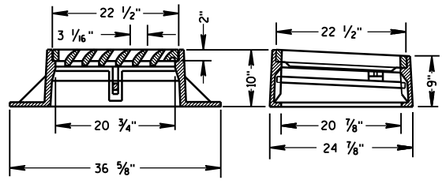
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



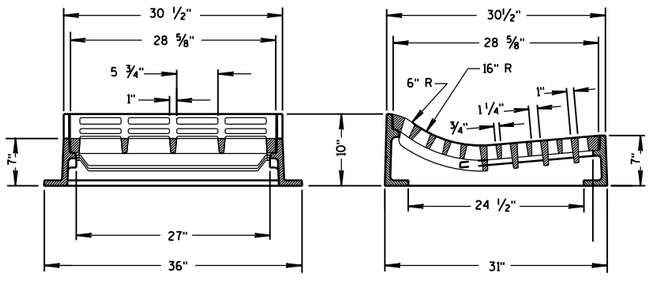


TYPE "S"



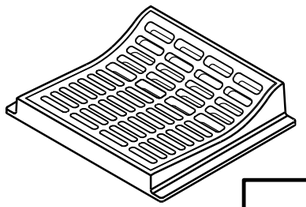


TYPE "V"



TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



INLET COVERS
TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

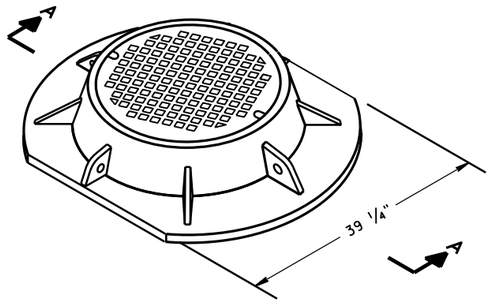
FHWA

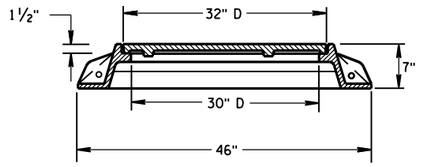
6

S.D.D. 8 A 5-19c

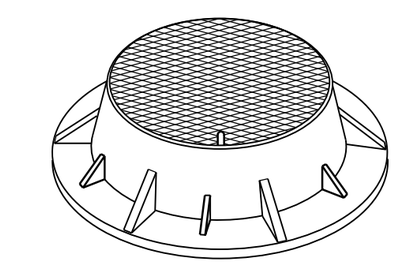
6

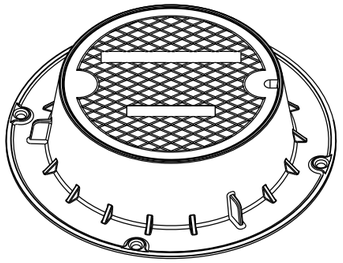
S.D.D. 8 A 5-19c

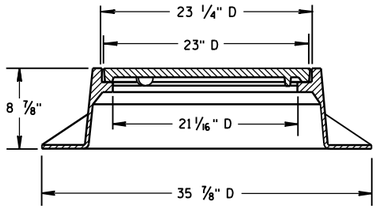


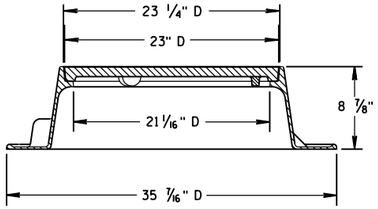


SECTION A-A
TYPE "K"









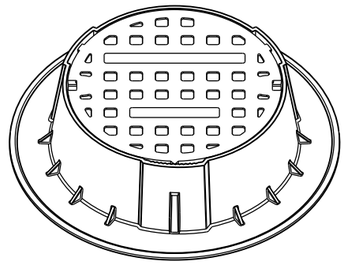
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

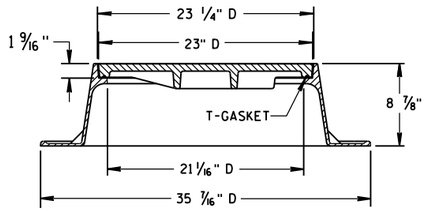
GENERAL NOTES

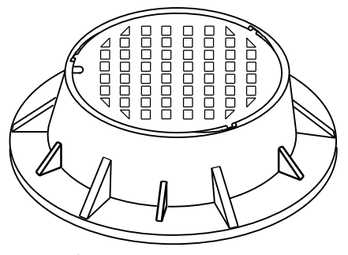
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

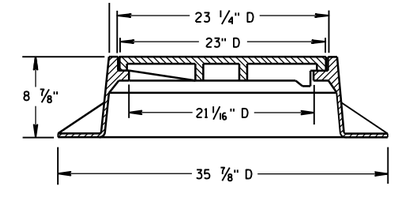
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

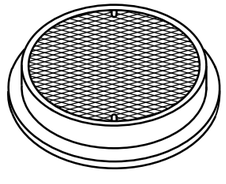


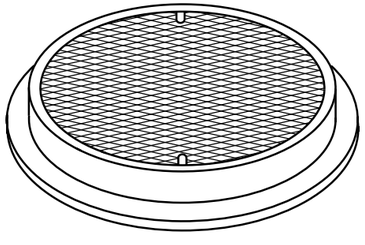


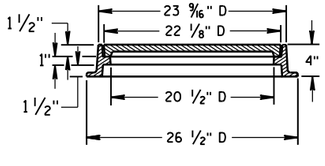




TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE







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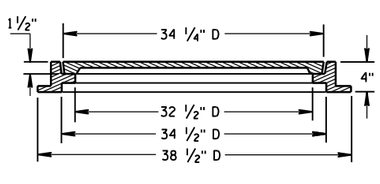

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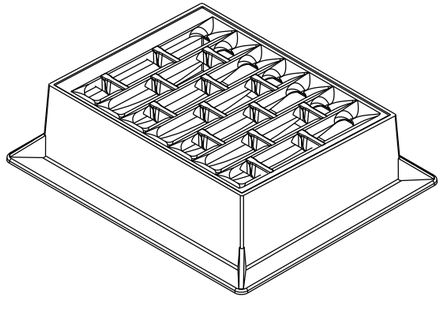
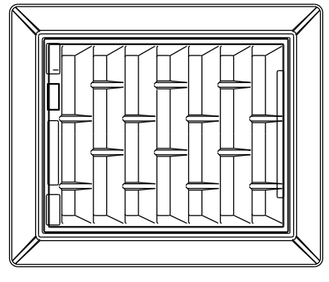
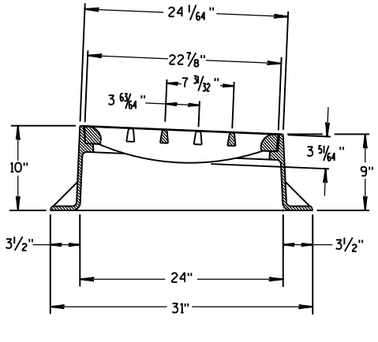
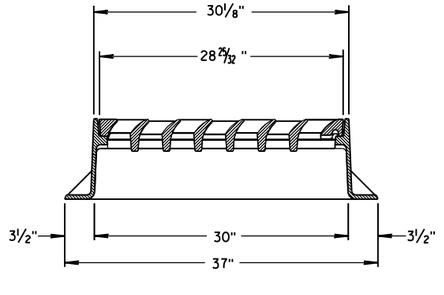








INLET COVER TYPE "BW"

INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

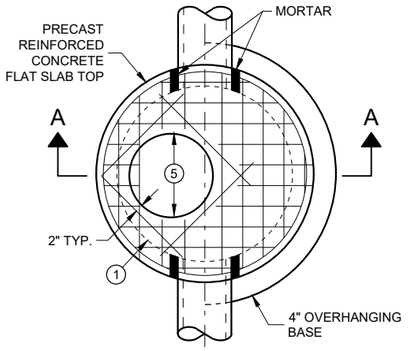
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

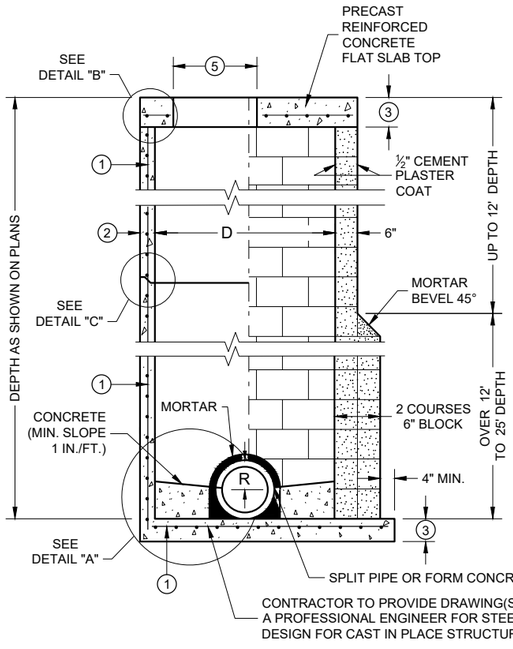
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

S.D.D. 8 A 5-19d



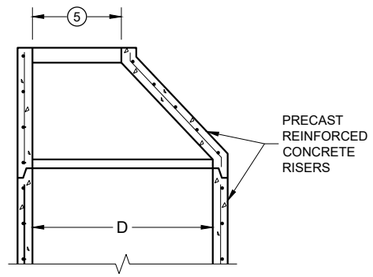
PLAN VIEW
CIRCULAR OPENING



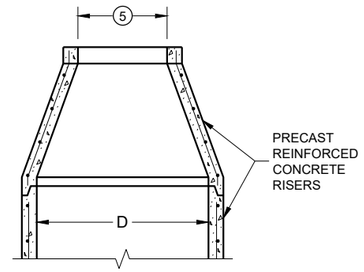
SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (1)



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

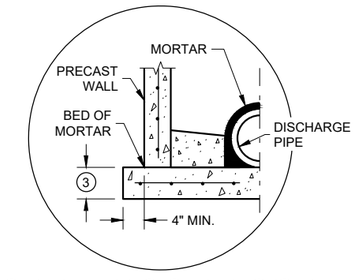
MANHOLE COVER OPENING MATRIX

OPENING SIZE (FT.) \ MANHOLE COVER TYPE	C	ALL J'S	K	L	M
2 DIA.	X	X		X	
3 DIA.			X		X

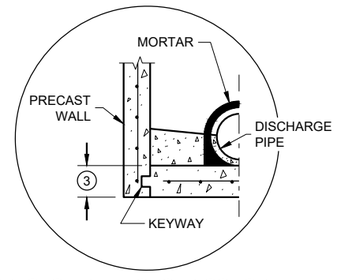
PIPE MATRIX

MANHOLE SIZE (DIA.)	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES		MINIMUM WALL THICKNESS (IN)	MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS
	180° SEPARATION (IN)	90° SEPARATION (IN)		
3-FT	15	12	4	6
4-FT	24	18	4	6
5-FT	36	24	5	8
6-FT	42	36	6	8
7-FT	48	36/42*	7	8
8-FT	60	42	8	8
9-FT	66	54	9	10
10-FT	72	60	10	10

*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES.
SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.

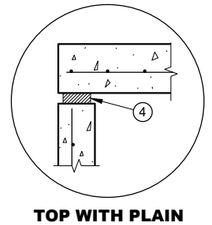


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

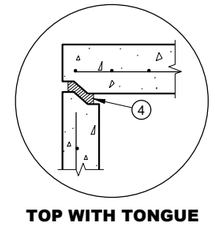


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

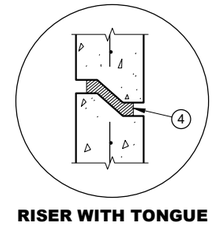
DETAIL "A"



TOP WITH PLAIN END JOINT

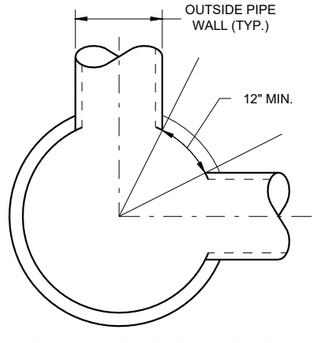


TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B" **DETAIL "C"**



MINIMUM HORIZONTAL PIPE SEPARATION

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES. CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "D".

(1) FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

(2) SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES

(3) SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.

(4) JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP.).

(5) SEE MANHOLE COVER OPENING MATRIX.

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

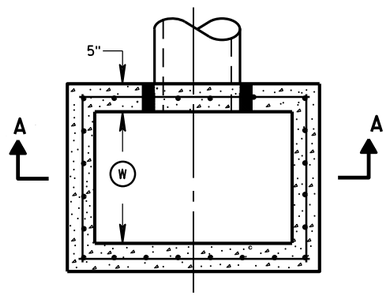
APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

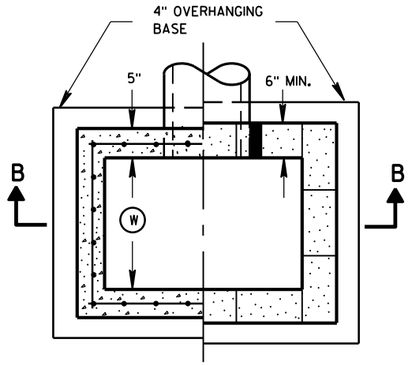
6

SDD 08B09 - 03

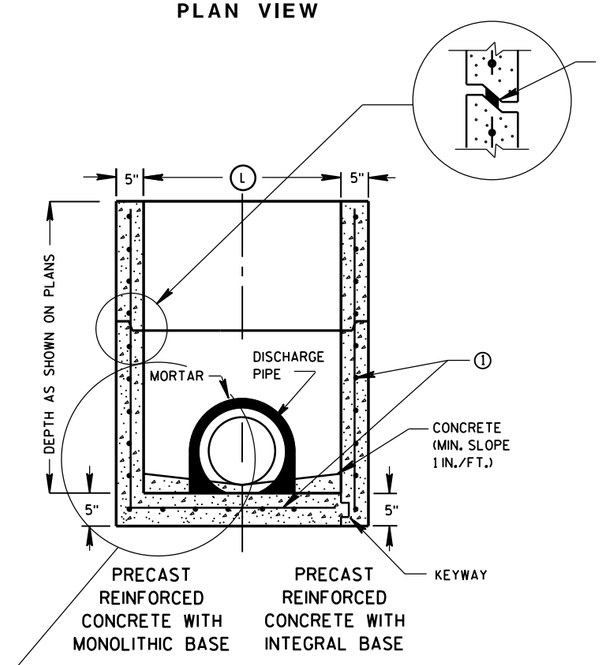
SDD 08B09 - 03



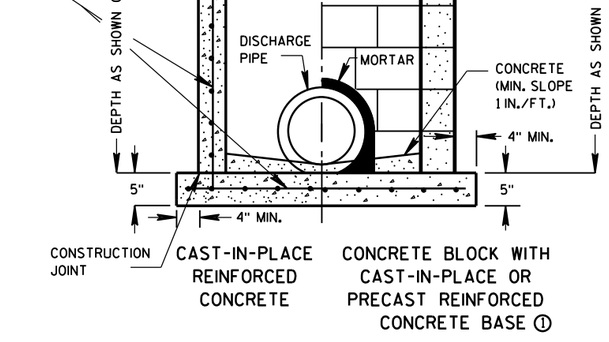
PLAN VIEW



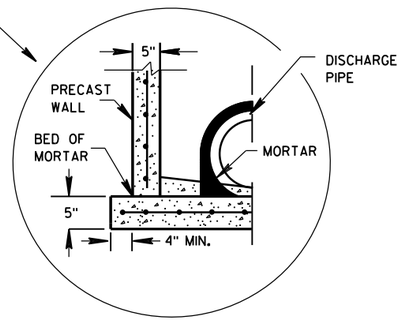
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

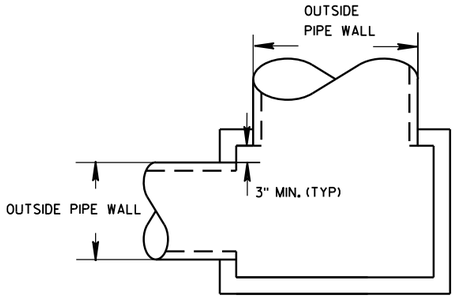
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D IT
UNIT SUPERVIS
FHWA

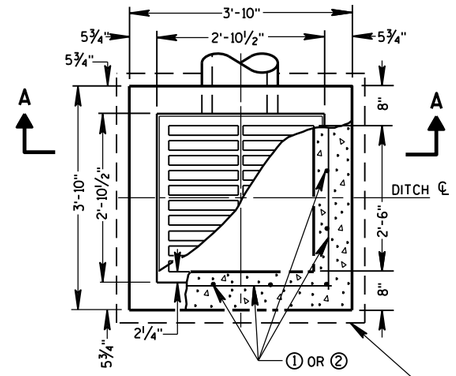
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

6

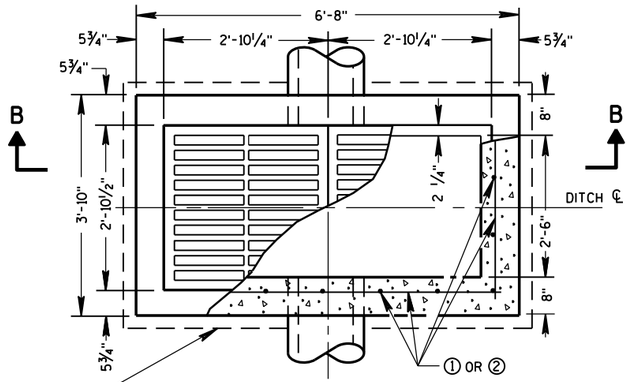
S.D.D. 8 C 7-2

6

S.D.D. 8 C 7-2

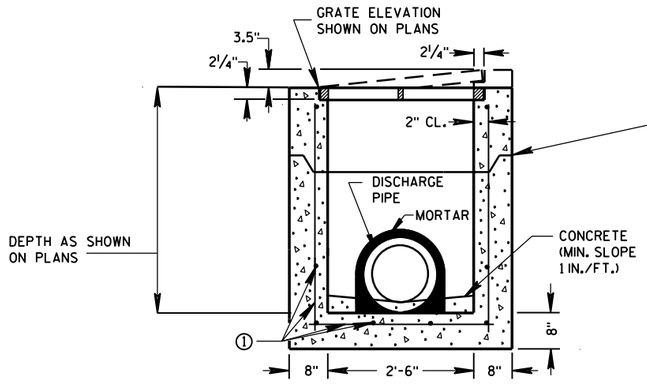


PLAN VIEW

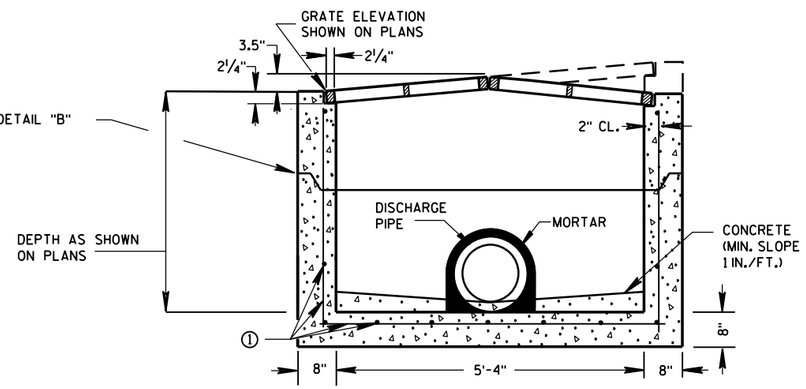


PLAN VIEW

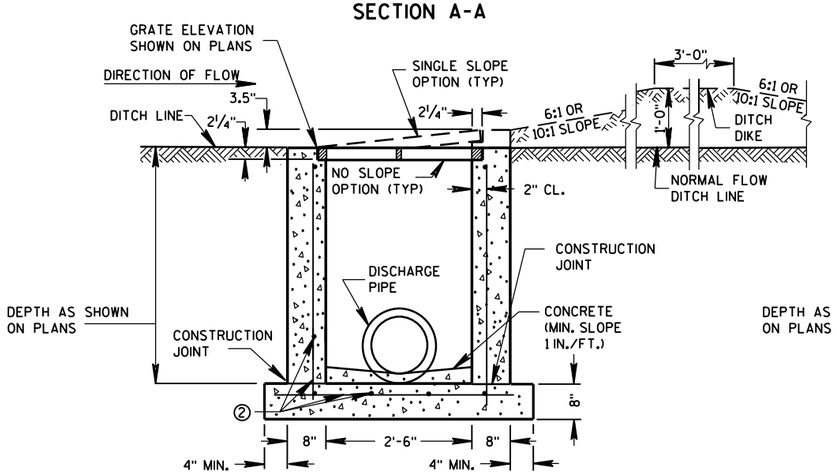
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



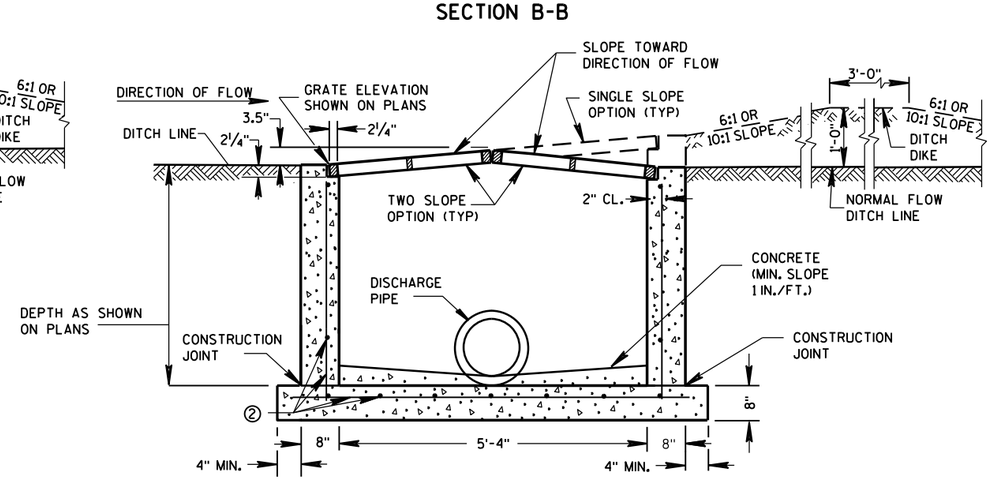
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

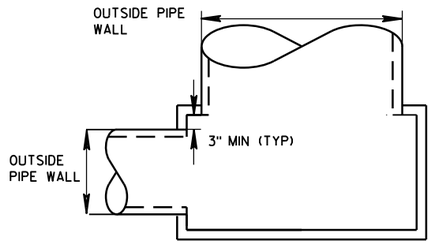
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

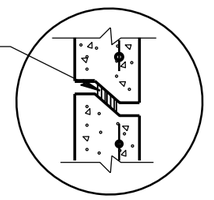
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



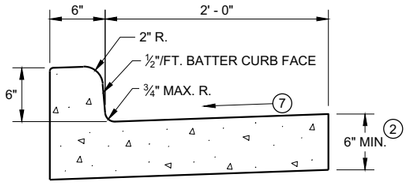
DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

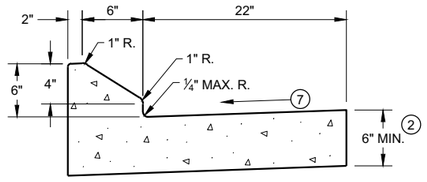
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVI ENT
FHWA

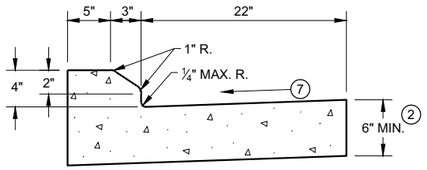
6
S.D.D. 8 C 8-2



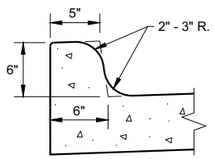
TYPES A[1] & D



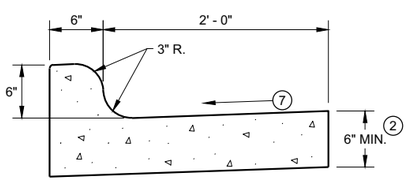
6" SLOPED CURB TYPES G[1] & J



4" SLOPED CURB TYPES G[1] & J

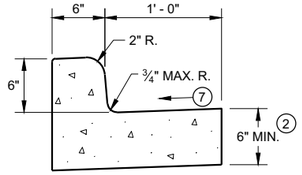


TYPES K[1] & L
(OPTIONAL CURB SHAPE)



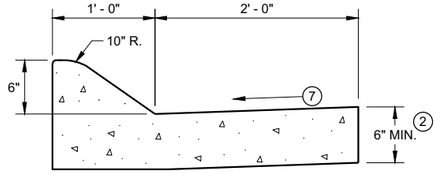
TYPES K[1] & L

CONCRETE CURB AND GUTTER 30"



TYPES A[1] & D

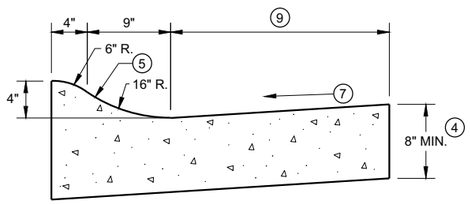
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A[1] & D

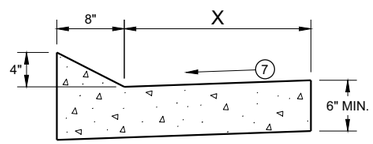
4" SLOPED CURB TYPES A[1] & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R[1] & T

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

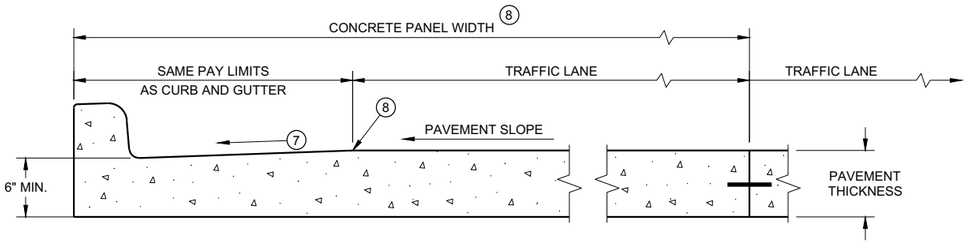


TYPES TBT & TBTT[1]

CONCRETE CURB AND GUTTER

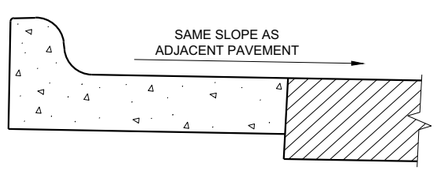
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

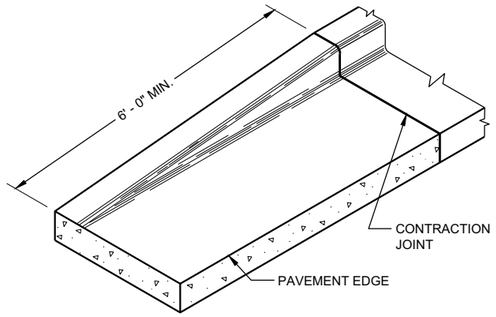
1. TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
3. USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH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

CONCRETE CURB AND GUTTER

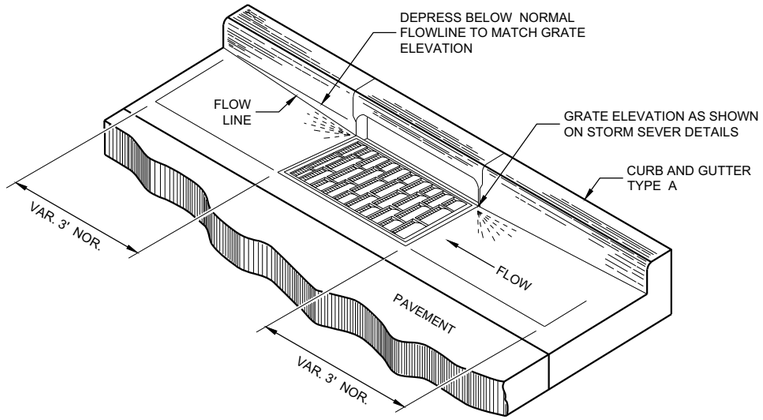
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D01 - 22a
SDD 08D01 - 22a



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS
(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

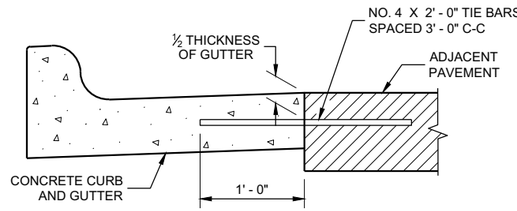
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

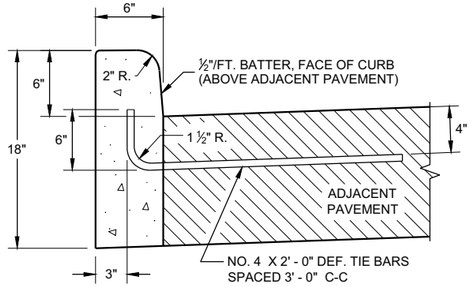
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

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

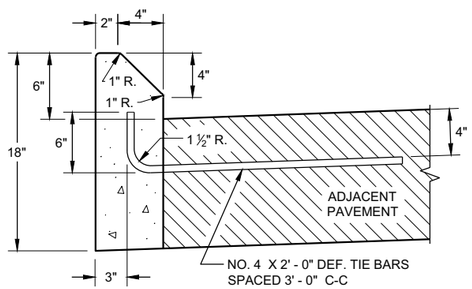
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

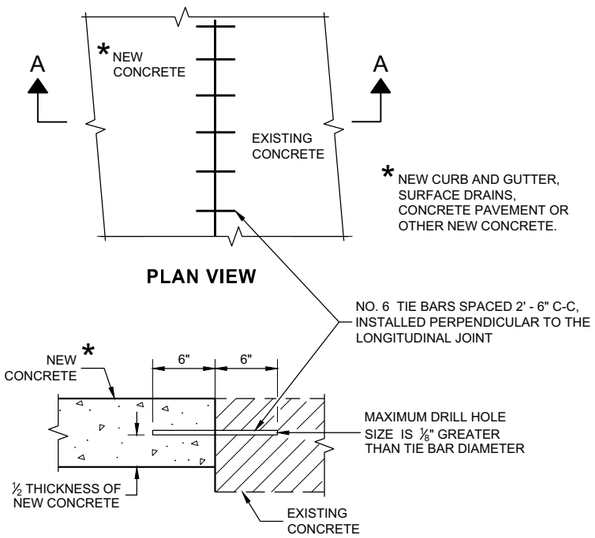


TYPES A (1) & D



TYPES G (1) & J

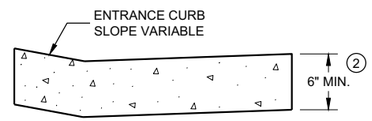
CONCRETE CURB



PLAN VIEW

SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB (9)
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

SDD08D01 - 22b

6

SDD08D01 - 22b

GENERAL NOTES

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

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

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

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

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

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

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

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

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

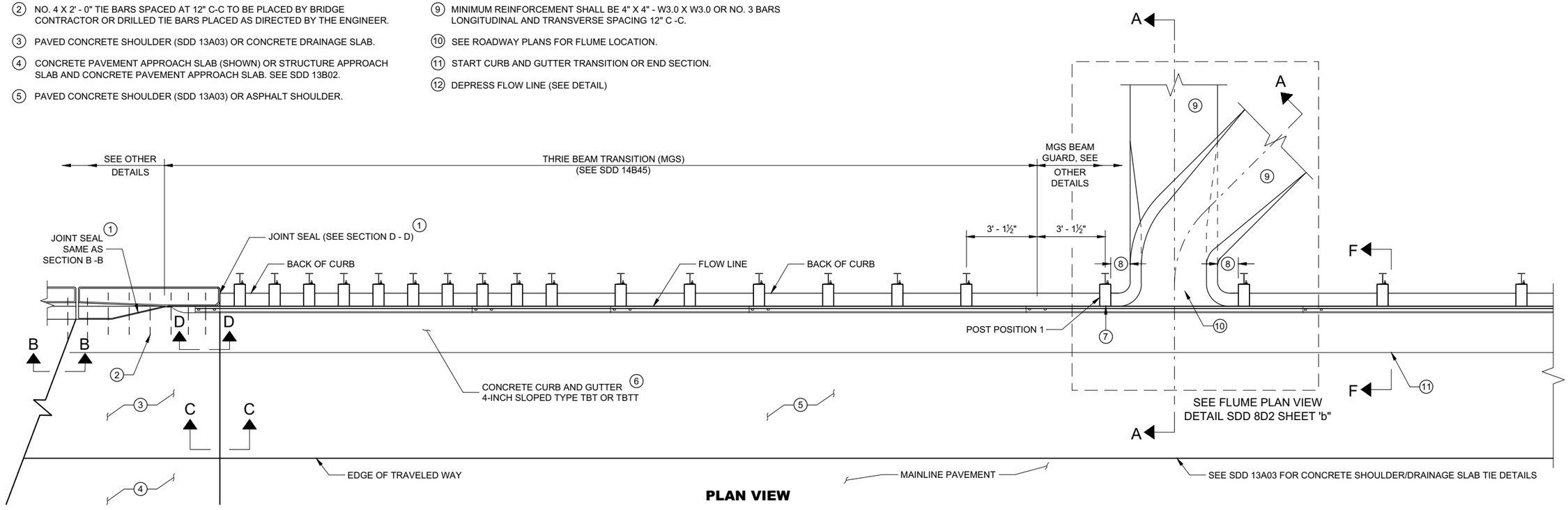
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

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

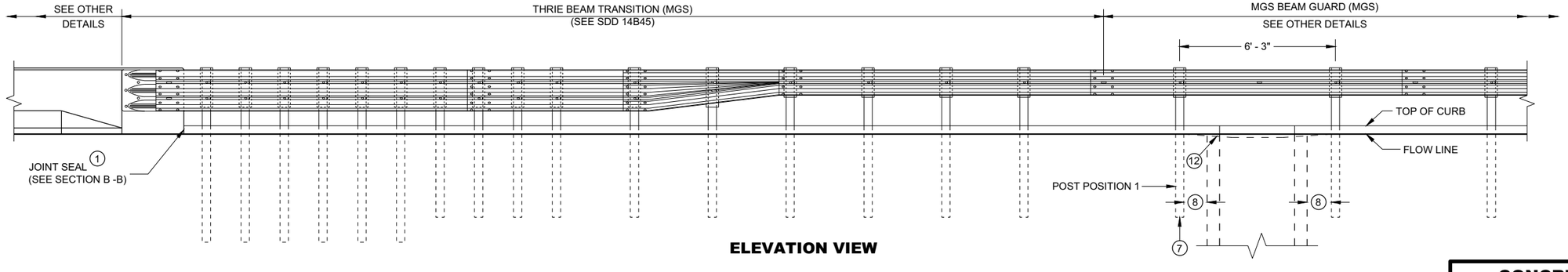
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

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

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



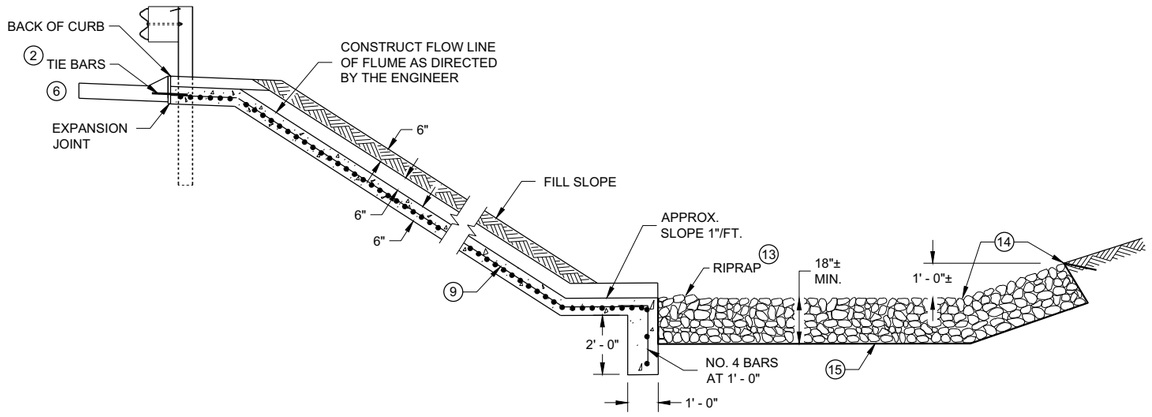
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

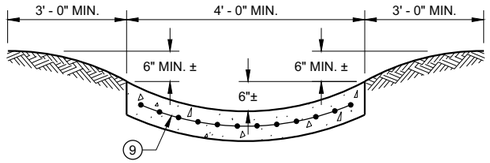
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 07a

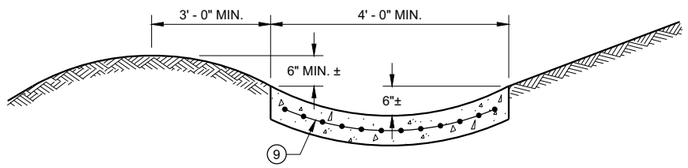
SDD 08D02 - 07a



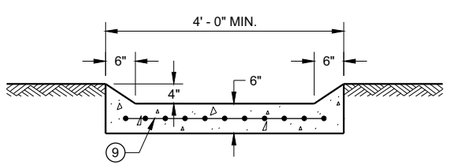
SECTION A - A



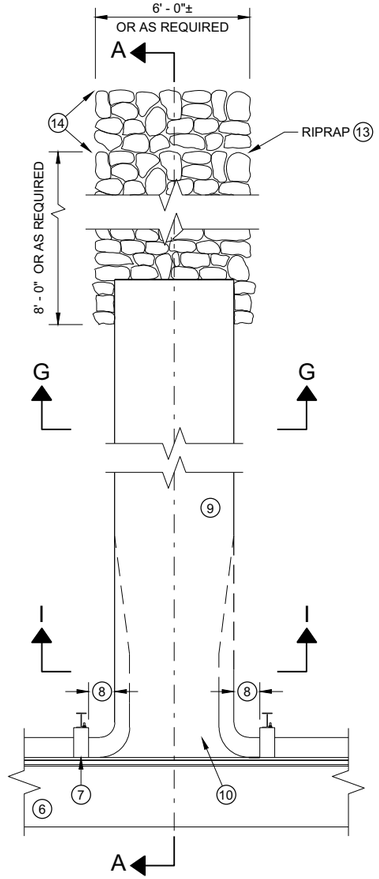
SECTION G - G



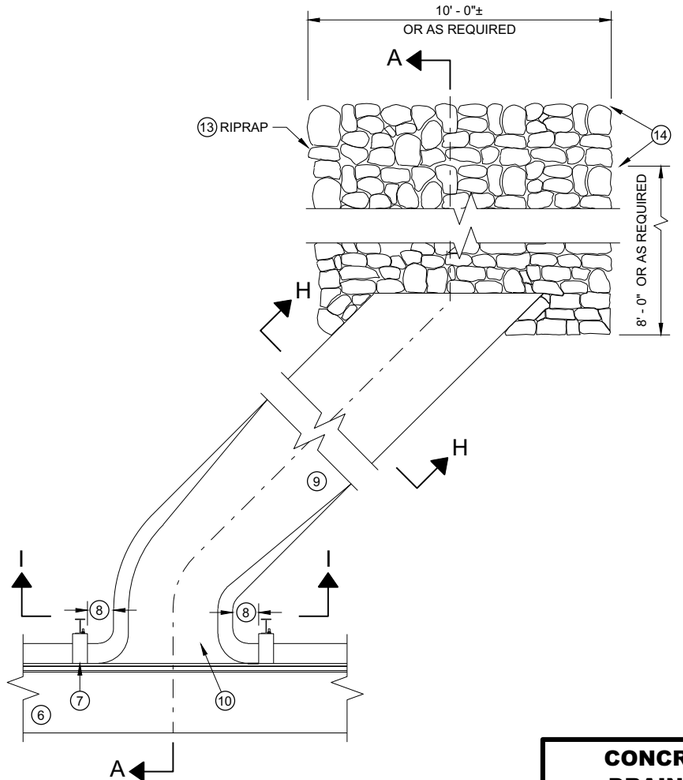
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

GENERAL NOTES

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

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

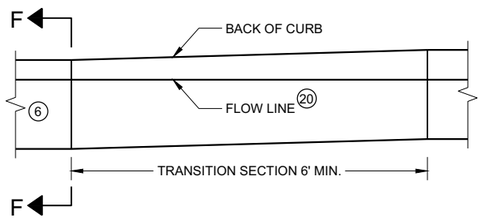
1. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
5. PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
6. CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
7. PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
8. CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
9. MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
10. SEE ROADWAY PLANS FOR FLUME LOCATION.
11. START CURB AND GUTTER TRANSITION OR END SECTION.
12. DEPRESS FLOW LINE (SEE DETAIL)
13. MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
14. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
15. GEOTEXTILE FABRIC TYPE HR.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

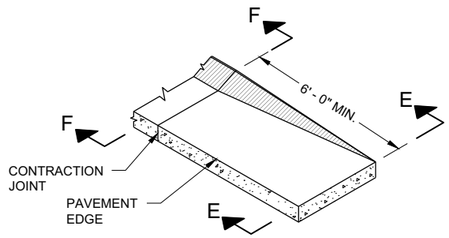
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

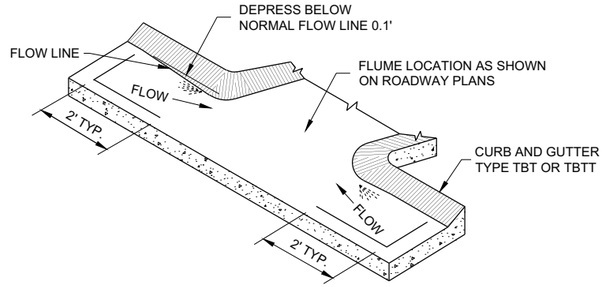
SDD 08D02 - 07b
SDD 08D02 - 07b



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



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



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

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

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

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

(15) GEOTEXTILE FABRIC TYPE HR.

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

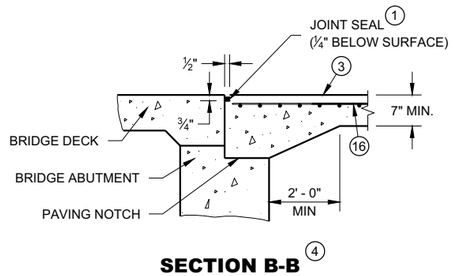
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

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

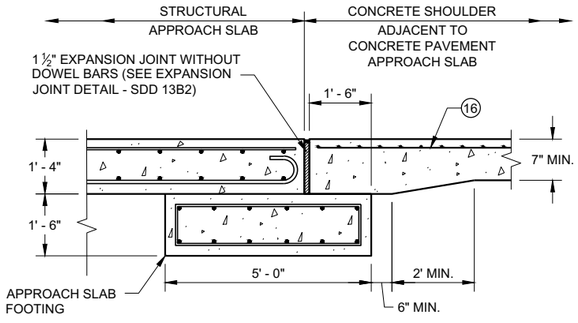
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

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

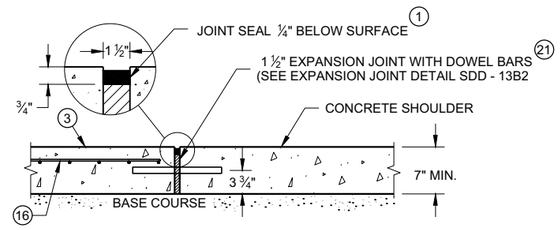
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



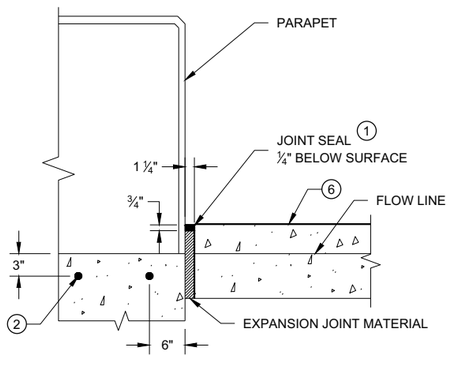
SECTION B-B (4)



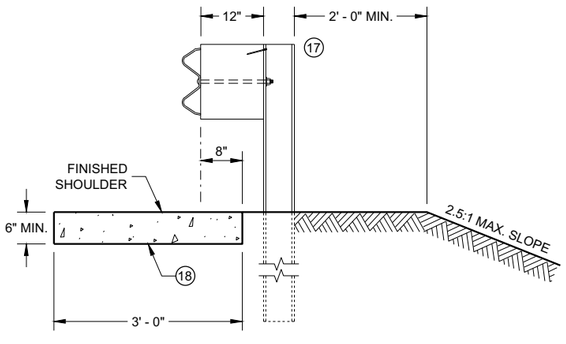
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



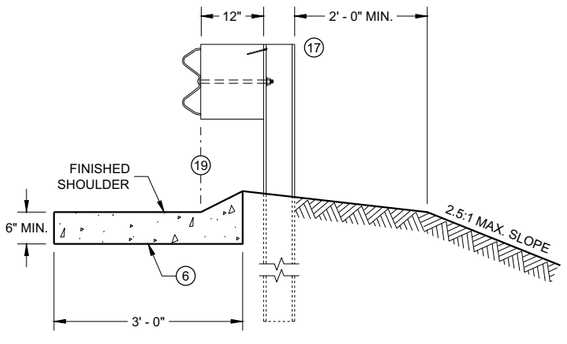
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

SDD 08D02 - 07c

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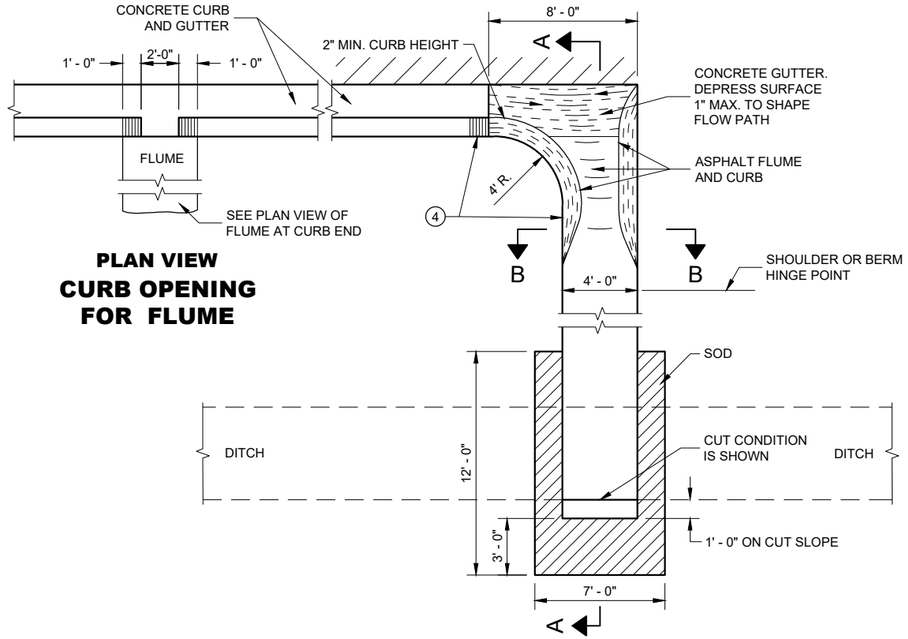
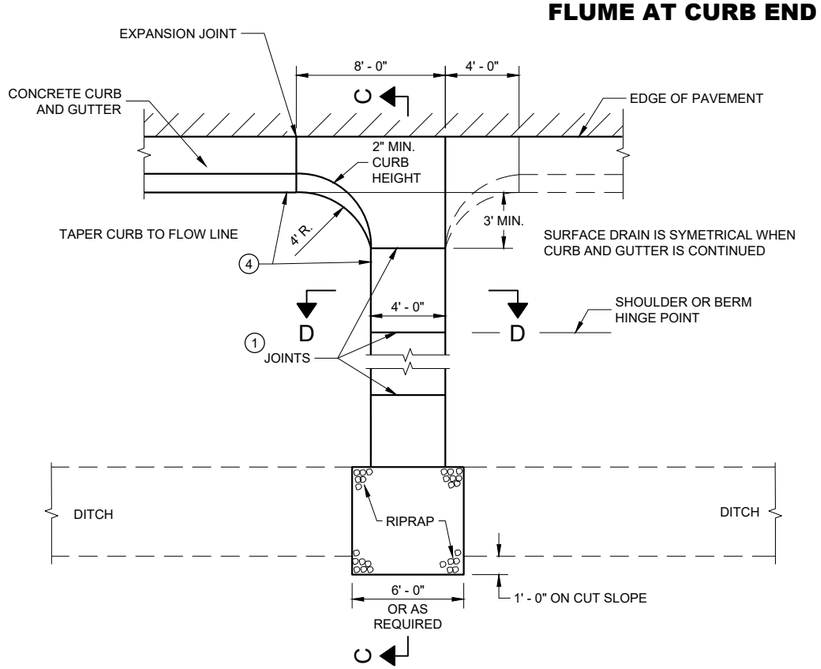
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



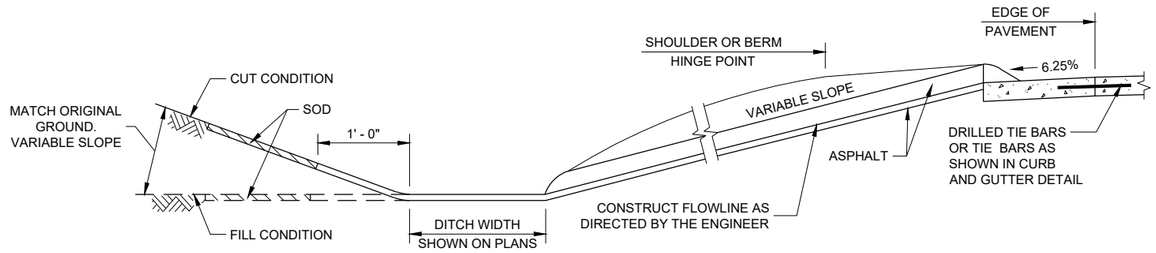
PLAN VIEW
CONCRETE SURFACE DRAIN

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.

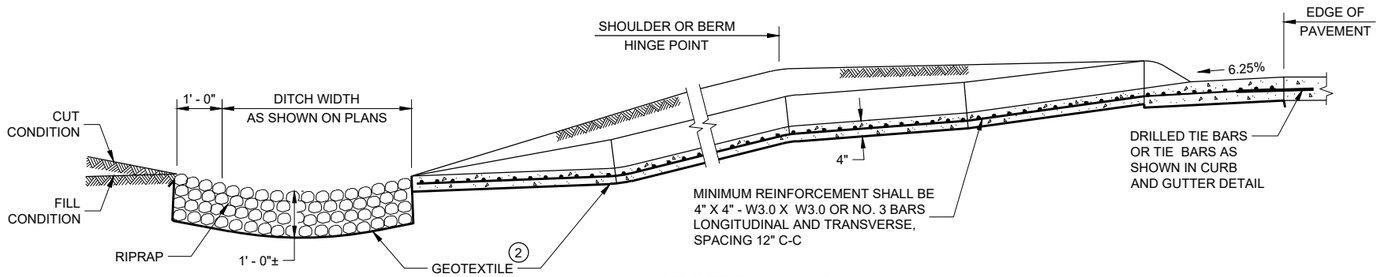
4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

1. JOINTS SHALL BE ⅛" TO ¼" WIDE BY 1½" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
2. GEOTEXTILE 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.
4. ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.

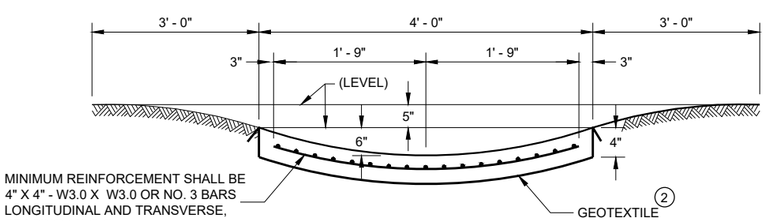


SECTION A - A

SECTION B - B



SECTION C - C



SECTION D - D

CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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SDD 08D04 - 06

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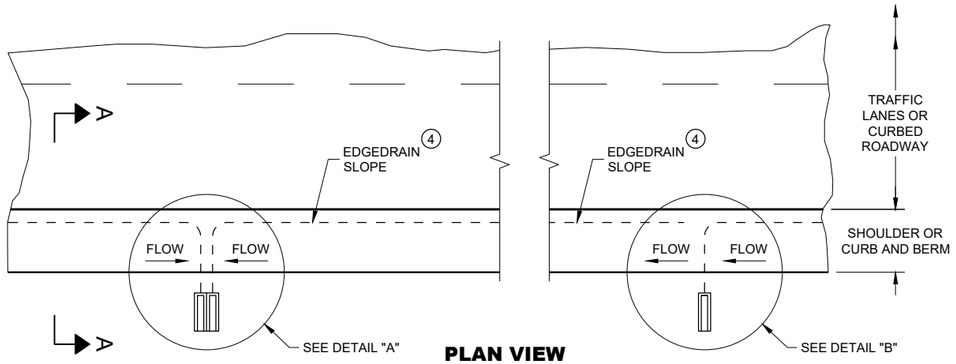
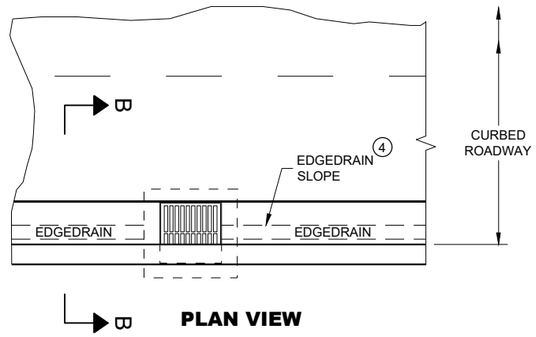
SDD 08D04 - 06



PLAN VIEW

ROADWAY WITH SHOULDERS OR CURBS
(EDGEDRAIN CONNECTS TO ROADSIDE) (2)



PLAN VIEW

ROADWAY WITH CURBS
(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)

GENERAL NOTES

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

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

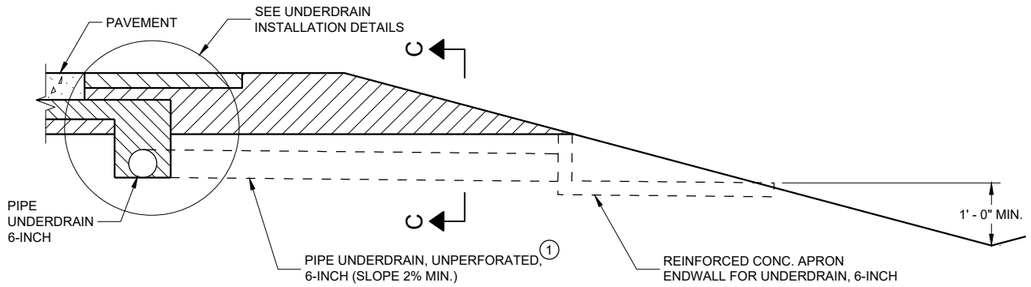
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

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

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

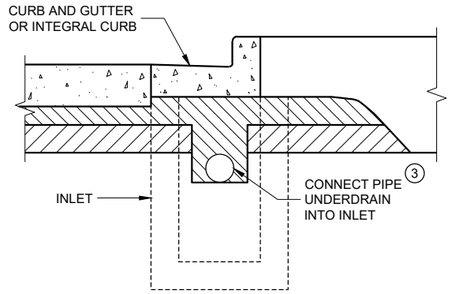
(3) EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.

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



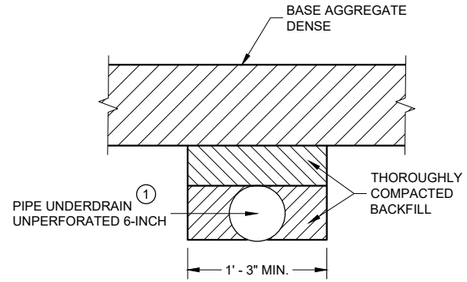
SECTION A - A

RURAL CROSS SECTION



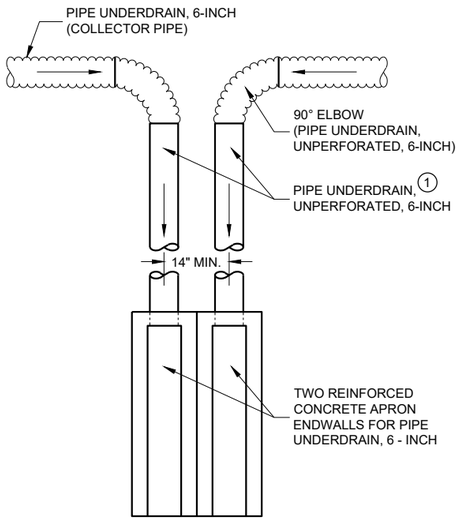
SECTION B - B

URBAN CROSS SECTION

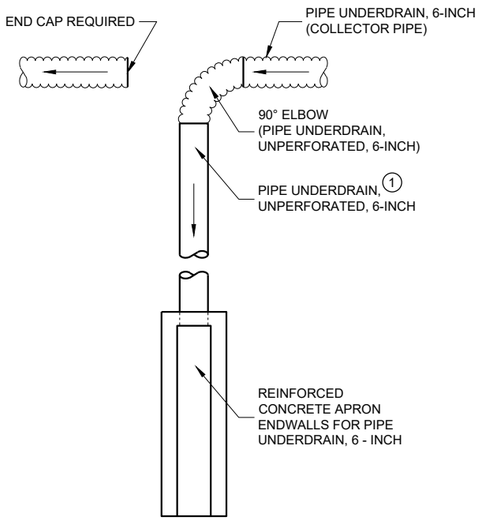


SECTION C - C

TRENCH FOR OUTFALL PIPE

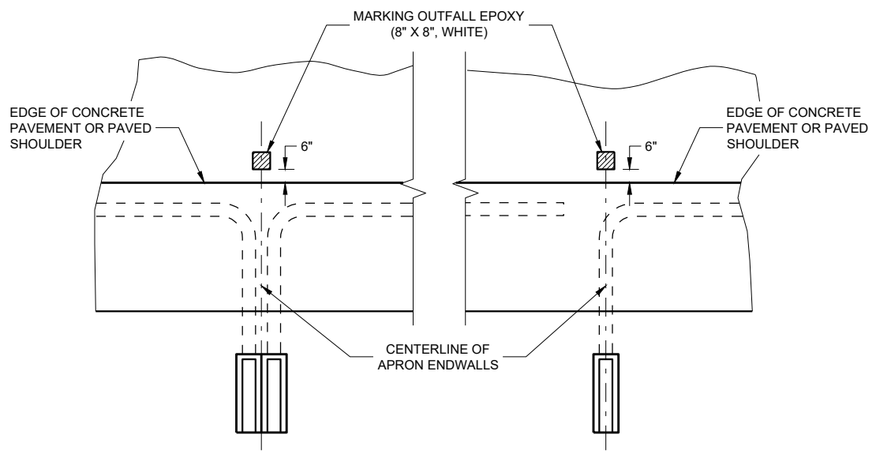


DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS



DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



LOW POINT LOCATIONS — INTERMEDIATE LOCATIONS

PAVEMENT MARKINGS FOR OUTFALL MARKERS

EDGEDRAIN OUTLET AND OUTFALL MARKERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD08D15 - 05a

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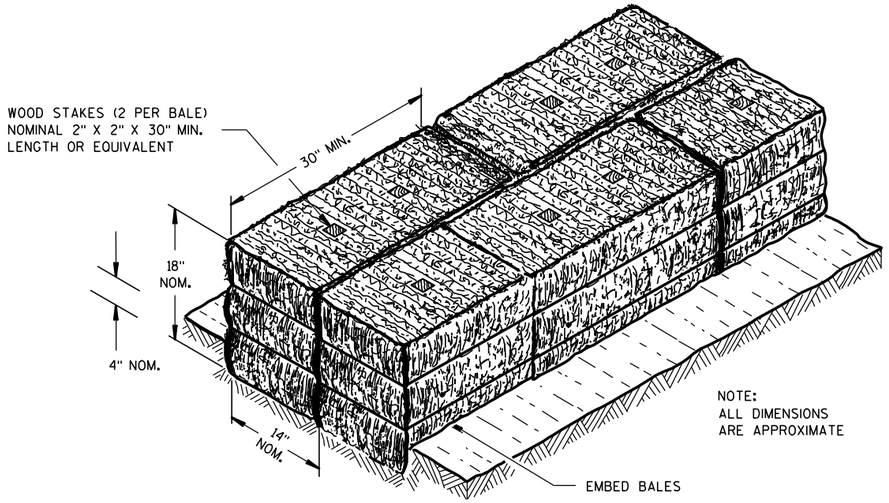
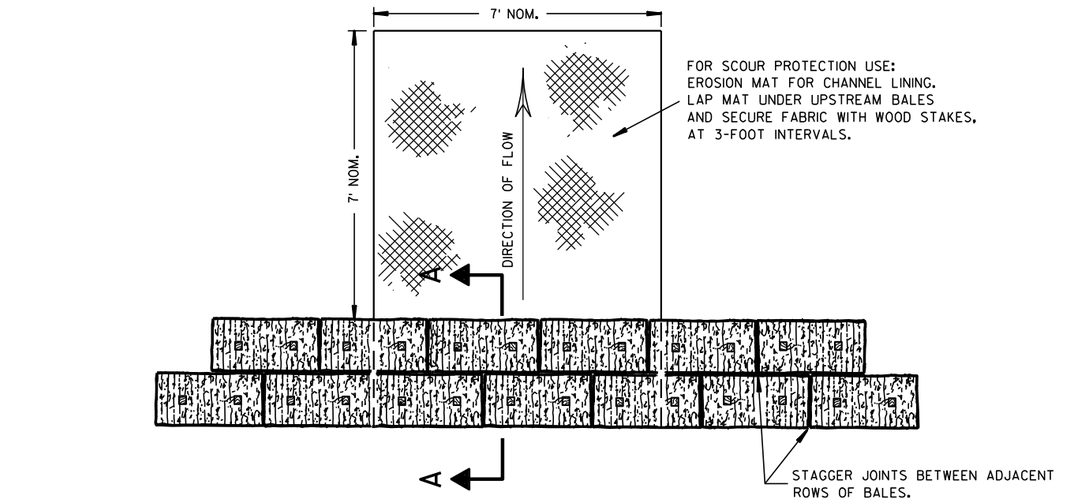
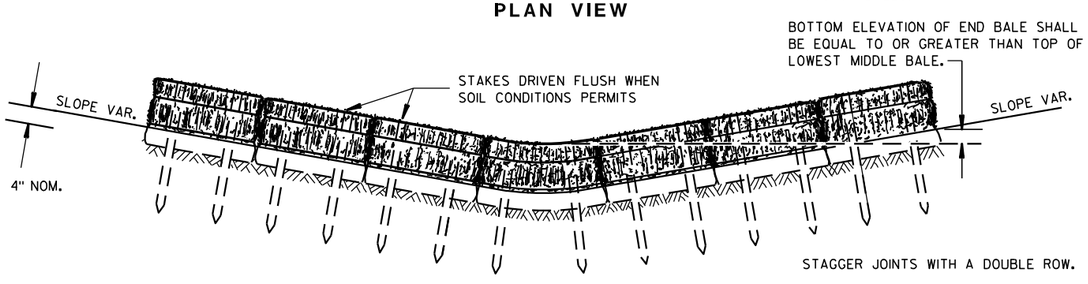
SDD08D15 - 05a



SECTION A-A



PLAN VIEW



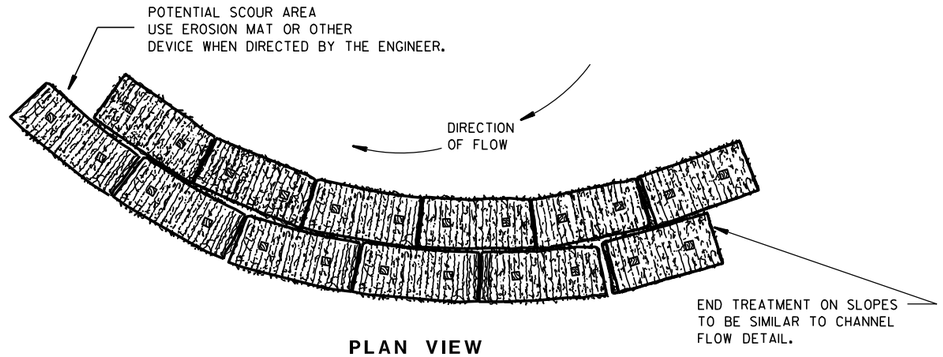
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

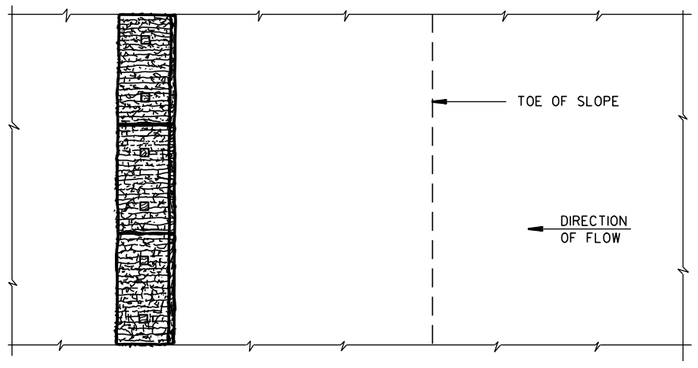
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

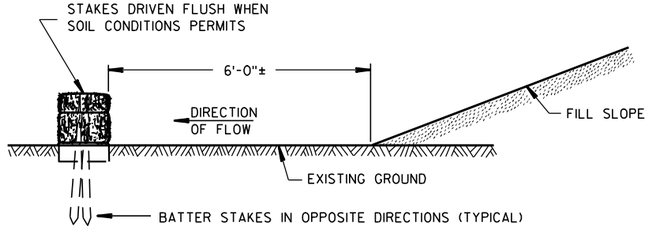


PLAN VIEW

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

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S.D.D. 8 E 8-3

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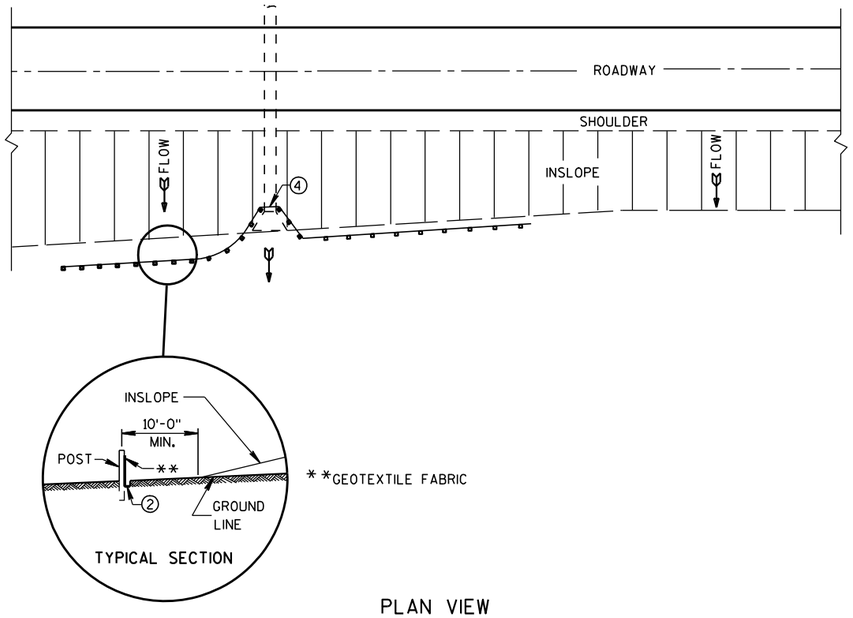
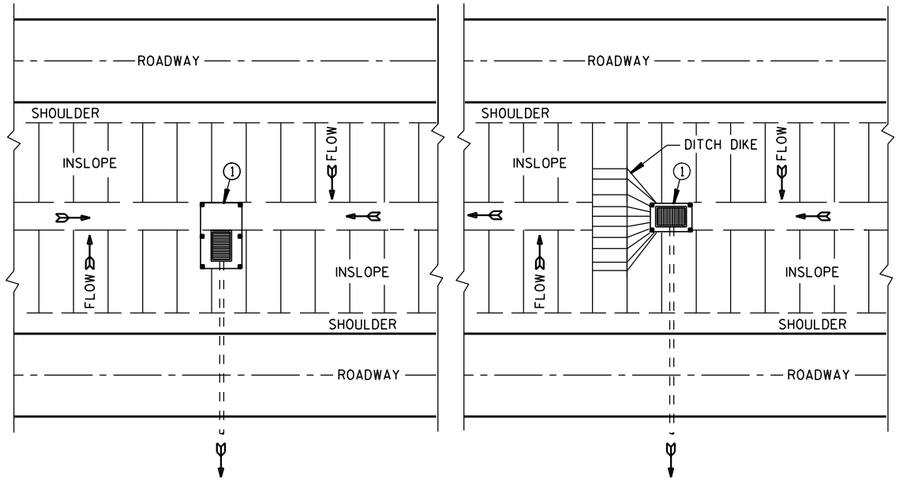
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



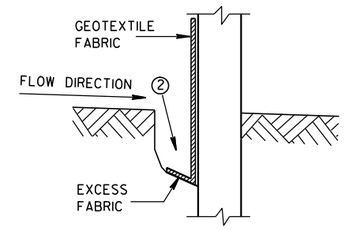
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

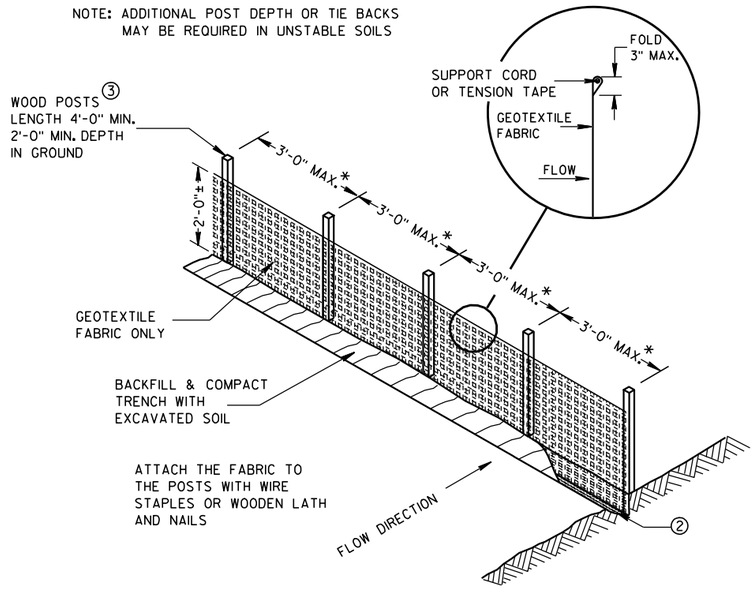
GENERAL NOTES

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

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

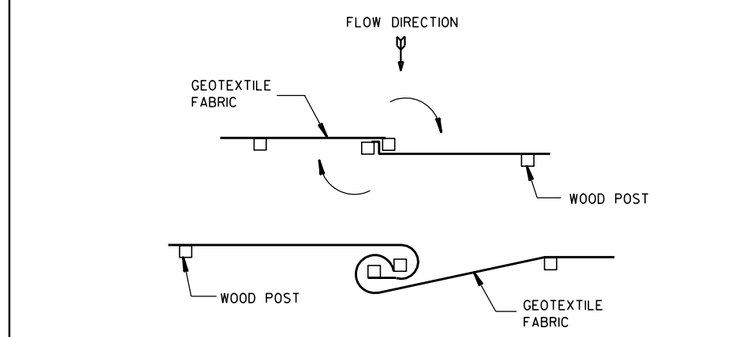


TRENCH DETAIL

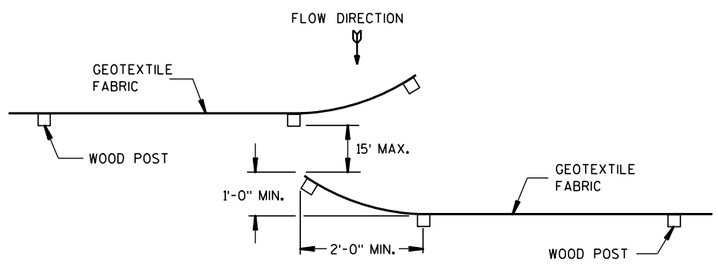


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

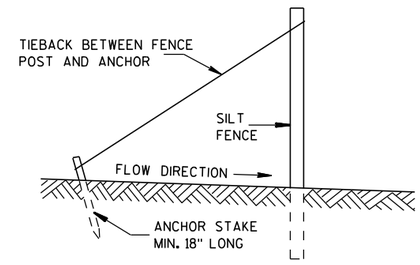


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 8 E 9-6

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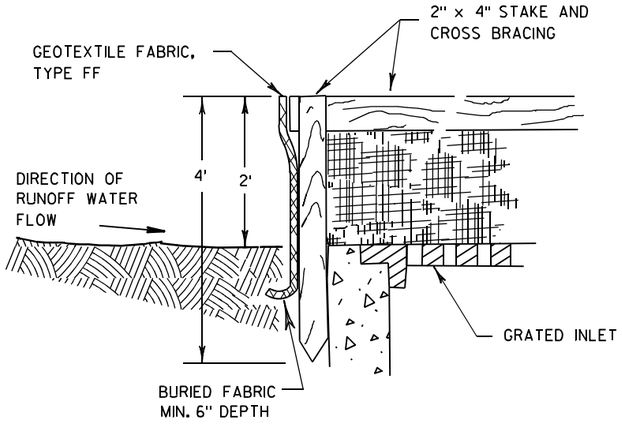
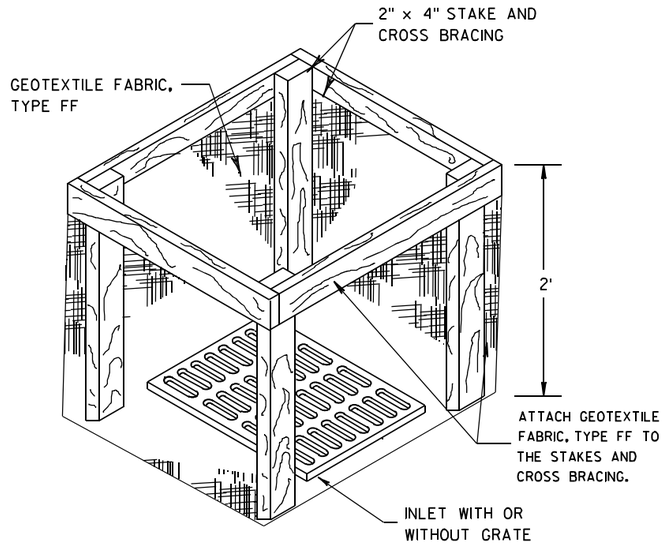
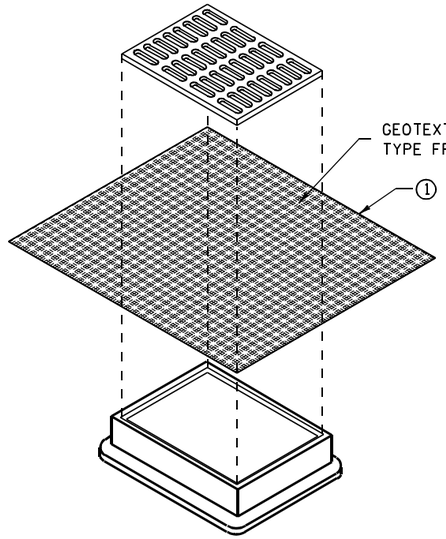
S.D.D. 8 E 9-6



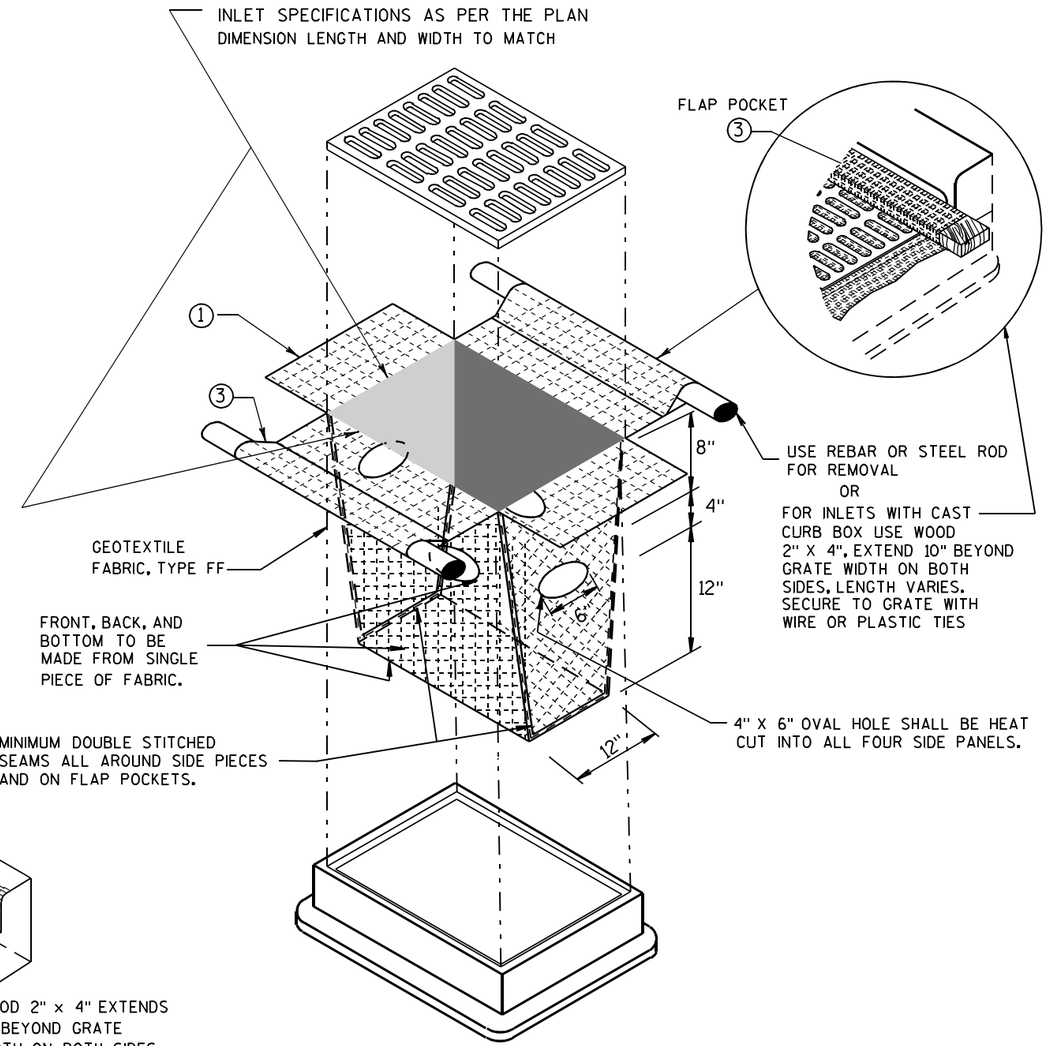


INLET PROTECTION, TYPE A



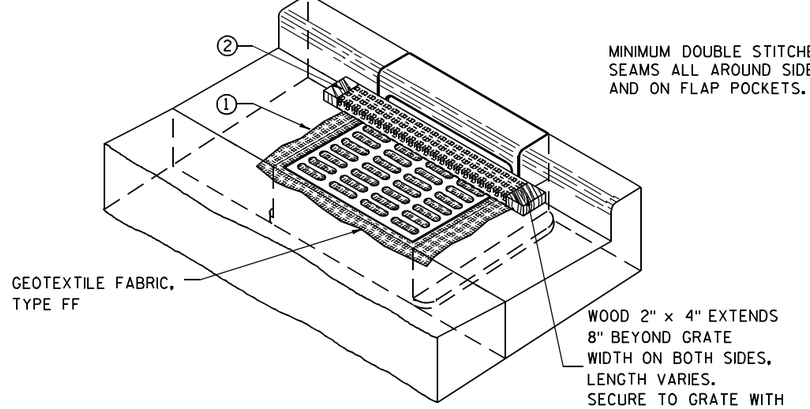
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

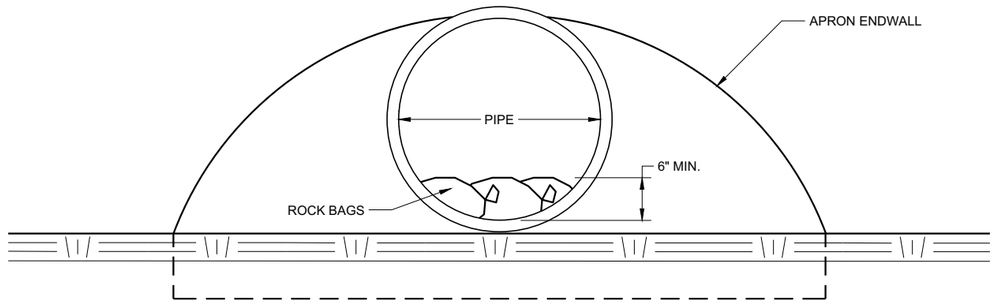
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

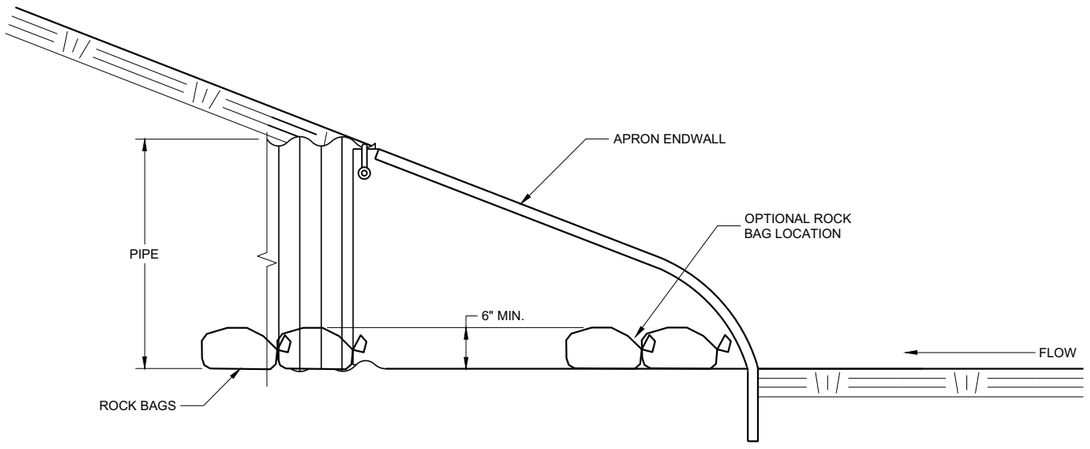
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 10-2



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 — DATE
/S/ Daniel Schave — EROSION CONTROL ENGI
FHWA

6

SDD 08E15 - 01

6

SDD 08E15 - 01

METAL APRON ENDWALLS

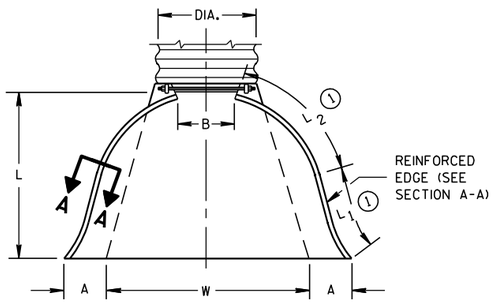
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

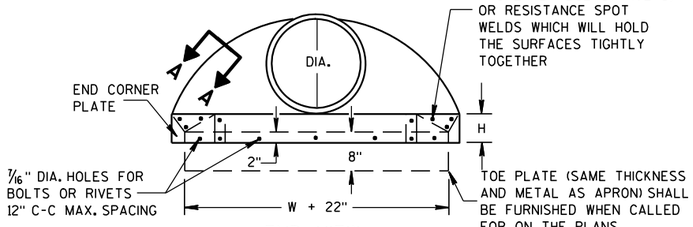
REINFORCED CONCRETE APRON ENDWALLS

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

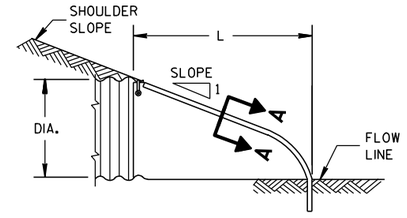
*MINIMUM
**MAXIMUM



PLAN VIEW

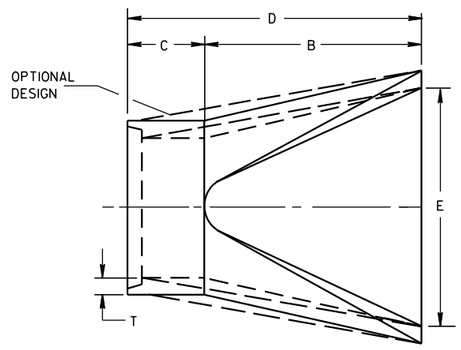


END VIEW

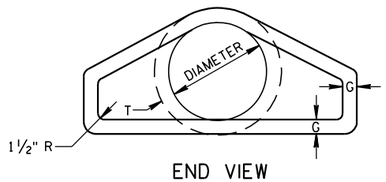


SIDE ELEVATION

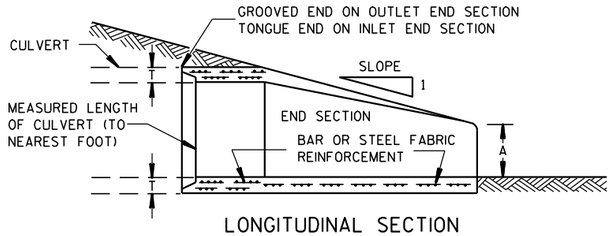
METAL ENDWALLS



PLAN

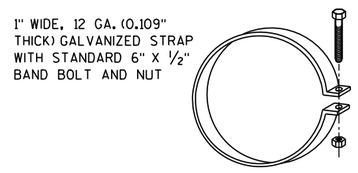


END VIEW



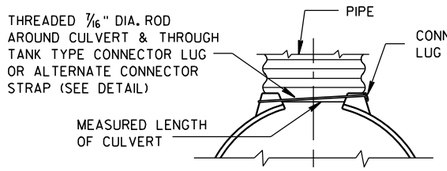
LONGITUDINAL SECTION

CONCRETE ENDWALLS

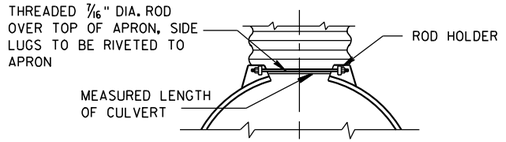


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

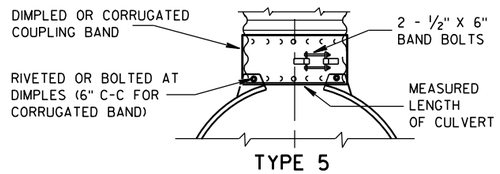


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

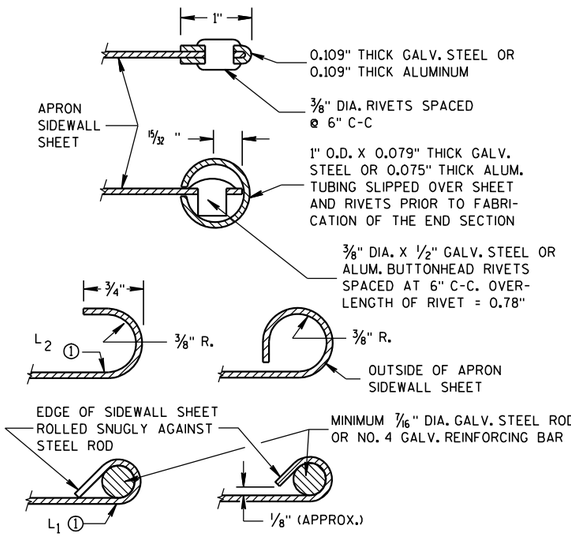
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

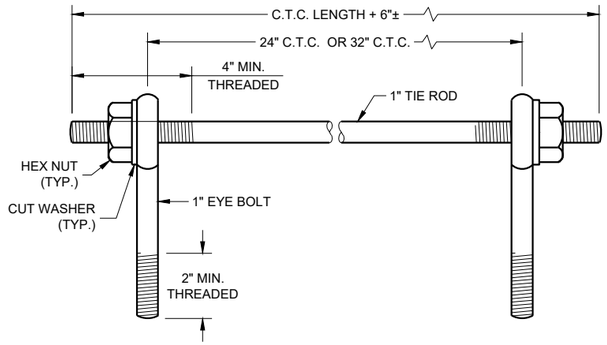
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

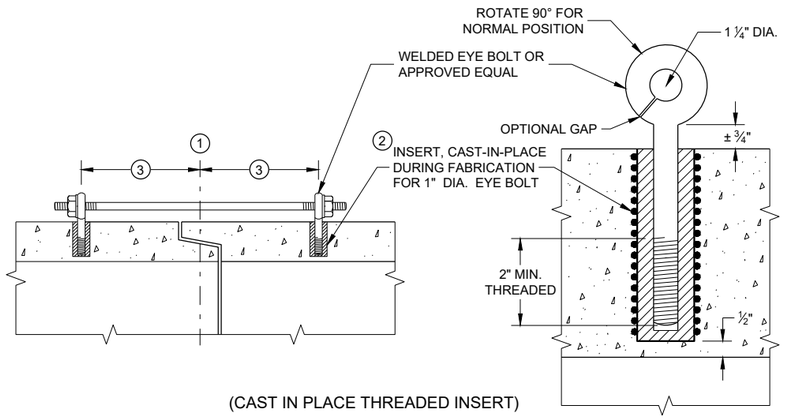
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

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

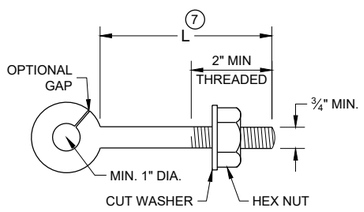
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

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

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

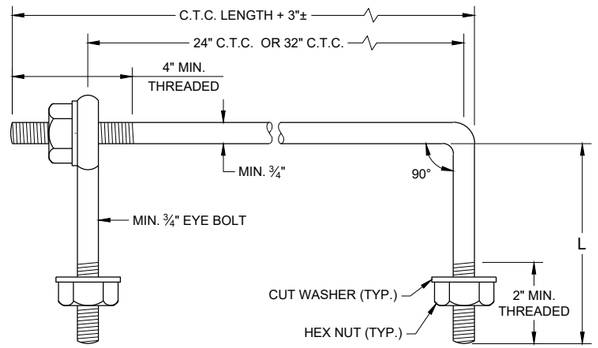
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

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

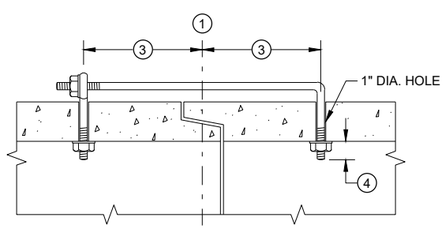


EYE BOLT (7)

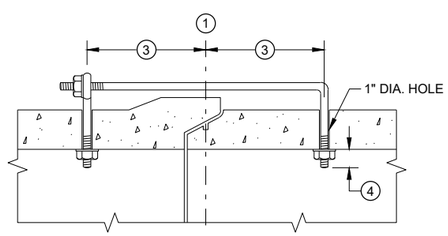
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

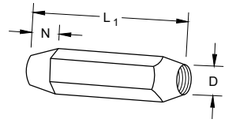
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES



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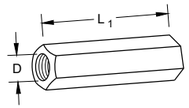
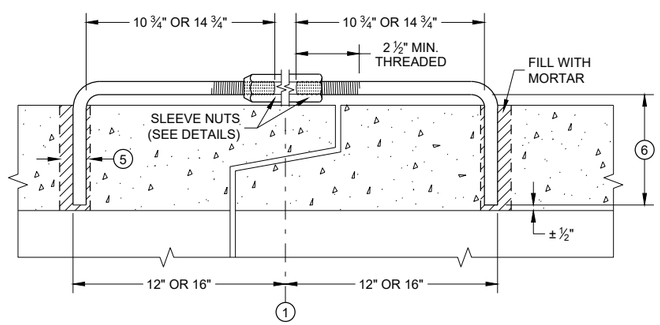


PLAIN

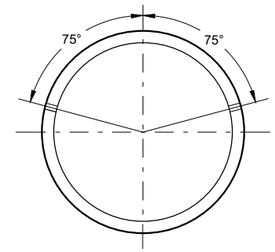
RIGHT AND LEFT THREADS

SLEEVE NUTS



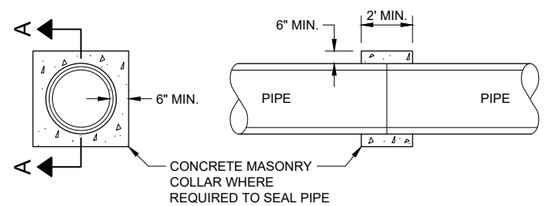
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

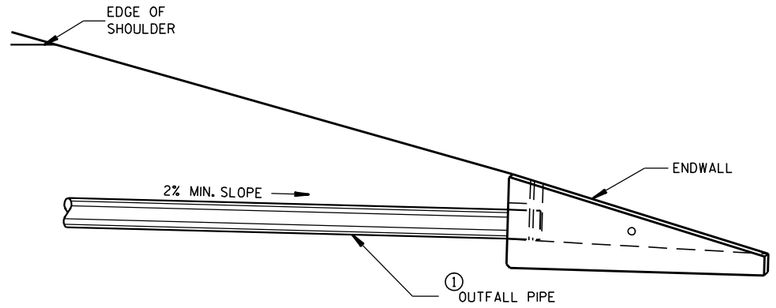
FHWA

SDD 08F04 - 08

SDD 08F04 - 08

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

**APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



INSTALLATION DETAIL

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.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

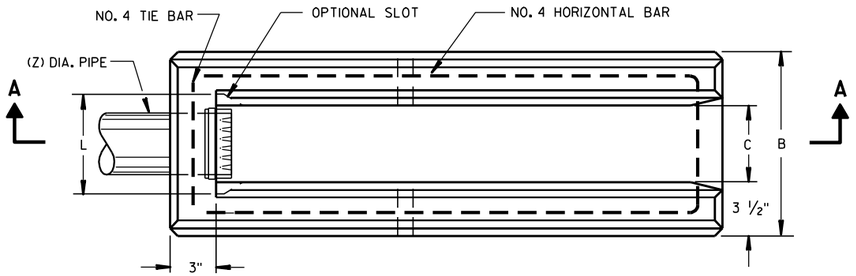
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

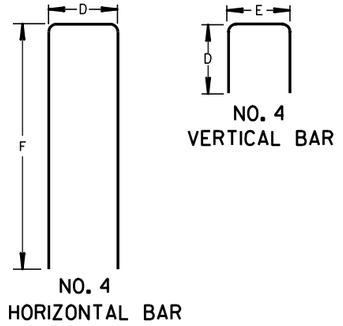
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

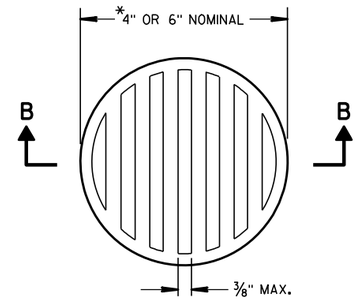
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

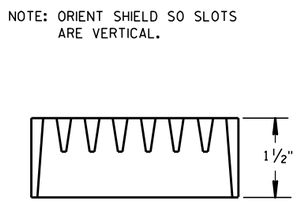


PLAN VIEW



BAR STEEL REINFORCEMENT DETAILS

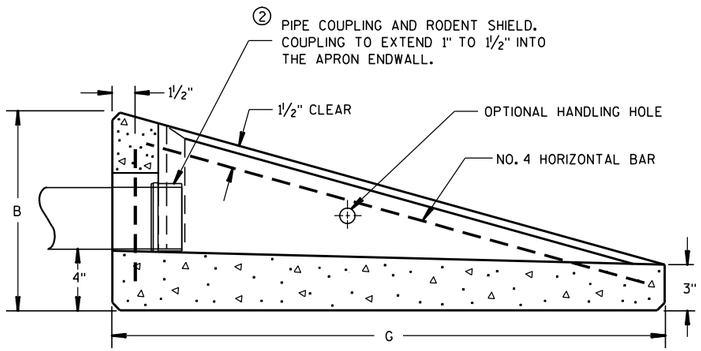




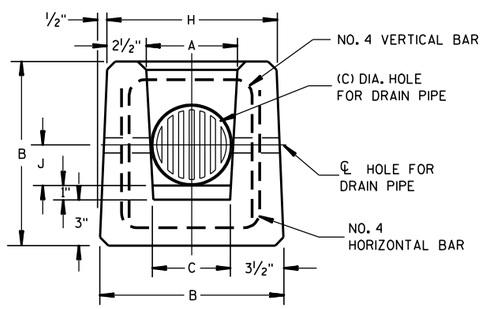
SECTION B-B

② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



SECTION A-A



END VIEW

CONCRETE APRON ENDWALL FOR UNDERDRAIN

REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/10/98 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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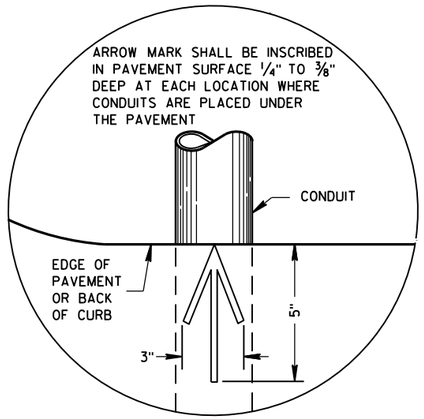
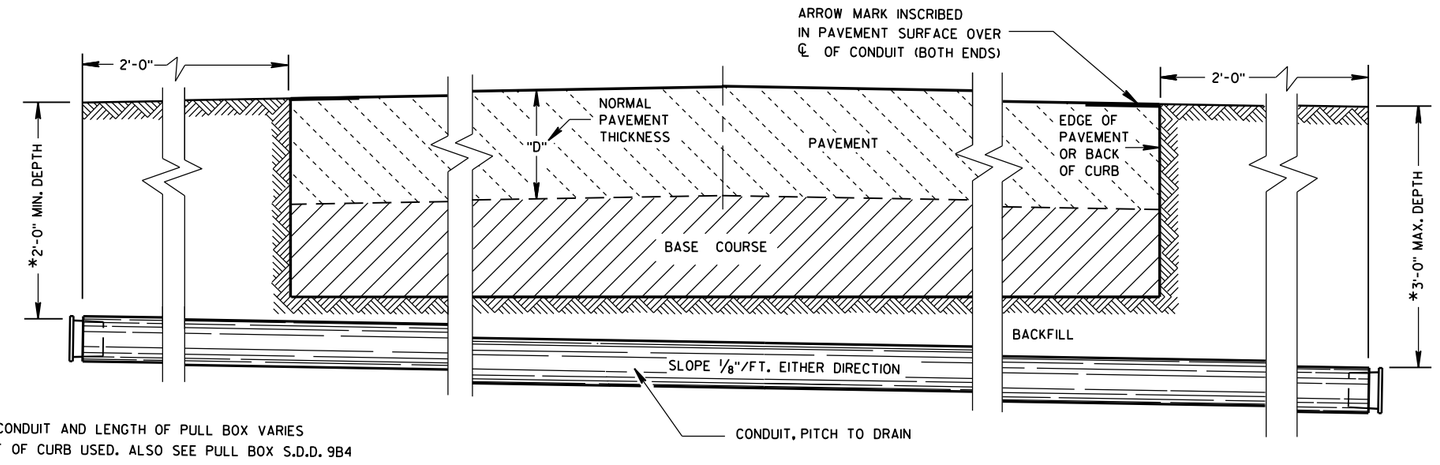
S.D.D. 8 F 6-4



PLAN VIEW

ARROW MARK



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

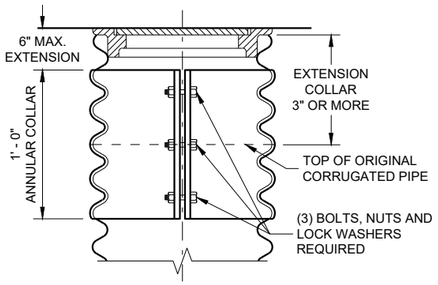
CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

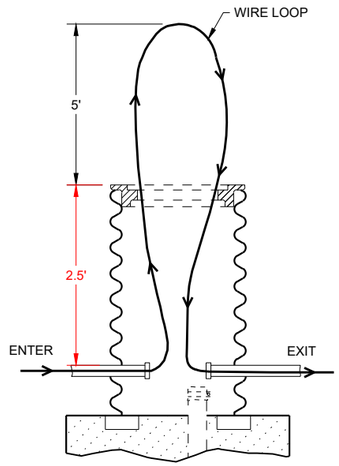
APPROVED
March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

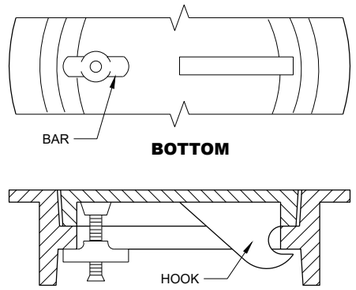
S.D.D. 9 B 2-10



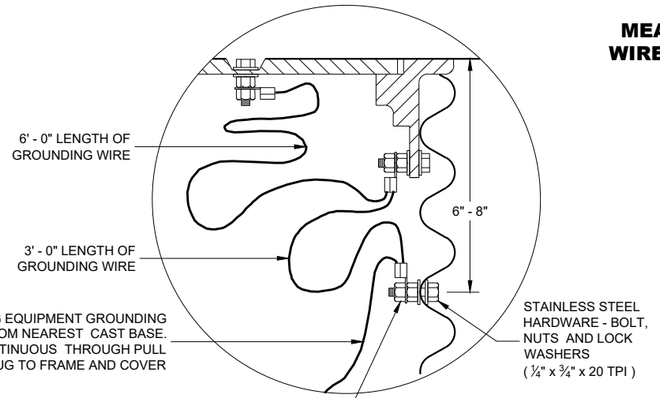
CORRUGATED PIPE EXTENDER



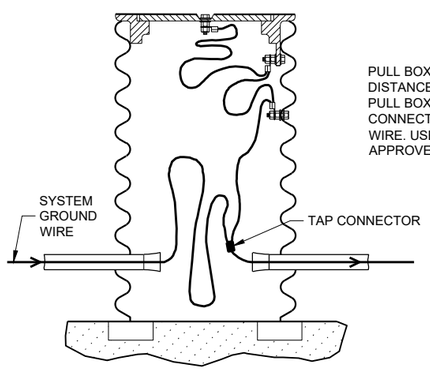
MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



ALTERNATE COVER (LOCKING)
TIGHTENING BAR TYPE

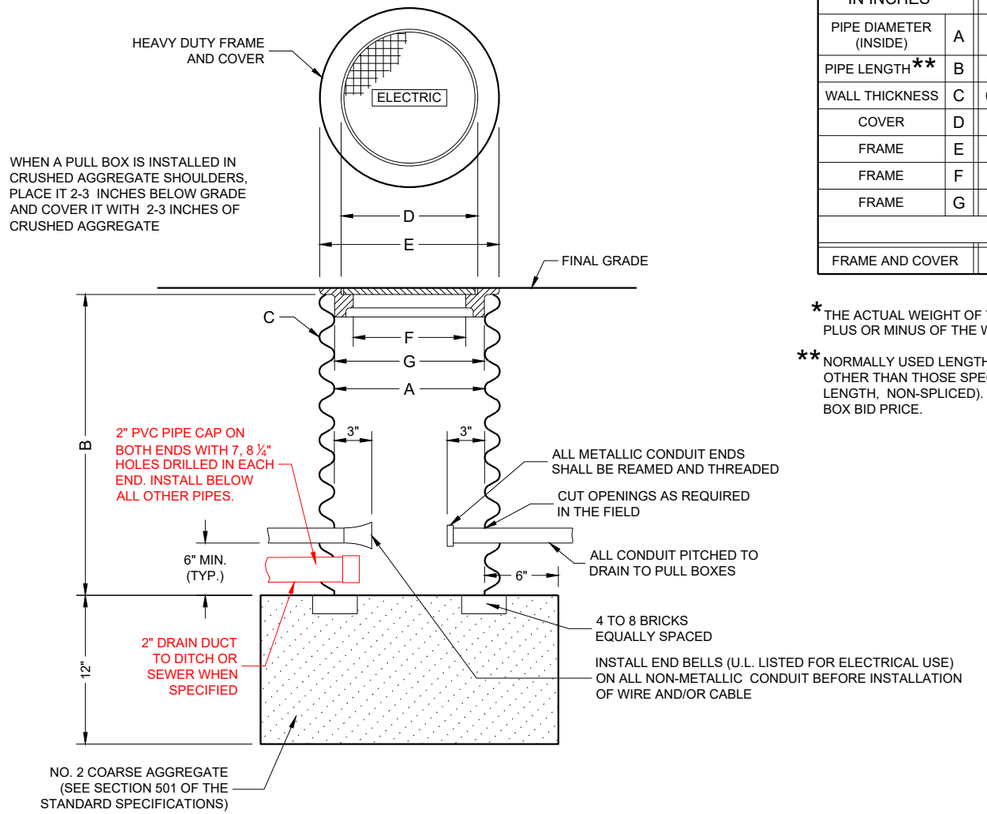


EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN ¼".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH**	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 ¼	10 ¼	10 ¼	16 ¼	16 ¼	16 ¼	22 ¼	22 ¼	22 ¼
FRAME	E	14 ½	14 ½	14 ½	20 ½	20 ½	20 ½	26 ½	26 ½	26 ½
FRAME	F	8 ½	8 ½	8 ½	14 ½	14 ½	14 ½	20 ½	20 ½	20 ½
FRAME	G	11 ½	11 ½	11 ½	17 ½	17 ½	17 ½	23 ½	23 ½	23 ½
WEIGHT IN POUNDS*										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

*THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

**NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

FHWA

6
SDD 09B04-12

GENERAL NOTES

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

BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

CONDUIT SIZE AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4 ½ INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE THROUGH A 1-INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4-FOOT COIL OF WIRE ABOVE THE CONCRETE BASE, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL WAY SHALL BE 24-INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18-INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36-INCHES, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

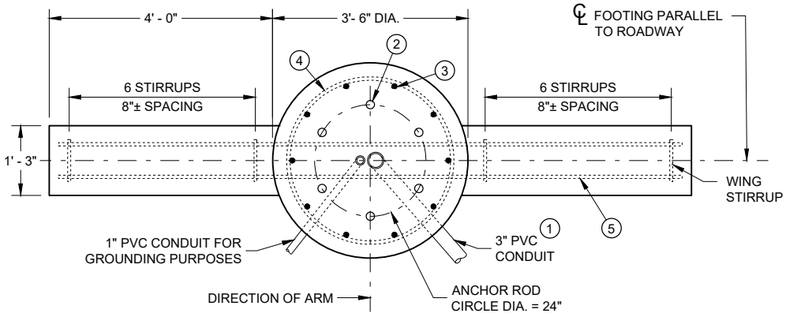
(2) (6) 1 ¾" DIA. X 7' - 2" ANCHOR RODS

(3) (10) NO. 6 X 14' - 1" BAR STEEL VERTICAL REINFORCEMENT.

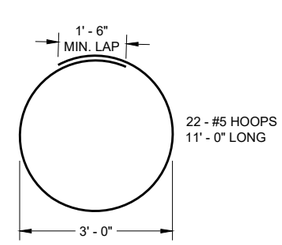
(4) (22) NO. 5 X 11'- 0" BAR STEEL REINFORCEMENT @ 8" MAX. C-C.

(5) (10) NO. 5 X 11' - 0" BAR STEEL HORIZONTAL REINFORCEMENT

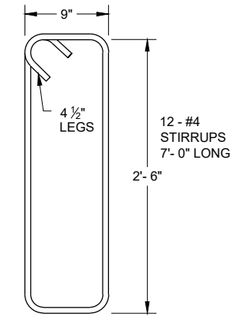
CONCRETE MASONRY.....fc = 3,500 p.s.i
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60.....fy = 60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE .....fy = 55,000 p.s.i.
WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATION)
TEMPLATES, ASTM A709, GRADE 36.....fy = 36,000 p.s.i.



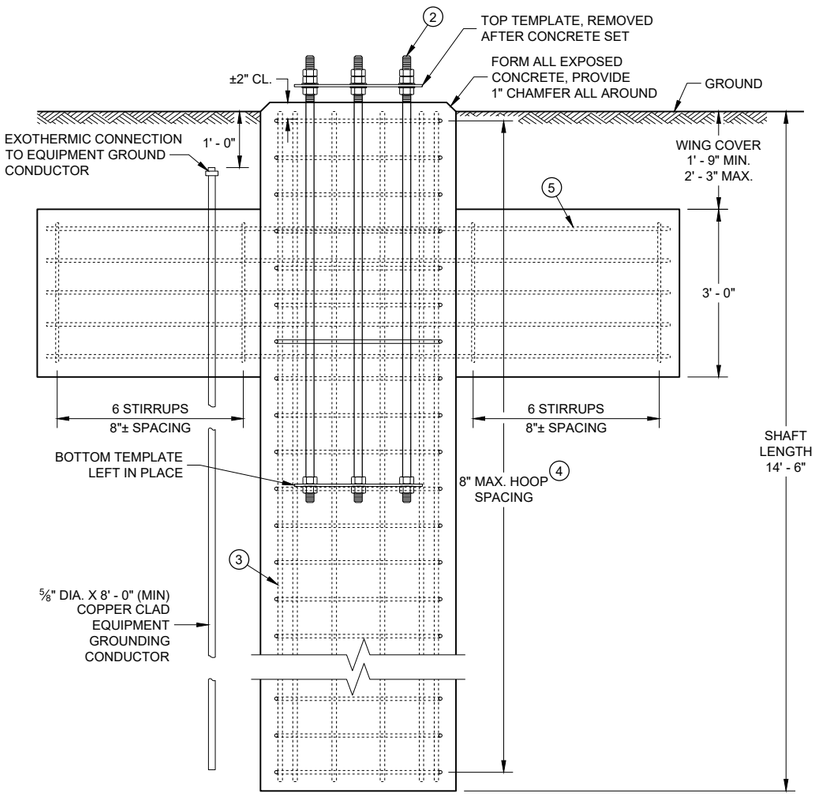
PLAN VIEW



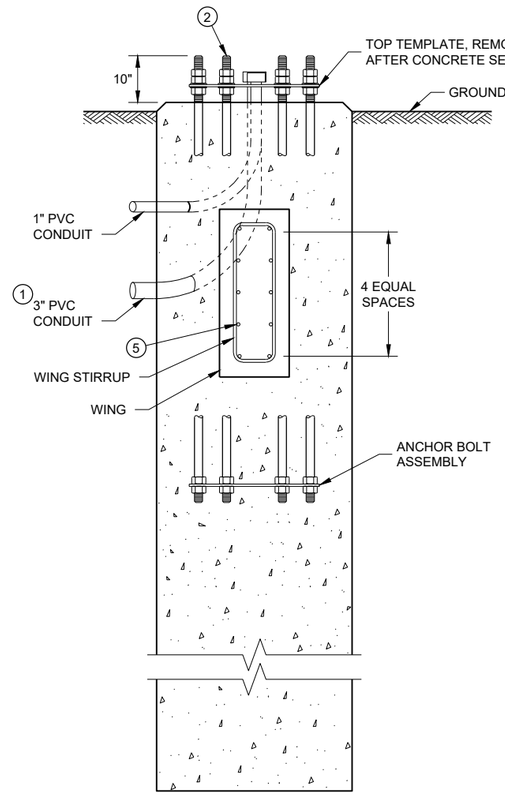
HOOP DETAIL



WING STIRRUP DETAIL



ELEVATION VIEW
(CONDUITS NOT SHOWN ON THIS VIEW FOR CLARITY)



(HOOPS AND VERTICAL SHAFT REINFORCEMENT NOT SHOWN ON THIS VIEW FOR CLARITY)

CONCRETE BASE, TYPE 13
(FOR TYPE 12, TYPE 13 AND OVER HEIGHT (OH) POLES)

CONCRETE = 6.3 CUBIC YARD
H.S. REINFORCEMENT = 635 LBS.

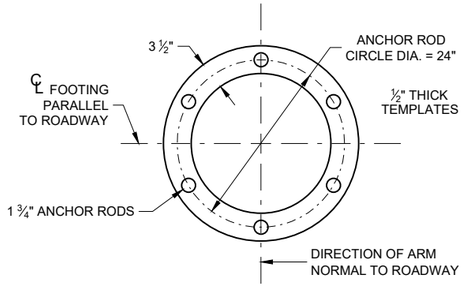
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE 9C13 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION

CONCRETE BASE TYPE 13

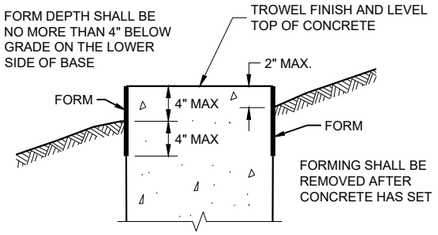
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

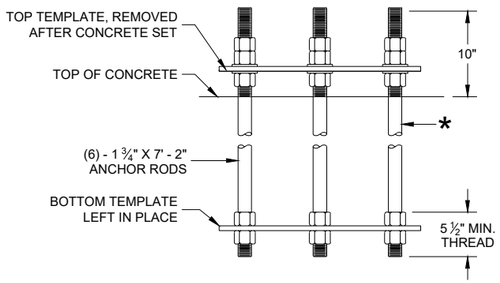
SDD 09C12 - 09a



TOP AND BOTTOM TEMPLATE



FORMING DETAIL



ANCHOR ROD ASSEMBLY DETAILS

* THREAD TOP 11" OF ANCHOR ROD FOR 3 NUTS AND 2 WASHERS AND BOTTOM 5 ½" FOR 2 NUTS PER ANCHOR ROD. HOT DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR ROD (ASTM A123) AND HOT DIP NUTS AND WASHERS (ASTM A153. USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

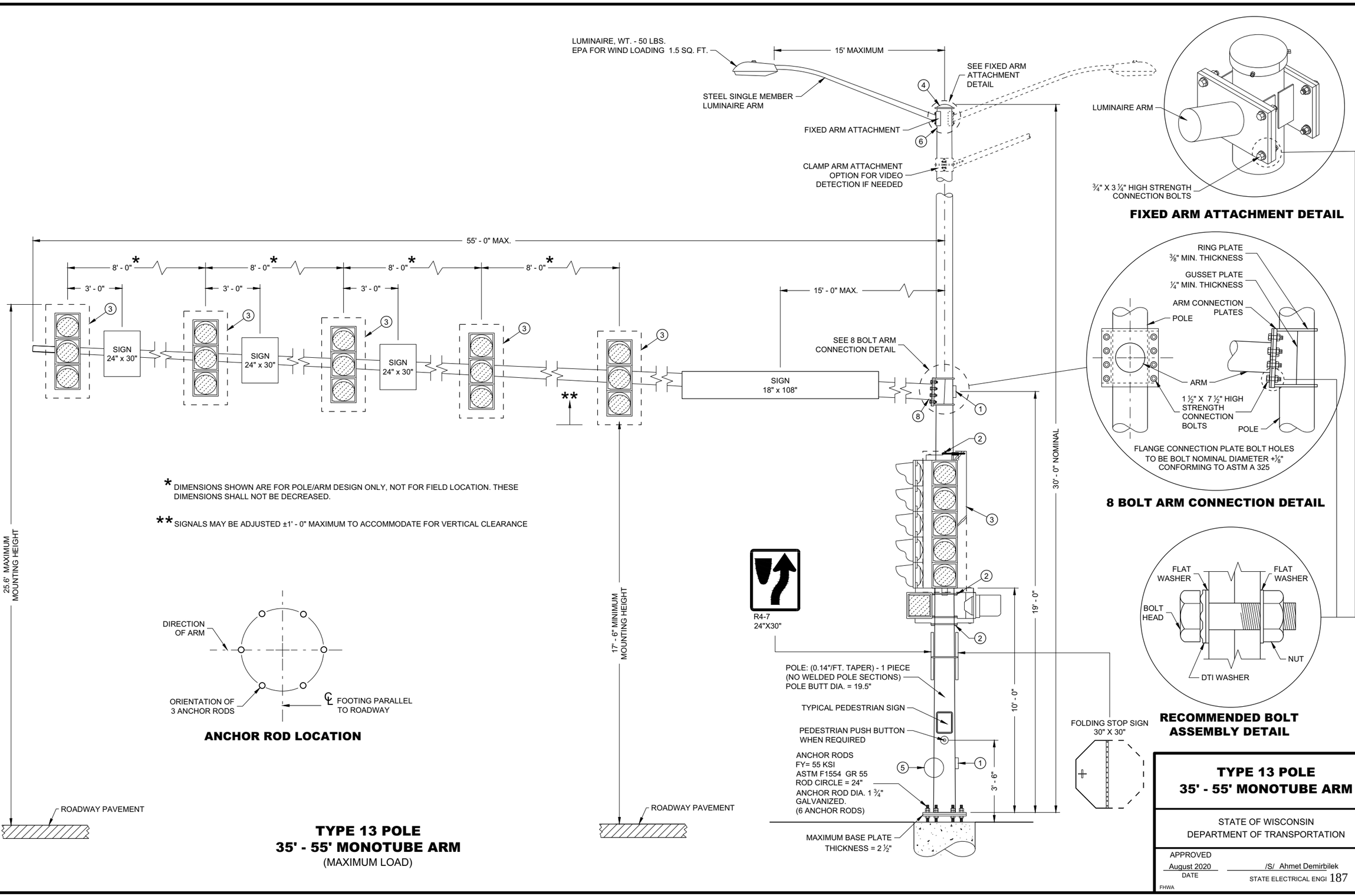
May 2017
DATE

/S/ Ahmet Demirbilek
WIND LOADED STRUCTU
PROGRAM LEADER

FHWA

6

SDD 09C12 - 09b



* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ±1' - 0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE

ANCHOR ROD LOCATION

FIXED ARM ATTACHMENT DETAIL

8 BOLT ARM CONNECTION DETAIL

RECOMMENDED BOLT ASSEMBLY DETAIL

TYPE 13 POLE
35' - 55' MONOTUBE ARM
(MAXIMUM LOAD)

TYPE 13 POLE
35' - 55' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI 187

FHWA

6
SDD 09E08 - 09j

GENERAL NOTES

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15 FOOT TO 30 FOOT.

POLE TYPES 9 SPECIAL AND 10 SPECIAL ARE FOR ARM LENGTHS 35 FOOT, 40 FOOT, AND 45 FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35 FOOT TO 55 FOOT.

MONOTUBE POLES AND ARMS SHALL BE GALVANIZED STEEL.

RING STIFFENED BUILT UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3% ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATION SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING INTERIM REVISIONS)" AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR THE LIGHTING STRUCTURES AS FOLLOWS:

CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.

CATEGORY II FATIGUE LOADS OF TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 SPECIAL AND TYPE 10 SPECIAL STRUCTURES. IN LIEU OF DESIGNING FOR GALLOPING, A VIBRATION DAMPER MITIGATION DEVICE IS REQUIRED TO BE SUPPLIED AND INSTALLED AT THE END OF THE MAST ARM.

CATEGORY II FATIGUE FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE12 AND TYPE 13 STRUCTURES.

115 MPH (700 YEAR MRI BASIC WIND SPEED).

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" STAINLESS STEEL BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR A S DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEAD AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

(1) DESIGN FOR MAXIMUM ALLOWABLE HAND HOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING (SEE SPECIFICATION SECTION 658).

(3) SECURELY MOUNT BACK PLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

(5) FACTORY WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HAND HOLD, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

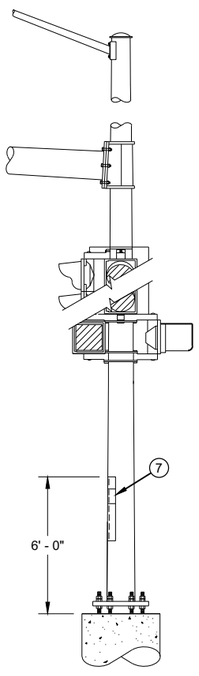
(6) FACTORY WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

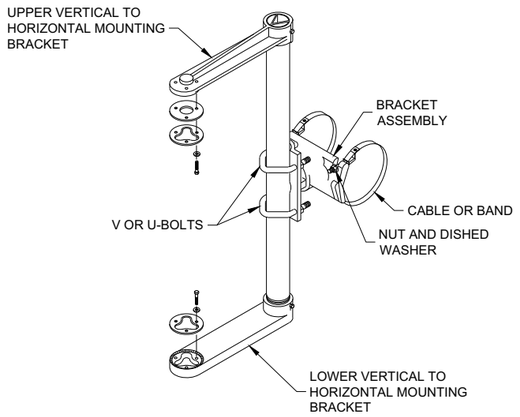
STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 6' - 0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

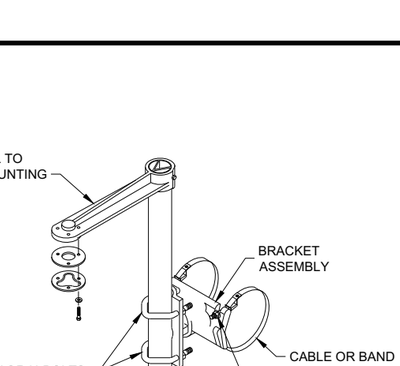


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



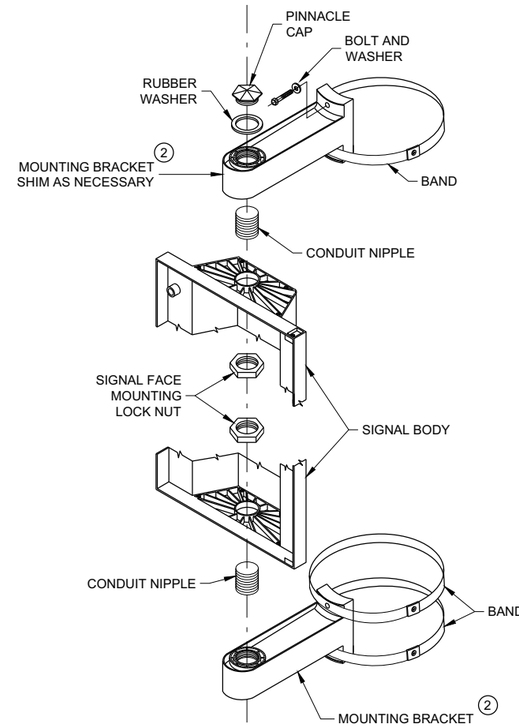
SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

(MOUNT PER MANFACTURER'S RECOMMENDATION)

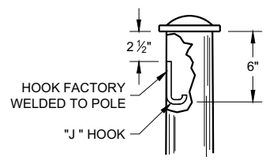


TYPICAL GROUNDING (5) CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



SIGNAL FACE VERTICAL MOUNTING DETAIL



TYPICAL "J" HOOK (6) WIRE SUPPORT

GENERAL NOTES AND HARDWARE FOR TYPES 9,10, 9/10 SPECIAL, 12 AND 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL ENGINEER

FHWA

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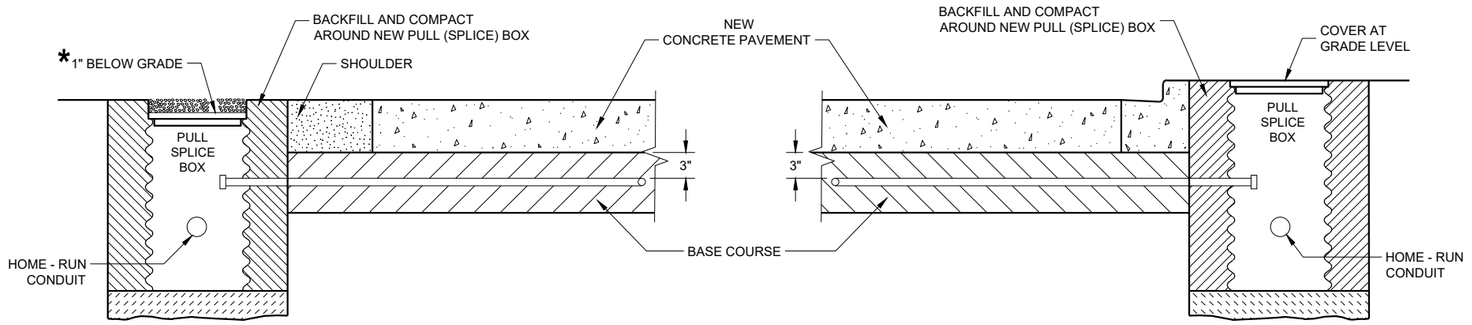
SDD 09E08 - 09k



SECTION A - A
NO CURB AND GUTTER

SECTION B - B
CURB AND GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READING TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

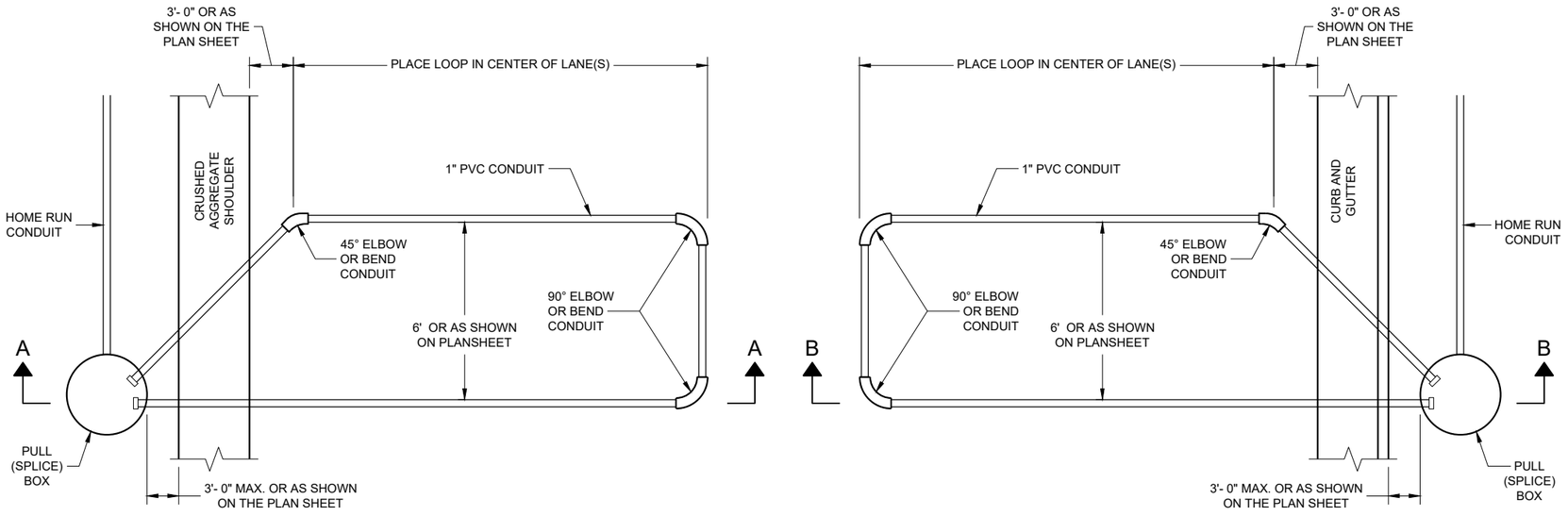
THE #12 AWG LOOP WIRE IN THE ROADSIDE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE NON-SPLICED, CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN LOOP DETECTOR WITH 18" OR 24" PULL (SPLICE) BOX

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
September 2014
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

FHWA

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SDD 09F15 - 04a

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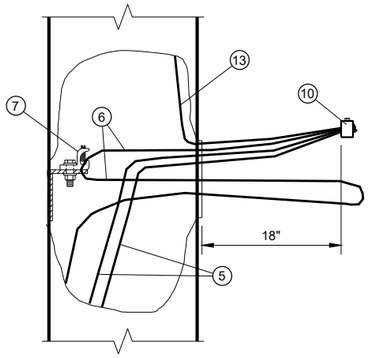
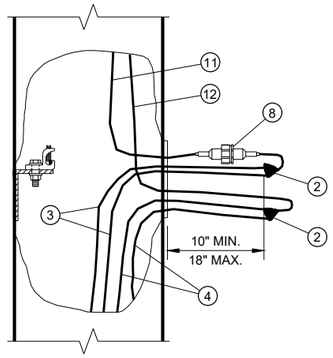
SDD 09F15 - 04a

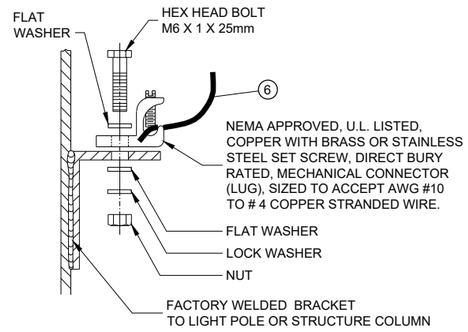


EQUIPMENT GROUNDING CONDUCTOR SLACK



UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

TYPICAL CONDUCTOR SLACK AT HANDHOLES



HANDHOLE GROUNDING LUG

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

GENERAL NOTES

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

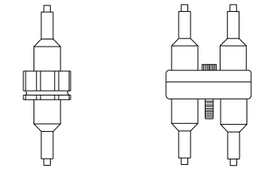
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.



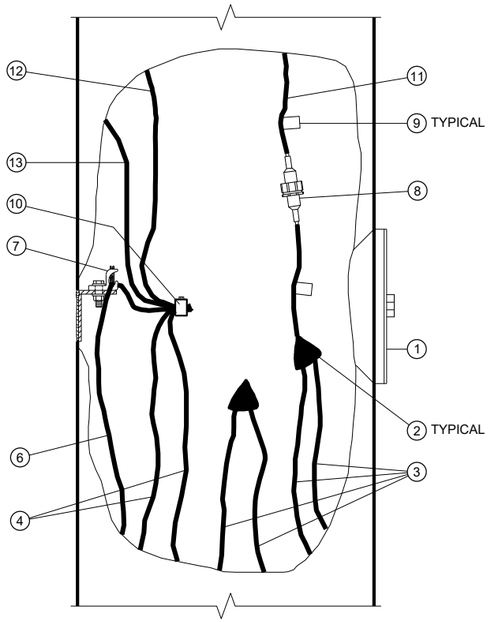
1 POLE (1P) 2 POLE (2P)

FUSE ASSEMBLIES

CONDUCTOR COLOR CODES

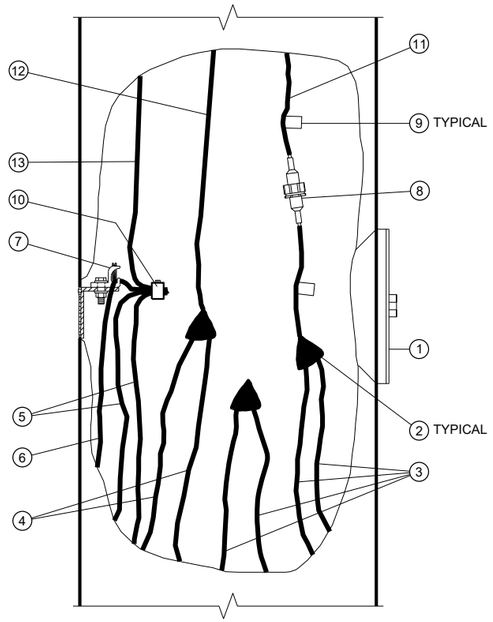
KEY	CONDUCTOR	COLOR
3	UNGROUNDED LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUNDED POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS. WHERE THE PLANS DO NOT SHOW COLOR CODING, USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK AND RED FOR TWIN LUMINAIRE POLES.



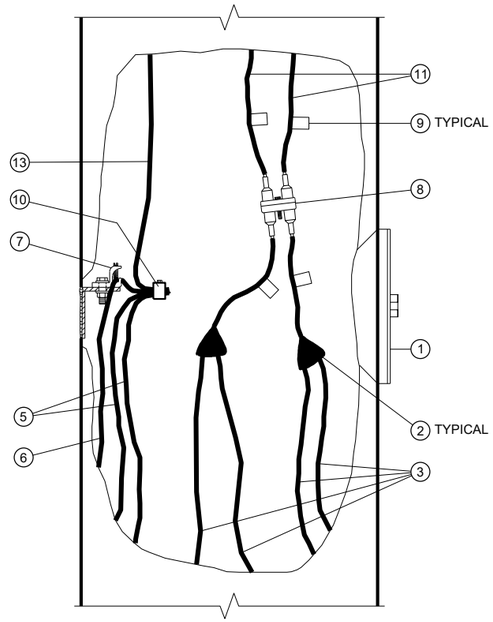
CUTAWAY HANDHOLE DETAIL

GROUNDED NEUTRAL SYSTEMS
1-ϕ



CUTAWAY HANDHOLE DETAIL

ISOLATED NEUTRAL SYSTEMS
1-ϕ SHOWN; 3-ϕ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL

PHASE TO PHASE SYSTEMS
1-ϕ SHOWN; 3-ϕ DELTA SIMILAR
(SEE GENERAL NOTE)

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

1. HANDHOLE AND COVER
2. INSULATED SPLICE
3. UNGROUNDED LINE WIRE
4. GROUNDED LINE WIRE
5. SYSTEM GROUNDING LINE WIRE
6. GROUNDING ELECTRODE CONDUCTOR
7. HANDHOLE GROUNDING LUG
8. FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
9. CIRCUIT TAG (SEE GENERAL NOTE)
10. REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
11. UNGROUNDED POLE WIRE
12. GROUNDED POLE WIRE
13. EQUIPMENT GROUNDING POLE WIRE

6

ELECTRICAL HANDHOLE WIRING

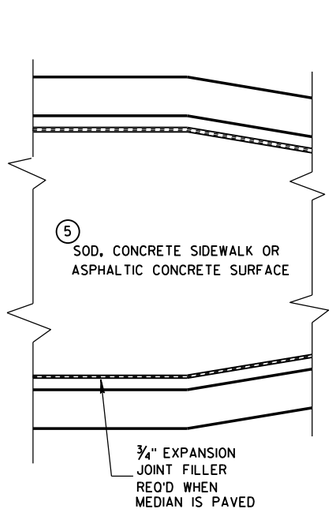
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

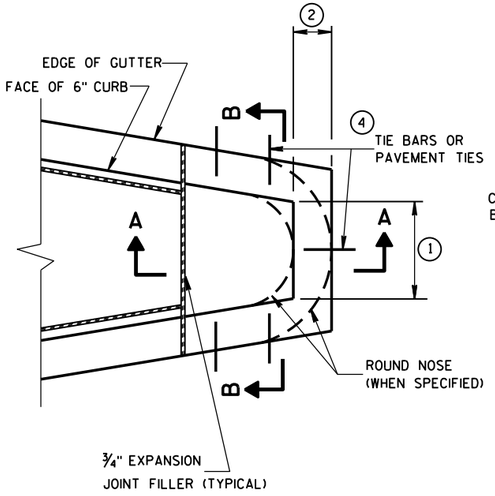
APPROVED
May 2022
DATE

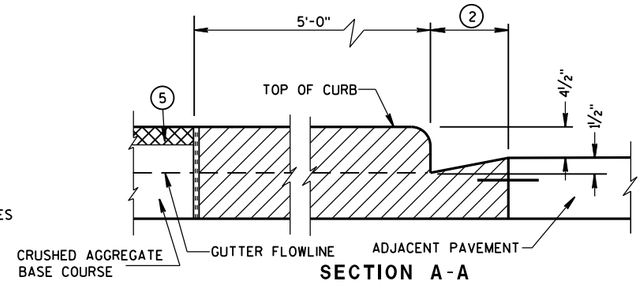
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI 190

FHWA

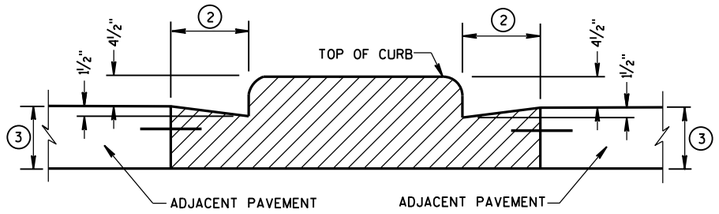
SDD 10A01 - 04







SECTION A-A



SECTION B-B

CONCRETE MEDIAN BLUNT NOSE DETAIL

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) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

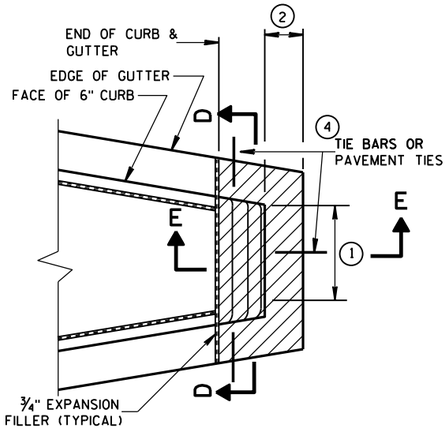
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

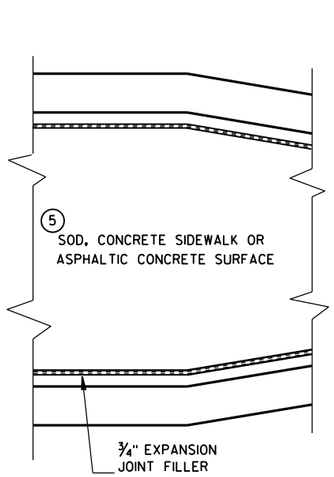
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

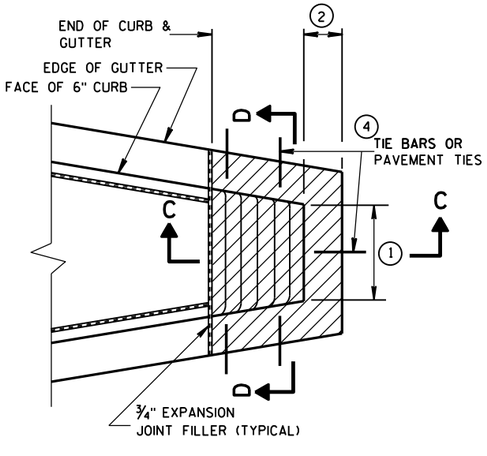
(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

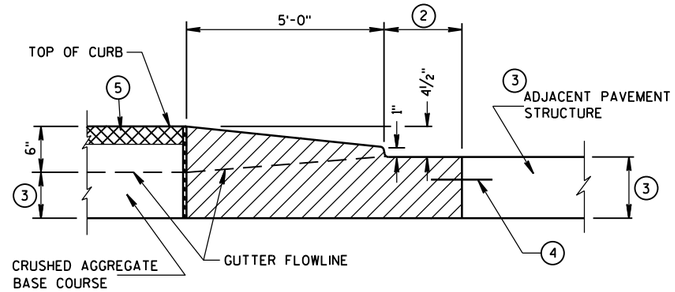
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.



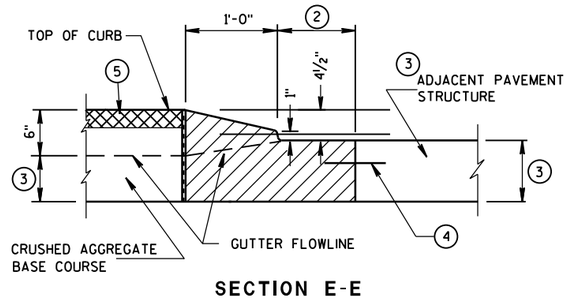




CONCRETE MEDIAN SLOPED NOSE TYPE 1

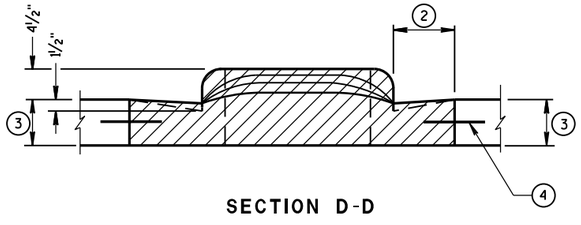


SECTION C-C



SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/8/2006
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER

FHWA

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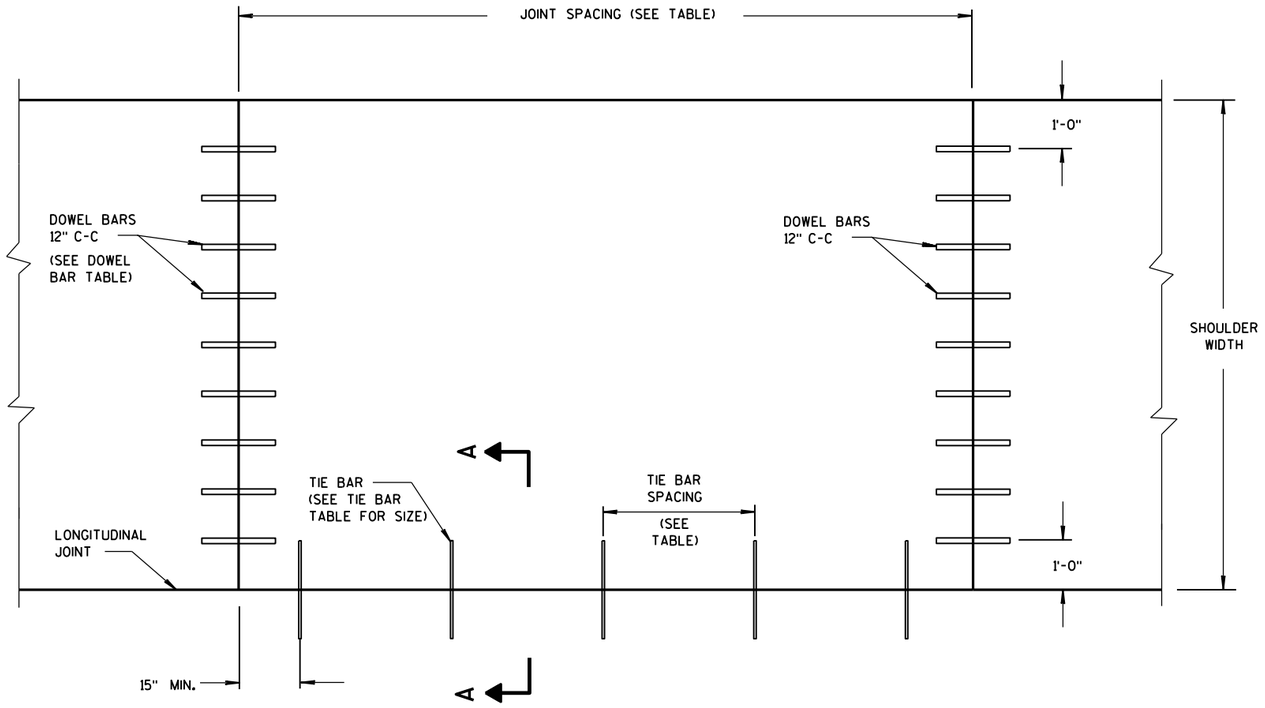
S.D.D. 11 B 2-2



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

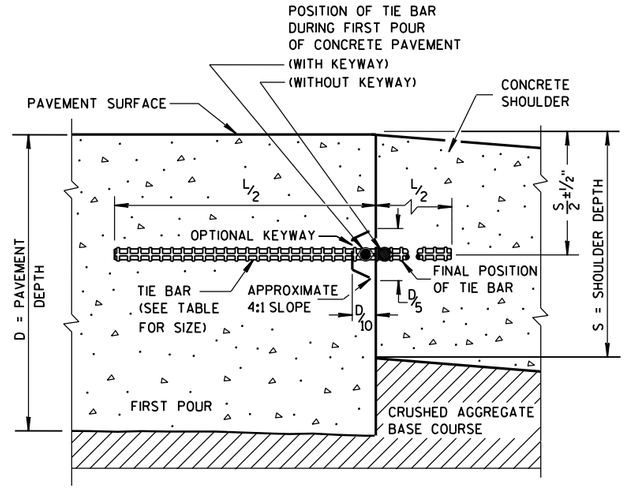
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

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 A 3-6

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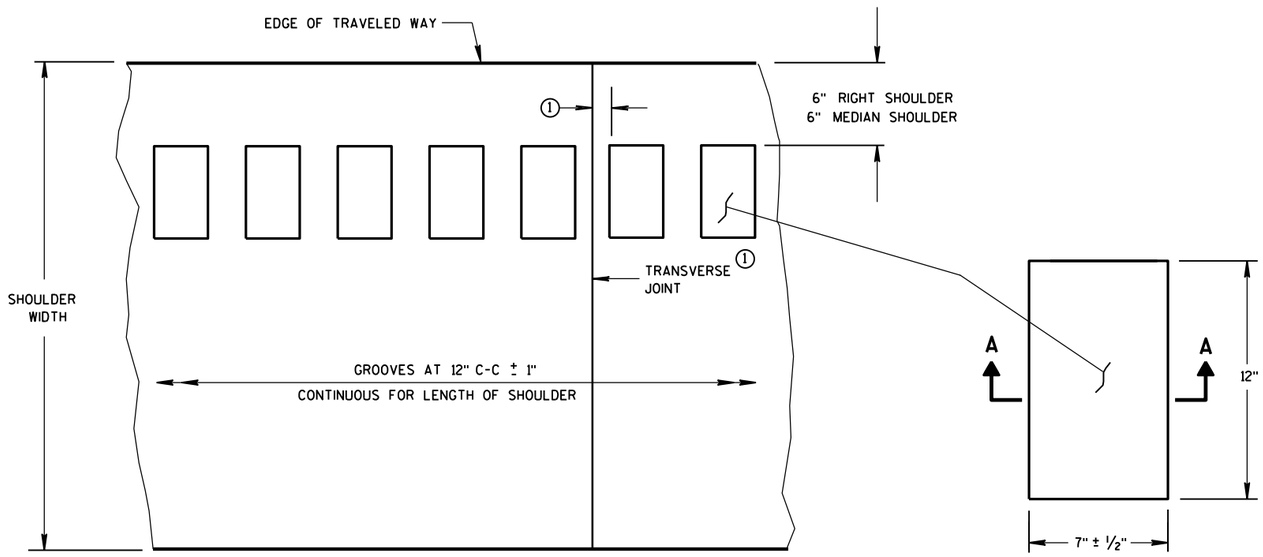
S.D.D. 13 A 3-6



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

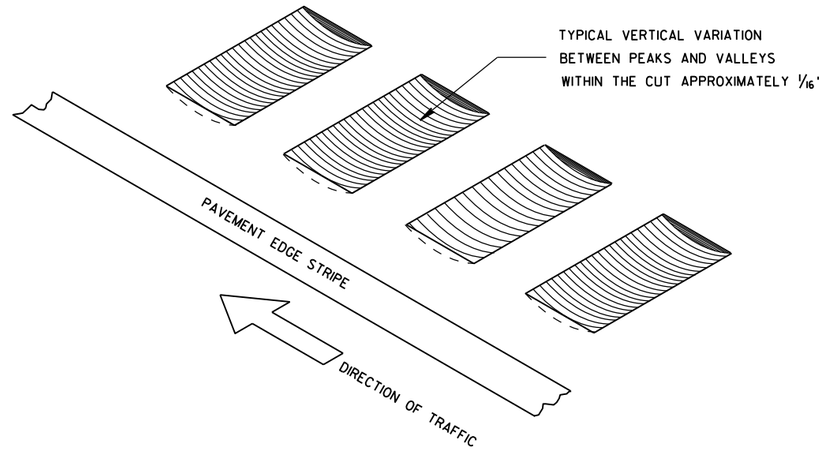
GENERAL NOTES

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

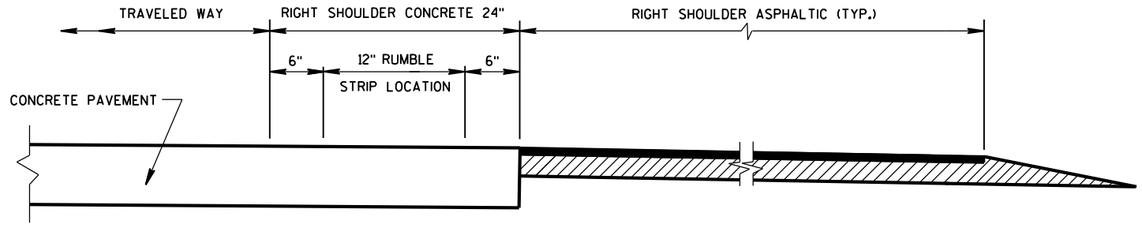
RUMBLE STRIPS ON EXPRESSWAYS

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

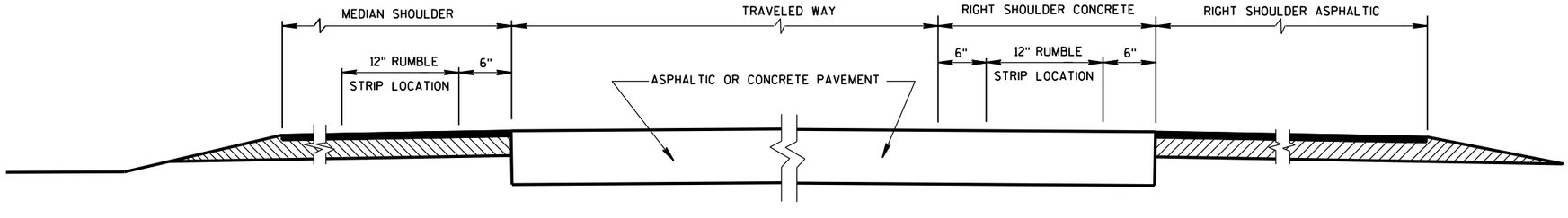
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



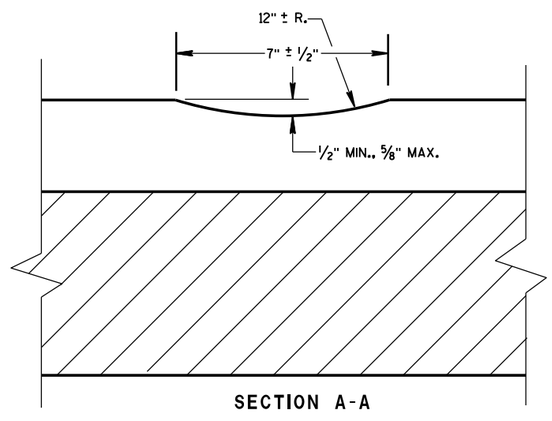
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

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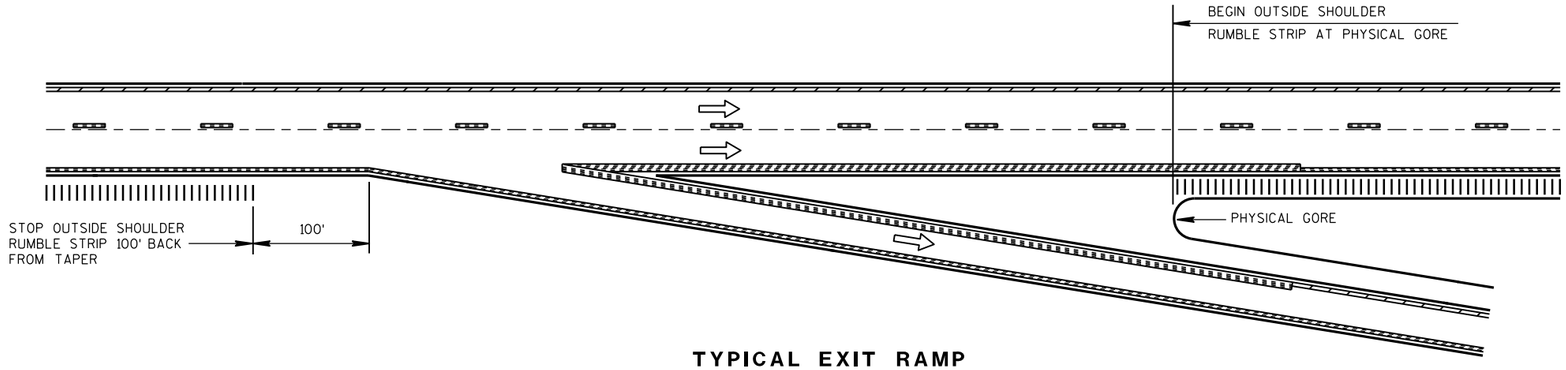
S.D.D. 13 A 5-5a



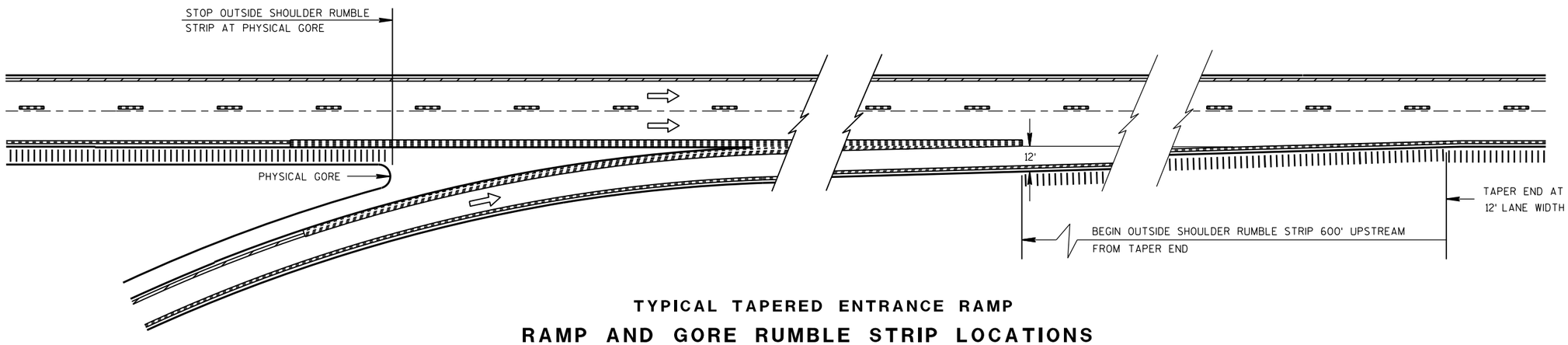
TYPICAL EXIT RAMP

NOTES:

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

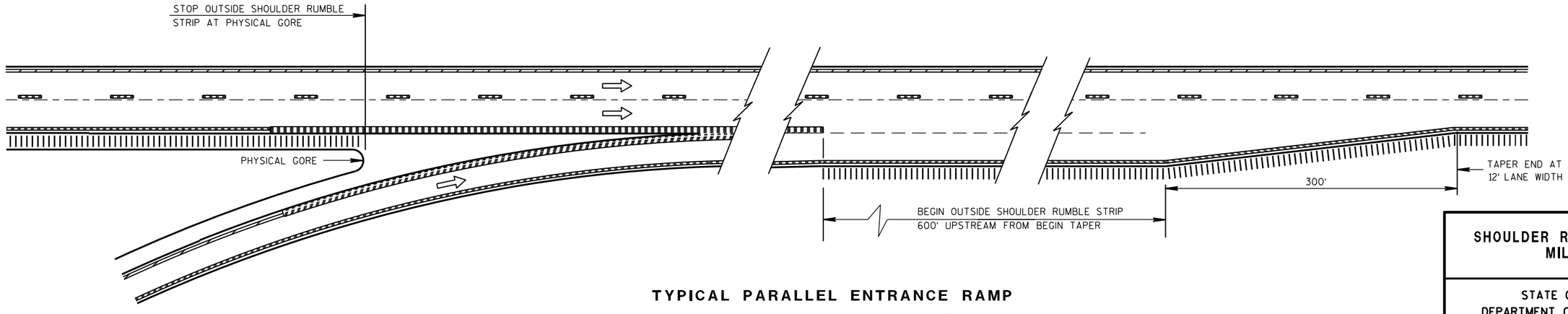
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

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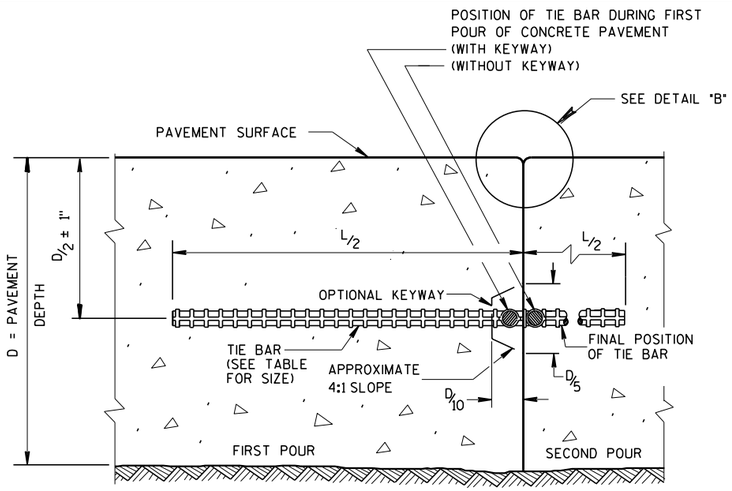
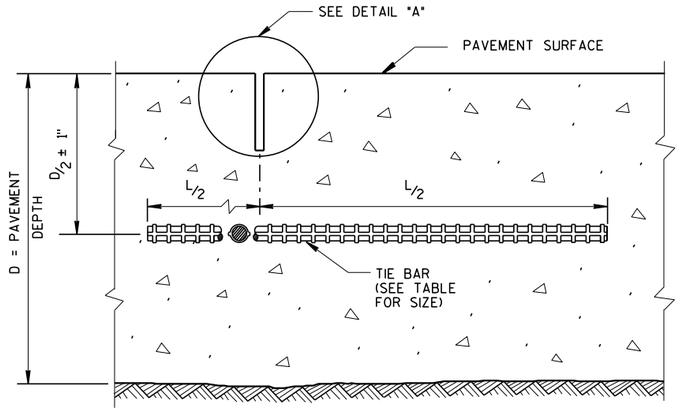
S.D.D. 13 A 5-5b



CONSTRUCTION JOINT



SAWED JOINT

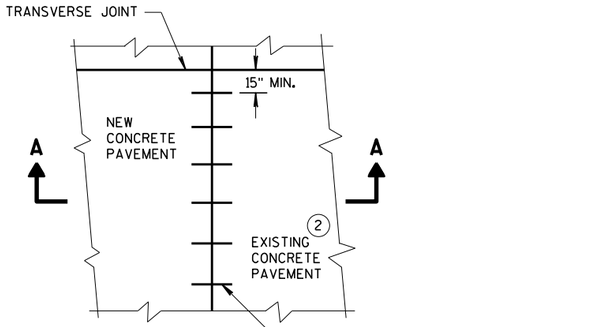
GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

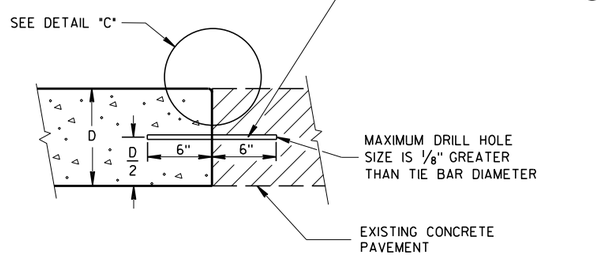
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

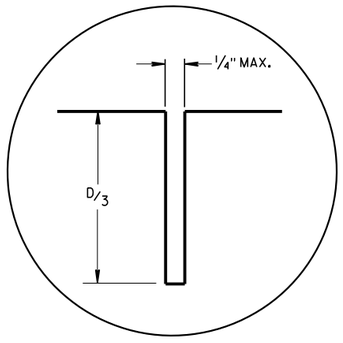


PLAN VIEW

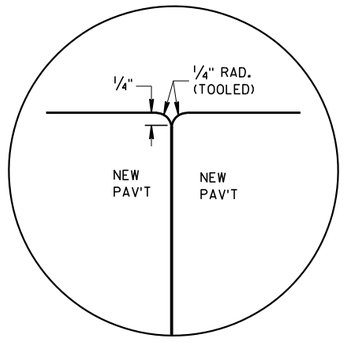


SECTION A-A

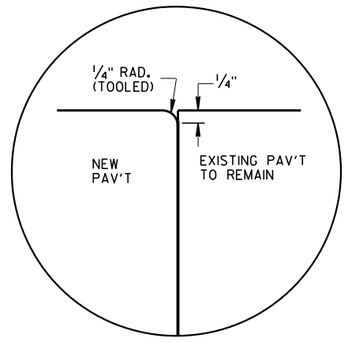
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



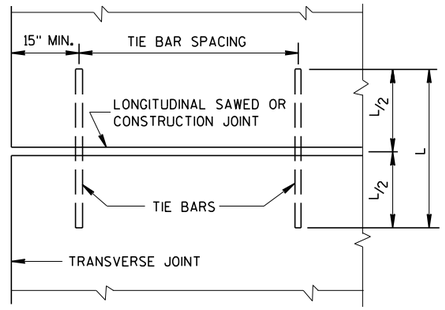
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp PE — PAVEMENT SUPE
FHWA

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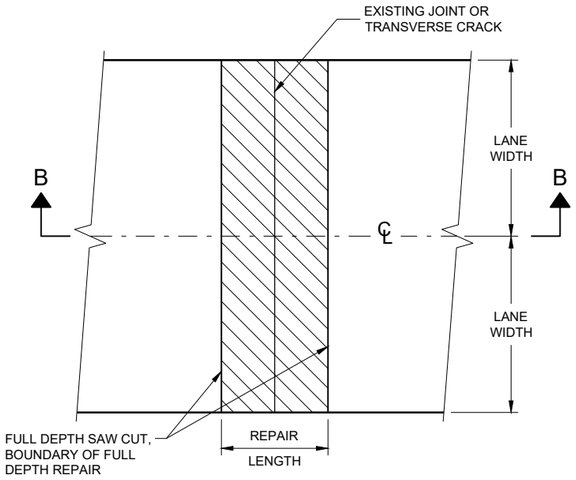
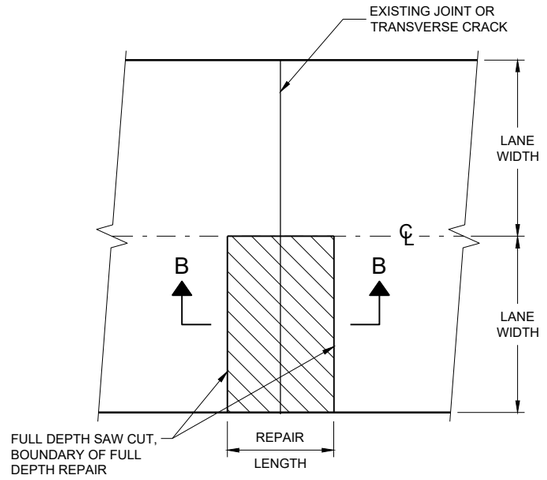
S.D.D. 13 C 1-19



PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

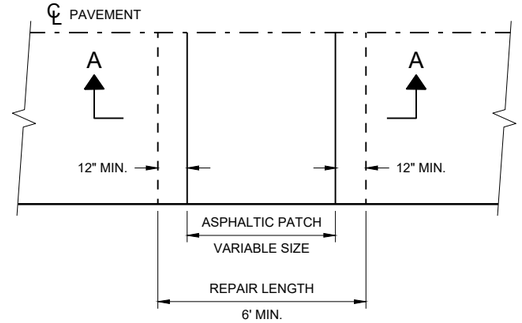
GENERAL NOTES

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

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

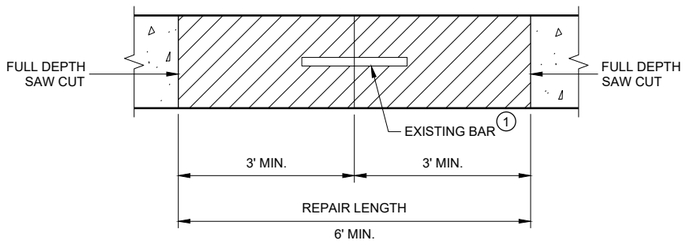
THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

(1) DOWEL BARS MAY NOT BE PRESENT.



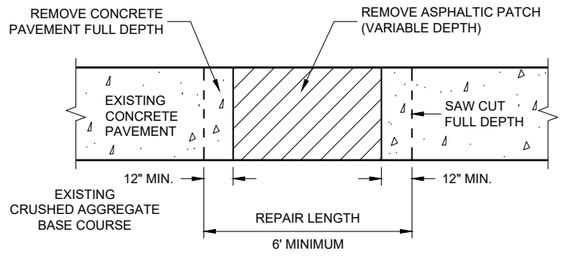
PLAN VIEW

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION B - B

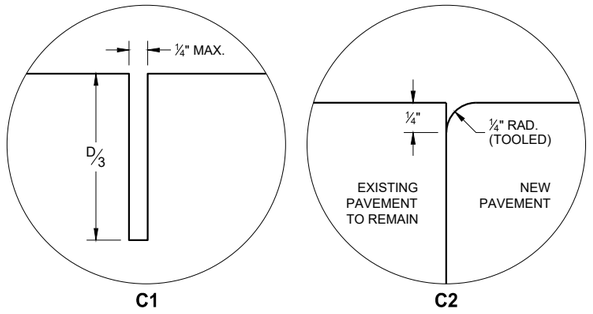
CONCRETE REMOVAL



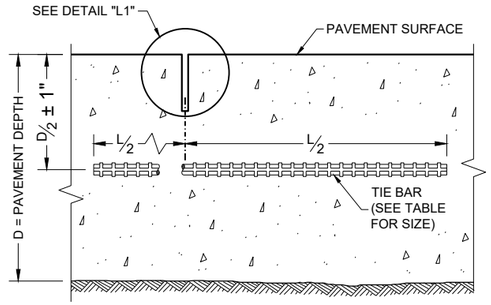
SECTION A - A

HMA PATCH REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

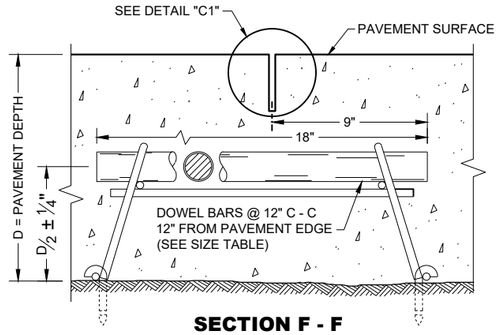


TRANSVERSE JOINTS



SECTION C - C

SAWED LONGITUDINAL JOINT



SECTION F - F

DOWELED CONTRACTION JOINT

GENERAL NOTES

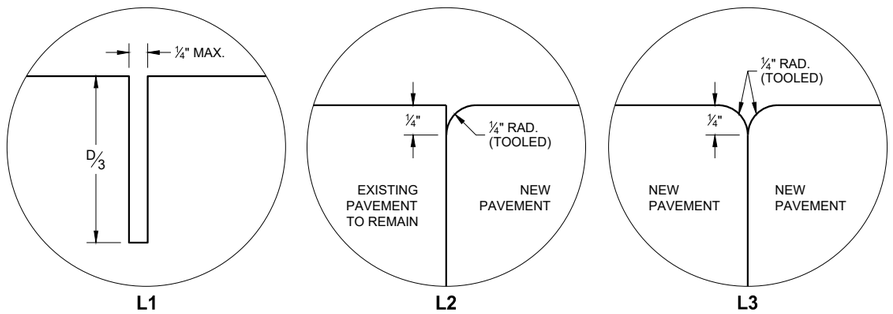
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE PAVEMENT REPAIRS OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

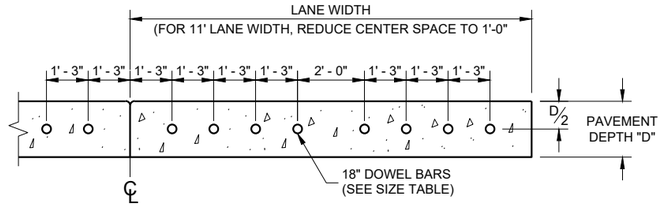
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

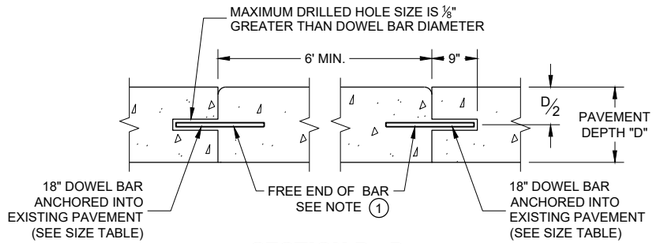


LONGITUDINAL JOINTS



SECTION E - E

DRILLED DOWEL BAR CONSTRUCTION JOINT



SECTION D - D

TIE BAR TABLE

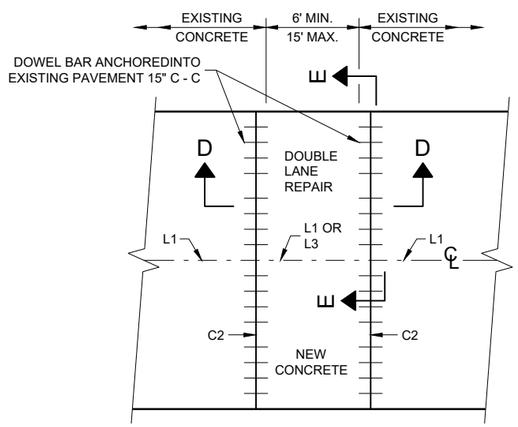
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

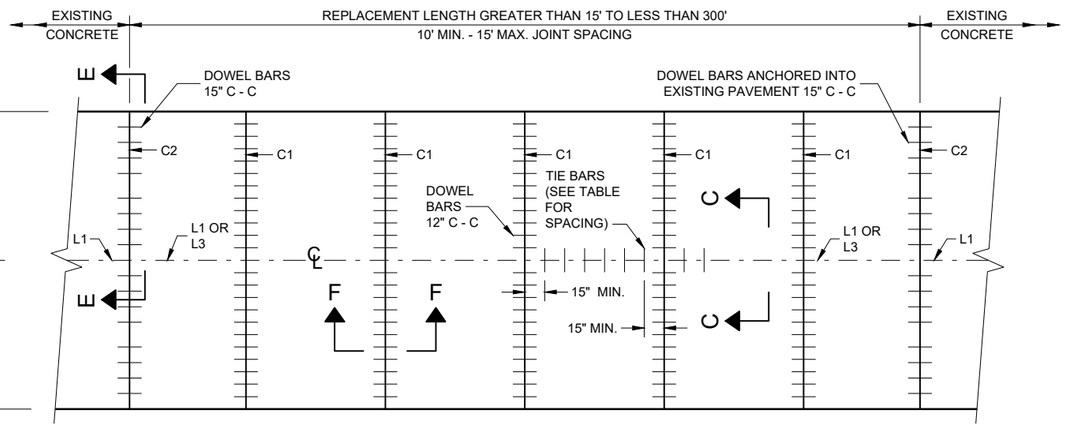
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	DRILLED DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	NONE	12'
7", 7 ½"	1"	1"	14'
8", 8 ½"	1 ¼"	1 ¼"	15'
9" & ABOVE	1 ¼"	1 ¼"	15'



PLAN VIEW

MULTILANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

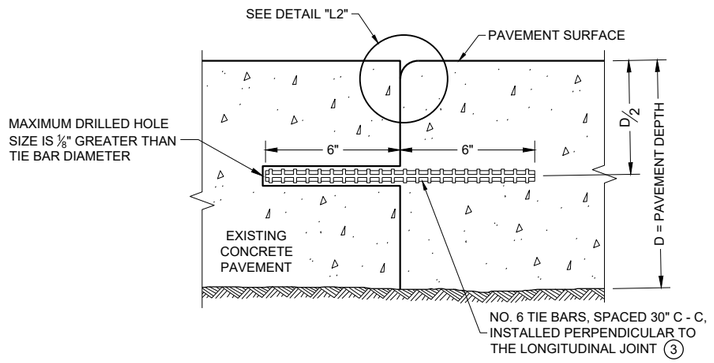
MULTILANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13C09 - 16b
SDD 13C09 - 16b

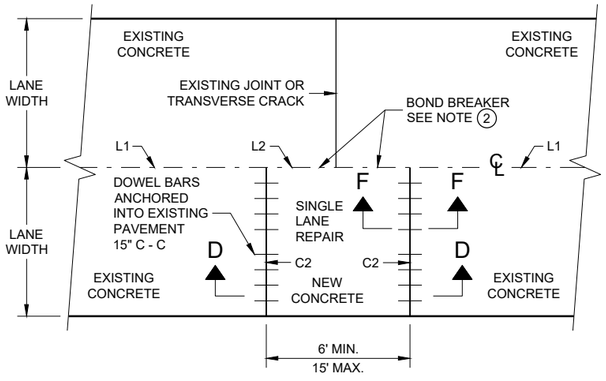


SECTION G - G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

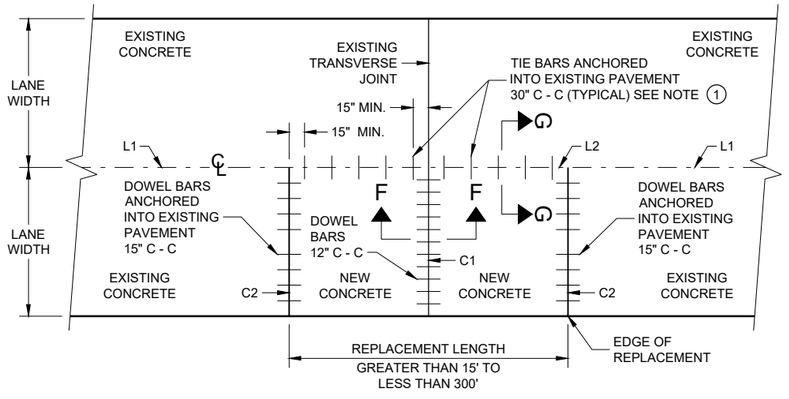
GENERAL NOTES

1. WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
2. USE AN ENGINEER APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.
3. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

FHWA

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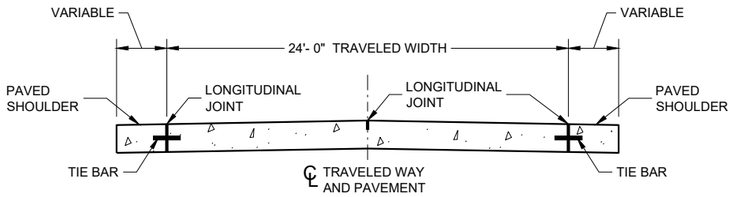
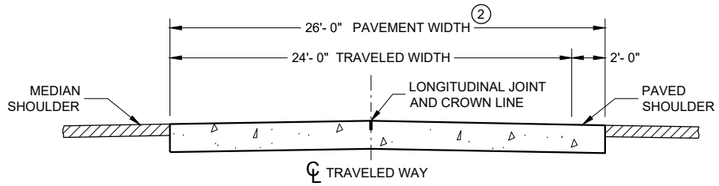
SDD 13C09 - 16c

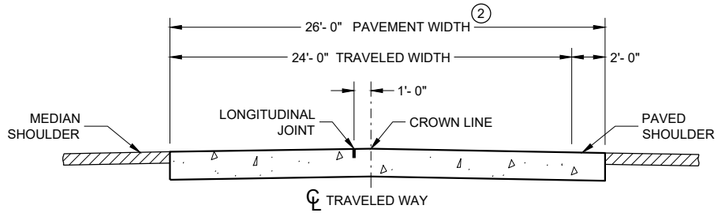


SECTION A - A

TWO-LANE TWO-WAY HIGHWAY (1)



SECTION B - B



ALTERNATIVE SECTION B - B

DIVIDED HIGHWAY (1)

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES FROM AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

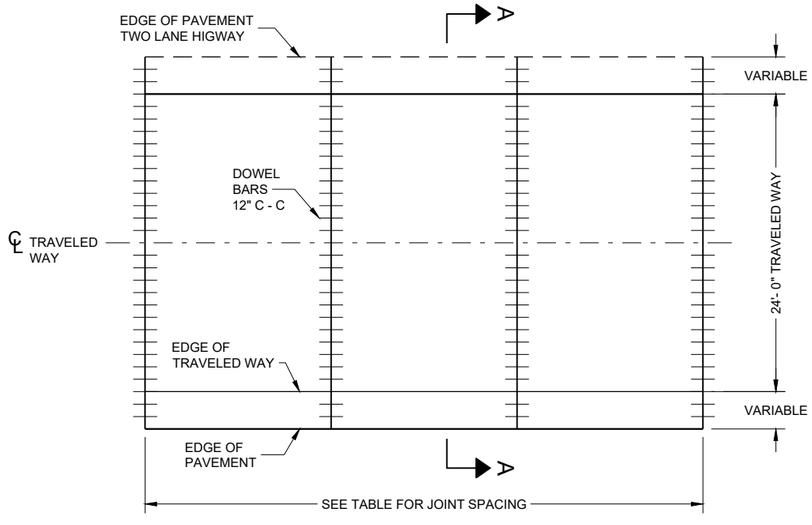
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

(1) REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

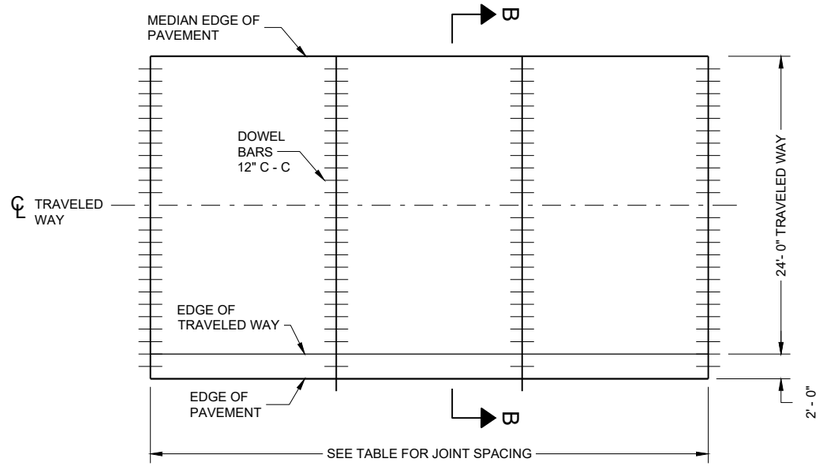
(2) MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED "PAVED SHOULDER" AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9" & ABOVE	1 ¼"	15'



CONTRACTION JOINT LAYOUT FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT FOR DIVIDED HIGHWAY

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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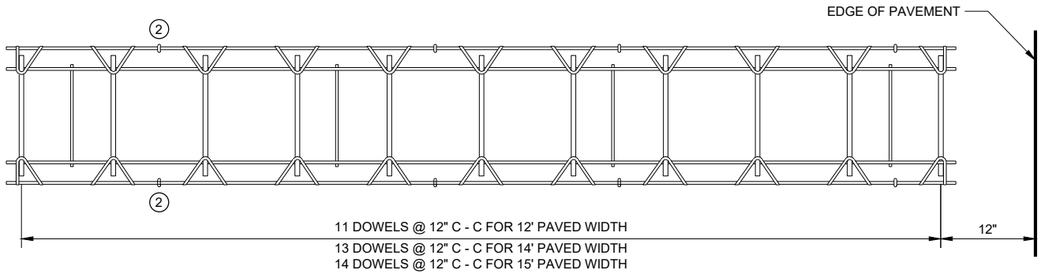
SDD13C11 - 13a



PLAN VIEW

SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY (1)

GENERAL NOTES

(1) OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTION CONTRACTION JOINTS.

(2) SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

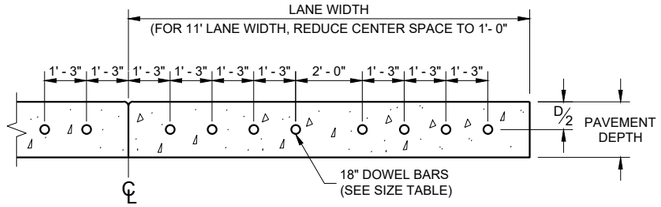
(3) FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼" RADIUS AT FORMED JOINTS.

(4) PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

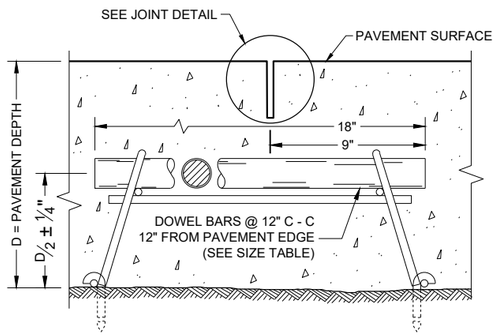
(5) INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C - C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO THE "DRILLED DOWEL BAR CONSTRUCTION JOINT" DETAIL.

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

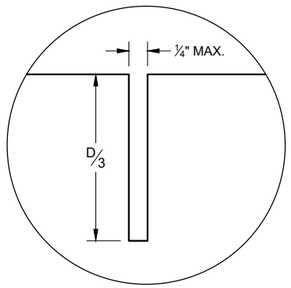
(7) ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛" GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



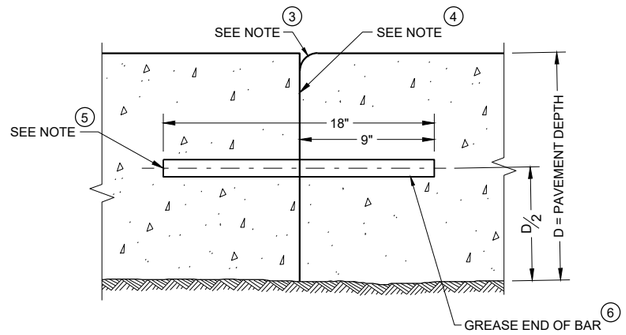
DRILLED DOWEL BAR CONSTRUCTION JOINT (7)



DOWELED CONTRACTION JOINT



JOINT DETAIL



TRANSVERSE CONSTRUCTION JOINT

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
00-00-00
DATE
/S/ <AUTHOR>
PAVEMENT SUPERVIS
200

FHWA

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SDD 13C11 - 13b

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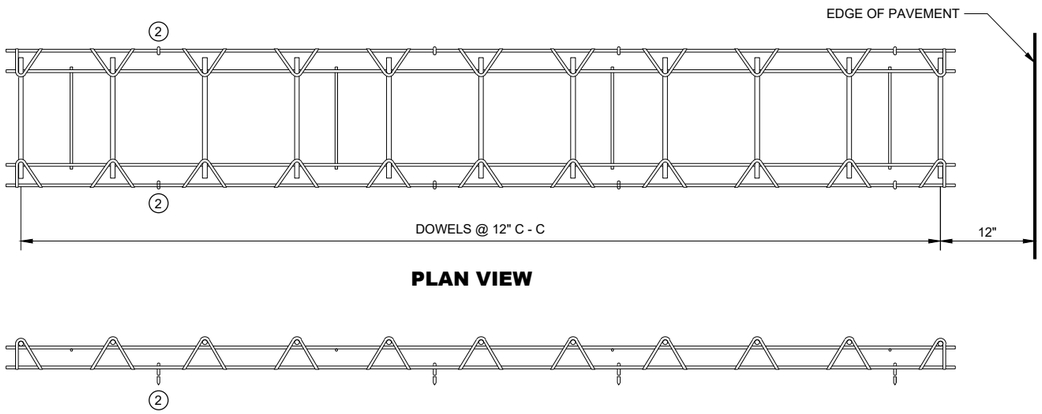
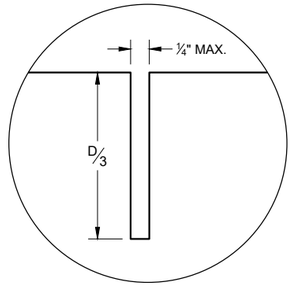
SDD 13C11 - 13b



PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY (1)



JOINT DETAIL

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES FROM AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

(1) OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTION CONTRACTION JOINTS.

(2) SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

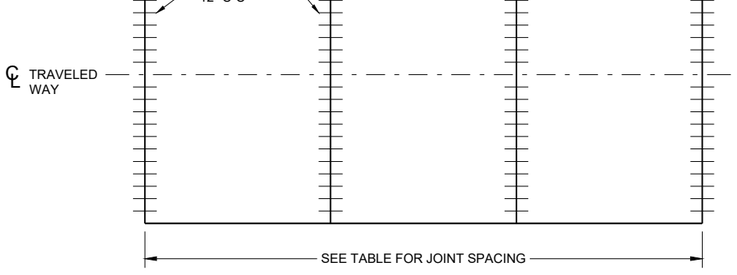
(3) FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼" RADIUS AT FORMED JOINTS.

(4) PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

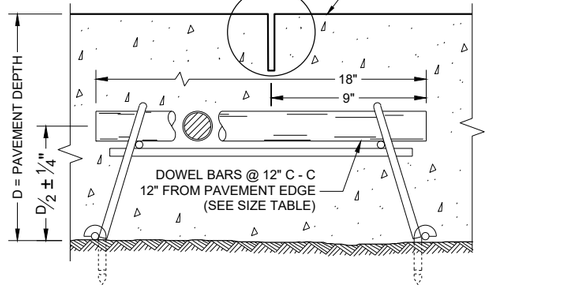
(5) INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C - C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO THE "DRILLED DOWEL BAR CONSTRUCTION JOINT" DETAIL.

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

(7) ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛" GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



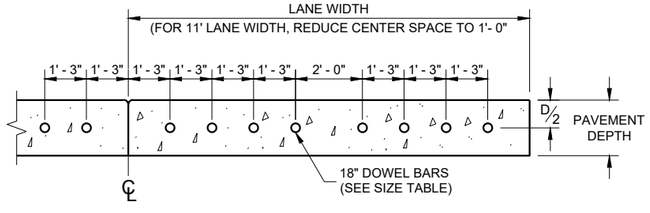
CONTRACTION JOINT LOCATIONS



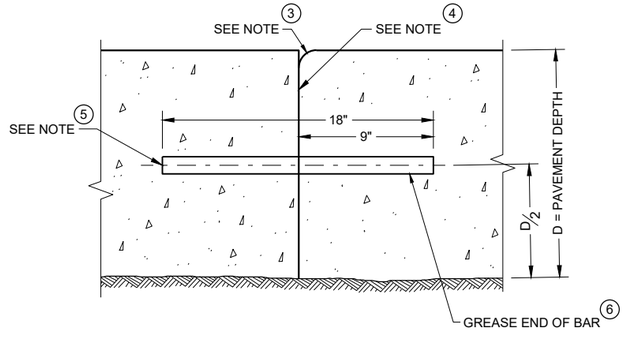
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9" & ABOVE	1 ¼"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT (7)



TRANSVERSE CONSTRUCTION JOINT

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

FHWA

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SDD 13C13 - 10

GENERAL NOTES

PCCP = PORTLAND CEMENT CONCRETE PAVEMENT.

SHLDR = SHOULDER.

CONTINUE SAW CUT CONTRACTION JOINT ACROSS TURN LANE, EXIT TAPER AND PASSING LANE.

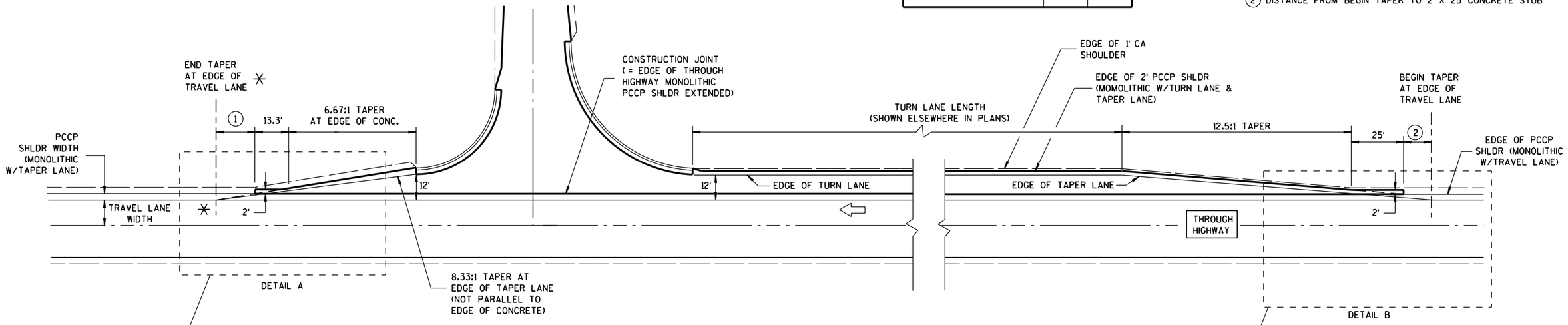
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

THROUGH HIGHWAY LANE WIDTH AND PCCP SHOULDER WIDTH ARE SHOWN ELSEWHERE IN PLANS

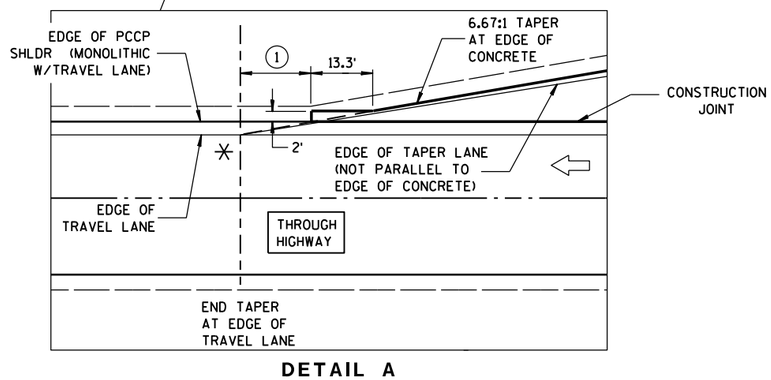
(1) DISTANCE FROM END TAPER TO 2' X 13.3' CONCRETE STUB

(2) DISTANCE FROM BEGIN TAPER TO 2' X 25' CONCRETE STUB

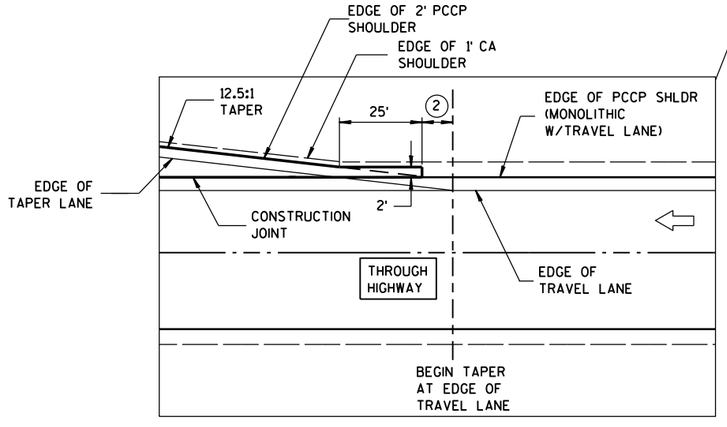
THROUGH HIGHWAY MONOLITHIC PCCP SHOULDER WIDTH (FEET)	DISTANCE (FEET)	
	(1)	(2)
2	13.3	0.0
3	20.0	12.5
TAPER RATE : 1	6.67	12.5



✳ NOTE: EDGE OF CONCRETE TAPER (EXTENDED) & EDGE OF TAPER LANE CONVERGE



DETAIL A



DETAIL B

RIGHT TURN LANE AND EXIT TAPER

DETAIL FOR RIGHT TURN LANE/ TEE INTERSECTION BYPASS LANE ON A CONCRETE ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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S.D.D. 13 C 16-2a

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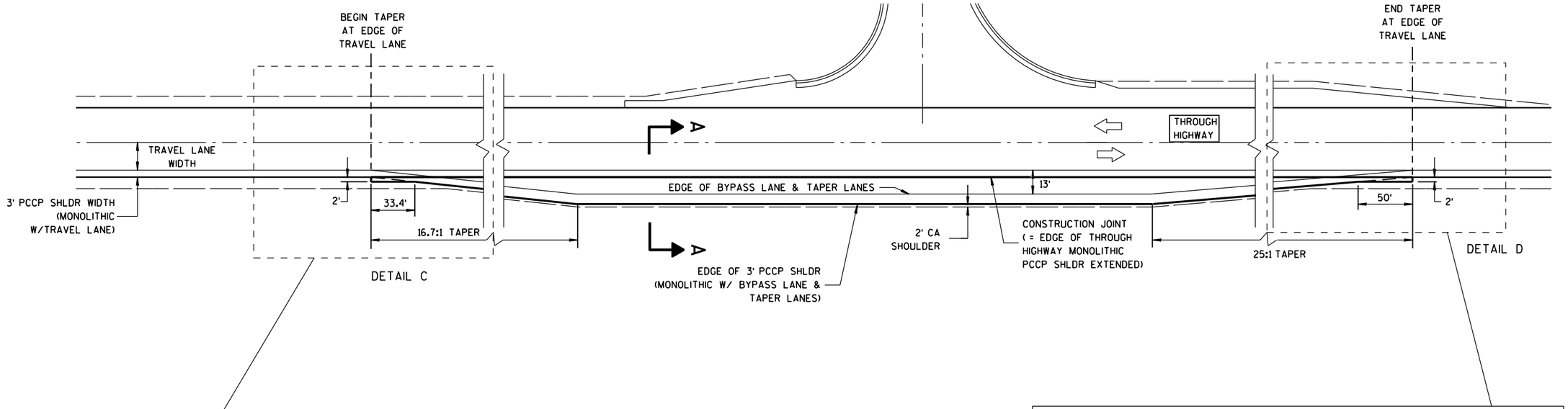
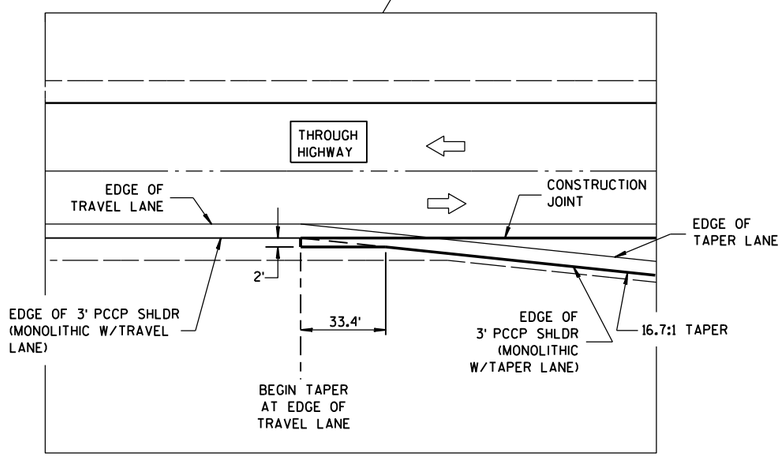
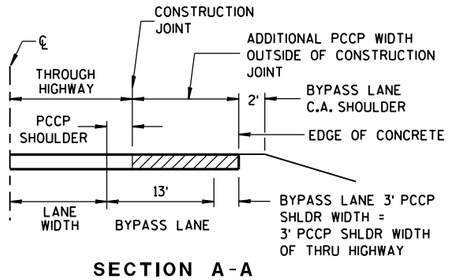
S.D.D. 13 C 16-2a



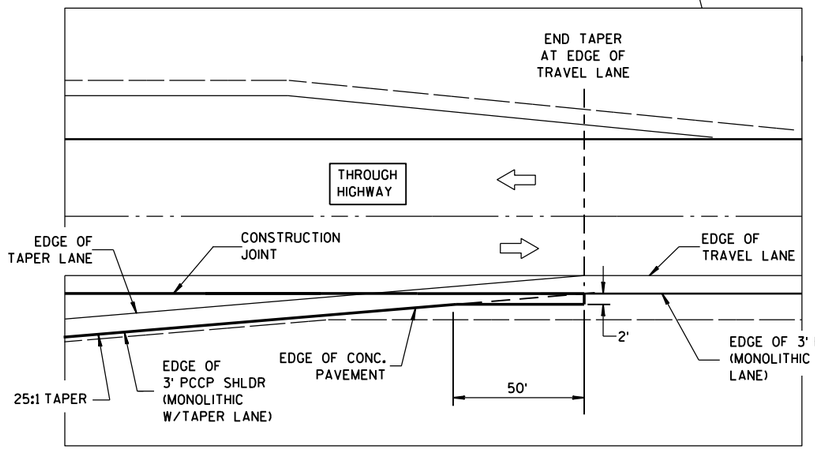


DETAIL C



SECTION A-A

(SHOWING BYPASS LANE AND SHOULDER)



DETAIL D

TWO LANE UNDIVIDED HIGHWAY TEE INTERSECTION BYPASS LANE

DETAIL FOR RIGHT TURN LANE/ TEE INTERSECTION BYPASS LANE ON A CONCRETE ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/18/12 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

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S.D.D. 13 C 16-2b

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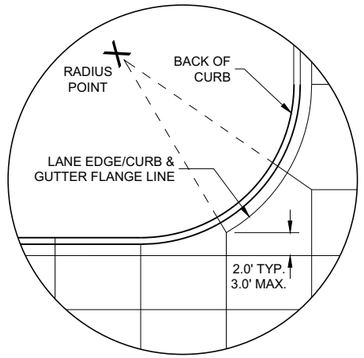
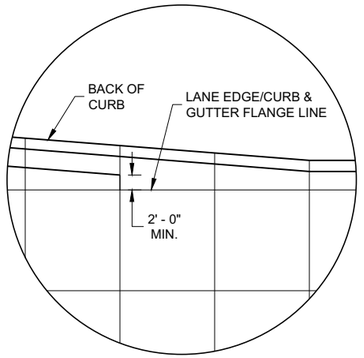
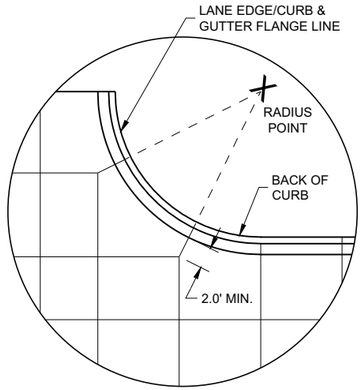
S.D.D. 13 C 16-2b



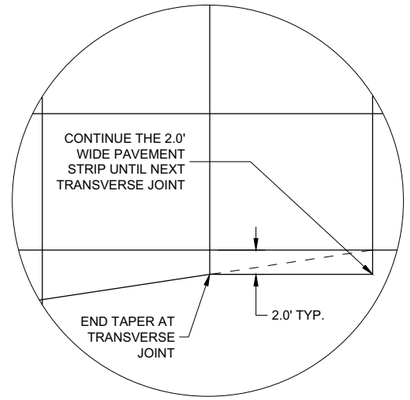
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

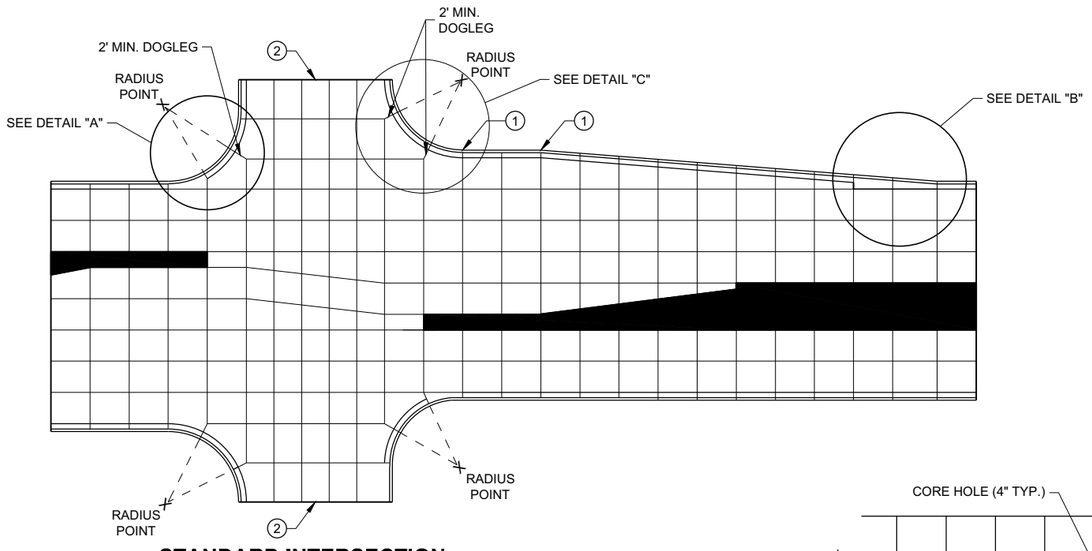
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.

(2) CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITHEDGE OF RADIUS.

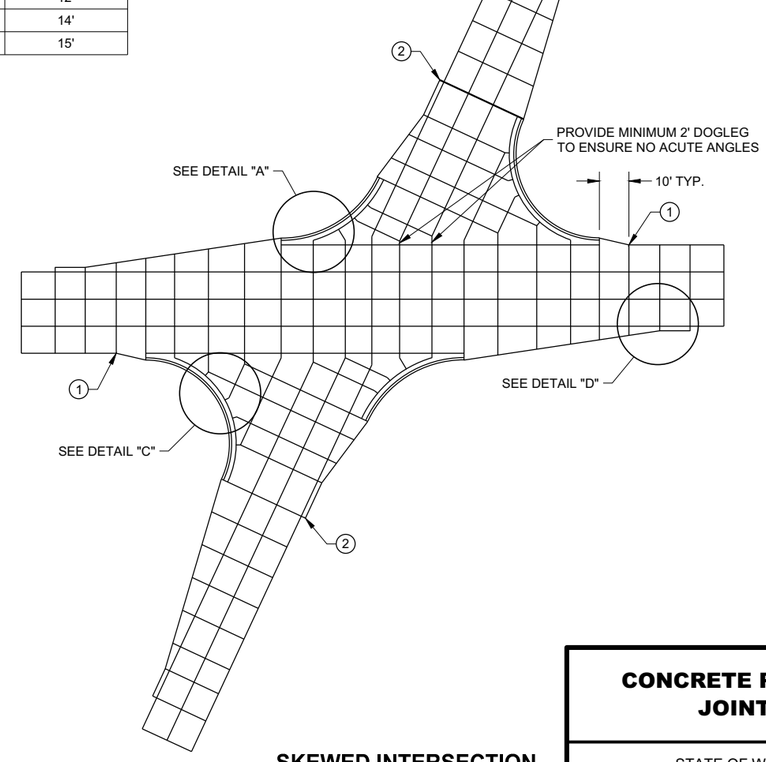
(3) THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



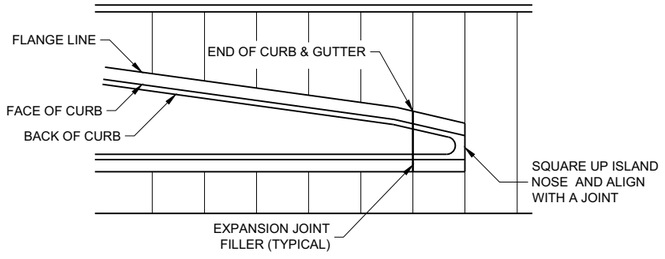
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

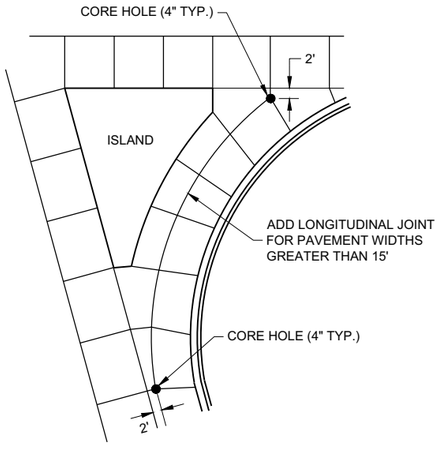
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 ½"	12'
7", 7 ½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 13C18 - 07a

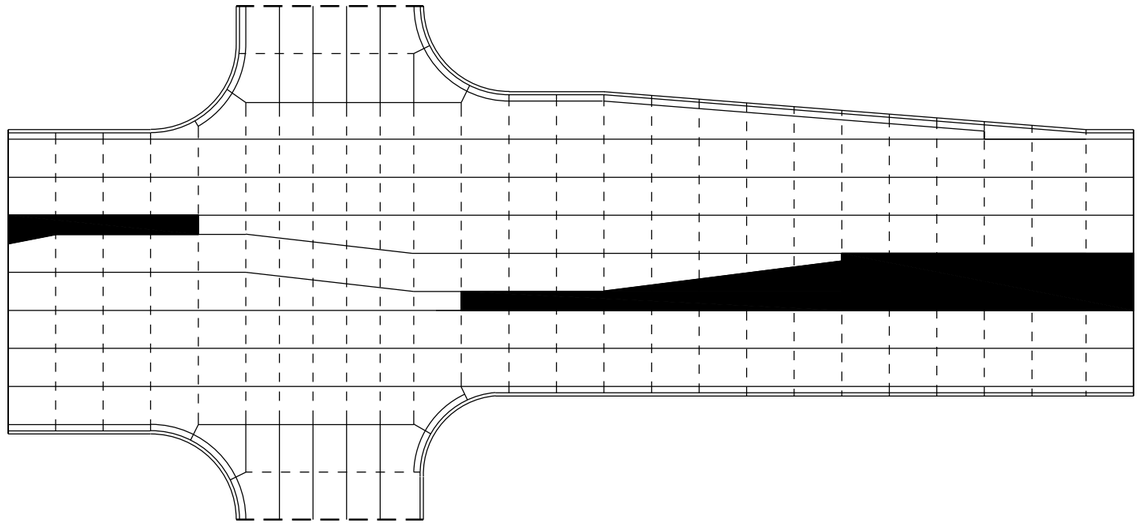
SDD 13C18 - 07a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

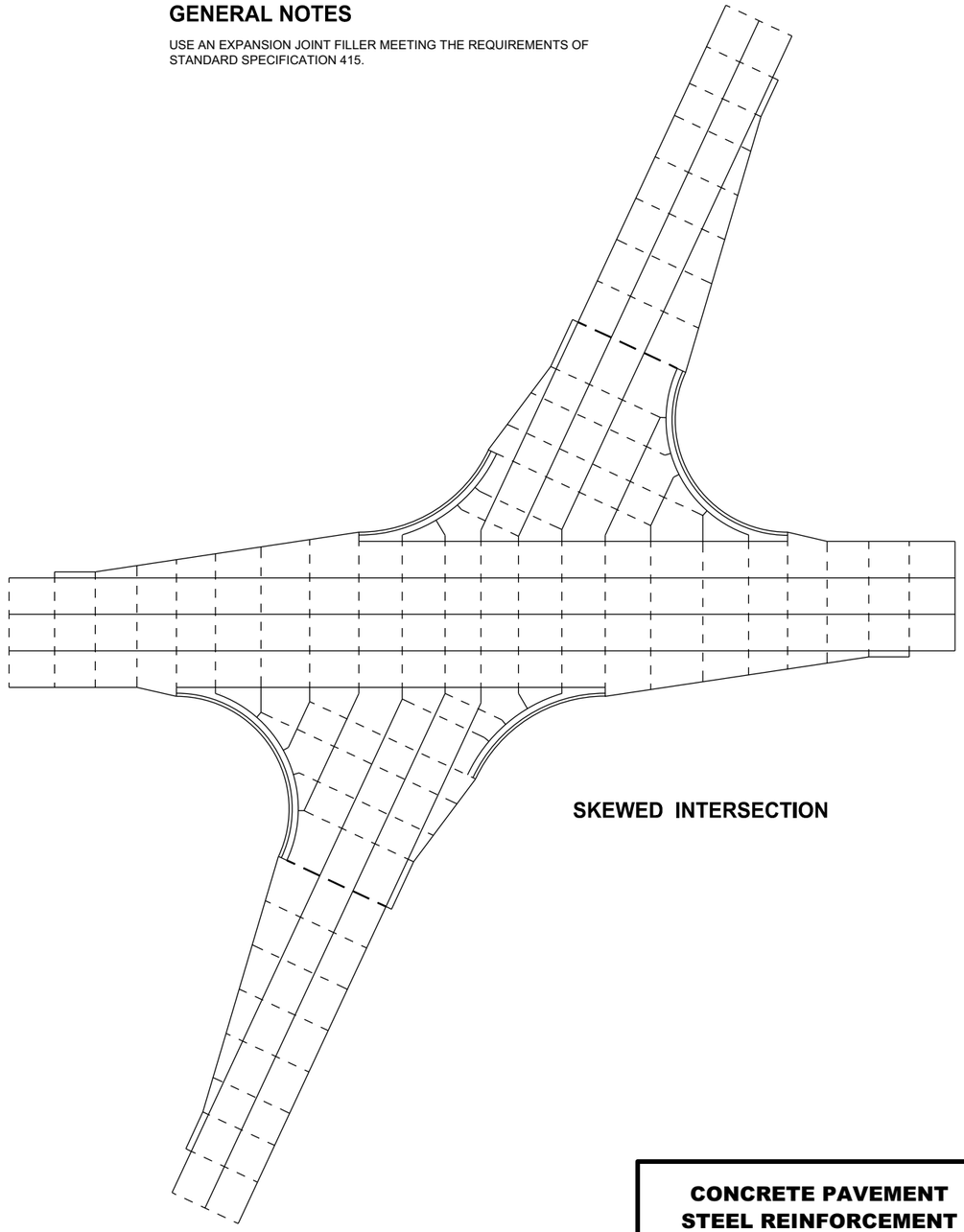
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

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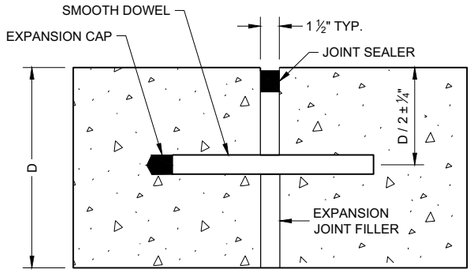
SDD 13C18 - 07b

CONCRETE PAVEMENT
STEEL REINFORCEMENT

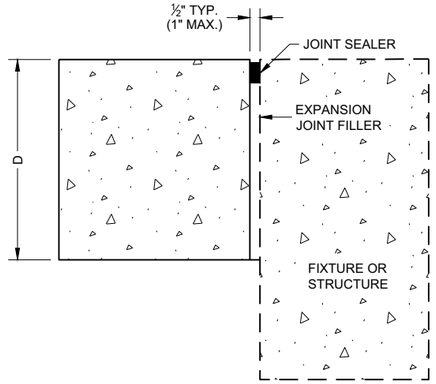
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13C18 - 07b



DOWELED TRANSVERSE (1)



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

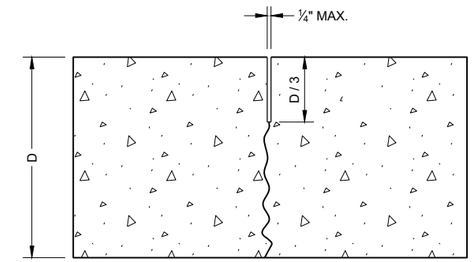
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

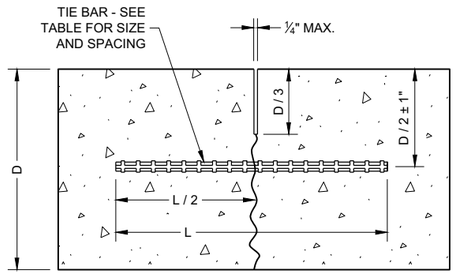
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

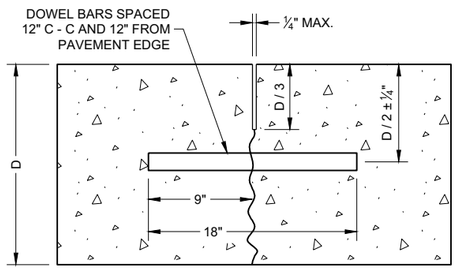
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATETHE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A ¼" RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



UNDOWELED TRANSVERSE

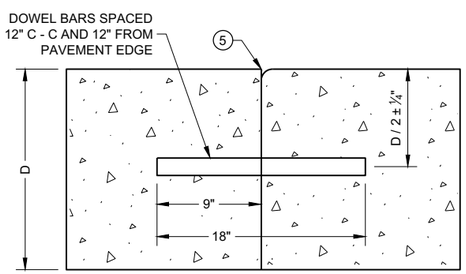


TIED LONGITUDINAL

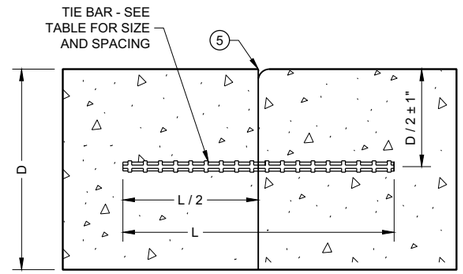


DOWELED TRANSVERSE

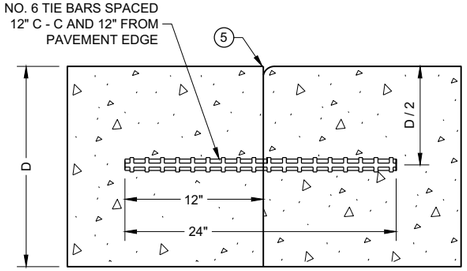
CONTRACTION JOINTS (2)



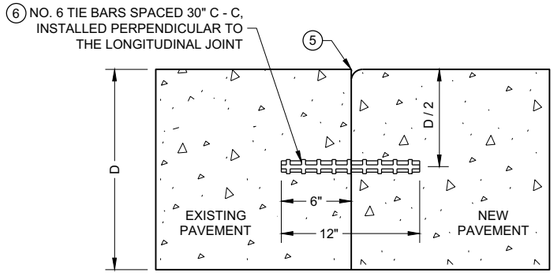
DOWELED TRANSVERSE (3)



TIED LONGITUDINAL



TIED TRANSVERSE (3)
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS (4)

CONCRETE PAVEMENT JOINT TYPES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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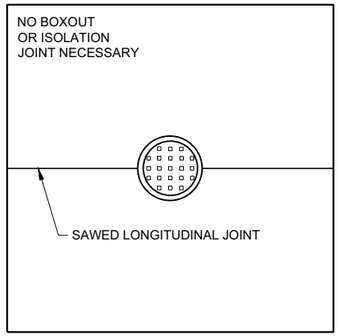
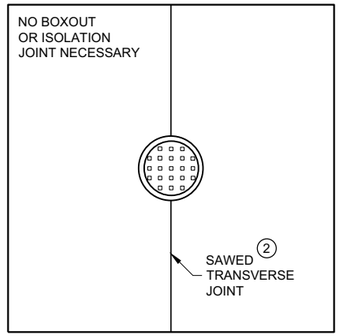
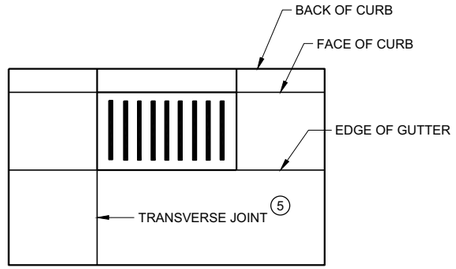


MANHOLE WITH LONGITUDINAL JOINT



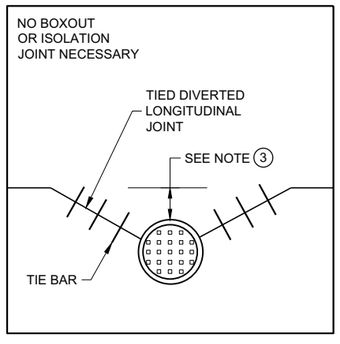
MANHOLE WITH TRANSVERSE JOINT



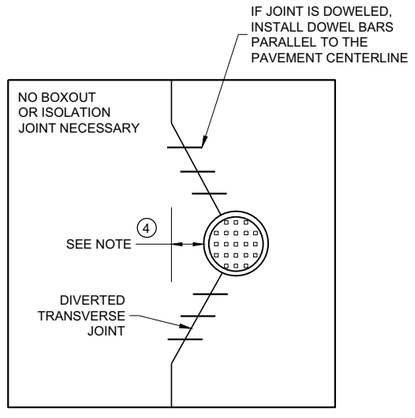
INLET WITH TRANSVERSE JOINT

GENERAL NOTES

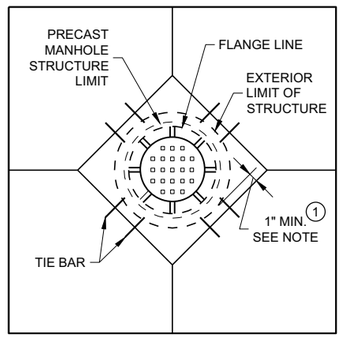
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
4. IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT



DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

FHWA

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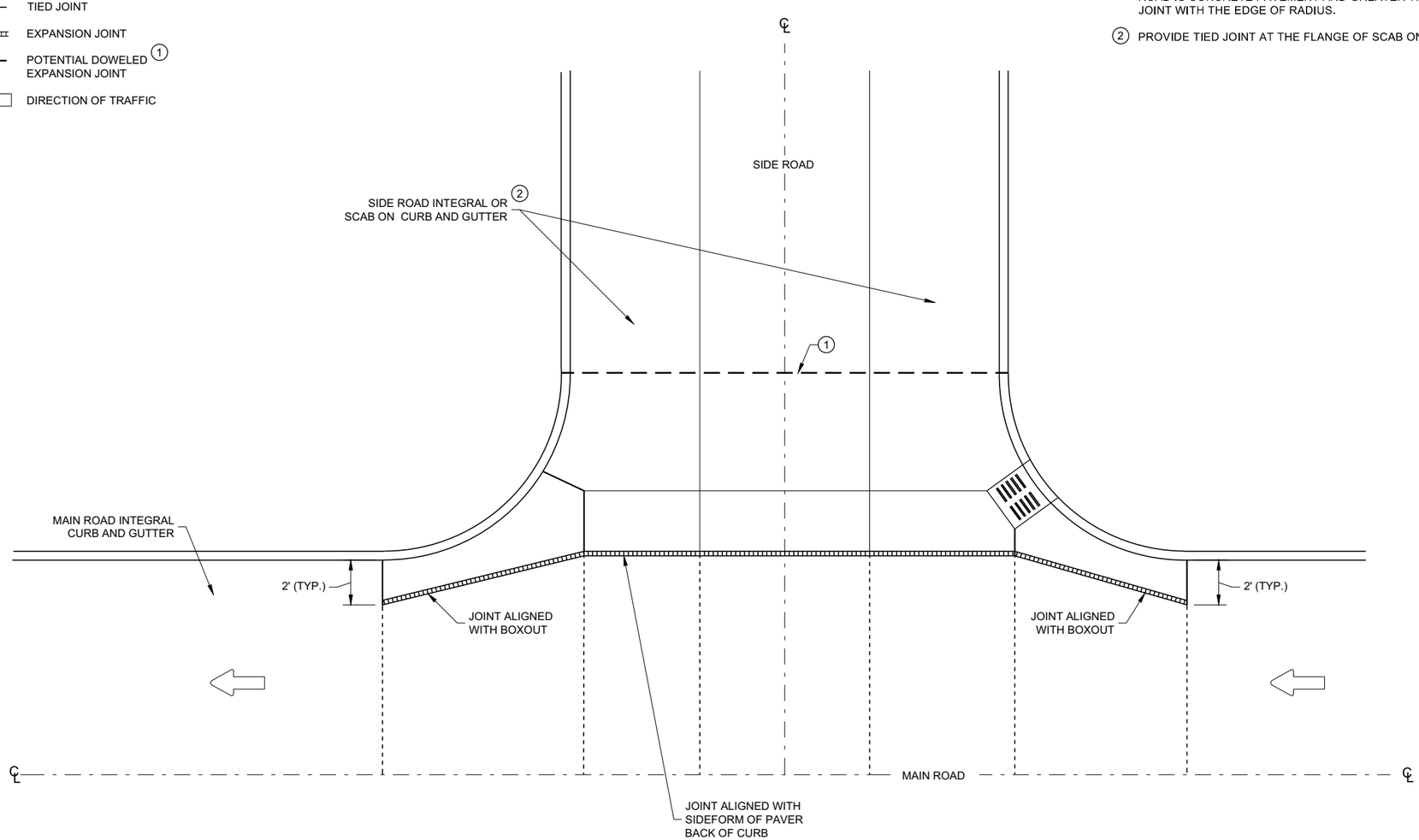
LEGEND

- DOWELED JOINT
- TIED JOINT
- EXPANSION JOINT
- POTENTIAL DOWELED EXPANSION JOINT (1)
- DIRECTION OF TRAFFIC



GENERAL NOTES

(1) CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH THE EDGE OF RADIUS.

(2) PROVIDE TIED JOINT AT THE FLANGE OF SCAB ON CURB IF SCAB ON CURB AND GUTTER IS USE.

INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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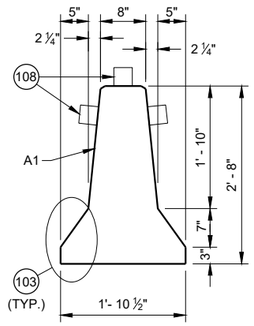
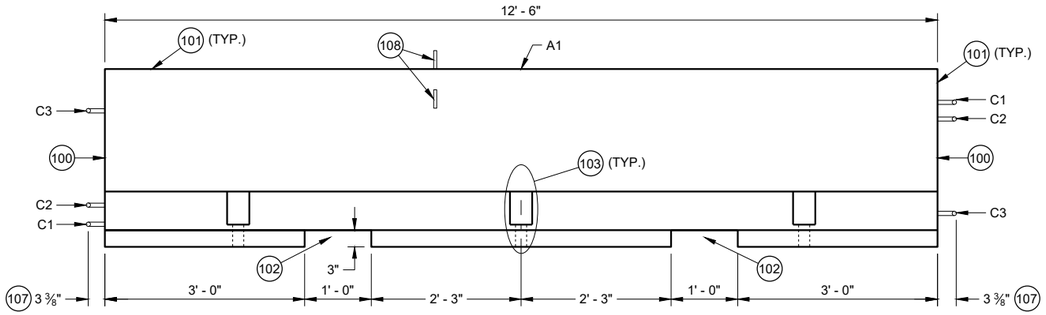


CROSS SECTION



PROFILE VIEW

GENERAL NOTES

PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

(100) PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:
- A. TYPE OF BARRIER: WI-CBTP
- B. MANUFACTURER
- C. DATE OF MANUFACTURE (MONTH AND YEAR)

(101) 1" OPTIONAL CHAMFER

(102) SEE LIFTING SLOT DETAIL

(103) SEE ANCHOR BLOCK DETAIL

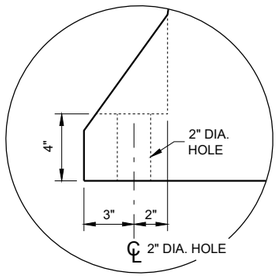
(104) 1 ¼" MIN. CLEAR COVER

(105) 2" MIN. CLEAR COVER

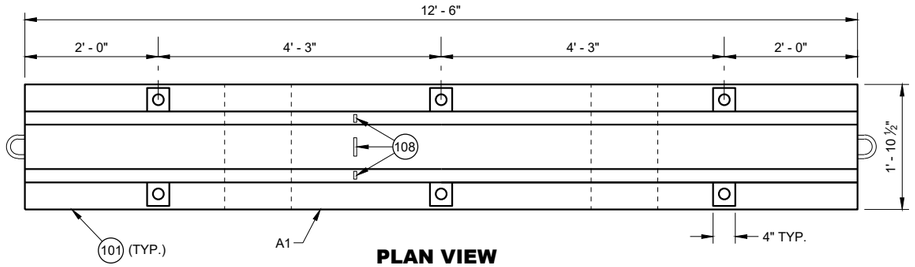
(106) 1" MIN. CLEAR COVER

(107) ± ⅛" MEASURED FROM FACE OF CONCRETE BARRIER TO OUTSIDE OF LOOP BAR (TYP.)

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

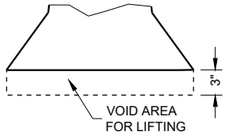


ANCHOR BLOCK DETAIL

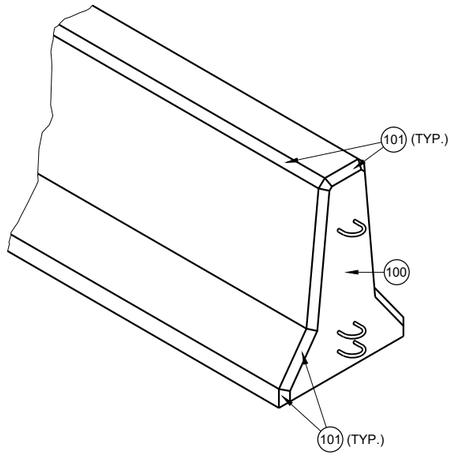


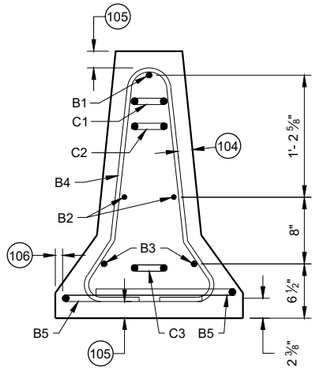
PLAN VIEW

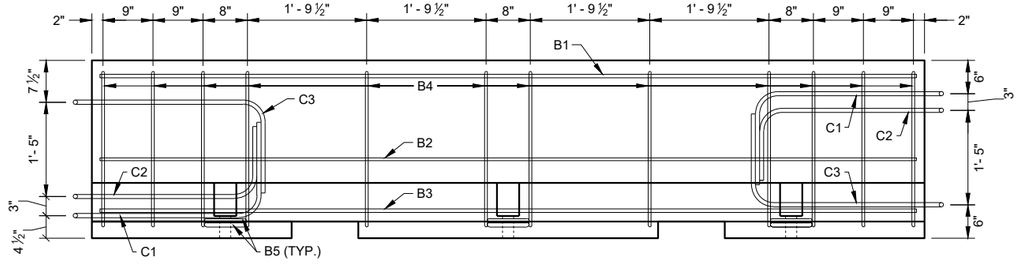
TEMPORARY BARRIER



LIFTING SLOT DETAIL (TYP.)







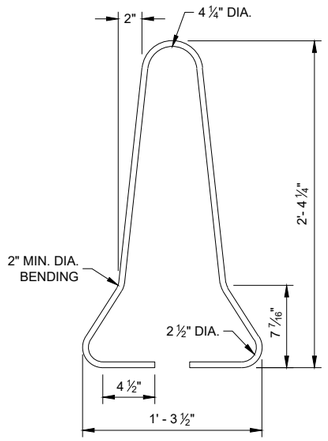
PROFILE VIEW

TEMPORARY BARRIER REINFORCEMENT

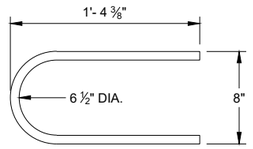
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTA 209

SDD14B07 - 16a

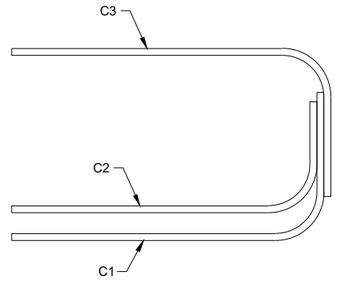
SDD14B07 - 16a



B4 BAR DETAIL

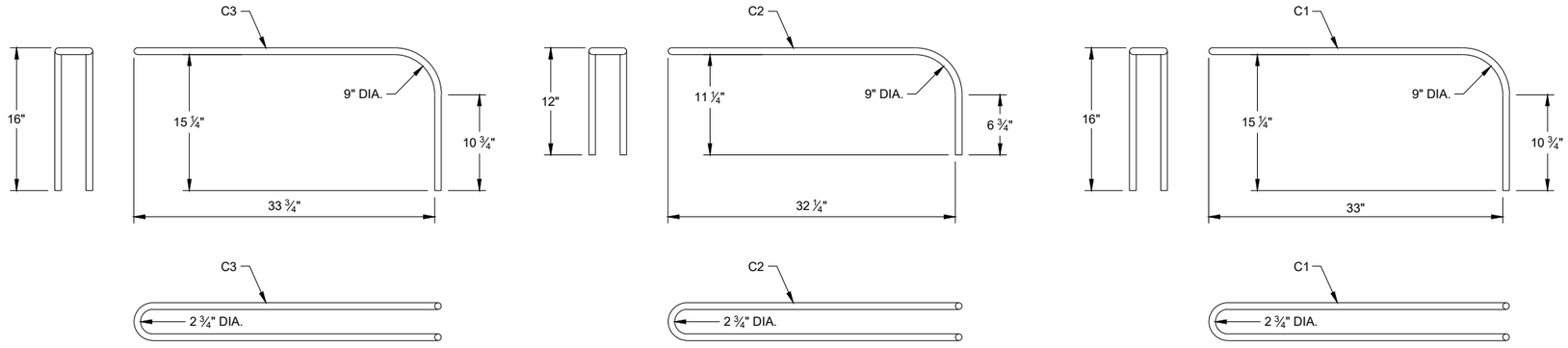


B5 BAR DETAIL



PROFILE VIEW

LOOP BAR ASSEMBLY



C BAR DETAILS

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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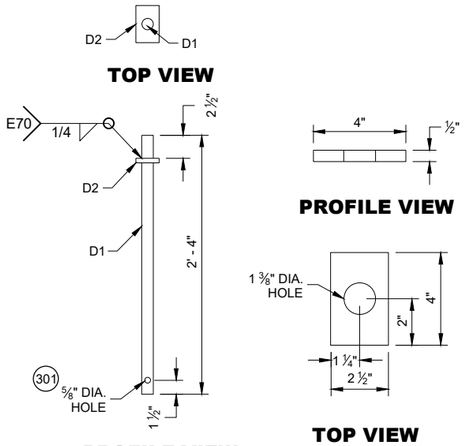
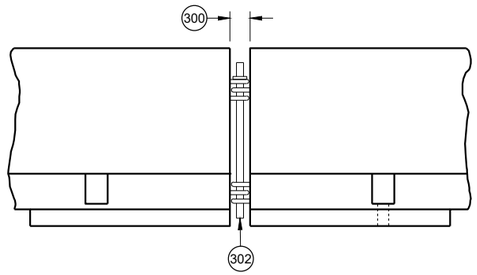


CONNECTOR PIN ASSEMBLY



CONNECTING TEMPORARY BARRIER SECTIONS

GENERAL NOTES

300 SET WITH 3 ⅝" WOOD BLOCK.

301 HOLE IS OPTIONAL.

302 CONNECTOR PIN ASSEMBLY.

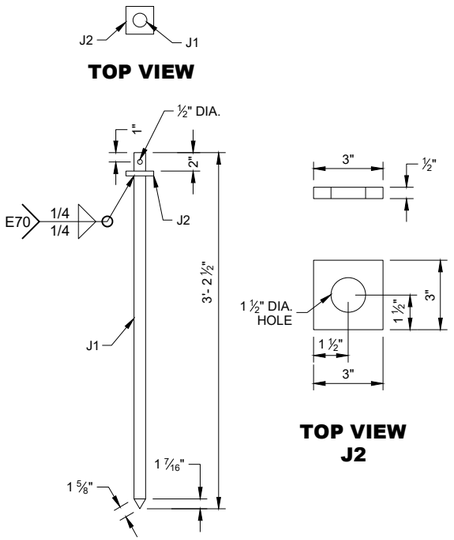
303 CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.

304 CONCRETE DECK.

305 DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.

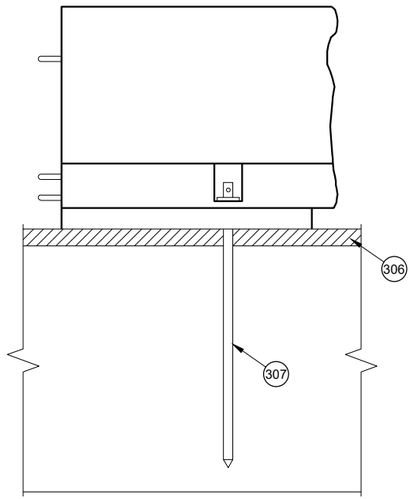
306 MINIMUM OF 2" OF ASPHALT.

307 ASPHALT ANCHOR PIN ASSEMBLY



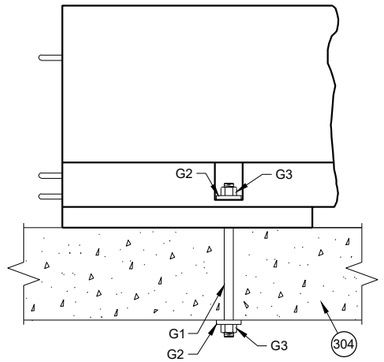
PROFILE VIEW

ASPHALT ANCHOR PIN ASSEMBLY



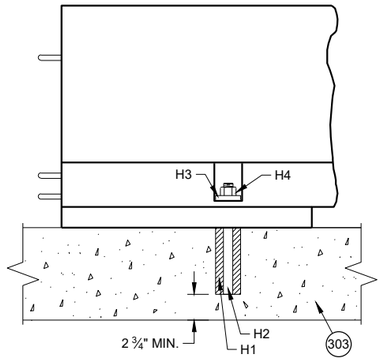
SIDE VIEW

ASPHALT ANCHOR INSTALLATION



SIDE VIEW

THROUGH BOLT ANCHOR INSTALLATION 305



SIDE VIEW

ADHESIVE ANCHOR INSTALLATION 305

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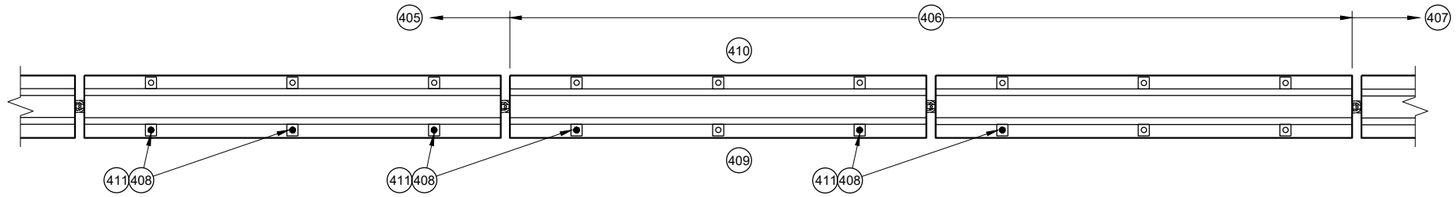
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

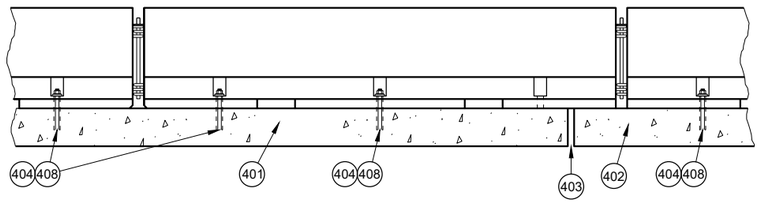
6

SDD 14B07 - 16c



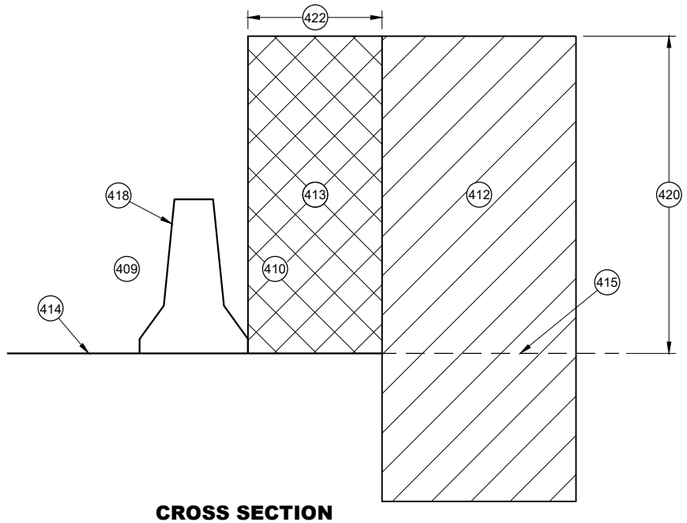
PLAN VIEW

TRANSITION FROM FREE STANDING TO ANCHORED BARRIER



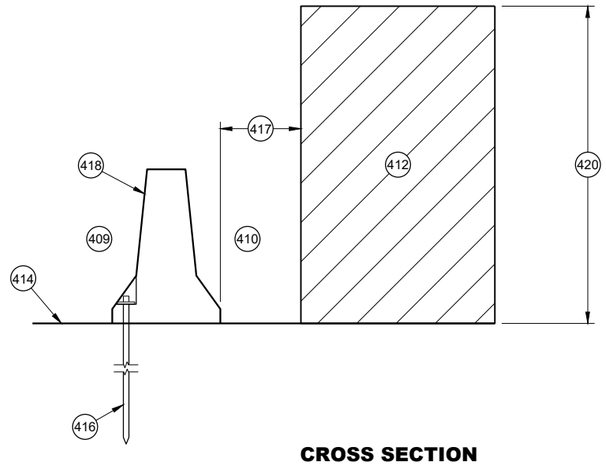
PROFILE VIEW

ANCHORED BARRIER NEAR EXPANSION JOINT (400)



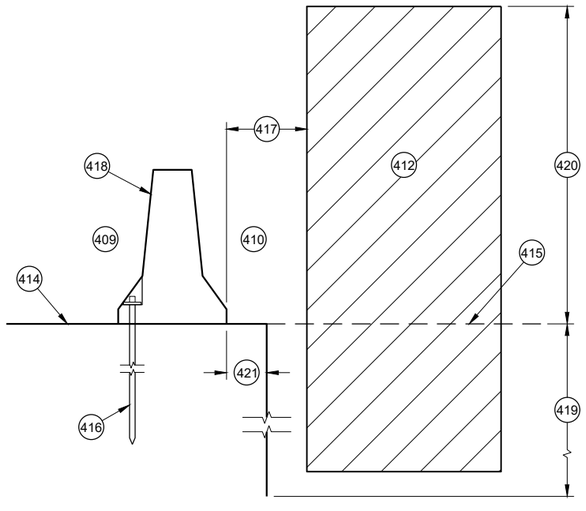
CROSS SECTION

FREE STANDING BARRIER



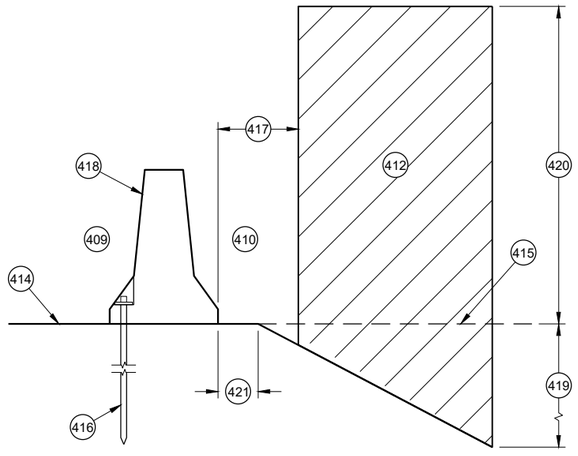
CROSS SECTION

ANCHORED BARRIER FOR OBJECTS ABOVE THE GRADE LINE AND NEAR THE BARRIER



CROSS SECTION

ANCHORED BARRIER NEAR VERTICAL DROP OFF



CROSS SECTION

ANCHORED BARRIER NEAR A SLOPE

GENERAL NOTES

(400) 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.

(401) CONCRETE DECK

(402) CONCRETE DECK OR APPROACH SLAB.

(403) EXPANSION JOINT

(404) ADHESIVE ANCHOR SHOWN. SEE ANCHOR DETAILS.

(405) ANCHORED TEMPORARY BARRIER

(406) TRANSITION FROM ANCHORED TEMPORARY BARRIER TO FREE STANDING

(407) FREE STANDING BARRIER

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

(409) TRAFFIC SIDE

(410) NON-TRAFFIC SIDE

(411) ANCHOR LOCATION. SEE ANCHORING DETAILS.

(412) WORK AREA

(413) AREA FREE OF OBJECTS AND WORKERS

(414) GRADE LINE

(415) EXTENDED GRADE LINE

(416) ANCHORED TEMPORARY BARRIER. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR AN ASPHALT ANCHOR ROD DETAILS FOR MORE INFORMATION. ASPHALT ANCHOR ROD SHOWN.

(417) WHEN OBJECTS EXTEND ABOVE THE GRADE. A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT.

(418) OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR ALLOWED TO LEAN AGAINST THE BARRIER WITHOUT WRITTEN PERMISSION OF THE PROJECT ENGINEER.

(419) DEPTHS OF 3 FEET OR MORE.

(420) Y = 6.5'

(421) OFFSET FROM BACK OF BARRIER EDGE:

CONCRETE PAVEMENT	0.5'
ASPHALT	0.5'

(422) POSTED SPEED (MPH):

45 OR GREATER	4.0'
40 OR LOWER	2.0'

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

6

SDD 14B07 - 16d

GENERAL NOTES

(500) EXISTING RIGID BARRIERS (VARIES)

(501) TEMPORARY BARRIER

(502) SEE OTHER DETAIL ON HOW TO ANCHOR TEMPORARY BARRIER (BARRIER ASPHALT ANCHOR SHOWN).

(503) ANCHORS ARE REQUIRED ON BOTH SIDE OF THE TEMPORARY BARRIER.

(504) NESTED RAILS ARE REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

(505) TRAFFIC TRAVELS FROM PERMANENT BARRIER TO TEMPORARY BARRIER.

(506) TRAFFIC TRAVELS FROM TEMPORARY BARRIER TO PERMANENT BARRIER.

(507) VERTICAL BARRIER

(508) SAFETY SHAPE BARRIER

(509) SINGLE SLOPE BARRIER

(510) CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF RIGID BARRIER.

(511) BENT THRIE BEAM TO FIT.

(512) THRIE BEAM PIECES ARE OFFSET 15 ¼" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.

(513) TWO (2) P1, P2 AND P3 ARE REQUIRED

(514) FIVE (5) N1, N2 AND N3 ARE REQUIRED

(515) TWO (2) R1, R2 AND R3 ARE REQUIRED

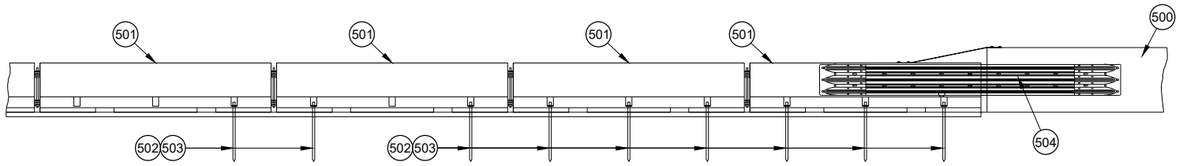
(516) CUT WOOD BLOCK TO FIT.

(517) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.

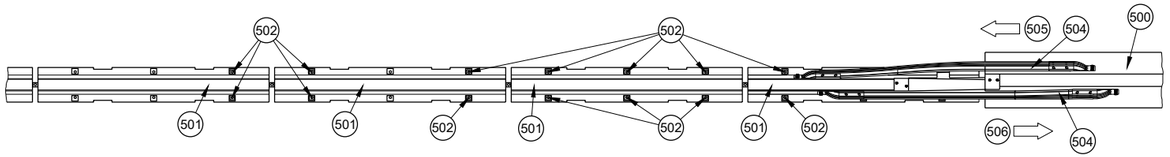
(518) CAP ASSEMBLY

(519) 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.

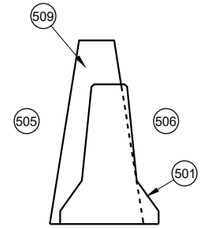
(520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



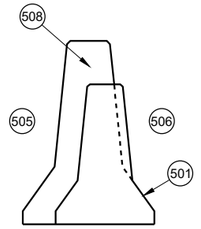
PROFILE VIEW



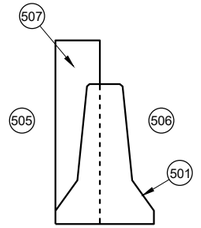
PLAN VIEW
TRANSITION TO RIGID BARRIER



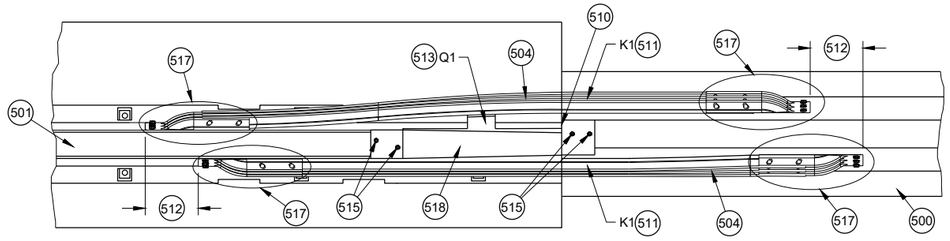
CROSS SECTION TEMPORARY BARRIER PLACEMENT SINGLE SLOPE



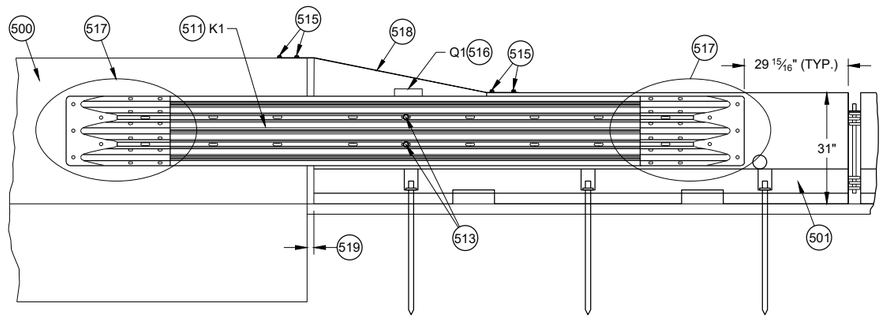
CROSS SECTION TEMPORARY BARRIER PLACEMENT SAFETY SHAPE



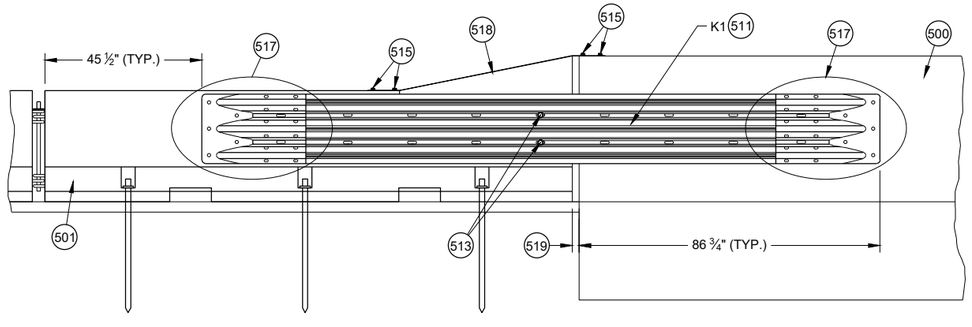
CROSS SECTION TEMPORARY BARRIER PLACEMENT VERTICAL



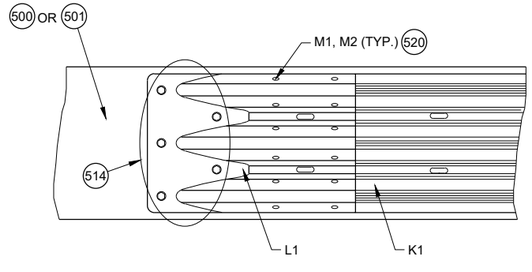
PLAN DETAIL VIEW
TRANSITION TO RIGID BARRIER



BACK DETAIL VIEW
TRANSITION TO RIGID BARRIER

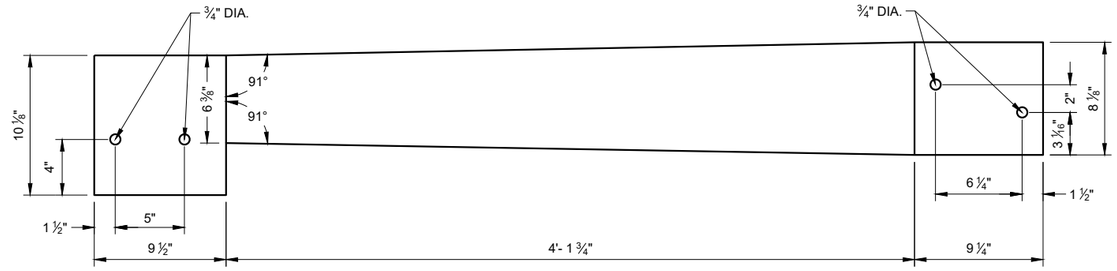


FRONT DETAIL VIEW
TRANSITION TO RIGID BARRIER



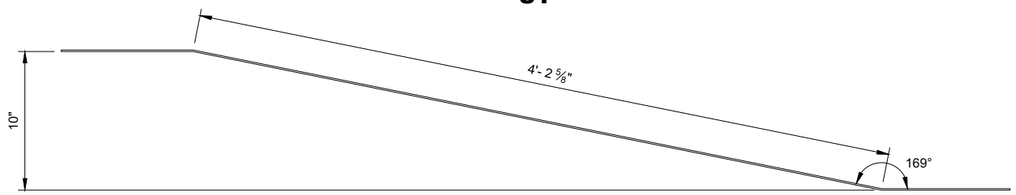
(517) DETAIL PLAN VIEW
THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"



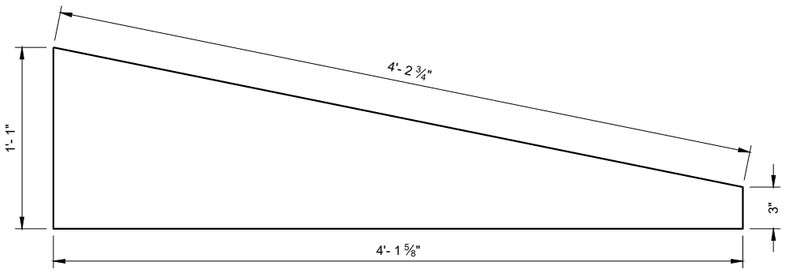
TOP VIEW

S1



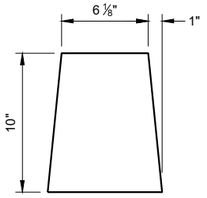
ELEVATION VIEW

S1

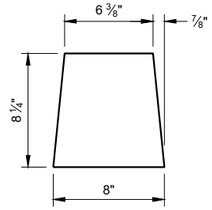


SIDE VIEW

S3



S2



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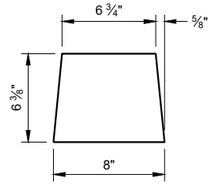

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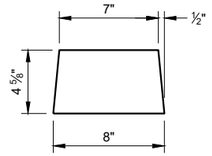

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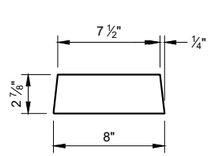

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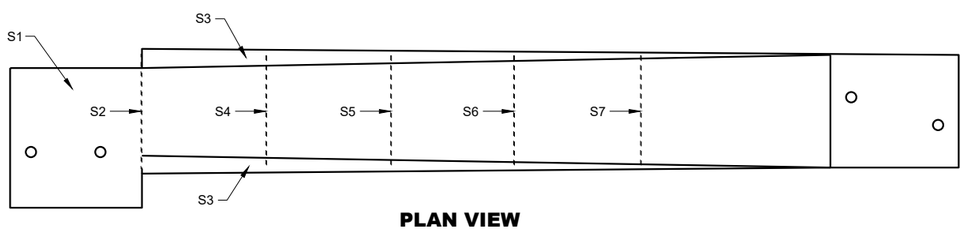
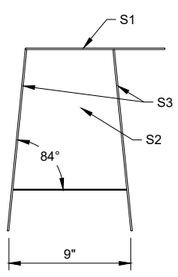
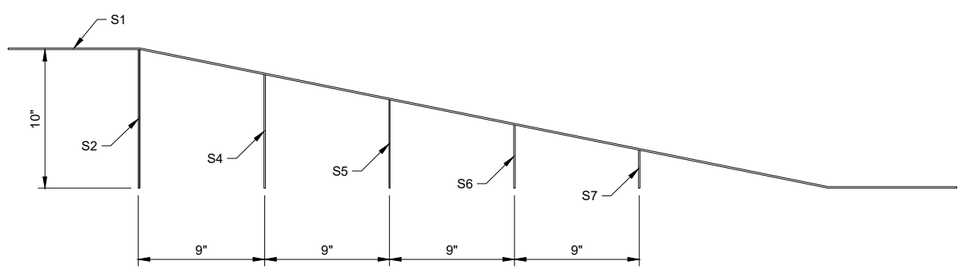


PLAN VIEW



BACK VIEW



SIDE VIEW (600)

42" TOP CAP ASSEMBLY

GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

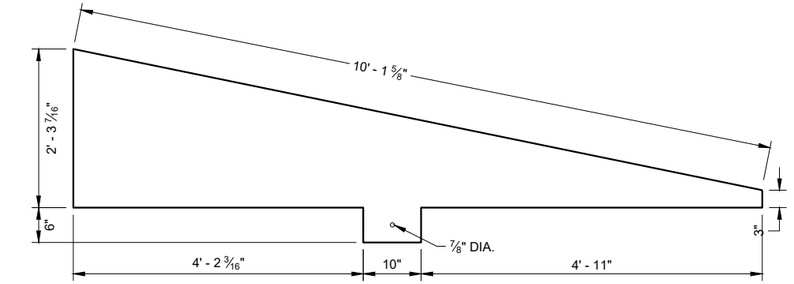
(600) SIDE PLATES (S3) NOT SHOWN FOR CLARITY.

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

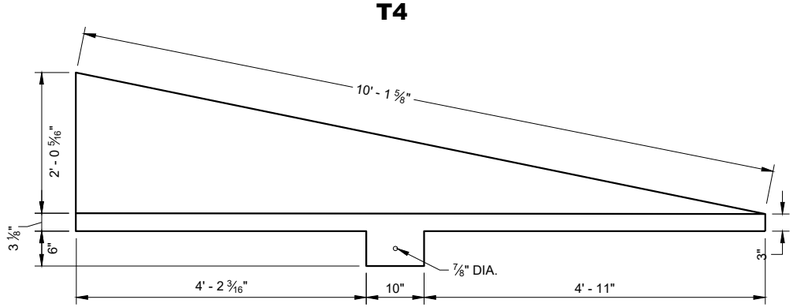
6

SDD 14B07 - 16f



SIDE VIEW
T4

END VIEW



SIDE VIEW
T3

END VIEW

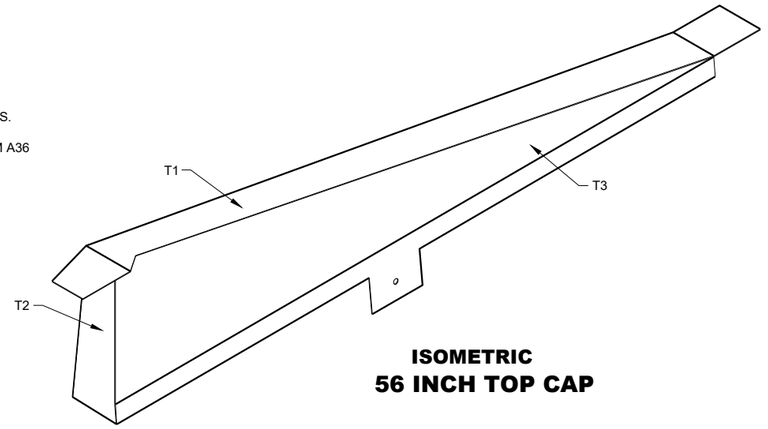
GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES

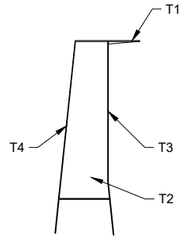
STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

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

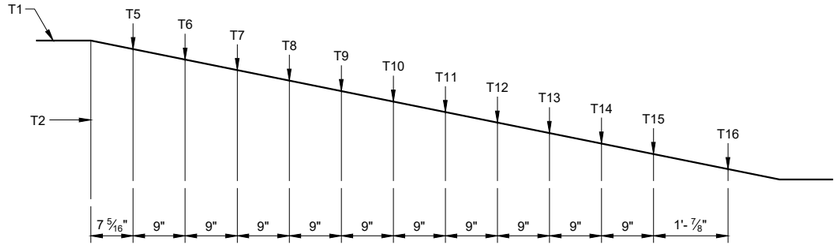
(700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.



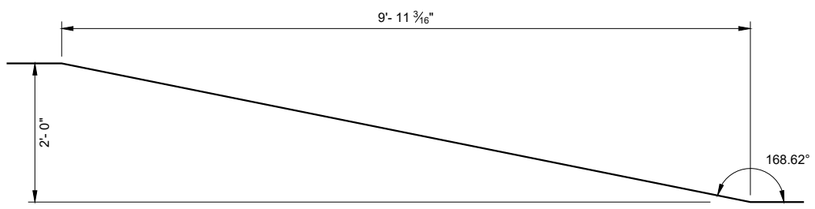
ISOMETRIC
56 INCH TOP CAP



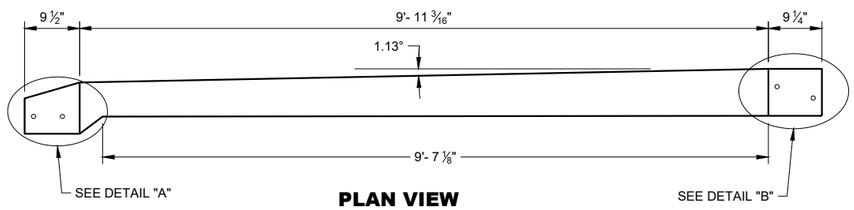
END VIEW
56 INCH TOP CAP



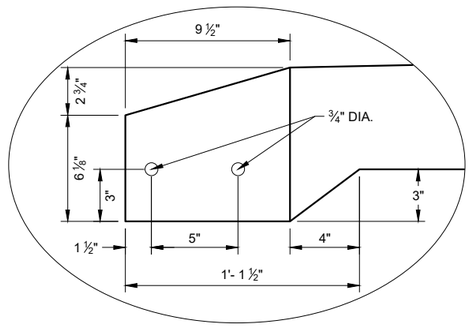
SIDE VIEW (700)
56 INCH TOP CAP



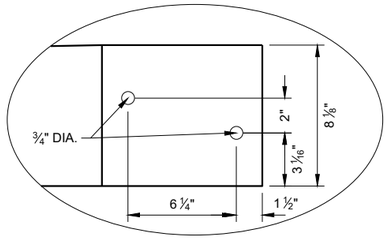
SIDE VIEW
TOP PLATE T1



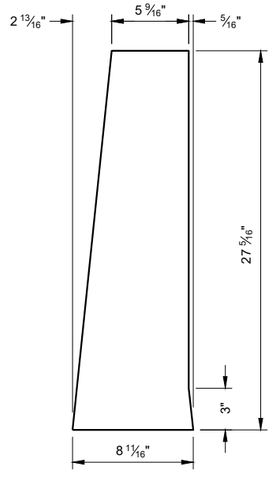
PLAN VIEW
TOP PLATE T1



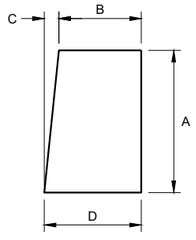
DETAIL "A"



DETAIL "B"



END PLATE T2



GUSSET PLATES
T5 - T16

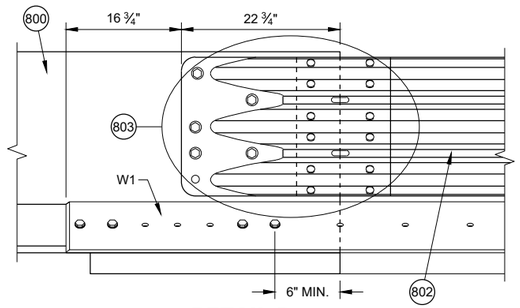
GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
T5	22 13/16"	5 1/16"	2 5/16"	8 1/16"
T6	21"	5 7/8"	2 3/16"	8 1/16"
T7	19 3/16"	6 1/16"	1 15/16"	8 1/16"
T8	17 3/8"	6 1/4"	1 13/16"	8 1/16"
T9	15 5/16"	6 7/16"	1 9/16"	8 1/16"
T10	13 3/4"	6 5/8"	1 7/16"	8 1/16"
T11	11 15/16"	6 13/16"	1 1/4"	8 1/16"
T12	10 1/8"	7"	1 1/16"	8 1/16"
T13	8 5/16"	7 3/16"	7/8"	8 1/16"
T14	6 1/2"	7 3/8"	1 1/16"	8 1/16"
T15	4 11/16"	7 9/16"	1/2"	8"
T16	2 7/8"	7 3/4"	1/4"	8"

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

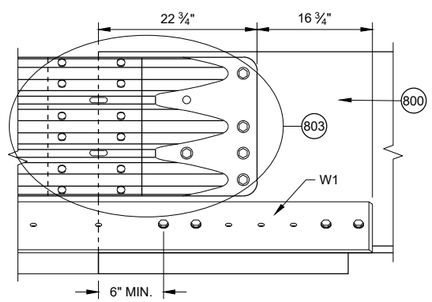
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B07 - 16g



DETAIL D



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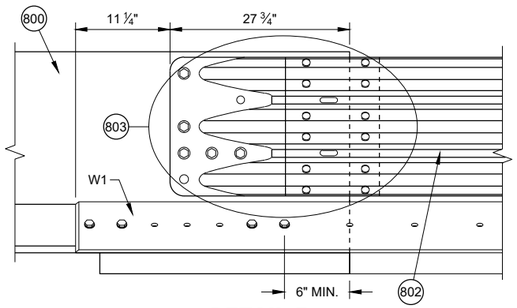

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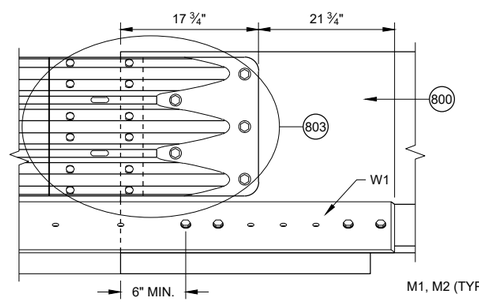

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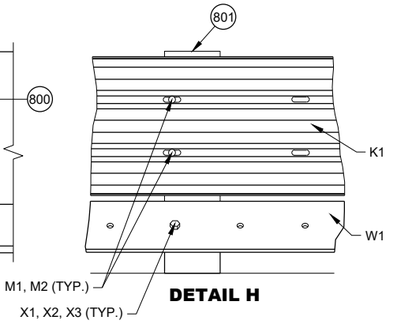

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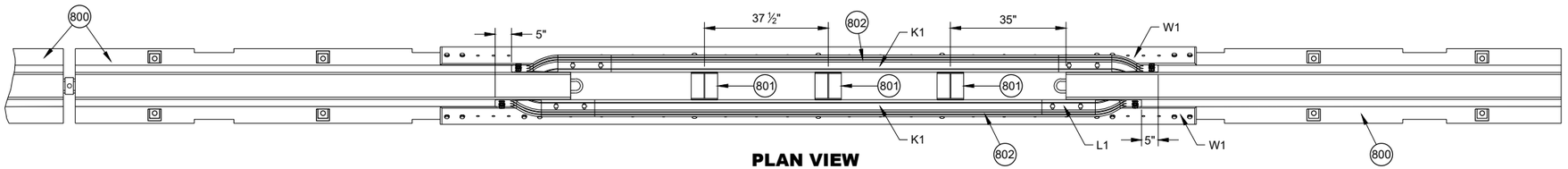


PLAN VIEW

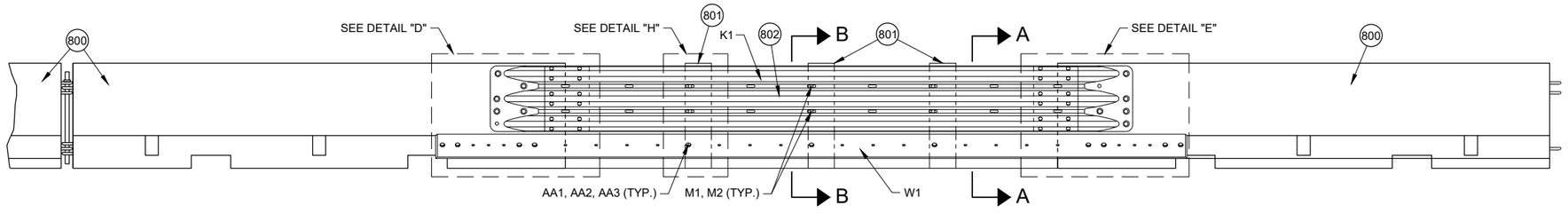
GENERAL NOTES

(800) FREE STANDING TEMPORARY BARRIER

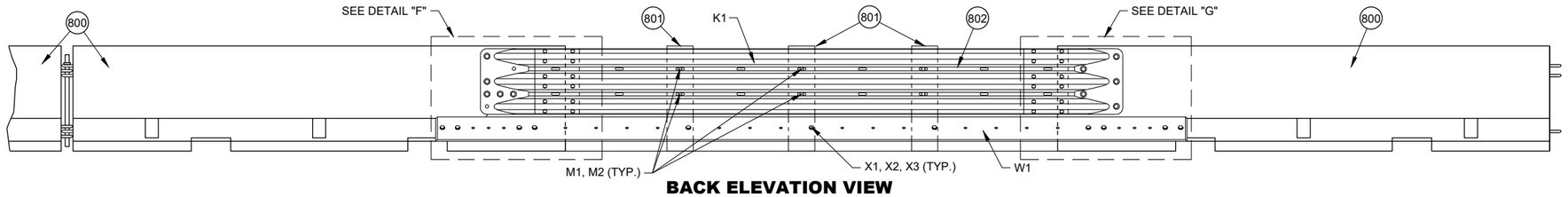
(801) GAP STIFFENER ASSEMBLY

(802) THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.

(803) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL



FRONT ELEVATION VIEW



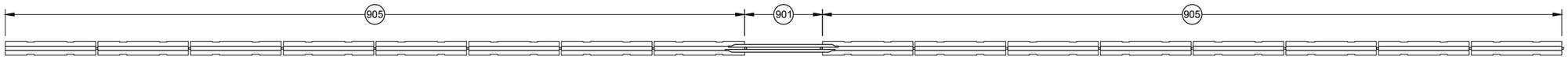
BACK ELEVATION VIEW

PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER

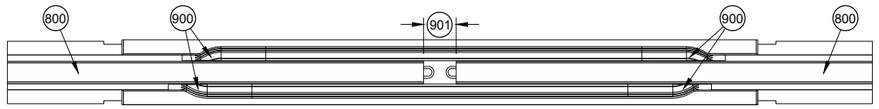
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B07 - 16h



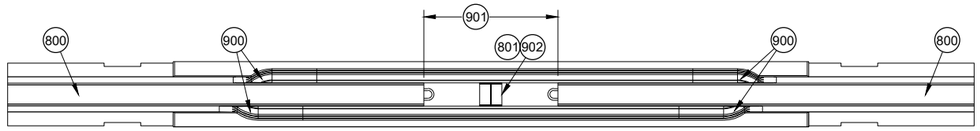
PLAN VIEW
GAP WITHIN SPACING



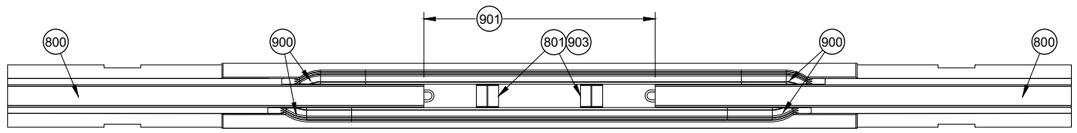
PLAN VIEW
TEMPORARY BARRIER GAP OVER 4" TO 1' MAX. (904)

GENERAL NOTES

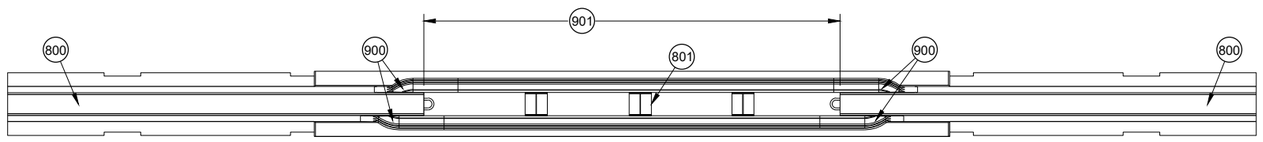
(900) SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
(901) TEMPORARY BARRIER GAP
(902) GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
(903) GAP STIFFENER ASSEMBLY IS OFFSET 18 ¾" FROM CENTER
(904) MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
(905) MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS



PLAN VIEW
TEMPORARY BARRIER GAP OVER 1' TO 4' MAX. (904)



PLAN VIEW
TEMPORARY BARRIER GAP OVER 4' TO 7' MAX. (904)



PLAN VIEW
TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX. (904)

6

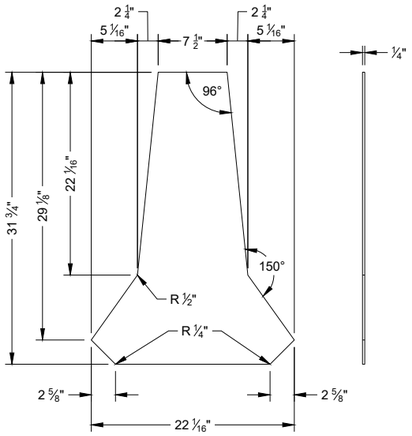
SDD 14B07 - 16i

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

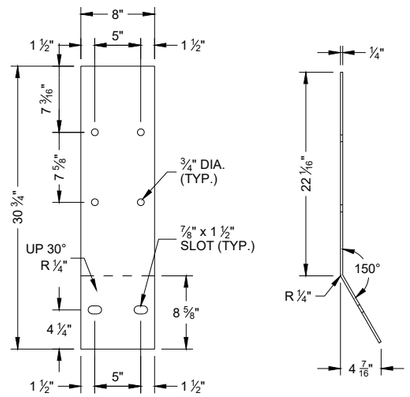
6

SDD 14B07 - 16i



PROFILE VIEW SIDE VIEW

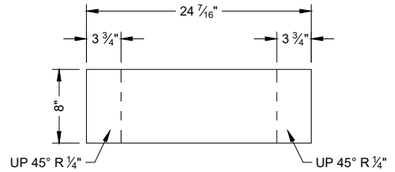
STIFFENER ASSEMBLY CENTER PANEL U1



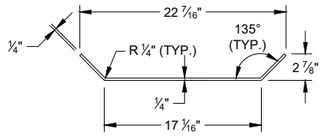
FLAT PATTERN

SIDE VIEW

STIFFENER ASSEMBLY SIDE PANEL U2

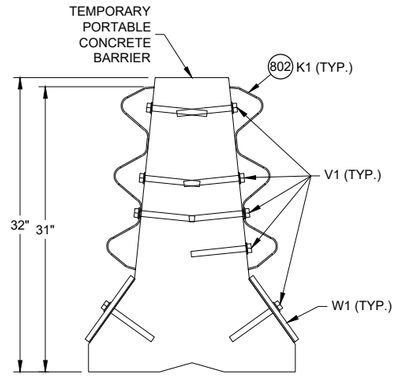


FLAT PATTERN

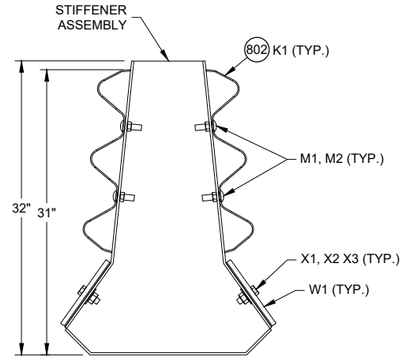


PROFILE VIEW

STIFFENER ASSEMBLY BOTTOM PANEL U3

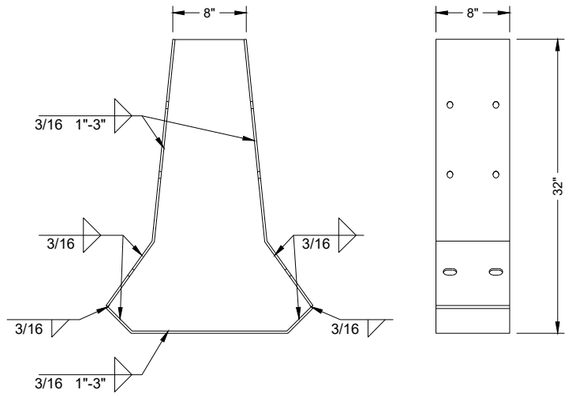


SECTION A - A



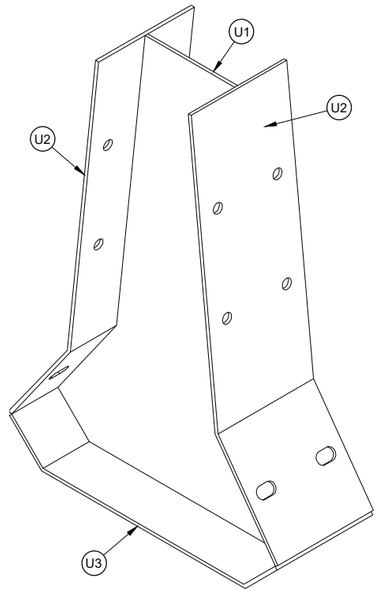
SECTION B - B

PLAN VIEW



PROFILE VIEW

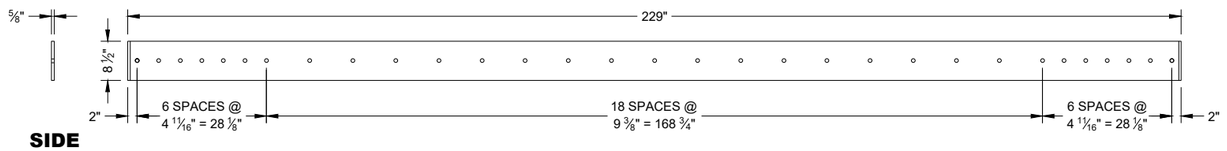
SIDE VIEW



ISOMETRIC

GAP STIFFENER ASSEMBLY

PLAN VIEW



SIDE VIEW

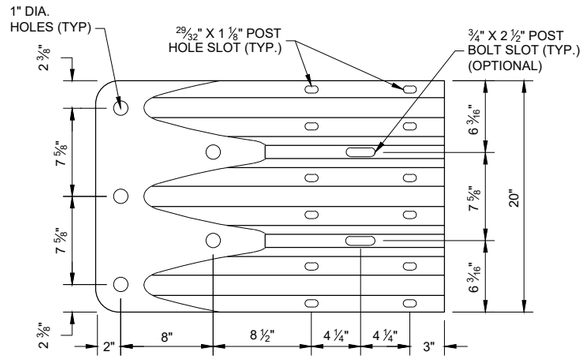
ELEVATION VIEW

W1 TOE PLATE

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

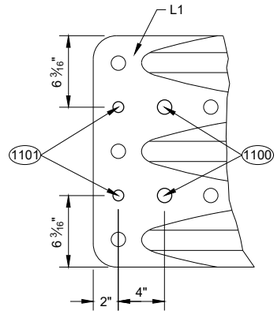
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B07 - 16j



ELEVATION VIEW

THRIE BEAM TERMINAL CONNECTOR



ELEVATION VIEW

ADDITIONAL THRIE BEAM (1102) TERMINAL CONNECTOR HOLE DETAIL

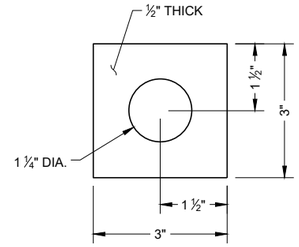


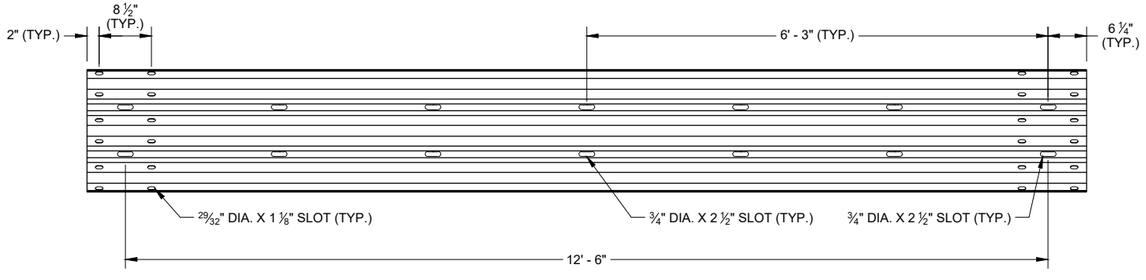
PLATE WASHER DETAIL G2, H3

GENERAL NOTES

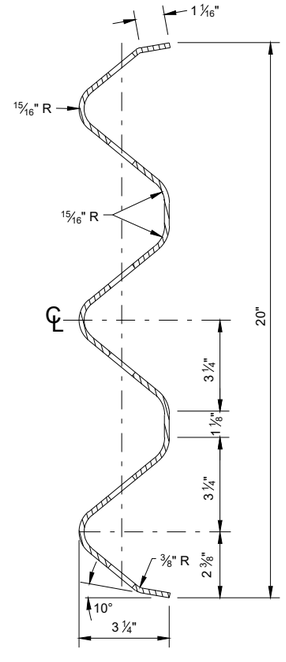
(1100) 1" DIA. HOLE

(1101) 3/4" DIA. HOLE

(1102) PROVIDE HOLES IN THRIE BEAM TERMINAL CONNECTOR TO LIMIT STEEL REINFORCEMENT OR LOOP BAR CONFLICT. CONTRACTOR MAY FIELD DRILL ADDITIONAL HOLE OR PROVIDE THRIE BEAM TERMINAL CONNECTOR WITH ADDITIONAL HOLES FROM SUPPLIER.



SLOTTED THRIE BEAM RAIL K1



SECTION THROUGH BEAM K1

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B07 - 16k

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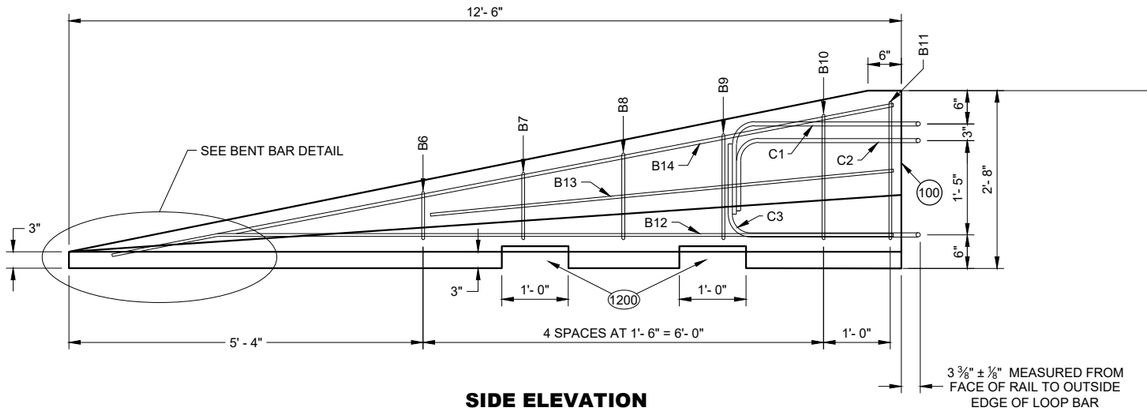
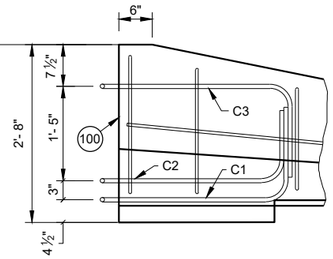


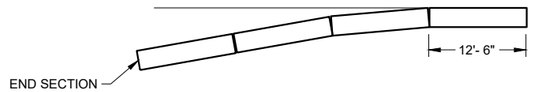
SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



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

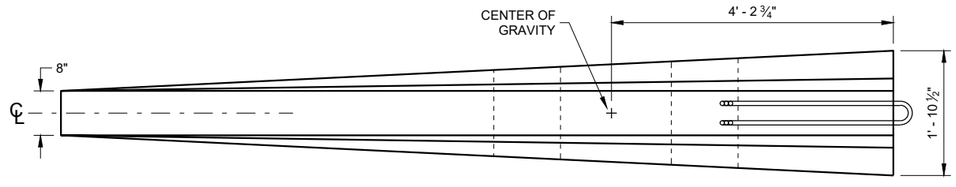
GENERAL NOTES

(1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.

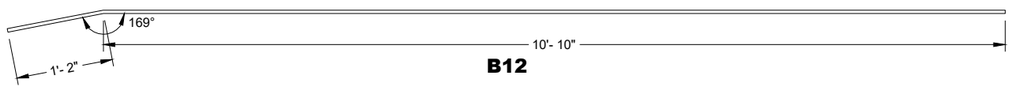


FLARE AT BARRIER END

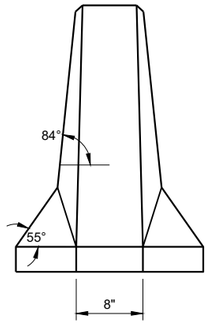
POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1



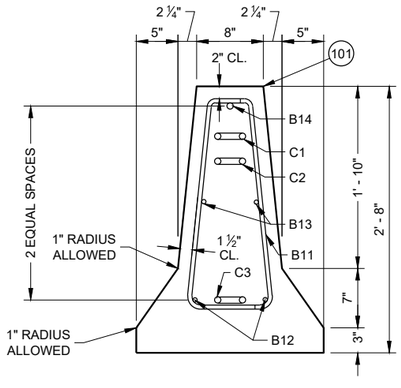
PLAN VIEW



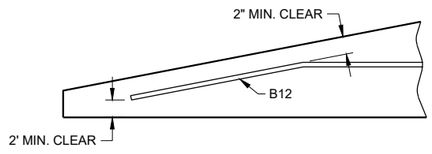
B12



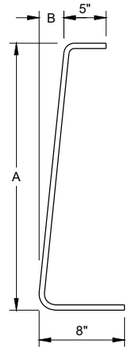
FRONT ELEVATION



END SECTION



BENT BAR DETAIL



BAR	A	B
B6	10"	1"
B7	1'- 1"	1 ¼"
B8	1'- 5"	1 ⅝"
B9	1'- 8"	1 ⅞"
B10	2'- 0 ½"	2 ⅜"
B11	2'- 3"	2 ¾"

B BARS
2 OF EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B07 - 16I

BILL OF MATERIALS - CONCRETE BARRIER PRECAST

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	PRECAST TEMPORARY BARRIER - CONCRETE	MIN. = f'c 5000 PSI	
B1	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B2	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-2"
B3	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B4	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 6'-0"
B5	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#6 REBAR, LENGTH 2'-11"
B6	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 1'-11"
B7	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-2"
B8	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-6"
B9	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-9"
B10	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-2"
B11	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-4"
B12	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-0"
B13	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 7'-9"
B14	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 11'-9"
C1	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C2	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C3	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
D1	CONNECTION PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ¼" DIA.
D2	CONNECTION PIN - TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G1	BOLT THROUGH ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A OR SAE J429 GRADE 2 UNC	1 ⅛" DIA.
G2	BOLT THROUGH ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G3	BOLT THROUGH ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
H1	ADHESIVE ANCHOR - ADHESIVE	ICC-ES-AC308 5 ¼" EMBEDMENT WITH A MIN. STRENGTH OF 1,800 PSI. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
H2	ADHESIVE ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A / SAE J429 GRADE 2 UNC	1 ⅛" DIA.
H3	ADHESIVE ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
H4	ADHESIVE ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
J1	ASPHALT ANCHOR PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
J2	ASPHALT ANCHOR PIN - STOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
K1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE
L1	THRIE BEAM RAIL - TERMINAL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
M1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	⅝" DIA.
M2	SPLICE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
N1	THRIE BEAM RAIL TERMINAL - MECHANICAL ANCHOR	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA. LENGTH 6"
N2	THRIE BEAM RAIL TERMINAL - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
N3	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
P1	THRIE BEAM RAIL CONNECTION 1-BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA.
P2	THRIE BEAM RAIL CONNECTION 1-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
P3	THRIE BEAM RAIL CONNETION 1- MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
Q1	BLOCK WOOD	SEE STANDARD SPEC. 614	
R1	CAP - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	⅝" DIA.
R2	CAP- BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
R3	CAP - BOLT - MECHANICAL ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	12 GAUGE
S1	CAP 42-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S2	CAP 42-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S3	CAP 42-INCH SIDE PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S4	CAP 42-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S5	CAP 42-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S6	CAP 42-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S7	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE

6

SDD14B07 - 16m

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD14B07 - 16m

BILL OF MATERIALS - CONCRETE BARRIER PRECAST

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
T1	CAP 56-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T2	CAP 56-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T3	CAP 56-INCH SIDE PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T4	CAP 56-INCH SIDE PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T5	CAP 56-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T6	CAP 56-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T7	CAP 56-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T8	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T9	CAP 42-INCH GUSSET 5	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T10	CAP 42-INCH GUSSET 6	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T11	CAP 42-INCH GUSSET 7	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T12	CAP 42-INCH GUSSET 8	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T13	CAP 42-INCH GUSSET 9	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T14	CAP 42-INCH GUSSET 10	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T15	CAP 42-INCH GUSSET 11	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T16	CAP 42-INCH GUSSET 12	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
U1	GAP STIFFENER	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U2	GAP STIFFENER - CONNECTOR PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U3	GAP STIFFENER - CONNECTOR PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
V1	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 24.0 KIPS AND ULTIMATE SHEAR LOAD 21.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	¾" DIA.
V2	GAP STIFFENER - BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C O R MECHANICAL GALVANIZE TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
W1	TOE PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
X1	TOE PLATE - CONNECTION BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC HEAVY HEX HEAD OR AASTHO M180 HEAD, ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED. PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	¾" DIA.
X2	TOE PLATE - CONNECTION BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 (HARDEN WASHER ONLY)	
X3	TOE PLATE - CONNECTION BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	

6

SDD 14B07 - 16n

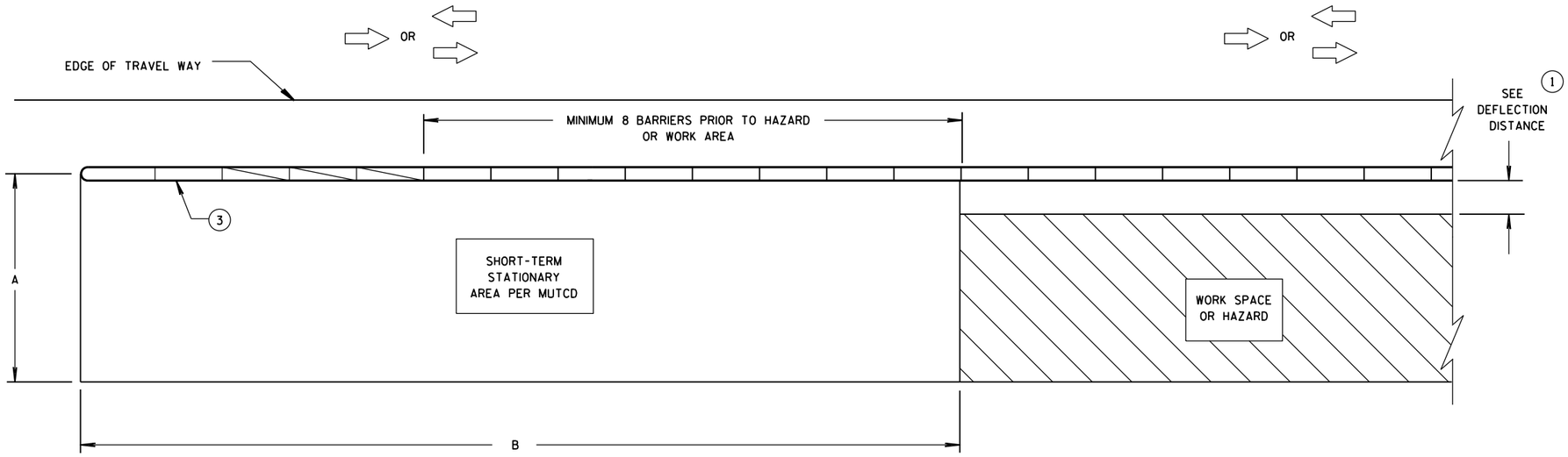
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA



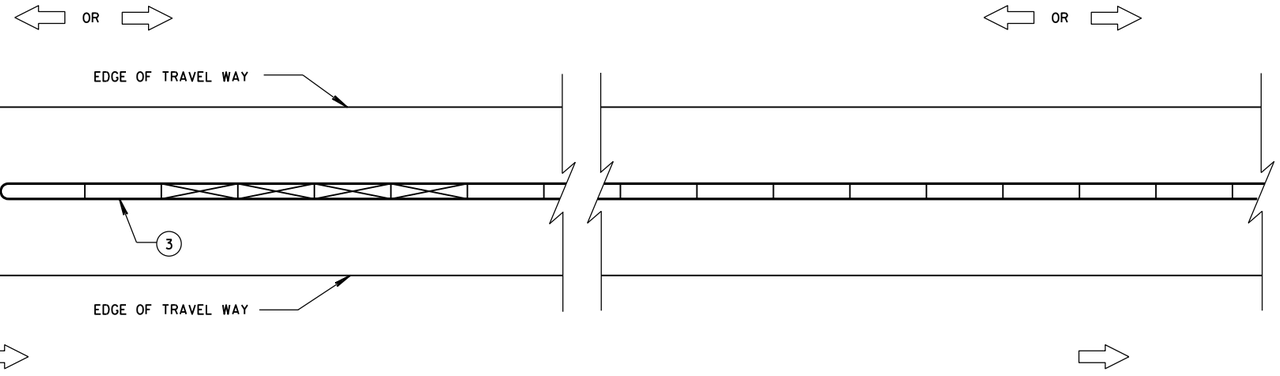
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

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.

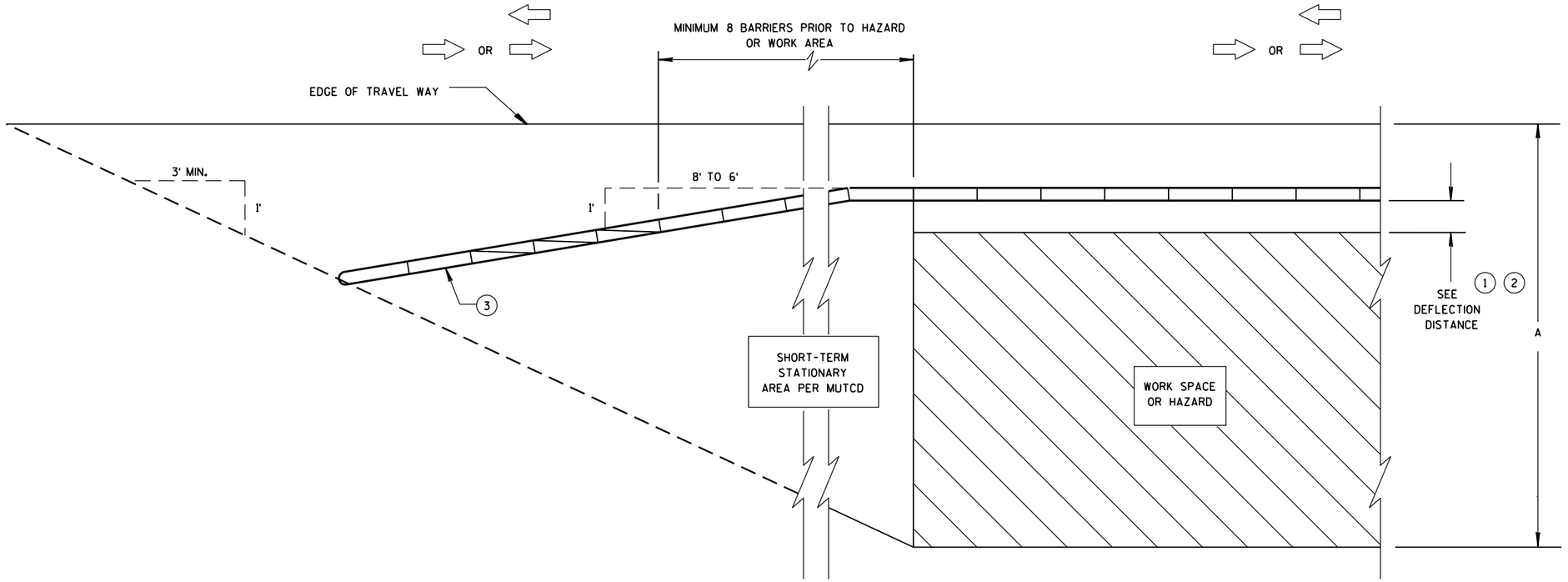
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

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

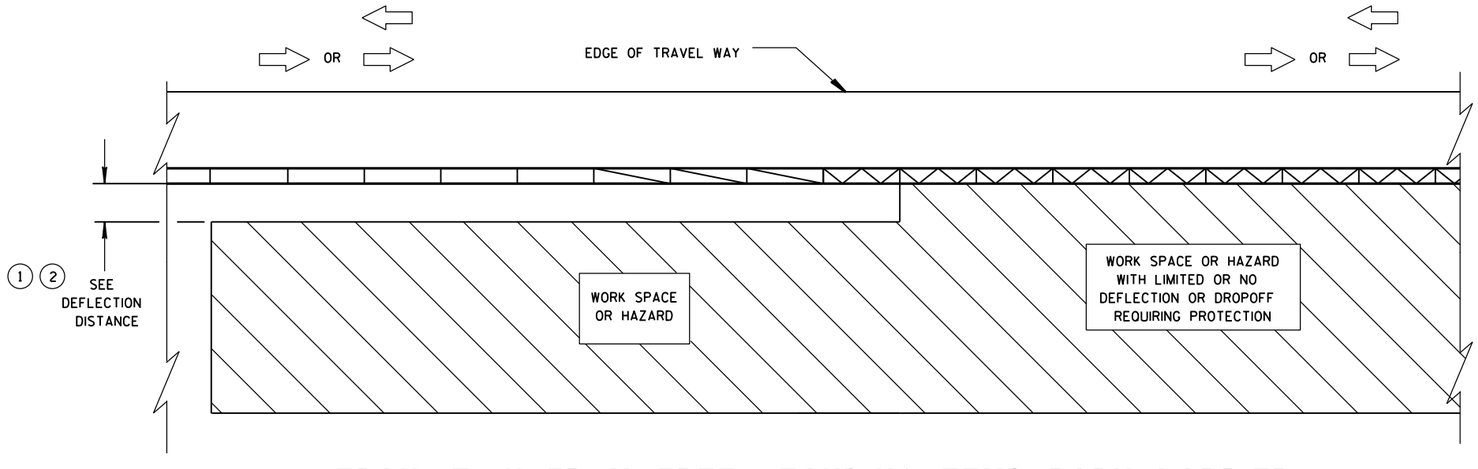
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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

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

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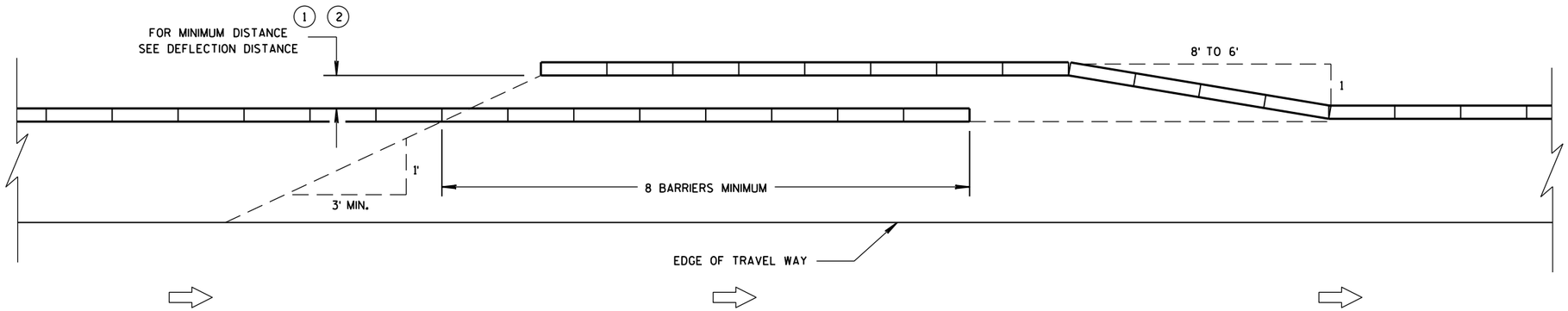
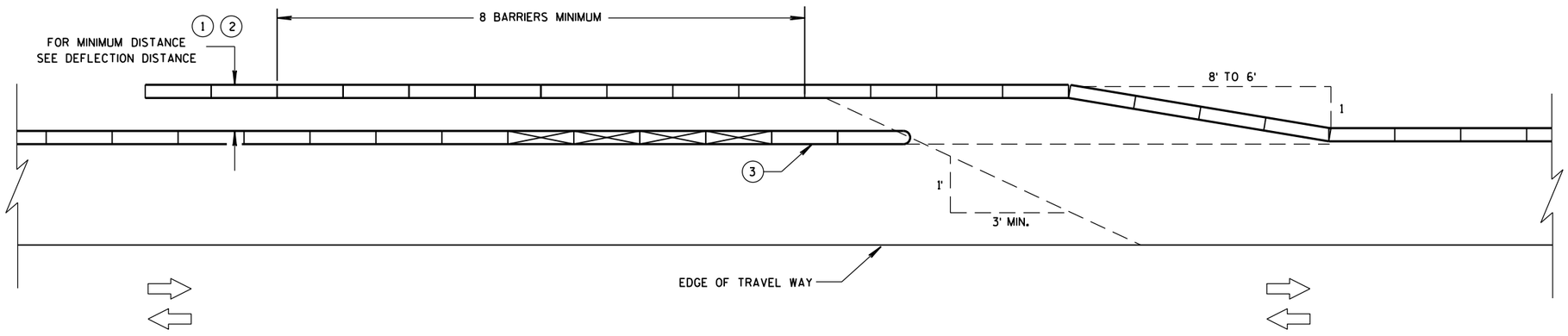
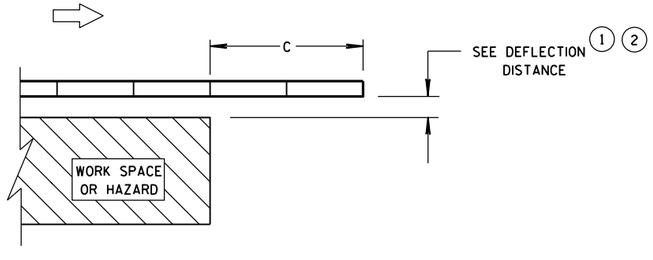
S.D.D. 14 B 8-2b



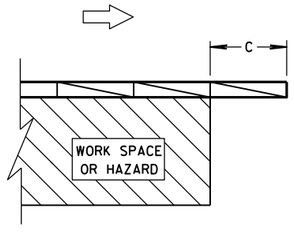
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

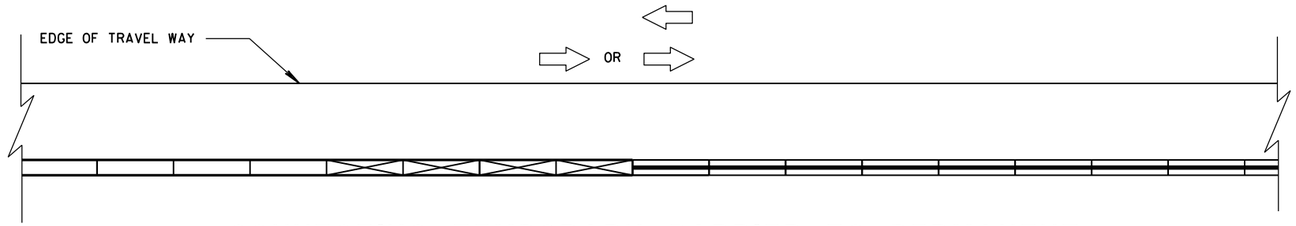
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

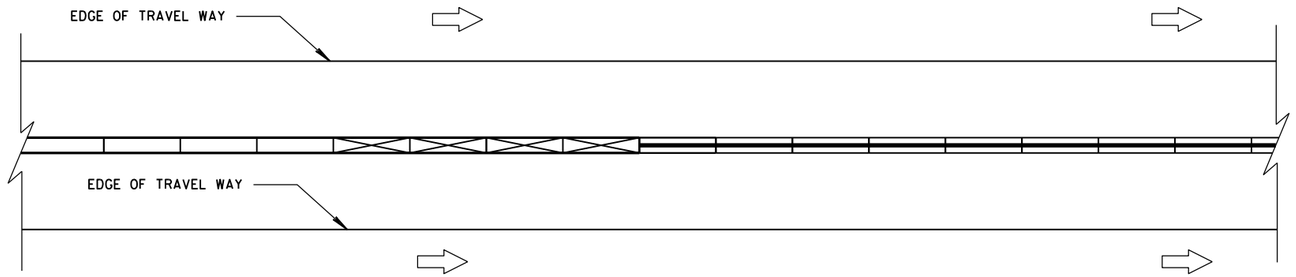
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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

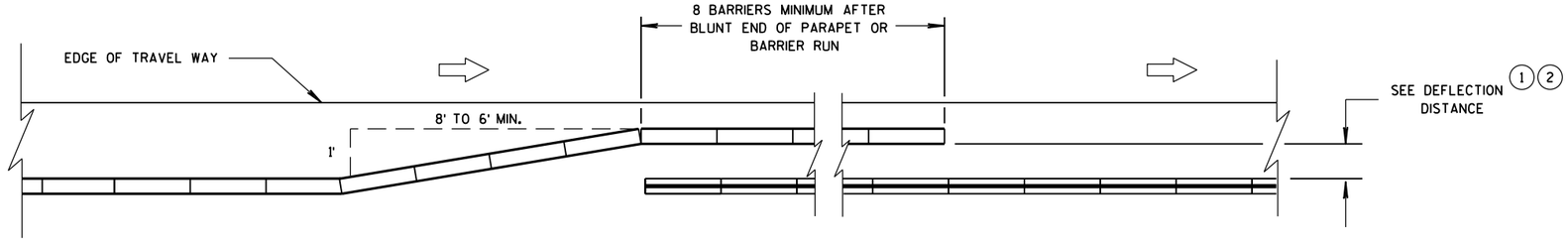
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

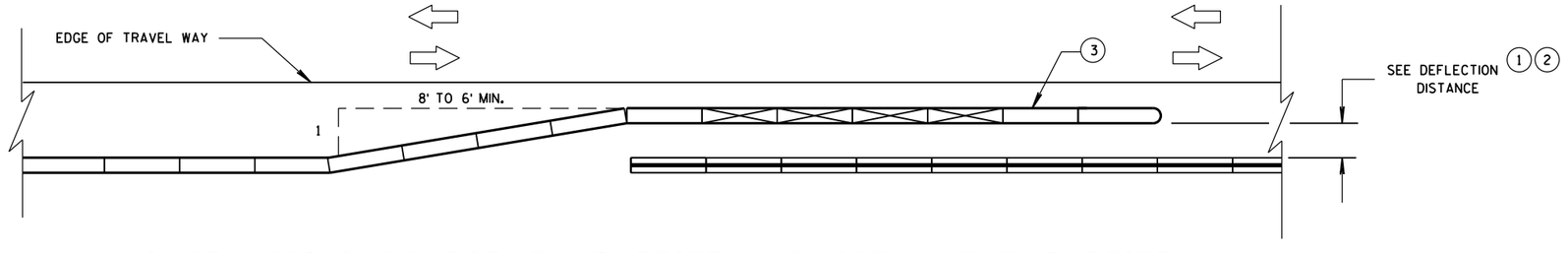
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

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

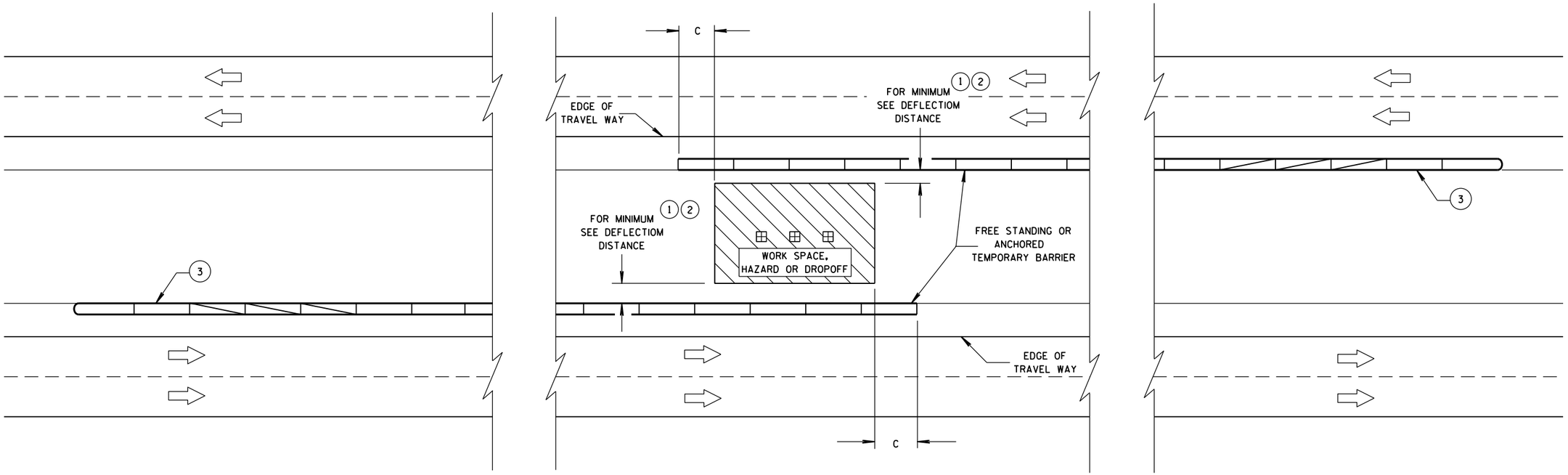
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

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
227
ENT
FHWA

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

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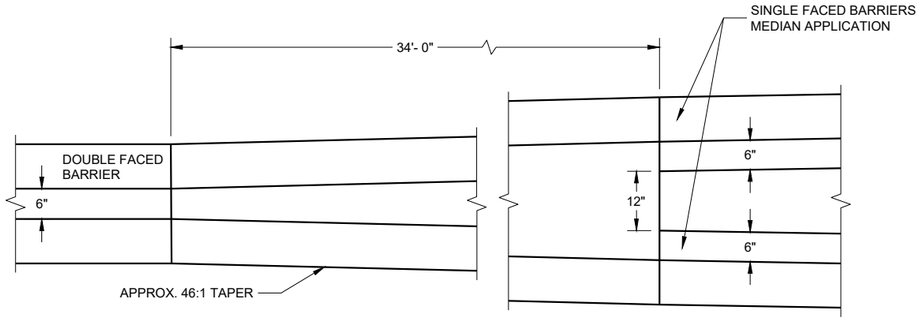
S.D.D. 14 B 8-2e

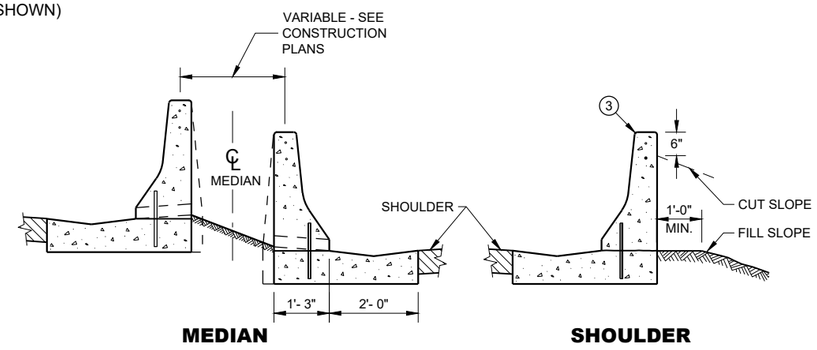


PLAN VIEW

TRANSITION DETAILS OF DOUBLE FACED TO SINGLE FACED CONCRETE MEDIAN BARRIER

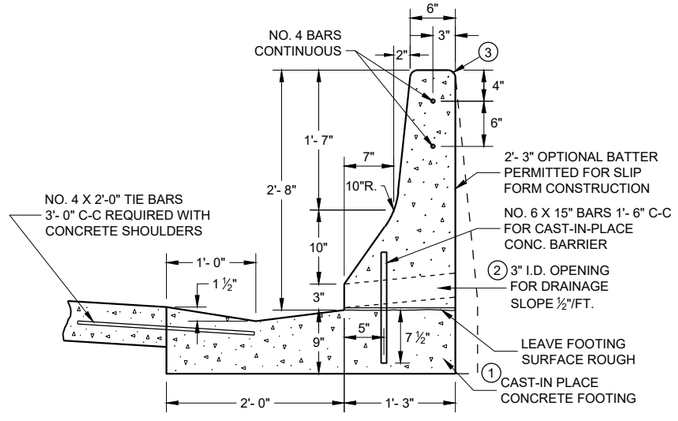
(FOOTINGS ARE NOT SHOWN)

HIGH SIDE CONCRETE BARRIER DETAIL



MEDIAN **SHOULDER**

TYPICAL APPLICATIONS



SECTION VIEW

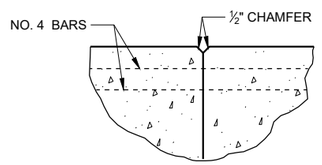
GENERAL NOTES

SPLICES OF LONGITUDINAL BARS SHALL BE MADE WITH BARS LAPPED AT LEAST 18-INCHES AND FIRMLY TIED OR FASTENED TOGETHER.

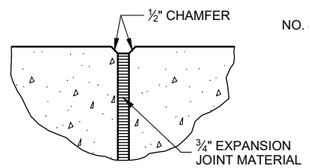
ALL BAR STEEL REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF AASHTO M31, GRADE 60.

4000 PSI AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.

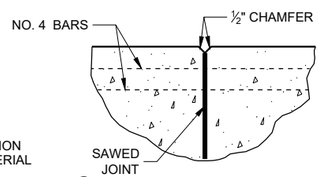
1. BARRIER SHALL BE INSTALLED ON A CONCRETE SHOULDER INSTEAD OF THE CONCRETE FOOTING WHEN SPECIFIED OR SHOWN ELSEWHERE IN THE CONTRACT.
2. OPENINGS FOR DRAINAGE SHALL BE PLACED AT LOW POINTS OF VERTICAL CURVES OR WHERE DIRECTED BY THE ENGINEER.
3. 3/4 -INCH BEVEL OR 1-INCH RADIUS (TYPICAL).
4. NO. 4 BARS SHALL BE CONTINUED THROUGH CONSTRUCTION JOINTS.
5. EXPANSION JOINTS SHALL BE PLACED AT EXISTING EXPANSION JOINTS IN THE PAVEMENT AND AT STRUCTURES. SEE REINFORCEMENT AT BARRIER END DETAIL.
6. SAWED CONTRACTION JOINTS SHALL BE PROVIDED ACROSS THE FULL WIDTH OF THE BARRIER FOOTING, AND IN FRONT, TOP AND BACK FACE OF THE BARRIER AT EXISTING PAVEMENT JOINTS AND AT UNIFORM INTERVALS BETWEEN WITH A MAXIMUM SPACING OF 25 FEET.



4 **CONSTRUCTION JOINT**



5 **EXPANSION JOINT**



6 **CONTRACTION JOINT**

JOINT DETAILS

CONCRETE BARRIER (DOUBLE FACED)

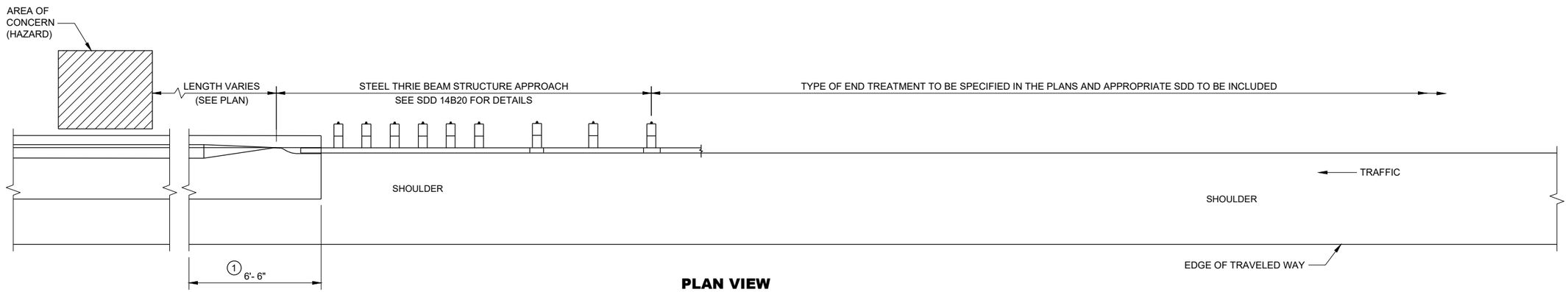
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/16/2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

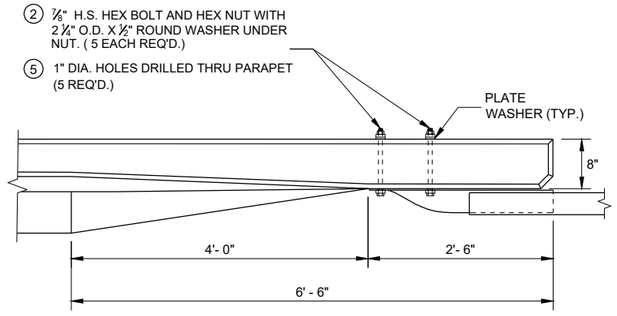
6

SDD 14B22 - 07a



PLAN VIEW

TRANSITION TO STEEL PLATE BEAM GUARD AND END TERMINAL



PLAN VIEW

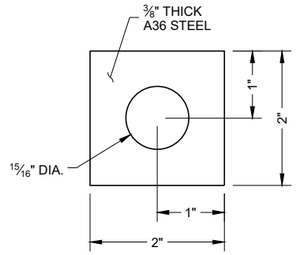
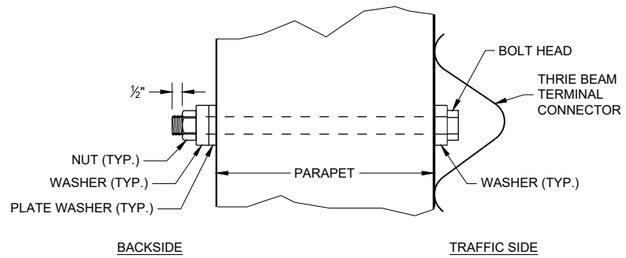


PLATE WASHER DETAIL

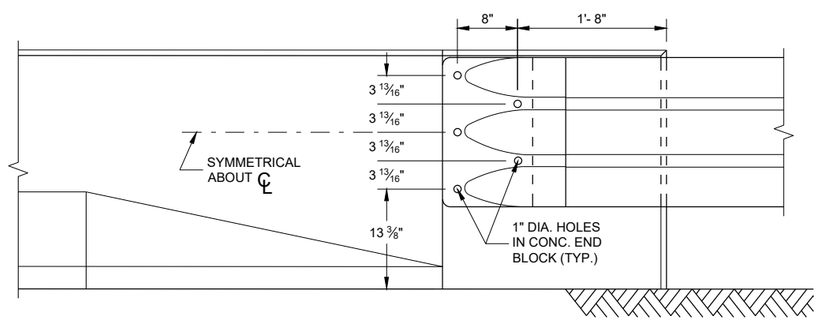


THRIE BEAM BOLT DETAIL

GENERAL NOTES

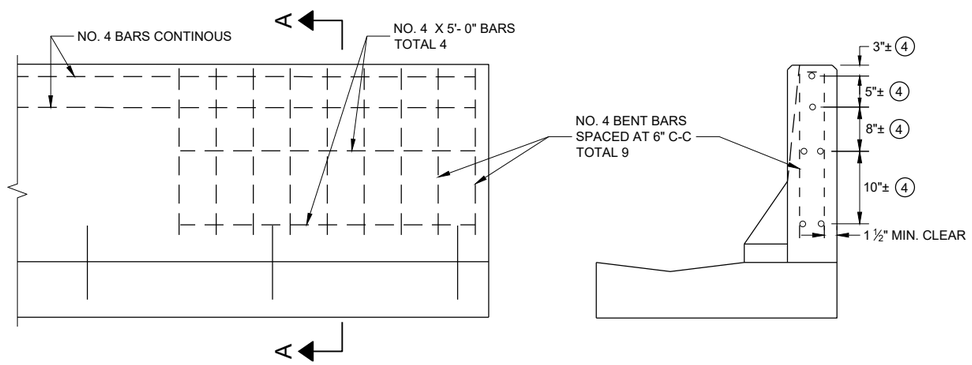
1. A SPECIAL END IS REQUIRED ON THE CONCRETE BARRIER TO TRANSITION TO A CONNECTION WITH THE STEEL THRIE BEAM STRUCTURE APPROACH. SEE THE DETAILS ON THIS SHEET.
2. BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
3. REINFORCEMENT REQUIRED AT EXPANSION JOINTS AND WHERE CONCRETE BARRIER IS TERMINATED.
4. PLACE REINFORCEMENT SUCH THAT IT WILL NOT CONFLICT WITH THE BOLT HOLES IN THE THRIE BEAM TERMINAL CONNECTOR.
5. INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAM STRUCTURAL APPROACH".

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



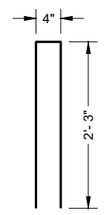
FRONT VIEW

CONCRETE BARRIER TRANSITION TO THRIE BEAM



FRONT VIEW **SECTION A - A**

3 REINFORCEMENT AT BARRIER END



BENT BAR DETAIL

CONCRETE BARRIER, SINGLE FACED (WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

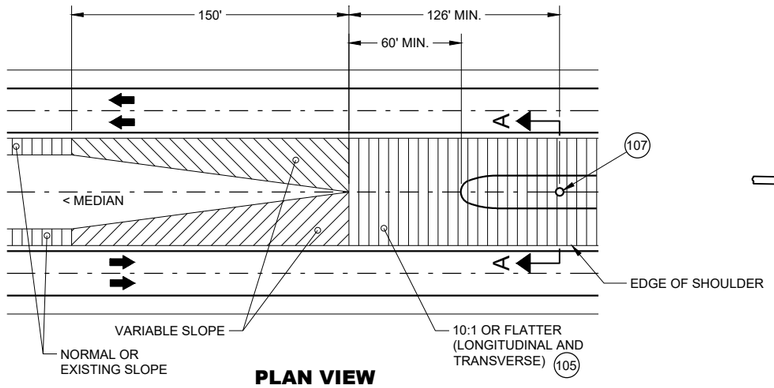
APPROVED
8/16/2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6

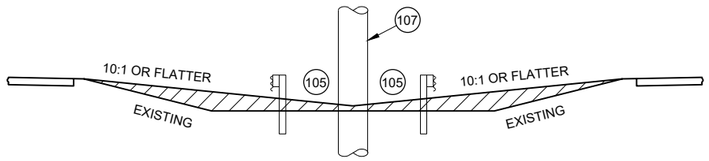
SDD 14B22 - 07b

6

SDD 14B22 - 07b



PLAN VIEW
GRADING AT BULLNOSE
(ALL INSTALLATIONS)



SECTION A -A
MEDIAN GRADING
(ALL INSTALLATIONS)

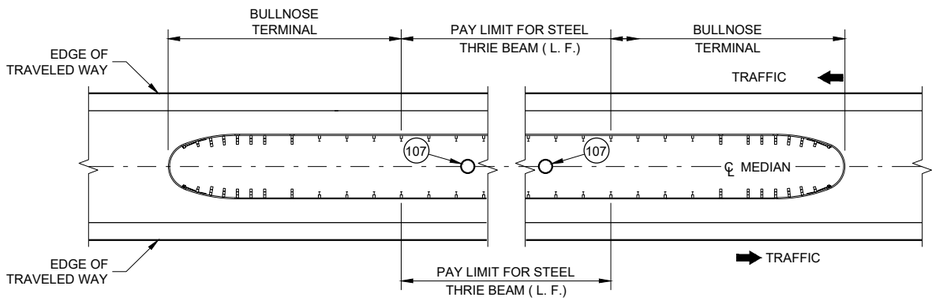
GENERAL NOTES

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

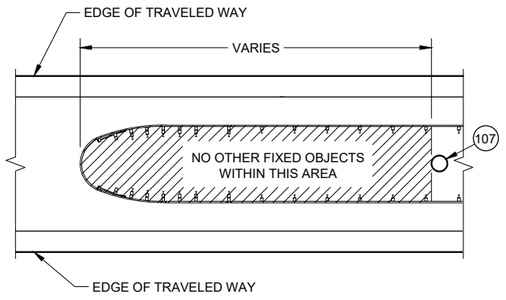
SEE STANDARD DETAIL DRAWINGS 14B26 SHEETS a-h.

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

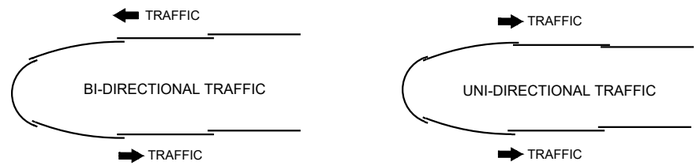
- E1 UNBENT STANDARD THRIE BEAM RAIL B1 (POST 8 TO POST 10 AND POST 10 TO POST 12)
- E2 SLOTTED THRIE BEAM RAIL E1 (POST 1 TO POST 1)
- E3 SLOTTED THRIE BEAM RAIL B3 (POST 5 TO POST 8)
- E4 SLOTTED THRIE BEAM RAIL E4 (POST 1 TO POST 5)
- 5 BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD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



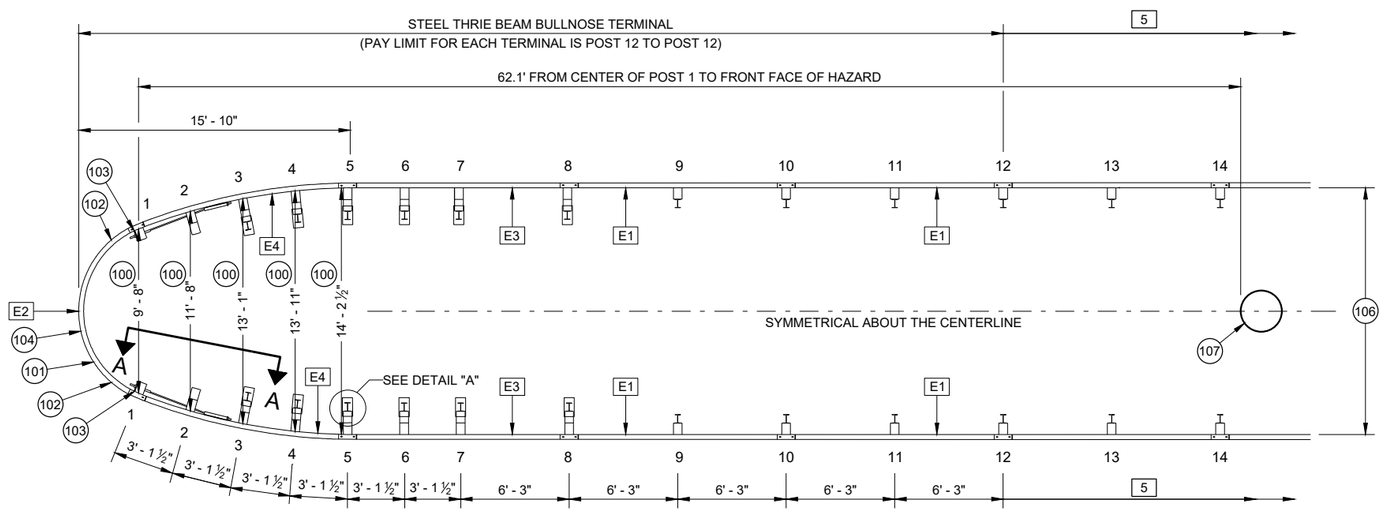
MEDIAN HAZARD PROTECTION PAY LIMITS



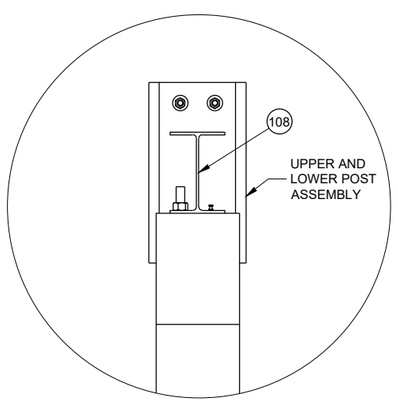
HAZARD FREE AREA
INSIDE BULLNOSE



LAPPING DETAIL



PLAN VIEW
TYPICAL BULLNOSE LAYOUT



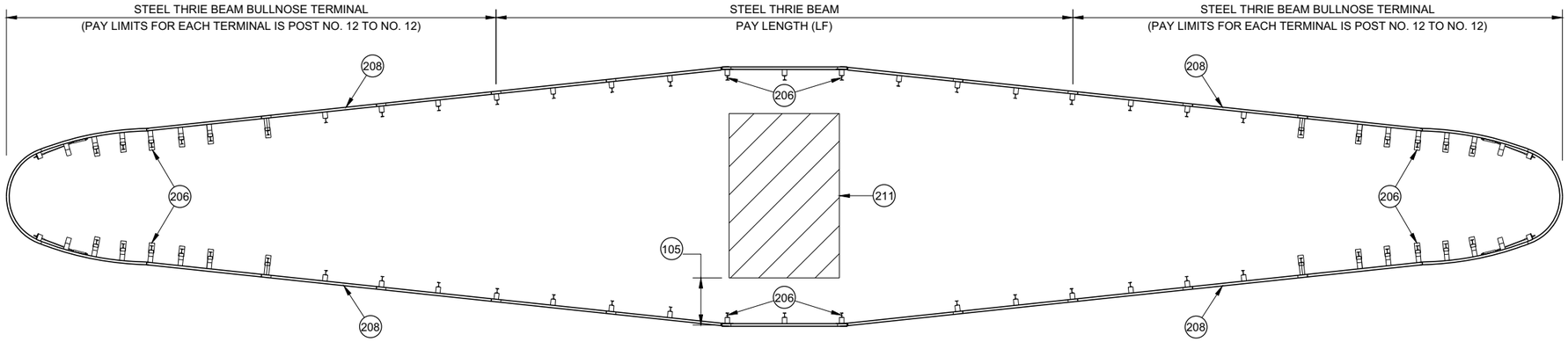
DETAIL "A"

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B26 - 04a

SDD 14B26 - 04a



VARIABLE WIDTH BULLNOSE

GENERAL NOTES

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

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

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

203 SEE SDD 14B42 FOR INSTALLATION INFORMATION.

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

205 CONCRETE BARRIER OR BRIDGE RAIL.

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

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

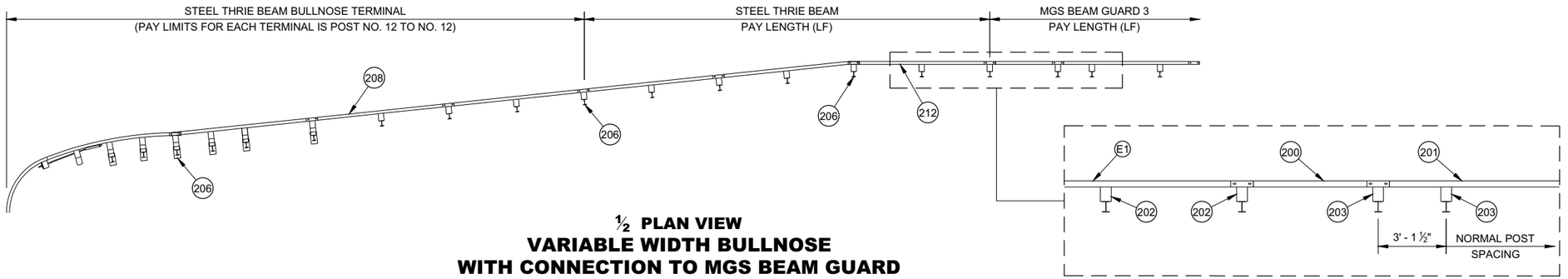
208 SEE PLAN FOR FLARE RATE.

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

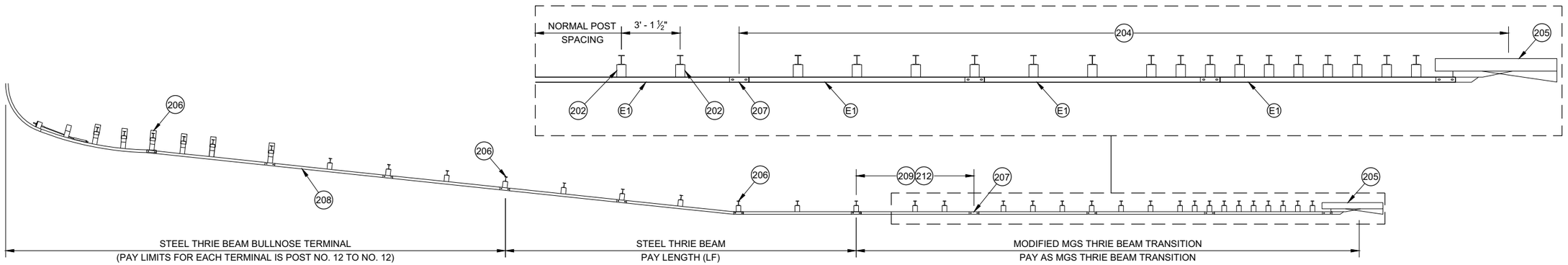
210 NOT ALL BULLNOSE HARDWARE SHOWN. SEE OTHER SHEETS IN 14B26.

211 WIDER HAZARD TO BE SHIELDED.

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



½ PLAN VIEW
VARIABLE WIDTH BULLNOSE
WITH CONNECTION TO MGS BEAM GUARD



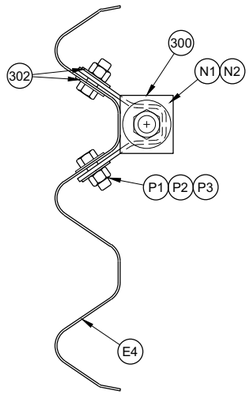
½ PLAN VIEW
VARIABLE WIDTH BULLNOSE
WITH CONNECTION TO RIGID BARRIER

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

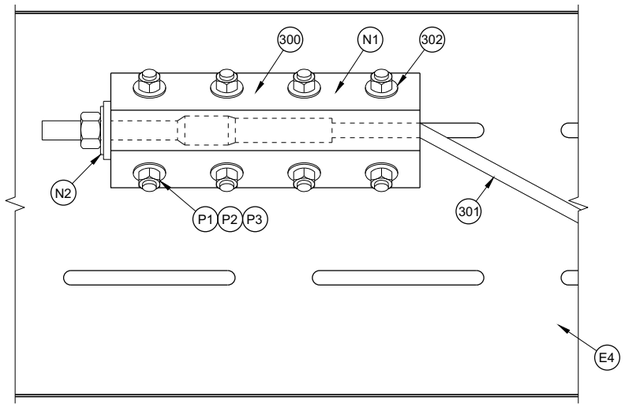
6

SDD 14B26 - 04b

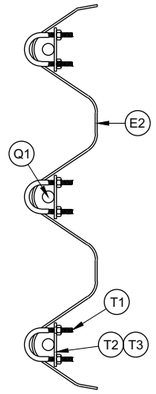


PROFILE VIEW

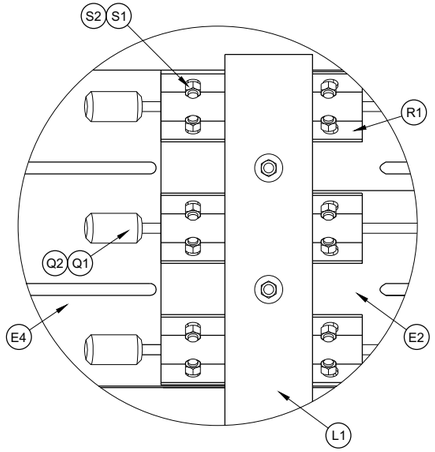
CABLE ANCHOR ASSEMBLY CONNECTION



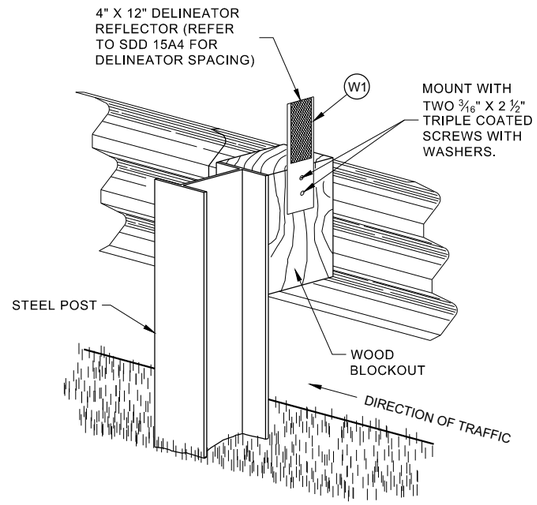
CABLE ANCHOR ASSEMBLY



NOSE CABLE RETAINING CLIP

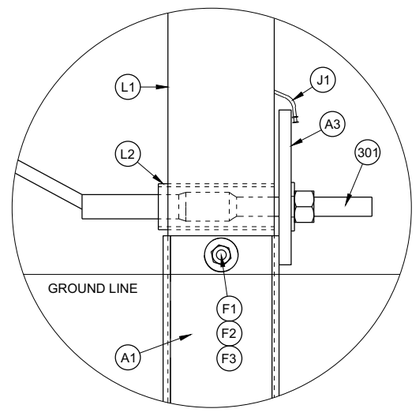


DETAIL "A"

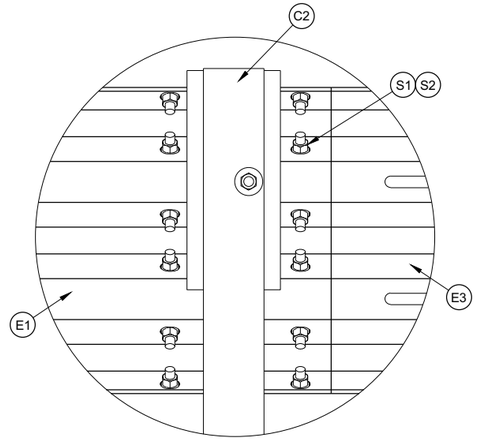


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

CROSS SECTION A - A



DETAIL "B"



DETAIL "C" THRIE BEAM SPLICE

GENERAL NOTES

(300) SEE ANCHOR BRACKET ASSEMBLY DETAIL.

(301) SEE ANCHOR CABLE ASSEMBLY DETAIL

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

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

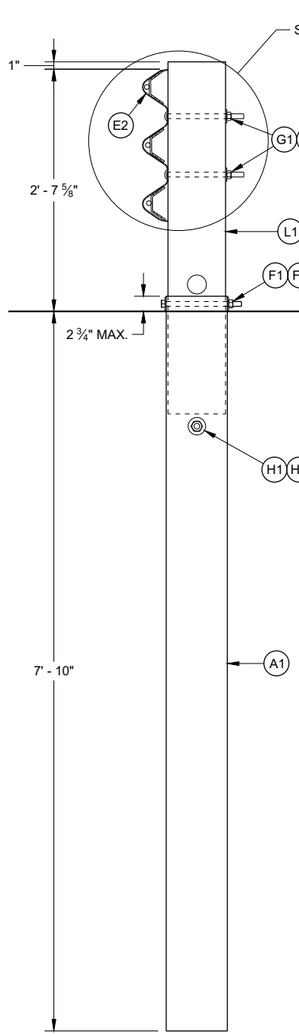
STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

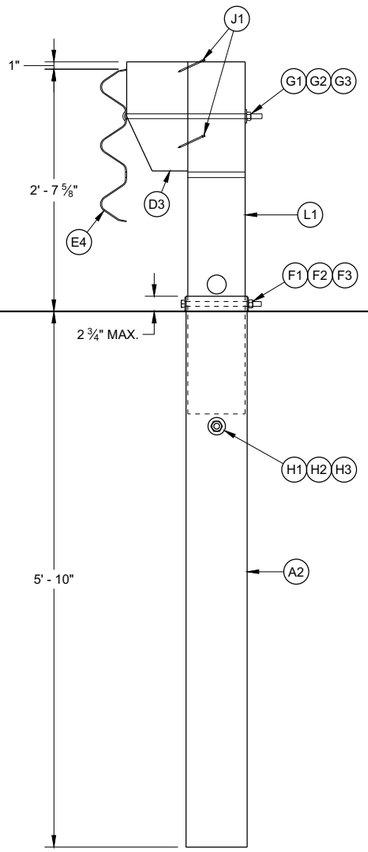
SDD 14B26 - 04c

6

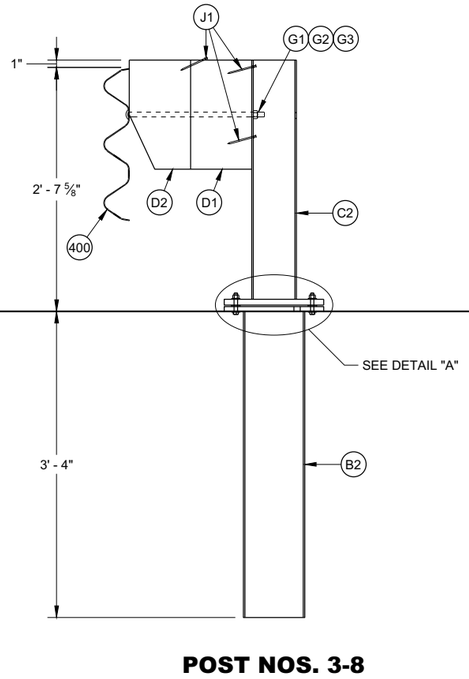
SDD 14B26 - 04c



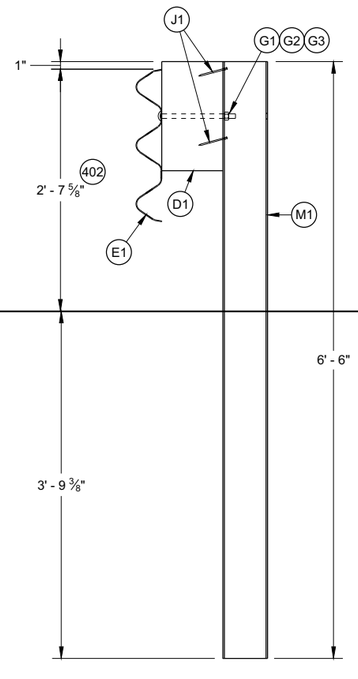
POST NO. 1



POST NO. 2



POST NOS. 3-8



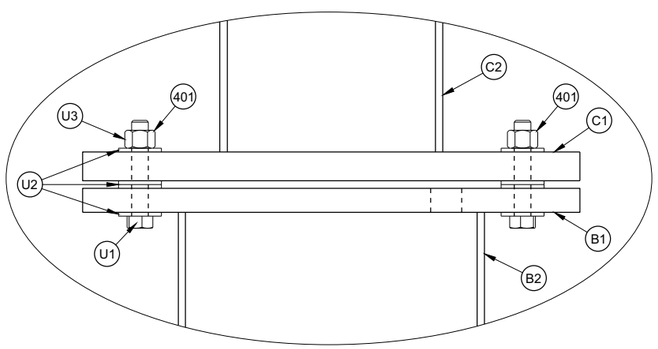
POST NOS. 9 AND ALL STEEL THRIE BEAM POSTS BEYOND

GENERAL NOTES

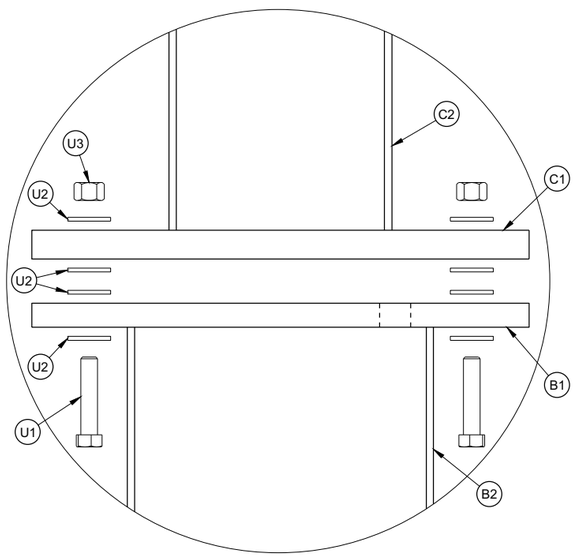
400 RAIL CAN BE E3 OR E4 DEPENDING ON POST LOCATION.

401 TORQUE BOLD BETWEEN 60-75 FT-LB

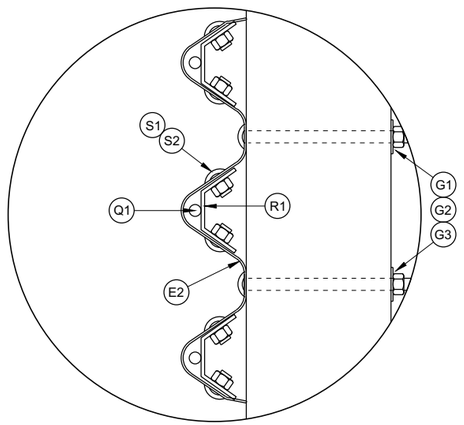
402 HEIGHT WILL VARY WITHIN HEIGHT TRANSITION TO OTHER HARDWARE. SEE NOTE 213, SHEET "b".



DETAIL "A"



EXPLODED VIEW
DETAIL "A"



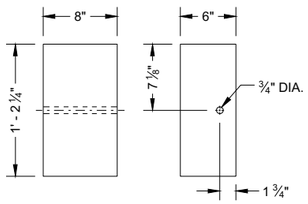
DETAIL "B"

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

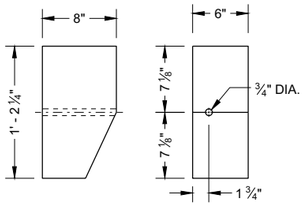
6

SDD 14B26 - 04d



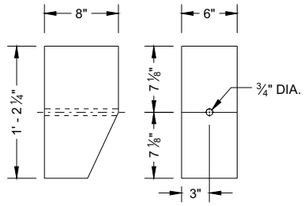
ELEVATION PROFILE

BLOCKOUT (D1)



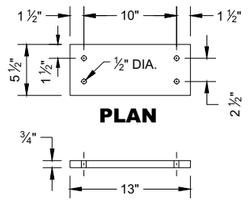
ELEVATION PROFILE

BLOCKOUT (D2)



ELEVATION PROFILE

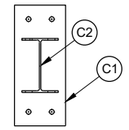
BLOCKOUT (D3)



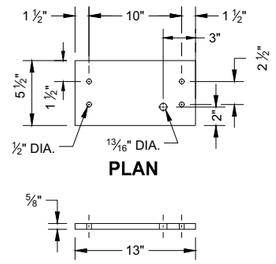
PLAN

PROFILE

UPPER SHEAR PLATE (C1)



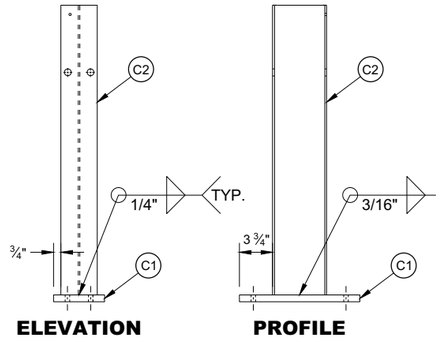
PLAN



PLAN

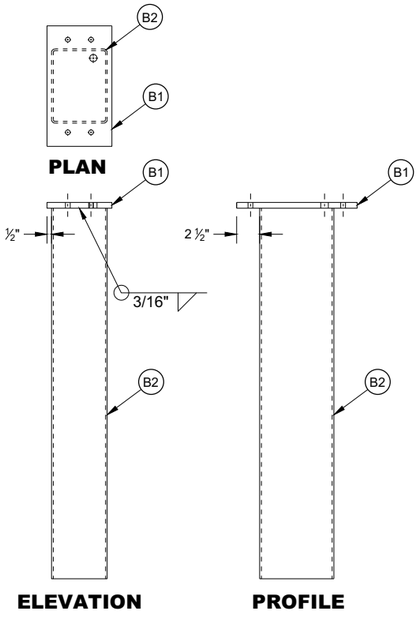
PROFILE

LOWER SHEAR PLATE (B1)



ELEVATION PROFILE

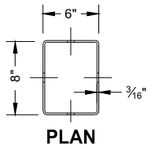
UPPER POST ASSEMBLY



PLAN

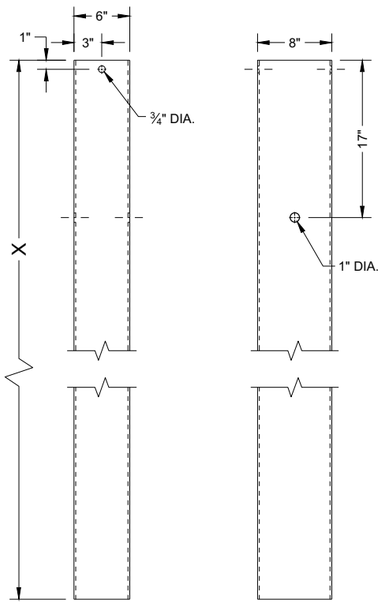
ELEVATION PROFILE

LOWER POST ASSEMBLY



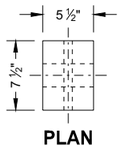
PLAN

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

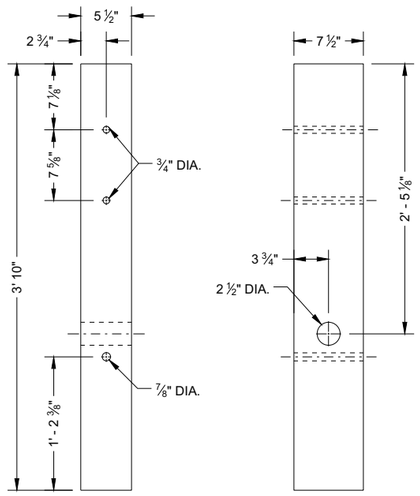


ELEVATION PROFILE

FOUNDATION TUBE

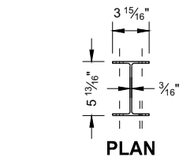


PLAN

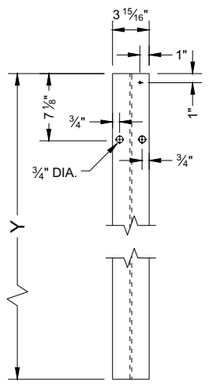


ELEVATION PROFILE

BCT POST (L1)



PLAN



ELEVATION

POST

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

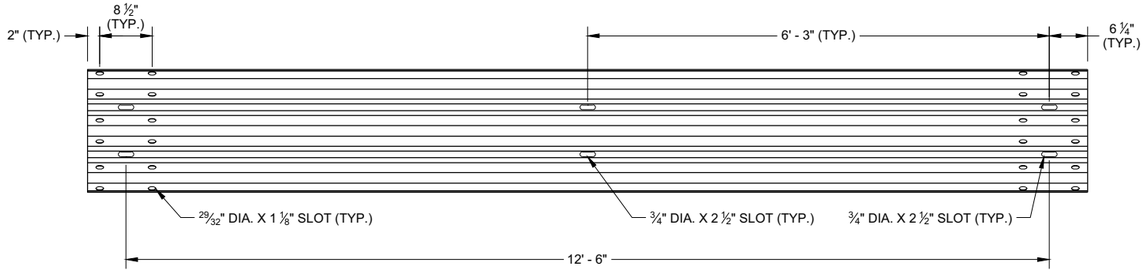
STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

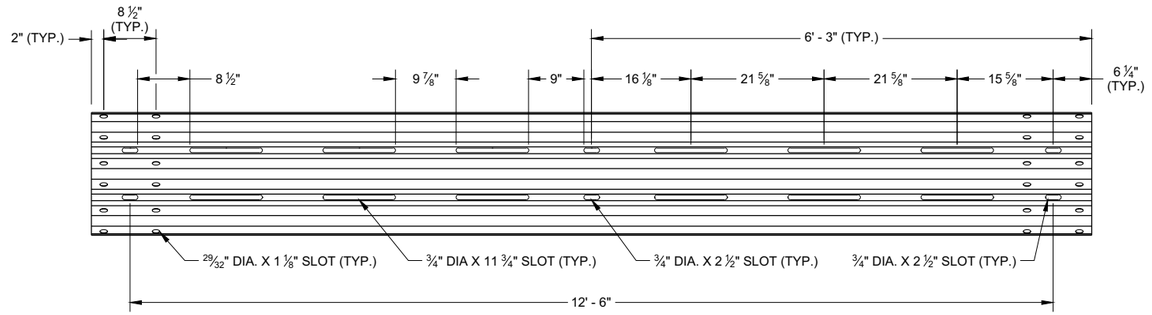
6

SDD 14B26 - 04e

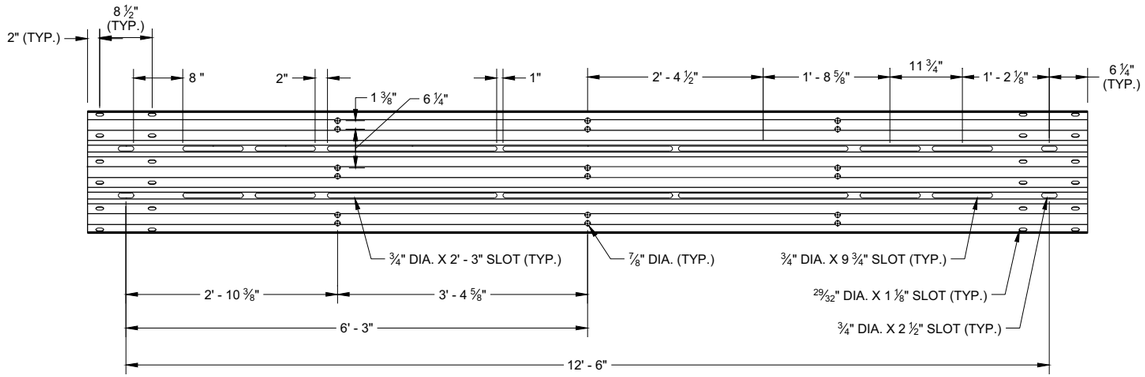
SDD 14B26 - 04e



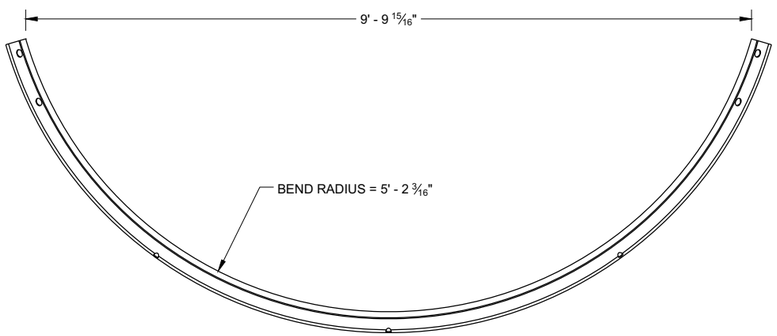
SLOTTED THRIE BEAM RAIL E1



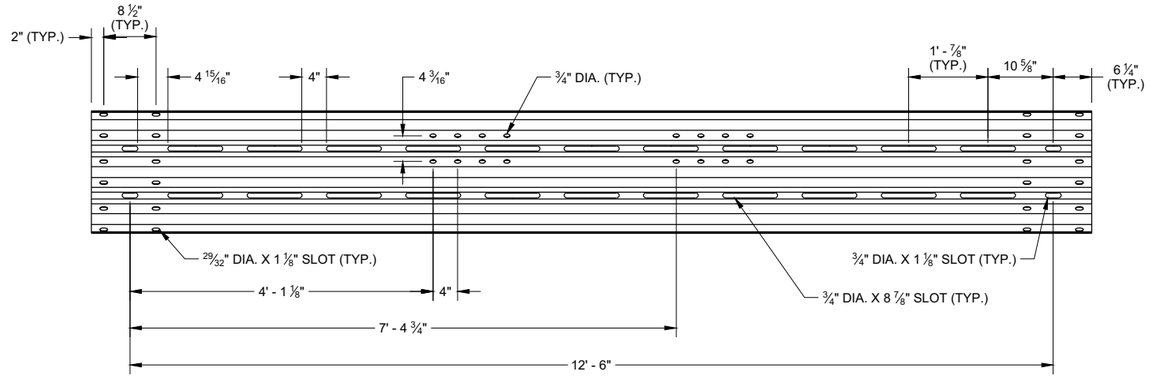
SLOTTED THRIE BEAM RAIL E3



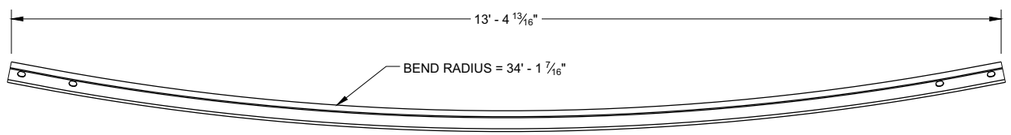
ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E2



PLAN VIEW
SLOTTED THRIE BEAM RAIL E2



ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E4



PLAN VIEW
SLOTTED THRIE BEAM RAIL E4

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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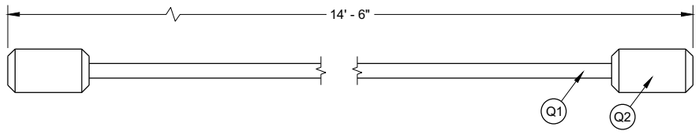
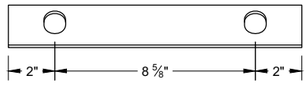
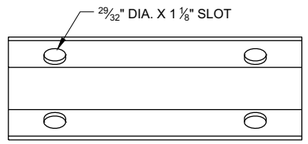


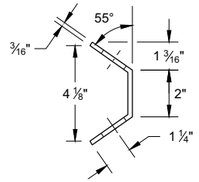
NOSE CABLE AND SWAGE BUTTON



PLAN VIEW

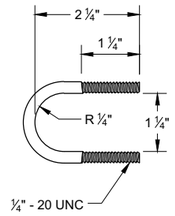


ELEVATION VIEW

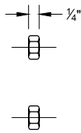


PROFILE VIEW

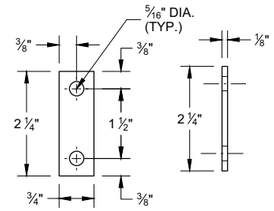
NOSE CABLE ANCHOR (R1)



U - BOLT (T1)

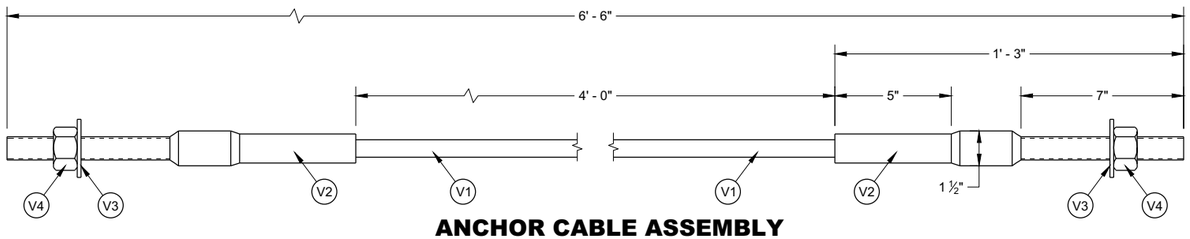


U - BOLT NUT (T3)

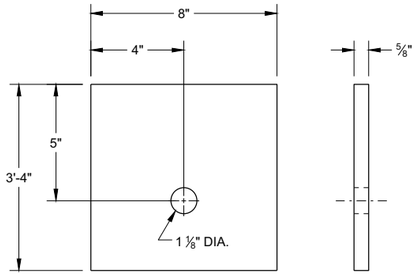


ELEVATION VIEW **PROFILE VIEW**

U - BOLT PLATE WASHER (T2)

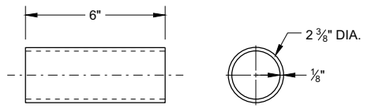


ANCHOR CABLE ASSEMBLY



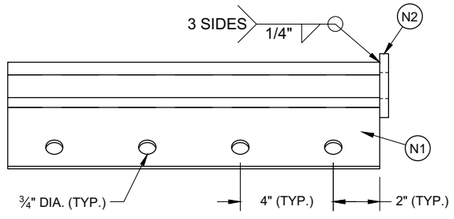
ELEVATION VIEW **PROFILE VIEW**

BCT BEARING PLATE (A3)

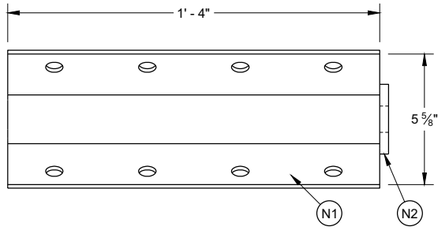


ELEVATION VIEW **PROFILE VIEW**

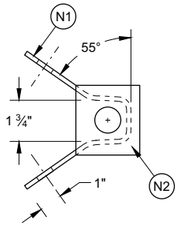
BCT POST SLEEVE (L2)



PLAN VIEW

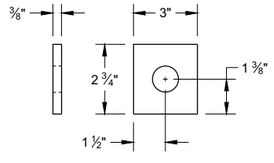


ELEVATION VIEW



PROFILE VIEW

ANCHOR BRACKET ASSEMBLY (N1)



ANCHOR BRACKET END PLATE (N2)

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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BILL OF MATERIALS LIST

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

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
P1	5/8" DIA. ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
P2	ANCHOR BRACKET BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
P3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
Q1	5/8" DIA. NOSE CABLE	6X19 AASTHO M30 / ASTM A741 XIPS INDEPENDENT WIRE CORE (IWRC) PR 6X25 XIPS, IWRC NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
Q2	NOSE CABLE-SWAGE BUTTON	COLD TUFF BUTTON, S-409 SIZE NO. 12 STOCK NUMBER 1040395 OR ANY OTHER SIMILAR SIZED WAGED-GRIP-BUTTON FERRULES. ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FIELD SWAGED PER MANUFACTURERS RECOMMENDATION. NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
R1	NOSE CABLE ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
S1	5/8" DIA. SPLICE BOLT - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
S2	SPLICE - BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD 5/8" ASTM A563DH OR SAE J995 GRADE 5
T1	1/4" DIA. NOSE CABLE - U BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
T2	U-BOLT - PLATE WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
T3	U-BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
U1	7/16" DIA. SLIP POST ASSEMBLY - BREAKAWAY BOLT	ASTM A153 OR B695 CLASS 55 OR F2329 UNC FULLY THREADED HEX HEAD TAP BOLT ASTM A449 OR SAE J429 GRADE 5
U2	7/16" DIA. SLIP POST ASSEBLY - BREAKAWAY BOLT - WASHER	ASTM F436 TYPE I (HARDEN TYPICALLY USED WITH STEEL) GALV. AASHTO M111/ASTM A 123 OR GALV. HOT DIP. TO POST BOLT CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 55, F2329
U3	SLIP POST ASSEBLY - BREAKAWAY BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / STM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
V1	¾" DIA. BCT CABLE	AASHTO M30 / ASTM A741 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN BREAKING STRENGTH OF 42.7 KIPS
V2	ANCHOR CABLE-SWAGE FITTING	UNC ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FACTORY SWAGED. MIN. BREAKING STRENGTH OF 42.7 KIPS. ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."
V3	1" DIA. ANCHOR CABLE-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
V4	1" DIA. ANCHOR CABLE-NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
W1	REFLECTOR	SEE SDD 15A4

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SDD 14B26 - 04h

SDD 14B26 - 04h

STEEL THRIE BEAM BULLNOSE TERMINAL

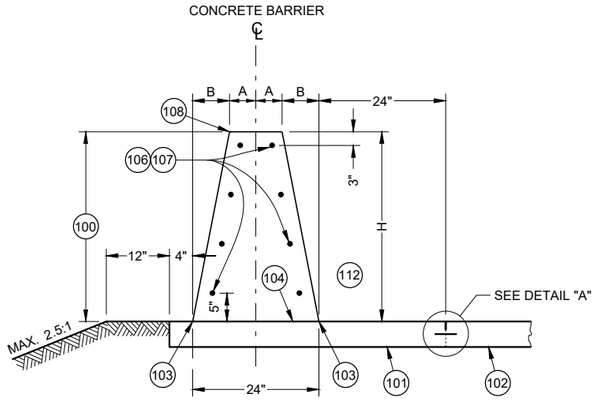
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

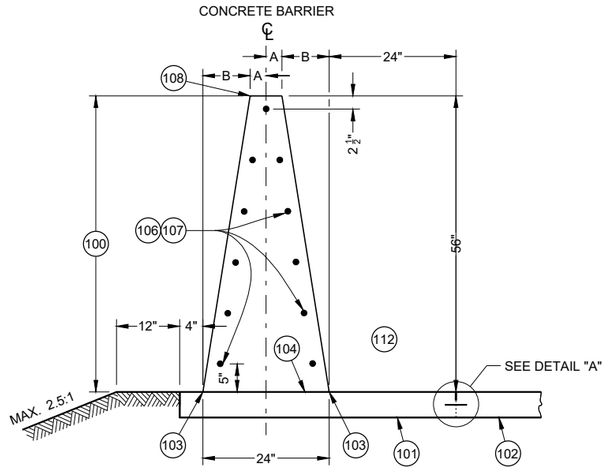
August 2020
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA



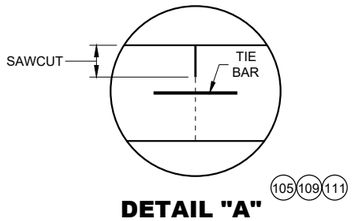
32 - INCH, 36 - INCH OR 42 - INCH SINGLE SLOPE CONCRETE BARRIER
(TYPE S32, TYPE S36, TYPE S42)



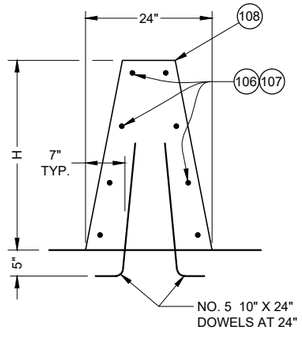
56 - INCH SINGLE SLOPE CONCRETE BARRIER
(TYPE S56)

TABLE "A"

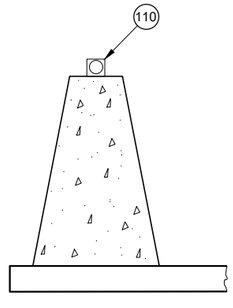
BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6 ¼	5 ¾	8
42	5 ¼	6 ¾	10
56	3	9	11



DETAIL "A"



SINGLE SLOPE CONCRETE BARRIER ON BRIDGE
(NON OUTER PARAPET APPLICATION)



DELINEATION

GENERAL NOTES

WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.

LOCATE EXPANSION JOINTS IN CONCRETE BARRIER SHALL AT ALL DECK AND PRINCIPAL WALL JOINTS. FILL EXPANSION JOINT WITH EXPANSION JOINT MATERIAL. SEAL THE EXPANSION JOINT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.

2" CLEAR COVER TYPICAL

ANCHORS ARE REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN IN THIS SDD OR DETAIL SHOWN ON SDD 14B33. ANCHORS INCIDENTAL TO CBSS.

PROVIDE A 1" DEEP CONTRACTION JOINT IN BARRIER PAD AND BARRIER. JOINT IS TO MATCH ADJACENT CONCRETE JOINTS. NO DOWEL BARS ARE REQUIRED FOR BARRIER PAD. IF ADJACENT TO ASPHALT, CONTRACTION JOINT IS REQUIRED EVERY 15'.

ALL REBAR SHALL BE EPOXY COATED M31 TYPE S. SEE STANDARD SPECIFICATION 505.

CONCRETE BARRIER, UPPER CONCRETE BARRIER, LOWER CONCRETE BARRIER, CONCRETE BARRIER PAD, AND FOOTINGS ARE TERMS USED TO DESCRIBE PARTS OF SINGLE SLOPE CONCRETE BARRIER BID ITEMS. THESE PARTS ARE INCIDENTAL TO THE SINGLE SLOPE CONCRETE BARRIER BID ITEMS.

(100) CONCRETE BARRIER

(101) CONCRETE BARRIER PAD

(102) PAVEMENT

(103) WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1 ½", USE TYPE A SINGLE SLOPE BARRIER.

(104) OPTIONAL CONSTRUCTION JOINT.

(105) CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAT 10'.

(106) STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL IS 2' BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.

(107) NO. 5 CONTINUOUS BARS EVENLY SPACED (SEE TABLE "A").

(108) USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.

(109) CONCRETE BARRIER PAD UNDER CBSS MAY BE PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED ⅓ DEPTH. CONCRETE BARRIER PAD AND SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE BARRIER PAD MINIMUM DEPTH IS 6", OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

(110) SEE SDD 15A04 FOR DELINEATOR DETAILS AND SPACING.

(111) SEE SDD 13C01 FOR DETAILS TYPING CONCRETE BARRIER TO ADJACENT CONCRETE

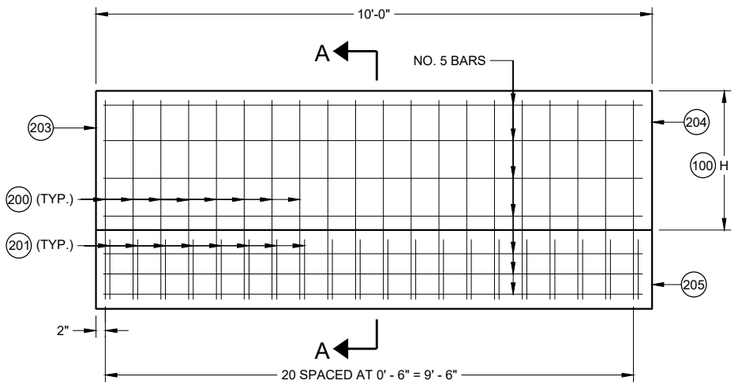
(112) TRAFFIC SIDE

CONCRETE BARRIER SINGLE SLOPE (CBSS)

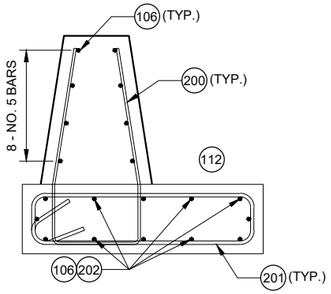
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

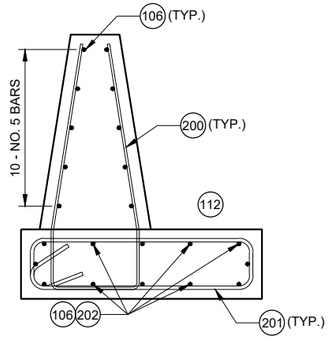
SDD 14B32 - 10a



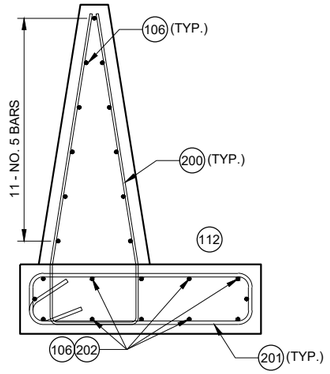
END ANCHOR SINGLE SLOPE CONCRETE BARRIER



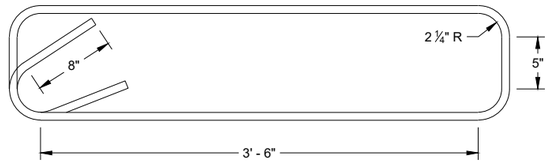
32" AND 36" CBSS



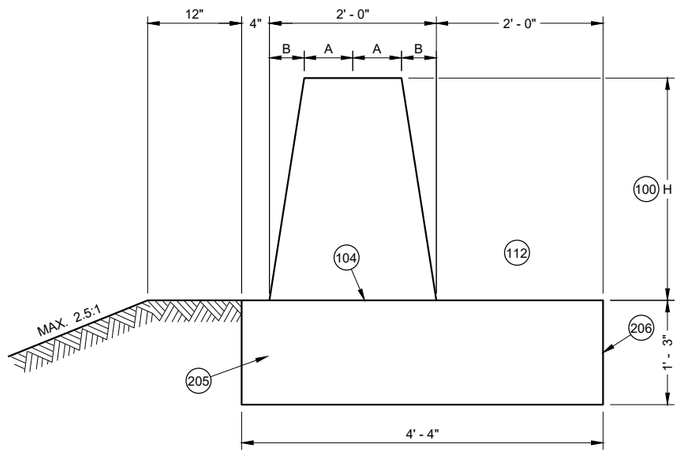
42" CBSS



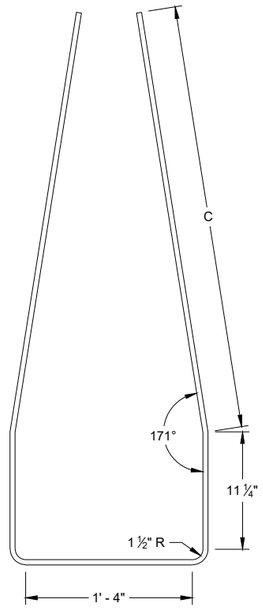
56" CBSS



STIRRUP BAR BENDING DETAIL



SECTION A - A



V1 BAR BENDING DETAIL

TABLE "B"

BARRIER HEIGHT H INCHES	C INCHES
32	2' - 6"
36	2' - 11"
42	3' - 4"
56	4' - 6 ½"

GENERAL NOTES

200 V1 BARS ARE NO. 5 BARS. (SEE BAR BENDING DETAIL)

201 STIRRUPS ARE NO. 6 BARS. (SEE BAR BENDING DETAIL)

202 TWELVE (12) NO. 5 BARS EVENLY SPACED

203 END OF INSTALLATION OR EXPANSION JOINT.

204 SEE COLD JOINT DETAIL TO CONNECT END ANCHOR SINGLE SLOPE CONCRETE BARRIER TO SINGLE SLOPE CONCRETE BARRIER.

205 FOOTING

206 DO NOT TIE TO FOOTING TO ADJACENT PAVEMENT.

CONCRETE BARRIER SINGLE SLOPE (CBSS)

GENERAL NOTES

END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIER.

REMOVE THRIE BEAM ANCHORAGE AS SHOWN.

(800) AREA OF BARRIER REMOVAL AN NEW CONCRETE AND STEEL IS INSTALLED.

(801) MINIMUM LENGTH OF REMOVAL IS 15'

(802) FOOTING BELOW GROUND MAY REMAIN IN PLACE.

(803) CONCRETE BARRIER SINGLE SLOPE THRIE BEAM ANCHOR TO REMAIN.

(804) SAW CUT

(805) NEW SINGLE SLOPE CONCRETE BARRIER.

(806) CONCRETE BARRIE SINGLE SLOPE TO REMAIN.

(807) SINGLE SLOPE CONCRETE BARRIER OR CONCRETE BARRIER SINGLE SLOPE THRIE BEAM ANCHOR TO REMAIN.

(808) SEE CONNECTION DETAIL.

(809) NO. 5 CONTINUOUS BAR.

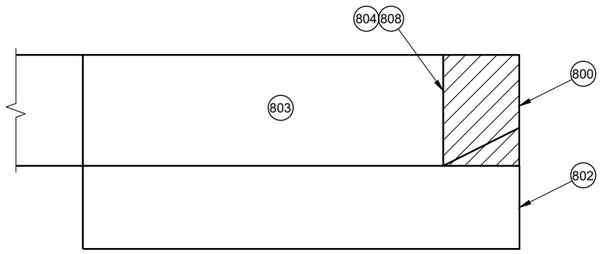
(810) 3" MIN. DRILL HOLES. USES NO. 5 ADHESIVE ANCHORS.

(811) THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF HORIZONTAL REBAR IN BARRIER. DRILL HOLES ARE TO BE A MINIMUM OF 4" FROM EDGE OF CONCRETE.

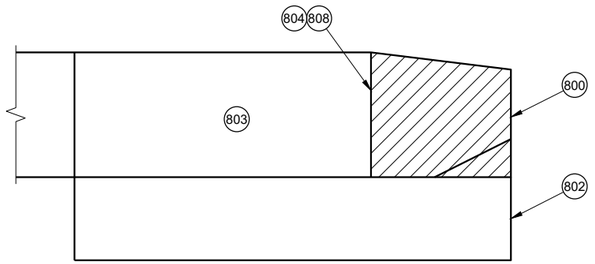
(812) EXISTING REBAR IN EXISTING BARRIER OR END ANCHOR.

(813) 3" BAR OVERLAP

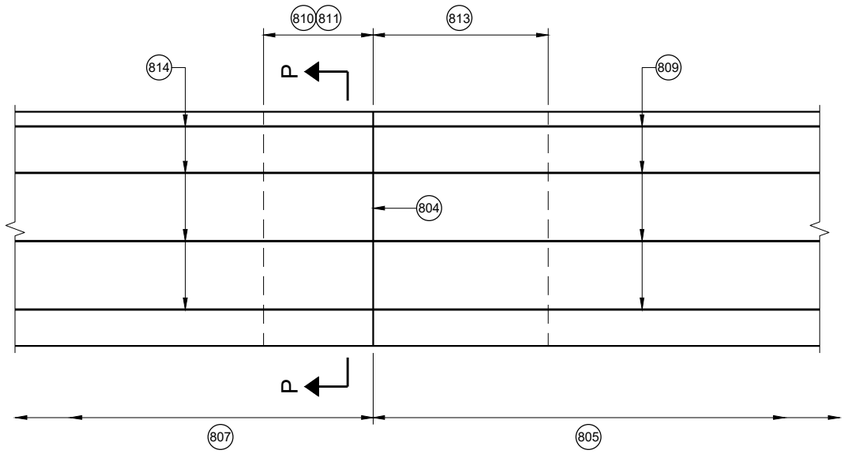
(814) EXISTING REINFORCEMENT



REMOVAL AREA OF 32" CONCRETE THRIE BEAM ANCHORAGE

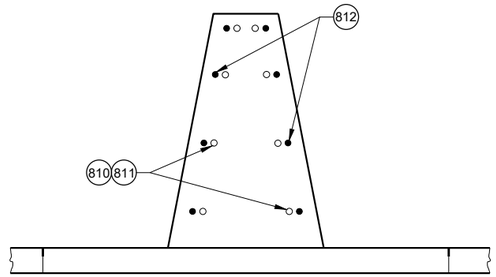


REMOVAL AREA OF CONCRETE THRIE BEAM ANCHORAGE WITH HEIGHT GREATER THAN 32"

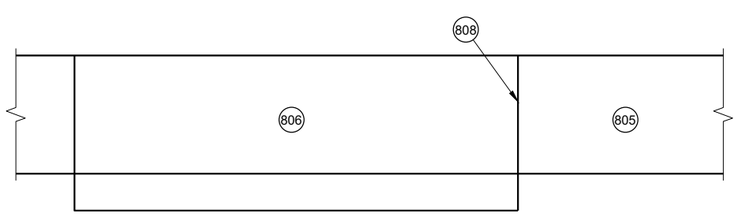


CONNECTION DETAIL

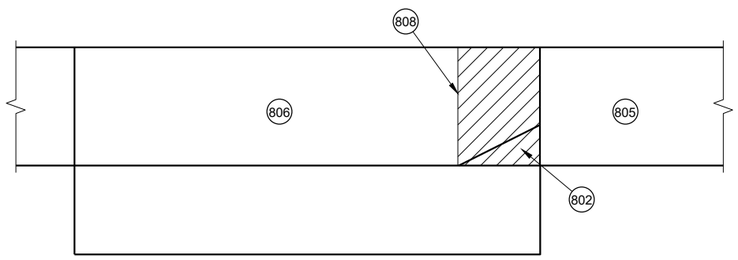
SINGLE SLOPE CONCRETE BARRIER TO NEW SINGLE SLOPE CONCRETE BARRIER



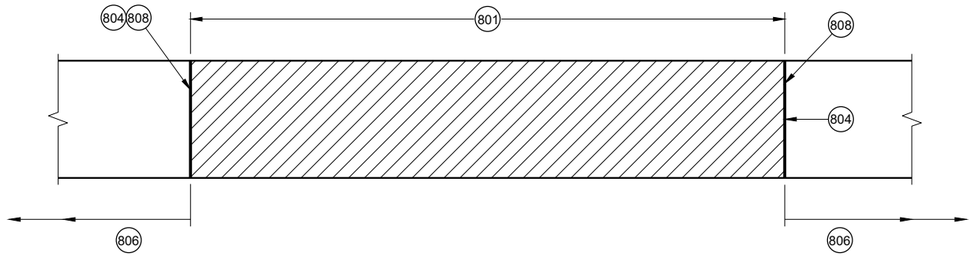
SECTION P - P



CONCRETE BARRIER EXTENSION NEAR END ANCHORAGE



CONCRETE BARRIER EXTENSION NEAR THRIE BEAM TERMINAL



BARRIER REMOVAL AND REPLACEMENT

RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER

CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B32 - 10h

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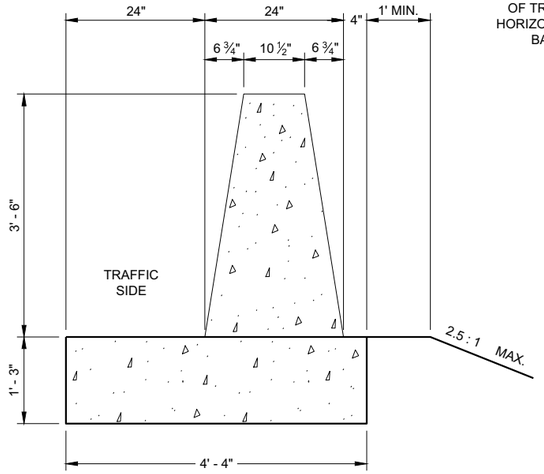
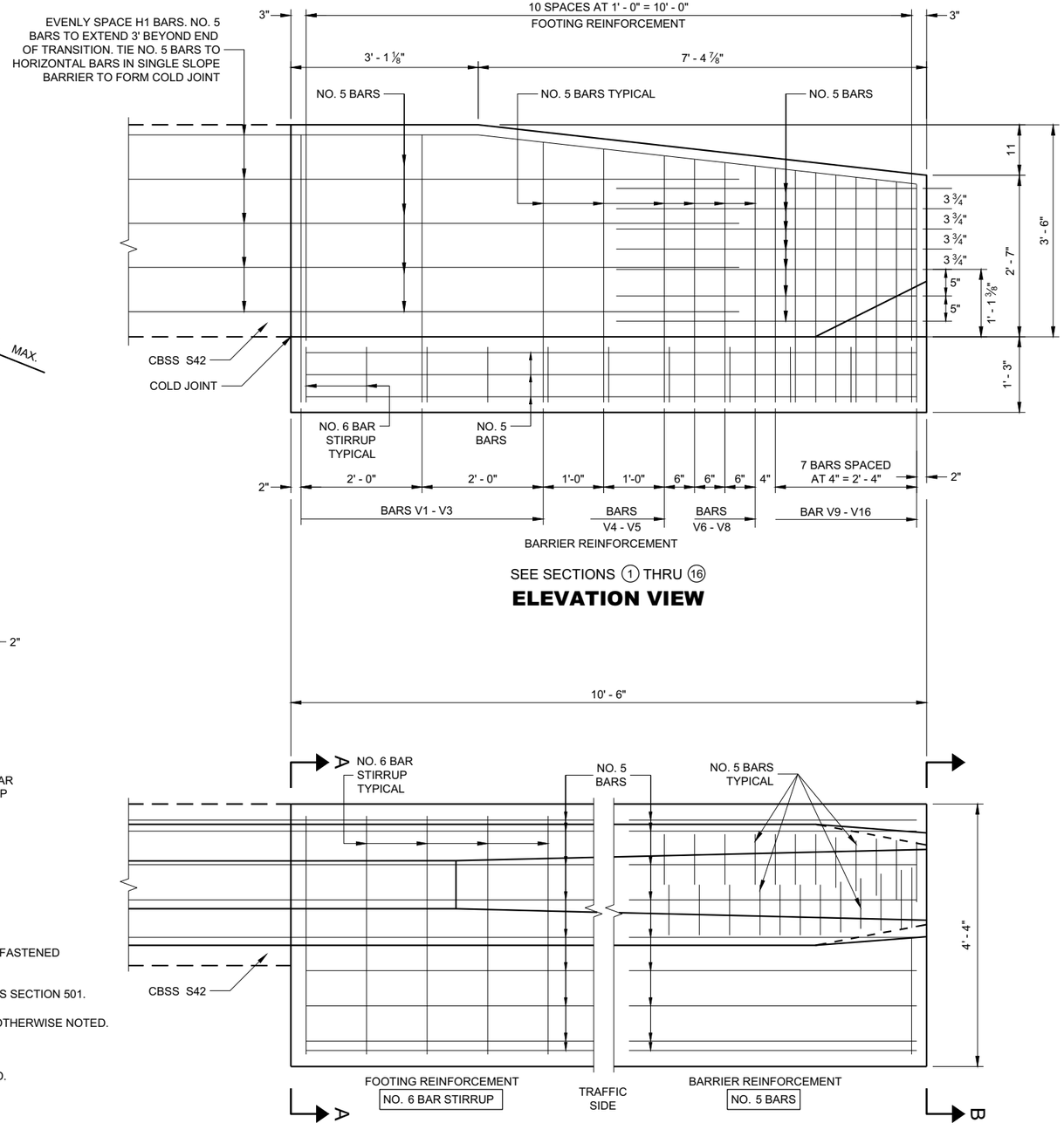
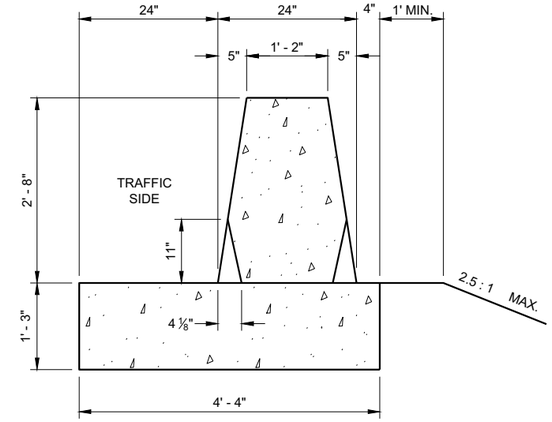
SDD 14B32 - 10h



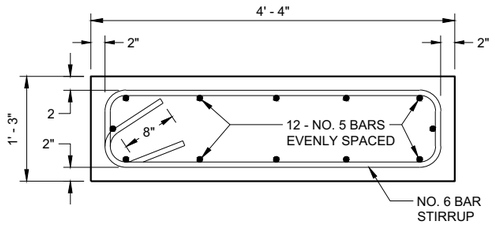
SECTION A - A



ELEVATION VIEW

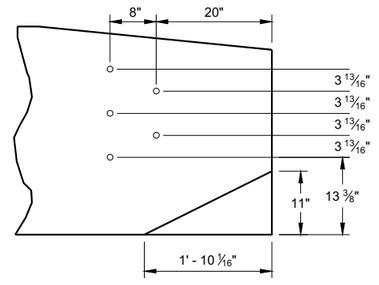


SECTION B - B



TYPICAL FOOTING

PLAN VIEW



PVC PIPE LOCATIONS

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS OTHERWISE NOTED.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS SECTION 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.

THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE OF BARRIER.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

CONCRETE BARRIER
SINGLE SLOPE 42"
THRIE BEAM ANCHOR

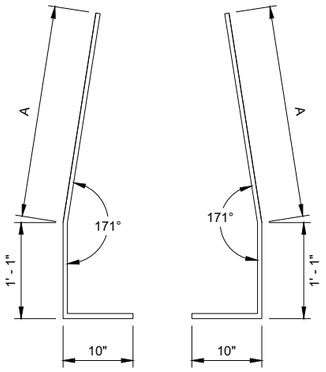
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B33 - 02g

SDD 14B33 - 02g

BAR CHART
BAR POSITIONS
1 - 11

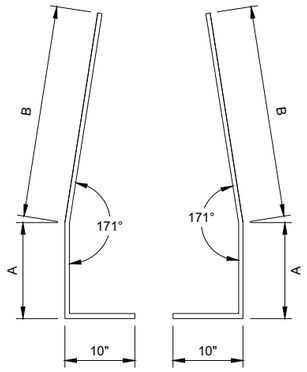
BAR	A
V1	3' - 4 ½"
V2	3' - 4 ½"
V3	3' - 2 ½"
V4	3' - 1"
V5	2' - 11 ½"
V6	2' - 11"
V7	2' - 10 ½"
V8	2' - 9 ½"
V9	2' - 9"
V10	2' - 8 ½"
V11	2' - 8"



BAR BENDING DETAIL
SECTIONS V1 - V4

BAR CHART
BAR POSITIONS
12 - 13

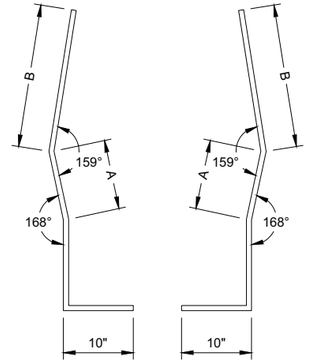
BAR	A	B
V12	1' - 3"	2' - 6"
V13	1' - 8"	2' - 1 ½"



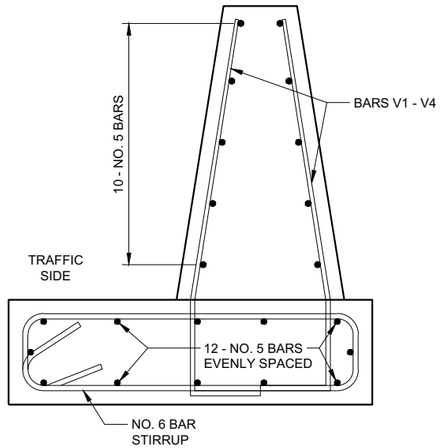
BAR BENDING DETAIL
SECTIONS V12 - V13

BAR CHART
BAR POSITIONS
14 - 16

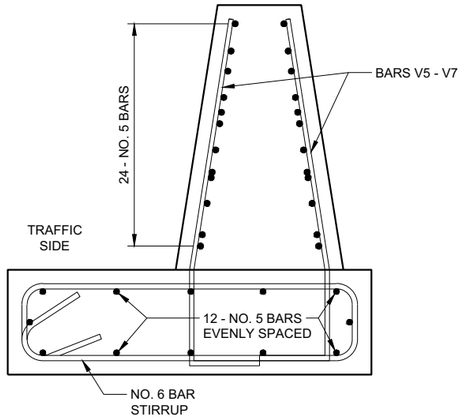
BAR	A	B
V14	6"	2' - 1"
V15	8"	1' - 11"
V16	10"	1' - 8 ½"



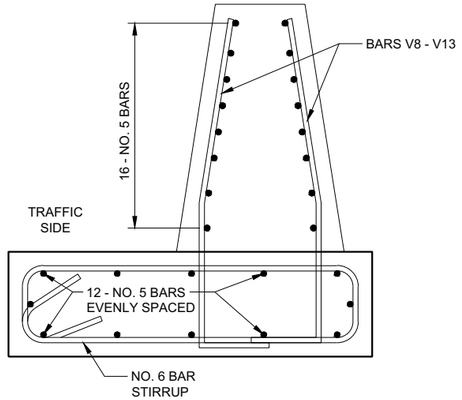
BAR BENDING DETAIL
SECTIONS V14 - V16



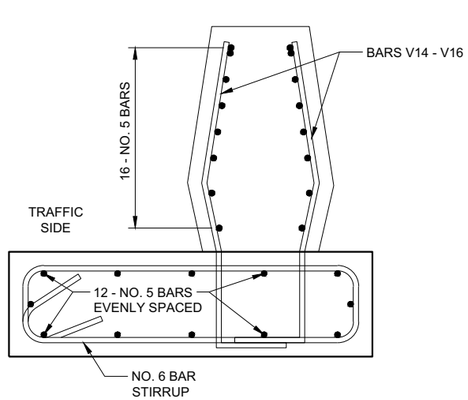
BAR DETAIL
SECTIONS 1 - 4



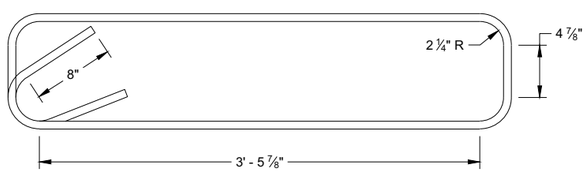
BAR DETAIL
SECTIONS 5 - 7



BAR DETAIL
SECTIONS 8 - 13



BAR DETAIL
SECTIONS 14 - 16



STIRRUP BAR
BENDING DETAIL

CONCRETE BARRIER
SINGLE SLOPE 42"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

SDD 14B33 - 02h

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

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

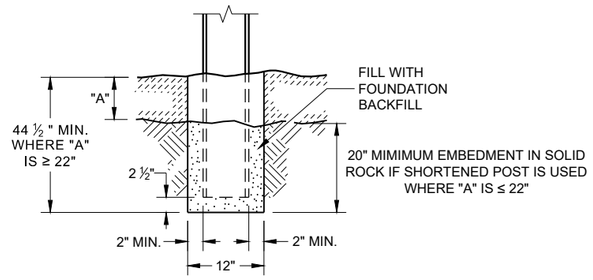
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

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

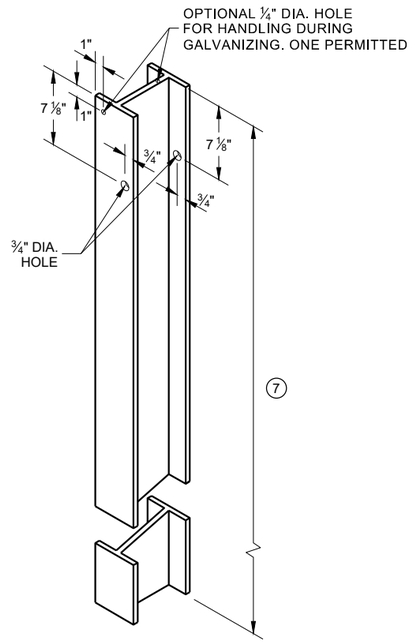
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

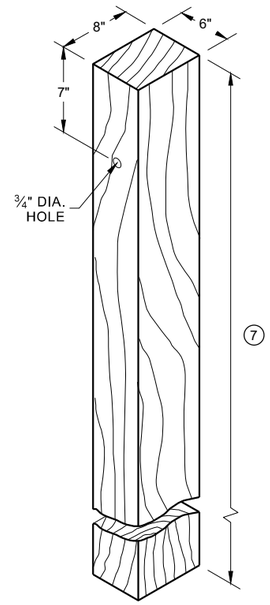
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



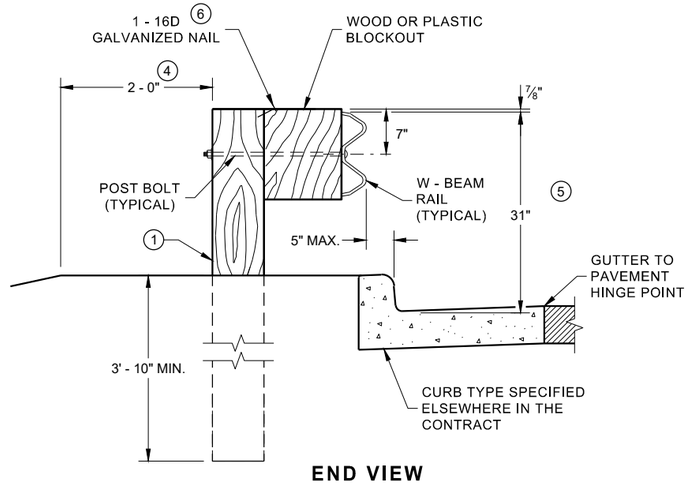
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



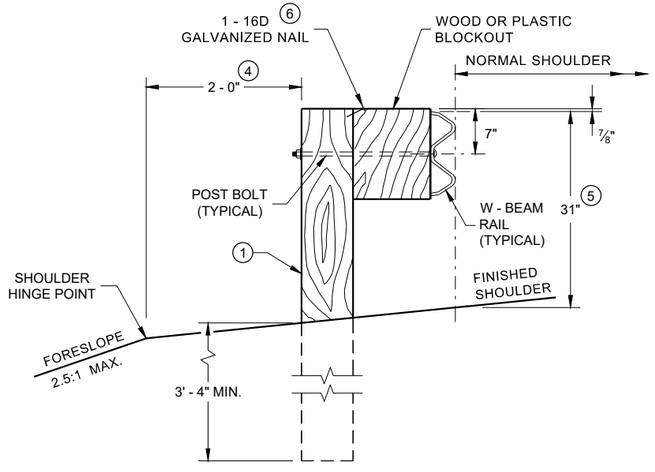
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



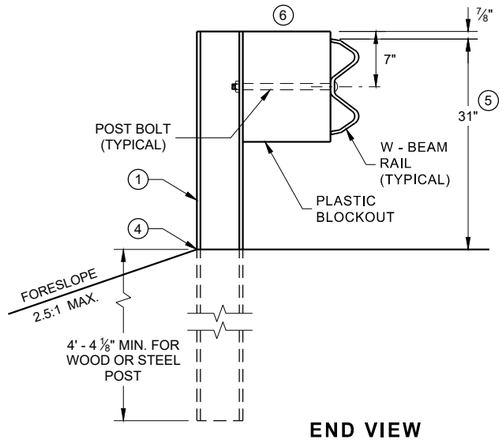
WOOD POST (6" X 8") NOMINAL (1)



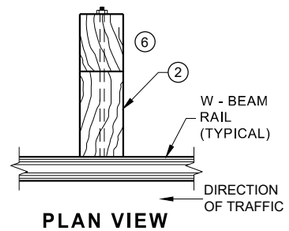
END VIEW
LOCATED ALONG A CURBED ROADWAY



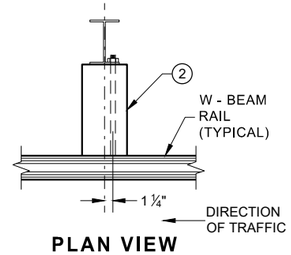
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



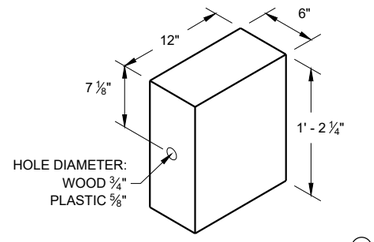
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

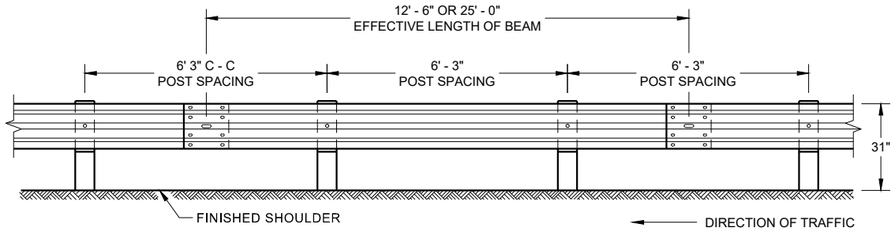
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

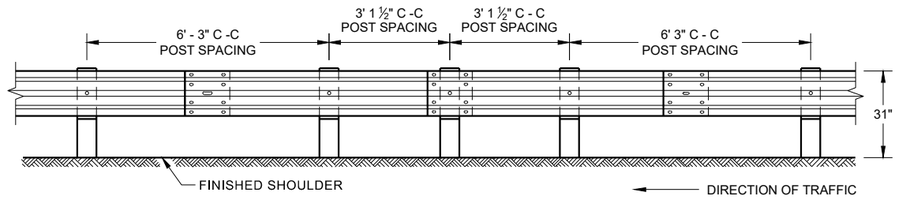
SDD 14B42 - 07a

6

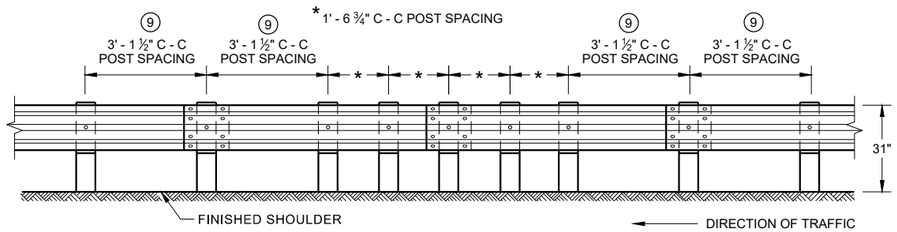
SDD 14B42 - 07a



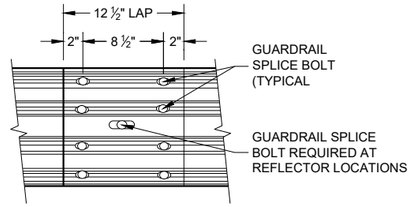
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

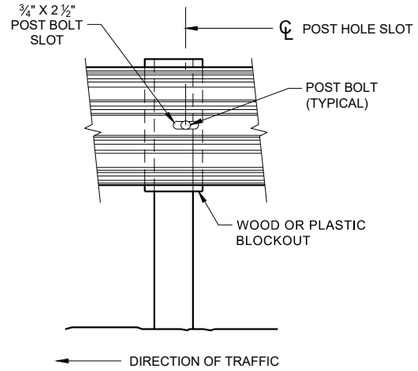
GENERAL NOTES

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

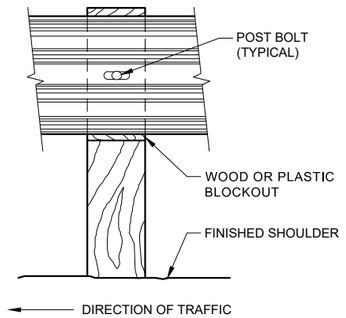
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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

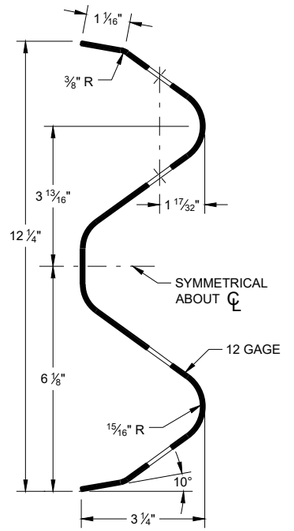
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



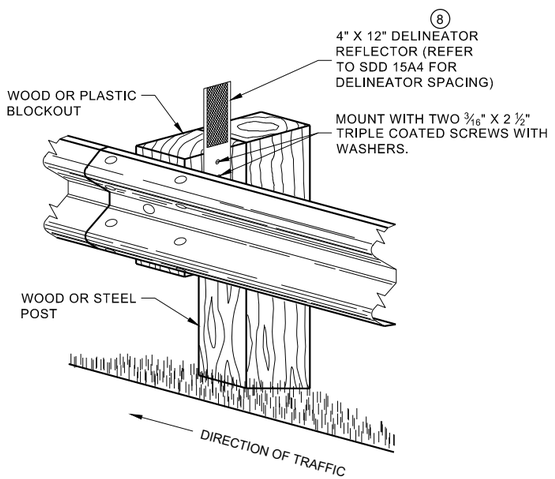
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



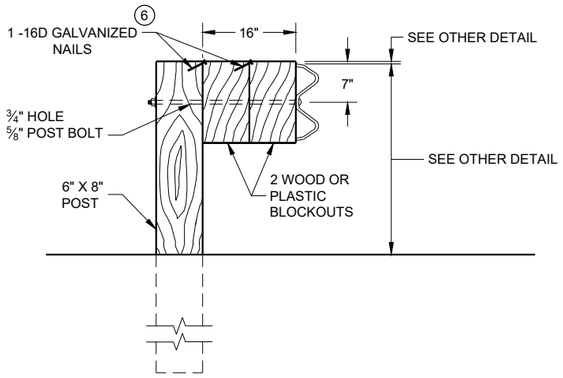
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b

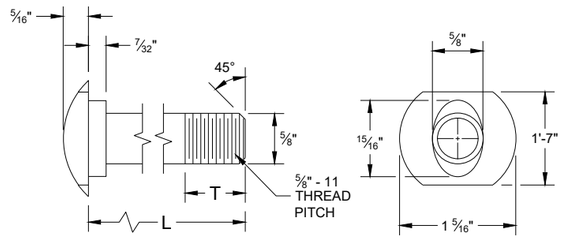


DETAIL FOR 16" BLOCKOUT DEPTH

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

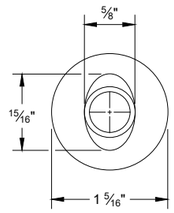
NOTE:

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

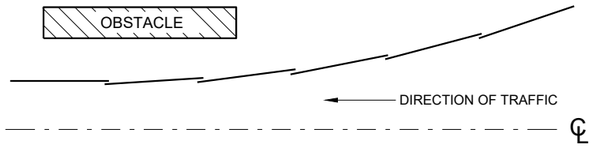


POST BOLT TABLE

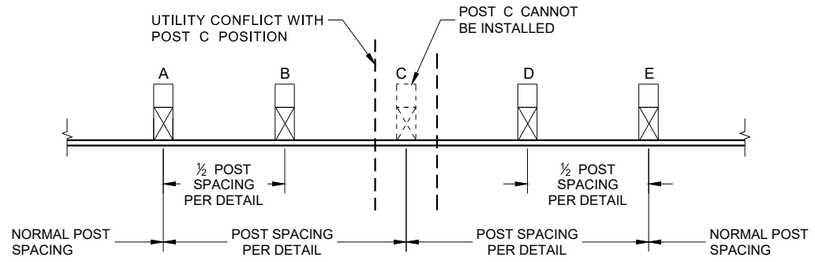
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



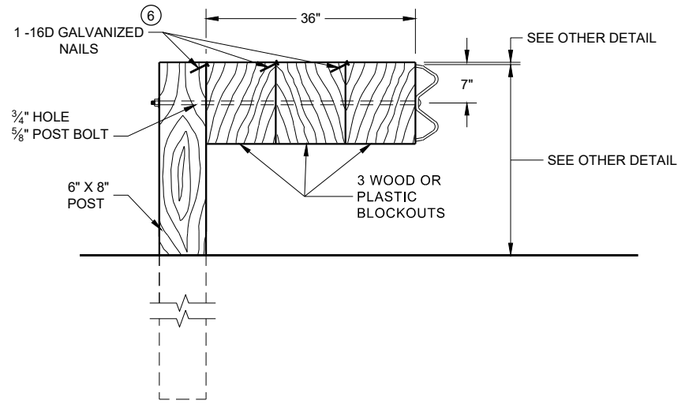
ALTERNATE BOLT HEAD



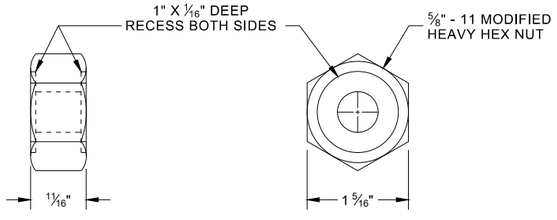
PLAN VIEW
BEAM LAPPING DETAIL



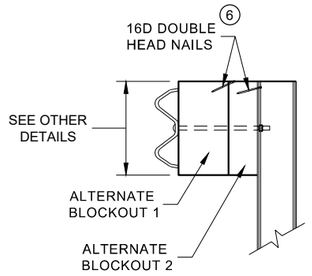
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



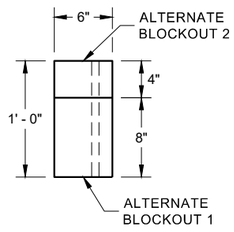
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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

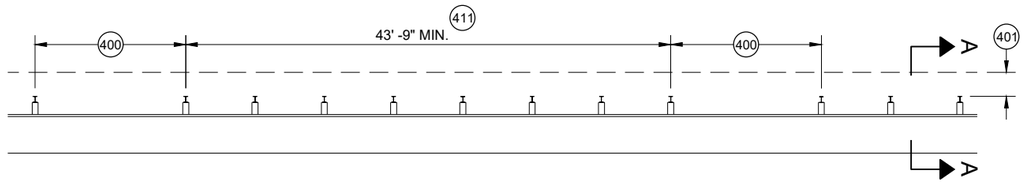
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

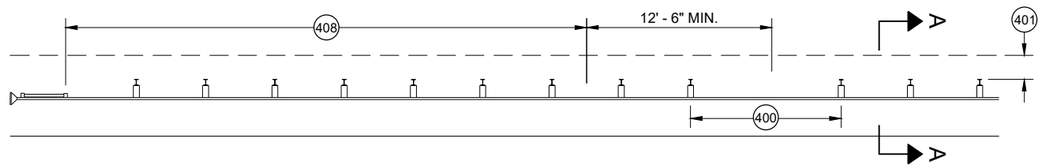
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

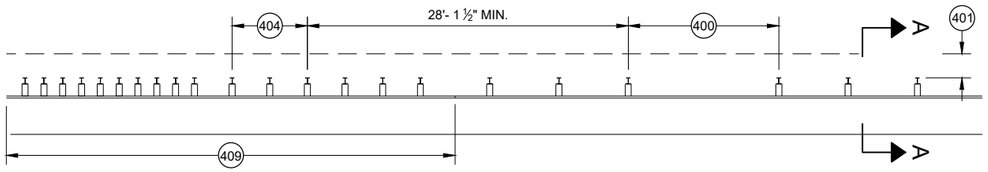
SDD 14B42 - 07c



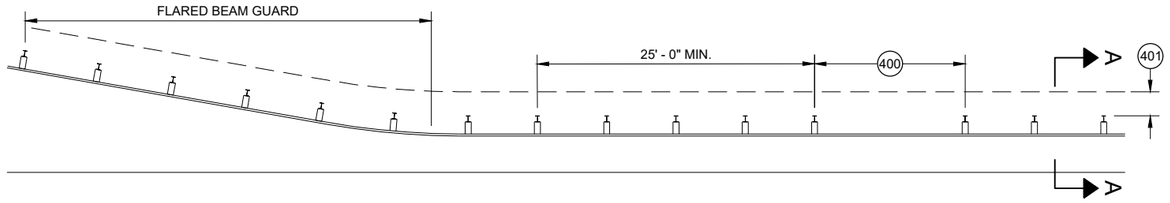
MISSING POST IN MGS GUARDRAIL



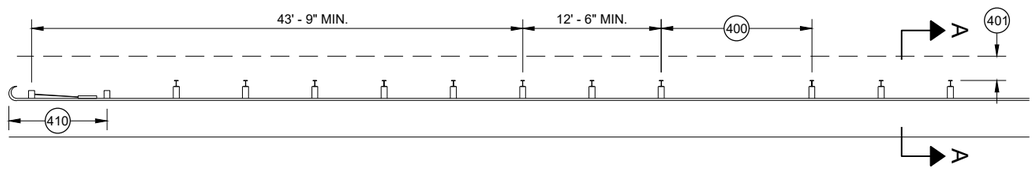
MISSING POST IN MGS GUARDRAIL NEAR EAT



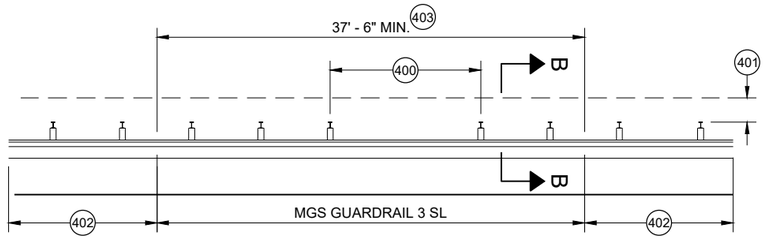
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

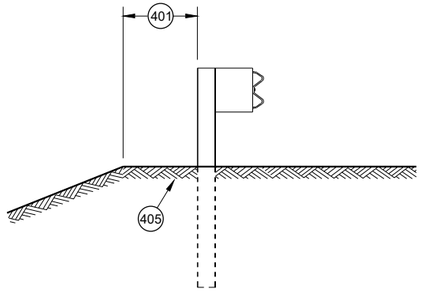


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

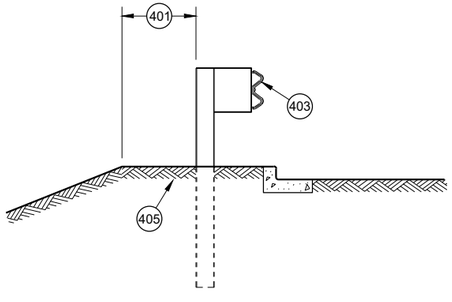


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B42 - 07d

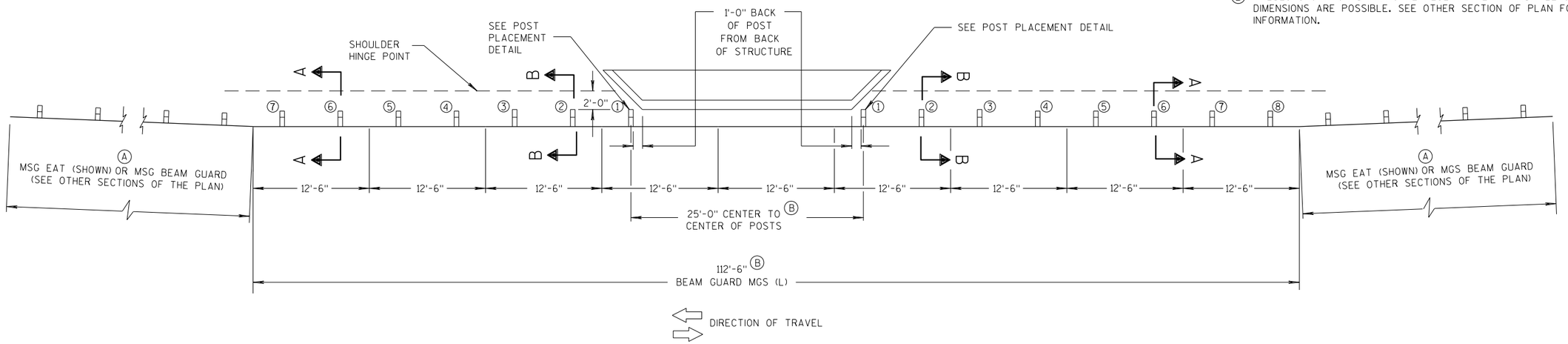
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

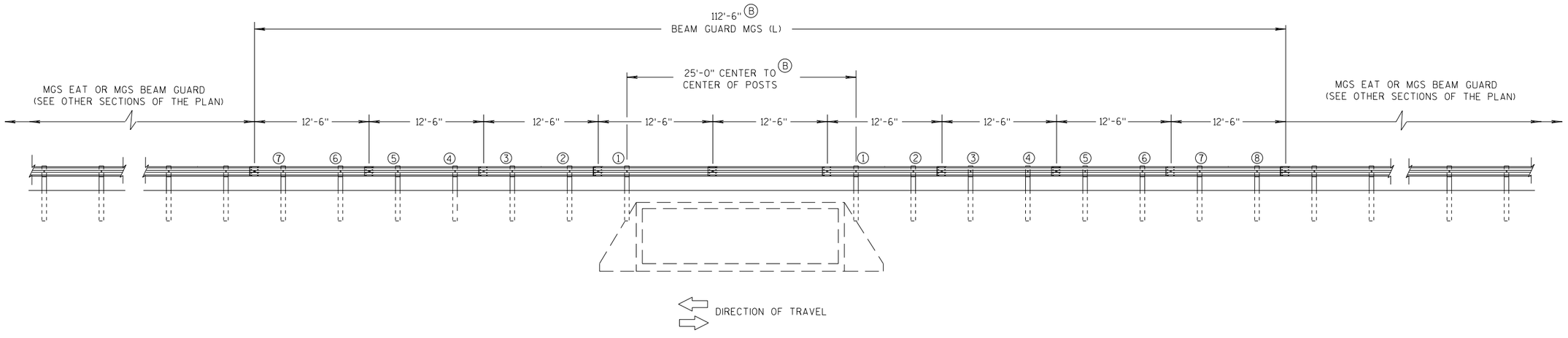
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 43-4a

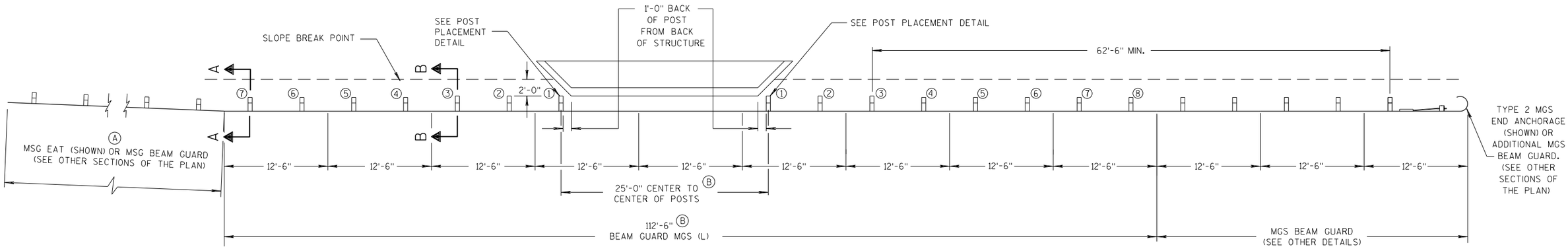
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

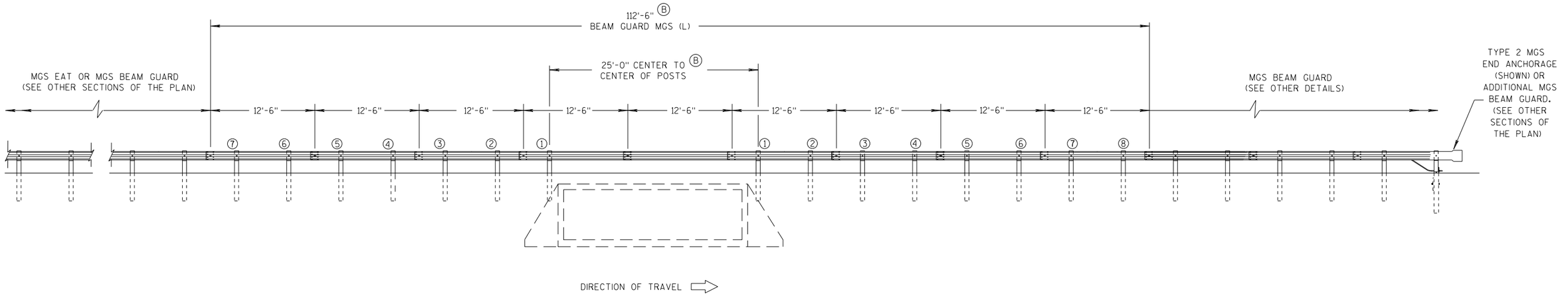
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW



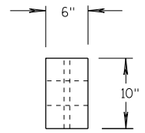
ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

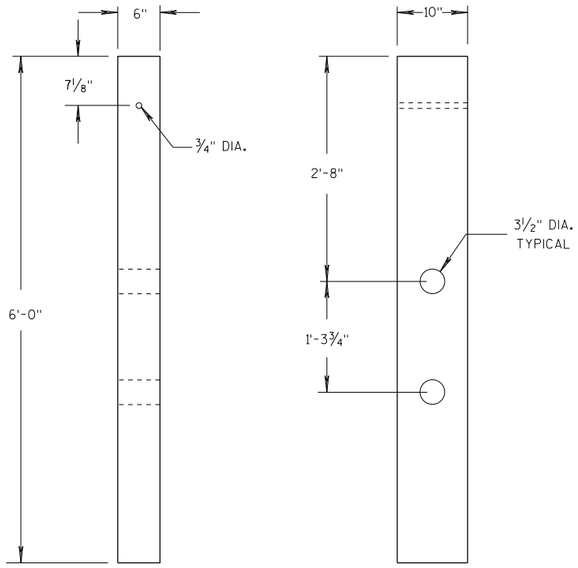
MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	248

6

S.D.D. 14 B 43-4b

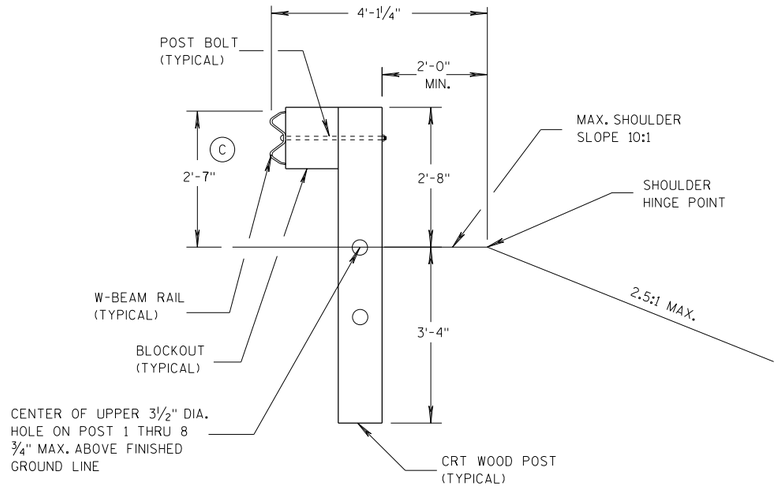


PLAN VIEW



FRONT VIEW SIDE VIEW

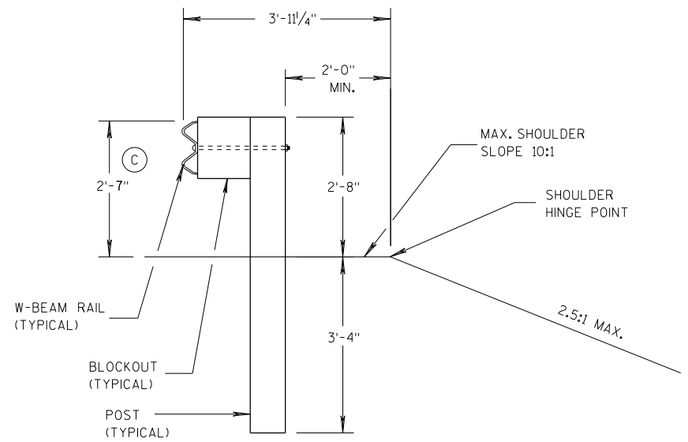
CRT WOOD POST



SECTION B-B

POSTS NO. 1-3

SEE OTHER DETAILS



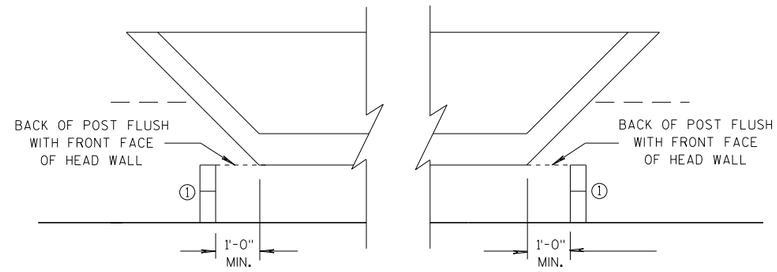
SECTION A-A

POSTS NO. 4-8

SEE OTHER DETAILS

GENERAL NOTES

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



POST PLACEMENT DETAIL

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D 249 NT
ENGINEER

6

S.D.D. 14 B 43-4c

6

S.D.D. 14 B 43-4c

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

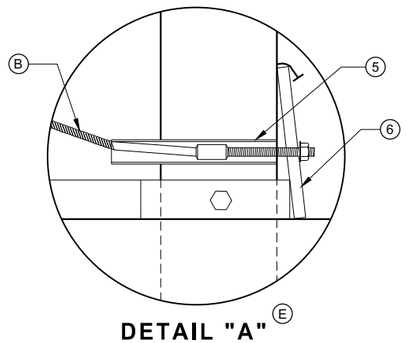
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

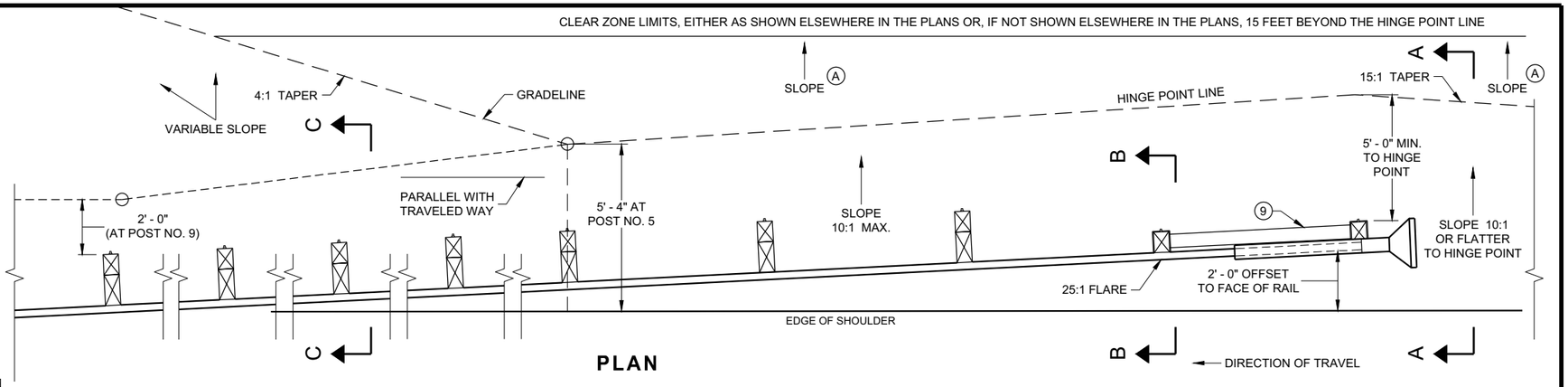
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

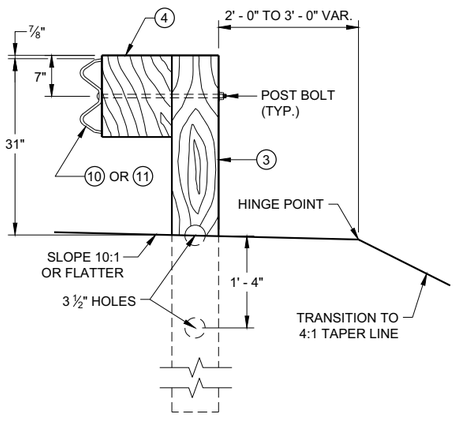
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

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

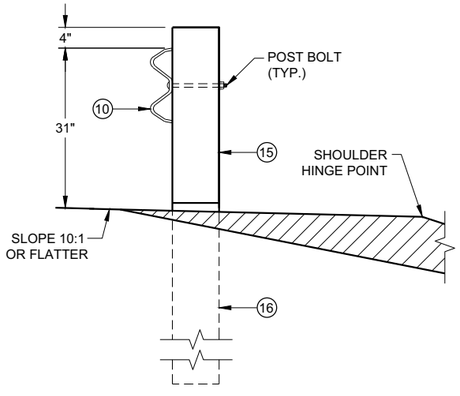


DETAIL "A" (E)

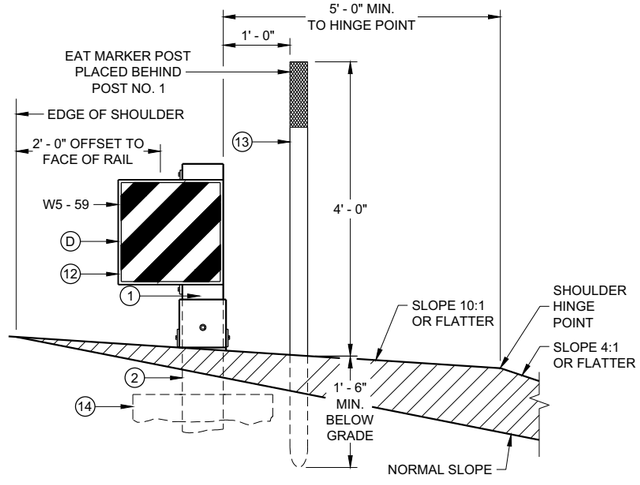




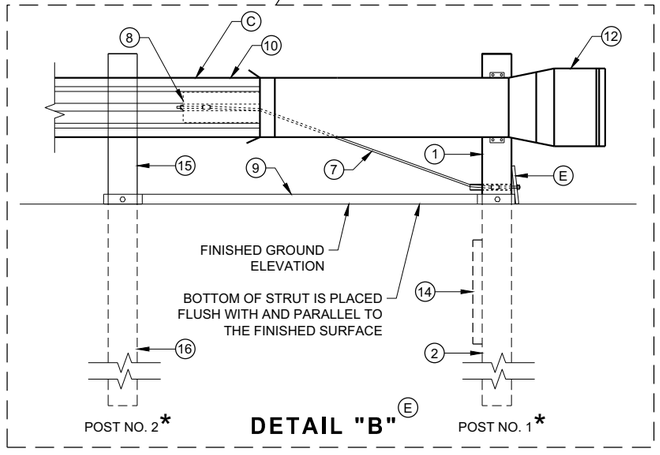
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



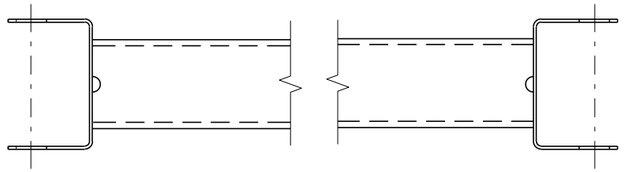
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

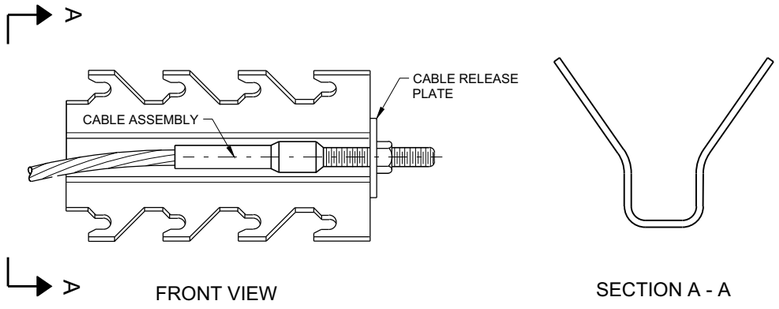
SDD 14B44 - 04a



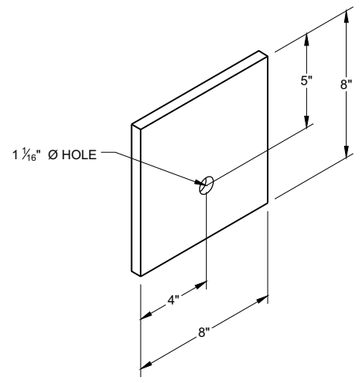
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



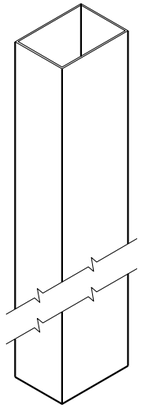
BEARING PLATE ⑥ Ⓔ

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

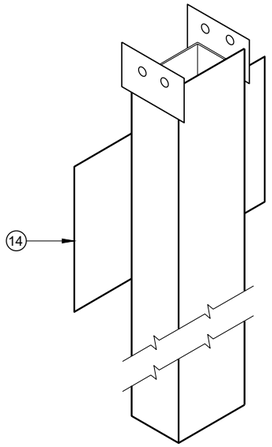
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

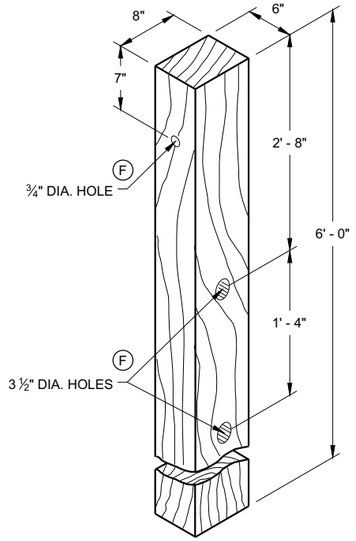
SDD 14B44 - 04b



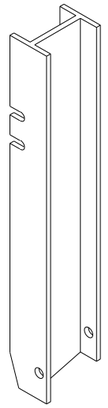
UPPER POST NO. 1 (1) (E)



LOWER POST NO. 1 (2) (E)



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



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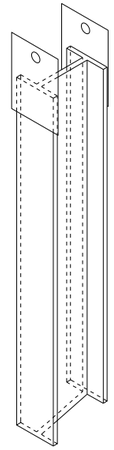

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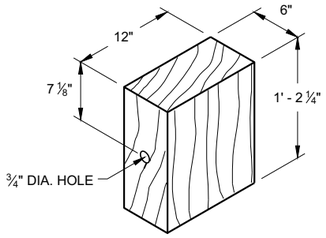
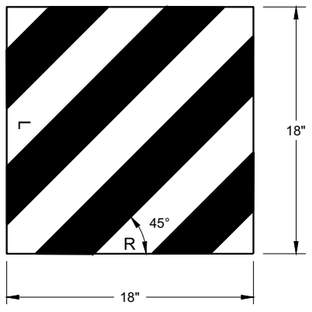
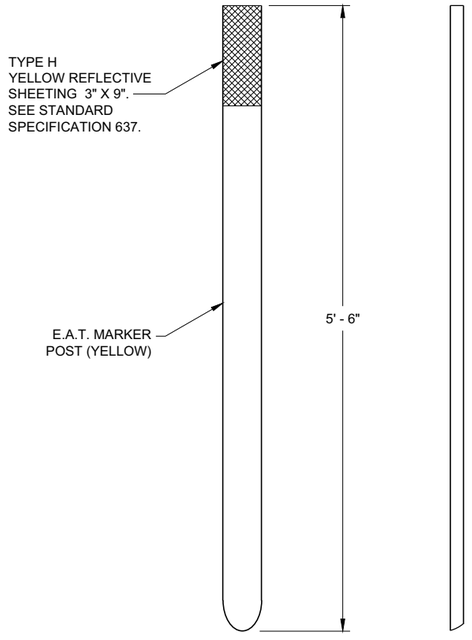


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



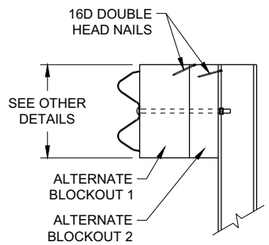
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

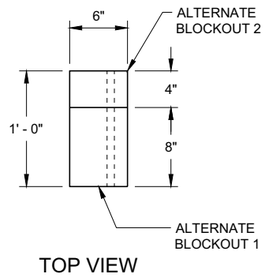


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

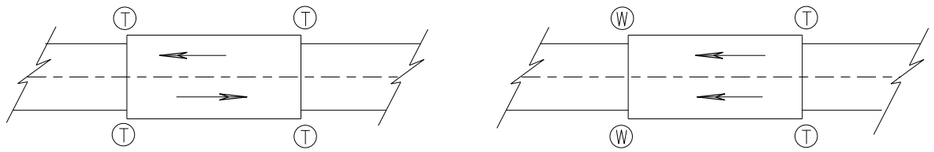
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B44 - 04c
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.

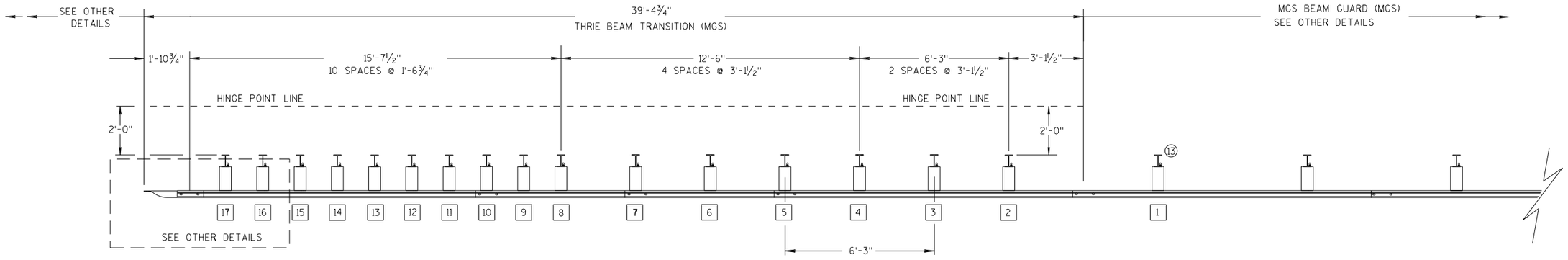
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

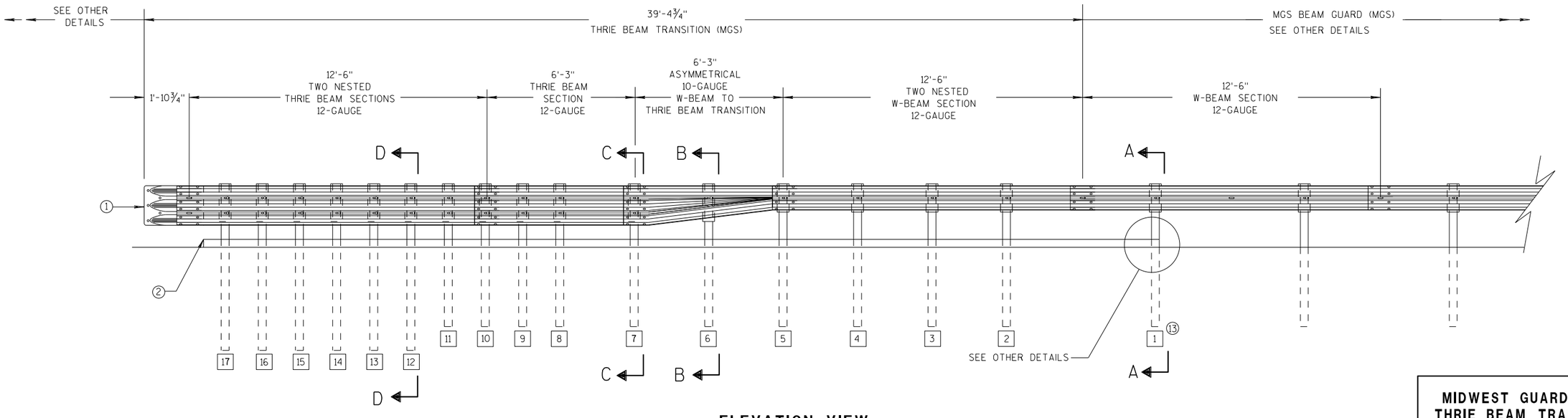
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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 253

6

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

6

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

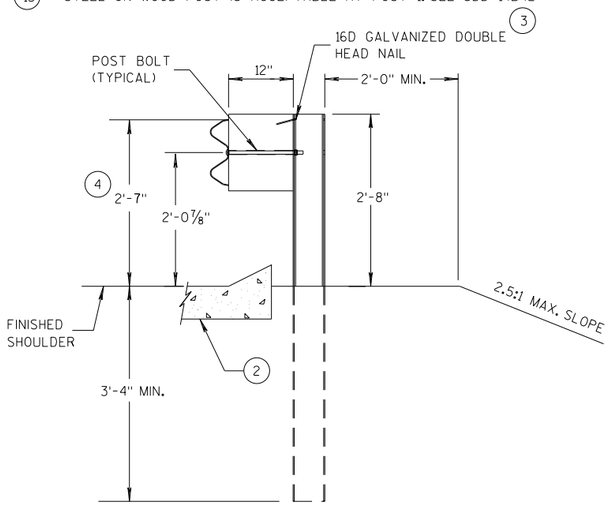
GENERAL NOTES

(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.

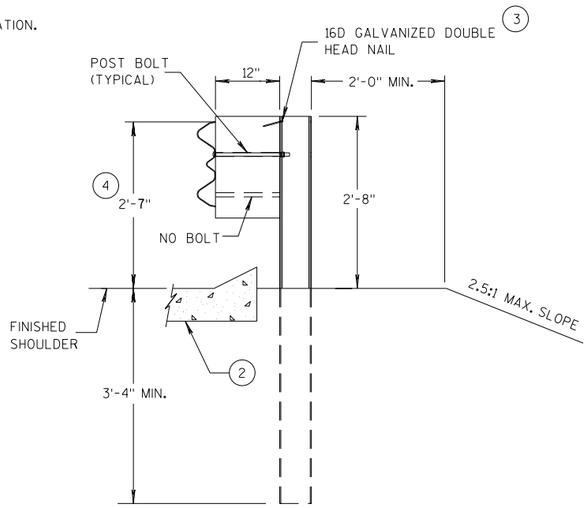
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



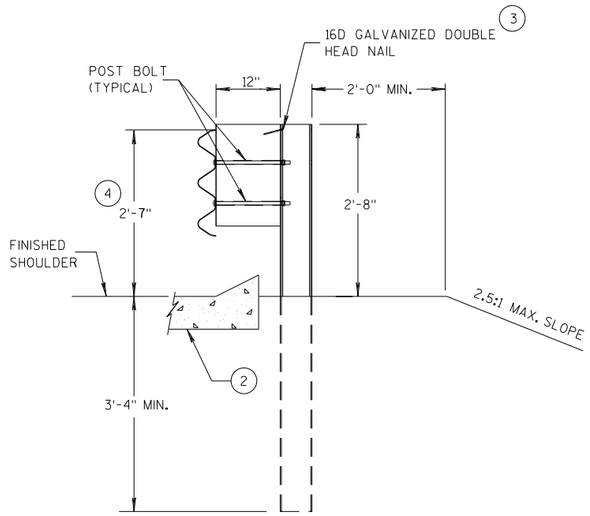
SECTION A-A (13)

POSTS 1-5



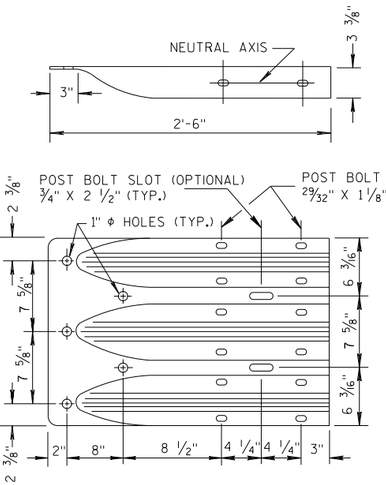
SECTION B-B

POST 6

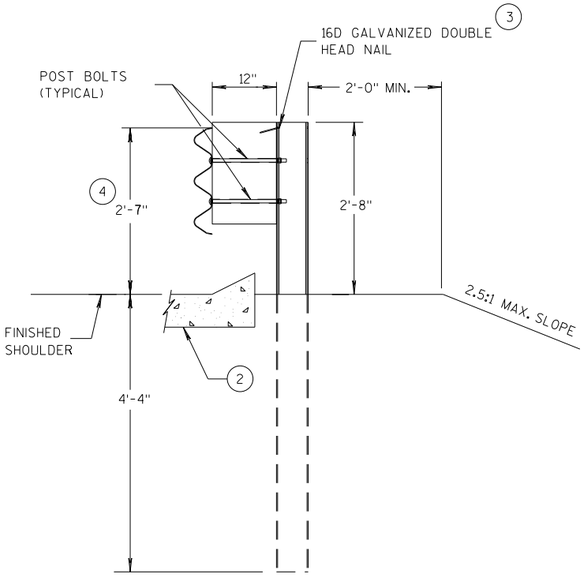


SECTION C-C

POSTS 7-11

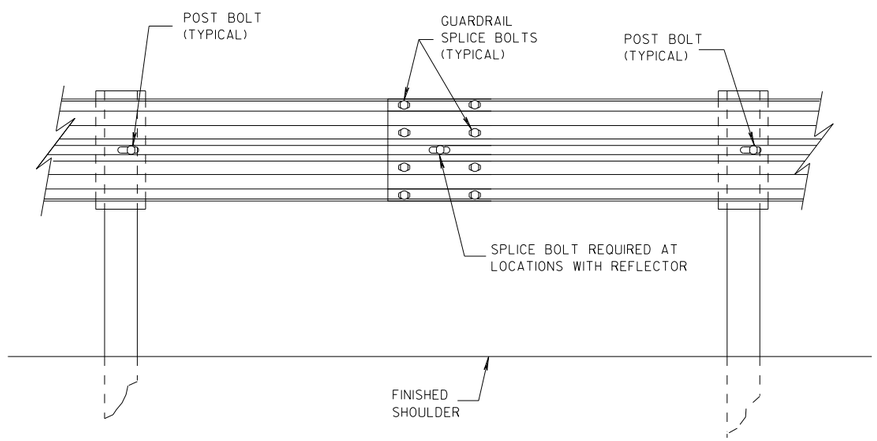


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

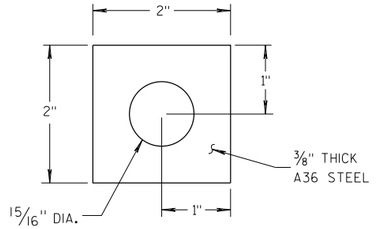
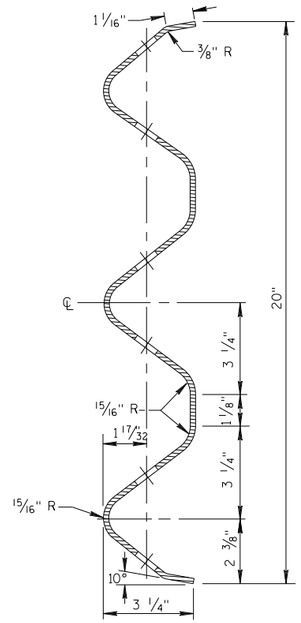


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

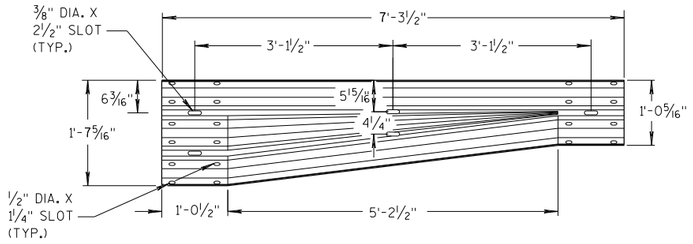
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 254

6

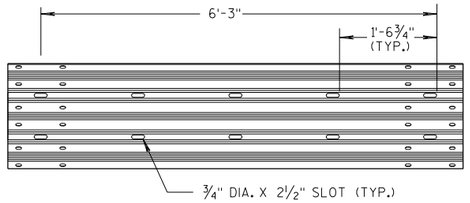
S.D.D. 14 B 45-5b

6

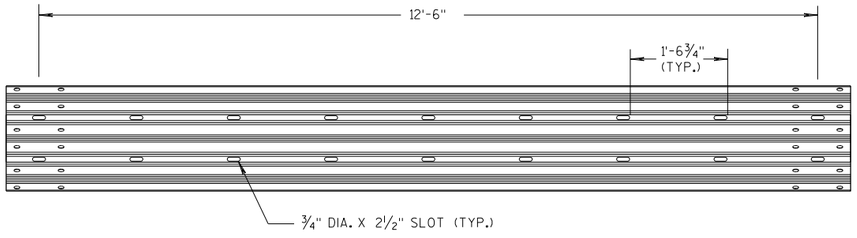
S.D.D. 14 B 45-5b



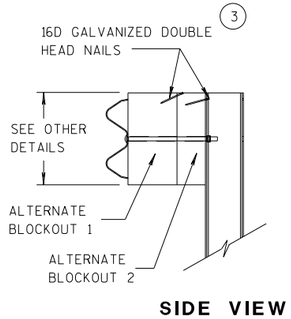
W-BEAM TO THRIE BEAM TRANSITION SECTION



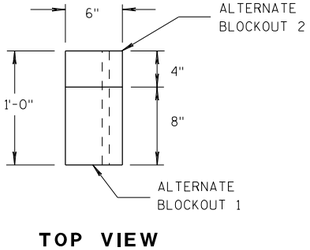
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

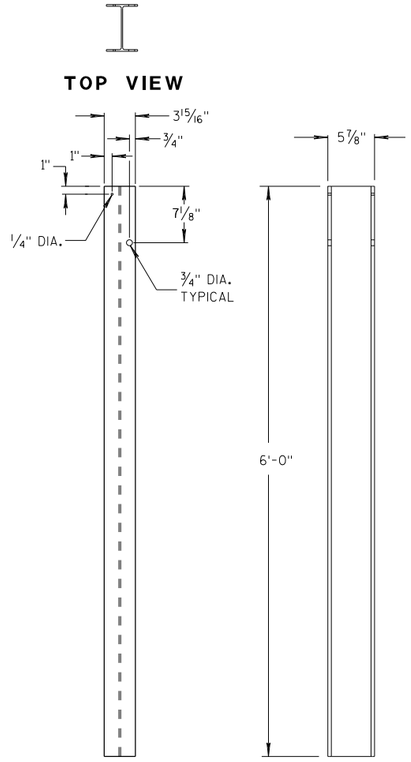


SIDE VIEW



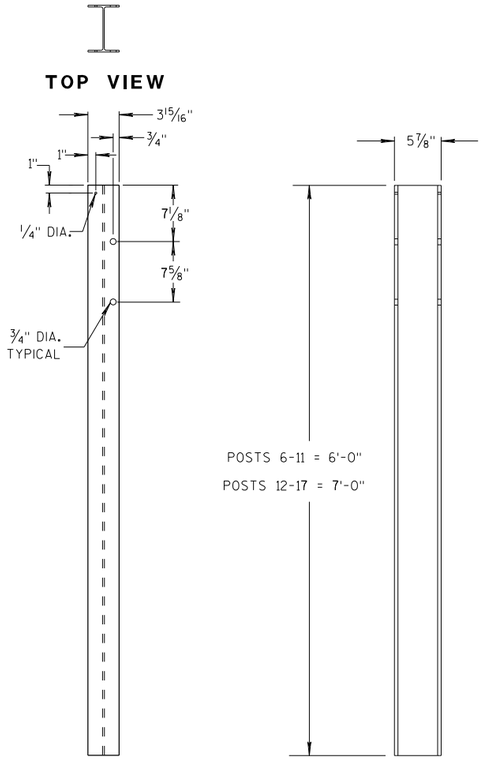
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



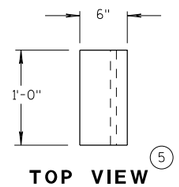
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

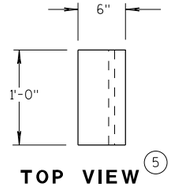


FRONT VIEW SIDE VIEW

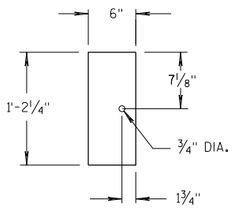
STEEL POSTS 6-17



TOP VIEW (5)

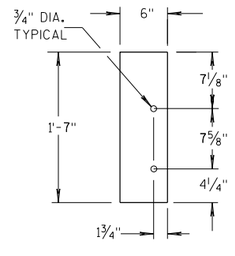


TOP VIEW (5)



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.

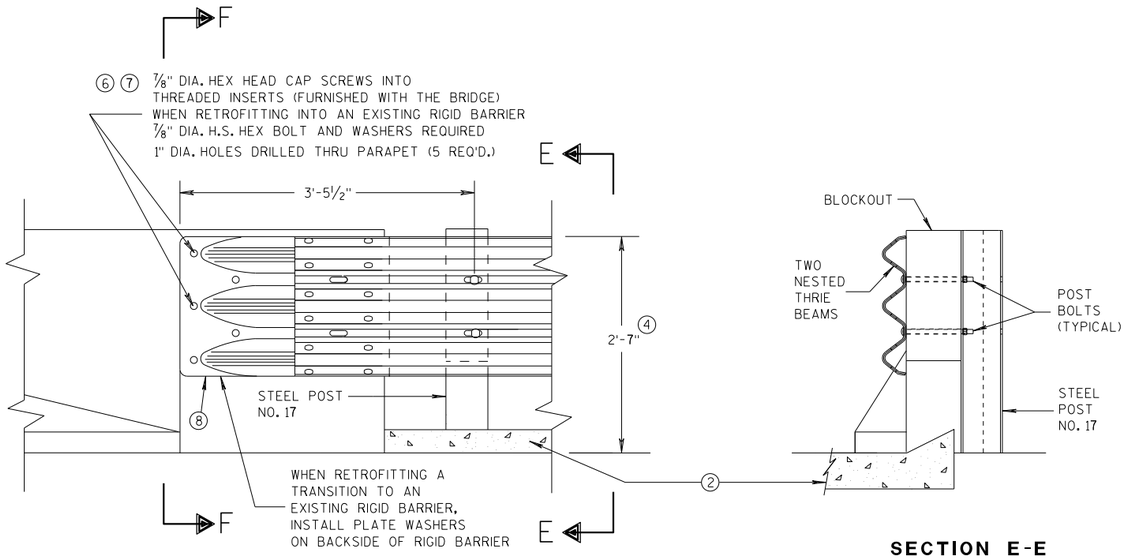
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(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 255

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

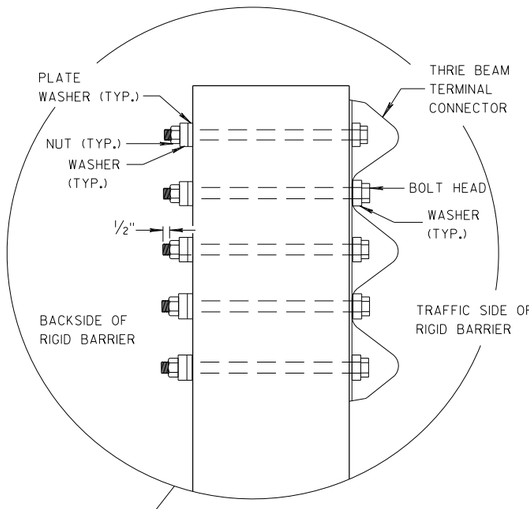
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

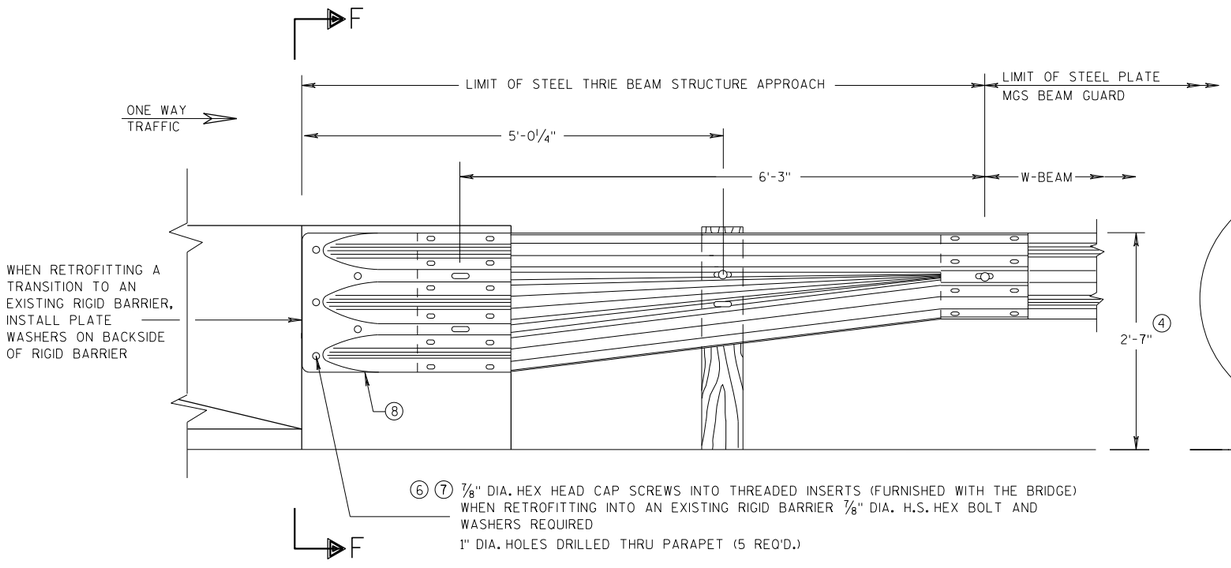
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

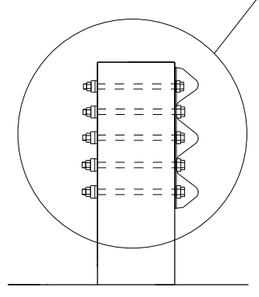
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

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

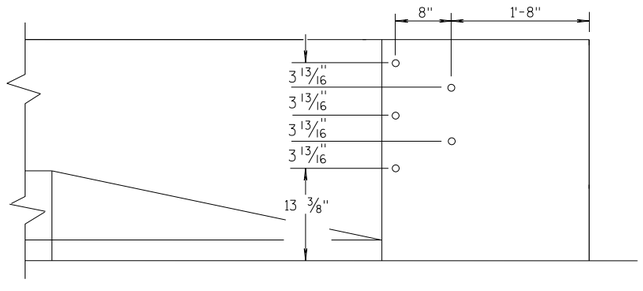




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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

6

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

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

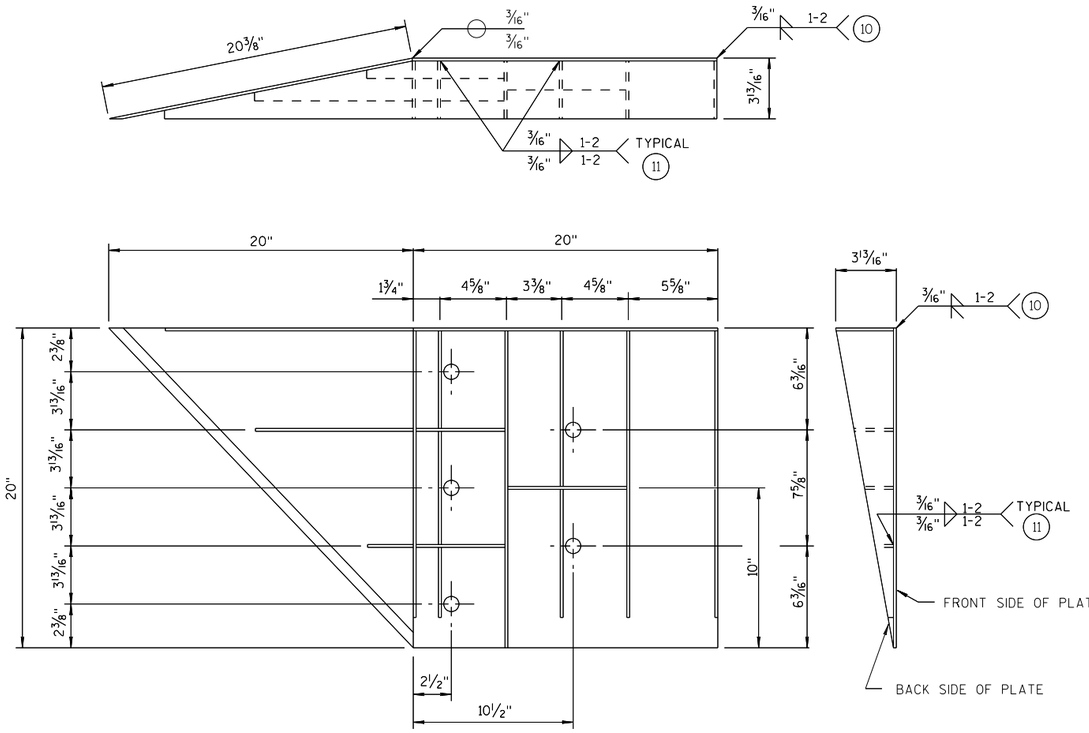
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

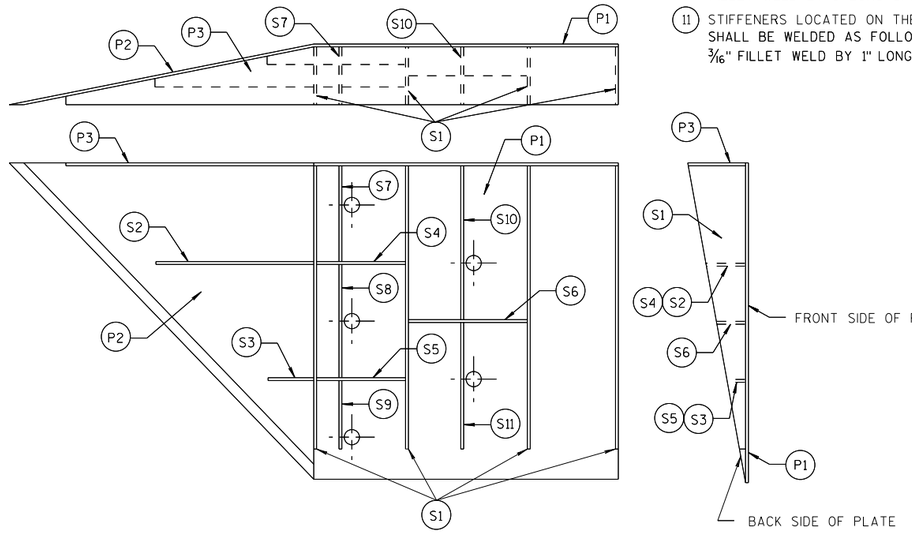


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

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

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

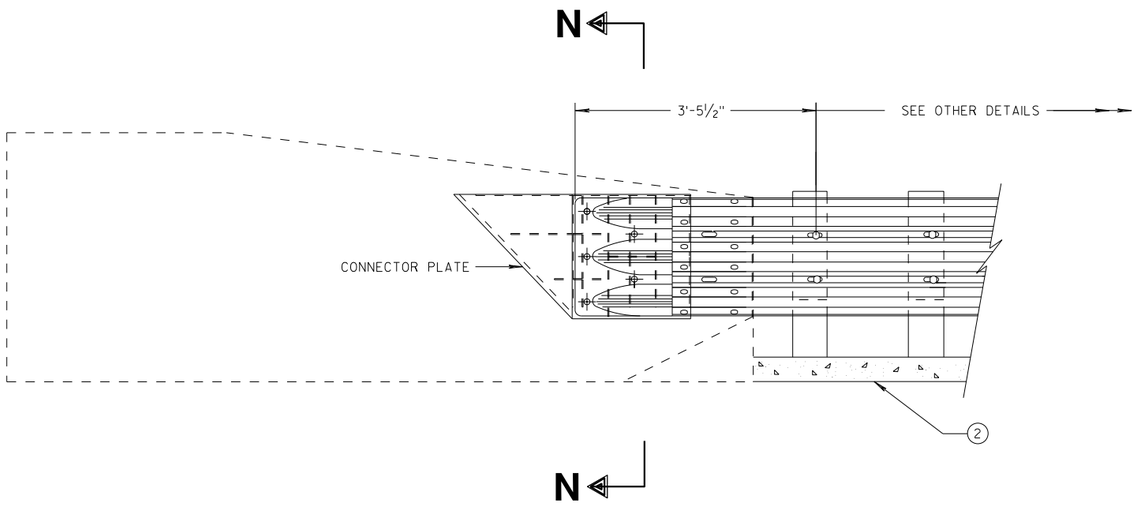
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

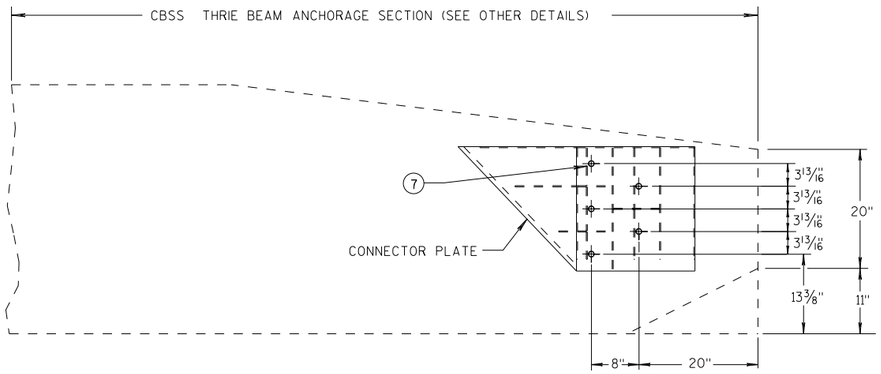
/S/ Rodney Taylor
ROADWAY STANDARDS I
UNIT SUPERVI

6

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



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



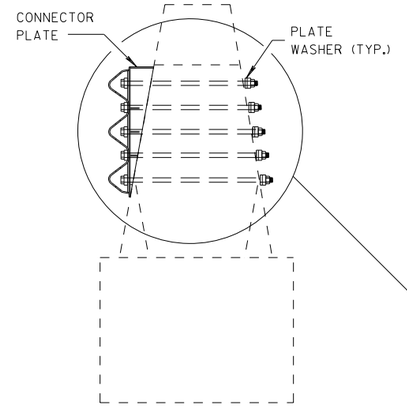
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

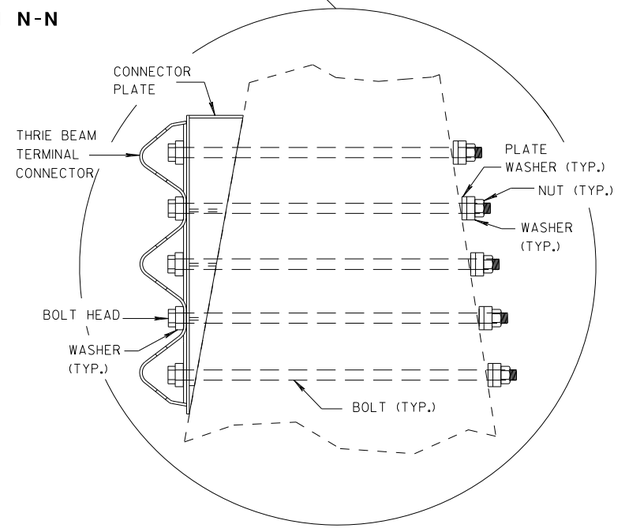
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

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



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
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UNIT SUPERVIS

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

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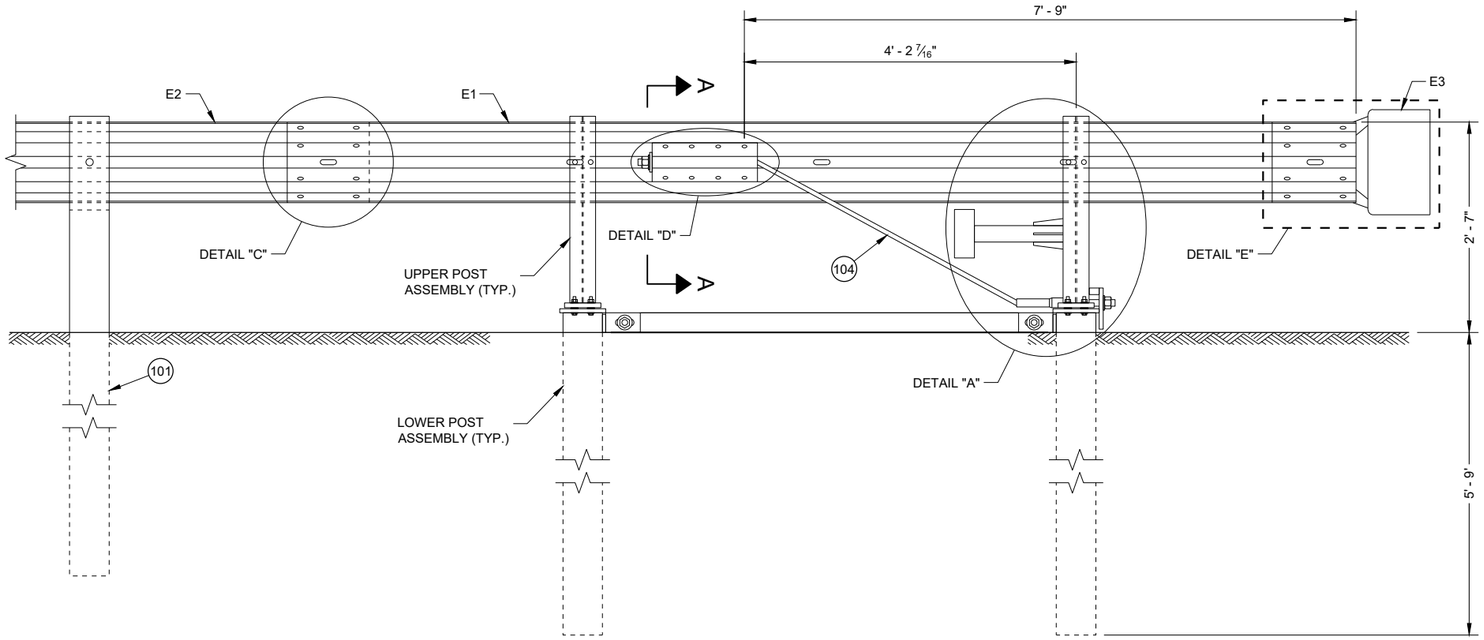
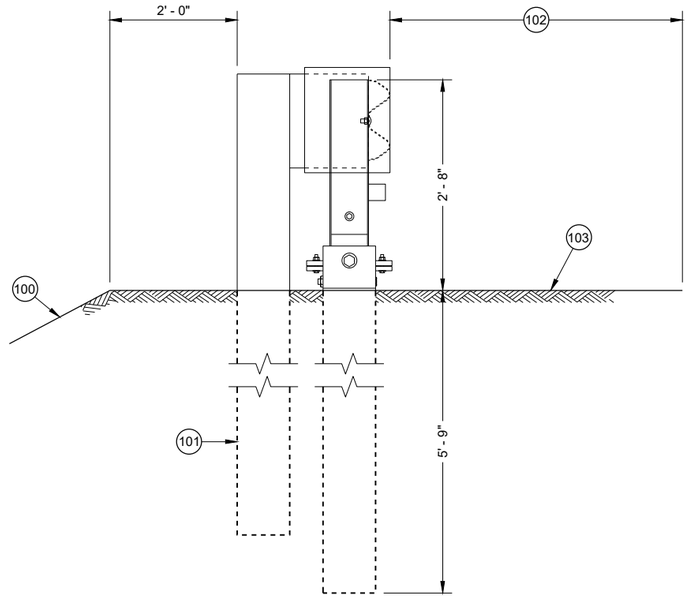
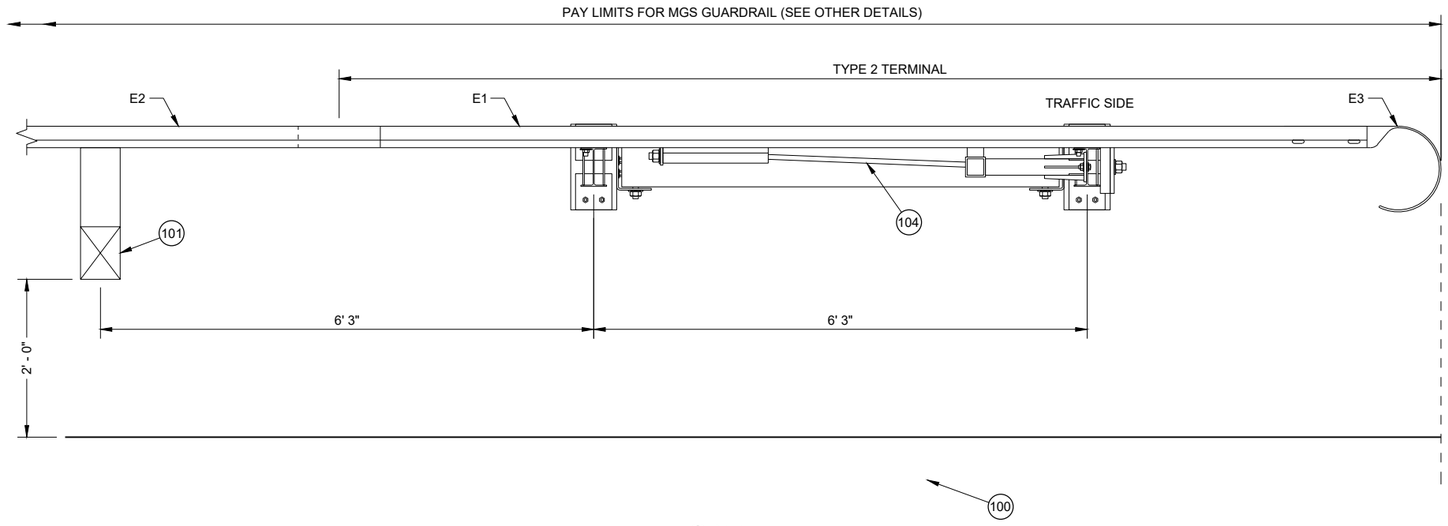
S.D.D. 14 B 45-5j



BACK VIEW
TYPE 2 TERMINAL



SIDE VIEW
TYPE 2 TERMINAL



TOP VIEW
TYPE 2 TERMINAL

GENERAL NOTES

(100) MAXIMUM SLOPE IS 2.5:1.

(101) SEE SDD 14B42 FOR MORE INFORMATION.

(102) SHOULDER

(103) MAXIMUM SLOPE IS 10:1.

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

MIDWEST GUARDRAIL SYSTEM (MGS)
TYPE 2 TERMINAL

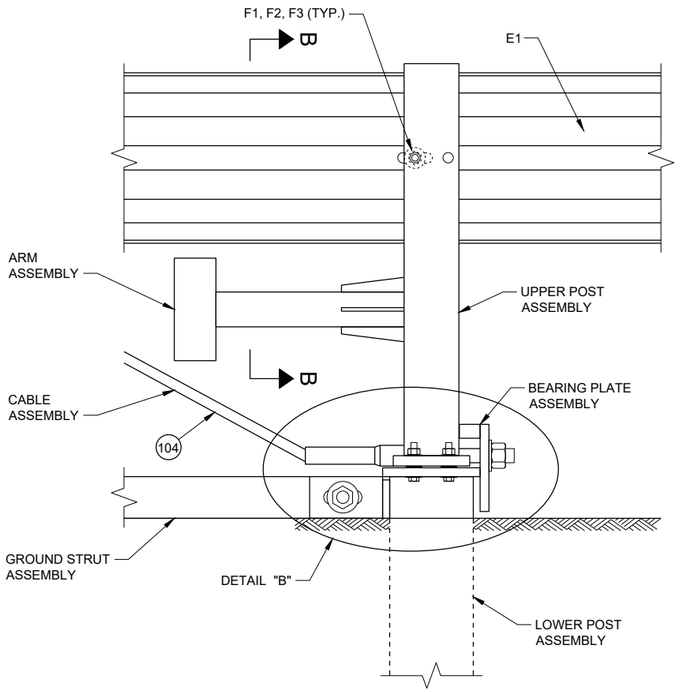
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

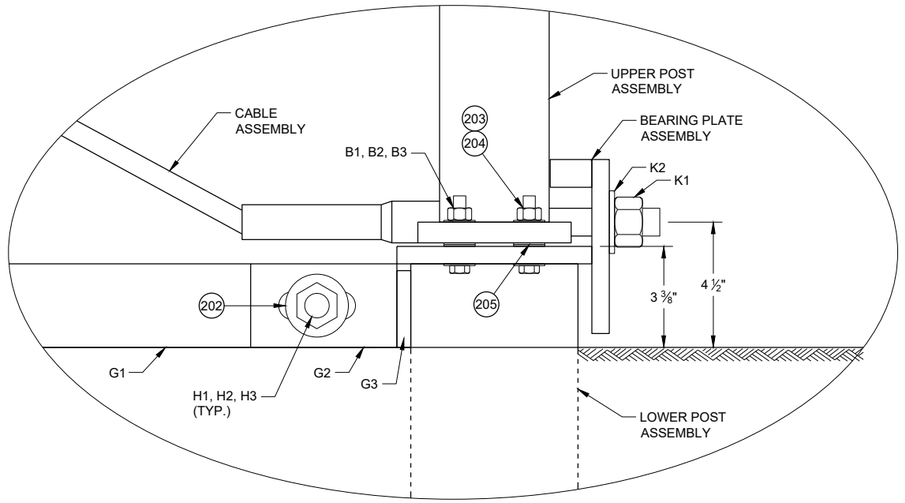
6

SDD 14B47 - 03a

SDD 14B47 - 03a



DETAIL "A"



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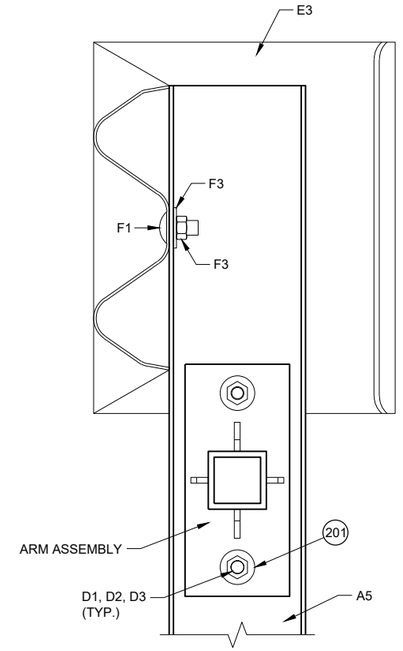
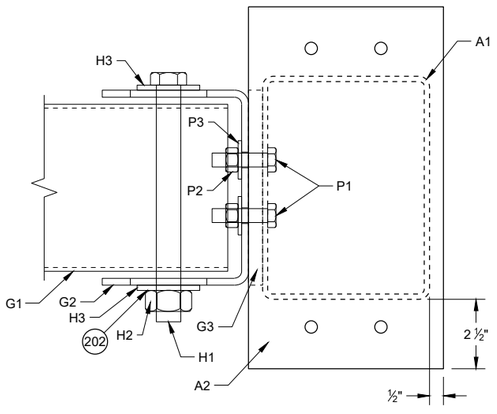
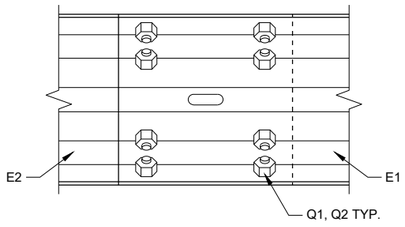


SECTION B - B

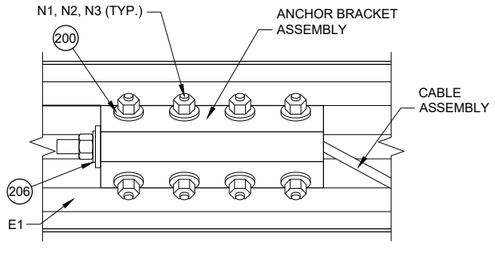


TOP VIEW

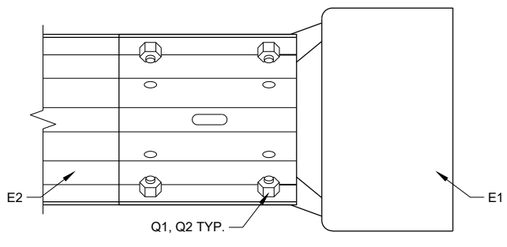
GROUND STRUT CONNECTION DETAIL



DETAIL "C"



DETAIL "D"



DETAIL "E"

GENERAL NOTES

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

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

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

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

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

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

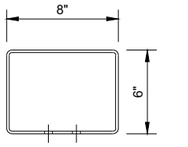
(206) INSTALL ONE WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

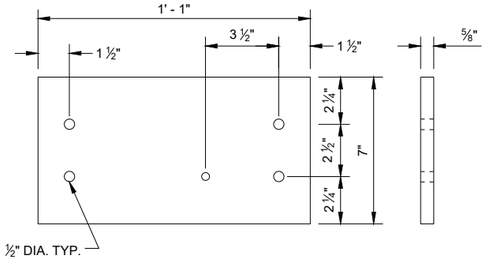
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

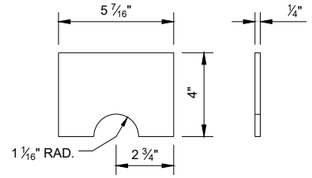
SDD 14B47 - 03b



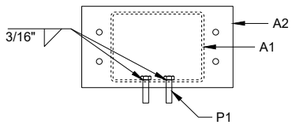
TOP VIEW



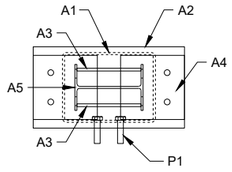
LOWER PLATE (A2)

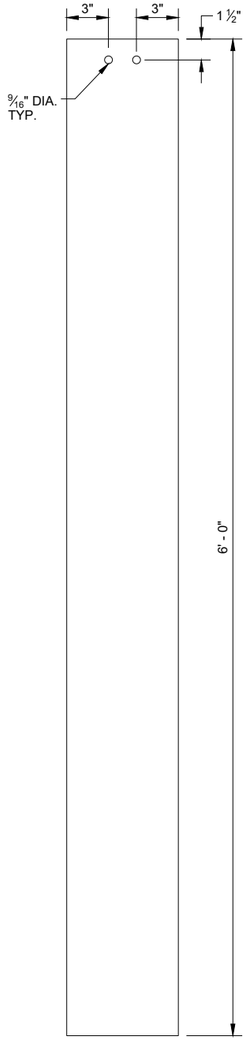


POST GUSSET (A3)



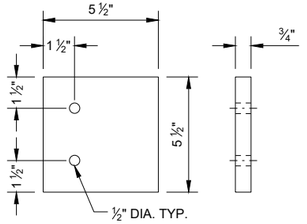
PLAN VIEW



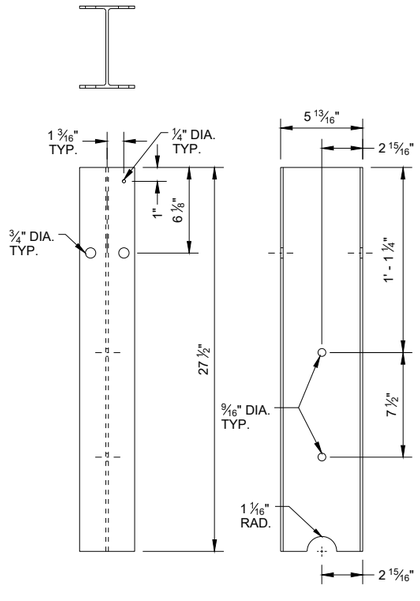


SIDE VIEW

FOUNDATION TUBE (A1)

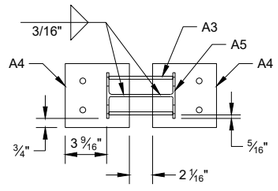


UPPER PLATE (A4)

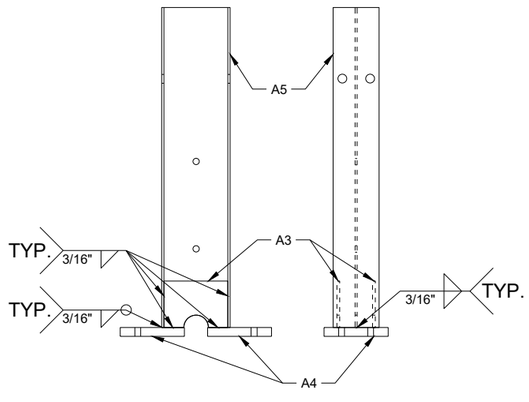


FRONT VIEW **SIDE VIEW**

TYPE 2 POST (A5)

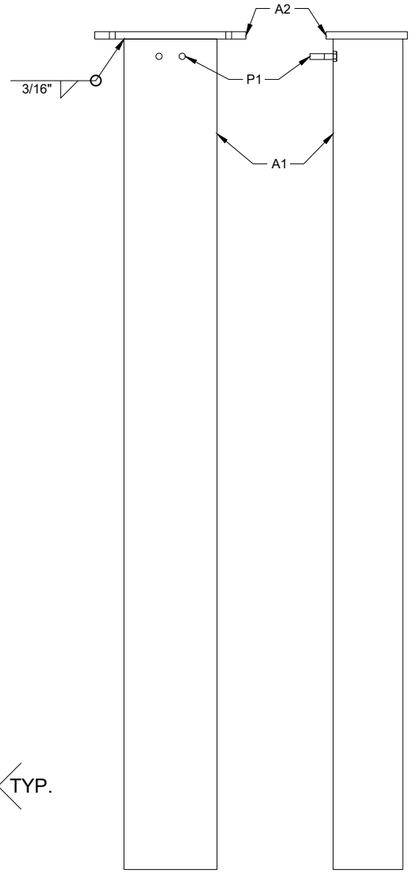


PLAN VIEW



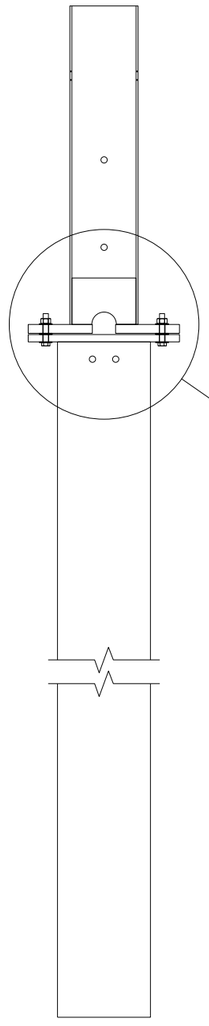
SIDE VIEW **FRONT VIEW**

UPPER POST ASSEMBLY

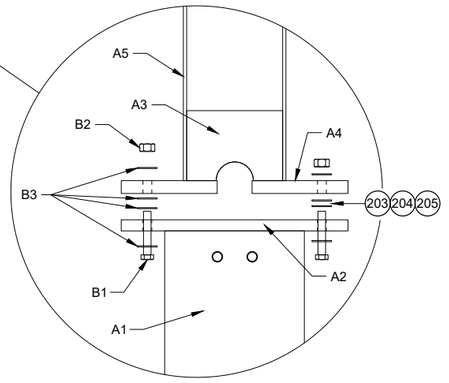


FRONT VIEW **SIDE VIEW**

LOWER POST ASSEMBLY



ASSEMBLED POST



POST CONNECTION DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA 261

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SDD 14B47 - 03c

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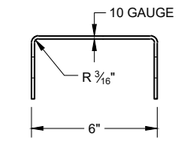
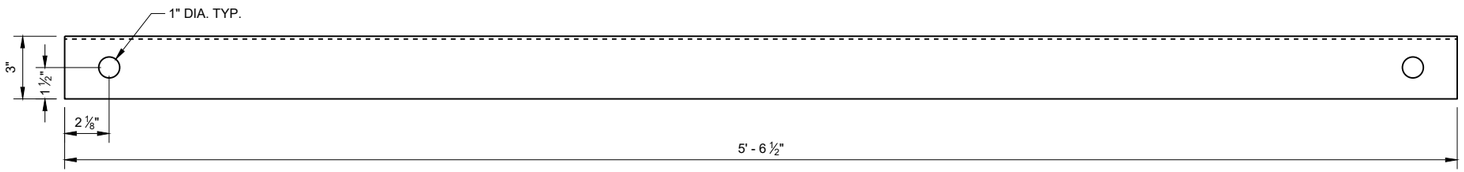
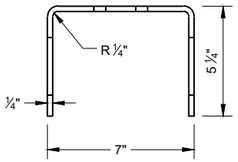


SIDE VIEW

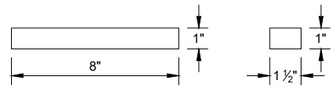


FRONT VIEW

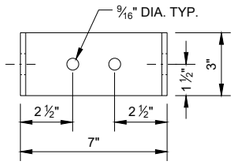
GROUND STRUT CHANNEL (G1)



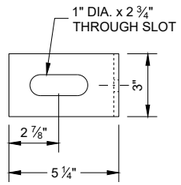
TOP VIEW



BEARING PLATE FLANGE (L2)

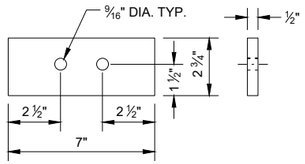


FRONT VIEW

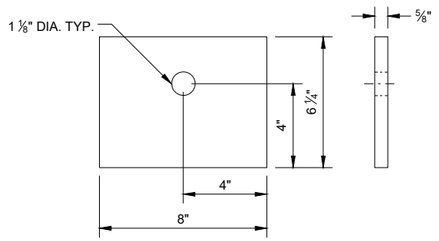


SIDE VIEW

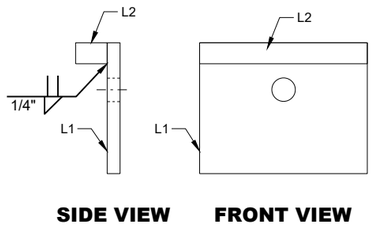
GROUND STRUT CONNECTOR (G2)



GROUND STRUT PLATE (G3)



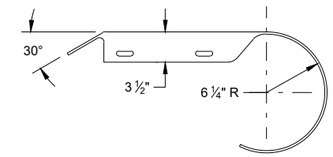
BEARING PLATE (L1)



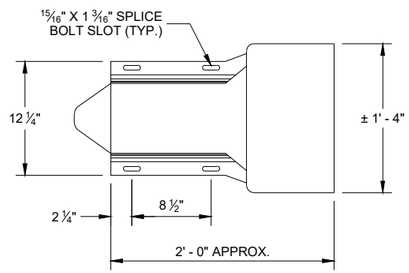
SIDE VIEW

FRONT VIEW

BEARING PLATE ASSEMBLY

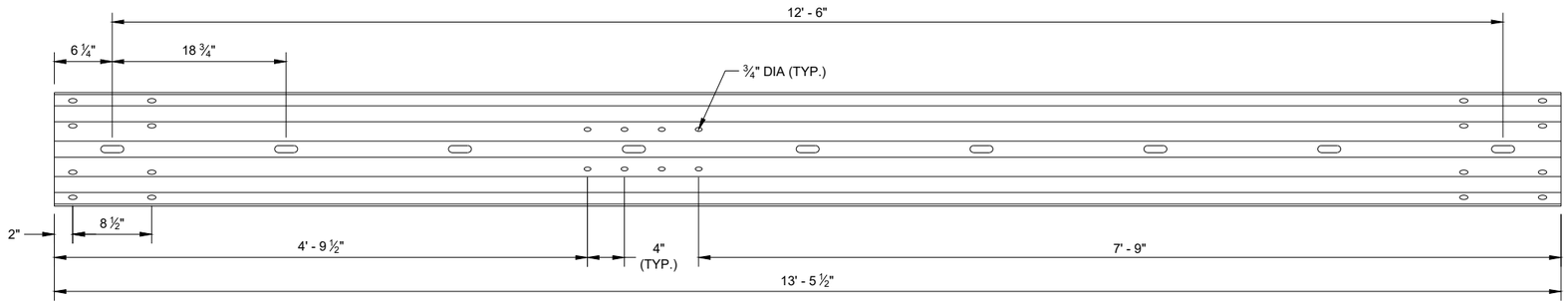


PLAN VIEW

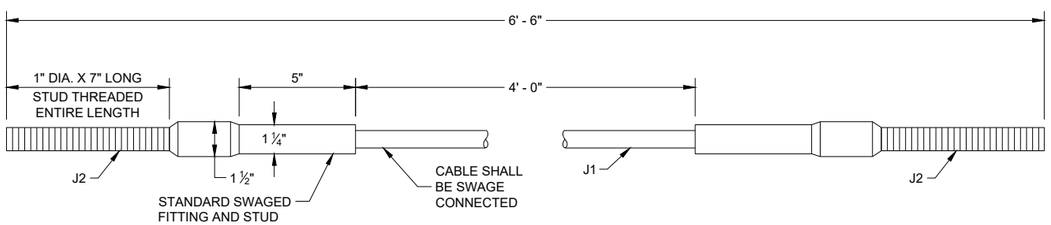


ELEVATION VIEW

ROUNDED BUFFER END (E3)



TYPE 2 GUARDRAIL (E1)



CABLE ASSEMBLY

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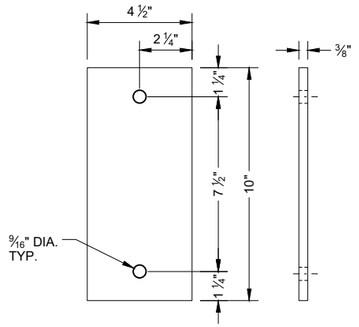
SDD 14B47 - 03d

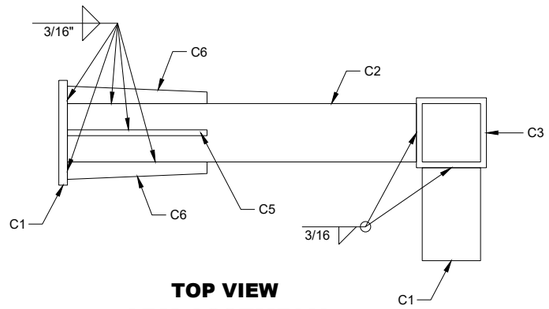
SDD 14B47 - 03d

MIDWEST GUARDRAIL SYSTEM (MGS)
TYPE 2 TERMINAL

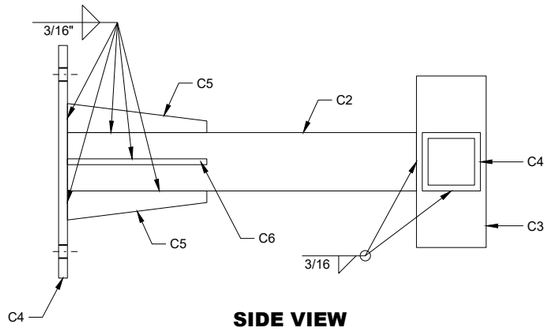
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



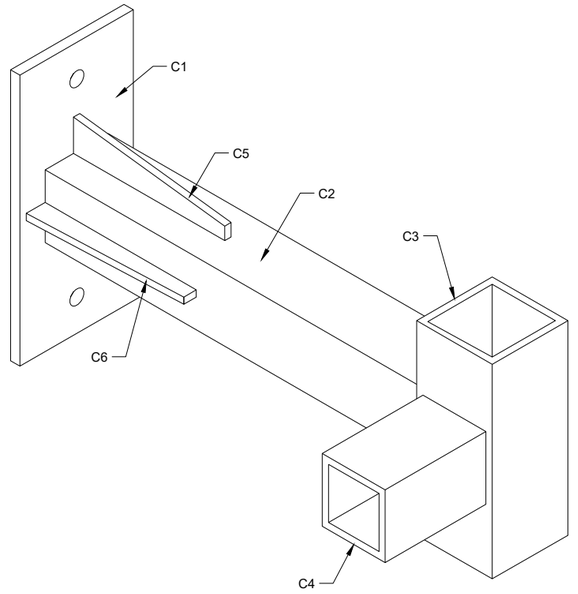
ARM PLATE (C1)



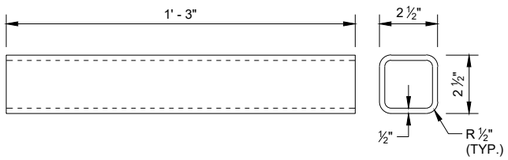
TOP VIEW
ARM ASSEMBLY



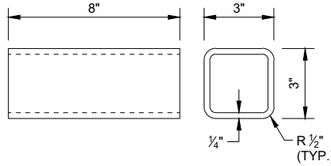
SIDE VIEW
ARM ASSEMBLY



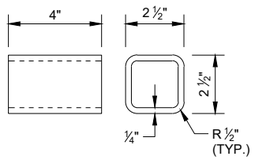
ISOMETRIC VIEW
ARM ASSEMBLY



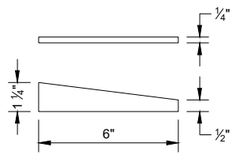
ARM TUBE 1 (C2)



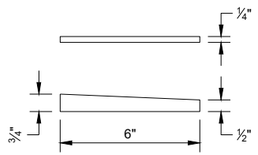
ARM TUBE 2 (C3)



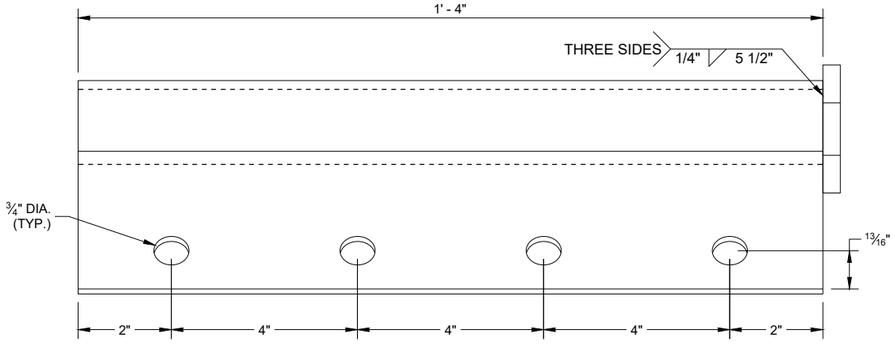
ARM TUBE 3 (C4)

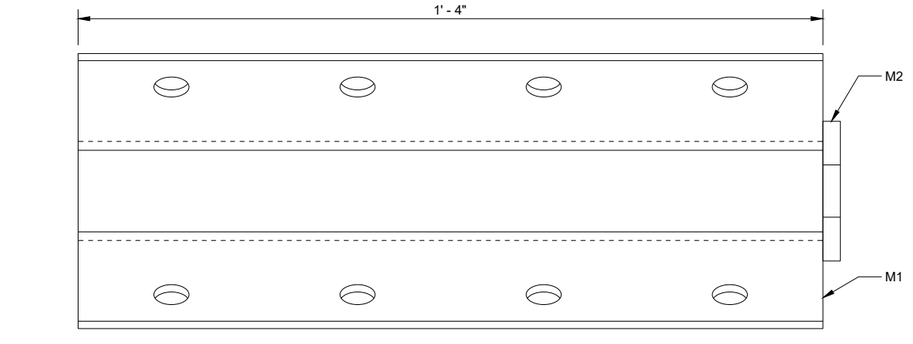


ARM GUSSET PLATE 1 (C5)

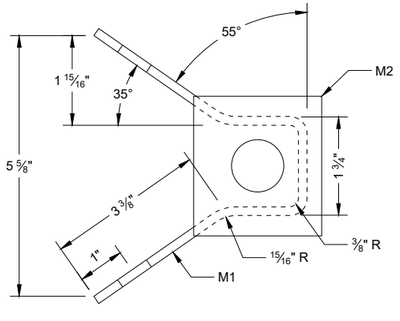


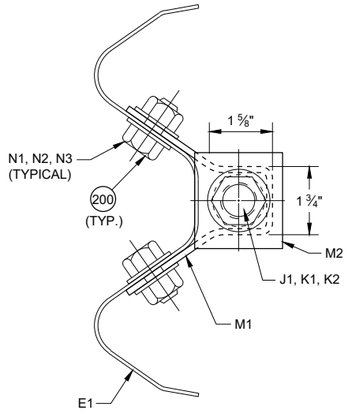
ARM GUSSET PLATE 2 (C6)

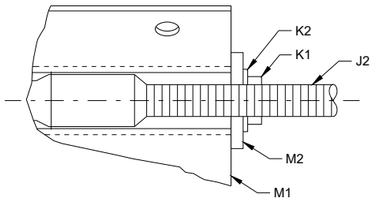




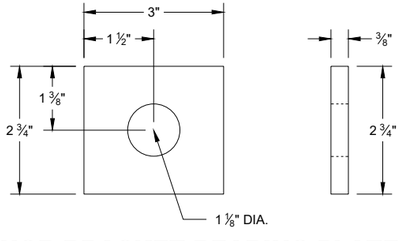
ANCHOR BRACKET (M1, M2)







SECTION A - A



ANCHOR BRACKET BEARING PLATE (M2)

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD14B47 - 03e

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

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

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MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

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

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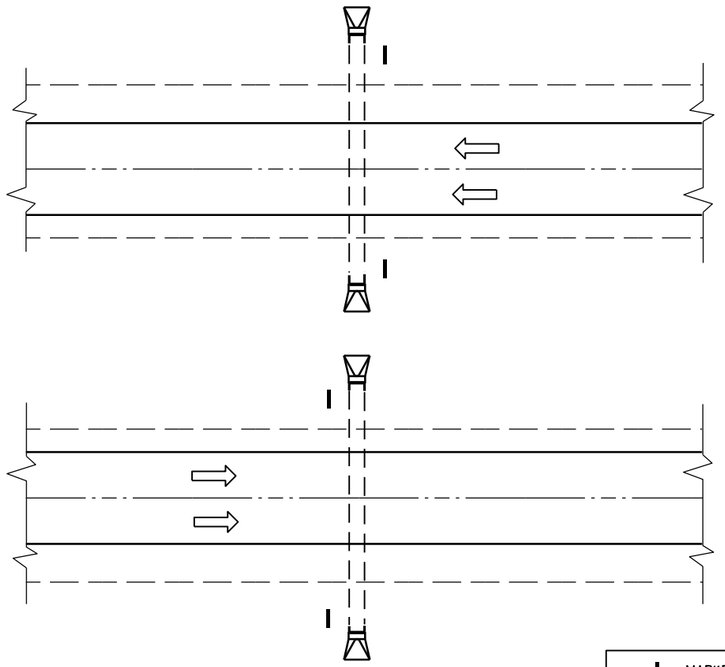
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

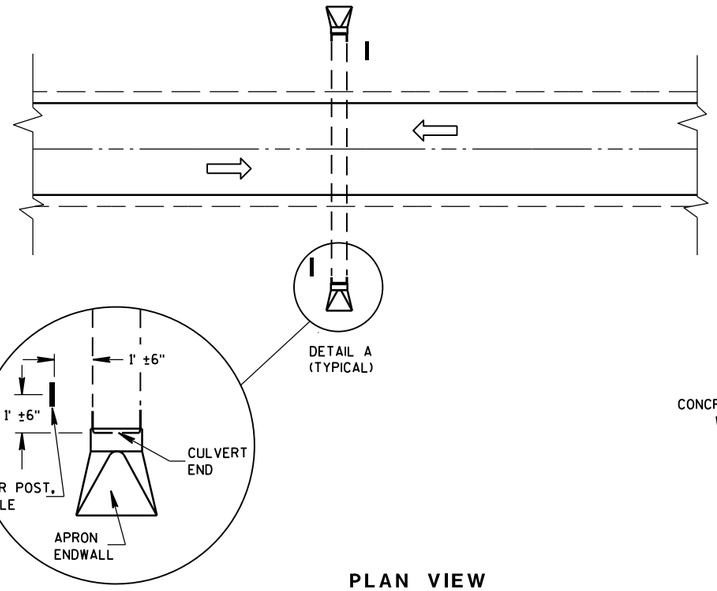
APPROVED
August 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

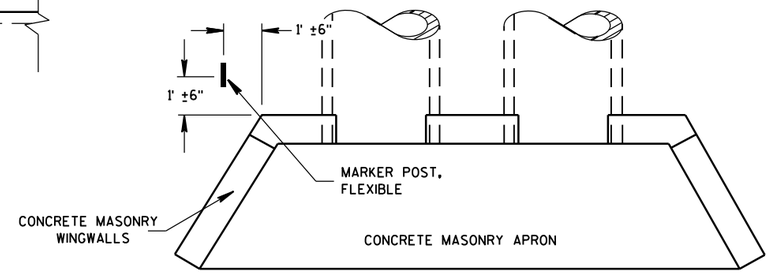
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

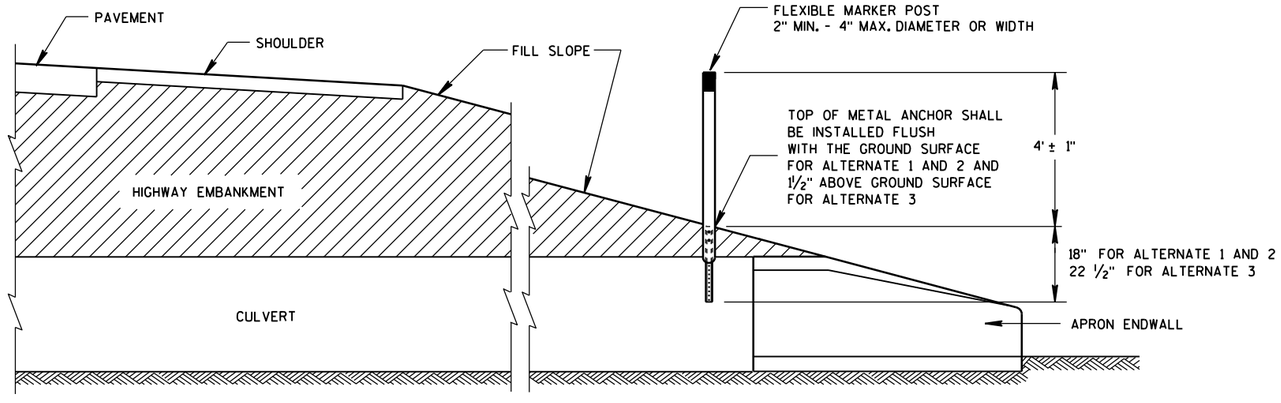
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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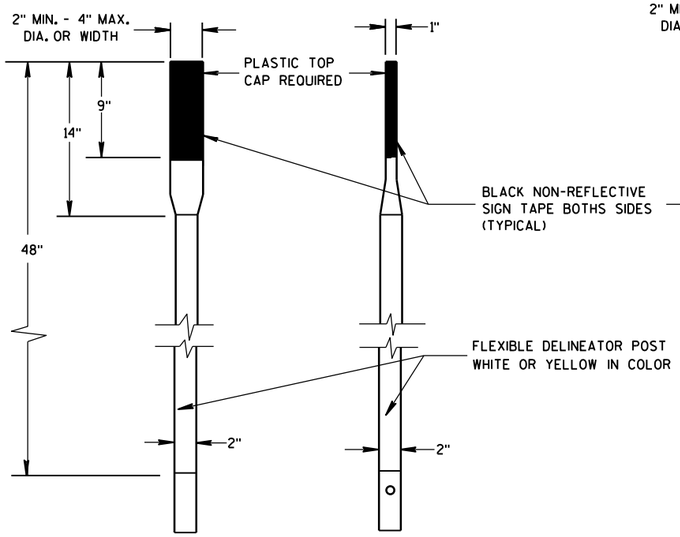
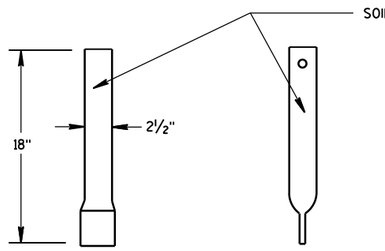
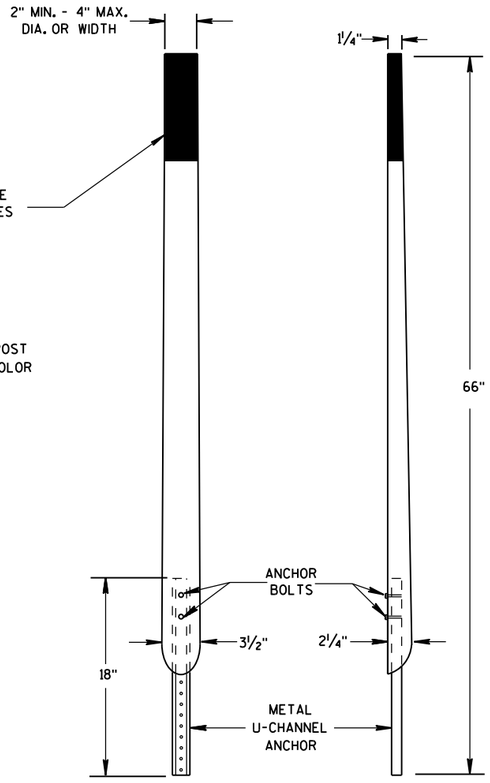
S.D.D. 15 A 3-2a





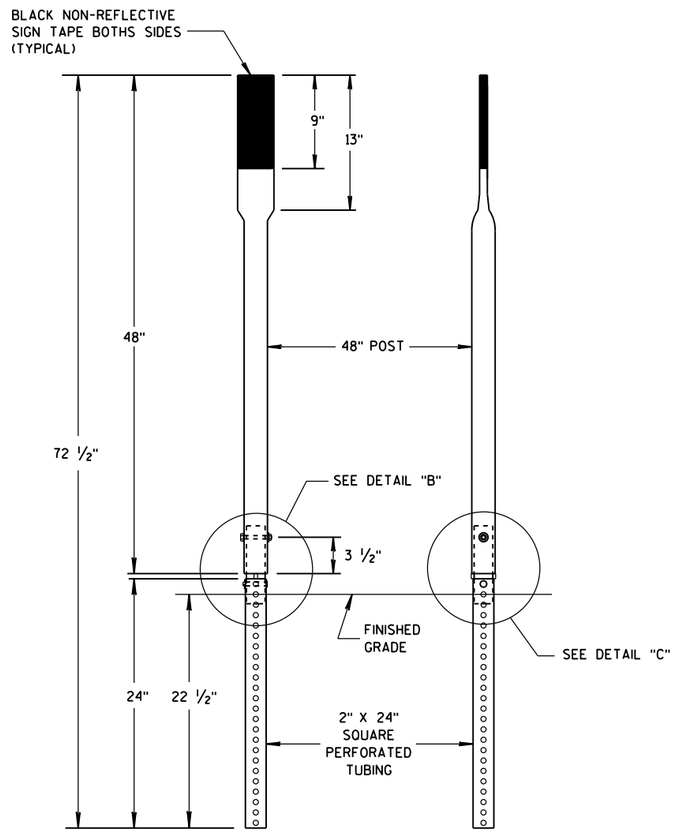
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

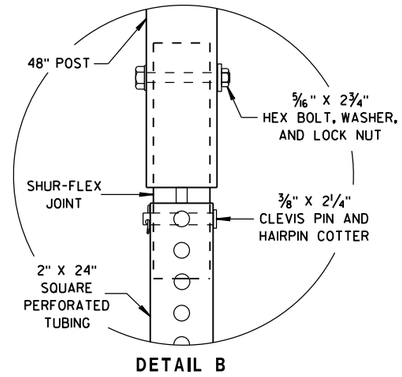
ALTERNATE 2



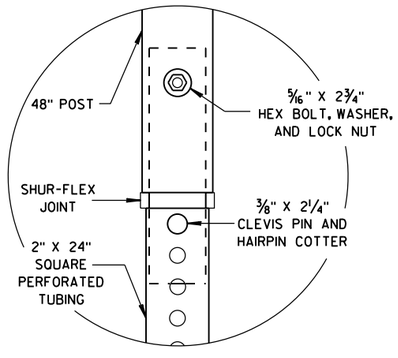
FRONT VIEW SIDE VIEW

ALTERNATE 3

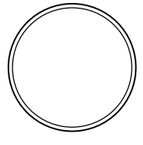
FLEXIBLE MARKER POSTS



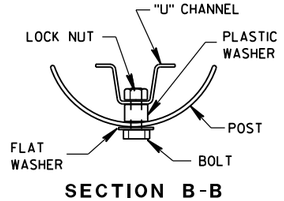
DETAIL B



DETAIL C



SECTION A-A



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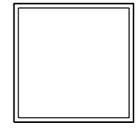
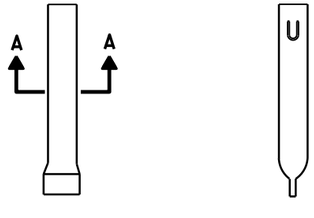
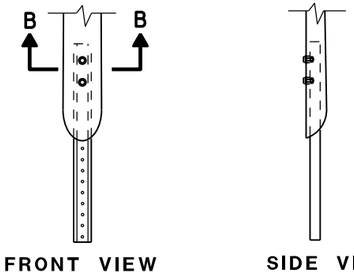


SECTION C-C



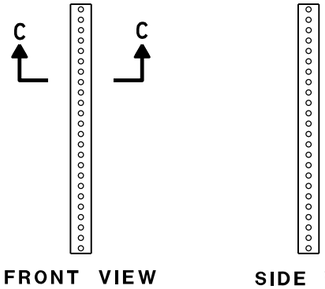
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

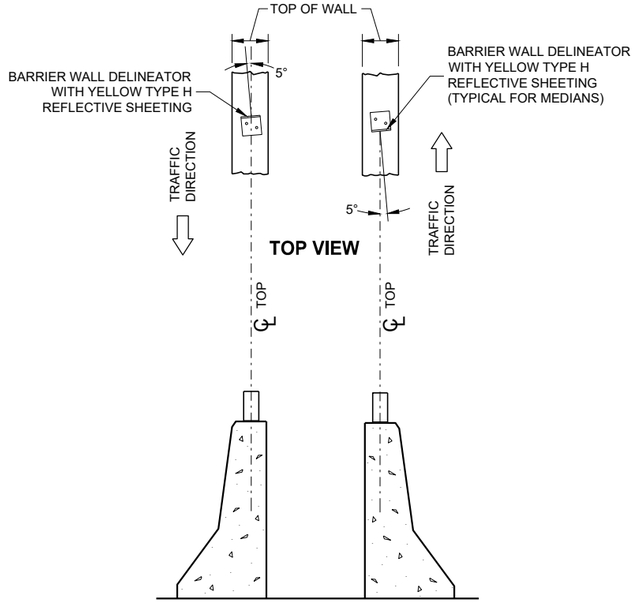
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

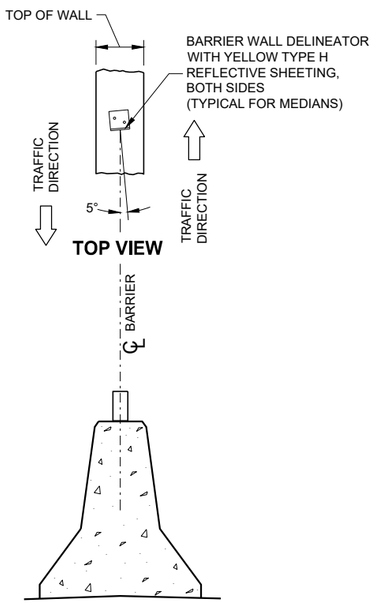
S.D.D. 15 A 3-2b

6

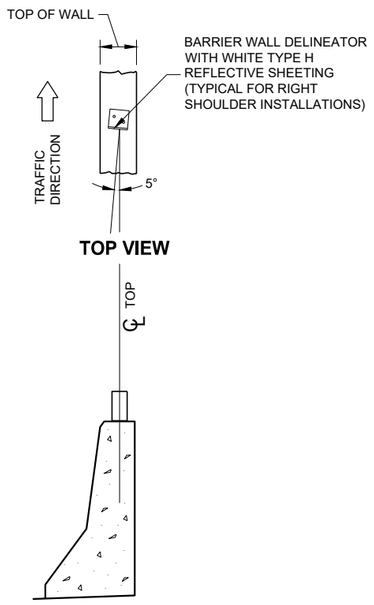
S.D.D. 15 A 3-2b



SIDE VIEW
DOUBLE BARRIERS IN MEDIAN

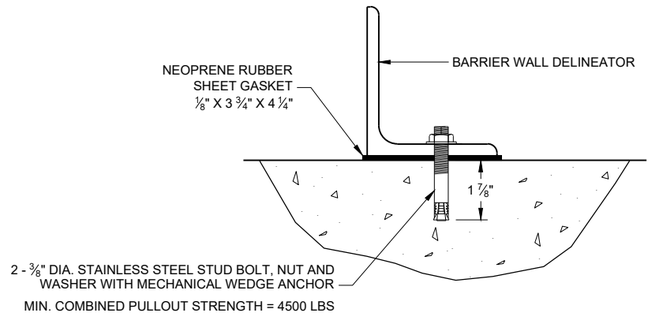


SIDE VIEW
MEDIAN BARRIER

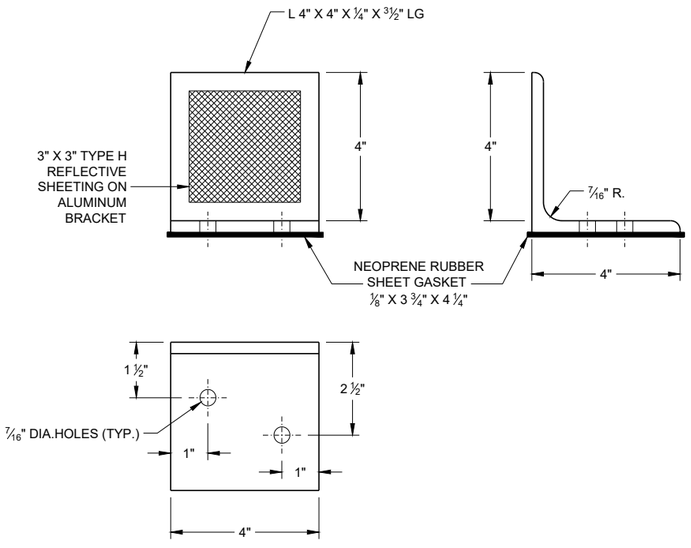


SIDE VIEW
TO RIGHT OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR BARRIER WALL DELINEATOR MOUNTED ON CONCRETE BARRIERS



BARRIER WALL DELINEATOR MOUNTING DETAIL



BARRIER WALL DELINEATOR

REFLECTOR SPACING TABLE

REFLECTOR SPACING	MINIMUM NUMBER OF REFLECTORS
100' C-C	3

BARRIER WALL DELINEATOR WITH REFLECTIVE SHEETING

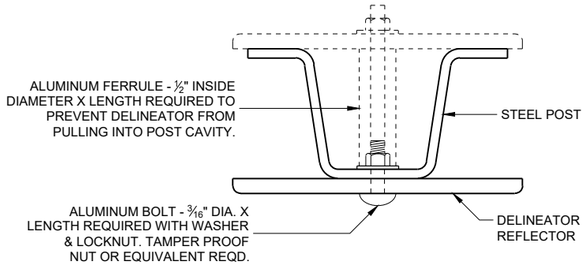
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MAF ENGINEER

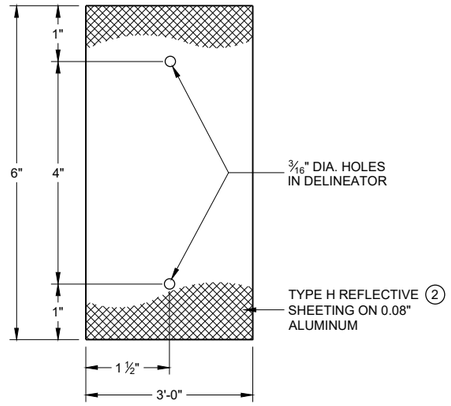
FHWA

6

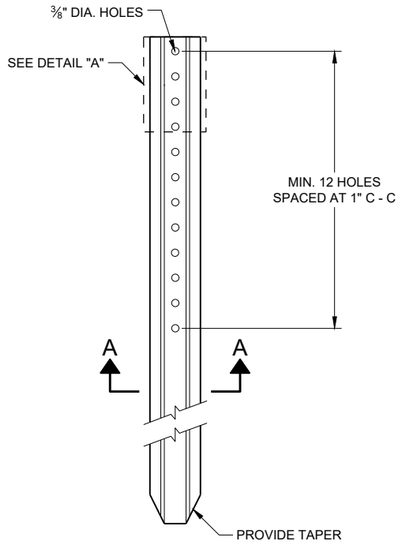
SDD 15A04 - 07b



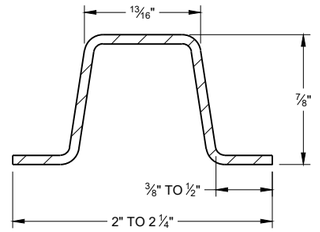
MOUNTING DETAIL FOR DELINEATOR REFLECTOR



DETAIL "A" 3" X 6" DELINEATOR REFLECTOR



DELINEATOR POST



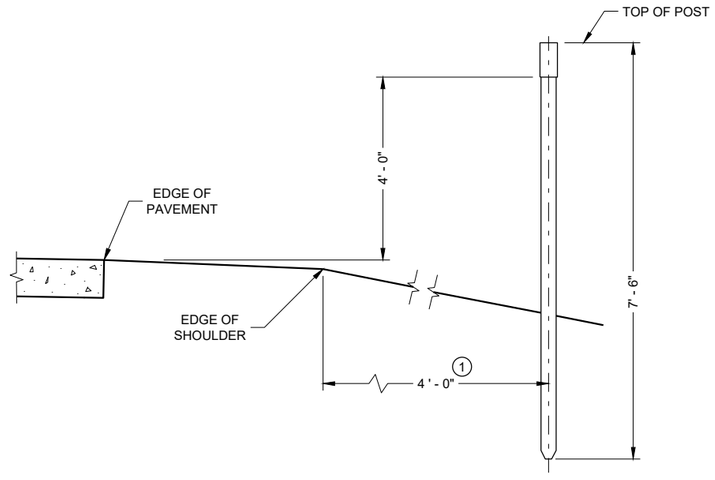
SECTION A - A

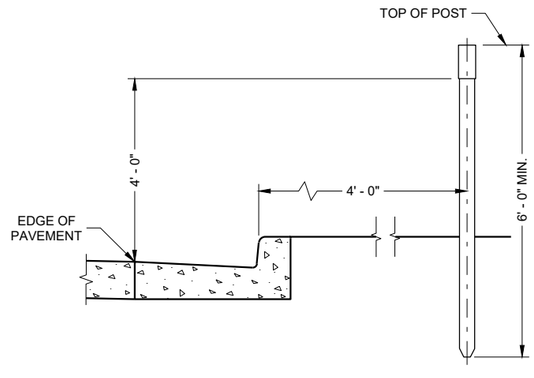
WEIGHT 1.12 LBS PER FT. \ 0.1 LB.

REFLECTOR SPACING TABLE

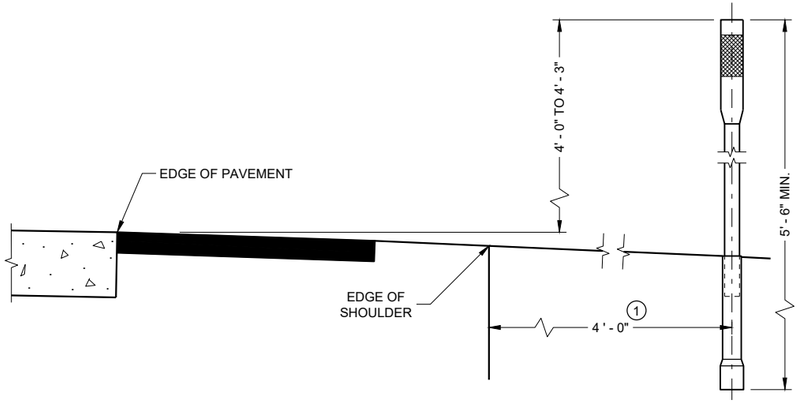
REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

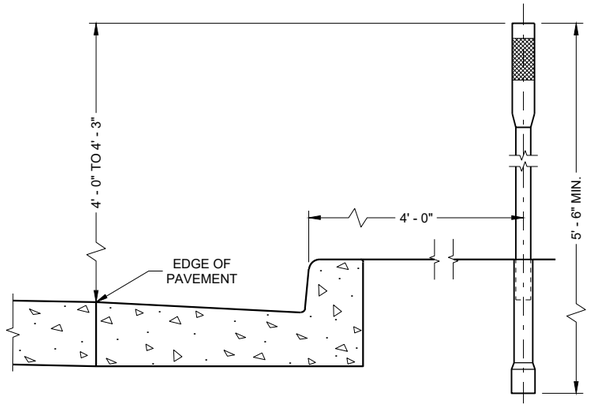
* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER





TYPICAL INSTALLATIONS OF DELINEATOR POSTS





TYPICAL INSTALLATIONS OF FLEXIBLE DELINEATOR POSTS

GENERAL NOTES

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

1. DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.
2. FURNISH TYPE H SHEETING FROM THE APPROVED PRODUCTS LIST.

DELINEATOR POST WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

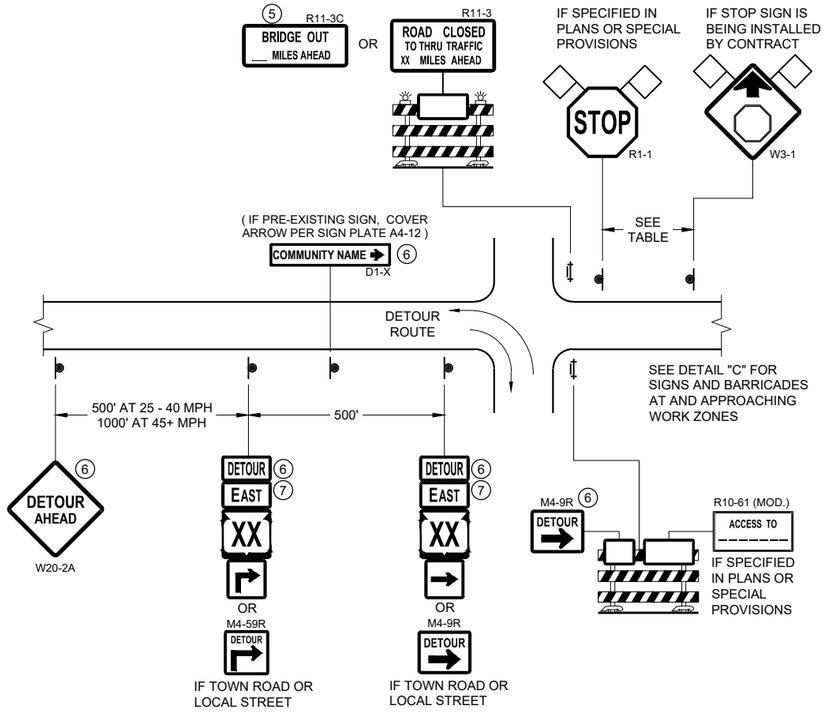
APPROVED
November 2021
DATE

/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

FHWA

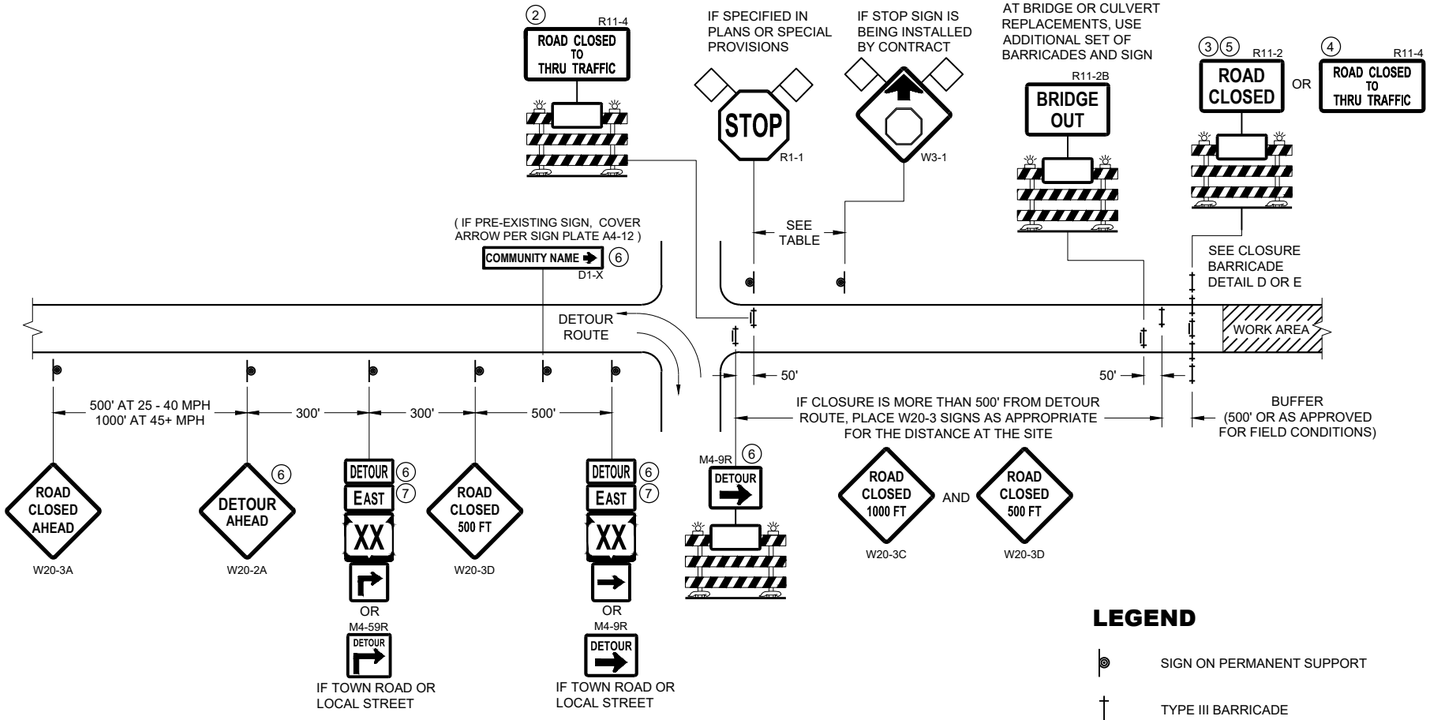
6

SDD 15A04 - 07c



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



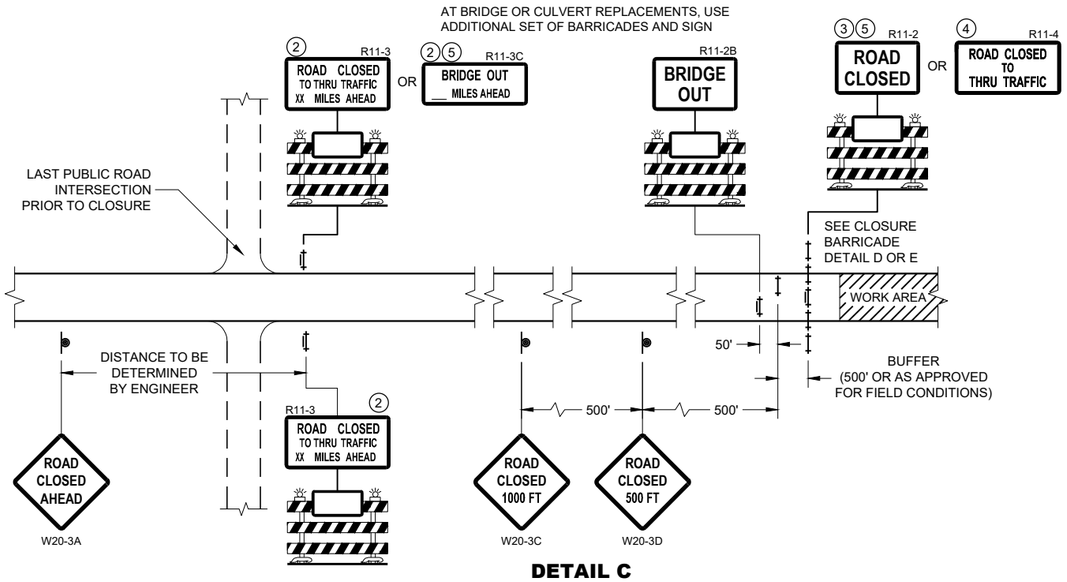
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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

LEGEND

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

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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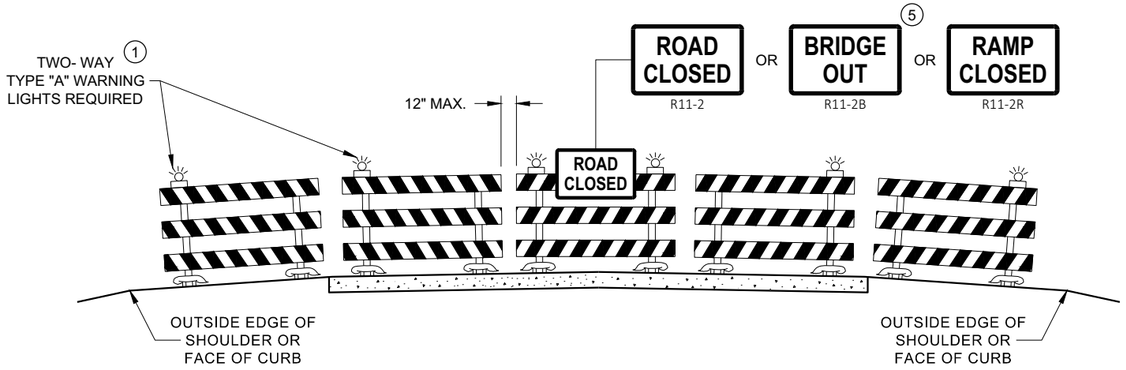
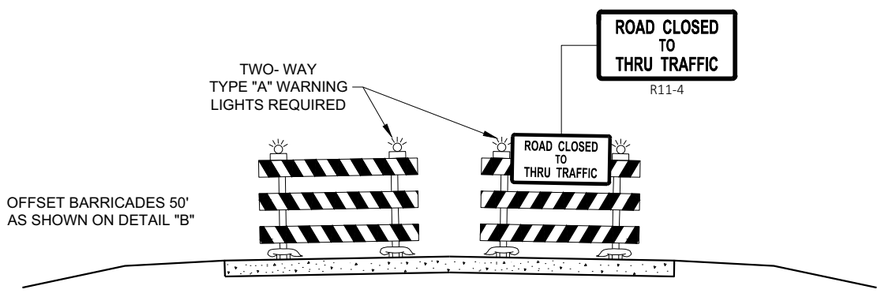
SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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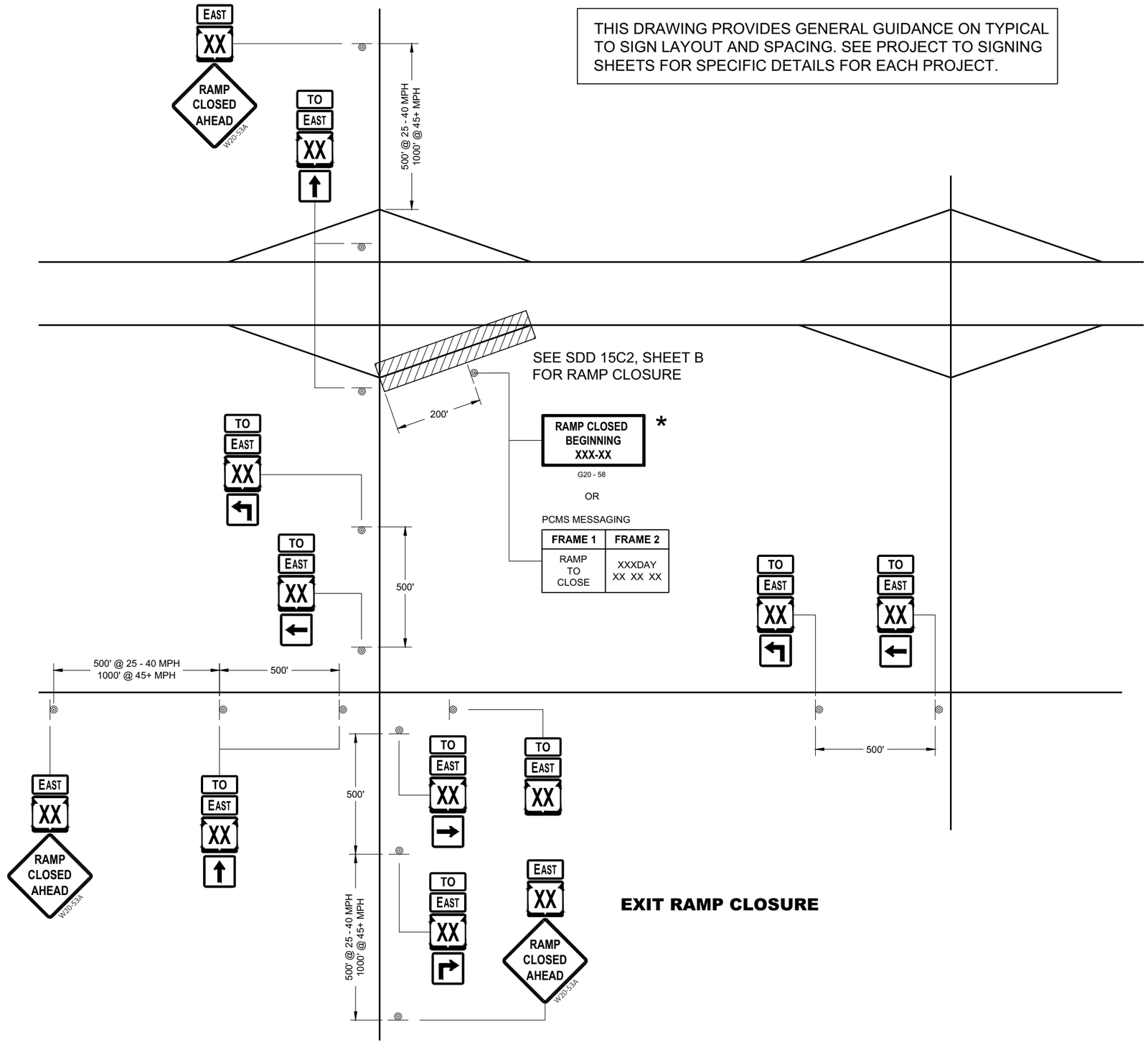
SDD 15C02 - 08b

6

SDD 15C02 - 08b



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

EXIT RAMP CLOSURE

LEGEND

SIGN ON PERMANENT SUPPORT

TO EAST — MO4 - 5, M3 - X

XX M1 - 6 OR XX M1 - 4 OR INTERSTATE XX M1 - 1

M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOW:
- M3 - X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- M1 - 1, M1 - 4, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
- MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
- W20 - 53A SHALL BE 48" X 48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

ON RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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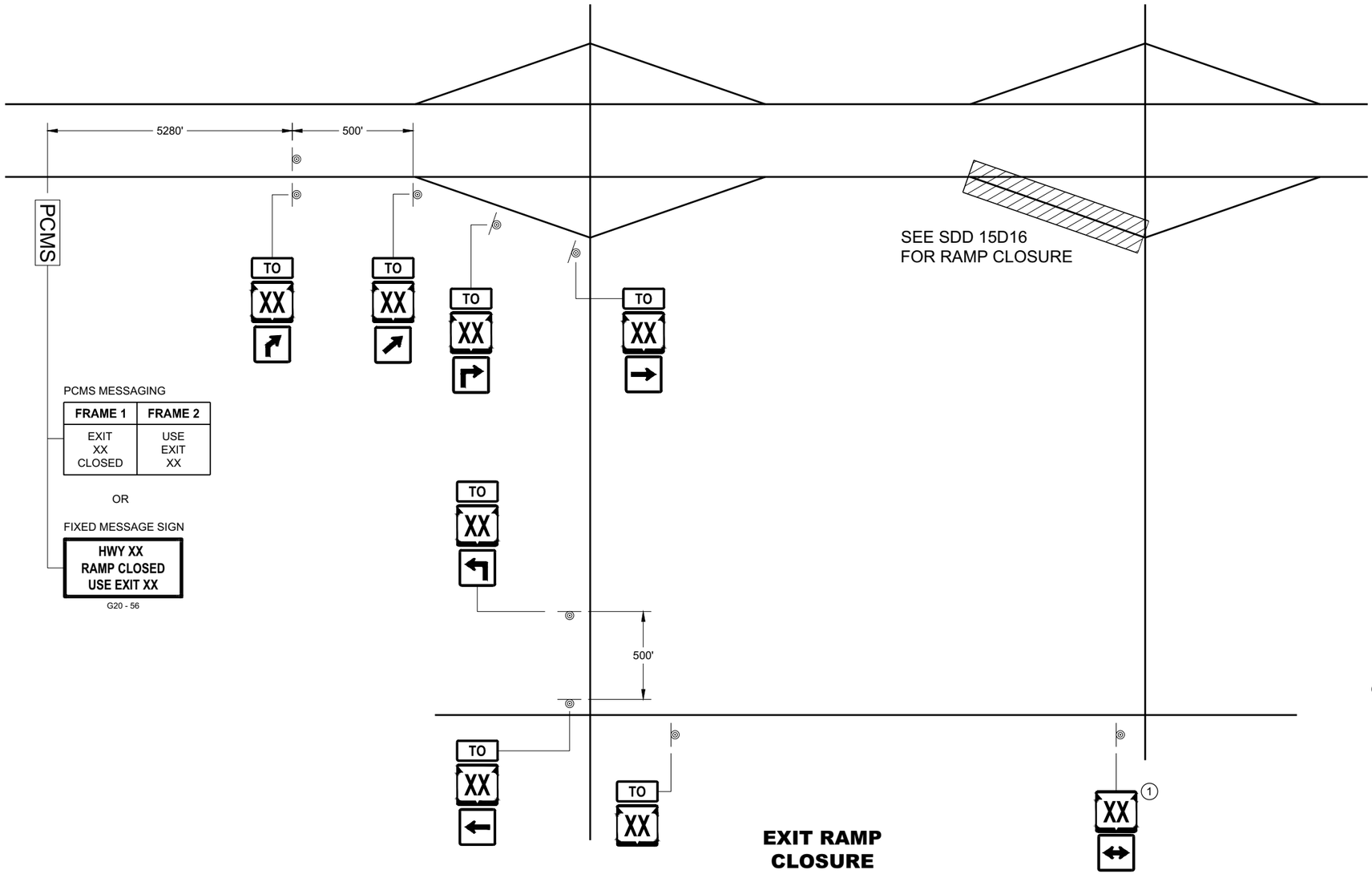
SDD 15C02 - 08d

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL "TO" MO-4 SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.



PCMS MESSAGING

FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX
RAMP CLOSED
USE EXIT XX
G20 - 56

EXIT RAMP CLOSURE

LEGEND

SIGN ON PERMANENT SUPPORT

PCMS PORTABLE CHANGEABLE MESSAGE SIGN

TO MO4 - 5

XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A

M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2 OR M06 - 4

GENERAL NOTES

SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE "TO" MO-4 ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND "TO" MO-4 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

SIGN SIZES SHALL BE AS FOLLOW:
- MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- M1 - 4, M1 - 5A, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
- MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).

(1) ONLY ADD IF THERE ARE NO EXISTING ROUTE MARKERS FOR THE INTERSECTING ROADWAY.

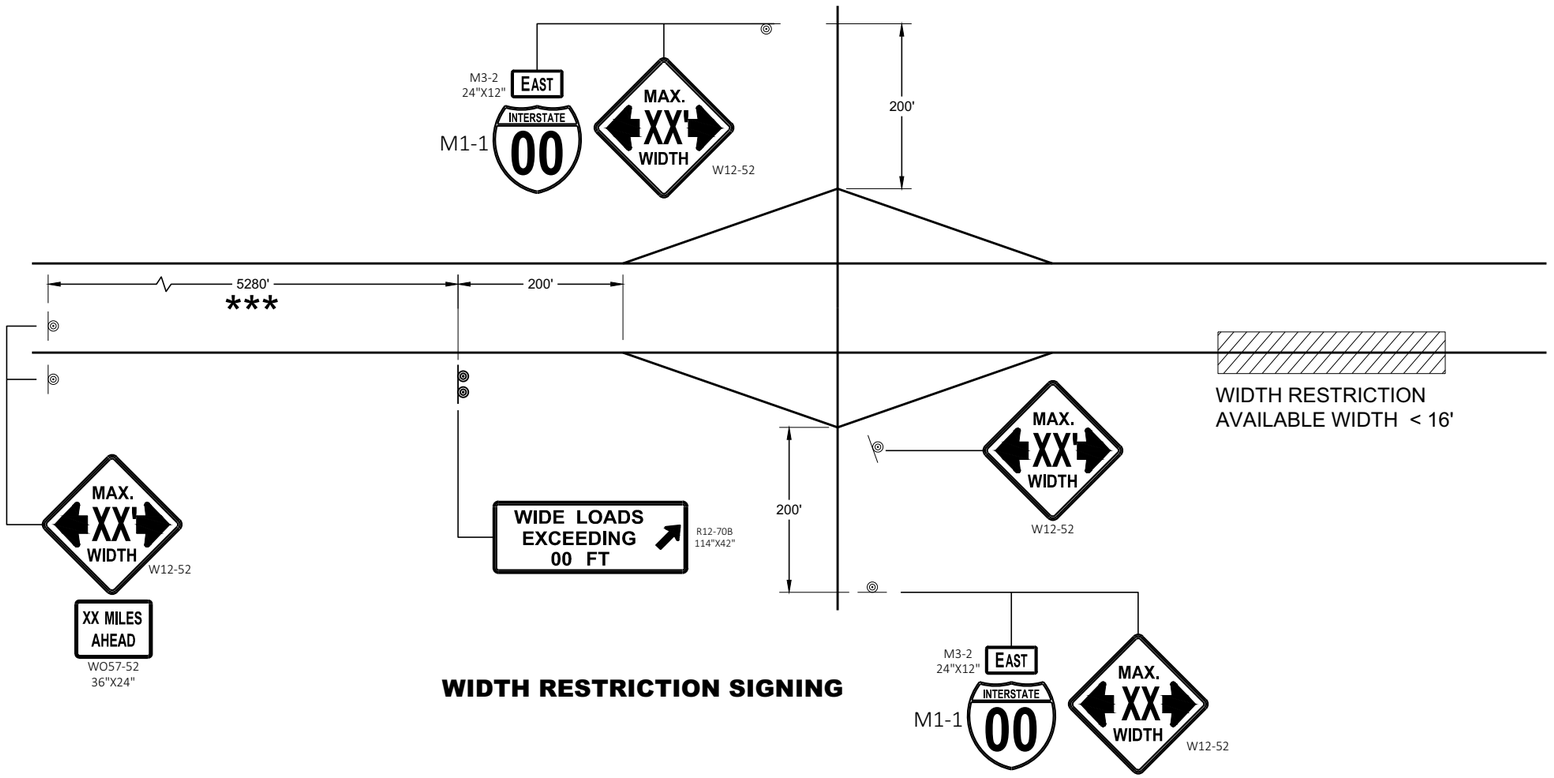
OFF RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

SDD 15C02 - 08e

SDD 15C02 - 08e



WIDTH RESTRICTION SIGNING

LEGEND

SIGN ON PERMANENT SUPPORT

GENERAL NOTES

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

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

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

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

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

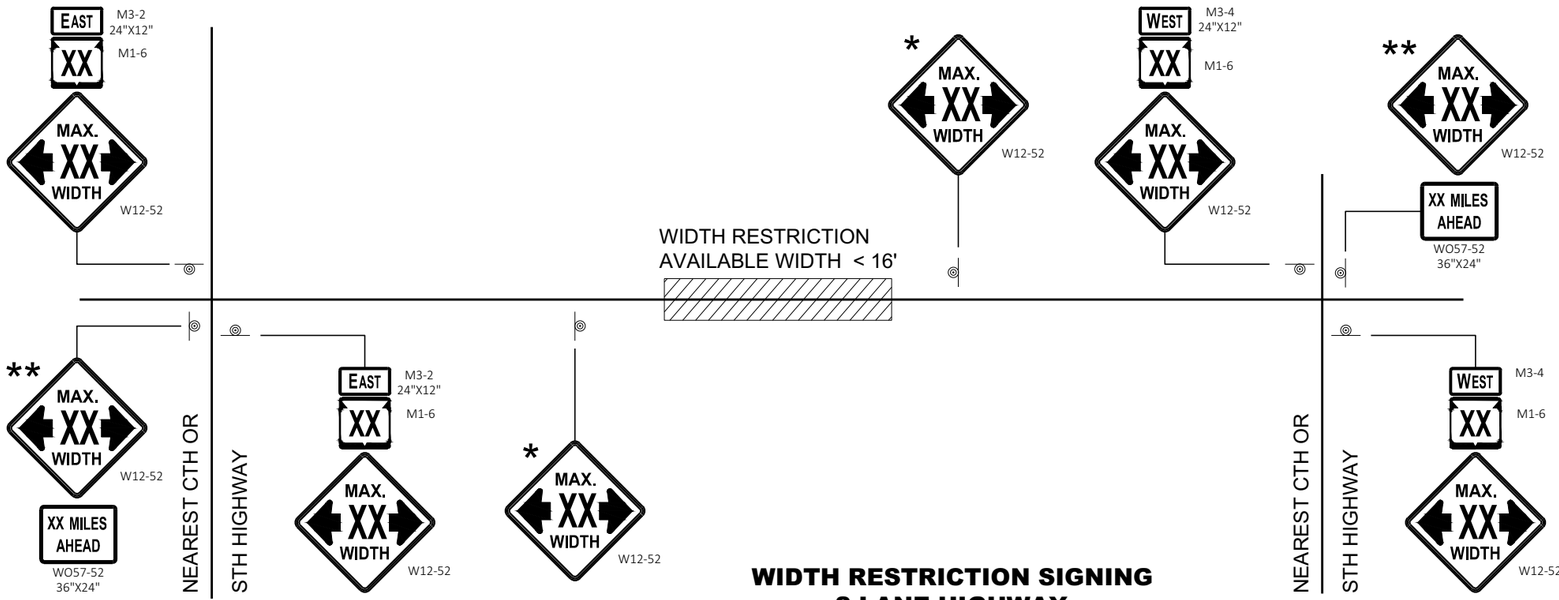
WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

* PLACE 500 FEET AFTER THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION 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.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.

WIDTH ON SIGN TO BE APPROX. 1 - FOOT LESS THAN AVAILABLE WIDTH



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

ADVANCED WIDTH RESTRICTION SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C02 - 08f

GENERAL NOTES

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

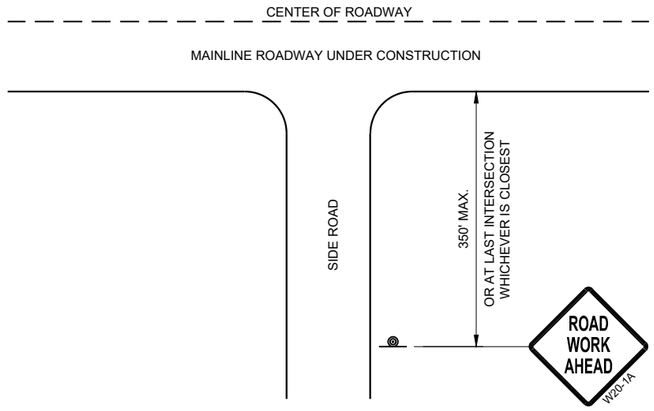
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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 REESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



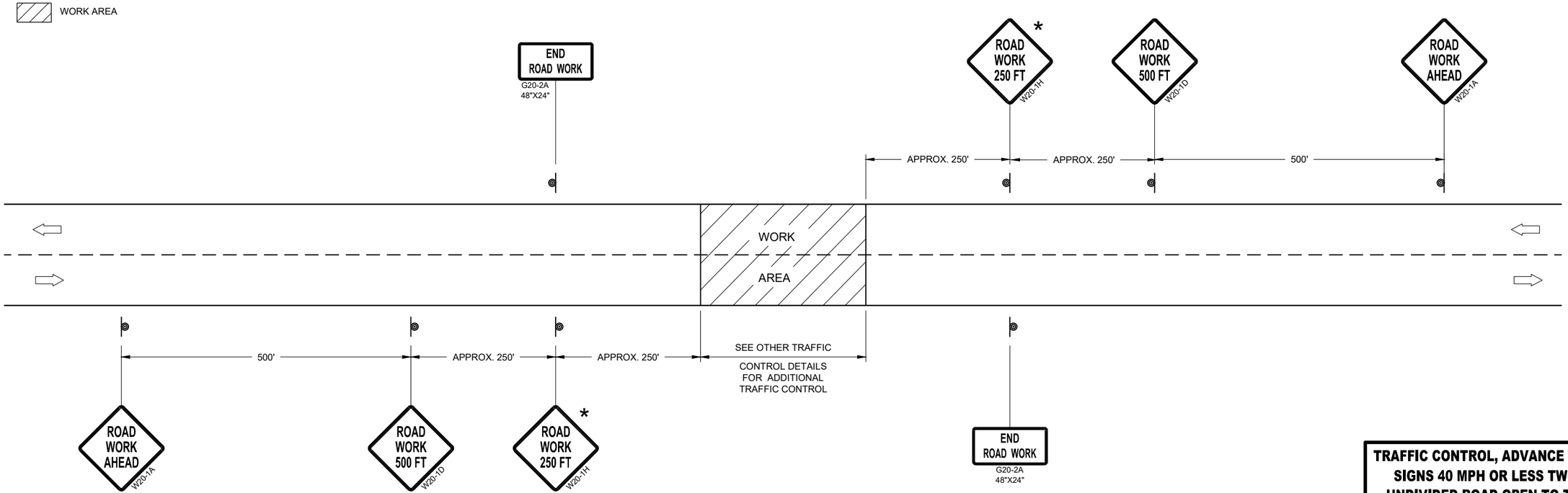
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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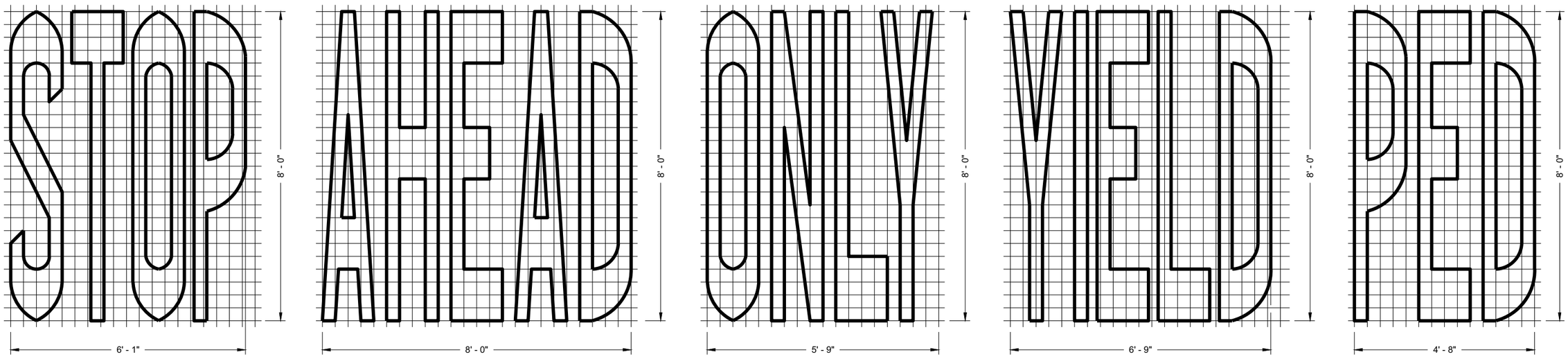
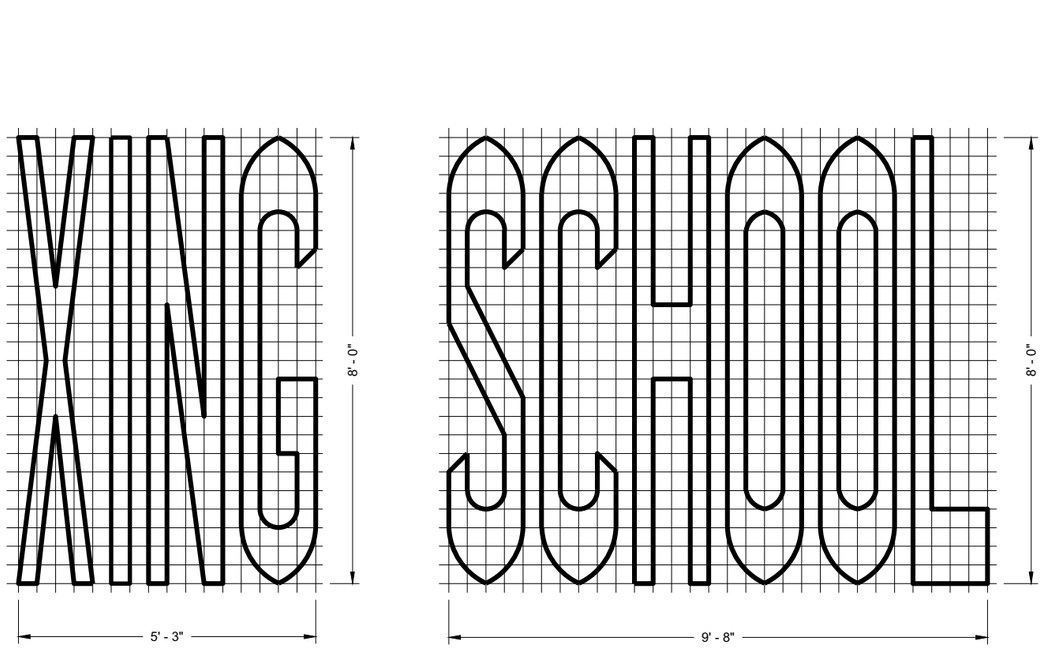
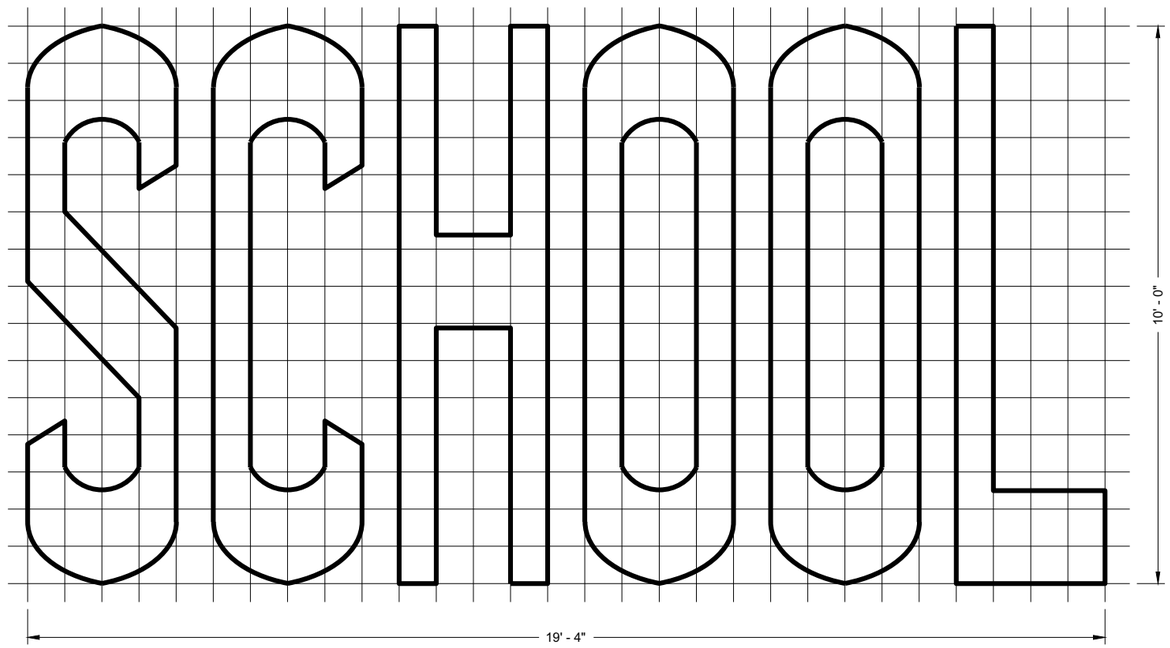
SDD 15C05 - 05





SINGLE LANE



TWO - LANE

GENERAL NOTES

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

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

FHWA

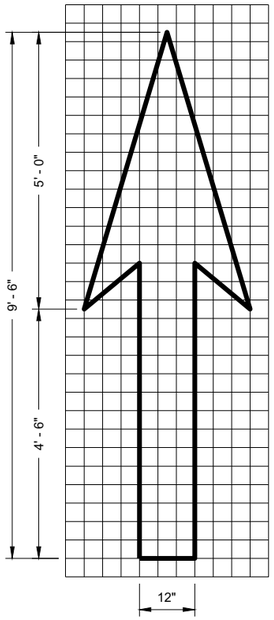
6

SDD 15C07 - 15b

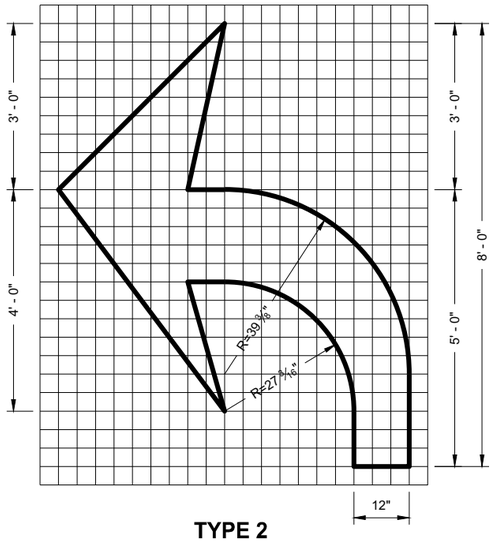
SDD 15C07 - 15b

GENERAL NOTES

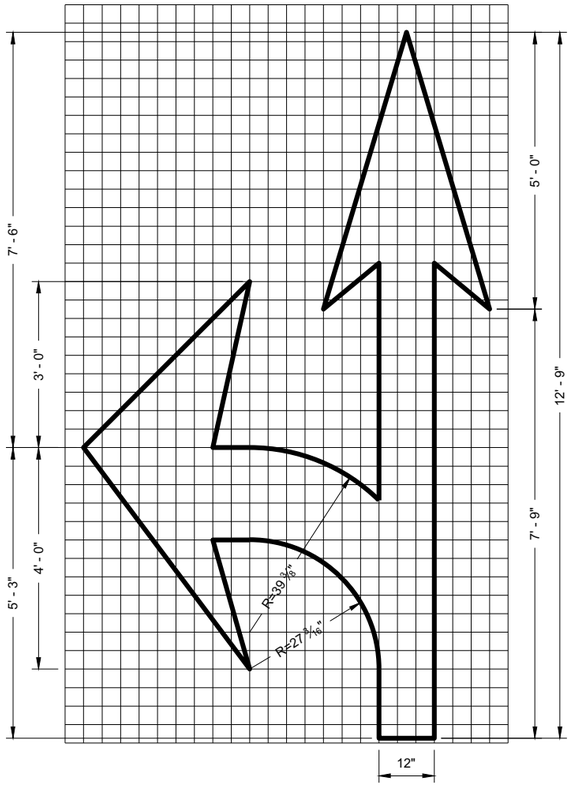
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



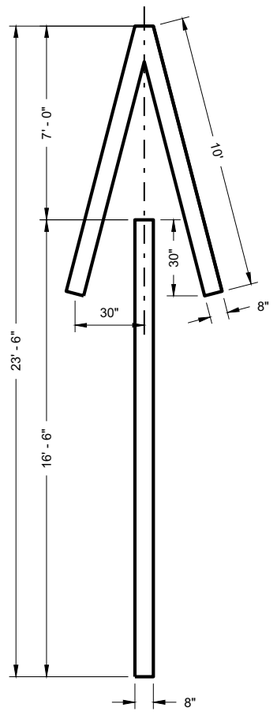
TYPE 1



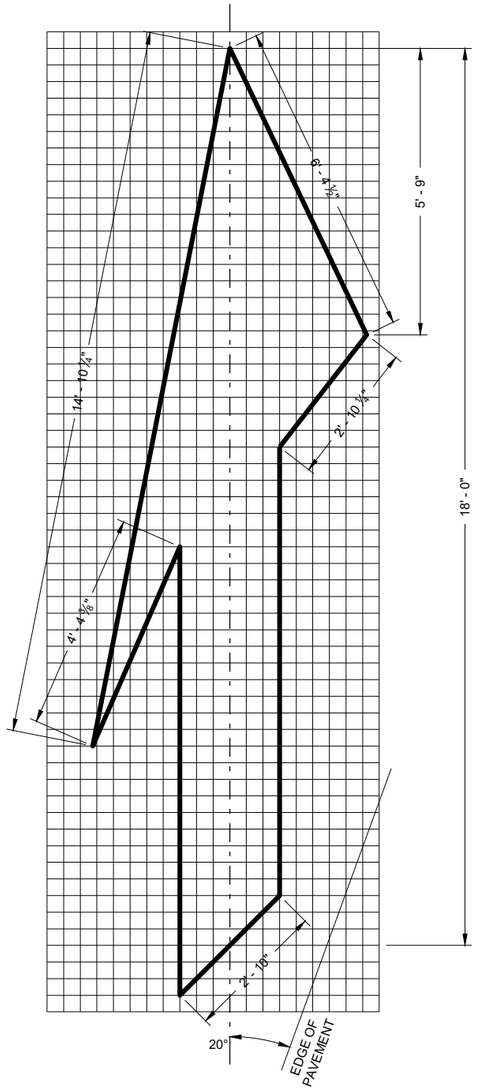
TYPE 2



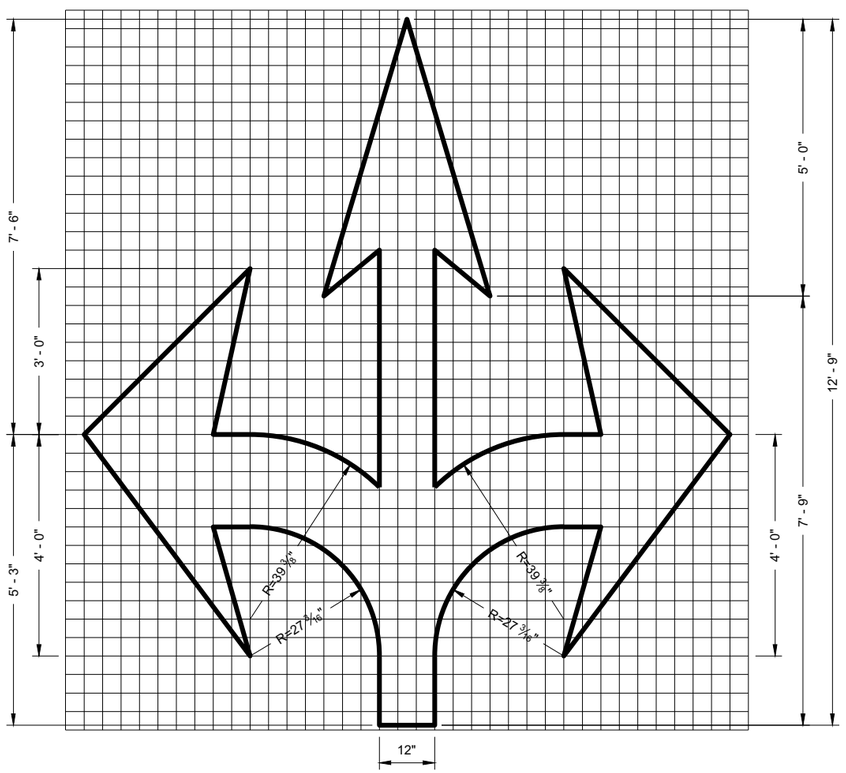
TYPE 3



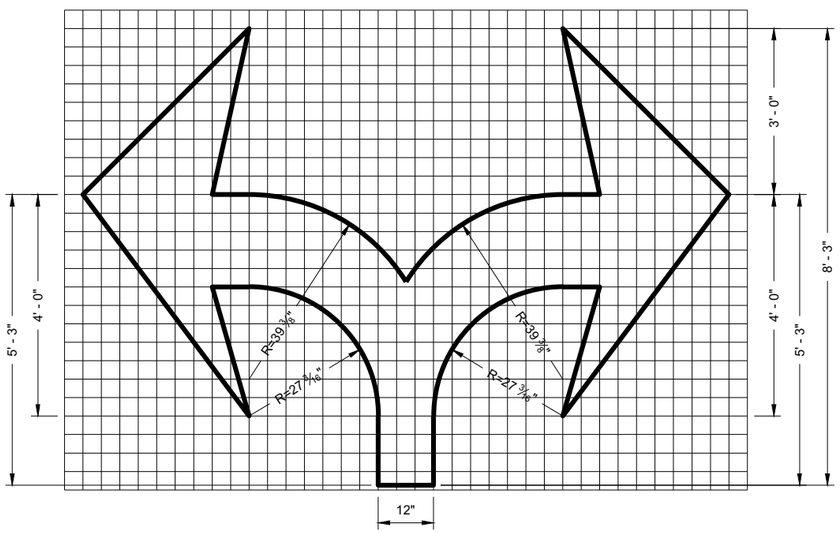
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

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6

SDD 15C07 - 15c

6

SDD 15C07 - 15c

GENERAL NOTES

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

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

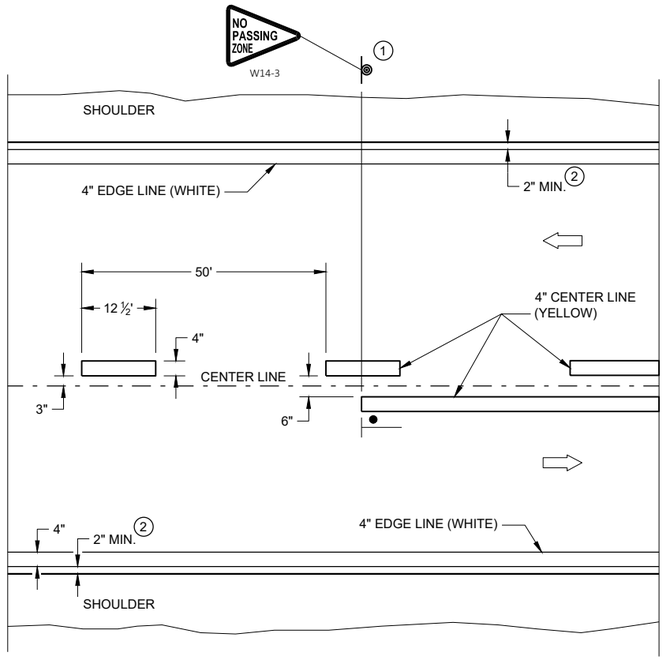
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

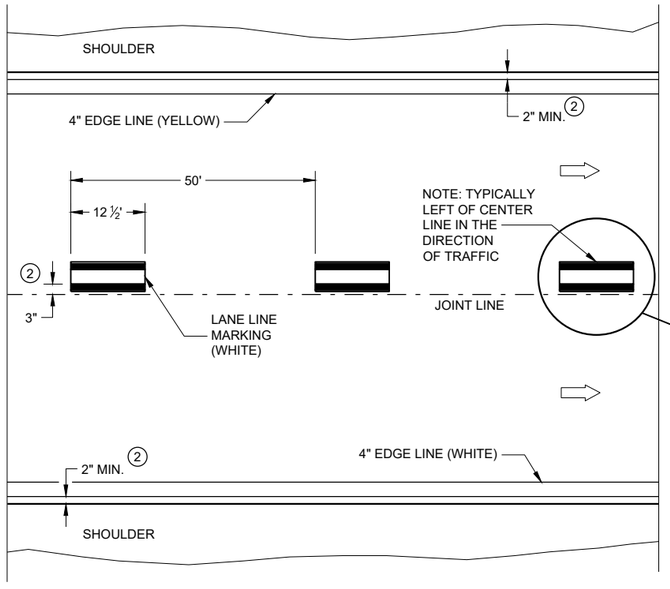
"T" MARKING

SIGN ON PERMANENT SUPPORT

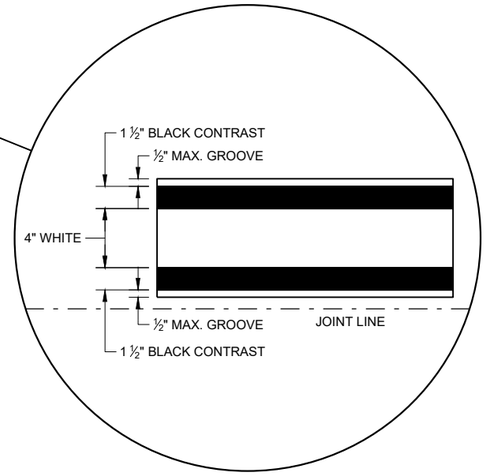
DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



PERMANENT PAVEMENT MARKING

6

SDD 15C08 - 22a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

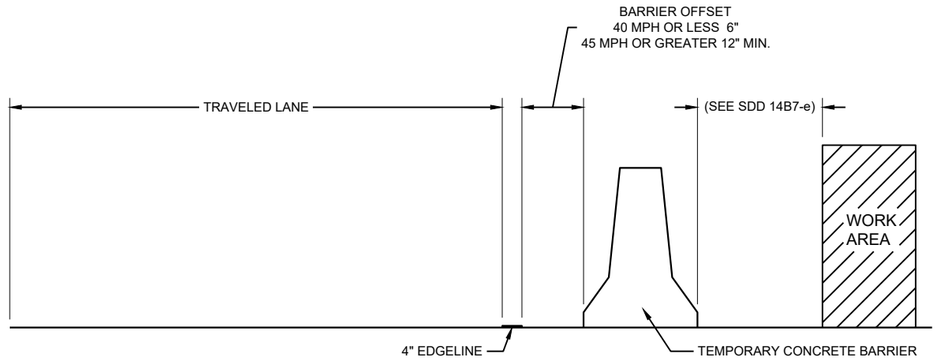
APPROVED
May 2022
DATE

/S/ Jeannie Silver
STATEWIDE SIGNING AND M
ENGINEER

FHWA

6

SDD 15C08 - 22a



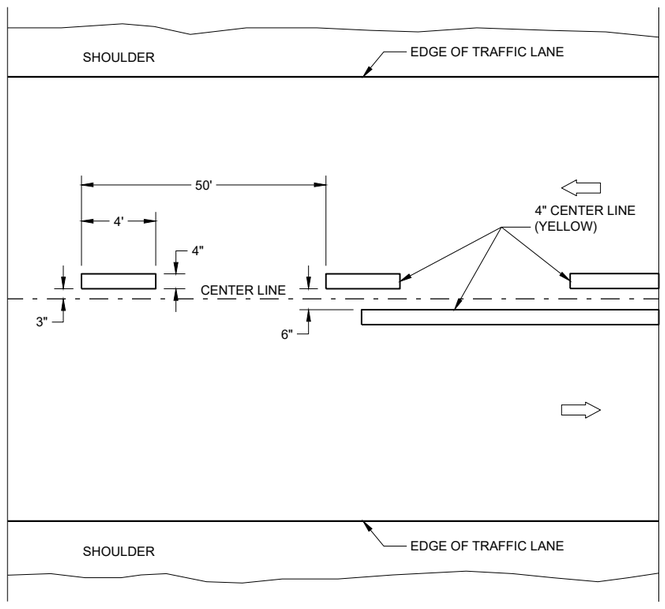
TEMPORARY BARRIER OFFSET FROM EDGELINE

GENERAL NOTES

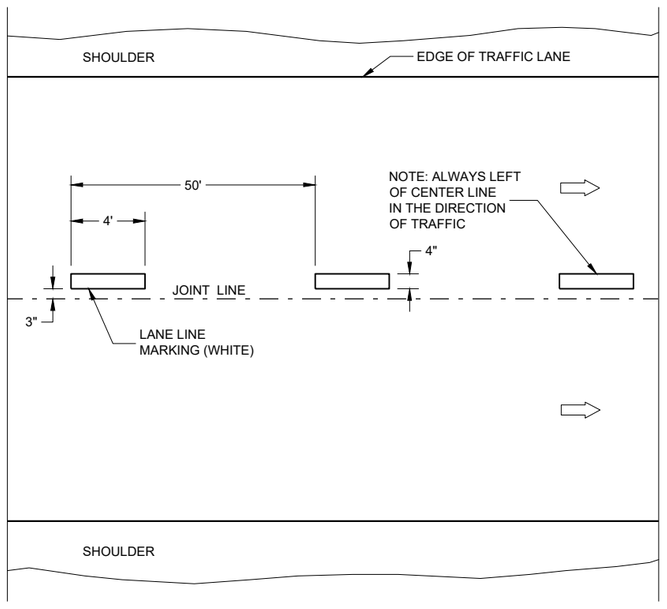
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

LEGEND

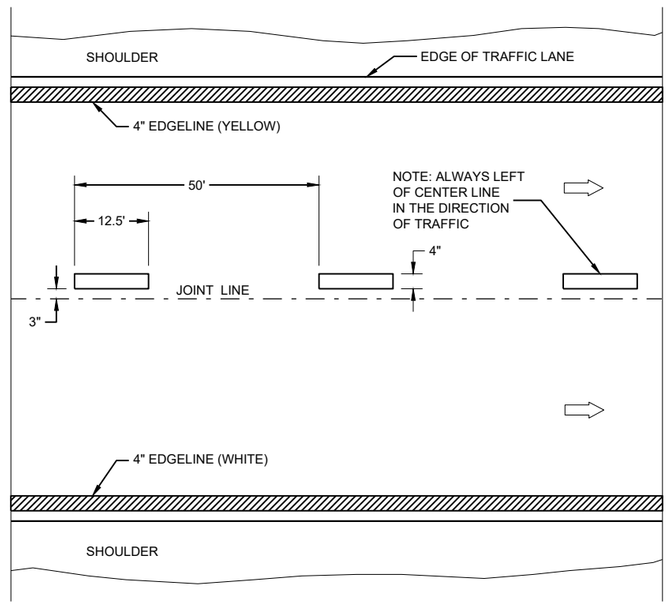
DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

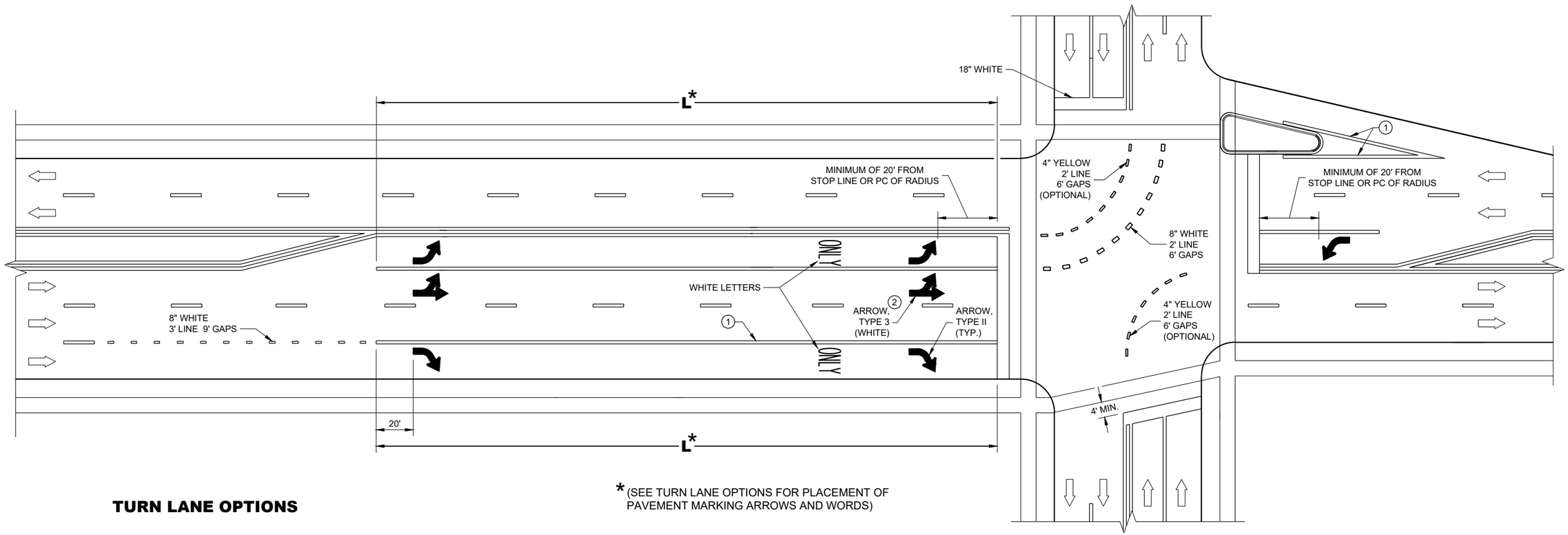
FHWA

6

SDD 15C08 - 22b

6

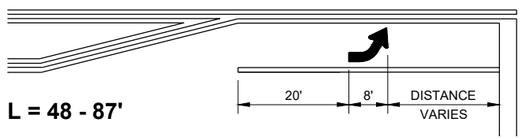
SDD 15C08 - 22b



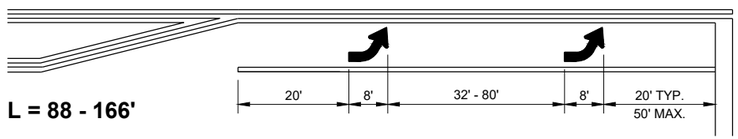
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

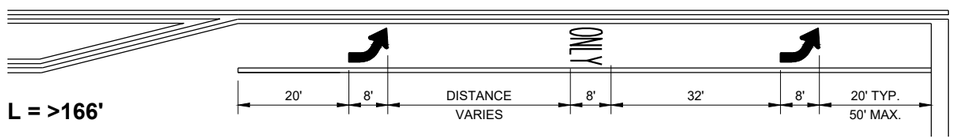
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

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

DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

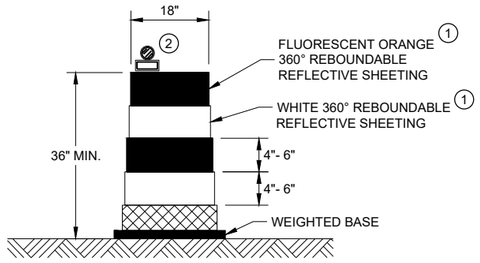
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

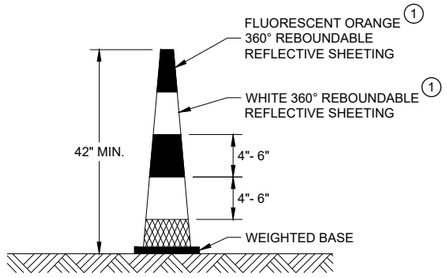
SDD 15C08 - 22d

GENERAL NOTES

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

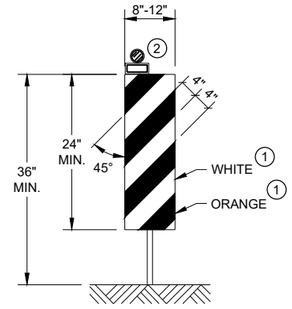


DRUM



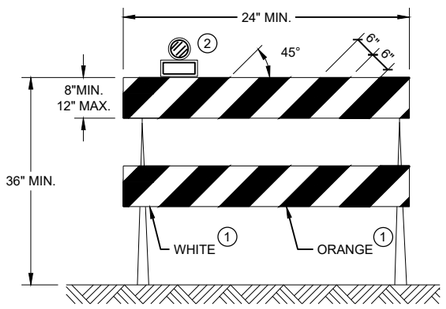
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



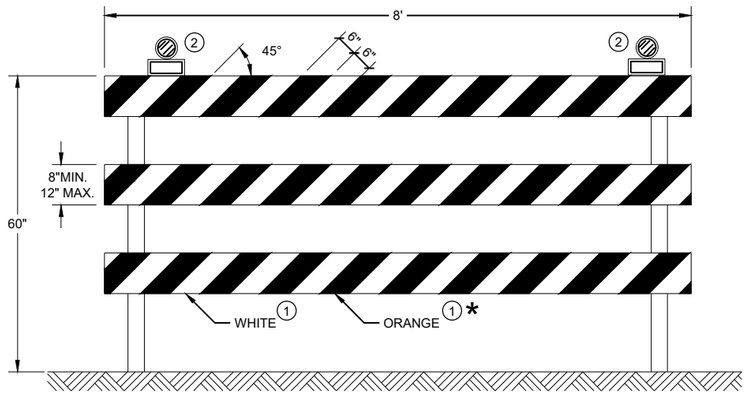
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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SDD 15C11 - 09b

6

SDD 15C11 - 09b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

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

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.

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

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

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND 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.

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.

FLAGGING

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 PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' 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.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

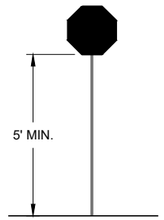
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



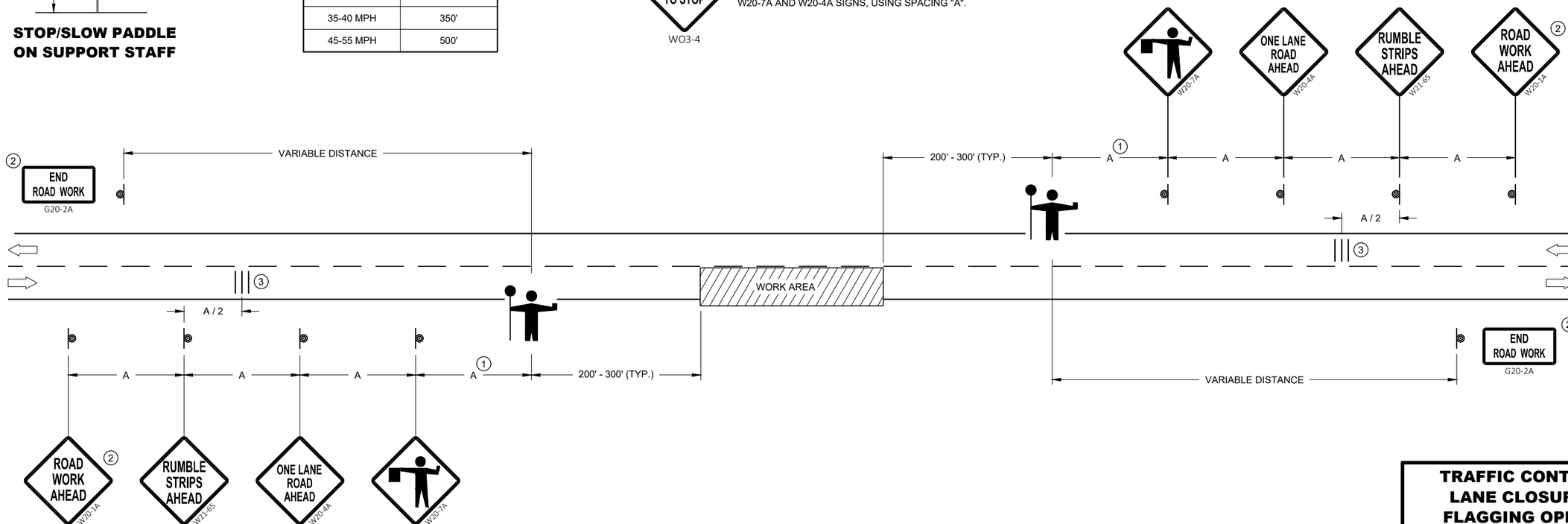
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C12 - 09a

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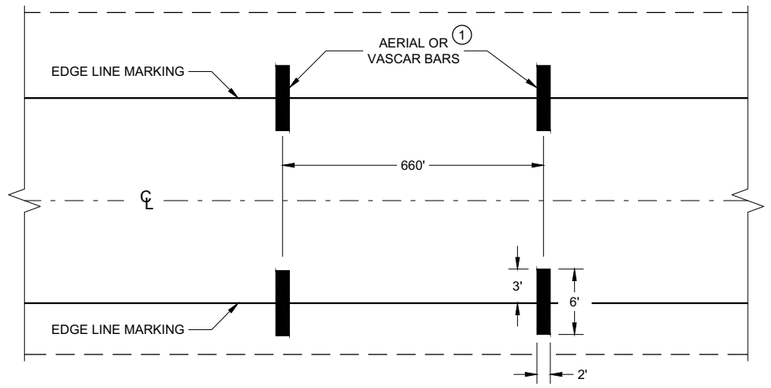
SDD 15C12 - 09a

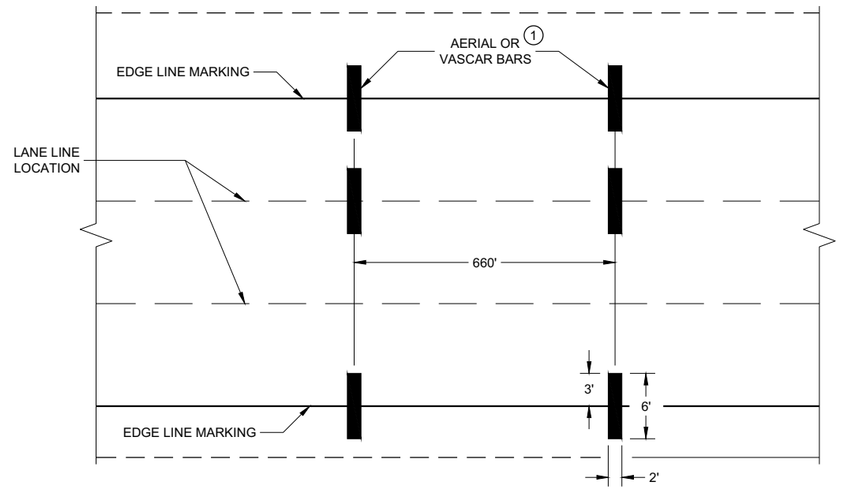
GENERAL NOTES

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

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



TYPICAL FOR TWO WAY OR ONE WAY TRAFFIC



TYPICAL FOR MULTILANE TRAFFIC

SPEED ENFORCEMENT ZONE WITH AERIAL OR VASCAR BARS

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

FHWA

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SDD 15C14 - 04

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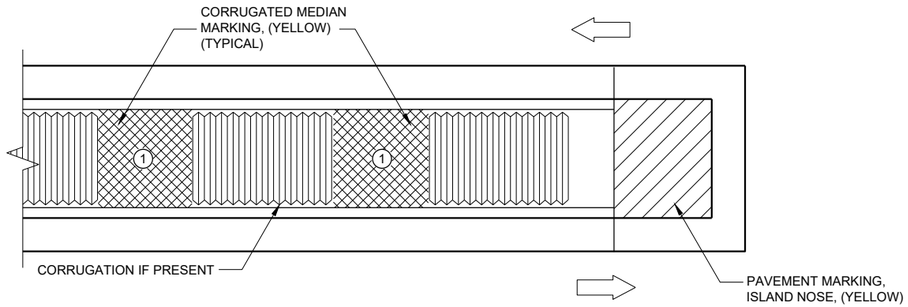
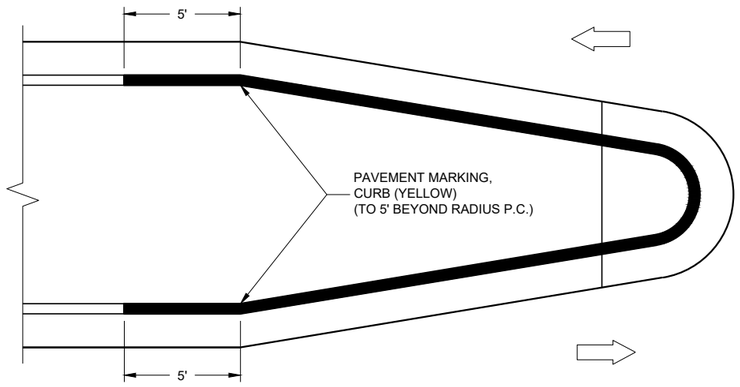
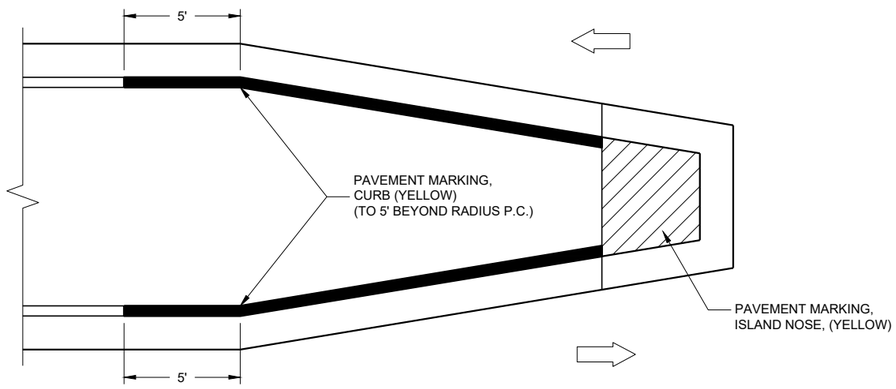
SDD 15C14 - 04



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

(1) APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

PAVEMENT MARKINGS, MEDIAN ISLAND NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2022
DATE

/S/ Jeannie Silver
STATE SIGNING AND MAR ENGINEER

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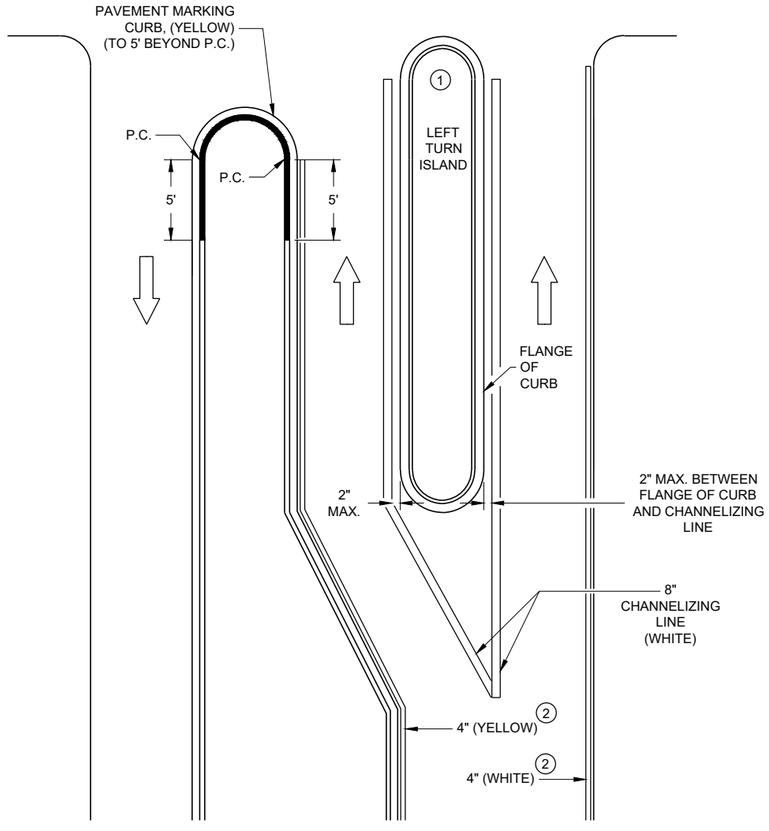
REQUIREMENTS FOR EDGE LINES		
POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED



LEFT TURN & MEDIAN ISLAND

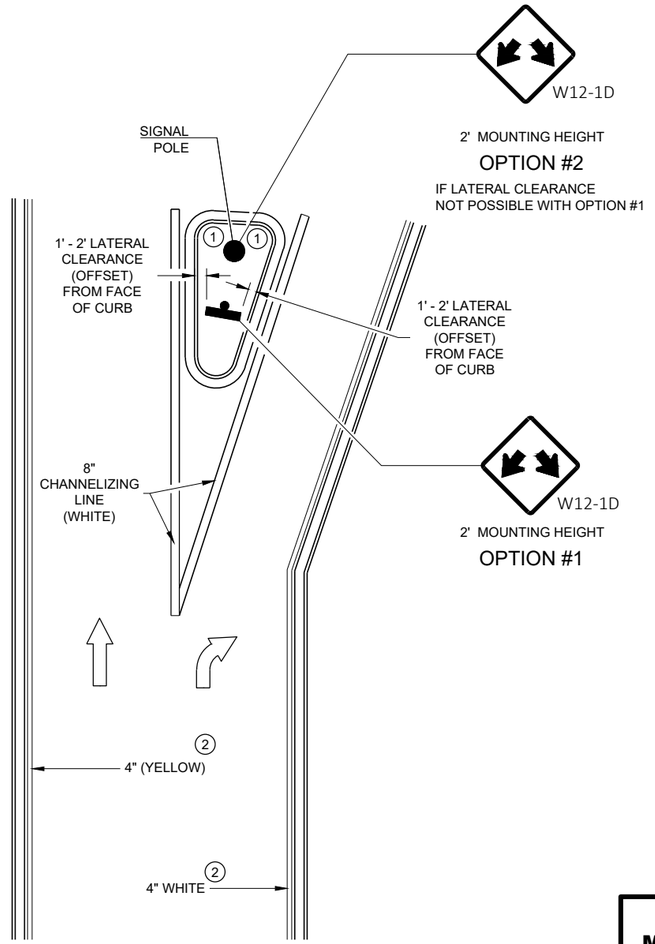
GENERAL NOTES

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

1. MARK CURB NOSES YELLOW.
2. MARK ACCORDING TO TABLE.

DIRECTION OF TRAVEL



RIGHT TURN ISLAND

MEDIAN PAVEMENT MARKINGS, DOUBLE ARROW WARNING SIGN PLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2022
DATE

/S/ Jeannie Silver
STATE SIGNING AND MAF ENGINEER

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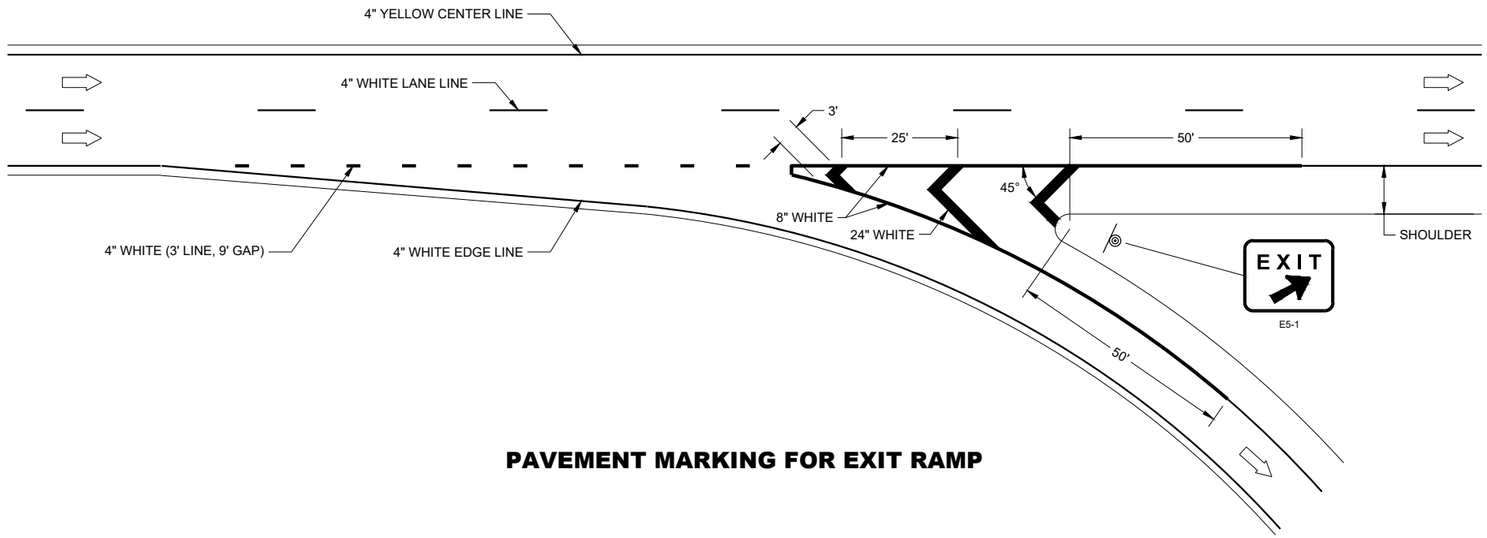
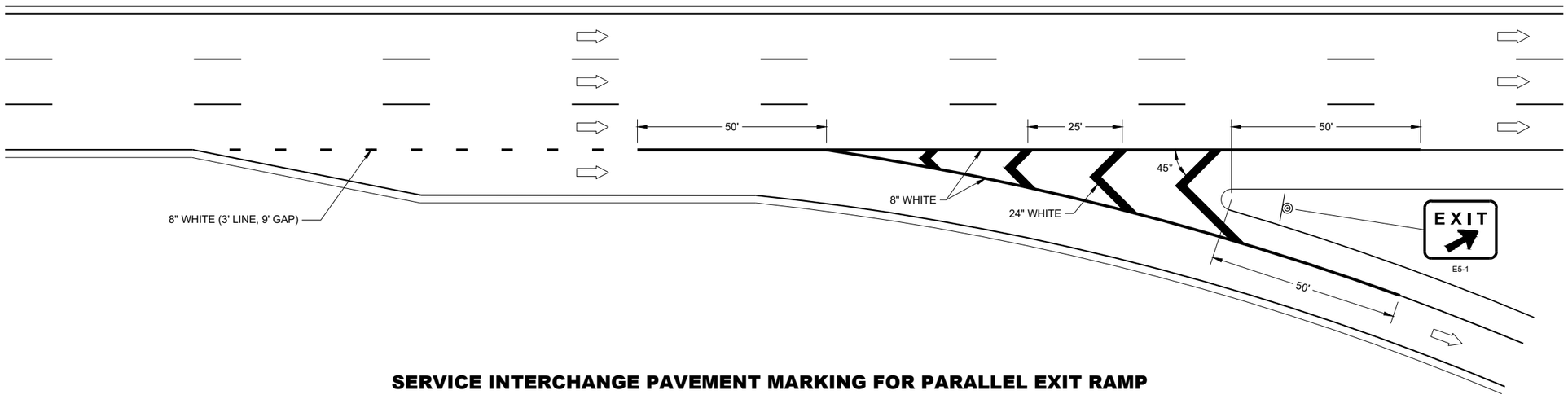


PAVEMENT MARKING FOR EXIT RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAVEL

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SDD 15C31 - 04a

PAVEMENT MARKING, EXIT RAMP AND PARALLEL EXIT RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15C31 - 04a

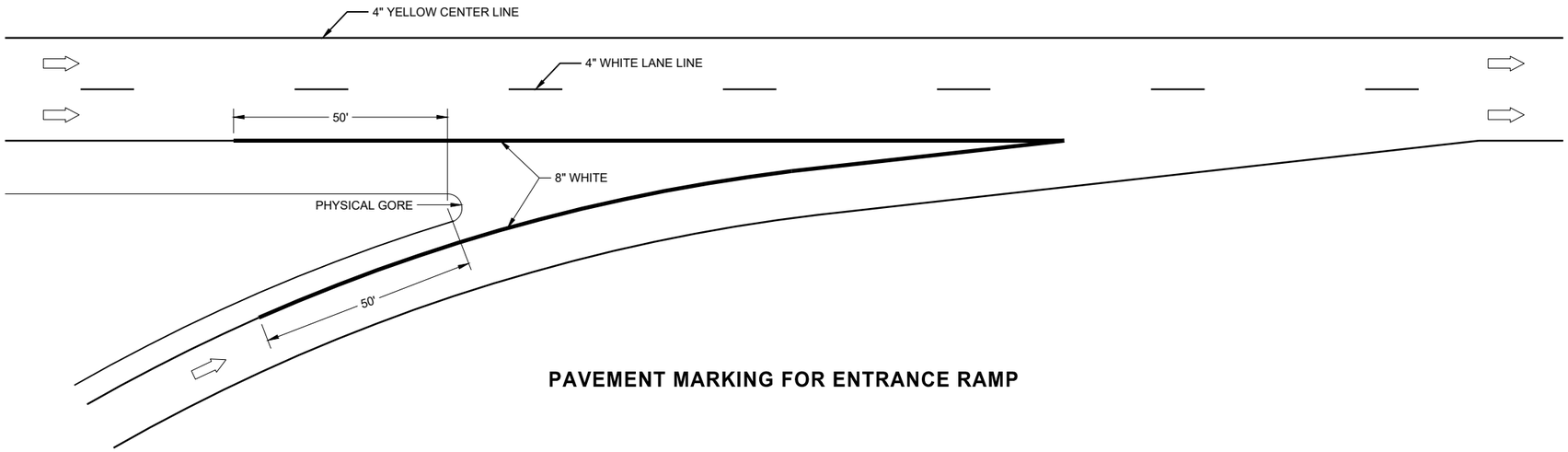
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

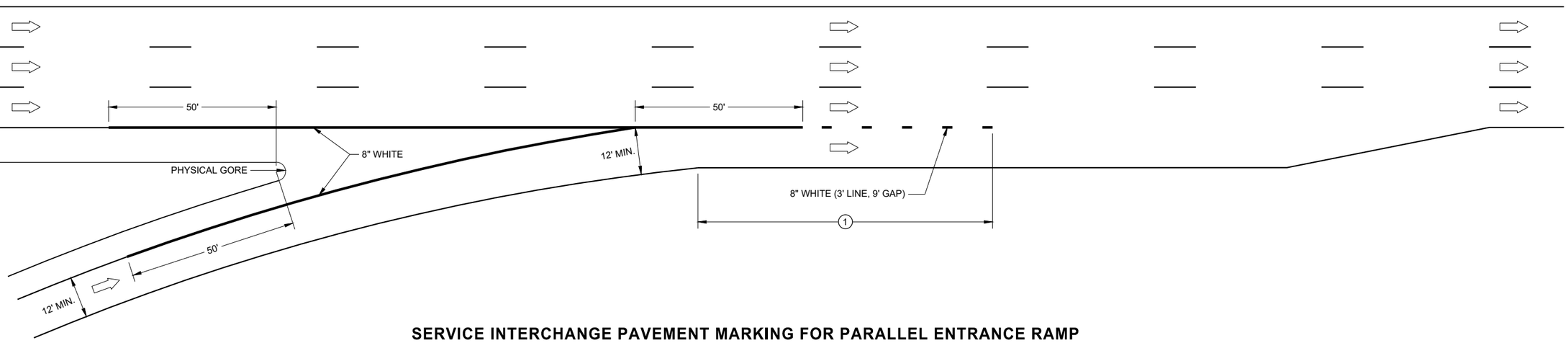
(1) ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

LEGEND

DIRECTION OF TRAVEL



PAVEMENT MARKING FOR ENTRANCE RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP

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SDD 14C31 - 04c

SDD 14C31 - 04c

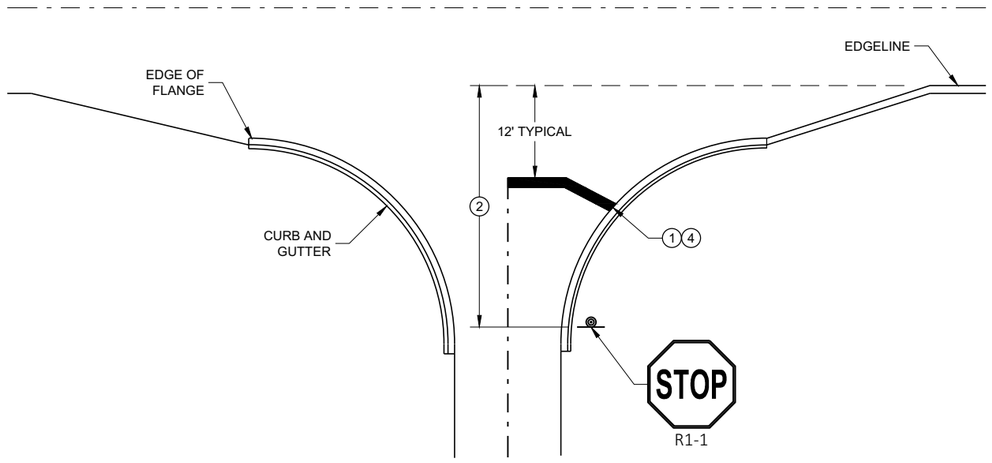
PAVEMENT MARKING, ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

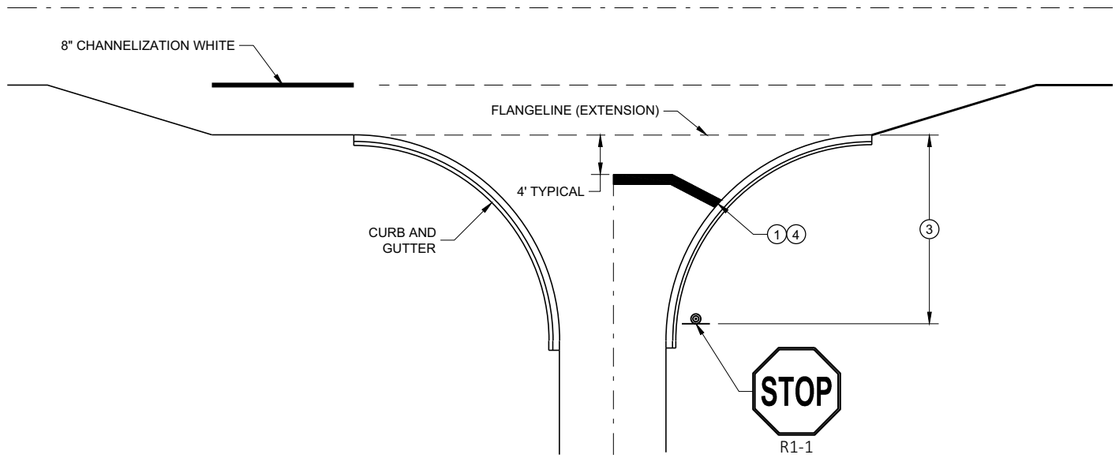
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

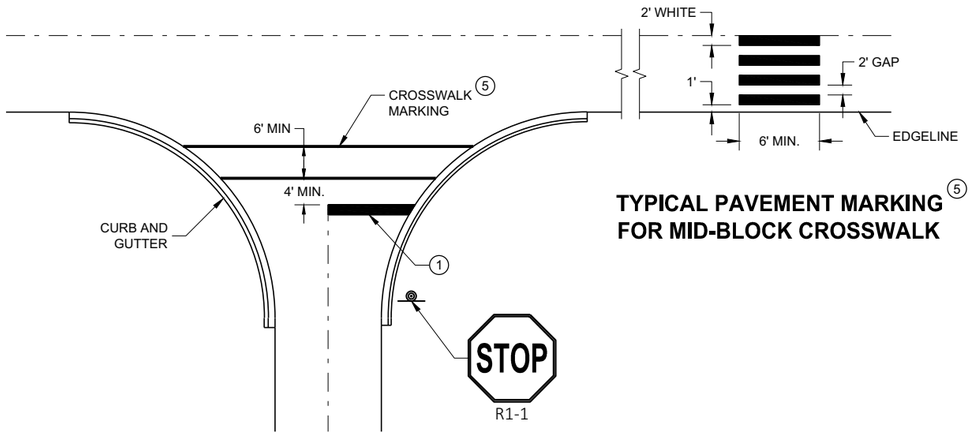
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

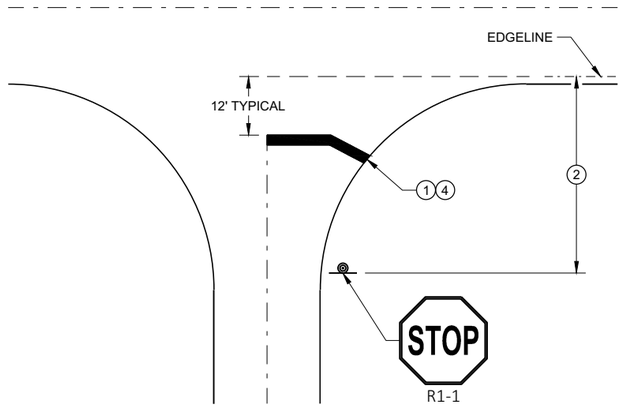


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

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SDD 15C33 - 04

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SDD 15C33 - 04

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

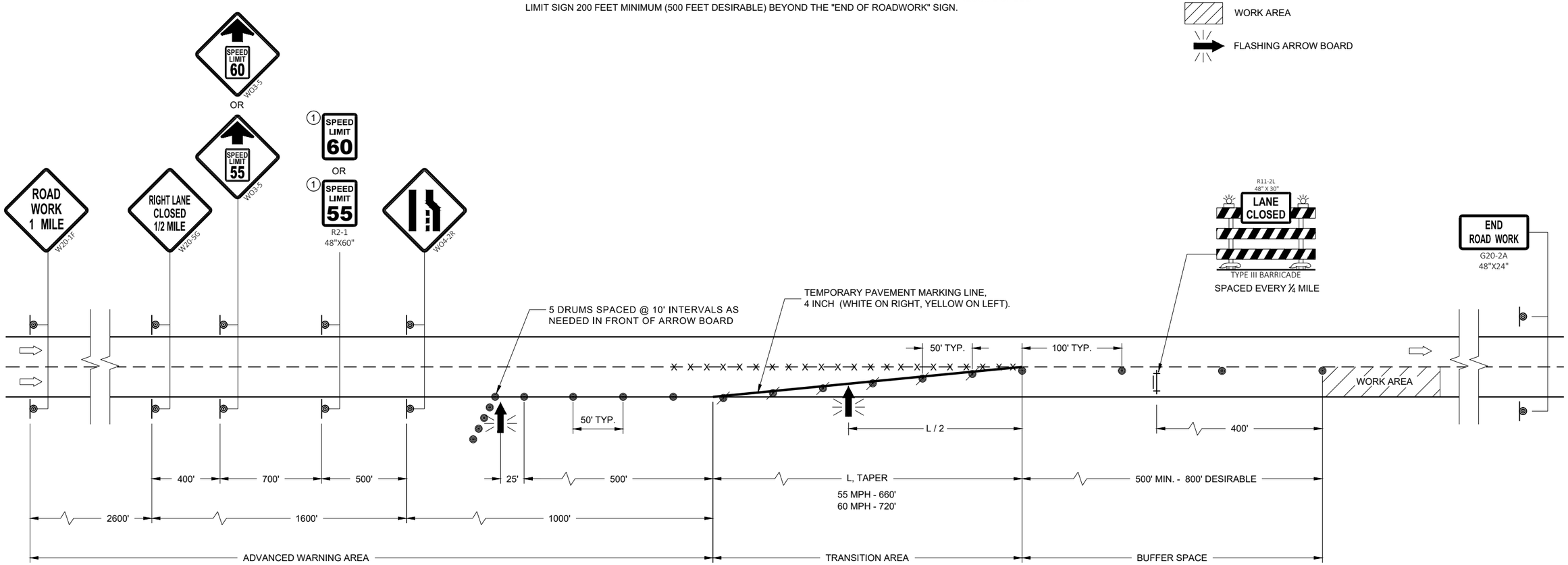
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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

(1) A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

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



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D12 - 10b

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SDD 15D12 - 10b

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

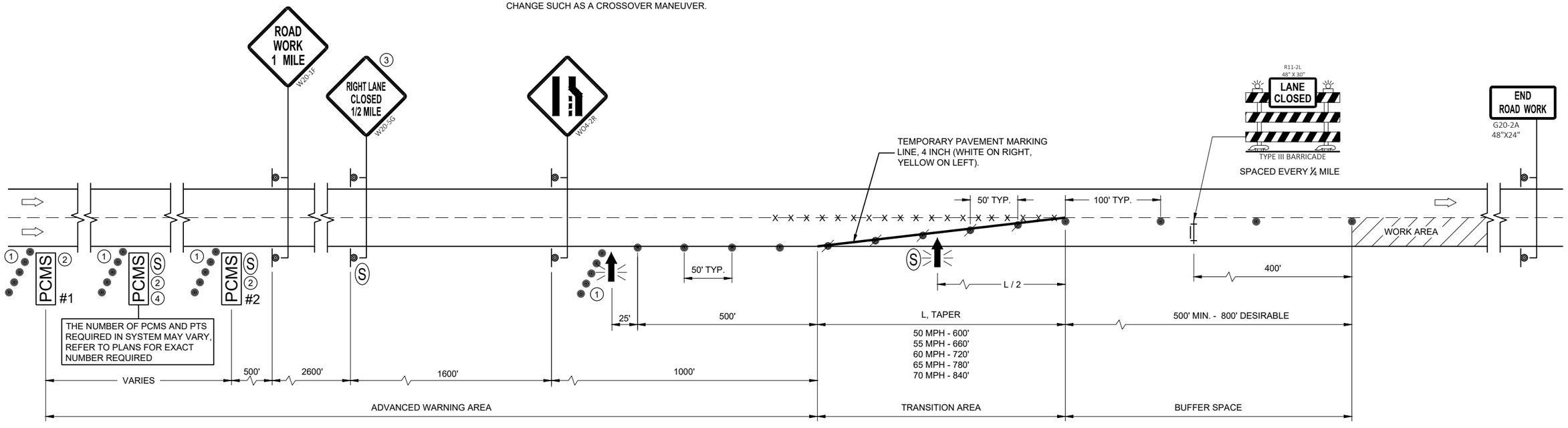
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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

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

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

1. 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
2. IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE PCMS ON BOTH SIDES OF THE ROADWAY.
3. IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.
4. PLACE PCMS EVERY ONE MILE BETWEEN PCMS #1 AND PCMS #2, OR AS THE ENGINEER DIRECTS. THE NUMBER OF PCMS MAY BE MORE THAN SHOWN ON THIS DETAIL.
5. PCMS SHALL FOLLOW ARROW BOARD STANDARDS WHEN DISPLAYING FLASHING FOUR CORNER CAUTION MODE OR FLASHING ARROW MERGE MODE.



(5) PCMS MESSAGING

SPEEDS 0 MPH TO 19 MPH		SPEEDS 20 MPH TO 39 MPH		SPEEDS 40 MPH AND GREATER
FRAME 1	FRAME 2	FRAME 1	FRAME 2	
STOPPED TRAFFIC AHEAD	EXPECT DELAYS	SLOW TRAFFIC AHEAD	PREPARE TO STOP	(FLASHING CAUTION MODE)

TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022 — DATE
/S/ Erin Schwark — WORK ZONE ENGINEER
FHWA

6

SDD 15D12 - 10e

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SDD 15D12 - 10e

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

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

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

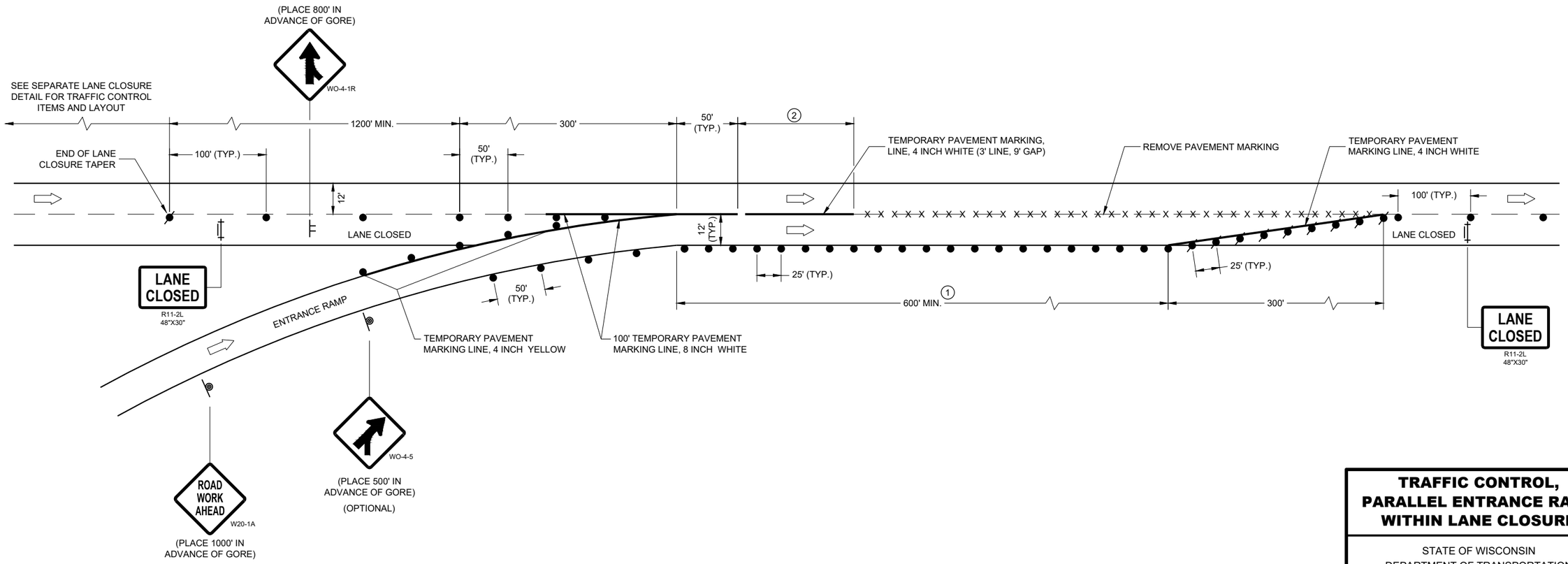
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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

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



TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D15 - 06a

6

SDD 15D15 - 06a

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

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

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

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

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

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

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

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

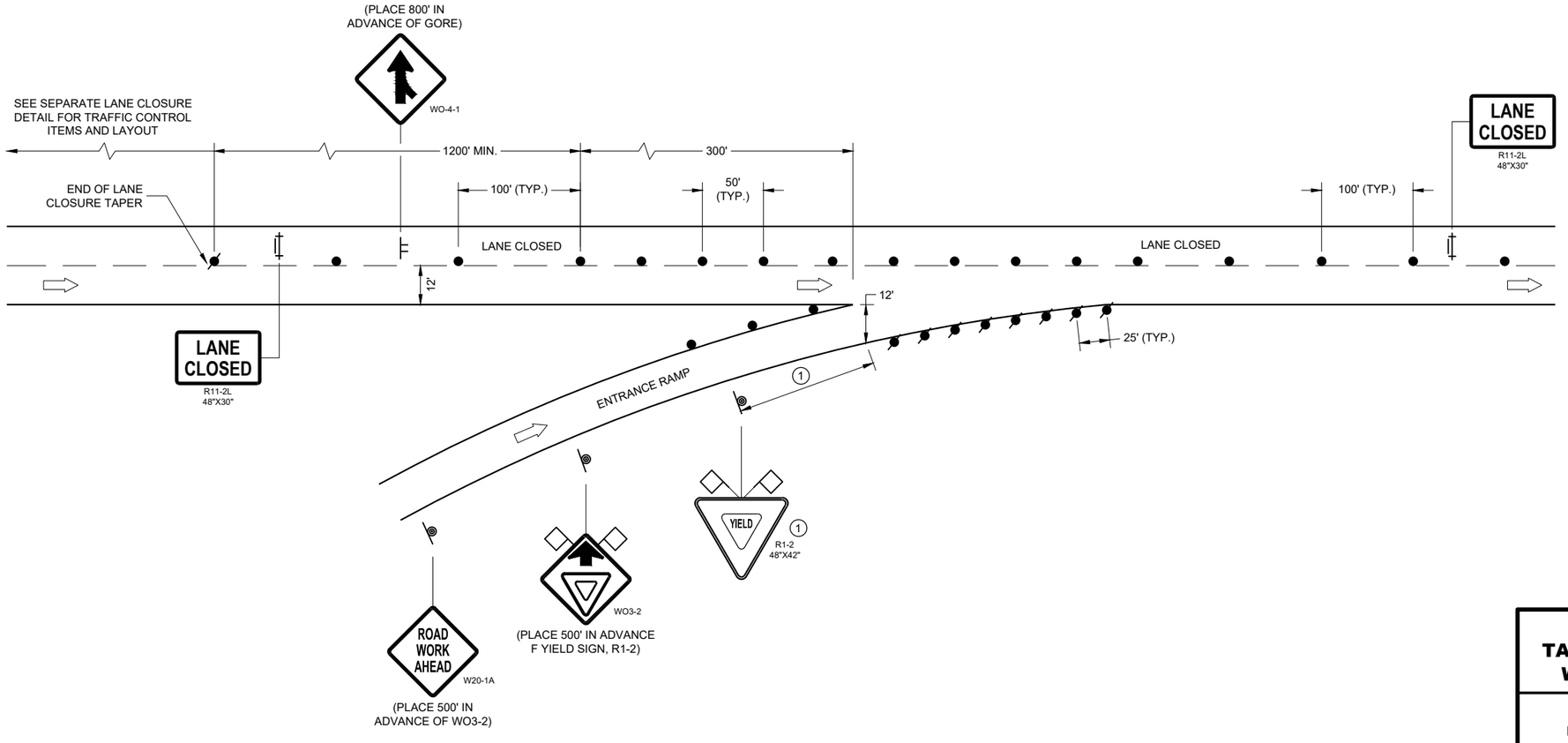
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

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

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

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

(1) PLACE YIELD SIGN TO PROVIDE ADEQUATE SIGHT DISTANCE AND ACCELERATION DISTANCE.



TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D15 - 06d

SDD15D15 - 06d

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

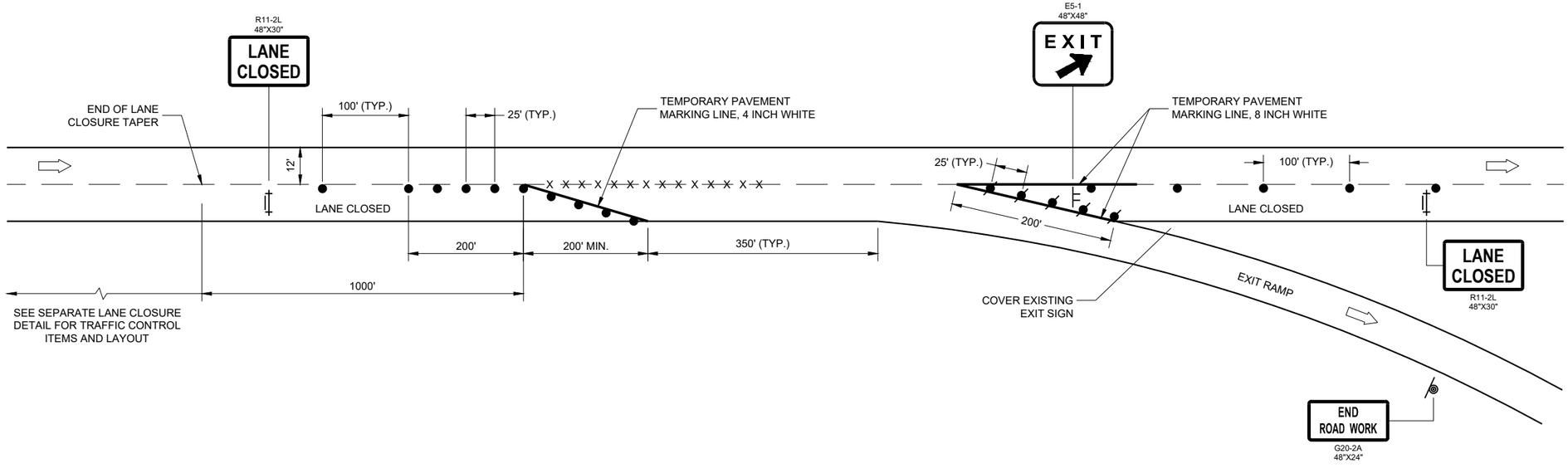
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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



TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D15 - 06e

6

SDD15D15 - 06e

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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

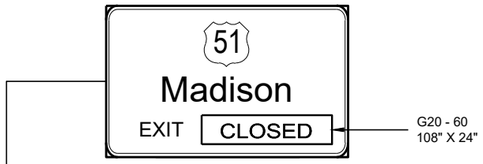
PLACE TEMPORARY PAVEMENT MARKING LINE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

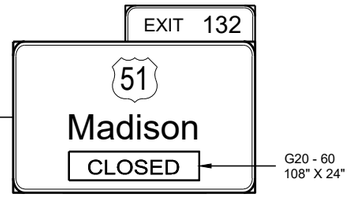
WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

(1) W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

(2) PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



OR



PLACE SIGN G20 - 60 OVER MILEAGE ON EXISTING E1 - 1A SIGN

COVER ARROW ON EXISTING E4 - 1 SIGN (COVERING SIGNS TYPE I)

G20 - 61
120 ' X 30"

OR

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE

/S/ Andrew Heidtke
ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 15D16 - 05

6

SDD 15D16 - 05

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

GENERAL NOTES

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45MPH, USE SDD 15D12.

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"X 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

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

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

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

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

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

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

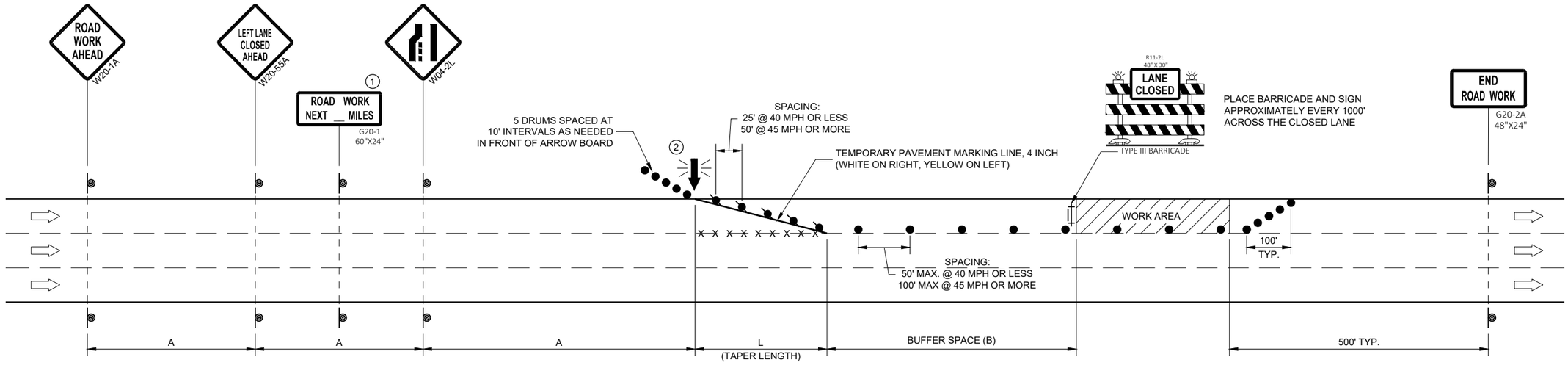
BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

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

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

(2) WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO PLACE THE ARROW BOARD AS SHOWN, PLACE THE ARROW BOARD AT THE END OF THE TAPER.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'

TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY

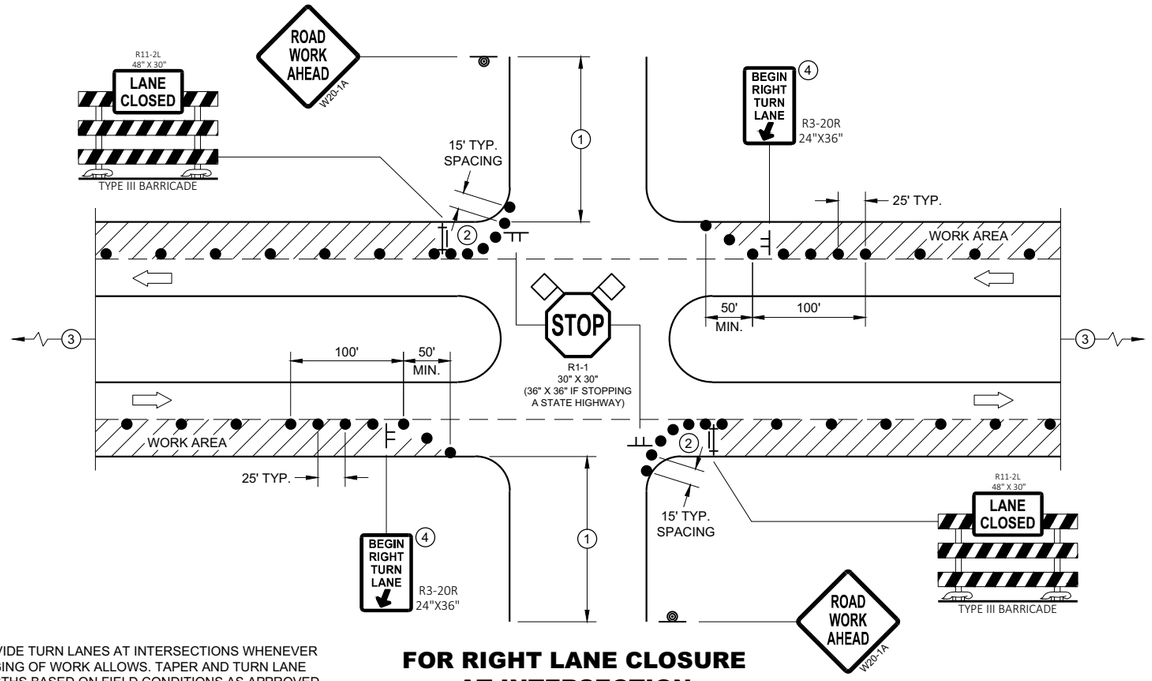
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

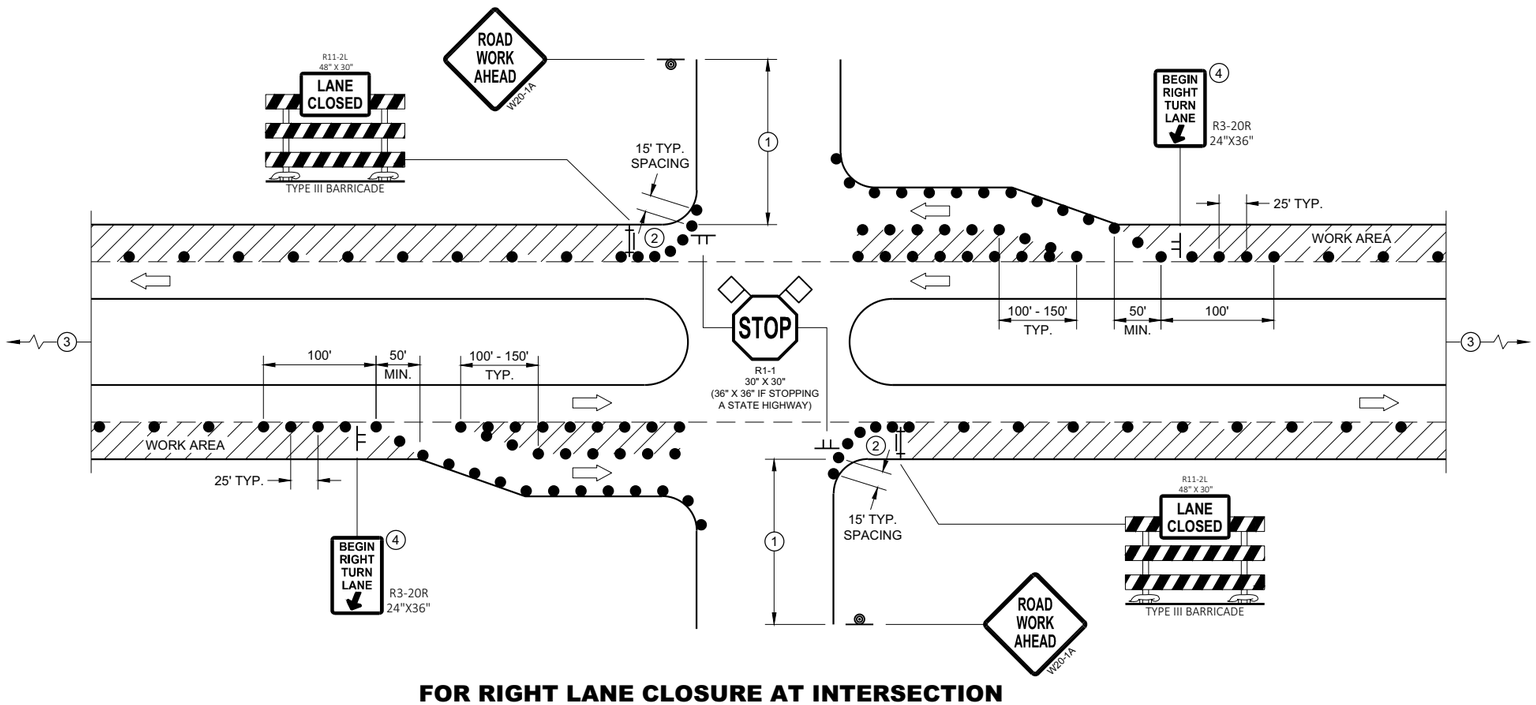
6

SDD15D20 - 06a



FOR RIGHT LANE CLOSURE AT INTERSECTION

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

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

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

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

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

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

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

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

(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE

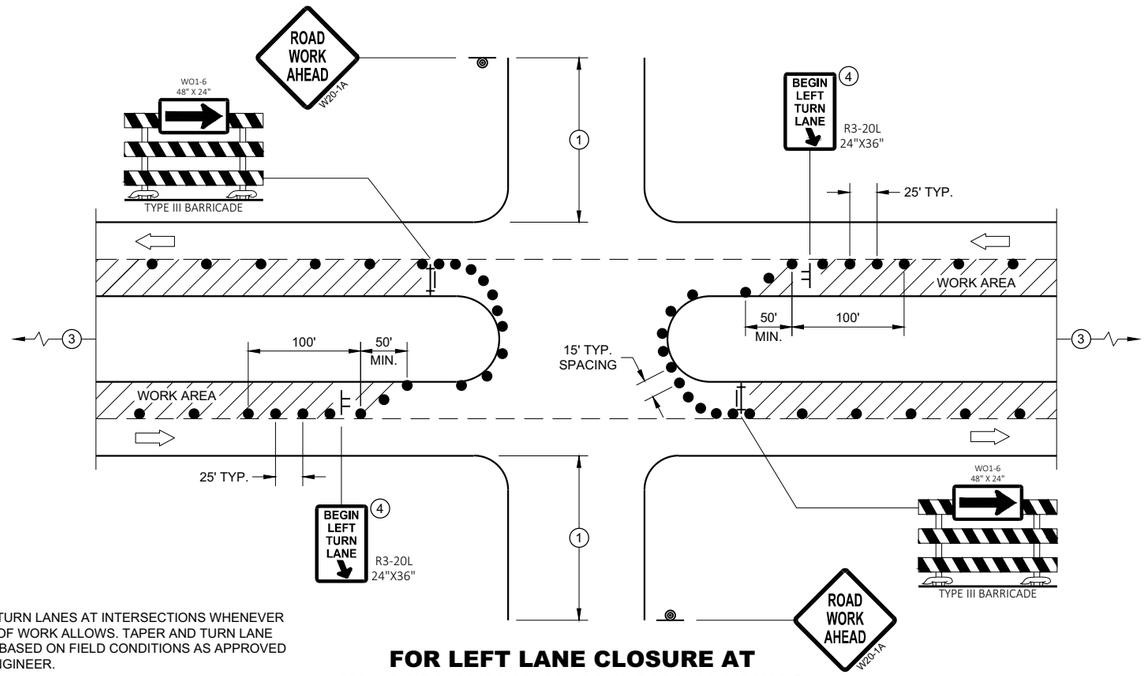
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15D21 - 07a

6

SDD 15D21 - 07a



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

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

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

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

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

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

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

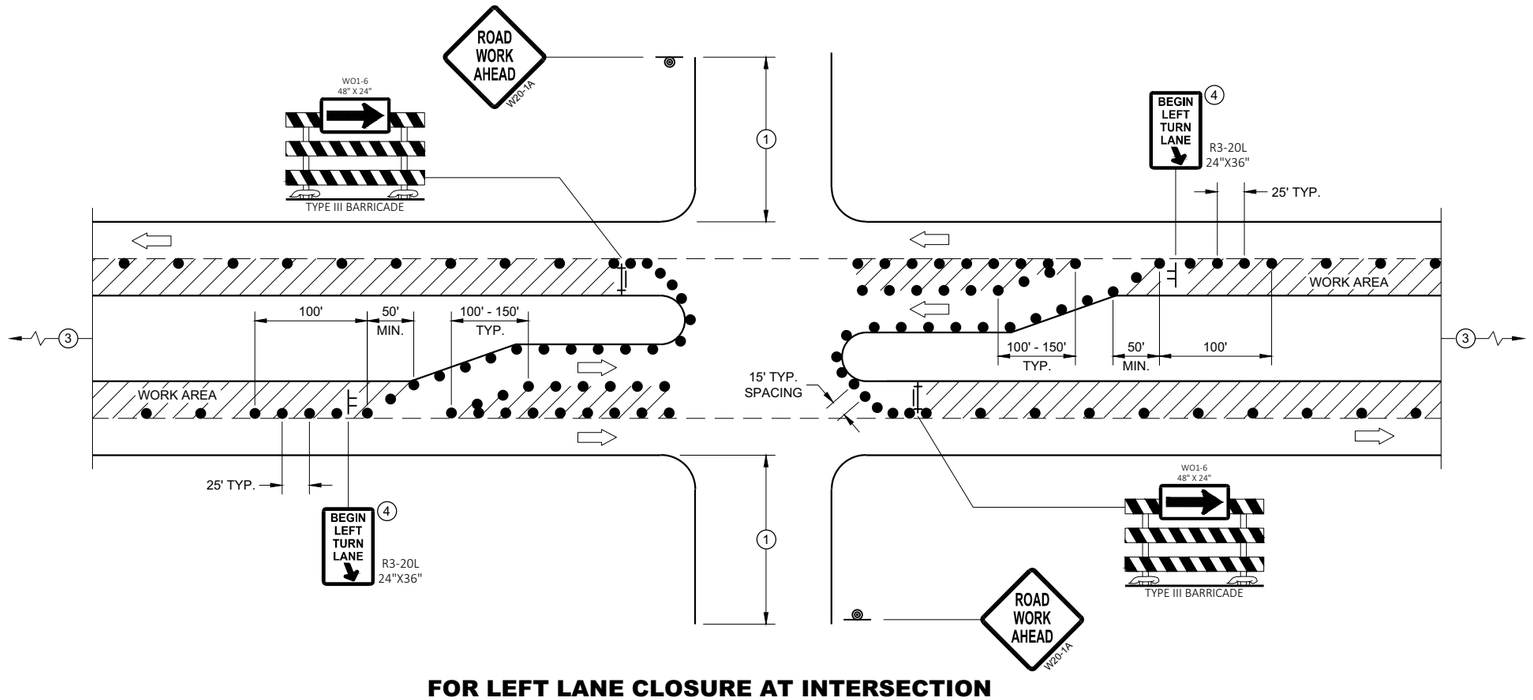
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

6

SDD 15D21 - 07b

6

SDD 15D21 - 07b

LEGEND

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

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

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

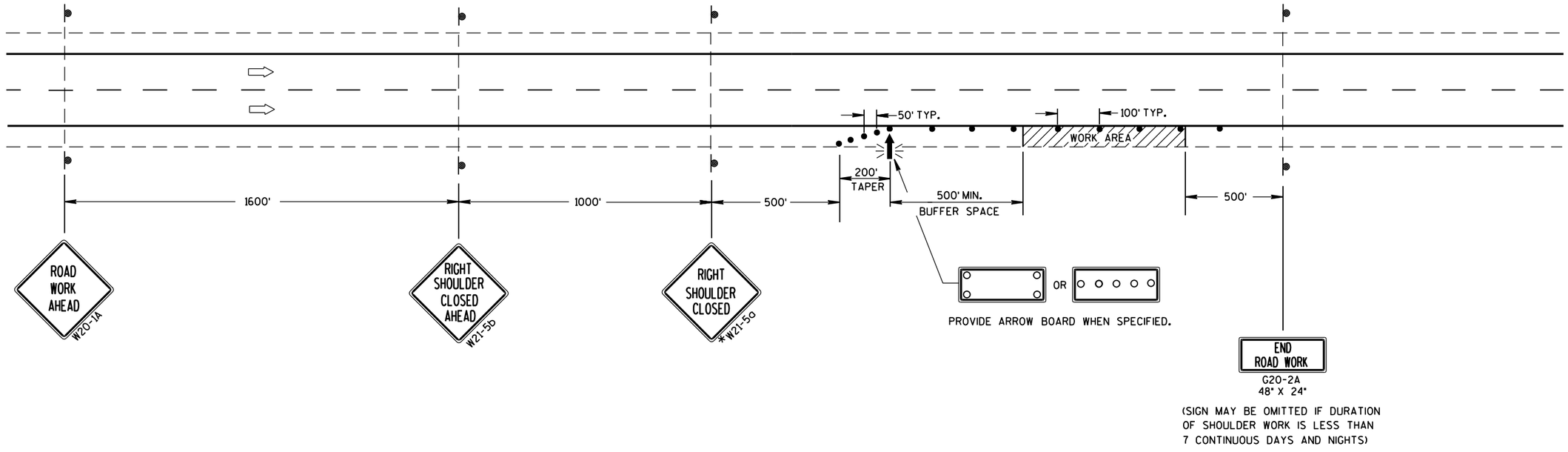
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

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

FHWA

6

S.D.D. 15 D 27-3

GENERAL NOTES

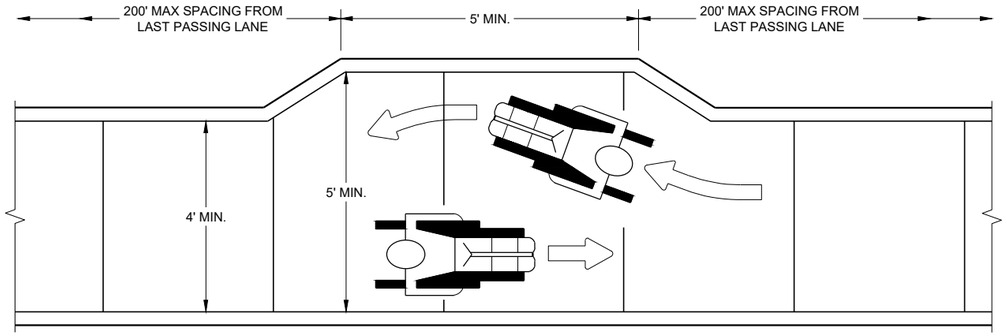
BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

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

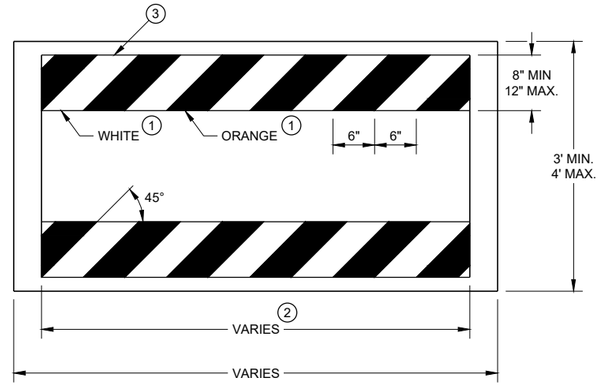
(2) SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.

(3) PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

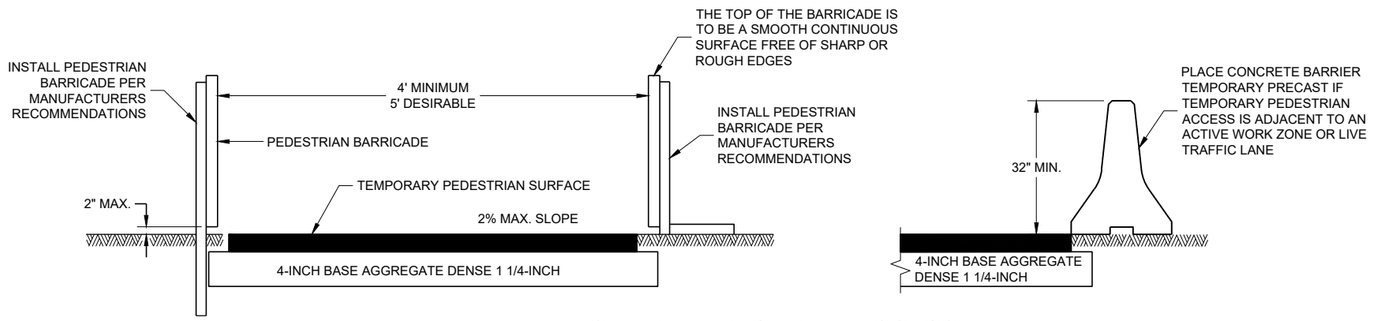
* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.



NARROW SIDEWALK PASSING DETAIL



TEMPORARY PEDESTRIAN BARRICADE*

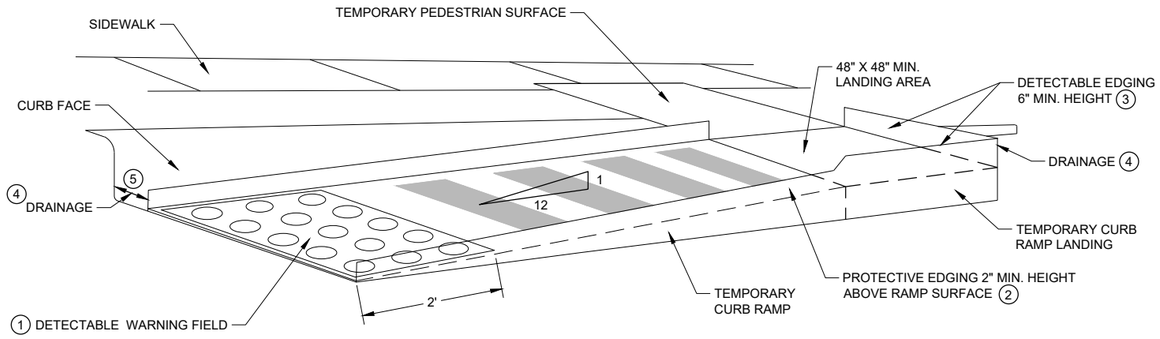


TEMPORARY PEDESTRIAN ACCESS

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6

SDD 15D30 - 07a



PERSPECTIVE VIEW

GENERAL NOTES

CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

(1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.

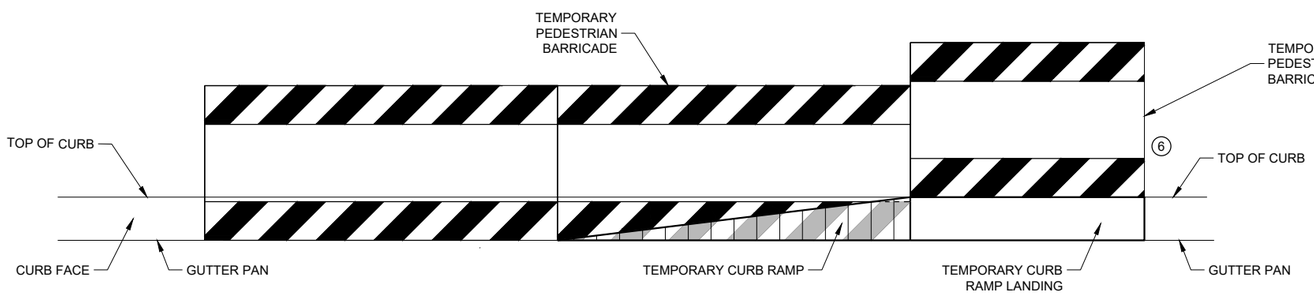
(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

(3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

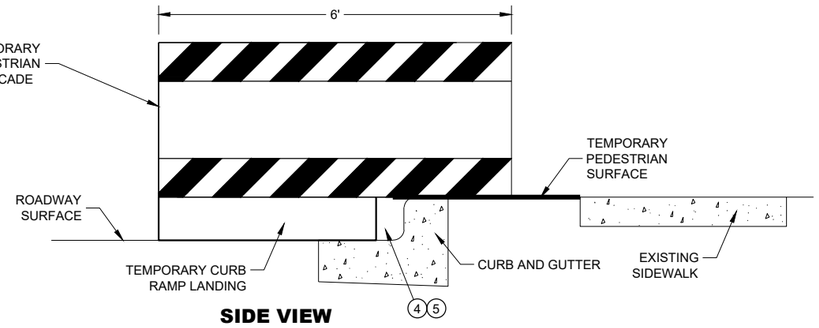
(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(5) 6" MINIMUM BETWEEN CURB FACE AND EDGE OF RAMP

(6) IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.



FRONT VIEW



SIDE VIEW

TEMPORARY CURB RAMP PARALLEL TO CURB

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

300

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SDD 15D30 - 07b

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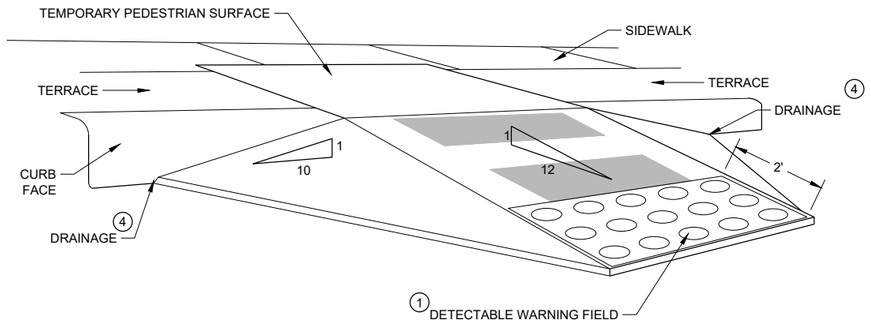
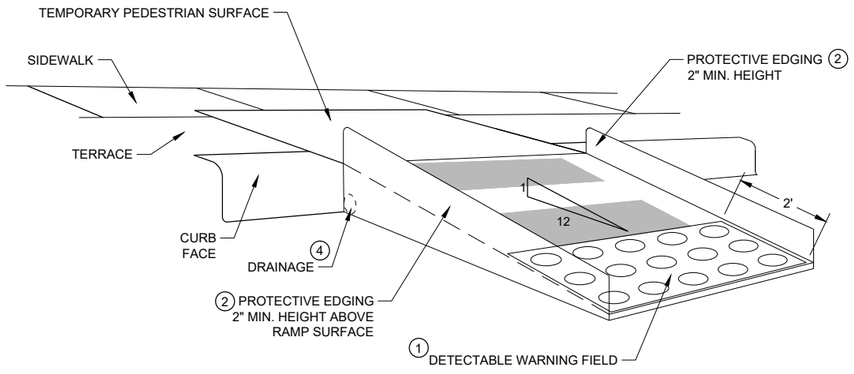
SDD 15D30 - 07b



WITH SIDE APRON (5)



WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

(1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS

(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

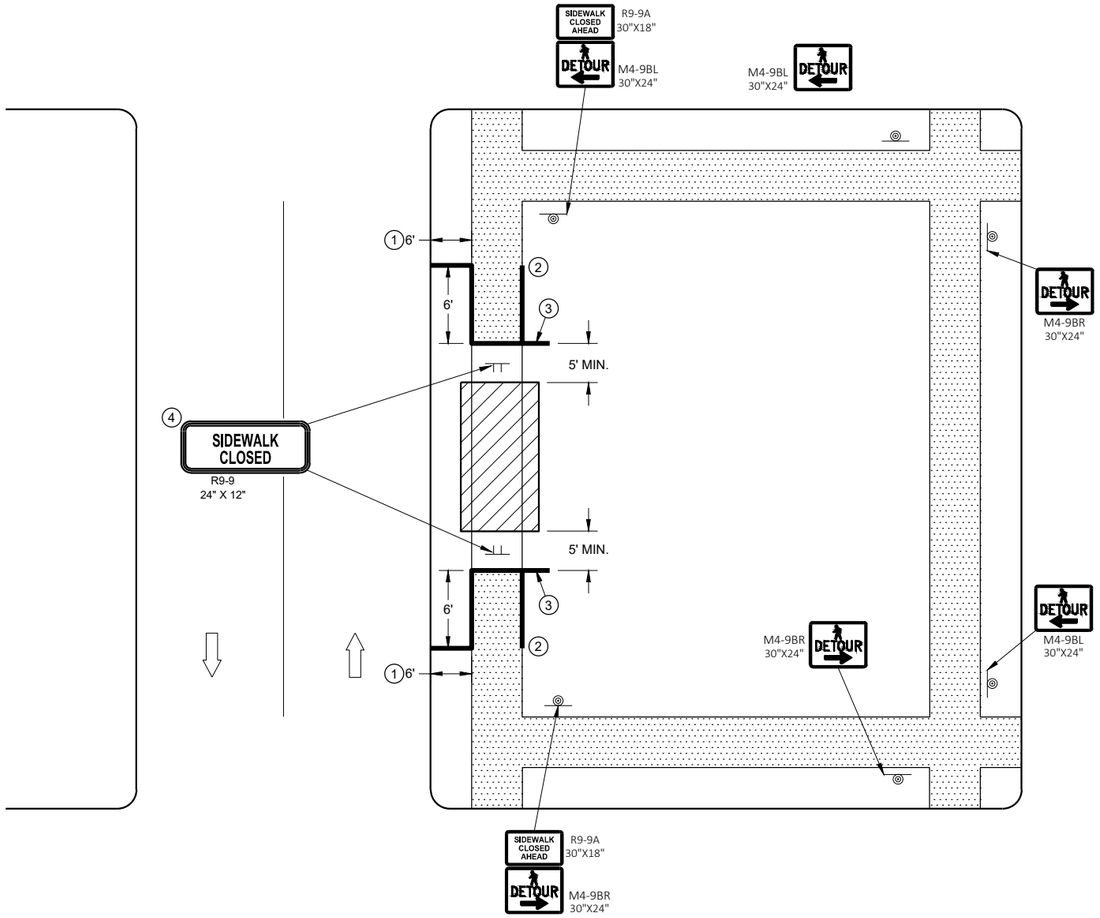
(3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(5) CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC



SIDEWALK DETOUR, SIDEWALK ONLY ON ONE SIDE

GENERAL NOTES

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

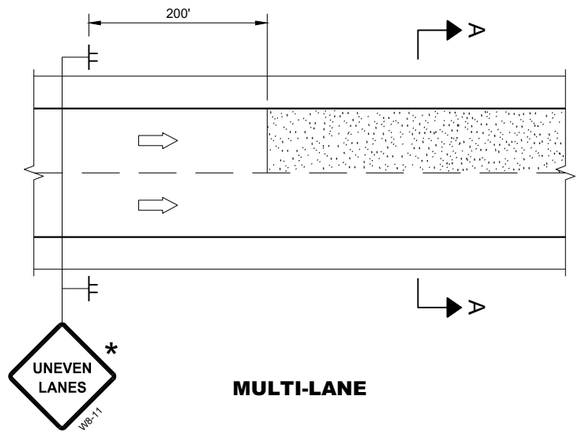
SIGNS THAT REMAIN IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

1. IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
2. PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
3. IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
4. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.

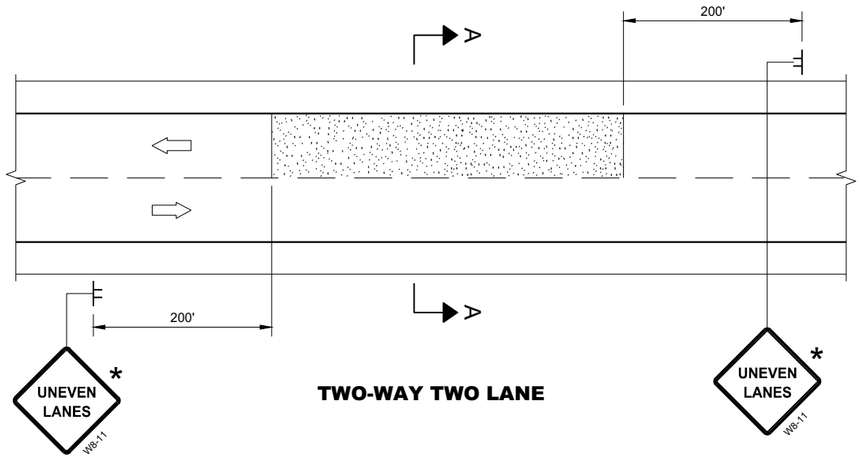
TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6

SDD 15D30 - 07f



MULTI-LANE



TWO-WAY TWO LANE

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

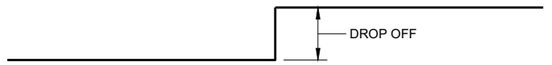
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

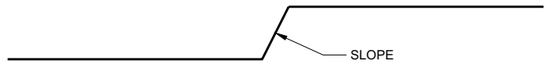
LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

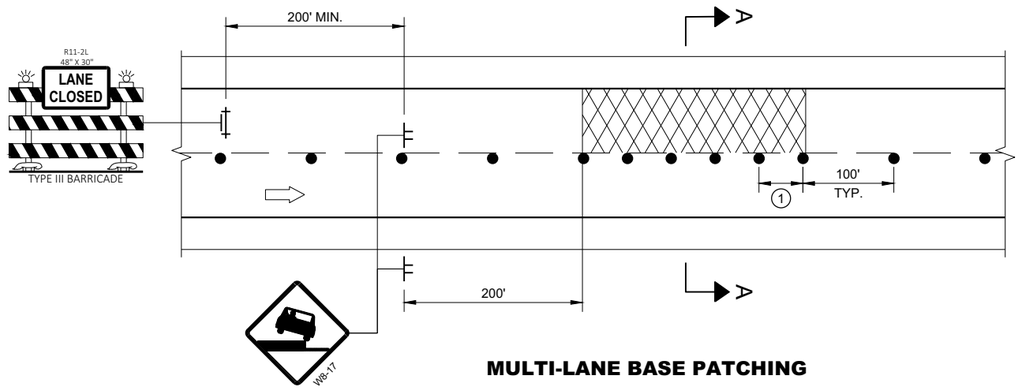


SECTION A - A

OR

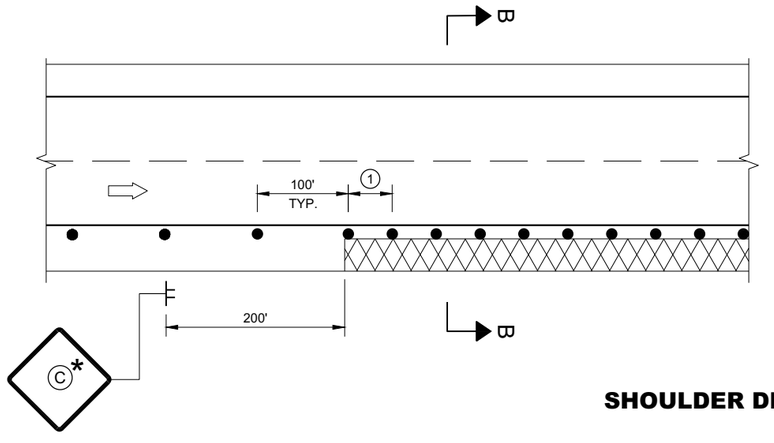


SECTION A - A

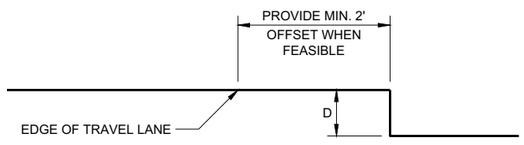


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D39 - 02

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- CONCRETE BARRIER TEMPORARY PRECAST

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

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

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

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

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

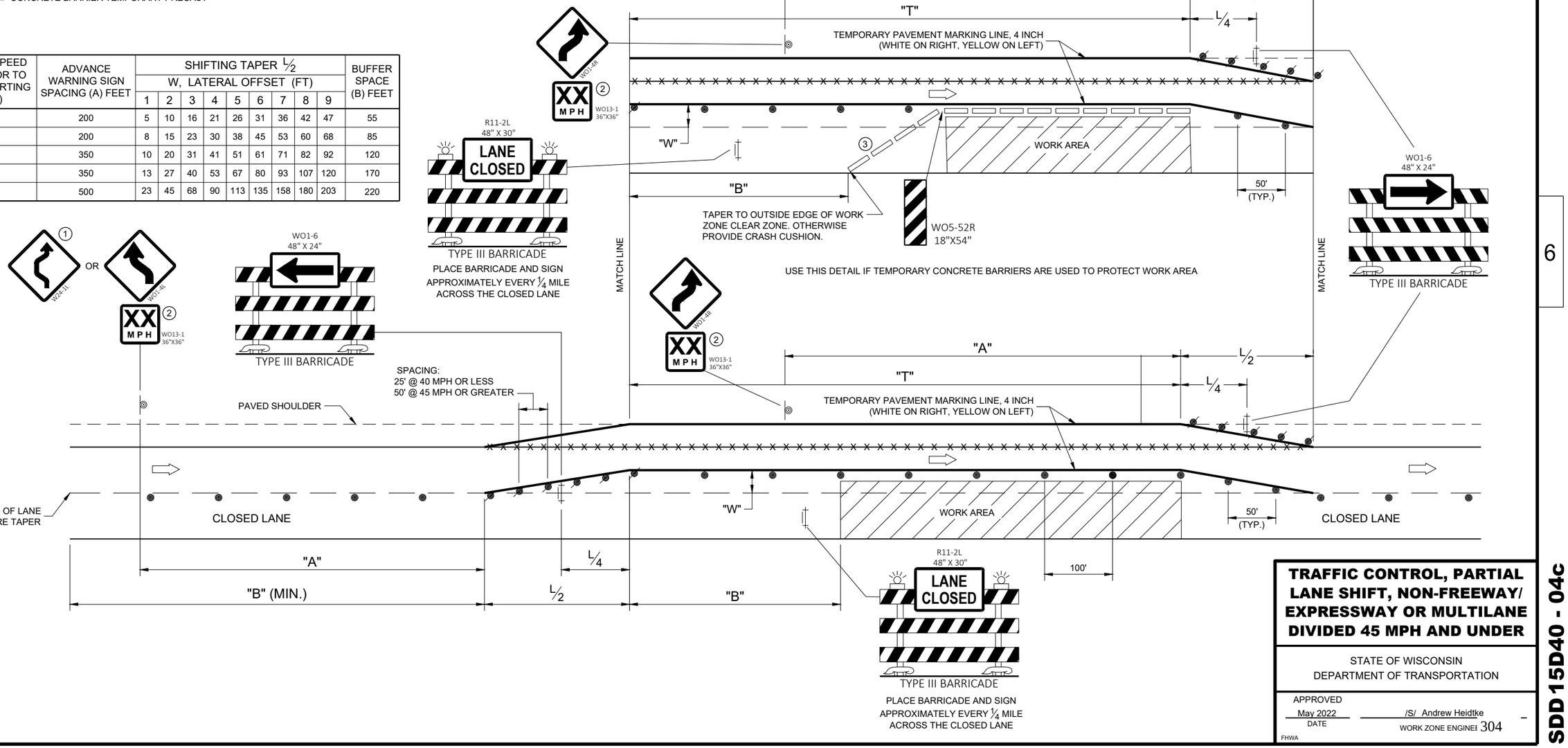
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

(1) USE ONLY WHEN T<600', OMIT WO1-4R.

(2) IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.

(3) BARRIER FLARE RATE: 6:1 @ 40 MPH OR LESS
8:1 @ 45 MPH OR GREATER

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)									BUFFER SPACE (B) FEET
		1	2	3	4	5	6	7	8	9	
25	200	5	10	16	21	26	31	36	42	47	55
30	200	8	15	23	30	38	45	53	60	68	85
35	350	10	20	31	41	51	61	71	82	92	120
40	350	13	27	40	53	67	80	93	107	120	170
45	500	23	45	68	90	113	135	158	180	203	220



TRAFFIC CONTROL, PARTIAL LANE SHIFT, NON-FREEWAY/ EXPRESSWAY OR MULTILANE DIVIDED 45 MPH AND UNDER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D40 - 04c

SDD 15D40 - 04c

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- CONCRETE BARRIER TEMPORARY PRECAST

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)								
	1	2	3	4	5	6	7	8	9
50	25	50	75	100	125	150	175	200	225
55	28	55	83	110	138	165	193	220	248
60	30	60	90	120	150	180	210	240	270
65	33	65	98	130	163	195	228	260	293
70	35	70	105	140	175	210	245	280	315

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

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

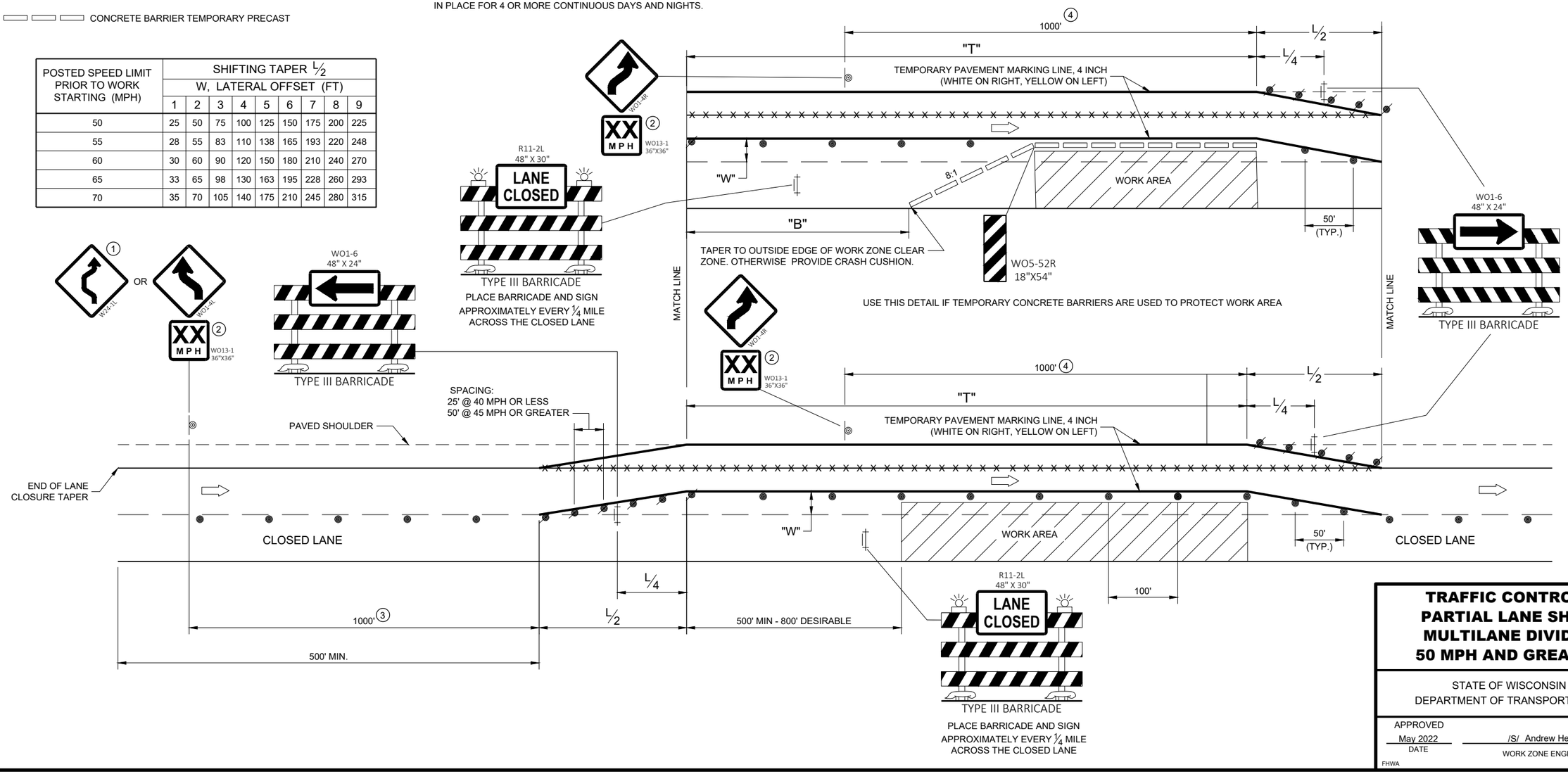
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

1. USE ONLY WHEN T<600', OMIT WO1-4R.
2. IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.
3. IF THE BEGINNING OF LANE SHIFT TAPER IS 1200 FEET OR LESS FROM END OF LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE LANE CLOSURE TAPER.
4. IF THE BEGINNING OF THE SECOND LANE SHIFT TAPER IS 1200 FEET OR LESS FROM END OF THE FIRST LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE FIRST LANE CLOSURE TAPER.



TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

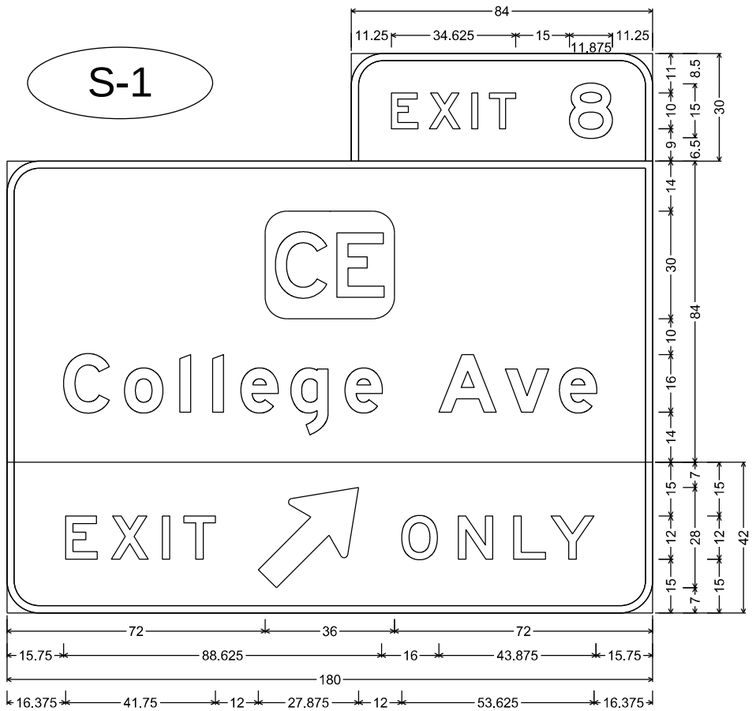
SDD 15D40 - 04d

SDD 15D40 - 04d

NOTES

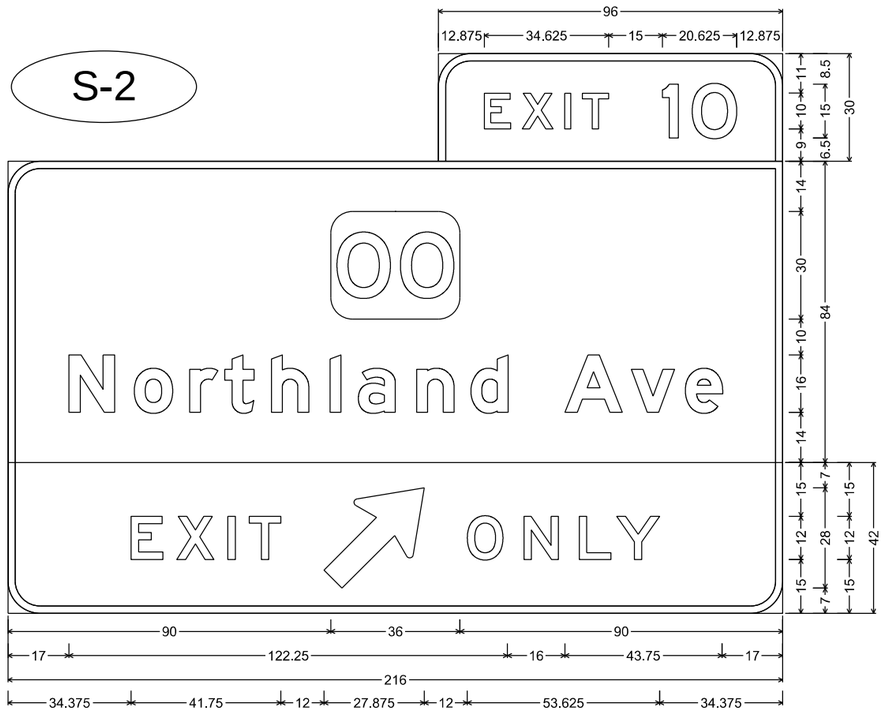
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all Cap Words Series E
4. Exit Only Panel background on Yellow Type F Reflective Sheeting with Black Non-Reflective Message

S-1

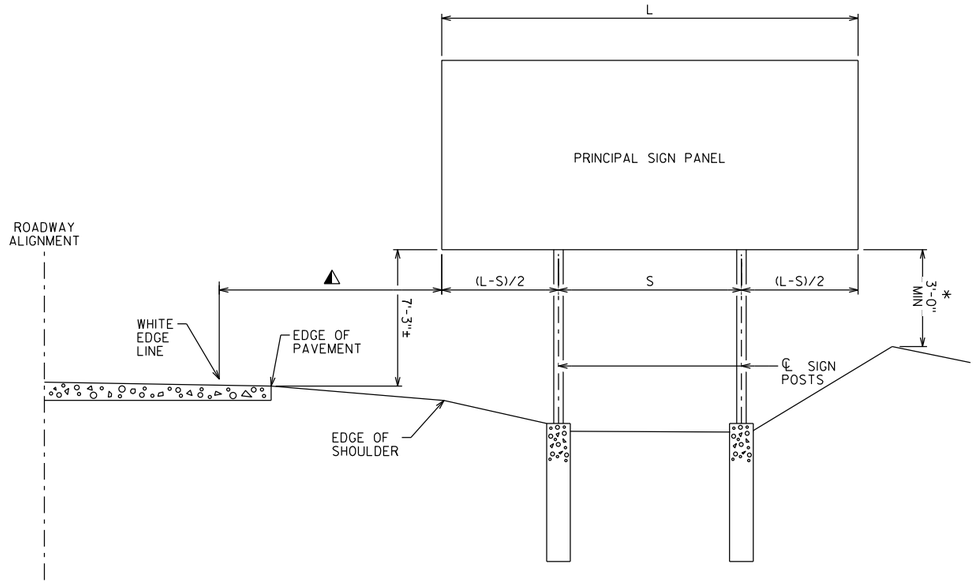


E1-5P; 9.000" Radius, 2.000" Border
E6-1; 9.000" Radius, 2.000" Border
E11-1D; 9.000" Radius, 2.000" Border, Black on, Yellow

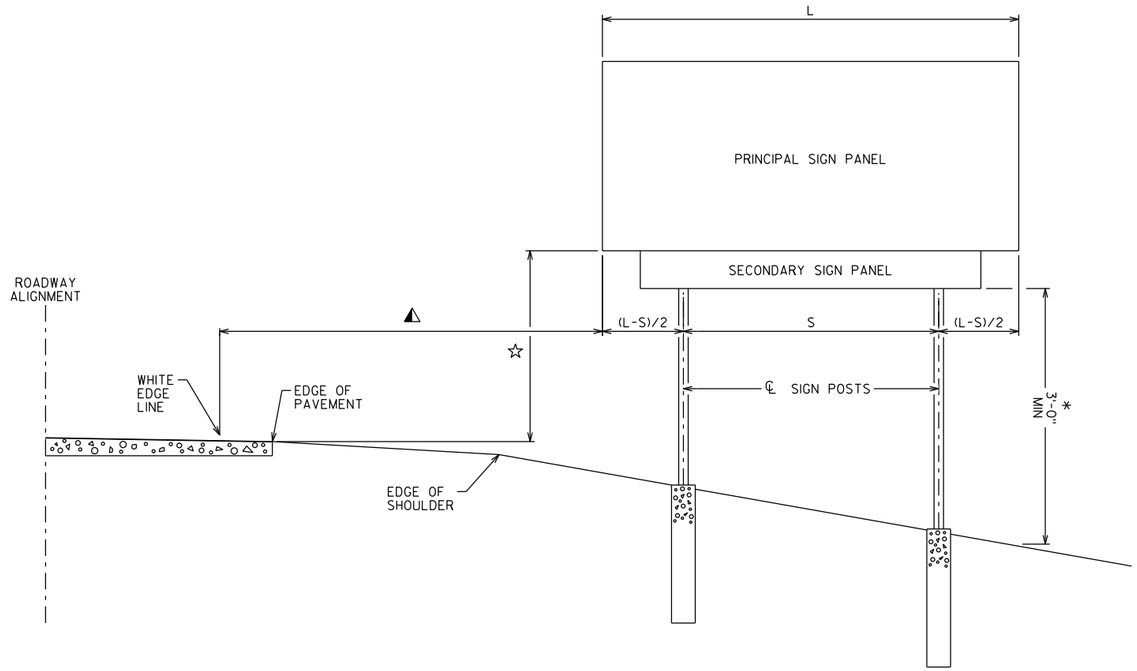
S-2



E1-5P; 9.000" Radius, 2.000" Border
E6-1; 9.000" Radius, 2.000" Border
E11-1D; 9.000" Radius, 2.000" Border, Black on, Yellow



INSTALLATION WITHOUT SECONDARY SIGN



INSTALLATION WITH SECONDARY SIGN

TYPE 1 SIGN INSTALLATION NOTES:

FOR A 2-POST INSTALLATION, "S" EQUALS 3L/5, BUT SHALL NOT BE LESS THAN 6'-0".

FOR A 3-POST INSTALLATION, "S" EQUALS 5L/7, BUT SHALL NOT BE LESS THAN 12'-0". THE SPACING BETWEEN ANY TWO POSTS SHALL NOT BE LESS THAN 6'-0".

⚠ UNLESS NOTED IN THE PLANS, THE SIGN OFFSET DISTANCE SHALL BE A MINIMUM OF 17'-6" FROM THE WHITE EDGE LINE, DESIRABLE 30'-0".

THE ± TOLERANCE SHOWN ON THIS SHEETS IS 3".

THE VERTICAL SIGN HEIGHT CLEARANCES SHOWN ON THIS SHEET ARE MEASURED FROM THE BOTTOM OF THE SIGN PANEL TO THE NEAR EDGE OF PAVEMENT.

☆ THE VERTICAL CLEARANCE SHALL BE 8'-3"± WHEN THE SECONDARY SIGN HEIGHT IS 3'-0" OR LESS. FOR SECONDARY SIGN HEIGHTS LARGER THAN 3'-0", THE VERTICAL CLEARANCE TO THE BOTTOM OF THE SECONDARY SIGN PANEL SHALL BE 5'-3"±.

* THE VERTICAL SIGN GROUND CLEARANCE ON RIGHT END OF SIGN SHALL BE A MINIMUM OF 3'-0"±.

POST LENGTHS SHOWN IN THE MISCELLANEOUS QUANTITIES ARE ESTIMATED LENGTHS. THE CONTRACTOR SHALL VERIFY POST LENGTHS AT THE TIME OF FINAL GRADING.

REFER TO THE TRAFFIC ENGINEERING OPERATIONS AND SAFETY MANUAL FOR FURTHER GUIDANCE ON MINIMUM VERTICAL CLEARANCE REQUIREMENTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

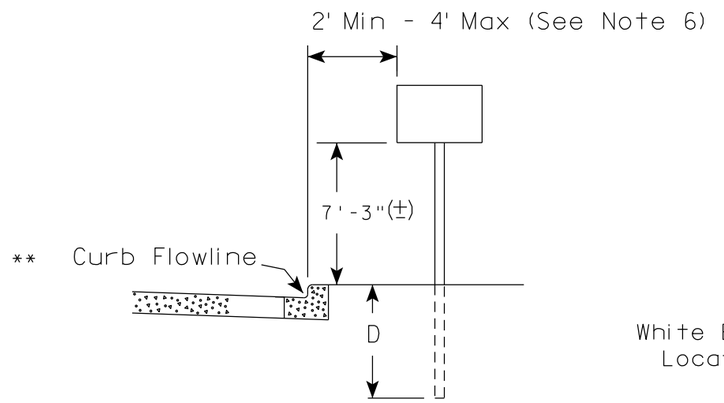
DRAWN BY | PLANS CK'D.

TYPICAL TYPE I SIGN INSTALLATION

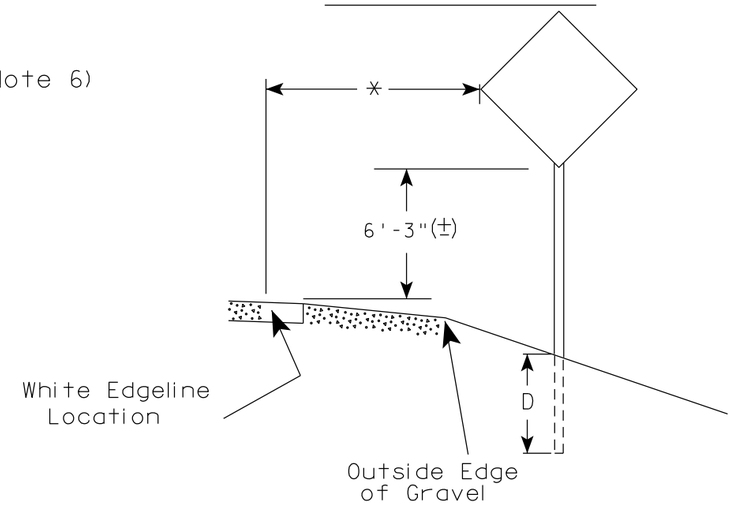
SHEET A4-1.10

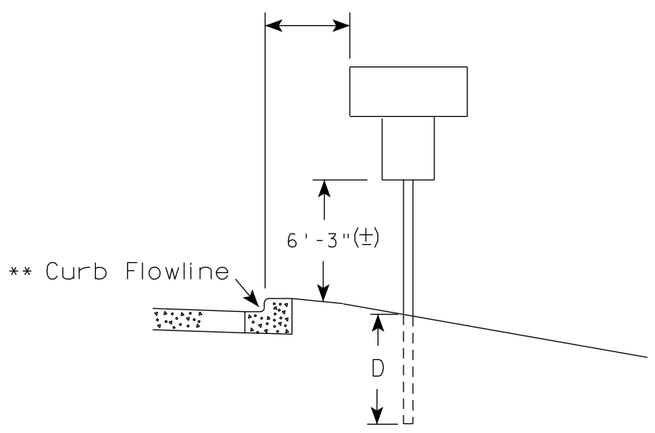
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 307	E

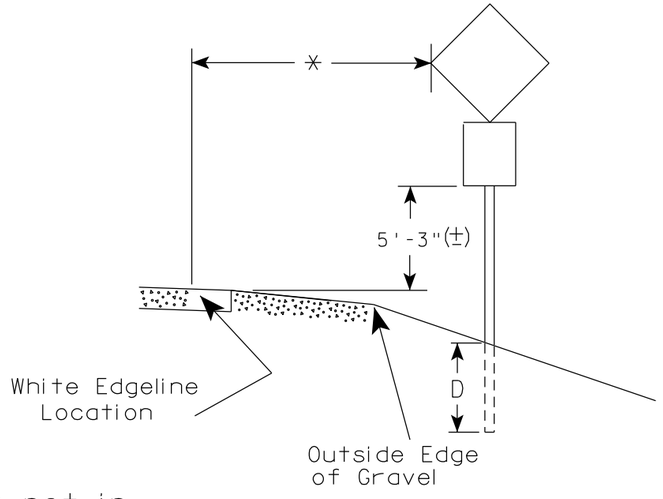
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

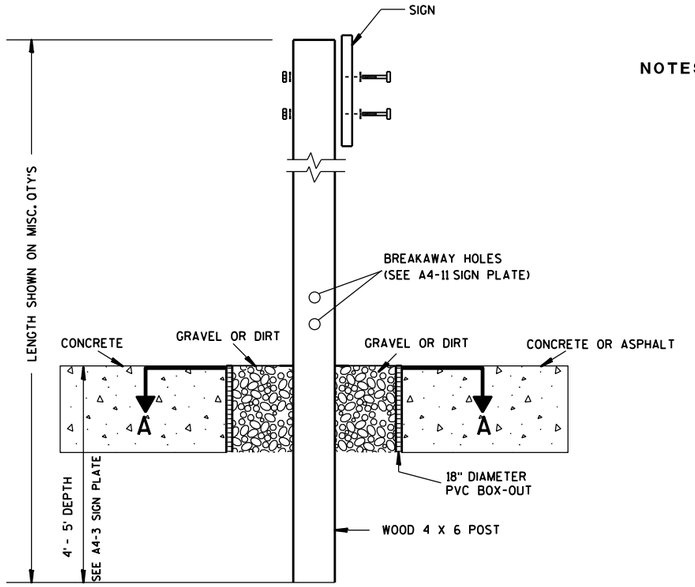
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

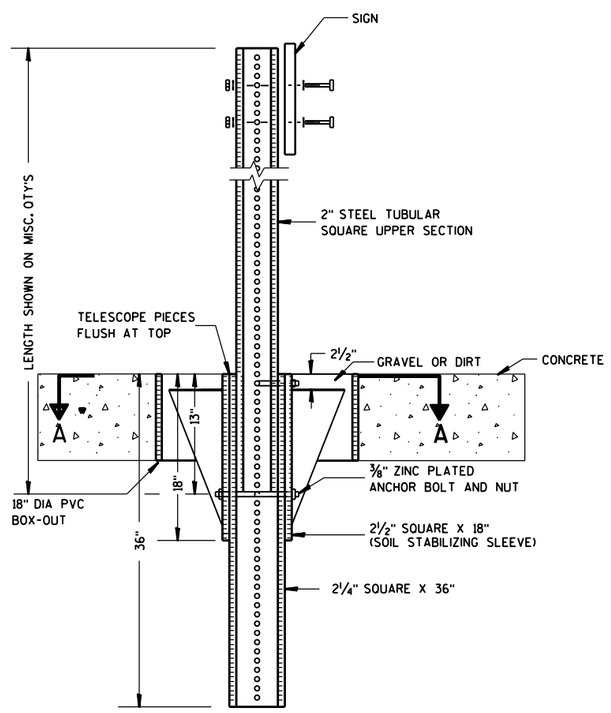
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 308	E



ELEVATION VIEW

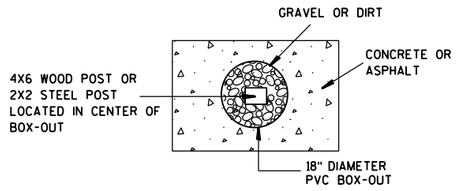
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

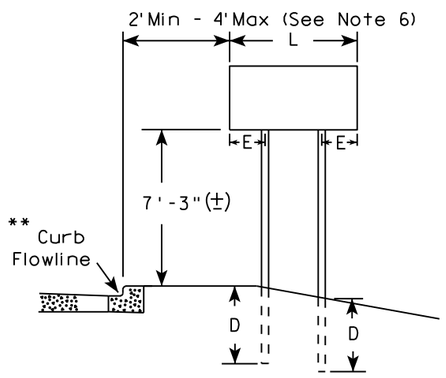
APPROVED Matthew R Rauch
for State Traffic Engineer

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

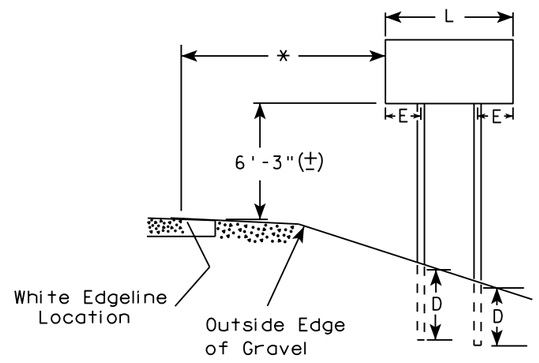
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

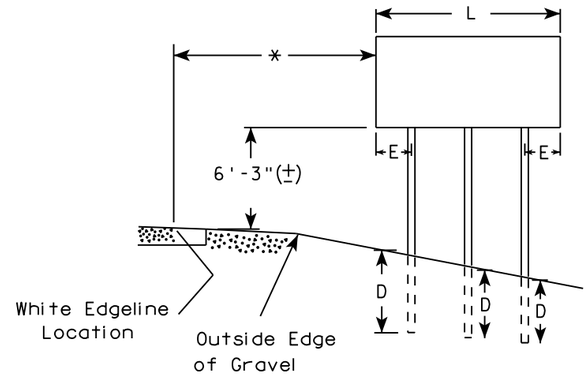
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

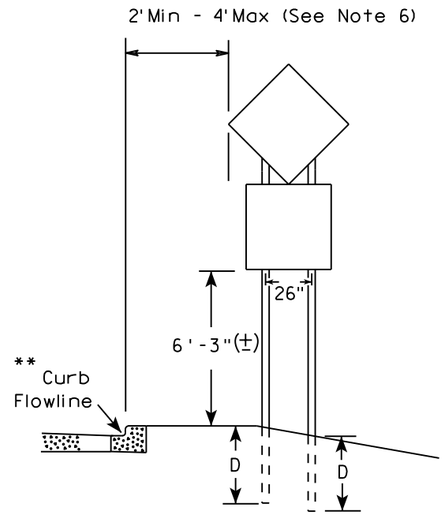
URBAN AREA



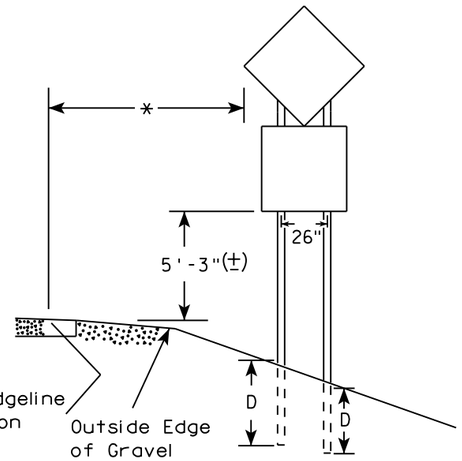
RURAL AREA (See Note 3)







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

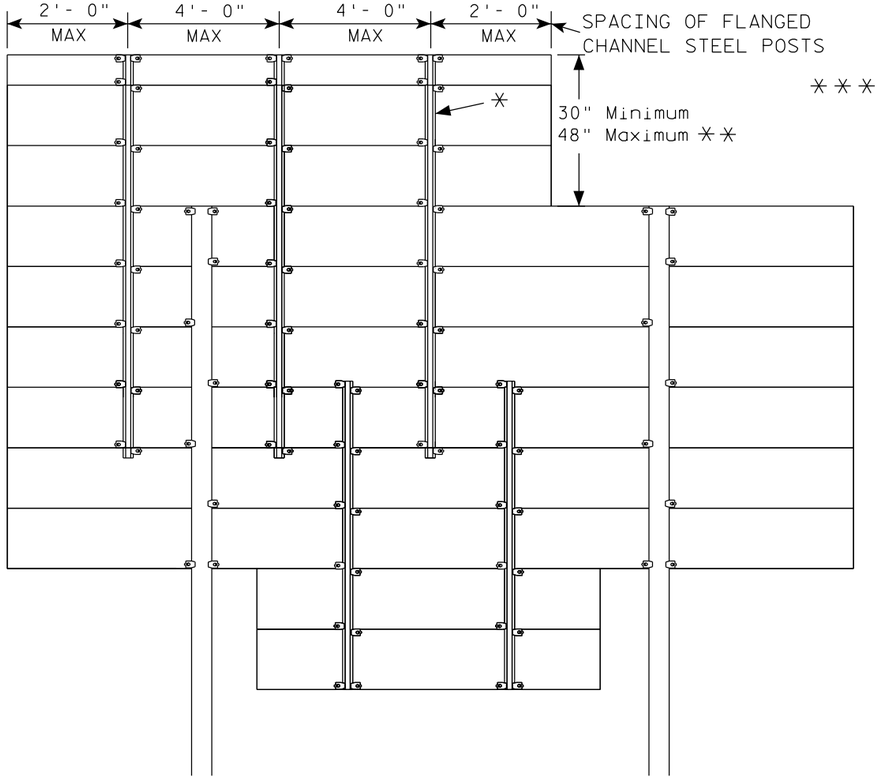
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 310	E

GROUND MOUNTED SIGN



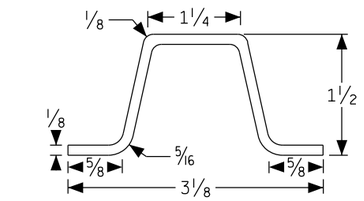
⁑=2.00 lb/ft AND 4.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

⁑⁑=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

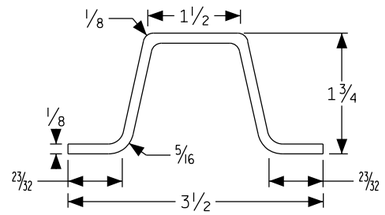
⁑⁑⁑ THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 15 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 15 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAILS

NOT TO SCALE

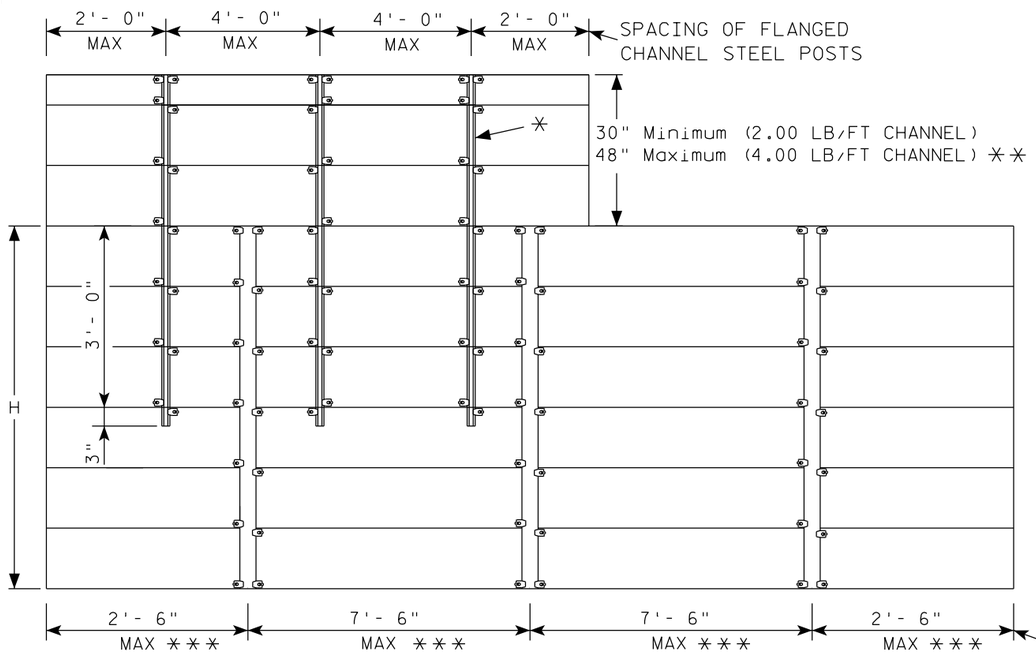


2.00 LB/FT CHANNEL



4.00 LB/FT CHANNEL

SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

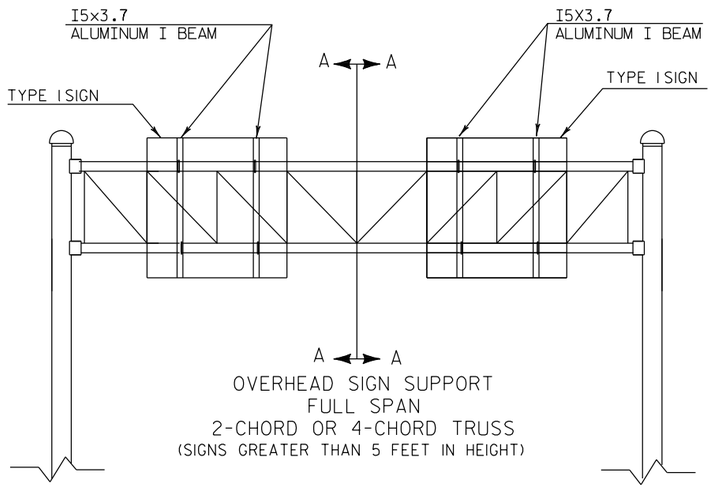
   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

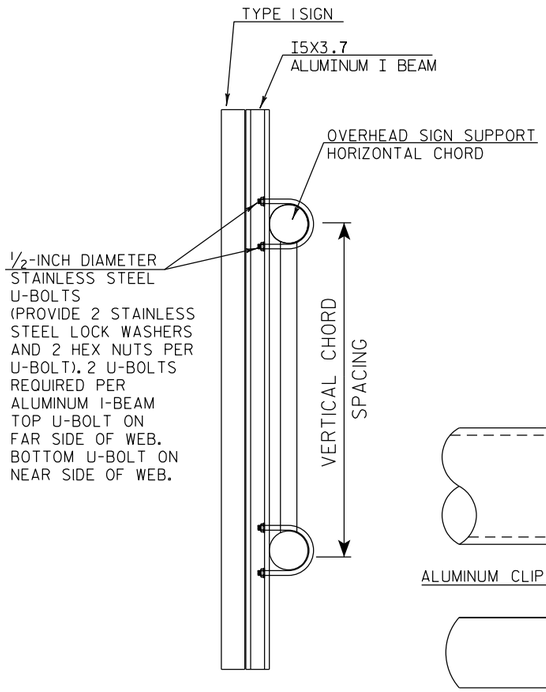
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

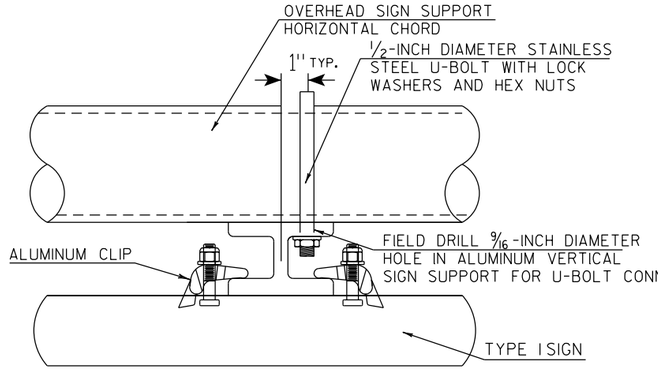
DATE 1/07/20 PLATE NO. A4-6.12



OVERHEAD SIGN SUPPORT
FULL SPAN
2-CHORD OR 4-CHORD TRUSS
(SIGNS GREATER THAN 5 FEET IN HEIGHT)



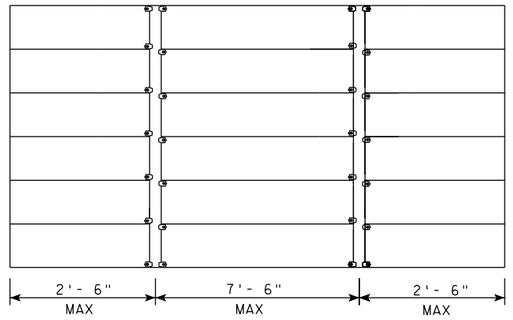
CUT SECTION A-A



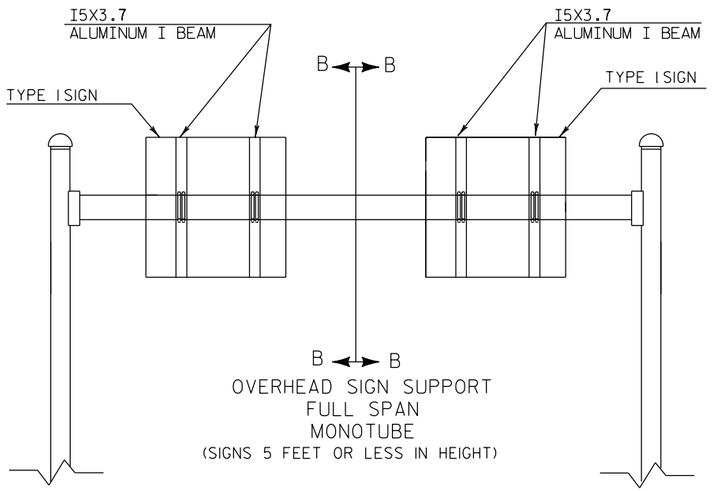
TYPICAL SIGN CONNECTION FOR
2-CHORD OR 4-CHORD TRUSS
PLAN VIEW

GENERAL NOTES

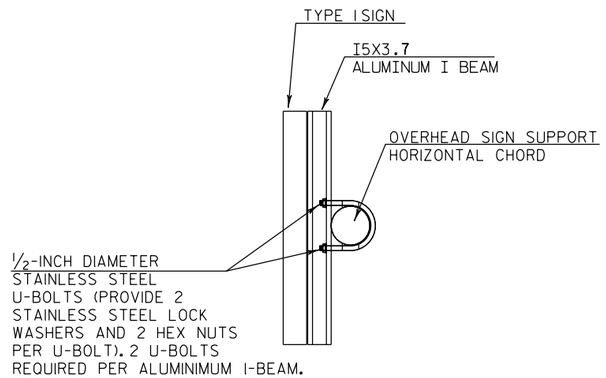
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.
9. SLOTTED HOLES IN I-BEAMS ARE NOT ALLOWED



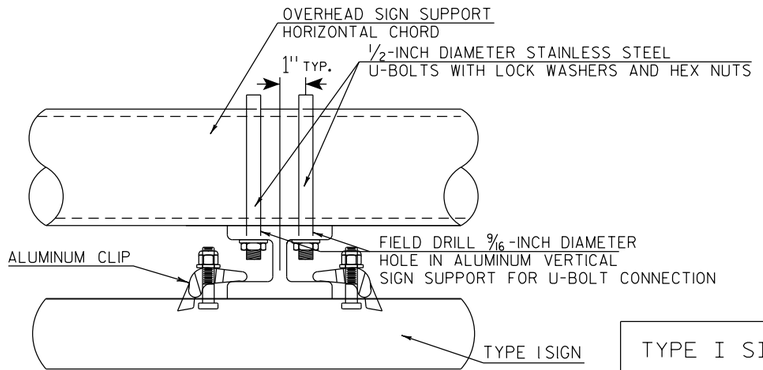
SPACING OF I5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



OVERHEAD SIGN SUPPORT
FULL SPAN
MONOTUBE
(SIGNS 5 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
MONOTUBE
PLAN VIEW

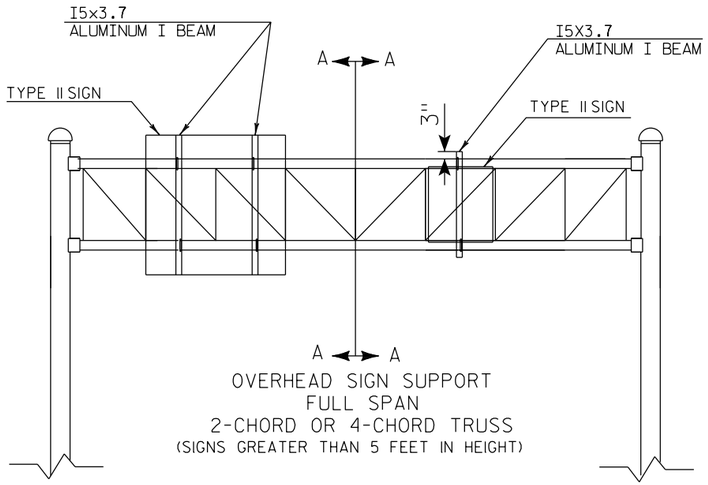
TYPE I SIGN CONNECTION
TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION

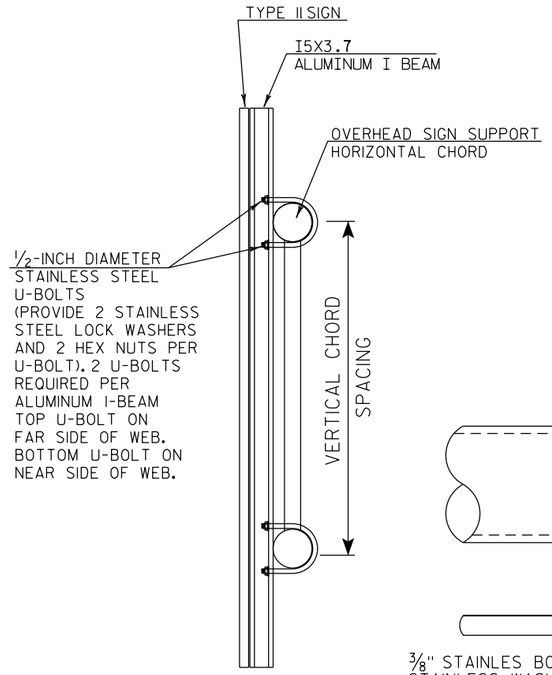
APPROVED Matthew R Rauch
State Traffic Engineer

DATE 1/07/20 PLATE NO. A4-7A.1

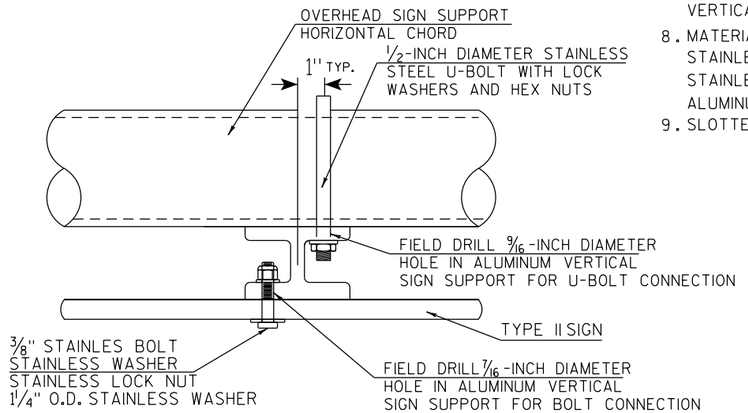
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 312	E



OVERHEAD SIGN SUPPORT
FULL SPAN
2-CHORD OR 4-CHORD TRUSS
(SIGNS GREATER THAN 5 FEET IN HEIGHT)



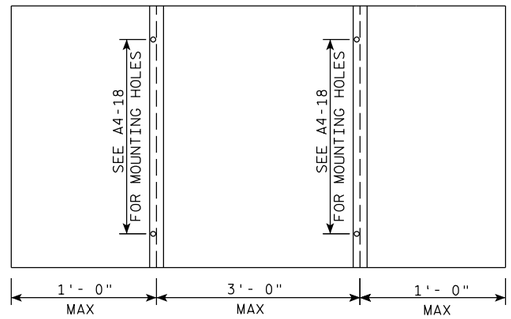
CUT SECTION A-A



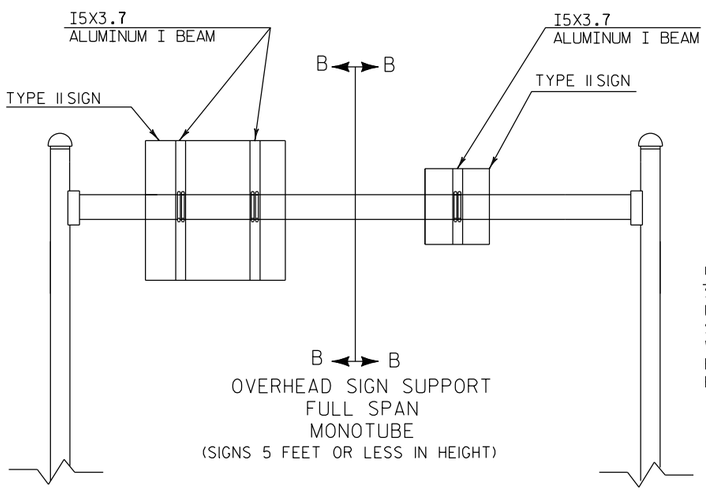
TYPICAL SIGN CONNECTION FOR
2-CHORD OR 4-CHORD TRUSS
PLAN VIEW

GENERAL NOTES

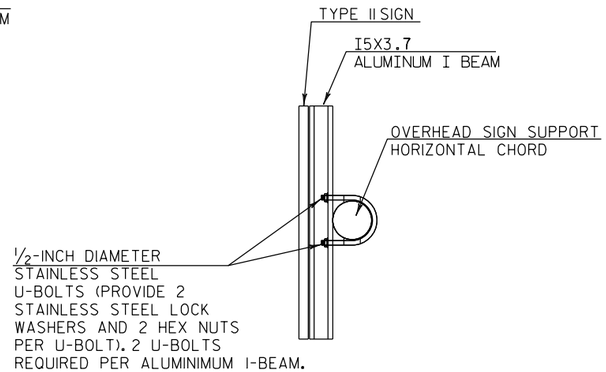
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE STAINLESS BOLTS AT BOLT HOLES IN SIGN PANEL PER SIGN PLATE A4-18.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS, BOLTS, AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.
9. SLOTTED HOLES IN I-BEAMS ARE NOT ALLOWED



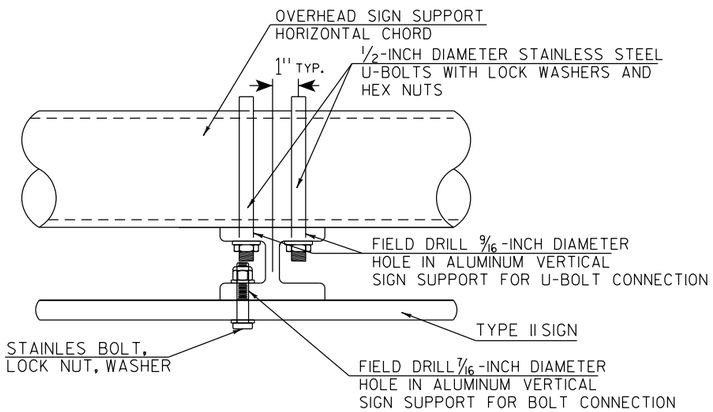
SPACING OF I5X3.7 ALUMINUM
MULTIPLE VERTICAL SIGN SUPPORTS



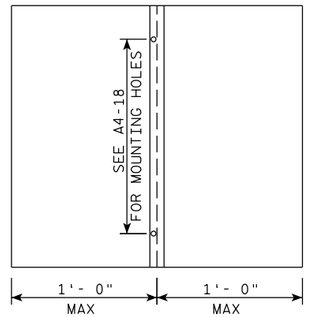
OVERHEAD SIGN SUPPORT
FULL SPAN
MONOTUBE
(SIGNS 5 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
MONOTUBE
PLAN VIEW



SPACING OF I5X3.7 ALUMINUM
SINGLE VERTICAL SIGN SUPPORT

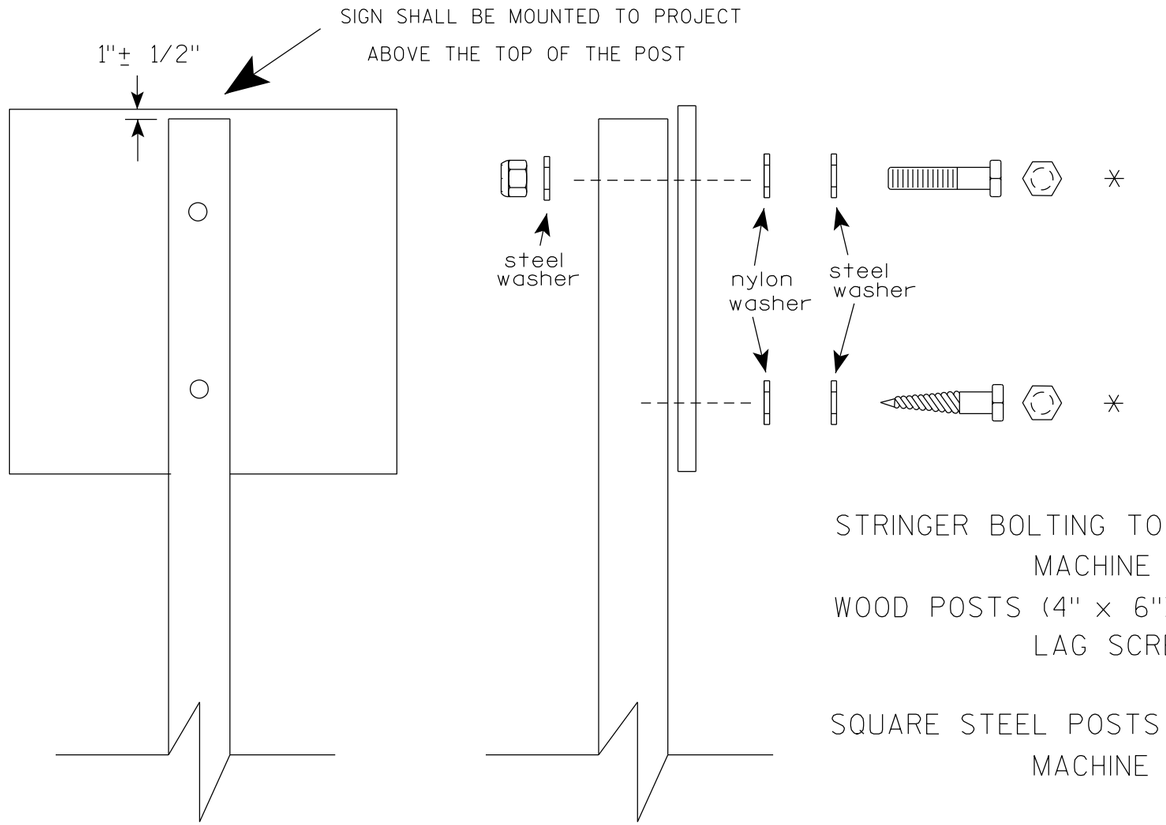
TYPE II SIGN CONNECTION TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/07/20 PLATE NO. A4-7B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 313	E



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

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

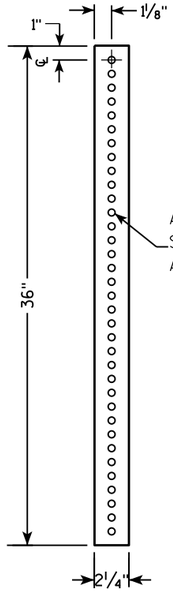
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

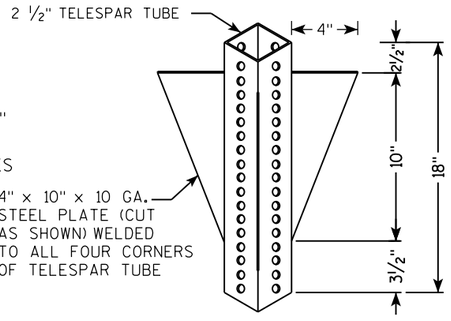
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

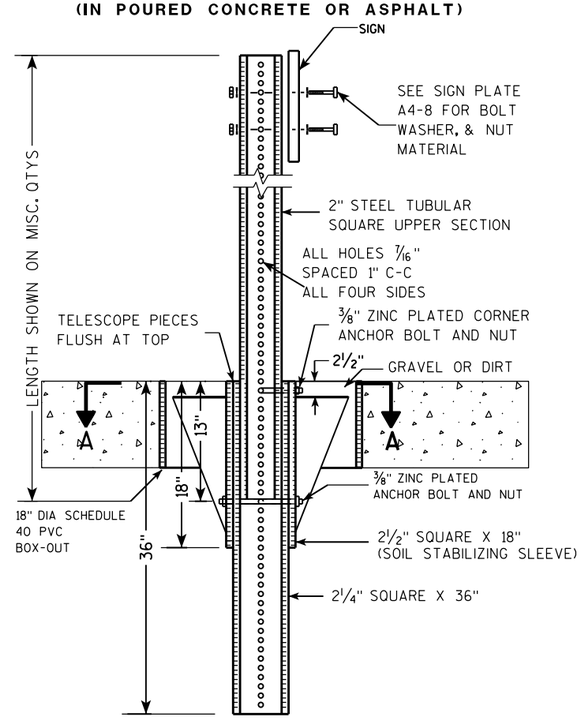
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



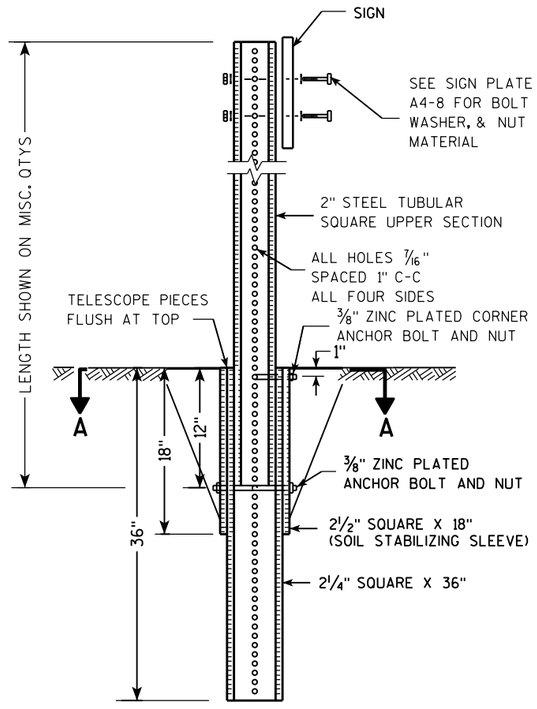
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

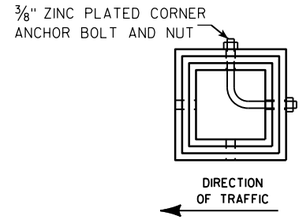


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

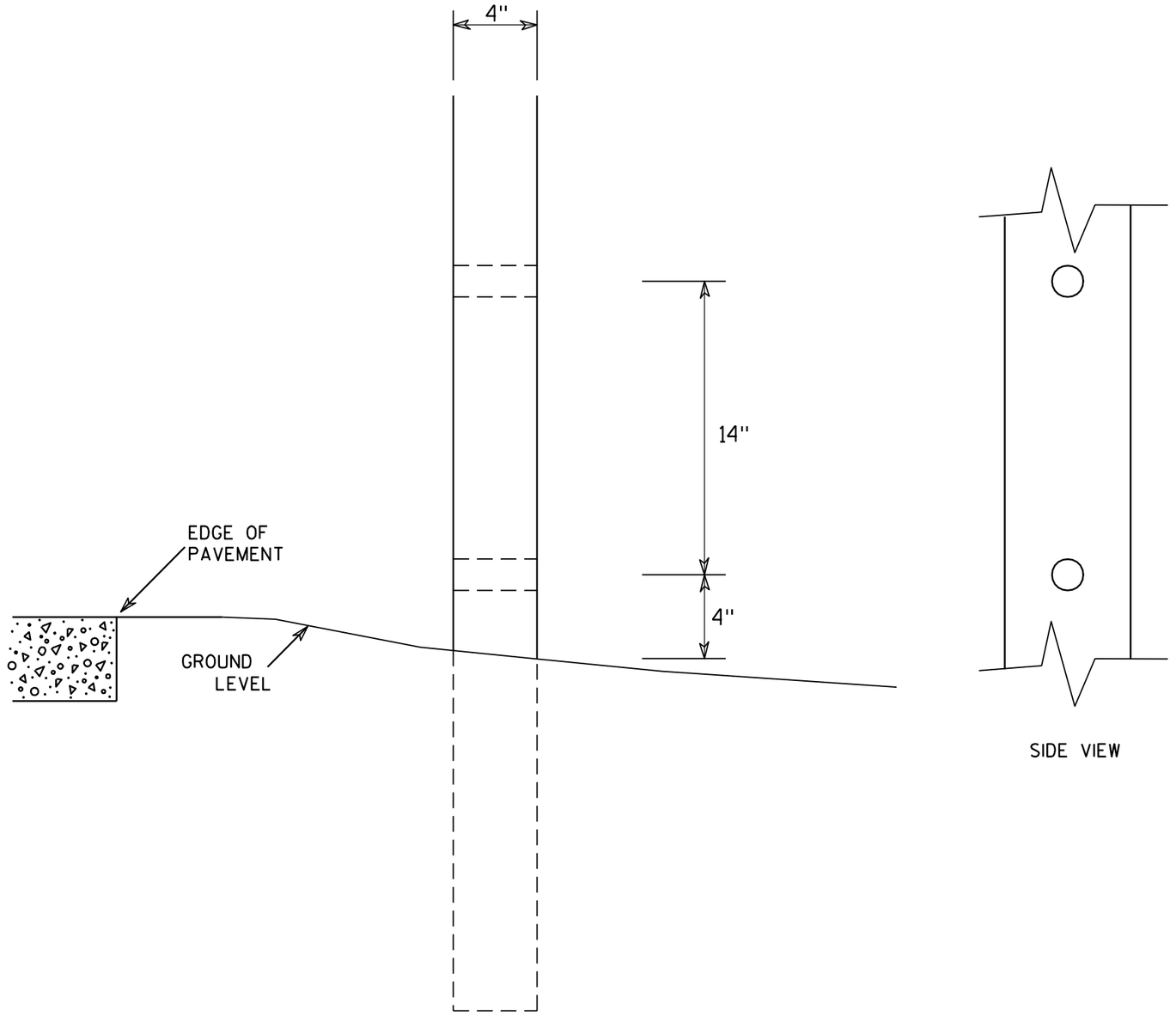
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 315 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

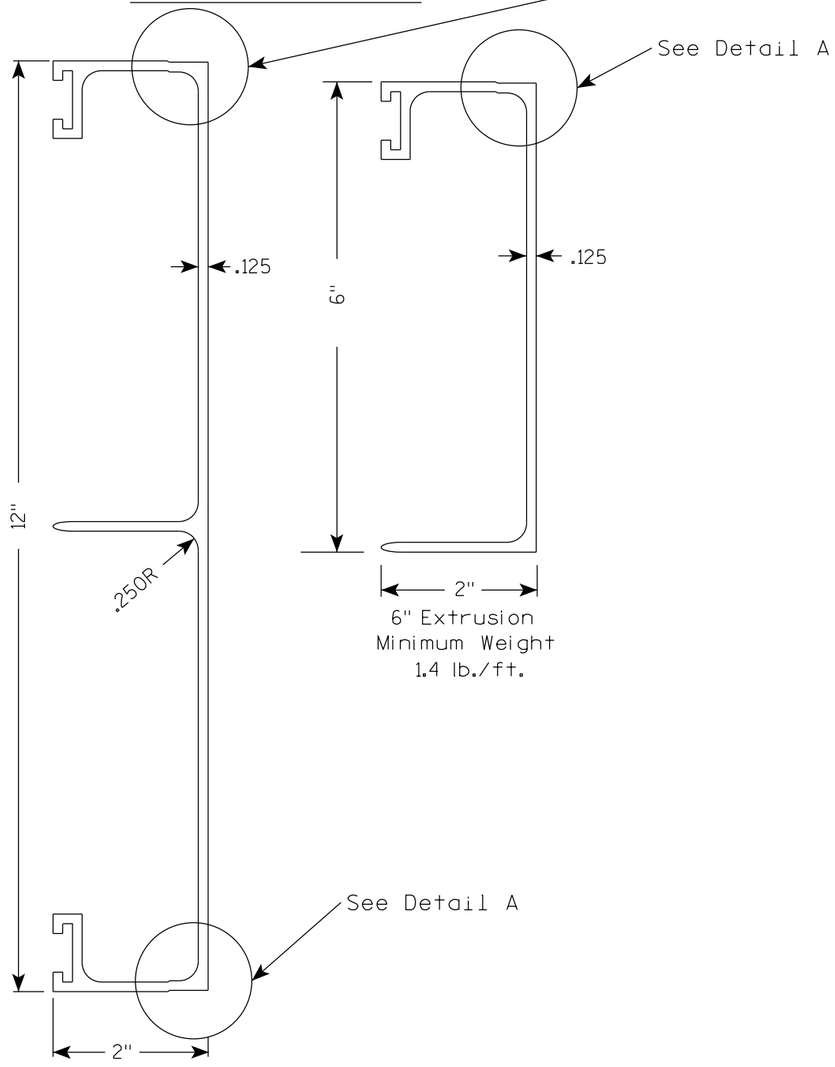
WISCONSIN DEPT OF TRANSPORTATION

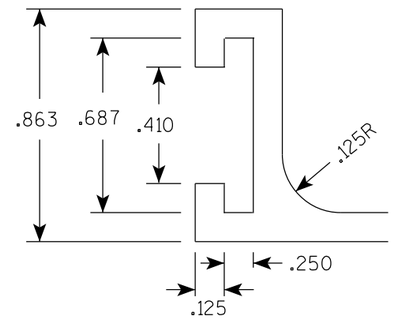
APPROVED Chester J Spang for State Traffic Engineer

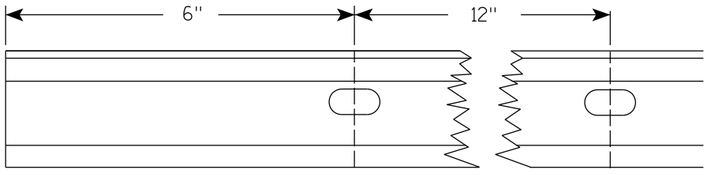
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 316	E

Extruded Shape







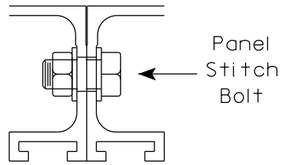
Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

Hardware

STITCH BOLT, WASHER & NUT

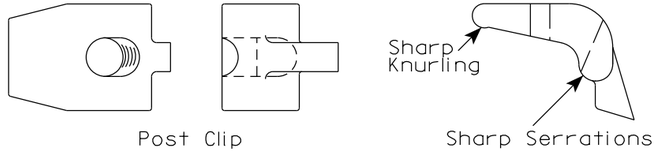
The hardware includes:

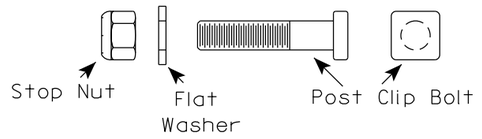
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

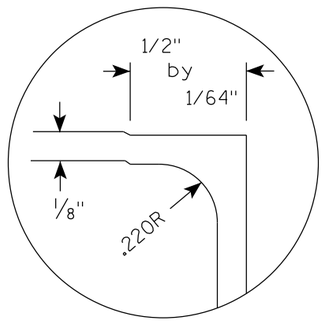
Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.
4. Edge wrapping of sign sheeting required on all extrusions joints shown in Detail A.



DETAIL A (EDGE WRAP JOINT)

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

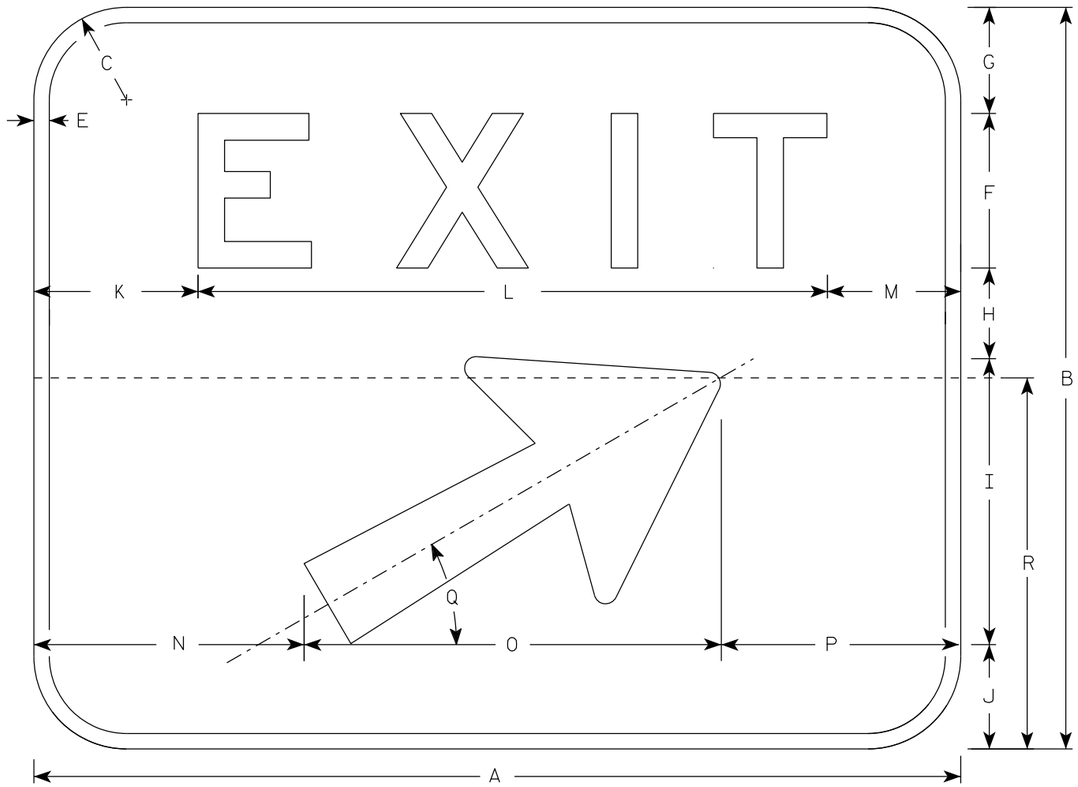
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/07/20 PLATE NO. A5-2.10

PROJECT NO:

SHEET NO: 317 E



E5-1

NOTES

1. Sign is Type II - Type H reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E
4. Sign shall be split into two seperate pieces as shown on the detail by the dashed line (----------) for sizes 4 & 5.
5. Arrow is Type "A" from sign plate A1-1.
6. As per the Standard Spec's, this sign shall not have a vertical joint.
7. Size 3 E5-1 shall only be used in a Work Zone application with a Temporary Sign Support

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3	48	48	6		1	10	6 7/8	5 7/8	18 1/2	6 3/4	8 1/2	31 1/8	8 3/8	11 1/2	27	9 1/2	30°	30									16.0
4	60	48	6		1	10	6 7/8	5 7/8	18 1/2	6 3/4	10 5/8	40 3/4	8 5/8	17 1/2	27	15 1/2	30°	30									20.0
5	72	60	6		1	12	9 3/4	10	18 1/2	9 3/4	13 1/4	48 1/2	10 1/4	23 1/2	27	21 1/2	30°	30									30.0

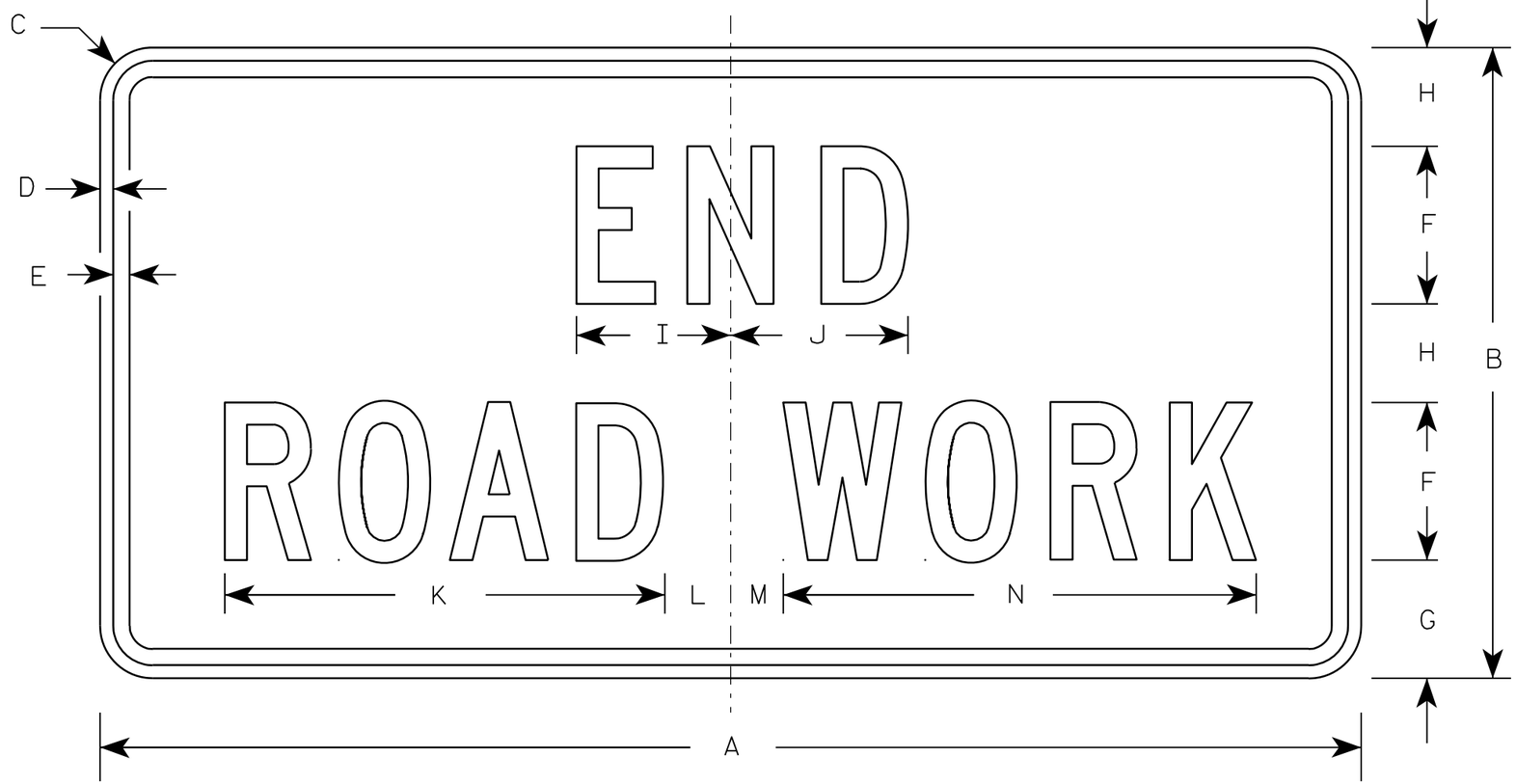
STANDARD SIGN
E5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2022 PLATE NO. E5-1.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 318 | E



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

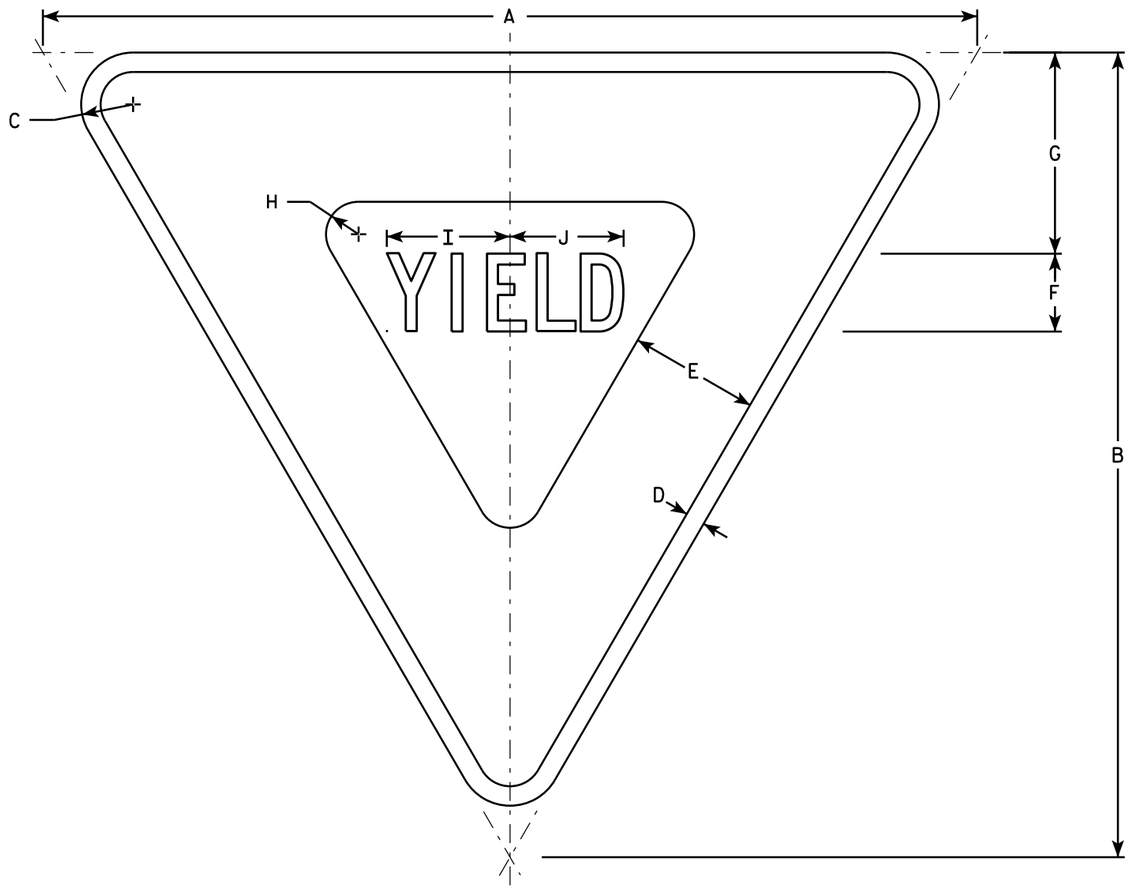
STANDARD SIGN
G20-2A

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: 319	E



R1-2

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 - 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. The border strip and word message are reflectorized red.

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	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

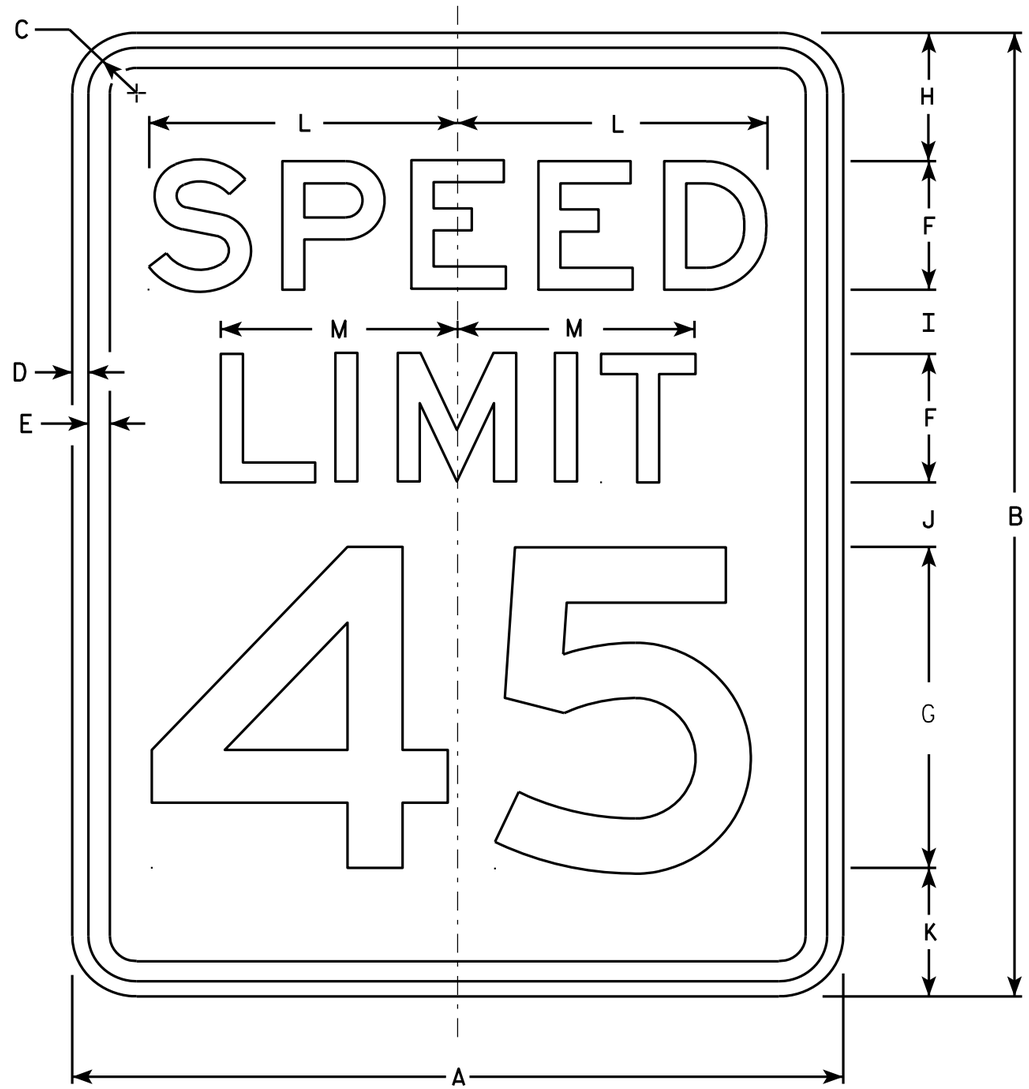
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



R2-1

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 - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

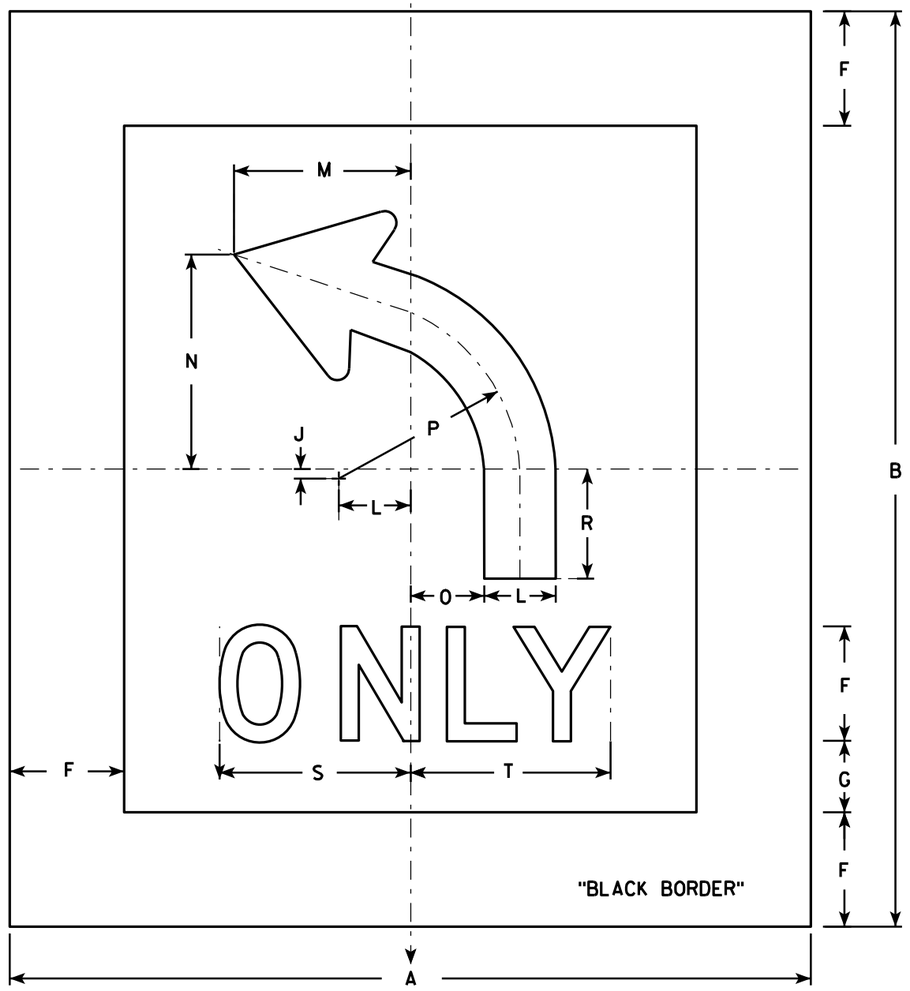
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

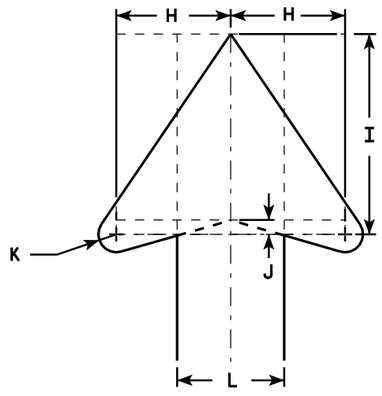
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 321 | E



R3-5L

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. When base material is metal, the corners shall be rounded.
5. R3-5R is the same as R3-5L except curved portion of arrow points right.
6. The 6" border is non-reflective black.



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	42	48				6	3 3/4	4	7	1/2	5/8	3 3/4	9 1/4	11 1/4	3 7/8	9 1/2		5 3/4	10	10 1/2							1.26
2M	42	48				6	3 3/4	4	7	1/2	5/8	3 3/4	9 1/4	11 1/4	3 7/8	9 1/2		5 3/4	10	10 1/2							1.26
3																											
4																											
5																											

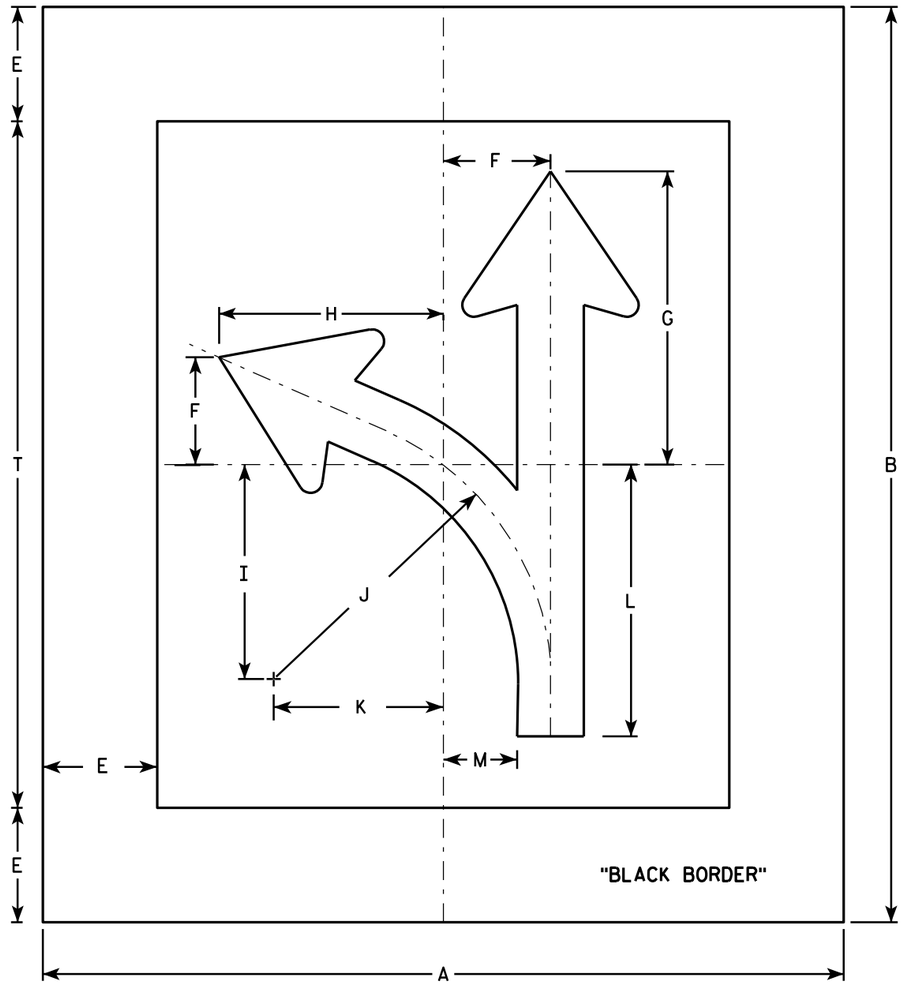
STANDARD SIGN
R3-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/24/11 PLATE NO. R3-5.6

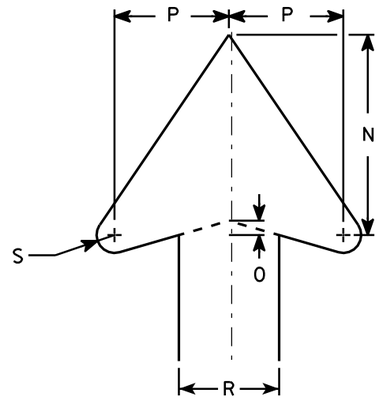
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 322	E



R3-6L

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. Corners may be square or rounded when base material is plywood. When base material is metal, the corners shall be rounded.
4. R3-6R is the same as R3-6L except curved portion of arrow points right.
5. The 6" border is non-reflective black.



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	42	48			6	5 5/8	15 3/8	11 3/4	11 1/4	14 1/2	8 7/8	14 1/4	3 7/8	7	1/2	4		3 1/2	5/8	36							14.0
2M	42	48			6	5 5/8	15 3/8	11 3/4	11 1/4	14 1/2	8 7/8	14 1/4	3 7/8	7	1/2	4		3 1/2	5/8	36							14.0
3																											
4																											
5																											

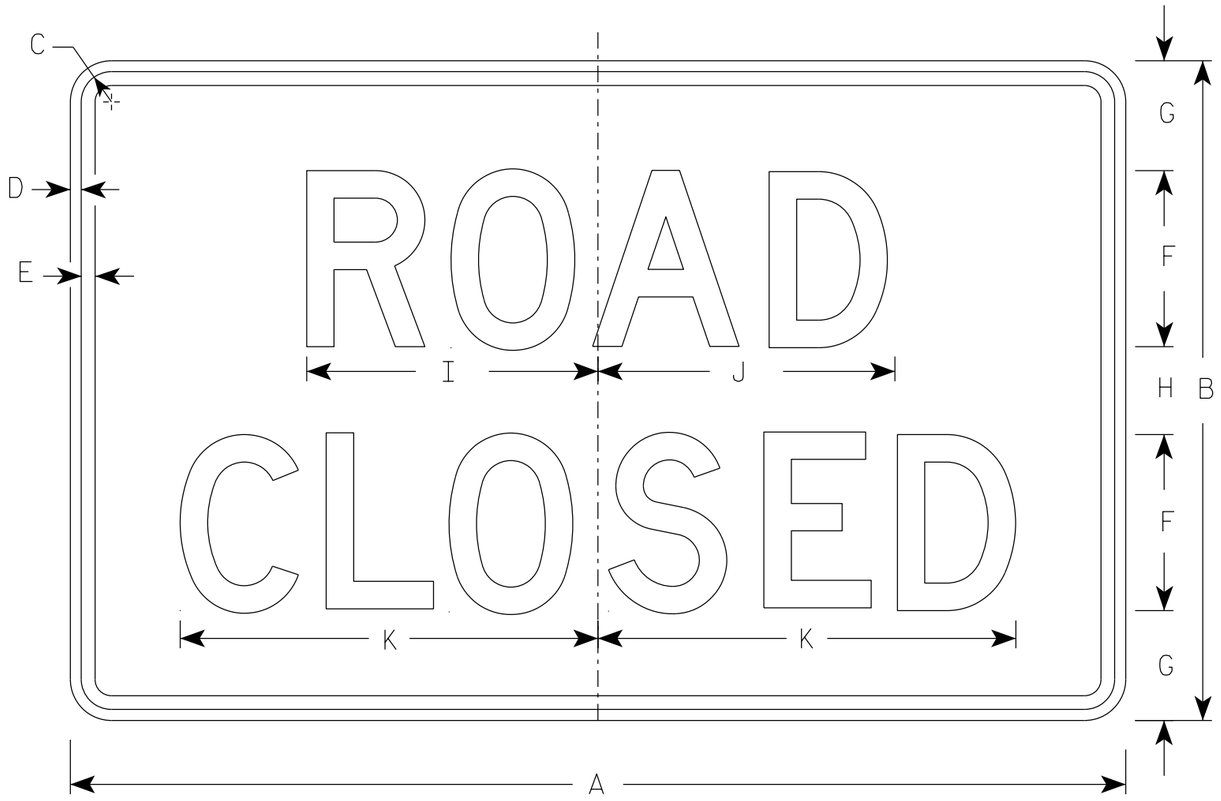
STANDARD SIGN
R3-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/17/2011 PLATE NO. R3-6.5

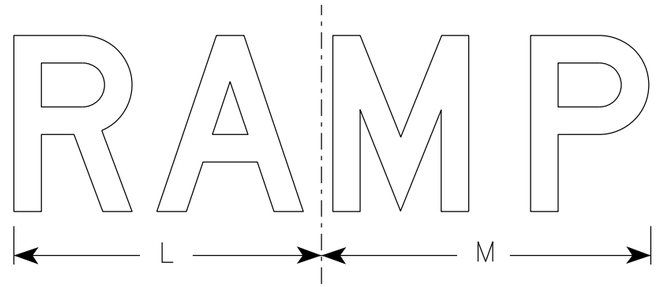
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 323 | E



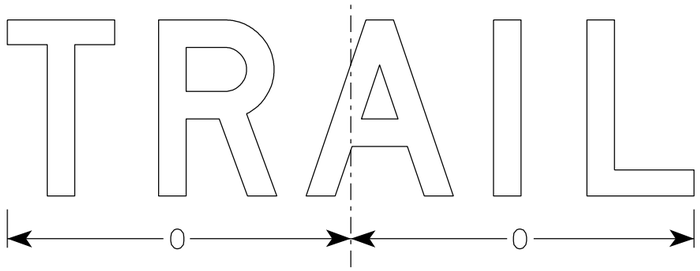
R11-2

NOTES

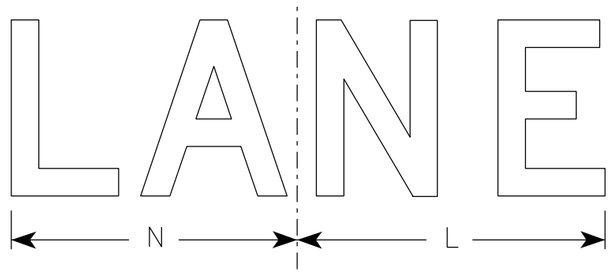
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the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



R11-2R



R11-2T



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

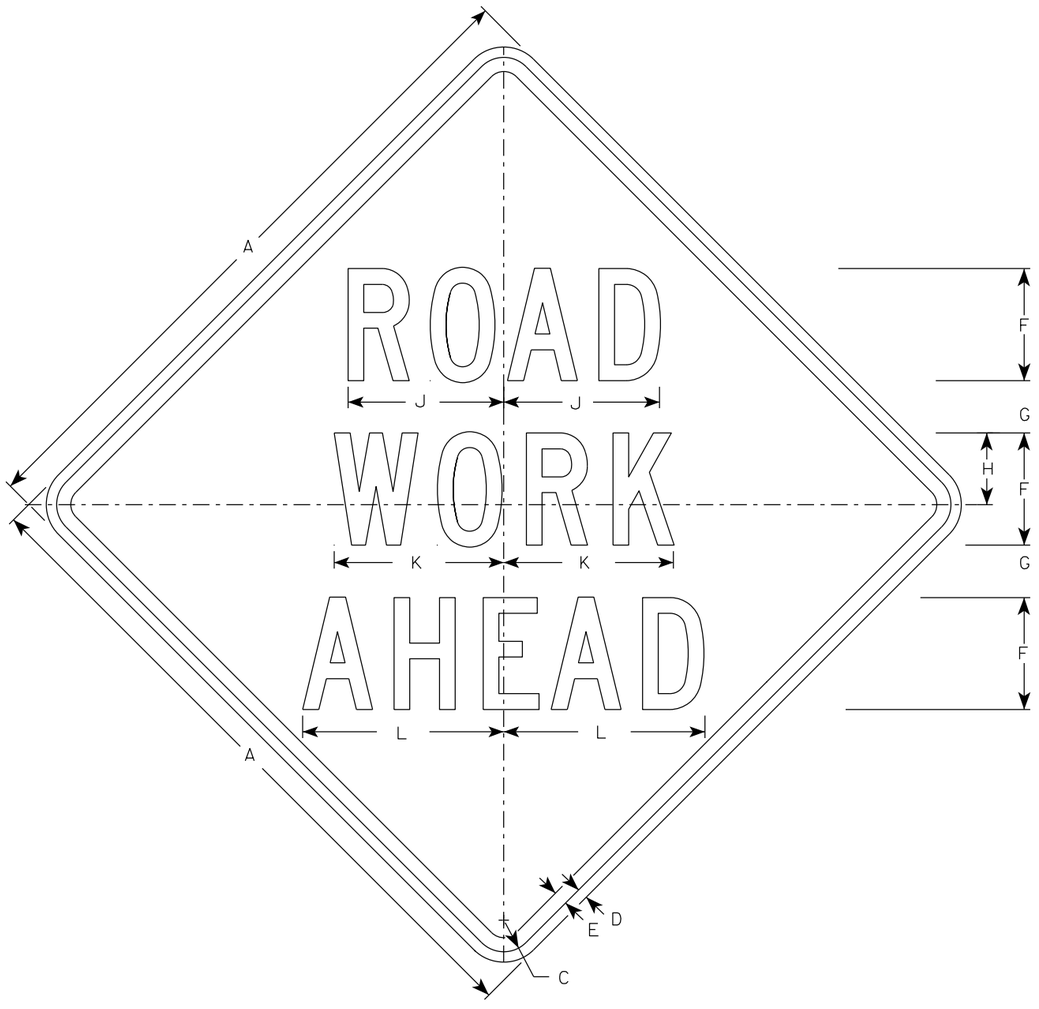
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

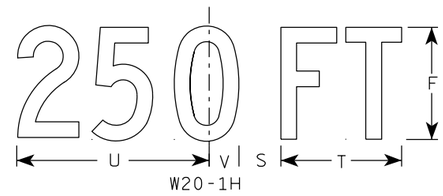
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

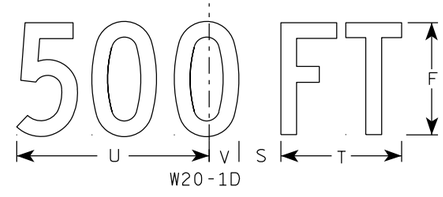
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 324 E



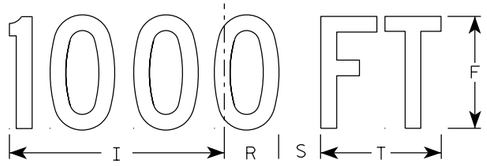
W20-1A



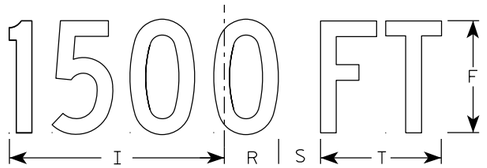
W20-1H



W20-1D



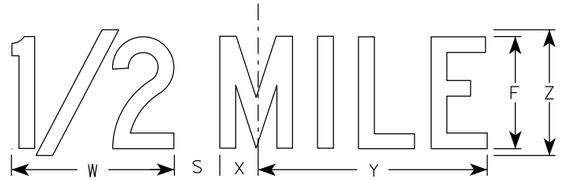
W20-1C



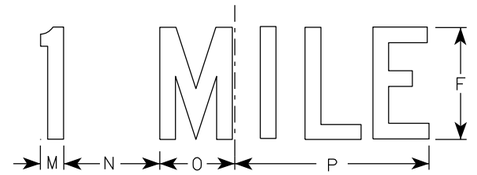
W20-1B

NOTES

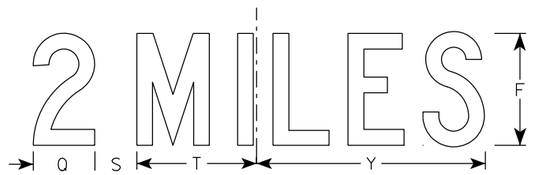
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



W20-1F



W20-1E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		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, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/25/2020 PLATE NO. W20-1.11

PROJECT NO:

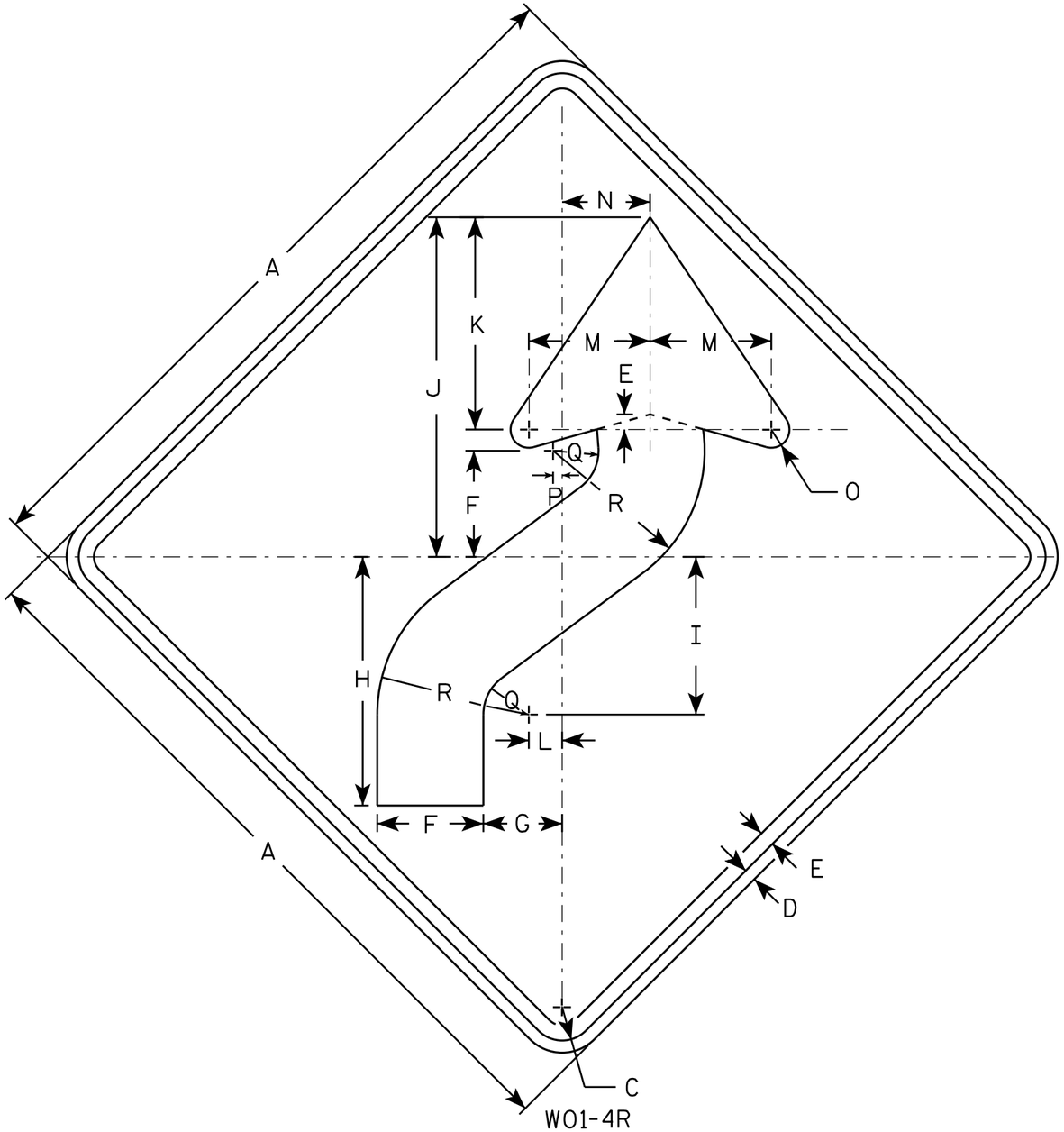
SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 25-MARCH-2020 PLOT BY : dotc4c

WISDOT/CADDS SHEET 42

7

7



W01-4R

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.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

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 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN
W01-4

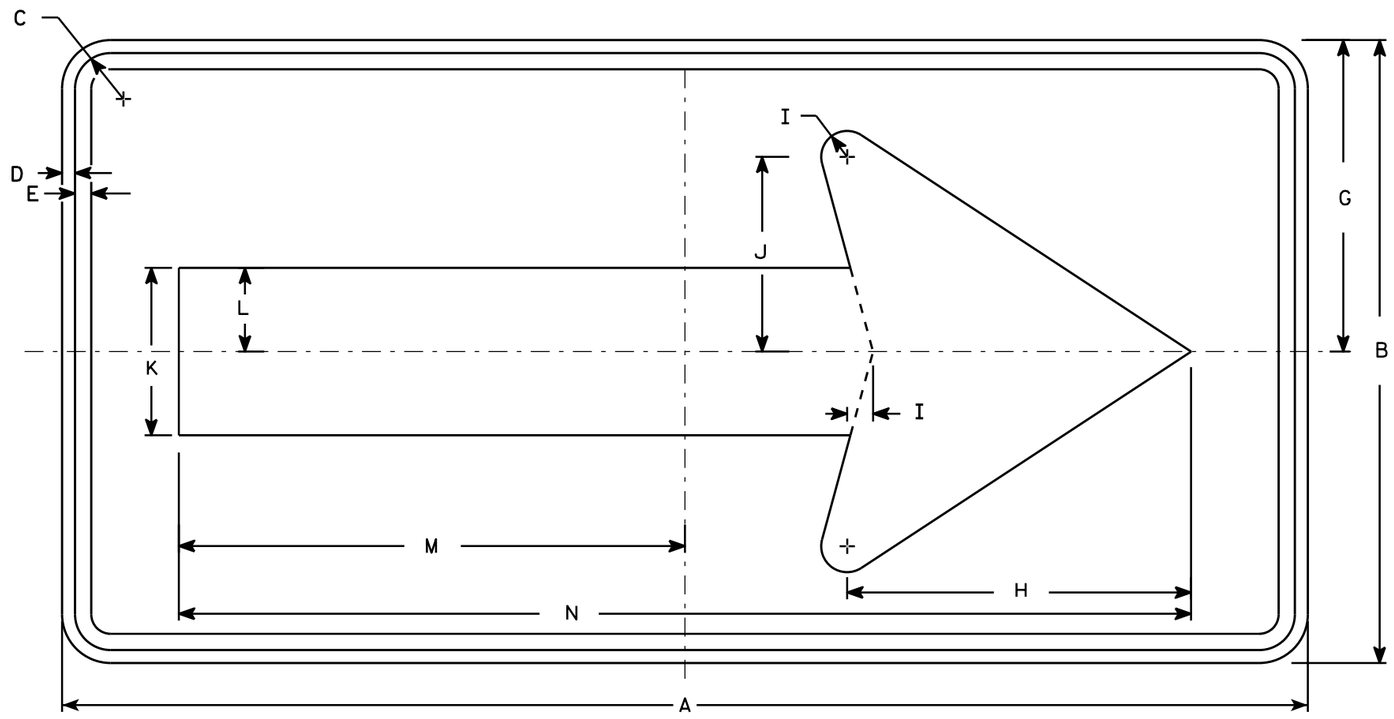
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO W01-4.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W014.DGN PLOT DATE : 28-FEB-2014 11:35 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.755110:1.000000
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

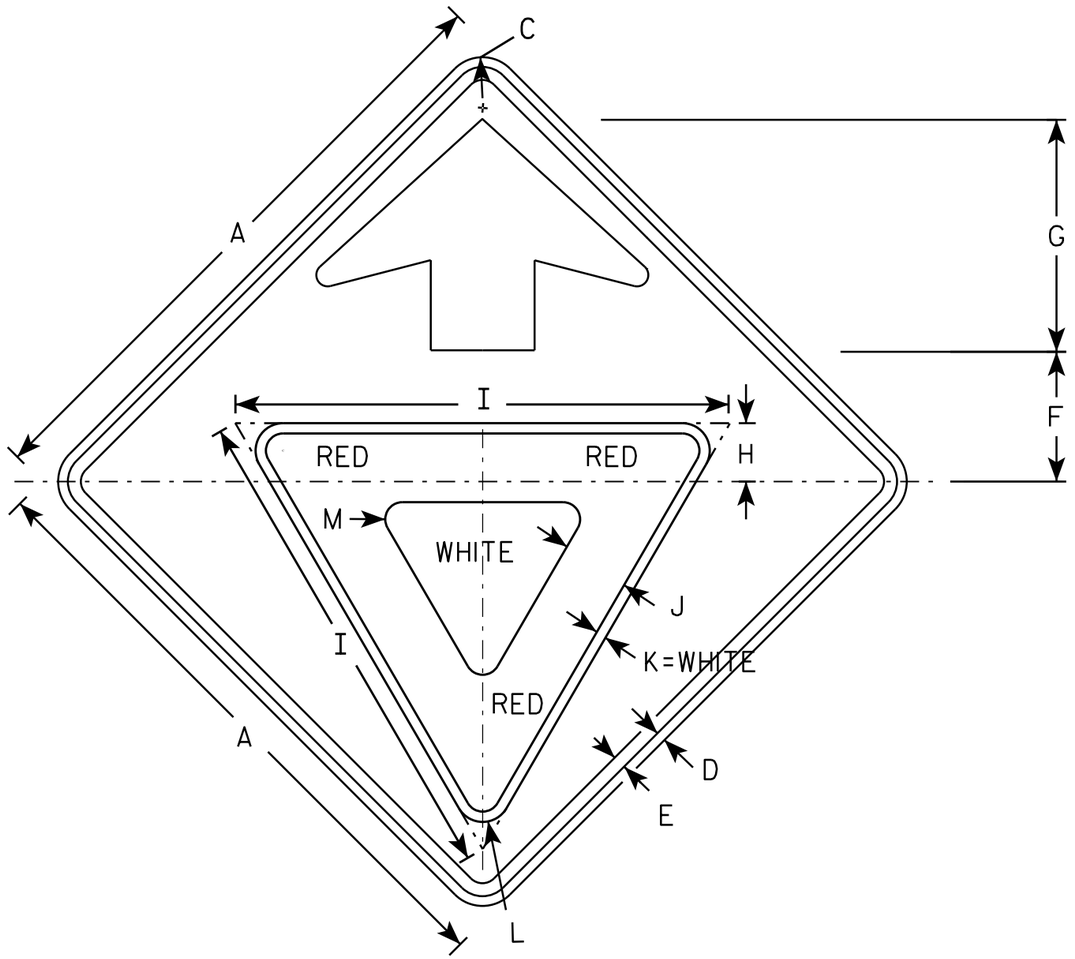
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

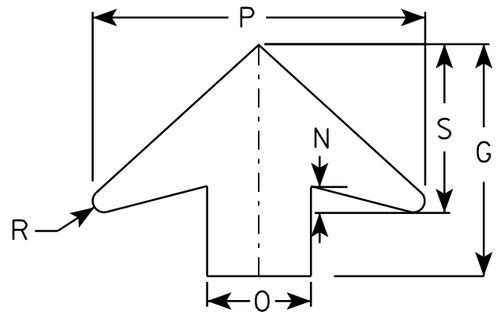
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000 WISDOT/CADDS SHEET 42



W03-2

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Yield Symbol - WHITE BORDER ON RED BACKGROUND



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	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

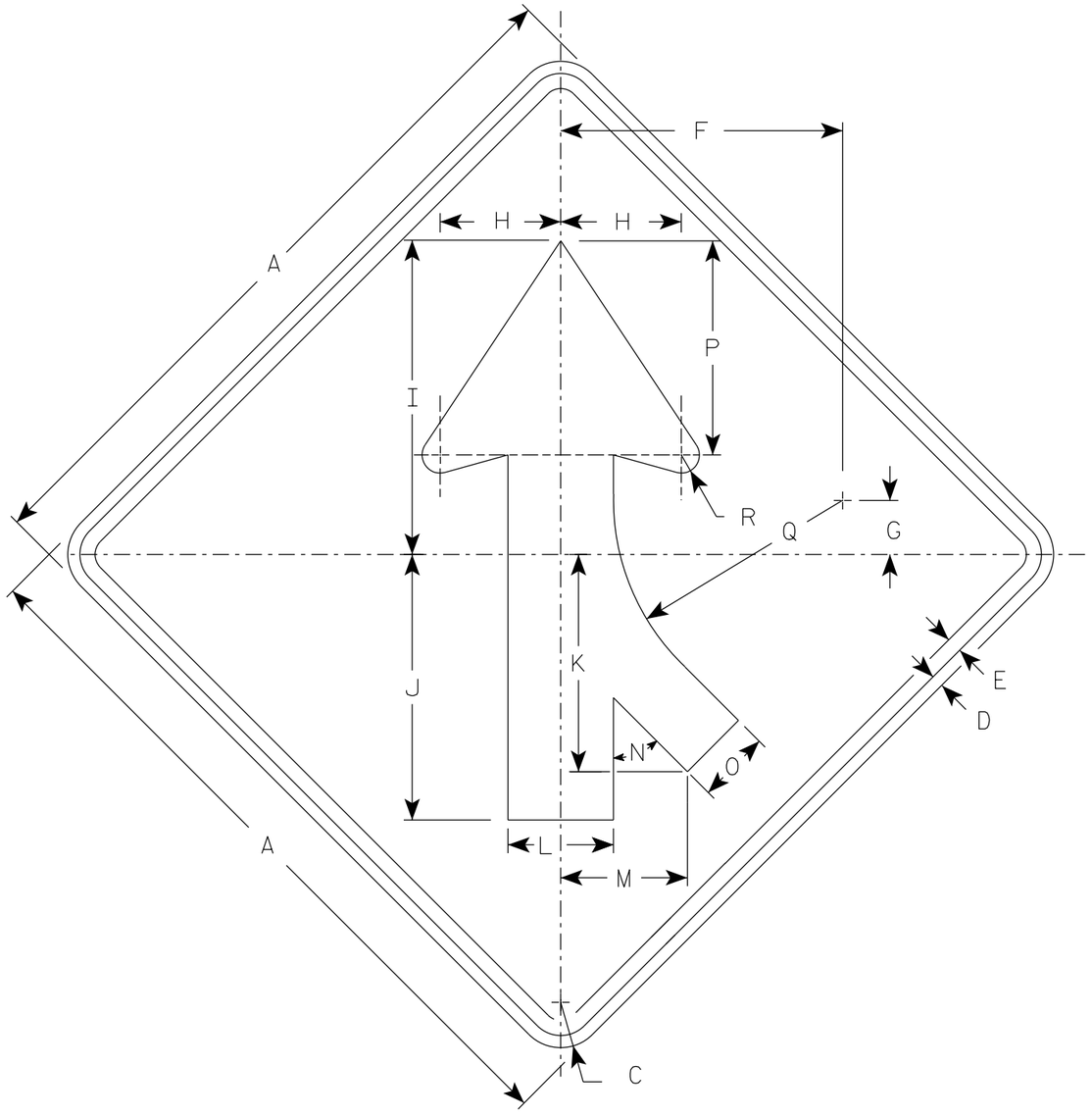
STANDARD SIGN
W03-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W03-2.1

PROJECT NO: SHEET NO: E



W04-1R

NOTES

1. Sign is Type II - Type F Reflective
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.
4. W04-1L is the same as W04-1R except the arrow is reversed along the vertical centerline.

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	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2S	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
2M	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
3	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

STANDARD SIGN
W04-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2021 PLATE NO. W04-1.2

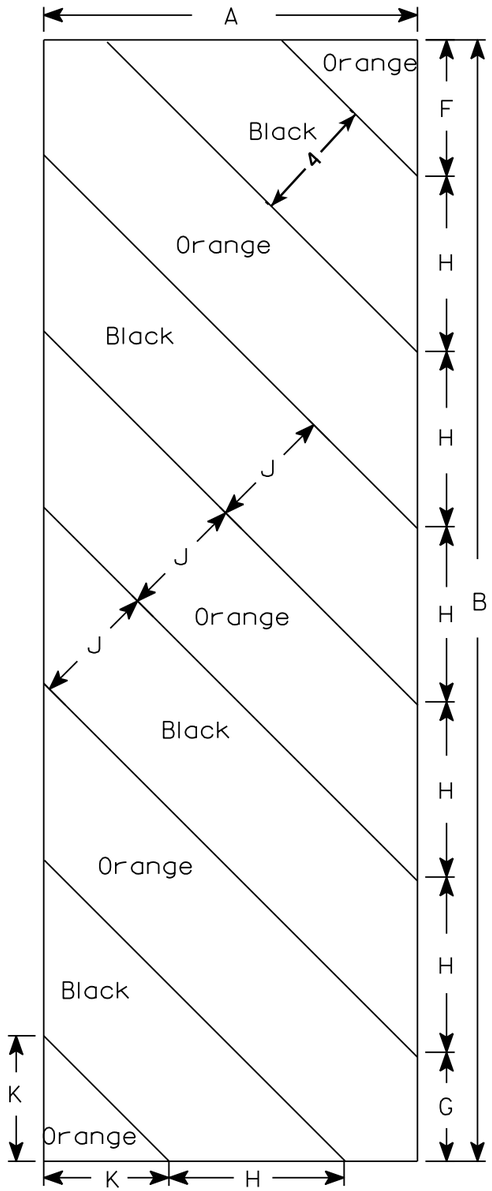
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W041.dgn PLOT DATE : 30-MAR 2021 8:25 PLOT BY : dotc4c PLOT NAME : PLOT SCALE :

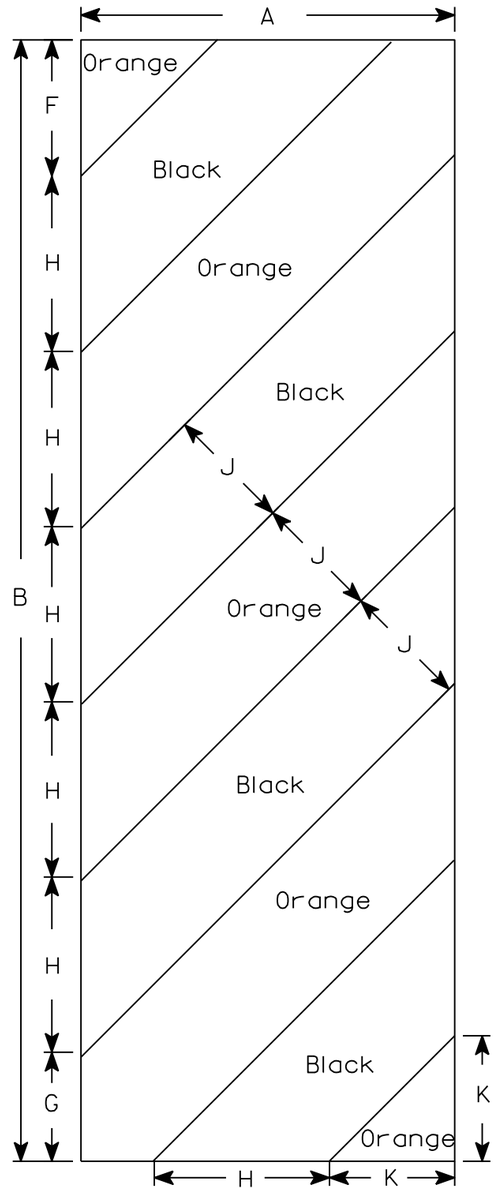
WISDOT/CADDS SHEET 42

7

7



W05-52L



W05-52R

NOTES

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

W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W05-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

SUMMARY OF CATEGORY NUMBERS

STRUCTURE ID	CATEGORY NUMBER
B-08-24	0020
B-08-25	0030
B-08-26	0040
B-08-27	0050
B-08-28	0060
B-08-33	0120
B-44-122	0070
B-44-123	0080
B-44-125	0090
B-44-127	0110

TOTAL ESTIMATED QUANTITIES

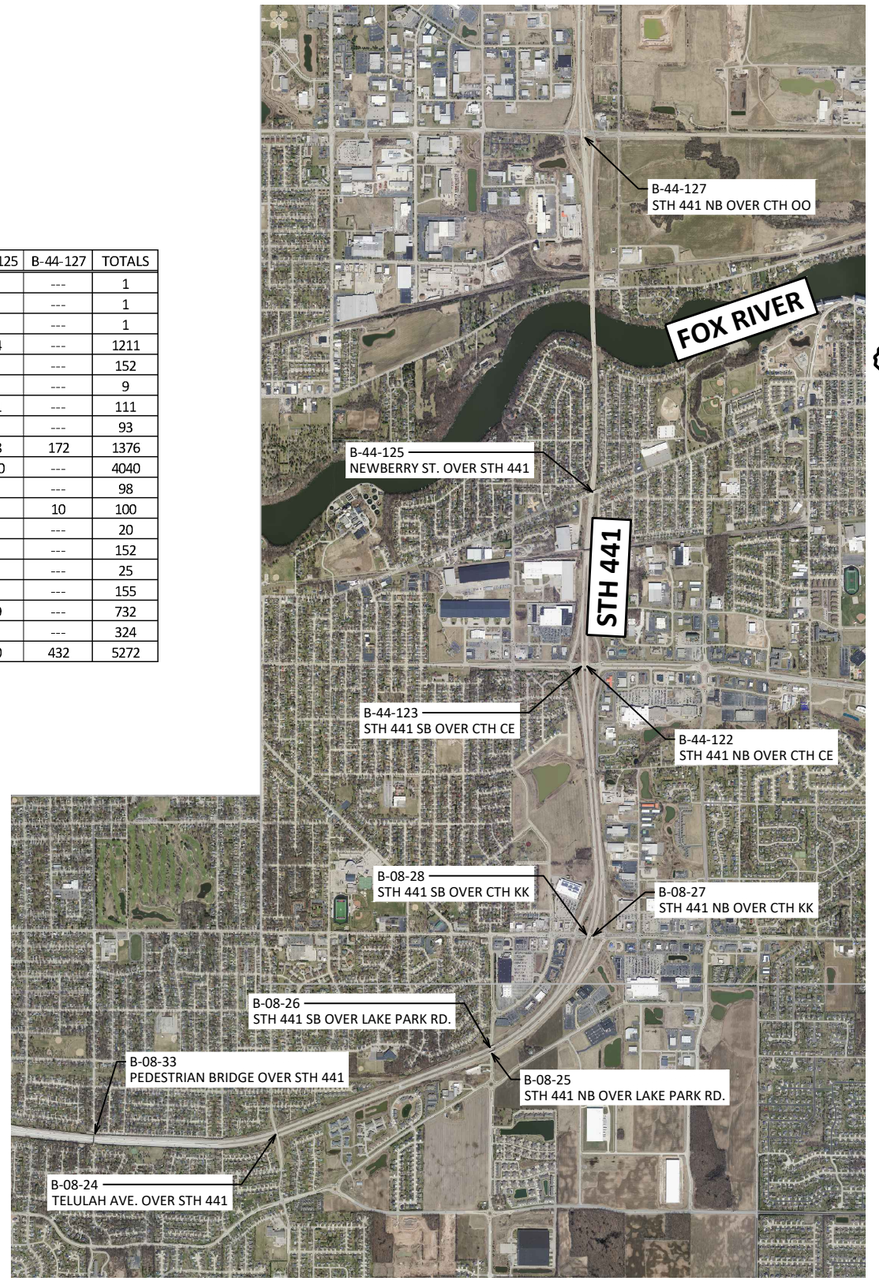
BID ITEM NUMBER	BID ITEMS	UNIT	B-08-24	B-08-25	B-08-26	B-08-27	B-08-28	B-08-33	B-44-122	B-44-123	B-44-125	B-44-127	TOTALS
203.0330	DEBRIS CONTAINMENT B-8-24	EACH	1	---	---	---	---	---	---	---	---	---	1
203.0330	DEBRIS CONTAINMENT B-8-33	EACH	---	---	---	---	---	1	---	---	---	---	1
203.0330	DEBRIS CONTAINMENT B-44-125	EACH	---	---	---	---	---	---	---	---	1	---	1
204.0170	REMOVING FENCE	LF	473	---	---	---	---	324	---	---	414	---	1211
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	---	---	---	76	76	---	---	---	---	---	152
465.0315	ASPHALTIC FLUMES	SY	---	---	---	---	---	---	9	---	---	---	9
502.3101	EXPANSION DEVICE	LF	---	---	---	---	---	---	---	---	111	---	111
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	---	---	---	---	---	---	93	---	93
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	166	112	112	155	155	---	168	168	168	172	1376
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	---	---	---	---	---	---	---	---	4040	---	4040
509.1000	JOINT REPAIR	SY	---	---	---	---	---	---	---	5	93	---	98
509.1500	CONCRETE SURFACE REPAIR	SF	10	5	---	30	30	---	5	10	---	10	100
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	---	---	---	---	---	---	---	2	18	---	20
604.0400	SLOPE PAVING CONCRETE	SY	---	---	---	76	76	---	---	---	---	---	152
604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	25	---	---	---	---	---	---	---	---	---	25
616.0204	FENCE CHAIN LINK 4-FT	LF	60	---	---	---	---	---	---	---	95	---	155
616.0208	FENCE CHAIN LINK 8-FT	LF	413	---	---	---	---	---	---	---	319	---	732
616.0210	FENCE CHAIN LINK 10-FT	LF	---	---	---	---	---	324	---	---	---	---	324
SPV.0090.05	BRIDGE DECK CRACK SEALING	LF	---	1000	520	900	500	---	720	600	600	432	5272

SUMMARY OF LOCATIONS

STRUCTURE ID	COUNTY	MUNICIPALITY	LOCATION	TRAFFIC CONTROL*
B-08-24	CALUMET	T-HARRISON	TELULAH AVE OVER STH 441	SINGLE-LANE CLOSURES (FLAGGING)
B-08-25	CALUMET	T-HARRISON	STH 441 NB OVER LAKE PARK RD	OFF-PEAK SINGLE-LANE CLOSURES
B-08-26	CALUMET	T-HARRISON	STH 441 SB OVER LAKE PARK RD	OFF-PEAK SINGLE-LANE CLOSURES
B-08-27	CALUMET	T-HARRISON	STH 441 NB OVER CTH KK	OFF-PEAK SINGLE-LANE CLOSURES
B-08-28	CALUMET	T-HARRISON	STH 441 SB OVER CTH KK	OFF-PEAK SINGLE-LANE CLOSURES
B-08-33	CALUMET	C-APPLETON	PEDESTRIAN BRIDGE OVER STH 441	CLOSED
B-44-122	OUTAGAMIE	C-APPLETON	STH 441 NB OVER CTH CE	OFF-PEAK SINGLE-LANE CLOSURES
B-44-123	OUTAGAMIE	C-APPLETON	STH 441 SB OVER CTH CE	OFF-PEAK SINGLE-LANE CLOSURES
B-44-125	OUTAGAMIE	C-APPLETON	NEWBERRY ST OVER STH 441	CLOSED
B-44-127	OUTAGAMIE	T-GRAND CHUTE	STH 441 NB OVER CTH OO	OFF-PEAK SINGLE-LANE CLOSURES

*SEE ROADWAY PLANS AND SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER
Keith Behrend
10/31/2022



LOCATION MAP

STATE PROJECT NUMBER

4685-29-60

DESIGN DATA

MATERIAL PROPERTIES:
CONCRETE SUPERSTRUCTURE ———— f'c = 4,000 PSI
CONCRETE SUBSTRUCTURE ———— f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT (GRADE 60) ———— fy = 60,000 PSI

LIST OF DRAWINGS

1. BRIDGE REPAIR SUMMARY
2. B-08-24/25/26/27/28/33 REPAIRS
3. B-44-122/123/125/127 REPAIRS
4. CHAIN LINK FENCE - 1
5. CHAIN LINK FENCE - 2
6. CHAIN LINK FENCE - 3
7. CHAIN LINK FENCE DETAILS
8. JOINT REPAIR
9. JOINT REPAIR DETAILS
10. STRIP SEAL EXPANSION JOINT
11. COVER PLATE DETAILS

NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS AND STATIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT, UNLESS SPECIFIED OTHERWISE.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

PERFORM CONCRETE SURFACE REPAIRS AS DIRECTED BY THE FIELD ENGINEER.

STRUCTURE DESIGN CONTACTS

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

DESIGN CONSULTANT CONTACT:
KEITH BEHREND (608) 251-4843

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 12/01/22
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-08/44-VARIOUS

OUTAGAMIE & CALUMET CO. STH-441 BRIDGE REPAIRS

COUNTY	TOWN/CITY/VILLAGE
OUTAGAMIE & CALUMET	VARIES

DESIGN SPEC.
REHABILITATION - N/A

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
JRP	KRB	DTH	KRB

BRIDGE REPAIR SUMMARY

SHEET 1 OF 11
331

I.D.
DATE:
SCALE =

STATE PROJECT NUMBER
4685-29-60

B-08-24 REPAIR SUMMARY

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
203.0330	DEBRIS CONTAINMENT B-8-24	EACH	1	
204.0170	REMOVING FENCE	LF	473	REMOVE FENCING ON PARAPETS (SEE B-08-24 / CHAIN LINK FENCE)
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	166	APPLY TO FULL LENGTH OF BOTH PARAPETS ON THE TOP AND INSIDE FACES INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	10	ESTIMATED REPAIR AREAS ARE LOCATED ON ABUTMENTS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	25	SLOPE STABILIZATION AT SOUTH ABUTMENT
616.0204	FENCE CHAIN LINK 4-FT	LF	60	REPLACE FENCING ON PARAPETS (SEE B-08-24 / CHAIN LINK FENCE)
616.0208	FENCE CHAIN LINK 8-FT	LF	413	REPLACE FENCING ON PARAPETS (SEE B-08-24 / CHAIN LINK FENCE)

B-08-25 REPAIR SUMMARY

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	112	APPLY TO FULL LENGTH OF BOTH PARAPETS ON THE TOP AND INSIDE FACES INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	5	ESTIMATED REPAIR AREAS ARE LOCATED ON THE ABUTMENTS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.05	BRIDGE DECK CRACK SEALING	LF	1,000	APPLY TO AREAS OF EXISTING CRACKS; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER

B-08-26 REPAIR SUMMARY

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	112	APPLY TO FULL LENGTH OF BOTH PARAPETS ON THE TOP AND INSIDE FACES INCLUDING PARAPETS ON WINGS
SPV.0090.05	BRIDGE DECK CRACK SEALING	LF	520	APPLY TO AREAS OF EXISTING CRACKS; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER

B-08-27 REPAIR SUMMARY

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	76	REMOVE CRACKED SLOPE PAVING CONCRETE AT NORTH AND SOUTH ABUTMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	155	APPLY TO FULL LENGTH OF BOTH PARAPETS ON THE TOP AND INSIDE FACES INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	30	ESTIMATED REPAIR AREAS ARE LOCATED ON THE ABUTMENTS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
604.0400	SLOPE PAVING CONCRETE	SY	76	SLOPE STABILIZATION; CONCRETE SLOPE PAVING
SPV.0090.05	BRIDGE DECK CRACK SEALING	LF	900	APPLY TO AREAS OF EXISTING CRACKS; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER

B-08-28 REPAIR SUMMARY

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	76	REMOVE CRACKED SLOPE PAVING CONCRETE AT NORTH AND SOUTH ABUTMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	155	APPLY TO FULL LENGTH OF BOTH PARAPETS ON THE TOP AND INSIDE FACES INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	30	ESTIMATED REPAIR AREAS ARE LOCATED ON THE ABUTMENTS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
604.0400	SLOPE PAVING CONCRETE	SY	76	SLOPE STABILIZATION; CONCRETE SLOPE PAVING
SPV.0090.05	BRIDGE DECK CRACK SEALING	LF	500	APPLY TO AREAS OF EXISTING CRACKS; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER

B-08-33 REPAIR SUMMARY

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
203.0330	DEBRIS CONTAINMENT B-8-33	EACH	1	
204.0170	REMOVING FENCE	LF	324	REMOVE FENCING ON PARAPETS (SEE B-08-33 / CHAIN LINK FENCE PLAN)
616.0210	FENCE CHAIN LINK 10-FT	LF	324	REPLACE FENCING ON PARAPETS (SEE B-08-33 / CHAIN LINK FENCE PLAN)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-08-VARIOUS

DRAWN BY DTH | PLANS CK'D KRB

B-08-24/ 25/26/27/28/33 REPAIRS

SHEET 2

SCALE =

STATE PROJECT NUMBER

4685-29-60

B-44-122 REPAIR SUMMARY

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
465.0315	ASPHALTIC FLUMES	SY	9	NEW FLUMES AT NE, NW, AND SW CORNERS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	168	APPLY TO FULL LENGTH OF BOTH PARAPETS ON THE TOP AND INSIDE FACES INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	5	ESTIMATED REPAIR AREAS ARE LOCATED ON THE ABUTMENTS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.05	BRIDGE DECK CRACK SEALING	LF	720	APPLY TO AREAS OF EXISTING CRACKS; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER

B-44-123 REPAIR SUMMARY

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	168	APPLY TO FULL LENGTH OF BOTH PARAPETS ON THE TOP AND INSIDE FACES INCLUDING PARAPETS ON WINGS
509.1000	JOINT REPAIR	SY	5	SPALLED AREA AT NW END OF THE DECK ADJACENT TO CONCRETE APPROACH SLAB; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
509.1500	CONCRETE SURFACE REPAIR	SF	10	ESTIMATED REPAIR AREAS ARE LOCATED ON THE ABUTMENTS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	2	SPALLED AREA AT NW END OF THE DECK ADJACENT TO CONCRETE APPROACH SLAB; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.05	BRIDGE DECK CRACK SEALING	LF	600	APPLY TO AREAS OF EXISTING CRACKS; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER

B-44-125 REPAIR SUMMARY

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
203.0330	DEBRIS CONTAINMENT B-44-125	EACH	1	
204.0170	REMOVING FENCE	LF	414	REMOVE FENCING ON PARAPETS (SEE B-44-125 / CHAIN LINK FENCE)
502.3101	EXPANSION DEVICE	LF	111	STRIP SEAL EXPANSION JOINT AT END OF DECKING
502.3200	PROTECTIVE SURFACE TREATMENT	SY	93	APPLY TO TOP SURFACE OF BRIDGE DECK AT JOINT REPAIR AREA
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	168	APPLY TO FULL LENGTH OF BOTH PARAPETS ON THE TOP AND INSIDE FACES INCLUDING PARAPETS ON WINGS
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	4,040	NEW REINFORCEMENT FOR THE STRIP SEAL EXPANSION JOINT REPAIR
509.1000	JOINT REPAIR	SY	93	STRIP SEAL EXPANSION JOINT REPLACEMENT
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	18	STRIP SEAL EXPANSION JOINT REPLACEMENT
616.0204	FENCE CHAIN LINK 4-FT	LF	95	REPLACE FENCING ON PARAPETS (SEE B-44-125 / CHAIN LINK FENCE)
616.0208	FENCE CHAIN LINK 8-FT	LF	319	REPLACE FENCING ON PARAPETS (SEE B-44-125 / CHAIN LINK FENCE)
SPV.0090.05	BRIDGE DECK CRACK SEALING	LF	600	APPLY TO AREAS OF EXISTING CRACKS; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER

B-44-127 REPAIR SUMMARY

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	172	APPLY TO FULL LENGTH OF BOTH PARAPETS ON THE TOP AND INSIDE FACES INCLUDING PARAPETS ON WINGS
509.1500	CONCRETE SURFACE REPAIR	SF	10	ESTIMATED REPAIR AREAS ARE LOCATED ON THE ABUTMENTS; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
SPV.0090.05	BRIDGE DECK CRACK SEALING	LF	432	APPLY TO AREAS OF EXISTING CRACKS; FINAL CRACK SEAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-VARIOUS

DRAWN BY DTH | PLANS CK'D KRB

B-44-122/123/125/ 127 REPAIRS

SHEET 3
333

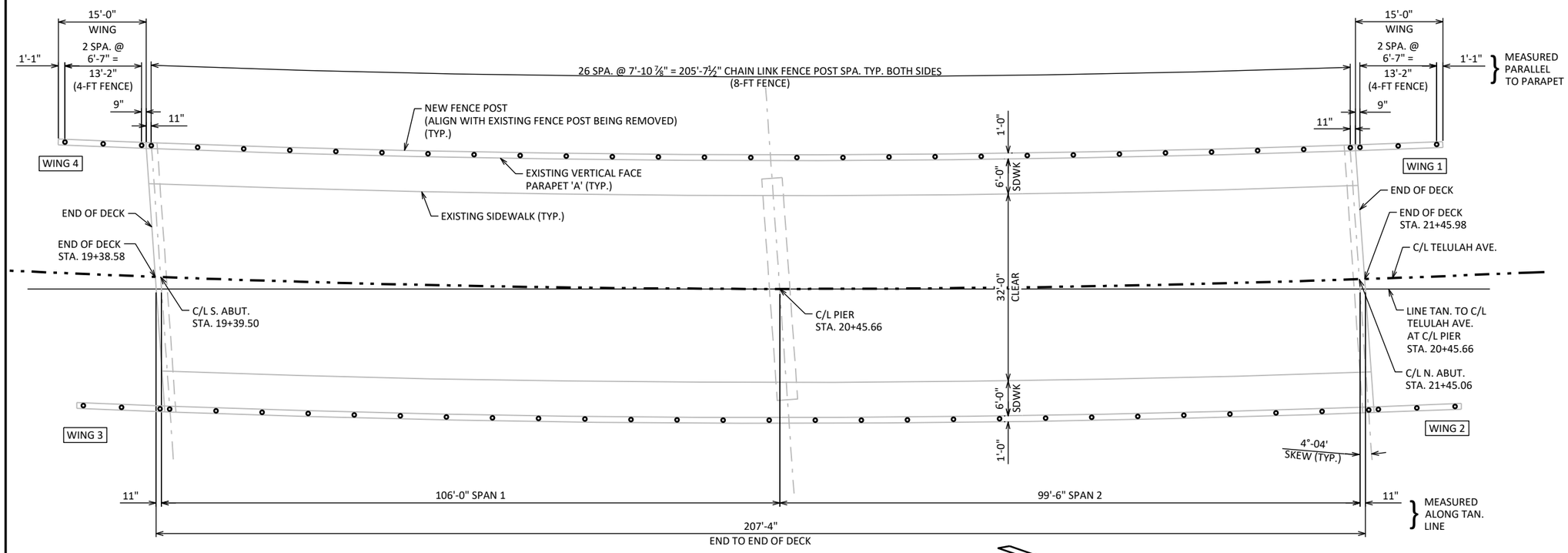
SCALE =

STATE PROJECT NUMBER

4685-29-60

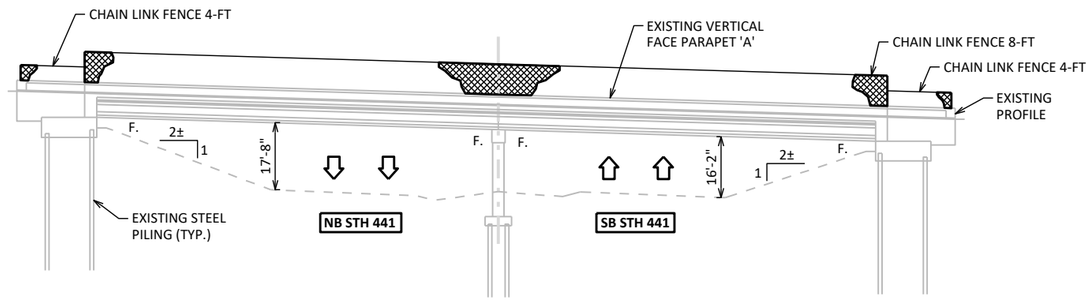
NOTES

EXISTING FENCE, POSTS, AND ANCHORAGES SHALL BE REMOVED. SEE SHEET 7 FOR ANCHORAGE REMOVAL DETAILS.



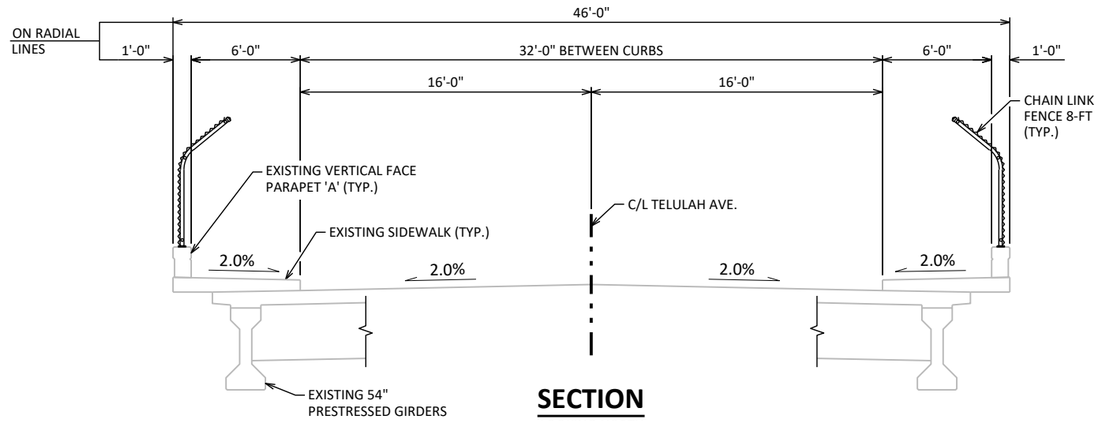
PARAPET FENCE POST PLAN

(SHOWING NEW FENCE POST LAYOUT)



ELEVATION

NORMAL TO STH 441



SECTION

(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-08-24

DRAWN BY DTH | PLANS CK'D KRB

CHAIN LINK FENCE - 1

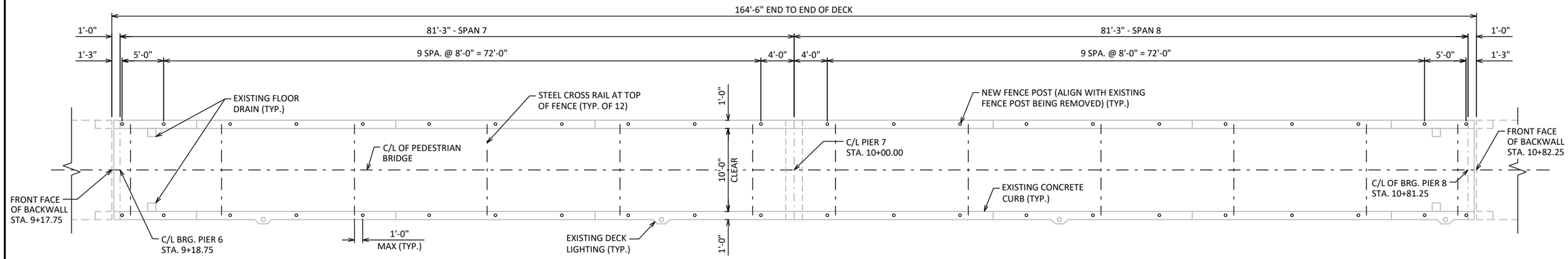
SHEET 4
334

SCALE =

8

8

STATE PROJECT NUMBER
4685-29-60

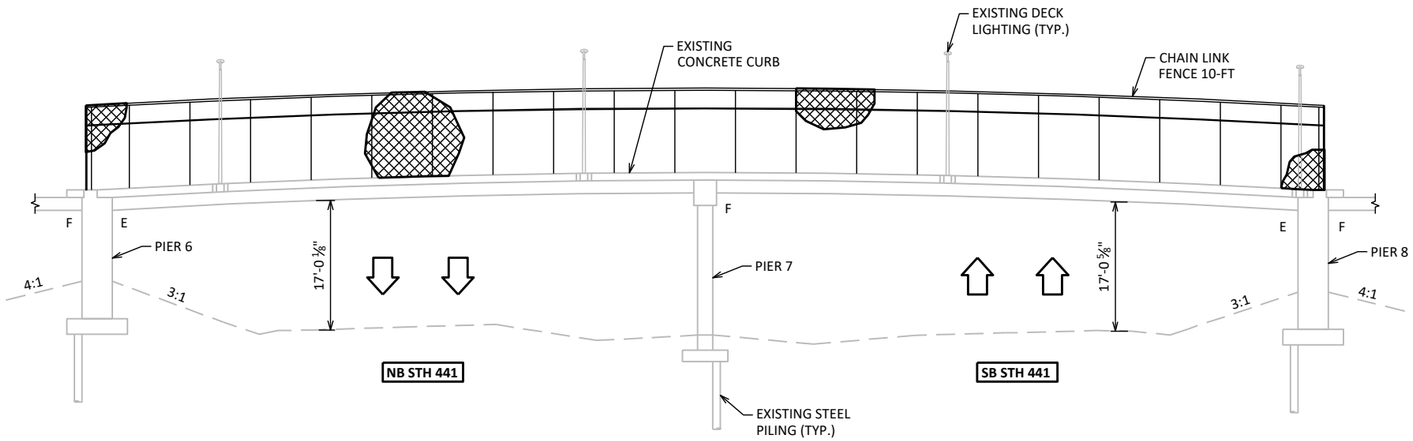


FENCE POST PLAN

(SHOWING NEW FENCE POST LAYOUT)

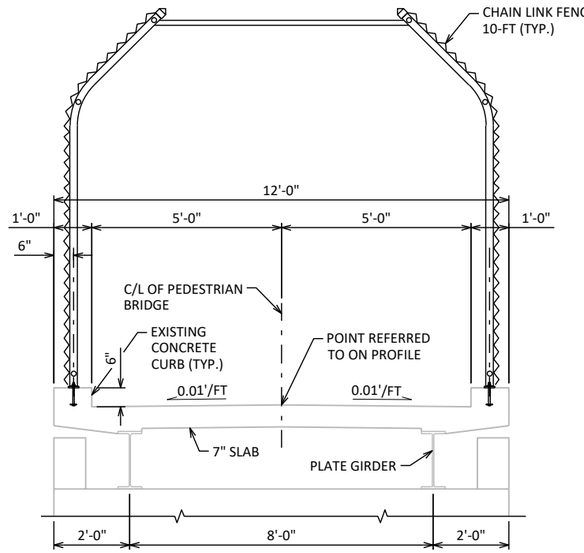
NOTES

EXISTING FENCE, POSTS, AND ANCHORAGES SHALL BE REMOVED. SEE SHEET 7 FOR ANCHORAGE REMOVAL DETAILS.



ELEVATION

(NORMAL TO STH 441)



SECTION

(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-08-33

DRAWN BY DTH | PLANS CK'D KRB

CHAIN LINK FENCE - 2

SHEET 5
335

SCALE =

8

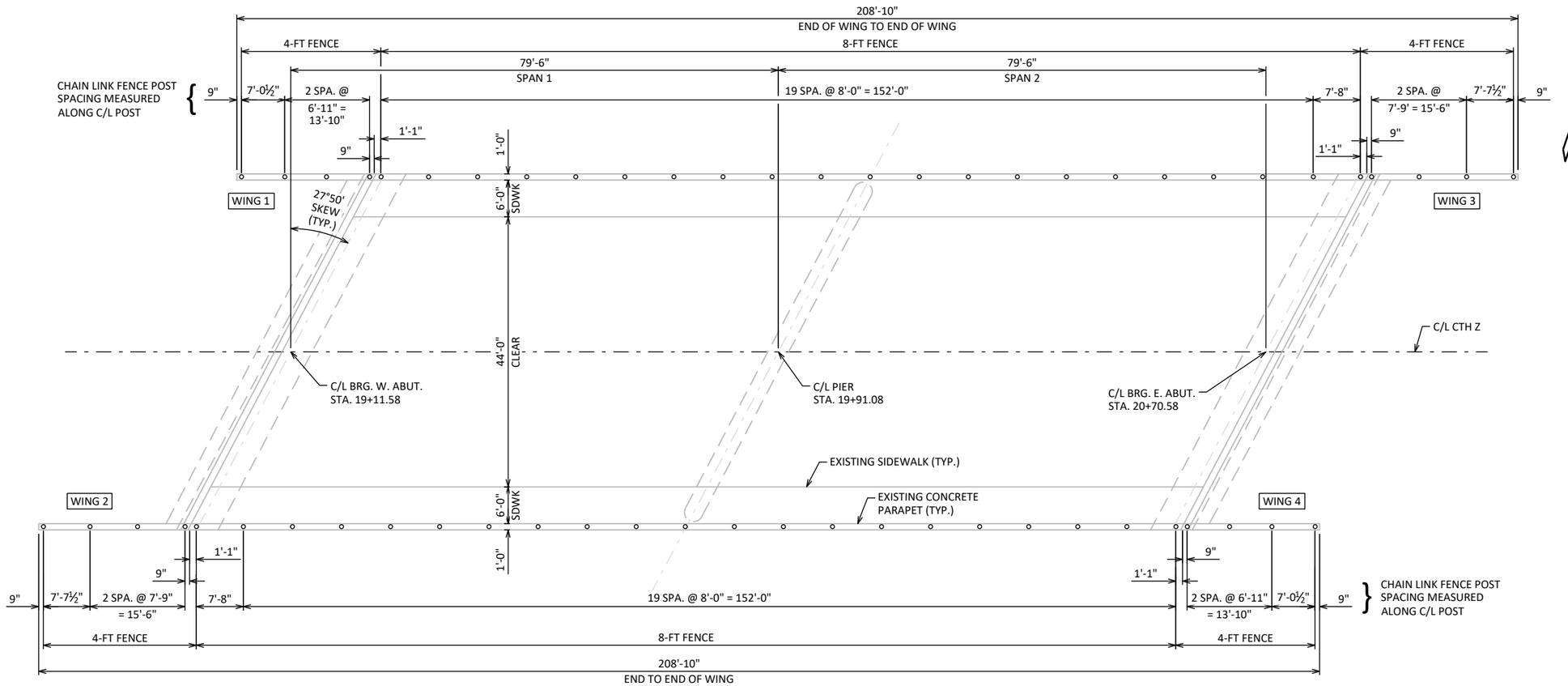
8

STATE PROJECT NUMBER

4685-29-60

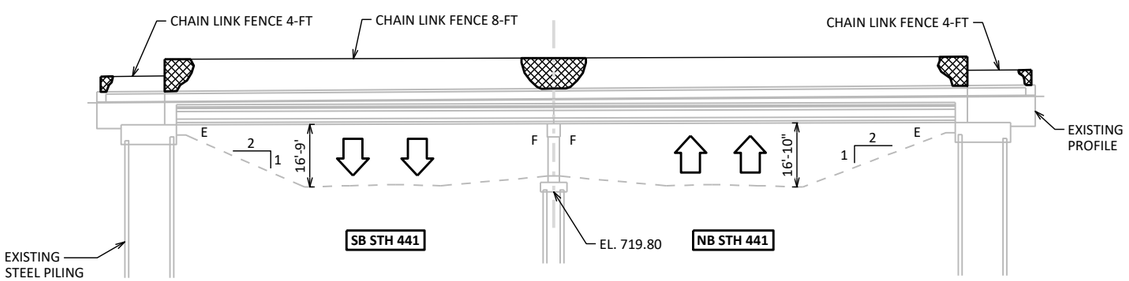
NOTES

EXISTING FENCE, POSTS, AND ANCHORAGES SHALL BE REMOVED. SEE SHEET 7 FOR ANCHORAGE REMOVAL LIMITS.



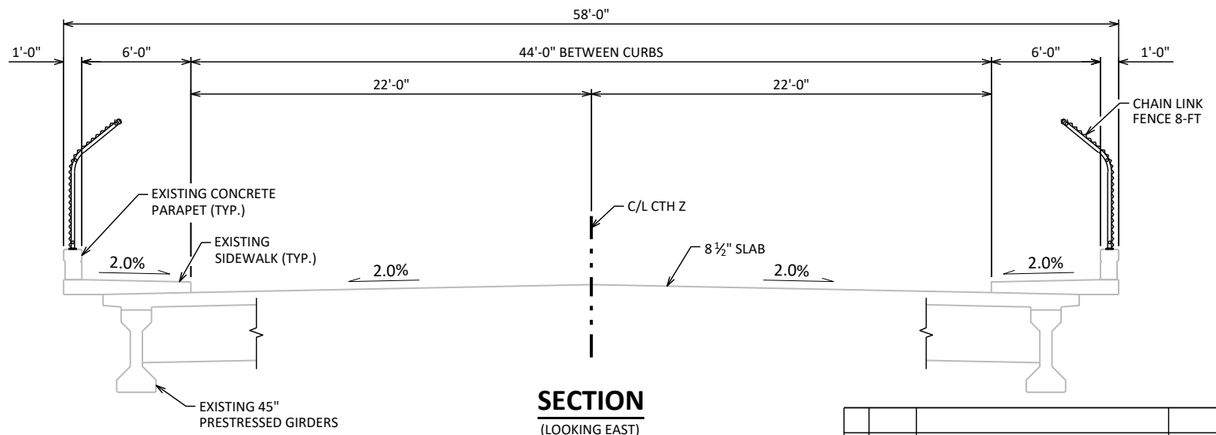
PARAPET FENCE POST PLAN

(SHOWING NEW FENCE POST LAYOUT)



ELEVATION

NORMAL TO STH 441



SECTION

(LOOKING EAST)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-125

DRAWN BY DTH | PLANS CK'D KRB

CHAIN LINK FENCE - 3

SHEET 6
336

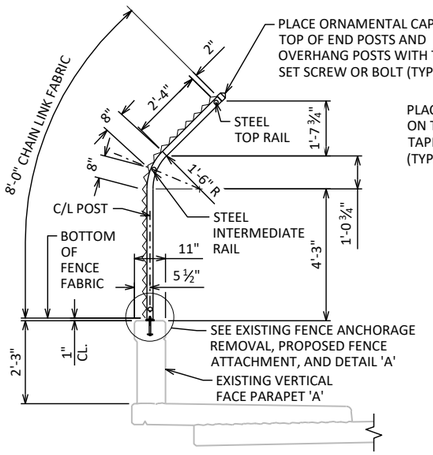
SCALE =

8

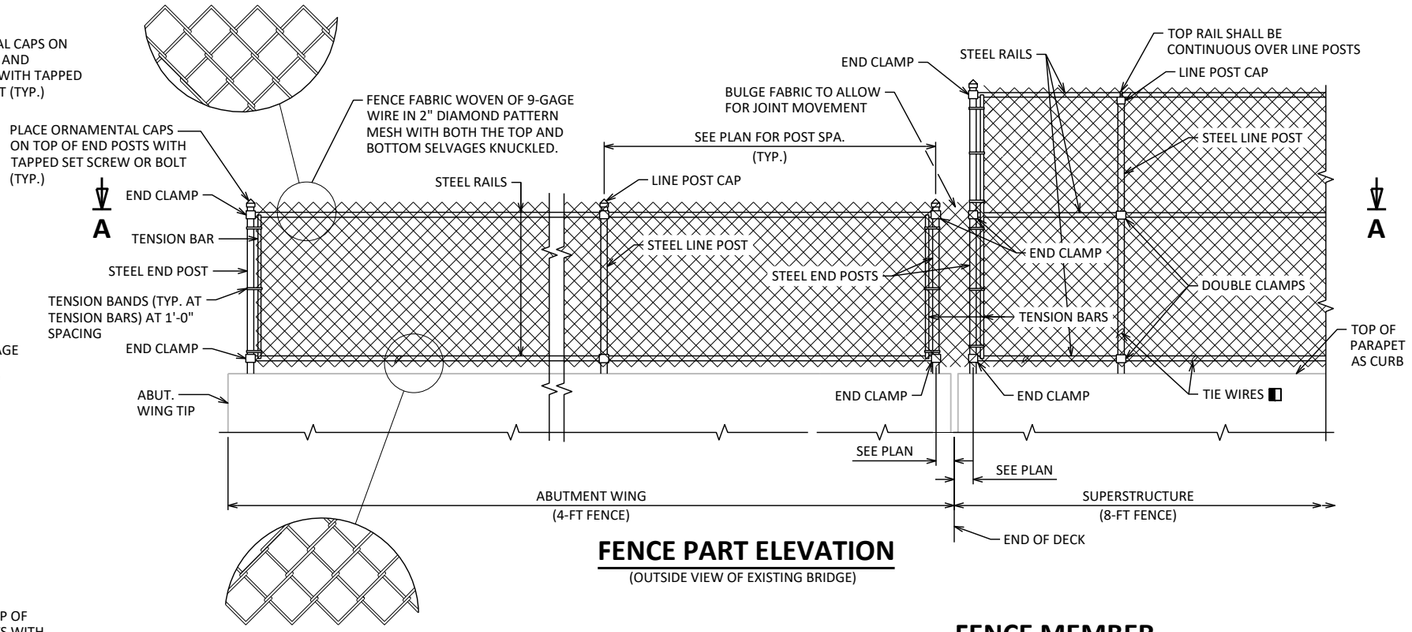
8

STATE PROJECT NUMBER

4685-29-60



SECTION THRU 8-FT FENCE ON SUPERSTRUCTURE



FENCE PART ELEVATION

(OUTSIDE VIEW OF EXISTING BRIDGE)

NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL, EXCEPT THE FENCE FABRIC WHICH MAY BE ALUMINUM-COATED STEEL OR GALVANIZED STEEL.

FABRIC SHALL CONFORM TO ASTM A491 OR A392, CLASS 2. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626.

THE BID ITEMS SHALL BE "FENCE CHAIN LINK 4-FT" AND "FENCE CHAIN LINK 8-FT" AND "FENCE CHAIN LINK 10-FT".

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES, ANCHORS PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST. FIELD VERIFY EXISTING POST SPACINGS.

◪ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

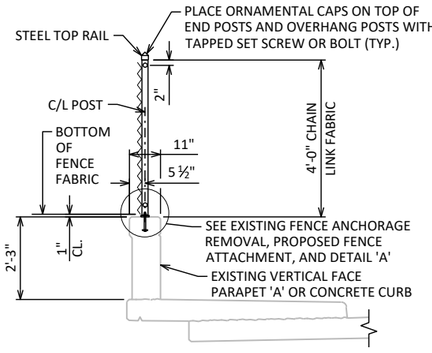
◧ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR ¼ POINT OF POST SPACING.

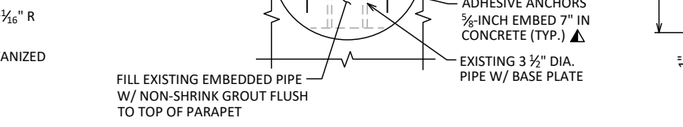
◭ CONCRETE ADHESIVE ANCHORS ⅝-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS.

FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



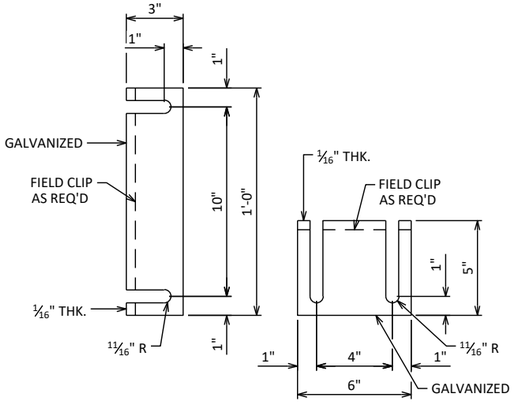
SECTION THRU 4-FT FENCE ON ABUTMENT WING



END CLAMP ✳ **DOUBLE CLAMP**

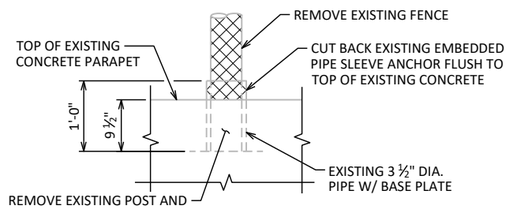
SECTION A-A

NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS

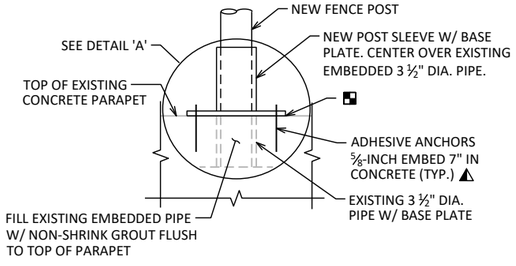


RAIL POST SHIM DETAILS

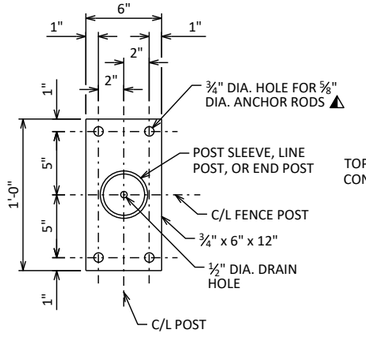
SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POST ARE WELDED TO BASE PLATES. PROVIDE 2 SETS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



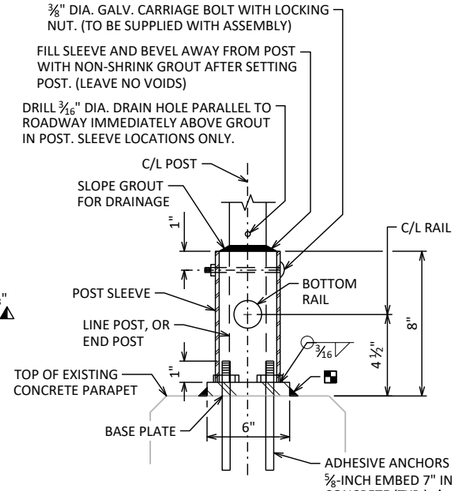
EXISTING FENCE ANCHORAGE REMOVAL



PROPOSED FENCE ATTACHMENT



BASE PLATE

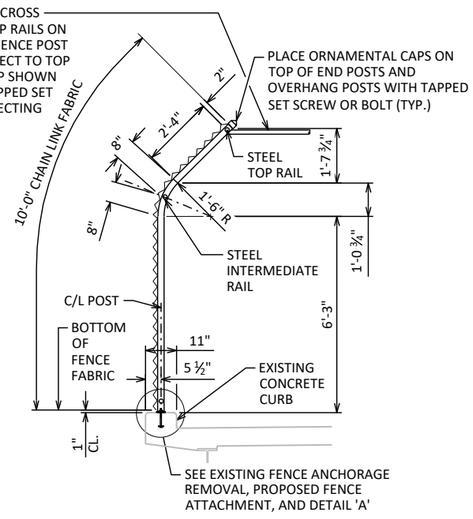


DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

PROVIDE HORIZONTAL STEEL CROSS RAILS CONNECTING STEEL TOP RAILS ON BOTH SIDES OF BRIDGE. SEE FENCE POST PLAN FOR LOCATIONS. CONNECT TO TOP RAILS SIMILAR TO END CLAMP SHOWN IN SECTION A-A. PROVIDE TAPPED SET SCREW OR THRU BELT CONNECTING RAIL END TO CROSS RAIL.



SECTION THRU 10-FT FENCE ON SUPERSTRUCTURE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-08-24/33 & B-44-125

DRAWN BY DTH | PLANS CK'D KRB

CHAIN LINK FENCE DETAILS

SHEET 7
337

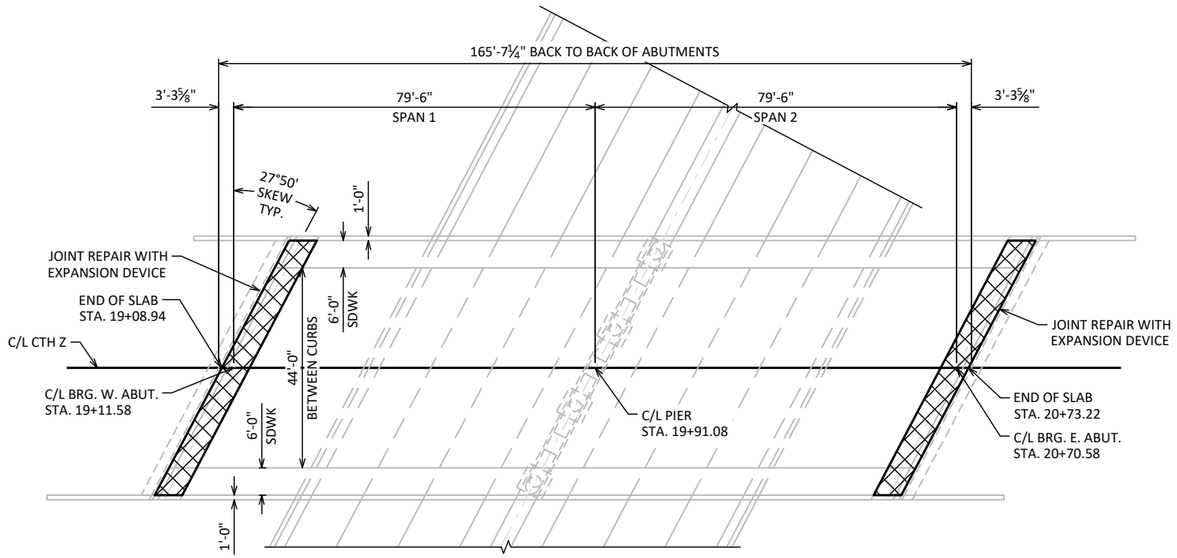
SCALE =

8

8

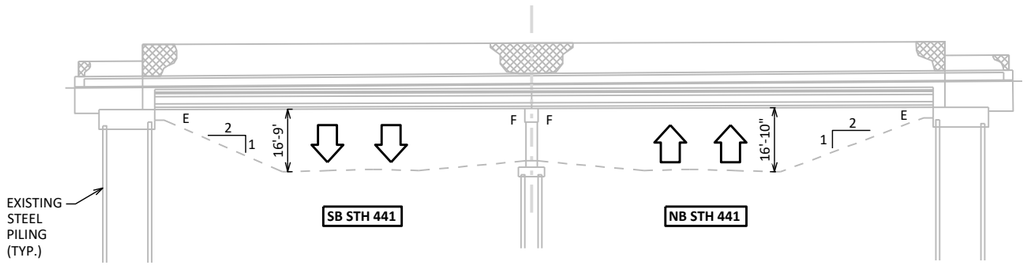
STATE PROJECT NUMBER

4685-29-60



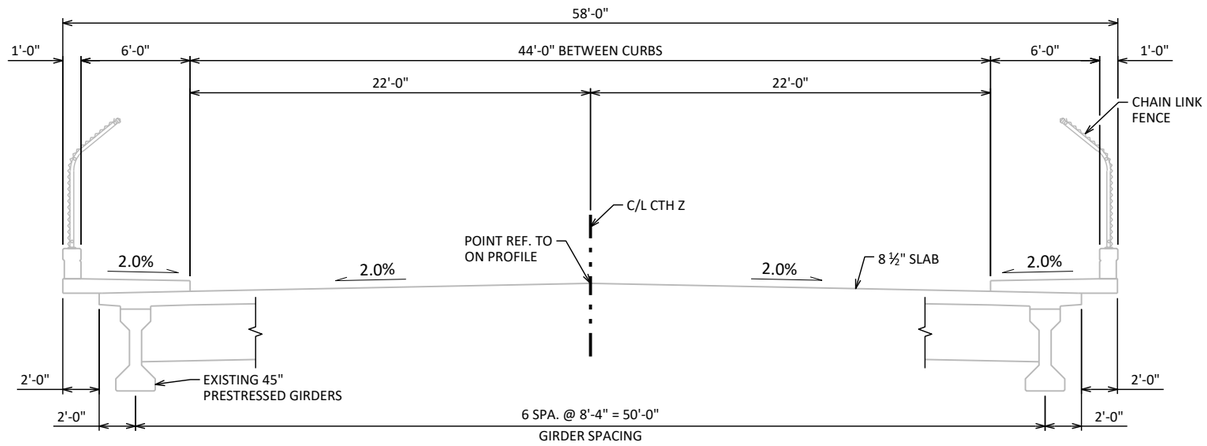
PLAN B-44-125

2 SPAN - 45° PRESTRESSED GIRDERS



ELEVATION

NORMAL TO STH 441



SECTION

(LOOKING EAST)

NOTES

SEE NOTES ON SHEET 1.

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

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

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP SURFACE OF THE JOINT REPAIR AREAS.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE, SHALL BE INCLUDED WITH BID ITEM "EXPANSION DEVICE".

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-125

DRAWN BY DTH | PLANS CK'D KRB

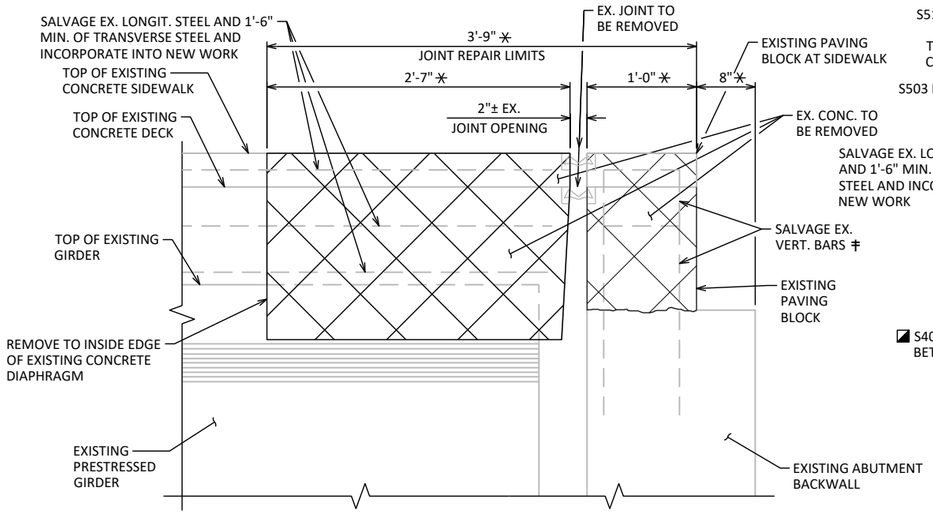
JOINT REPAIR

SHEET 8
338

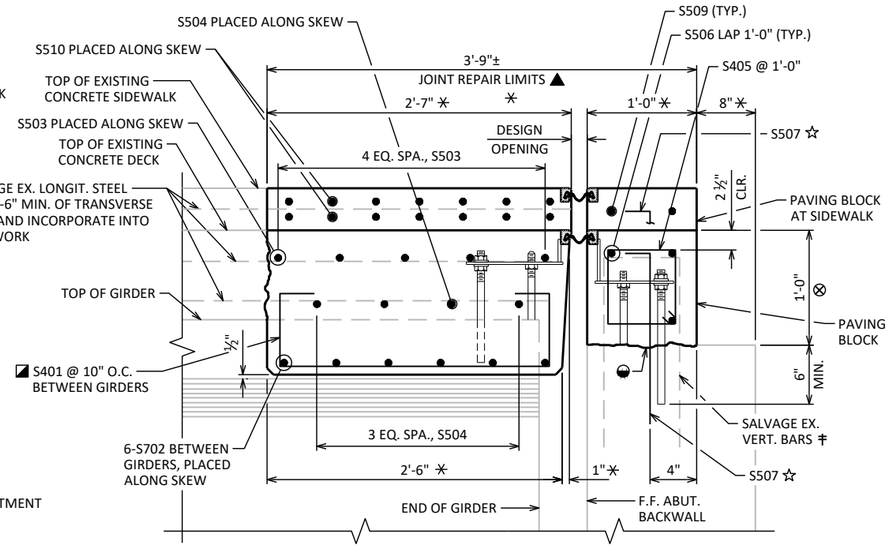
SCALE =

STATE PROJECT NUMBER

4685-29-60



JOINT REPAIR - REMOVAL AT ABUTS.



SECTION THRU PROPOSED JOINT AT ABUTS.

LEGEND

ǂ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆.

☆ ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" IN CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

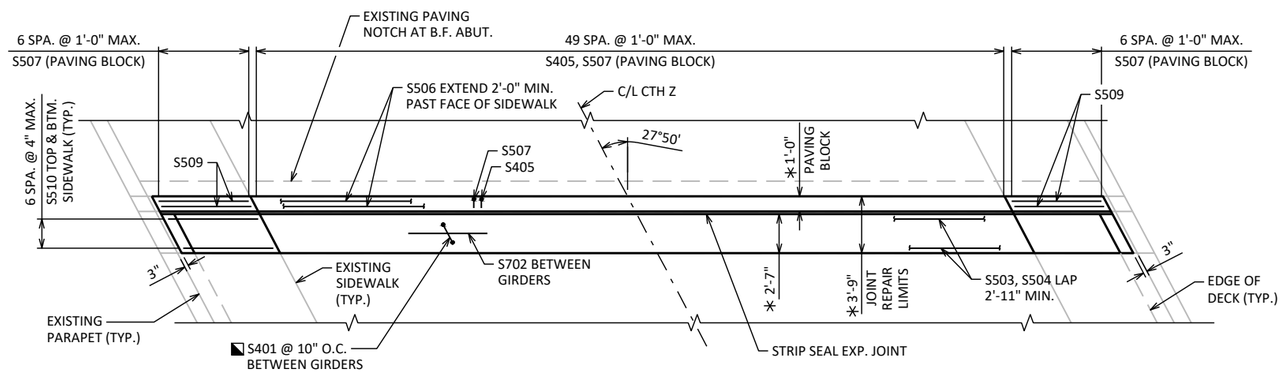
⚹ DIMENSIONS GIVEN ARE NORMAL TO C/L OF SUBSTRUCTURE UNIT. INCORPORATE EXISTING REINFORCEMENT.

◪ BARS PLACED PARALLEL TO C/L GIRDERS. SPACING PERPENDICULAR TO C/L GIRDERS.

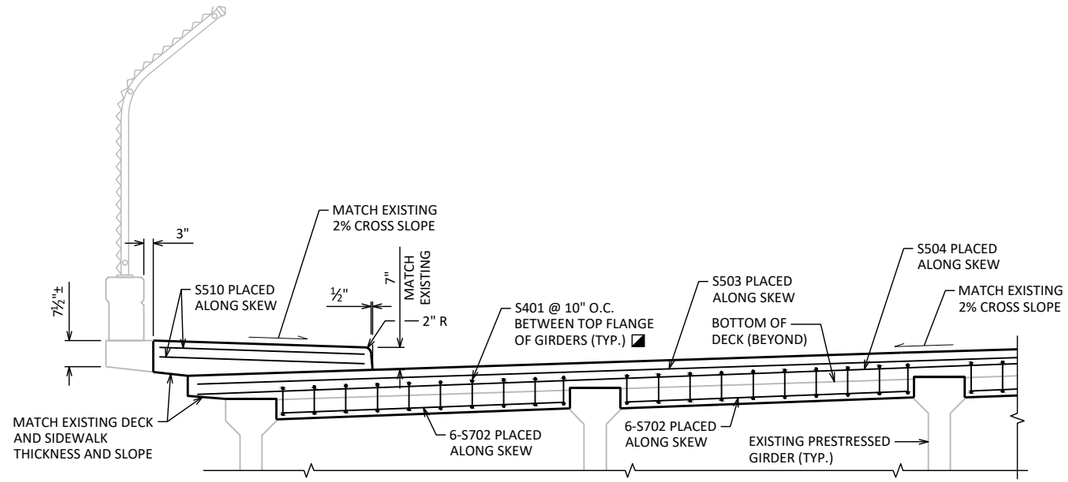
⊗ HEIGHT OF PAVING BLOCK INDICATED IS ESTIMATED. ADJUST AS NECESSARY FOR FIELD CONDITIONS. POUR AFTER SUPERSTRUCTURE IS IN PLACE AND CONFORM TO SUPERSTRUCTURE DECK ELEVATIONS.

▲ VOLUME OF NEW CONCRETE USED FOR JOINT REPAIR WILL BE PAID FOR UNDER "CONCRETE MASONRY DECK REPAIR" BID ITEM.

◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ± ¼" AMPLITUDE.



PART PLAN - END OF DECK



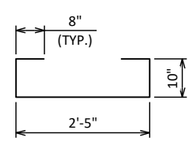
PART TRANSVERSE SECTION AT DIAPHRAGM END

(LOOKING EAST)

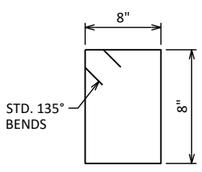
JOINT REPAIR AT ABUTMENTS BILL OF BARS

COATED: 4,040 LBS

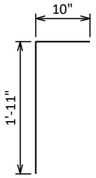
	BAR MARK	NO. REQ'D W. ABUT.	NO. REQ'D E. ABUT.	LENGTH	BENT	COAT	LOCATION
	S401	54	54	5'-1"	X	X	DIAPH. - VERT. - STIRRUPS
	S702	36	36	7'-4"		X	DIAPH. - TRANS. - BETWEEN GIRDERS
	S503	10	10	32'-0"		X	SLAB - TRANS.
	S504	8	8	32'-0"		X	SLAB - TRANS.
	S405	50	50	3'-2"	X	X	PAVING BLOCK - VERT.
	S506	30	30	7'-6"		X	PAVING BLOCK - HORIZ.
☆	S507	64	64	2'-8"	X	X	PAVING BLOCK - VERT. DOWELS
	S408	12	12	7'-4"		X	DIAPH. - TRANS. - EXP. JOINT - BETWEEN GIRDERS
	S509	4	4	6'-2"		X	SIDEWALK PAVING BLOCK - HORIZ.
	S510	14	14	6'-2"		X	SIDEWALK - TRANS.



S401



S405



S507

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-125

DRAWN BY DTH | PLANS CK'D KRB

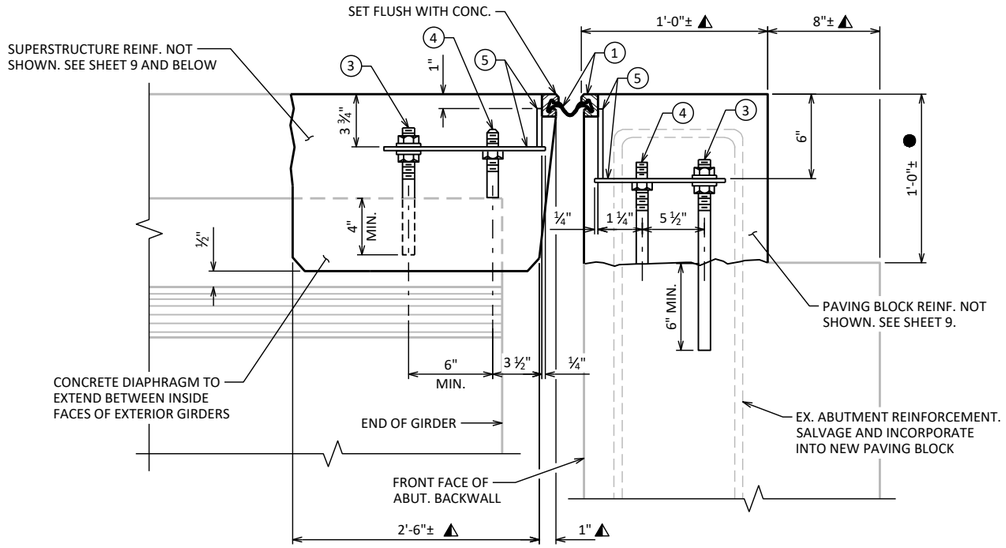
JOINT REPAIR DETAILS

SHEET 9
339

SCALE =

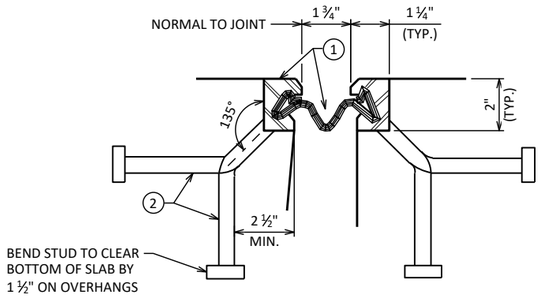
8

8



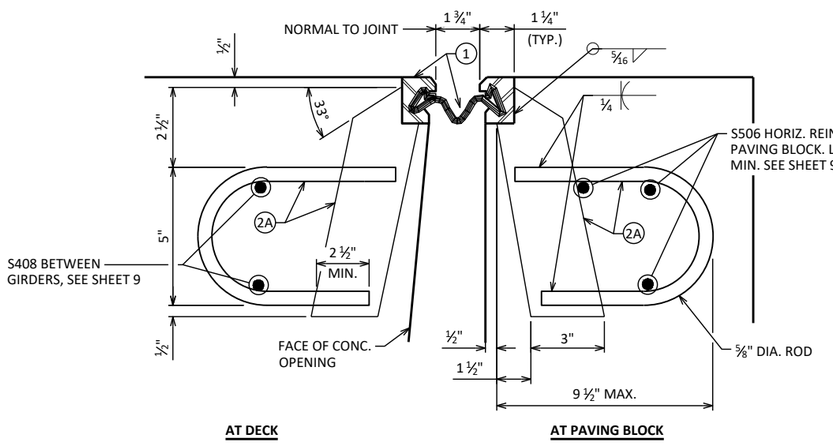
SECTION THRU JOINT AT ABUTMENT

NORMAL TO C/L SUBSTRUCTURE



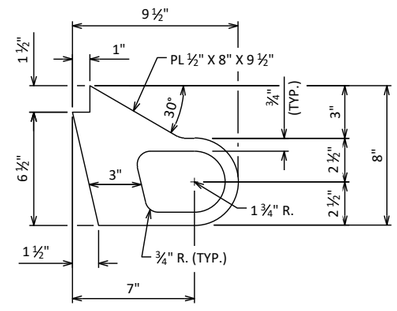
SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS

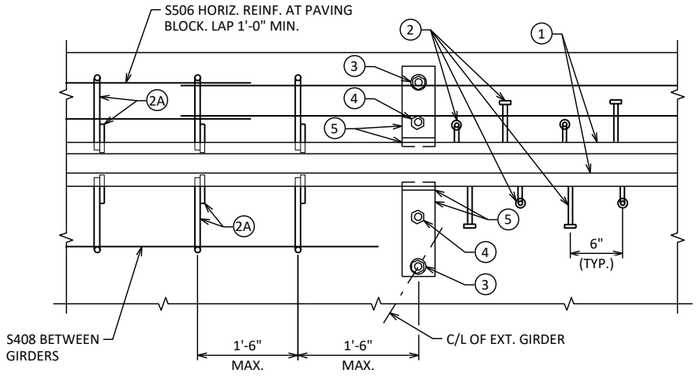


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



ALTERNATE STRIP SEAL ANCHOR



PART PLAN

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE", LF.

LEGEND

(1) NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSION.

(2) STUDS ⅝" DIA. X 6 ⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON C/L OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATED SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 ½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

(6) NOT USED.

(7) ¾" DIA. x 1 ½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾" DIA. x 4" GALVANIZED HEX HEAD BOLT, BEND 45°.

(9) ¾" DIA. x 2 ¼" GALVANIZED THREADED COUPLING.

(10) SIDEWALK COVER PLATE ⅜" x (2'-0" WIDE FOR SKEWS TO 45° AND 3'-0" WIDE FOR SKEWS > 45°) x LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

(11) 1" x 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

● TOP ELEVATION OF PAVING BLOCK SHALL CONFORM WITH SUPERSTRUCTURE. POUR PAVING BLOCK AFTER SUPERSTRUCTURE IS IN PLACE.

⚠ DIMENSIONS ARE GIVEN NORMAL TO C/L OF SUBSTRUCTURE UNIT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-125

DRAWN BY DTH | PLANS CK'D KRB

STRIP SEAL EXPANSION JOINT

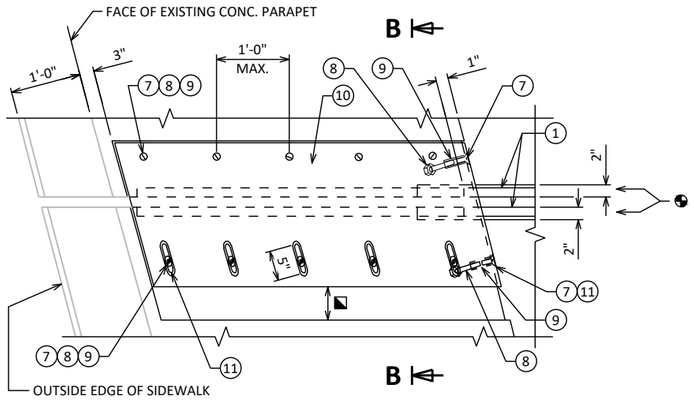
SHEET 10
340

SCALE =

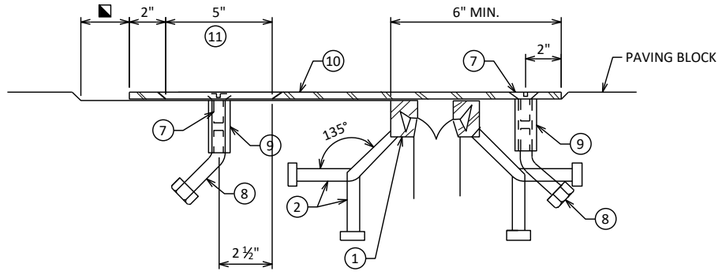
8

STATE PROJECT NUMBER

4685-29-60



PLAN AT SIDEWALK



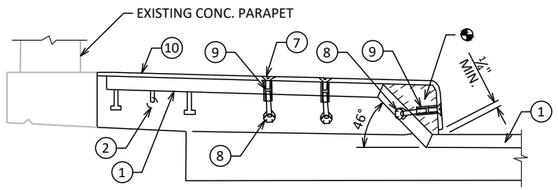
SECTION B-B

LEGEND

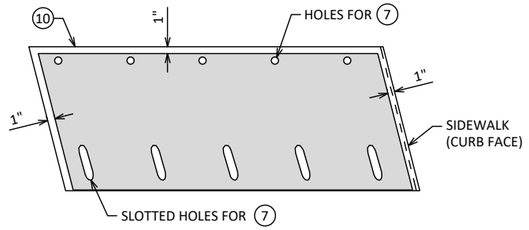
- BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- JOINT OPENING DIM. ALONG SKEW PLUS ½".

NOTES

SEE SHEET 10 FOR NUMBERED KEY NOTES.



SECTION AT SIDEWALK



PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE).

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-125

DRAWN BY DTH | PLANS CK'D KRB

COVER PLATE DETAILS

SHEET 11
341

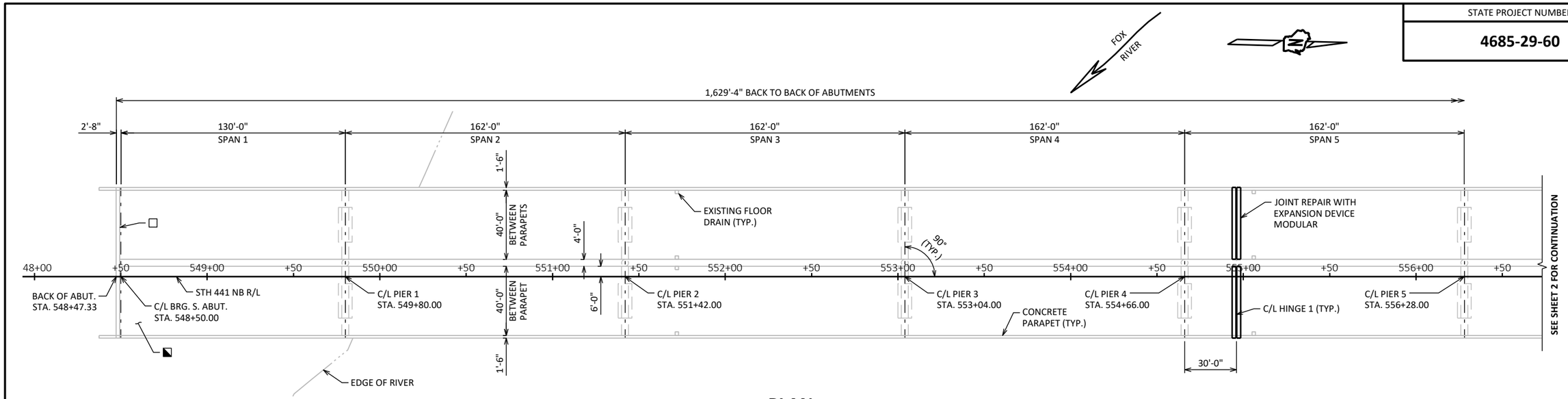
SCALE =

8

8

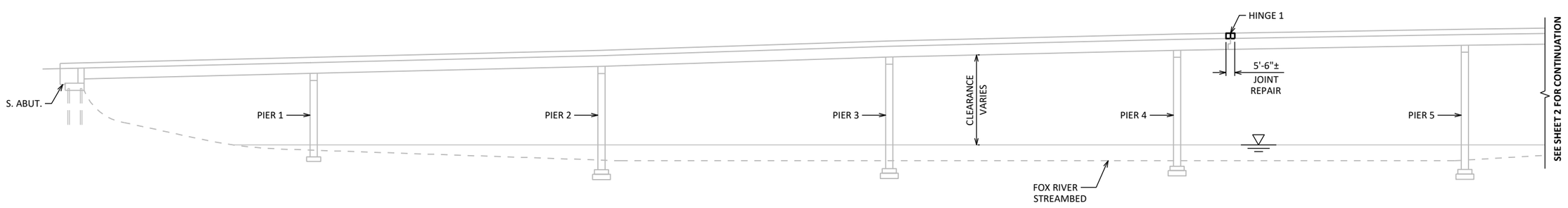
STATE PROJECT NUMBER

4685-29-60



PLAN

(11-SPAN STEEL GIRDERS)



ELEVATION

(LOOKING WEST)

8

DESIGN DATA

MATERIAL PROPERTIES:
HIGH STRENGTH BAR STEEL
REINFORCEMENT ——— f_y = 60,000 PSI
CONCRETE SUPERSTRUCTURE ——— $f'c$ = 4,000 PSI

STRUCTURE DESIGN CONTACTS

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

DESIGN CONSULTANT CONTACT:
KEITH BEHREND (608) 251-4843

LEGEND

☐ CONCRETE SURFACE REPAIR ON FACE OF ABUTMENT.

◪ SLOPE PAVING REPAIR CRUSHED AGGREGATE.

LIST OF DRAWINGS

1. GENERAL PLAN - 1
2. GENERAL PLAN - 2
3. GENERAL NOTES, CROSS SECTION, AND QUANTITIES
4. CONSTRUCTION STAGING
5. SUPERSTRUCTURE DETAILS - STAGE 1
6. SUPERSTRUCTURE DETAILS - STAGE 2
7. MODULAR EXPANSION JOINT
8. COVER PLATE DETAILS
9. PARAPETS

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)–251–4843
(608) 251–8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED _____ SDR 12/01/22
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-44-126

S.T.H. 441 OVER FOX RIVER

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
OUTAGAMIE	APPLETON

DESIGN SPEC.
REHABILITATION - N/A

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
JRP	KRB	DTH	KRB

GENERAL PLAN - 1

SHEET 1 OF 9
342

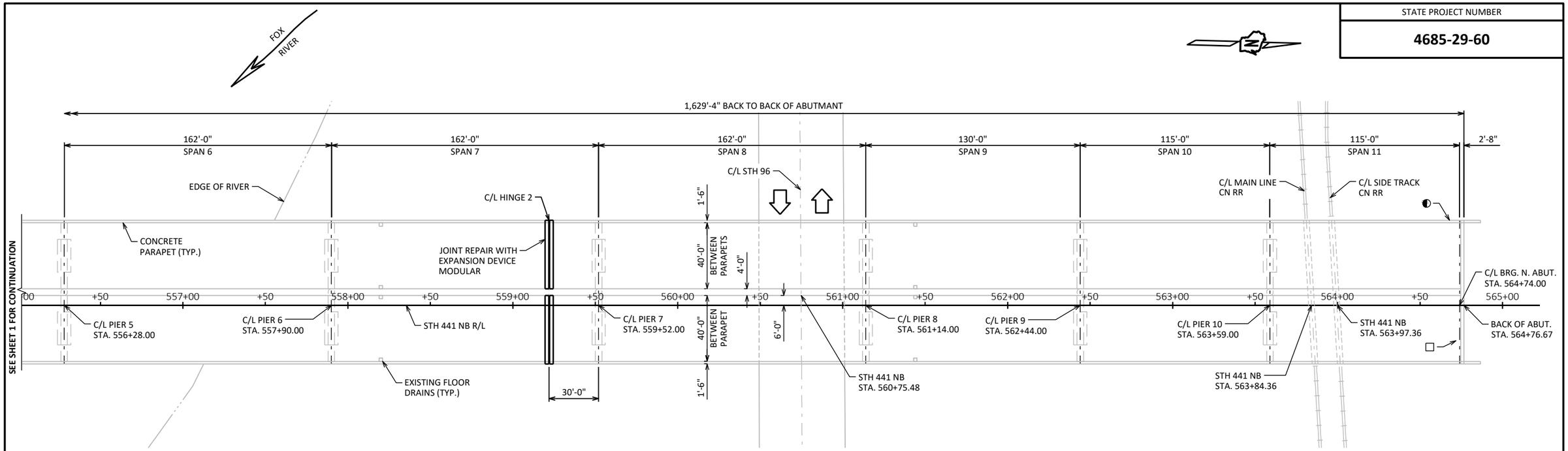
SCALE =

I.D. DATE:

8

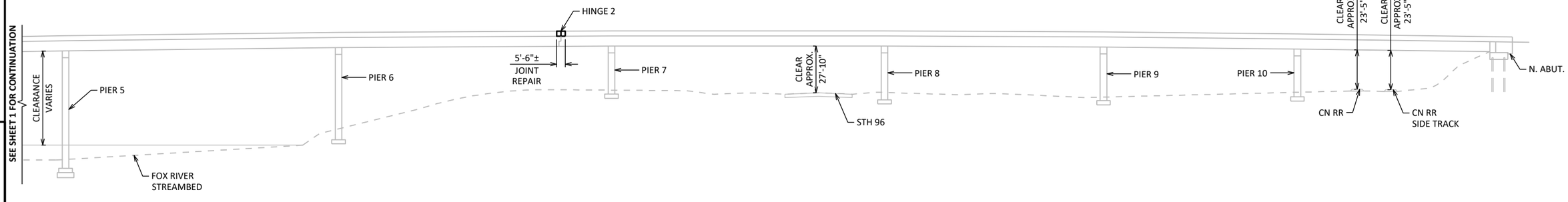
STATE PROJECT NUMBER

4685-29-60



PLAN

(11-SPAN STEEL GIRDERS)



ELEVATION

(LOOKING WEST)

LEGEND

□ CONCRETE SURFACE REPAIR ON FACE OF ABUTMENT.

◐ CONCRETE SURFACE REPAIR ON OUTSIDE EDGE OF SUPERSTRUCTURE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-126

DRAWN BY DTH | PLANS CK'D KRB

GENERAL PLAN - 2

SHEET 2
343

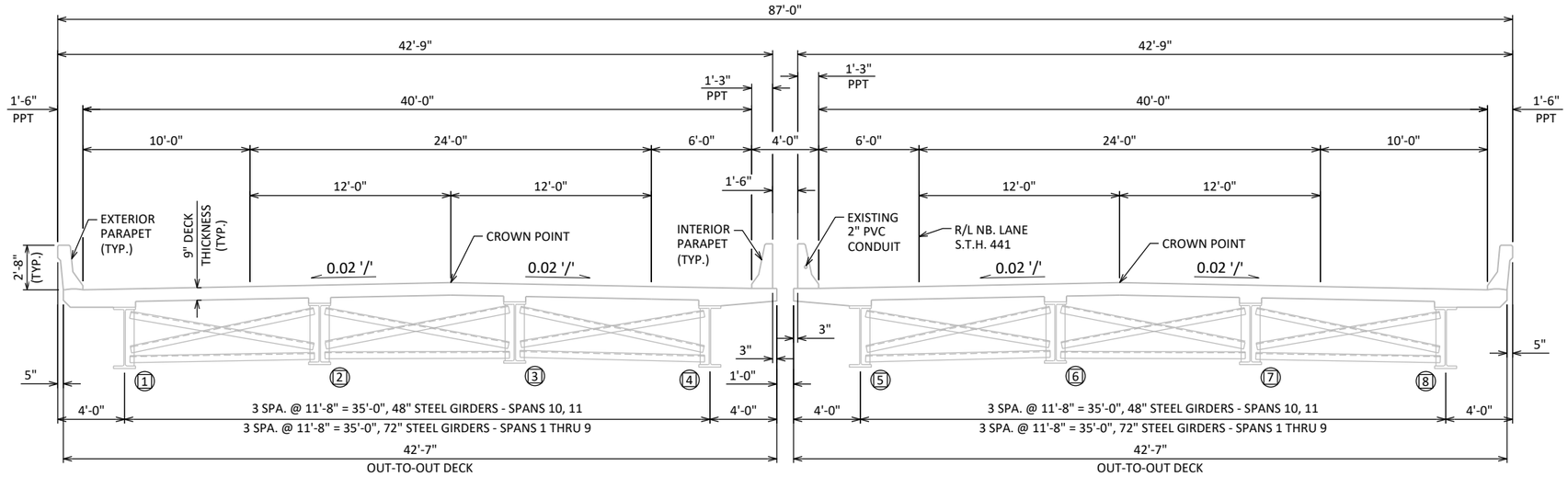
SCALE =

8

8

STATE PROJECT NUMBER

4685-29-60



EXISTING CROSS SECTION THRU ROADWAY LOOKING NORTH

(LOOKING NORTH)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

STATIONS, DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND SUBSEQUENT REHABILITATION PLANS.

THE PROPOSED WORK INCLUDES REPAIRING CONCRETE SURFACE AT ABUTMENTS, AND OUTSIDE EDGE OF SUPERSTRUCTURE, REMOVING AND REPLACING MODULAR EXPANSION JOINTS AT HINGES, REPAIRING CRUSHED AGGREGATE SLOPE PAVING, AND SEALING BRIDGE DECK CRACKS.

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

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

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE TOP, ENDS, AND ROADWAY FACES OF EXISTING AND NEW CONCRETE PARAPET AFTER ALL WORK IS COMPLETED FOR "CONCRETE SURFACE REPAIR" AND "JOINT REPAIR" BID ITEMS.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE INCLUDED WITH BID ITEM "EXPANSION DEVICE MODULAR".

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

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

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

ALL NEW CONCRETE USED FOR JOINT REPAIR, INCLUDING THE DECK AND PARAPETS, WILL BE PAID FOR UNDER "CONCRETE MASONRY DECK REPAIR" BID ITEM.

LEGEND

(#) INDICATES GIRDER NUMBER.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEM DESCRIPTION	UNIT	QUANTITY	COMMENTS
203.0335	DEBRIS CONTAINMENT OVER WATERWAY B-44-126	EACH	1	
502.3111.S	EXPANSION DEVICE MODULAR	LF	161	MODULAR EXPANSION JOINT AT SPANS 5&7
502.3200	PROTECTIVE SURFACE TREATMENT	SY	98	APPLY TO TOP SURFACE OF BRIDGE DECK AT JOINT REPAIR AREA
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	2,544	APPLY TO FULL LENGTH OF ALL PARAPETS INCLUDING PARAPETS ON WINGS
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	7,580	NEW REINFORCEMENT FOR THE MODULAR EXPANSION JOINT REPAIR
505.0904	BAR COUPLERS NO. 4	EACH	16	COUPLE BARS BETWEEN STAGE 1 AND STAGE 2 CONSTRCUTION JOINT
505.0906	BAR COUPLERS NO. 6	EACH	96	COUPLE BARS BETWEEN STAGE 1 AND STAGE 2 CONSTRCUTION JOINT
509.1000	JOINT REPAIR	SY	105	MODULAR EXPANSION JOINT AT SPANS 5&7
509.1500	CONCRETE SURFACE REPAIR	SF	260	ESTIMATED REPAIR AREAS ARE LOCATED ON ABUTMENTS AND AT OUTSIDE EDGE OF DECK NEAR NORTH ABUTMENT; FINAL REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	44	MODULAR EXPANSION JOINT AT SPANS 5&7
604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	10	SLOPE STABILIZATION AT SOUTH ABUTMENT
SPV.0180.01	METHACRYLATE FLOOD SEAL	SY	14,453	APPLY TO ENTIRE BRIDGE DECK AREA

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-126

DRAWN BY DTH | PLANS CK'D KRB

GENERAL NOTES, CROSS SECTION, AND QUANTITIES

SHEET 3

344

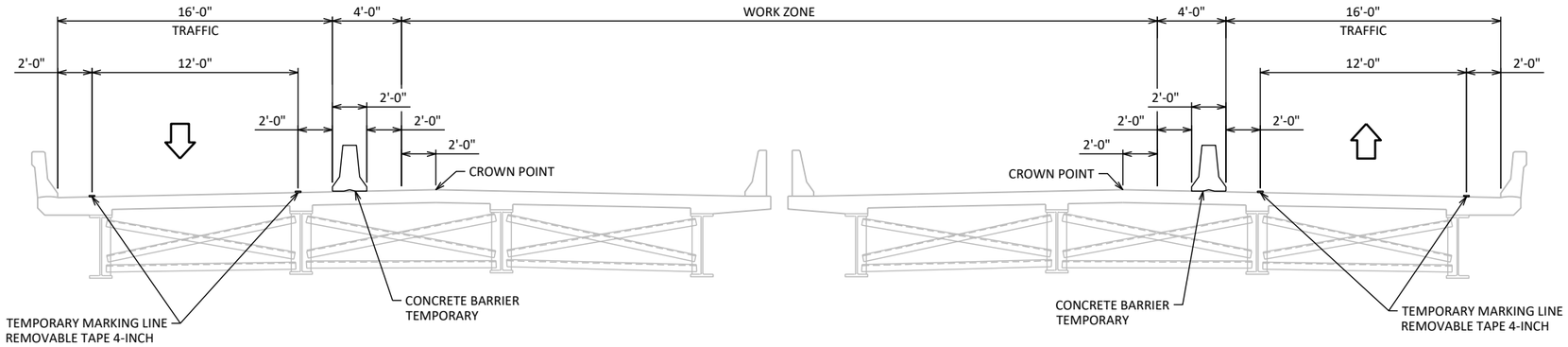
SCALE =

8

8

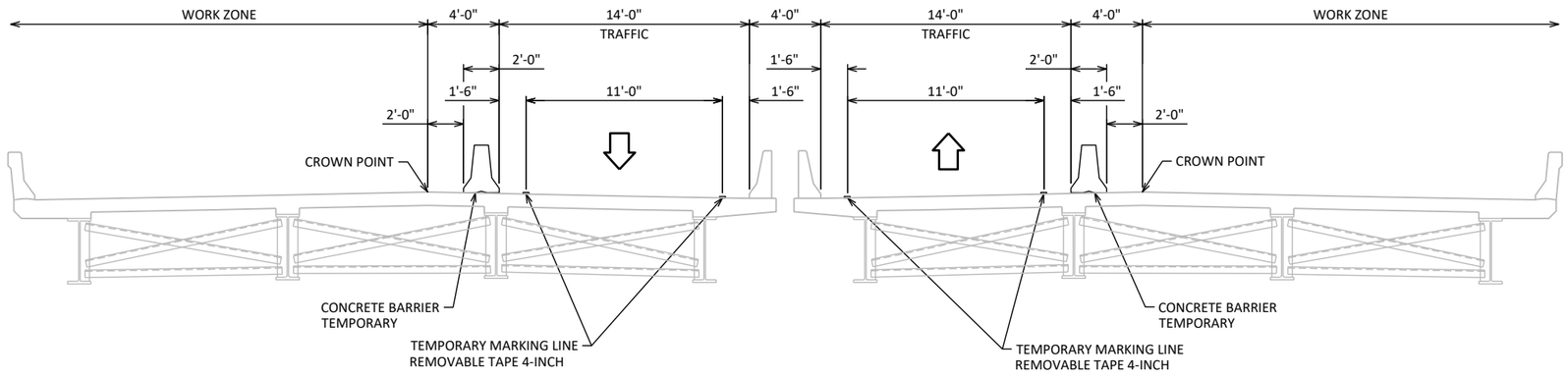
STATE PROJECT NUMBER

4685-29-60



STAGE 1 - TRAFFIC & CONSTRUCTION

(LOOKING NORTH)



STAGE 2 - TRAFFIC & CONSTRUCTION

(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-126

DRAWN BY DTH | PLANS CK'D KRB

CONSTRUCTION STAGING

SHEET 4
345

SCALE =

STATE PROJECT NUMBER

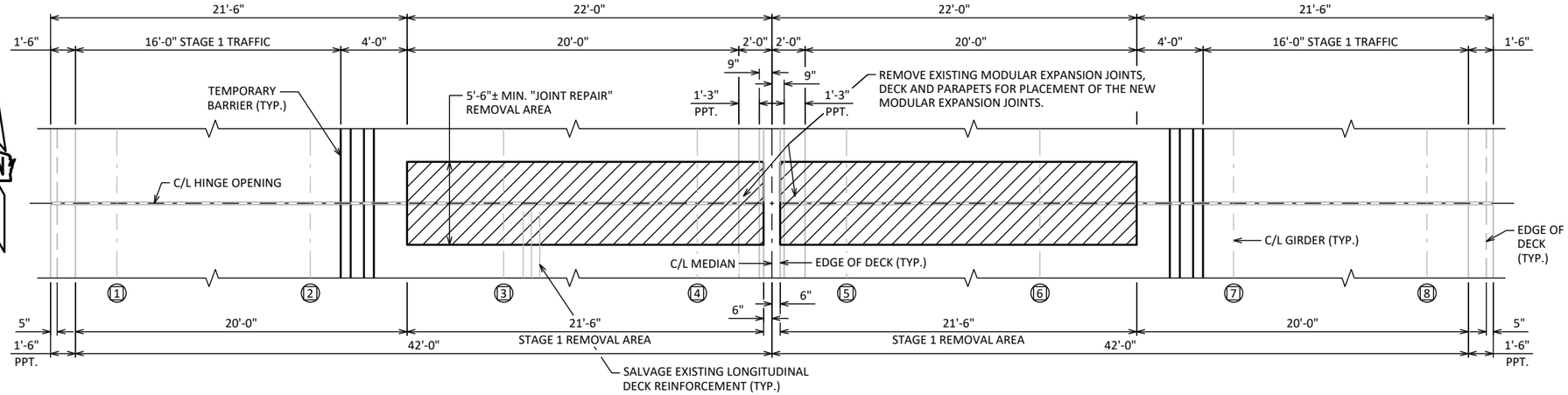
4685-29-60

NOTES

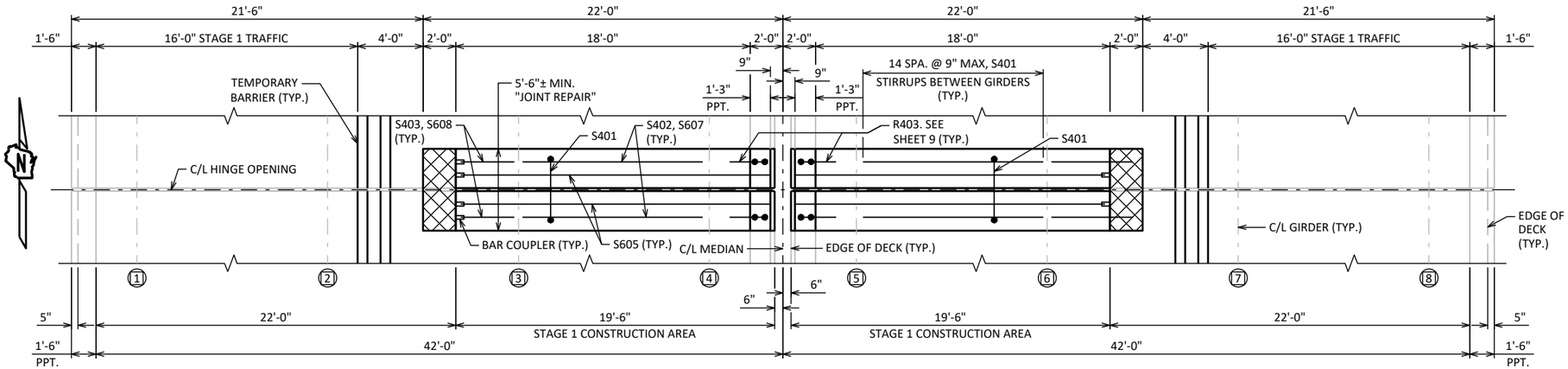
SEE SHEET 6 FOR REINFORCING DETAILS.

LEGEND

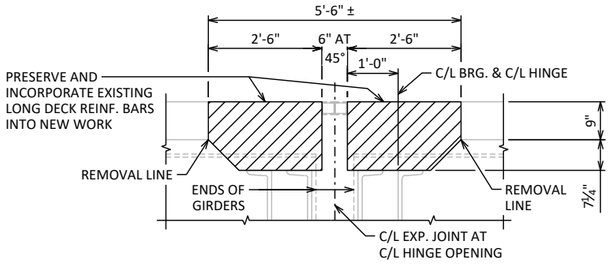
- (#) INDICATES GIRDER NUMBER.
- REMOVAL AREA.
- OPEN AREA.
- NEW CONSTRUCTION.



EXISTING SUPERSTRUCTURE PLAN AT HINGES SHOWING STAGE 1 REMOVAL AREAS

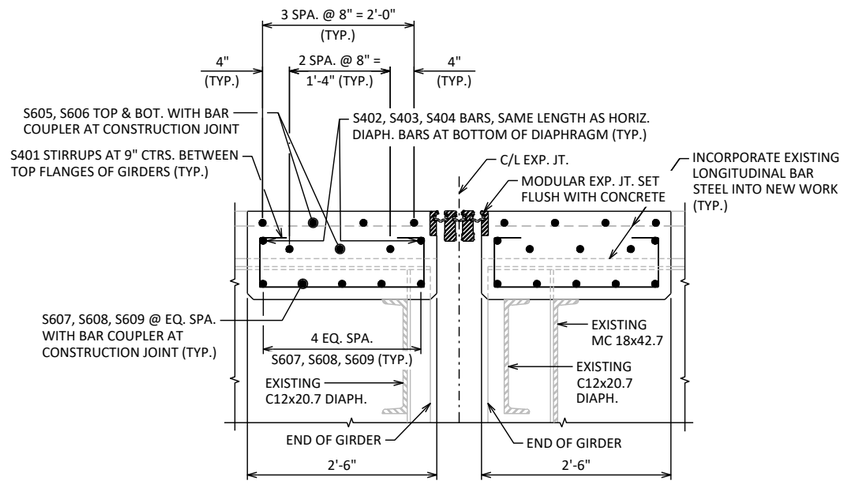


SUPERSTRUCTURE PLAN AT HINGES SHOWING STAGE 1 CONSTRUCTION AREAS



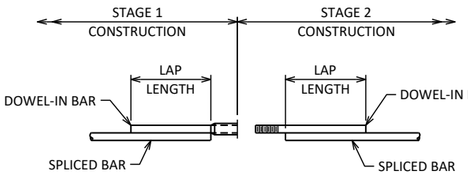
SECTION THRU EXISTING EXPANSION JOINTS AT HINGE

(SHOWING REMOVAL AREAS)



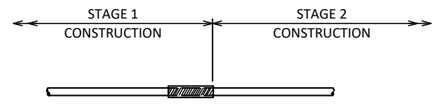
SECTION THRU JOINT AT HINGE

NORMAL TO C/L SUBSTRUCTURE



DOWEL BAR COUPLER

STAGE 2 DOWEL SCREWS INTO COUPLER PLACED IN STAGE 1



ONE-PIECE THREADED COUPLER

BAR COUPLER ALTERNATIVES

NOTE: FOR DOWEL BAR COUPLERS, ALL DOWEL BARS SHALL BE LAPPED AND TIED TO THE REINFORCEMENT BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-126

DRAWN BY DTH | PLANS CK'D KRB

SUPERSTRUCTURE DETAILS - STAGE 1

SHEET 5
346

SCALE =

8

8

STATE PROJECT NUMBER

4685-29-60

NOTES

SEE SHEET 5 FOR SECTIONS AND DETAILS.

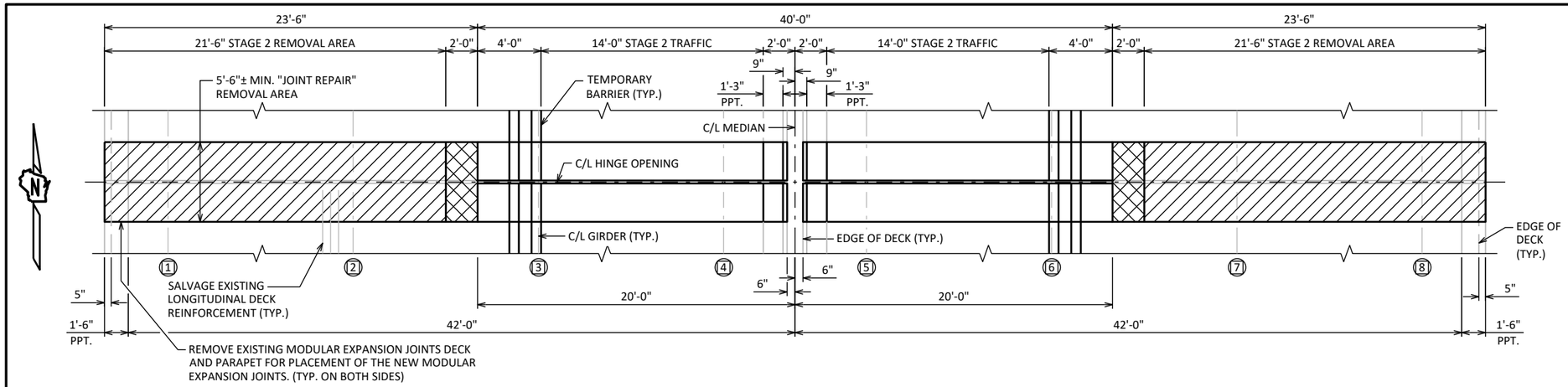
LEGEND

(#) INDICATES GIRDER NUMBER.

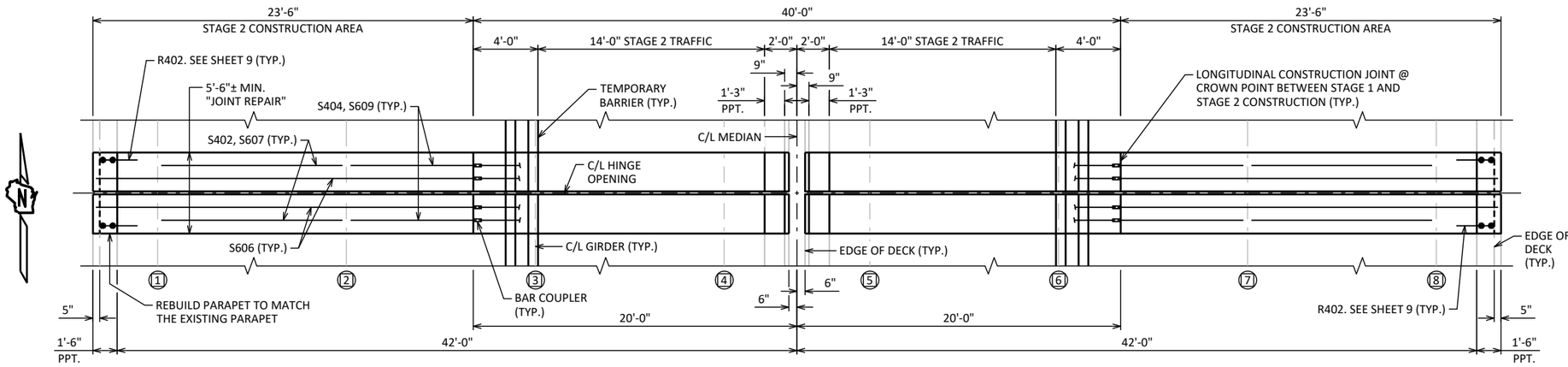
REMOVAL AREA.

OPEN AREA.

NEW CONSTRUCTION.



EXISTING SUPERSTRUCTURE PLAN AT HINGES SHOWING STAGE 2 REMOVAL AREAS



SUPERSTRUCTURE PLAN AT HINGES SHOWING STAGE 2 CONSTRUCTION AREAS

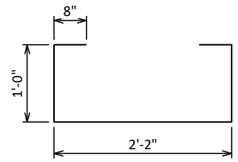
JOINT REPAIR AT HINGES

BILL OF BARS

COATED: 7,190 LBS

	BAR MARK	NO. REQ'D HINGE 1	NO. REQ'D HINGE 2	LENGTH	BENT	COAT	LOCATION
	S401	180	180	5'-2"	X	X	DIAPH. - VERT. - STIRRUPS
	S402	16	16	11'-3"		X	DIAPH. - TRANS. - BTWN. GIRS. 1&2, 3&4, 5&6, 7&8
▲	S403	8	8	3'-7"		X	DIAPH. - TRANS. - BTWN. GIRS. 2&3, 6&7
▲	S404	8	8	7'-8"		X	DIAPH. - TRANS. - BTWN. GIRS. 2&3, 6&7
▲	S605	28	28	19'-4"		X	SLAB - TRANS. - TOP & BOT. - STAGE 1
▲	S606	28	28	22'-11"		X	SLAB - TRANS. - TOP & BOT. - STAGE 2
	S607	40	40	11'-3"		X	DIAPH. - TRANS. - BTWN. GIRS. 1&2, 3&4, 5&6, 7&8
▲	S608	20	20	3'-7"		X	DIAPH. - TRANS. - BTWN. GIRS. 2&3, 6&7
▲	S609	20	20	7'-8"		X	DIAPH. - TRANS. - BTWN. GIRS. 2&3, 6&7

▲ BAR COUPLERS USED, BAR LENGTH COMPUTED UP TO THE LONGIT. CONST. JOINT AND SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURER'S RECOMMENDATIONS.



S401

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-126

DRAWN BY DTH | PLANS CK'D KRB

SUPERSTRUCTURE DETAILS - STAGE 2

SHEET 6
347

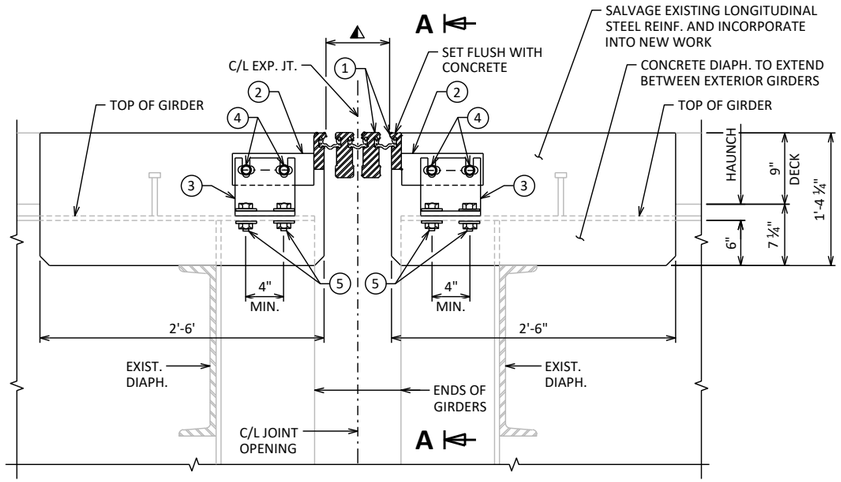
SCALE =

8

8

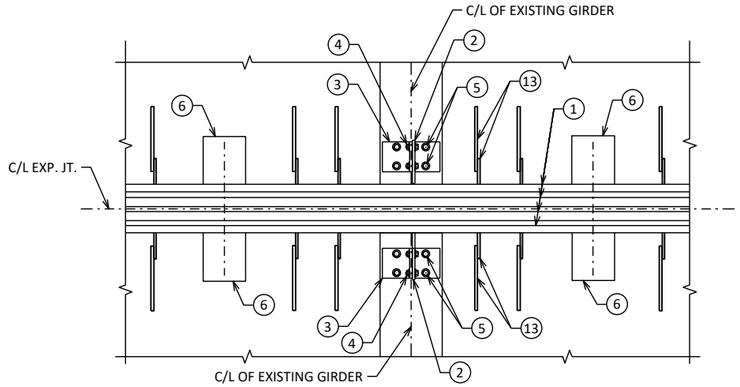
STATE PROJECT NUMBER

4685-29-60



SECTION THRU JOINT AT HINGE

NORMAL TO C/L SUBSTRUCTURE



PART PLAN

NOTES:
MODULAR EXPANSION DEVICE DESIGN AND DETAILS ARE SPECIFIC TO THE MANUFACTURER SELECTED FROM THOSE LISTED IN THE SPECIAL PROVISIONS.

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN. SPACE SUPPORT BOXES TO MISS GIRDER TOP FLANGES WHEN POSSIBLE, BUT NOT TO EXCEED MAXIMUM SPACING PER SPECIAL PROVISIONS.

TEMP. TABLE

TEMPERATURE TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:

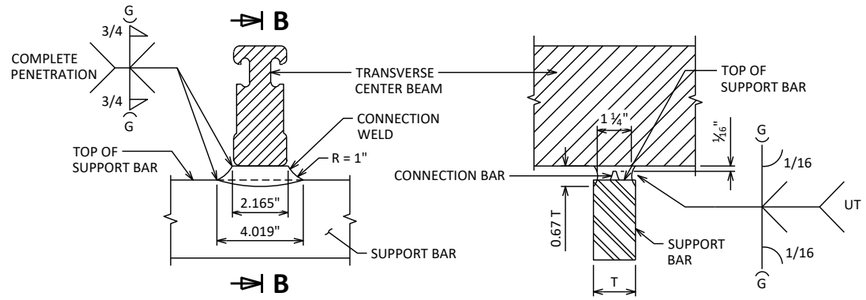
1. ¼" IN OF MOVEMENT PER 10° F.
2. MEDIAN TEMPERATURE OF 45° F.
3. TEMP. RANGE IN TABLE FROM (-5°F) TO (+95°F).

A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

LEGEND

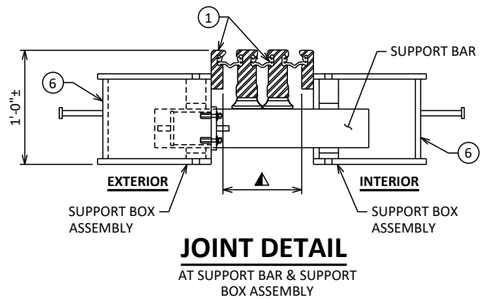
1. MODULAR EXPANSION JOINT DEVICE, 2 CELLS.
2. ½" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" x 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.
3. WT 6 x 29 (OR EQUIVALENT BUILT UP T-SECTION). ONE PER GIRDER. PROVIDE 2 - 1" x 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO. 4.
4. ¾" DIA. HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)
5. ¾" DIA. HIGH STRENGTH BOLTS WITH NUTS & WASHERS. FIELD DRILL HOLES IN GIRDER TOP FLANGE. (A325 GALV.)
6. SUPPORT BOX ASSEMBLY FOR SUPPORT BAR (SPA. PER MANUFACTURER). FABRICATE BOX FROM ½" PLATES.
7. ⅜" BULKHEAD PLATE. WELD TO NO. 1 NO. 8 AND NO. 14. WHEN CONDUIT IS PRESENT IN PARAPET OR SIDEWALK, ACCOMMODATE FOR BY PROVIDING OPENING IN NO. 7.
8. INSIDE PLATE. FABRICATE FROM ⅜" PLATE.
9. OUTSIDE PLATE. FABRICATE FROM ⅝" PLATE.
10. ⅞" SQUARE BAR. WELD TO NO. 8 AS SHOWN.
11. ¾" DIA. X 4" LONG STUDS. WELD TO NO. 8, NO. 7 & NO. 14 AS SHOWN.
12. ¾" DIA. X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
13. ½" PLATE WITH ⅝" DIA. LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.
14. INSIDE PLATE. FABRICATE FROM ⅝" PLATE.
15. ADIPRENE BUTTON. SEE DETAIL. SET IN OUTSIDE PLATE.

⚠ MANUFACTURER'S RECOMMENDED JOINT OPENING BASED IN THE TEMPERATURE ON THE DAY OF PLACEMENT PER TEMPERATURE TABLE. THE MODULAR EXPANSION DEVISE SHALL HAVE THE NUMBER OF CELLS AS INDICATED IN (1).



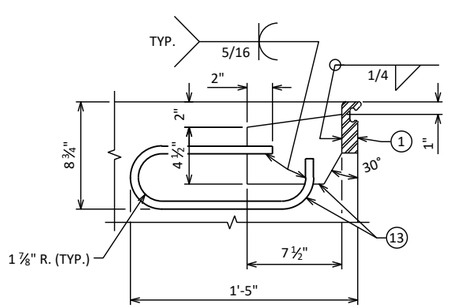
MODULAR EXPANSION JOINT CONNECTION DETAIL AND WELD SPECIFICATION

SECTION B-B



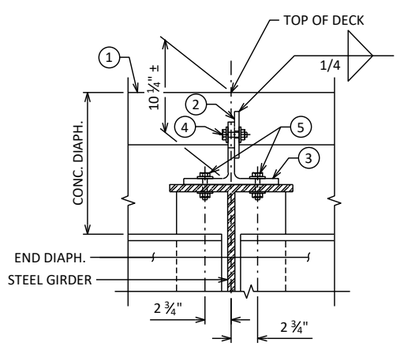
JOINT DETAIL

AT SUPPORT BAR & SUPPORT BOX ASSEMBLY



ANCHORAGE DETAIL

PLACE ADJACENT TO SUPPORT BOXES IN DECK @ CONC. DIAPHRAGMS



SECTION A-A

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE GLAND.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

NO EXPANSION JOINT PROTRUSIONS PERMITTED ABOVE ROADWAY SURFACE OR ON PARAPET ROADWAY FACE.

THE EXPANSION JOINT SEALS SHALL BE PLACED, BONDED & SEALED AS RECOMMENDED BY THE MANUFACTURER. FORM WORK SHALL BE PLACED BETWEEN THE SUPPORT BOXES TO PREVENT CONCRETE INTRUSION INTO THE SUPPORT BOX. A TECHNICAL REPRESENTATIVE OF THE MANUFACTURER SHALL BE PRESENT DURING INSTALLATION. PRIOR TO SETTING THE JOINT ASSEMBLY INTO POSITION, THE PROJECT ENGINEER SHALL DETERMINE THE PROPER JOINT OPENING.

EXPANSION JOINT EXTRUSIONS SHALL BE FABRICATED TO CONFORM TO ROADWAY CROWN & GRADE. FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST BARS, PLATES, WT-SECTION, ANCHORAGE LOOP & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THIS ASSEMBLY SHALL BE HOT DIPPED GALVANIZED.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS, PARAPET PLATES, AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE MODULAR B-44-126", LF.

BAR STEEL REINF. IN DECK AND CONCRETE DIAPHRAGM SHALL BE RESPACED AS NECESSARY TO ALLOW PLACEMENT OF JOINT ASSEMBLY. TOP TRANSVERSE BARS, ADJACENT TO MOD. JT., TO BE CUT AND PLACED BETWEEN JT. SUPPORT SYSTEM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-126

DRAWN BY	DTH	PLANS CK'D	KRB

MODULAR EXPANSION JOINT

SHEET 7
348

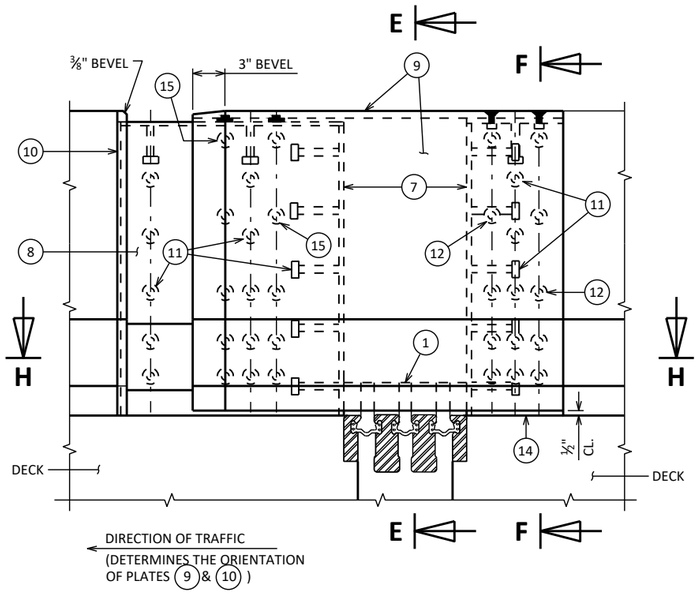
SCALE =

8

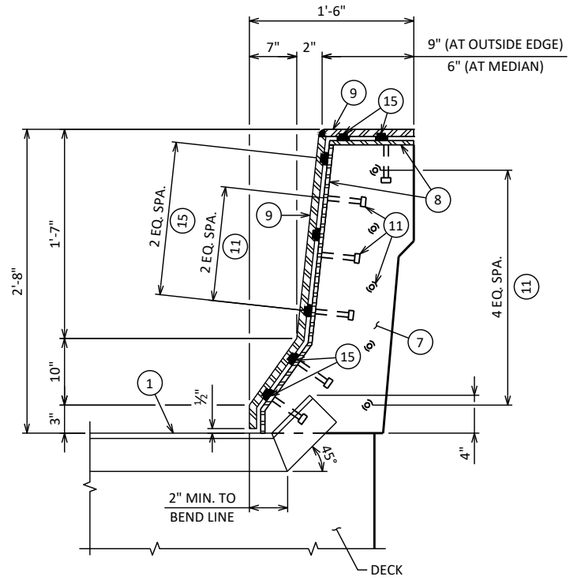
8

STATE PROJECT NUMBER

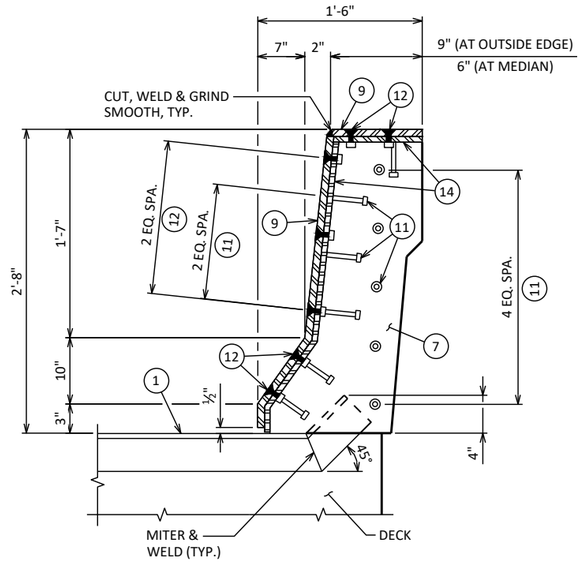
4685-29-60



ELEVATION OF PARAPET



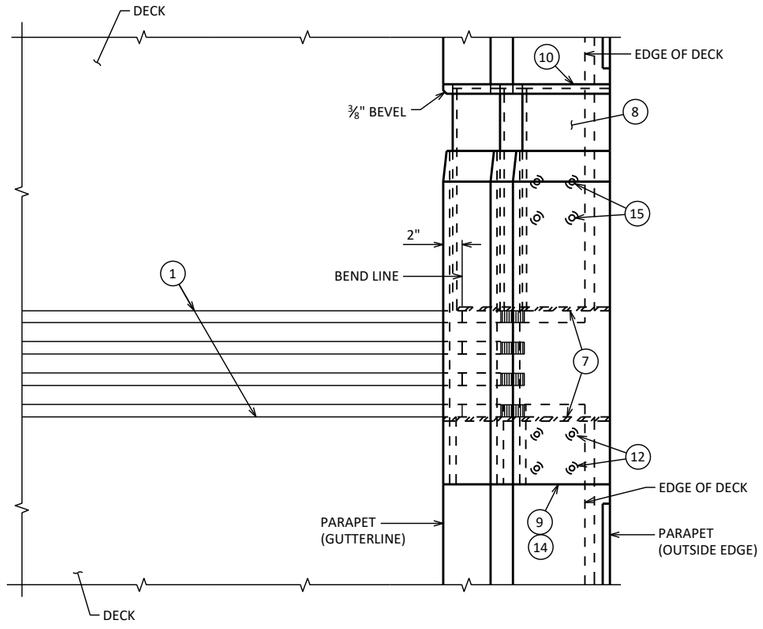
SECTION E-E



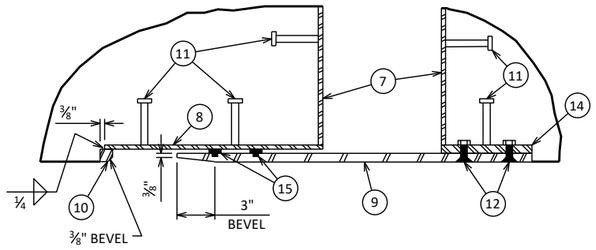
SECTION F-F

NOTES

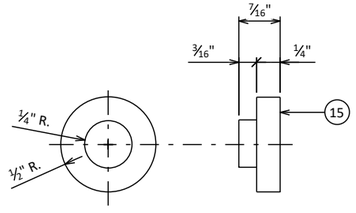
SEE LEGEND ON SHEET 7.



PLAN OF PARAPET



SECTION H-H



ADIPRENE BUTTON DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-126

DRAWN BY DTH | PLANS CK'D KRB

COVER PLATE DETAILS

SHEET 8
349

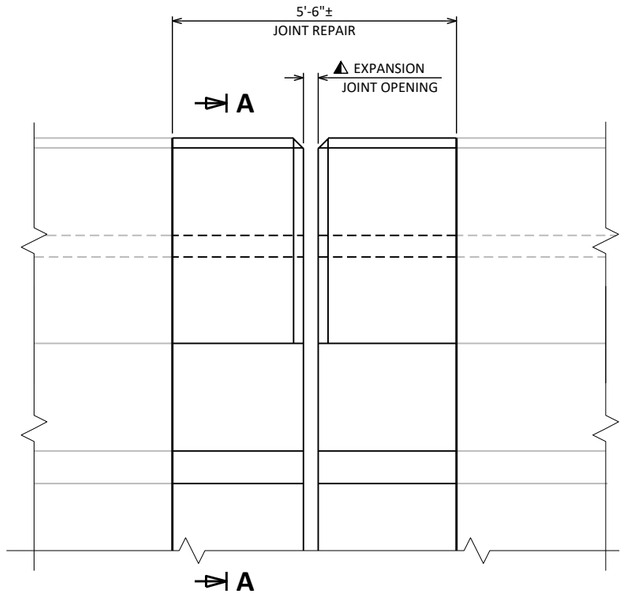
SCALE =

8

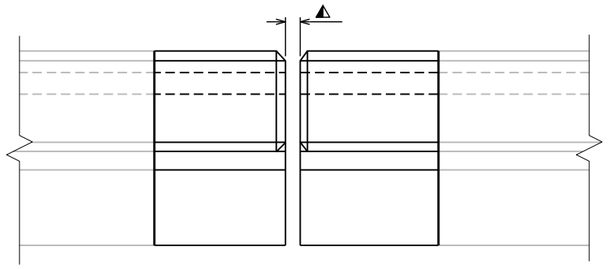
8

STATE PROJECT NUMBER

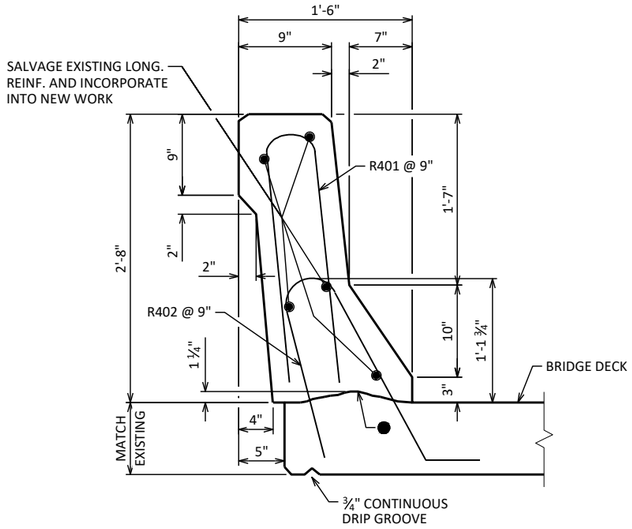
4685-29-60



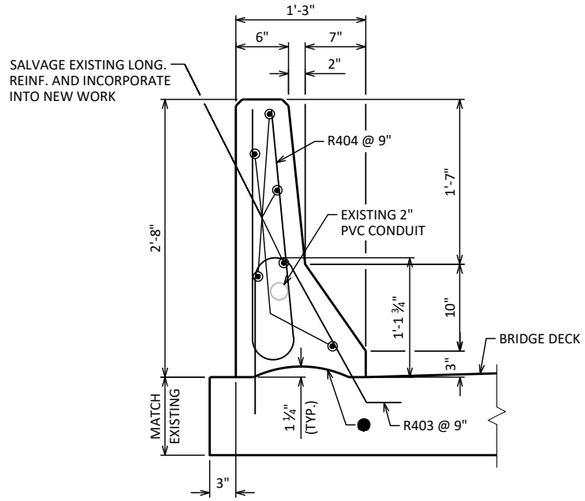
ELEVATION OF PARAPET



PART PLAN ON PARAPET



SECTION THRU PARAPET AT OUTSIDE EDGE



SECTION THRU PARAPET AT MEDIAN

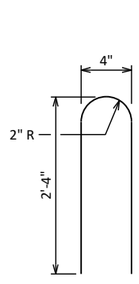
LEGEND

- ● CONST. JOINT - STRIKE OFF AS SHOWN & LEAVE ROUGH.
- ⚠ MATCH EXPANSION JOINT OPENING IN DECK. SEE SHEET 7.

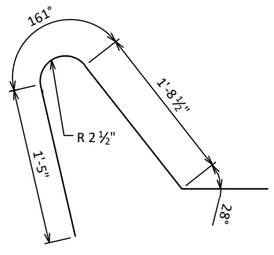
PARAPET BILL OF BARS

COATED: 390 LBS

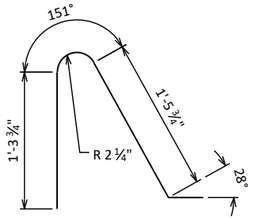
BAR MARK	NO. REQ'D		LENGTH	BENT	COAT	LOCATION
	HINGE 1	HINGE 2				
R401	16	16	4'-10"	X	X	EXTERIOR PARAPET - VERT.
R402	16	16	4'-3"	X	X	EXTERIOR PARAPET - VERT.
R403	16	16	4'-0"	X	X	INTERIOR PARAPET - VERT.
R404	16	16	5'-0"	X	X	INTERIOR PARAPET - VERT.



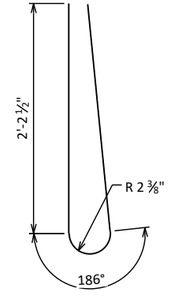
R401



R402



R403



R404

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-126

DRAWN BY DTH | PLANS CK'D KRB

PARAPETS

SHEET 9

350

SCALE =

8

8

DESIGN DATA

CONTRACTOR DESIGNED OVERHEAD SIGN STRUCTURES SHALL BE DESIGNED ACCORDING TO THE AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", 1ST EDITION AND INTERIM SPECIFICATIONS, AND THE WISDOT BRIDGE MANUAL.

STANDARD FOUNDATIONS DESIGNED ACCORDING TO THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION.

DEAD LOAD: WT. OF SIGN AND SUPPORTING STRUCTURE.
ICE LOAD: 3 PSF TO ONE FACE OF SIGN & SURFACE OF MEMBERS.
WIND PRESSURE: 115 MPH (3-SEC. GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS. (700 YEAR MEAN RECURRENCE INTERVAL)

WIND COMPONENTS	NORMAL	TRANSVERSE
LOAD CASE 1:	1.00	0.00
LOAD CASE 2:	0.00	1.00
LOAD CASE 3:	0.75	0.75

LOAD COMBINATIONS

STRENGTH I:	1.25 DC + 1.6 LL
EXTREME I (MAX DC):	1.1 DC + 1.0 W + 1.0 ICE
EXTREME I (MIN DC):	0.9 DC + 1.0 W
SERVICE I:	1.0 DC + 1.0 W
FATIGUE I:	1.0 NWG (NATURAL WIND GUST VIBRATION)
	1.0 TRG (TRUCK INDUCED GUST VIBRATION)
	1.0 GVW (GALLOPING - CANTILEVER ONLY)

MATERIAL PROPERTIES

CONCRETE MASONRY ——— f'_c = 3,500 PSI

HIGH STRENGTH STEEL:
REINFORCEMENT, GRADE 60 ——— f_y = 60,000 PSI

HIGH STRENGTH BOLTS - A325 ——— f_y = 92,000 PSI

ANCHOR RODS - ASTM F1554 GRADE 55 ——— f_y = 55,000 PSI

HEAVY HEX NUTS FOR ANCHOR RODS - ASTM A563A

WASHERS FOR ANCHOR RODS - ASTM F436

FOUNDATION DATA

SIGN STRUCTURE FOUNDATIONS ARE SUPPORTED ON DRILLED SHAFTS THAT HAVE BEEN DESIGNED FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 24° (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 750 PSF (COHESIVE SOILS) AND A UNIT WEIGHT OF 125 PCF. THE GROUND WATER TABLE FOR DESIGN IS ASSUMED TO BE AT A DEPTH OF 10'-0" BELOW THE GROUND SURFACE, ACTUAL WATER LEVEL AT SITE MAY VARY. THE REGION GEOTECHNICAL ENGINEER SHALL VISUALLY INSPECT THE SUBSURFACE SOILS DURING DRILLING OF THE SHAFT HOLE TO CONFIRM THESE PROPERTIES PRIOR TO PLACEMENT OF THE DRILLED SHAFT CONCRETE.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALTERNATE DESIGNS ARE NOT ALLOWED.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), OUTAGAMIE COUNTY ZONE, NAD 83 (2011). ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2012).

ALL REINFORCING BARS ARE IN ENGLISH UNITS. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

SIGN BRIDGE ID PLAQUES SHALL BE CONSIDERED INCIDENTAL TO THE TRUSS OR MONOTUBE BID ITEMS FOR EACH APPLICABLE SIGN STRUCTURE IN THE PLAN SET. LOCATE THE ID PLAQUE ON THE FREEWAY SIDE OF THE SUPPORT COLUMN SO THAT IT CAN BE SEEN FROM THE ROADWAY. FABRICATE AND INSTALL THE ID PLAQUE IN ACCORDANCE WITH S.D.D. 12 A 4-3.

UNLESS DETAILED OTHERWISE IN THE PLANS, ALL H.S. BOLTED CONNECTIONS SHALL BE MADE WITH ¾" DIA. A325 GALVANIZED BOLTS. FIELD CONNECTIONS SHALL BE INSTALLED WITH DTI WASHERS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF A TRUSS UNIT CAN BE GALVANIZED IN ONE PIECE.

WELD TEST AS PER AWS D1.1.

SEE SIGN PLATE NO. A4-6, A4-7A & A4-7B OF THE SIGN PLATE MANUAL FOR INSTRUCTIONS ON CENTERING SIGNS VERTICALLY ON THE TRUSS.

SIGNS OR BLANKS SHALL BE INSTALLED ON TRUSS AT TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE CANTILEVER SPAN, 2'-0" DEEPER THAN THE C/L TO C/L OF CHORDS, AND SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED ON THE PLANS.

THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION OF THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PER THE REQUIREMENTS IN THE STANDARD SPECIFICATIONS PRIOR TO FABRICATION OF THE STRUCTURE. CONTRACTOR SHALL SHOW SIGNS ON THE SHOP DRAWINGS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DRILLING OR EXCAVATING AND MAINTAINING A STABLE AND OPEN HOLE FOR SUBSEQUENT INSTALLATION OF CONCRETE MASONRY FOR THE DRILLED SHAFTS. PARTIAL OR FULL DEPTH TEMPORARY CASING MAY BE REQUIRED TO MAINTAIN THE STABILITY OF THE EXCAVATED HOLE FOR THE SIGN SUPPORT PRIOR TO FILLING THE HOLE WITH CONCRETE. PERMANENT CASING MADE FROM STEEL OR CORRUGATED METAL PIPE MAY BE USED I LIEU OF TEMPORARY CASING. TEMPORARY/PERMANENT CASING, IF USED. SHALL BE INCIDENTAL TO THE BID ITEM "DRILLING SHAFT (DIA.)".

STRUCTURE DATA

SIGN STR.	ACTUAL SIGN AREA	ACTUAL SIGN DEPTH	STANDARD TYPE
S-44-307	42 SF	4'-0"	MFII
S-44-310	42 SF	4'-0"	MFII

TRAFFIC VOLUME

A.D.T. (2043) = 65,230
R.D.S. = 70 MPH

LIST OF DRAWINGS

1. GENERAL NOTES & DESIGN DATA
2. LAYOUT S-44-307
3. LAYOUT S-44-310

LIST OF OSS STANDARD DESIGN DRAWINGS

4. I. MONOTUBE & 2-CHORD TRUSS DETAILS 1
5. II. MONOTUBE & 2-CHORD TRUSS DETAILS 2
6. III. MONOTUBE & 2-CHORD TRUSS ELECTRICAL DETAILS
7. IV. MONOTUBE & 2-CHORD TRUSS FOUNDATION

STATE PROJECT NUMBER

4685-29-60

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	S-44-307	S-44-310
531.2030	DRILLING SHAFT 30-INCH	LF	26	26
531.5220	FOUNDATION SINGLE - SHAFT TYPE MF-II	EA	2	2
532.5220	MONOTUBE FULL SPAN TYPE II	EA	1	1

8

STRUCTURE DESIGN CONTACTS:
AARON BONK 608-261-0261
BRETT OFTEDAHL 608-251-4843

THESE ARE STANDARD DESIGN PLANS, DEVELOPED AND MAINTAINED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION. THE DESIGNER CERTIFIES THAT THE DESIGN AND PLAN DETAILS CHOSEN ARE CONSISTENT WITH THE GUIDANCE PROVIDED IN THE CURRENT WISCONSIN BRIDGE MANUAL CHAPTER 39.

WISCONSIN
BRETT M. OFTEDAHL
E-41123
MADISON
PROFESSIONAL ENGINEER
9/1/2022

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED SDR 12/01/22
CHIEF STRUCTURES DESIGN ENGINEER DATE

MONOTUBE AND 2-CHORD TRUSS PLANS

STH 441

COUNTY: OUTAGAMIE — ~~TOWN~~/CITY/~~VILLAGE~~: APPLETON

DESIGN SPEC.
AASHTO LRFD LTS-1 W/INTERIMS

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
BOS	BOS	DTH	

GENERAL NOTES & DESIGN DATA

SHEET 1 OF 7
351

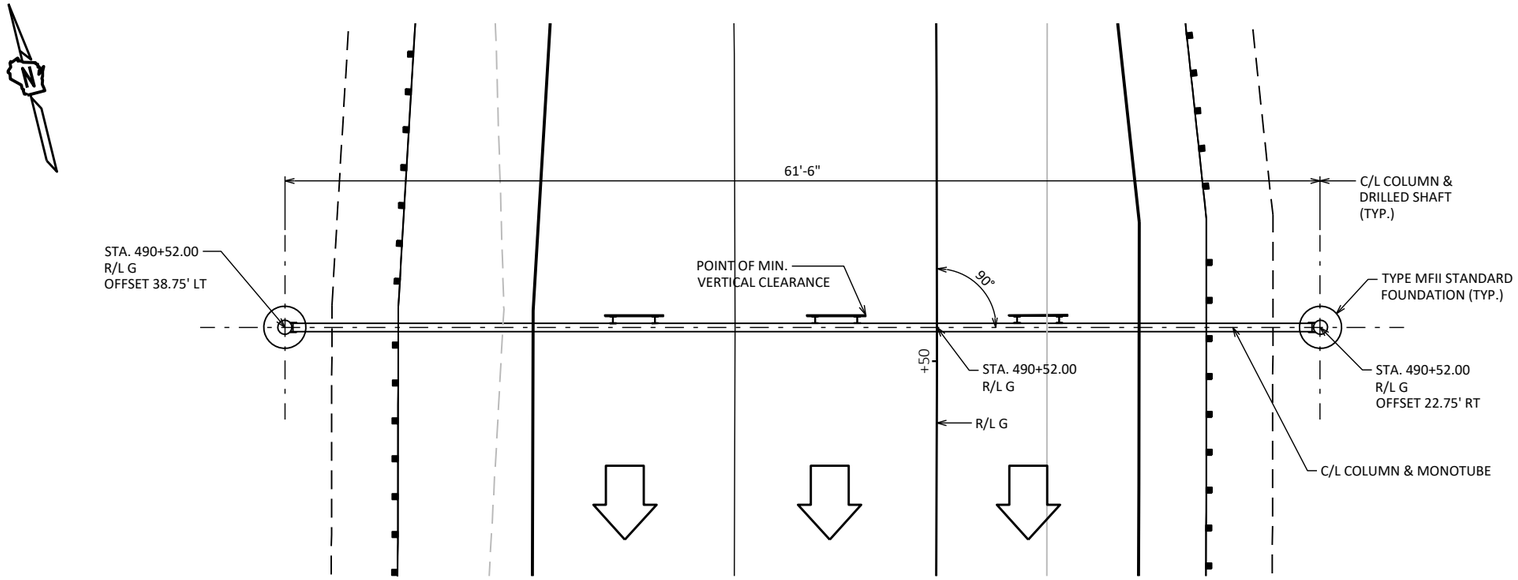
SCALE =

I.D. 4685-29-60 DATE: 09/01/2022

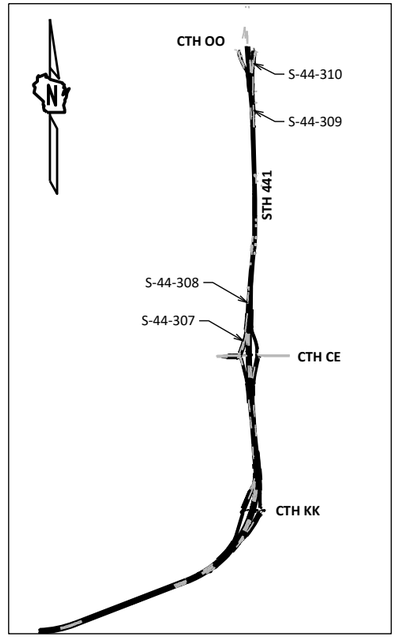
8

STATE PROJECT NUMBER

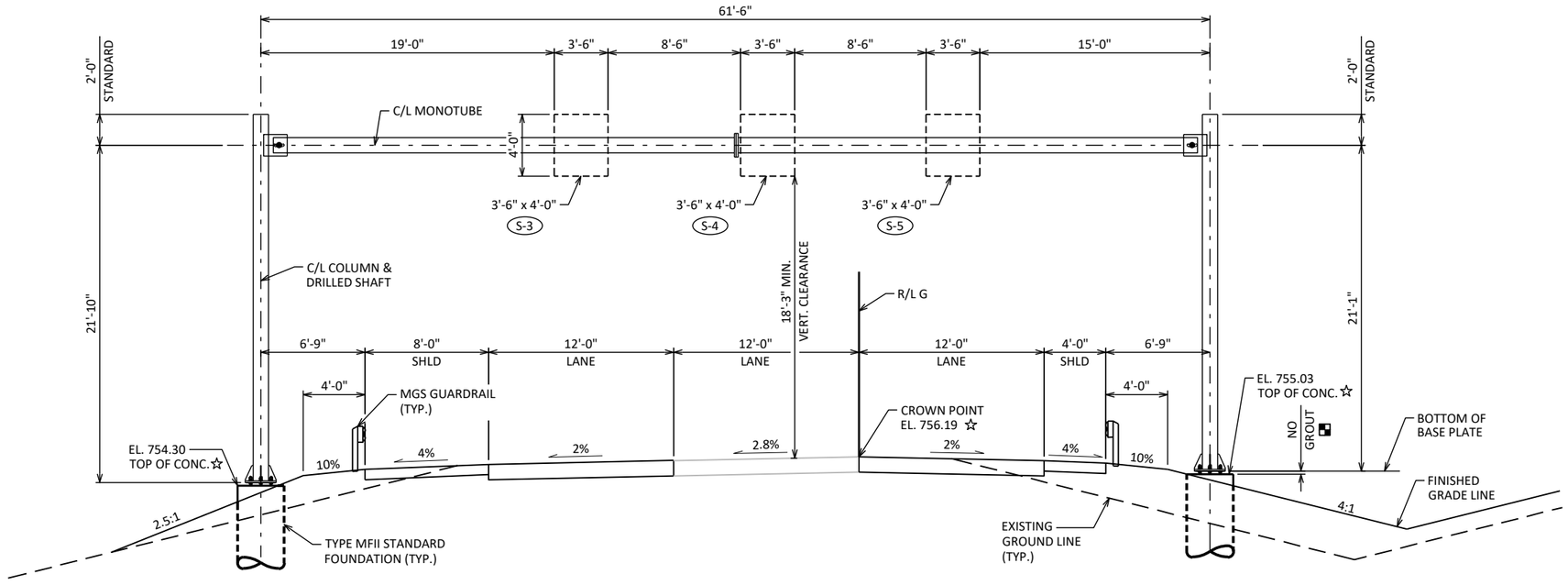
4685-29-60



PLAN



LOCATION MAP



ELEVATION

STA. 490+52.00 G
(LOOKING UP STATION AT BACK OF SIGN)

NOTE

POINT OF MIN. VERTICAL CLEARANCE
STA. 490+52.00, 4.25' (LT)
EL. 756.07

LEGEND

☆ ELEVATIONS GIVEN ALONG C/L MONOTUBE CHORD.

(XXX) SIGN NUMBERS (PERMANENT SIGNING PLAN)

STANDOFF DIMENSION IS ASSUMED TO BE 2 ½" BUT IS A MAXIMUM OF 2 X ANCHOR ROD DIMENSION. SEE FOUNDATION DETAILS SHEET AND SHOP DRAWINGS FOR MORE INFORMATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-44-307

DRAWN BY DTH | PLANS CK'D BMO

GENERAL LAYOUT
S-44-307

SHEET 2 OF 7
352

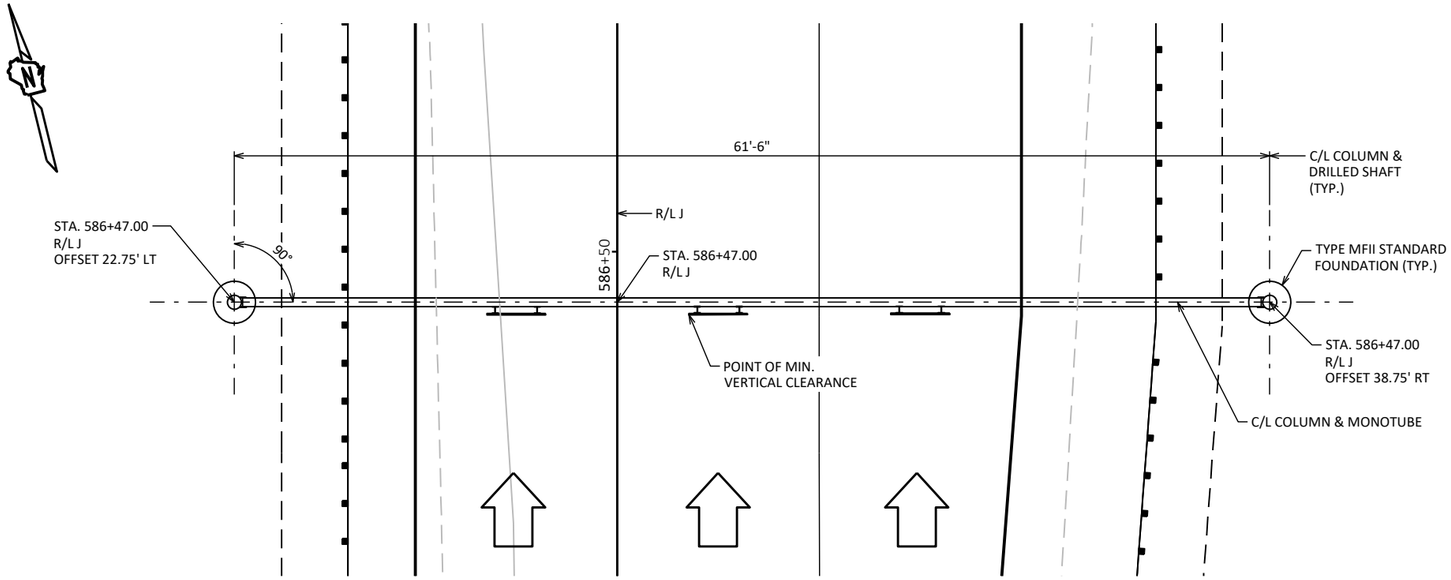
SCALE =

8

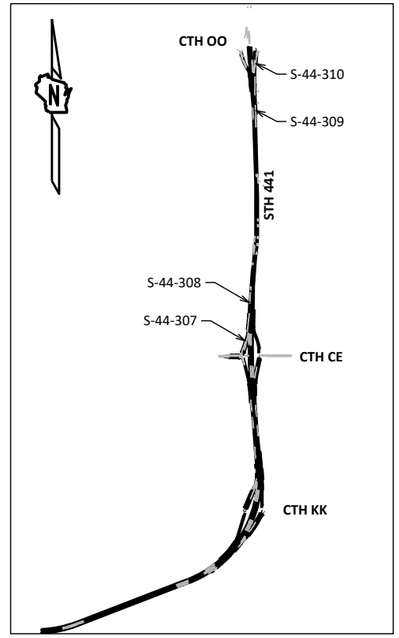
8

STATE PROJECT NUMBER

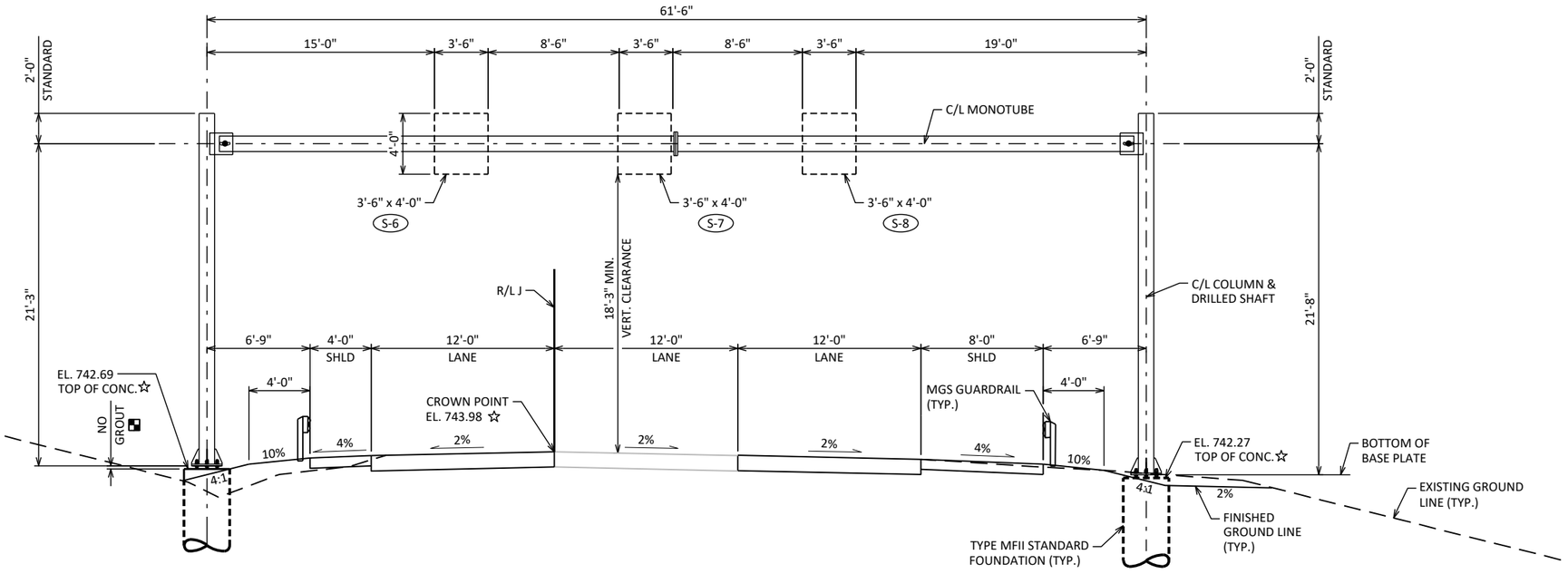
4685-29-60



PLAN



LOCATION MAP



ELEVATION

STA. 586+47.00 J
(LOOKING UP STATION AT FRONT OF SIGN)

NOTE

POINT OF MIN. VERTICAL CLEARANCE
STA. 586+46.00, 4.25' (RT)
EL. 743.89

LEGEND

☆ ELEVATIONS GIVEN ALONG C/L MONOTUBE CHORD.

(XXX) SIGN NUMBERS (PERMANENT SIGNING PLAN)

■ STANDOFF DIMENSION IS ASSUMED TO BE 2 ½" BUT IS A MAXIMUM OF 2 X ANCHOR ROD DIMENSION. SEE FOUNDATION DETAILS SHEET AND SHOP DRAWINGS FOR MORE INFORMATION.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-44-310

DRAWN BY DTH | PLANS CK'D BMO

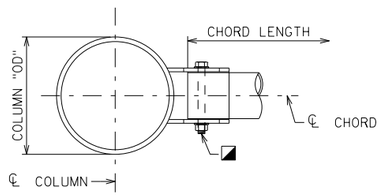
GENERAL LAYOUT
S-44-310

SHEET 3 OF 7
353

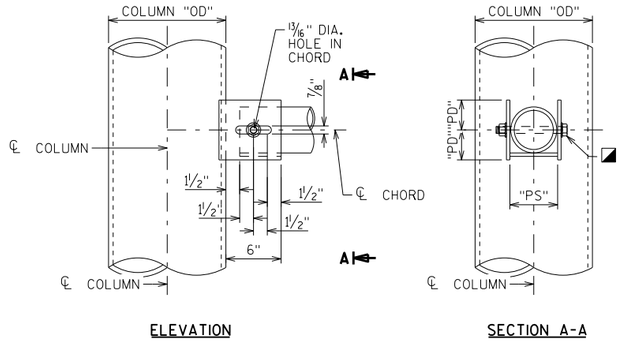
SCALE =

STATE PROJECT NUMBER

STANDARD



PLAN



ELEVATION

SECTION A-A

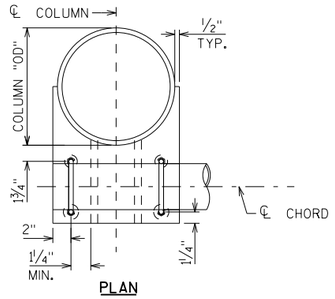
FULL SPAN SADDLE CONNECTION

PREFERRED

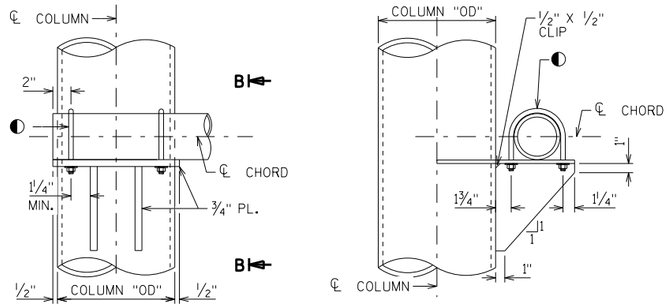
¾" GALVANIZED A325 OR A449 HEAVY HEX BOLT, NUT, WASHER

"PD" = (CHORD "OD")/2 + ¾"

"PS" = CHORD "OD" + 3/16"



PLAN



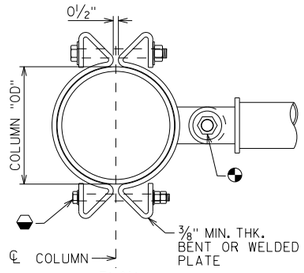
ELEVATION

SECTION B-B

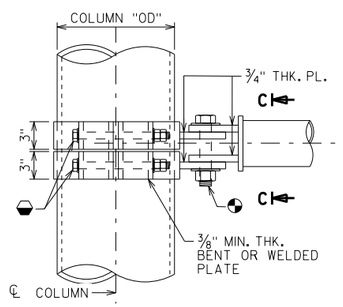
FULL SPAN STIFFENED BEARING CONNECTION

ALTERNATE 1

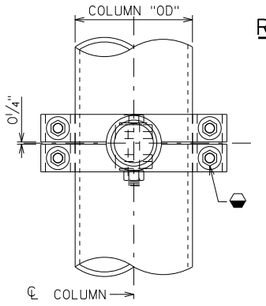
◐ (2) - ½" MIN. GALVANIZED U-BOLT, NUT, WASHER AND LOCK WASHER



PLAN



ELEVATION



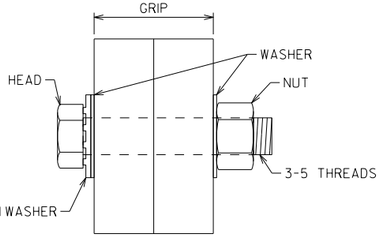
SECTION C-C

FULL SPAN CLAMP CONNECTION

ALTERNATE 2 - TAPERED COLUMNS ONLY

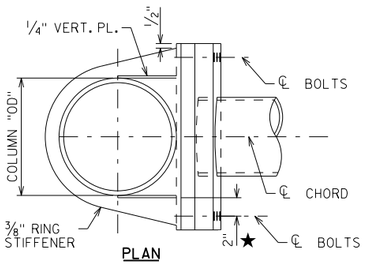
◔ 1¼" GALVANIZED A325 HEAVY HEX BOLT, NUT AND WASHER

⬣ 1" GALVANIZED A449 HEAVY HEX BOLT, NUT AND WASHER

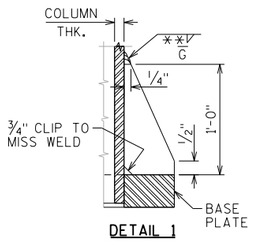


RECOMMENDED BOLT DETAIL WITH DTI

NUT IS THE TURNED ELEMENT

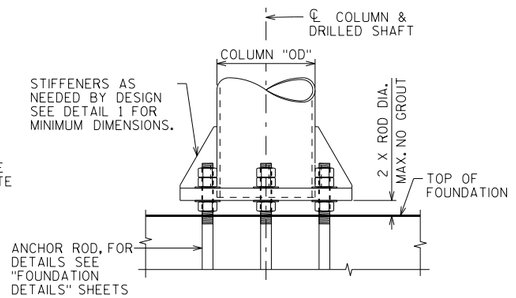


PLAN



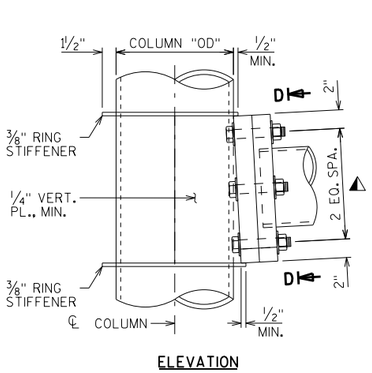
DETAIL 1

** SIZE AS NEEDED

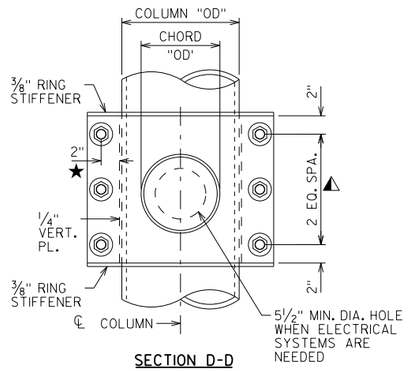


BASE PLATE & COLUMN DETAIL

LOOKING AT FRONT FACE OF STRUCTURE



ELEVATION

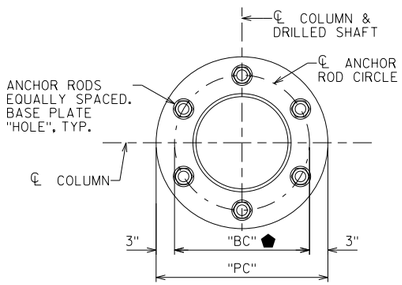


SECTION D-D

CANTILEVER POST TO CHORD CONNECTION

⚠ MIN. CONNECTION = (6) - 1" GALVANIZED F3125 GRADE A325 BOLTS, NUT, WASHER AND DTI

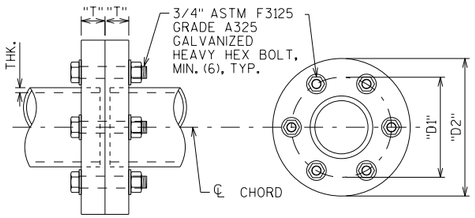
★ MIN. DIMENSION MEASURED FROM EXT. FACE OF VERT. PLATE



BASE PLATE

PLAN

⬟ "BC" = POLE OD + 6"

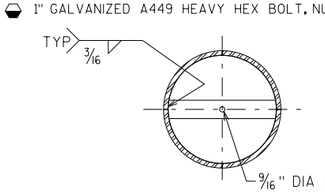


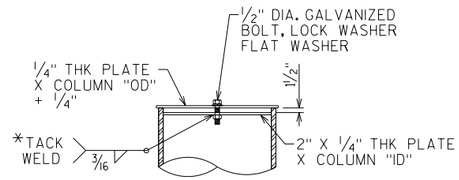
CHORD SPLICE DETAIL

"D1" = CHORD "OD" + 3"

"D2" = CHORD "OD" + 6"

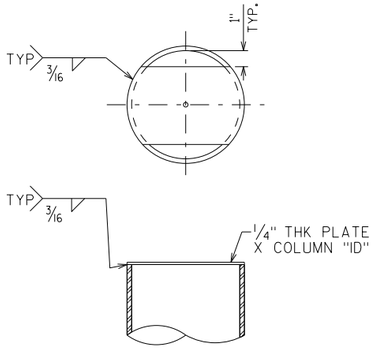
"T" = BY DESIGN





COLUMN/CHORD CAP DETAIL

* PLACE TACK EVERY OTHER FLAT TO SECURE NUT OR USE ½" THICK PLATE AND TAP HOLE FOR BOLT THREADS



CHORD CAP DETAIL

NOTES:

MINIMUM VALUES SHOWN

ALL CONNETIONS ARE TO BE DESIGNED FOR ACTUAL STRUCTURE LOADS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

DRAWN BY: BOS | PLANS CK'D.: BOS

MONOTUBE & 2-CHORD TRUSS DETAILS 1

SHEET 1 OF IV

354

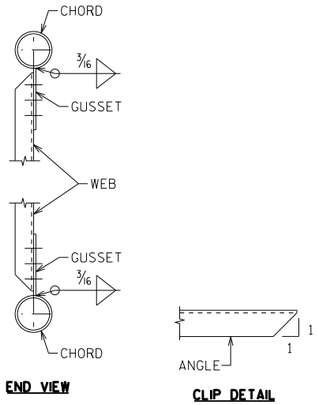
8

8

SCALE = 1.00

STATE PROJECT NUMBER

STANDARD

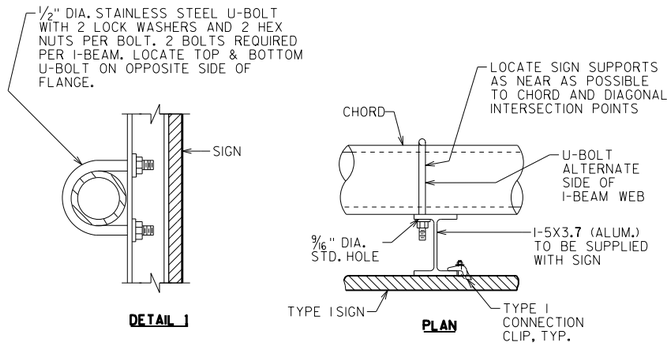


END VIEW

CLIP DETAIL

TRUSS CONNECTION DETAILS

BOLTED CONNECTIONS SHOWN, NUMBER OF BOLTS BY DESIGN
WELDED CONNECTIONS SIMILAR



DETAIL 1

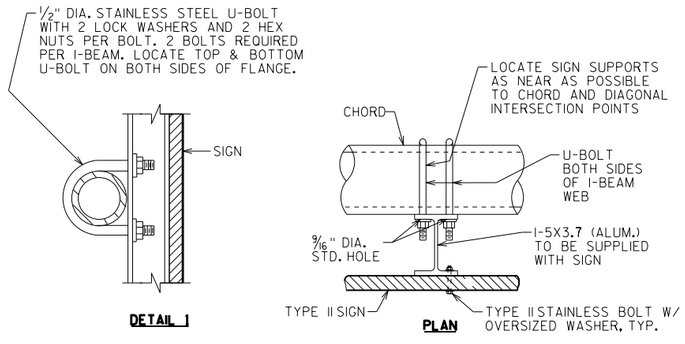
PLAN

2-CHORD TRUSS SIGN CONNECTION

SEE SIGN PLATE MANUAL A4-7A FOR DETAILS

ALUMINUM I-5X3.7 I-BEAMS ARE TO BE SUPPLIED WITH THE SIGN PANEL

HARDWARE TO BE SUPPLIED BY THE CONTRACTOR



DETAIL 1

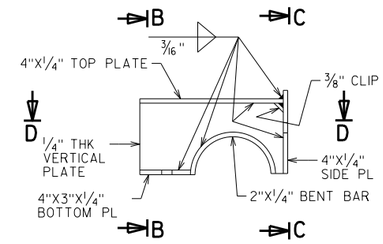
PLAN

MONOTUBE SIGN CONNECTION

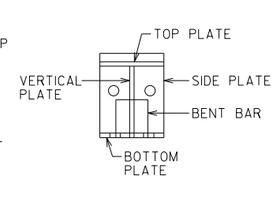
SEE SIGN PLATE MANUAL A4-7B FOR DETAILS

ALUMINUM I-5X3.7 I-BEAMS ARE TO BE SUPPLIED WITH THE SIGN PANEL

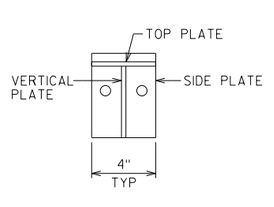
HARDWARE TO BE SUPPLIED BY THE CONTRACTOR



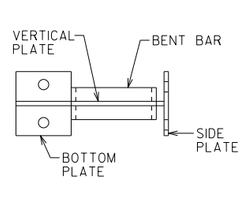
ELEVATION



SECTION B-B



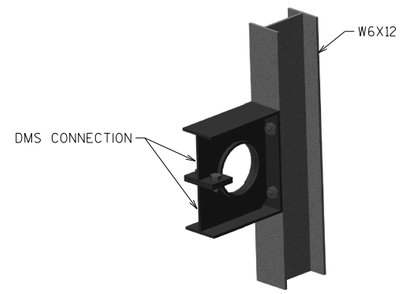
SECTION C-C



SECTION D-D

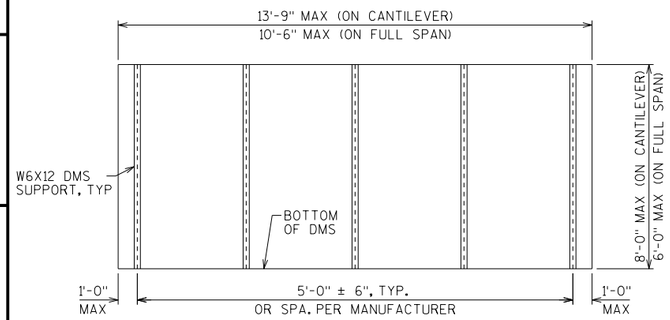
DMS WELDED PLATE CONNECTION DETAILS

TOP PLATE CLAMP SHOWN
BOTTOM PLATE CLAMP SIMILAR



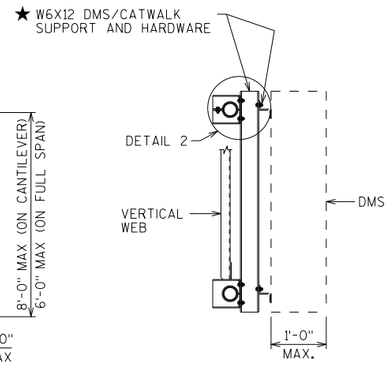
3-D VIEW DMS CONNECTION

CHORD NOT SHOWN FOR CLARITY



DMS MOUNTING POST SPACING DETAIL

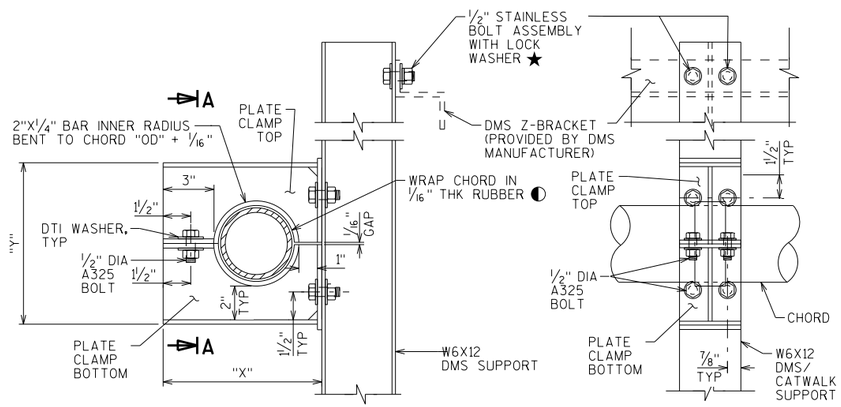
POST SPACING MAY BE ADJUSTED AS REQUIRED IF CONFLICT WITH TRUSS IS ENCOUNTERED.



SECTION THRU TRUSS

FOR DMS/CATWALK CONNECTION

★ W6X12 SUPPORTS AND HARDWARE ARE TO BE SUPPLIED BY THE CONTRACTOR. 1/2" STAINLESS BOLT, NUT, WASHER AND LOCK WASHER REQUIRED, 4 PER W6X12.



DETAIL 2

SECTION A-A

CHORD OUTER DIA	"X"	"Y"
"OD"	"OD"+4 13/16"	"OD"+5 1/16"

TYPICAL DMS CONNECTION

◐ NEOPRENE, GRADE 45±5, OTHERWISE MEETING THE REQUIREMENTS OF STD SPEC 506.2.6.1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: APRIL 2021

DRAWN BY: BOS | PLANS CK'D.: BOS

MONOTUBE & 2-CHORD TRUSS DETAILS 2

SHEET 11 OF IV

355

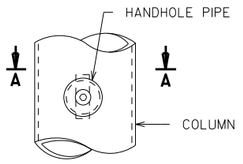
SCALE = 2.00

8

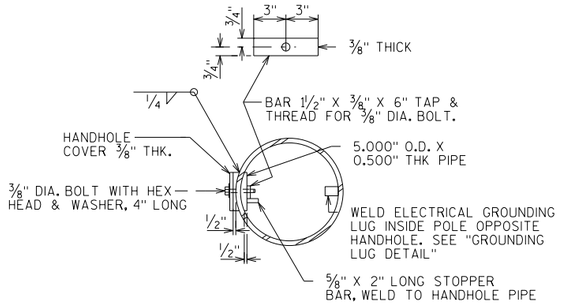
8

STATE PROJECT NUMBER

STANDARD



HANDHOLE DETAILS

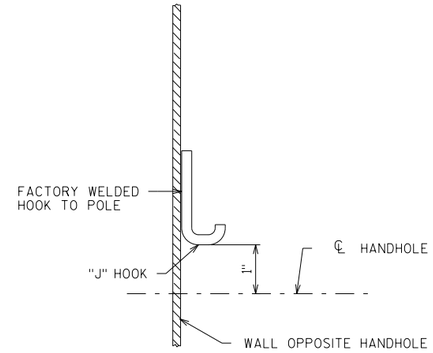


SECTION A-A

HANDHOLE NOTES

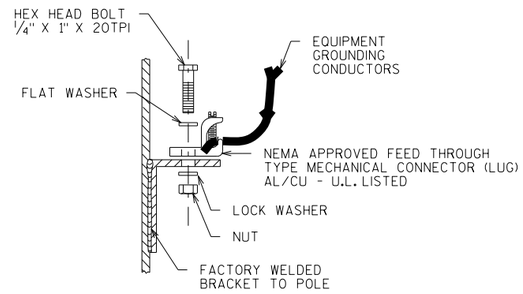
HANDHOLES SHALL BE LOCATED IN ONE COLUMN OF THE SIGN STRUCTURE IF ELECTRICALLY OPERATED DEVICES ARE INSTALLED ON/IN THE STRUCTURE. COLUMNS WITH HANDHOLES SHALL BE NEAR THE ELECTRICAL SERVICE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE ELECTRICAL SERVICE ENTRANCE WITH THE REGION TRAFFIC SECTION PRIOR TO FABRICATION OF THE SIGN COLUMNS AND MEMBERS. CONDUIT (AS REQ'D.) SHALL BE LOCATED, PLACED AND SIZED AS SHOWN ON THE ELECTRICAL PLAN DETAIL SHEETS.

UNLESS NOTED OTHERWISE, ALL HANDHOLE ELEMENTS TO BE GALVANIZED PER THE WISDOT STANDARD SPECIFICATIONS.



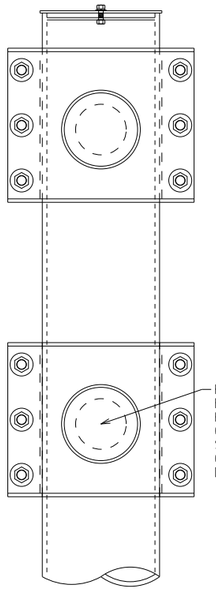
TYPICAL "J" HOOK LOCATION

THE "J" HOOK SHALL BE FACTORY WELDED TO THE INSIDE OF ALL COLUMNS CONTAINING ELECTRICAL WIRING. THE "J" HOOK SHALL BE ATTACHED ABOVE THE CENTERLINE OF THE UPPER HANDHOLE AND MOUNTED DIRECTLY OPPOSITE THE HANDHOLE AS SHOWN IN THE DRAWING.

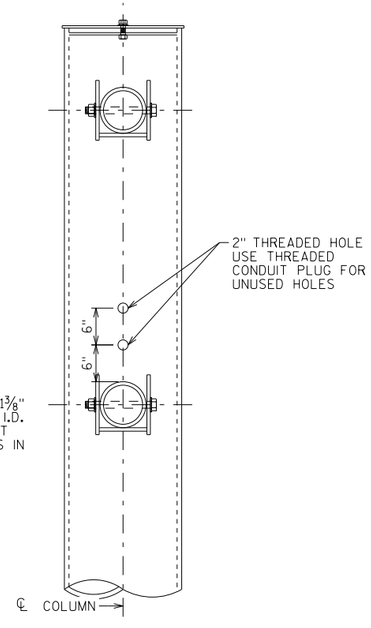


GROUNDING LUG DETAIL

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



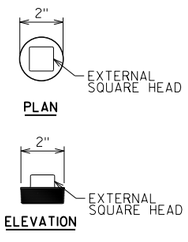
2-CHORD CANTILEVER



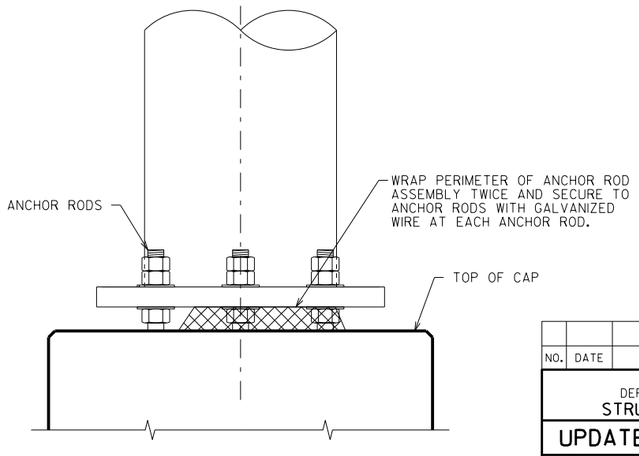
2-CHORD FULL SPAN

SADDLE CONNECTIONS SHOWN, BEARING AND CLAMP CONNECTIONS SIMILAR

CONDUIT HOLE LOCATIONS



CONDUIT PLUG DETAILS



RODENT SCREEN

(ONLY REQ'D. WHEN ELECTRICAL DEVICES ARE INSTALLED)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

DRAWN BY BOS | PLANS CK'D. BOS

MONOTUBE & 2-CHORD TRUSS ELECTRICAL DETAILS

SHEET III OF IV

356

SCALE = 1.00

8

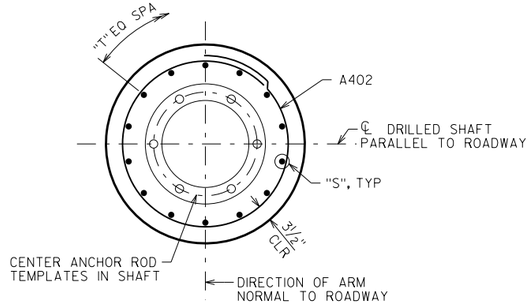
8

STATE PROJECT NUMBER

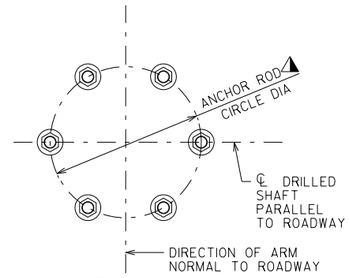
STANDARD

FOUNDATION & REINFORCING DATA

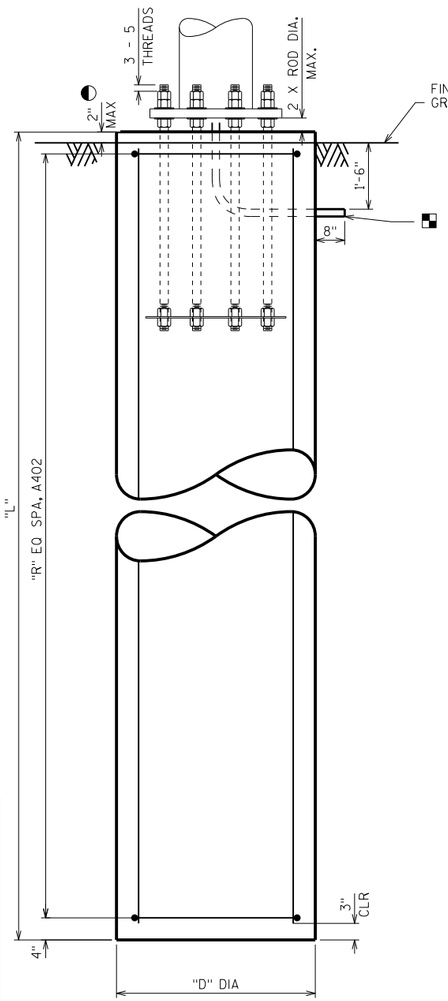
STANDARD FOUNDATION TYPE	SHAFT VARIABLES					
	"D"	"L"	"R"	"S"	"T"	"BC" MAX
MFI	2'-0"	12'-0"	12	A801	6	12"
MFII	2'-6"	13'-0"	13	A801	10	17"
MCI/MCII/TFI	2'-6"	17'-0"	17	A801	10	17"
TCI	3'-0"	18'-0"	18	A801	14	22"
TFII	3'-0"	20'-0"	20	A801	14	22"
MCIII/TCII/TFIII	3'-6"	18'-0"	18	A901	14	28"
MCIV/TFIV	3'-6"	23'-0"	23	A901	14	28"
TCIII	4'-0"	23'-0"	23	A1001	14	34"
TCIV	4'-0"	28'-0"	28	A1001	14	34"



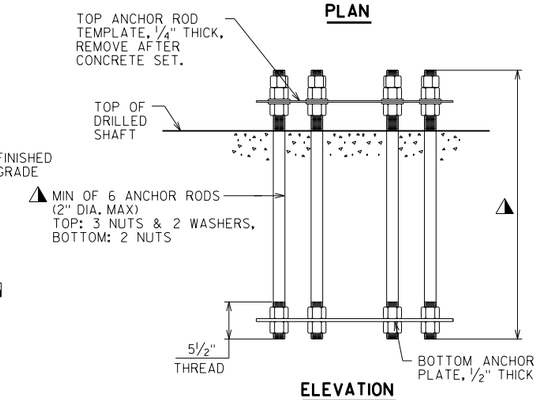
PLAN



PLAN



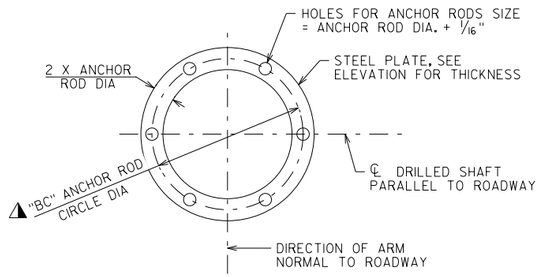
ELEVATION



ELEVATION

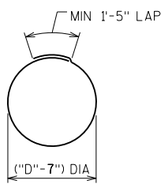
ANCHOR ROD ASSEMBLY DETAILS

⚠ ANCHOR ROD NUMBER, DIAMETER, LENGTH & ORIENTATION AS SHOWN ON FABRICATION DRAWING.



ANCHOR PLATE/TOP TEMPLATE

PLAN



A402

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

BILL OF BARS - STANDARD FOUNDATIONS

STANDARD FOUNDATION MFI

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		6	11'-7"			DRILLED SHAFT - VERTICAL
A402		13	5'-10"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION MFII

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		10	12'-7"			DRILLED SHAFT - VERTICAL
A402		14	7'-5"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION MCI/MCII/TFI

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		10	16'-7"			DRILLED SHAFT - VERTICAL
A402		18	7'-5"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION TCI

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		14	17'-7"			DRILLED SHAFT - VERTICAL
A402		19	9'-0"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION TFII

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		14	19'-7"			DRILLED SHAFT - VERTICAL
A402		21	9'-0"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION MCIII/TCII/TFIII

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A901		14	17'-7"			DRILLED SHAFT - VERTICAL
A402		19	10'-6"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION MCIV/TFIV

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A901		14	22'-7"			DRILLED SHAFT - VERTICAL
A402		24	10'-6"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION TCIII

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A1001		14	22'-7"			DRILLED SHAFT - VERTICAL
A402		24	12'-2"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION TCIV

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A1001		14	27'-7"			DRILLED SHAFT - VERTICAL
A402		29	12'-2"	X		DRILLED SHAFT - HORIZONTAL

ESTIMATED QUANTITIES - FOUNDATIONS

STANDARD FOUNDATION TYPE	CONCRETE MASONRY (CY)	STEEL REINFORCEMENT HS (LBS)	FOUNDATION DRILLING (LF)				
			24" DIA.	30" DIA.	36" DIA.	42" DIA.	48" DIA.
MFI	2	240	12				
MFII	3	410		13			
MCI/MCII/TFI	4	540		17			
TCI	5	780			18		
TFII	6	860			20		
MCIII/TCII/TFIII	7	970				18	
MCIV/TFIV	9	1,250				23	
TCIII	11	1,560					23
TCIV	13	1,900					28

** QUANTITIES ARE FOR INFORMATION ONLY AND ARE BASED ON STANDARD STRUCTURE DIMENSIONS

NOTES

CENTER ANCHOR ROD ASSEMBLY ON DRILLED SHAFT AND MAKE SURE IT IS PLUMB. MAINTAIN ANCHOR ROD PROJECTION ABOVE FOOTING AS DETAILED. ANCHOR ROD ASSEMBLY SHALL BE RIGIDLY SECURED IN POSITION DURING AND AFTER CONCRETE PLACEMENT. DO NOT WELD THE ANCHOR RODS.

◐ FOR OVERHEAD SIGN STRUCTURES THAT ARE INSTALLED ADJACENT TO SIDEWALKS, THE TOP OF THE SHAFT SHALL BE POURED FLUSH WITH THE FINISHED GRADE.

◪ 2" DIA NONMETALLIC CONDUITS, INSTALL ONLY WITH DMS. EXTEND CONDUITS AS SHOWN AND CAP OR SEAL EACH END WITH A SUITABLE REMOVABLE PLUG. PLACE CONDUITS UNDER COLUMN ADJACENT TO THE DMS. CONDUITS INCIDENTAL TO THE FOUNDATION BID ITEMS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

DRAWN BY BOS | PLANS CK'D. BOS

MONOTUBE & 2-CHORD TRUSS FOUNDATIONS

SHEET IV OF IV

357

SCALE = 1.67

8

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DESIGN DATA

DESIGNED ACCORDING TO THE AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS. LUMINARIES AND TRAFFIC SIGNALS". 1ST EDITION AND INTERIM SPECIFICATIONS, AND THE WISDOT BRIDGE MANUAL.

FOUNDATION DESIGNED ACCORDING TO THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION.

DEAD LOAD: WT. OF SIGN AND SUPPORTING STRUCTURE.
ICE LOADS: 3 PSF TO ONE FACE OF SIGN & SURFACE OF MEMBERS.
WIND PRESSURES: 115 MPH (3-SEC. GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS. (700 YEAR MEAN RECURRENCE INTERVAL)

WIND COMPONENTS	NORMAL	TRANSVERSE
LOAD CASE 1:	1.00	0.00
LOAD CASE 2:	0.00	1.00
LOAD CASE 3:	0.75	0.75

LOAD COMBINATIONS

STRENGTH I:	1.25 DC + 1.6 LL
EXTREME I (MAX DC):	1.1 DC + 1.0 W 1.0 ICE
EXTREME I (MIN DC):	0.9 DC + 1.0 W
SERVICE I:	1.0 DC + 1.0 W
FATIGUE I:	1.0 NWG (NATURAL WIND GUST VIBRATION) 1.0 TRG (TRUCK INDUCED GUST VIBRATION)

MATERIAL PROPERTIES

CONCRETE MASONRY ——— f'_c = 3,500 PSI

HIGH STRENGTH STEEL:
REINFORCEMENT, GRADE 60 ——— f_y = 60,000 PSI

STRUCTURAL ANGLES,
PLATE AND BARS - ASTM A709 GRADE 36 ——— f_y = 36,000 PSI

CHORDS - ASTM A500 GRADE C ——— f_y = 46,000 PSI

COLUMN PIPE
DESIGN TRUSS TYPE I - ASTM A500 GRADE C ——— f_y = 46,000 PSI
DESIGN TRUSS TYPE II - API5L PSL2 GRADE 46 ——— f_y = 46,000 PSI

HIGH STRENGTH BOLTS - A325 ——— f_y = 92,000 PSI

ANCHOR RODS - ASTM F1554 GRADE 55 ——— f_y = 55,000 PSI

HEAVY HEX NUTS FOR ANCHOR RODS - ASTM A563A

WASHER FOR ANCHOR RODS - ASTM F436

FOUNDATION DATA

SIGN STRUCTURE FOUNDATIONS ARE SUPPORTED ON DRILLED SHAFTS THAT HAVE BEEN DESIGNED FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 24° (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 750 PSF (COHESIVE SOILS) AND A UNIT WEIGHT OF 125 PCF. THE GROUND WATER TABLE FOR DESIGN IS ASSUMED TO BE AT A DEPTH OF 10'-0" BELOW THE GROUND SURFACE, ACTUAL WATER LEVEL AT SITE MAY VARY. THE REGION GEOTECHNICAL ENGINEER SHALL VISUALLY INSPECT THE SUBSURFACE SOILS DURING DRILLING OF THE SHAFT HOLE TO CONFIRM THESE PROPERTIES PRIOR TO PLACEMENT OF THE DRILLED SHAFT CONCRETE.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALTERNATE DESIGNS ARE NOT ALLOWED.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), OUTAGAMIE COUNTY ZONE, NAD 83 (2011). ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2012).

ALL REINFORCING BARS ARE IN ENGLISH UNITS. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

SIGN BRIDGE ID PLAQUES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "TRUSS CANTILEVER 4-CHORD (TYPE)" FOR EACH APPLICABLE SIGN STRUCTURE IN THE PLAN SET. LOCATE THE ID PLAQUE ON THE FREEWAY SIDE OF THE SUPPORT COLUMN SO THAT IT CAN BE SEEN FROM THE ROADWAY. FABRICATE AND INSTALL THE ID PLAQUE IN ACCORDANCE WITH S.D.D. 12 A 4-3.

CATWALKS ARE USED ON 4-CHORD STRUCTURES CARRYING DMS SIGNS. CATWALKS SHALL BE INCIDENTAL TO THE BID ITEM "TRUSS CANTILEVER 4-CHORD (TYPE)" FOR EACH DMS SIGN STRUCTURE IN THE PLAN SET.

UNLESS DETAILED OTHERWISE IN THE PLANS, ALL H.S. BOLTED CONNECTIONS SHALL BE MADE WITH ¾" DIA. A325 GALVANIZED BOLTS. FIELD CONNECTIONS SHALL BE INSTALLED WITH DTI WASHERS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF A TRUSS UNIT CAN BE GALVANIZED IN ONE PIECE.

WELD TEST AS PER AWS D1.1.

SEE SIGN PLATE NO. A4-6, A4-7A & A4-7B OF THE SIGN PLATE MANUAL FOR INSTRUCTIONS ON CENTERING SIGNS VERTICALLY ON THE TRUSS.

SIGNS OR BLANKS SHALL BE INSTALLED ON TRUSS AT TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE CANTILEVER SPAN, 2'-0" DEEPER THAN THE C/L TO C/L OF CHORDS, AND SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED ON THE PLANS.

THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION OF THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PER THE REQUIREMENTS IN THE STANDARD SPECIFICATIONS PRIOR TO FABRICATION OF THE STRUCTURE. CONTRACTOR SHALL SHOW SIGNS ON THE SHOP DRAWINGS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DRILLING OR EXCAVATING AND MAINTAINING A STABLE AND OPEN HOLE FOR SUBSEQUENT INSTALLATION OF CONCRETE MASONRY FOR THE DRILLED SHAFTS. PARTIAL OR FULL DEPTH TEMPORARY CASING MAY BE REQUIRED TO MAINTAIN THE STABILITY OF THE EXCAVATED HOLE FOR THE SIGN SUPPORT PRIOR TO FILLING THE HOLE WITH CONCRETE. PERMANENT CASING MADE FROM STEEL OR CORRUGATED METAL PIPE MAY BE USED I LIEU OF TEMPORARY CASING. TEMPORARY/PERMANENT CASING, IF USED. SHALL BE INCIDENTAL TO THE BID ITEM "DRILLING SHAFT (DIA.)".

STRUCTURE DATA

SIGN STR.	ACTUAL SIGN AREA	ACTUAL SIGN DEPTH	STANDARD DESIGN TYPE
S-44-308	175 SF	13'-0"	I
S-44-309	209 SF	13'-0"	I

TRAFFIC VOLUME

A.D.T. (2043) = 65,230
R.D.S. = 70 MPH

LIST OF DRAWINGS

1. GENERAL NOTES & DESIGN DATA
2. LAYOUT S-44-308
3. LAYOUT S-44-309

LIST OF OSS STANDARD DESIGN DRAWINGS

4. I. 4-CHORD TRUSS CONTILEVER
5. II. 4-CHORD TRUSS CANT. CONNECTION DETAILS 1
6. III. 4-CHORD TRUSS CANT. CONNECTION DETAILS 2
7. IV. 4-CHORD TRUSS CANT. CONNECTION DETAILS 3
8. V. 4-CHORD TRUSS CANT. CATWALK DETAILS
9. VI. 4-CHORD TRUSS CANT. ELECTRICAL DETAILS
10. VII. 4-CHORD TRUSS CANT. FOUNDATION DETAILS 1
11. VIII. 4-CHORD TRUSS CANT. FOUNDATION DETAILS 2

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	S-44-308	S-44-309
531.2036	DRILLING SHAFT 36-INCH	LF	32	32
531.6010	FOUNDATION TWO-SHAFT TYPE FC-I	EA	1	1
532.6010	TRUSS CANTILEVER 4-CHORD TYPE I	EA	1	1

STATE PROJECT NUMBER

4685-29-60

STRUCTURE DESIGN CONTACTS:

AARON BONK 608-261-0261
BRETT OFTEDAHL 608-251-4843

THESE ARE STANDARD DESIGN PLANS, DEVELOPED AND MAINTAINED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION. THE DESIGNER CERTIFIES THAT THE DESIGN AND PLAN DETAILS CHOSEN ARE CONSISTENT WITH THE GUIDANCE PROVIDED IN THE CURRENT WISCONSIN BRIDGE MANUAL CHAPTER 39.

WISCONSIN PROFESSIONAL ENGINEER
BRETT M. OFTEDAHL
E-41128
MADISON
WI
9/6/2022

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED SDR 12/01/22
CHIEF STRUCTURES DESIGN ENGINEER DATE

4-CHORD TRUSS CANTILEVER PLANS

STH 441

COUNTY: OUTAGAMIE
~~TOWN~~/CITY/~~VILLAGE~~: APPLETON

DESIGN SPEC.
AASHTO LRFD LTS-1 W/INTERIMS

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
BOS	BOS	DTH	

GENERAL NOTES & DESIGN DATA

SHEET 1 OF 11
358

SCALE =

I.D. 4685-29-60 DATE: 09/01/2022

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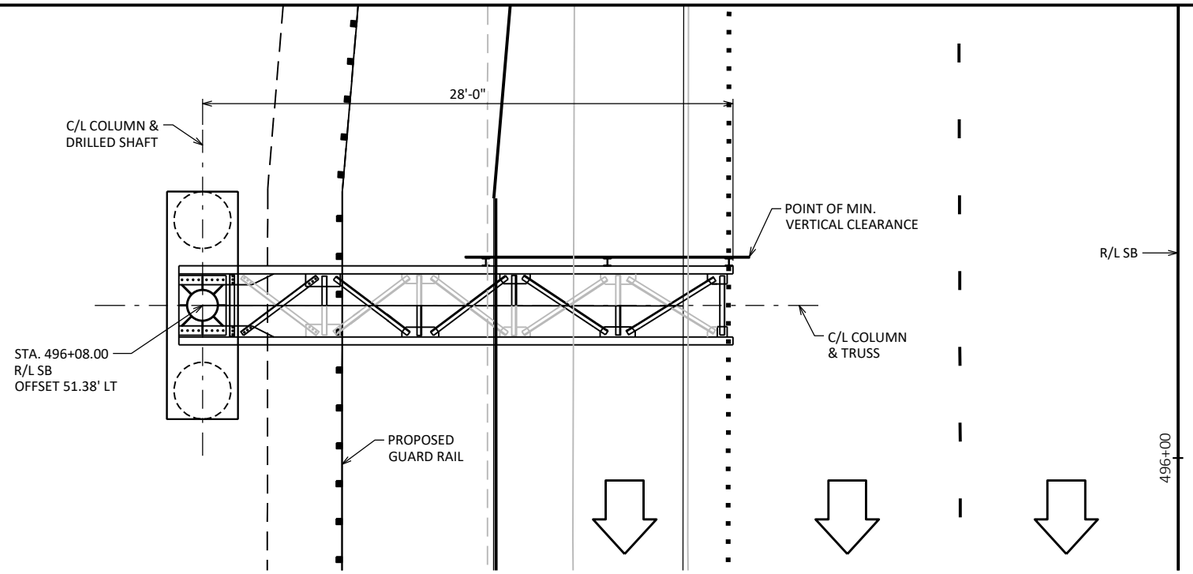
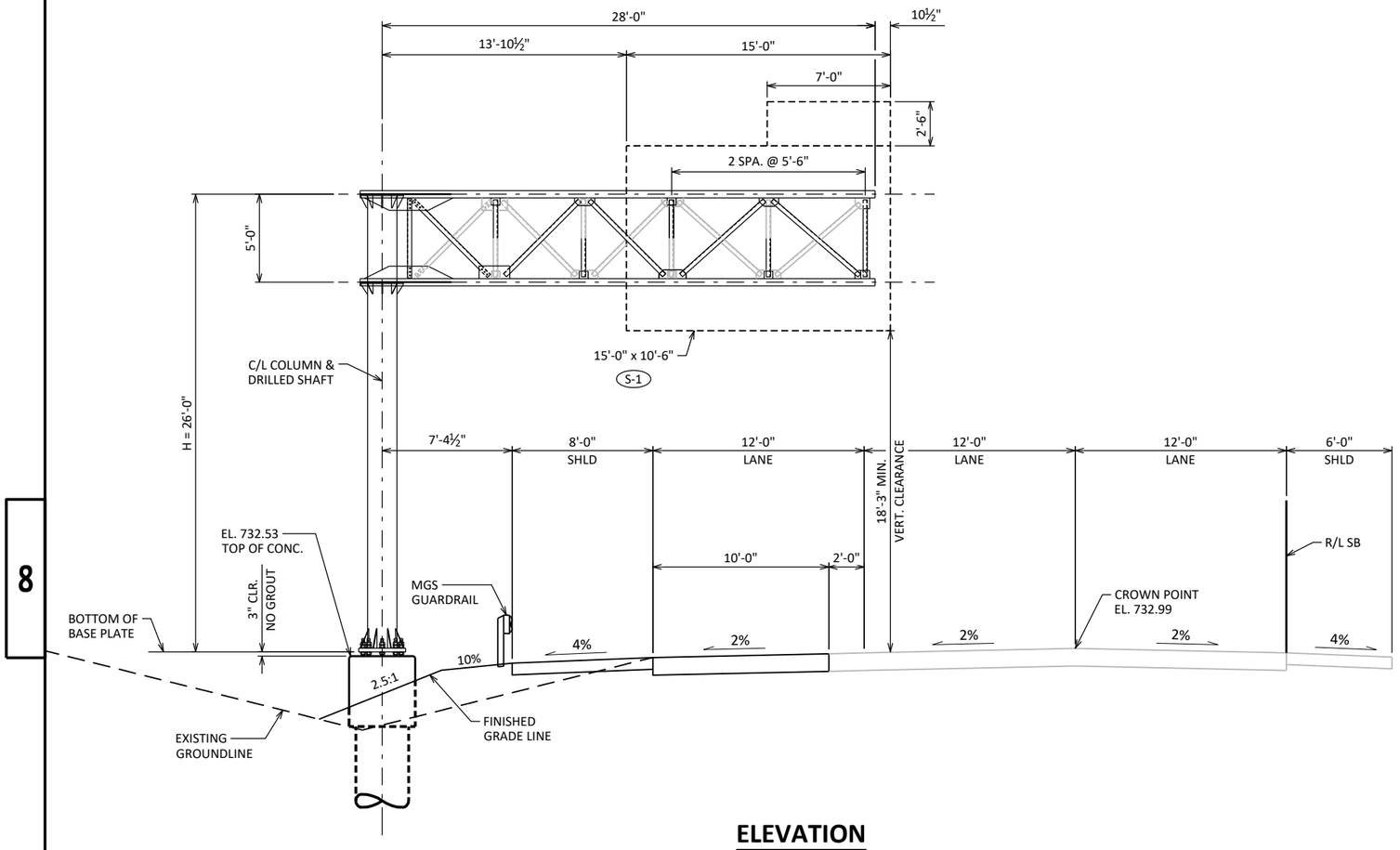
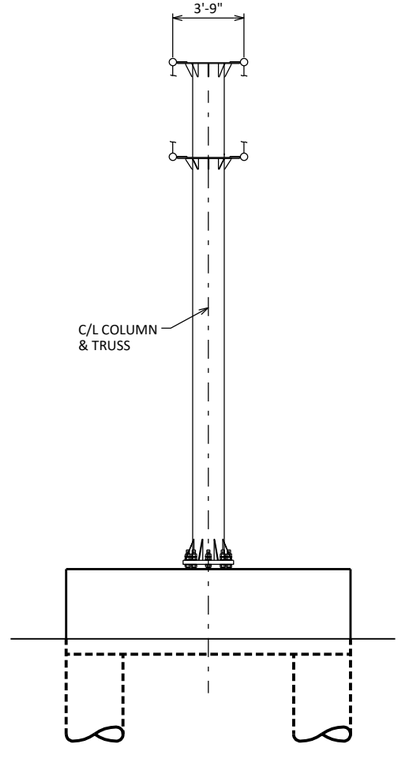


PLAN



ELEVATION

STA. 496+08.00
(LOOKING UPSTATION AT BACK OF SIGN)

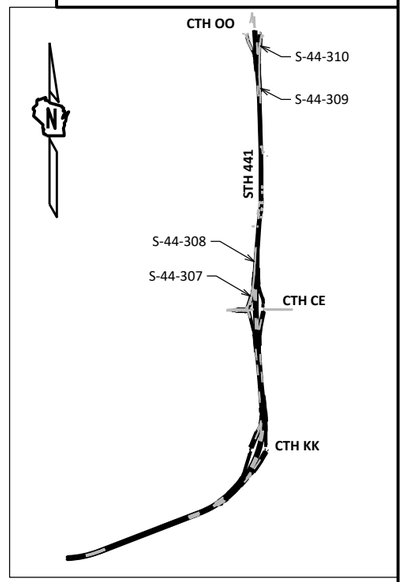


END VIEW

(LOOKING WEST)

STATE PROJECT NUMBER

4685-29-60



LOCATION MAP

NOTE

POINT OF MIN. VERTICAL CLEARANCE
STA. 496+10.30, 22.50' (LT)
EL. 732.78

LEGEND

☆ ELEVATIONS GIVEN ALONG C/L TRUSS.

(XXX) SIGN NUMBERS (PERMANENT SIGNING PLAN)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-44-308

DRAWN BY DTH | PLANS CK'D BMO

GENERAL LAYOUT
S-44-308

SHEET 2
359

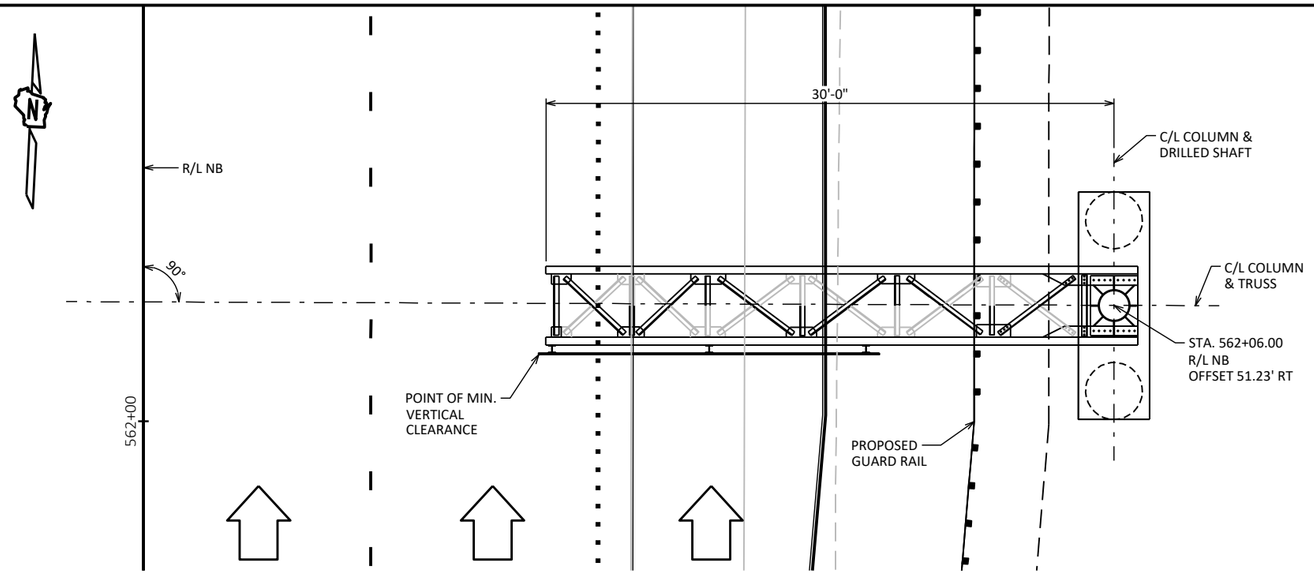
SCALE =

8

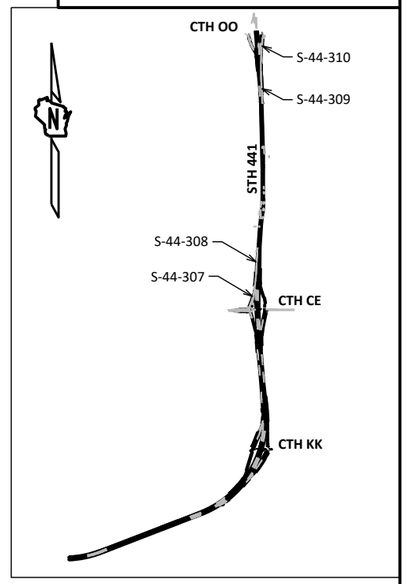
8

STATE PROJECT NUMBER

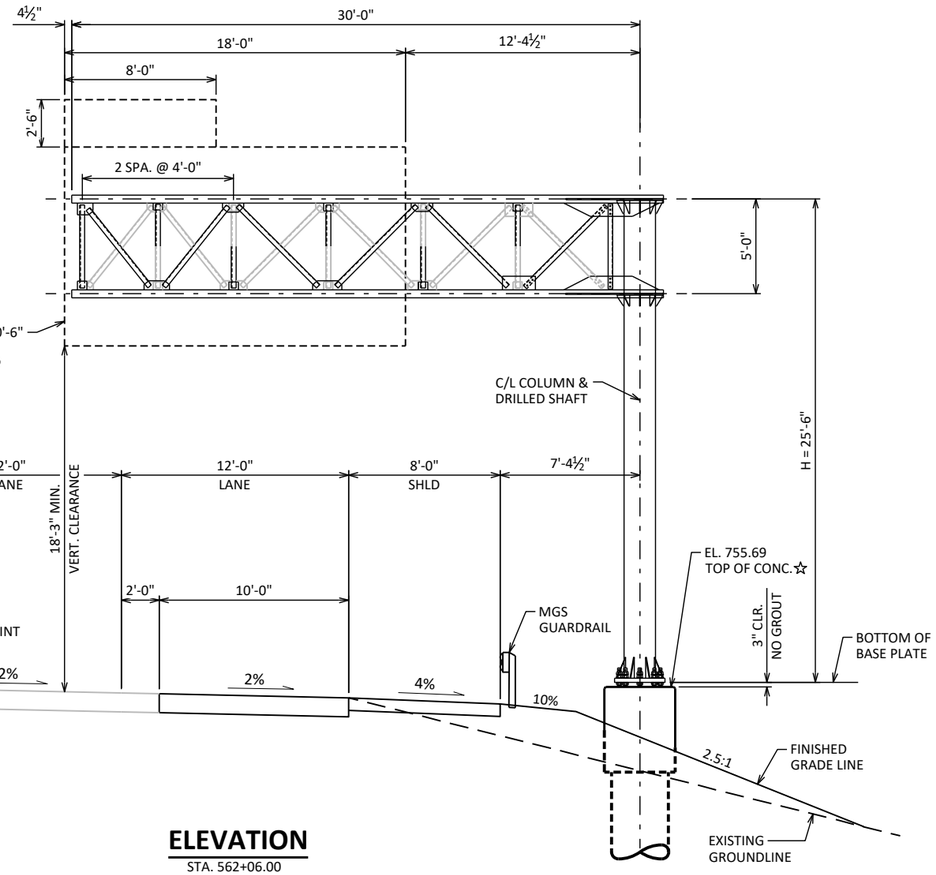
4685-29-60



PLAN

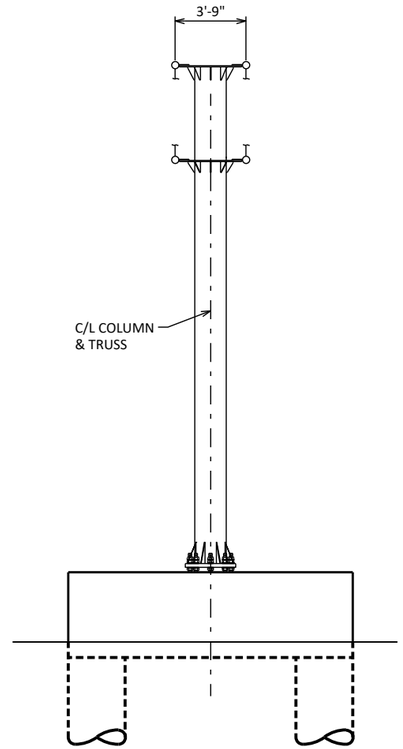


LOCATION MAP



ELEVATION

STA. 562+06.00
(LOOKING UPSTATION AT FRONT OF SIGN)



END VIEW

(LOOKING WEST)

NOTE

POINT OF MIN. VERTICAL CLEARANCE
STA. 562+02.50, 21.00' (RT)
EL. 755.44

LEGEND

☆ ELEVATIONS GIVEN ALONG C/L TRUSS.

(XXX) SIGN NUMBERS (PERMANENT SIGNING PLAN)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-44-309

DRAWN BY DTH | PLANS CK'D BMO

GENERAL LAYOUT
S-44-309

SHEET 3

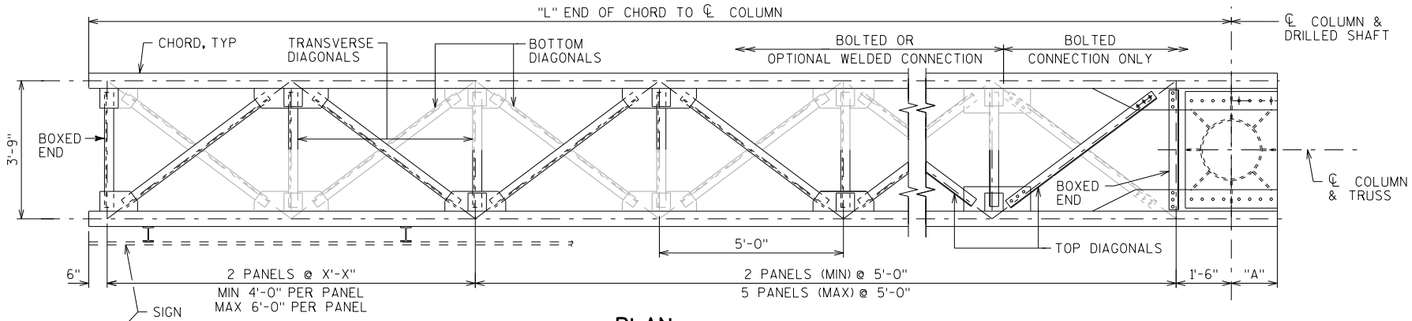
SCALE = 360

8

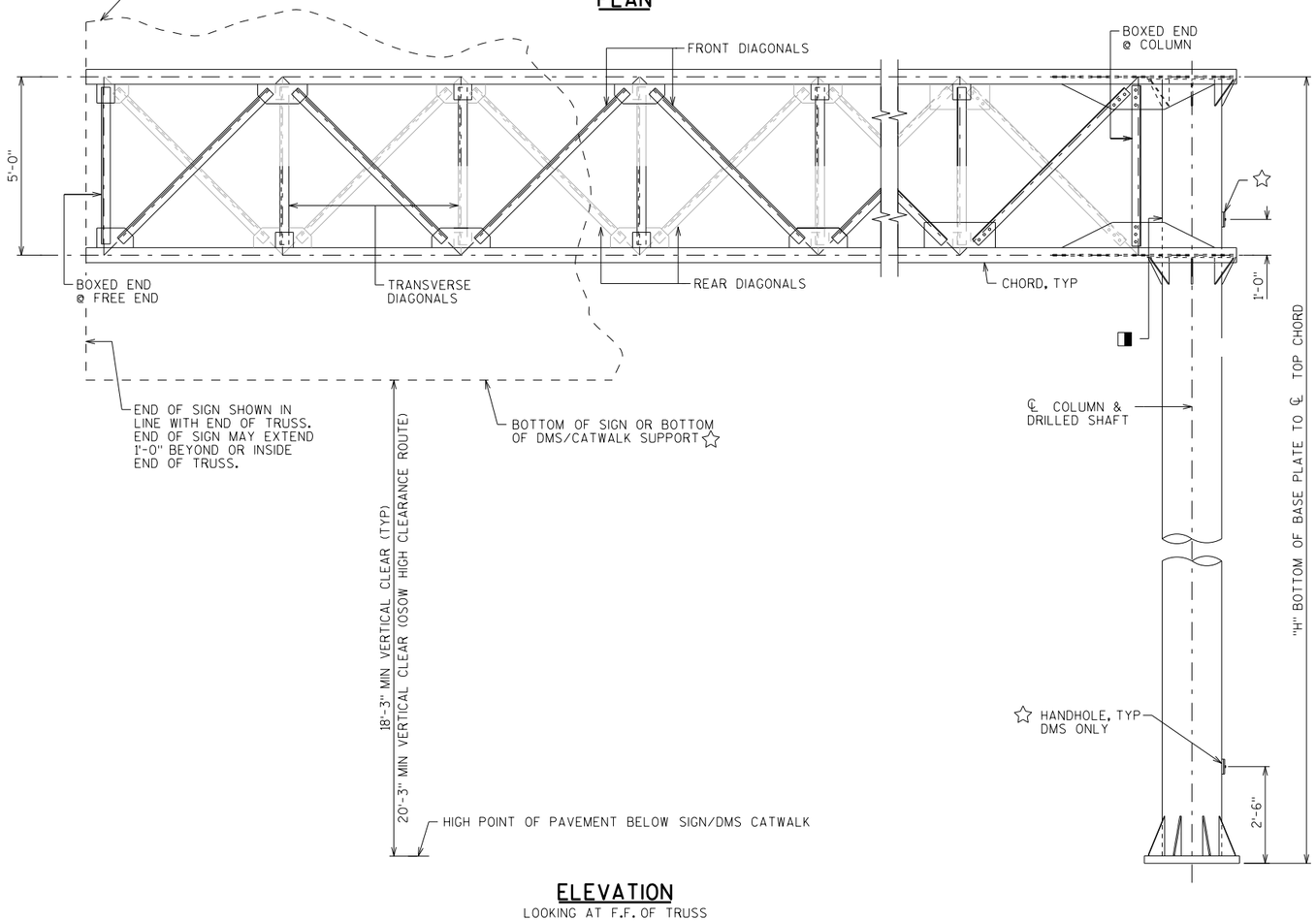
8

STATE PROJECT NUMBER

STANDARD

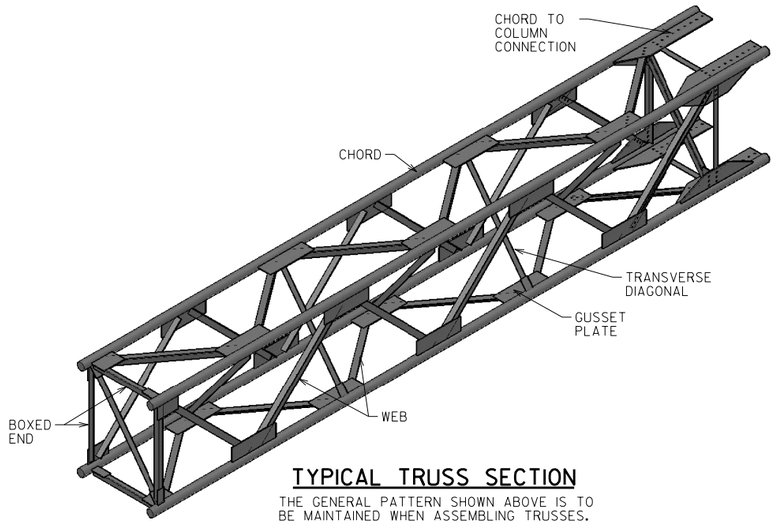


PLAN



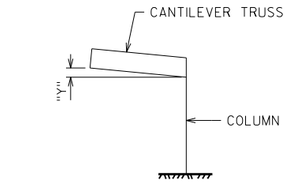
ELEVATION

LOOKING AT F.F. OF TRUSS



TYPICAL TRUSS SECTION

THE GENERAL PATTERN SHOWN ABOVE IS TO BE MAINTAINED WHEN ASSEMBLING TRUSSES.



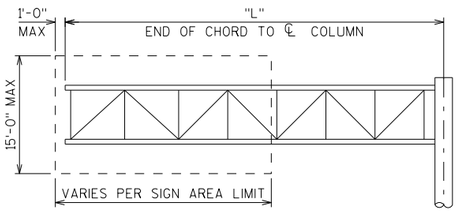
CAMBER DIAGRAM

PREFABRICATE CAMBER INTO THE HORIZONTAL SUPPORT PROVIDING AN AMOUNT "Y" AT THE END OF TRUSS AS SHOWN. DO NOT RAKE VERTICAL COLUMN BY ADJUSTMENT OF LEVELING NUTS.

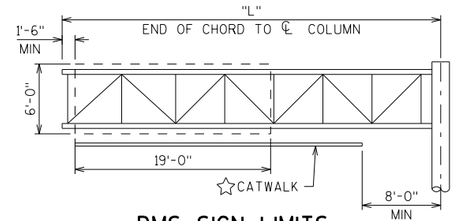
CAMBER VALUES

DIM "L" / "H"	"Y" (IN) 30' TYPE I	30' DMS	38' TYPE I	38' DMS
22'	2 1/4"	3 1/2"	2 5/8"	4 1/8"
24'	2 3/8"	3 7/8"	2 7/8"	4 1/2"
26'	2 1/2"	4 1/8"	3 1/8"	4 7/8"
28'	2 3/4"	4 1/2"	3 1/4"	5 1/4"
30'	2 7/8"	4 3/4"	3 1/2"	5 5/8"

INTERPOLATE FOR VALUES NOT SHOWN.
DMS VALUES INCLUDE DL OF CATWALK.



TYPE 1 SIGN LIMITS



DMS SIGN LIMITS

2,500 LB MAX DMS WEIGHT, INCLUDES DMS VERTICAL SUPPORT MEMBERS

CANTILEVER 4-CHORD TRUSS MEMBER TABLE

STANDARD DESIGN TRUSS	TYPE I SIGN AREA (FT^2)	DMS AREA (FT^2)	MAXIMUM SPAN "L"	MAXIMUM COL HEIGHT "H"	DIM "A"	COLUMN OUTER DIA. X THK	CHORD OUTER DIA. X THK	WEB W X D X THK	BOXED END W X D X THK	TRANSVERSE DIAGONAL W X D X THK
I	264	114	30'-0"	30'-0"	1'-3"	20.00" X 0.500"	5.000" X 0.375"	L3X3X1/4	L3X3X1/4	L3X3X1/4
II	240	114	38'-0"	30'-0"	1'-4 1/2"	24.00" X 0.500"	5.563" X 0.375"	L3X3X5/16	L3X3X1/4	L3X3X1/4

LEGEND

☆ FOR OSS WITH DMS ONLY, PROVIDE HANDHOLES AS SHOWN. SEE "CATWALK DETAILS" AND "ELECTRICAL DETAILS" SHEETS.

◨ FOR OSS WITH DMS ONLY, DRILL HOLE AND TAP FOR (2) 2" STD. PIPE THREADS. LOCATE BOTTOM HOLE 6" UP FROM TOP OF BOTTOM CHORD AND SPACE VERTICALLY AT 6" C/C. PLACE CONDUIT PLUG IN HOLES THAT ARE NOT USED FOR WIRING SIGN PANELS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

DRAWN BY BOS | PLANS CK'D. BOS

4-CHORD TRUSS CANTILEVER

SHEET I OF VIII

361

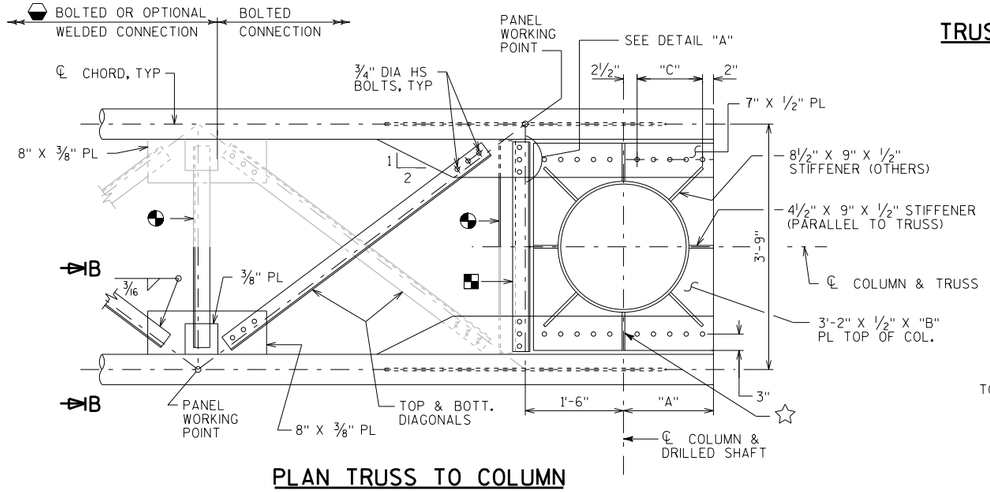
8

8

SCALE = 2.00

STATE PROJECT NUMBER

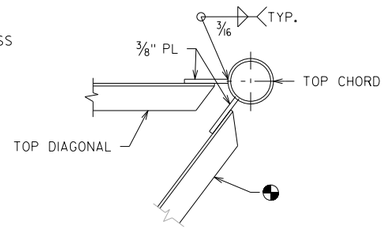
STANDARD



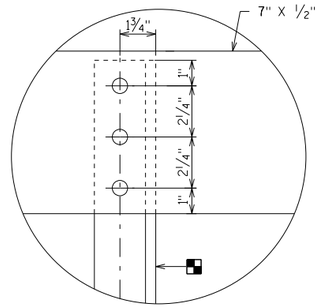
PLAN TRUSS TO COLUMN

TRUSS TO COLUMN CONNECTION DATA

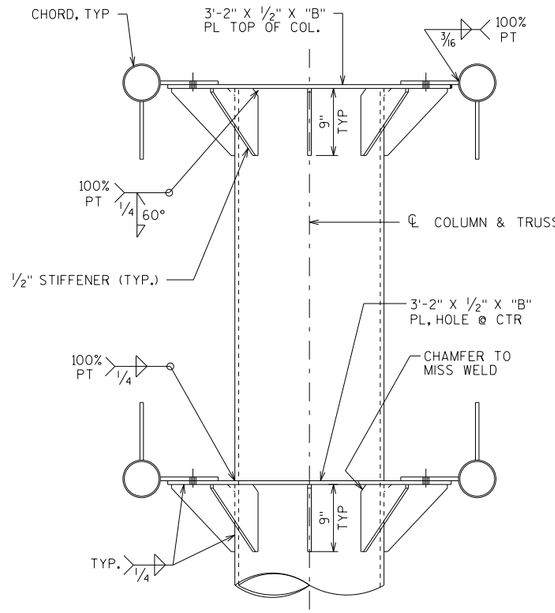
STANDARD DESIGN TYPE	"A"	"B"	"C"
I	1'-3"	2'-6"	3 SPA @ 3½"
II	1'-4½"	2'-9"	4 SPA @ 3"



SECTION B-B

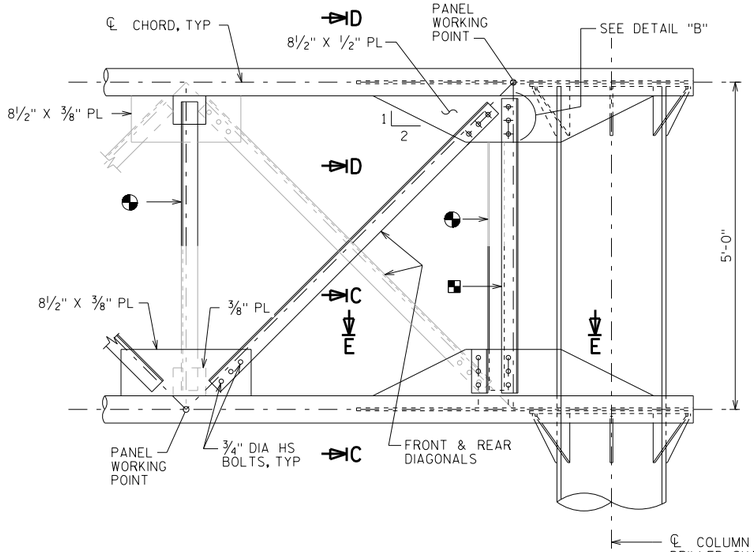


DETAIL "A"

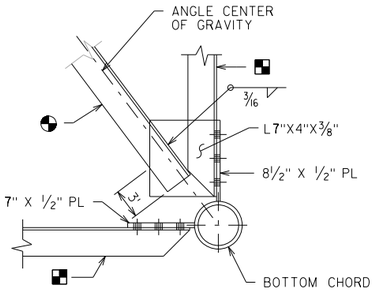


END VIEW TRUSS TO COLUMN

(WEB MEMBERS NOT SHOWN)

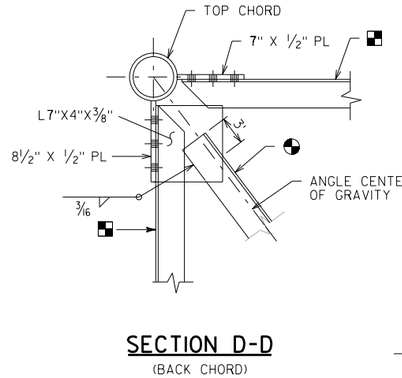


ELEVATION TRUSS TO COLUMN



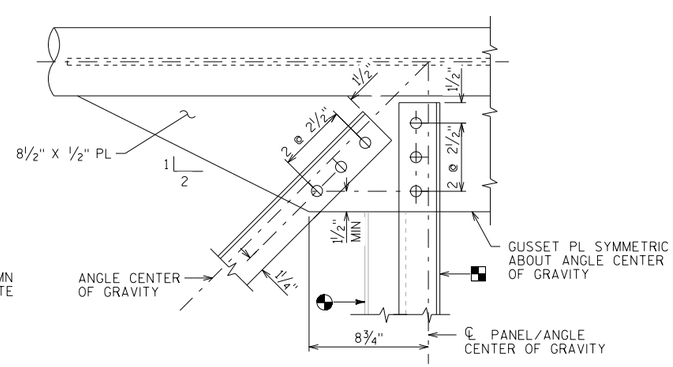
SECTION C-C

(FRONT CHORD)

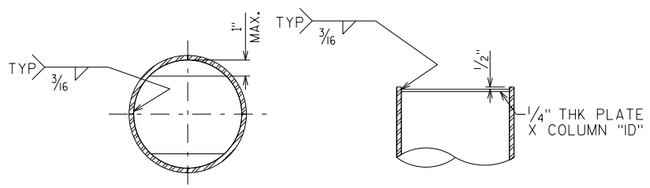


SECTION D-D

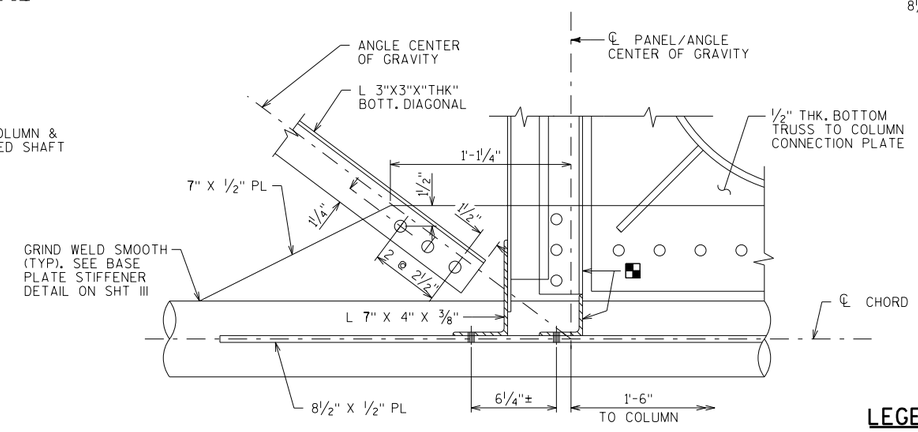
(BACK CHORD)



DETAIL "B"



CHORD CAP DETAIL



SECTION E-E

(LOOKING DOWN @ BOTT. HORIZ. PLANE @ FRONT CHORD)

LEGEND

- TRANSVERSE DIAGONAL
- BOXED END @ SUPPORT
- WELDED CONNECTIONS MAY BE USED IF UNIT CAN BE GALVANIZED IN ONE PIECE.
- 7" X 9" X ½" STIFFENER STD DESIGN TYPE 2 ONLY, TYP OPPOSITE SIDE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

DRAWN BY BOS | PLANS CK'D. BOS

4-CHORD TRUSS CANT. CONNECTION DETAILS 1

SHEET II OF VIII

362

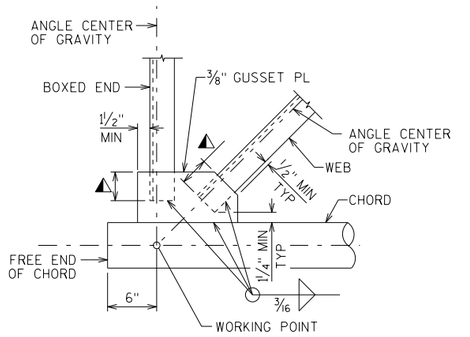
SCALE = 2.25

8

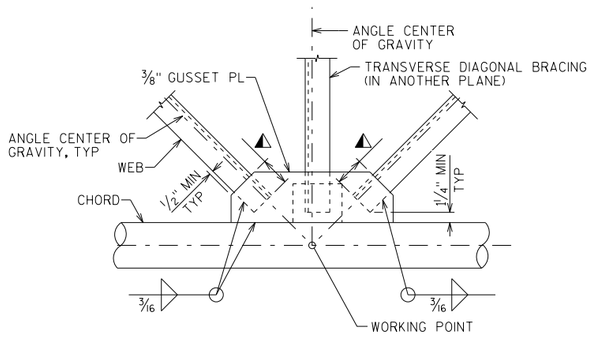
8

STATE PROJECT NUMBER

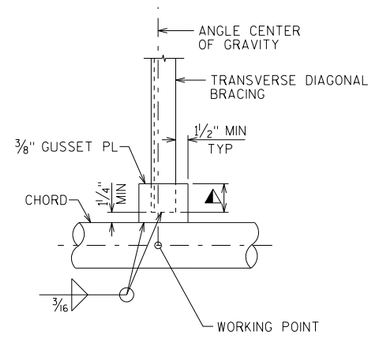
STANDARD



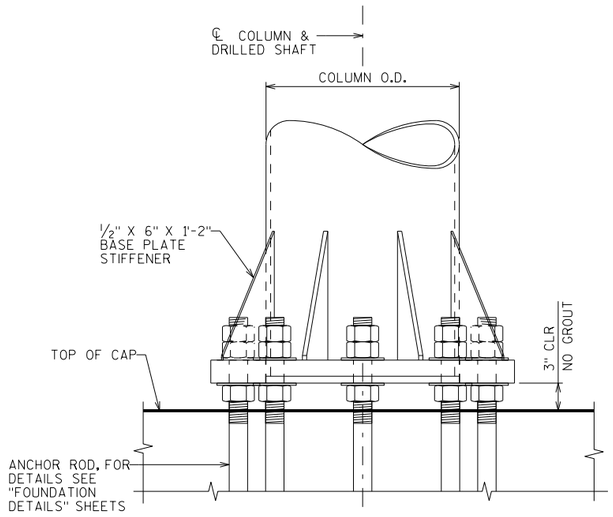
WELDED BOXED END CONNECTION



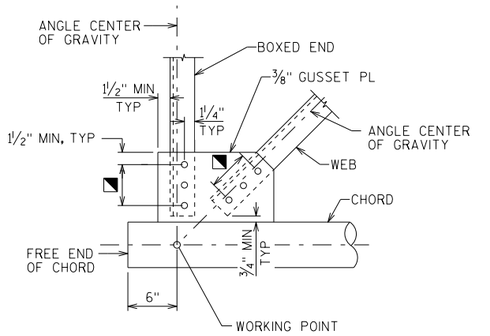
WELDED PANEL CONNECTION



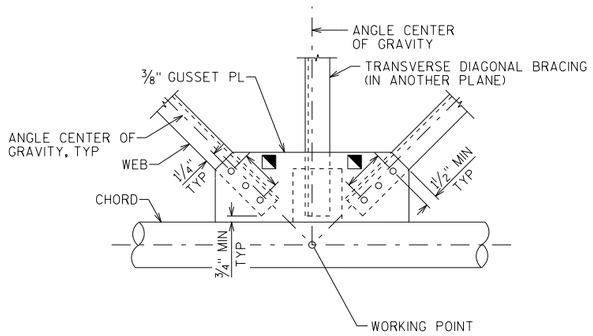
WELDED INTERIOR DIAGONAL CONNECTION



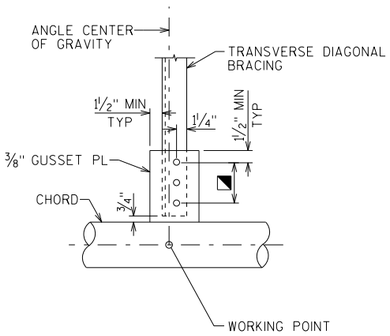
BASE PLATE & COLUMN DETAIL



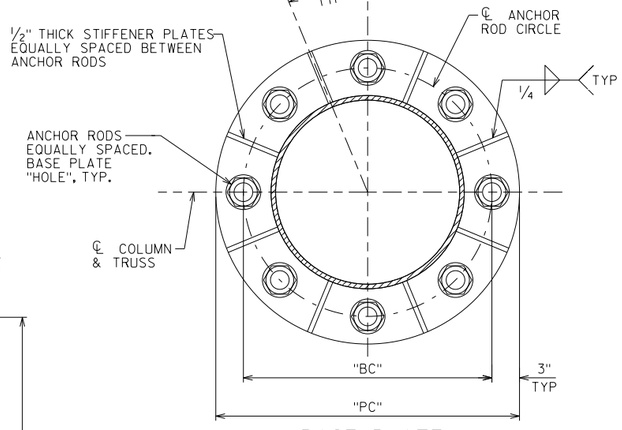
BOLTED BOXED END CONNECTION



BOLTED PANEL CONNECTION

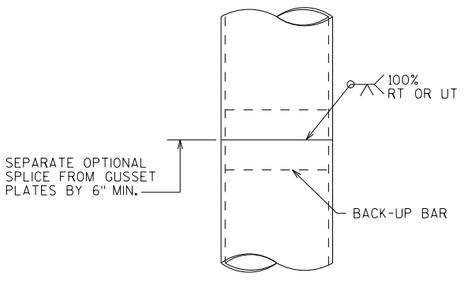


BOLTED INTERIOR DIAGONAL CONNECTION



BASE PLATE

PLAN



OPTIONAL COLUMN OR CHORD SPLICE DETAIL

NOTE

FABRICATOR HAS THE OPTION TO USE NON-MITERED, RECTANGULAR GUSSET PLATES IN LIEU OF MITERED PLATES SHOWN ON THESE DETAILS.

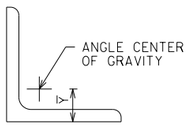
MEMBER CONNECTION DATA

STANDARD DESIGN TYPE	WELD LEG LENGTH ◭	NO. OF BOLTS ◥
I	3" MIN	3
II	3" MIN	3

FOR ALL ANGLE TO GUSSET CONNECTIONS, BOLT SPACING = 2 1/2"

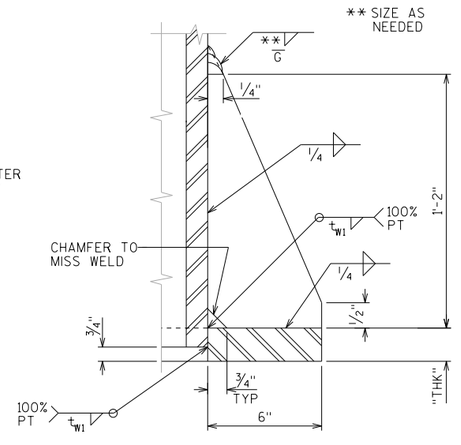
ANGLE DATA

ANGLE SIZE	$\bar{Y}$
L3x3x1/4	0.836"
L3x3x5/16	0.860"



CANTILEVER 4-CHORD COLUMN DATA TABLE

STANDARD DESIGN TYPE	COLUMN OUTER DIA X THK	BASE PLATE				
		"T_{W1}"	"HOLE"	"THK"	"BC"	"PC"
I	20.00" X 0.500"	5/16"	2 1/4"	2"	2'-2"	2'-8"
II	24.00" X 0.500"	5/16"	2 1/4"	2 1/2"	2'-6"	3'-0"



BASE PLATE STIFFENER DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

DRAWN BY BOS | PLANS CK'D. BOS

4-CHORD TRUSS CANT. CONNECTION DETAILS 2

SHEET III OF VIII

363

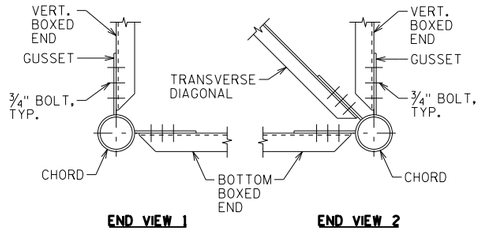
SCALE = 1.50

8

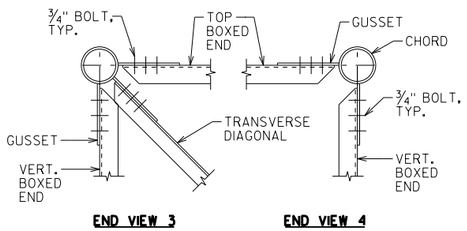
8

STATE PROJECT NUMBER

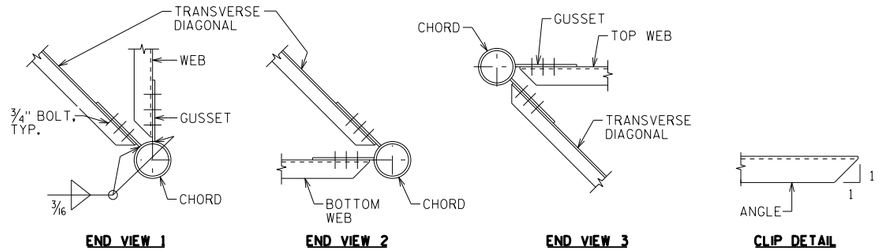
STANDARD



END VIEW 1 END VIEW 2



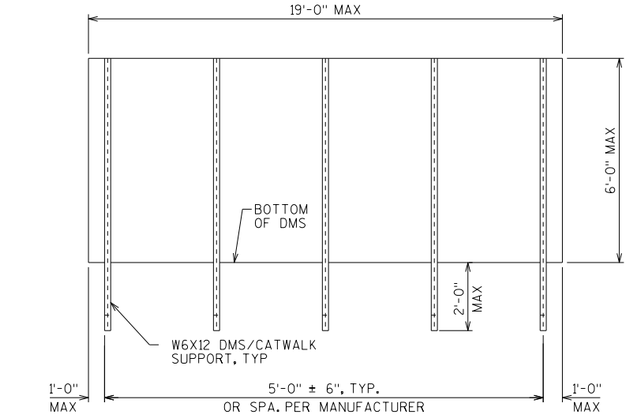
END VIEW 3 END VIEW 4



END VIEW 1 END VIEW 2 END VIEW 3 CLIP DETAIL

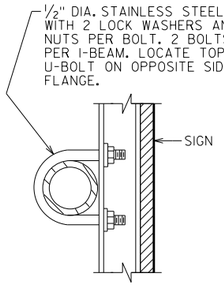
TRUSS CONNECTION DETAILS

BOLTED CONNECTIONS SHOWN, NUMBER OF BOLTS BY DESIGN
WELDED CONNECTIONS SIMILAR

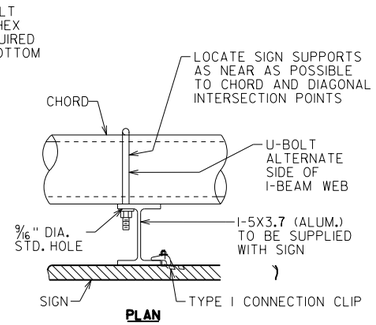


DMS MOUNTING POST SPACING DETAIL

POST SPACING MAY BE ADJUSTED AS REQUIRED IF CONFLICT WITH TRUSS IS ENCOUNTERED.



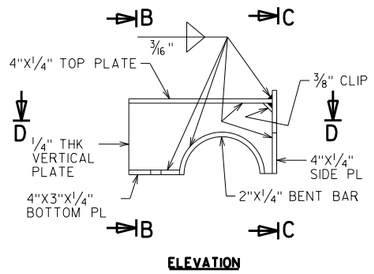
DETAIL 1



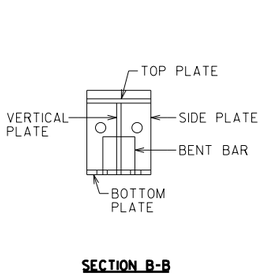
PLAN

TYPICAL SIGN CONNECTION

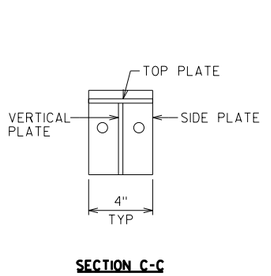
USE FOR TYPE I AND II SIGNS
SEE SIGN PLATE MANUAL A4-7A & A4-7B FOR DETAILS



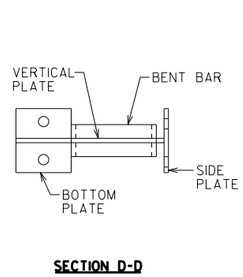
ELEVATION



SECTION B-B



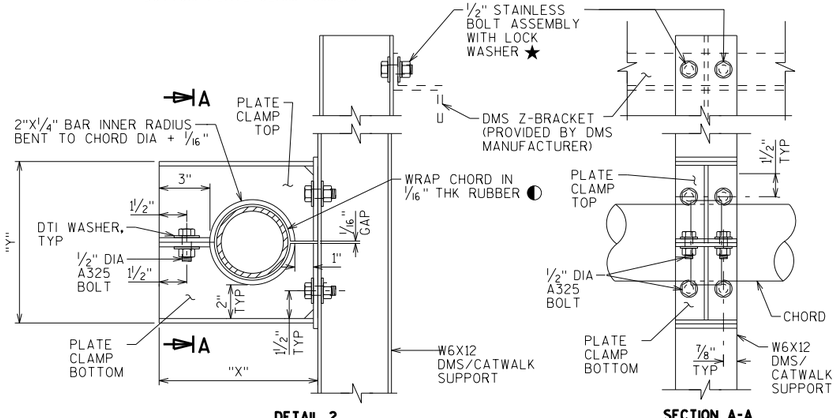
SECTION C-C



SECTION D-D

DMS WELDED PLATE CONNECTION DETAILS

TOP PLATE CLAMP SHOWN
BOTTOM PLATE CLAMP SIMILAR

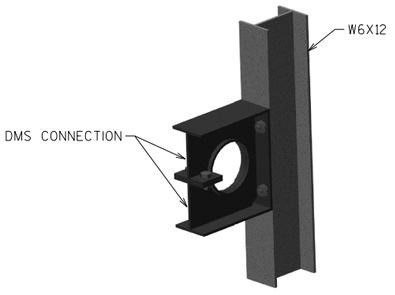


DETAIL 2 SECTION A-A

CHORD OUTER DIA	"X"	"Y"
5.000"	9 13/16"	10 1/16"
5.563"	10 3/8"	10 5/8"

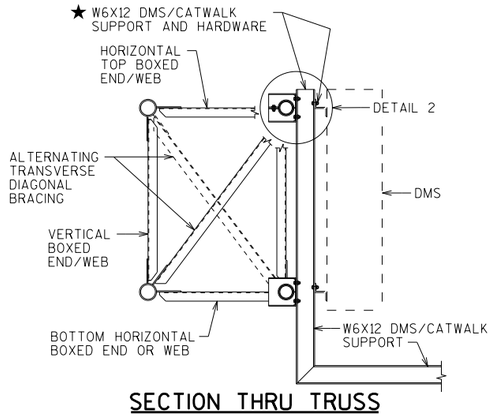
TYPICAL DMS CONNECTION

◐ NEOPRENE, GRADE 45±5, OTHERWISE MEETING THE REQUIREMENTS OF STD SPEC 506.2.6.1



3-D VIEW DMS CONNECTION

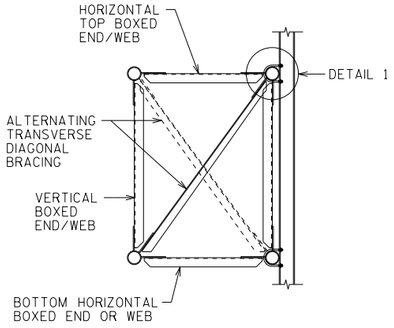
CHORD NOT SHOWN FOR CLARITY



SECTION THRU TRUSS

FOR DMS/CATWALK CONNECTION

★ W6X12 SUPPORTS AND HARDWARE ARE TO BE SUPPLIED BY THE CONTRACTOR. ½" STAINLESS BOLT, NUT, WASHER AND LOCK WASHER REQUIRED, 4 PER W6X12.



SECTION THRU TRUSS

FOR SIGN CONNECTION

ALUMINUM I-5X3.7 I-BEAMS ARE TO BE SUPPLIED WITH THE SIGN PANEL

HARDWARE TO BE SUPPLIED BY THE CONTRACTOR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: APRIL 2021

DRAWN BY BOS | PLANS CK'D. BOS

4-CHORD TRUSS CANT. CONNECTION DETAILS 3

SHEET IV OF VIII

364

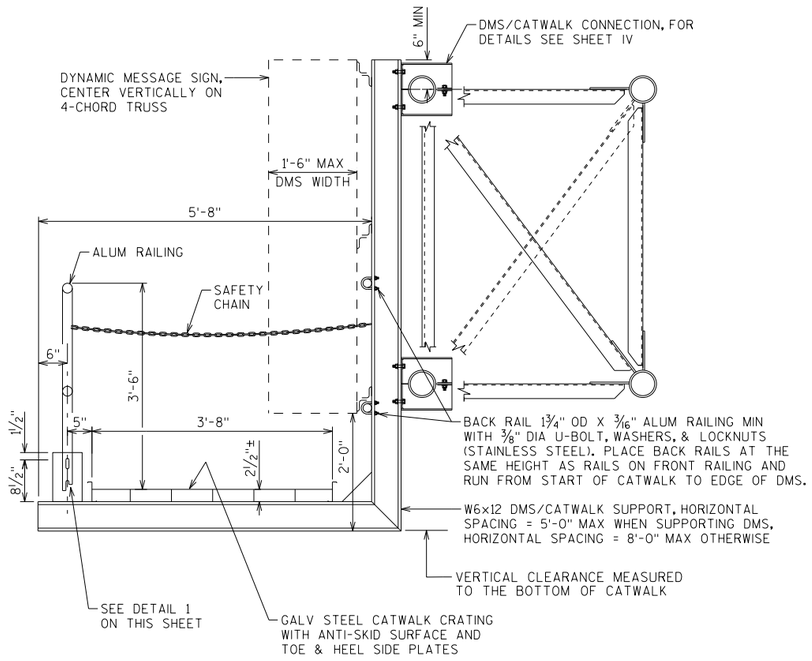
SCALE = 2.00

8

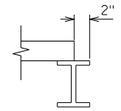
8

STATE PROJECT NUMBER

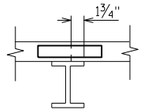
STANDARD



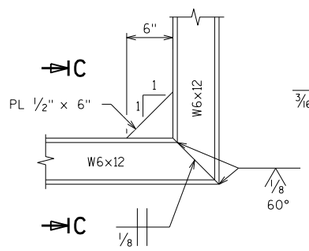
SECTION THRU WALKWAY



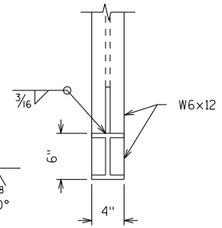
CATWALK TERMINATION DETAIL



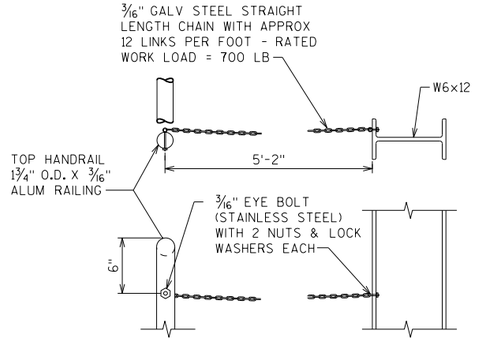
CATWALK SPLICE LOCATION DETAIL



BRACKET DETAIL

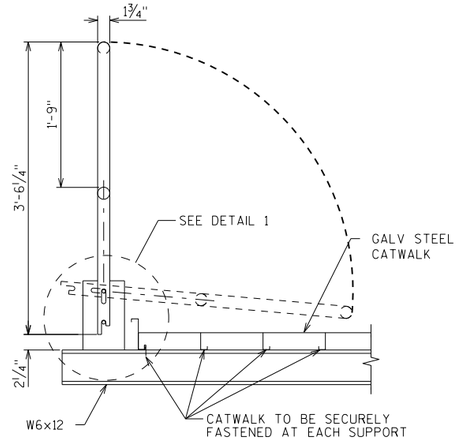


SECTION C-C

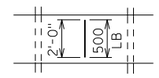


SAFETY CHAIN DETAIL

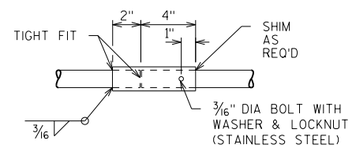
(PROVIDE SAFETY CHAIN AT EACH END OF THE CATWALK)



RAIL POST DETAIL

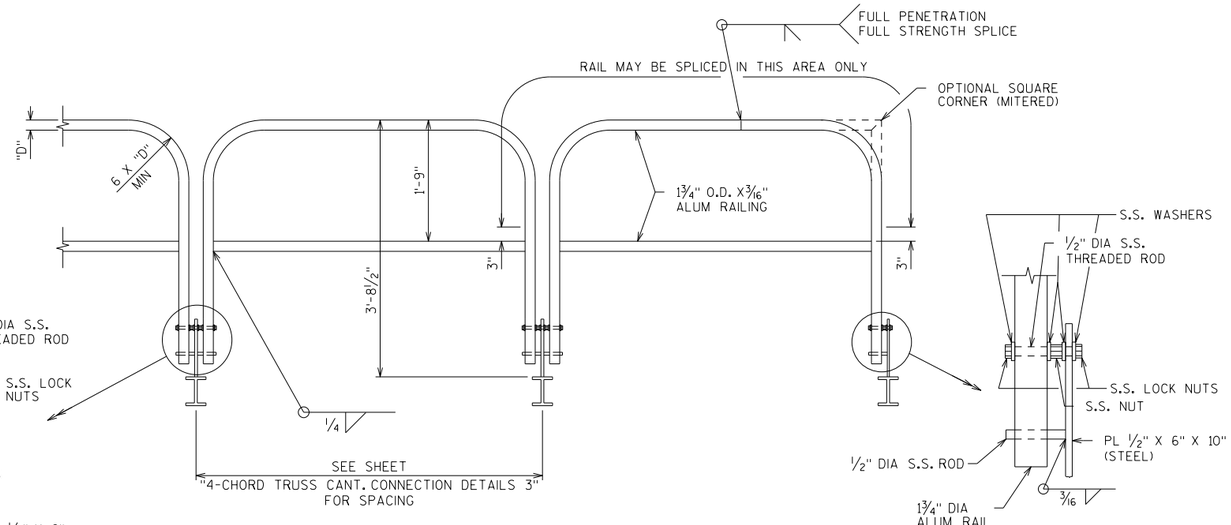


NOTE:
CATWALK GRATING SHALL MEET THE CURRENT AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS", (500 LB LIVE LOAD DISTRIBUTED OVER 2'-0" TRANSVERSELY - MAX SPAN IS 8'-0"). CATWALK SHALL ALSO MEET CURRENT OSHA STD'S FOR WALKING-WORKING SURFACES.

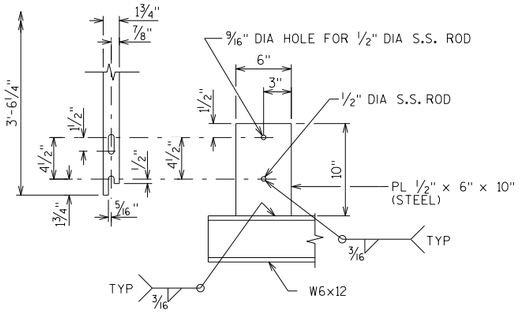


BACKRAIL SPLICE

ONE SPLICE ALLOWED FOR LENGTHS OVER 30'-0"



TYPICAL FRONT RAILING DETAILS



DETAIL 1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

DRAWN BY BOS | PLANS CK'D. BOS

4-CHORD TRUSS CANT. CATWALK DETAILS

SHEET V OF VIII

365

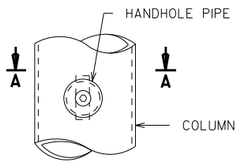
SCALE = 1.25

8

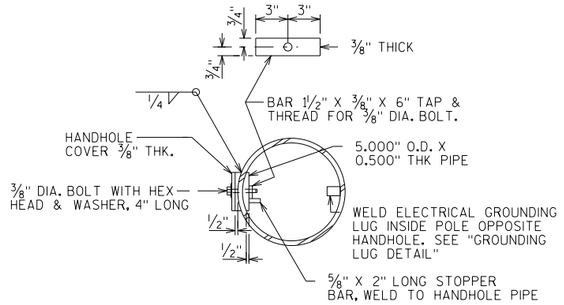
8

STATE PROJECT NUMBER

STANDARD



HANDHOLE DETAILS

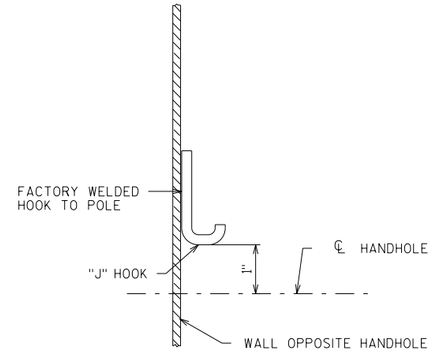


SECTION A-A

HANDHOLE NOTES

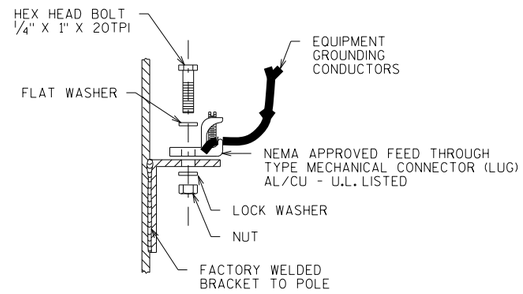
HANDHOLES SHALL BE LOCATED IN ONE COLUMN OF THE SIGN BRIDGE STRUCTURE IF ELECTRICALLY OPERATED DEVICES ARE INSTALLED ON/IN THE STRUCTURE. COLUMNS WITH HANDHOLES SHALL BE NEAR THE ELECTRICAL SERVICE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE ELECTRICAL SERVICE ENTRANCE WITH THE REGION TRAFFIC SECTION PRIOR TO FABRICATION OF THE SIGN BRIDGE COLUMNS AND MEMBERS. CONDUIT (AS REQ'D.) SHALL BE LOCATED, PLACED AND SIZED AS SHOWN ON THE ELECTRICAL PLAN DETAIL SHEETS.

UNLESS NOTED OTHERWISE, ALL HANDHOLE ELEMENTS TO BE GALVANIZED PER THE WISDOT STANDARD SPECIFICATIONS.



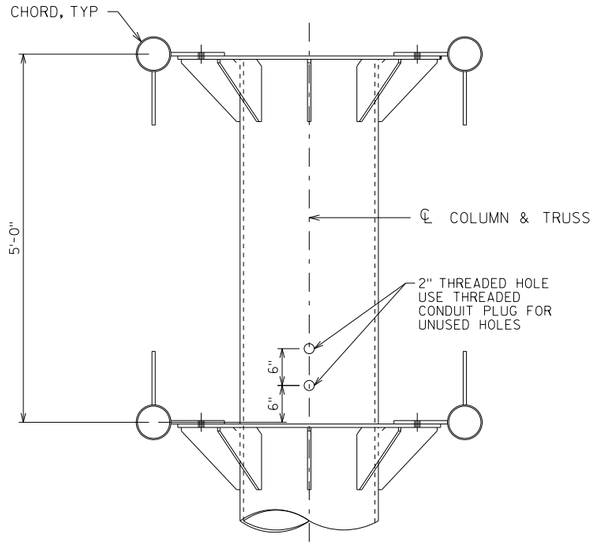
TYPICAL "J" HOOK LOCATION

THE "J" HOOK SHALL BE FACTORY WELDED TO THE INSIDE OF ALL COLUMNS CONTAINING ELECTRICAL WIRING. THE "J" HOOK SHALL BE ATTACHED ABOVE THE CENTERLINE OF THE UPPER HANDHOLE AND MOUNTED DIRECTLY OPPOSITE THE HANDHOLE AS SHOWN IN THE DRAWING.

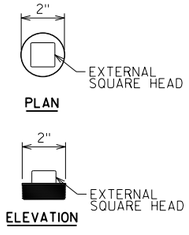


GROUNDING LUG DETAIL

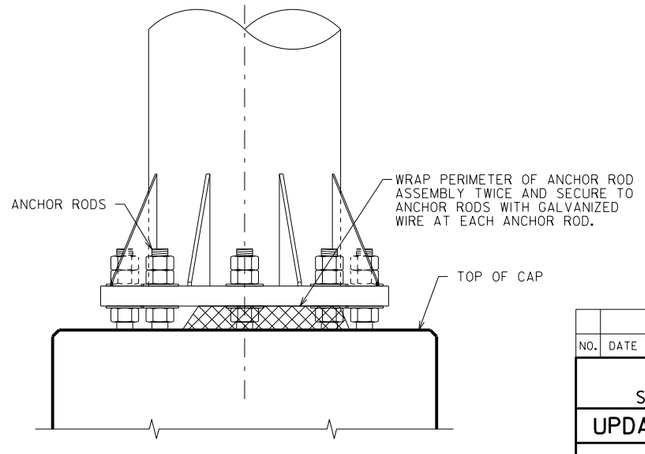
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



CONDUIT HOLE LOCATIONS



CONDUIT PLUG DETAILS



RODENT SCREEN

(ONLY REQ'D. WHEN ELECTRICAL DEVICES ARE INSTALLED)

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STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

DRAWN BY BOS | PLANS CK'D. BOS

4-CHORD TRUSS CANT. ELECTRICAL DETAILS

SHEET VI OF VIII

366

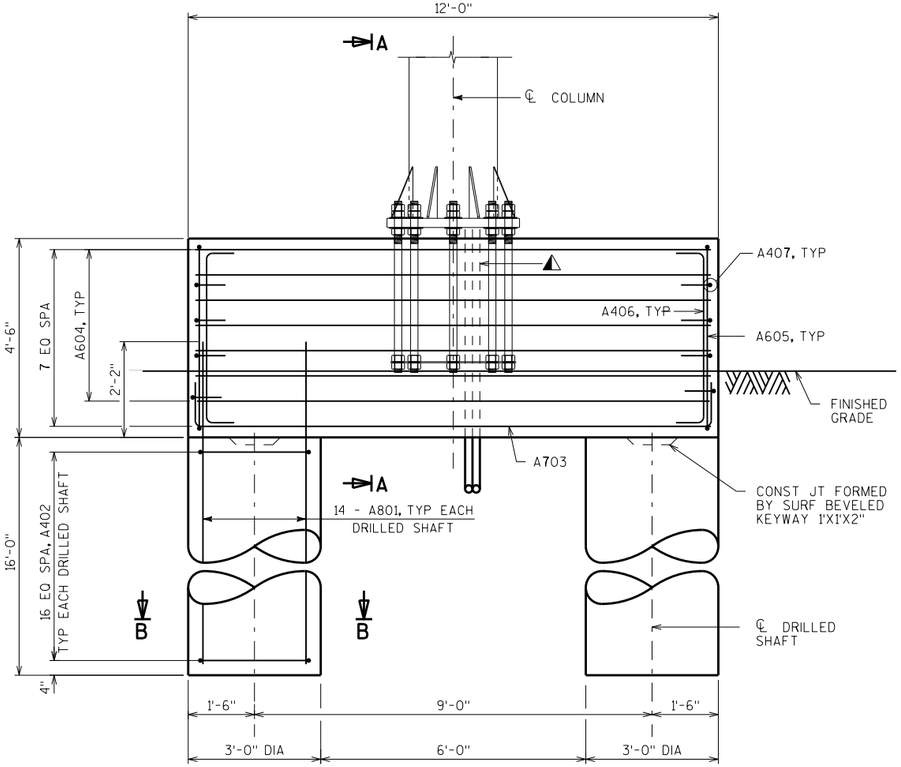
SCALE = 1.00

8

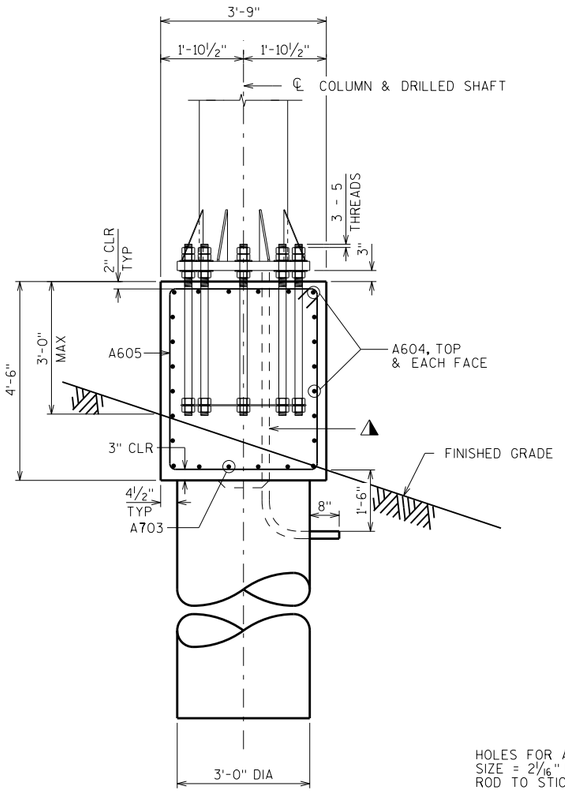
8

STATE PROJECT NUMBER

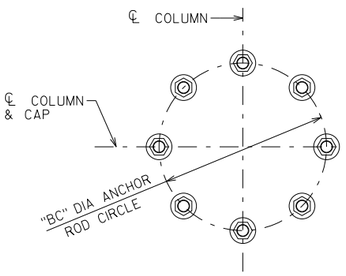
STANDARD



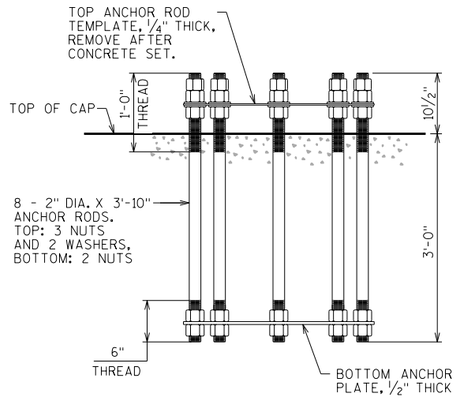
ELEVATION



SECTION A-A



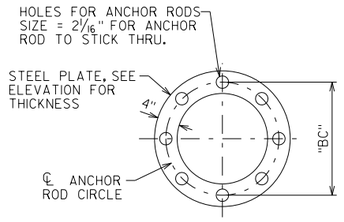
PLAN



ELEVATION

ANCHOR ROD ASSEMBLY DETAILS

SINGLE ASSEMBLY SHOWN
8 ANCHOR RODS REQ'D PER ASSEMBLY

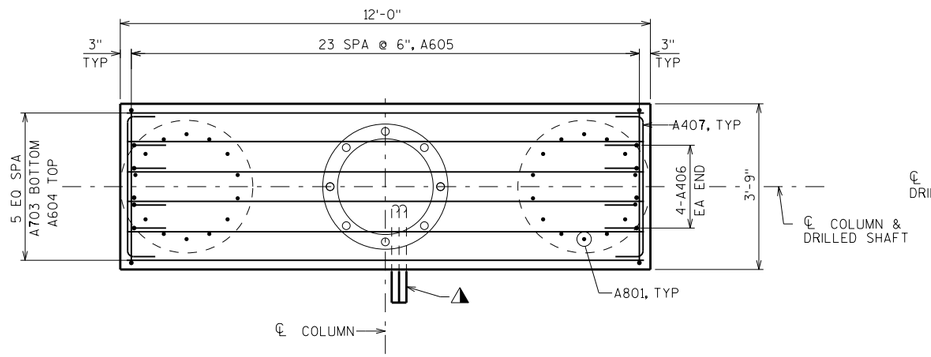


ANCHOR PLATE/TOP TEMPLATE

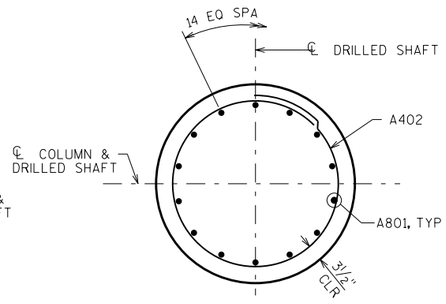
PLAN

ANCHOR PLATE DATA

STD DESIGN TRUSS	DIMENSIONS "BC"
I	2'-2"
II	2'-6"



PLAN



SECTION B-B

NOTES

CENTER ANCHOR ROD ASSEMBLY AND MAKE SURE IT IS PLUMB. MAINTAIN ANCHOR ROD PROJECTION ABOVE FOOTING AS DETAILED ON PLAN. ANCHOR ROD ASSEMBLY SHALL BE RIGIDLY SECURED IN POSITION DURING AND AFTER CONCRETE PLACEMENT. DO NOT WELD THE ANCHOR RODS.

LEGEND

⚠ 2 - 2" DIA NONMETALLIC CONDUITS, INSTALL ONLY WITH DMS. EXTEND CONDUITS AS SHOWN AND CAP OR SEAL EACH END WITH A SUITABLE REMOVABLE PLUG. PLACE CONDUITS UNDER COLUMN ADJACENT TO THE DMS. CONDUITS INCIDENTAL TO THE FOUNDATION BID ITEMS.

NO.	DATE	REVISION	BY

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STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

DRAWN BY BOS | PLANS CK'D. BOS

4-CHORD TRUSS CANT. FOUNDATION DETAILS 1

SHEET VII OF VIII

367

SCALE = 1.67

8

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STATE PROJECT NUMBER

STANDARD

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

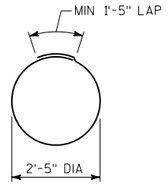
BILL OF BARS - STANDARD DESIGN TYPE I OR II

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		28	18'-2"			DRILLED SHAFT - VERTICAL
A402		34	9'-0"	X		DRILLED SHAFT - HORIZONTAL
A703	X	6	13'-7"	X		CAP - LONGITUDINAL - BOTTOM
A604	X	18	11'-8"			CAP - LONGITUDINAL - TOP & SIDES
A605	X	24	15'-10"	X		CAP - STIRRUP
A406	X	8	4'-7"	X		CAP - VERTICAL - EACH END
A407	X	8	3'-11"	X		CAP - HORIZONTAL - EACH END

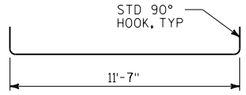
ESTIMATED QUANTITIES - FOUNDATION

STANDARD DESIGN TYPE	CONCRETE MASONRY (CY)	STEEL REINFORCEMENT HS (LBS)	STEEL REINFORCEMENT HS COATED (LBS)	ANCHOR ASSEMBLY 2-INCH (EACH)	FOUNDATION DRILLING 36" DIA. (LF)
I/II	16	1,570	1,100	1	32

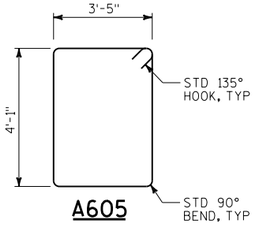
** QUANTITIES ARE FOR INFORMATION ONLY AND ARE BASED ON STANDARD STRUCTURE DIMENSIONS



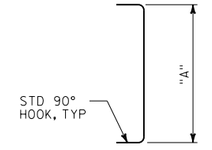
A402



A703



A605



A406, A407

BAR MARK	"A"
A406	3'-11½"
A407	3'-3½"

BAR BENDING DIAGRAMS

NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

8

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STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

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4-CHORD TRUSS CANT. FOUNDATION DETAILS 2

SHEET VIII OF VIII

368

SCALE = 0.50

STH 441 NB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
388+27 NB	---	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0
388+56 NB	29	8.7	0.0	0.1	0.4	5	0	0	0	5	0	5
389+46 NB	90	14.8	0.0	1.0	0.7	39	0	2	2	44	2	42
389+71 NB	25	17.5	0.0	0.0	0.9	15	0	0	1	59	3	56
389+75 NB	4	17.3	0.0	0.0	0.9	2	0	0	0	61	3	58
389+99 NB	24	17.6	0.0	0.0	0.9	15	0	0	1	77	3	74
390+00 NB	1	12.8	0.0	0.0	0.6	1	0	0	0	77	3	74
390+25 NB	25	5.5	0.0	1.9	0.3	8	0	1	0	86	4	82
				COLUMN TOTALS		86	0	3	4			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

STH 441 NB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
398+62 NB	---	4.8	0.0	0.5	0.2	0	0	0	0	0	0	0
399+46 NB	83	12.5	0.0	0.0	0.6	27	0	1	1	27	1	26
399+82 NB	36	16.6	0.0	0.4	0.8	19	0	0	1	46	1	45
400+07 NB	25	14.6	0.0	0.3	0.7	14	0	0	1	60	2	59
400+32 NB	25	15.4	0.0	0.1	0.8	14	0	0	1	74	2	72
400+63 NB	32	7.9	0.0	0.0	0.4	14	0	0	1	88	2	86
400+88 NB	25	8.1	0.0	0.0	0.4	7	0	0	0	95	2	93
401+13 NB	25	10.0	0.0	0.0	0.5	8	0	0	0	104	2	101
				COLUMN TOTALS		104	0	2	5			

NOTES:

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3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

9

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STH 441 NB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
419+59 NB	---	6.1	0.0	0.0	0.3	0	0	0	0	0	0	0
419+70 NB	11	11.5	0.0	0.5	0.6	3	0	0	0	3	0	3
420+77 NB	107	21.4	0.0	0.0	1.1	65	0	1	3	69	1	67
420+89 NB	12	23.4	0.0	0.0	1.2	10	0	0	1	79	1	77
421+02 NB	13	21.3	0.0	0.0	1.1	10	0	0	1	89	1	88
421+14 NB	12	17.7	0.0	0.0	0.9	9	0	0	0	98	1	97
421+26 NB	12	12.5	0.0	0.5	0.6	7	0	0	0	105	1	104
421+39 NB	13	8.3	0.0	0.0	0.4	5	0	0	0	110	2	108
				COLUMN TOTALS		110	0	1	5			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
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3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

STH 441 NB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
452+08 NB	---	6.9	0.0	0.0	0.3	0	0	0	0	0	0	0
453+19 NB	112	9.3	0.0	0.0	0.5	33	0	0	2	33	0	33
453+44 NB	25	10.3	0.0	0.0	0.5	9	0	0	0	43	0	43
453+69 NB	25	5.3	0.0	0.0	0.3	7	0	0	0	50	0	50
				COLUMN TOTALS		50	0	0	2			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
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STH 441 NB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
472+02 NB	---	6.4	0.0	2.7	0.3	0	0	0	0	0	0	0
472+28 NB	26	8.7	0.0	0.0	0.4	7	0	1	0	7	2	6
473+21 NB	93	12.4	0.0	2.3	0.6	36	0	4	2	44	7	37
473+46 NB	25	17.0	0.0	0.0	0.9	14	0	1	1	57	8	49
473+47 NB	1	17.8	0.0	0.0	0.9	1	0	0	0	58	8	50
473+71 NB	24	15.7	0.0	0.0	0.8	15	0	0	1	73	8	65
473+72 NB	1	15.5	0.0	0.0	0.8	1	0	0	0	73	8	66
473+97 NB	25	4.9	0.0	0.0	0.2	9	0	0	0	83	8	75
				COLUMN TOTALS		83	0	6	4			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

STH 441 NB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
559+36 NB	---	24.8	0.0	0.0	1.2	0	0	0	0	0	0	0
559+50 NB	14	24.4	0.0	0.0	1.2	13	0	0	1	13	0	13
560+00 NB	50	22.8	0.0	0.0	1.1	44	0	0	2	56	0	56
560+50 NB	50	21.9	0.0	0.0	1.1	41	0	0	2	98	0	98
560+75 NB	25	20.6	0.0	0.0	1.0	20	0	0	1	118	0	118
561+00 NB	25	20.2	0.0	1.0	1.0	19	0	0	1	136	1	136
561+01 NB	1	20.2	0.0	1.0	1.0	1	0	0	0	137	1	137
561+50 NB	49	20.9	0.0	6.9	1.0	37	0	7	2	174	10	165
562+00 NB	50	21.1	0.0	20.4	1.1	39	0	25	2	213	41	172
562+50 NB	50	24.3	0.0	7.2	1.2	42	0	26	2	255	73	182
562+74 NB	24	33.5	0.0	0.0	1.7	26	0	3	1	281	77	204
563+00 NB	26	42.7	0.0	0.0	2.1	36	0	0	2	318	77	241
563+33 NB	33	56.4	0.0	0.0	2.8	61	0	0	3	378	77	301
563+50 NB	17	62.3	0.0	0.0	3.1	37	0	0	2	415	77	338
564+00 NB	50	66.8	0.0	0.0	3.3	119	0	0	6	535	77	458
564+50 NB	50	84.5	0.0	0.0	4.2	140	0	0	7	675	77	598
565+00 NB	50	78.6	0.0	0.0	3.9	151	0	0	8	826	77	749
565+50 NB	50	67.0	0.0	0.0	3.4	135	0	0	7	961	77	884
566+00 NB	50	78.6	0.0	0.0	3.9	135	0	0	7	1,096	77	1,019
566+50 NB	50	74.3	0.0	0.0	3.7	142	0	0	7	1,237	77	1,160
567+00 NB	50	90.1	3.2	0.0	4.5	152	3	0	8	1,389	77	1,309
567+50 NB	50	74.6	6.6	0.0	3.7	152	9	0	8	1,542	77	1,453
567+64 NB	14	74.1	7.5	0.0	3.7	40	4	0	2	1,581	77	1,489
568+00 NB	36	58.4	0.0	0.0	2.9	87	5	0	4	1,669	77	1,571
				COLUMN TOTALS		1,669	21	62	83			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

STH 441 NB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
577+16 NB	---	5.2	0.0	1.0	0.3	0	0	0	0	0	0	0
578+36 NB	120	7.1	0.0	2.7	0.4	27	0	8	1	27	10	17
578+61 NB	25	4.3	0.0	3.0	0.2	5	0	3	0	33	13	19
578+86 NB	25	4.4	0.0	2.4	0.2	4	0	3	0	37	17	20
				COLUMN TOTALS		37	0	13	2			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

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PROJECT NO: 4685-29-60 | HWY: STH 441 | COUNTY: CALUMET & OUTAGAMIE | EARTHWORK DATA | SHEET 373 | E

STH 441 SB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
397+88 SB	---	7.6	0.0	0.0	0.4	0	0	0	0	0	0	0
398+13 SB	25	9.0	0.0	0.0	0.4	8	0	0	0	8	0	8
398+24 SB	11	12.8	0.0	0.0	0.6	5	0	0	0	12	0	12
398+38 SB	14	13.2	0.0	0.0	0.7	7	0	0	0	19	0	19
398+49 SB	11	13.3	0.0	0.0	0.7	5	0	0	0	24	0	24
398+74 SB	25	12.5	0.0	0.3	0.6	12	0	0	1	36	0	36
399+38 SB	64	8.3	0.0	1.2	0.4	25	0	2	1	61	2	58
399+57 SB	18	3.4	0.0	0.0	0.2	4	0	0	0	65	3	62
				COLUMN TOTALS		65	0	2	3			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

STH 441 SB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
428+40 SB	---	8.1	0.0	0.0	0.4	0	0	0	0	0	0	0
428+54 SB	14	13.8	0.0	0.4	0.7	6	0	0	0	6	0	6
428+65 SB	11	14.1	0.0	0.1	0.7	6	0	0	0	11	0	11
428+80 SB	14	14.2	0.0	0.2	0.7	7	0	0	0	19	0	18
428+90 SB	11	14.4	0.0	1.4	0.7	6	0	0	0	24	1	24
429+05 SB	15	13.8	0.0	1.0	0.7	8	0	1	0	32	2	31
430+09 SB	104	8.9	0.0	1.2	0.4	44	0	4	2	76	7	69
430+25 SB	16	4.0	0.0	0.4	0.2	4	0	0	0	80	7	72
				COLUMN TOTALS		80	0	6	4			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

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STH 441 SB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
443+11 SB	---	5.0	0.0	0.0	0.2	0	0	0	0	0	0	0
443+36 SB	25	5.1	0.0	0.0	0.3	5	0	0	0	5	0	5
443+61 SB	25	5.4	0.0	2.0	0.3	5	0	1	0	10	1	8
444+67 SB	106	4.4	0.0	0.0	0.2	19	0	4	1	29	6	23
				COLUMN TOTALS		29	0	5	1			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

STH 441 SB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
459+30 SB	---	4.9	0.0	0.0	0.2	0	0	0	0	0	0	0
459+55 SB	25	8.6	0.0	0.0	0.4	6	0	0	0	6	0	6
459+80 SB	25	9.6	0.0	0.0	0.5	8	0	0	0	15	0	15
460+99 SB	119	5.0	0.0	0.0	0.2	32	0	0	2	47	0	47
				COLUMN TOTALS		47	0	0	2			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

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STH 441 SB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
481+91 SB	---	9.1	0.0	0.0	0.5	0	0	0	0	0	0	0
482+16 SB	24	14.1	0.0	24.3	0.7	10	0	11	1	10	14	-3
482+16 SB	1	14.1	0.0	24.5	0.7	0	0	0	0	11	14	-4
482+41 SB	24	15.5	0.0	35.1	0.8	13	0	27	1	24	48	-24
482+41 SB	1	15.5	0.0	35.5	0.8	0	0	1	0	24	49	-25
482+66 SB	24	14.8	0.0	48.6	0.7	14	0	38	1	38	96	-58
483+60 SB	95	10.1	0.0	14.1	0.5	44	0	110	2	82	234	-152
483+80 SB	19	4.1	0.0	14.0	0.2	5	0	10	0	87	246	-159
				COLUMN TOTALS		87	0	197	4			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

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PROJECT NO: 4685-29-60 | HWY: STH 441 | COUNTY: CALUMET & OUTAGAMIE | EARTHWORK DATA | SHEET 376 | E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090101-EW.DWG
LAYOUT NAME - 090104-ew

PLOT DATE : 8/19/2022 3:32 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1:1

WISDOT/CADDS SHEET 49

STH 441 SB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
490+46 SB	---	21.2	7.5	0.0	1.1	0	0	0	0	0	0	0
490+50 SB	4	21.2	7.3	0.0	1.1	3	1	0	0	3	0	2
491+00 SB	50	21.3	4.5	0.5	1.1	39	11	0	2	42	1	30
491+50 SB	50	25.3	1.8	0.8	1.3	43	6	1	2	85	2	66
492+00 SB	50	22.3	0.0	3.3	1.1	44	2	4	2	129	7	103
492+50 SB	50	19.0	0.0	6.2	0.9	38	0	9	2	168	18	130
493+00 SB	50	19.2	0.0	6.1	1.0	35	0	11	2	203	32	152
493+50 SB	50	18.1	0.0	7.7	0.9	35	0	13	2	238	48	170
494+00 SB	50	18.4	0.0	8.4	0.9	34	0	15	2	271	67	185
494+50 SB	50	18.3	0.0	7.6	0.9	34	0	15	2	305	85	201
494+91 SB	41	18.0	0.0	9.9	0.9	28	0	13	1	333	102	212
495+00 SB	9	18.0	0.0	11.1	0.9	6	0	3	0	339	106	213
495+50 SB	50	17.3	0.0	13.6	0.9	33	0	23	2	372	134	218
496+00 SB	50	18.5	0.0	8.7	0.9	33	0	21	2	405	160	225
496+14 SB	14	18.5	0.0	8.7	0.9	10	0	5	0	414	166	229
496+50 SB	36	18.9	0.0	3.8	0.9	25	0	8	1	439	176	243
497+00 SB	50	19.6	0.0	0.1	1.0	36	0	4	2	475	181	274
497+39 SB	39	20.0	0.0	0.0	1.0	28	0	0	1	503	181	303
497+50 SB	11	20.0	0.0	0.0	1.0	8	0	0	0	511	181	311
497+90 SB	40	21.3	0.0	0.0	1.1	31	0	0	2	542	181	342
498+00 SB	10	22.4	0.0	0.0	1.1	8	0	0	0	550	181	350
498+15 SB	15	22.7	0.0	0.0	1.1	12	0	0	1	562	181	362
498+40 SB	25	21.2	0.0	0.0	1.1	20	0	0	1	583	181	382
498+50 SB	10	20.3	0.0	0.0	1.0	8	0	0	0	591	181	390
499+00 SB	50	9.0	0.0	0.0	0.4	27	0	0	1	618	181	417
499+50 SB	50	9.7	0.0	0.0	0.5	17	0	0	1	635	181	435
499+65 SB	15	10.6	0.0	0.0	0.5	6	0	0	0	641	181	440
				COLUMN TOTALS		641	19	145	32			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

STH 441 SB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
559+61 SB	---	6.3	0.0	7.1	0.3	0	0	0	0	0	0	0
559+86 SB	25	9.6	0.0	3.5	0.5	7	0	5	0	7	6	1
560+11 SB	25	7.4	0.0	0.0	0.4	8	0	2	0	15	8	7
561+31 SB	119	5.1	0.0	0.0	0.3	27	0	0	1	43	8	35
				COLUMN TOTALS		43	0	7	2			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

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PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	EARTHWORK DATA	SHEET 378	E

A RAMP		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
413+80 A	---	9.9	0.0	0.0	0.5	0	0	0	0	0	0	0
414+80 A	101	12.2	0.0	0.0	0.6	41	0	0	2	41	0	41
414+91 A	11	11.9	0.0	0.1	0.6	5	0	0	0	46	0	46
415+16 A	25	13.9	0.0	0.0	0.7	12	0	0	1	58	0	58
415+40 A	24	15.3	0.0	0.0	0.8	13	0	0	1	71	0	71
415+41 A	1	15.3	0.0	0.0	0.8	0	0	0	0	71	0	71
415+65 A	24	4.8	0.0	0.0	0.2	9	0	0	0	80	0	80
415+90 A	25	4.9	0.0	0.0	0.2	5	0	0	0	85	0	85
				COLUMN TOTALS		85	0	0	4			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

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C RAMP		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
433+17 C	---	4.7	0.0	0.0	0.2	0	0	0	0	0	0	0
433+42 C	25	5.3	0.0	0.0	0.3	5	0	0	0	5	0	5
433+67 C	25	15.7	0.0	0.0	0.8	10	0	0	0	14	0	14
433+67 C	0	15.7	0.0	0.0	0.8	0	0	0	0	15	0	15
433+92 C	25	17.7	0.0	0.0	0.9	15	0	0	1	30	0	30
434+17 C	25	21.7	0.0	0.9	1.1	18	0	0	1	48	1	48
434+58 C	41	19.0	0.0	0.0	0.9	31	0	1	2	79	1	78
435+78 C	120	6.4	0.0	0.0	0.3	56	0	0	3	136	1	134
				COLUMN TOTALS		136	0	1	7			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

G RAMP		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
487+84 G	---	11.9	9.0	0.0	0.6	0	0	0	0	0	0	0
488+00 G	16	10.3	17.4	11.4	0.5	6	8	3	0	6	4	-5
488+50 G	50	22.2	12.5	39.8	1.1	30	28	47	2	37	63	-62
489+00 G	50	24.5	6.9	62.4	1.2	43	18	95	2	80	182	-155
489+38 G	38	24.9	3.5	70.8	1.2	35	7	95	2	115	300	-246
489+40 G	2	26.3	3.3	70.6	1.3	2	0	5	0	117	306	-250
489+50 G	10	26.1	2.3	72.0	1.3	9	1	26	0	126	338	-274
489+98 G	48	32.4	2.3	73.1	1.6	52	4	129	3	178	500	-388
489+99 G	1	32.3	2.3	72.7	1.6	1	0	2	0	179	503	-390
490+00 G	1	32.3	2.2	71.9	1.6	1	0	3	0	181	506	-392
490+50 G	50	32.8	0.0	60.3	1.6	60	2	122	3	241	659	-487
490+53 G	3	32.9	0.0	59.8	1.6	4	0	7	0	244	667	-491
490+58 G	5	32.8	0.0	58.6	1.6	6	0	11	0	251	682	-499
491+00 G	42	32.6	0.0	44.5	1.6	51	0	80	3	301	781	-548
491+50 G	50	32.3	0.0	30.1	1.6	60	0	69	3	362	868	-575
491+66 G	16	31.7	0.0	26.5	1.6	19	0	17	1	381	889	-577
492+00 G	34	29.2	0.0	0.1	1.5	38	0	17	2	419	910	-559
492+01 G	1	29.2	0.0	0.1	1.5	1	0	0	0	420	910	-558
492+08 G	7	29.6	0.0	0.2	1.5	8	0	0	0	428	910	-550
492+26 G	18	31.0	0.0	0.2	1.6	20	0	0	1	448	910	-531
492+41 G	15	30.5	0.0	0.3	1.5	17	0	0	1	464	910	-514
492+50 G	9	30.0	0.0	0.6	1.5	10	0	0	1	475	910	-504
492+51 G	1	29.9	0.0	0.6	1.5	1	0	0	0	476	910	-503
492+66 G	15	29.1	0.0	0.8	1.5	17	0	0	1	492	911	-487
492+79 G	13	30.8	0.0	1.5	1.5	15	0	1	1	507	912	-473
492+91 G	12	15.6	0.0	2.4	0.8	10	0	1	1	517	913	-464
493+00 G	9	15.5	0.0	1.7	0.8	5	0	1	0	522	913	-459
493+41 G	41	8.9	0.0	0.5	0.4	19	0	2	1	541	916	-443
493+50 G	9	8.8	0.0	0.4	0.4	3	0	0	0	544	916	-440
493+53 G	3	8.8	0.0	0.4	0.4	1	0	0	0	545	916	-439
494+00 G	47	8.8	0.0	0.0	0.4	15	0	0	1	560	916	-424
494+11 G	11	8.8	0.0	0.0	0.4	4	0	0	0	564	916	-421
				COLUMN TOTALS		564	68	733	28			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
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3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

J RAMP		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
576+50 J	---	49.8	0.0	0.0	2.5	0	0	0	0	0	0	0
577+00 J	50	51.0	0.0	0.0	2.5	93	0	0	5	93	0	93
577+50 J	50	50.3	0.0	0.0	2.5	94	0	0	5	187	0	187
578+00 J	50	50.7	0.0	0.0	2.5	94	0	0	5	281	0	281
578+50 J	50	48.7	0.0	0.0	2.4	92	0	0	5	373	0	373
579+00 J	50	49.6	0.0	0.0	2.5	91	0	0	5	464	0	464
579+50 J	50	52.5	0.0	0.0	2.6	95	0	0	5	558	0	558
580+00 J	50	51.9	0.0	0.0	2.6	97	0	0	5	655	0	655
580+50 J	50	48.7	0.0	0.0	2.4	93	0	0	5	748	0	748
581+00 J	50	44.1	0.0	0.0	2.2	86	0	0	4	834	0	834
581+50 J	50	40.5	0.0	0.0	2.0	78	0	0	4	912	0	912
582+00 J	50	34.1	0.0	0.0	1.7	69	0	0	3	981	0	981
582+50 J	50	34.1	0.0	0.0	1.7	63	0	0	3	1,044	0	1,044
582+82 J	32	38.2	0.0	0.0	1.9	43	0	0	2	1,087	0	1,087
583+00 J	18	38.5	0.0	0.0	1.9	26	0	0	1	1,113	0	1,113
583+03 J	3	39.3	0.0	0.0	2.0	4	0	0	0	1,117	0	1,117
583+50 J	47	56.3	0.0	1.2	2.8	83	0	1	4	1,200	1	1,199
583+64 J	14	58.9	0.0	1.8	2.9	30	0	1	2	1,230	2	1,228
583+79 J	15	63.5	0.0	3.3	3.2	33	0	1	2	1,264	4	1,260
584+00 J	21	65.9	0.0	4.5	3.3	51	0	3	3	1,314	8	1,307
584+22 J	22	59.1	0.0	5.3	3.0	52	0	4	3	1,366	13	1,353
584+47 J	25	56.2	0.0	5.7	2.8	54	0	5	3	1,420	19	1,400
584+50 J	3	56.8	0.0	5.6	2.8	5	0	1	0	1,425	20	1,405
584+72 J	22	61.5	0.0	6.5	3.1	49	0	5	2	1,474	26	1,448
584+96 J	24	119.1	0.0	4.7	6.0	79	0	5	4	1,553	32	1,521
584+97 J	1	62.2	0.0	4.7	3.1	4	0	0	0	1,557	33	1,525
585+00 J	3	64.7	0.0	4.6	3.2	6	0	0	0	1,564	33	1,530
585+22 J	22	66.5	0.0	2.6	3.3	54	0	3	3	1,618	37	1,581
585+47 J	25	67.8	0.0	3.4	3.4	62	0	3	3	1,680	40	1,639
585+50 J	3	67.6	0.0	3.6	3.4	7	0	0	0	1,687	41	1,646
586+00 J	50	60.9	0.0	4.2	3.0	119	0	7	6	1,806	50	1,756
586+50 J	50	46.3	4.2	1.9	2.3	99	4	6	5	1,905	57	1,844
587+00 J	50	33.7	10.0	3.1	1.7	74	13	5	4	1,979	62	1,900
587+50 J	50	22.5	15.9	1.7	1.1	52	24	4	3	2,031	68	1,922
587+59 J	9	22.2	17.0	2.1	1.1	8	6	1	0	2,039	69	1,923
587+70 J	10	17.3	17.9	0.5	0.9	7	7	0	0	2,046	69	1,924
588+00 J	30	17.6	0.0	0.0	0.9	20	10	0	1	2,066	70	1,933
588+08 J	8	8.1	0.0	0.0	0.4	4	0	0	0	2,070	70	1,937
588+50 J	42	9.7	0.0	0.0	0.5	14	0	0	1	2,084	70	1,951
589+00 J	50	9.5	0.0	0.0	0.5	18	0	0	1	2,102	70	1,969
589+40 J	40	7.9	0.0	0.0	0.4	13	0	0	1	2,114	70	1,981
				COLUMN TOTALS		2,114	63	56	106			

NOTES:

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3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

M RAMP		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
590+19 M	---	4.2	0.0	0.0	0.2	0	0	0	0	0	0	0
590+43 M	24	7.0	0.0	0.0	0.4	5	0	0	0	5	0	5
590+68 M	25	13.2	0.0	1.1	0.7	9	0	1	0	14	1	14
590+71 M	3	13.3	0.0	1.2	0.7	1	0	0	0	16	1	15
590+89 M	19	15.9	0.0	0.6	0.8	10	0	1	1	26	2	24
590+96 M	6	6.1	0.0	0.5	0.3	3	0	0	0	28	2	27
591+21 M	25	8.7	0.0	0.0	0.4	7	0	0	0	35	2	33
591+65 M	44	5.9	0.0	0.0	0.3	12	0	0	1	47	2	45
				COLUMN TOTALS		47	0	2	2			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL
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3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

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PROJECT NO: 4685-29-60 | HWY: STH 441 | COUNTY: CALUMET & OUTAGAMIE | EARTHWORK DATA | SHEET 383 | E

CTH CE EB LT		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
85+26 EB	---	0.0	1.3	0.0	0.0	0	0	0	0	0	0	0
85+89 EB	63	5.1	1.3	0.0	0.3	6	3	0	0	6	0	3
86+00 EB	11	6.6	1.3	0.0	0.3	2	1	0	0	8	0	5
86+50 EB	50	15.4	1.3	0.0	0.8	20	2	0	1	29	0	23
86+76 EB	26	20.0	1.3	0.0	1.0	17	1	0	1	46	0	39
87+00 EB	24	20.8	1.3	0.0	1.0	18	1	0	1	64	0	56
87+30 EB	30	22.2	1.3	0.0	1.1	24	1	0	1	88	0	78
87+50 EB	20	18.2	5.8	0.0	0.9	15	3	0	1	103	0	91
88+00 EB	50	21.8	1.3	0.0	1.1	37	7	0	2	140	0	121
88+50 EB	50	23.1	2.2	0.0	1.2	42	3	0	2	181	0	159
89+00 EB	50	23.1	4.8	0.0	1.2	43	6	0	2	224	0	196
89+50 EB	50	23.8	11.9	0.0	1.2	43	15	0	2	267	0	224
90+00 EB	50	25.2	9.5	0.0	1.3	45	20	0	2	313	0	249
90+46 EB	46	24.5	11.5	0.0	1.2	42	0	0	2	355	0	291
90+50 EB	4	24.3	1.3	0.0	1.2	4	0	0	0	359	0	295
91+00 EB	50	27.2	1.3	0.0	1.4	48	2	0	2	406	0	340
				COLUMN TOTALS		406	66	0	20			

NOTES:

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3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)

CTH CE EB RT		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS (5% OF CUT)	CUT NOTE 1	SALVAGED PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.0 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
85+26 EB	---	0.0	1.3	19.2	0.0	0	0	0	0	0	0	0
85+89 EB	63	0.0	1.3	30.2	0.0	0	3	58	0	0	72	-75
86+00 EB	11	0.0	1.3	31.4	0.0	0	1	13	0	0	88	-92
86+50 EB	50	0.0	1.3	46.8	0.0	0	2	72	0	0	179	-184
86+76 EB	26	0.0	1.3	58.7	0.0	0	1	50	0	0	241	-248
87+00 EB	24	0.0	1.3	55.6	0.0	0	1	51	0	0	306	-314
87+30 EB	30	0.6	1.3	55.8	0.0	0	1	62	0	0	383	-392
87+50 EB	20	2.7	5.8	36.9	0.1	1	3	34	0	2	426	-436
88+00 EB	50	17.2	1.3	0.6	0.9	18	7	35	1	20	469	-468
88+50 EB	50	35.8	2.2	0.0	1.8	49	3	1	2	69	470	-422
89+00 EB	50	21.1	4.8	2.1	1.1	53	6	2	3	122	472	-379
89+50 EB	50	23.9	11.9	0.0	1.2	42	15	2	2	164	475	-355
90+00 EB	50	25.1	9.5	0.0	1.3	45	20	0	2	209	475	-329
90+46 EB	46	25.2	11.5	0.0	1.3	43	0	0	2	251	475	-287
90+50 EB	4	23.9	1.3	0.0	1.2	4	0	0	0	255	475	-283
91+00 EB	50	9.5	1.3	0.0	0.5	31	2	0	2	286	475	-254
				COLUMN TOTALS		286	66	380	14			

NOTES:

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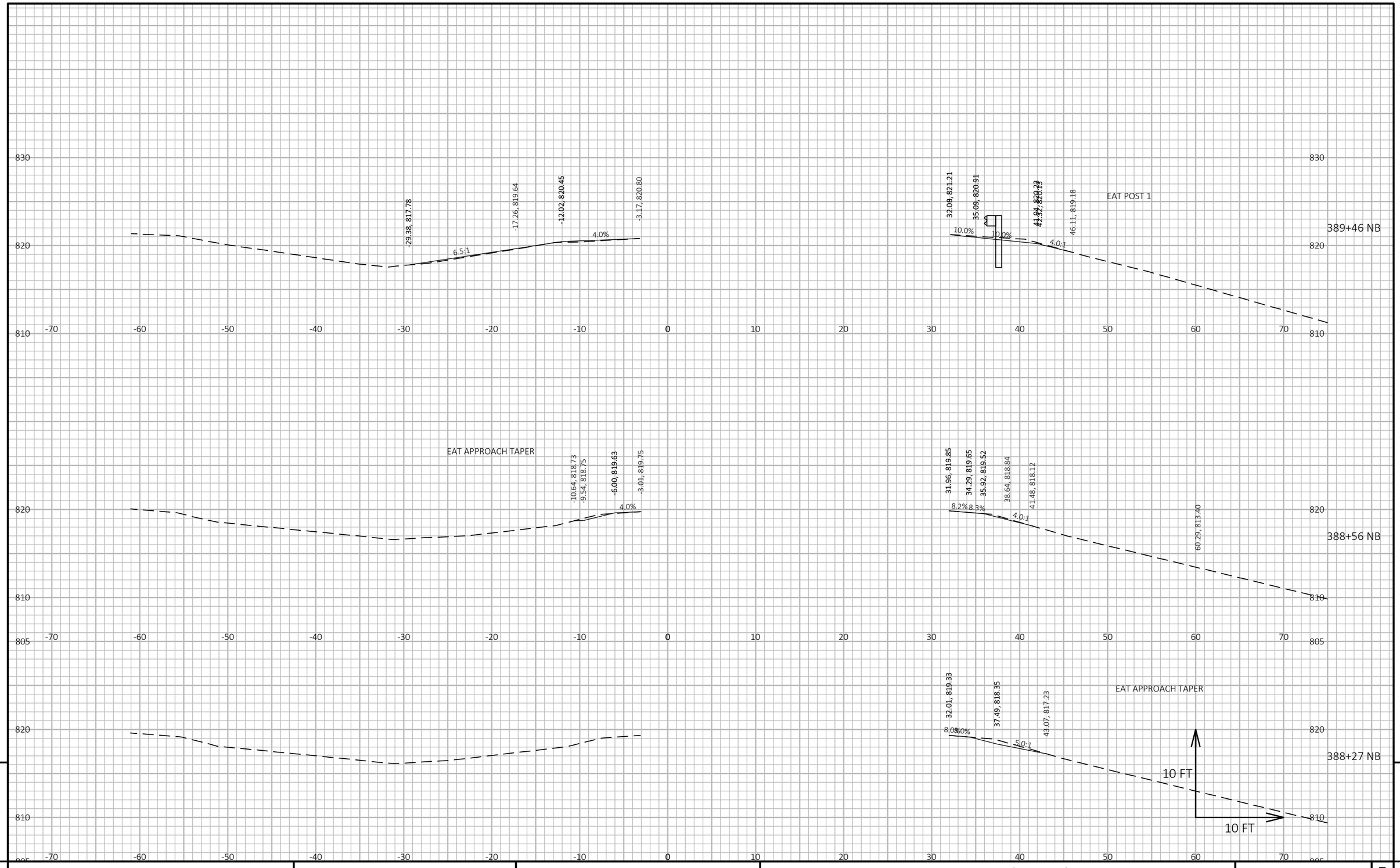
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED PAVEMENT MATERIAL - (FILL * FILL FACTOR)



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PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 386	E

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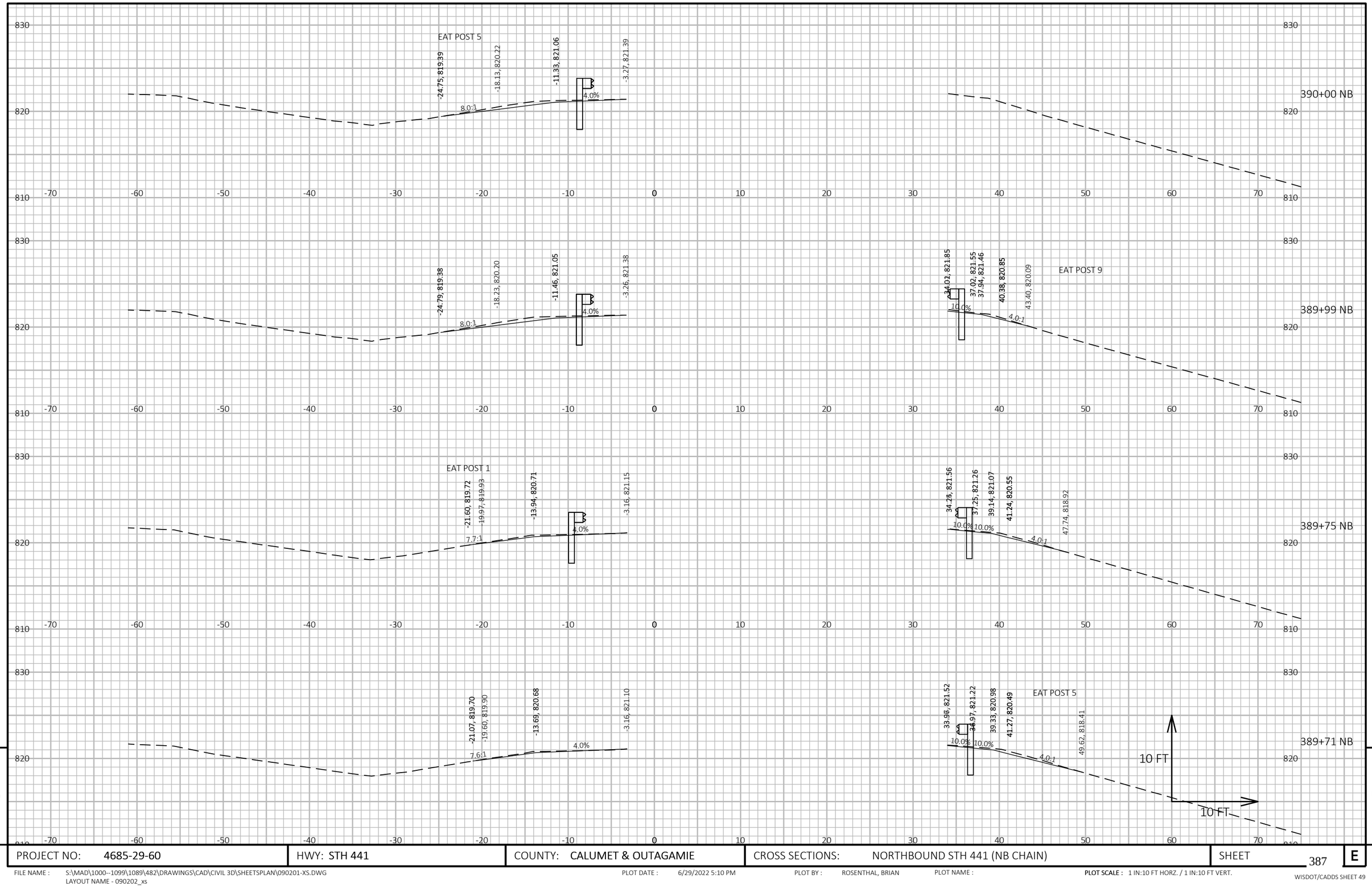
FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201_xs

PLOT DATE : 6/29/2022 5:10 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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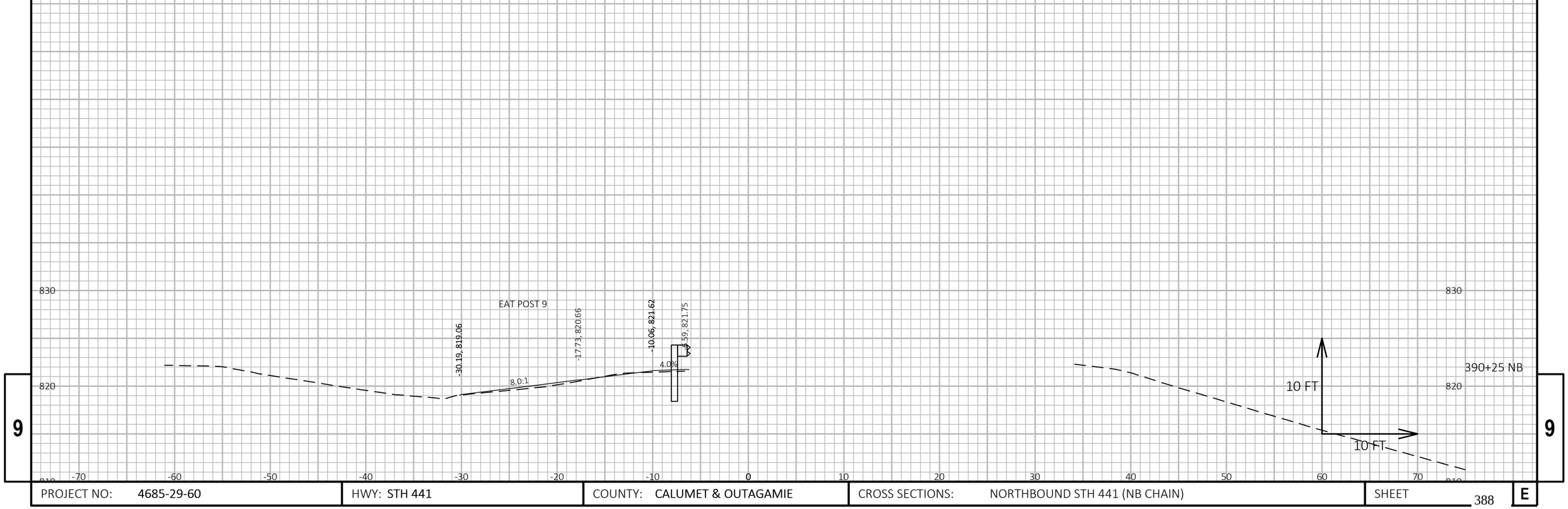
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 387	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090202_xs

PLOT DATE : 6/29/2022 5:10 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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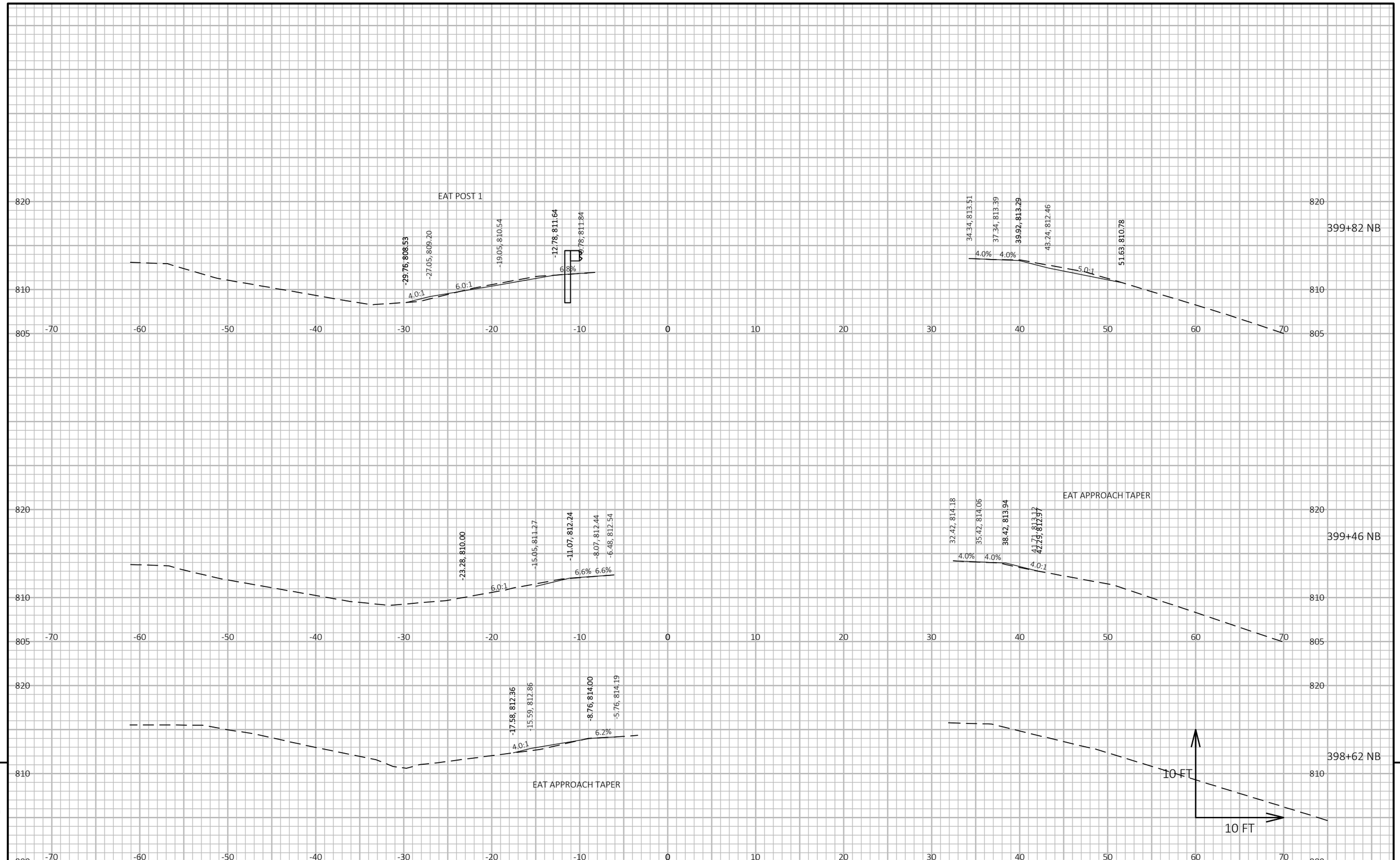
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 388	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090203_xs

PLOT DATE : 6/29/2022 5:10 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

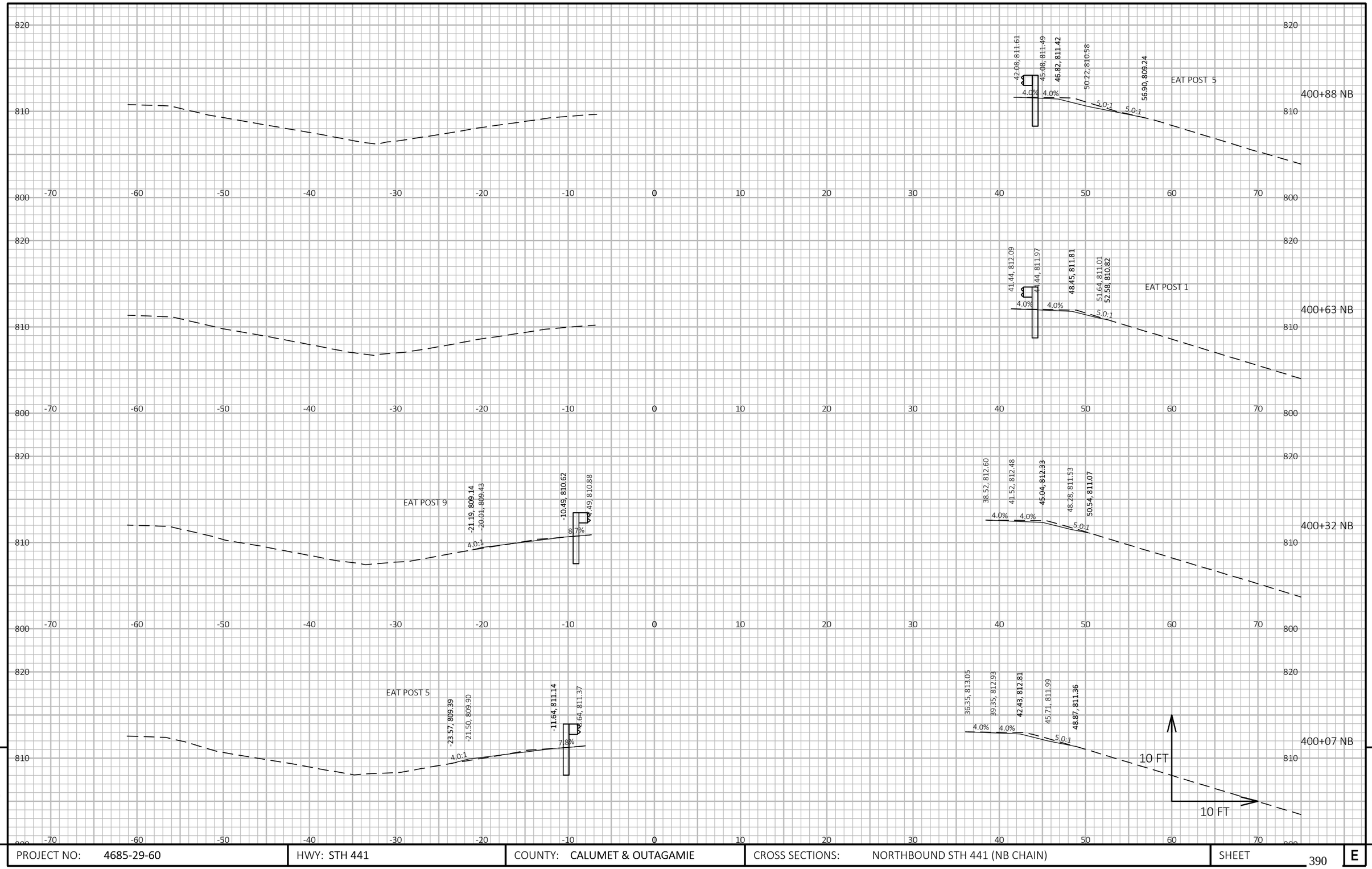


PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 389	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090204_xs

PLOT DATE : 6/29/2022 5:10 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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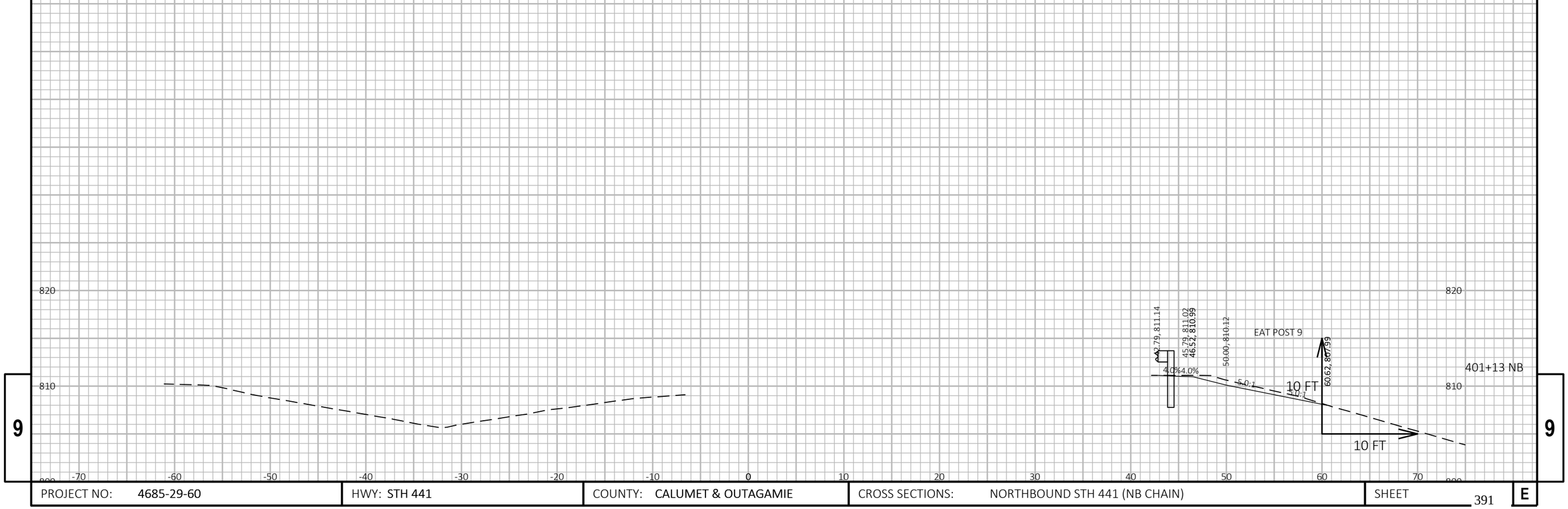
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 390	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090205_xs

PLOT DATE : 6/29/2022 5:10 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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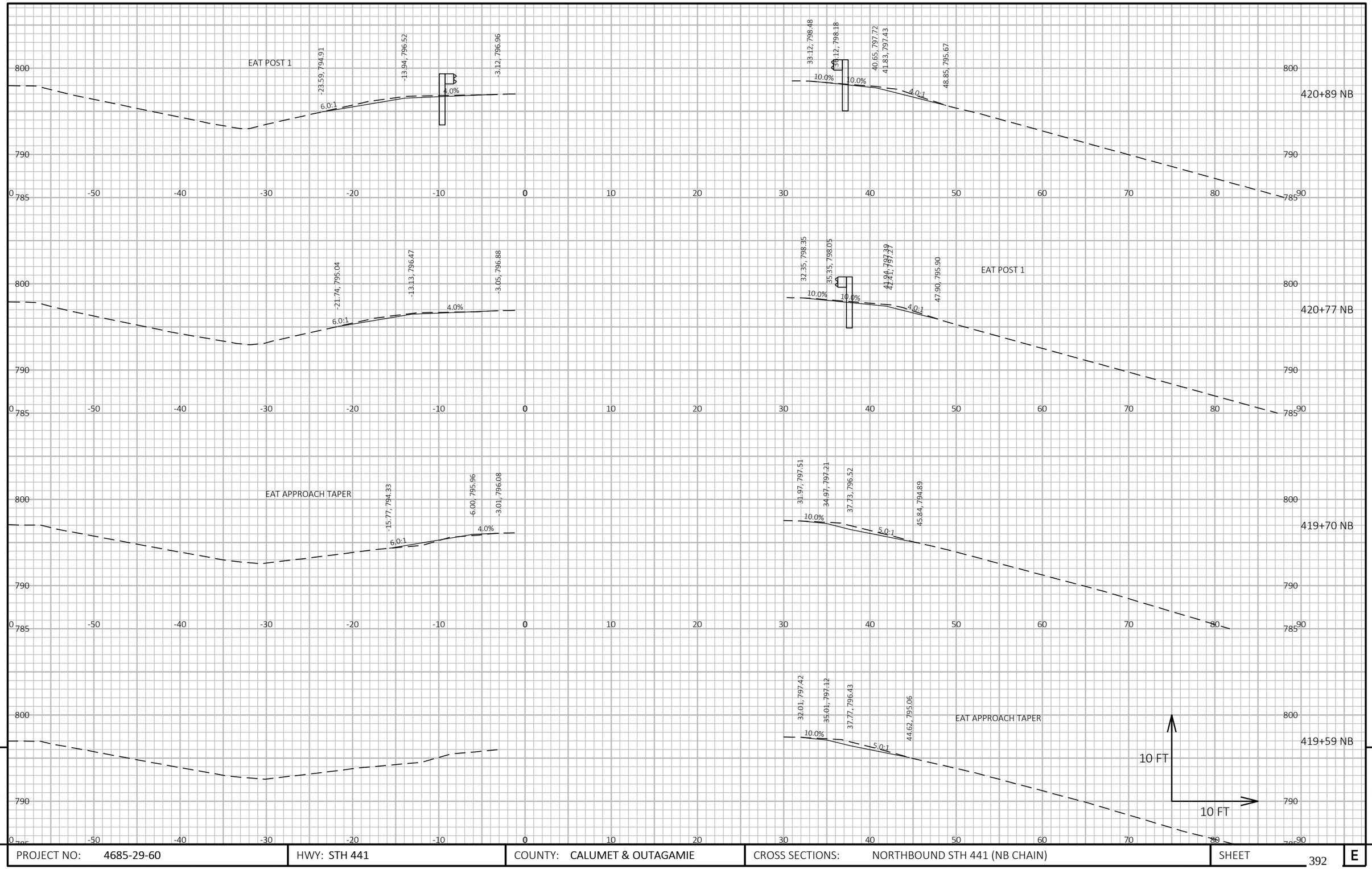
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 391	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090206_xs

PLOT DATE : 6/29/2022 5:10 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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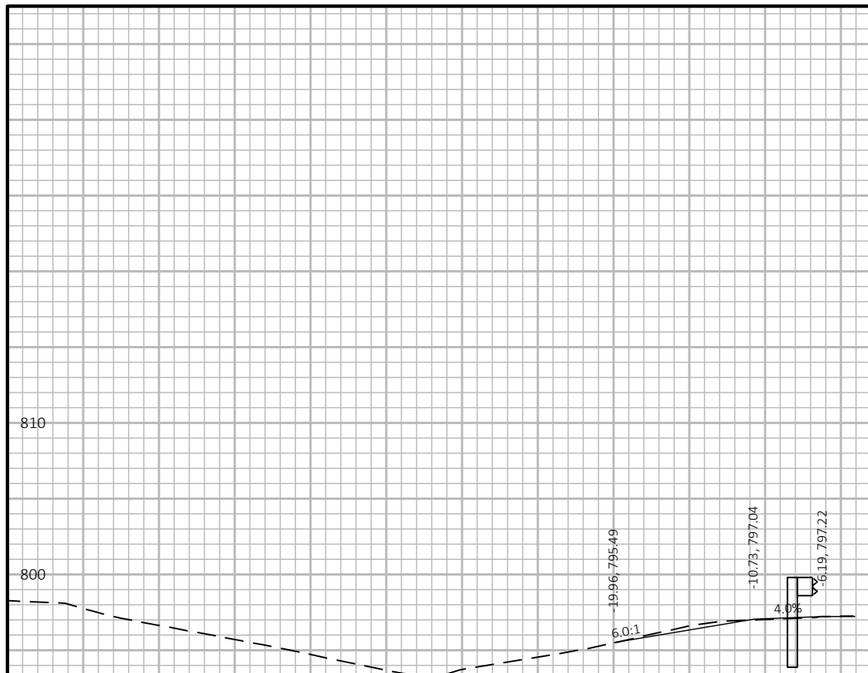
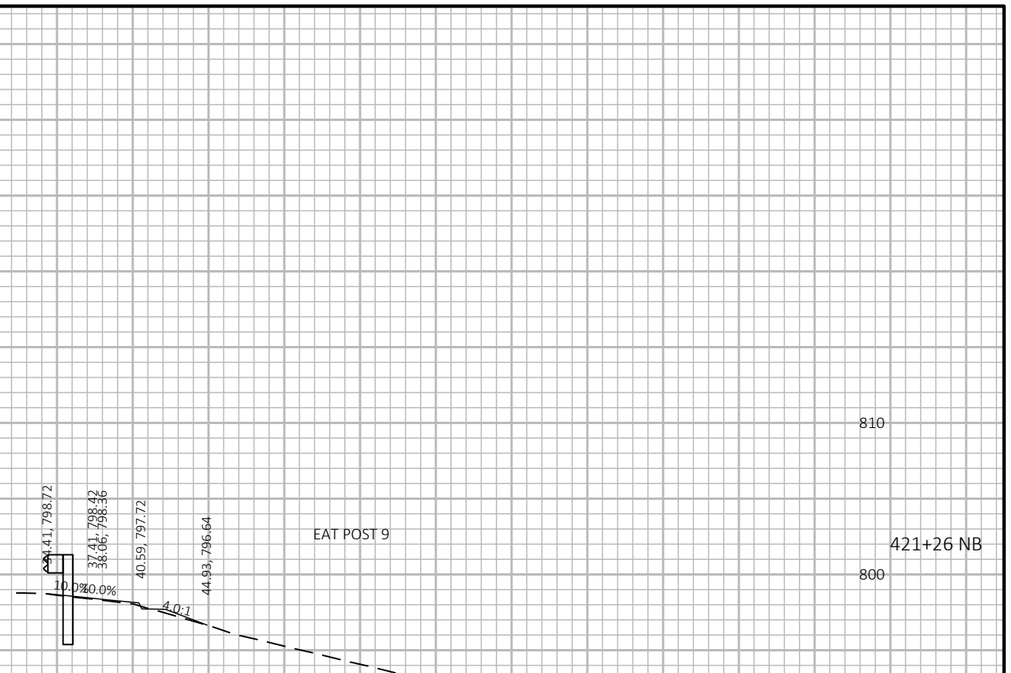
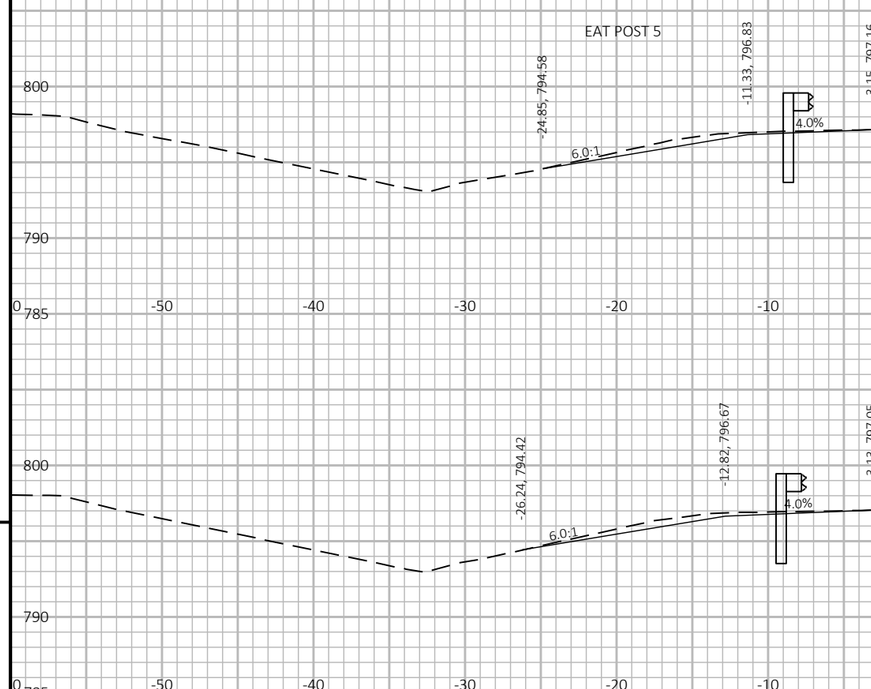
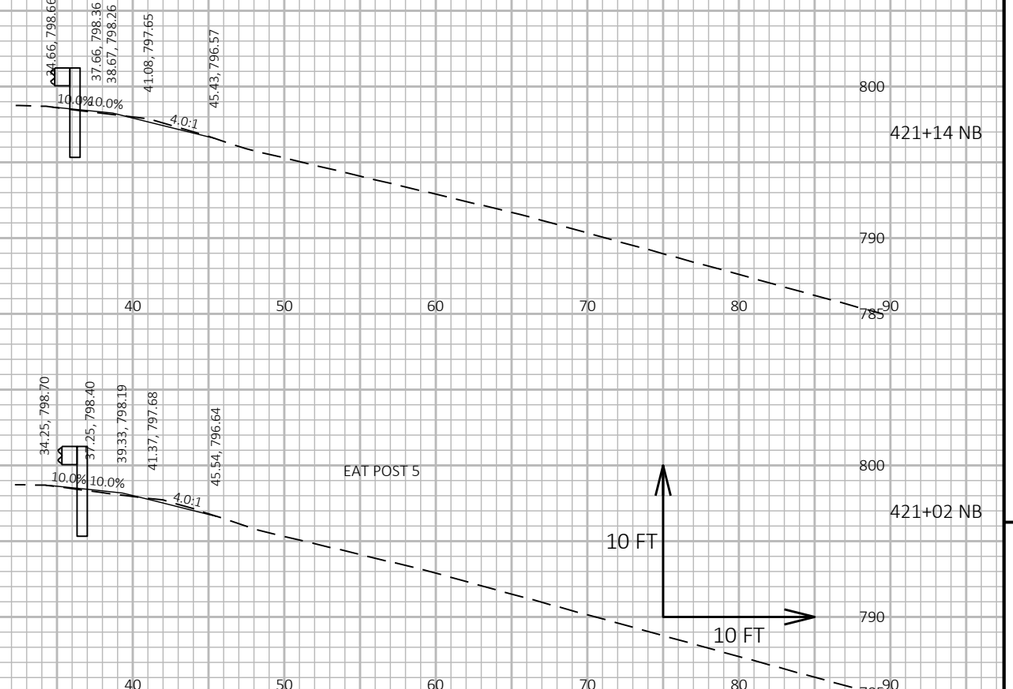
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 392	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - 090207_xs
PLOT DATE : 6/29/2022 5:10 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49









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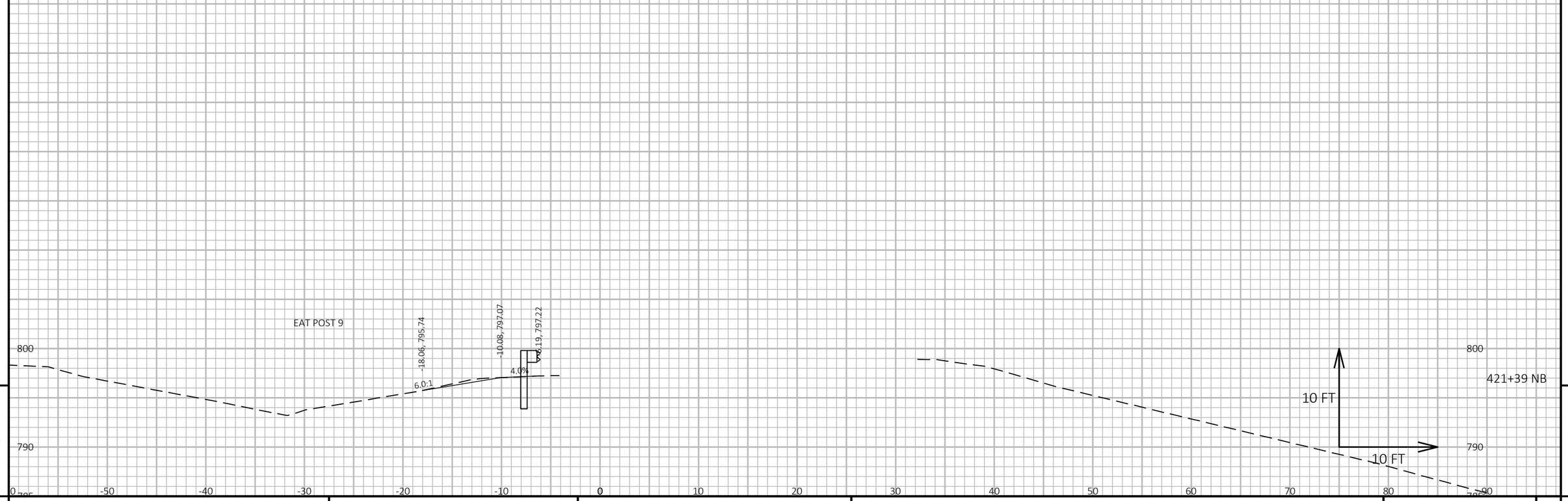
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 393	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - 090208_xs

PLOT DATE : 6/29/2022 5:10 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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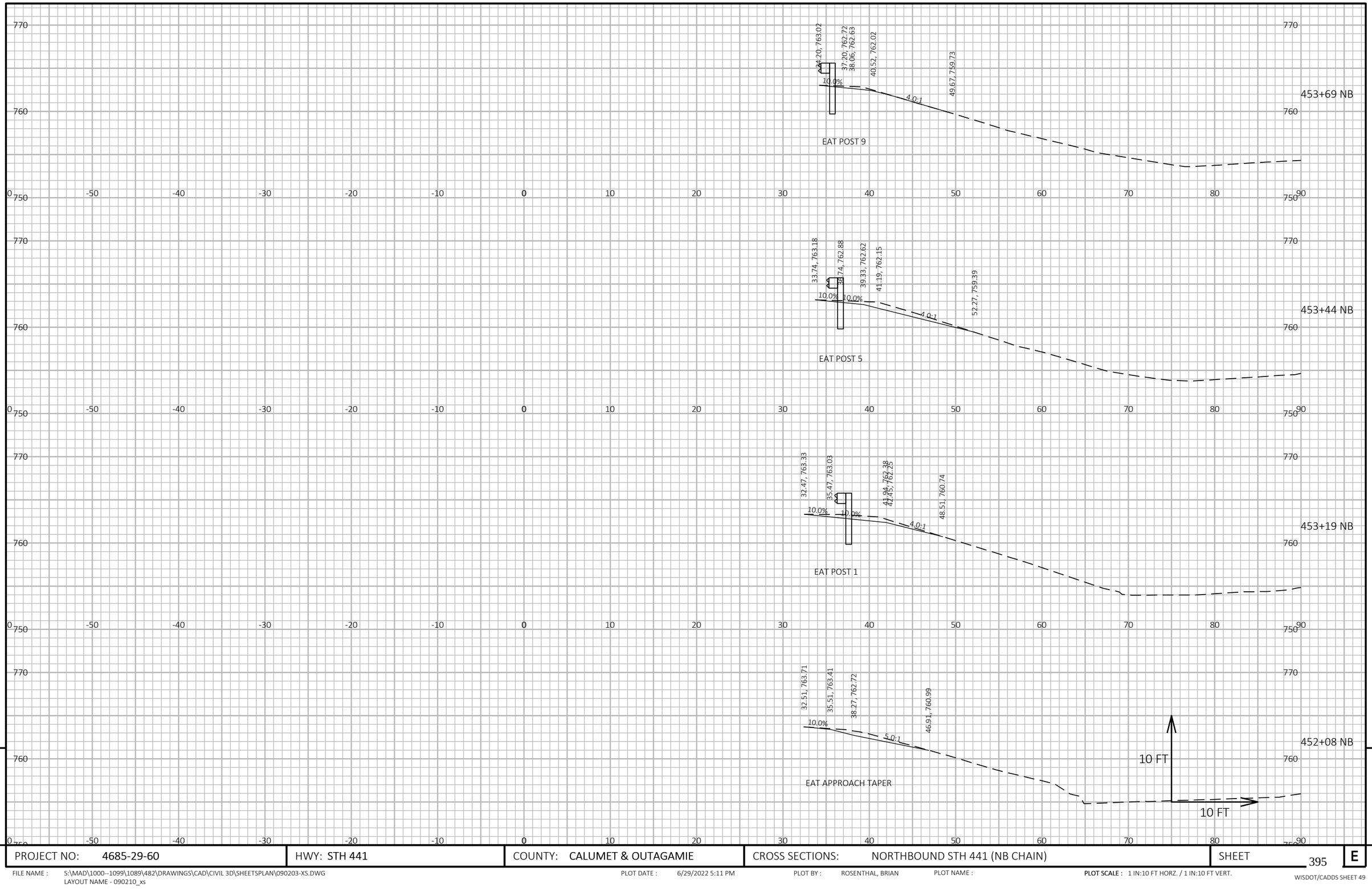
9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 394	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - 090209_xs

PLOT DATE : 6/29/2022 5:10 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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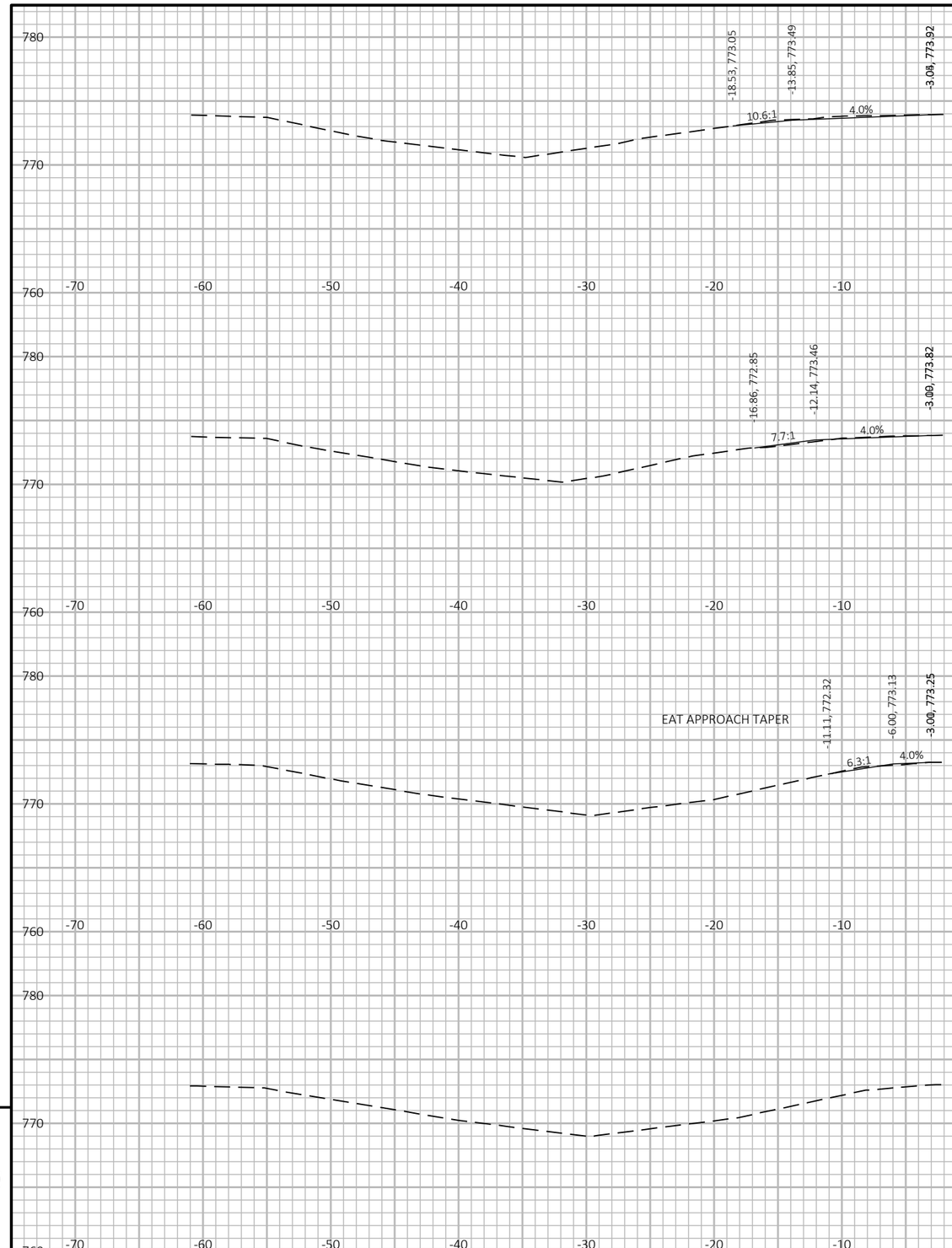
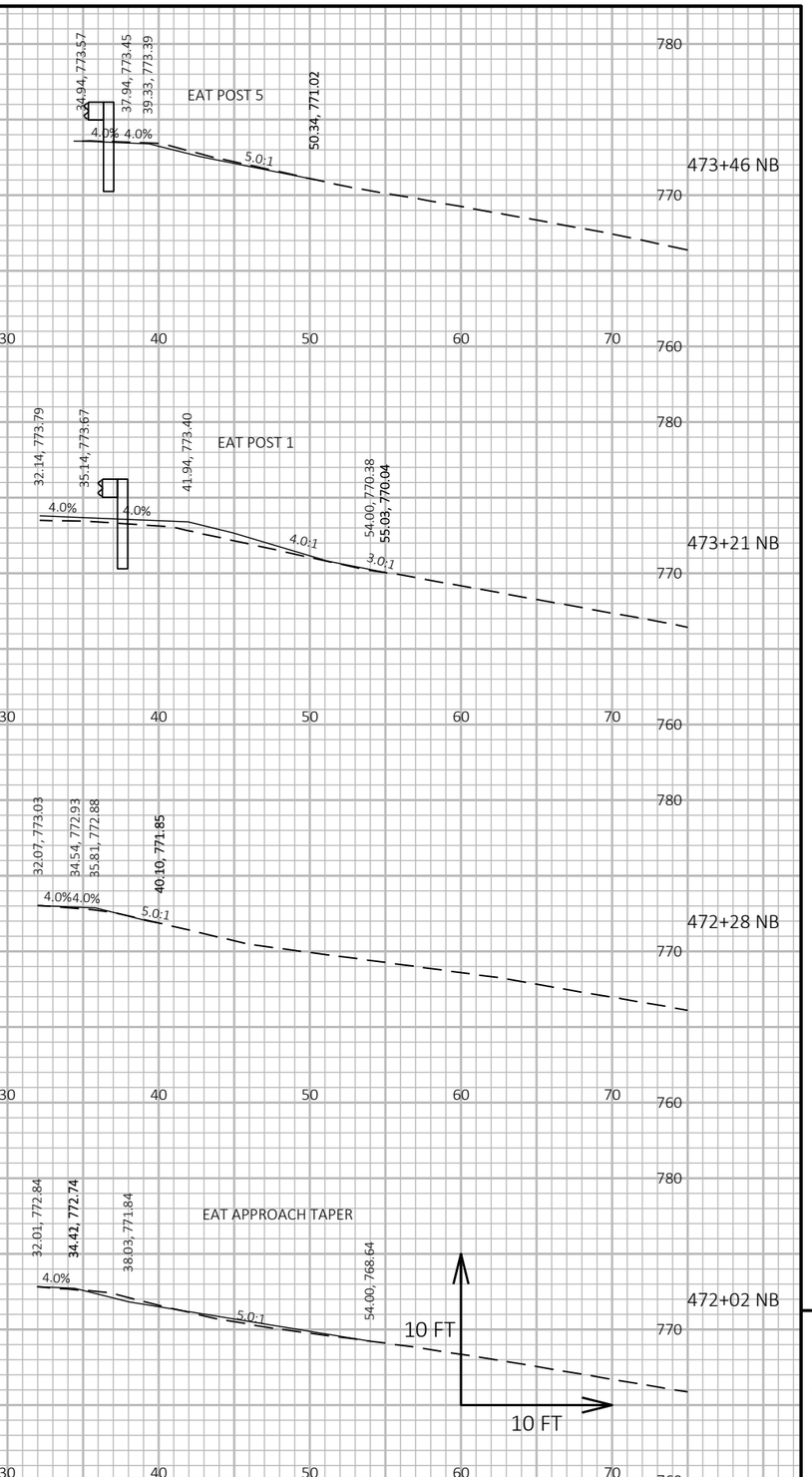
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 395	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090203-XS.DWG
LAYOUT NAME - 090210_xs

PLOT DATE : 6/29/2022 5:11 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





473+46 NB

473+21 NB

472+28 NB

472+02 NB

9

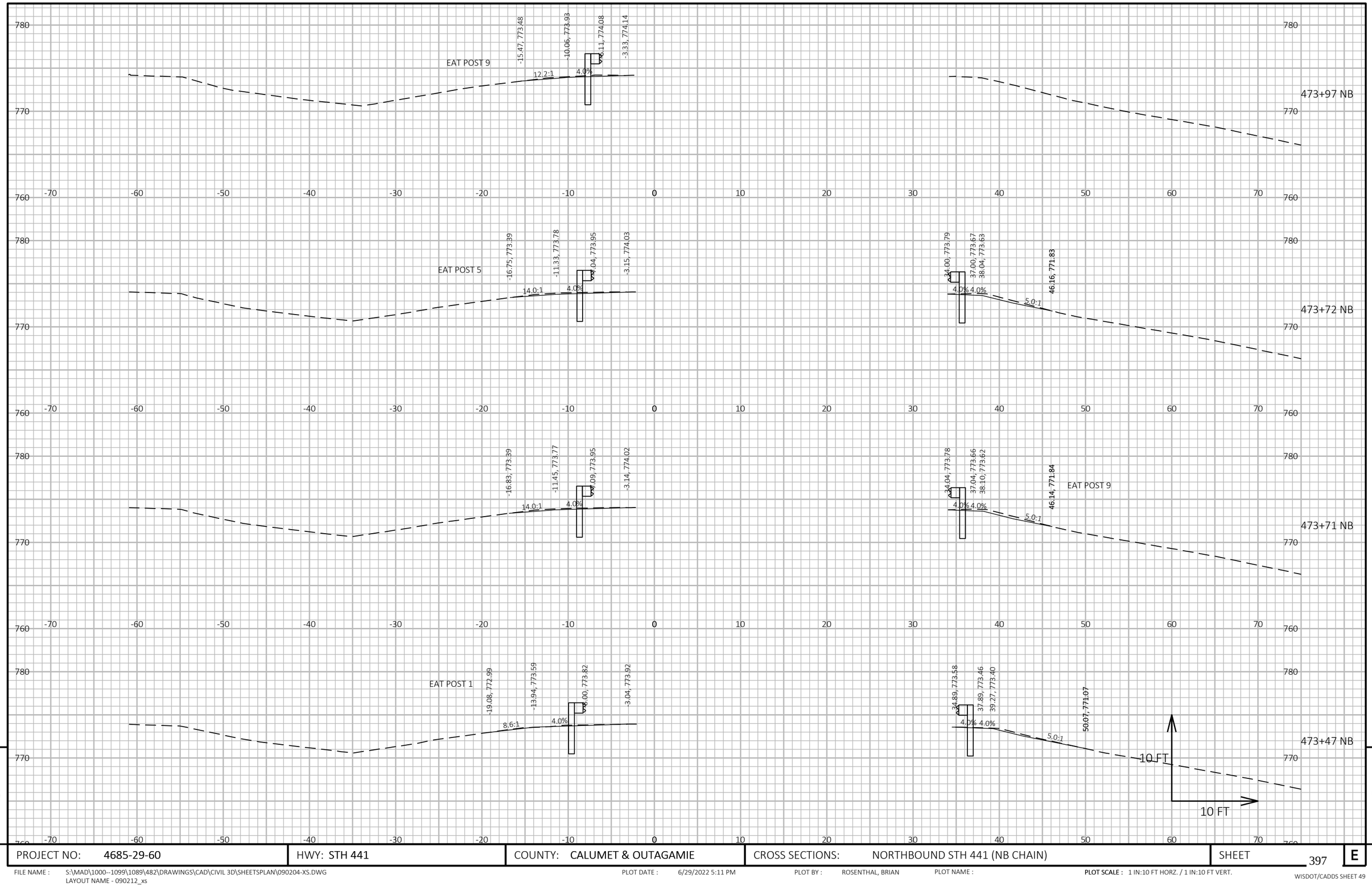
9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 396	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090211_xs

PLOT DATE : 6/29/2022 5:11 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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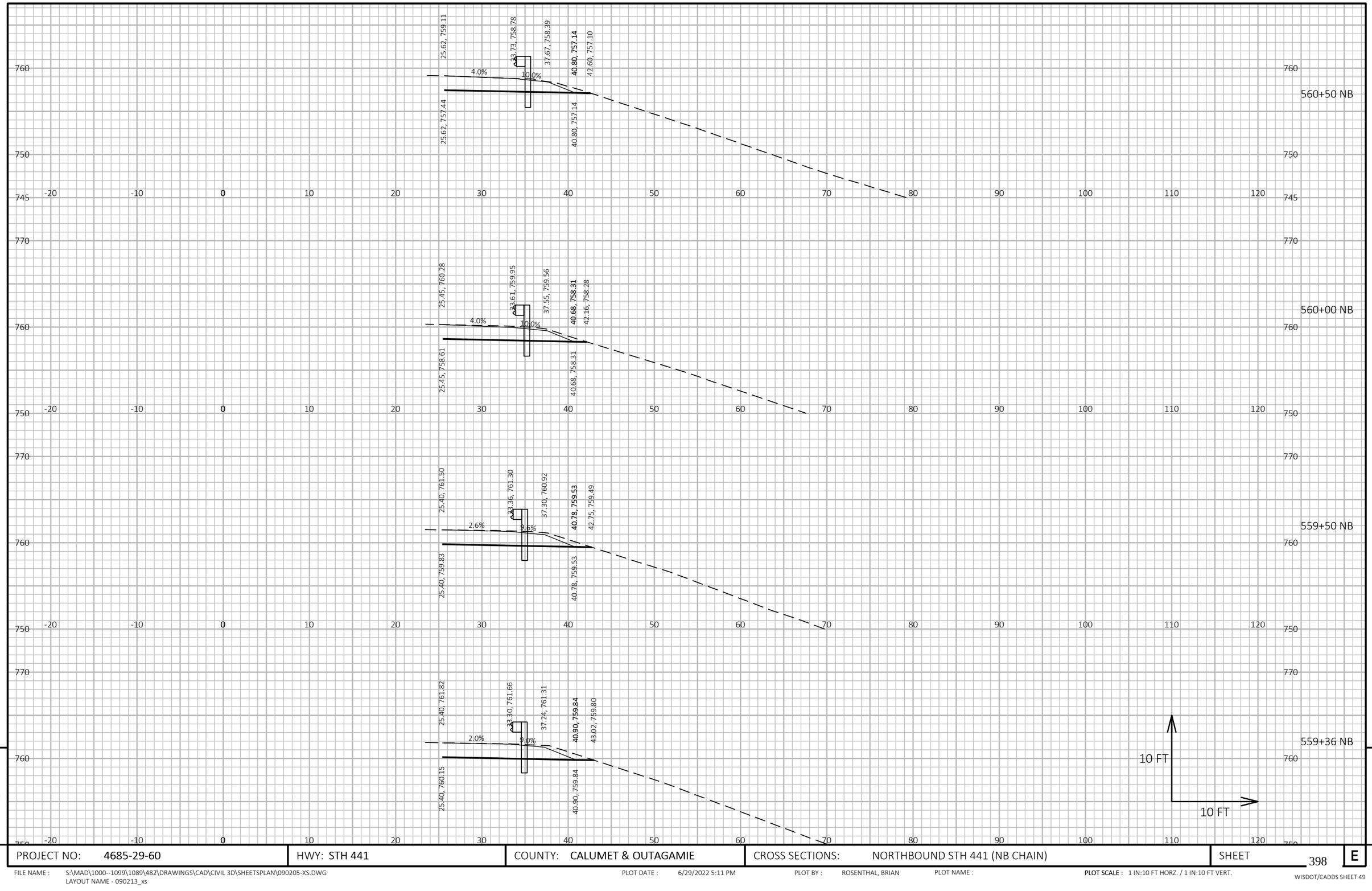
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 397	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090212_xs

PLOT DATE : 6/29/2022 5:11 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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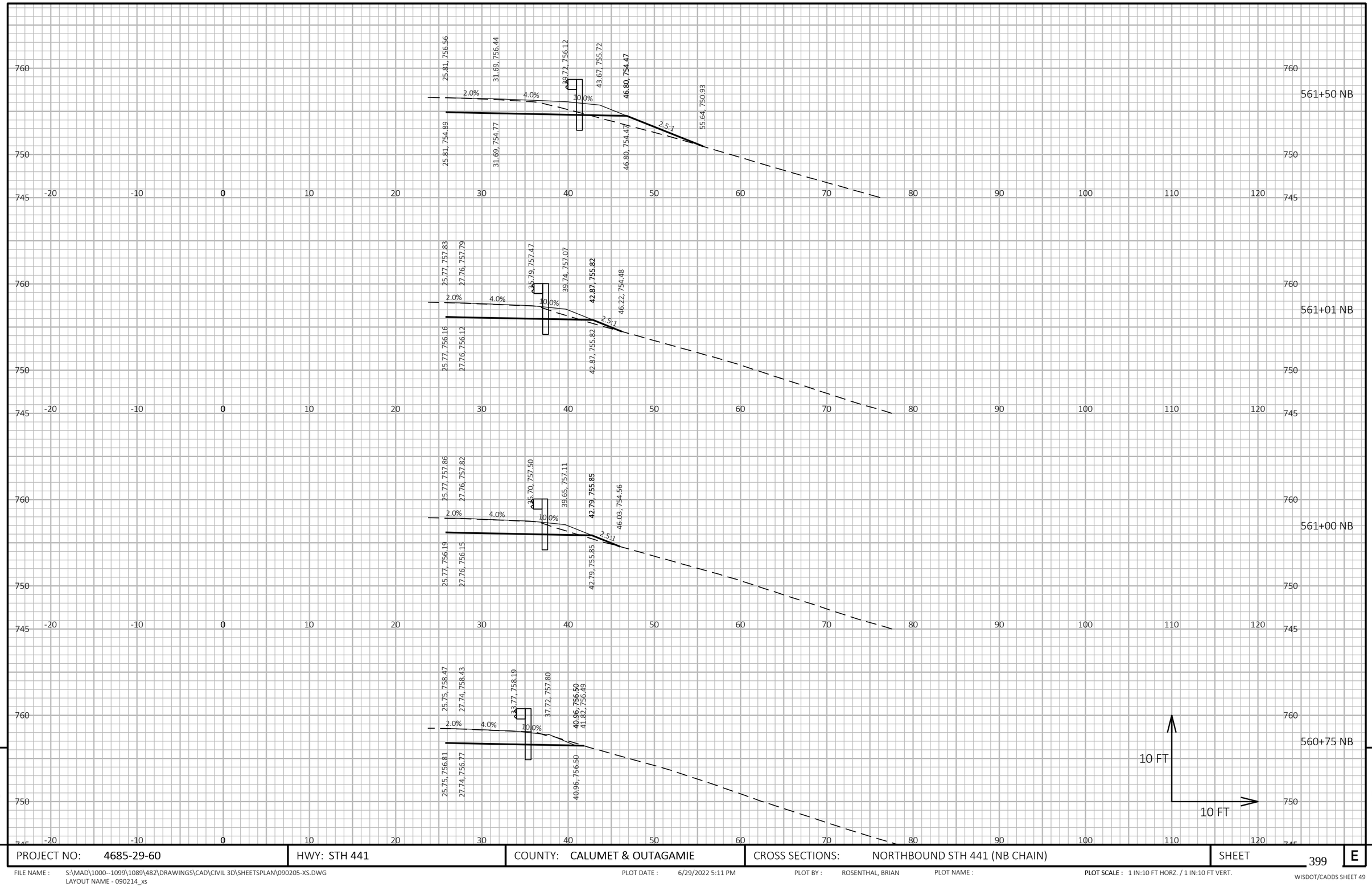
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 398	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090213_xs

PLOT DATE : 6/29/2022 5:11 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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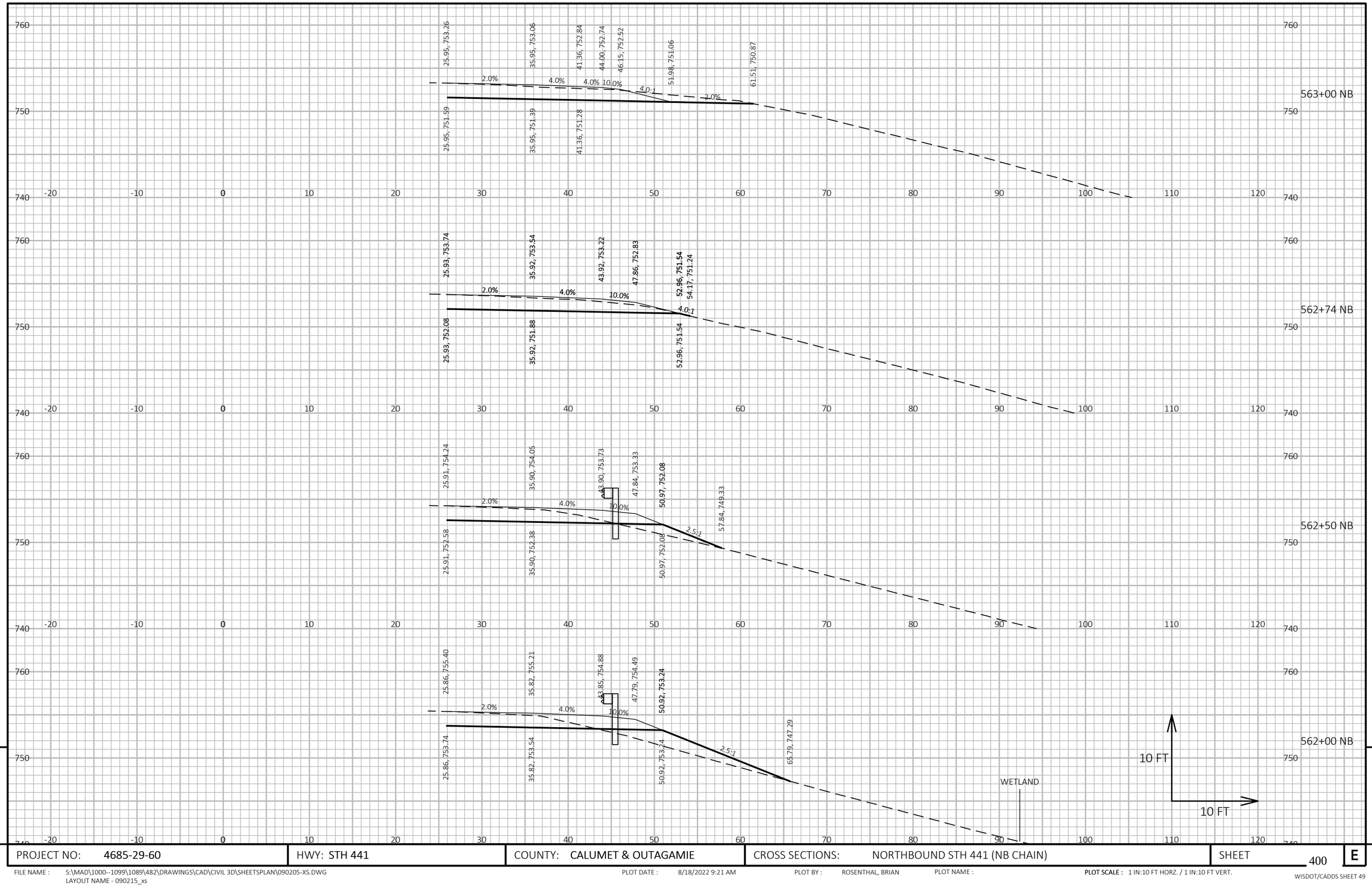
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 399	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090214_xs

PLOT DATE : 6/29/2022 5:11 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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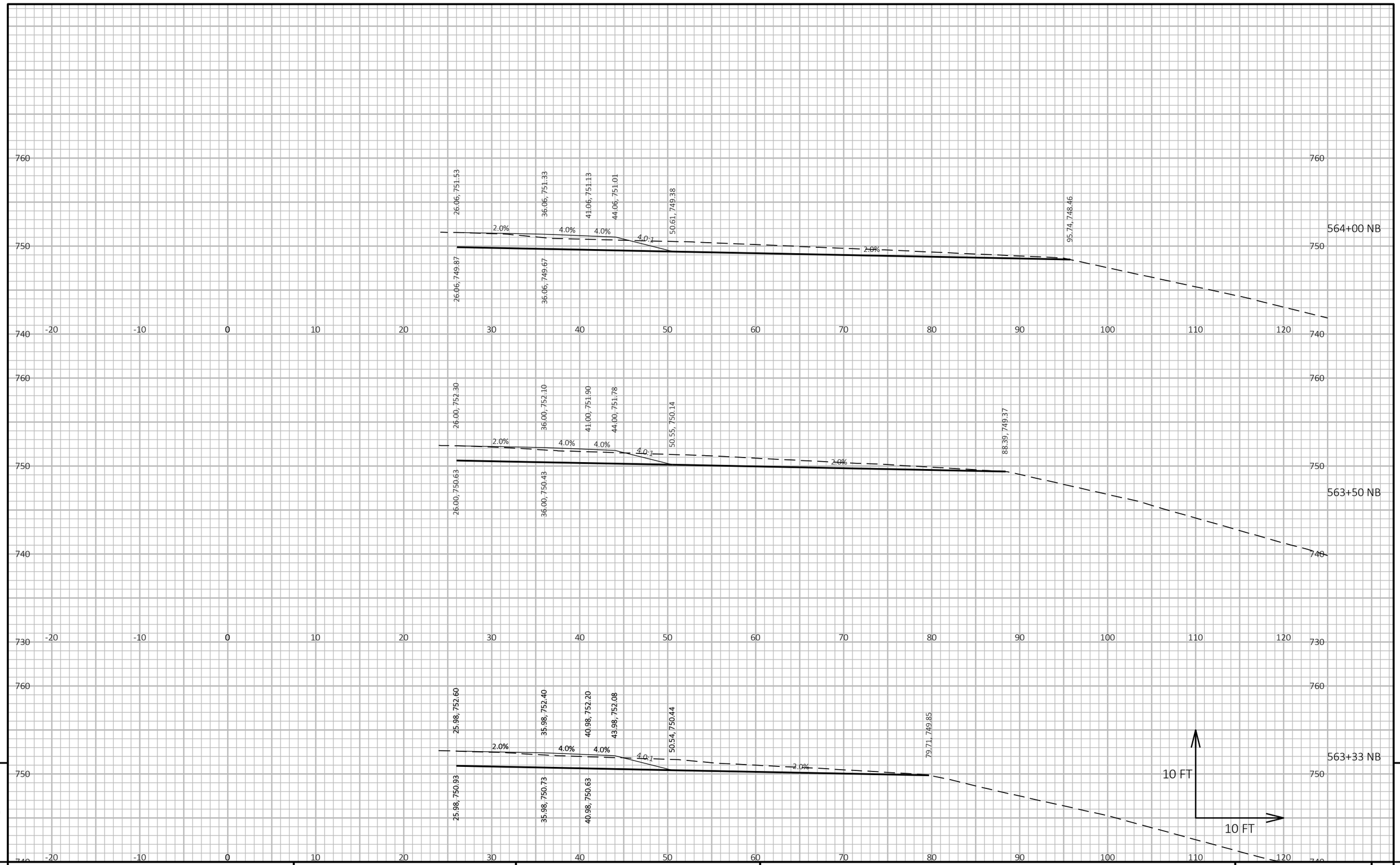
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 400	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090215_xs

PLOT DATE : 8/18/2022 9:21 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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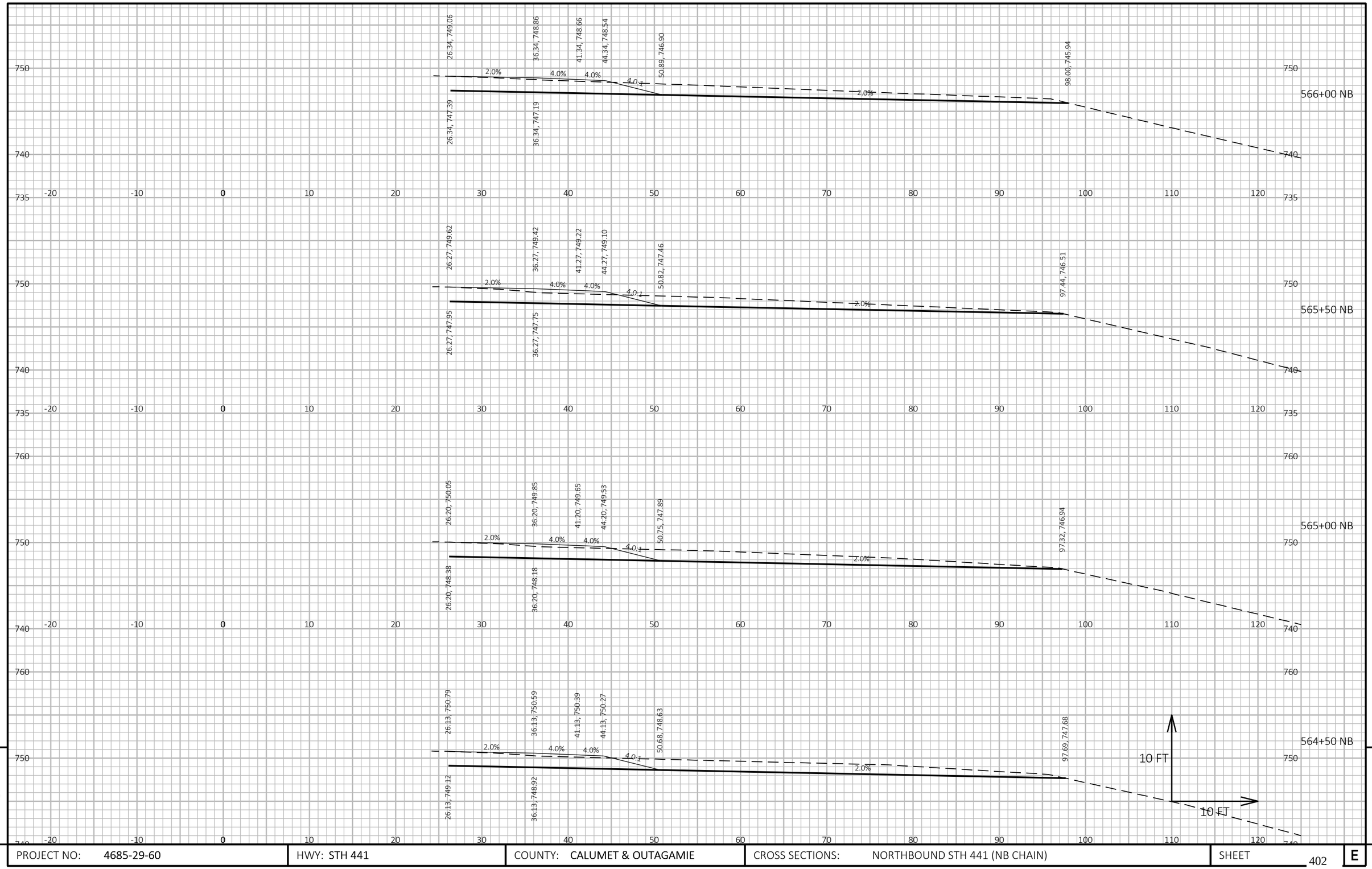
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 401	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090216_xs

PLOT DATE : 8/18/2022 9:21 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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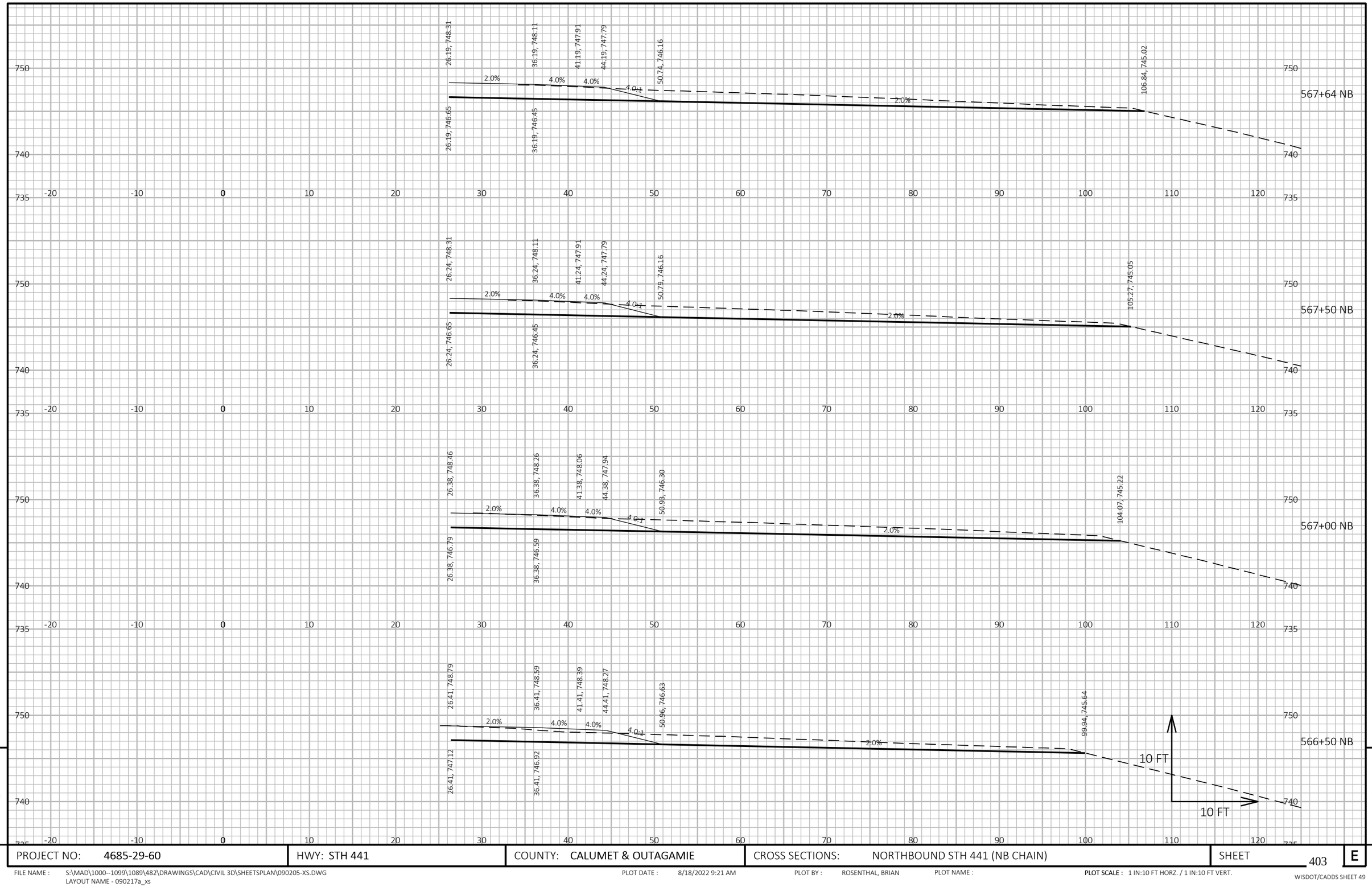
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 402	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090217_xs

PLOT DATE : 8/18/2022 9:21 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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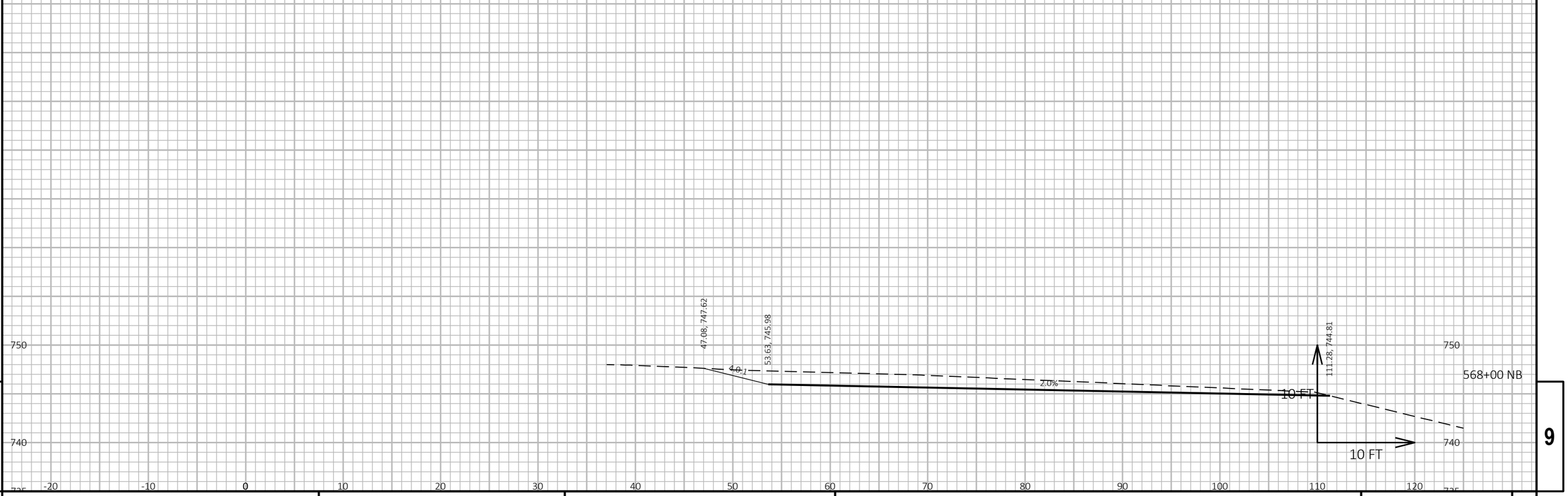
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 403	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090217a_xs

PLOT DATE : 8/18/2022 9:21 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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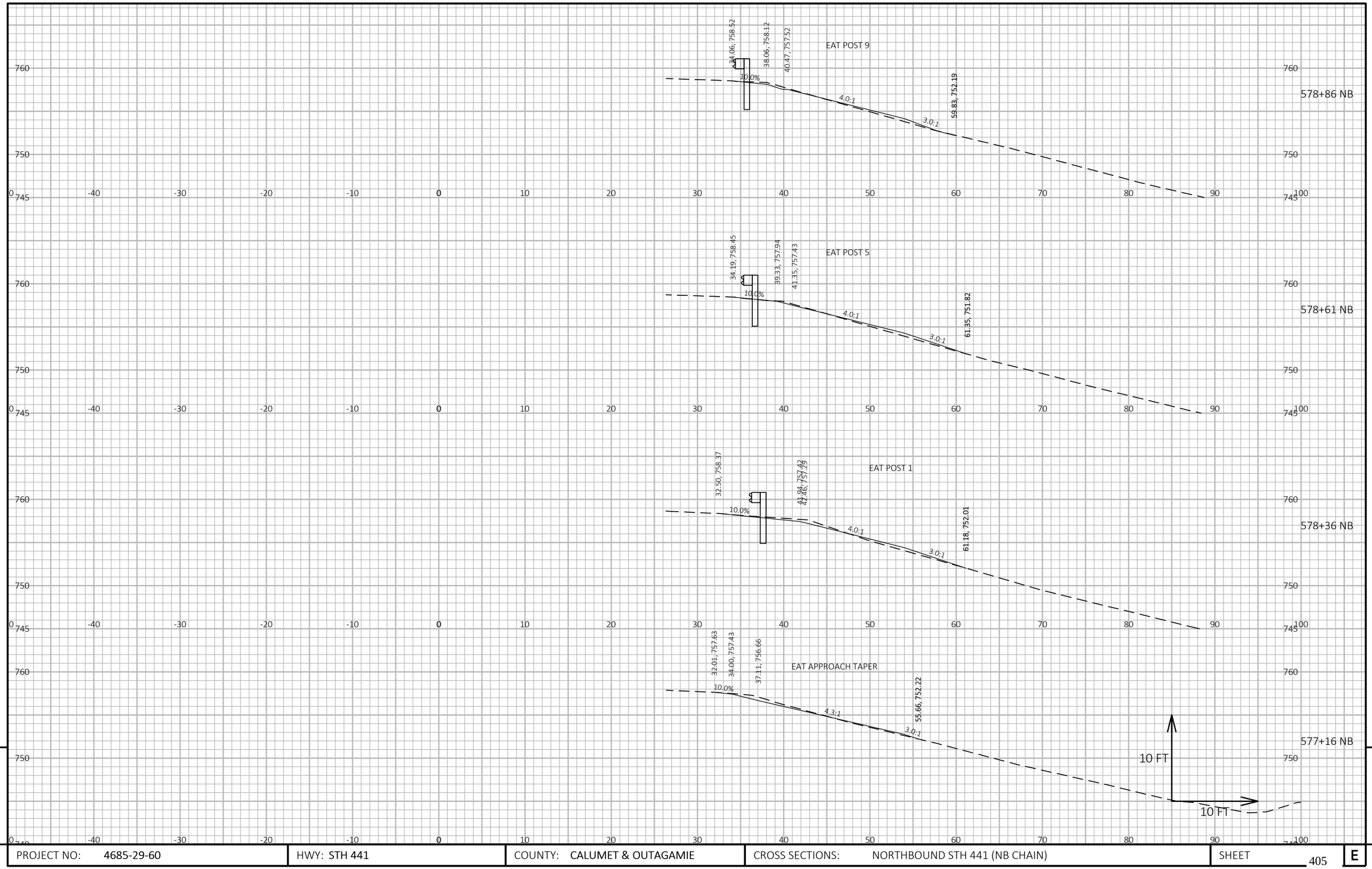
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 404	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090219_xs

PLOT DATE : 8/30/2022 9:43 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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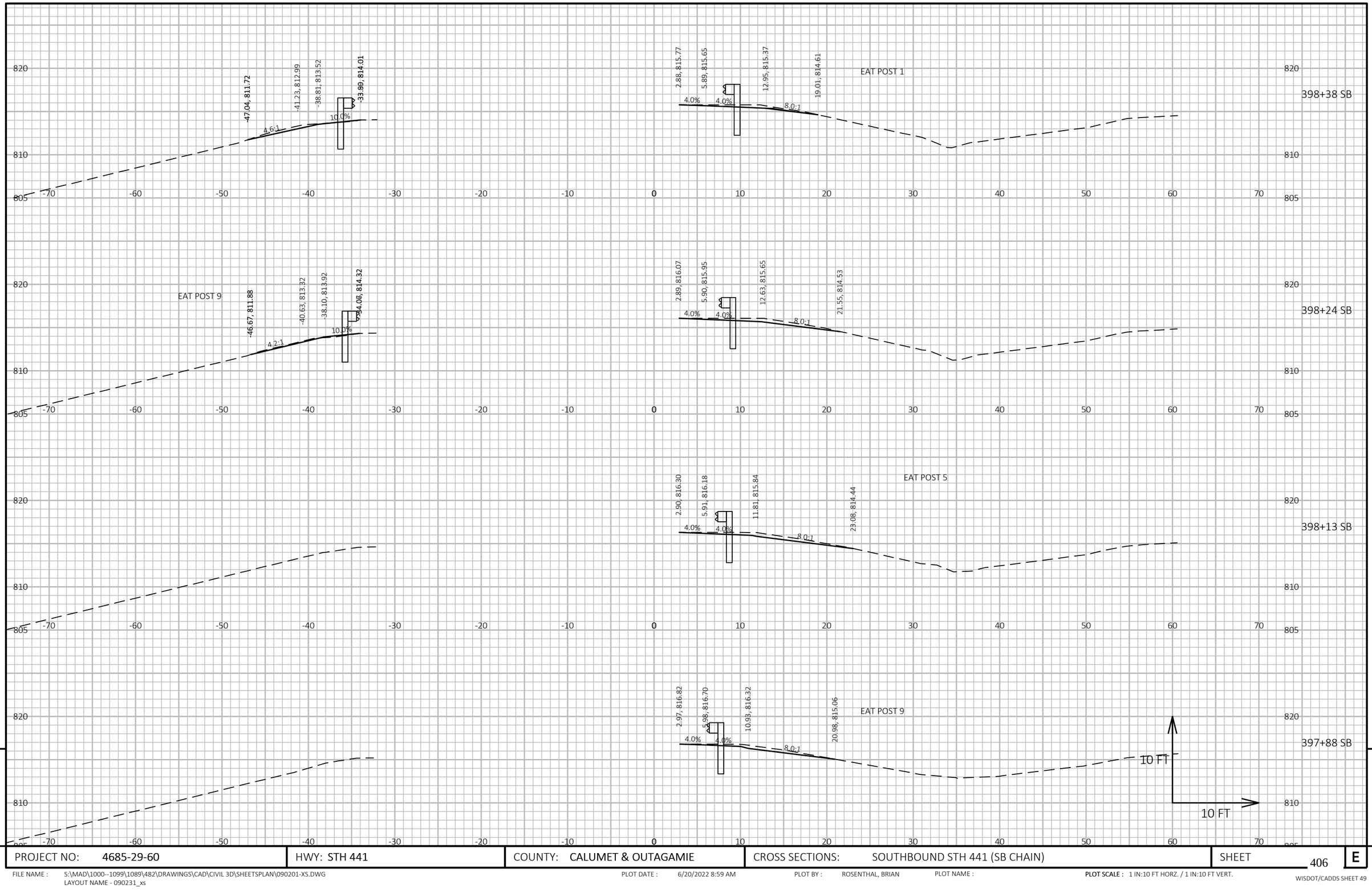
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: NORTHBOUND STH 441 (NB CHAIN)	SHEET 405 E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090218_xs

PLOT DATE : 6/29/2022 5:12 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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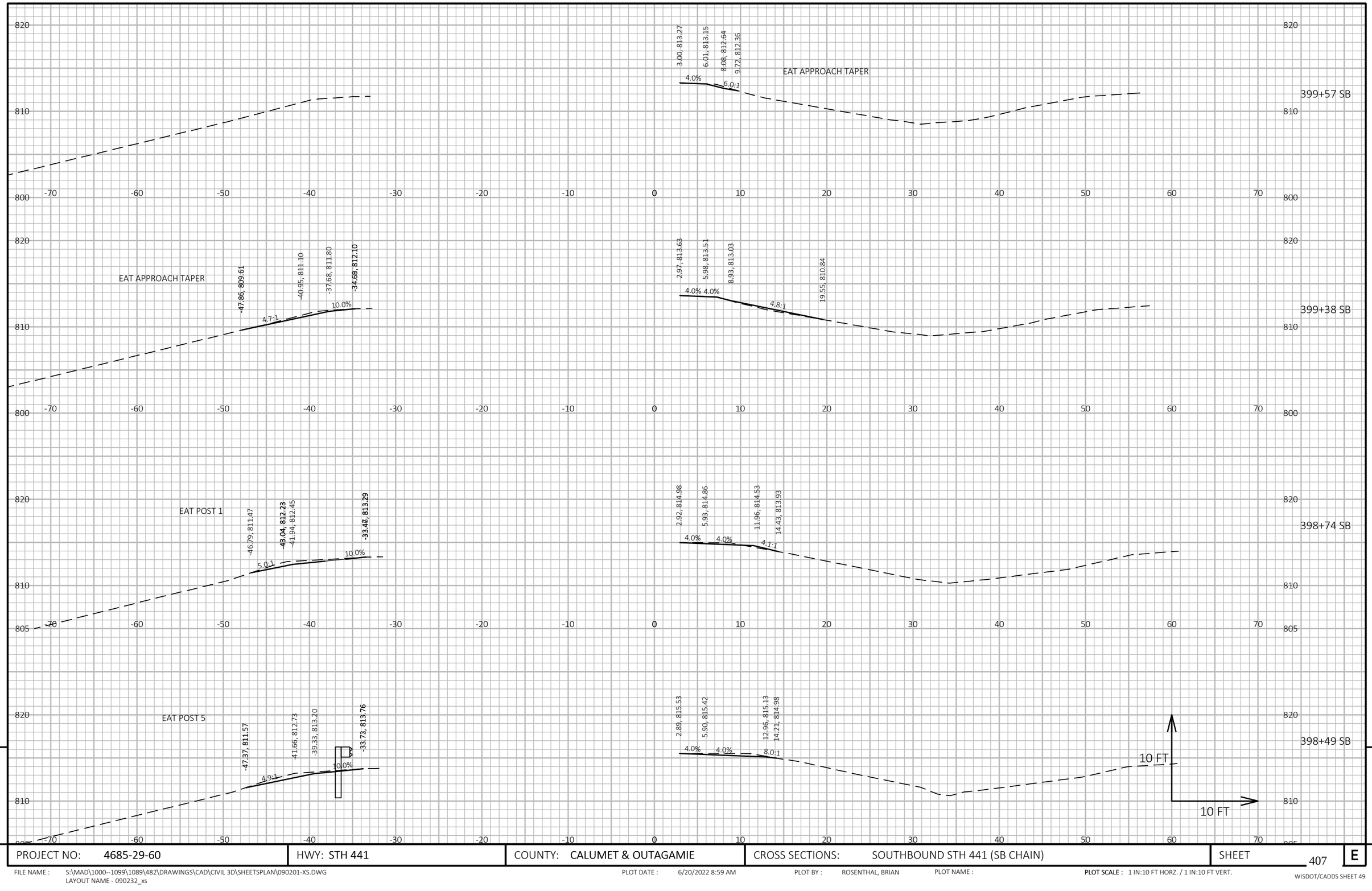
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 406	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090231_xs

PLOT DATE : 6/20/2022 8:59 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

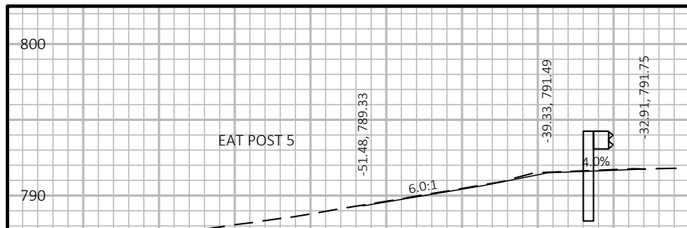


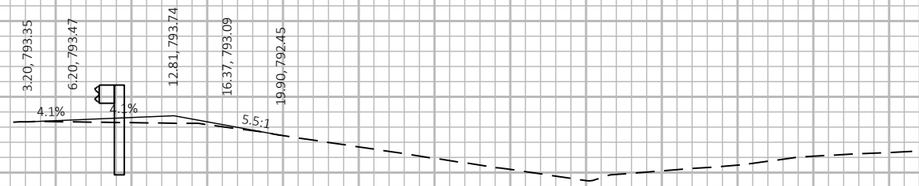
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 407	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090232_xs

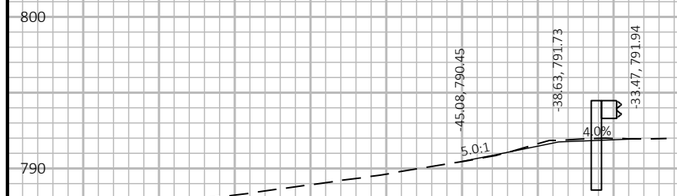
PLOT DATE : 6/20/2022 8:59 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

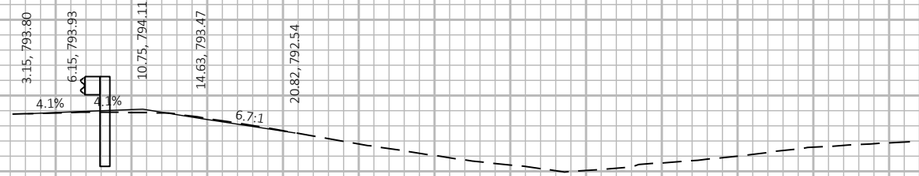




428+80 SB

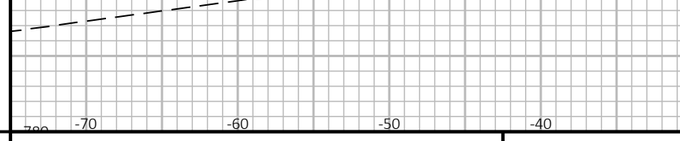


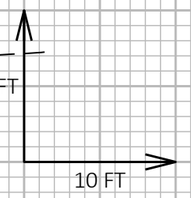
428+65 SB



428+54 SB

428+40 SB





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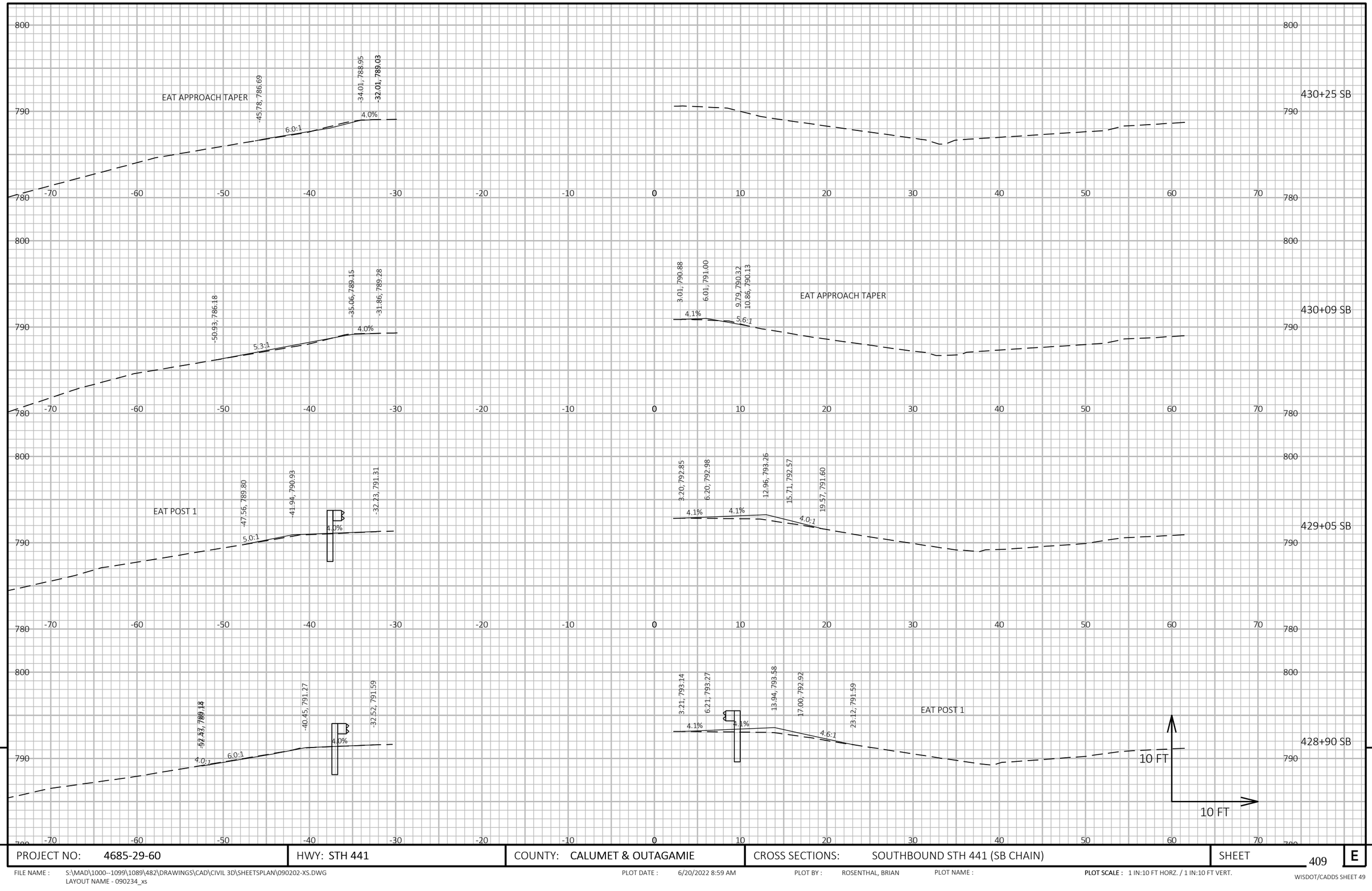
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 408	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - 090233_xs

PLOT DATE : 6/20/2022 8:59 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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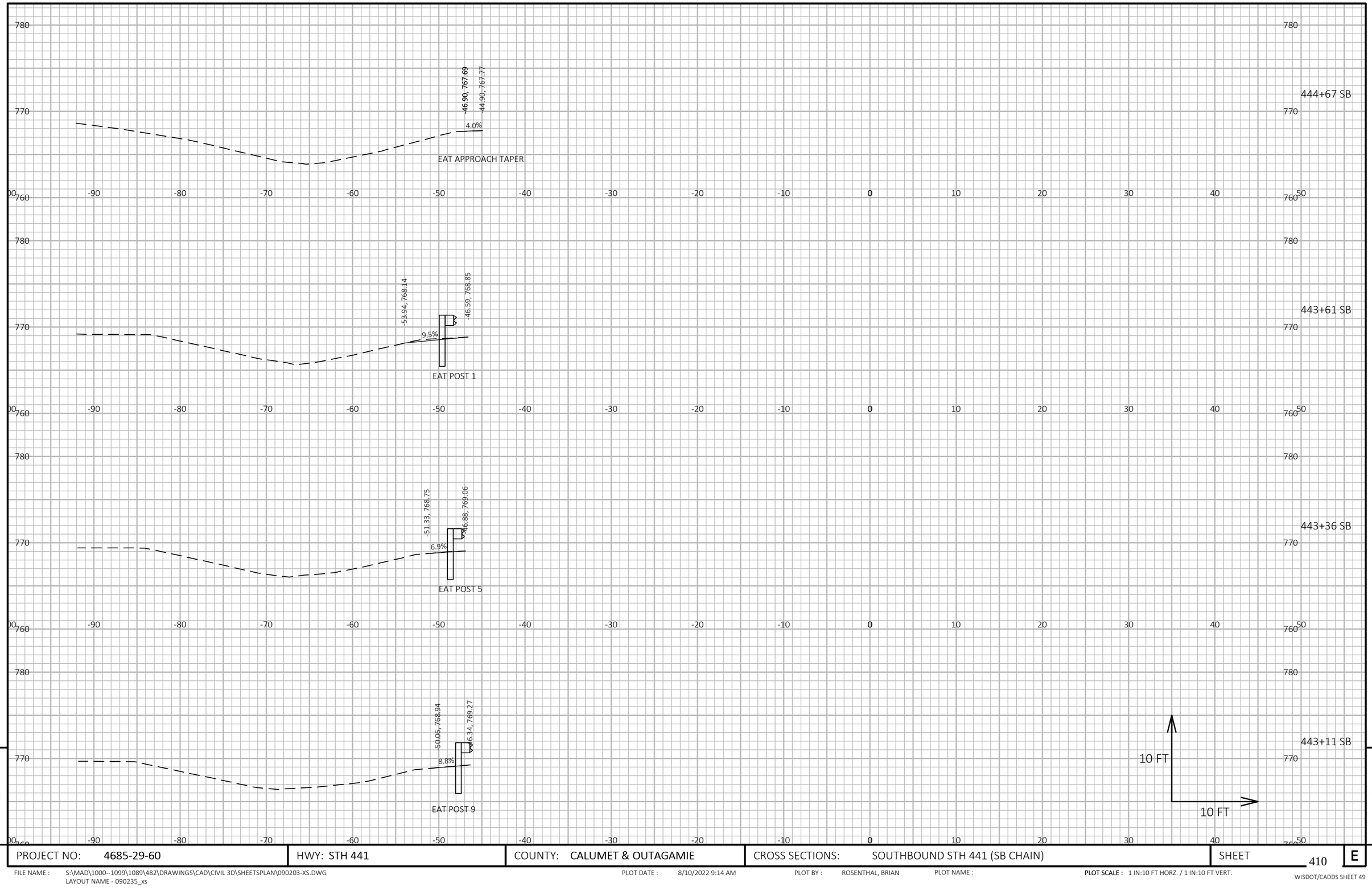
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 409	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - 090234_xs

PLOT DATE : 6/20/2022 8:59 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 410	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090203-XS.DWG
LAYOUT NAME - 090235_xs

PLOT DATE : 8/10/2022 9:14 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

460+99 SB

-52.89, 759.92
-49.98, 760.40
-45.66, 761.13
-43.86, 761.31
-42.67, 761.43
6.0:1
10.0%
EAT APPROACH TAPER

459+80 SB

-56.43, 759.40
-54.00, 759.81
-51.12, 760.24
-40.82, 761.33
6.0:1
6.0:1
10.0%
EAT POST 1

459+55 SB

-55.55, 759.33
-54.00, 759.59
-50.23, 760.22
-48.86, 760.56
-41.87, 761.26
6.0:1
6.0:1
10.0%
EAT POST 5

459+30 SB

-52.49, 759.74
-48.76, 760.37
-46.37, 760.96
-42.31, 761.37
6.0:1
10.0%
EAT POST 9

10 FT
10 FT

9

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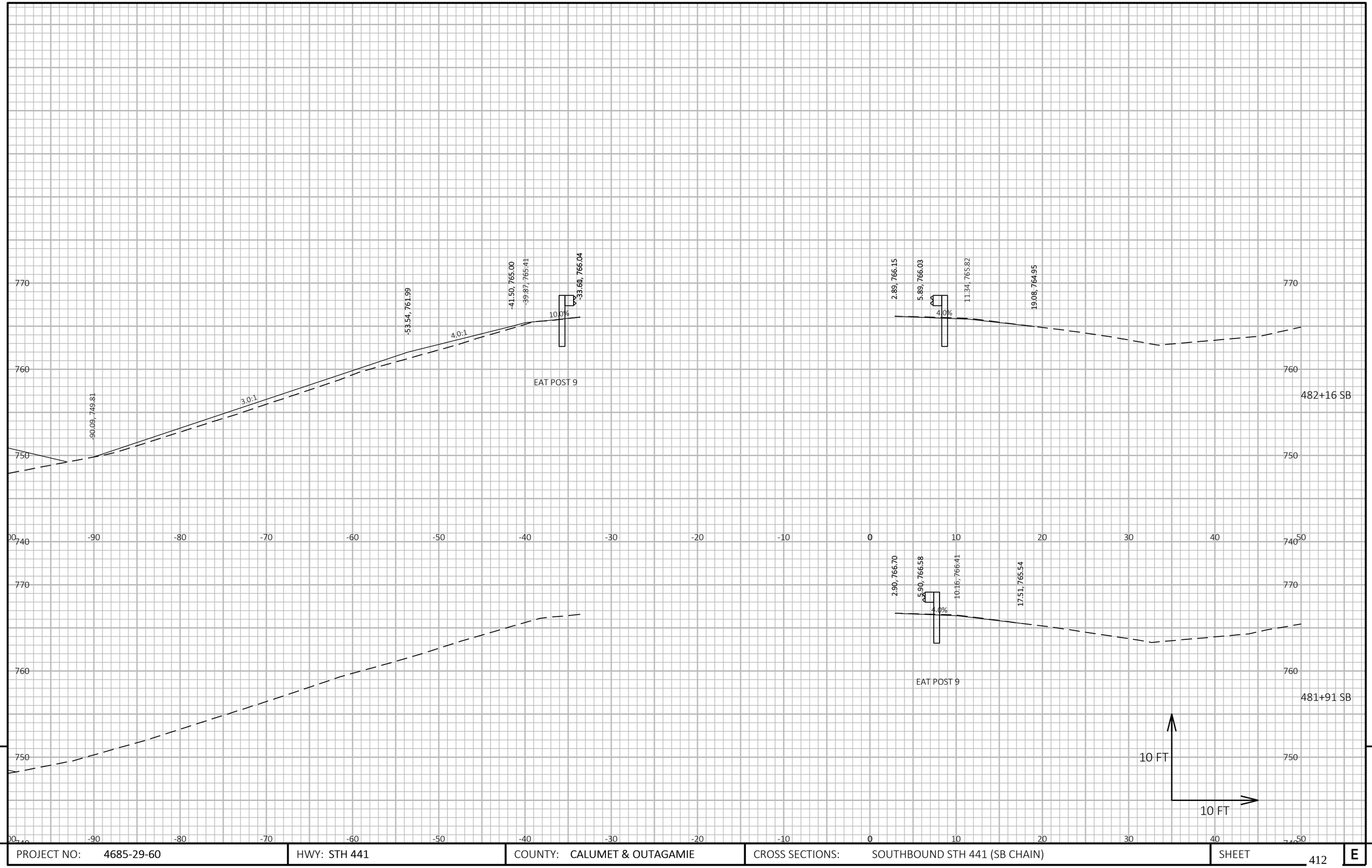
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 411	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090203-XS.DWG
LAYOUT NAME - 090236_xs

PLOT DATE : 6/20/2022 8:59 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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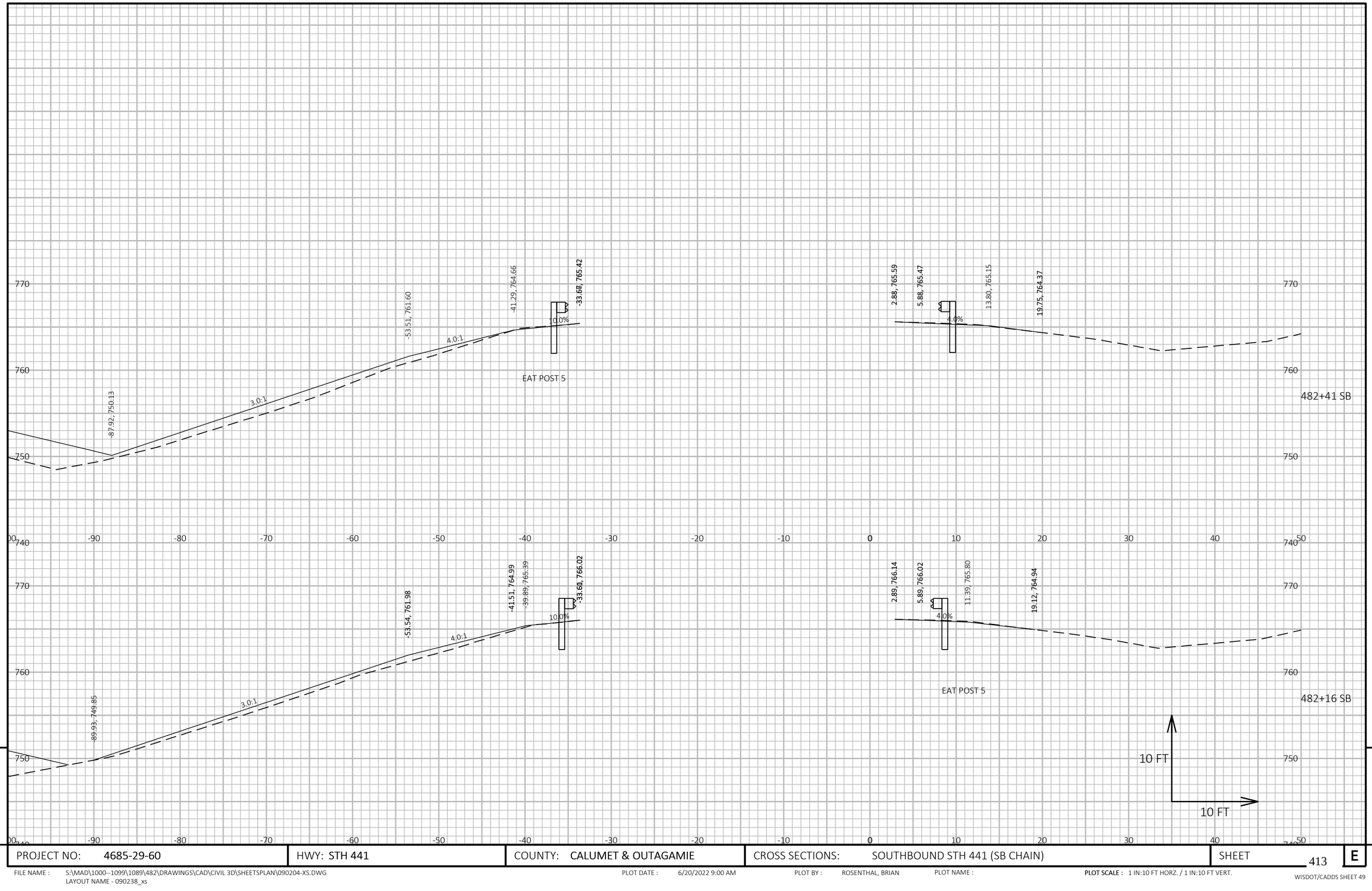
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 412	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090237_xs

PLOT DATE : 6/20/2022 9:00 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

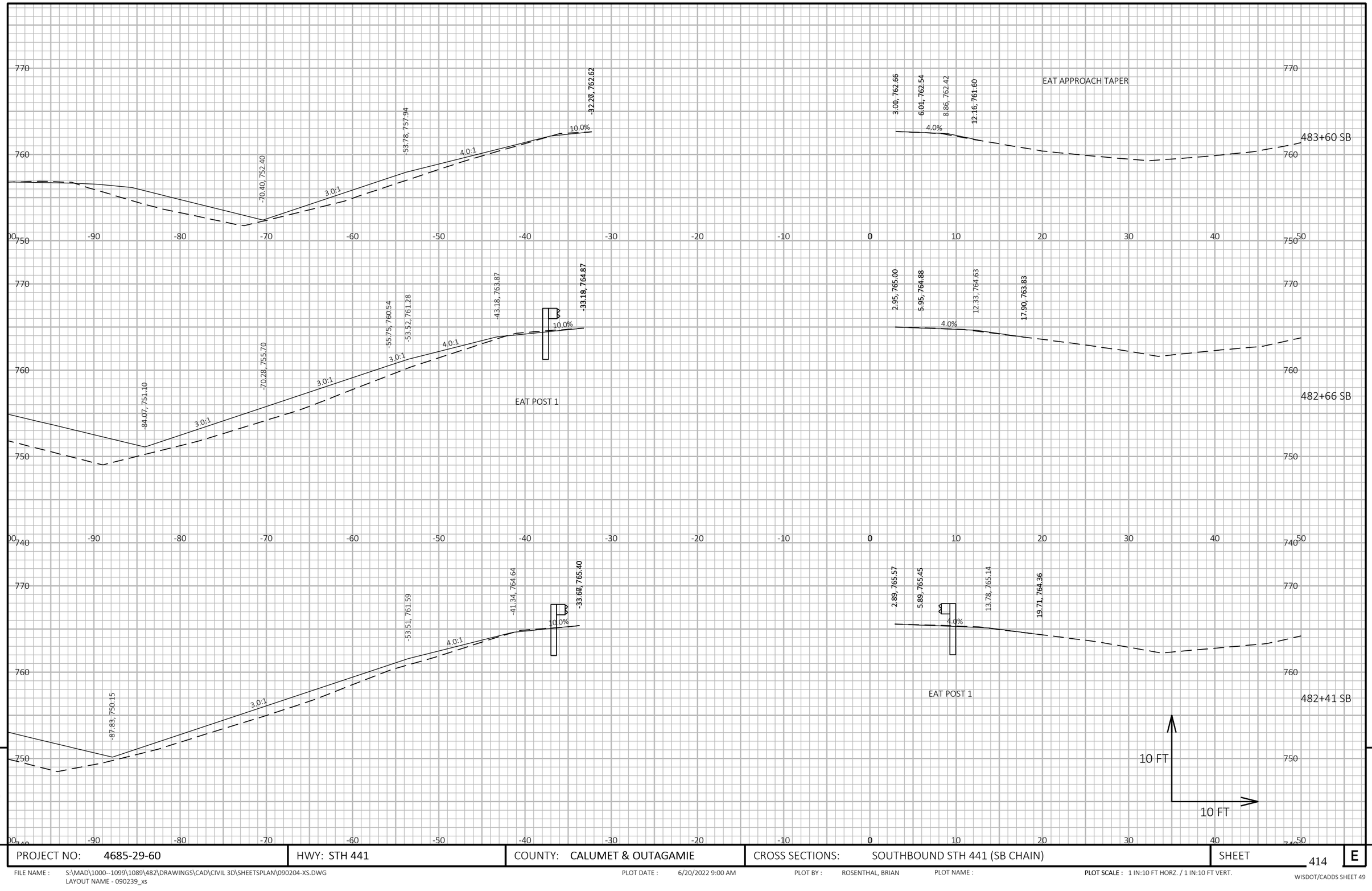


9 9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 413	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090238_xs

PLOT DATE : 6/20/2022 9:00 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

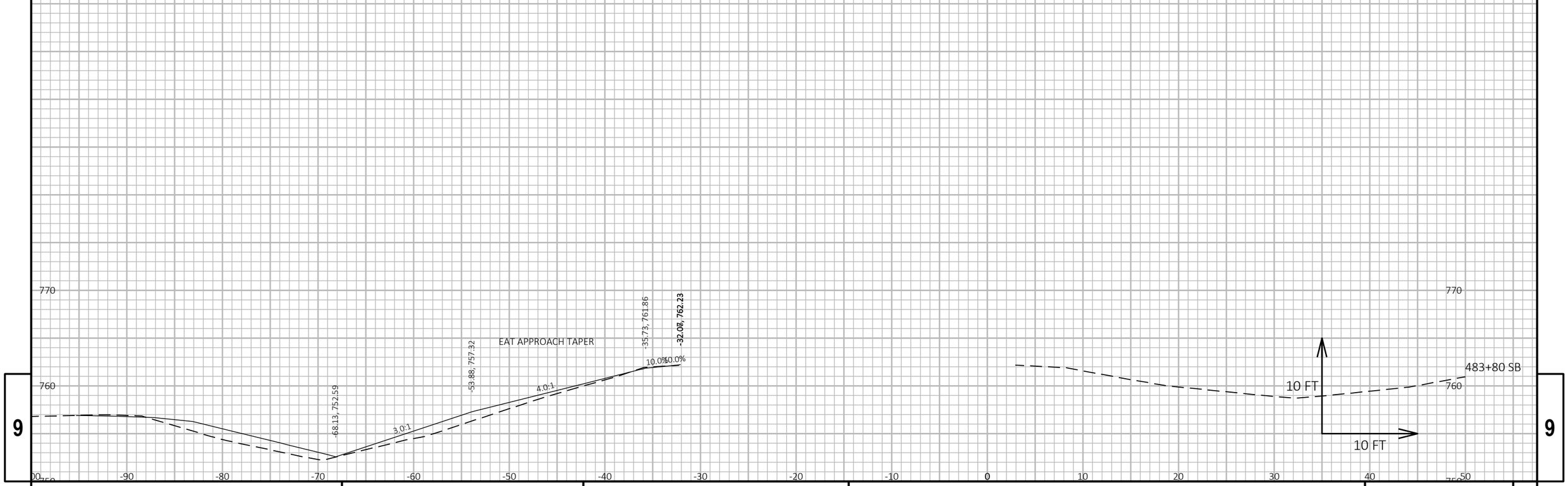


PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 414	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090239_xs

PLOT DATE : 6/20/2022 9:00 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



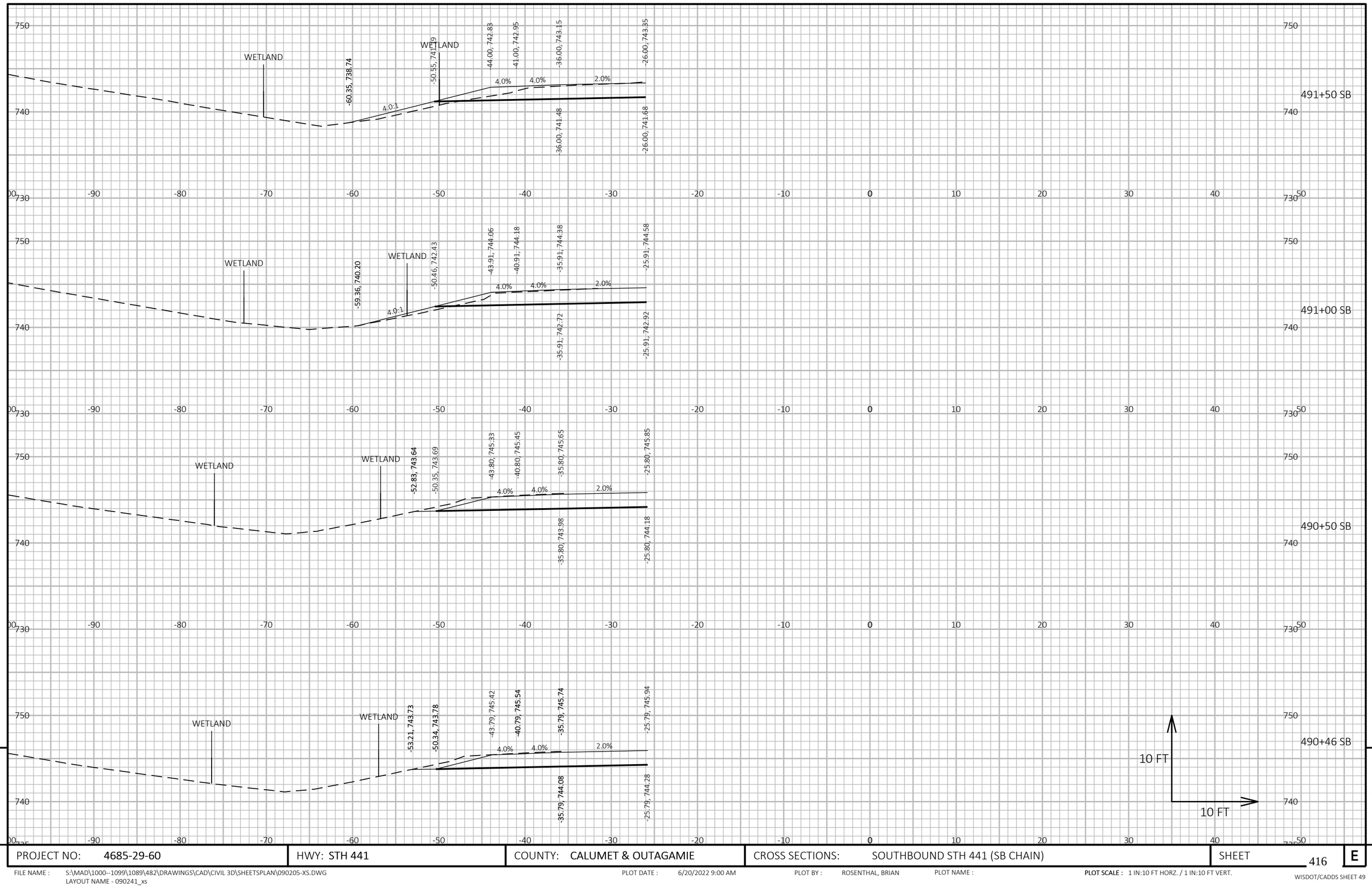
9 9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 415 E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090240_xs

PLOT DATE : 6/20/2022 9:00 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

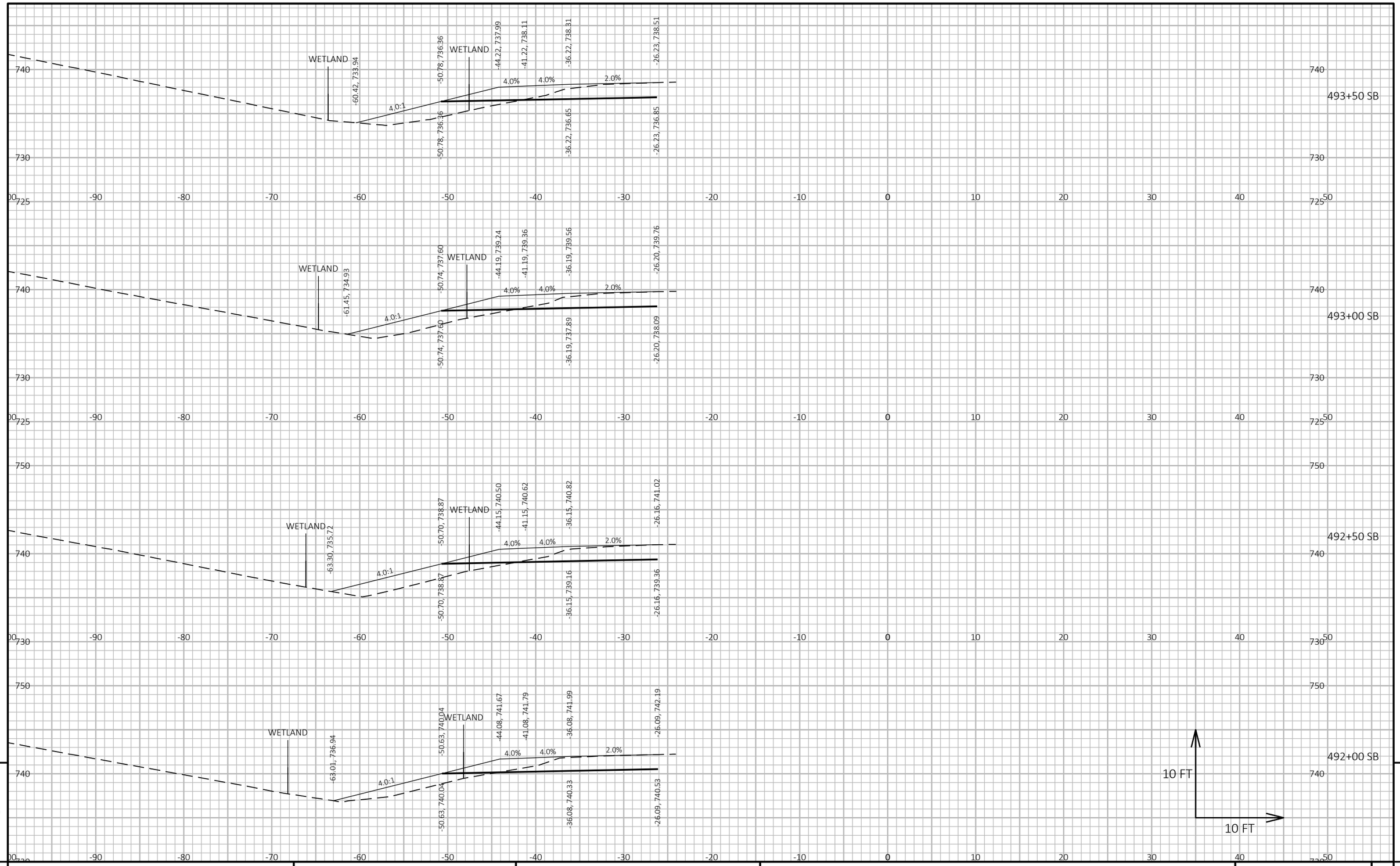
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 416	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090241_xs

PLOT DATE : 6/20/2022 9:00 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

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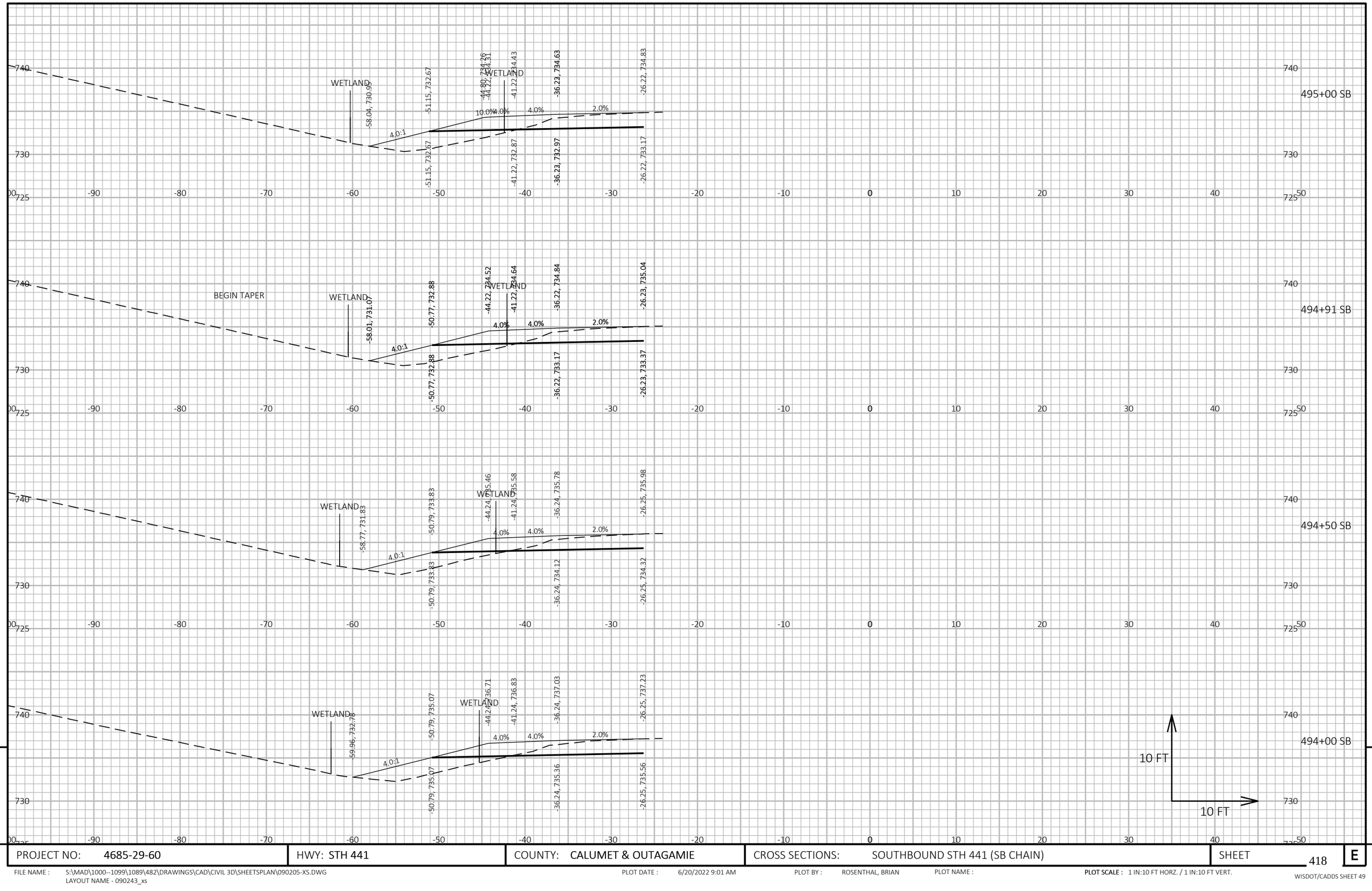
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 417	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090242_xs

PLOT DATE : 6/20/2022 9:00 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

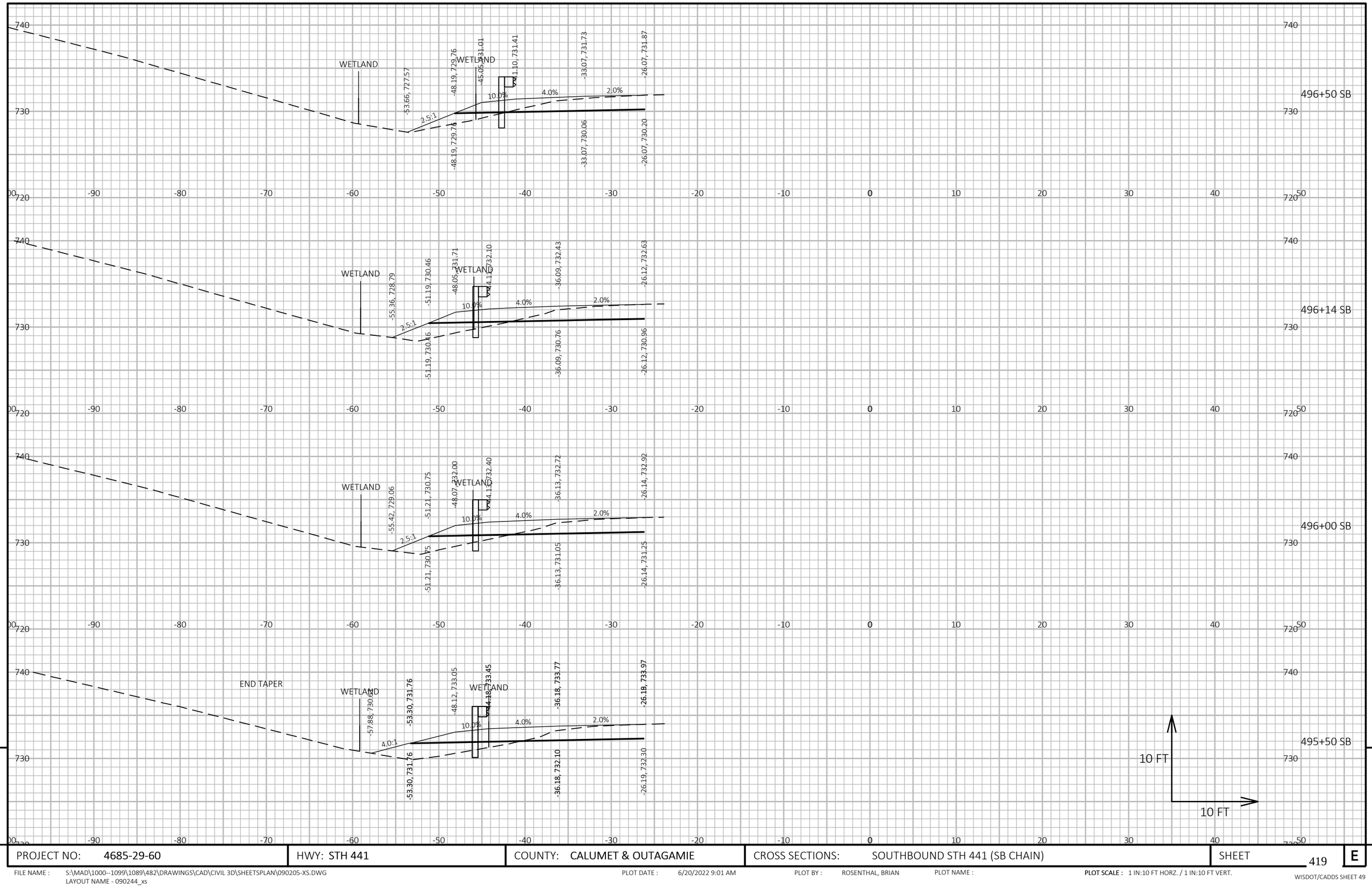
9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 418	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090243_xs

PLOT DATE : 6/20/2022 9:01 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

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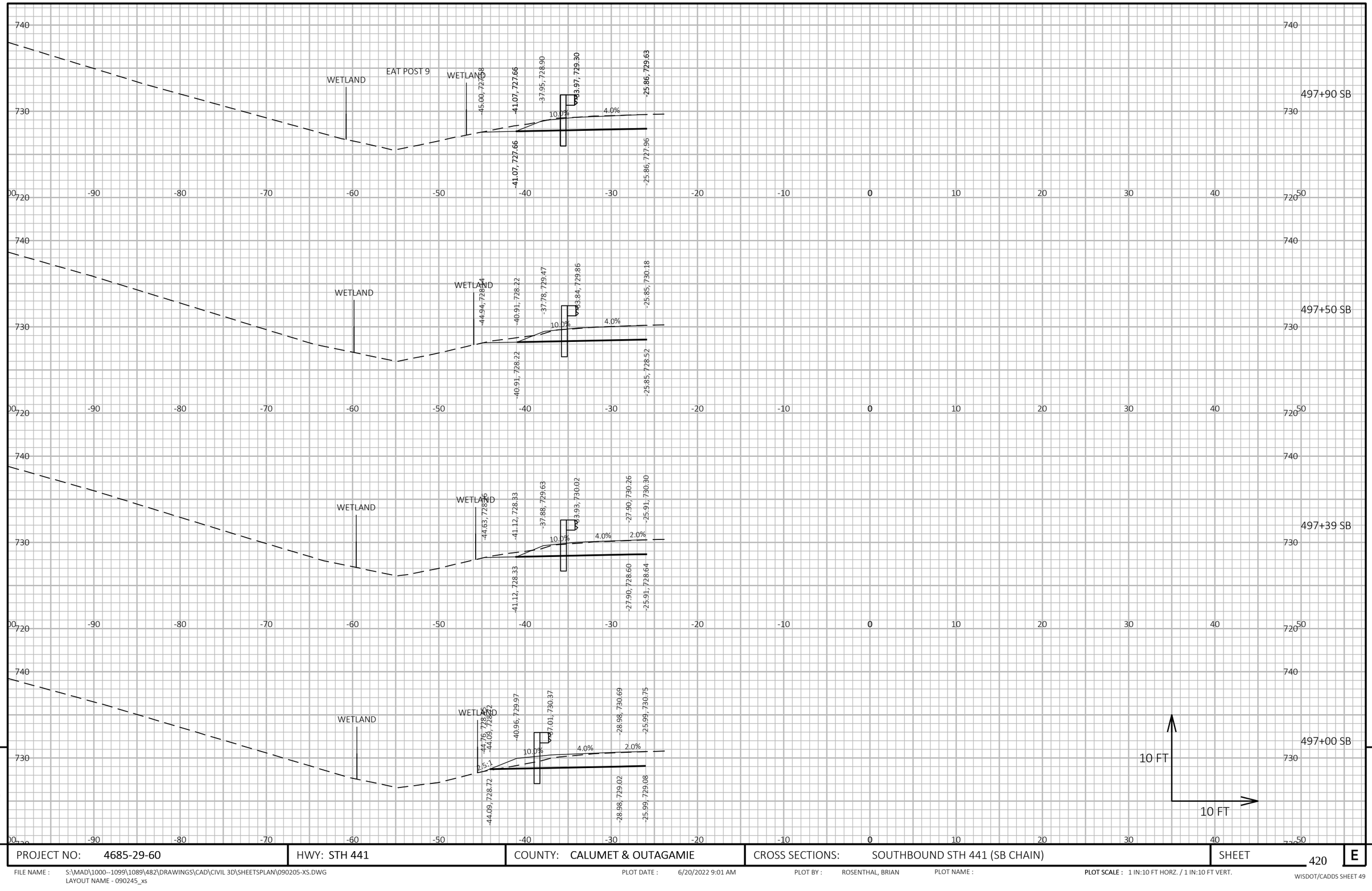
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 419	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090244_xs

PLOT DATE : 6/20/2022 9:01 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

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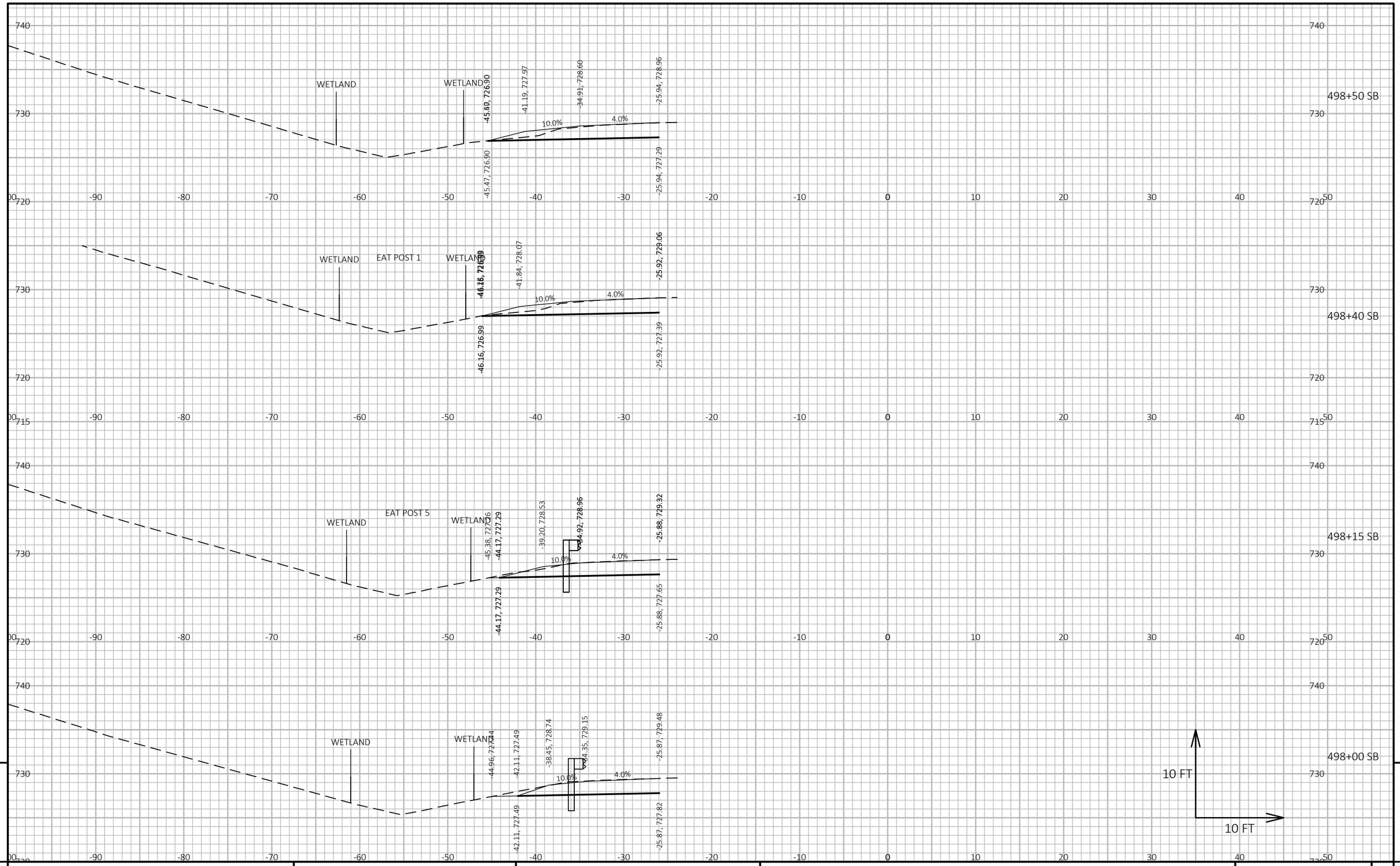
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 420	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090245_xs

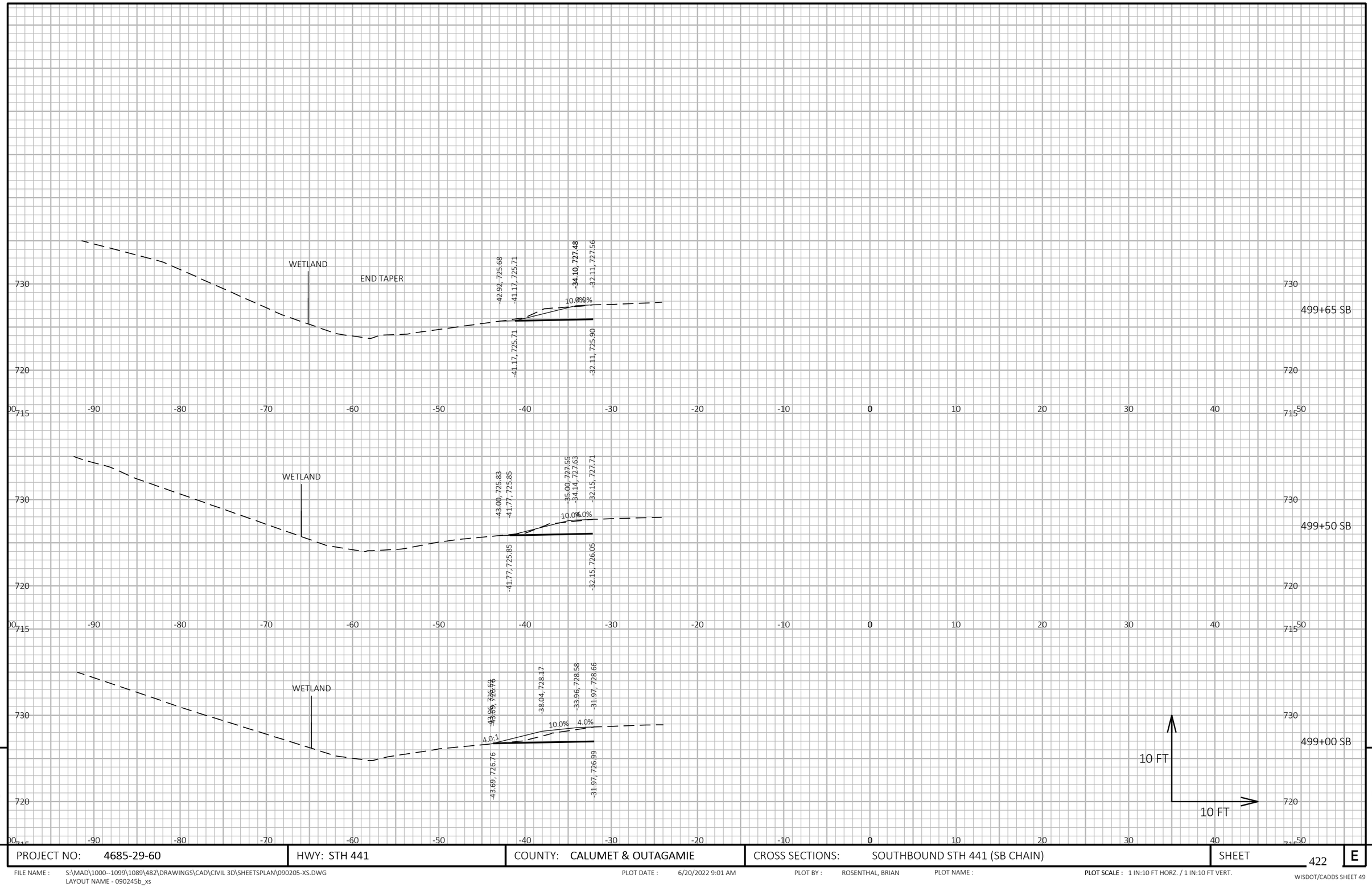
PLOT DATE : 6/20/2022 9:01 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 421 E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090245a_xs
PLOT DATE : 6/20/2022 9:01 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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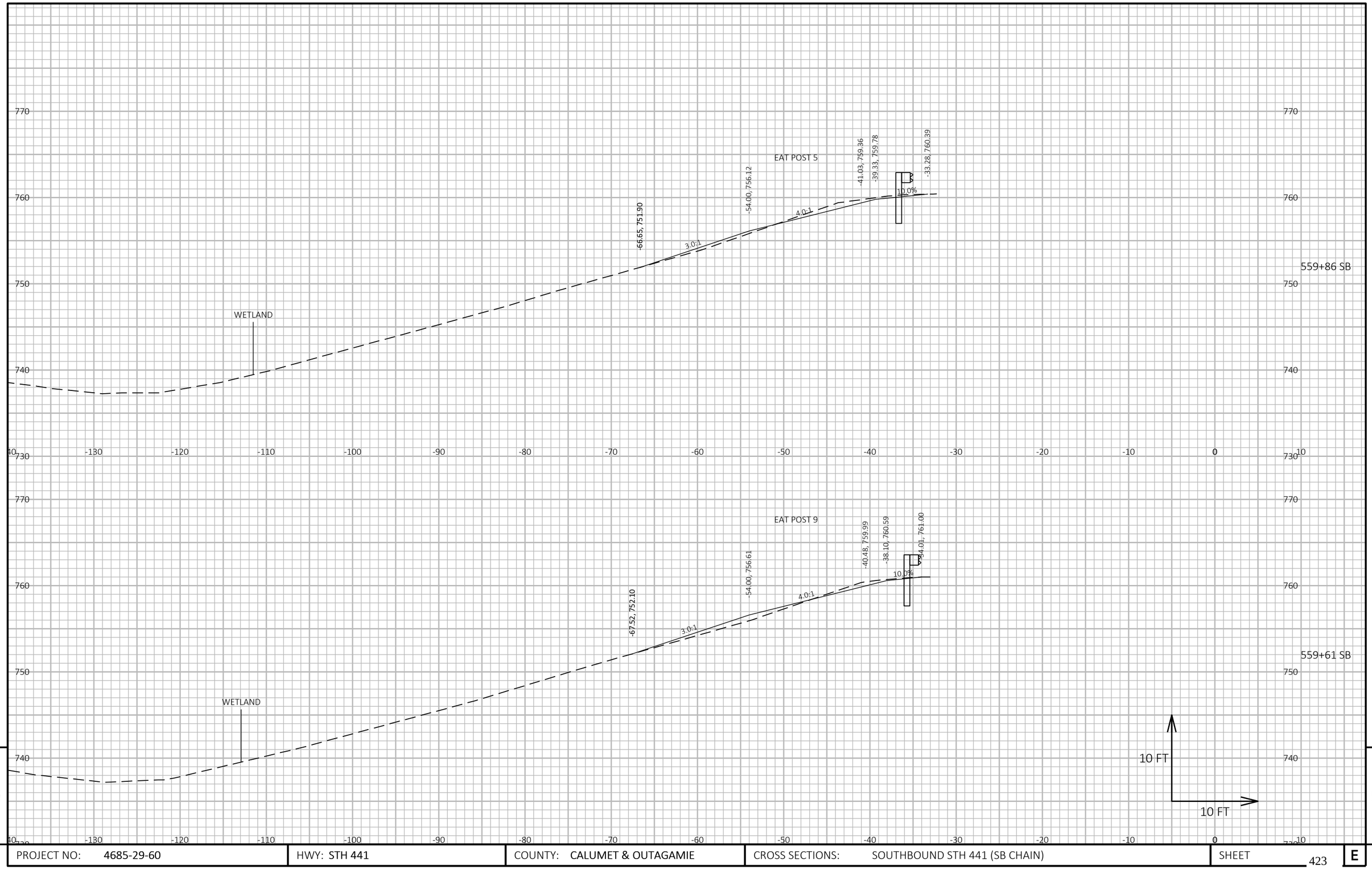
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 422	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090245b_xs

PLOT DATE : 6/20/2022 9:01 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

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PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 423	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090246_xs

PLOT DATE : 6/20/2022 9:01 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

760
750
740
730
-130
-120
-110
-100
-90
-80
-70
-60
-50
-40
-30
-20
-10
0
10

EAT APPROACH TAPER

-41.75, 755.16
-37.12, 755.93
-34.00, 756.71
-32.00, 756.91
6.0:1
10.0%

561+31 SB

EAT POST 1

-47.98, 757.36
-41.54, 758.27
-41.94, 758.87
-32.74, 759.79
4.0:1
10.0%

WETLAND

560+11 SB

10 FT
10 FT

9

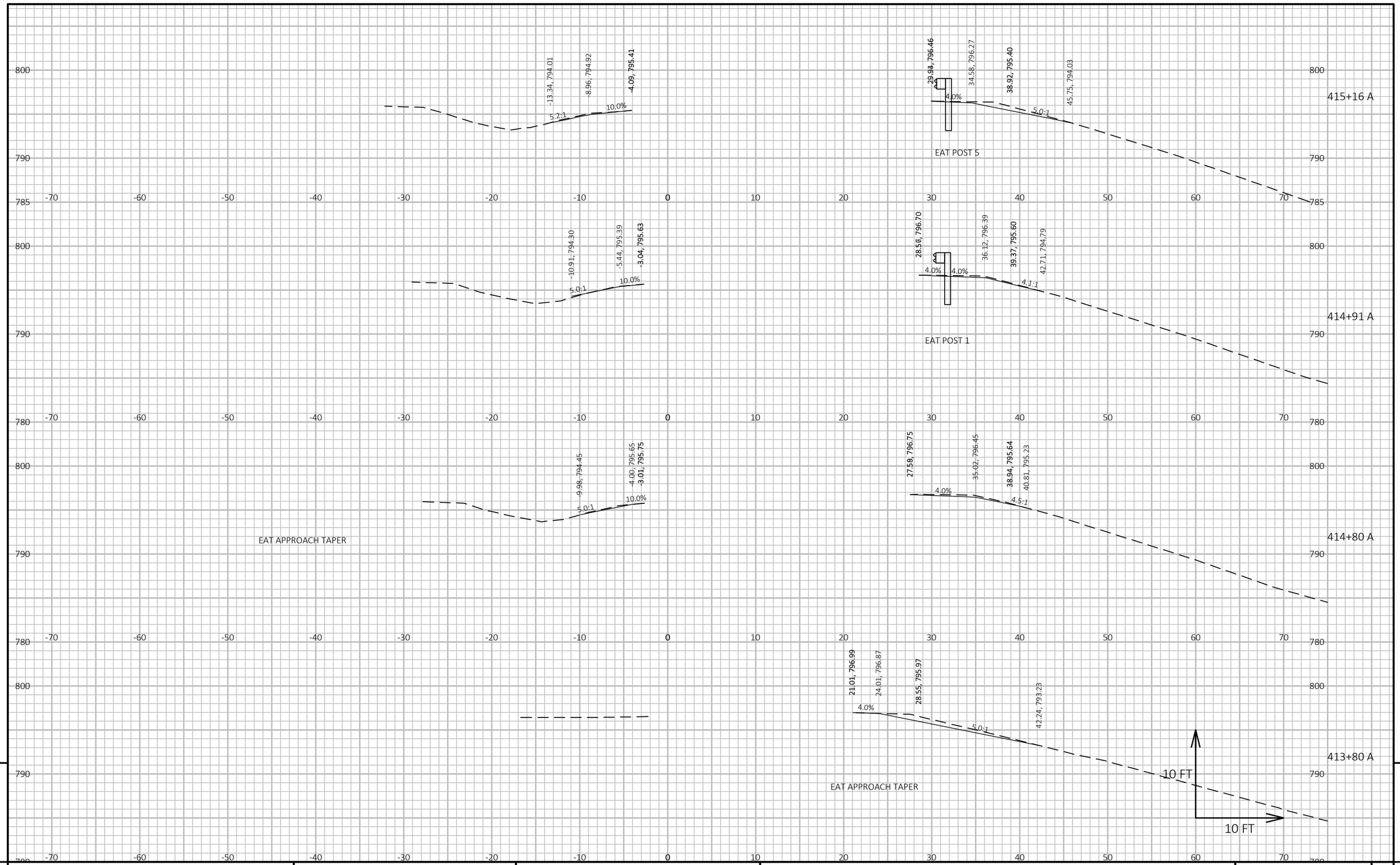
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: SOUTHBOUND STH 441 (SB CHAIN)	SHEET 424	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090247_xs

PLOT DATE : 6/20/2022 9:01 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

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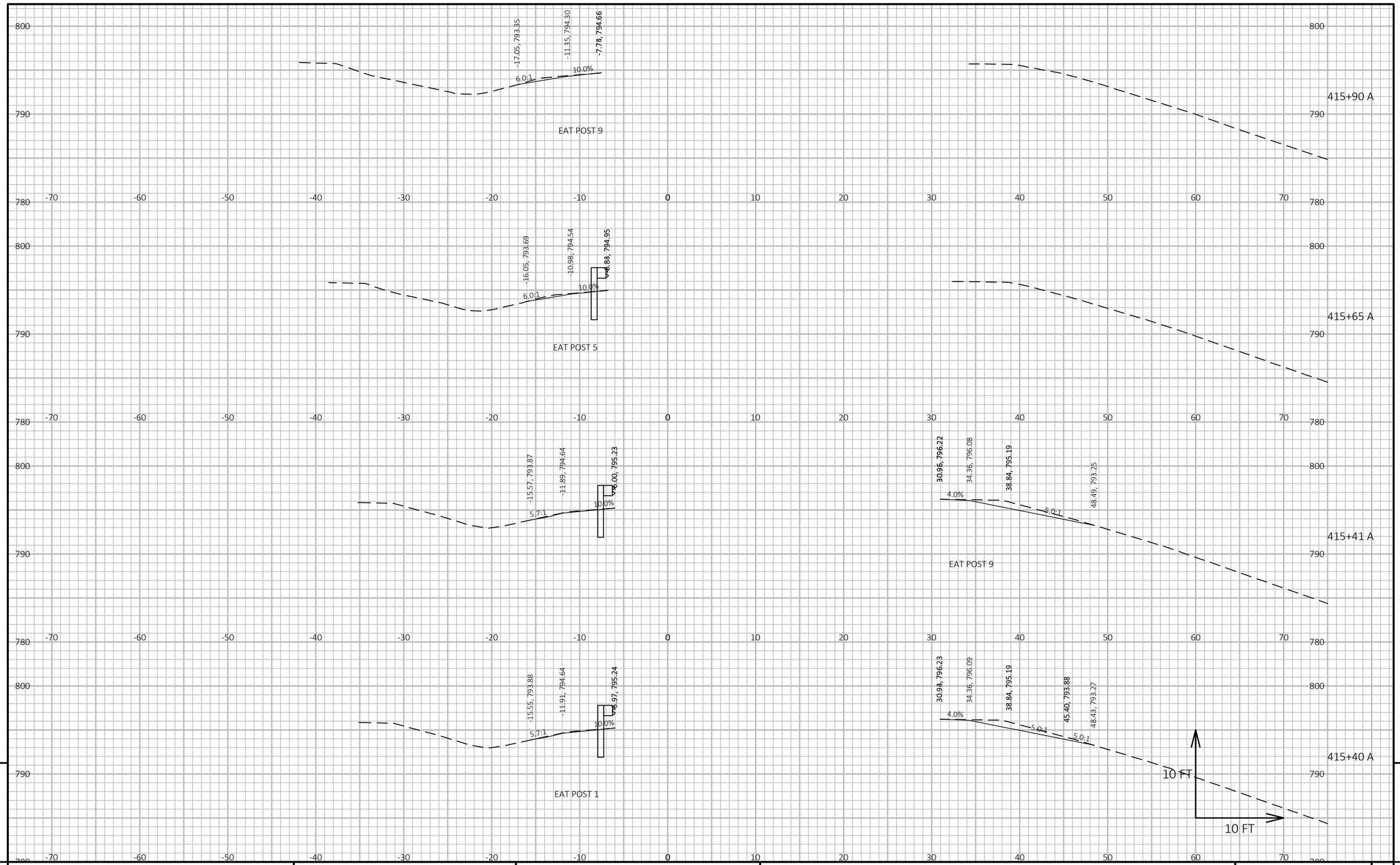
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH KK (A CHAIN)	SHEET 425	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - 090251_xs

PLOT DATE : 6/20/2022 9:04 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

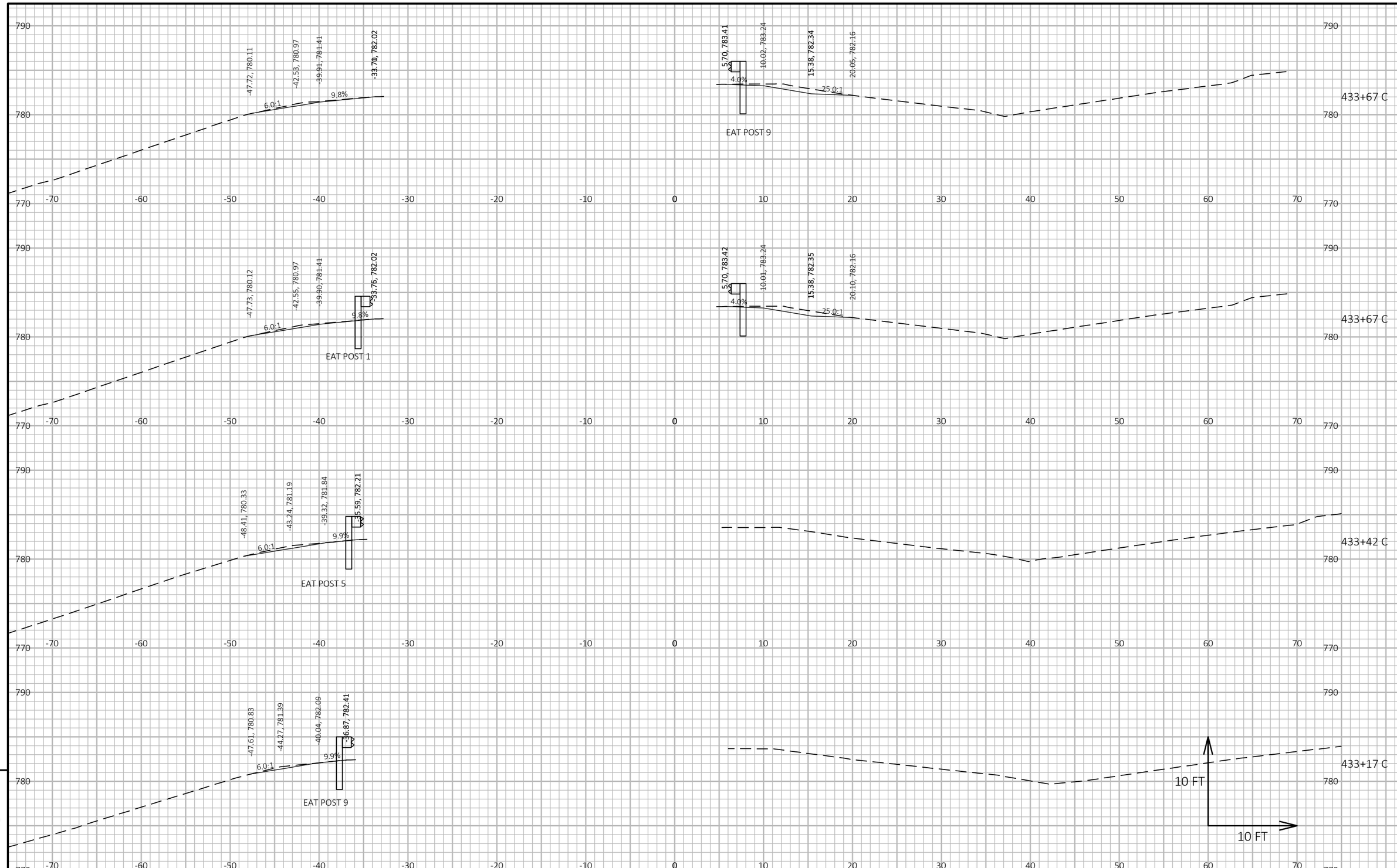
9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH KK (A CHAIN)	SHEET 426	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - 090252_xs

PLOT DATE : 6/20/2022 9:04 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

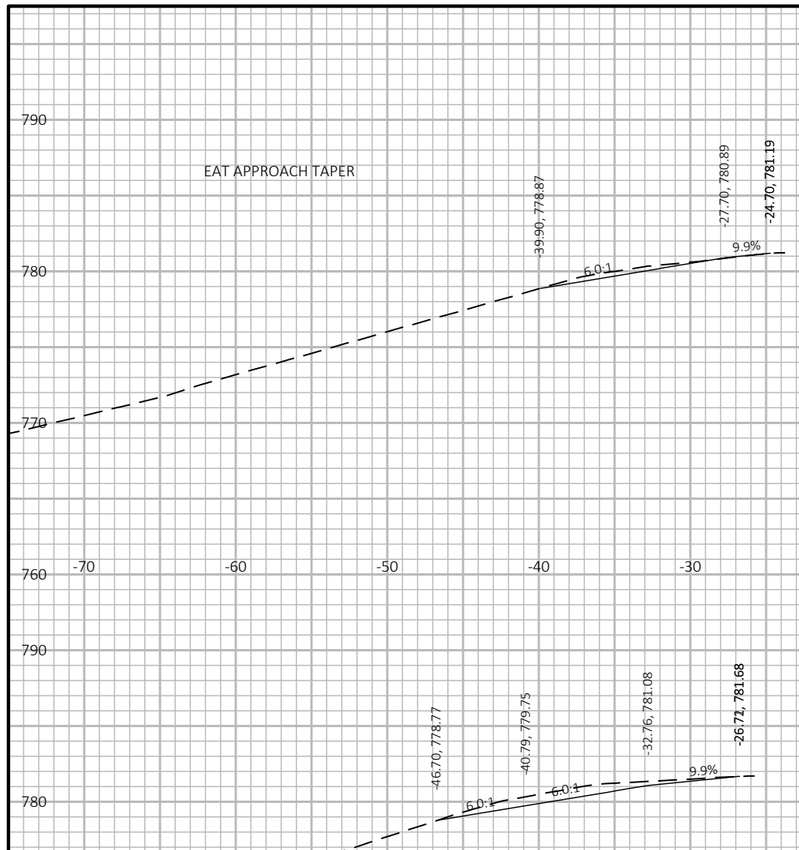


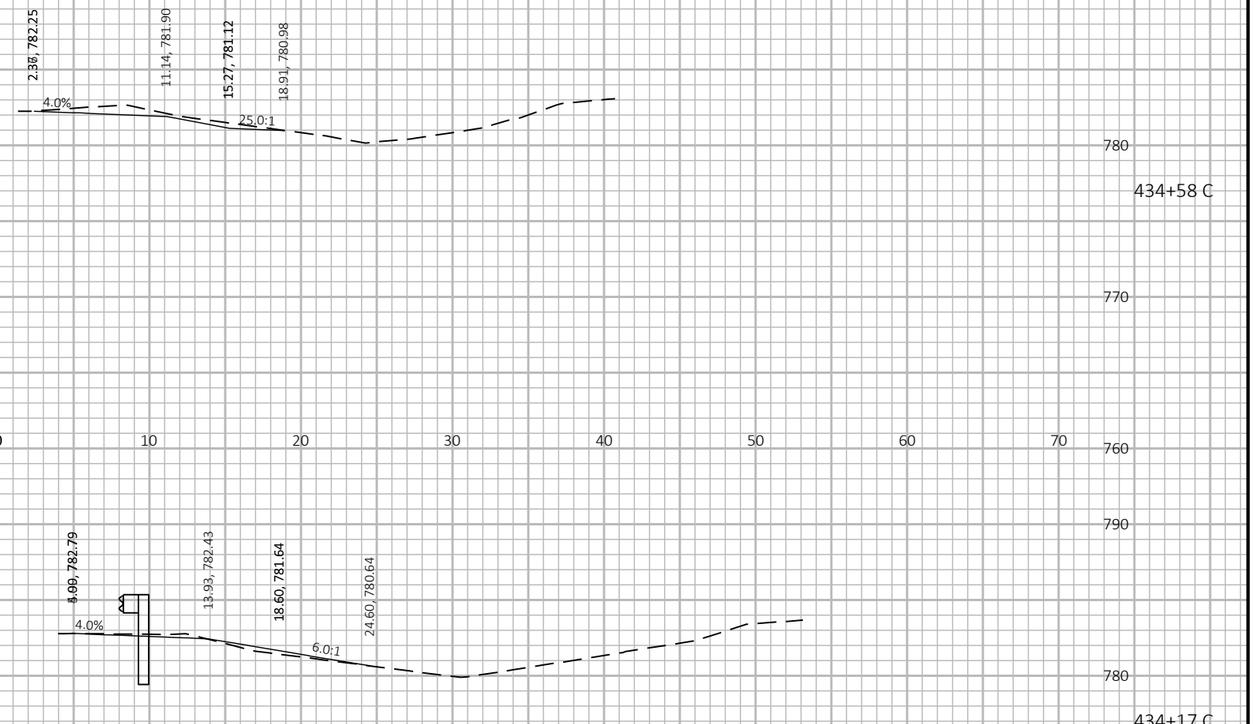
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH KK (C CHAIN)	SHEET 427 E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - 090253_xs

PLOT DATE : 6/20/2022 9:08 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





9

9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH KK (C CHAIN)	SHEET 428	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - 090254_xs

PLOT DATE : 6/20/2022 9:08 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

790
780
770
760
-70
-60
-50
-40
-30
-20
-10
0
10
20
30
40
50
60
70
2.01, 780.95
5.01, 780.83
4.0%
EAT APPROACH TAPER
435+78 C
10 FT
10 FT

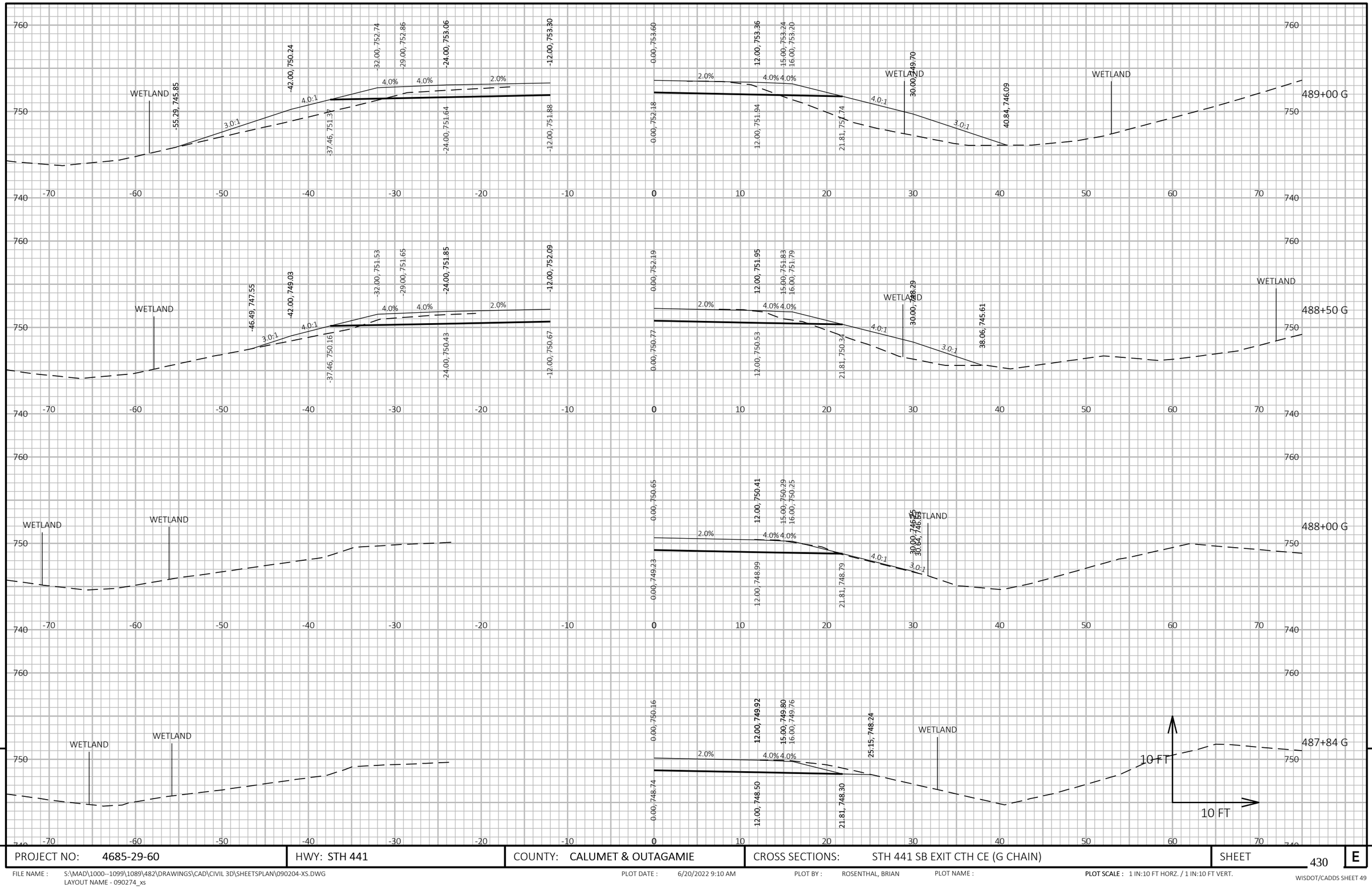
9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH KK (C CHAIN)	SHEET 429	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - 090255_xs

PLOT DATE : 6/20/2022 9:08 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

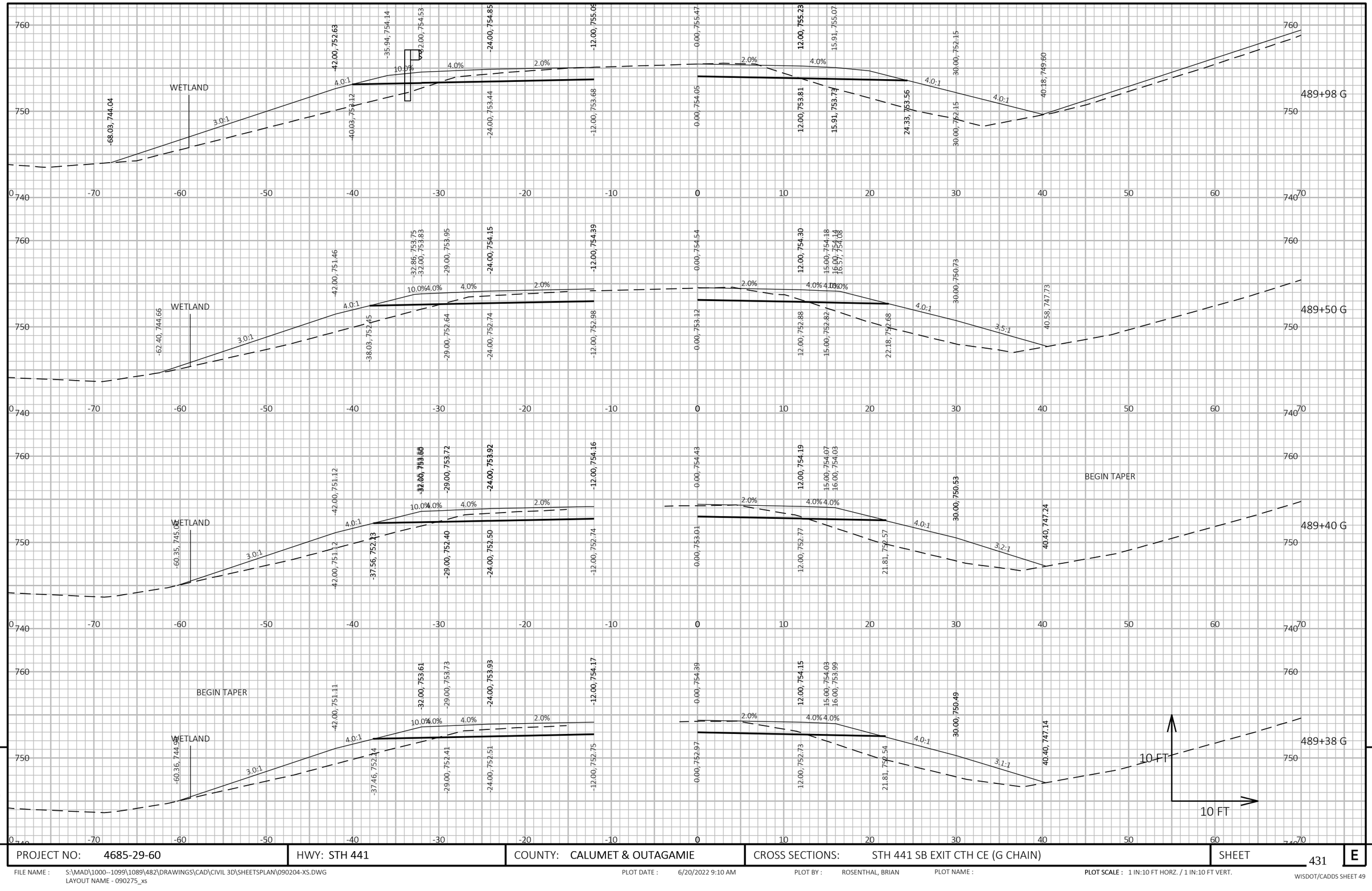
9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH CE (G CHAIN)	SHEET 430	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090274_xs

PLOT DATE : 6/20/2022 9:10 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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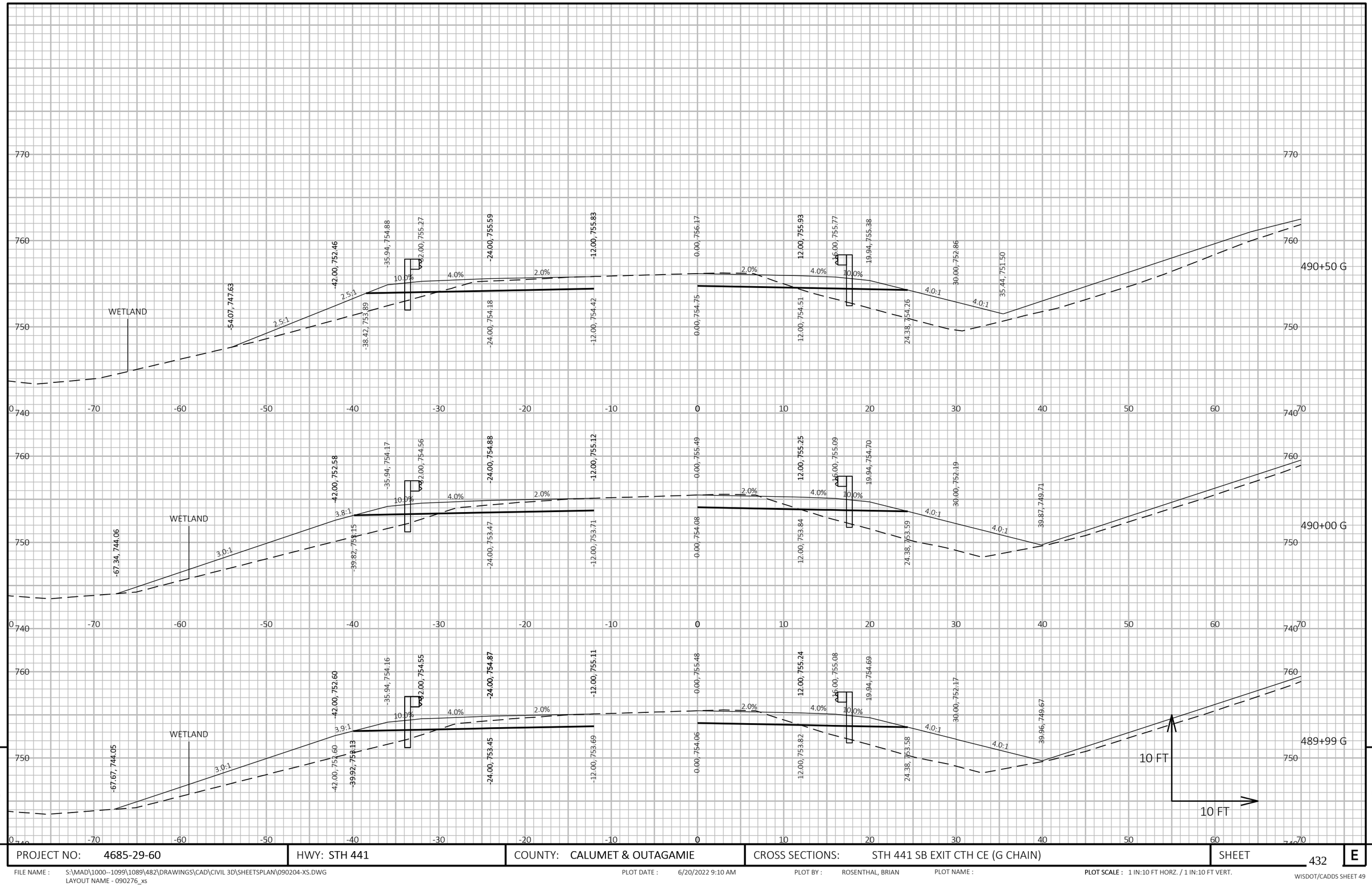
9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH CE (G CHAIN)	SHEET 431	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090275_xs

PLOT DATE : 6/20/2022 9:10 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

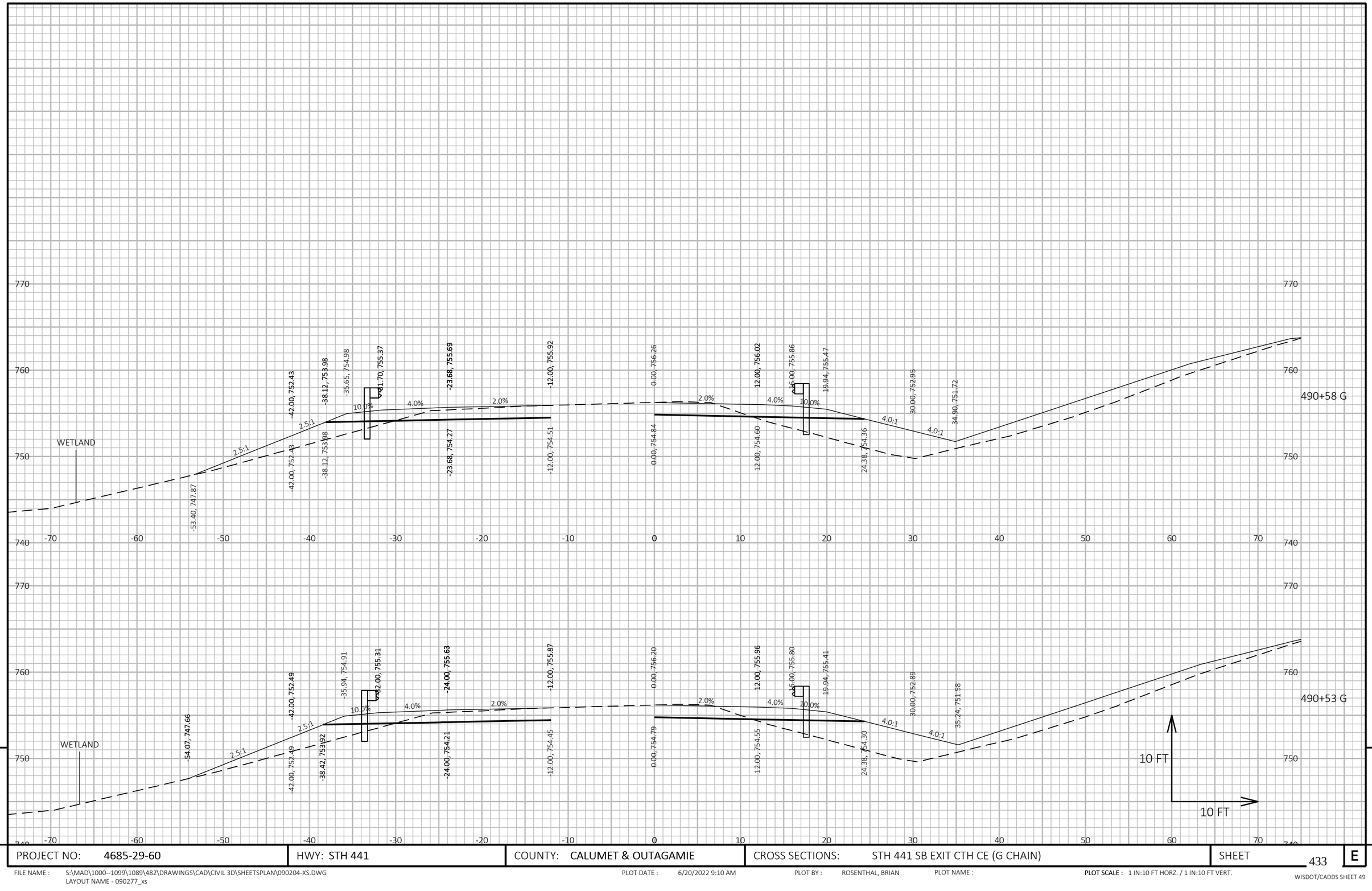
9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH CE (G CHAIN)	SHEET 432	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090276_xs

PLOT DATE : 6/20/2022 9:10 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH CE (G CHAIN)	SHEET 433	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090277_xs

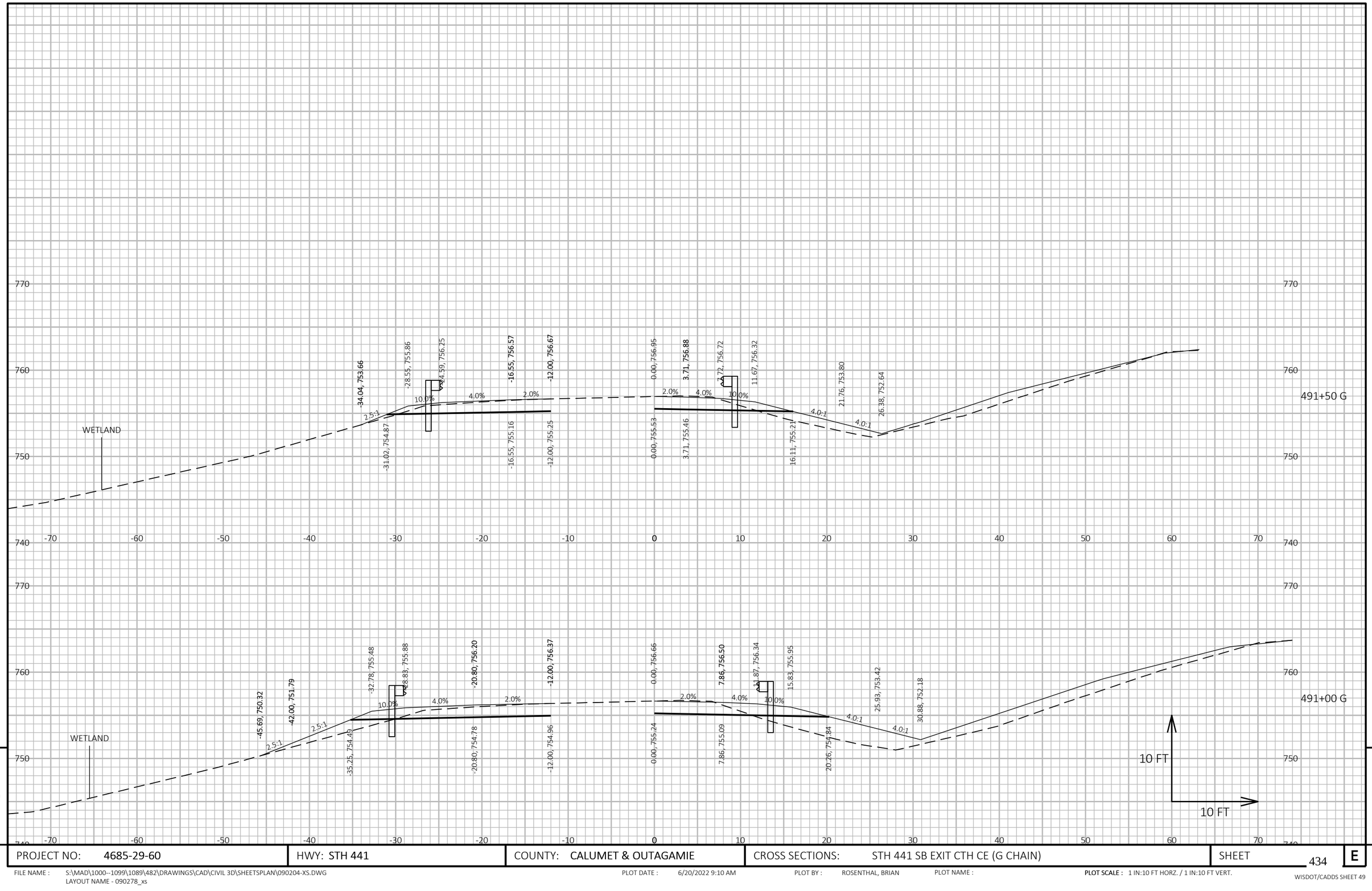
PLOT DATE : 6/20/2022 9:10 AM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

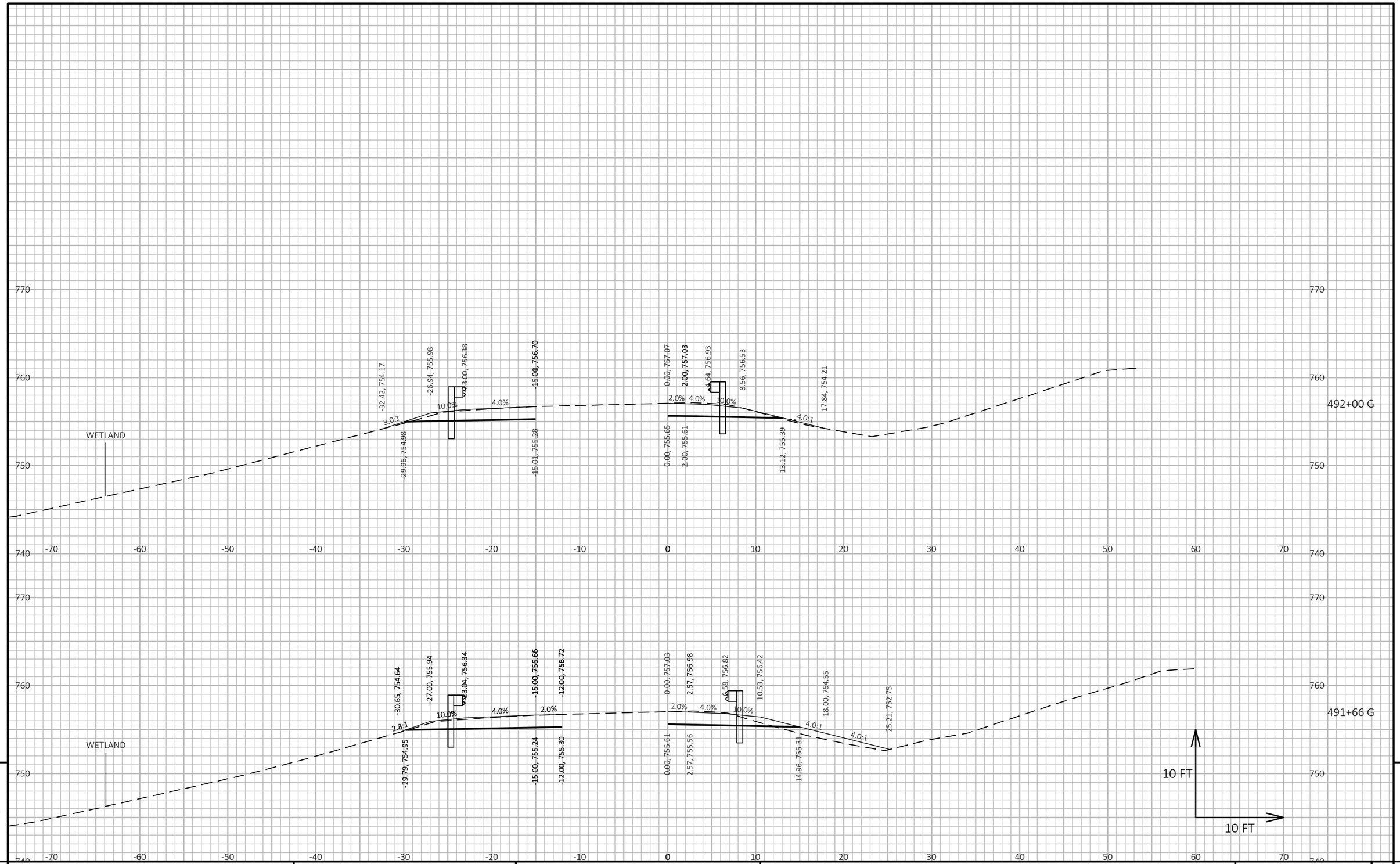


PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH CE (G CHAIN)	SHEET 434	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090278_xs

PLOT DATE : 6/20/2022 9:10 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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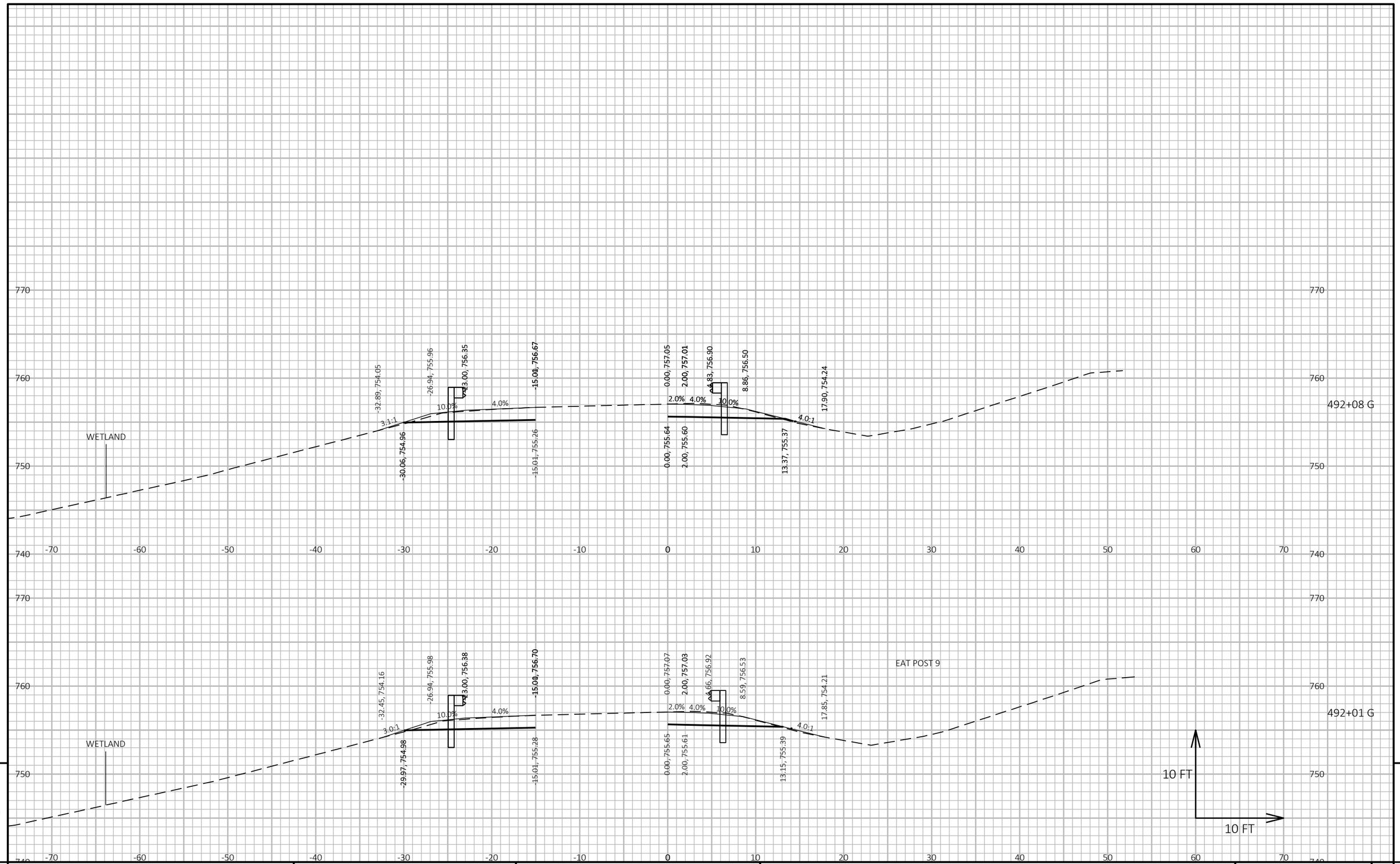
9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH CE (G CHAIN)	SHEET 435	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090279_xs

PLOT DATE : 6/20/2022 9:10 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

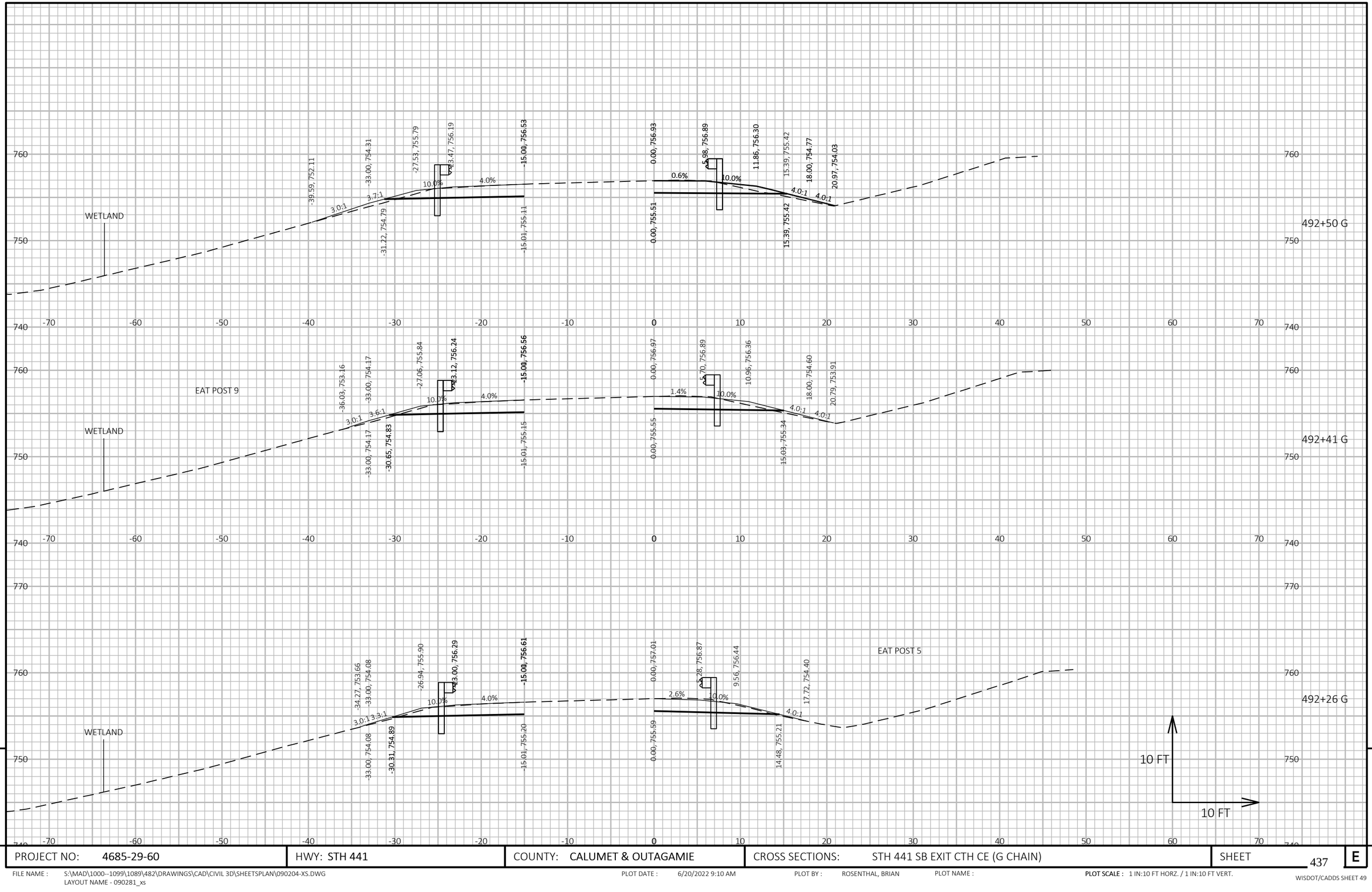
9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH CE (G CHAIN)	SHEET 436	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090280_xs

PLOT DATE : 6/20/2022 9:10 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH CE (G CHAIN)	SHEET 437	E

EAT POST 1

WETLAND

-57.06, 746.86

3.0:1

-30.94, 755.30

-34.16, 754.49

-25.00, 755.89

10.0%

4.0%

-15.00, 756.29

-15.01, 754.87

492+91 G

WETLAND

-49.78, 749.08

3.0:1

-29.72, 755.47

-33.26, 754.58

-24.56, 755.98

10.0%

4.0%

-15.00, 756.36

-15.01, 754.95

0.00, 756.75

3.00, 756.81

4.00, 756.77

9.89, 756.18

16.02, 755.13

1.9%

4.0%

10.0%

0.00, 755.34

3.00, 755.39

13.91, 755.18

492+79 G

EAT POST 5

WETLAND

-44.85, 750.55

3.0:1

4.0:1

-33.00, 754.49

-32.22, 754.69

-28.33, 755.66

-24.06, 756.09

10.0%

4.0%

-15.00, 756.45

-15.01, 755.03

0.00, 756.83

4.40, 756.87

10.84, 756.22

14.38, 755.34

0.8%

10.0%

4.0:1

0.00, 755.42

13.64, 755.52

492+66 G

EAT POST 1

WETLAND

-39.93, 752.01

3.0:1

3.7:1

-33.00, 754.32

-31.27, 754.78

-27.57, 755.78

-23.49, 756.19

10.0%

4.0%

-15.00, 756.53

-15.01, 755.11

0.00, 756.92

6.00, 756.89

11.93, 756.30

18.00, 754.78

20.96, 754.04

0.5%

10.0%

4.0:1

4.0:1

0.00, 755.51

15.42, 755.43

492+51 G

10 FT

10 FT

9

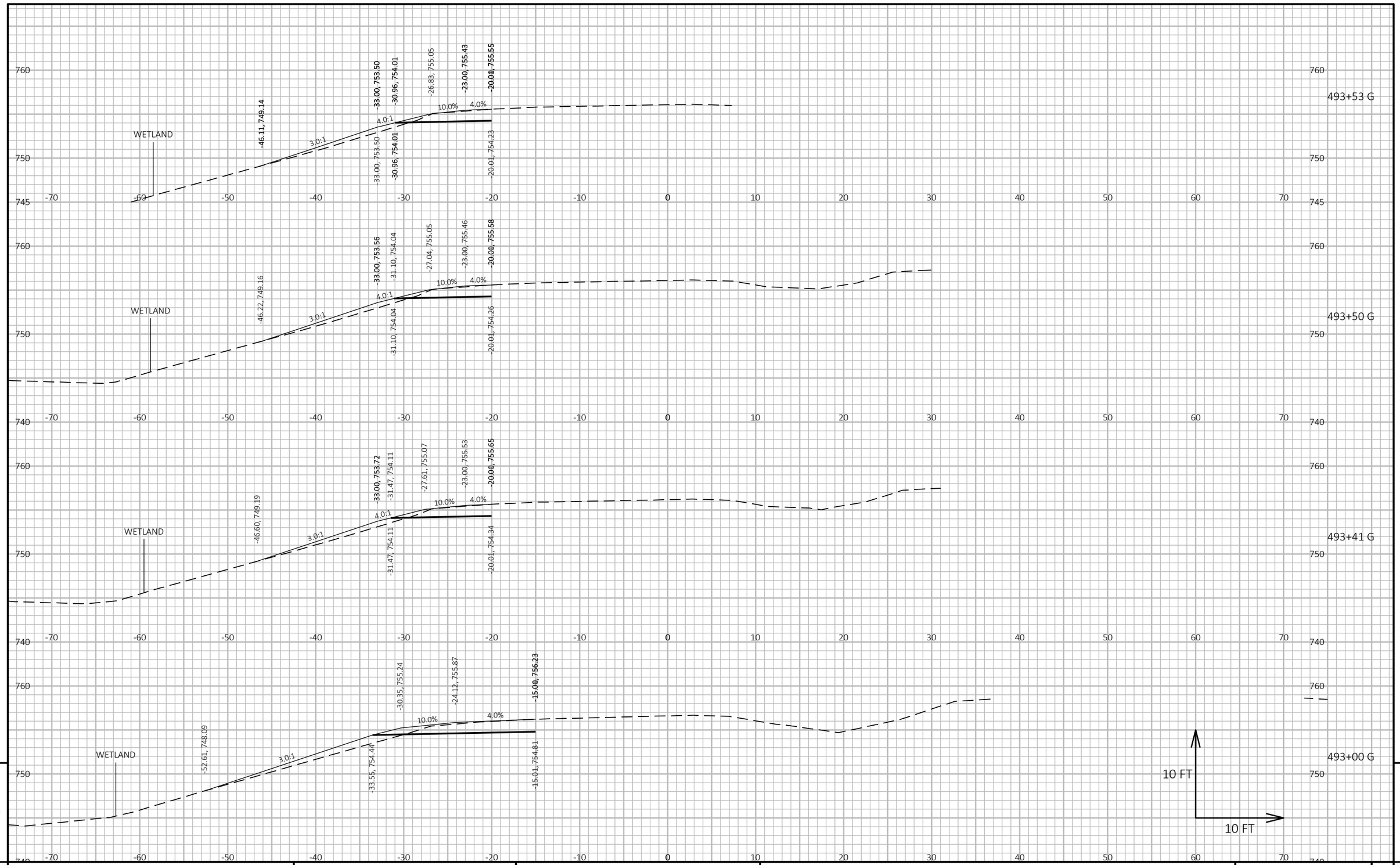
9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH CE (G CHAIN)	SHEET 438	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090282_xs

PLOT DATE : 6/20/2022 9:10 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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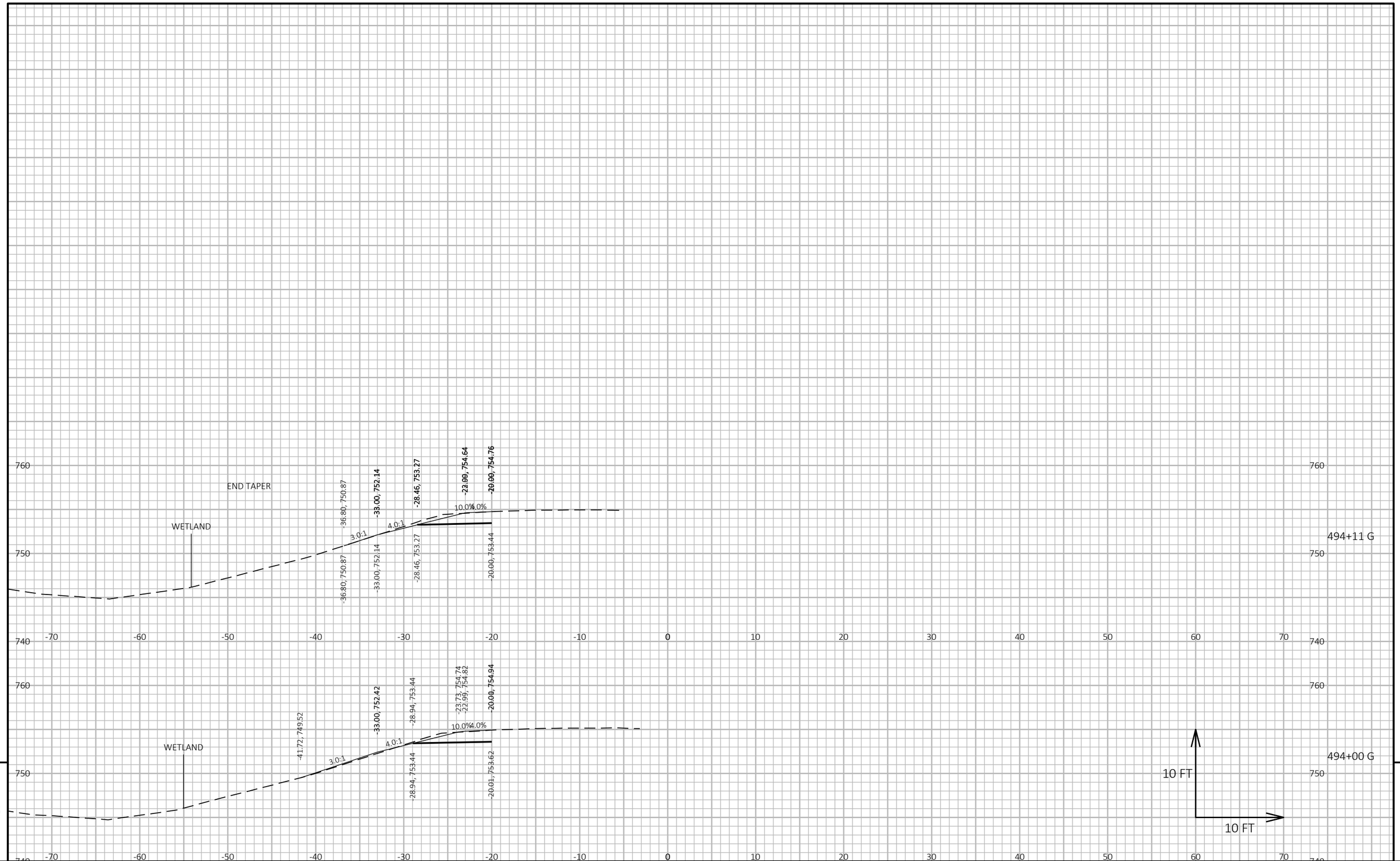
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH CE (G CHAIN)	SHEET 439	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090283_xs

PLOT DATE : 6/20/2022 9:10 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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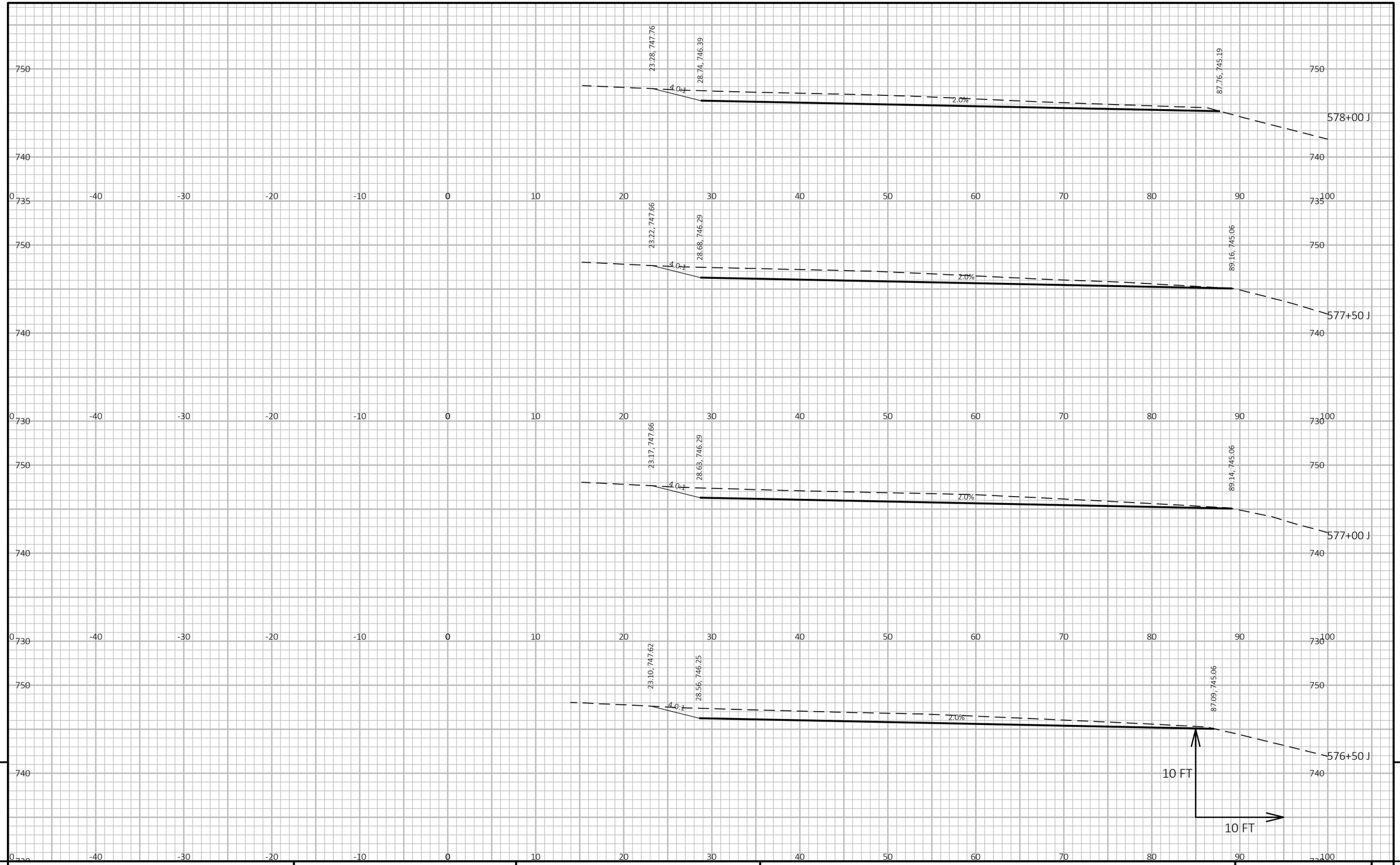
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB EXIT CTH CE (G CHAIN)	SHEET 440	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090284_xs

PLOT DATE : 6/20/2022 9:10 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 441	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090401_xs

PLOT DATE : 8/30/2022 3:17 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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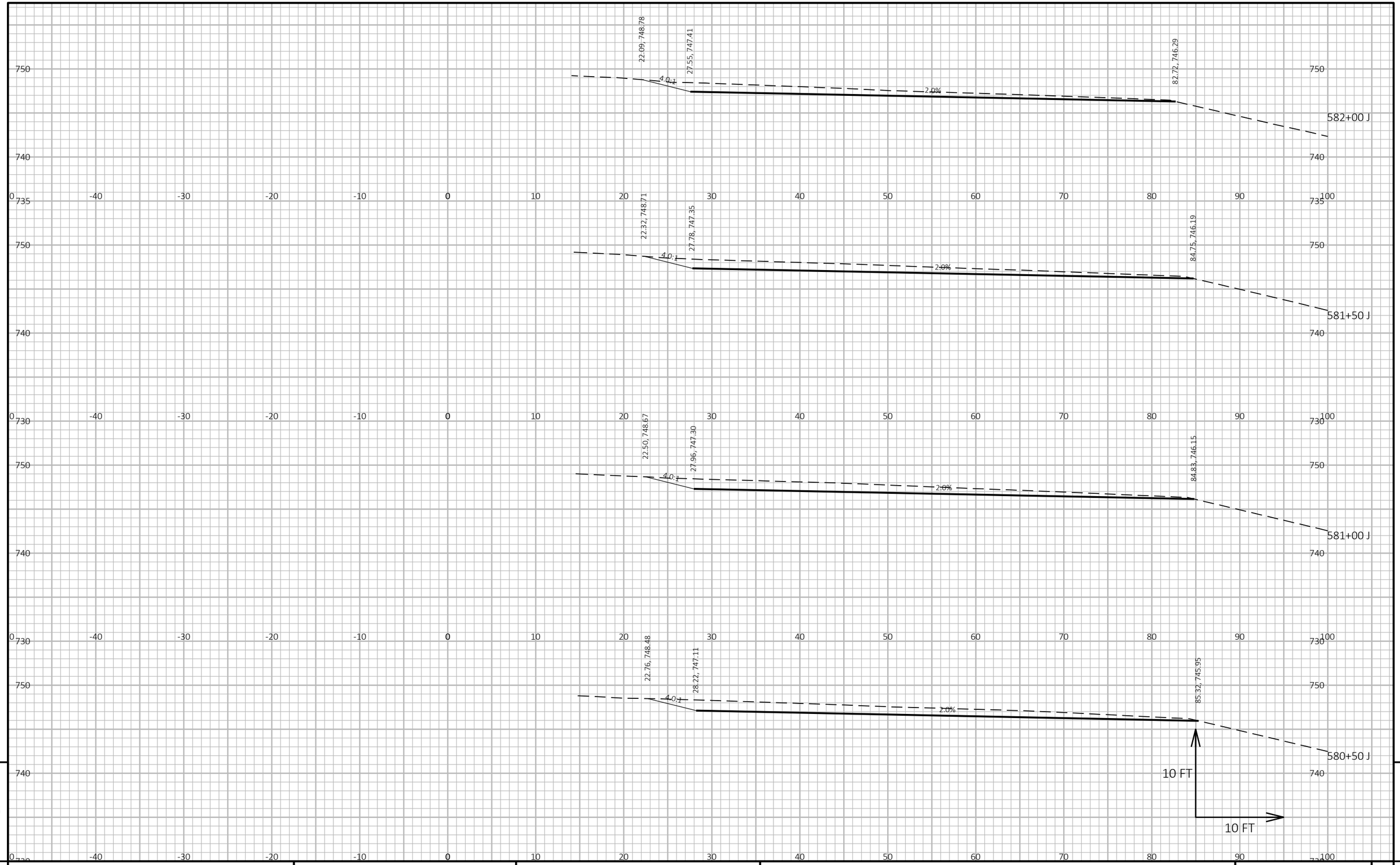
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 442	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090402_xs

PLOT DATE : 8/30/2022 3:17 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 443	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090403_xs

PLOT DATE : 8/30/2022 3:18 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

9

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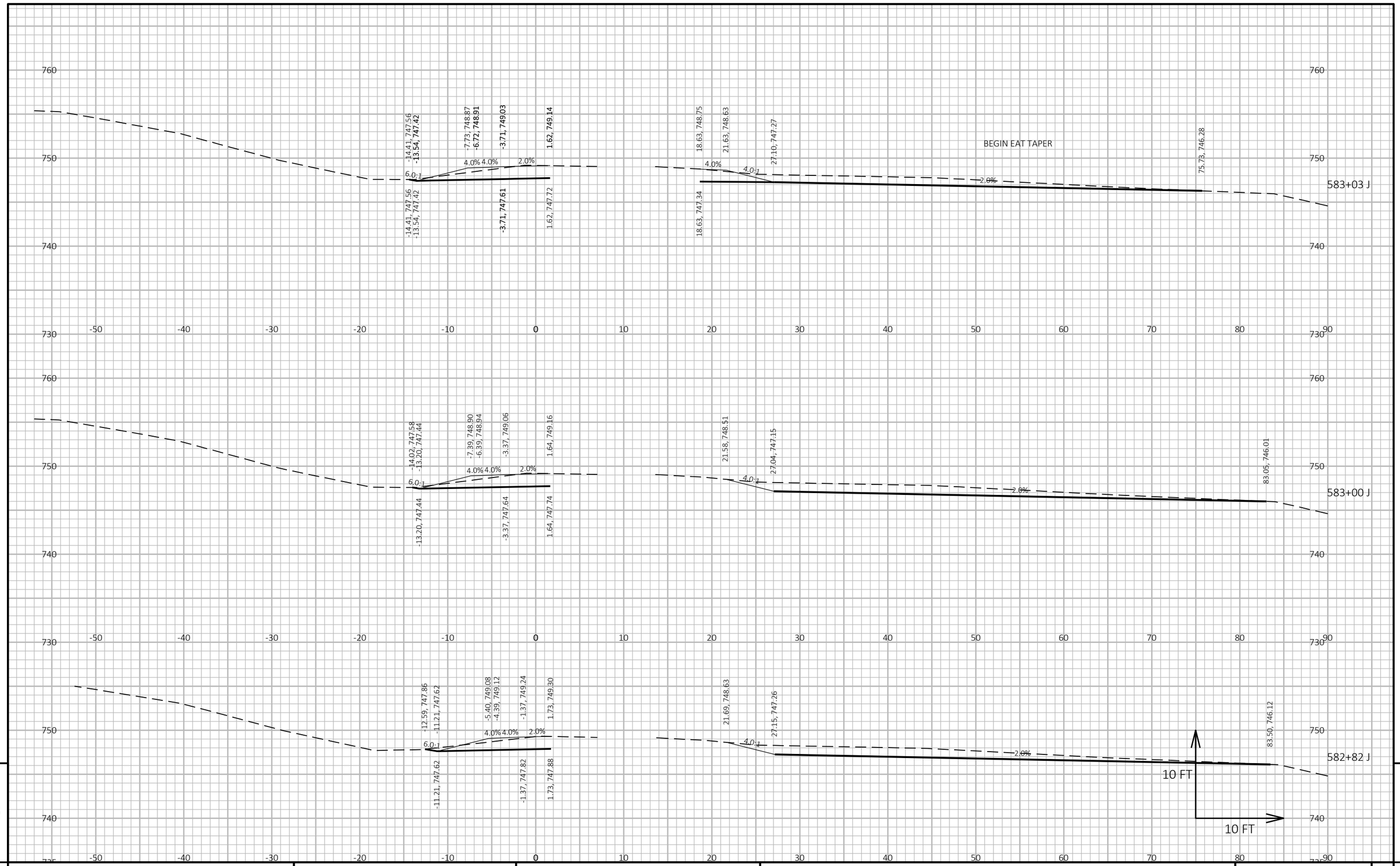
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 444	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090404_xs
PLOT DATE : 8/30/2022 3:19 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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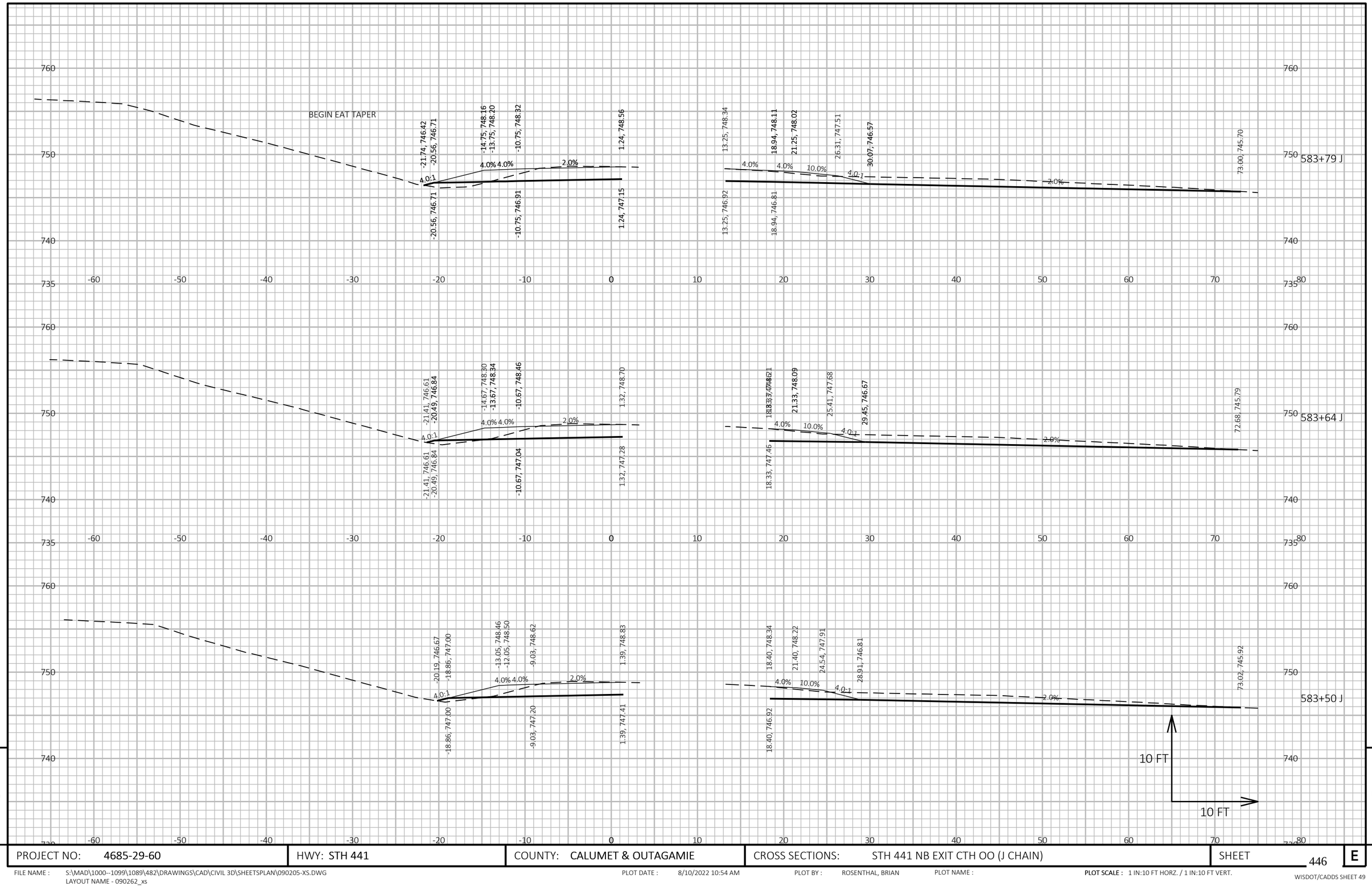
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 445	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090261_xs

PLOT DATE : 8/30/2022 3:04 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

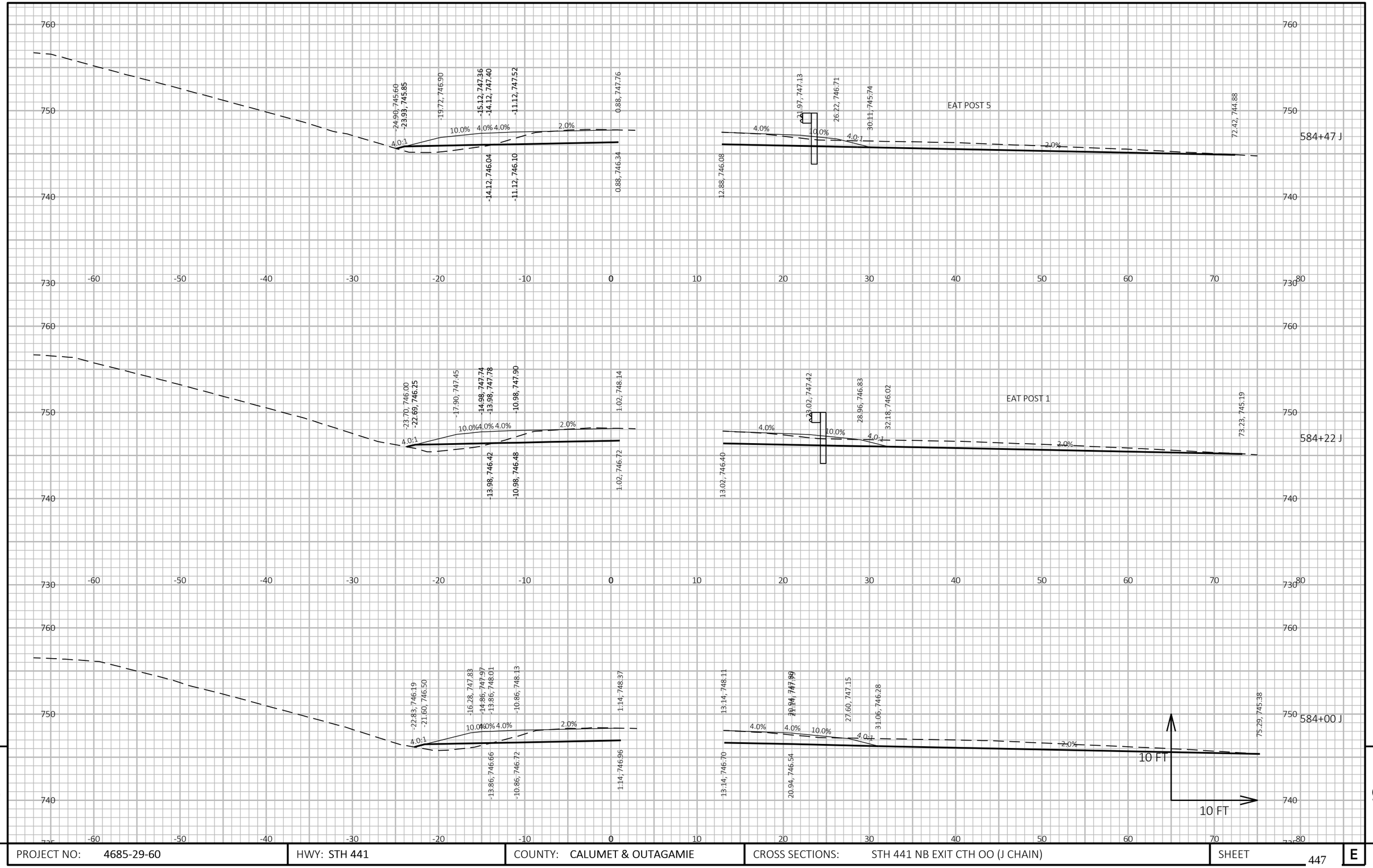


PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 446	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090262_xs

PLOT DATE : 8/10/2022 10:54 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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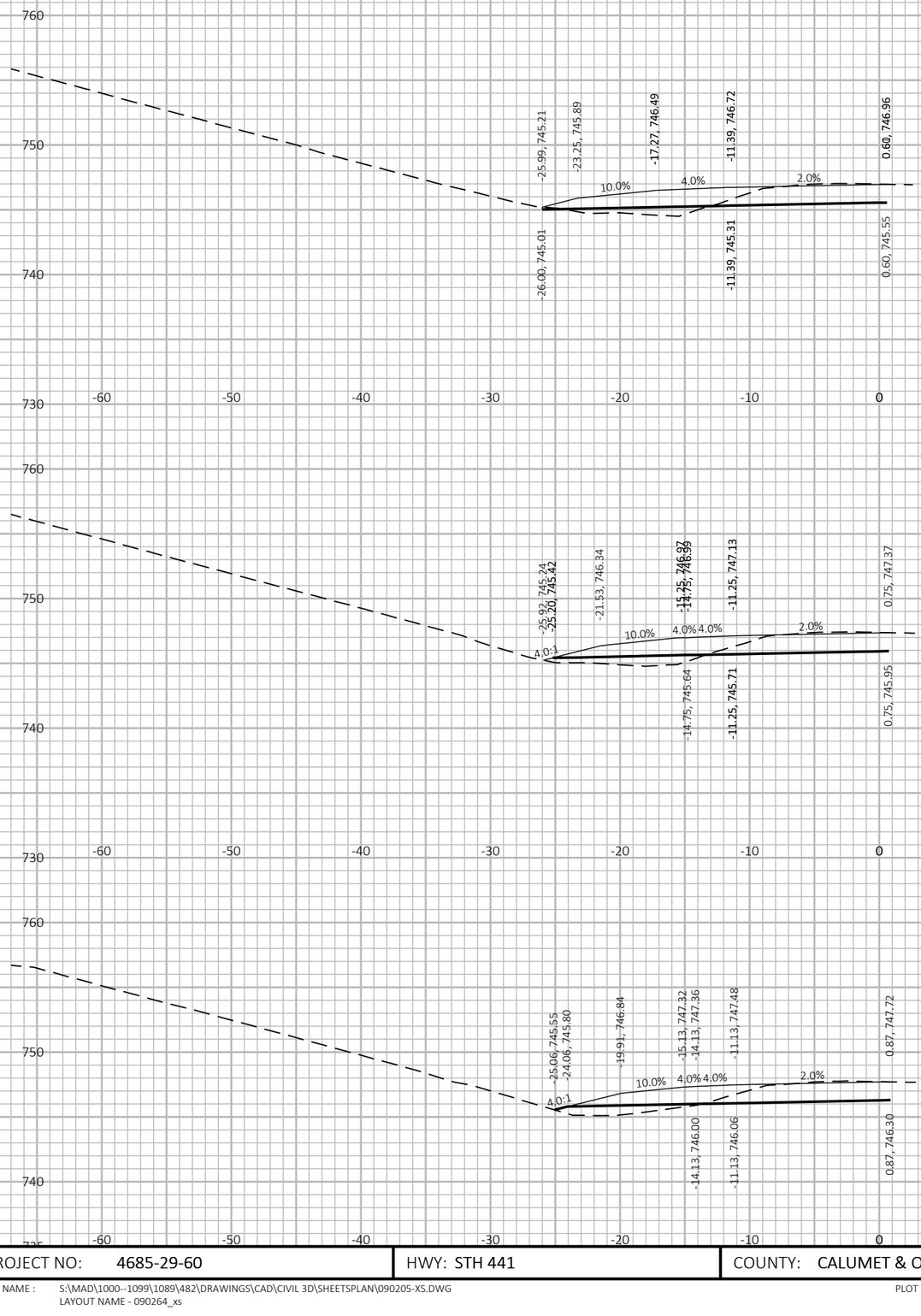
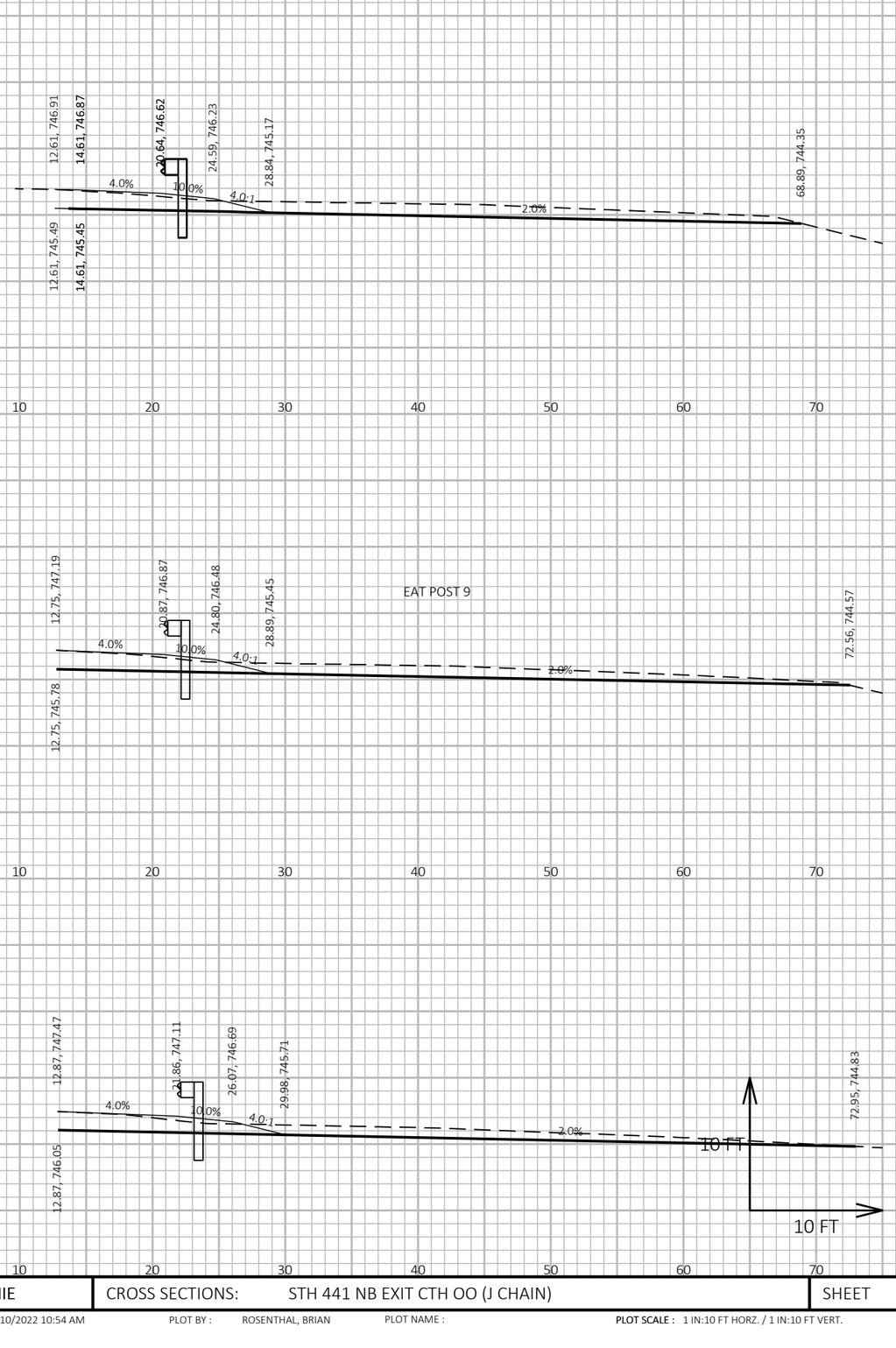
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 447	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090263_xs

PLOT DATE : 8/10/2022 10:54 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





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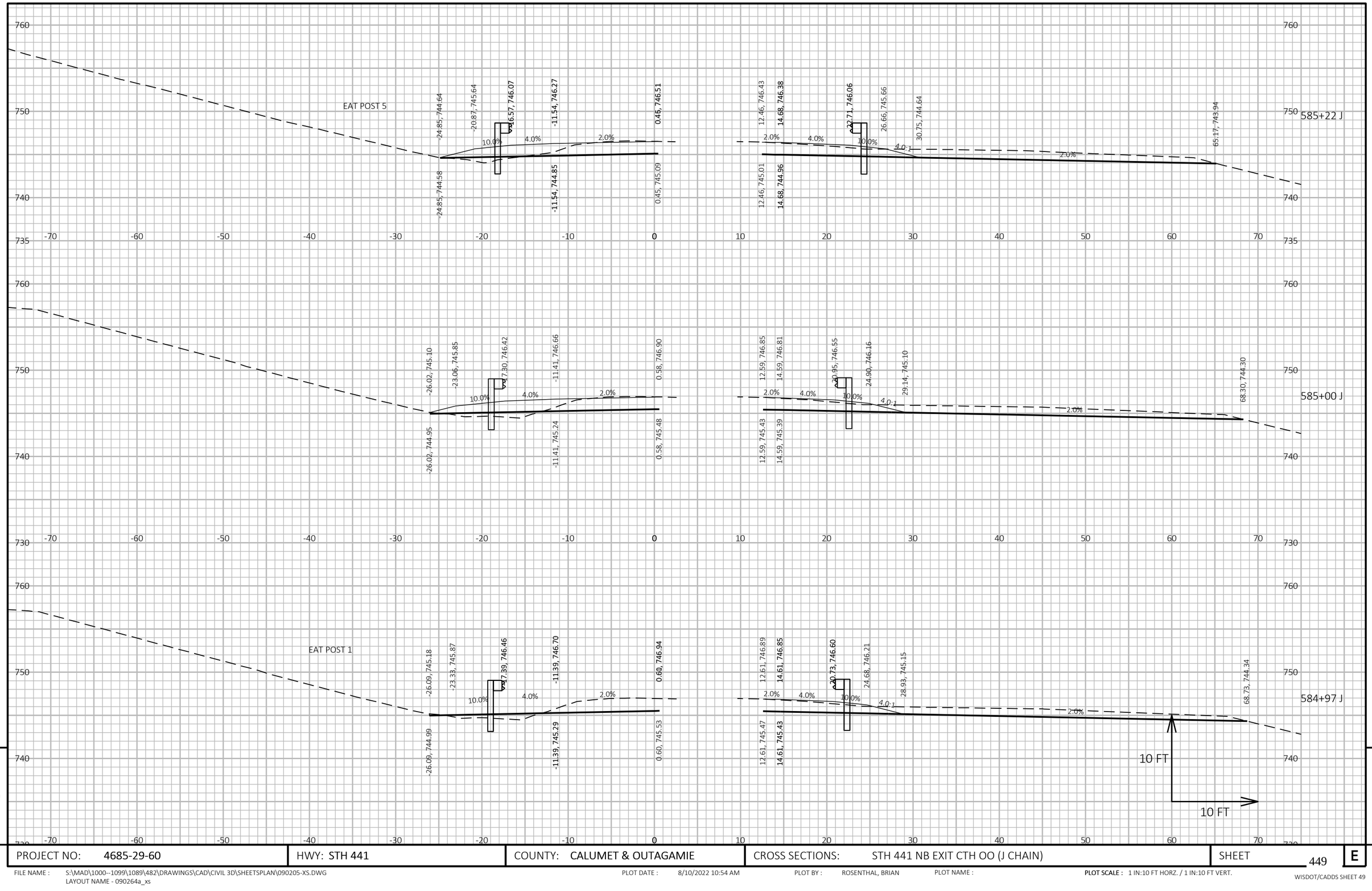
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 448	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090264_xs

PLOT DATE : 8/10/2022 10:54 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

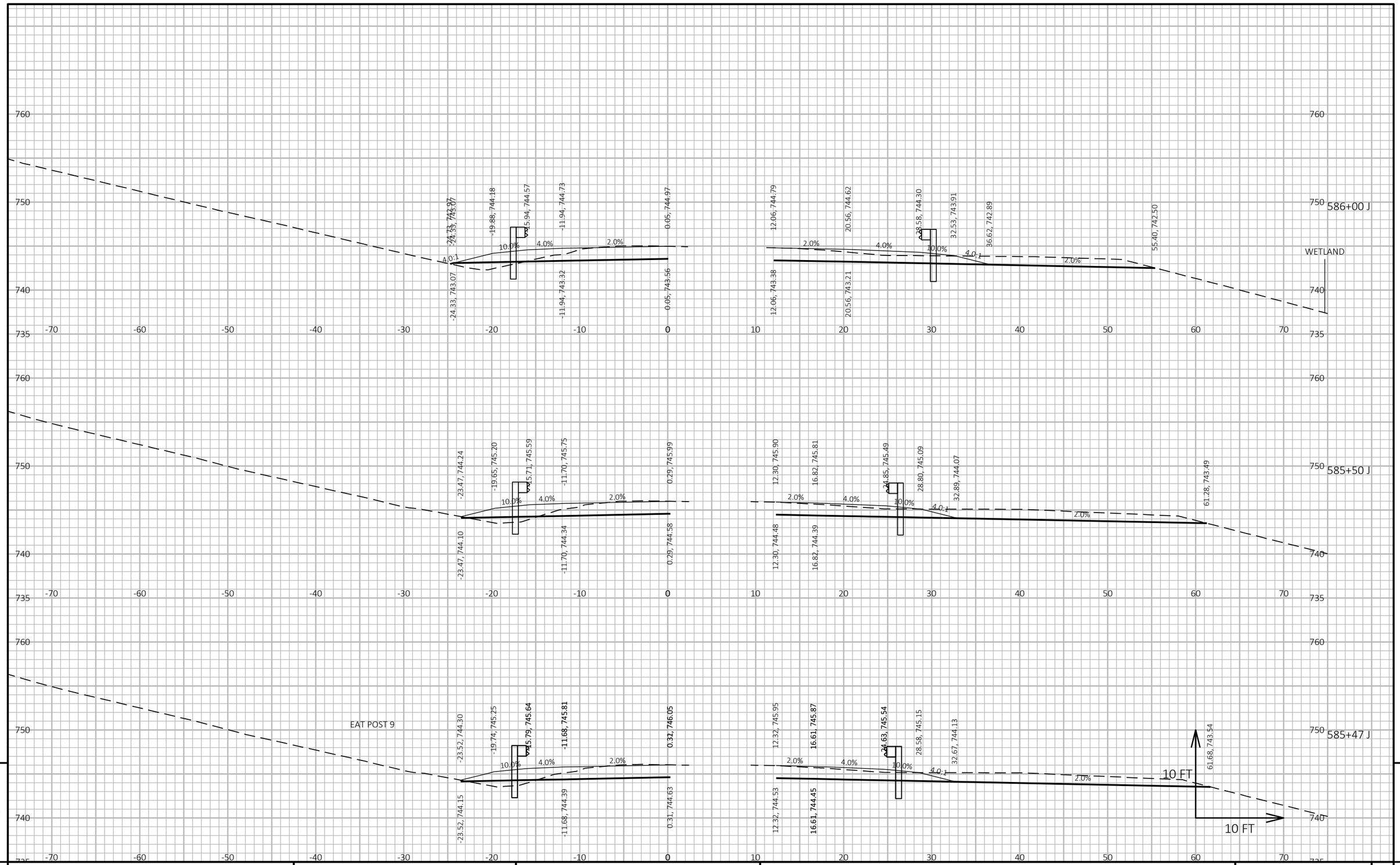


PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 449	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090264a_xs

PLOT DATE : 8/10/2022 10:54 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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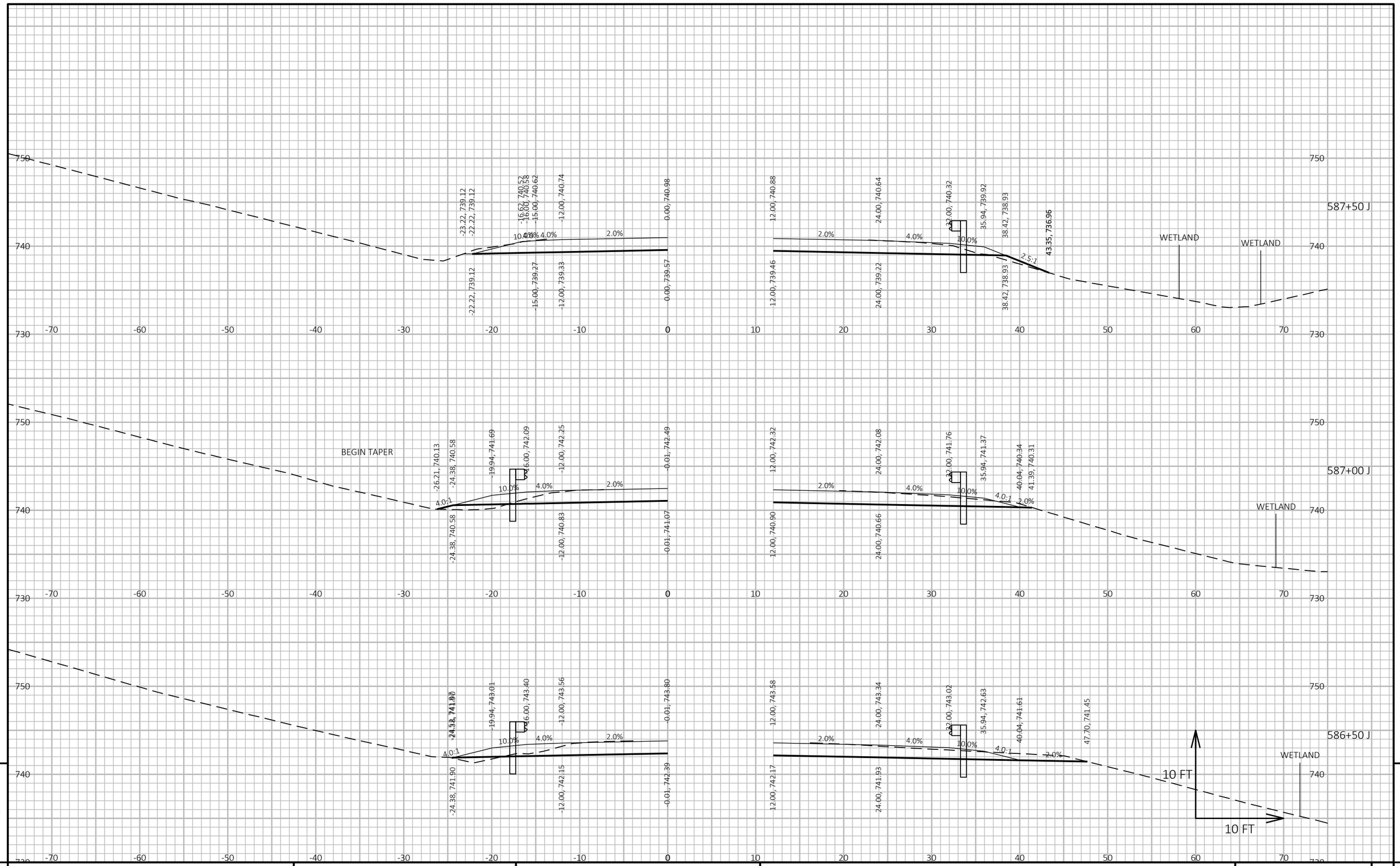
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 450	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090264b_xs

PLOT DATE : 8/10/2022 10:54 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

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PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 451	E

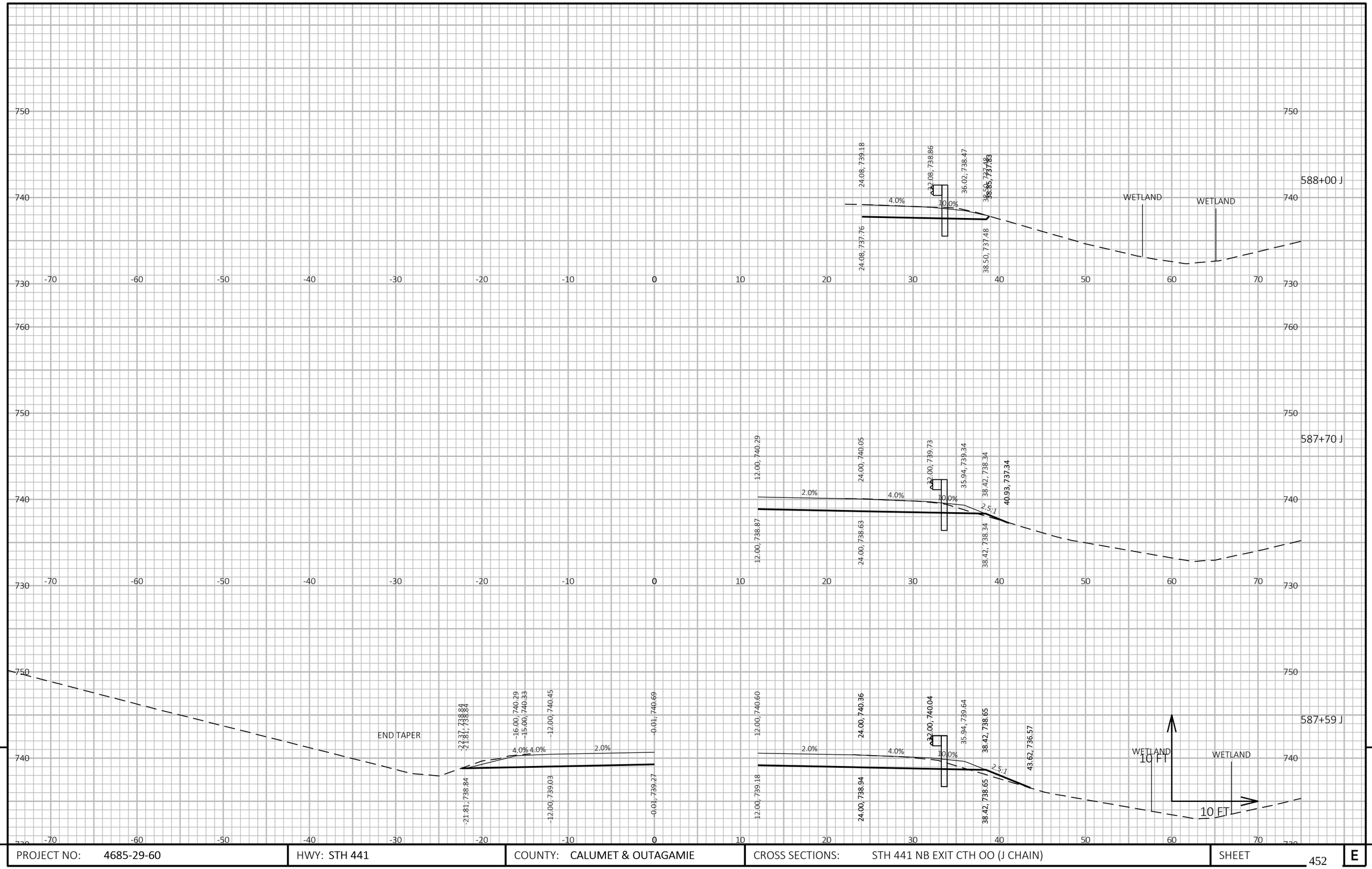
FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090264c_xs

PLOT DATE : 8/10/2022 10:55 AM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

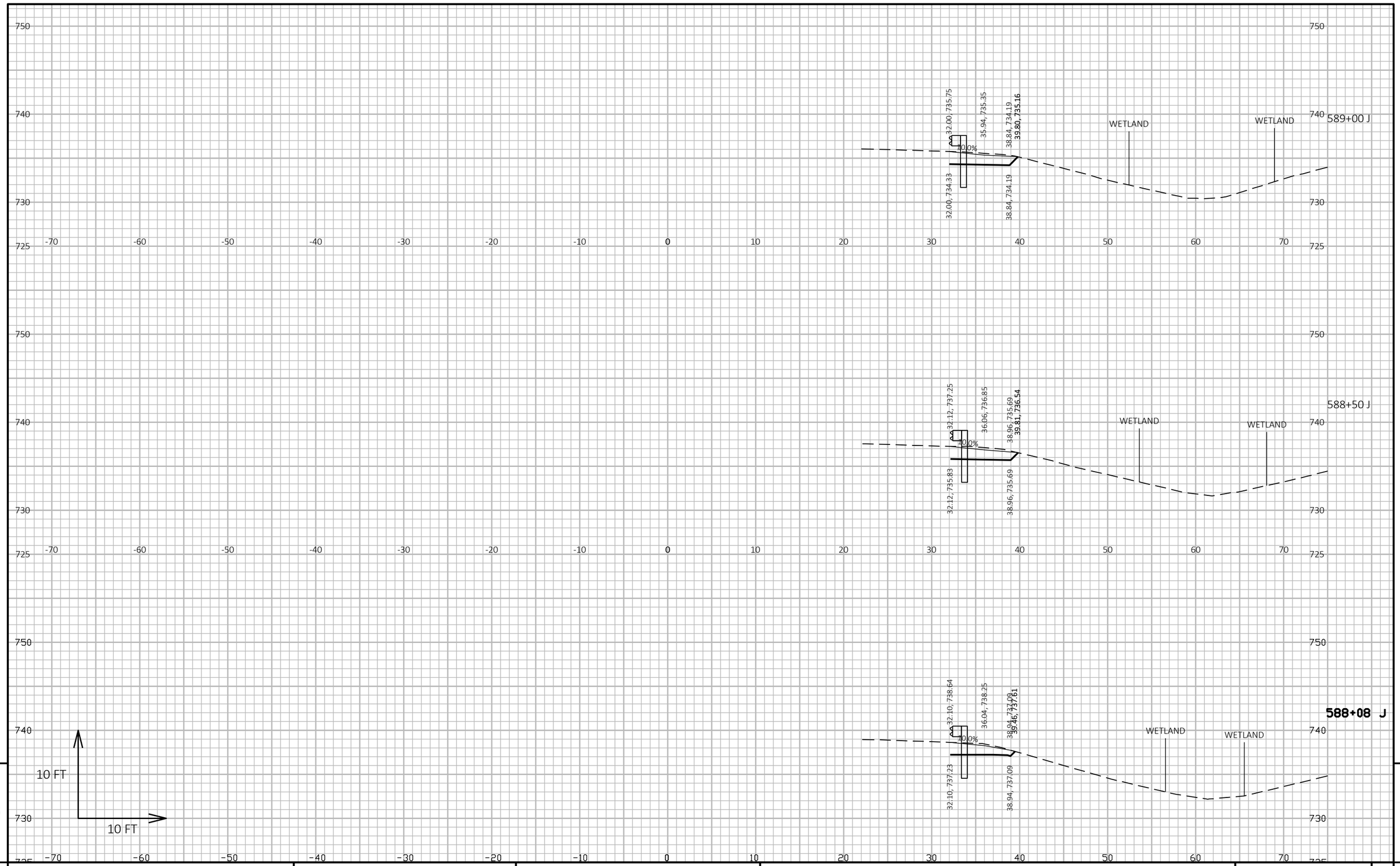
9

PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 452	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090264d_xs

PLOT DATE : 6/20/2022 9:13 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 NB EXIT CTH OO (J CHAIN)	SHEET 453	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090264e_xs

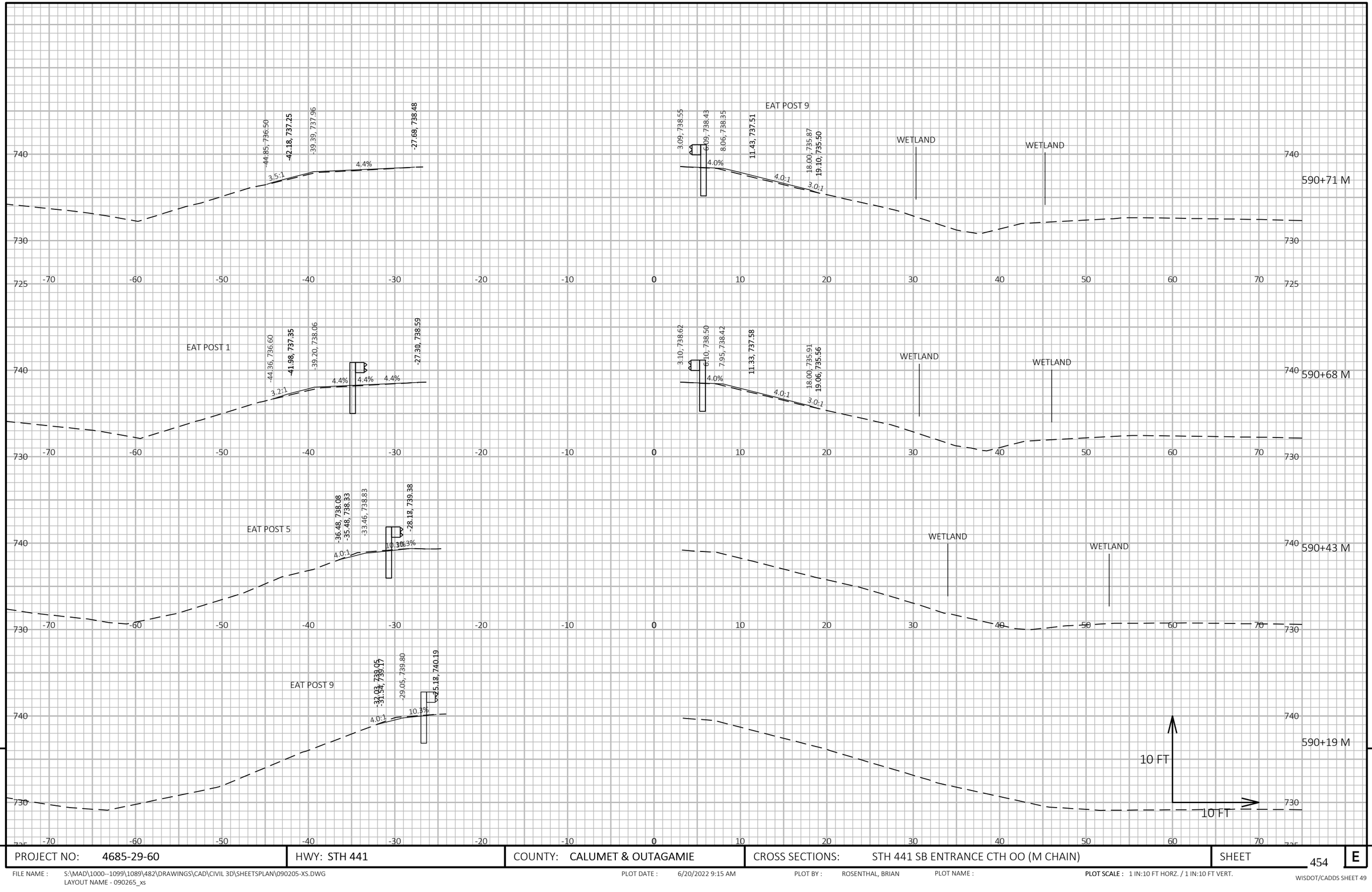
PLOT DATE : 6/20/2022 9:13 AM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

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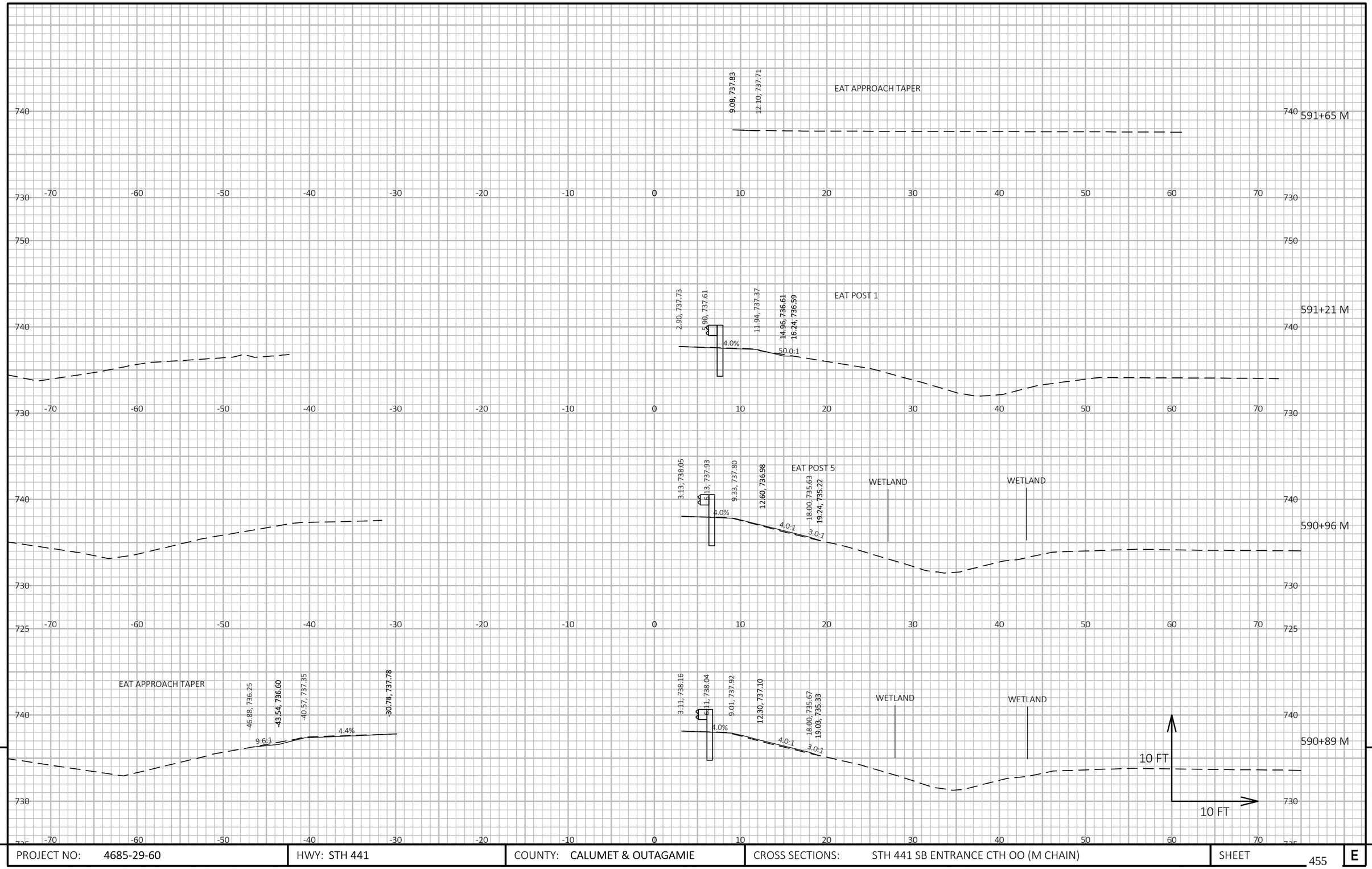
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB ENTRANCE CTH OO (M CHAIN)	SHEET 454	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090265_xs

PLOT DATE : 6/20/2022 9:15 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

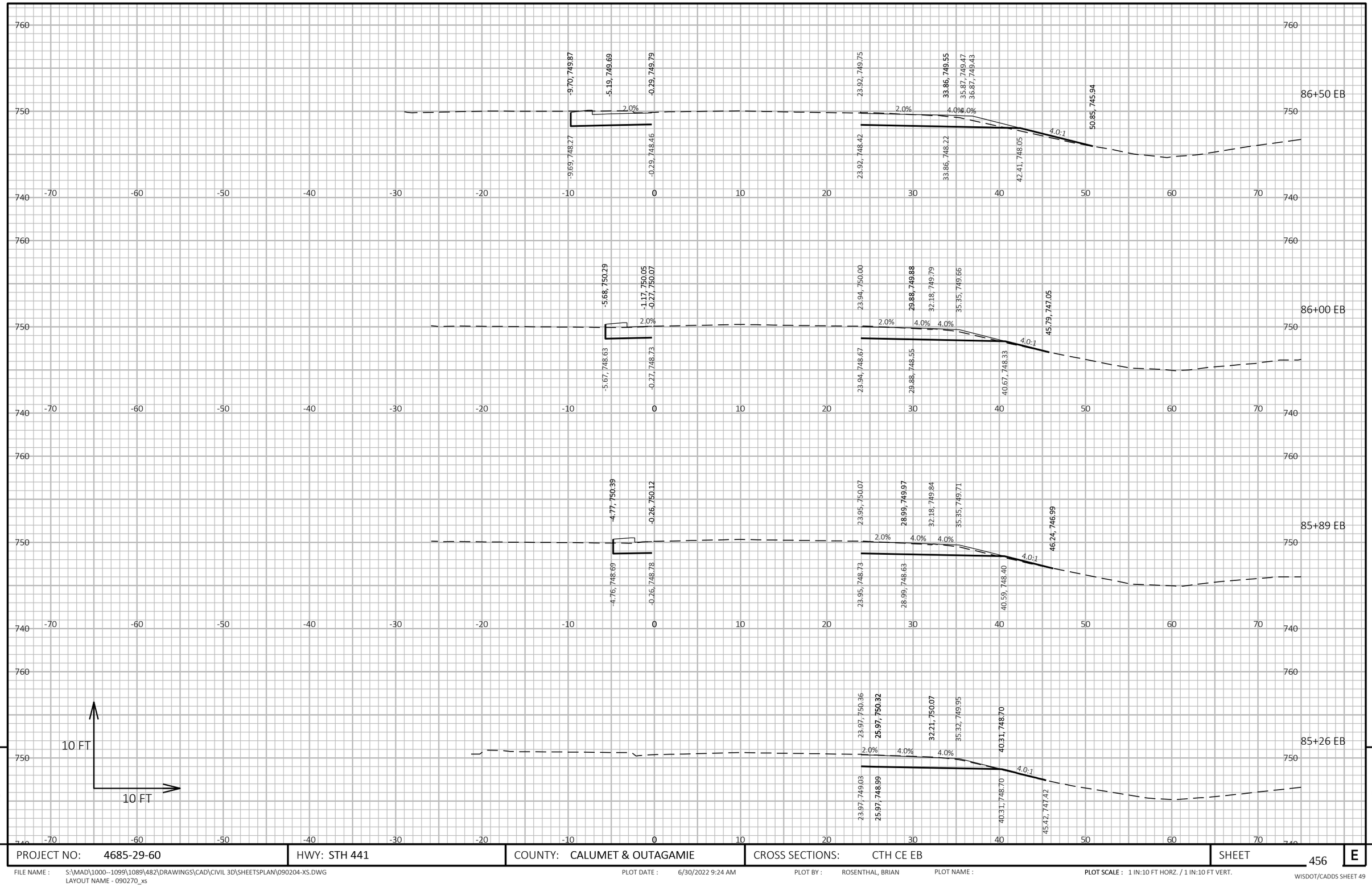


PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: STH 441 SB ENTRANCE CTH OO (M CHAIN)	SHEET 455	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090205-XS.DWG
LAYOUT NAME - 090266_xs

PLOT DATE : 6/20/2022 9:15 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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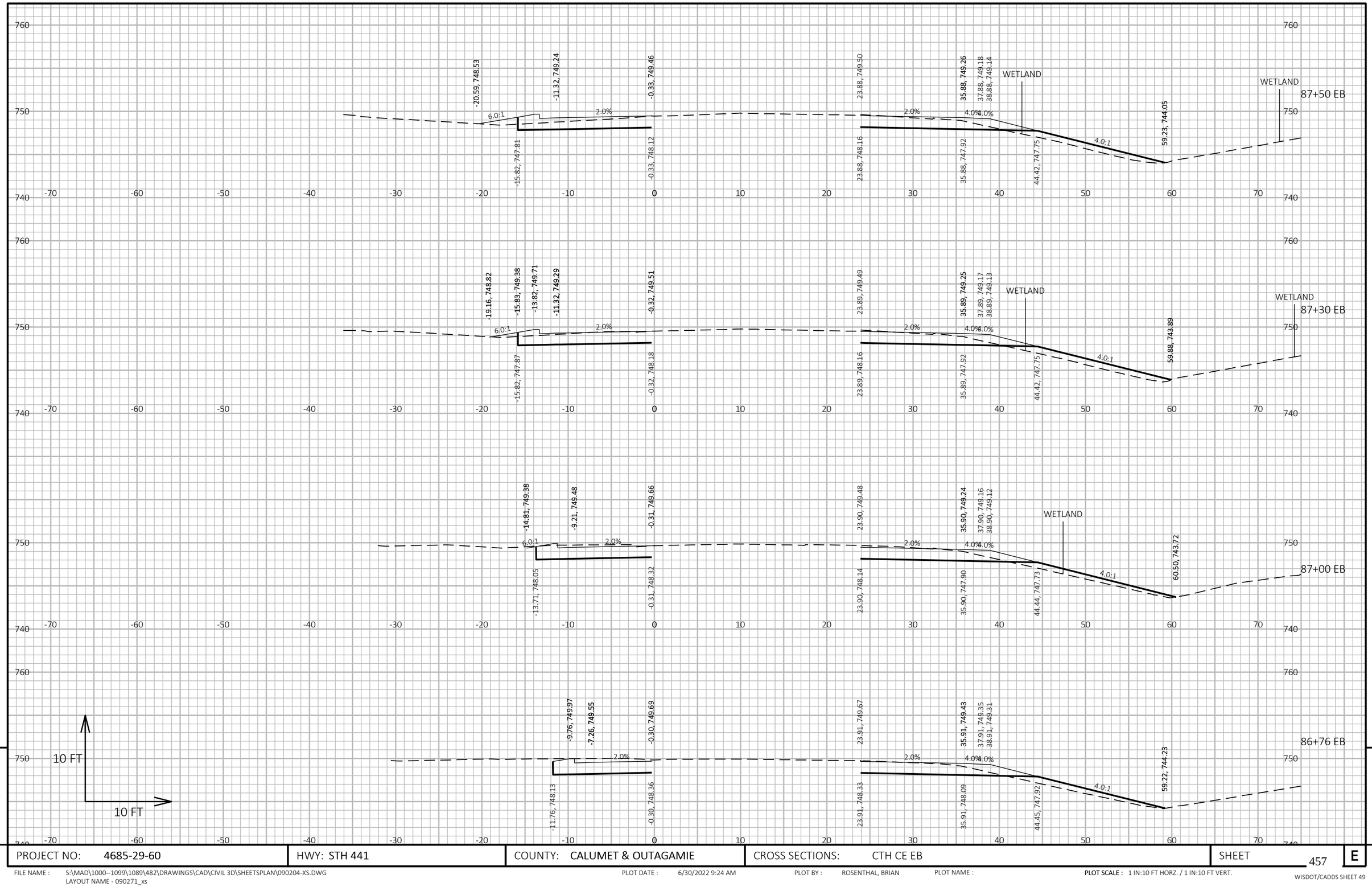
PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: CTH CE EB	SHEET 456	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090270_xs

PLOT DATE : 6/30/2022 9:24 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

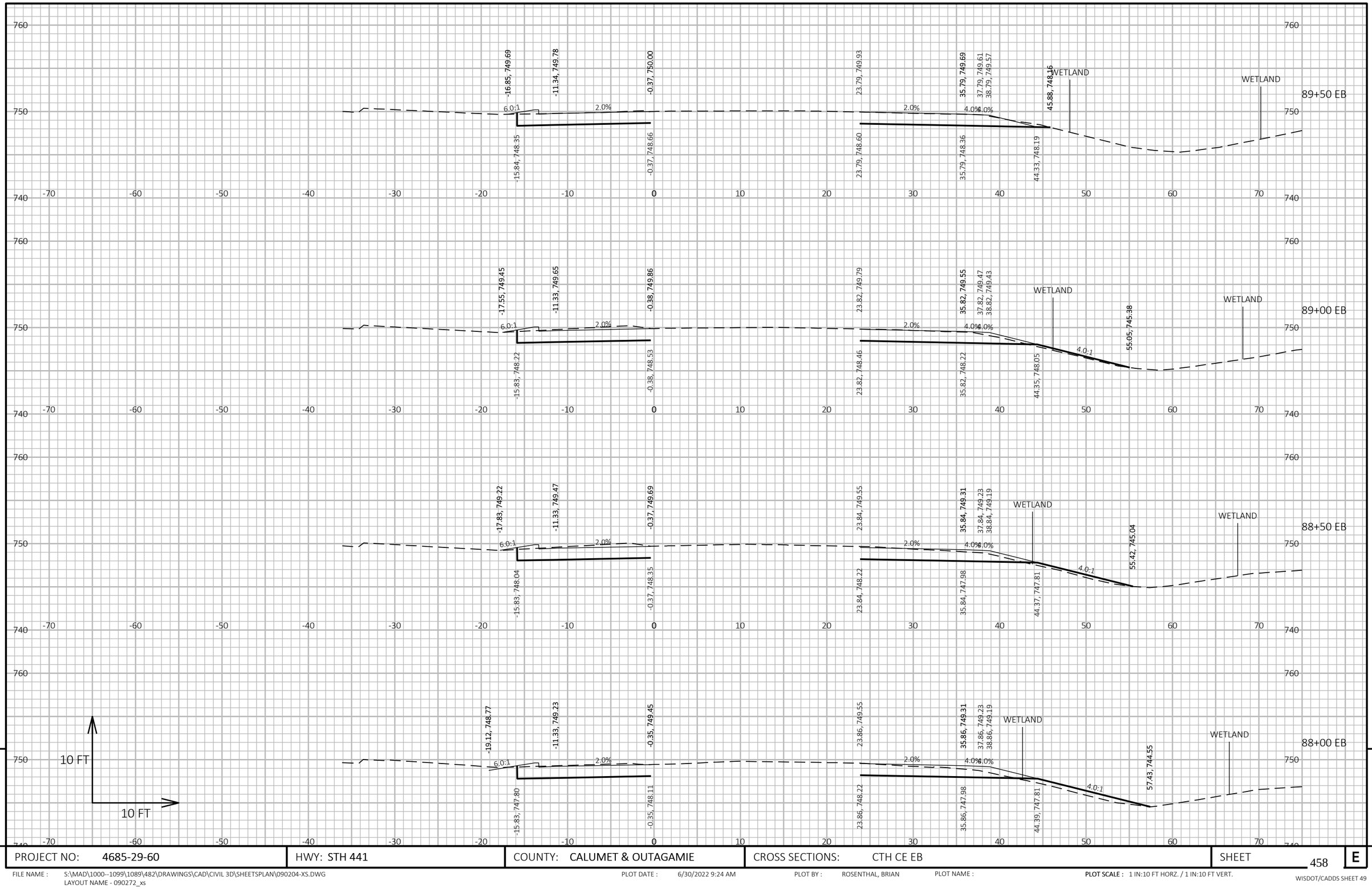


PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: CTH CE EB	SHEET 457	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090271_xs

PLOT DATE : 6/30/2022 9:24 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

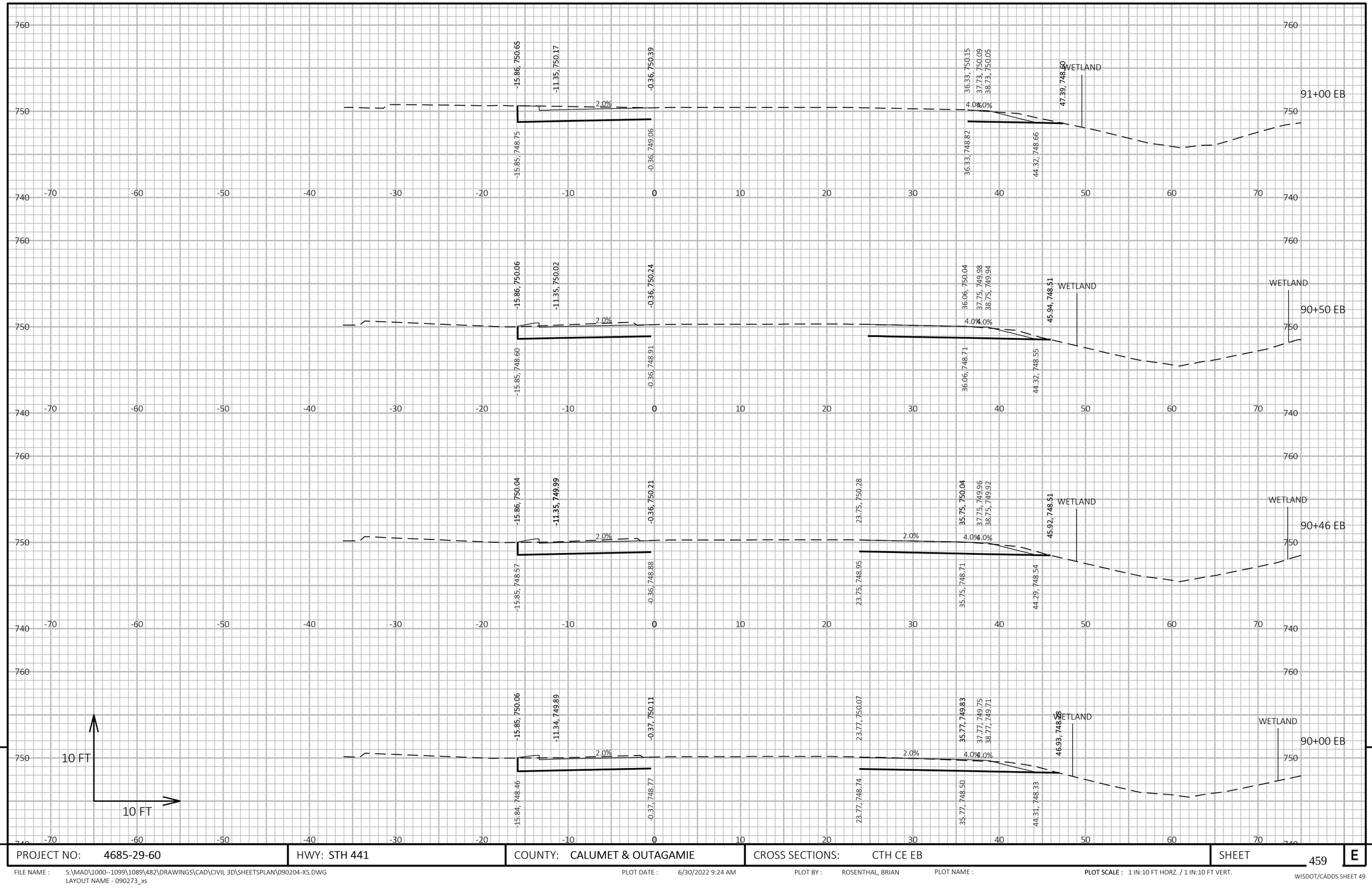


PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: CTH CE EB	SHEET 458	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090272_xs

PLOT DATE : 6/30/2022 9:24 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 4685-29-60	HWY: STH 441	COUNTY: CALUMET & OUTAGAMIE	CROSS SECTIONS: CTH CE EB	SHEET 459	E

FILE NAME : S:\MAD\1000--1099\1089\482\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090204-XS.DWG
LAYOUT NAME - 090273_xs

PLOT DATE : 6/30/2022 9:24 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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