WKE

Sept 2014

PROJECT ID: 2250-00-75, 2340-00-73

COUNTY: RACINE

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 = 386



02

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2250-00-75	WISC 2014340	1
2340-00-73	WISC 2014341	1

WASHINGTON AVE
VILLAGE OF STURTEVANT
CTH H TO 90TH STREET

STH 20

RACINE COUNTY

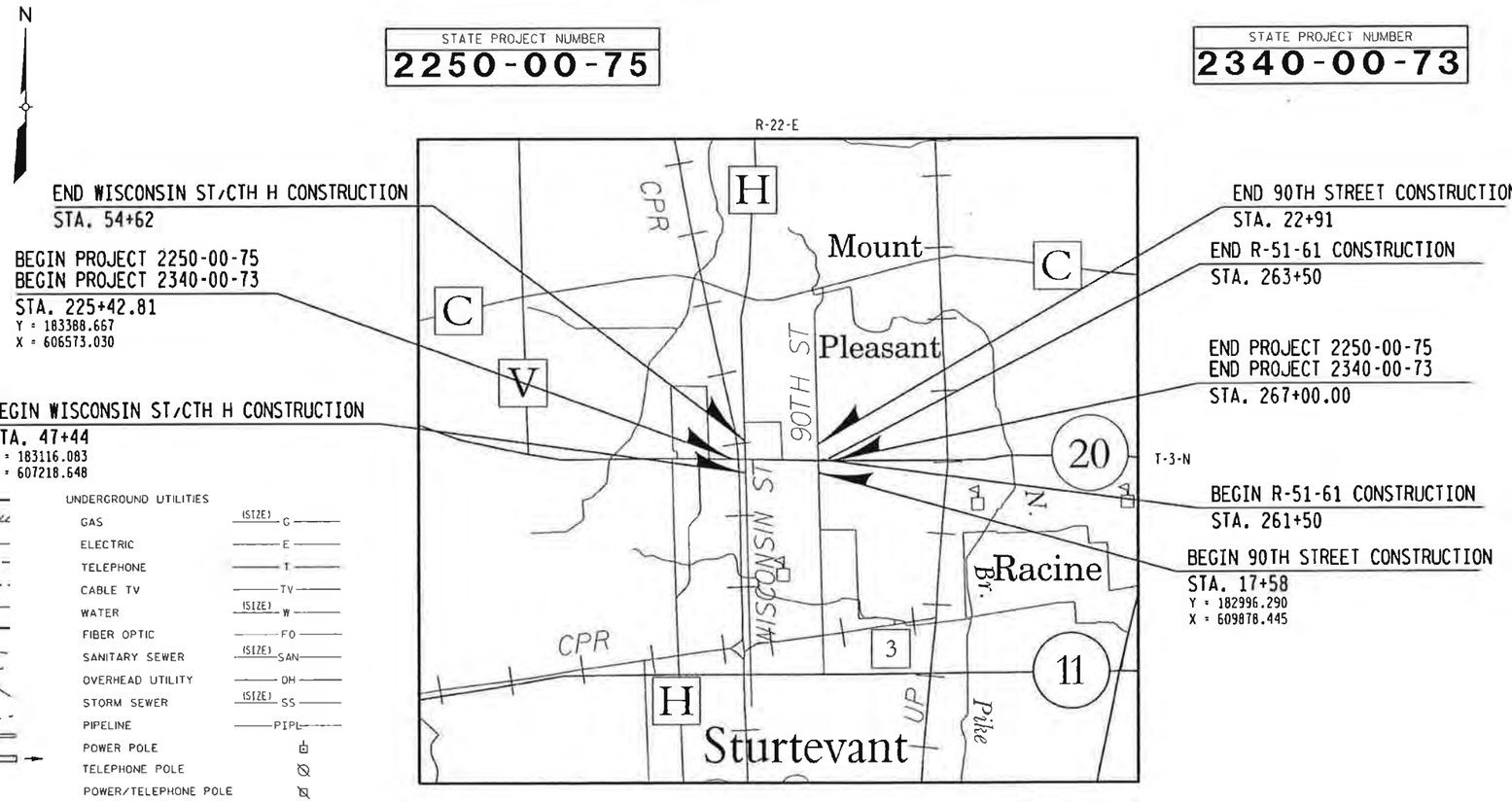
STATE PROJECT NUMBER
2250-00-75

WASHINGTON AVENUE
INTERSECTIONS WITH CTH H & 90TH ST

STH 20

RACINE COUNTY

STATE PROJECT NUMBER
2340-00-73



END WISCONSIN ST/CTH H CONSTRUCTION
STA. 54+62

BEGIN PROJECT 2250-00-75
BEGIN PROJECT 2340-00-73
STA. 225+42.81
Y = 183388.667
X = 606573.030

BEGIN WISCONSIN ST/CTH H CONSTRUCTION
STA. 47+44
Y = 183116.083
X = 607218.648

END 90TH STREET CONSTRUCTION
STA. 22+91

END R-51-61 CONSTRUCTION
STA. 263+50

END PROJECT 2250-00-75
END PROJECT 2340-00-73
STA. 267+00.00

BEGIN R-51-61 CONSTRUCTION
STA. 261+50

BEGIN 90TH STREET CONSTRUCTION
STA. 17+58
Y = 182996.290
X = 609878.445

LAYOUT
SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.787 MI.

DESIGN DESIGNATION

A.A.D.T. 2014	=	28,450
A.A.D.T. 2034	=	34,800
D.H.V. 6.8%	=	1,935
D.D.	=	58/42
T.	=	8.5%
DESIGN SPEED	=	55 MPH
ESALS	=	5,715,900

CONVENTIONAL SYMBOLS

COUNTY LINE
CORPORATE LIMITS
PROPERTY LINE
LOT LINE
LIMITED EASEMENT
EXISTING RIGHT OF WAY
NEW RIGHT OF WAY
REFERENCE LINE
SLOPE INTERCEPT
ORIGINAL GROUND
MARSH or ROCK PROFILE
CULVERT IN PLACE
CULVERT REQUIRED
CULVERTS REQUIRED (PROFILE)
COMBUSTIBLE FLUIDS (CAUTION)
HIGH VOLTAGE TRANSMISSION LINE (69 kV AND HIGHER) (CAUTION)

UNDERGROUND UTILITIES

GAS (SIZE) G
ELECTRIC E
TELEPHONE T
CABLE TV TV
WATER (SIZE) W
FIBER OPTIC FO
SANITARY SEWER (SIZE) SAN
OVERHEAD UTILITY OH
STORM SEWER (SIZE) SS
PIPELINE PIPL
POWER POLE
TELEPHONE POLE
POWER/TELEPHONE POLE
SERVICE PEDESTAL
WELL
SEPTIC TANK VENT
WOODED AREA
EXISTING SIGN
SATELLITE DISH
MAIL BOX

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), RACINE COUNTY, NAD 1983 (2007)

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD 88 (91)

ORIGINAL PLANS PREPARED BY
AECOM

WISCONSIN
SEAN M. HADFIELD
E-34941
MADISON, WI
PROFESSIONAL ENGINEER

5/9/14 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AECOM
Designer	AECOM
Project Manager	KEITH MARTIN
Regional Examiner	
Regional Supervisor	JAMES FORSETH
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 7/2/14 (Signature)

E

UTILITY CONTACTS

WE ENERGIES (ELECTRIC)
MR. LATROY BRUMFIELD
333 W. EVERETT STREET - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
latroy.brumfield@we-energies.com

WE ENERGIES (ELECTRIC) FIELD CONTACT:
MR. AL SCHMITT
245 SAND DR
WEST BEND, WI 53095
PHONE: (262) 338-7662
CELL: (414) 322-1824
al.schmitt@we-energies.com

WE ENERGIES (GAS OPERATIONS)
MR. LATROY BRUMFIELD
333 W. EVERETT STREET - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
latroy.brumfield@we-energies.com

VILLAGE OF MOUNT PLEASANT
SEWER UTILITY
MR. TONY BEYER
8811 CAMPUS DRIVE
MOUNT PLEASANT, WI 53406
PHONE: (262) 664-7800, EX.7849
tbeyer@mtpleasantwi.gov

TDS TELECOM
MR. MICHAEL JOHNSON
20875 CROSSROADS CIRCLE, SUITE 800
WAUKESHA, WI 53186
PHONE: (262) 754-3052
MOBILE: (262) 939-6355
michael.johnson@tdstelecom.com

CITY OF RACINE
WATER & WASTEWATER DEPT.
MR. KEITH HAAS
800 CENTER ST, ROOM 227
RACINE, WI 53403
PHONE: (262) 636-9432
keith.haas@cityofracine.org

TIME WARNER CABLE
MR. STEVE CRAMER
1320 N. MARTIN LUTHER KING JR. DRIVE
MILWAUKEE, WI 53212
PHONE: (414) 277-4045
steve.cramer@twcable.com

WISDOT SIGNAL OPERATIONS
141 NW BARSTOW ST
WAUKESHA, WI 53187 0798
PHONE: (414) 750-2605

WISDOT ELECTRICAL FIELD UNIT
935 S 60TH ST
WEST ALLIS, WI 53214
PHONE: (414) 266-1170

AT&T WISCONSIN
MR. RICK PODOLAK
304 S DEWEY STREET, 4TH FLOOR
EAU CLAIRE, WI 53701
PHONE: (715) 839-5565
rick.t.podolak@att.com

MIDWEST FIBER NETWORKS
MR. RICHARD TRGOVEC
3701 W. BURNHAM STREET, SUITE C
MILWAUKEE, WI 53215
PHONE: (414) 672-5612
rtrgovec@midwestfibernetworks.com

VILLAGE OF STURTEVANT
MS. MARY COLE, ADMINISTRATOR
2801 89TH STREET
STURTEVANT, WI 53177
PHONE: (262) 886-7201
villageadmin@sturtevant-wi.gov

WISDOT CONTACT

MR. KEITH MARTIN
141 NW BARSTOW
PO BOX 798
WAUKESHA, WI 53187 0798
PHONE: (262) 521-5353
keith.martin@dot.wi.gov

DESIGN CONTACT

AECOM
MR. SEAN HADFIELD
1350 DEMING WAY, SUITE 100
MIDDLETON, WI 53562
PHONE: (608) 828-8141
sean.hadfield@aecom.com

DNR CONTACT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
(SOUTHEAST REGION)
MS. KRISTINA BETZOLD
2300 N. MARTIN LUTHER KING, JR. DRIVE
MILWAUKEE, WI 53212
PHONE: (414) 263-8517
kristina.betzold@wisconsin.gov

COUNTY SURVEYOR

NEILSEN, MADSEN & BARBER
MR. MARK MADSEN
1339 WASHINGTON AVE.
RACINE, WI 53403
PHONE: (262) 634-5588
mmadsen@nmbsc.net

GENERAL NOTES

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

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

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

EROSION CONTROL ITEMS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY LOCATIONS AS NEEDED.

CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE. CURB AND GUTTER RADII AND PAVING PLAN DISTANCES ARE MEASURED TO THE FLANGE.

HEIGHTS AT THE END OF CURB AND GUTTER SHALL TAPER FROM 0 TO 4 INCHES IN 10 FEET.

TOPSOIL, WHERE REQUIRED, SHALL BE PLACED TO A DEPTH OF 4 INCHES.

CONTRACTOR MUST CONTACT THE PROJECT ENGINEER AND RACINE COUNTY SURVEYOR MARK MADSEN, AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC SURVEY MONUMENT.

TOTAL LAYER PAVEMENT THICKNESS	LAYERS	NOMINAL MAXIMUM SIZE GRADATION	AC MATERIAL	HMA TYPE
LEVELING COURSE VARIES 0" - 1½"		19.0 MM	PG 64-22	E-10
4"	1¾" UPPER LAYER 2¼" LOWER LAYER	12.5 MM 19.0 MM	PG 64-28 PG 64-22	E-10 E-10
7¾"	1¾" UPPER LAYER 2¼" LOWER LAYER 3¾" LOWER LAYER	12.5 MM 19.0 MM 19.0 MM	PG 64-28 PG 64-22 PG 64-22	E-10 E-10 E-10

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES AND UTILITY CONTACTS
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
PAVING GRADES
EROSION CONTROL
STORM SEWER
PLANTING
PERMANENT SIGNING PLAN
PAVEMENT MARKING PLAN
TRAFFIC CONTROL
TRAFFIC SIGNAL PLANS
INTERCONNECT PLANS
ALIGNMENT DIAGRAM

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

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WISDOT/CADDS SHEET 42

2

N

VILLAGE OF MOUNT PLEASANT

VILLAGE OF STURTEVANT

CTH H (NORTH)

℄ CTH H (NORTH)

60+00

55+00

45+00

46+53

35+00

30+00

25+00

℄ 90TH STREET

℄ 96TH STREET

VILLAGE OF MOUNT PLEASANT

220+00

225+00

230+00

235+00

240+00

245+00

250+00

255+00

260+00

265+00

270+00

275+

VILLAGE OF STURTEVANT

EXISTING STORM WATER DETENTION POND

STH 20

EXISTING POND

℄ 92ND STREET

EXISTING POND

BEGIN PROJECT
2250-00-75, 2340-00-73
STA. 225+42.81

WISCONSIN STREET

45+00

40+07

℄ WISCONSIN STREET

96TH STREET

35+00

31+99

℄ STH 20

92ND STREET

25+00

21+98

90TH STREET

15+00

10+00

4+51.00

VILLAGE OF STURTEVANT

VILLAGE OF MOUNT PLEASANT

END PROJECT
2250-00-75, 2340-00-73
STA. 267+00.00

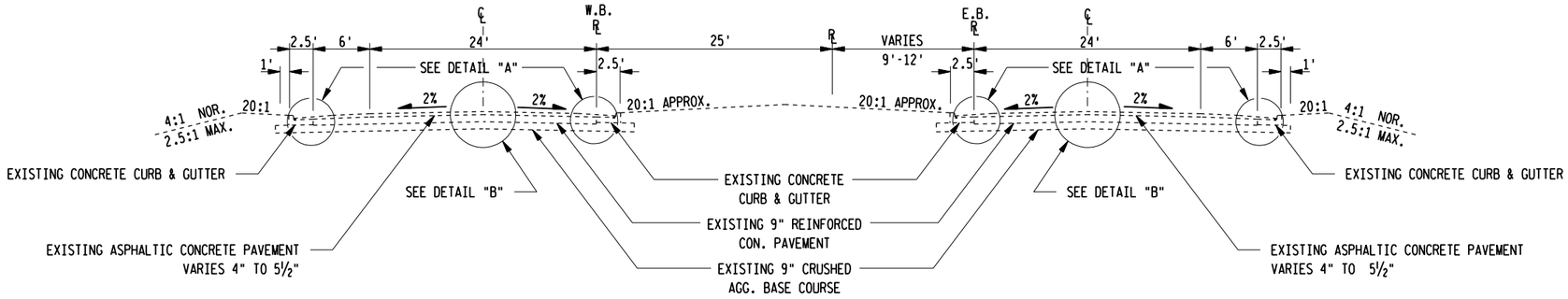
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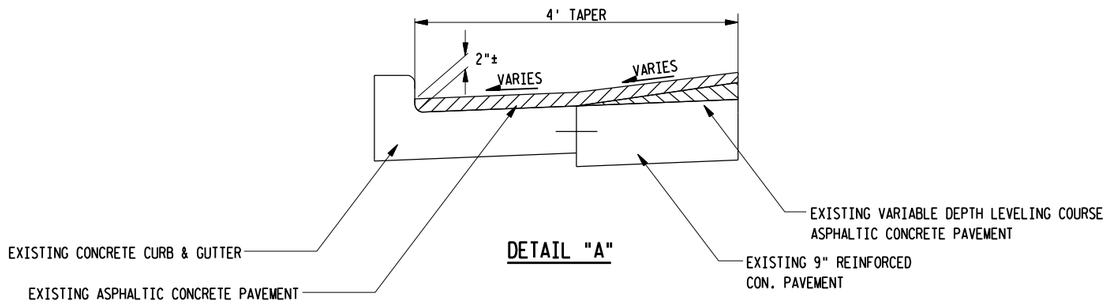
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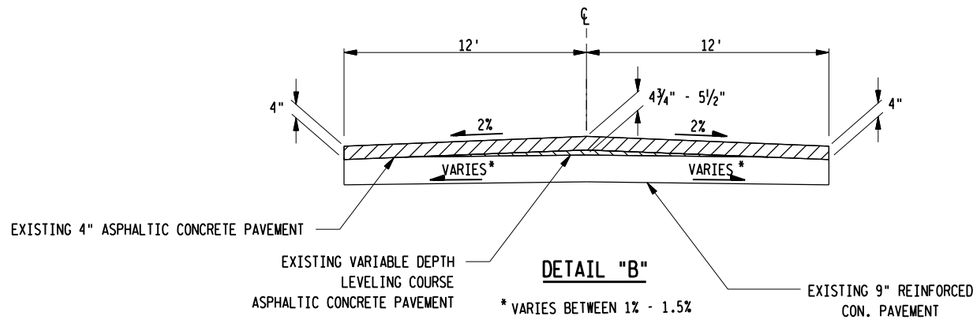


EXISTING TYPICAL SECTION

STH 20
STA. 225+43 - STA. 235+00



DETAIL "A"

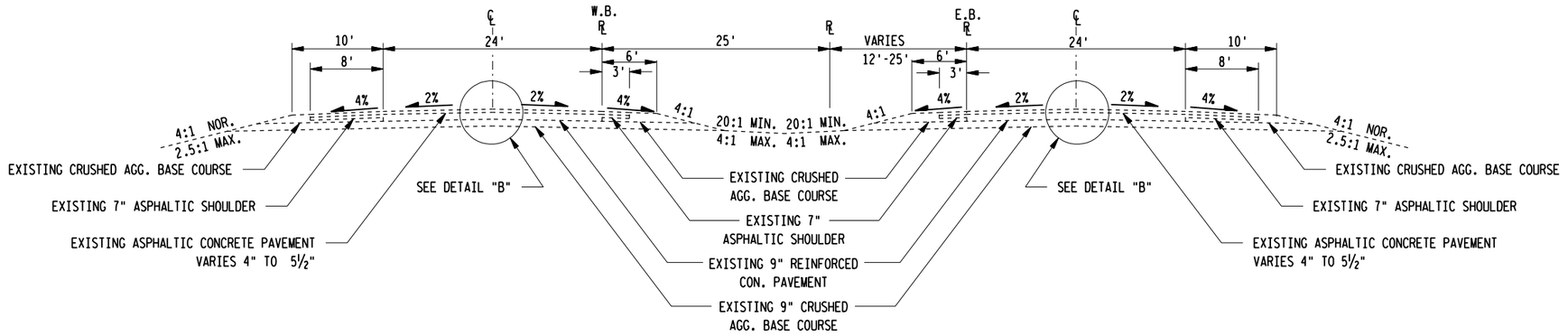


DETAIL "B"

* VARIES BETWEEN 1% - 1.5%

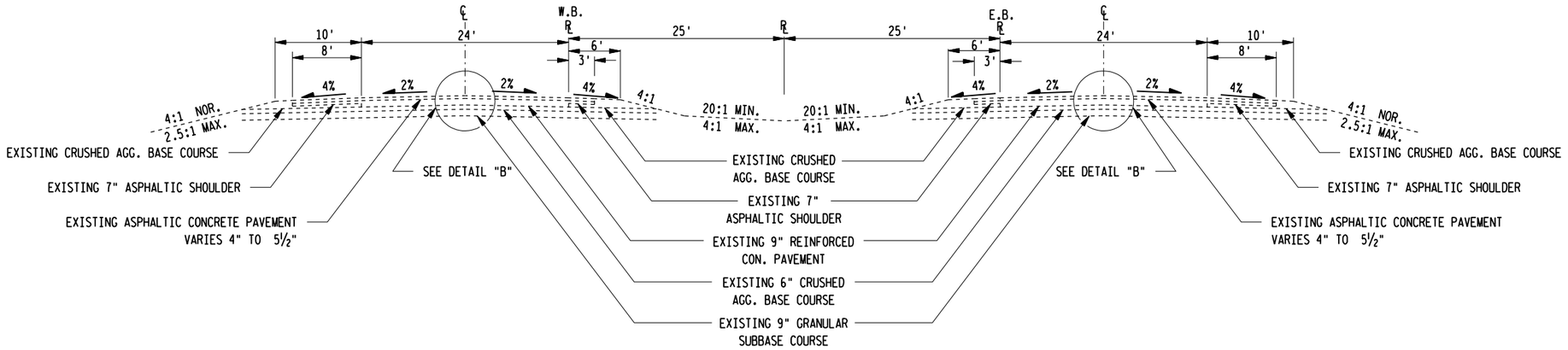
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WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION

STH 20
STA. 235+00 - STA. 244+20

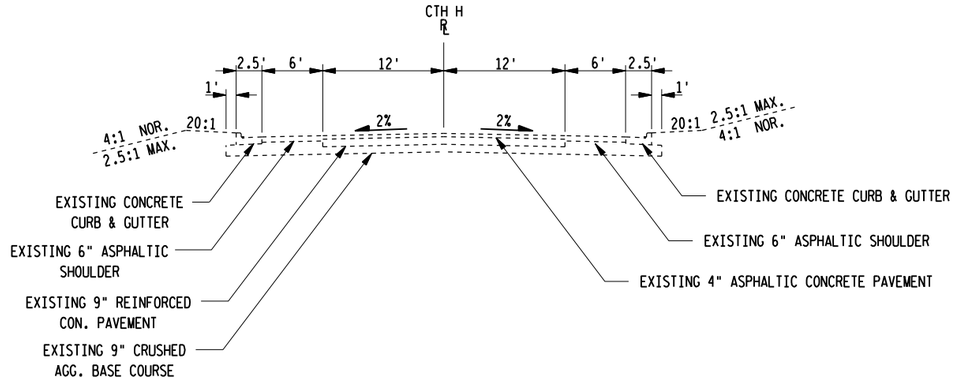


EXISTING TYPICAL SECTION

STH 20
STA. 244+20 - STA. 267+00

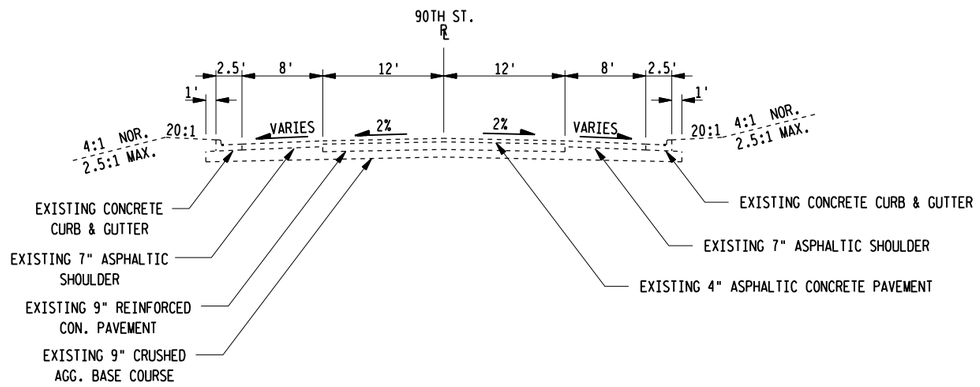
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WISDOT/CADDS SHEET 42



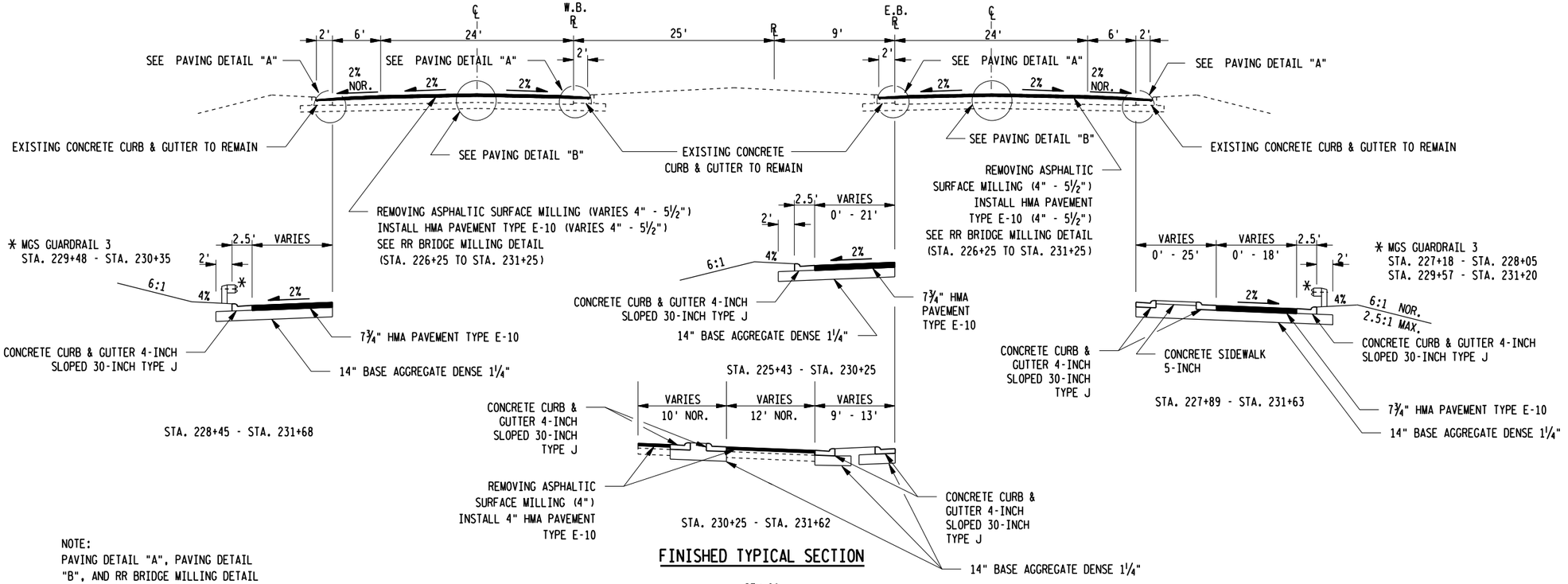
EXISTING TYPICAL SECTION

CTH H
STA. 47+44 - STA. 52+62



EXISTING TYPICAL SECTION

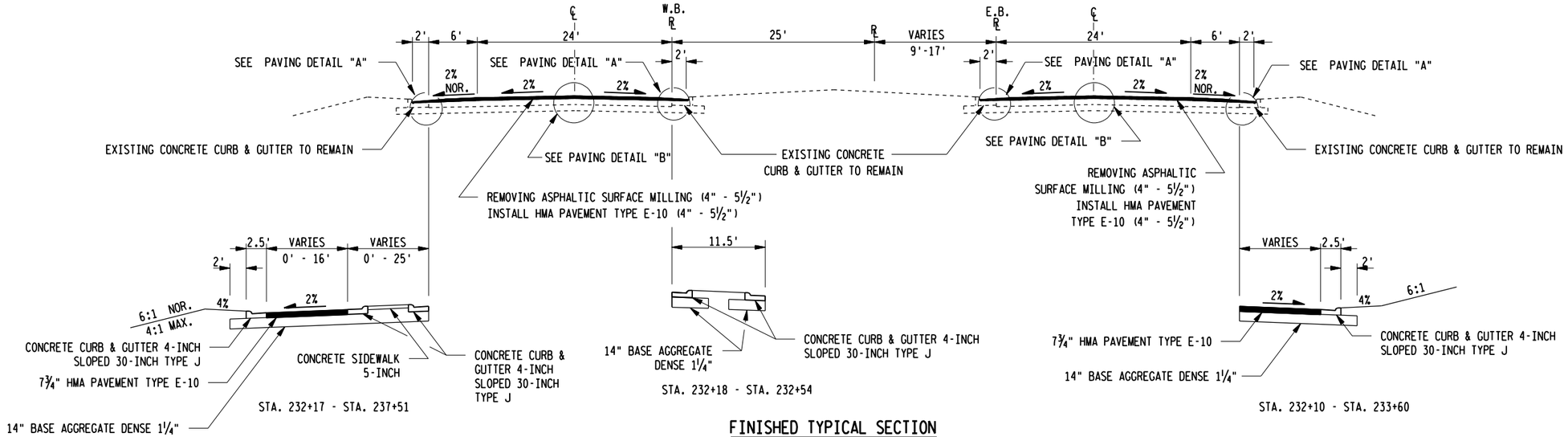
90TH STREET
STA. 17+58 - STA. 22+91



NOTE:
PAVING DETAIL "A", PAVING DETAIL
"B", AND RR BRIDGE WILLING DETAIL
FOUND IN CONSTRUCTION DETAILS

FINISHED TYPICAL SECTION

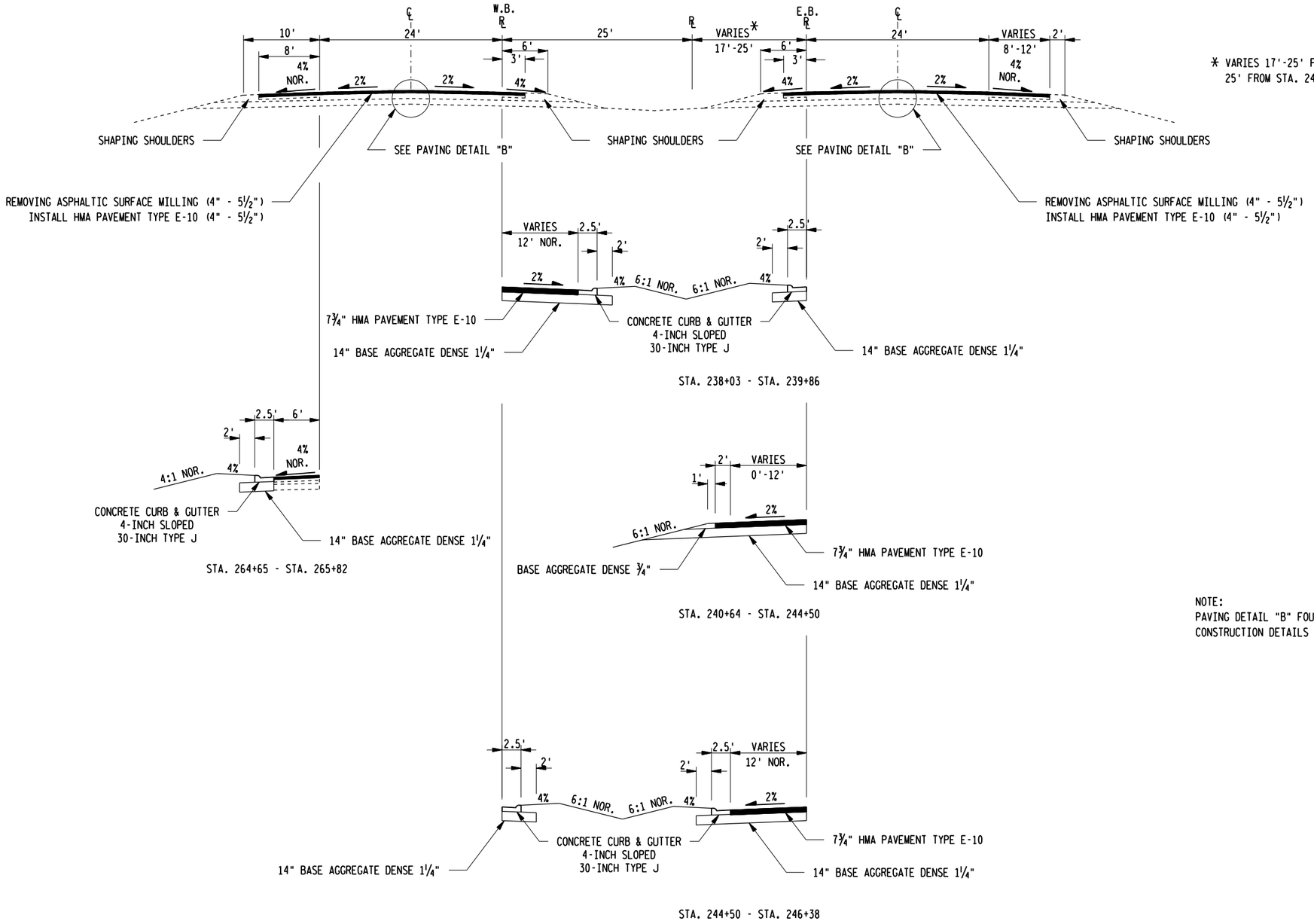
STH 20
STA. 225+43 - STA. 231+88



FINISHED TYPICAL SECTION

STH 20
STA. 231+88 - STA. 238+03

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	TYPICAL SECTIONS	SHEET 7	E



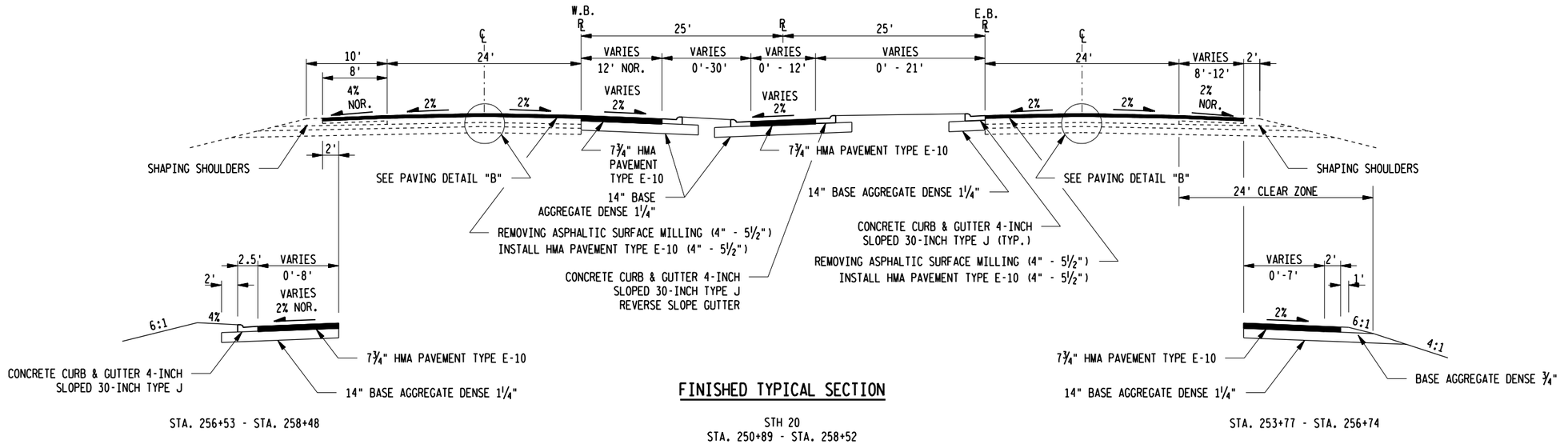
* VARIES 17'-25' FROM STA. 238+03 TO STA. 244+20
25' FROM STA. 244+20 TO STA. 267+00

NOTE:
PAVING DETAIL "B" FOUND IN
CONSTRUCTION DETAILS

FINISHED TYPICAL SECTION

STH 20
STA. 238+03 - STA. 250+89
STA. 264+65 - STA. 267+00

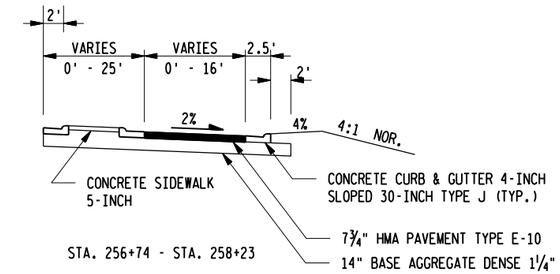
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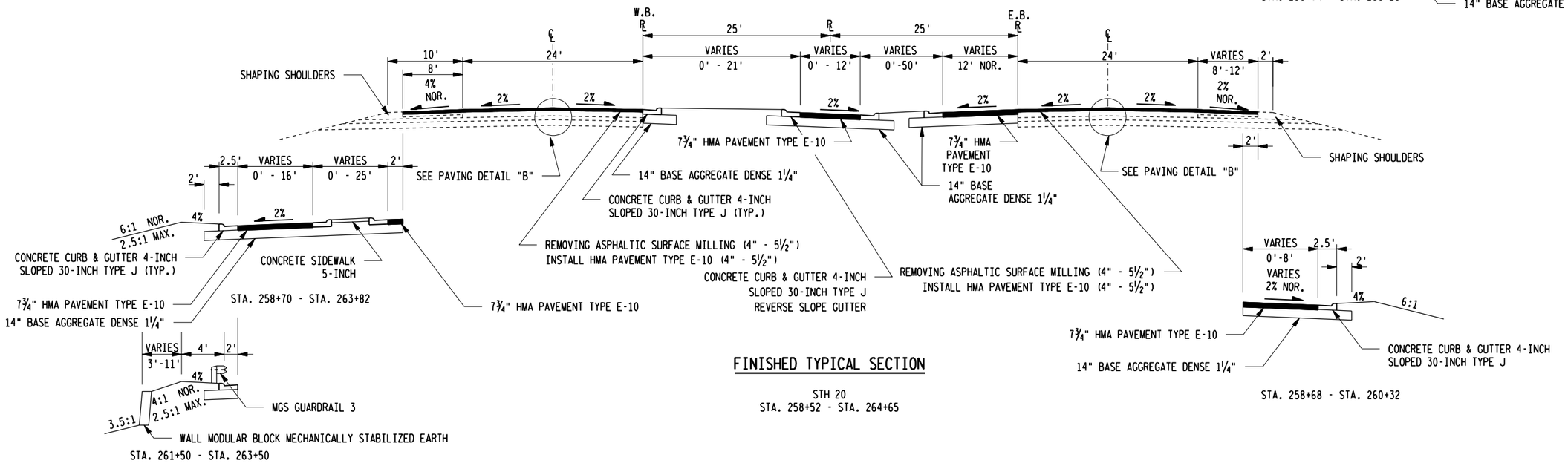


FINISHED TYPICAL SECTION

STH 20
STA. 250+89 - STA. 258+52

NOTE:
PAVING DETAIL "B" FOUND IN
CONSTRUCTION DETAILS

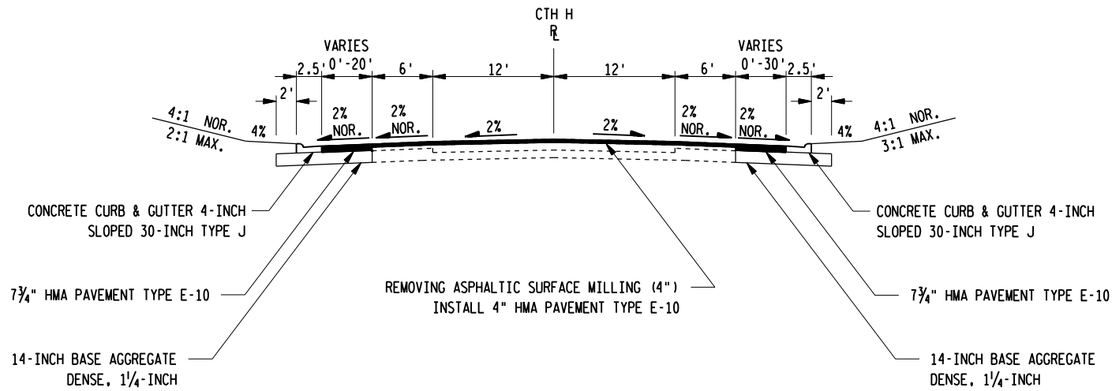




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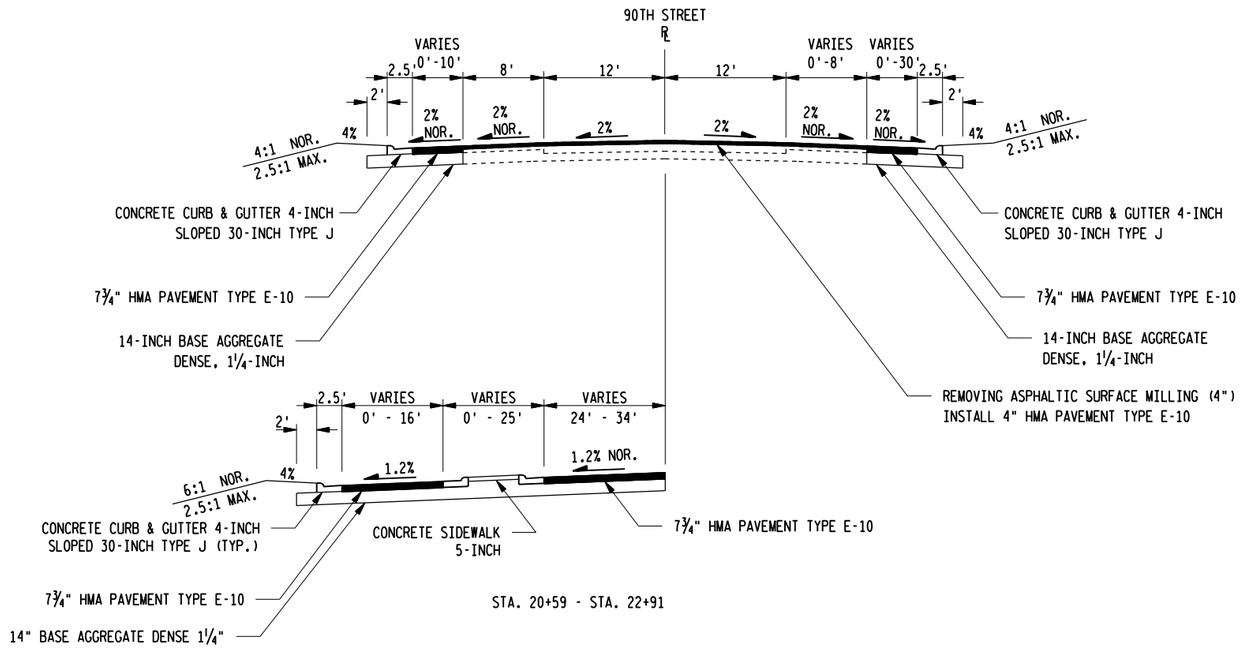
STH 20
STA. 258+52 - STA. 264+65

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	TYPICAL SECTIONS	SHEET 9	E



FINISHED TYPICAL SECTION

WISCONSIN STREET/CTH H (NORTH)
STA. 47+44 - STA. 54+62



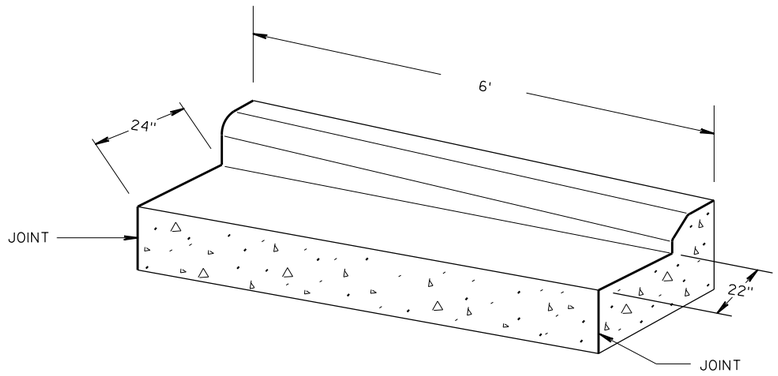
FINISHED TYPICAL SECTION

90TH STREET
STA. 17+58 - STA. 22+91

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	TYPICAL SECTIONS	SHEET 10	E

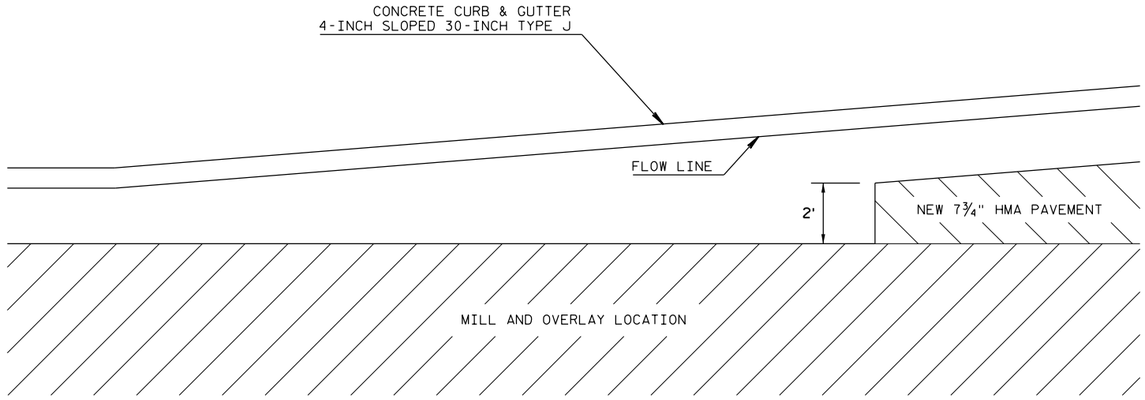
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PLOT SCALE: 1:15
WISDOT/CADDS SHEET 42

2



CONCRETE CURB & GUTTER TRANSITION DETAIL

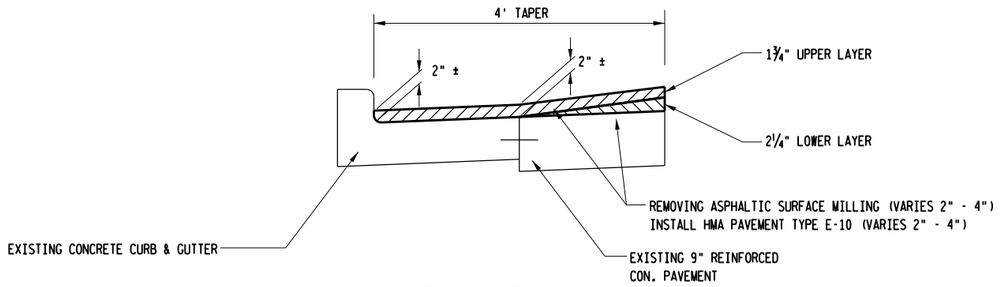
EXISTING CURB & GUTTER 30-INCH TYPE A TO CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
(TO BE MEASURED & PAID FOR AS CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J)



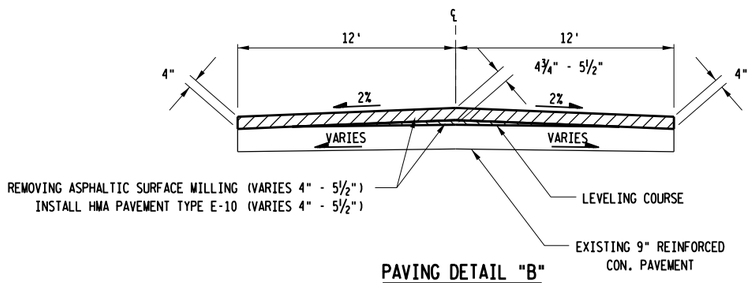
WIDENED GUTTER PAN DETAIL

WIDEN GUTTER PAN TO LIMIT NEW 7¾" HMA PAVMENT WIDTH TO A MINIMUM OF 2'

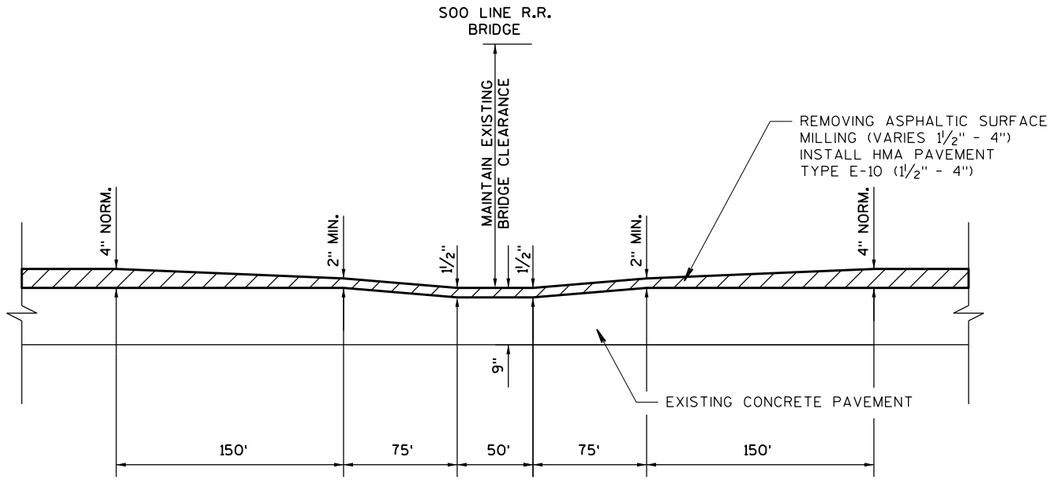
2



PAVING DETAIL "A"



PAVING DETAIL "B"



RR BRIDGE MILLING DETAIL

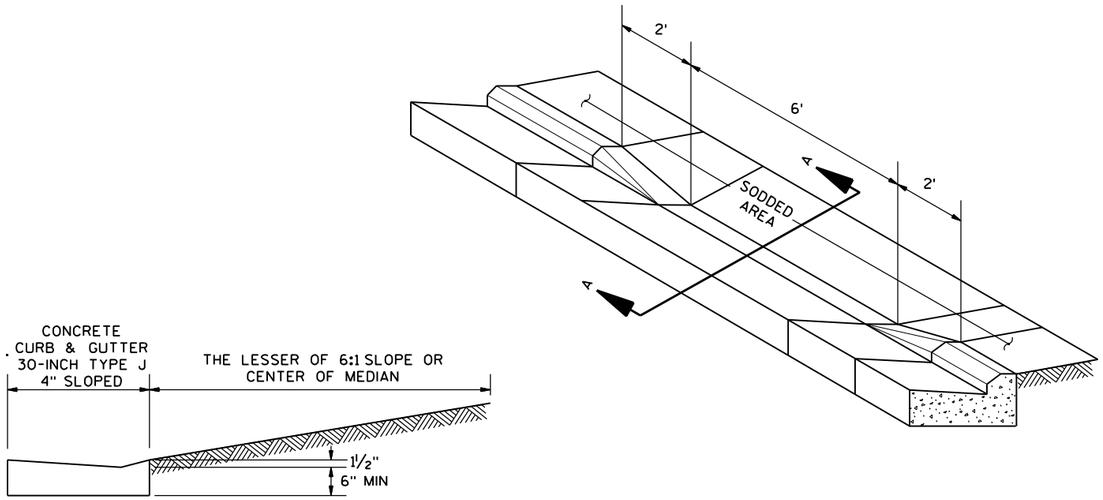
(STH 20 AT S00 LINE R.R. STRUCTURE)
STA. 229+25

MAINTAIN EXISTING BRIDGE CLEARANCE.

THE EXACT LOCATION SHOULD BE ESTABLISHED
BY THE ENGINEER IN THE FIELD.

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CONSTRUCTION DETAILS	SHEET 11	E

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WISDOT/CADDS SHEET 42



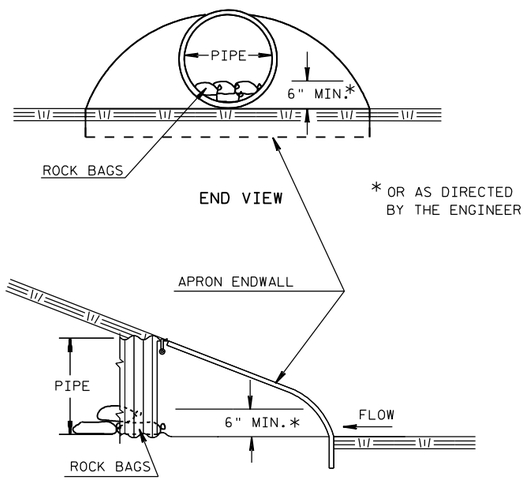
SECTION A-A

MEDIAN MAINTENANCE RAMP

RUNOFF COEFFICIENT TABLE

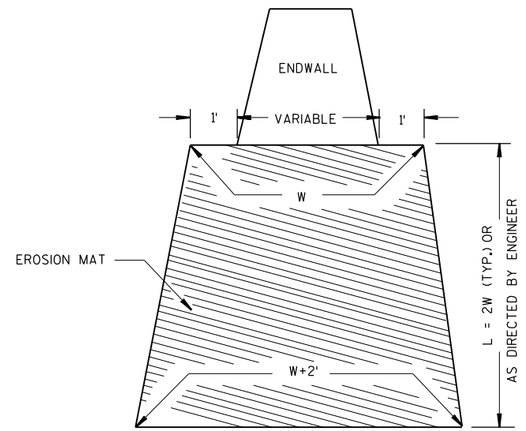
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .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 = 23.6 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 5.3 ACRES

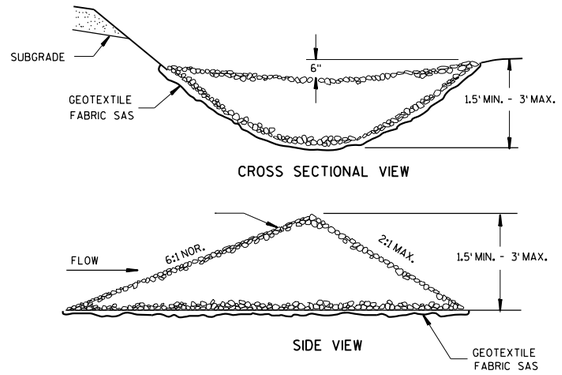


SIDE VIEW

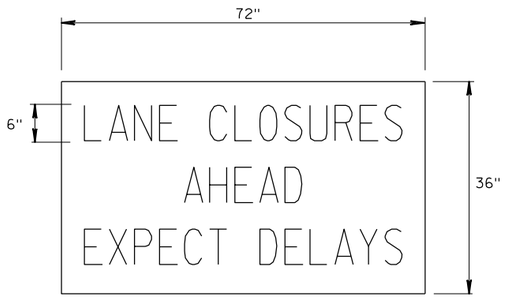
CULVERT PIPE CHECK



EROSION MAT TREATMENT AT CULVERTS

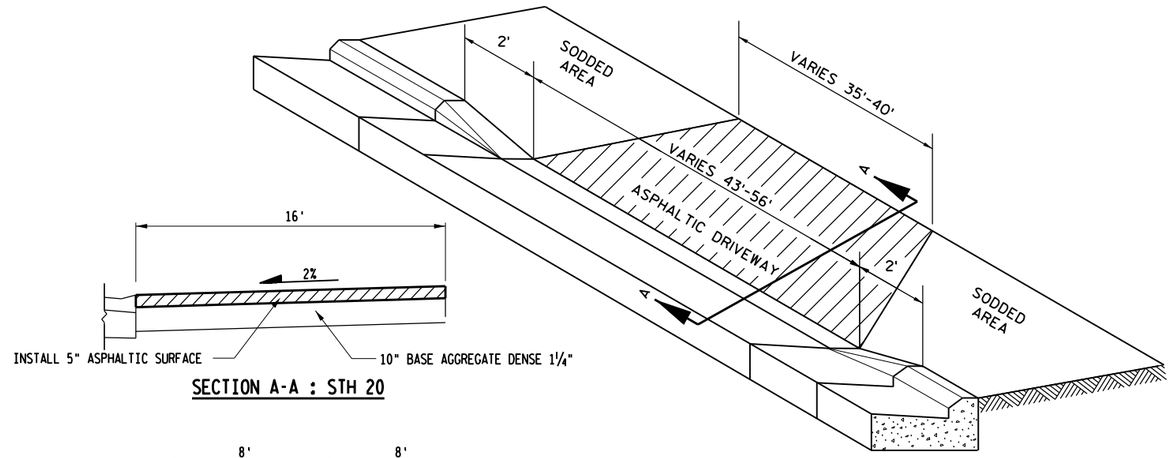


DITCH CHECKS MORTAR RUBBLE

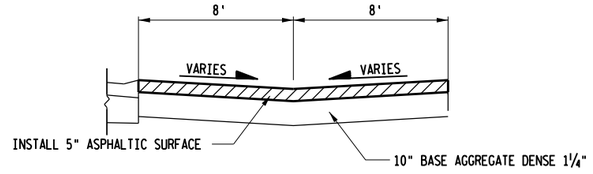


TRAFFIC CONTROL FIXED MESSAGE SIGN

6" CAP SERIES C BLACK MESSAGE ON ORANGE SHEETING



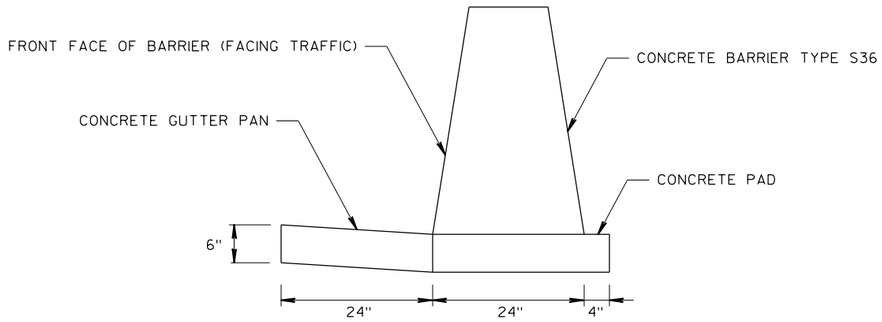
SECTION A-A : STH 20



SECTION A-A : 90TH ST

VARIES 6% AT STA 18+27 TO 2% AT STA 18+70

ASPHALT DRIVEWAY DETAIL



CONCRETE BARRIER TYPE S36

NOTES:

CONCRETE PAD IS INCIDENTAL TO THE CONCRETE BARRIER BID ITEM.

CONCRETE GUTTER PAN IS PAID FOR UNDER CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J.

2

2

N

R/W

℄ STH 20

CONCRETE BARRIER
TYPE S36
STA. 228+45.72 - STA. 229+06.22

REMOVE TEMPORARY
CONCRETE BARRIER
STA. 228+40 - STA. 229+93

+45.72
54.3' LT

CRASH CUSHION PERMANENT LOW MAINTENANCE

STH 20

WASHINGTON AVENUE

REMOVING GUARDRAIL
STA. 227+82 - STA. 229+72

+82.77
2.8' LT

223+00 224+00 225+00 226+00 227+00 228+00

+42.98
9.2' RT

+66.75
9.2' RT

+33.59
8.8' RT

+43.59
8.8' RT

+33.53
33.1' RT

+43.53
33.2' RT

DEPRESSED (DRIVEWAY)
CURB & GUTTER
STA. 227+30 - STA. 228+60

+89.02
41.0' RT

+89.02
39.0' RT

MATCHLINE STA. 228+50

MGS GUARDRAIL TERMINAL EAT
STA. 226+65.00 - STA. 227+18.13
FACE OF RAIL AT POST 1: STA. 226+65.00, 45.0' RT

MGS GUARDRAIL 3
STA. 227+18.13 - STA. 228+05.63

REMOVING GUARDRAIL
STA. 227+09 - 229+50

MGS THRIE BEAM TRANSITION
STA. 228+05.63 - STA. 228+45.02

DEPRESSED (DRIVEWAY)
CURB & GUTTER
STA. 228+05 - STA 228+45

CONCRETE BARRIER
TYPE S36
STA. 228+41.13 - STA. 229+17.63

BEGIN PROJECT
2250-00-75, 2340-00-73
STA. 225+42.81

RAILROAD R/W

LEGEND

- (A) REMOVING CURB & GUTTER
- (B) CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
- (C) REMOVING PAVEMENT
- (D) REMOVING ASPHALTIC SURFACE MILLING (VARIES 4" - 5½") INSTALL HMA PAVEMENT TYPE E-10 (VARIES 4" - 5½")
- (E) 7¾" HMA PAVEMENT TYPE E-10 OVER 14" BASE AGGREGATE DENSE 1¼"
- (F) CONCRETE SIDEWALK 5-INCH OVER 4" BASE AGGREGATE DENSE 1¼"
- (G) CONCRETE MEDIAN SLOPED NOSE
- (H) TOPSOIL, SEED, FERTILIZE, & MULCH
- (I) XXXXX SAWING ASPHALT
- (J) XXXXX SAWING CONCRETE
- (K) BASE PATCHING CONCRETE
- CURB RAMP, TYPE X
- CURB RAMP DETECTABLE WARNING FIELD
- SLOPE INTERCEPT
- FENCE CHAIN LINK

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS	SCALE, FEET 0 20 40	SHEET 14	E

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WISDOT/CADDS SHEET 42

2

N

RAILROAD R/W

R/W

REMOVE TEMPORARY CONCRETE BARRIER STA. 228+40 - STA. 229+93

MGS GUARDRAIL TERMINAL EAT STA. 230+35.20 - STA. 230+87.68

DEPRESSED (DRIVEWAY) CURB & GUTTER STA. 230+75 - STA. 231+15

CONCRETE BARRIER TYPE S36 STA. 228+45.72 - STA. 229+06.22

MGS GUARDRAIL 3 STA. 229+41.71 - STA. 230+35.20

REMOVE SAND BARREL ARRAY

DEPRESSED (DRIVEWAY) CURB & GUTTER STA. 229+06 - STA. 229+42

DEPRESSED (DRIVEWAY) CURB & GUTTER STA. 228+90 - STA. 230+30

MGS THRIE BEAM TRANSITION STA. 229+02.32 - STA. 229+41.71

CRASH CUSHION PERMANENT LOW MAINTENANCE

REMOVING GUARDRAIL STA. 228+45 - STA. 230+00

REMOVING GUARDRAIL STA. 227+82 - STA. 229+72

REMOVING GUARDRAIL STA. 227+09 - 229+50

℄ STH 20

CTH H

℄ CTH H

+78.03, 112.2' LT 50.0' R

+71.85, 143.9' LT 55.0' R

CAUTION

+84.06 62.6' LT

+56.46 90.3' LT

+64.97 65.9' LT

+16.68 58.9' LT

+13.69 58.9' LT

+32.92 54.5' LT

+45.07 54.5' LT

+68.08 55.6' LT

+90.00 24.8' LT

+00.00 24.5' LT

+02.40 24.6' LT

+37.72 24.6' LT

+16.60 10.5' LT

+91.10 0.2' RT

+08.73 1.7' LT

+37.22 10.7' LT

+61.34 2.7' LT

+61.72 10.0' RT

+95.34 1.4' RT

+95.57 8.9' RT

+25.37 9.7' RT

+25.38 0.9' LT

+67.27 2.5' LT

+93.64 9.4' RT

+3.64 9.5' RT

+93.59 33.4' RT

+3.59 33.5' RT

+69.53 43.8' RT

+61.74 44.0' RT

+09.70 38.1' RT

+60.19 41.3' RT

+98.46 51.4' RT

+54.04 44.1' RT

+91.54 49.8' RT

+48.07 61.0' RT

+08.37 66.3' RT

+97.09, 94.4' RT 45.0' R

+0.07 41.0' RT

+20.78 79.8' RT

+12.11, 129.1' RT 50.0' R

+53.86 24.4' LT

+17.71 24.4' LT

+53.85 12.9' LT

+18.06 12.9' LT

DO NOT DISTURB CONTROL POINT

STH 20
WASHINGTON AVENUE

WISCONSIN STREET

PLACE 5" ASPHALT
SEE ASPHALT DRIVEWAY DETAIL

DEPRESSED (DRIVEWAY) CURB & GUTTER STA. 227+30 - STA. 228+60

DEPRESSED (DRIVEWAY) CURB & GUTTER STA. 229+18 - STA. 229+53

MGS THRIE BEAM TRANSITION STA. 229+13.79 - STA. 229+52.59

FENCE CHAIN LINK 4-FT STA. 229+76 - STA. 231+54

REMOVING FENCE STA. 229+76 - STA 231+54

CONCRETE BARRIER TYPE S36 STA. 228+41.13 - STA. 229+17.63

MGS GUARDRAIL 3 STA. 229+52.59 - STA. 231+20

MGS GUARDRAIL TERMINAL TYPE 2

ASPHALTIC FLUME

EXISTING STORM WATER DETENTION POND

℄ WISCONSIN STREET

PROPOSED TLE

MATCHLINE STA. 228+50

MATCHLINE STA. 234+50

228+00 229+00 230+00 231+00 232+00 233+00 234+00

51+00 50+00 49+00

LEGEND

- (A) REMOVING CURB & GUTTER
- (B) CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
- (C) REMOVING PAVEMENT
- (D) REMOVING ASPHALTIC SURFACE MILLING (VARIES 4" - 5½") INSTALL HMA PAVEMENT TYPE E-10 (VARIES 4" - 5½")
- (E) 7¾" HMA PAVEMENT TYPE E-10 OVER 14" BASE AGGREGATE DENSE 1¼"
- (F) CONCRETE SIDEWALK 5-INCH OVER 4" BASE AGGREGATE DENSE 1¼"
- (G) CONCRETE MEDIAN SLOPED NOSE
- (H) TOPSOIL, SEED, FERTILIZE, & MULCH
- (I) XXXXX SAWING ASPHALT
- (J) XXXXX SAWING CONCRETE
- (K) BASE PATCHING CONCRETE
- CURB RAMP, TYPE X
- CURB RAMP DETECTABLE WARNING FIELD
- SLOPE INTERCEPT
- FENCE CHAIN LINK

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS	SCALE, FEET 0 20 40	SHEET 15	E

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WISDOT/CADDS SHEET 42

2

N

REMOVE DRIVEWAY

DO NOT DISTURB HMOD MONUMENT

R/W

ASPHALTIC FLUME

℄ STH 20

41+00

℄ 96TH STREET

REMOVE DRIVEWAY

CAUTION

+75.66 48.8' LT

+85.66 48.8' LT

+75.65 24.8' LT

+85.65 24.8' LT

+35.71 48.7' LT

+45.71 48.7' LT

+35.70 24.7' LT

+45.70 24.7' LT

+35.75 57.7' LT

+50.71 58.2' LT

+03.07 24.7' LT

ASPHALTIC FLUME

+90.31 24.7' LT

+90.38 16.1' LT

+60.34, 9.9' LT

+86.37 12.5' LT

MATCHLINE STA. 234+50

235+00

236+00

237+00

238+00

239+00

240+00

MATCHLINE STA. 240+50

GRASS

+26.73 13.7' RT

+30.45 15.2' RT

4' R

40+00

+03.47, 3.0' LT

362' R

+85.12 350' RT

+74.30 14.0' RT

+76.02 18.9' RT

+86.38 21.2' RT

+2.43 17.1' RT

+26.66 17.7' RT

+68.53 30.3' RT

41' R

57' R

+16.33 52.6' RT

STH 20

WASHINGTON AVENUE

REMOVE DRIVEWAY

R/W

39+00

96TH STREET

℄ 96TH STREET

LEGEND

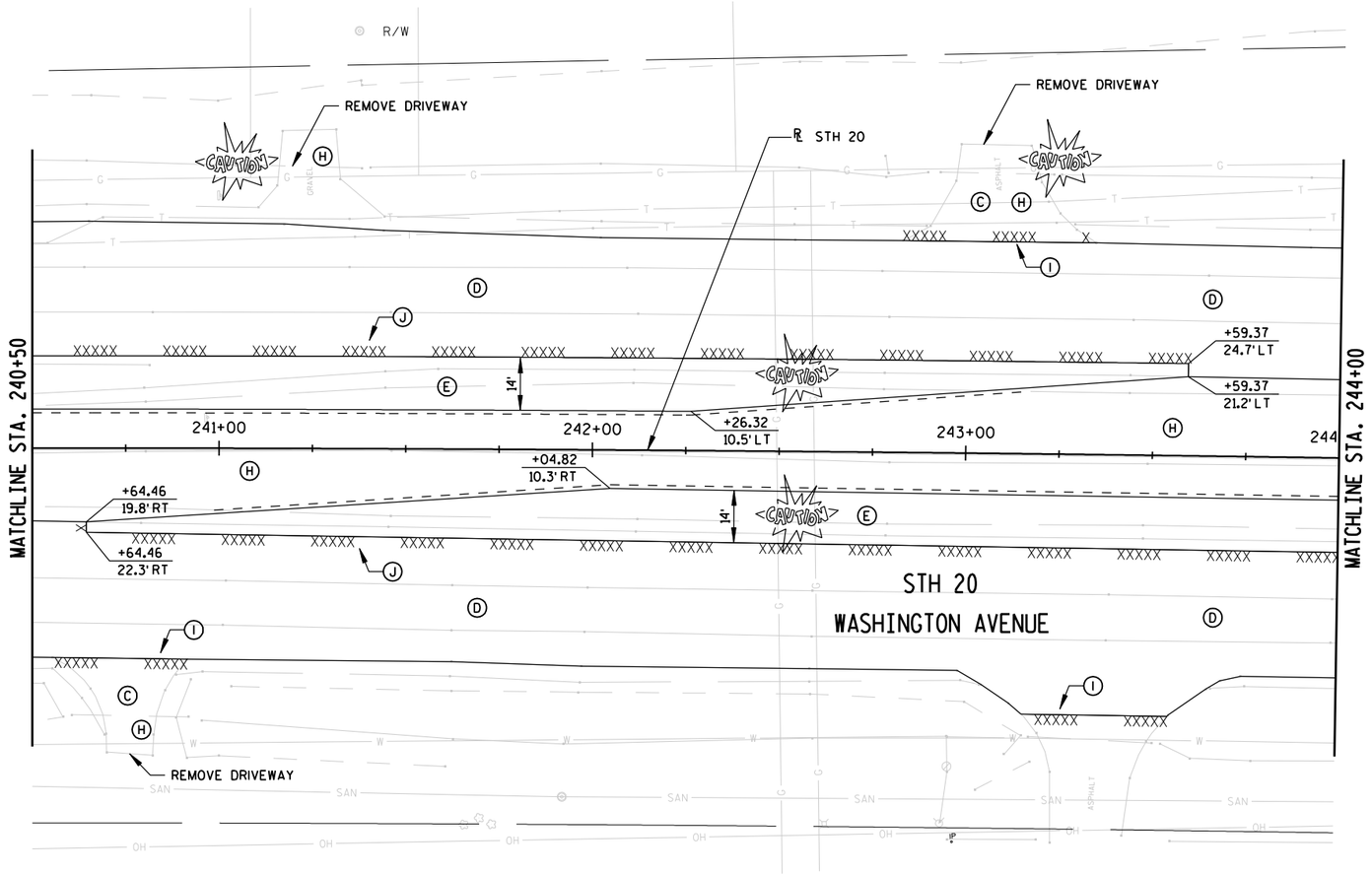
- (A) REMOVING CURB & GUTTER
- (B) CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
- (C) REMOVING PAVEMENT
- (D) REMOVING ASPHALTIC SURFACE MILLING (VARIES 4" - 5½") INSTALL HMA PAVEMENT TYPE E-10 (VARIES 4" - 5½")
- (E) 7¾" HMA PAVEMENT TYPE E-10 OVER 14" BASE AGGREGATE DENSE 1¼"
- (F) CONCRETE SIDEWALK 5-INCH OVER 4" BASE AGGREGATE DENSE 1¼"
- (G) CONCRETE MEDIAN SLOPED NOSE
- (H) TOPSOIL, SEED, FERTILIZE, & MULCH
- (I) XXXXX SAWING ASPHALT
- (J) XXXXX SAWING CONCRETE
- (K) BASE PATCHING CONCRETE
- CURB RAMP, TYPE X
- CURB RAMP DETECTABLE WARNING FIELD
- SLOPE INTERCEPT
- FENCE CHAIN LINK

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS	SCALE, FEET 0 20 40	SHEET 16	E

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WISDOT/CADDS SHEET 42

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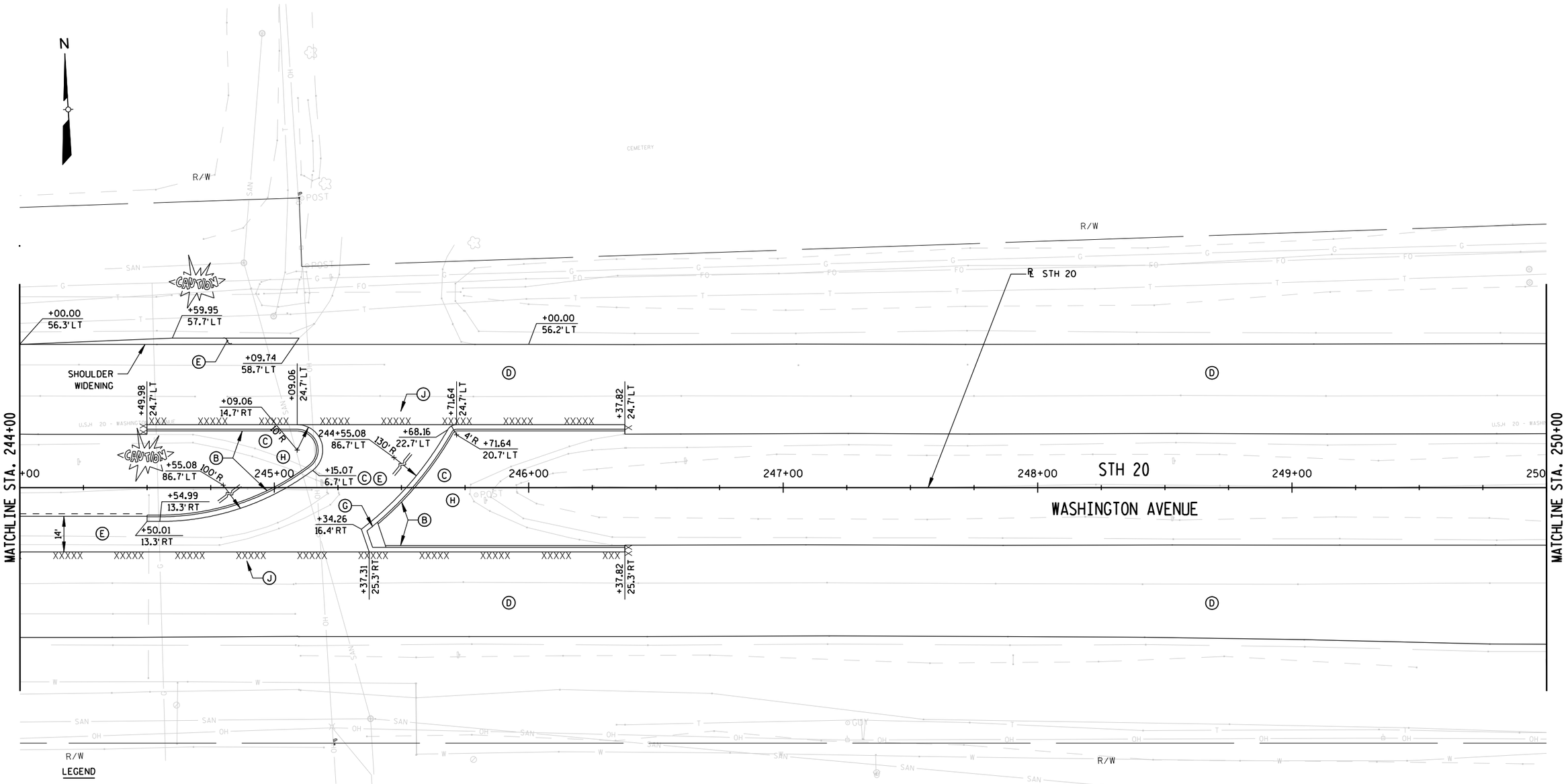
LEGEND

- (A) REMOVING CURB & GUTTER
- (B) CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
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- CURB RAMP, TYPE X
- CURB RAMP DETECTABLE WARNING FIELD
- SLOPE INTERCEPT
- FENCE CHAIN LINK

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS	SCALE, FEET 0 20 40	SHEET 17	E

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PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS	SCALE, FEET 0 20 40	SHEET 18	E

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WISDOT/CADDS SHEET 42

2

N

R/W

℄ STH 20

STA. 253+00
CONSTRUCT MEDIAN MAINTENANCE RAMP
SEE CONSTRUCTION DETAILS

STH 20
WASHINGTON AVENUE

MATCHLINE STA. 250+00

MATCHLINE STA. 256+00

250+00 251+00 252+00 253+00 254+00 255+00 256

+88.83 24.7'LT
+17.70 24.7'LT
+69.24 5.5'LT
+17.70 16.1'RT
+22.59 12.7'LT
+48.85 12.7'LT
+35.5 21.3'RT
+39.35 22.4'RT
+87.80 20.6'RT
+12.79 4.4'RT
253+22.59 347'RT
+88.83 25.3'RT
+35.51 25.3'RT
+77.78 33.6'RT
+89.59 25.3'RT
+26.17 25.3'RT
+53.20 25.3'RT
+30.18 58.7'RT
+91.64 25.3'RT
+01.64 25.3'RT
+02.43 49.2'RT
+92.44 49.6'RT
+40.71 14.1'RT
+41.13 25.3'RT
+51.77 25.3'RT
+52.76 49.7'RT
+61.78 25.3'RT
+62.75 49.3'RT

4'R 30'-00" 40'R 57'R 360'R 12'

CAUTION CAUTION

92ND STREET

29+00

R/W

LEGEND

- (A) REMOVING CURB & GUTTER
- (B) CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
- (C) REMOVING PAVEMENT
- (D) REMOVING ASPHALTIC SURFACE MILLING (VARIES 4" - 5½") INSTALL HMA PAVEMENT TYPE E-10 (VARIES 4" - 5½")
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- (I) XXXXX SAWING ASPHALT
- (J) XXXXX SAWING CONCRETE
- (K) BASE PATCHING CONCRETE
- CURB RAMP, TYPE X
- CURB RAMP DETECTABLE WARNING FIELD
- SLOPE INTERCEPT
- FENCE CHAIN LINK

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS	SCALE, FEET 0 20 40	SHEET 19	E

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WISDOT/CADDS SHEET 42

2

N

PROPOSED

R/W

CAUTION

5'

16'

+31.24, 113.9' LT
50.0' R

+37.20
64.3' LT

DO NOT DISTURB
CONTROL POINT

1/4 COR.
SEC. 16,
T.3N., R.22E.

21+00

PROPOSED R/W

℄ 90TH STREET

+24.20, 138.6' LT
50.0' R

CAUTION

R/W

+12.95
89.9' LT

+08.84
67.7' LT

FRONTAGE ROAD

WALL MODULAR BLOCK
MECHANICALLY STABILIZED EARTH
FRONT FACE OF WALL

+50.00
77.0' LT

REMOVE
TREE

MGS GUARDRAIL 3
STA. 261+09.15 - STA. 265+01.87

MGS GUARDRAIL
TERMINAL TYPE 2

STH 20
WASHINGTON AVENUE

+28.48
48.6' LT

+38.48
49.0' LT

+39.46
24.7' LT

+49.03
24.7' LT

+29.45
24.7' LT

+49.45
13.5' LT

+16.95
3.7' LT

+17.39
8.3' RT

+32.13
25.3' RT

+32.13
55.7' RT

ASPHALTIC FLUME

℄ STH 20

+53.33
51.2' LT

+98.85
24.7' LT

+63.11
24.7' LT

+90.12
18.3' LT

+48.18
58.7' LT

+70.21
58.7' LT

+77.64
24.7' LT

+54.61
58.7' LT

+13.35
4.3' RT

+72.77
7.7' LT

+73.21
4.3' RT

+78.34
3.7' LT

+01.45
18.8' RT

+28.58
25.3' RT

+14.05
25.3' RT

+21.48
59.3' RT

+52.85
59.3' RT

+74.41
66.4' RT

+67.68
59.3' RT

+10.57
56.3' RT

+54.40
65.0' RT

+83.14
91.5' RT

+71.89, 140.2' RT
50.0' R

+60.36, 114.7' RT
50.0' R

MATCHLINE STA. 256+00

MATCHLINE STA. 262+00

+00

257+00

258+00

259+00

260+00

261+00

262

20+00

19+00

90TH STREET

CONCRETE WALK

GRAVEL SHOULDER

ASPHALT

LEGEND

(A)	REMOVING CURB & GUTTER
(B)	CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
(C)	REMOVING PAVEMENT
(D)	REMOVING ASPHALTIC SURFACE MILLING (VARIES 4" - 5½") INSTALL HMA PAVEMENT TYPE E-10 (VARIES 4" - 5½")
(E)	7¾" HMA PAVEMENT TYPE E-10 OVER 14" BASE AGGREGATE DENSE 1¼"
(F)	CONCRETE SIDEWALK 5-INCH OVER 4" BASE AGGREGATE DENSE 1¼"
(G)	CONCRETE MEDIAN SLOPED NOSE
(H)	TOPSOIL, SEED, FERTILIZE, & MULCH
(I)	XXXXX SAWING ASPHALT
(J)	XXXXX SAWING CONCRETE
(K)	BASE PATCHING CONCRETE
X	CURB RAMP, TYPE X
	CURB RAMP DETECTABLE WARNING FIELD
	SLOPE INTERCEPT
—x—	FENCE CHAIN LINK

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS	SCALE, FEET 0 20 40	SHEET 20	E

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BATCH PRINT SHEET 7 OF 14
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PLOT DATE: 5/2/2014
PLOT TIME: 11:13:33 AM
PLOT SCALE: 1:40

2

N

WALL MODULAR BLOCK
MECHANICALLY STABILIZED EARTH
FRONT FACE OF WALL

REMOVE TREE

+50.00
77.0' LT

MGS GUARDRAIL 3
STA. 261+09.15 - STA. 265+01.87

FRONTAGE ROAD

MGS GUARDRAIL TERMINAL EAT
STA. 265+01.87 - STA. 265+55.00
FACE OF RAIL AT POST 1: STA. 265+55, 58.9' LT

℄ STH 20

ASPHALTIC FLUME

+20.37
67.7' LT

+89.27
48.6' LT

+99.27
48.6' LT

+57.10
57.2' LT

+86.33
54.9' LT

+81.52
54.9' LT

+55.30
24.7' LT

+64.89
24.7' LT

+89.28
24.7' LT

+99.28
24.7' LT

+64.98
23.3' LT

DEPRESSED (DRIVEWAY) CURB & GUTTER
STA. 265+42 - STA. 265+82

MATCHLINE STA. 262+00

+00 263+00 264+00 265+00 STH 20 266+00 267+00 268

ASPHALTIC FLUME

WASHINGTON AVENUE

END PROJECT
2250-00-75, 2340-00-73
STA. 267+00.00

R/W

LEGEND

- (A) REMOVING CURB & GUTTER
- (B) CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
- (C) REMOVING PAVEMENT
- (D) REMOVING ASPHALTIC SURFACE MILLING (VARIES 4" - 5½") INSTALL HMA PAVEMENT TYPE E-10 (VARIES 4" - 5½")
- (E) 7¾" HMA PAVEMENT TYPE E-10 OVER 14" BASE AGGREGATE DENSE 1¼"
- (F) CONCRETE SIDEWALK 5-INCH OVER 4" BASE AGGREGATE DENSE 1¼"
- (G) CONCRETE MEDIAN SLOPED NOSE
- (H) TOPSOIL, SEED, FERTILIZE, & MULCH
- (I) XXXXX SAWING ASPHALT
- (J) XXXXX SAWING CONCRETE
- (K) BASE PATCHING CONCRETE
- CURB RAMP, TYPE X
- CURB RAMP DETECTABLE WARNING FIELD
- SLOPE INTERCEPT
- FENCE CHAIN LINK

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS	SCALE, FEET 0 20 40	SHEET 21	E

FILE NAME: l:\work\60222809\000.cad\021208_pd.DGN
BATCH PRINT SHEET 8 OF 14
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PLOT TIME: 11:13:36 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2

N

NOTE:

STH 20 PLAN DETAILS ARE ON SEPARATE SHEETS

℄ WISCONSIN STREET

R/W

WISCONSIN STREET

46+00 47+00 48+00 49+00

STH 20 WASHINGTON AVENUE

50+00 51+00

232+00 233+00

℄ CTH H

DO NOT DISTURB CONTROL POINT

MATCHLINE STA. 51+50

CTH H

+90.09 19.0' LT

+10.05 19.4' LT

+79.20 29.7' LT

+80.43 8.0' RT

+90.43 8.1' RT

+80.37 22.7' RT

+90.37 22.7' RT

+44.18 24.1' RT

+52.75 24.0' RT

+64.29 26.5' RT

+63.32 35.0' RT

+12.41 62.8' RT

+04.28 57.2' LT

+39.09 34.0' RT

18'

16'

16'

16'

CAUTION

CAUTION

PROP. TLE

REMOVE TREE

BEGIN CONSTRUCTION
STA. 47+44.18

℄ STH 20

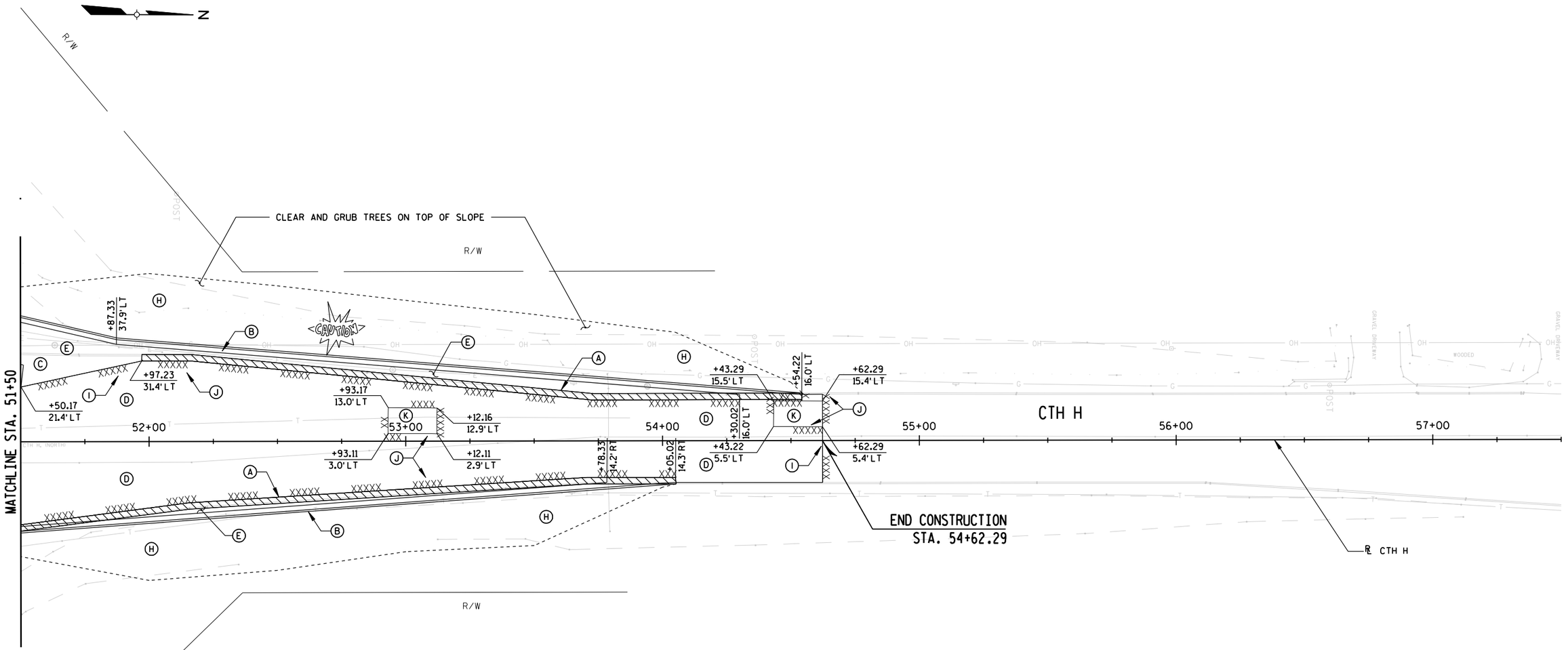
LEGEND

(A)	REMOVING CURB & GUTTER	(G)	CONCRETE MEDIAN SLOPED NOSE
(B)	CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J	(H)	TOPSOIL, SEED, FERTILIZE, & MULCH
(C)	REMOVING PAVEMENT	(I)	XXXXX SAWING ASPHALT
(D)	REMOVING ASPHALTIC SURFACE MILLING (VARIES 4" - 5½") INSTALL HMA PAVEMENT TYPE E-10 (VARIES 4" - 5½")	(J)	XXXXX SAWING CONCRETE
(E)	7¾" HMA PAVEMENT TYPE E-10 OVER 14" BASE AGGREGATE DENSE 1¼"	(K)	BASE PATCHING CONCRETE
(F)	CONCRETE SIDEWALK 5-INCH OVER 4" BASE AGGREGATE DENSE 1¼"		CURB RAMP, TYPE X
			CURB RAMP DETECTABLE WARNING FIELD
			SLOPE INTERCEPT
			FENCE CHAIN LINK

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS	SCALE, FEET 0 20 40	SHEET 22	E

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PLOT TIME: 9:28:46 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2



LEGEND

- (A) REMOVING CURB & GUTTER
- (B) CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
- (C) REMOVING PAVEMENT
- (D) REMOVING ASPHALTIC SURFACE MILLING (VARIES 4" - 5½") INSTALL HMA PAVEMENT TYPE E-10 (VARIES 4" - 5½")
- (E) 7¾" HMA PAVEMENT TYPE E-10 OVER 14" BASE AGGREGATE DENSE 1¼"
- (F) CONCRETE SIDEWALK 5-INCH OVER 4" BASE AGGREGATE DENSE 1¼"
- (G) CONCRETE MEDIAN SLOPED NOSE
- (H) TOPSOIL, SEED, FERTILIZE, & MULCH
- (I) XXXXX SAWING ASPHALT
- (J) XXXXX SAWING CONCRETE
- (K) BASE PATCHING CONCRETE
- CURB RAMP, TYPE X
- CURB RAMP DETECTABLE WARNING FIELD
- SLOPE INTERCEPT
- —x— FENCE CHAIN LINK

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS	SCALE, FEET 0 20 40	SHEET 23	E

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WISDOT/CADDS SHEET 42

NOTE:

STH 20 PLAN DETAILS ARE
ON SEPARTE SHEETS

℄ 90TH STREET

℄ STH 20

PLACE 5" ASPHALT
SEE ASPHALT DRIVEWAY DETAIL

90TH STREET

STH 20
WASHINGTON AVENUE

BEGIN CONSTRUCTION
STA. 17+58.23

END CONSTRUCTION
STA. 22+90.73

DO NOT DISTURB CONTROL POINT

PROPOSED R/W

CAUTION

16'

5'

+04.48 53.1' LT
+27.18 37.0' LT
+64.29 56.8' LT
+69.93 41.4' LT
+70.19 38.9' LT
+77.39 38.3' LT
+50.09 18.0' RT
+49.14 27.0' RT
+58.67 22.3' RT
+90.09 52.3' RT
+10.68 64.3' LT
+52.72 38.3' LT
+51.75 29.8' LT
+90.27 23.6' LT
+99.1 +11.1
+85.96 20.6' RT
+11.14 19.8 RT
+26.98 19.9' RT
+27.65 31.5' RT
+90.9 +0.9

17+00 18+00 19+00 20+00 21+00 22+00 23+00

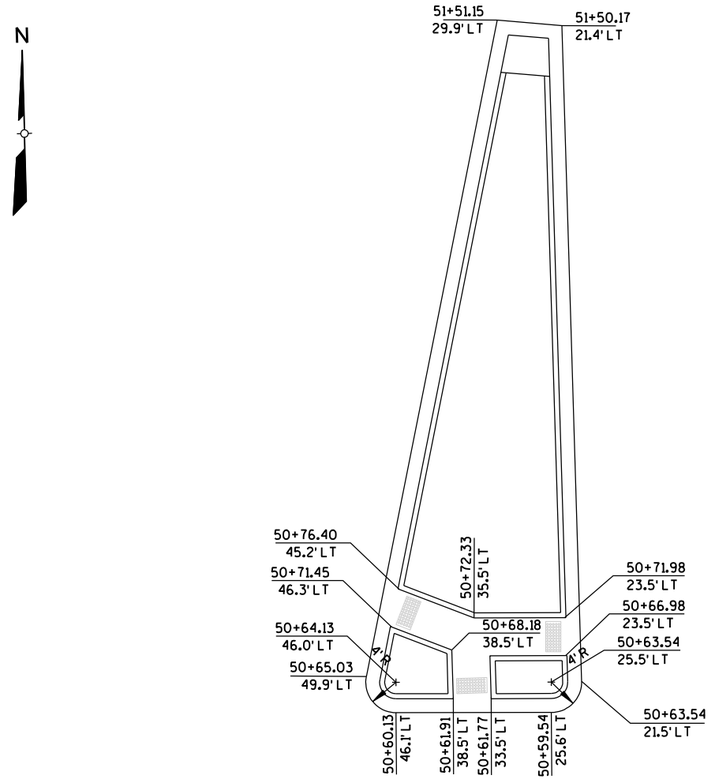
257+00 258+00 259+00 260+00

LEGEND

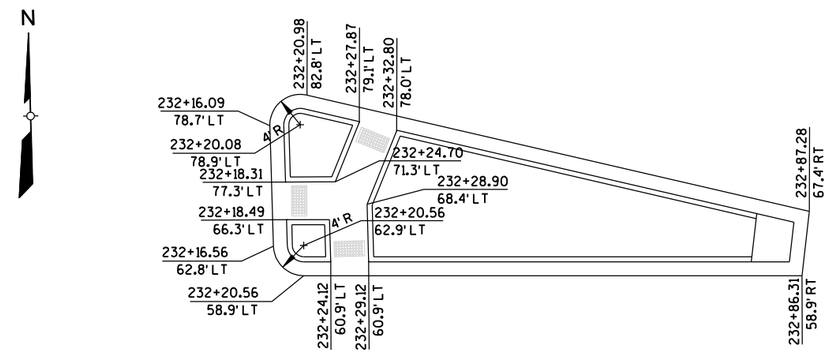
- (A) REMOVING CURB & GUTTER
- (B) CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
- (C) REMOVING PAVEMENT
- (D) REMOVING ASPHALTIC SURFACE MILLING (VARIES 4" - 5½") INSTALL HMA PAVEMENT TYPE E-10 (VARIES 4" - 5½")
- (E) 7¾" HMA PAVEMENT TYPE E-10 OVER 14" BASE AGGREGATE DENSE 1¼"
- (F) CONCRETE SIDEWALK 5-INCH OVER 4" BASE AGGREGATE DENSE 1¼"
- (G) CONCRETE MEDIAN SLOPED NOSE
- (H) TOPSOIL, SEED, FERTILIZE, & MULCH
- (I) XXXXX SAWING ASPHALT
- (J) XXXXX SAWING CONCRETE
- (K) BASE PATCHING CONCRETE
- CURB RAMP, TYPE X
- CURB RAMP DETECTABLE WARNING FIELD
- SLOPE INTERCEPT
- —x— FENCE CHAIN LINK

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS	SCALE, FEET 0 20 40	SHEET 24	E

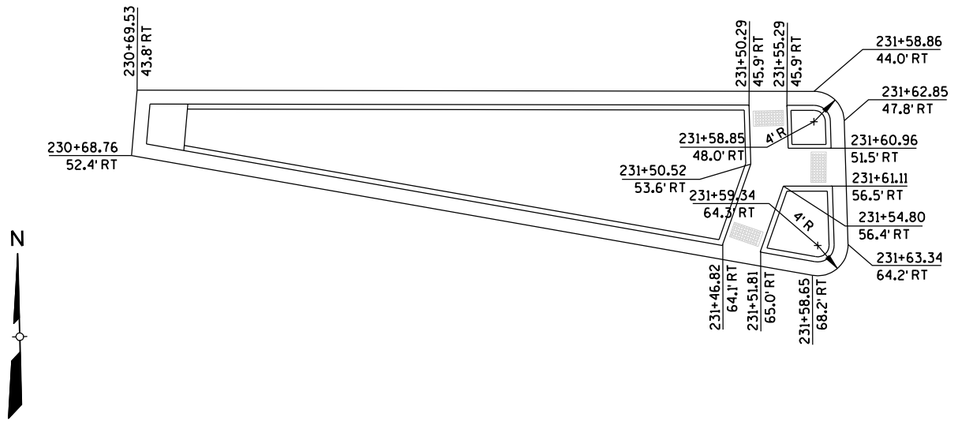
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PLOT TIME: 11:13:46 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42



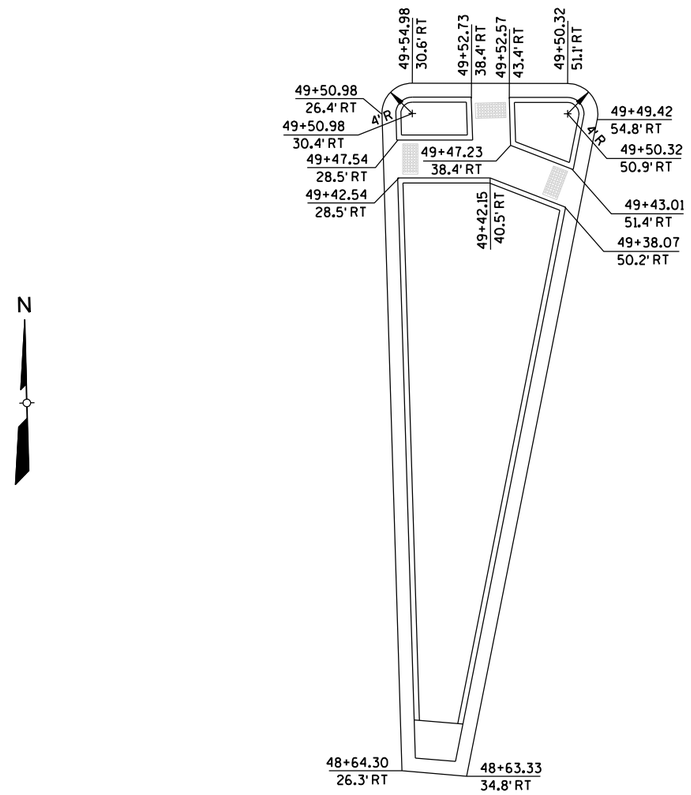
NORTHWEST QUADRANT
OFFSETS GIVEN FROM CTH H ALIGNMENT



NORTHWEAST QUADRANT
OFFSETS GIVEN FROM STH 20 ALIGNMENT



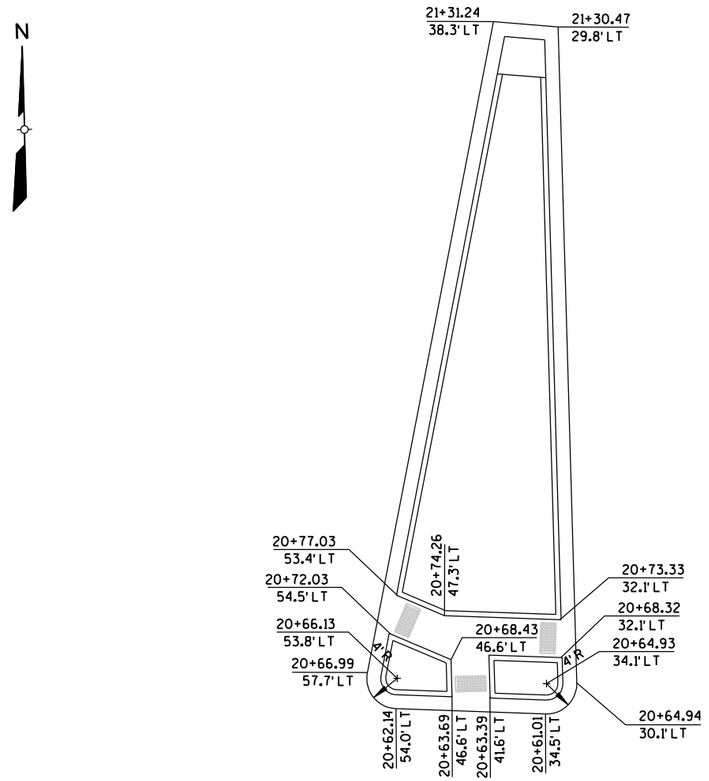
SOUTHWEST QUADRANT
OFFSETS GIVEN FROM STH 20 ALIGNMENT



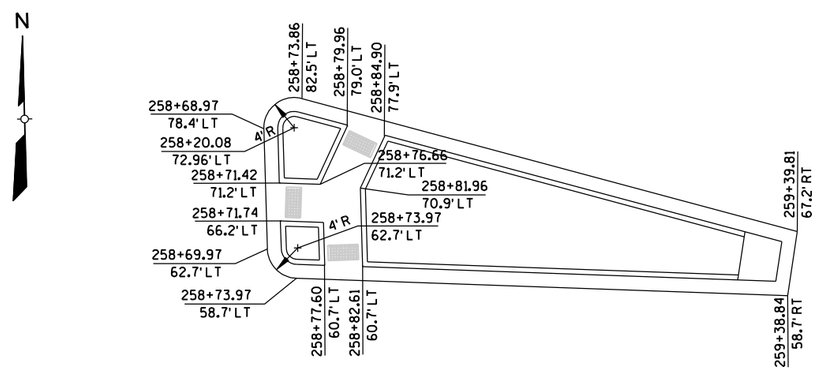
SOUTHEAST QUADRANT
OFFSETS GIVEN FROM CTH H ALIGNMENT

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS-CTH H INTERSECTION	SCALE, FEET 0 10 20	SHEET 25	E

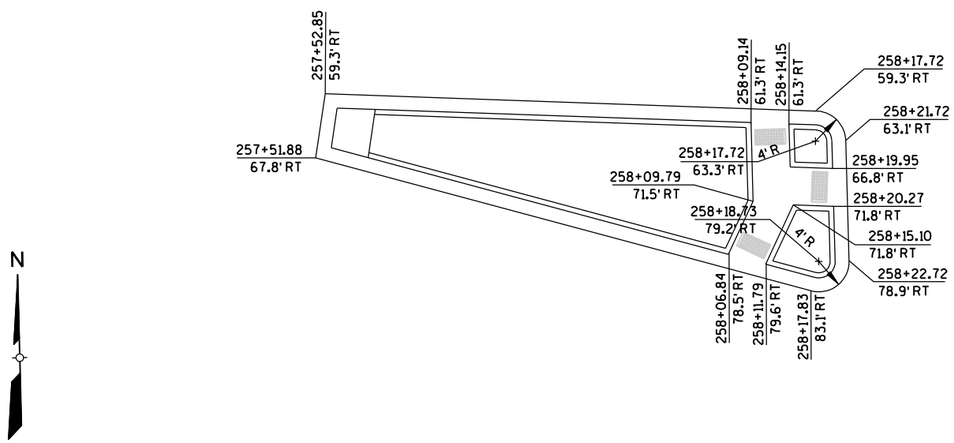
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PLOT DATE: 5/2/2014
PLOT TIME: 11:14:29 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42



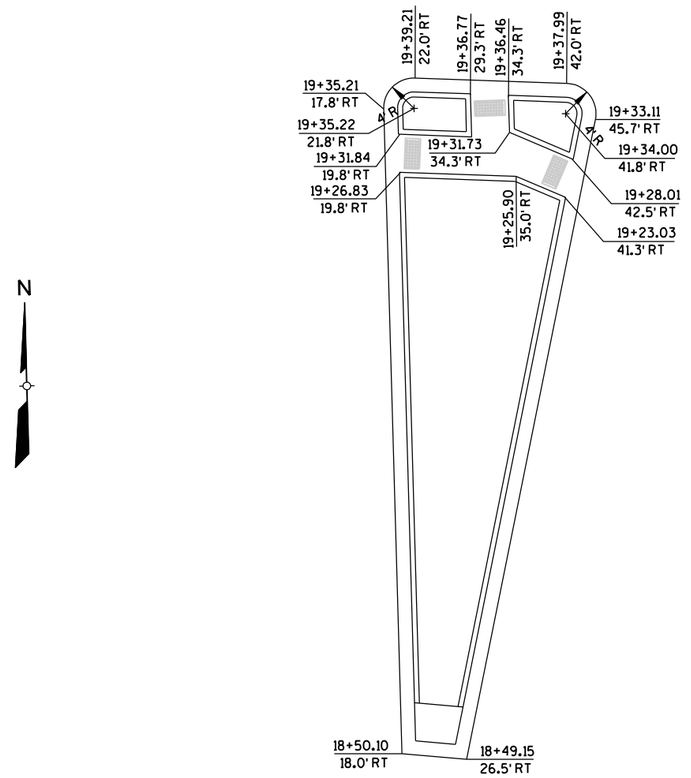
NORTHWEST QUADRANT
OFFSETS GIVEN FROM 90TH ST ALIGNMENT



NORTHEAST QUADRANT
OFFSETS GIVEN FROM STH 20 ALIGNMENT



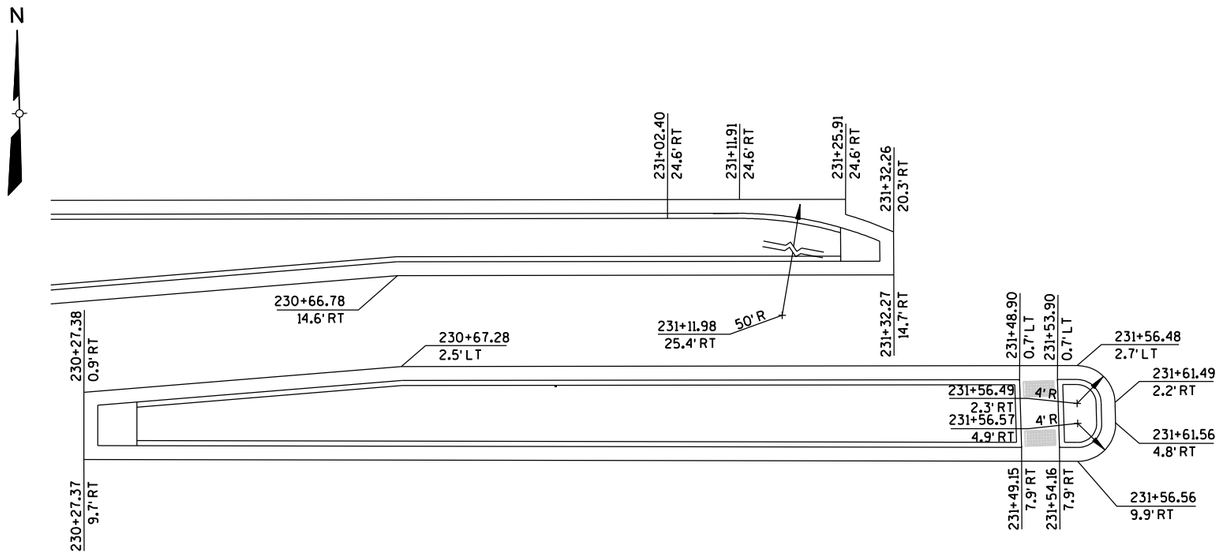
SOUTHWEST QUADRANT
OFFSETS GIVEN FROM STH 20 ALIGNMENT

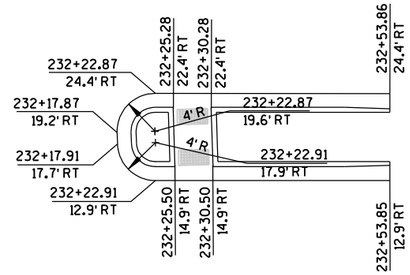


SOUTHEAST QUADRANT
OFFSETS GIVEN FROM 90TH ST ALIGNMENT

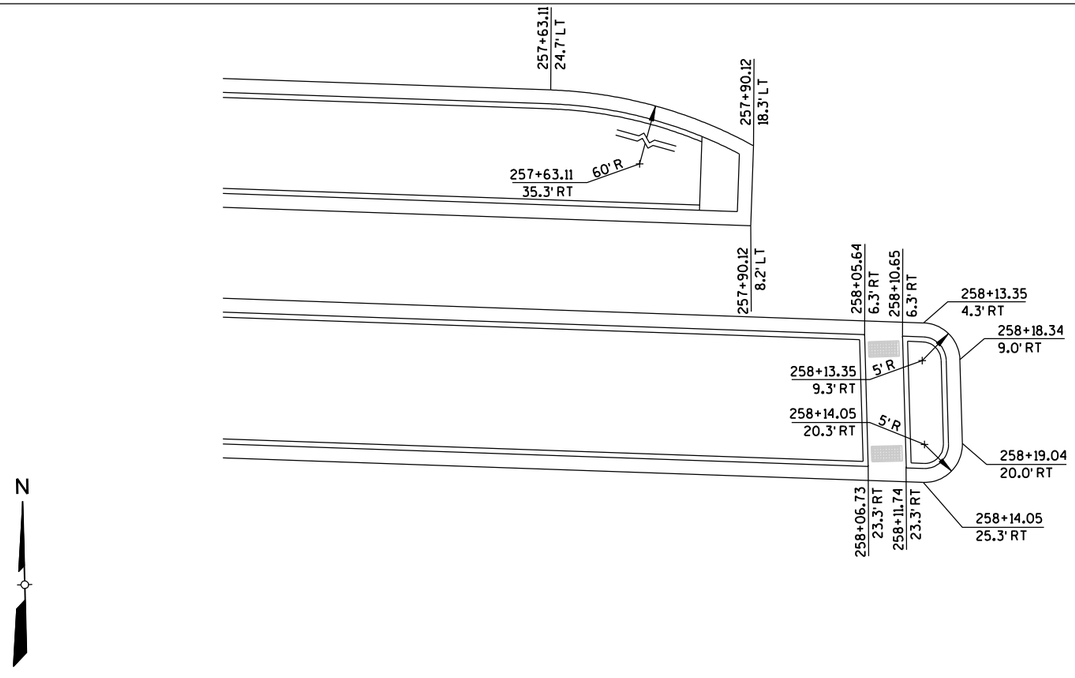
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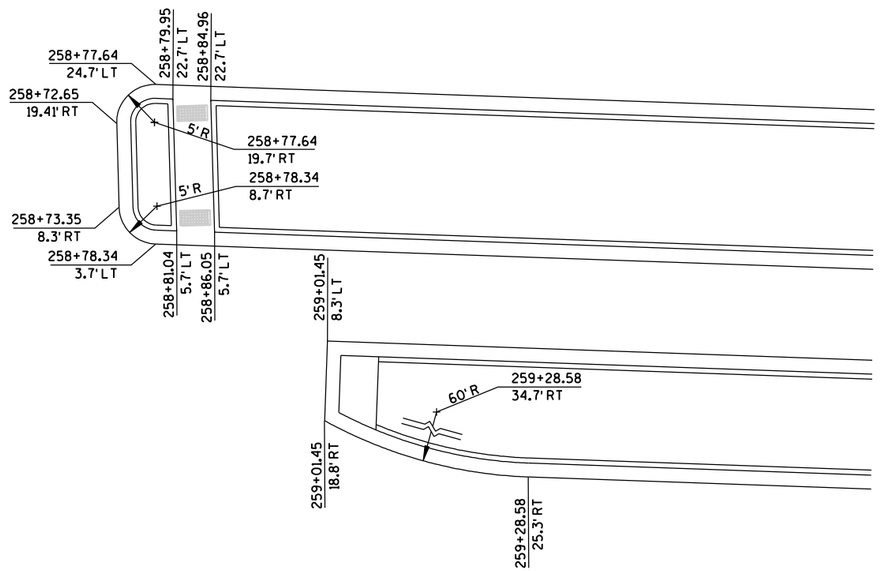
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PLOT DATE: 5/2/2014
PLOT TIME: 11:14:31 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42





STH 20/CTH H MEDIANS
OFFSETS GIVEN FROM STH 20 ALIGNMENT





STH 20/90TH ST MEDIANS
OFFSETS GIVEN FROM STH 20 ALIGNMENT

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN DETAILS-MEDIAN DETAILS	SCALE, FEET 0 10 20	SHEET 27	E

FILE NAME: l:\work\60222809\000_cad\021214_pd.dgn
BATCH PRINT SHEET 14 OF 14
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT TIME: 11:14:34 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2

2

N

POST

ASPHALT

U.S.H 20 - WASHINGTON AVENUE

STH 20

WASHINGTON AVENUE

721.08
720.94

MATCHLINE STA. 228+50

223+00 224+00 225+00 226+00 227+00 228+00

GRASS GRASS

733.22
733.48
732.26
733.24
731.29
731.38
730.30
729.24
729.42
727.82
728.17
727.07
727.30
729.98
724.92
725.15
723.89
722.83
723.05
721.85
720.93
721.05

2%

2%

MATCH EXISTING

MATCH EXISTING

723.32
723.23
722.86
721.08
722.82
721.99
721.04

NOTE: CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE.

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVING GRADES	SCALE, FEET 0 20 40	SHEET 28	E

FILE NAME: L:\work\60222809\000_CAD\02130l_pg.DGN
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PLOT DATE: 5/2/2014
PLOT TIME: 11:20:46 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2

N

CTH H

51+00

50+00

49+00

MATCHLINE STA. 228+50

MATCHLINE STA. 234+50

MATCHLINE

MATCHLINE

C.P. RAILROAD BRIDGE ABUTMENT

TEMPORARY CONCRETE BARRICADE

CONCRETE

720.94 720.08 719.29 719.22 719.14 719.01 719.05

MATCH EXISTING

720.20 719.98 719.45 719.19 719.04 718.98 719.19 719.40 719.77 720.88 720.54 720.86 720.98

720.93 720.36 719.80 719.82 721.05 719.49 719.28 719.06 718.89 719.24 719.61 719.53 719.96 719.93 720.51 720.36 720.95 720.84 721.47 721.96

229+00 230+00 231+00

MATCH EXISTING

719.17 719.26 719.56 720.01 720.49 721.03 721.56

MATCH EXISTING

MATCH EXISTING

721.08 719.65 719.17 718.96 719.38 719.76 720.16 720.71 721.50 721.87

719.67 719.50 719.62 721.75

721.04 720.30 719.61 719.30 718.99 718.71 718.63 718.76 718.91 719.25 719.97 720.34 721.24 721.63

2%

720.70 721.39

721.20

EXISTING STORM WATER DETENTION POND

NOTE: CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE.

722.30 721.99 722.76 722.74 722.55 722.75 723.45 724.41 723.11 723.78 725.11 725.70 726.08 726.44 726.73 727.03

723.39 723.92 724.46 724.85 725.91 726.59 727.18

724.29 724.57

MATCH EXISTING

723.62 724.27 723.42 724.10 723.47

232+00 233+00 234+00

STH 20
WASHINGTON AVENUE

WISCONSIN STREET

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVING GRADES	SCALE, FEET 0 20 40	SHEET 29	E

FILE NAME: l:\work\60222809\000.cad\021302_pg.DGN
BATCH PRINT SHEET 2 OF 11
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PLOT DATE: 5/2/2014
PLOT TIME: 11:20:48 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2

2

N

MATCHLINE STA. 234+50

MATCHLINE STA. 240+50

727.03 727.16 727.29 727.42 727.56 727.58 727.61 727.63 2% 727.65 727.73 727.81 727.11

727.18 727.41 727.70 727.77 727.83 727.91

MATCH EXISTING

727.74

727.66 757.55 727.65 727.55 727.36 727.25 727.23

MATCH EXISTING

726.93 726.49 726.03

727.74 727.57 727.29 726.84 726.66 2% 726.46 726.36 2% 726.21 725.98 725.75

727.00

1% 40+00 40+00

727.31

727.72 727.59 727.50 727.26 727.20 727.06 726.87 726.67 726.57

MATCH EXISTING

235+00 236+00 237+00 238+00 239+00 240+00

GRASS GRASS

STH 20

WASHINGTON AVENUE

96TH STREET ASPHALT

CONCRETE ASPHALT

ASPHALT CONCRETE

39+00

96TH STREET

NOTE: CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE.

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVING GRADES	SCALE, FEET 0 20 40	SHEET 30	E

FILE NAME: l:\work\60222809\000.cad\021303_pg.DGN
BATCH PRINT SHEET 3 OF 11

PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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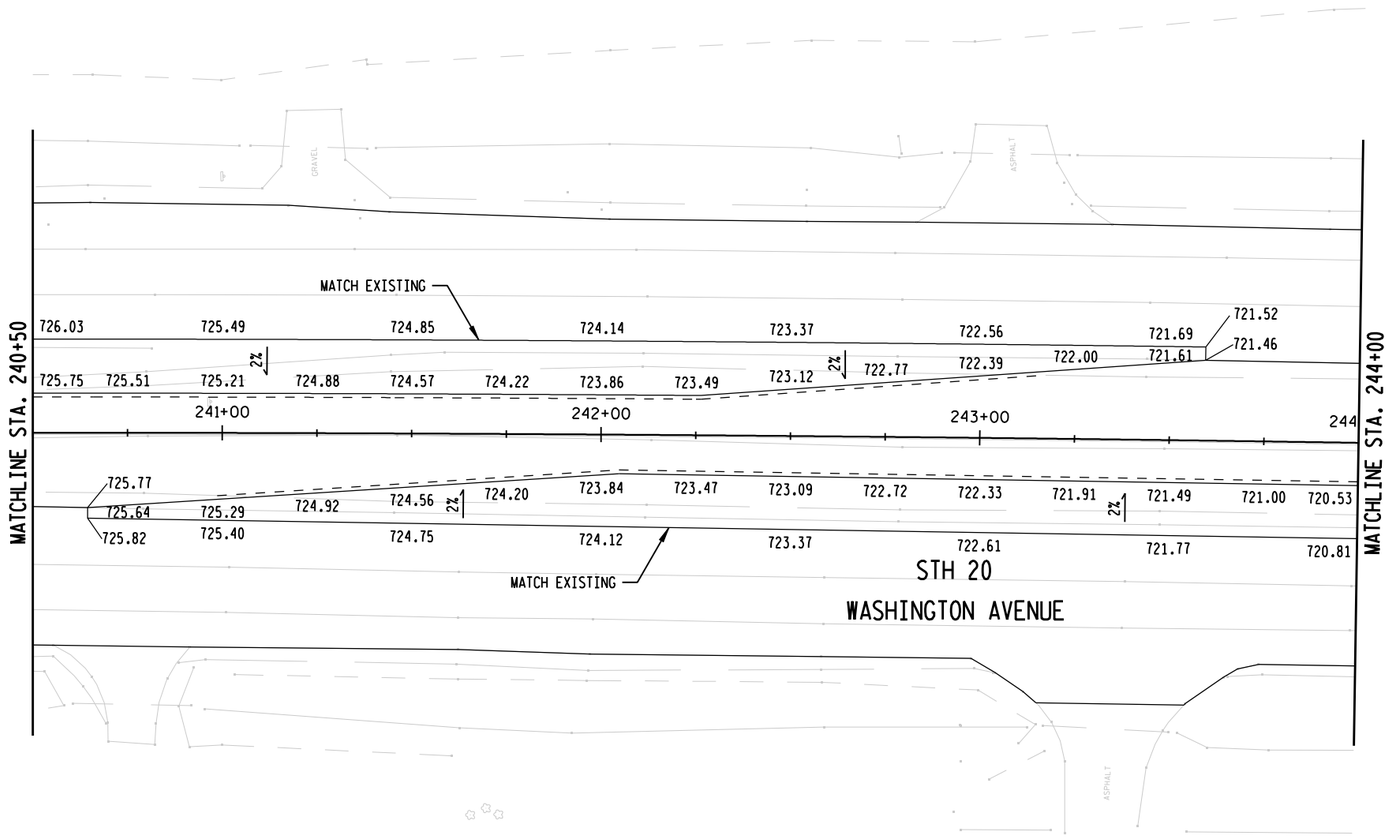
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PLOT SCALE: 1:40

WISDOT/CADDS SHEET 42

2

N

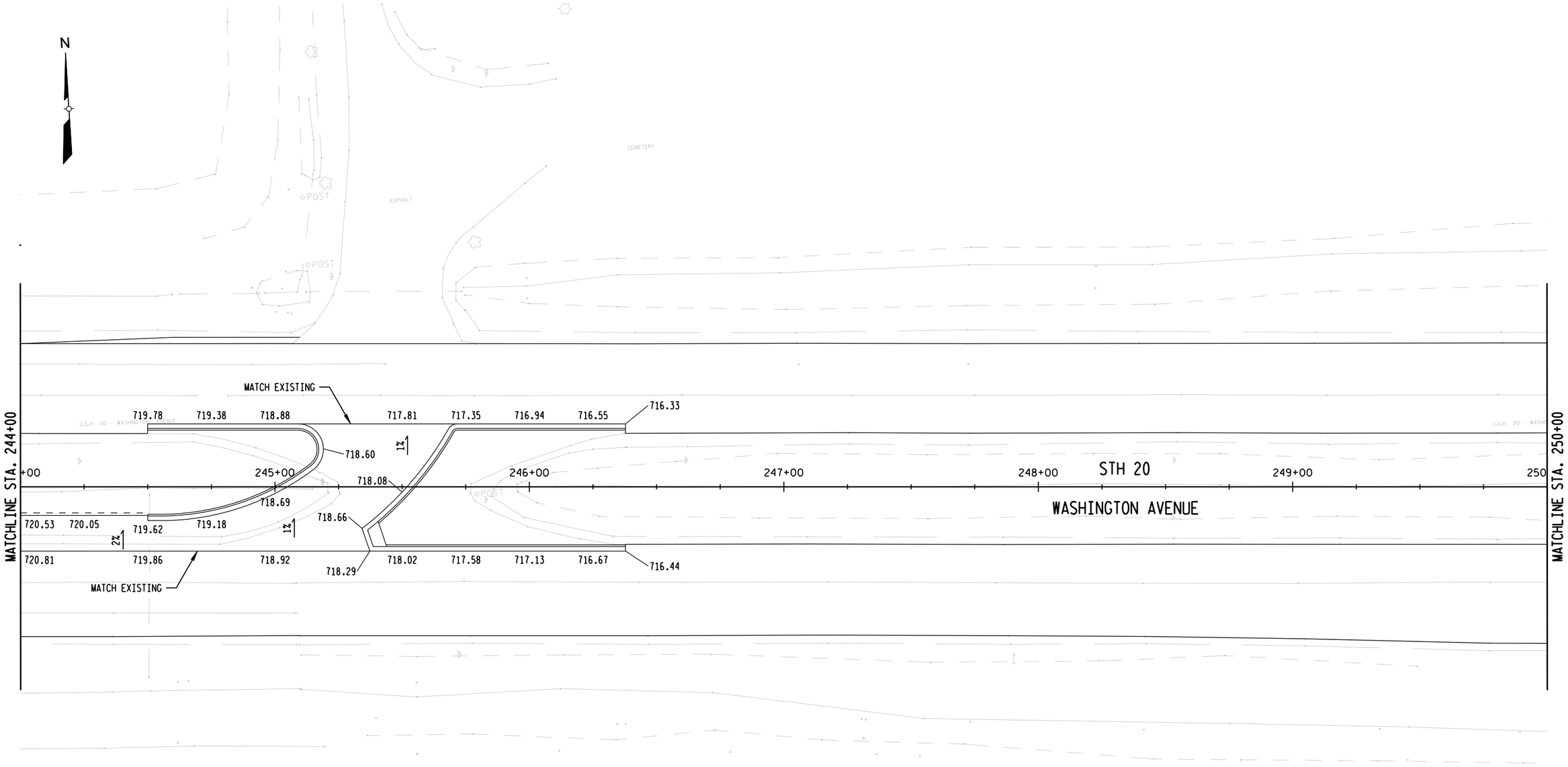


NOTE: CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE.

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVING GRADES	SCALE, FEET 0 20 40	SHEET 31	E

FILE NAME: l:\work\60222809\000.cad\021304_pg.DGN
BATCH PRINT SHEET 4 OF 11
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:20:53 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2



NOTE: CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE.

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVING GRADES	SCALE, FEET 0 20 40	SHEET 32	E

FILE NAME: l:\work\60222809\000.cad\021305_pg.DGN
BATCH PRINT SHEET 5 OF 11
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:20:56 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2

2

N

STH 20

WASHINGTON AVENUE

MATCHLINE STA. 250+00

MATCHLINE STA. 256+00

MATCH EXISTING

MATCH EXISTING

MATCH EXISTING

712.02 711.99 711.92 711.90 711.88 711.80 711.92 711.68 711.87 711.82 711.95 711.92 711.89 711.86 711.80

711.89 711.70 711.50 711.62 711.64 711.57 VARIES 711.50 711.47 711.47 711.51 711.58 711.65 711.72 VARIES 711.78 711.80 711.78

711.29

250+00 251+00 252+00 253+00 254+00 255+00 256

712.56 711.24

30+00 2.5% 2.5% 711.32 2%

712.30 711.68 711.60 711.48 711.72 2% 711.51 711.75 711.42 711.66

711.65 711.66 711.61 711.54 711.46 711.39 VARIES 711.33 711.31 711.33 711.39 VARIES 711.46 711.74

711.79 712.04 711.76 711.78 711.77 711.75 711.54 711.63 711.72 711.63 711.72 711.76 711.79 711.84 711.84 711.86 711.88

711.50 711.55 711.62 711.57 711.49 711.44

711.54 711.51 711.46 711.43 711.39 711.36 711.40 711.31

711.52

29+00

92ND STREET

CONCRETE

CONCRETE WALK

CONCRETE WALK

CONCRETE WALK

BRICK SIGN FOR BANK

NOTE: CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE.

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVING GRADES	SCALE, FEET 0 20 40	SHEET 33	E

FILE NAME: l:\work\60222809\000.cad\021306_pg.DGN
BATCH PRINT SHEET 6 OF 11

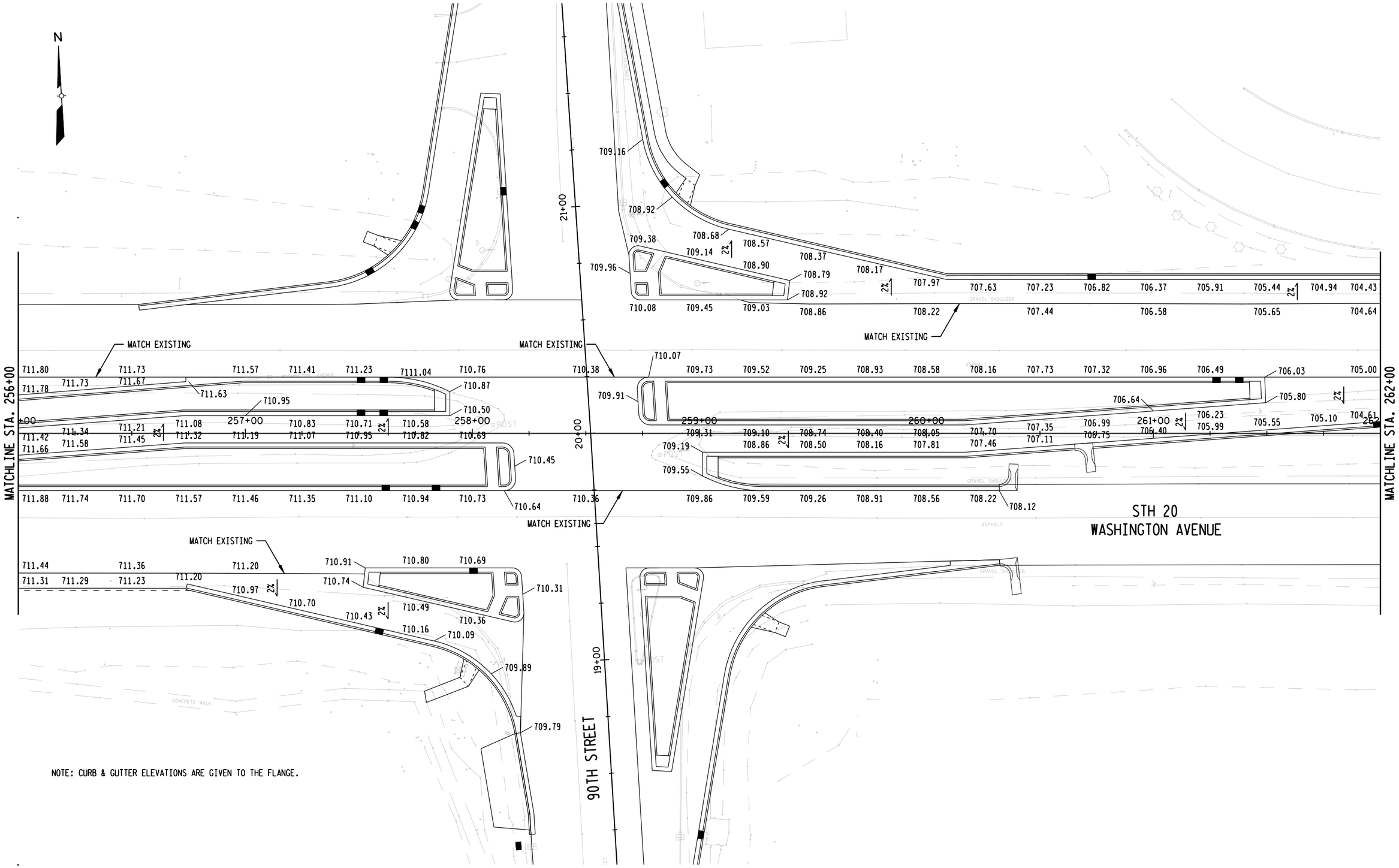
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PLOT DATE: 5/2/2014
PLOT TIME: 11:20:58 AM

PLOT SCALE: 1:40

WISDOT/CADDS SHEET 42

2

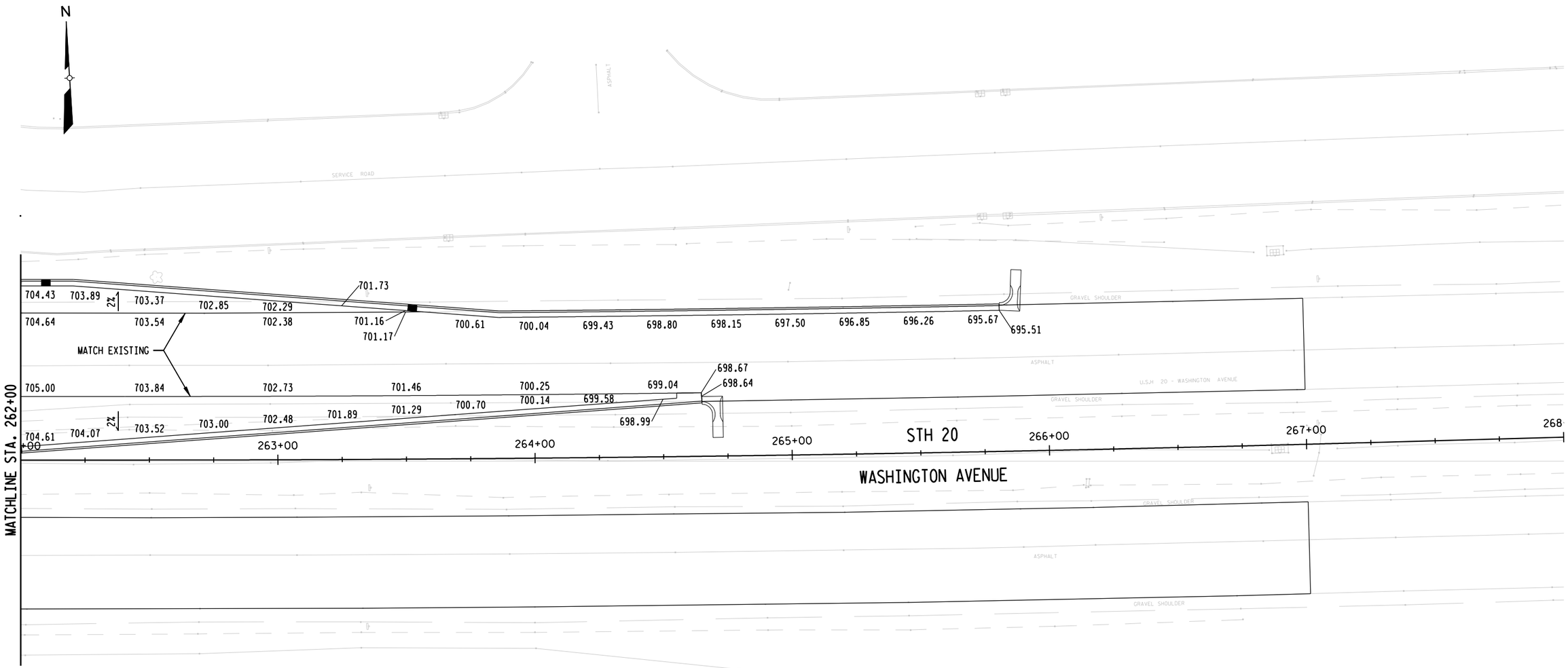


NOTE: CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE.

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVING GRADES	SCALE, FEET 0 20 40	SHEET 34	E

FILE NAME: l:\work\60222809\000.cad\021307_pg.DGN
BATCH PRINT SHEET 7 OF 11
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:21:00 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2



NOTE: CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE.

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVING GRADES	SCALE, FEET 0 20 40	SHEET 35	E

FILE NAME: l:\work\60222809\000.cad\021308_pg.DGN
BATCH PRINT SHEET 8 OF 11
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:21:03 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2

N

NOTE:

STH 20 PAVING GRADES ARE ON SEPARATE SHEETS

WISCONSIN STREET

STH 20
WASHINGTON AVENUE

46+00 47+00 48+00 49+00 50+00 51+00

230+00 231+00 232+00 233+00

MATCH EXISTING

MATCHLINE STA. 51+50

CTH H

722.31 722.14 721.97 721.74 722.40 722.33 722.05

722.45 722.41 722.16 722.04 722.20 722.39 722.14 721.89 721.71 721.99 722.11 722.62 721.95 721.83 721.94 722.59 721.52 721.61 722.26 722.80 723.20 723.34 723.73 723.43 724.02 723.94 724.75 724.93 725.13 725.43 725.92 725.99 726.15 726.10

719.05 719.14 719.32 719.39 719.61 719.73 720.36 720.22 720.86 720.83 721.32 721.96 721.06 721.65 721.33 721.73 721.89 722.22 721.91 721.93 721.95 722.24

2%

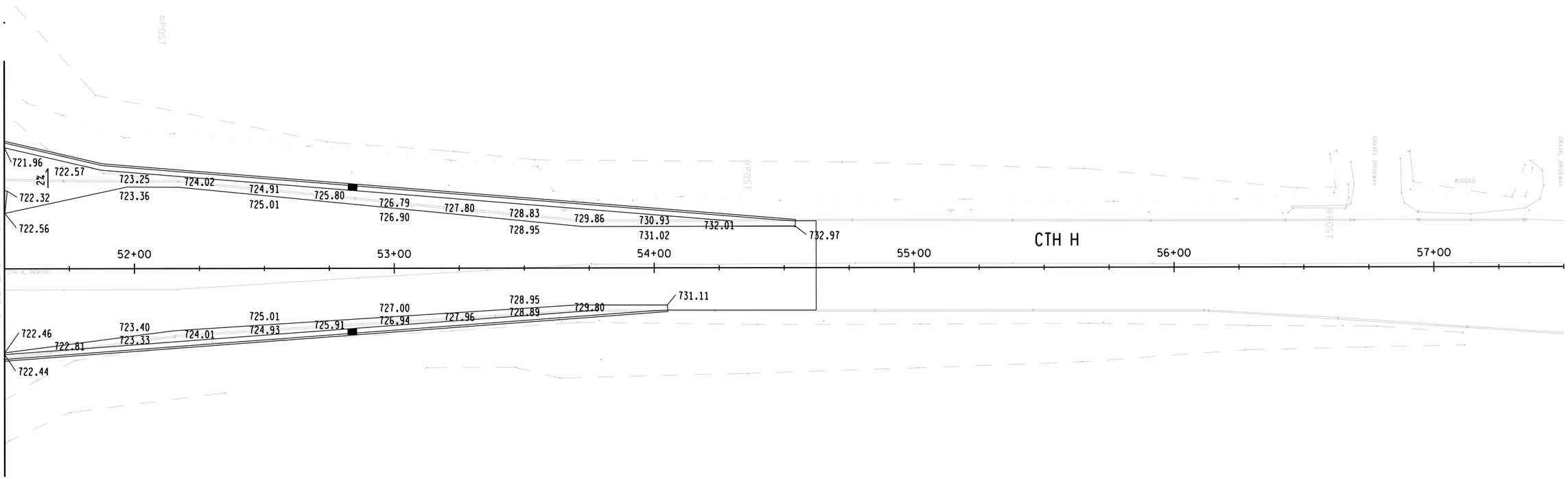
NOTE: CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE.

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVING GRADES	SCALE, FEET 0 20 40	SHEET E

FILE NAME: l:\work\60222809\000.cad\021309_pg.DGN
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PLOT DATE: 5/2/2014
PLOT TIME: 11:21:05 AM
PLOT SCALE: 1:40

2

N



NOTE: CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE.

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVING GRADES	SCALE, FEET 0 20 40	SHEET 37	E

FILE NAME: l:\work\60222809\000.cad\021310_pg.DGN
BATCH PRINT SHEET 10 OF 11
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:21:08 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2

N

NOTE:

STH 20 PAVING GRADES ARE
ON SEPARATE SHEETS

257+00

258+00

259+00

260+00

20+00

90TH STREET

STH 20
WASHINGTON AVENUE

MATCH EXISTING

709.57 709.79

710.48 710.31 710.32 710.16 710.30 710.04 710.00 710.24 710.07 710.19 710.02 709.91 709.76 709.68 709.91 709.58 709.78 709.50 709.82 709.94 709.70 709.28 709.18 708.99 708.77 708.46 708.52 708.15 708.05

2% 2% 2%

NOTE: CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE.

711.51 711.32 711.22 711.16 711.10 710.97 710.88 710.92 710.39 710.47 710.40 710.36 710.07 709.47 709.66 709.66 710.10 709.43 709.63 709.23 709.15 709.07 708.68 708.29 707.64 707.24 709.53 709.55

1.2% 1.2% 1.2%

0.5%

710.35 709.63 709.90 709.60 708.68 707.44

18+00 19+00 21+00 22+00 23+00

MATCH EXISTING

709.38 709.53 709.46 709.27 709.20 708.72 709.34

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVING GRADES	SCALE, FEET 0 20 40	SHEET 38	E

FILE NAME: l:\work\60222809\000.cad\021311_pg.DGN
BATCH PRINT SHEET 11 OF 11
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:21:10 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2

N

LEGEND

- SILT FENCE
- INLET PROTECTION
  - (A) TYPE A
  - (C) TYPE C
  - (D) TYPE D
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- EROSION MAT CLASS I TYPE A
- EROSION MAT CLASS II TYPE B
- EROSION MAT CLASS III TYPE A
- SLOPE INTERCEPT

BEGIN PROJECT
2250-00-75, 2340-00-73
STA. 225+42.81

STH 20
WASHINGTON AVENUE

CTH H

℄ CTH H

℄ STH 20

℄ 96TH STREET

℄ WISCONSIN STREET

EROSION MAT CLASS III TYPE A

EROSION MAT CLASS II TYPE B

EROSION MAT CLASS I TYPE A

EROSION MAT CLASS II TYPE B

EROSION MAT CLASS I TYPE A

EROSION MAT CLASS II TYPE B

EROSION MAT CLASS II TYPE B

SILT FENCE

EXISTING STORM WATER DETENTION POND

C.P. RAILROAD BRIDGE OVERPASS

TEMPORARY DITCH CHECK

EROSION MAT CLASS I TYPE A

MATCHLINE STA. 240+00

RAILROAD R/W

RAILROAD R/W

WISCONSIN STREET

PROP. TILE

96TH STREET

R/W

54+00

52+00

50+00

48+00

46+00

44+00

42+00

38+00

36+00

226+00

228+00

230+00

232+00

234+00

236+00

238+00

240

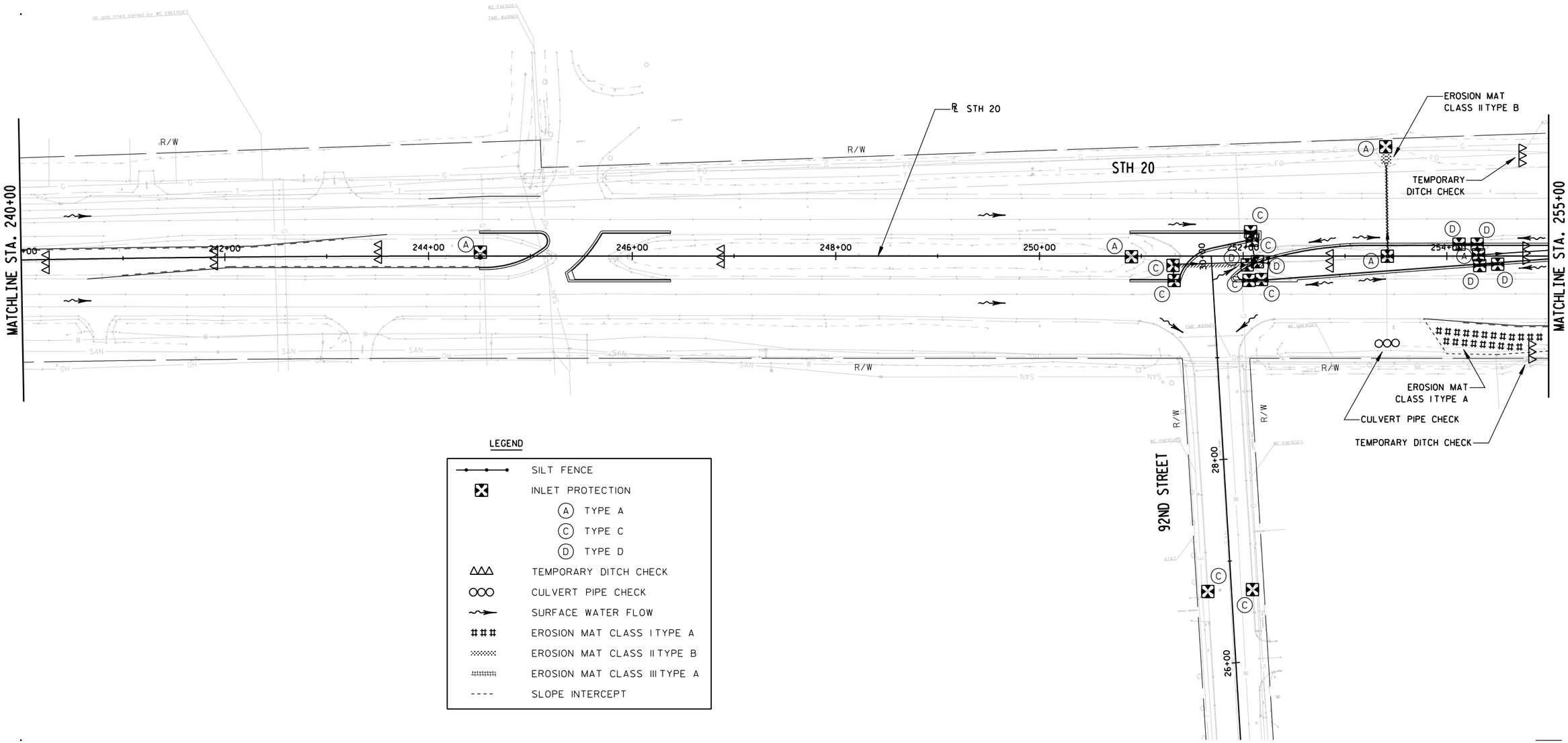
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FILE NAME: L:\work\60222809\000_CAD\022001_ec.DGN
BATCH PRINT SHEET 1 OF 3
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PLOT DATE: 5/2/2014
PLOT TIME: 11:23:00 AM
PLOT SCALE: 1:100

2

2

N



LEGEND

	SILT FENCE
	INLET PROTECTION
A	TYPE A
C	TYPE C
D	TYPE D
	TEMPORARY DITCH CHECK
	CULVERT PIPE CHECK
	SURFACE WATER FLOW
	EROSION MAT CLASS I TYPE A
	EROSION MAT CLASS II TYPE B
	EROSION MAT CLASS III TYPE A
	SLOPE INTERCEPT

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	EROSION CONTROL	SCALE, FEET 0 50 100	SHEET 40	E

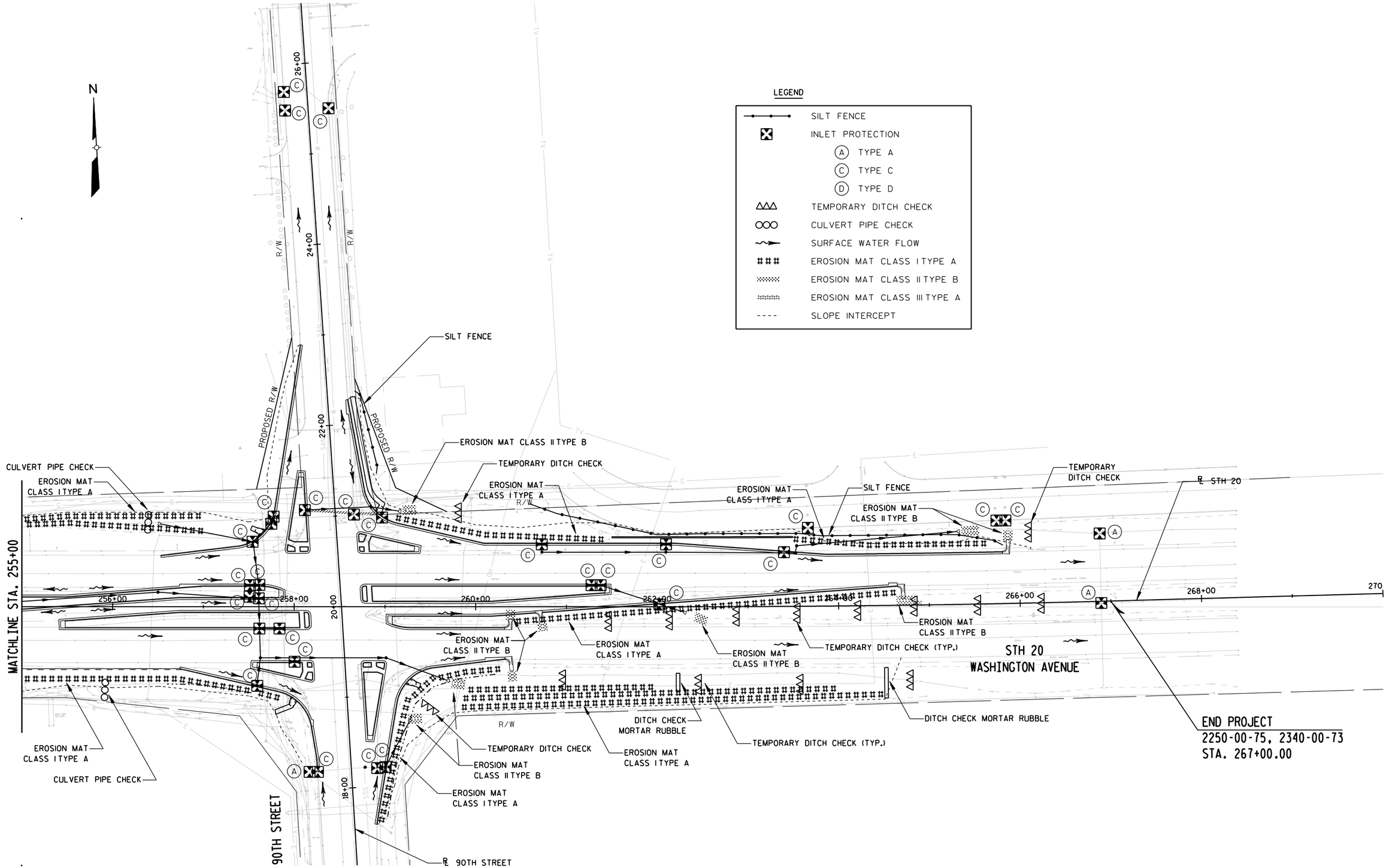
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PLOT TIME: 11:23:04 AM
PLOT SCALE: 1:100
WISDOT/CADDS SHEET 42

2

N

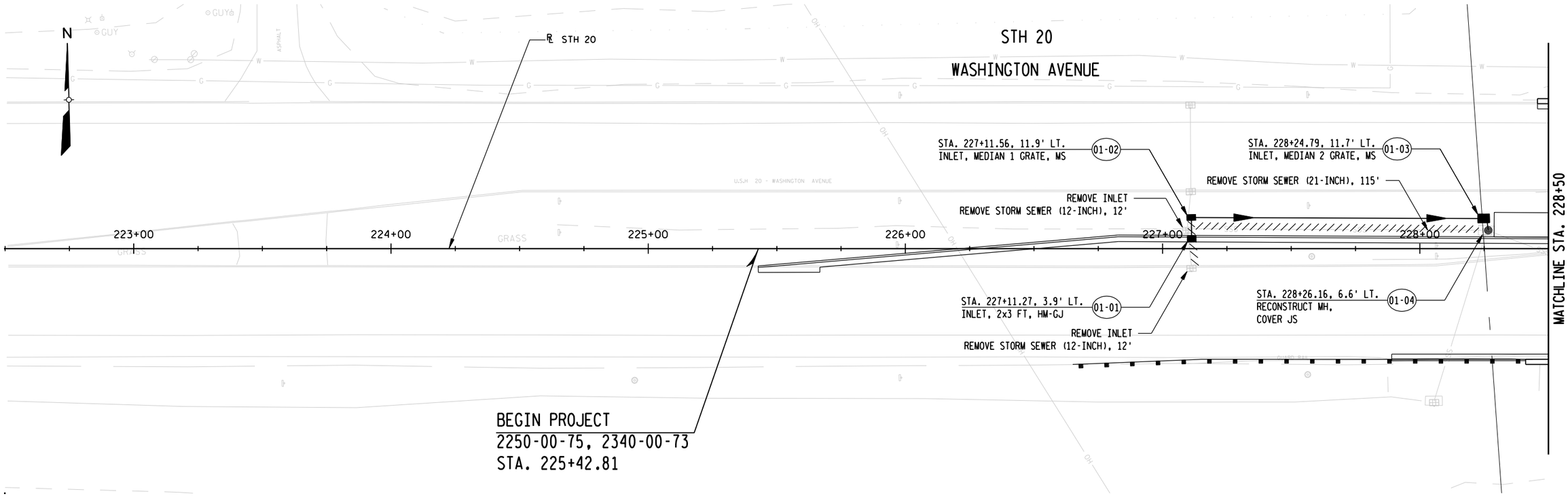
LEGEND

- SILT FENCE
- INLET PROTECTION
  - (A) TYPE A
  - (C) TYPE C
  - (D) TYPE D
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- EROSION MAT CLASS I TYPE A
- EROSION MAT CLASS II TYPE B
- EROSION MAT CLASS III TYPE A
- SLOPE INTERCEPT

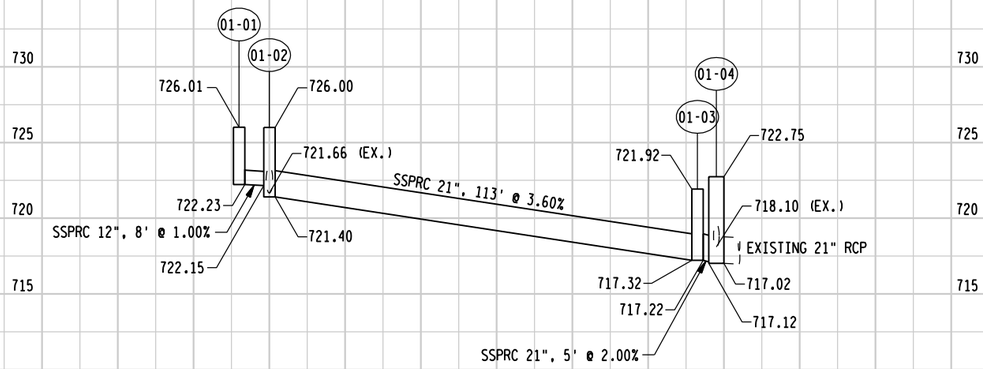


PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	EROSION CONTROL	SCALE, FEET 0 50 100	SHEET 41	E

FILE NAME: l:\work\60222809\000.cad\022003_ec.DGN
BATCH PRINT SHEET 3 OF 3
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PLOT DATE: 5/2/2014
PLOT TIME: 11:23:07 AM
PLOT SCALE: 1:100
WISDOT/CADDS SHEET 42



NOTE: TOP ELEVATION SHOWN IS FLOW LINE OF INLET GRATE OR MANHOLE LID.



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	STORM SEWER: STH 20	SCALE, FEET 0 20 40	SHEET 42	E

FILE NAME: L:\work\60222809\000_CAD\022501_ss.DGN
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PLOT DATE: 5/2/2014
PLOT TIME: 11:27:30 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 41

STH 20
WASHINGTON AVENUE

NOTE:

CTH H STORM SEWER DETAILS ARE ON SEPARATE SHEETS

℄ STH 20

MATCHLINE STA. 228+50

229+00 230+00 231+00

STA. 229+92.72, 21.9' LT
INLET COVER, TYPE HM-GJ-S *

STA. 229+82.81, 56.6' LT
INLET COVER, TYPE HM-GJ-S

STA. 229+93.07, 9.7' LT
INLET, 2X3 FT, HM-GJ-S
REMOVE INLET
02-01

CONCRETE COLLAR,
FL 714.12

02-02 STA. 230+35.45, 1.4' RT
INLET, 2X3 FT, HM-GJ

02-03 STA. 230+35.56, 8.3' RT
INLET, 2X3 FT, HM-GJ

STA. 229+83.00, 9.1' LT
INLET, 2X3 FT, HM-GJ-S
02-10

STA. 229+93.00, 6.7' RT
MANHOLE, 3X3 FT, JS
02-04

REMOVE INLET

REMOVE INLET
CONCRETE COLLAR, FL 713.56

SSPRC 30", 12'

RECONSTRUCT MANHOLE

02-06 STA. 230+80.26, 45.2' RT
INLET, 3 FT DIA, HM-GJ

STA. 229+82.75, 56.5' RT.
INLET, 2X3 FT, HM-GJ-S
02-09

STA. 229+92.38, 58.5' RT.
INLET, 3 FT DIA, HM-GJ-S
02-05

STA. 230+72.43, 89.7' RT.
15" APRON ENDWALL
02-07

RIPRAP MEDIUM

* USE TYPE HM-GJ-S WITHOUT CURB BOX AT DEPRESSED CURB

CTH H

℄ CTH H

ADJUST INLET (2)

WISCONSIN STREET

50+00

232+00 233+00 234+00

MATCHLINE STA. 234+50

AT&T WISCONSIN

CITY OF RACINE WATER UTILITY

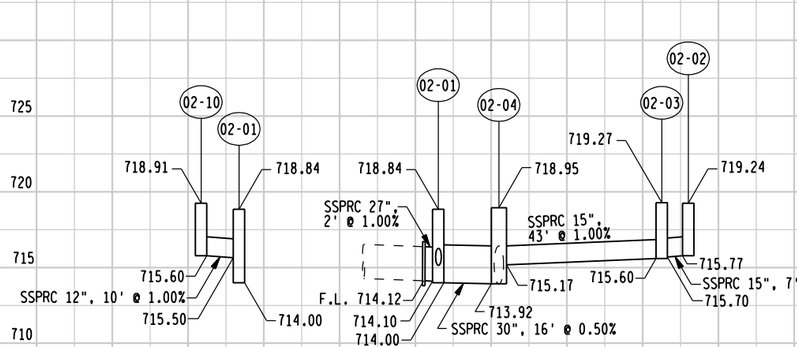
ADJUST MANHOLE

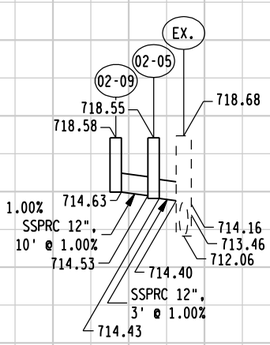
REMOVE INLETS (2)

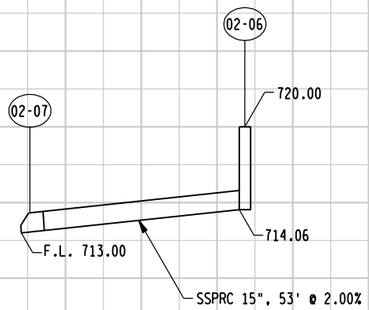
02-08 STA. 232+92.05, 75.3' RT.
INLET, MEDIAN 1 GRATE, MS

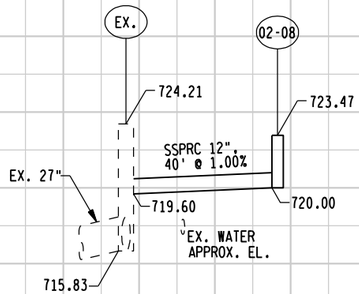
℄ WISCONSIN STREET

NOTE: TOP ELEVATION SHOWN IS FLOW LINE OF INLET GRATE OR MANHOLE LID.



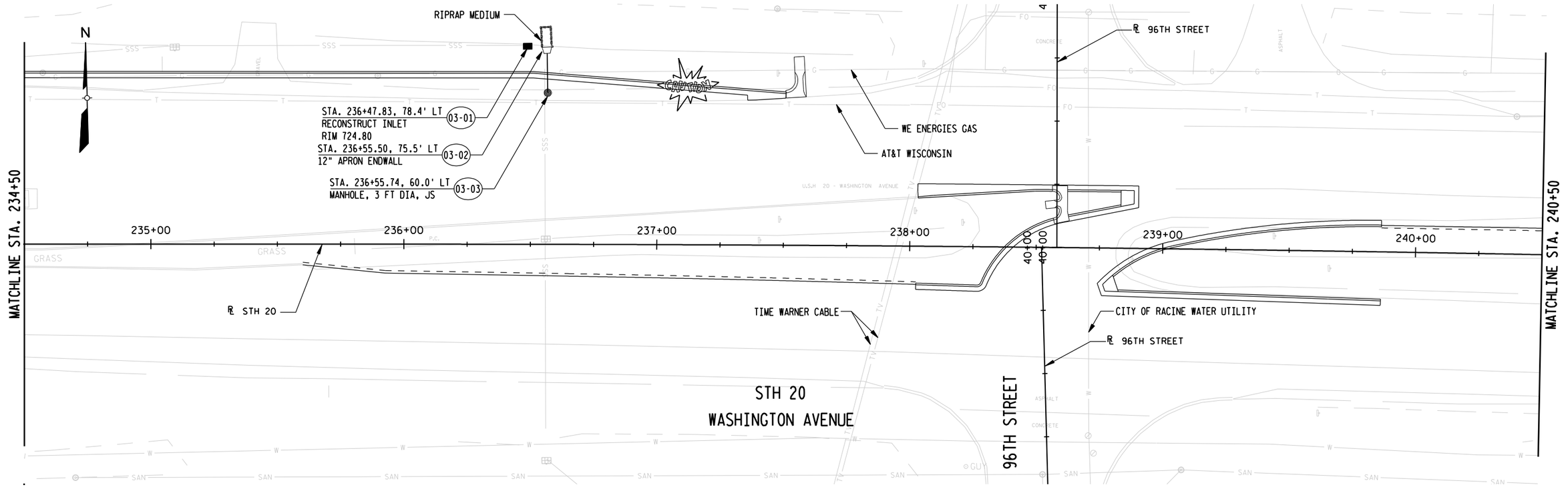




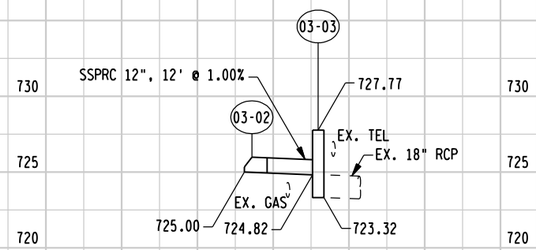


PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	STORM SEWER: STH 20	SCALE, FEET 0 20 40	SHEET 43	E

FILE NAME: l:\work\60222809\000.cad\022502_ss.DGN
BATCH PRINT SHEET 2 OF 10
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PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
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PLOT TIME: 11:27:33 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 41

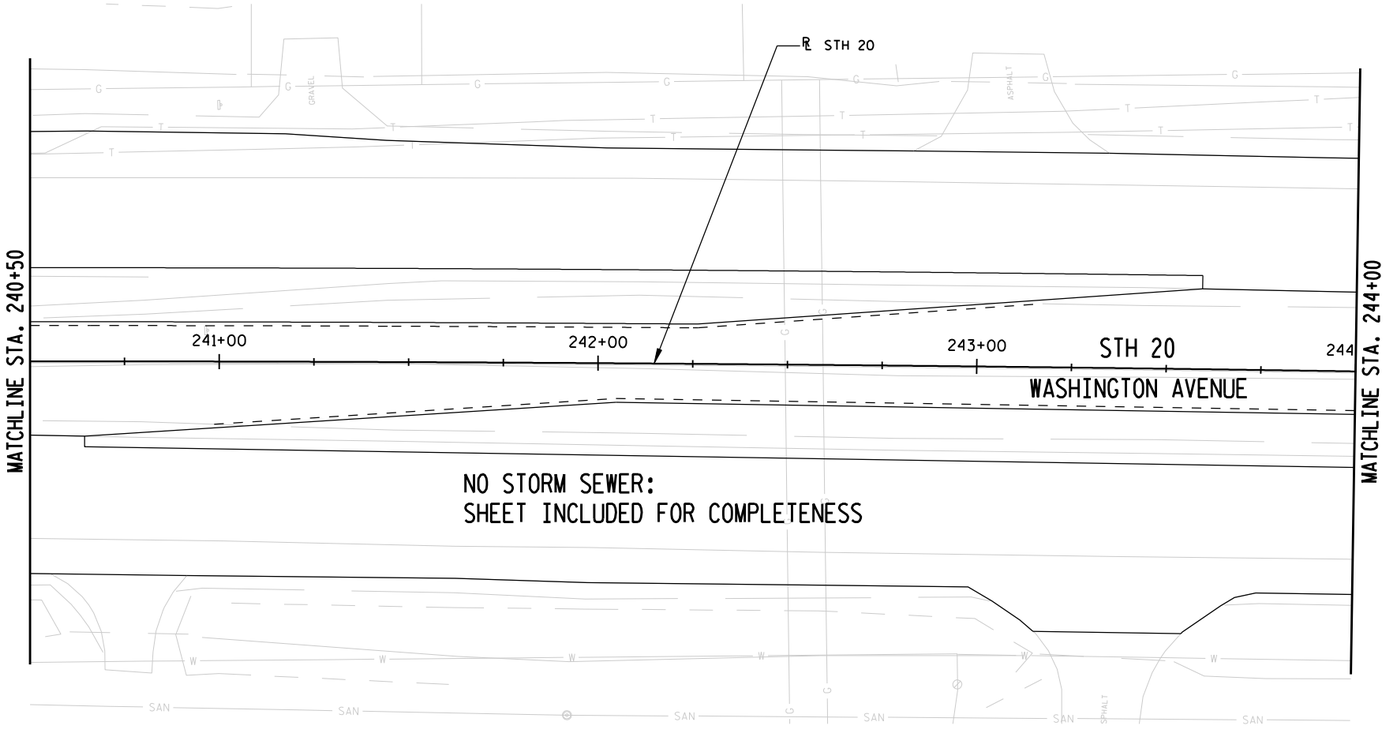


NOTE: TOP ELEVATION SHOWN IS FLOW LINE OF INLET GRATE OR MANHOLE LID.



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	STORM SEWER: STH 20	SCALE, FEET 0 20 40	SHEET 44	E

FILE NAME: l:\work\60222809\000.cad\022503_ss.DGN
BATCH PRINT SHEET 3 OF 10
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WISDOT/CADDS SHEET 41

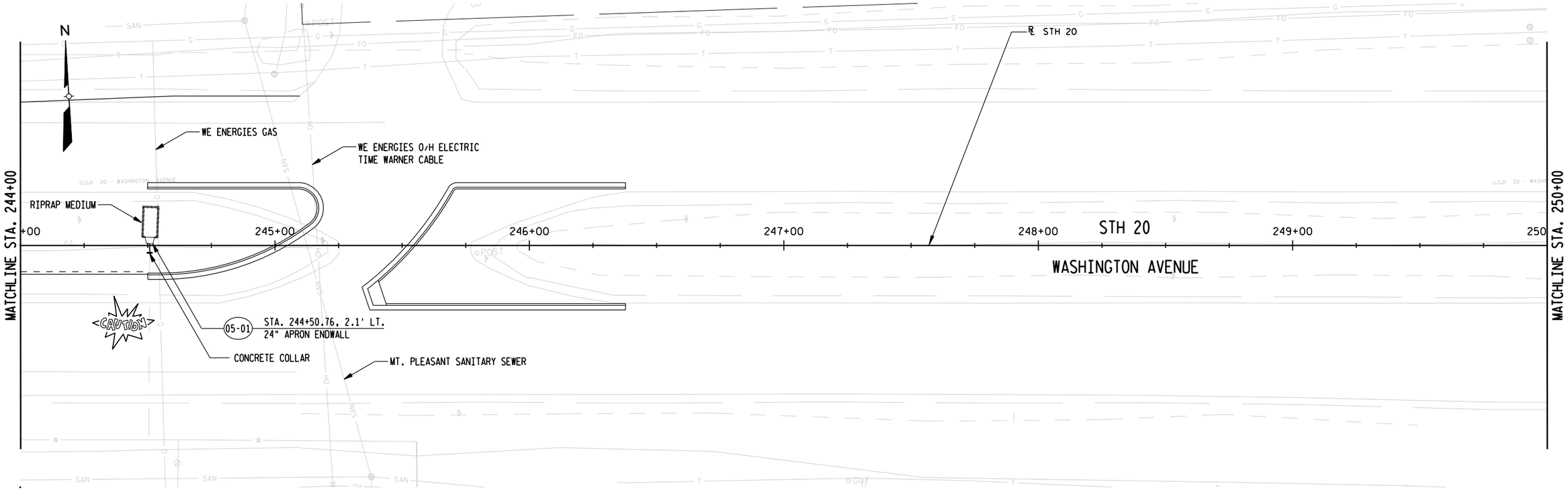


NOTE: TOP ELEVATION SHOWN IS FLOW LINE OF INLET GRATE OR MANHOLE LID.

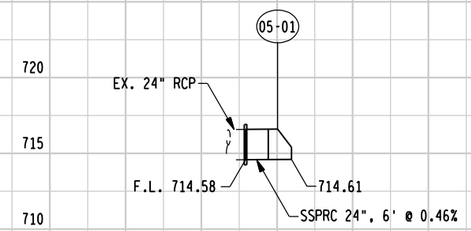
2

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	STORM SEWER: STH 20	SCALE, FEET 0 20 40	SHEET 45	E

FILE NAME: l:\work\60222809\000.cad\022504_ss.DGN
BATCH PRINT SHEET 4 OF 10
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WISDOT/CADDS SHEET 41

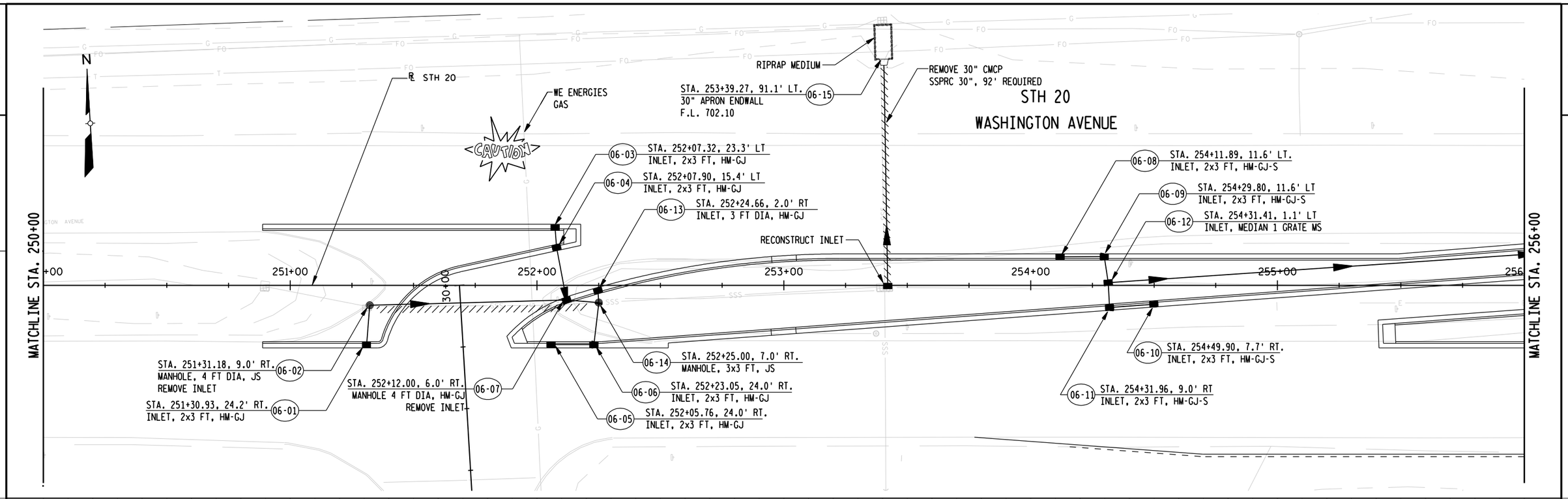


NOTE: TOP ELEVATION SHOWN IS FLOW LINE OF INLET GRATE OR MANHOLE LID.

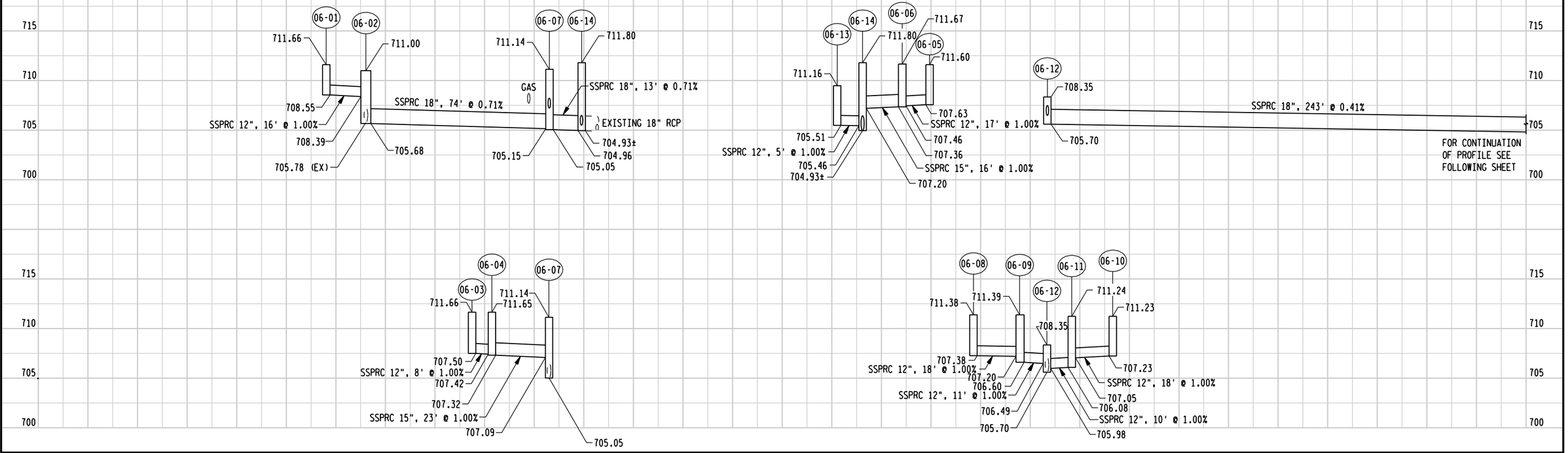


PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	STORM SEWER: STH 20	SCALE, FEET 0 20 40	SHEET 46	E

FILE NAME: l:\work\60222809\000.cad\022505_ss.DGN
BATCH PRINT SHEET 5 OF 10
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WISDOT/CADDS SHEET 41

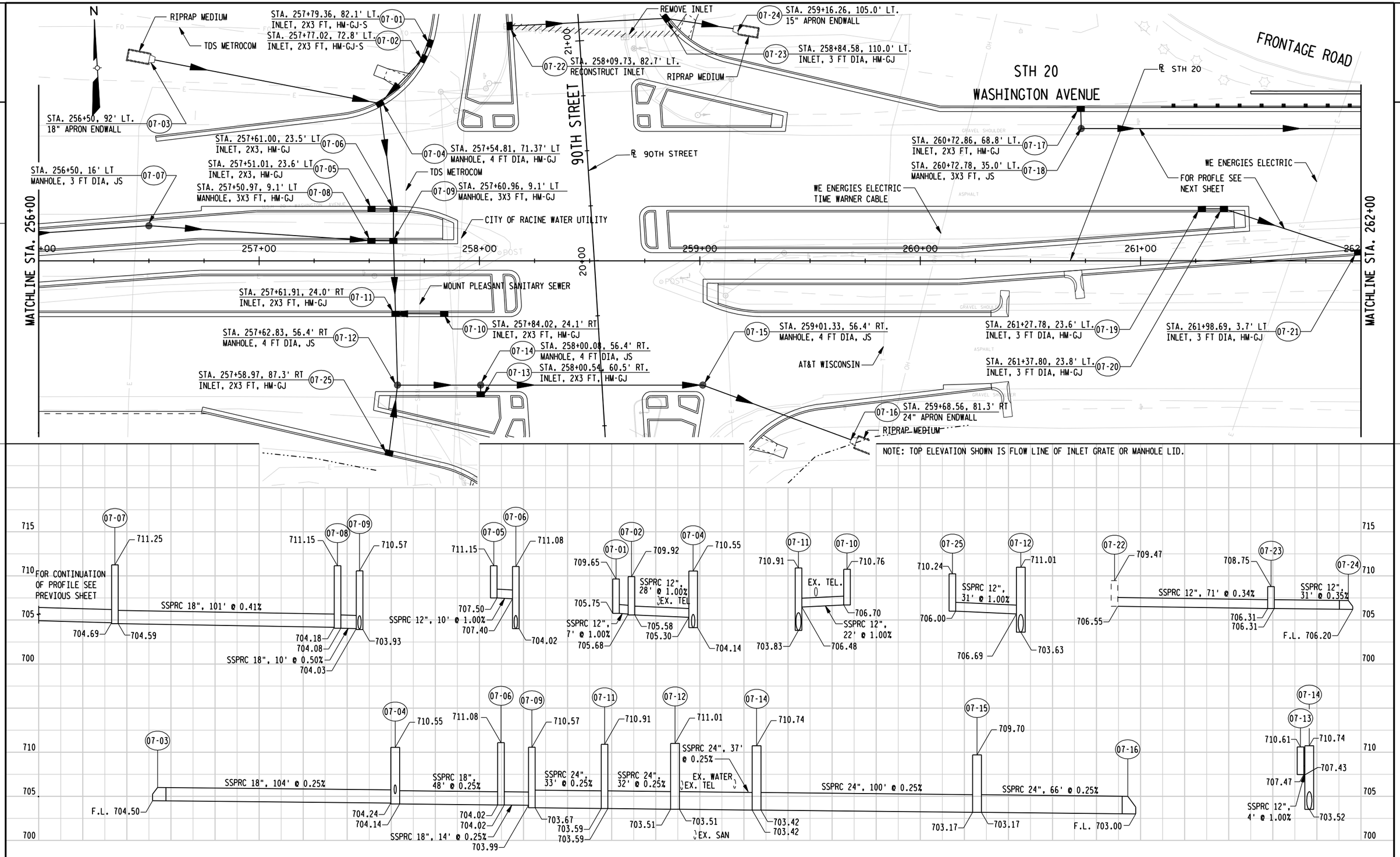


NOTE: TOP ELEVATION SHOWN IS FLOW LINE OF INLET GRATE OR MANHOLE LID.



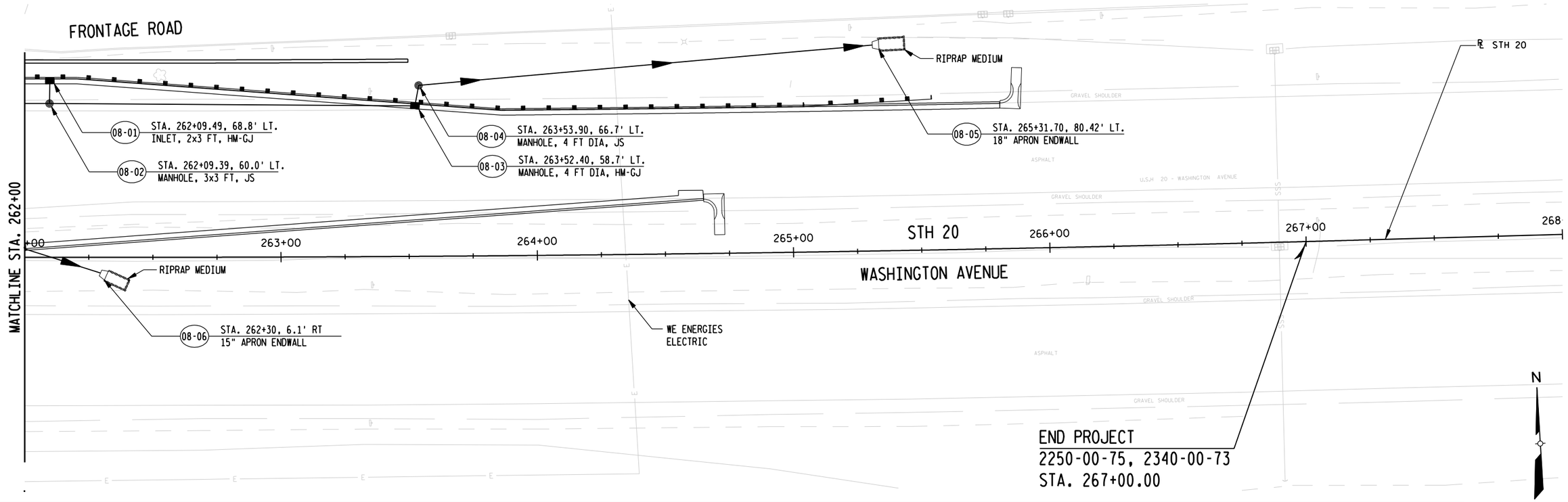
PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	STORM SEWER: STH 20	SCALE, FEET 0 20 40	SHEET 47	E

FILE NAME: l:\work\60222809\000.cad\022506_ss.DGN
BATCH PRINT SHEET 6 OF 10
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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WISDOT/CADDS SHEET 41

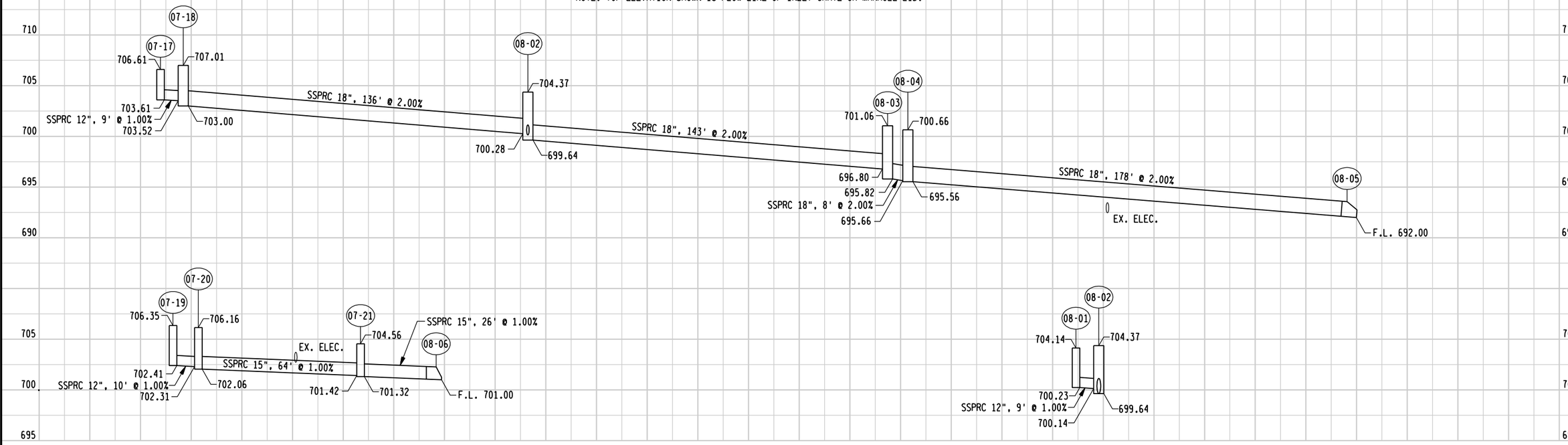


PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	STORM SEWER: STH 20	SCALE, FEET 0 20 40	SHEET 48	E

FILE NAME: l:\work\60222809\000.cad\022507.ss.DGN
BATCH PRINT SHEET 7 OF 10
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PLOT TIME: 11:27:46 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 41



NOTE: TOP ELEVATION SHOWN IS FLOW LINE OF INLET GRATE OR MANHOLE LID.



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	STORM SEWER: STH 20	SCALE, FEET 0 20 40	SHEET 49	E

FILE NAME: I:\work\60222809\000.cad\022508_ss.DGN
BATCH PRINT SHEET 8 OF 10
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PLOT SCALE: 1:40
WISDOT/CADDS SHEET 41

NOTE:

STH 20 STORM SEWER DETAILS ARE ON SEPARATE SHEETS

STA. 49+01.40, 87.9' LT. (09-01)
27" APRON ENDWALL
F.L. 711.58

SSPRC 27", 27' @ 0.44%
CONCRETE COLLAR
F.L. 712.00

STA. 48+83.52, 31.7' LT. (09-02)
INLET, 2x3 FT, HM-GJ

WISCONSIN STREET

STH 20
WASHINGTON AVENUE

RECONSTRUCT MANHOLE

STA. 49+01.58, 32.2' RT. (09-05)
INLET, 3 FT DIA, HM-GJ

℄ STH 20

STA. 48+83.86, 57.4' RT. (09-03)
INLET, 2x3 FT, HM-GJ-S

STA. 48+94.22, 60.0' RT. (09-04)
INLET, 2x3 FT, HM-GJ-S

STA. 50+92.25, 62.9' LT. (09-06)
INLET, 3 FT DIA, HM-GJ

STA. 50+95.25, 30.7' LT. (09-08)
INLET, 3' DIA, HM-GJ

STA. 50+79.81, 27.1' LT. (09-07)
MANHOLE, 4 FT DIA, JS

CTH H

℄ CTH H

STA. 52+83.86, 31.3' LT. (09-14)
INLET, 2x3 FT, HM-GJ

STA. 52+83.82, 24.4' RT. (09-15)
INLET, 2.5x3 FT, HM-GJ

STA. 51+19.23, 39.7' RT. (09-09)
INLET, 2x3 FT, HM-GJ-S

STA. 51+13.10, 42.9' RT. (09-10)
INLET, 2x3 FT, HM-GJ-S

STA. 50+94.73, 61.8' RT. (09-11)
INLET, 3 FT DIA, HM-GJ-S

STA. 50+84.65, 59.4' RT. (09-12)
MANHOLE, 5 FT DIA, JS

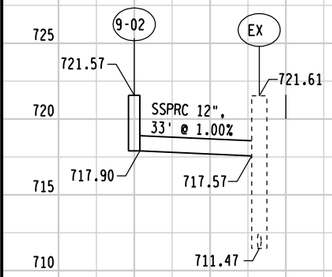
STA. 50+57.66, 81.9' RT. (09-13)
MANHOLE, 6 FT DIA, HM-GJ

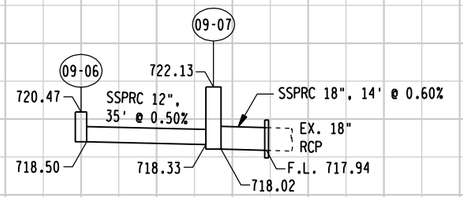
REMOVE INLET
REMOVE MANHOLE CONCRETE COLLAR
ADJUST MANHOLE
REMOVE INLET
REMOVE INLET CONCRETE COLLAR
REMOVE INLET
REMOVE INLET
REMOVE INLET

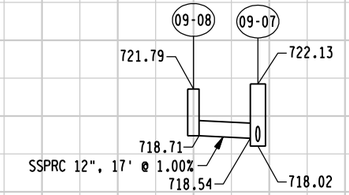
WE ENERGIES GAS
AT&T WISCONSIN
CITY OF RACINE WATER
PROP. TLE
MIDWEST FIBER
WE ENERGIES ELECTRIC
TIME WARNER

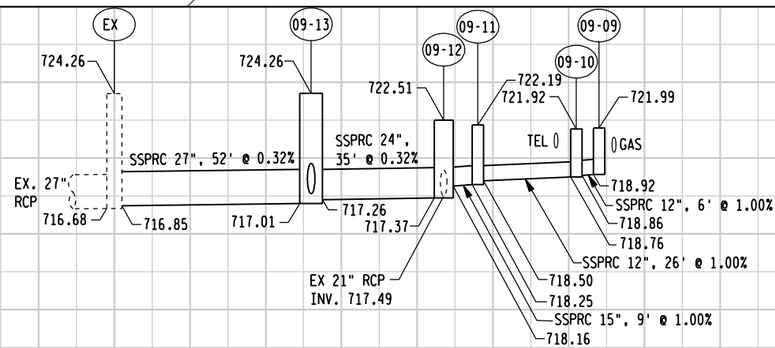
CAUTION

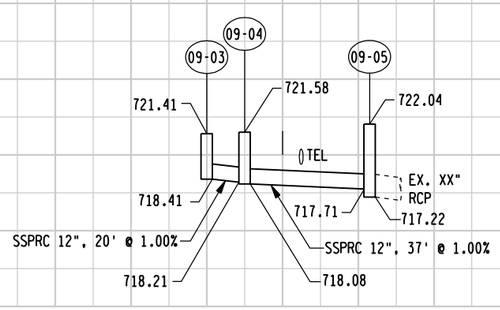
NOTE: TOP ELEVATION SHOWN IS FLOW LINE OF INLET GRATE OR MANHOLE LID.

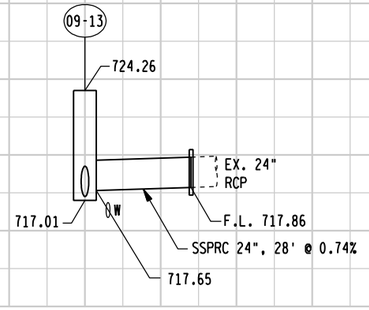


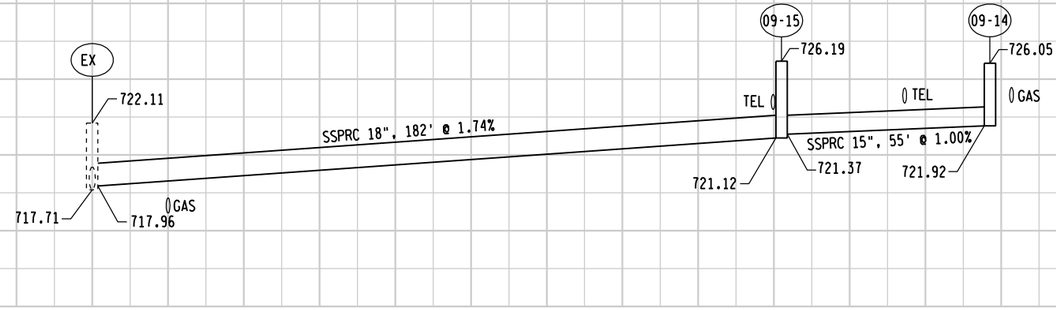






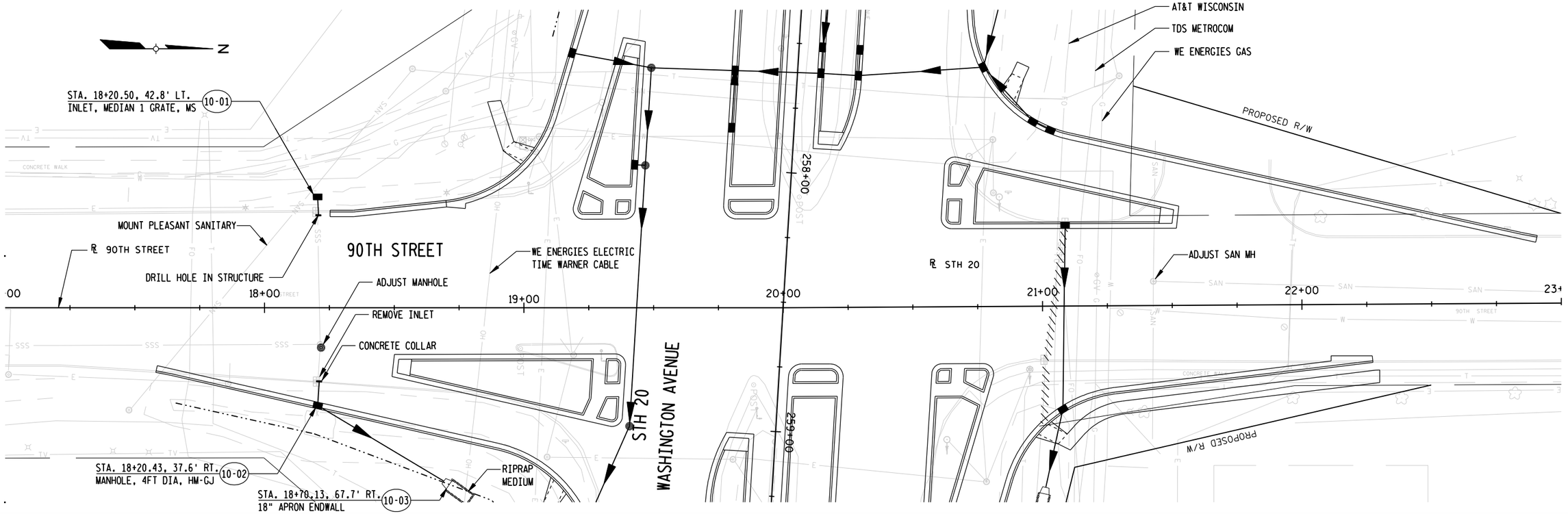




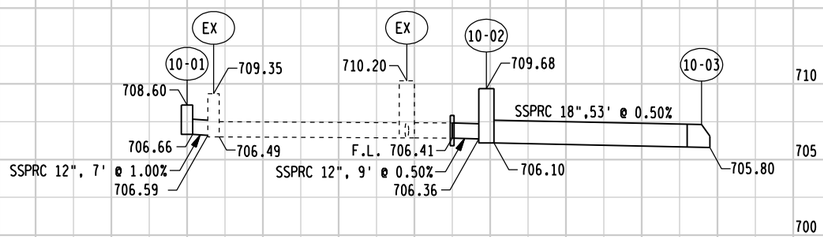


PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	STORM SEWER: WISCONSIN ST./CTH H	SCALE, FEET 0 20 40	SHEET 50	E

FILE NAME: l:\work\60222809\000.cad\022509_ss.DGN
BATCH PRINT SHEET 9 OF 10
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WISDOT/CADDS SHEET 41

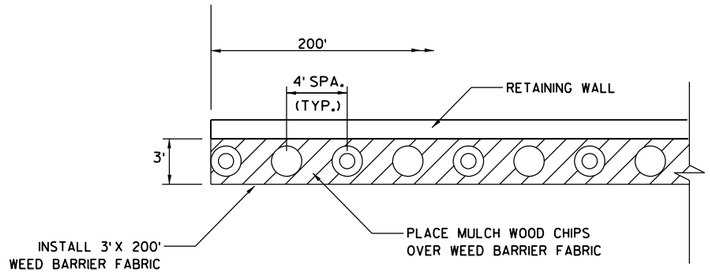


NOTE: TOP ELEVATION SHOWN IS FLOW LINE OF INLET GRATE OR MANHOLE LID.



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	STORM SEWER: 90TH STREET	SCALE, FEET 0 20 40	SHEET 51	E

FILE NAME: l:\work\60222809\000.cad\022510.ss.DGN
BATCH PRINT SHEET 10 OF 10
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:27:55 AM
PLOT SCALE: 1:40



PLANTING DETAIL

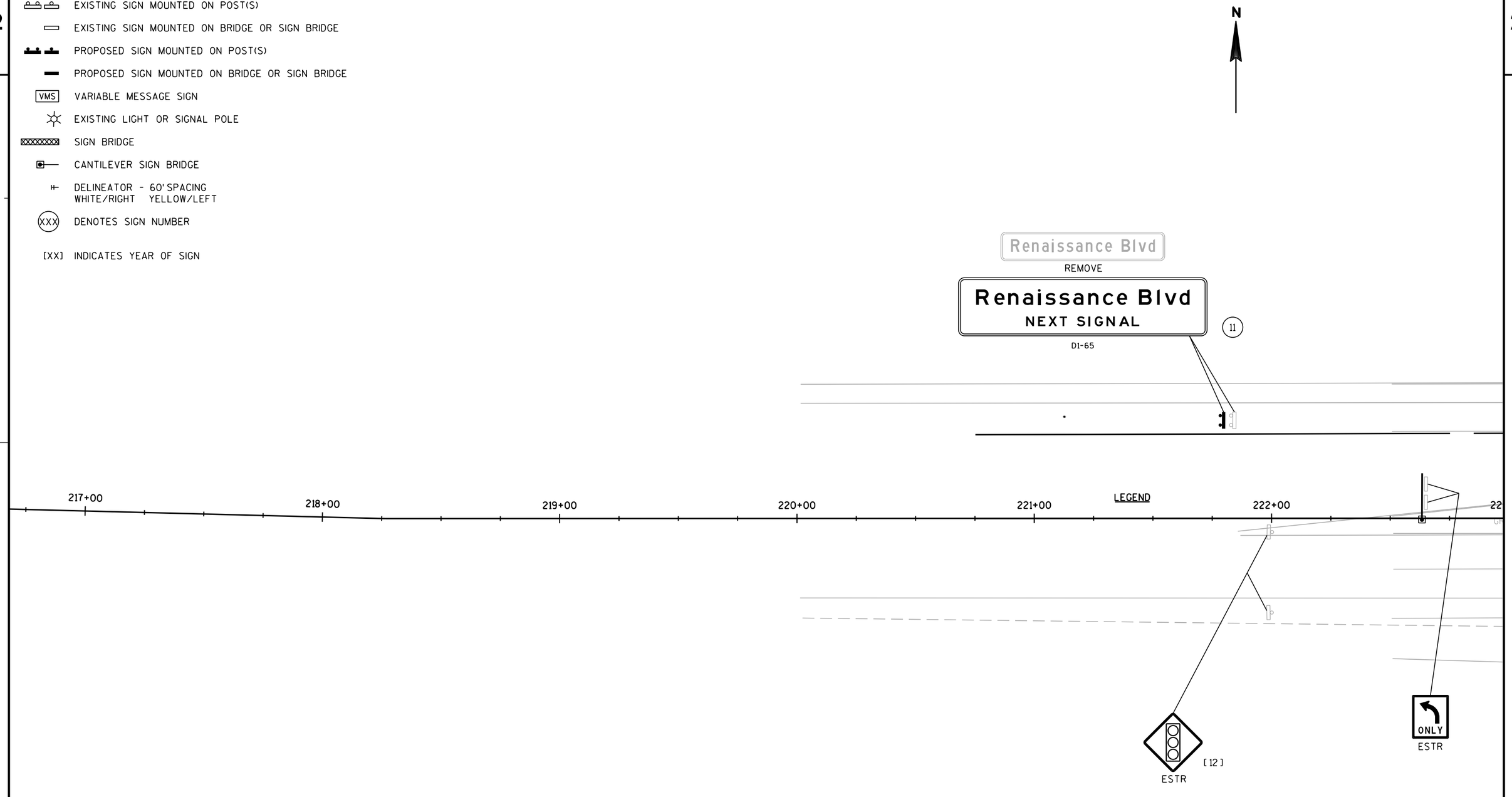
PLANT DATA TABLE

SYM.	COMMON NAME	SCIENTIFIC NAME	AVE. MATURE HEIGHT	SIZE WHEN PLANTED	ROOT ZONE MODE	MINIMUM BALL OR POT SIZE		MINIMUM HOLE SIZE		BRACE OR GUY	FERT. UNITS REQ'D	RODENT PRT'CT REQ'D	MULCH RING DIAM.
						DIAM.	DEPTH	DIAM.	DEPTH				
PC ◯	CONEFLOWER, PURPLE	ECHINACEA PURPUREA	4'	2.5"	CONT.	9"	6"	18"	6"	N/A	N/A	NO	NONE
PDG ◎	GRASS, PRAIRIE DROPSEED	SPOROBOLUS HETEROLEPIS	2'	6"	CONT.	9"	6"	18"	6"	N/A	N/A	NO	NONE

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- [XX] INDICATES YEAR OF SIGN



2

SHEET 1 OF 10

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PERMANENT SIGNING PLAN	SHEET 53	E

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- FLASHING BEACON POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- [XX] INDICATES YEAR OF SIGN
- FLAGS

BEGIN PROJECT 2250-00-75
STA. 225+42.81

N

SOUTH / COUNTY H — REMOVE
SOUTH M3-3
COUNTY H M1-5A
4 M5-1L J2-1(3)

BEGIN LEFT TURN LANE — REMOVE
BEGIN LEFT TURN LANE 5 R3-20L(2M)

[12] W3-3 ESTR

SPEED LIMIT 50 — REMOVE
SPEED LIMIT 50 6 7 R2-1(3)

9 BEGIN LEFT TURN LANE R3-20L REMOVE

NORTH / COUNTY H — J3-1 REMOVE
NORTH M3-1
10 COUNTY H M1-5A
M6-1
J3-1(3)

STH 20

USH 20 - WASHINGTON AVENUE

GRASS

224+00 225+00 226+00 227+00 228+00 229+00

POST

BRIDGE PIER

C.P. RAILROAD BRIDGE ABUTMENT

50'-0"

GUARD RAIL

1 2 BE PREPARED TO STOP [12] W3-4 MOVE
1a 2a WHEN FLASHING W16-13P( )

NOTE:
ADD TEMPORARY
16" x 16" ORANGE FLAGS

NOTE:
SIGN #1, 1a, 2, AND 2a
MOUNT ON BEACON (POLE)
PER SIGNAL PLAN SHEETS

ONE WAY 3 R6-2L(2M)
ONE WAY REMOVE

BEGIN LEFT TURN LANE 8 R3-20L(2M)

NORTH M3-1
COUNTY H 12 M1-5A
13 M5-1L J2-1(3)
NORTH
COUNTY H
REMOVE

14 Racine Correctional Institution ← MOVE

NOTE:
TRAFFIC GENERATOR
PAYS FOR SIGNS.
DO NOT REPLACE

15 DMV/DNR Service Center ← MOVE

NOTE:
TRAFFIC GENERATOR
PAYS FOR SIGNS.
DO NOT REPLACE

← S Fancher Rd
Wisconsin St →
NEXT SIGNAL
16 D1-65(MOD)

S Wisconsin Street →
D1-1
REMOVE

SHEET 2 OF 10

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PERMANENT SIGNING PLAN	SHEET 54	E

FILE NAME : J:\projects\D2_22500020\SIGN\02_SIGN.dgn PLOT DATE : 31-MAR-2014 07:20 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- [XX] INDICATES YEAR OF SIGN

38 REMOVE
R4-7(3) MOUNT ON SIGNAL POLE

37 SOUTH M3-3 / 20 COUNTY H M1-6 M1-5A / M6-4 M6-1 J3-2(2M)

39 NORTH COUNTY H J2-1(2M) REMOVE

40 WEST M3-4 / 20 M1-6 J4-1(2M)

STOP REMOVE
36 STOP R1-1F MOUNT ON SIGNAL POLE

34 W12-1D(2M) 2' MOUNT HEIGHT

35 YIELD R1-2(2S) MOUNT ON LT. POLE
YIELD REMOVE

STOP REMOVE
31 STOP R1-1F(3) MOUNT ON SIGNAL POLE

DIVIDED HIGHWAY 19 R6-3(2M) MOUNT ON SIGNAL POLE

ONE WAY 30 REMOVE
29 ONE WAY R6-2L(3) MOUNT ON SIGNAL POLE

Wisconsin St
S Fancher Rd
M1-94H(MOD) MOUNT ON SIGNAL ARM 28

DO NOT ENTER REMOVE
33 DO NOT ENTER R5-1(2M)

32 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-5OL(2M) MOUNT HIGH ON SIGNAL POLE

27 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-5O(2M) MOUNT ON SIGNAL ARM

198 ONE WAY R6-2L(3) MOUNT ON SIGNAL POLE

20 Washington Ave
26 M1-94S(MOD) MOUNT ON SIGNAL ARM

18 WRONG WAY R5-1A(2M)
WRONG WAY REMOVE

20 BEGIN LEFT TURN LANE R3-20LL(2M)
BEGIN LEFT TURN LANE REMOVE

21 W12-1D 2' MOUNT HEIGHT

22 R3-4(2M) MOUNT ON SIGNAL POLE
REMOVE

17 D1-1(MOD)
Amtrak Station
Amtrak Station REMOVE

24 DO NOT ENTER R5-1(2M) DO NOT MOUNT ON BACK OF STOP SIGN
DO NOT ENTER REMOVE

25 STOP R1-1(3) MOUNT ON LT. POLE

23 STOP R1-1F(3) MOUNT ON SIGNAL POLE
STOP REMOVE

FANCHER RD
WISCONSIN ST
STH 20
CENTER OF SEC. 16, T.3N., R.22E.
230+00 231+00 232+00 233+00 234+00 235+00
50+00 51+00 49+00
ONLY
GRASS
CONCRETE
TEMPORARY CONCRETE BARRICADE
N

SHEET 3a OF 10

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PERMANENT SIGNING PLAN	SHEET 55 E

FILE NAME : J:\projects\D2_22500020\SIGN\03a_SIGN.dgn PLOT DATE : 31-MAR-2014 07:20 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- [XX] INDICATES YEAR OF SIGN

2

N

Washington Ave

S. FRANCHER RD

STH 20

U.S.H 20 - WASHINGTON AVENUE

WISCONSIN ST.

CENTER OF SEC. 16, T.3N., R.22E.

230+00 231+00 232+00 233+00 234+00 235+00

50+00 51+00 49+00

ONLY

GRASS

CONCRETE

TEMPORARY CONCRETE BARRICADE

65 MOUNT ON SIGNAL ARM
66 MOUNT HIGH ON SIGNAL POLE
LEFT TURN YIELD ON FLASHING YELLOW ARROW
R10-5OL(2M)

64 M1-94S(MOD) MOUNT ON SIGNAL ARM

63 ONE WAY R6-2L MOUNT ON SIGNAL POLE

60 STOP R1-1(3) MOUNT ON LIGHT POLE

62 DO NOT ENTER R5-1(2M) DO NOT MOUNT ON BACK BACK OF STOP SIGN

59 W12-1D

61 STOP R1-1F(3) MOUNT ON SIGNAL POLE
STOP REMOVE

57 R3-4(2M) MOUNT ON SIGNAL
REMOVE

58 DO NOT ENTER R5-1(2M)
DO NOT ENTER REMOVE

54 SOUTH M3-3 / NORTH M3-1 COUNTY H M1-5A M6-1 J3-2(3)

52 NORTH M3-1 COUNTY H M1-5A M6-1 J3-1 REMOVE
53 SOUTH M3-3 COUNTY H M1-5A MB6-1 J3-1 REMOVE

56 BEGIN LEFT TURN LANE R3-20LL(2M)
BEGIN LEFT TURN LANE REMOVE

55 WRONG WAY R5-1A(2M)
WRONG WAY REMOVE

42 M1-94H(MOD) MOUNT ON SIGNAL ARM
S Francher Rd
Wisconsin St

45 ONE WAY R6-2L REMOVE

43 STOP R1-1F REMOVE

47 W12-1D(2M) 2' MOUNT HEIGHT
REMOVE

48 STOP R1-1F(3) MOUNT ON SIGNAL POLE

49 ONE WAY R6-2L(2M) MOUNT ON SIGNAL POLE

50 YIELD R1-2(2S) MOUNT ON LT. POLE
YIELD REMOVE

44 DIVIDED HIGHWAY R6-3(2M) MOUNT ON SIGNAL POLE

46 R4-7(3) MOUNT ON SIGNAL POLE
REMOVE

51 STOP R1-1F(3) MOUNT ON SIGNAL POLE
STOP REMOVE

41 EAST M3-2 20 M1-6 J4-1(2M)
EAST 20 REMOVE

96th St D1-1 113
96th St REMOVE

114 Racine Correctional Institution
MOVE: SAME LOCATION "DO NOT REPLACE"

115 DMV/DNR Service Center
NOTE: TRAFFIC GENERATOR PAYS FOR SIGNS "DO NOT REPLACE"

A A

SHEET 3b OF 10

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PERMANENT SIGNING PLAN	SHEET 56	E

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- [XX] INDICATES YEAR OF SIGN

STH 20

96TH ST

U.S.H 20 - WASHINGTON AVENUE

236+00 P.C. | 237+00 | 238+00 | 239+00 | 240+00 | 241+00

41+00 | 40+00 | 40+00 | 39+00

D D E E

N

91 NORTH M3-1 COUNTY H M1-5A M5-1R — J2-1 REMOVE

90 SOUTH M3-3 NORTH M3-1 COUNTY H M1-5A M1-5A — MB6-1 M5-1R — J3-2(3)

89 BEGIN LEFT TURN LANE — REMOVE — R3-20L(2M)

88 ONE WAY — REMOVE — R6-2R(2S) MOUNT BELOW R5-1 SIGN

87 STOP — REMOVE — STOP R1-1(3)

85 Wisconsin Street — D1-1 REMOVE

Wisconsin St
S Fancher Rd
NEXT SIGNAL
86 D1-65(MOD)

84 DO NOT ENTER — R5-1(2M)

92 W12-1D(2M) 2' MOUNT HEIGHT

83 ONE WAY — REMOVE — ONE WAY R6-2R(2S)

81 WRONG WAY — R5-1A(2M)

82 [12] W3-3 MOVE

[12] W3-3 ESTR

67 DO NOT ENTER — R5-1 REMOVE

68 SOUTH M3-3 COUNTY H M1-5A MB6-1 — J3-1 REMOVE

69 R3-2(2M)

70 DO NOT ENTER — R5-1(2M)

73 74 DO NOT ENTER — R5-1(2S)

71 72 R4-7 — REMOVE

[12] STOP — R1-1 ESTR

75 RIGHT TURN ONLY — R1-5I(2S)

77 R4-7(2M)

76 R3-2(2S) MOUNT UNDER #77

78 79 SPEED LIMIT 50 — R2-1(3)

SPEED LIMIT 50 — REMOVE

80 BEGIN LEFT TURN LANE — R3-20L(2M)

SHEET 4 OF 10

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PERMANENT SIGNING PLAN	SHEET 57 E

FILE NAME : J:\projects\D2_22500020\SIGN\04_SIGN.dgn PLOT DATE : 31-MAR-2014 07:20 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

96 th St
111 REMOVE

96 th St
109 D1-61

JCT
COUNTY H
REMOVE

JCT
MB2-1 107
COUNTY H 108
M1-5A(2M)
J1-1(3)

ONE WAY 103
R6-2R(2S)

RIGHT TURN ONLY 105
R1-53(2S)

STOP
REMOVE

106 STOP
R1-1(3)

95
R3-2(2S)
MOUNT UNDER *96

DO NOT ENTER 104
R5-1(2M)

DO NOT ENTER
REMOVE

DO NOT ENTER 102
R5-1(2M)

N

CEMETERY

ASPHALT

POST

242+00 243+00 244+00 245+00 246+00 247+00 248+00

STH 20

WASHINGTON AVENUE

ONE WAY 93
R6-2R(2S)

BEGIN LEFT TURN LANE 110
R3-20L(2M)

116 WRONG WAY
[12] R5-1A

96
R4-7(2M)

REMOVE

98
W12-1D(2M)
2' MOUNT HEIGHT

ONE WAY 99
R6-2R
REMOVE

100
R4-7
REMOVE

101
R3-2(2M)

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- [XX] — INDICATES YEAR OF SIGN

SHEET 5 OF 10

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PERMANENT SIGNING PLAN	SHEET 58 E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- [XX] INDICATES YEAR OF SIGN

N

[12] WRONG WAY R5-1A

(116) MOVE TO SHOULDER AT STA: 255+50 FACING EASTWARD (SHEET 7A)

(117) MOVE TO STA: 244+0 (SHEET 5)

(134) ONE WAY R6-2R — REMOVE

(133) DO NOT ENTER R5-1(2M)

(163) W12-1D(2M) 2' MT. HT.

(124) R3-2(2S) MOUNT UNDER "KEEP RIGHT" SIGN

(132) North Frontage Road — REMOVE

M1-95A(2) NORTH FRONTAGE ROAD

(131) M6-1(2) J12-1

SPEED LIMIT 50 — REMOVE

(128) (129) SPEED LIMIT 50 R2-1(3)

USH 20

249+00 250+00 251+00 252+00 253+00 254+00

30+00 29+00

92ND ST

(122) REMOVE

(123) R4-7(2M)

(122) REMOVE

[12] W3-3 ESTR

(118) [12] W3-3 MOVE

NOTE: MOVE ONLY IF NEEDED

(120) R3-2(2M)

[12] DO NOT ENTER (119) R5-1 MOVE

92nd St D1-1

(112) 92nd St — REMOVE

(136) RIGHT TURN ONLY R1-53(2S)

STOP [F12] R1-1 ESTR

(121) ONE WAY R6-2R(2S)

(125) RIGHT LANE MUST TURN RIGHT R3-7R(3)

BEGIN RIGHT TURN LANE R3-20R — REMOVE

(127) 90th St NEXT SIGNAL D1-65

(126) 90th St — REMOVE

(135) BEGIN LEFT TURN LANE R3-20L(2M)

(130) WRONG WAY R5-1A(2M)

CONCRETE WALK

SHEET 6 OF 10

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PERMANENT SIGNING PLAN	SHEET 59	E

FILE NAME : J:\projects\D2_22500020\SIGN\06_SIGN.dgn PLOT DATE : 31-MAR-2014 07:20 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- [XX] — INDICATES YEAR OF SIGN

92nd St
REMOVE

92nd St (161)
D1-1

(136) BEGIN LEFT TURN LANE
R3-20LL(2M)

155-56 ESTR

(137) BEGIN LEFT TURN LANE
R3-20L(2M)

(159) ONE WAY
R6-21
REMOVE

STOP
REMOVE

(158) STOP
R1-1F(3)
MOUNT ON SIGNAL POLE

(156) W12-1D(2M)
2' MOUNT HEIGHT

(157) DIVIDED HIGHWAY
R6-3(2M)
MOUNT ON SIGNAL POLE

20
M1-6

(160) M6-1
J3-1
REMOVE

(162) YIELD
R1-2(S)

ONE WAY (155)
R6-2L(2M)
MOUNT ON SIGNAL POLE

90th St (154)
M1-94H
MOUNT ON SIGNAL ARM

(148) R4-7(2M)
MOUNT ON SIGNAL POLE

(147) R4-7
REMOVE

(152) LEFT TURN YIELD ON FLASHING YELLOW ARROW
R10-50L(2M)
MOUNT ON SIGNAL POLE

(117) WRONG WAY [12]
R5-1A
FROM SHEET 6

(139) WRONG WAY
R5-1A
REMOVE

(140) DO NOT ENTER
R5-1(2M)
REMOVE

(142) (143) (144) STOP
R1-1F(3)
MOUNT ON SIGNAL POLE

STOP
REMOVE

(138) Mount Pleasant Civic Campus

MOVE EXISTING SIGN
NOTE:
TRAFFIC GENERATOR PAYS FOR SIGN
(DO NOT REPLACE SIGN)

(141) W12-1D(2M)
2' MOUNT HEIGHT

(145) STOP
R1-1
MOUNT ON LT. POLE

(146) DO NOT ENTER
R5-1(2M)
MOUNT ON WOOD POST NEXT TO STOP SIGN

(149) ONE WAY
R6-2L(2M)
MOUNT ON SIGNAL POLE

(151) LEFT TURN YIELD ON FLASHING YELLOW ARROW
R10-50L(2M)
MOUNT ON SIGNAL ARM

(153) DO NOT ENTER
R5-1(2M)

20 Washington Ave

(150) M1-94S
MOUNT ON SIGNAL ARM

USH 20

90TH ST.

255+00 256+00 257+00 258+00 259+00 260+00
22+00 21+00 20+00 19+00

CONCRETE WALK
GRAVEL SHOULDER
ASPHALT
1/4 COR. SEC. 16, T3N., R22E.
N

SHEET 7a OF 10

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PERMANENT SIGNING PLAN	SHEET 60 E

FILE NAME : J:\projects\D2_22500020\SIGN\07a_SIGN.dgn PLOT DATE : 31-MAR-2014 07:20 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- [XX] — INDICATES YEAR OF SIGN

2

2

N

G

G

22+00

90TH ST.

21+00

1/4 COR. SEC. 16, T3N., R22E.

20+00

19+00

90TH ST.

CONCRETE WALK

GRAVEL SHOULDER

ASPHALT

USH 20

255+00

256+00

257+00

258+00

259+00

260+00

H

H

20 Washington Ave
(181) M1-94S MOUNT ON SIGNAL ARM

90th St
(165) M1-94H MOUNT ON SIGNAL ARM

(173) REMOVE R4-7(3) MOUNT ON SIGNAL POLE

(167) LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50L(2M) MOUNT ON SIGNAL ARM

(166) LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50L(2M) MOUNT HIGH ON SIGNAL POLE

(174) STOP R1-1F(3) MOUNT ON SIGNAL POLE

(169) STOP R1-1F(3) MOUNT ON SIGNAL POLE

(169) STOP REMOVE

(168) DIVIDED HIGHWAY R6-3(2M) MOUNT ON SIGNAL POLE

(164) W12-1D(2M) 2' MOUNT HEIGHT

(170) YIELD R1-2(2S) MOUNT ON LIGHT POLE

YIELD REMOVE

(171) ONE WAY R6-2L(2M) MOUNT ON SIGNAL POLE

ONE WAY REMOVE

(172) STOP R1-1F(3) MOUNT ON SIGNAL POLE

STOP REMOVE

(176) DO NOT ENTER R5-1(2M) MOUNT ON WOOD POST

DO NOT ENTER REMOVE

(179) DO NOT ENTER R5-1(2M) MOUNT NEXT TO STOP SIGN

ONE WAY REMOVE

(180) ONE WAY R6-2L(2M) MOUNT ON SIGNAL POLE

(178) STOP R1-1(3) MOUNT ON LIGHT POLE

(180) ONE WAY R6-2L MOUNT ON SIGNAL POLE

STOP REMOVE

(177) STOP R1-1F(3) MOUNT ON SIGNAL POLE

(175) W12-1D(2M) 2' MOUNT HEIGHT

SHEET 7b OF 10

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PERMANENT SIGNING PLAN	SHEET 61	E

FILE NAME : J:\projects\D2_22500020\SIGN\07b_SIGN.dgn PLOT DATE : 31-MAR-2014 07:20 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- [XX] INDICATES YEAR OF SIGN

N

END PROJECT 2250-00-75
STA. 267+00

(189) NORTH FRONTAGE ROAD
M1-95A(2)
M6-1(2)
J12-1(2)

North Frontage Road
REMOVE

Mount Pleasant Civic Campus → (188)
MOVE EXISTING SIGN
(DO NOT REPLACE SIGN)

NOTE:
TRAFFIC GENERATOR PAYS FOR SIGN
(DO NOT REPLACE SIGN)

(187) 90th St
D1-1
REMOVE

(186) 90th St
NEXT SIGNAL
D1-65

SERVICE ROAD

ASPHALT

GRAVEL SHOULDER

USH 20

U.S.H. 20 - WASHINGTON AVENUE

261+00 262+00 263+00 264+00 265+00 266+00 267+00

(182) BEGIN LEFT TURN LANE
R3-20LL(2M)

EAST
M3-2
20 (183)
M1-6
J4-1(3)

EAST
20
REMOVE

(184) WRONG WAY [12]
R5-1A(2M)
MOVE

SPEED LIMIT 50 [12]
R2-1(2M)
ESTR

(185) BEGIN LEFT TURN LANE
R3-20L(2M)

SHEET 8 OF 10

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PERMANENT SIGNING PLAN	SHEET 62 E

FILE NAME : J:\projects\D2_22500020\SIGN\08_SIGN.dgn PLOT DATE : 31-MAR-2014 07:20 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- [XX] — INDICATES YEAR OF SIGN

N

20 M1-6 / M6-4 — 191 — J3-1 REMOVE

SOUTH M3-3 / COUNTY H M1-5A / M6-1 — 192 — J3-1 REMOVE

JCT 20 REMOVE

JCT M2-1 / 20 M1-6 — 193 — J1-1(2M)

C

CTH H

2+00 53+00 54+00 55+00 56+00 57+00 58+00

OH G T E F W WOODED GRAVEL DRIVEWAY ⊙POST ⊙GUY

C

SOUTH M3-3 / 20 M1-6 / COUNTY H M1-5A / M6-4 M6-1 — 190 — J3-2(2M)

NOTE:
PLACE SIGNS TO AVOID
VISUAL OBSTRUCTION

SHEET 9 OF 10

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PERMANENT SIGNING PLAN	SHEET 63	E

FILE NAME : J:\projects\D2_22500020\SIGN\09_SIGN.dgn PLOT DATE : 31-MAR-2014 07:20 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 40:1

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- [XX] INDICATES YEAR OF SIGN

N

2

2

B

C

STEEL FENCE

CONCRETE DRIVEWAY

STEEL FENCE

ASPHALT DRIVEWAY

GRAVEL SHOULDER

GRAVEL SHOULDER

GRAVEL SHOULDER

42+00

43+00

44+00

45+00

46+00

47+00

48+0

ASPHALT

WISCONSIN ST.

ASPHALT DRIVEWAY

WATER METER

JCT M2-1 / 20 M1-6 — 194
J1-1
REMOVE

JCT M2-1 / JCT M2-1 / 20 M1-6 / COUNTY H M1-5A — 195
J1-2(2M)

COUNTY H M1-5A / 20 M1-6 / M6-6 / M6-4 — 196
J3-2(2M)

20 M1-6 / M6-4 — 197
J3-1
REMOVE

SHEET 10 OF 10

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PERMANENT SIGNING PLAN	SHEET 64	E

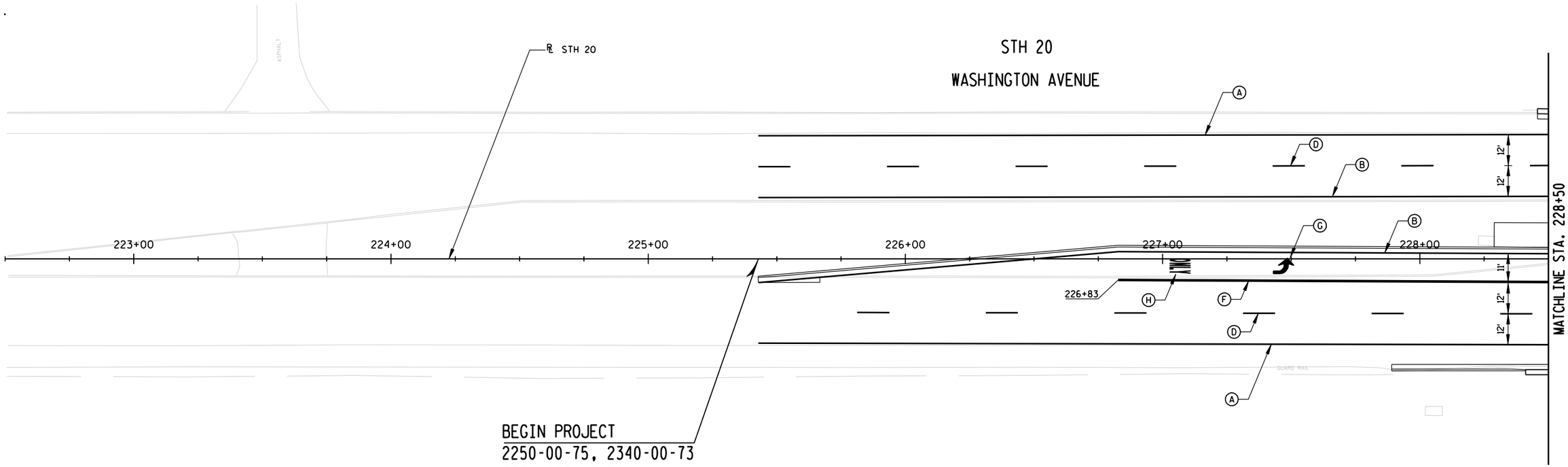
FILE NAME : J:\projects\D2_22500020\SIGN\10_SIGN.dgn PLOT DATE : 31-MAR-2014 07:20 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

2

N



BEGIN PROJECT
2250-00-75, 2340-00-73
STA. 225+42.81

LEGEND

Ⓐ	PAVEMENT MARKING EPOXY 4-INCH (WHITE)	Ⓙ	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR 18-INCH
Ⓑ	PAVEMENT MARKING EPOXY 4-INCH (YELLOW)	Ⓚ	PAVEMENT MARKING ISLAND NOSE EPOXY
Ⓒ	PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)	Ⓛ	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH
Ⓓ	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (12.5' LINE, 37.5' GAP, DASHED WHITE)	Ⓜ	PAVEMENT MARKING EPOXY 6-INCH
Ⓔ	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (3' LINE, 9' GAP, DASHED WHITE)	Ⓝ	PAVEMENT MARKING SYMBOLS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
Ⓕ	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE)	Ⓞ	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (3' LINE, 9' GAP, DASHED YELLOW)
Ⓖ	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2	Ⓟ	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (3' LINE, 9' GAP, DASHED WHITE)
Ⓗ	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS	Ⓠ	PAVEMENT MARKING ARROWS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
Ⓘ	PAVEMENT MARKING CURB EPOXY (YELLOW)	Ⓡ	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVEMENT MARKING PLAN	SCALE, FEET 0 20 40	SHEET 65	E

FILE NAME: L:\work\60222809\000_CAD\024501_pm.DGN
BATCH PRINT SHEET 1 OF 12
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:28:42 AM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2

N

STH 20
WASHINGTON AVENUE

℄ STH 20

℄ CTH H

CTH H

ONLY

ONLY

NOTE:

SEE WISCONSIN STREET/CTH H PAVEMENT MARKING PLAN ON SEPARATE SHEETS

MATCHLINE STA. 228+50

MATCHLINE STA. 234+50

228+68

229+00

229+19

229+68

229+90

230+00

230+02

230+74

230+84

231+00

231+07

231+12

231+20

231+25

231+43

232+00

232+42

232+54

232+59

232+92

232+98

233+00

233+46

234+00

234+05

50+00

51+00

49+00

16'

12'

11'

5'

EXISTING
STORM WATER
DETENTION POND

℄ WISCONSIN STREET

WISCONSIN STREET

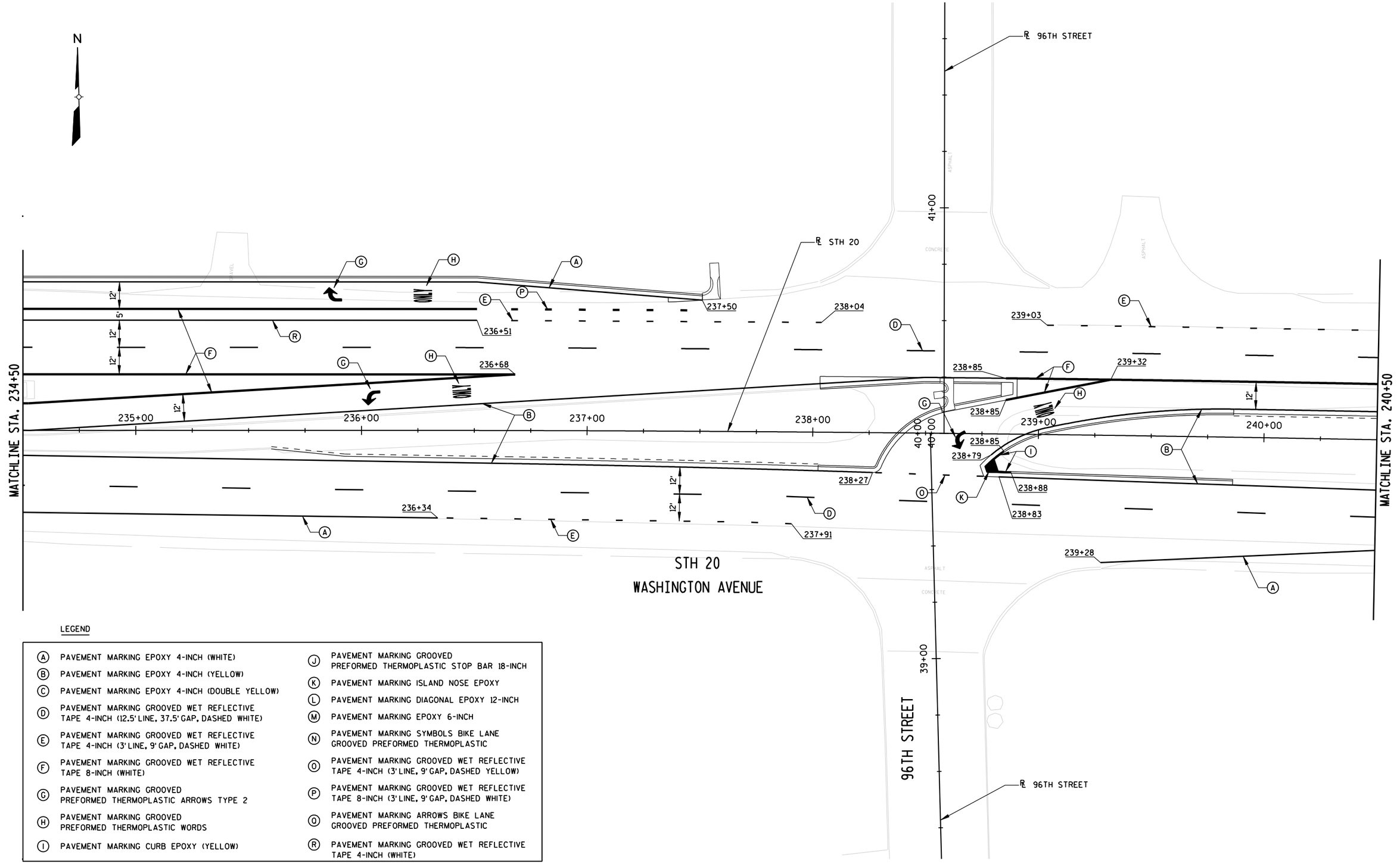
LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)
- (D) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (12.5' LINE, 37.5' GAP, DASHED WHITE)
- (E) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (3' LINE, 9' GAP, DASHED WHITE)
- (F) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE)
- (G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2
- (H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS
- (I) PAVEMENT MARKING CURB EPOXY (YELLOW)
- (J) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR 18-INCH
- (K) PAVEMENT MARKING ISLAND NOSE EPOXY
- (L) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH
- (M) PAVEMENT MARKING EPOXY 6-INCH
- (N) PAVEMENT MARKING SYMBOLS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
- (O) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (3' LINE, 9' GAP, DASHED YELLOW)
- (P) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (3' LINE, 9' GAP, DASHED WHITE)
- (O) PAVEMENT MARKING ARROWS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
- (R) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVEMENT MARKING PLAN	SCALE, FEET 0 20 40	SHEET 66	E

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WISDOT/CADDS SHEET 42

2



LEGEND

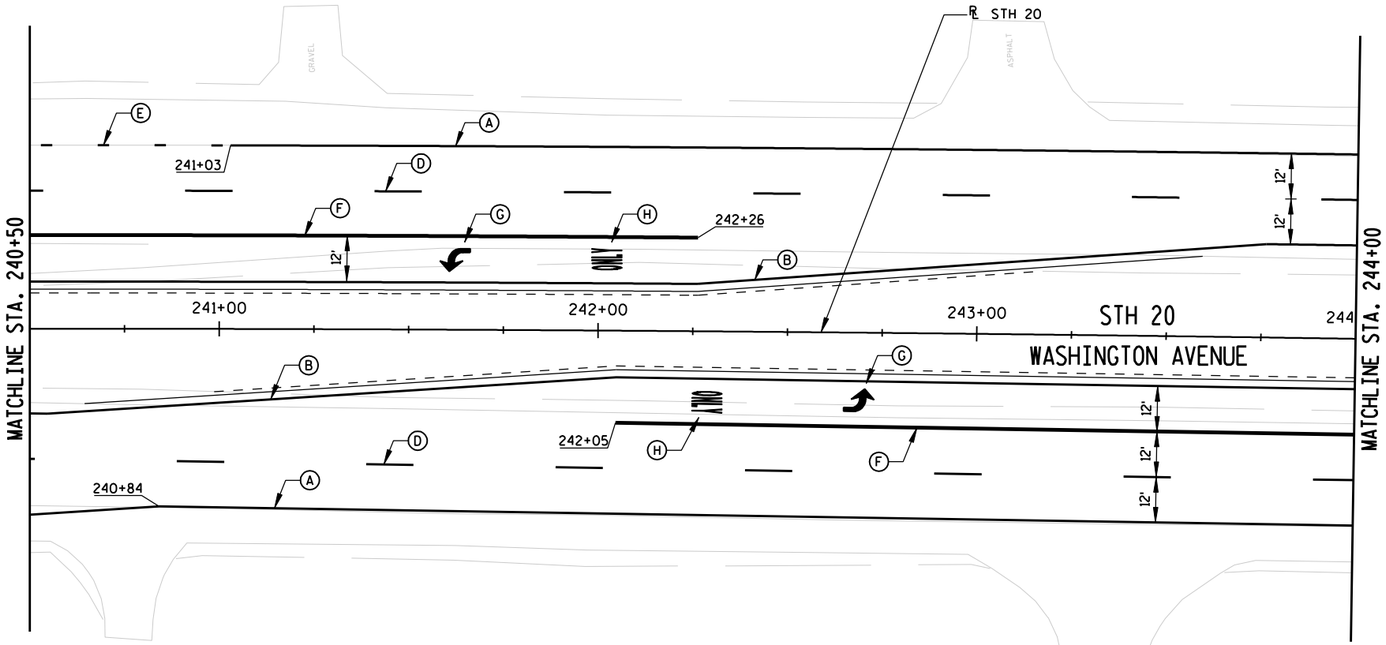
- (A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
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- (Q) PAVEMENT MARKING ARROWS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
- (R) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVEMENT MARKING PLAN	SCALE, FEET 0 20 40	SHEET 67	E

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WISDOT/CADDS SHEET 42

2

N



LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)
- (D) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (12.5' LINE, 37.5' GAP, DASHED WHITE)
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- (R) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVEMENT MARKING PLAN	SCALE, FEET 0 20 40	SHEET 68	E

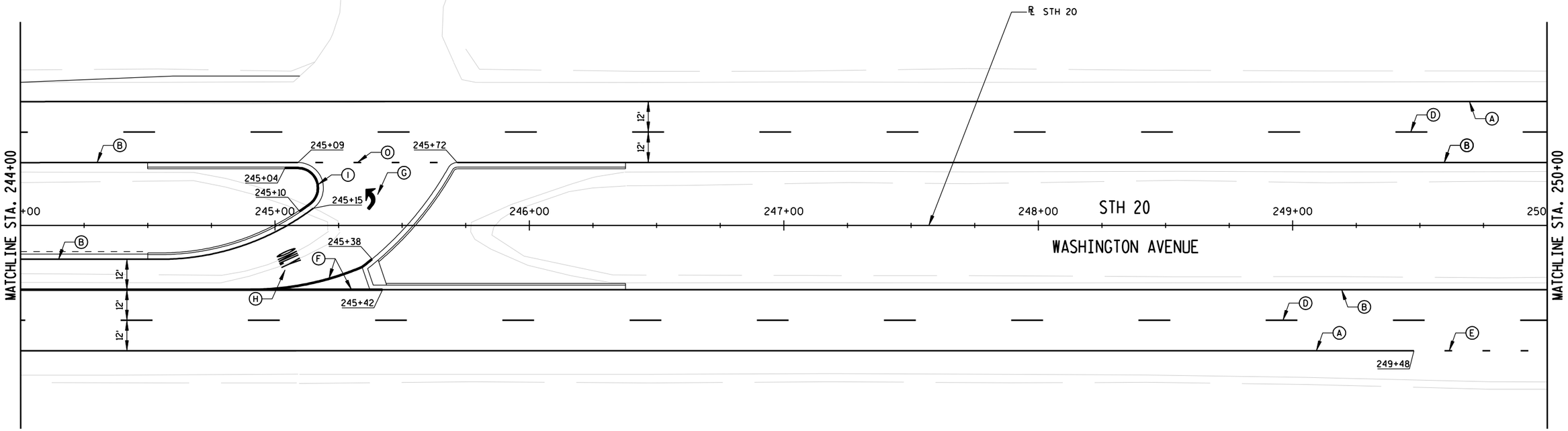
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WISDOT/CADDS SHEET 42

2

N

CEMETERY

ASPHALT



LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)
- (D) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (12.5' LINE, 37.5' GAP, DASHED WHITE)
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- (G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2
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- (Q) PAVEMENT MARKING ARROWS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
- (R) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVEMENT MARKING PLAN	SCALE, FEET 0 20 40	SHEET 69	E

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WISDOT/CADDS SHEET 42

2

2

N

℄ STH 20

STH 20
WASHINGTON AVENUE

MATCHLINE STA. 250+00

MATCHLINE STA. 256+00

250+00 251+00 252+00 253+00 254+00 255+00 256

30+00

29+00

251+36 251+93 251+98 251+96 252+02 252+27 252+57 250+98 252+40 253+89 254+70 255+46 255+49

12' 12' 12' 14' 12' 5' 12'

ONLY

CONCRETE WALK

LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)
- (D) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (12.5' LINE, 37.5' GAP, DASHED WHITE)
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- (H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS
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- (M) PAVEMENT MARKING EPOXY 6-INCH
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- (R) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVEMENT MARKING PLAN	SCALE, FEET 0 20 40	SHEET 70	E

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WISDOT/CADDS SHEET 42

2

N

℄ 90TH STREET

NOTE:

SEE 90TH STREET PAVEMENT MARKING PLAN ON SEPARATE SHEETS

FRONTAGE ROAD

STH 20
WASHINGTON AVENUE

℄ STH 20

MATCHLINE STA. 256+00

MATCHLINE STA. 262+00

90TH STREET

ONLY

GRAVEL SHOULDER

ASPHALT

CONCRETE WALK

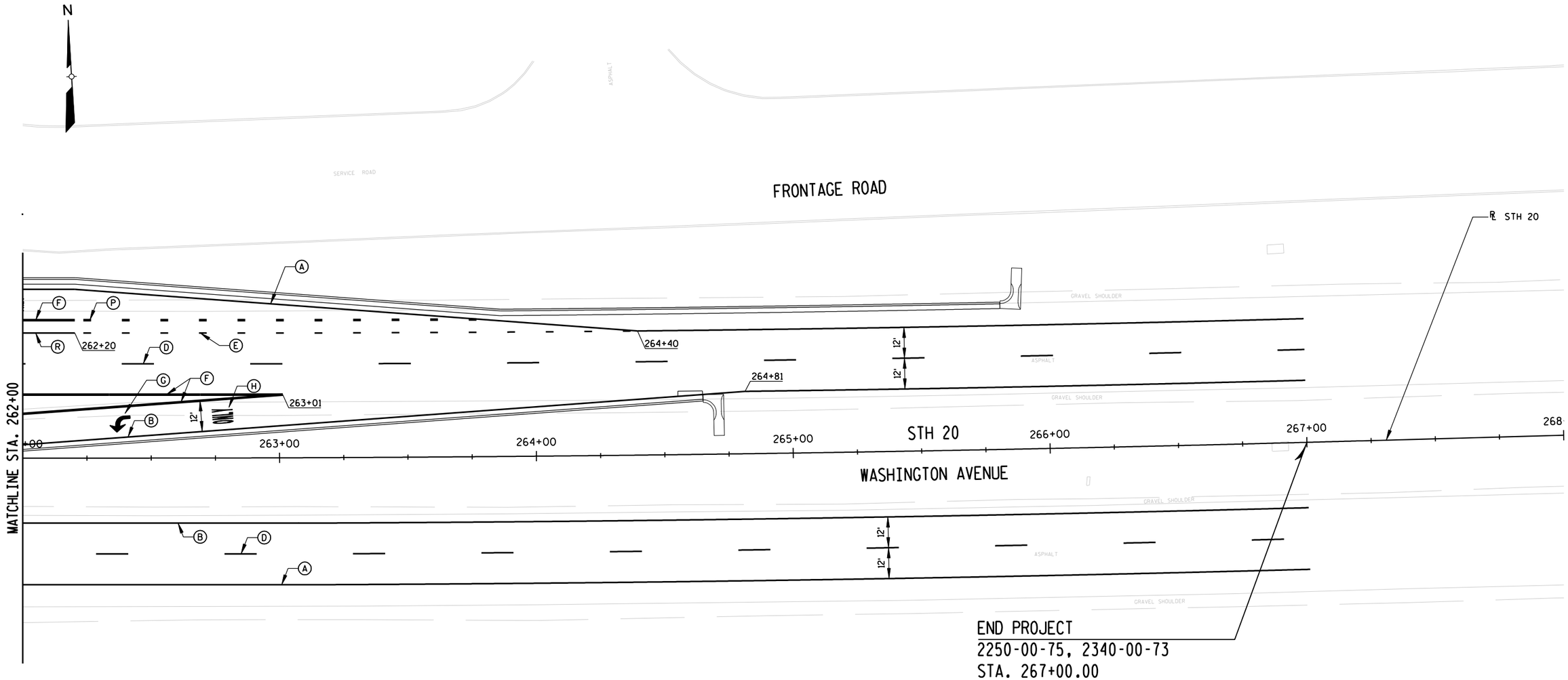
LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
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- (H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS
- (I) PAVEMENT MARKING CURB EPOXY (YELLOW)
- (J) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR 18-INCH
- (K) PAVEMENT MARKING ISLAND NOSE EPOXY
- (L) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH
- (M) PAVEMENT MARKING EPOXY 6-INCH
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- (R) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVEMENT MARKING PLAN	SCALE, FEET 0 20 40	SHEET 71	E

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WISDOT/CADDS SHEET 42

2



END PROJECT
2250-00-75, 2340-00-73
STA. 267+00.00

LEGEND

(A)	PAVEMENT MARKING EPOXY 4-INCH (WHITE)	(J)	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR 18-INCH
(B)	PAVEMENT MARKING EPOXY 4-INCH (YELLOW)	(K)	PAVEMENT MARKING ISLAND NOSE EPOXY
(C)	PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)	(L)	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH
(D)	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (12.5' LINE, 37.5' GAP, DASHED WHITE)	(M)	PAVEMENT MARKING EPOXY 6-INCH
(E)	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N)	PAVEMENT MARKING SYMBOLS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
(F)	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE)	(O)	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (3' LINE, 9' GAP, DASHED YELLOW)
(G)	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2	(P)	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (3' LINE, 9' GAP, DASHED WHITE)
(H)	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS	(Q)	PAVEMENT MARKING ARROWS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
(I)	PAVEMENT MARKING CURB EPOXY (YELLOW)	(R)	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVEMENT MARKING PLAN	SCALE, FEET 0 20 40	SHEET 72	E

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WISDOT/CADDS SHEET 42

2

N

℄ WISCONSIN STREET

WISCONSIN STREET

STH 20
WASHINGTON AVENUE

℄ CTH H

℄ STH 20

CTH H

MATCHLINE STA. 51+50

ONLY

46+00 46+09 46+89 47+00 47+44 48+00 48+20 48+22 48+68 49+00 49+38 49+39 50+00 50+75 50+76 51+00 51+46

230+00 231+00 232+00 233+00

12' 17' 5' 1' 16'

ASPHALT

ASPHALT DRIVEWAY

WATER METER

SIGN WATER RESTRICTION MONUS

CONCRETE

LEGEND

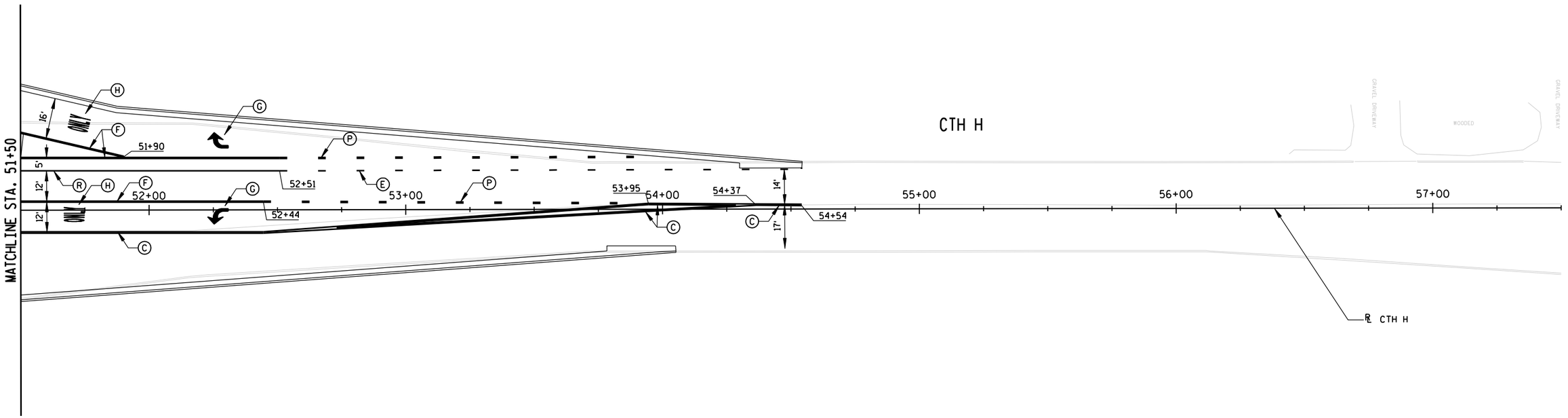
- (A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
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- (R) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVEMENT MARKING PLAN	SCALE, FEET 0 20 40	SHEET 73	E

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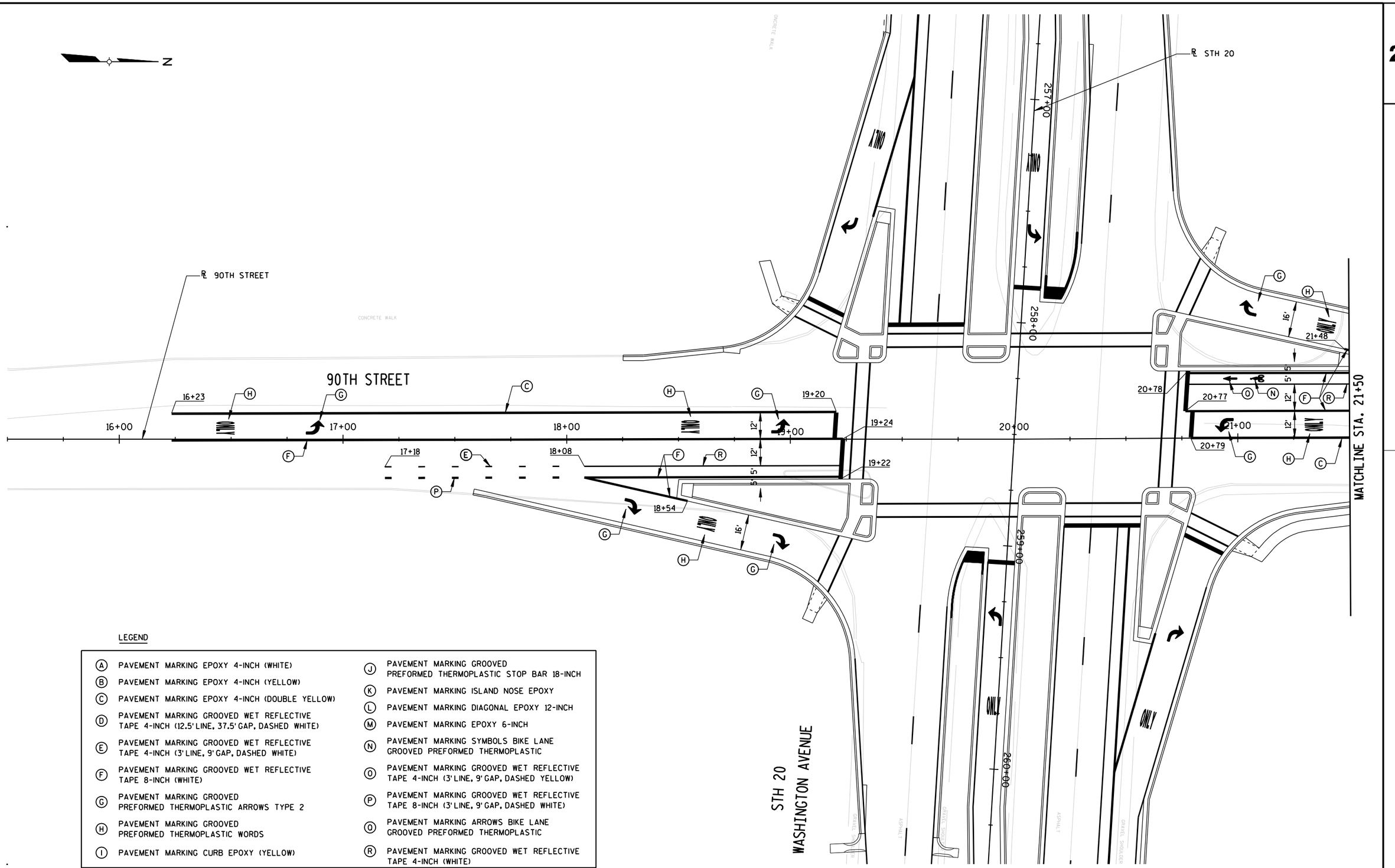
LEGEND

(A)	PAVEMENT MARKING EPOXY 4-INCH (WHITE)
(B)	PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
(C)	PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)
(D)	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (12.5' LINE, 37.5' GAP, DASHED WHITE)
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(O)	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (3' LINE, 9' GAP, DASHED YELLOW)
(P)	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (3' LINE, 9' GAP, DASHED WHITE)
(O)	PAVEMENT MARKING ARROWS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
(R)	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVEMENT MARKING PLAN	SCALE, FEET 0 20 40	SHEET 74	E

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WISDOT/CADDS SHEET 42

2



LEGEND

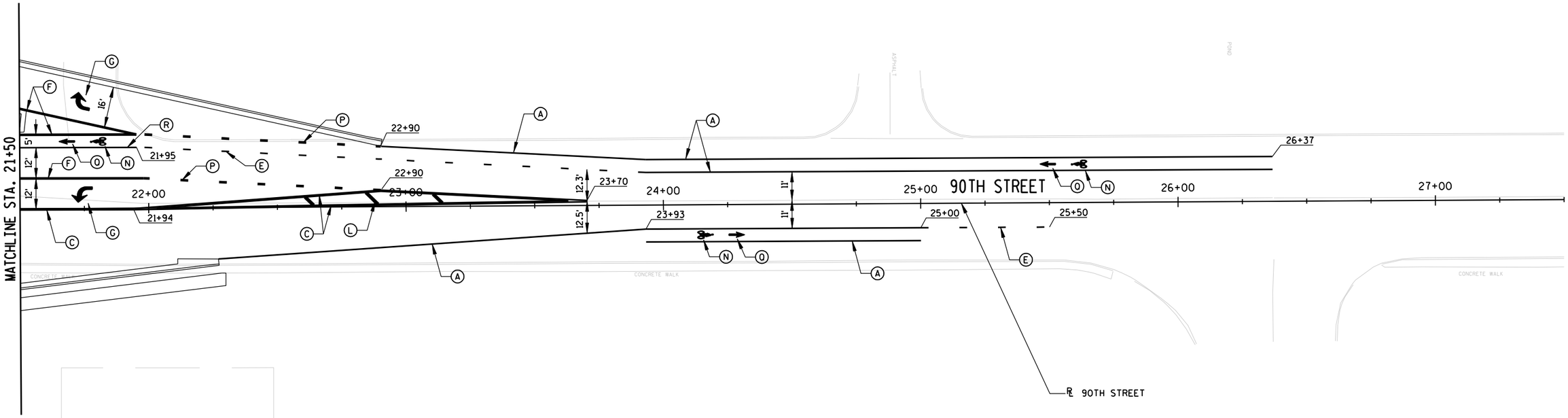
- (A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)
- (D) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (12.5' LINE, 37.5' GAP, DASHED WHITE)
- (E) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (3' LINE, 9' GAP, DASHED WHITE)
- (F) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE)
- (G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2
- (H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS
- (I) PAVEMENT MARKING CURB EPOXY (YELLOW)
- (J) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR 18-INCH
- (K) PAVEMENT MARKING ISLAND NOSE EPOXY
- (L) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH
- (M) PAVEMENT MARKING EPOXY 6-INCH
- (N) PAVEMENT MARKING SYMBOLS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
- (O) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (3' LINE, 9' GAP, DASHED YELLOW)
- (P) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (3' LINE, 9' GAP, DASHED WHITE)
- (O) PAVEMENT MARKING ARROWS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
- (R) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVEMENT MARKING PLAN	SCALE, FEET 0 20 40	SHEET 75	E

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WISDOT/CADDS SHEET 42

2

N



LEGEND

- (A) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- (B) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- (C) PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)
- (D) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (12.5' LINE, 37.5' GAP, DASHED WHITE)
- (E) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (3' LINE, 9' GAP, DASHED WHITE)
- (F) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE)
- (G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2
- (H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS
- (I) PAVEMENT MARKING CURB EPOXY (YELLOW)
- (J) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR 18-INCH
- (K) PAVEMENT MARKING ISLAND NOSE EPOXY
- (L) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH
- (M) PAVEMENT MARKING EPOXY 6-INCH
- (N) PAVEMENT MARKING SYMBOLS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
- (O) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (3' LINE, 9' GAP, DASHED YELLOW)
- (P) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (3' LINE, 9' GAP, DASHED WHITE)
- (Q) PAVEMENT MARKING ARROWS BIKE LANE GROOVED PREFORMED THERMOPLASTIC
- (R) PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PAVEMENT MARKING PLAN	SCALE, FEET 0 20 40	SHEET 76	E

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WISDOT/CADDS SHEET 42

2

GENERAL TRAFFIC CONTROL NOTES

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

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

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH ONE-WAY WARNING LIGHTS, TYPE C, UNLESS OTHERWISE SHOWN.

TWO (2) TYPE A WARNING LIGHTS SHALL BE INSTALLED ON ALL TYPE III BARRICADES. ONE (1) TYPE A WARNING LIGHT SHALL BE INSTALLED ON ALL TYPE II BARRICADES.

BARRICADE STRIPES ARE TO BE SLOPED DOWNWARD IN THE DIRECTION OF TRAFFIC FLOW.

ADVANCE WARNING SIGNS TO BE IN PLACE DURING ALL TRAFFIC CONTROL STAGES.

CONTRACTOR TO PROVIDE ACCESS TO ALL DRIVEWAYS THROUGHOUT CONSTRUCTION.

CONTRACTOR SHALL NOTIFY PROPERTY OWNER 3 DAYS IN ADVANCE OF WORK THAT WILL AFFECT ACCESS TO THE PROPERTY.

CONTRACTOR SHALL REMOVE PAVEMENT MARKINGS WHICH CONFLICT WITH THE INSTALLED TEMPORARY OR INSTALLED PERMANENT PAVEMENT MARKINGS.

TRAFFIC CONTROL LEGEND

	WORK AREA
➡	DIRECTION OF TRAFFIC
I / I	TYPE II BARRICADE / WITH ATTACHED SIGN
I / I	TYPE III BARRICADE / WITH ATTACHED SIGN
● / ●	TRAFFIC CONTROL DRUM / WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
W	CONTINUOUS WHITE, 4-INCH
Y	CONTINUOUS YELLOW, 4-INCH
W8	CONTINUOUS WHITE, 8-INCH
W18	CONTINUOUS WHITE, STOP LINE 18-INCH
WD	DASHED WHITE, 4-INCH (3' LINE, 9' SKIP)
DY	CONTINUOUS DOUBLE YELLOW, 4-INCH
TPM	TEMPORARY PAVEMENT MARKING
TPMRT	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE
ARROWS	TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE
WORDS	TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE

TRAFFIC CONTROL STAGING SUMMARY

STAGE 1:

CONSTRUCTION:
CONSTRUCT INSIDE LANES AND NEW LEFT TURN LANES.

TRAFFIC:
TRAFFIC WILL BE REDUCED TO ONE LANE IN EACH DIRECTION ON THE OUTSIDE LANES.

TRAFFIC CONTROL:
SEE TRAFFIC CONTROL - STAGE 1 SHEETS.

TRAFFIC CONTROL FOR 90TH STREET INTERSECTION WORK:
SEE TRAFFIC CONTROL - STAGE 1 90TH STREET INTERSECTION SHEET.

FOR CONSTRUCTION OPERATIONS IN THE CENTER OF THE INTERSECTION, CLOSE SEGMENTS OF THE INTERSECTION AND LEFT TURN LANE WITH FLAGGERS PER SDD "TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)", ON SUNDAY THROUGH THURSDAY NIGHTS ONLY. ADJACENT SIGNALIZED INTERSECTIONS SHALL NOT BE CLOSED AT THE SAME TIME.

STAGE 2:

CONSTRUCTION:
CONSTRUCT OUTSIDE LANES AND NEW RIGHT TURN LANES.

TRAFFIC:
TRAFFIC WILL BE REDUCED TO ONE LANE IN EACH DIRECTION ON THE INSIDE LANES.

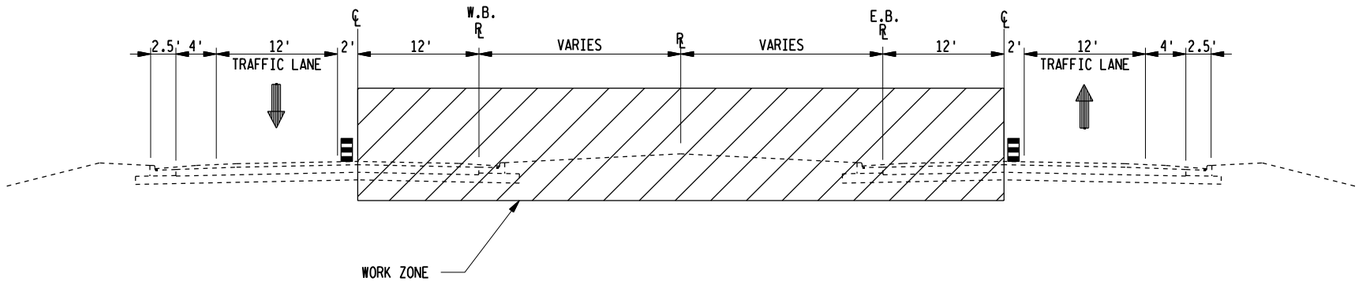
TRAFFIC CONTROL:
SEE TRAFFIC CONTROL - STAGE 2 SHEETS.

TRAFFIC CONTROL FOR INTERSECTION WORK:
SEE TRAFFIC CONTROL - STAGE 2 CTH H & 90TH STREET INTERSECTION SHEETS.

FOR CONSTRUCTION OPERATIONS ALONG CTH H AND 90TH STREET, CLOSE SEGMENTS OF THE INTERSECTION AND LEFT TURN LANE WITH FLAGGERS PER SDD "TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)", ON SUNDAY THROUGH THURSDAY NIGHTS ONLY. ADJACENT SIGNALIZED INTERSECTIONS SHALL NOT BE CLOSED AT THE SAME TIME.

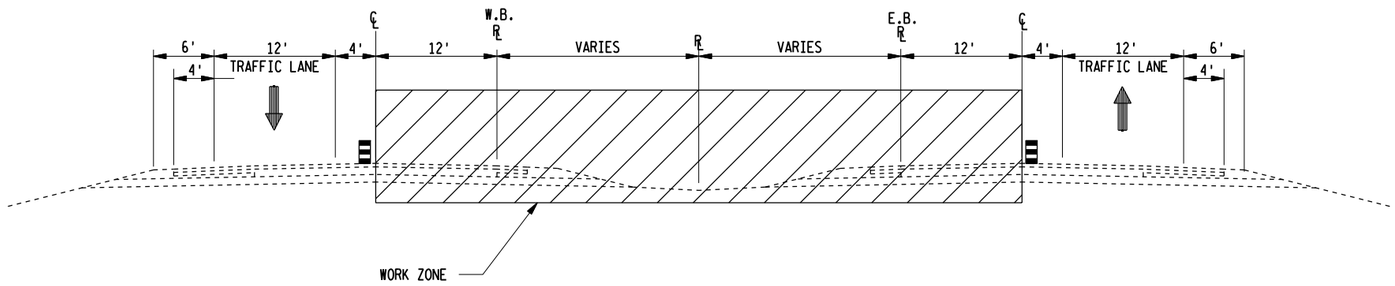
TRAFFIC CONTROL INDEX OF SHEETS

TRAFFIC CONTROL: GENERAL NOTES
TRAFFIC CONTROL: TYPICAL SECTIONS
TRAFFIC CONTROL: STAGE 1
TRAFFIC CONTROL: STAGE 2



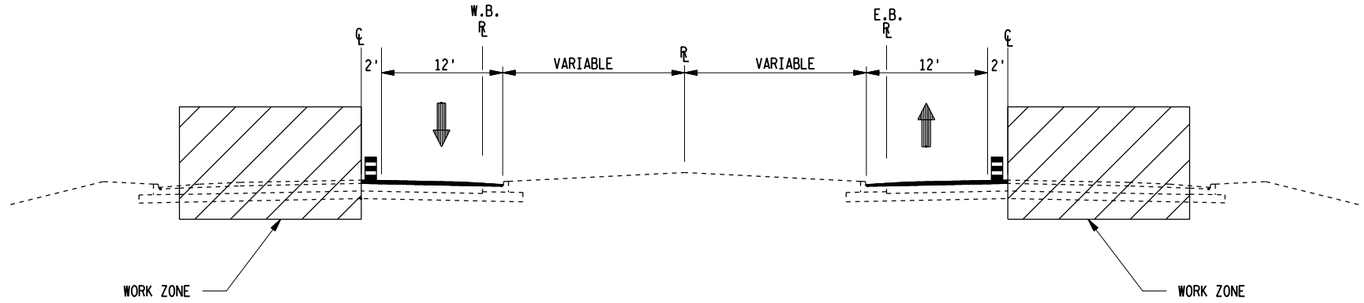
STAGE 1 TYPICAL SECTION

STH 20
STA. 225+43 - STA. 235+00



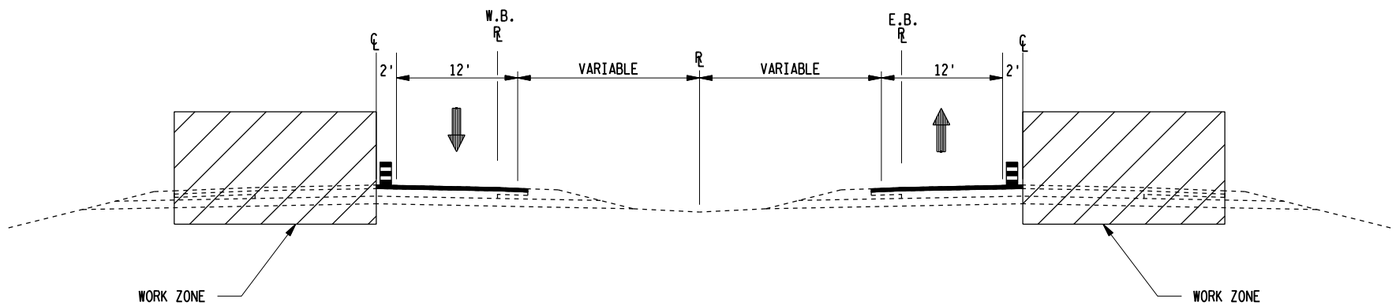
STAGE 1 TYPICAL SECTION

STH 20
STA. 235+00 - STA. 267+00



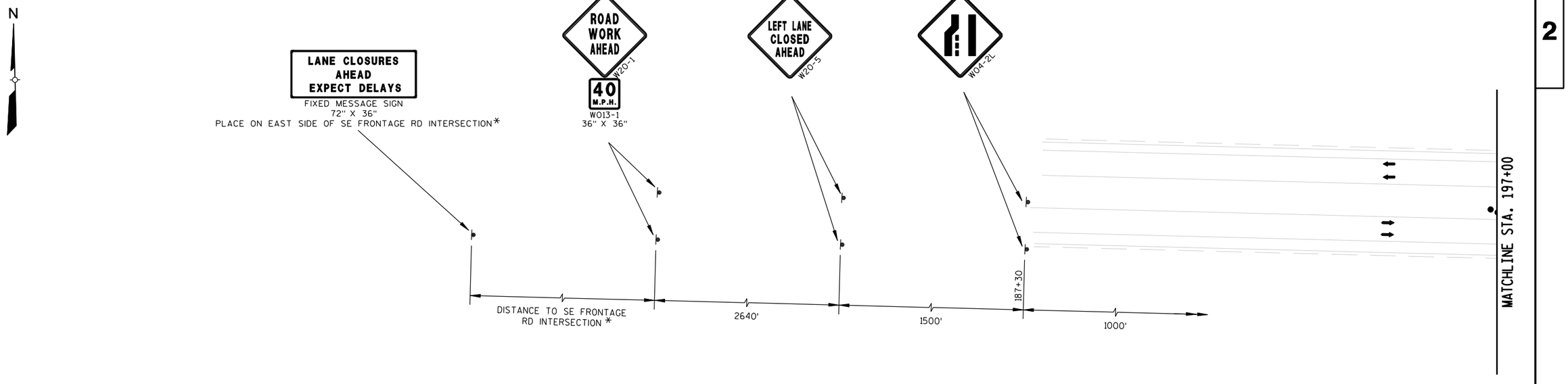
STAGE 2 TYPICAL SECTION

STH 20
STA. 225+43 - STA. 235+00

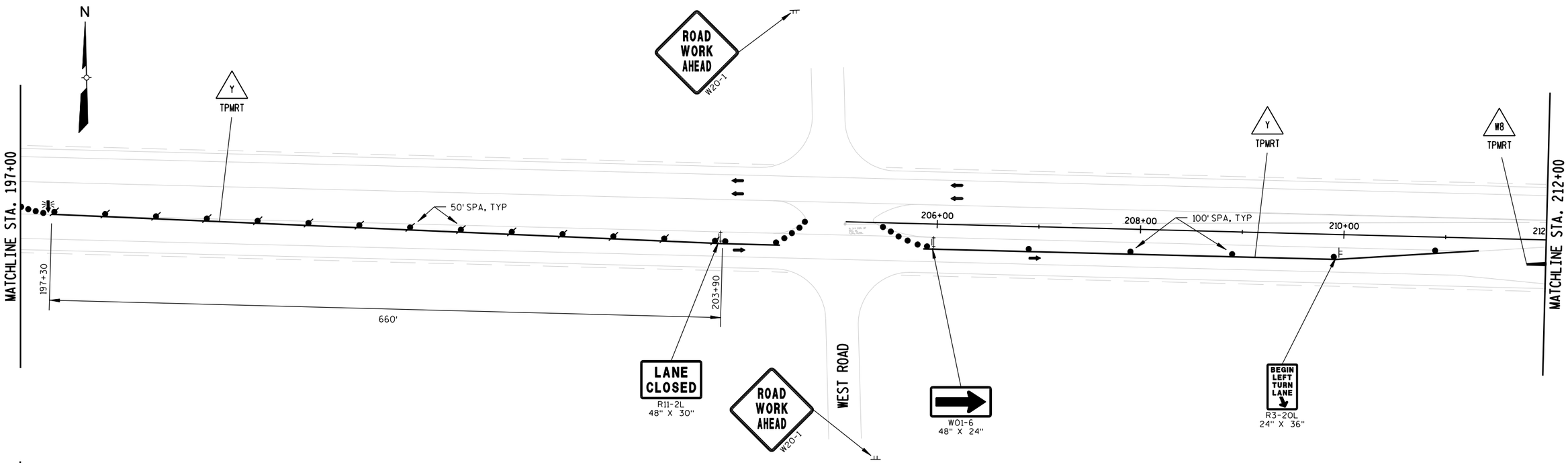


STAGE 2 TYPICAL SECTION

STH 20
STA. 235+00 - STA. 267+00

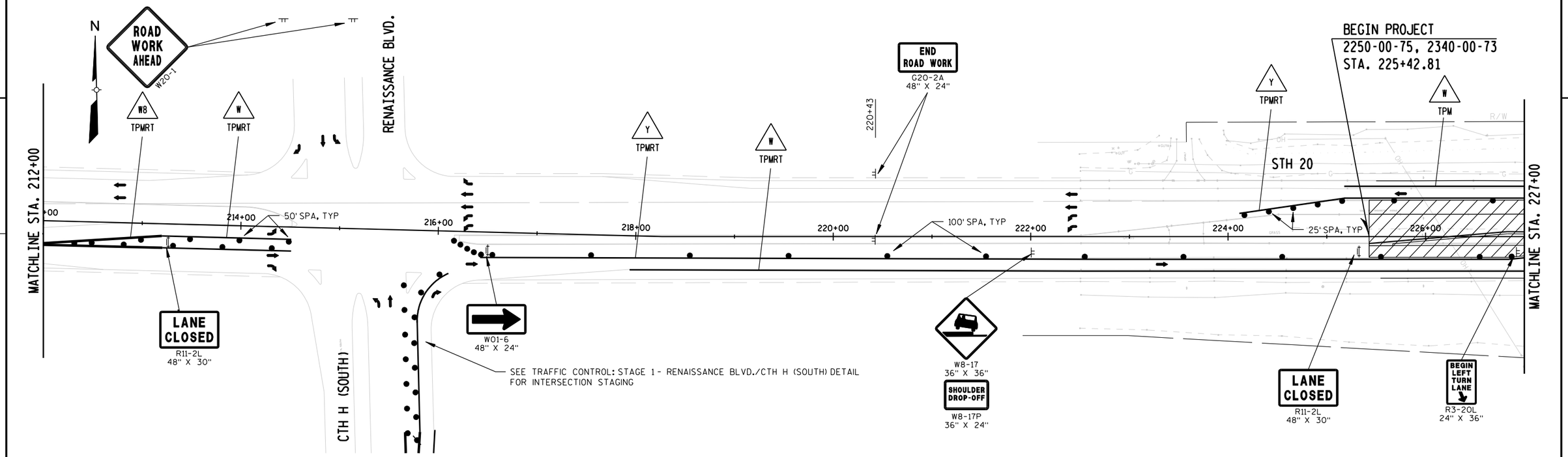


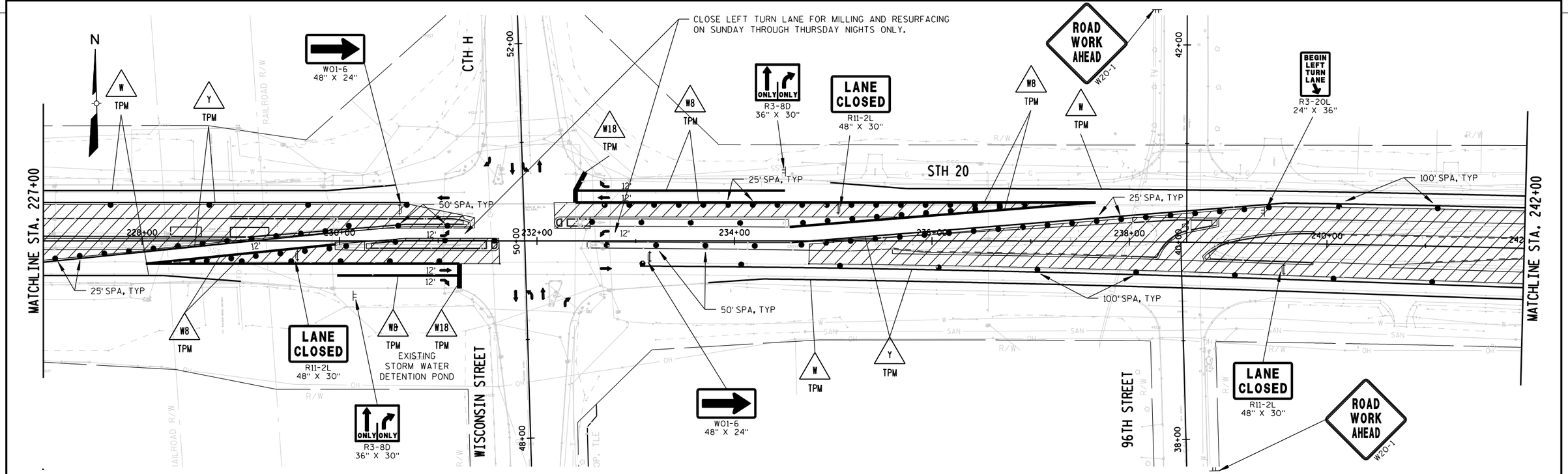
*EXACT LOCATION TO BE DETERMINED BY ENGINEER IN THE FIELD.



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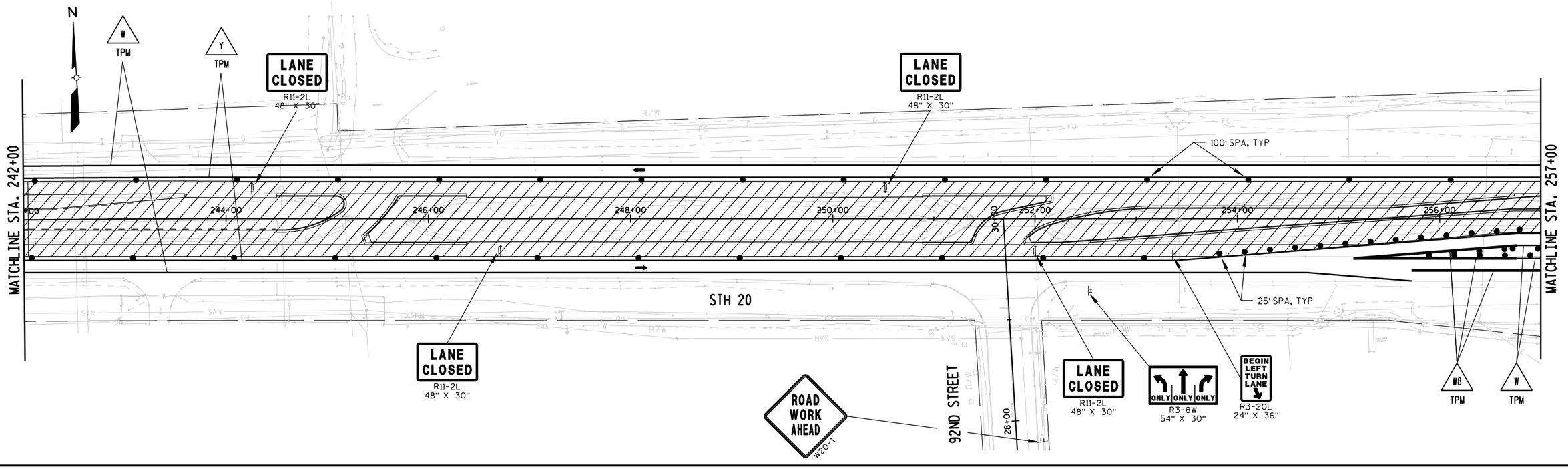
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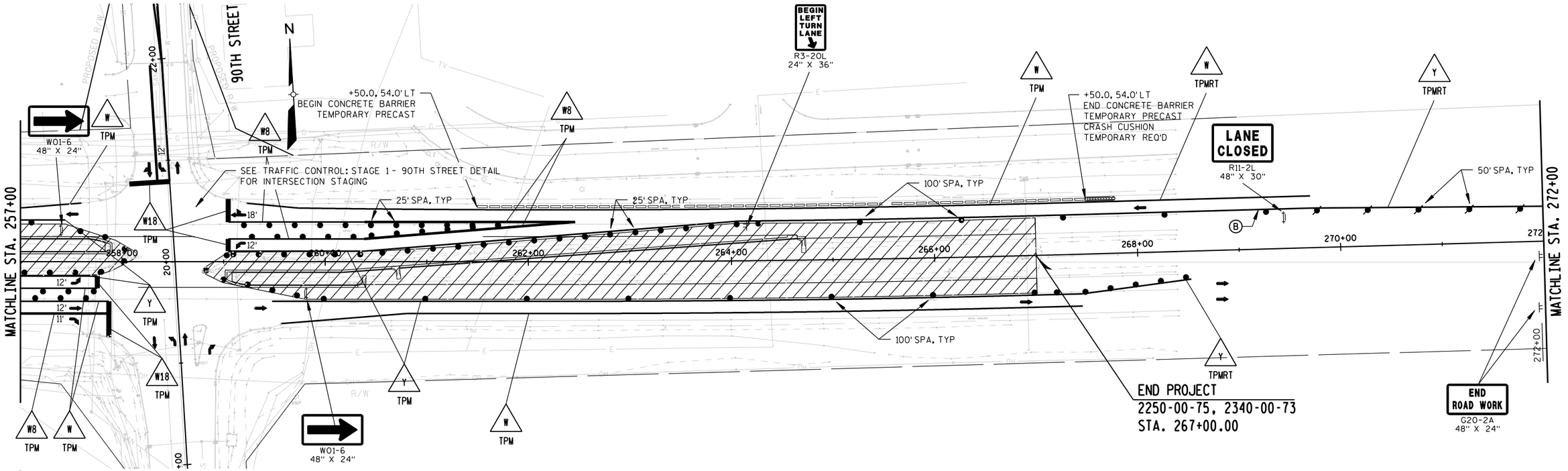




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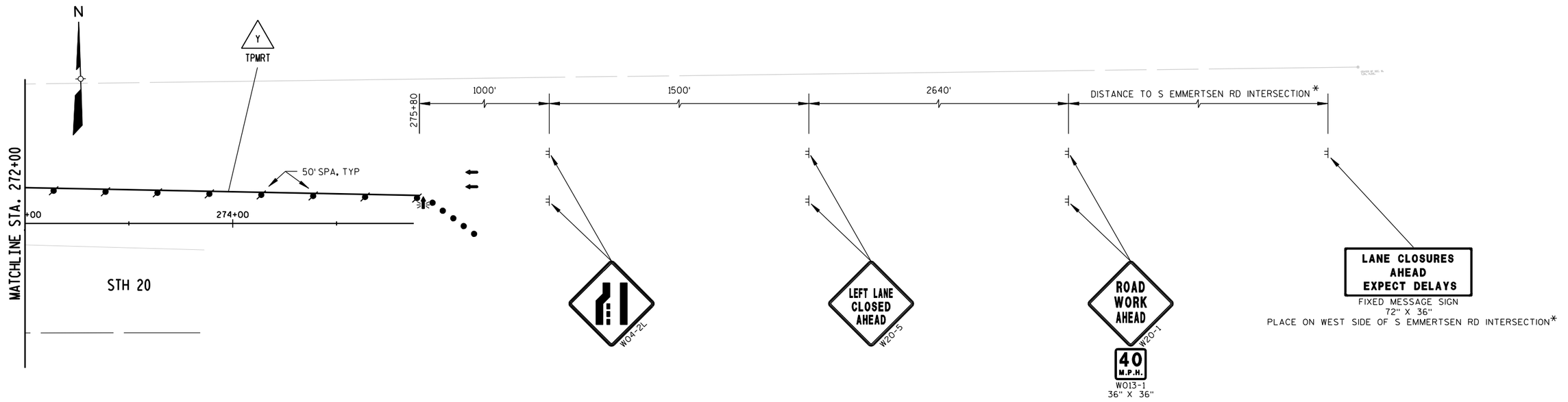
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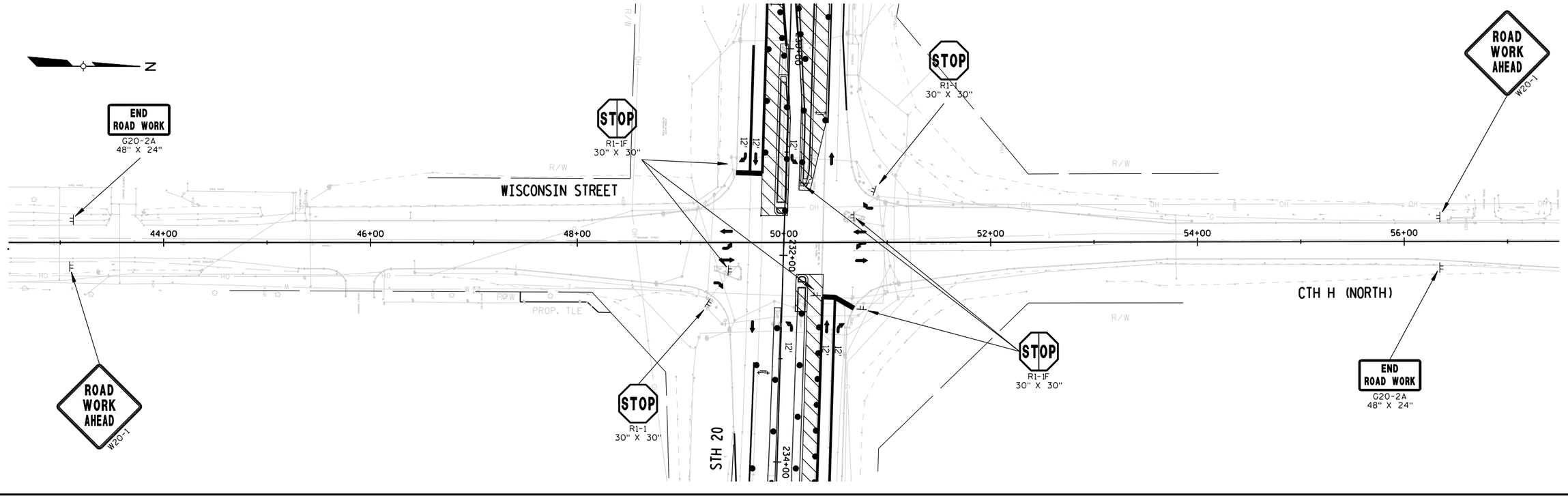


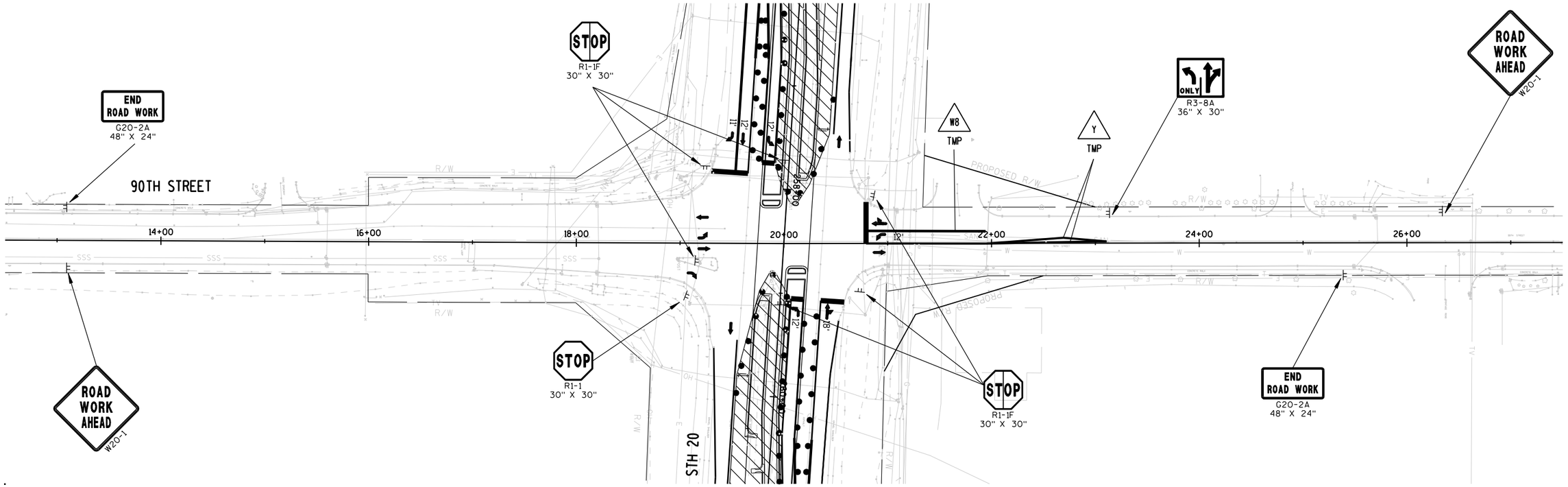
*EXACT LOCATION TO BE DETERMINED BY ENGINEER IN THE FIELD.

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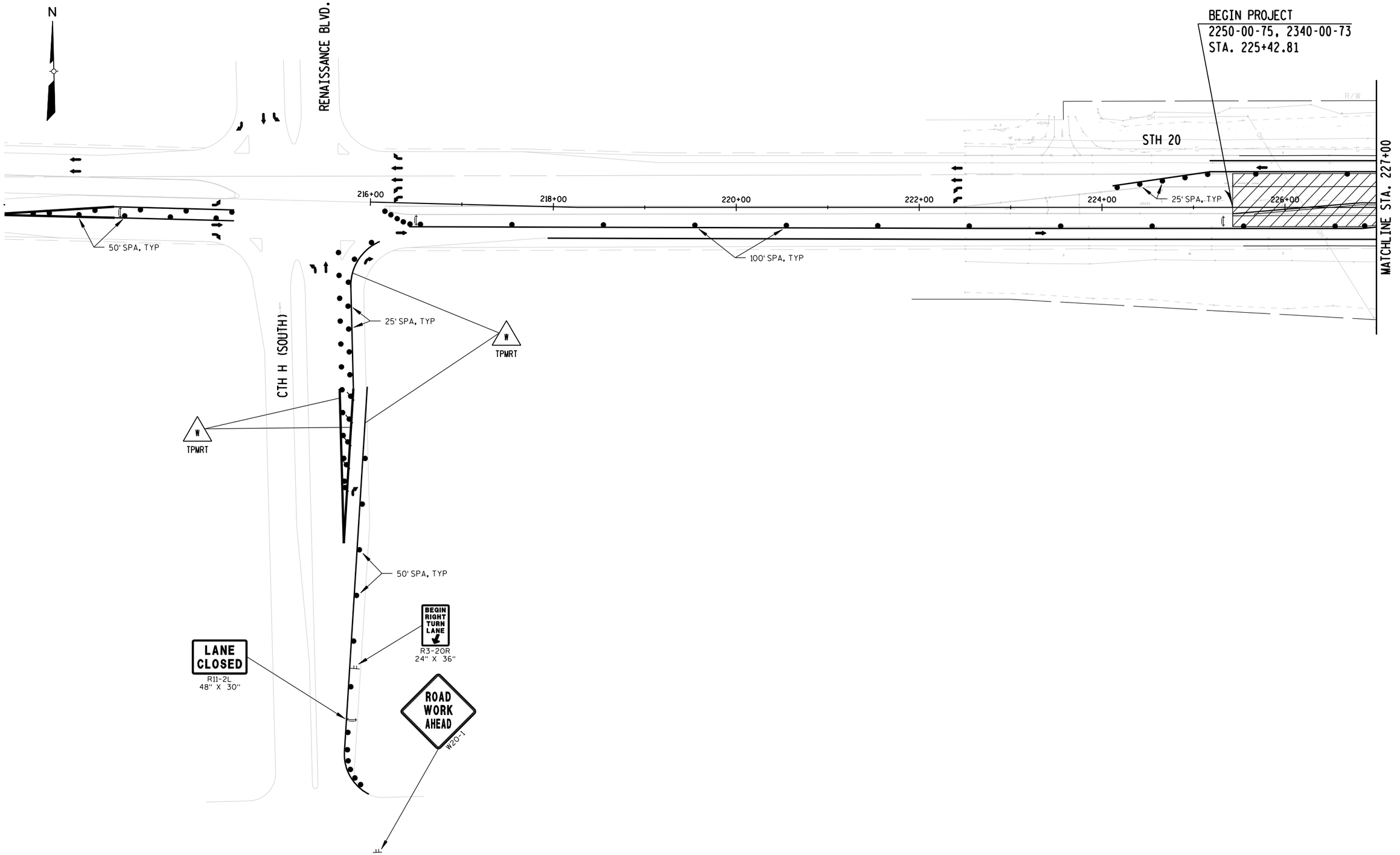
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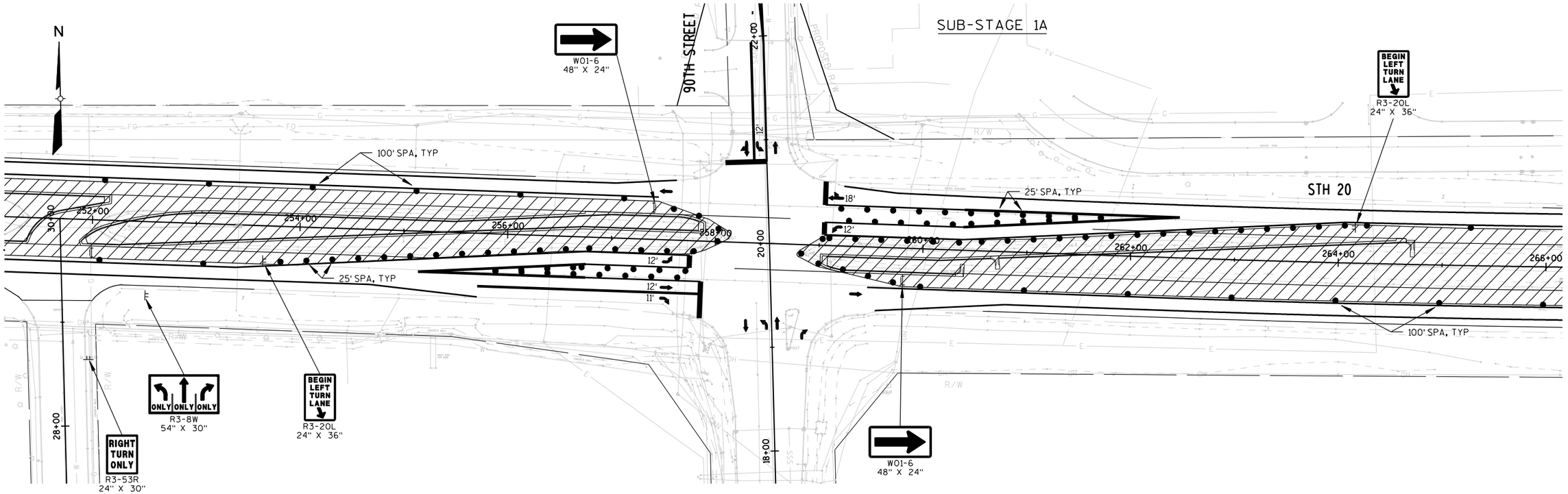
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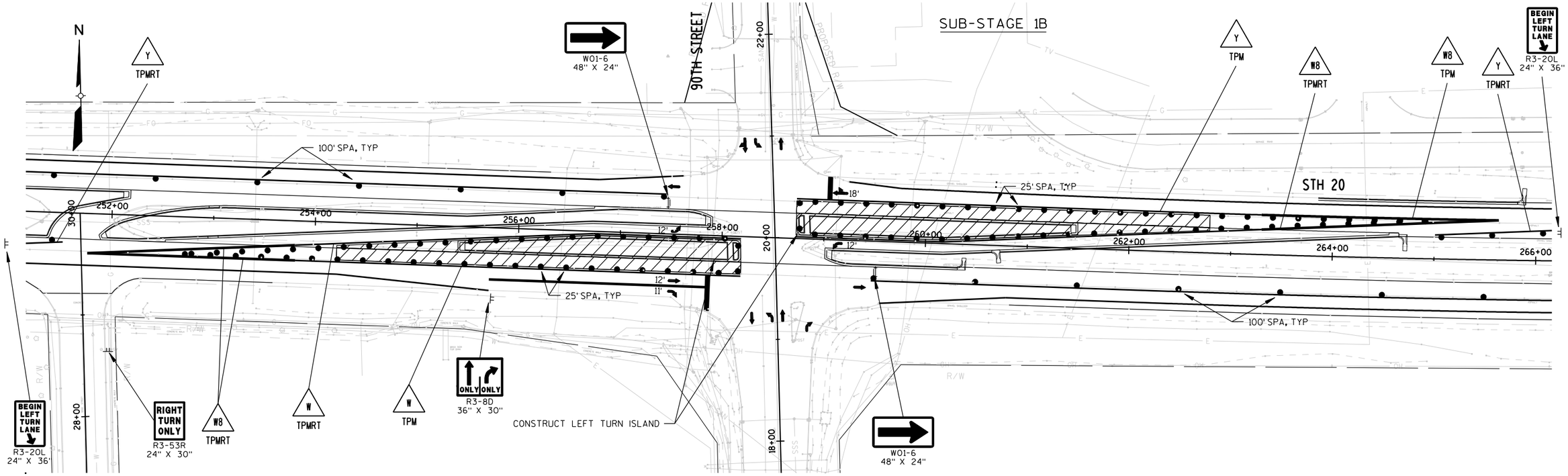
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SUB-STAGE 1A

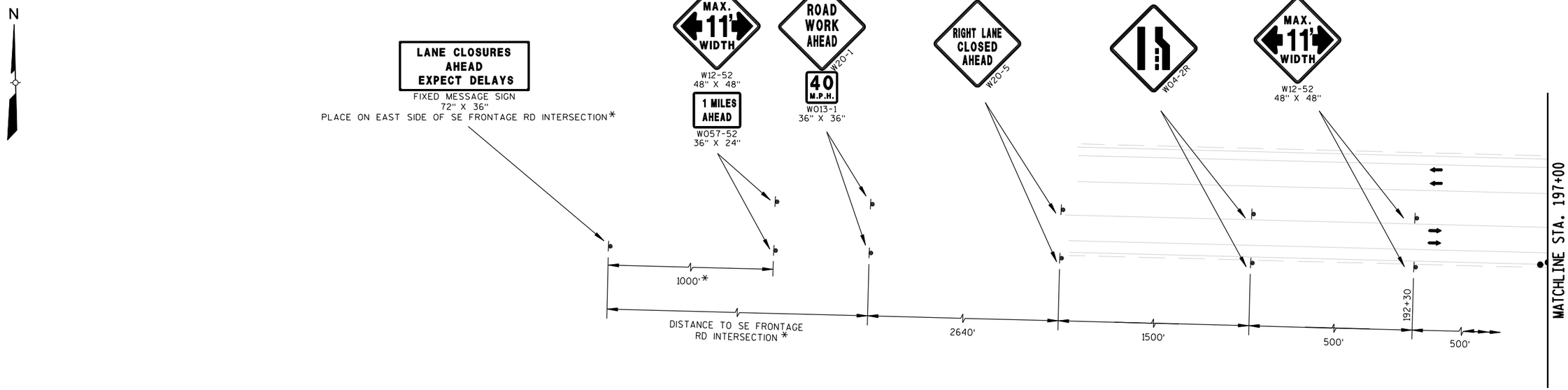


SUB-STAGE 1B

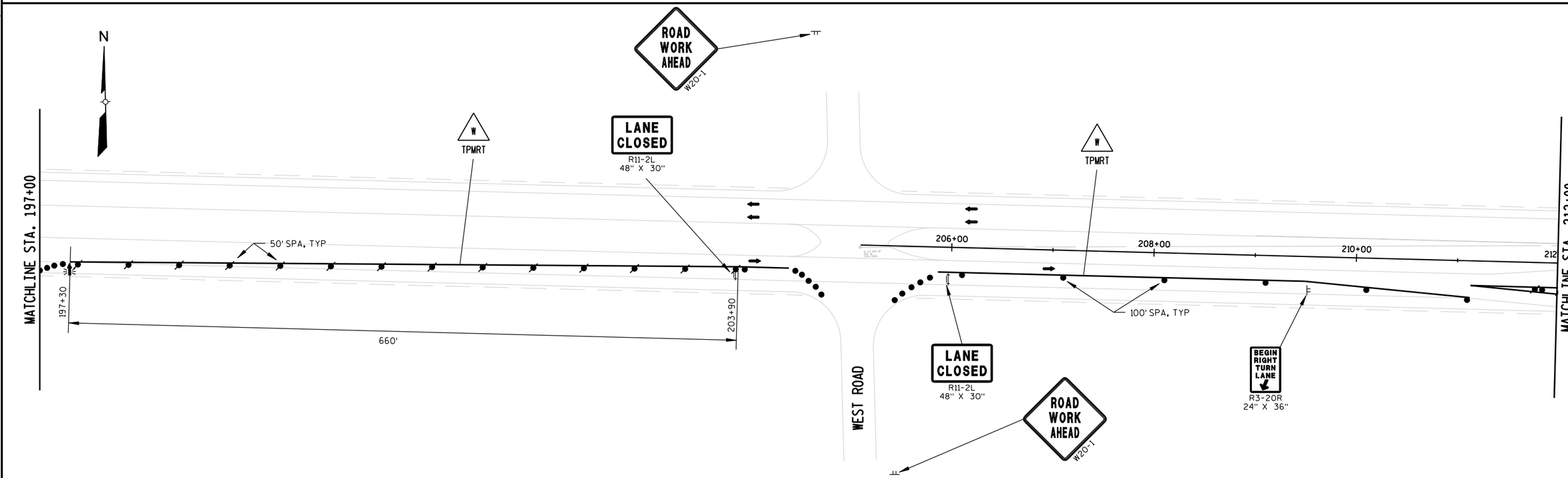


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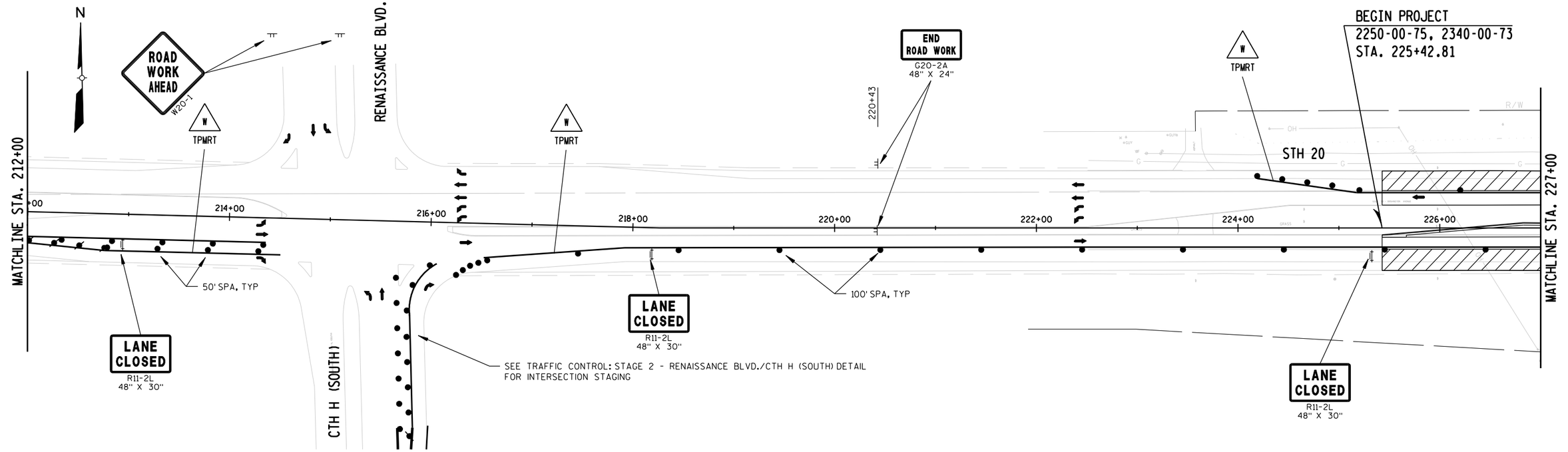


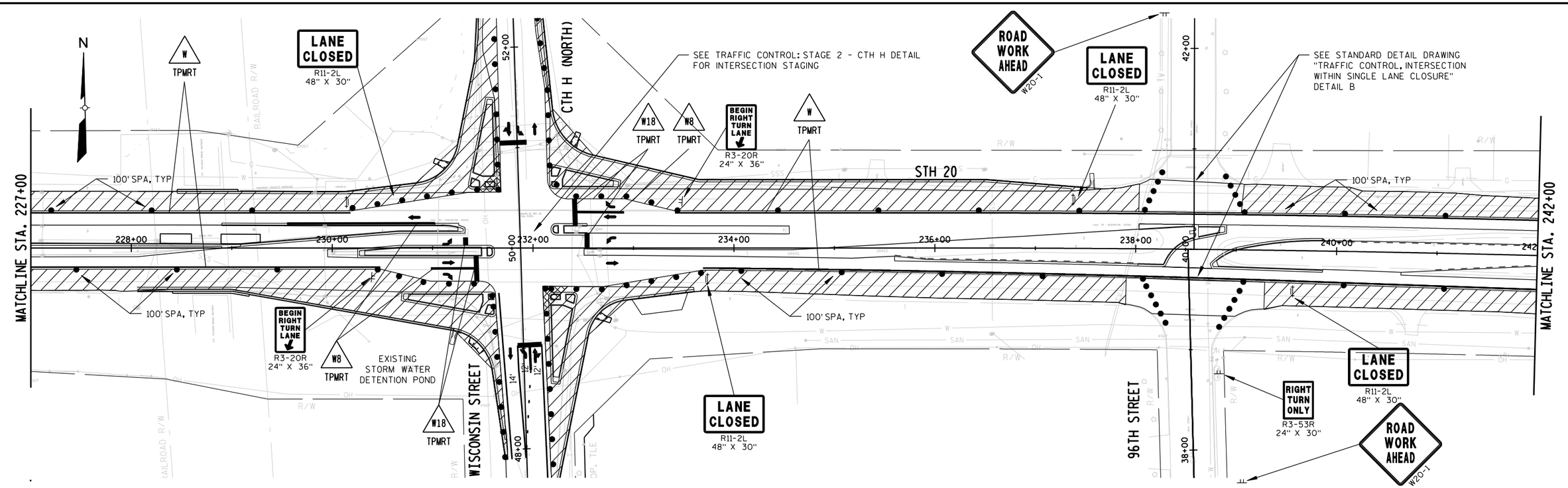
* EXACT LOCATION TO BE DETERMINED BY ENGINEER IN THE FIELD.



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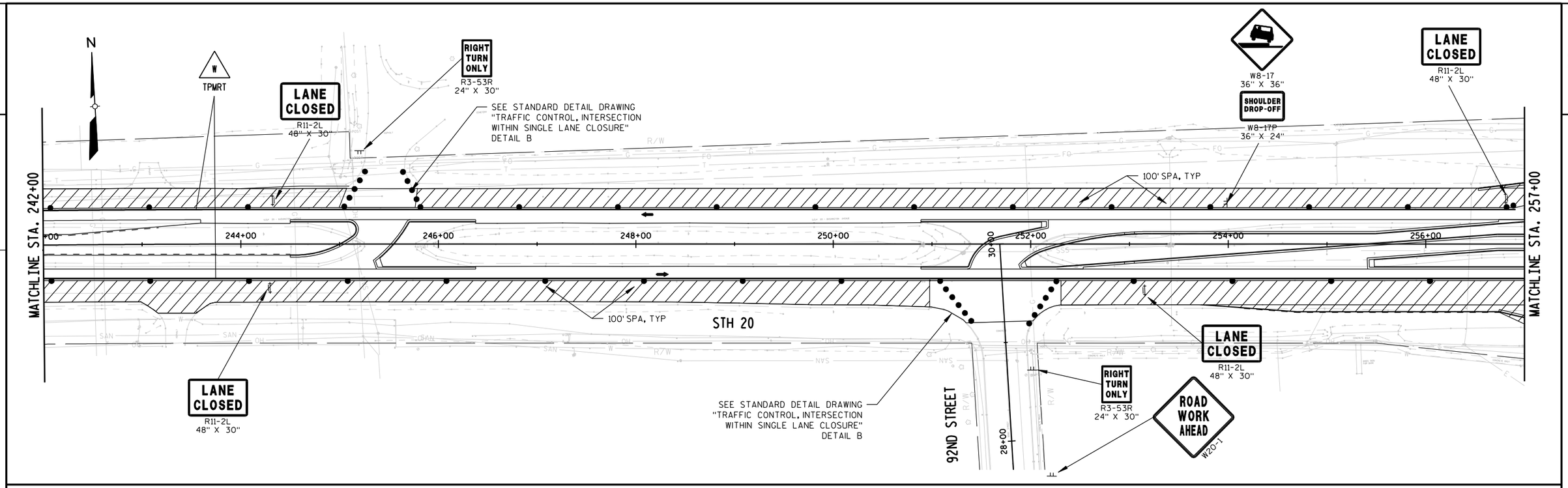
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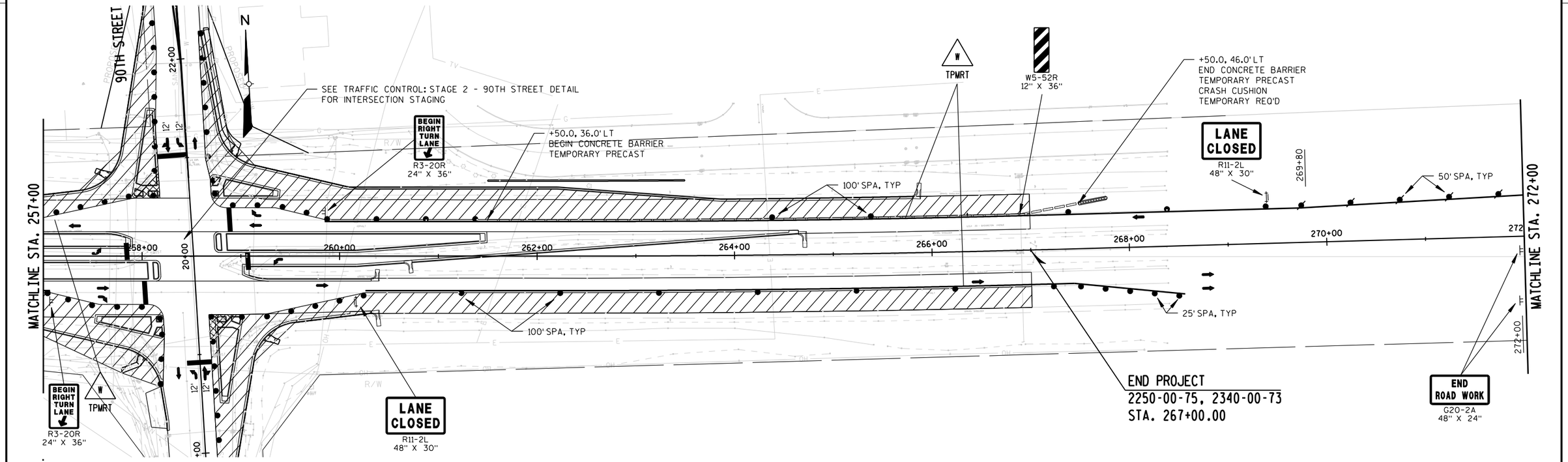




PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC CONTROL: STAGE 2	SCALE, FEET 0 50 100	SHEET 88	E

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WISDOT/CADDS SHEET 42

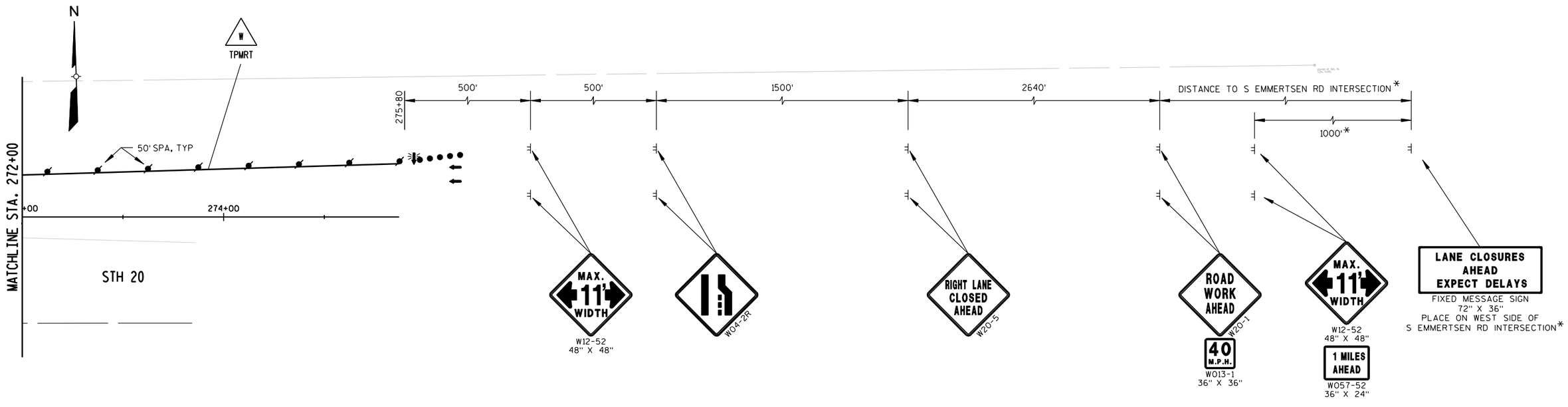




PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC CONTROL: STAGE 2	SCALE, FEET 0 50 100	SHEET 89	E

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WISDOT/CADDS SHEET 42

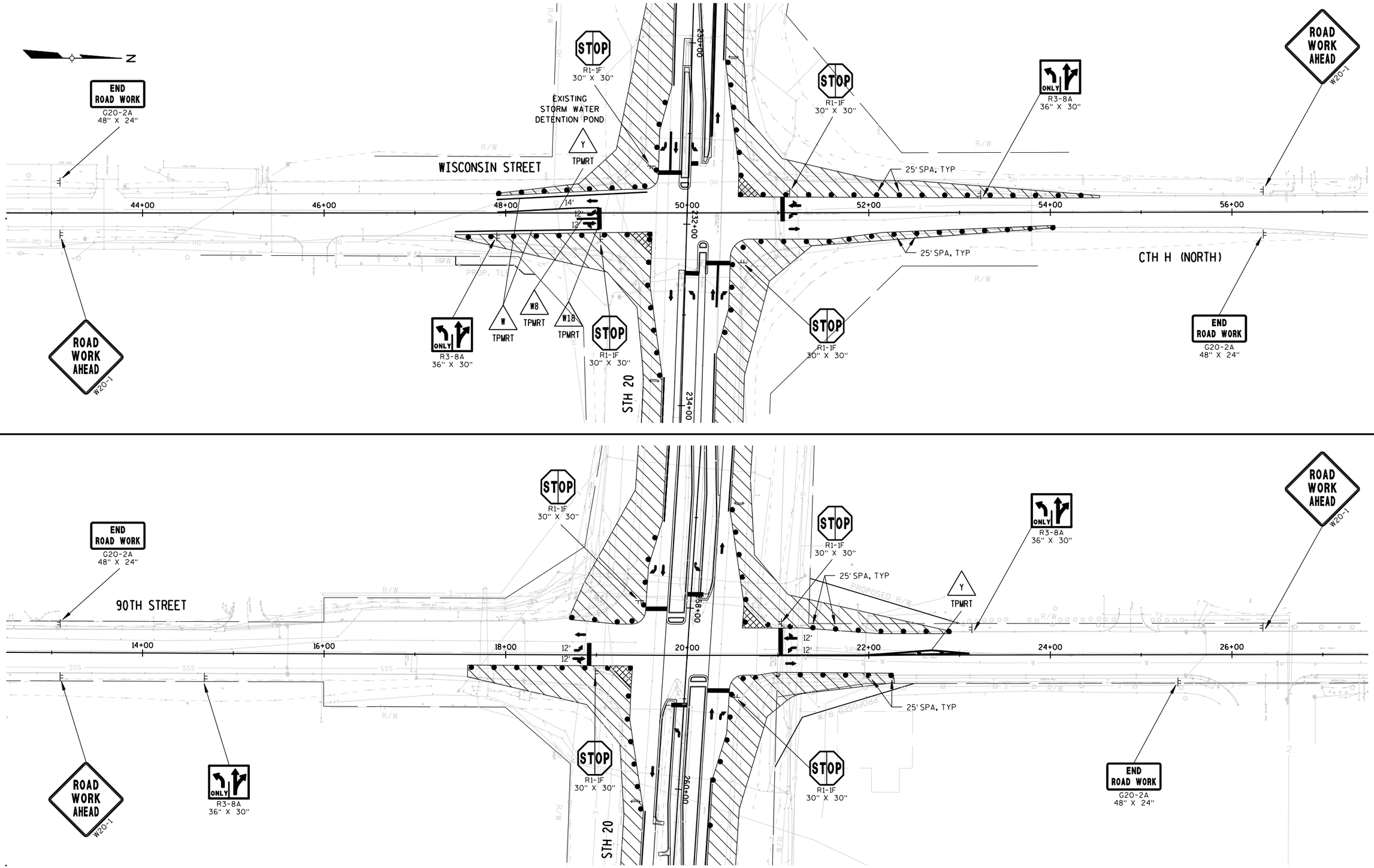
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*EXACT LOCATION TO BE DETERMINED BY ENGINEER IN THE FIELD.

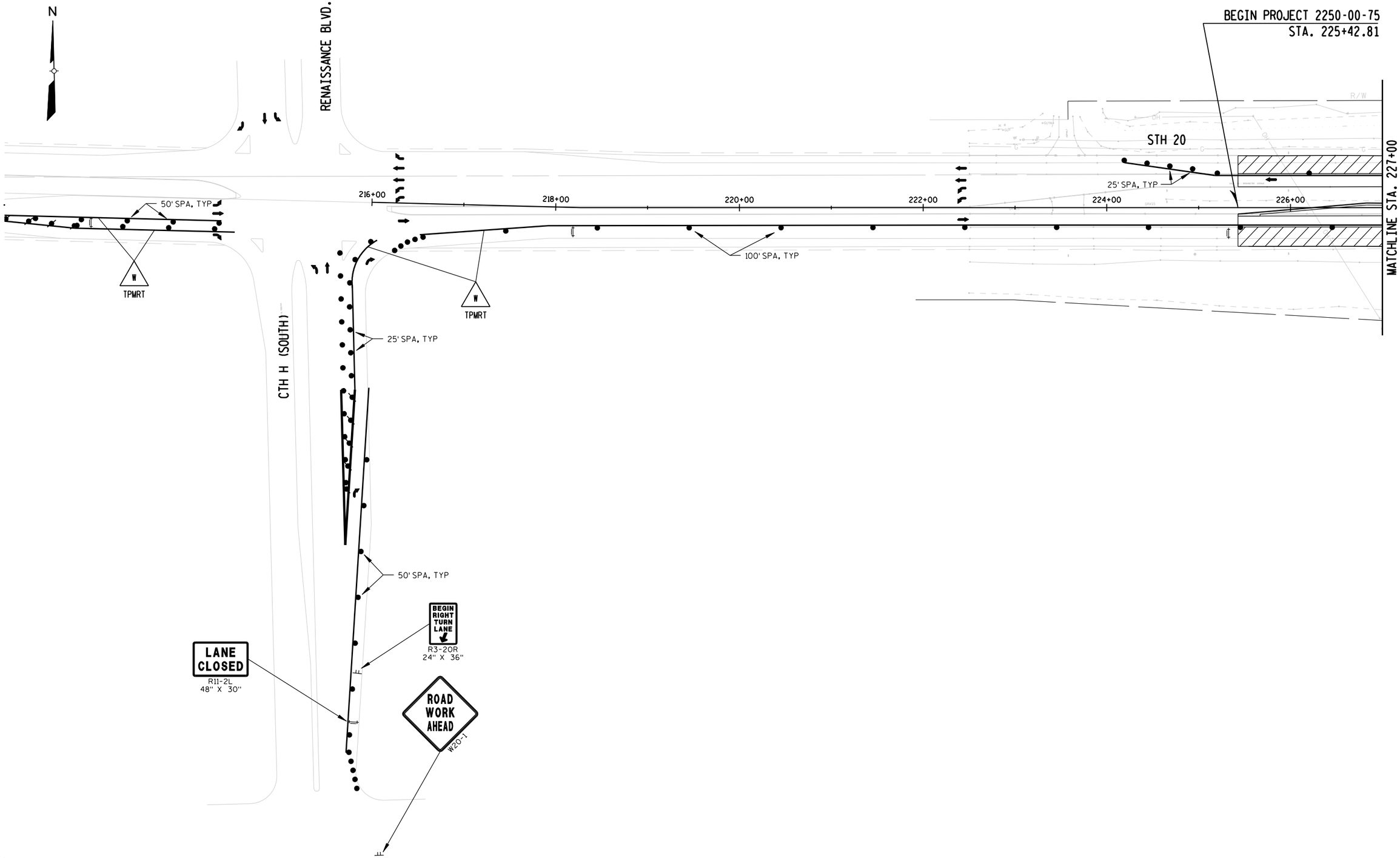
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WISDOT/CADDS SHEET 42



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC CONTROL: STAGE 2	SCALE, FEET 0 50 100	SHEET 91	E

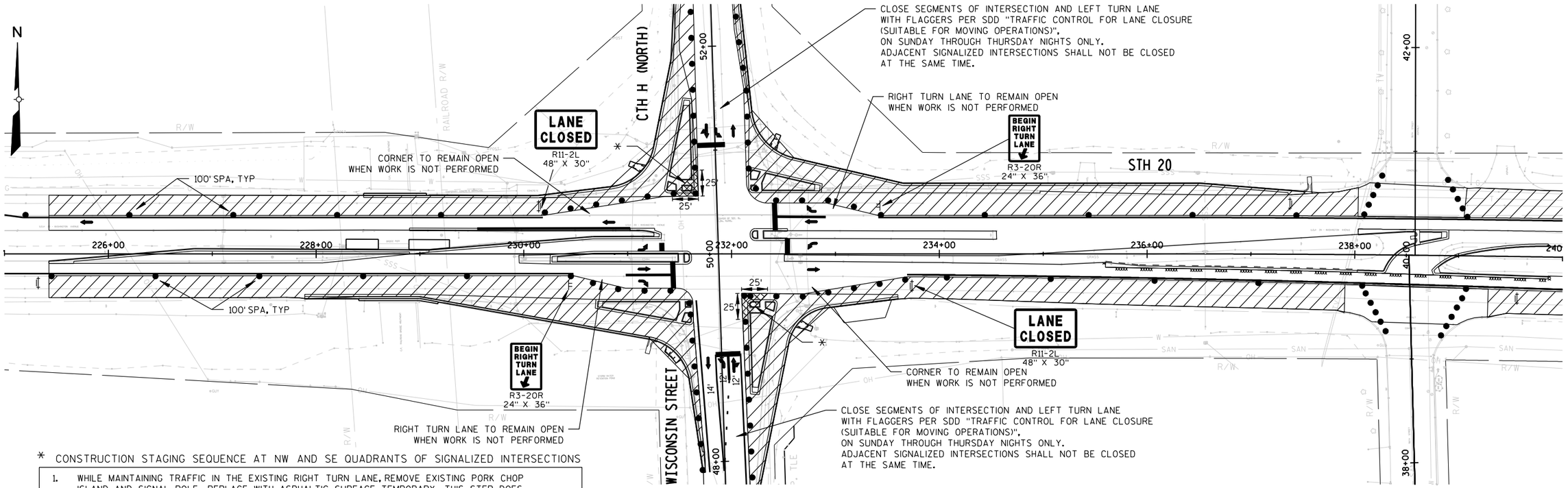
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WISDOT/CADDS SHEET 42



2

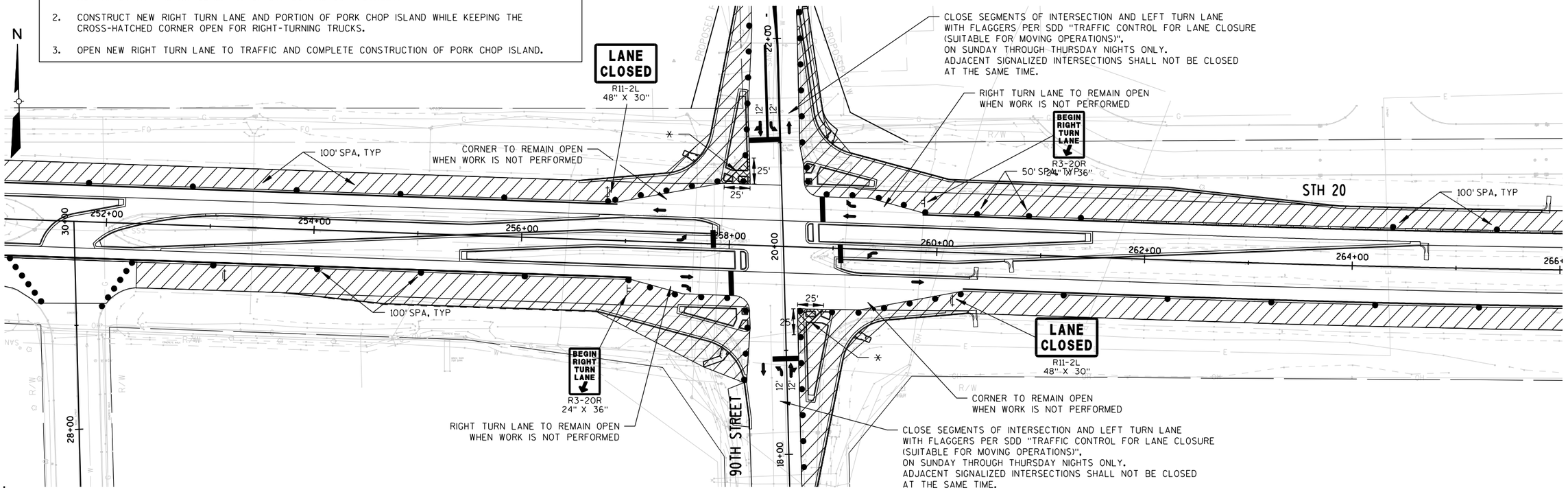
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FILE NAME: l:\work\60222809\000.cad\025013_tc.DGN
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PLOT TIME: 11:31:19 AM
PLOT SCALE: 1:100
WISDOT/CADDS SHEET 42



* CONSTRUCTION STAGING SEQUENCE AT NW AND SE QUADRANTS OF SIGNALIZED INTERSECTIONS

1. WHILE MAINTAINING TRAFFIC IN THE EXISTING RIGHT TURN LANE, REMOVE EXISTING PORK CHOP ISLAND AND SIGNAL POLE. REPLACE WITH ASPHALTIC SURFACE TEMPORARY. THIS STEP DOES NOT APPLY AT THE NW QUADRANT OF STH 20 AND 90TH STREET.
2. CONSTRUCT NEW RIGHT TURN LANE AND PORTION OF PORK CHOP ISLAND WHILE KEEPING THE CROSS-HATCHED CORNER OPEN FOR RIGHT-TURNING TRUCKS.
3. OPEN NEW RIGHT TURN LANE TO TRAFFIC AND COMPLETE CONSTRUCTION OF PORK CHOP ISLAND.



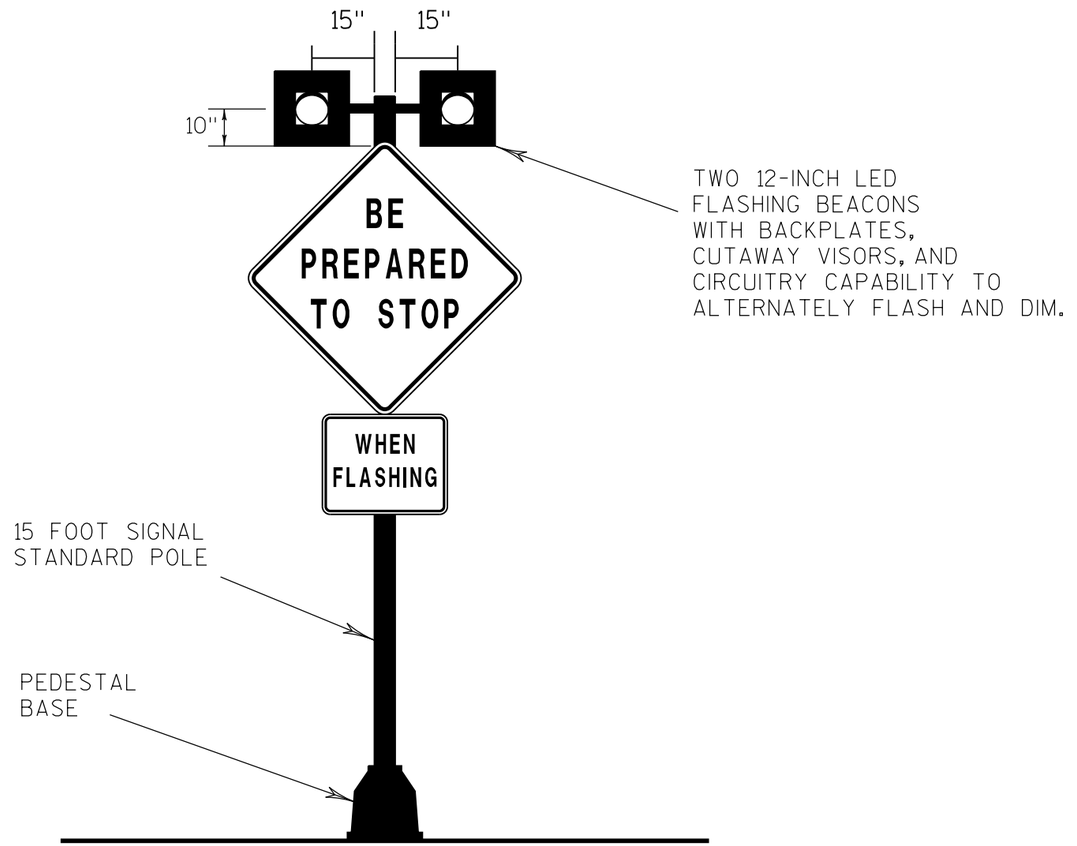
PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC CONTROL: STAGE 2 - CTH H (NORTH)/90TH STREET DETAIL	SHEET 93	E

FILE NAME: l:\work\60222809\000.cad\025014_tc.DGN
BATCH PRINT SHEET 17 OF 17
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WISDOT/CADDS SHEET 42

2

"PREPARE TO STOP WHEN FLASHING" SYSTEM DETAIL

(NOT TO SCALE)



SEE SIGNING PLAN
FOR SIGN DETAILS

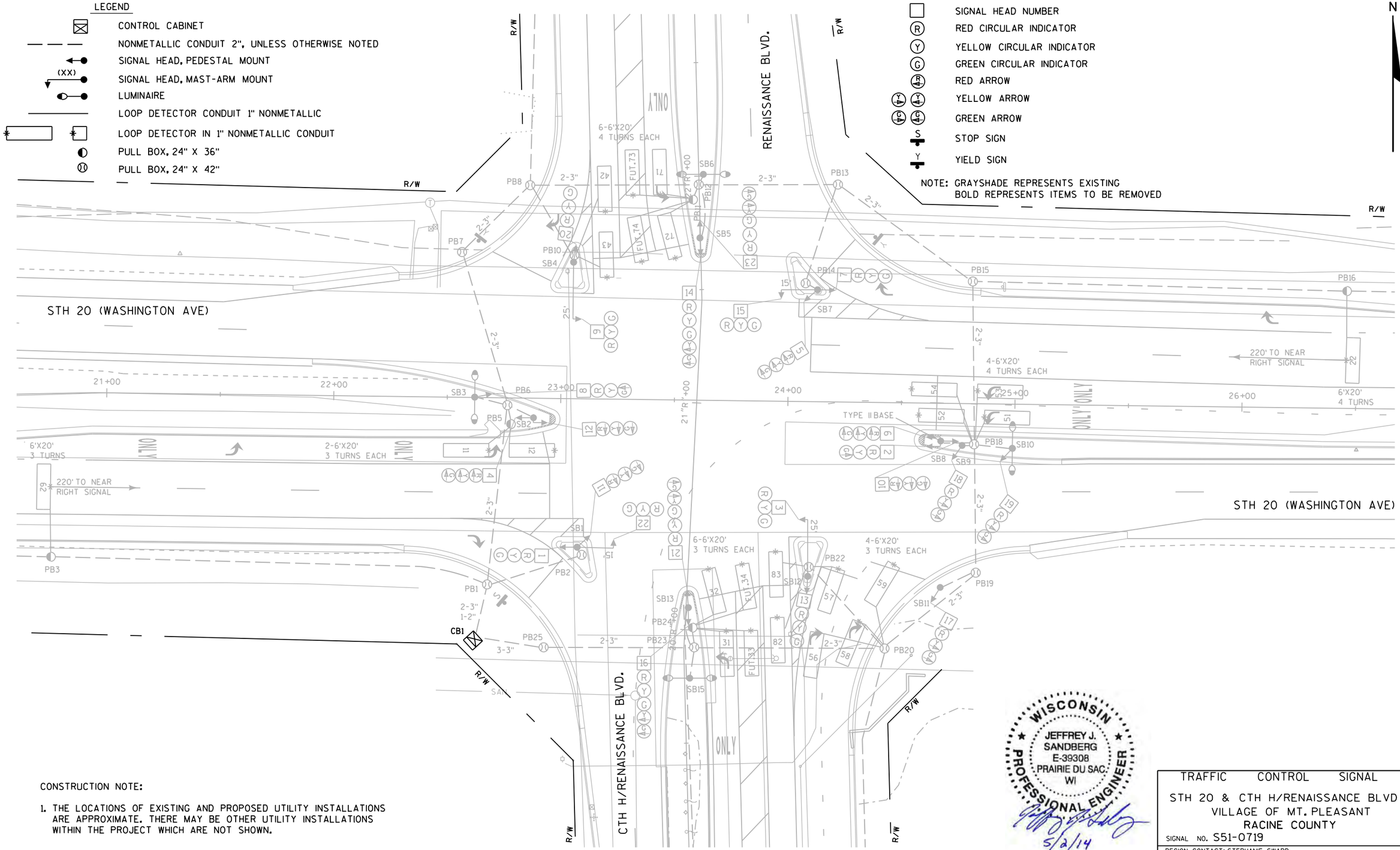
LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, PEDESTAL MOUNT
- (XX) SIGNAL HEAD, MAST-ARM MOUNT
- LUMINAIRE
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"

- SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- 4R RED ARROW
- 4Y YELLOW ARROW
- 4G GREEN ARROW
- S STOP SIGN
- Y YIELD SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING
BOLD REPRESENTS ITEMS TO BE REMOVED

N



CONSTRUCTION NOTE:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.

WISCONSIN
JEFFREY J. SANDBERG
E-39308
PRAIRIE DU SAC, WI
PROFESSIONAL ENGINEER
5/2/14

TRAFFIC CONTROL SIGNAL

STH 20 & CTH H/RENAISSANCE BLVD
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0719

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: TAD, INC.
REVISED BY: AECOM

PAGE 1 OF 1

PROJECT NO: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 95	E

FILE NAME : L:\work\projects\60222809\000_CAD\Signals\S0719_A Removal.DGN PLOT DATE : 5/2/2014 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

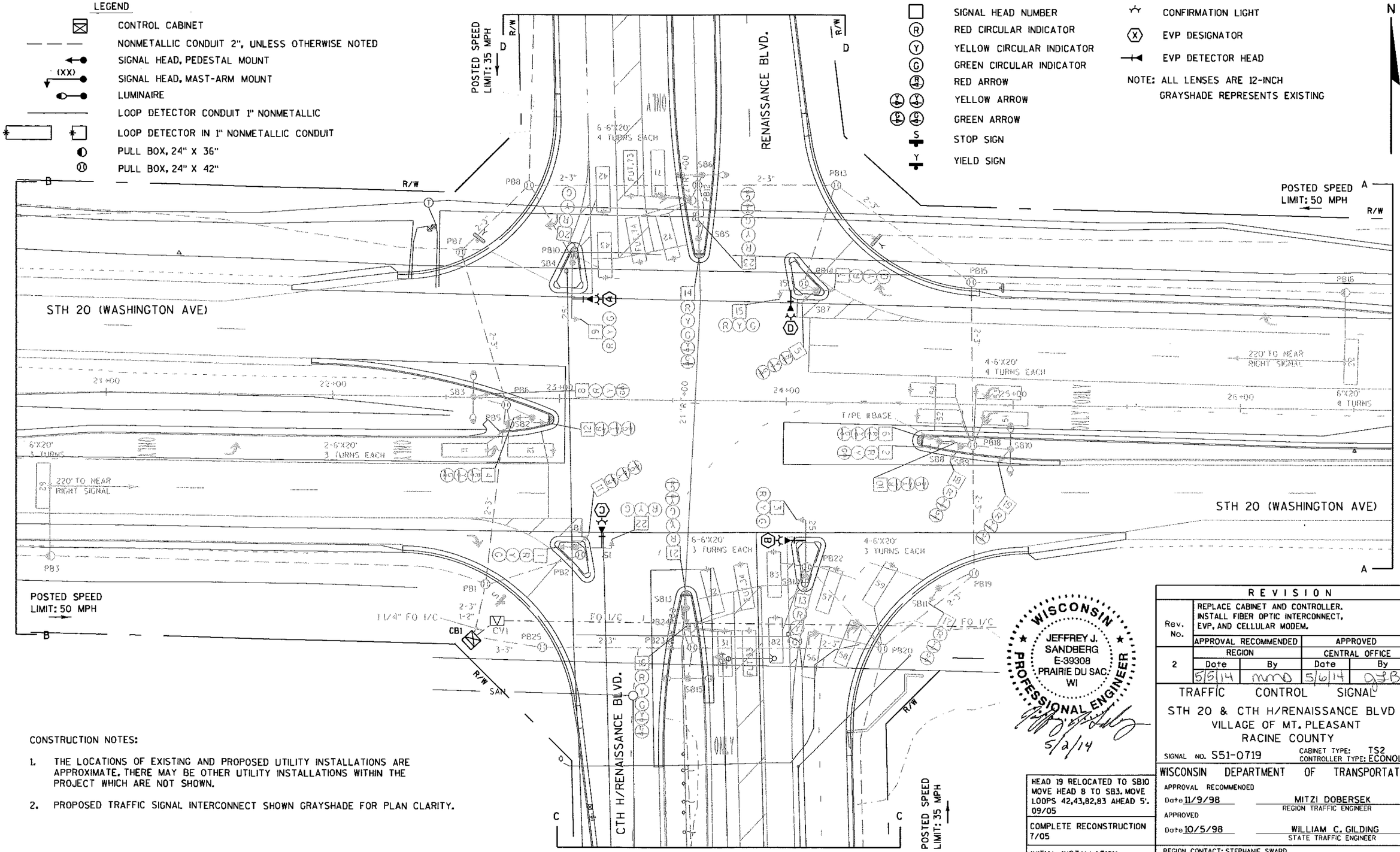
LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, PEDESTAL MOUNT
- (XX) SIGNAL HEAD, MAST-ARM MOUNT
- LUMINAIRE
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"

- SIGNAL HEAD NUMBER
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- STOP SIGN
- YIELD SIGN
- CONFIRMATION LIGHT
- EVP DESIGNATOR
- EVP DETECTOR HEAD

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

N



CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. PROPOSED TRAFFIC SIGNAL INTERCONNECT SHOWN GRAYSHADE FOR PLAN CLARITY.

WISCONSIN PROFESSIONAL ENGINEER
JEFFREY J. SANDBERG
E-39308
PRAIRIE DU SAC
WI
5/2/14

HEAD 19 RELOCATED TO SB10 MOVE HEAD 8 TO SB3. MOVE LOOPS 42,43,82,83 AHEAD 5'. 09/05

COMPLETE RECONSTRUCTION 7/05

INITIAL INSTALLATION DATE NOT AVAILABLE

REVISION				
Rev. No.	REPLACE CABINET AND CONTROLLER. INSTALL FIBER OPTIC INTERCONNECT, EVP, AND CELLULAR MODEM.			
	APPROVAL RECOMMENDED		APPROVED	
2	REGION		CENTRAL OFFICE	
	Date	By	Date	By
	5/5/14	mmo	5/6/14	GJB

TRAFFIC CONTROL SIGNAL

STH 20 & CTH H/RENAISSANCE BLVD
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0719 CABINET TYPE: TS2 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 11/9/98 MITZI DOBERSEK, REGION TRAFFIC ENGINEER

APPROVED
Date 10/5/98 WILLIAM C. GILDING, STATE TRAFFIC ENGINEER

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: TAD, INC.
REVISED BY: AECOM

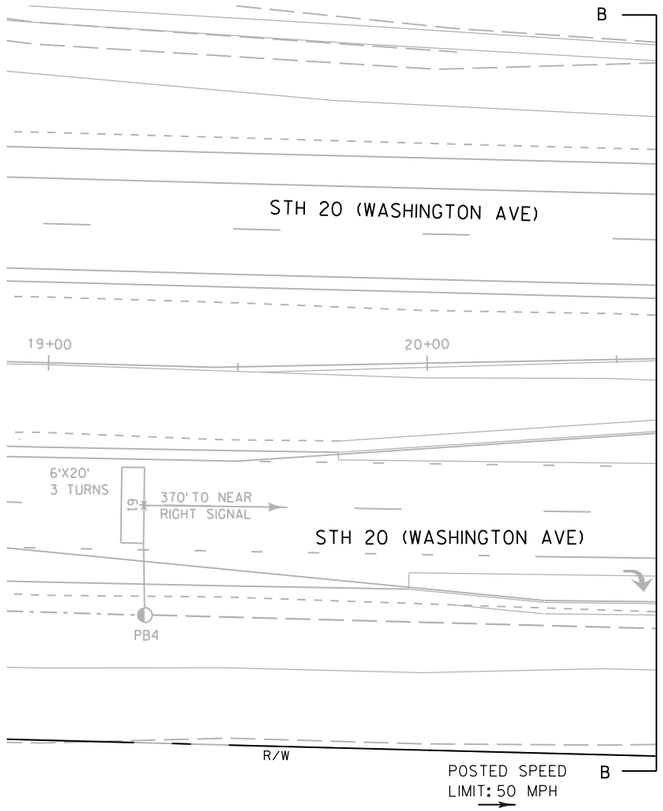
PAGE 1 OF 3

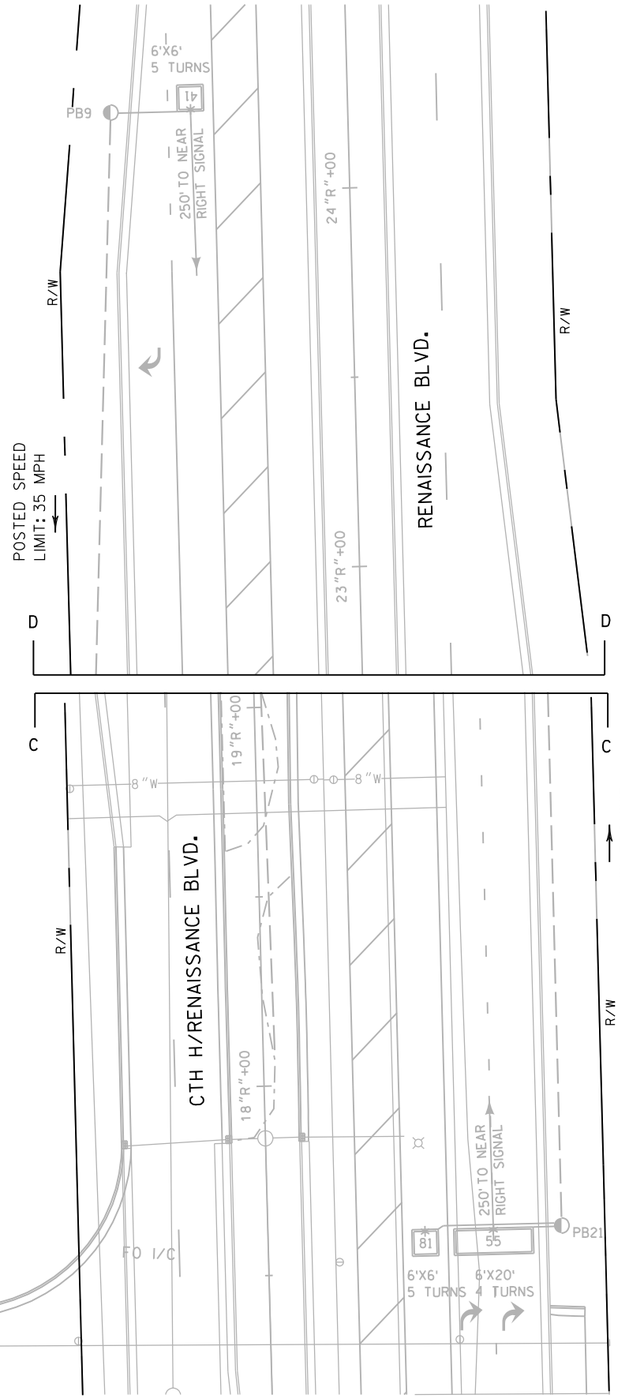
STS 5/6/14

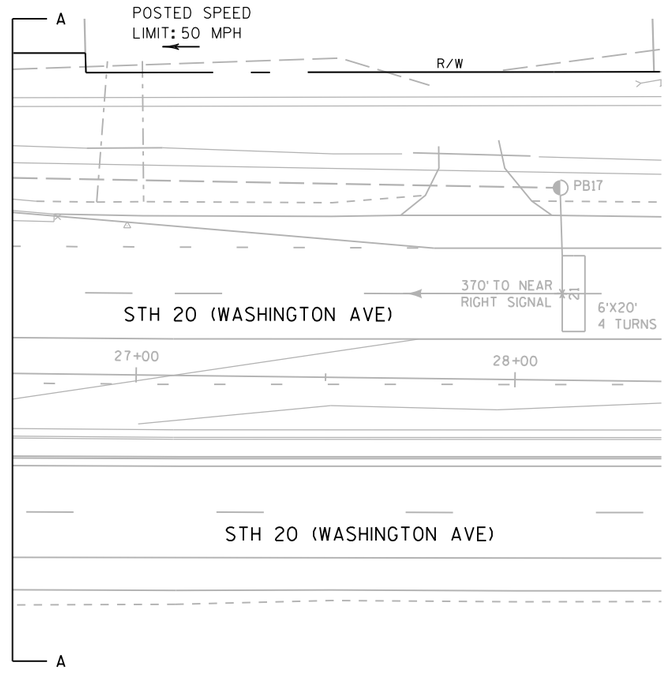
PROJECT NO: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 96	E

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WISDOT/CADDS SHEET 42







TRAFFIC CONTROL SIGNAL
STH 20 & CTH H/RENAISSANCE BLVD
VILLAGE OF MT. PLEASANT
RACINE COUNTY

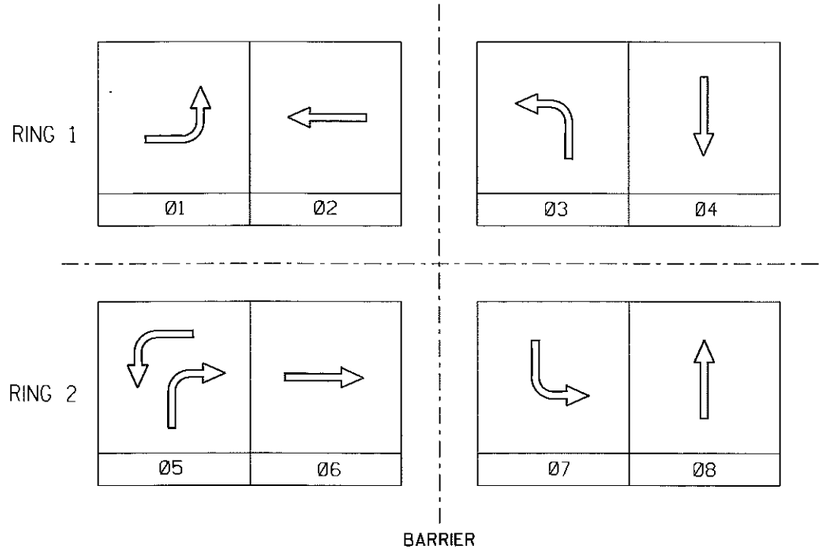
SIGNAL NO. S51-0719

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: TAD, INC.
REVISED BY: AECOM

PAGE 2 OF 3

PROJECT NO: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 97	E

	HEAD NUMBERS	FLASH
Ø1	4,5,6	-
Ø2	7,8,9	R
Ø3	14,16	-
Ø4	20,21,22,23	R
Ø5	10,11,12,17,18,19	-
Ø6	1,2,3	R
Ø7	21,23	-
Ø8	13,14,15,16	R
Ø2P		
Ø4P		
Ø6P		
Ø8P		



CONTROLLER LOGIC

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE DETECTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	1+6	4+8	4+8

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR*	
FIBER OPTIC*	x
FIBER OPTIC (ETHERNET)	
RADIO	
CELL MODEM	x

TYPE OF COORDINATION	
NONE	
TBC	x
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S51-0719
SIGNAL SYSTEM #:	SS-00-94

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR #(S)	11	21	31	33	41	43	51	53
CALLED PHASE	1	2	3	FUTURE	4	4	5	5
CALL OPTION	X	X	X			X	X	X
DELAY TIME								
EXTEND OPTION	X	X	X		X	X	X	X
EXTEND TIME					X			
USE ADDED INITIAL		X						
CROSS SWITCH PHASE			8					

DETECTOR INPUT	19	17	23	21	27	25	31	29
PLAN LOOP DETECTOR #(S)	55	57	59	61	71	73	81	83
CALLED PHASE	5	5	5	6	7	FUTURE	8	8
CALL OPTION		X	X	X	X			X
DELAY TIME			X					
EXTEND OPTION	X	X	X	X	X		X	X
EXTEND TIME	X						X	
USE ADDED INITIAL				X				
CROSS SWITCH PHASE					4			

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR #(S)	12	22	32	34	42		52	54
CALLED PHASE	1	2	3	FUTURE	4		5	5
CALL OPTION	X	X	X		X		X	X
DELAY TIME								
EXTENO OPTION	X	X	X		X		X	X
EXTEND TIME								
USE ADDED INITIAL		X						
CROSS SWITCH PHASE			8					

DETECTOR INPUT	20	18	24	22	28	26	32	30
PLAN LOOP DETECTOR #(S)	56	58		62	72	74	82	
CALLED PHASE	5	5		6	7	FUTURE	8	
CALL OPTION	X	X		X	X		X	
DELAY TIME		X						
EXTEND OPTION	X	X		X	X		X	
EXTEND TIME								
USE ADDED INITIAL				X				
CROSS SWITCH PHASE					4			

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	x
GTT	x
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

STH 20 & CTH H/RENAISSANCE BLVD
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0719 CABINET TYPE: TS2

CONTROLLER TYPE: ECONOLITE

DATE MAY 2014 PAGE NO. 3 OF 3

S51 5/6/14

5/5/14 mmd

PROJECT NO: 2340-00-73	HWY: STH 20	COUNTY: RACINE	SEQUENCE OF OPERATIONS	SHEET NO: 98	E

2

PROJECT ID:	2340-00-73
INTERSECTION:	STH 20 & CTH H/RENAISSANCE BLVD

SIGNAL WIRE	BLK-BLACK	RED-RED	GRN-GREEN
COLOR CODING	WHT-WHITE	BLU-BLUE	ORG-ORANGE

DATE: Apr-14

CB1 TO	AWG 14 # OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR							D/WALK	WALK	PED BUTTON	OTHER
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<FLASH YEL>	<GREEN>				
SB1	EXISTING	1											
		22											
		11											
SB2	EXISTING	4											
		12											
SB3	EXISTING	8											
SB4	EXISTING	9											
		20											
SB5	EXISTING	14											
		23											
SB7	EXISTING	7											
		15											
		5											
SB8	EXISTING	2											
		6											
		10											
SB9	EXISTING	18											
SB10	EXISTING	19											
SB11	EXISTING	17											
SB12	EXISTING	3											
		13											
SB13	EXISTING	16											
		21											

2

EQUIPMENT GROUNDING CONDUCTORS 10 AWG GRN XLP	
FROM	TO
EXISTING	

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
EXISTING	

LIGHTING UF 10 AWG W/ GROUND	
FROM	TO
EXISTING	

EMERGENCY VEHICLE PREEMPTION EVP DETECTOR CABLE UF 2-14 AWG GROUNDED (CONFIRMATION LIGHT)		
HEAD	FROM	TO
A	CB1	SB4
B	CB1	SB12
C	CB1	SB1
D	CB1	SB7

WISCONSIN
JEFFREY J. SANDBERG
E-39308
PRAIRIE DU SAC
WI
PROFESSIONAL ENGINEER
5/2/14

STH 20 & CTH H/RENAISSANCE BLVD
VILLAGE OF MT. PLEASANT
RACINE COUNTY

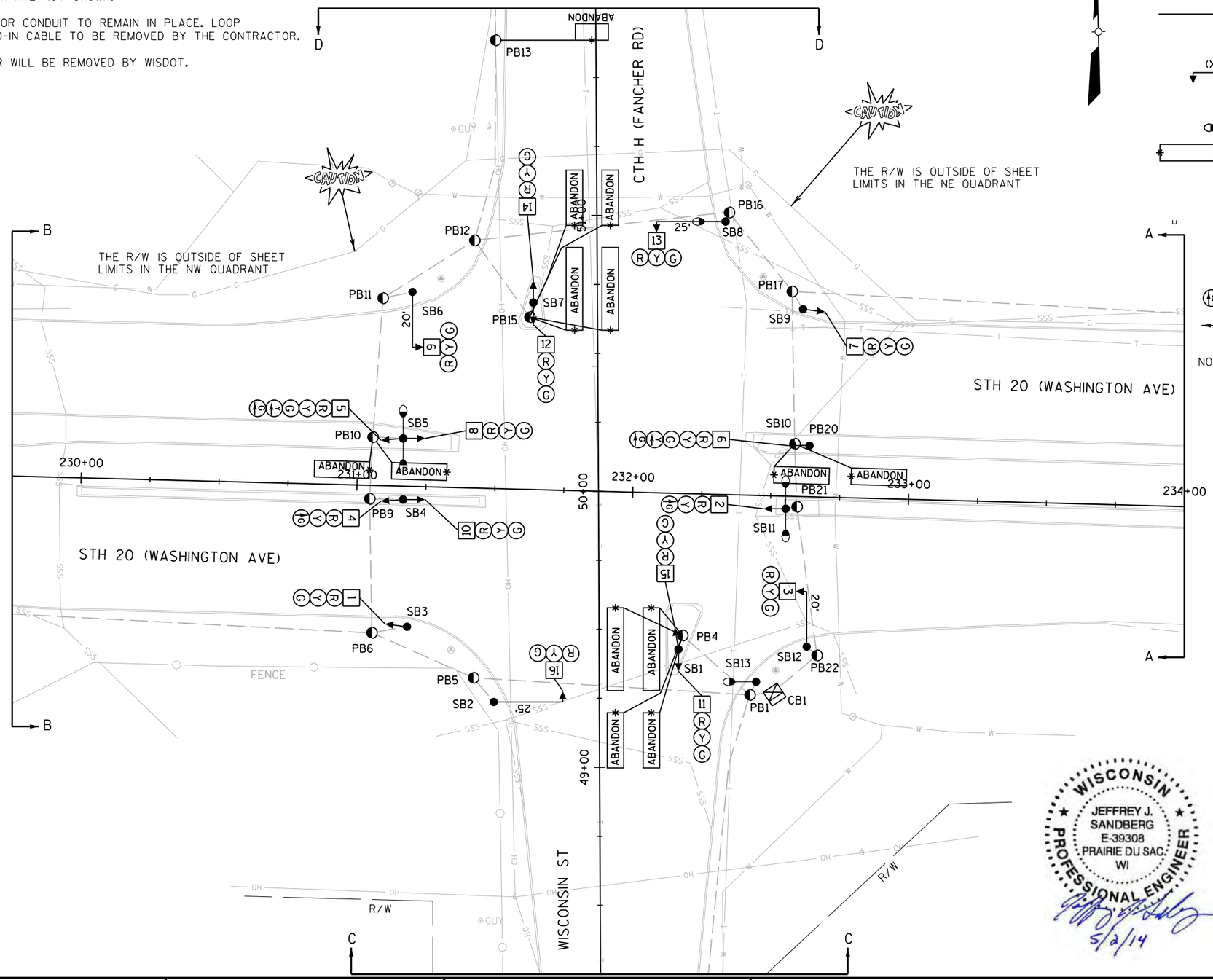
SIGNAL NO. S51-0719

CONTROLLER TYPE: ECONOLITE

DATE MAY 2014 PAGE NO. 1 OF 1

CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRE AND LEAD-IN CABLE TO BE REMOVED BY THE CONTRACTOR.
3. CABINET AND CONTROLLER WILL BE REMOVED BY WISDOT.



LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- YELLOW ARROW
- GREEN ARROW
- LANE DESIGNATION FOR INFO ONLY

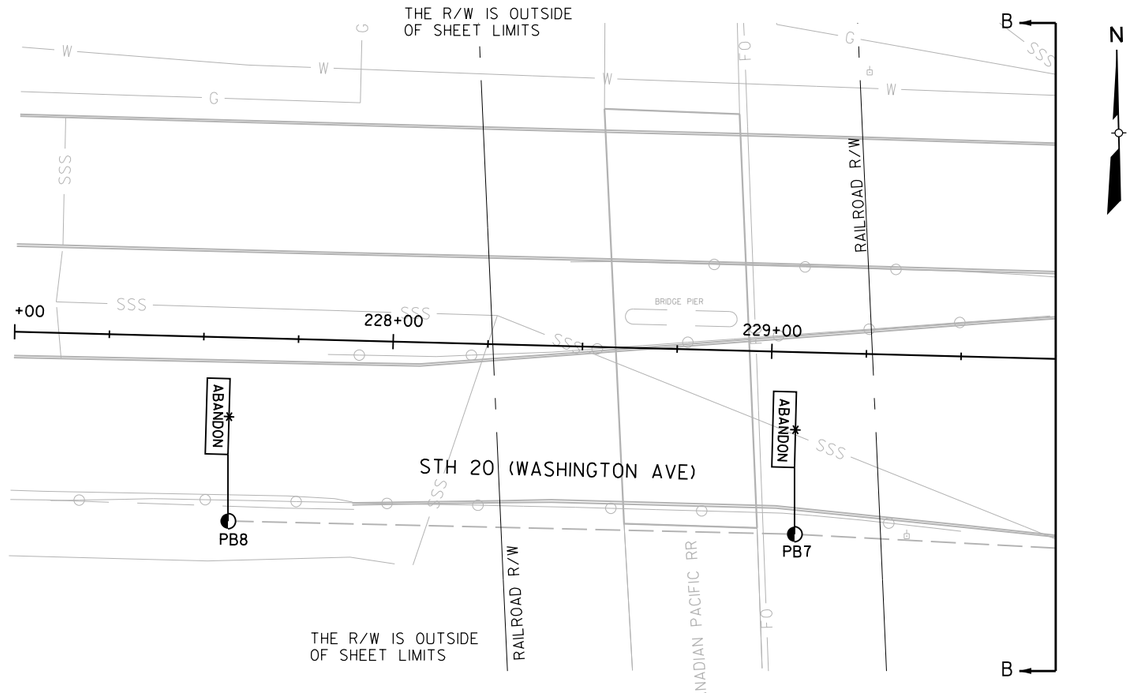
NOTE: GRAYSHADE REPRESENTS EXISTING
BOLD REPRESENTS ITEMS TO BE REMOVED

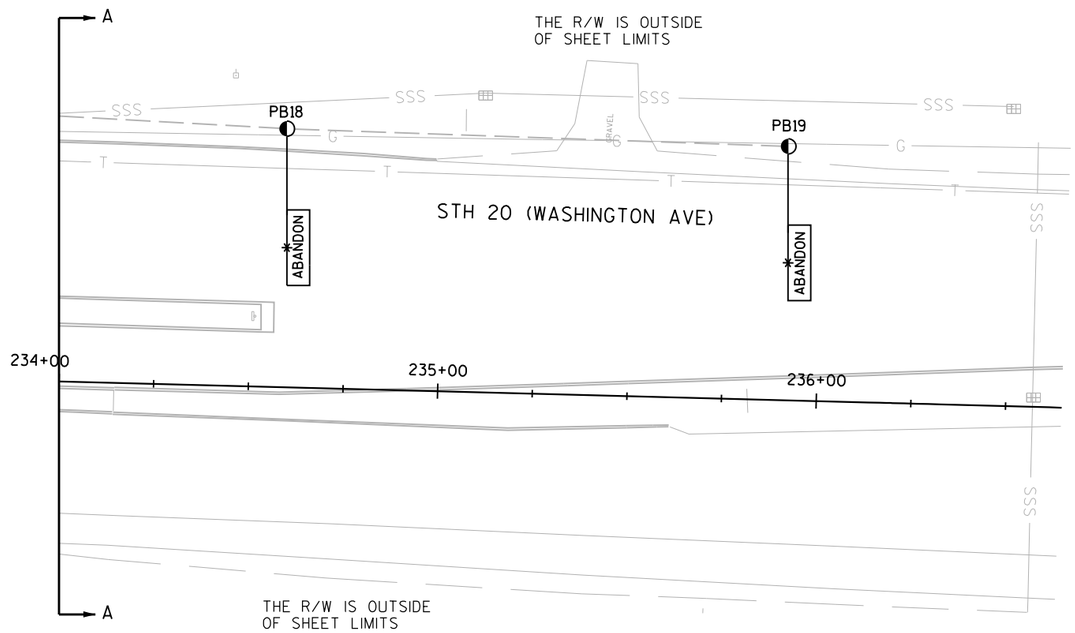
WISCONSIN
JEFFREY J. SANDBERG
E-39308
PRAIRIE DU SAC, WI
PROFESSIONAL ENGINEER
5/2/14

TRAFFIC CONTROL SIGNAL
STH 20 & CTH H/WISCONSIN ST
VILLAGE OF STURTEVANT/
VILLAGE OF MT. PLEASANT
RACINE COUNTY
SIGNAL NO. S51-0259
REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:
PAGE 1 OF 3

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 100	E

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PLOT TIME: 2:44:42 PM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42





TRAFFIC CONTROL SIGNAL
STH 20 & CTH H/WISCONSIN ST
VILLAGE OF STURTEVANT/
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0259

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 2 OF 3

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 101	E

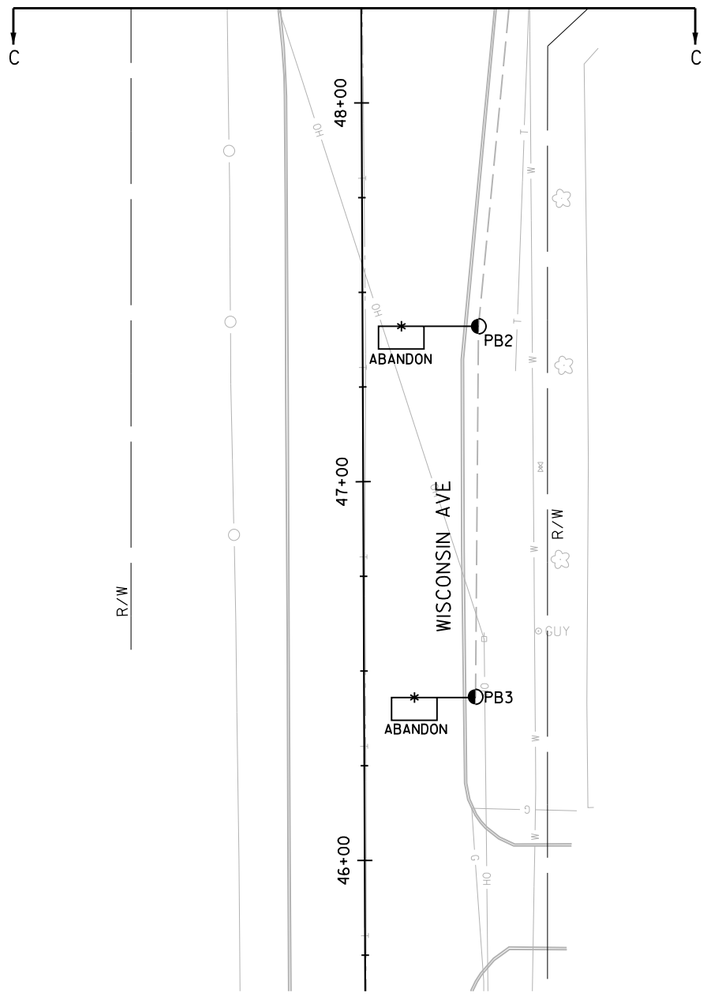
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BATCH PRINT SHEET 8 OF 45

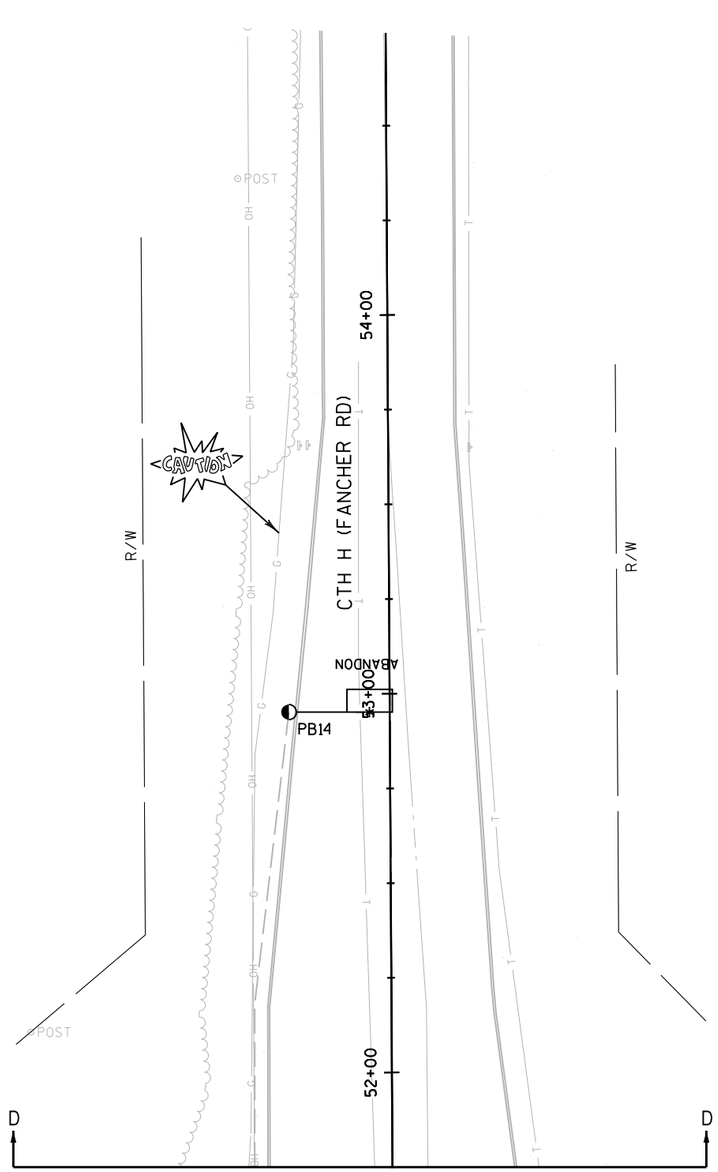
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PLOT DATE: 5/2/2014
PLOT TIME: 2:44:46 PM

PLOT SCALE: 1:40

WISDOT/CADDS SHEET 42





2

TRAFFIC CONTROL SIGNAL
STH 20 & CTH H/WISCONSIN ST
VILLAGE OF STURTEVANT/
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0259

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 3 OF 3

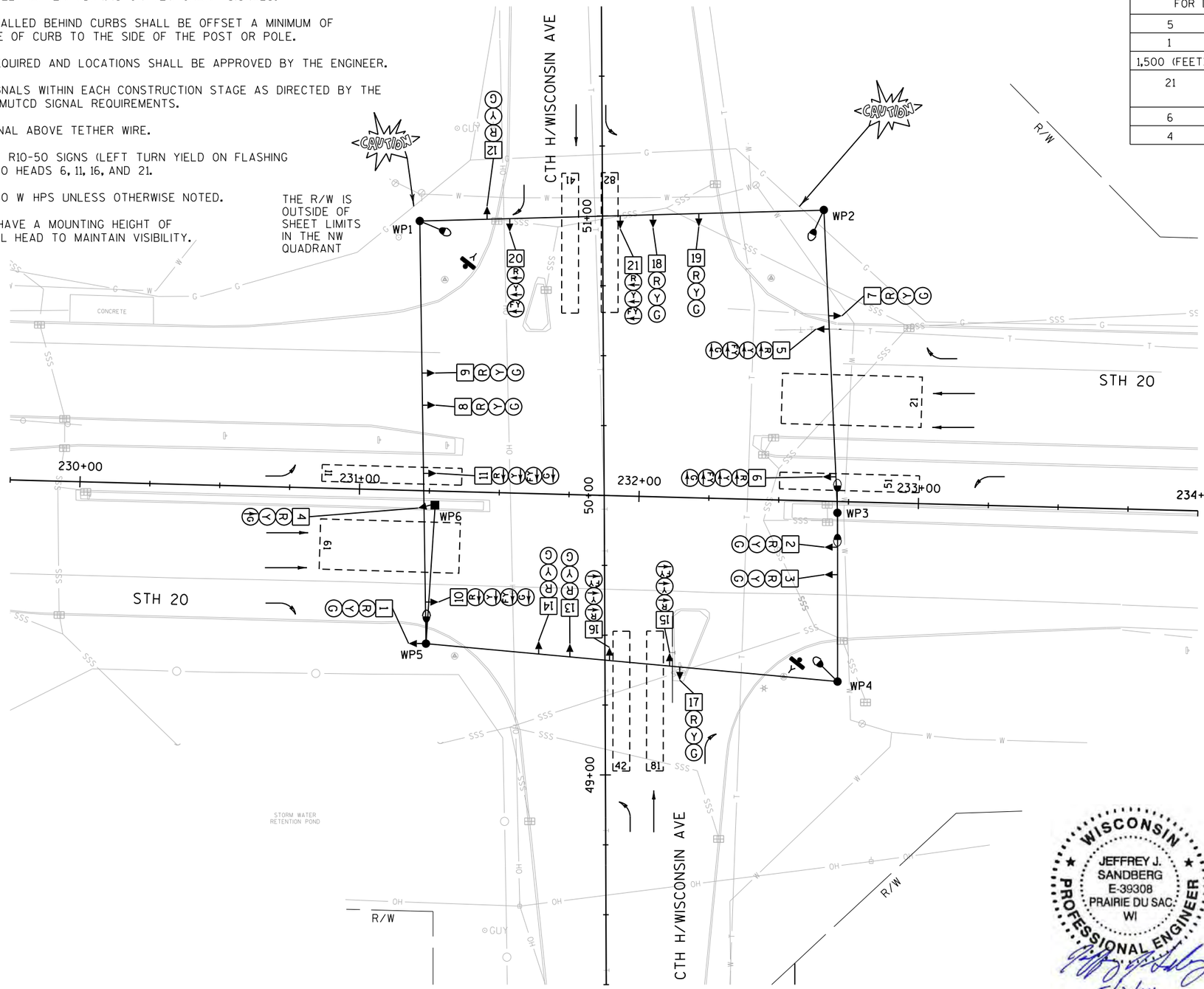
PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 102	E

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PLOT DATE: 5/2/2014
PLOT TIME: 2:44:50 PM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

CONSTRUCTION NOTES:

1. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
2. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POST OR POLE.
3. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
4. ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
5. MOUNT NEAR RIGHT SIGNAL ABOVE TETHER WIRE.
6. CONTRACTOR TO MOUNT R10-50 SIGNS (LEFT TURN YIELD ON FLASHING YELLOW ARROW) NEXT TO HEADS 6, 11, 16, AND 21.
7. ALL LUMINAIRES ARE 250 W HPS UNLESS OTHERWISE NOTED.
8. SIGNAL HEAD 4 SHALL HAVE A MOUNTING HEIGHT OF 4' TO BOTTOM OF SIGNAL HEAD TO MAINTAIN VISIBILITY.

SUMMARY OF MATERIALS FOR INFORMATION ONLY	
5	WOOD POLES, CLASS 4
1	WOOD POST OR TEMPORARY SKID TYPE
1,500 (FEET)	SPAN WIRE
21	TRAFFIC SIGNAL FACES (VERTICAL)
6	LUMINAIRES, 250 W
4	R10-50 SIGNS



N

LEGEND

- SPAN WIRE
- LUMINAIRE (250 W)
- CLASS 4 WOOD POLE
- WOOD POST OR TEMPORARY SKID TYPE
- SIGNAL HEAD, OVERHEAD MOUNT
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- (G) GREEN ARROW
- NON-INTRUSIVE DETECTION AREA
- WORK AREA
- BARRICADE
- TRAFFIC CONTROL DRUM
- S STOP SIGN
- Y YIELD SIGN
- LANE DESIGNATION FOR INFO ONLY

NOTE: ALL LENSES ARE 12-INCH

WISCONSIN
JEFFREY J. SANDBERG
E-39308
PRAIRIE DU SAC, WI
PROFESSIONAL ENGINEER
5/2/14

TRAFFIC CONTROL SIGNAL
STH 20 & CTH H/WISCONSIN ST
VILLAGE OF STURTEVANT/
VILLAGE OF MT. PLEASANT
RACINE COUNTY

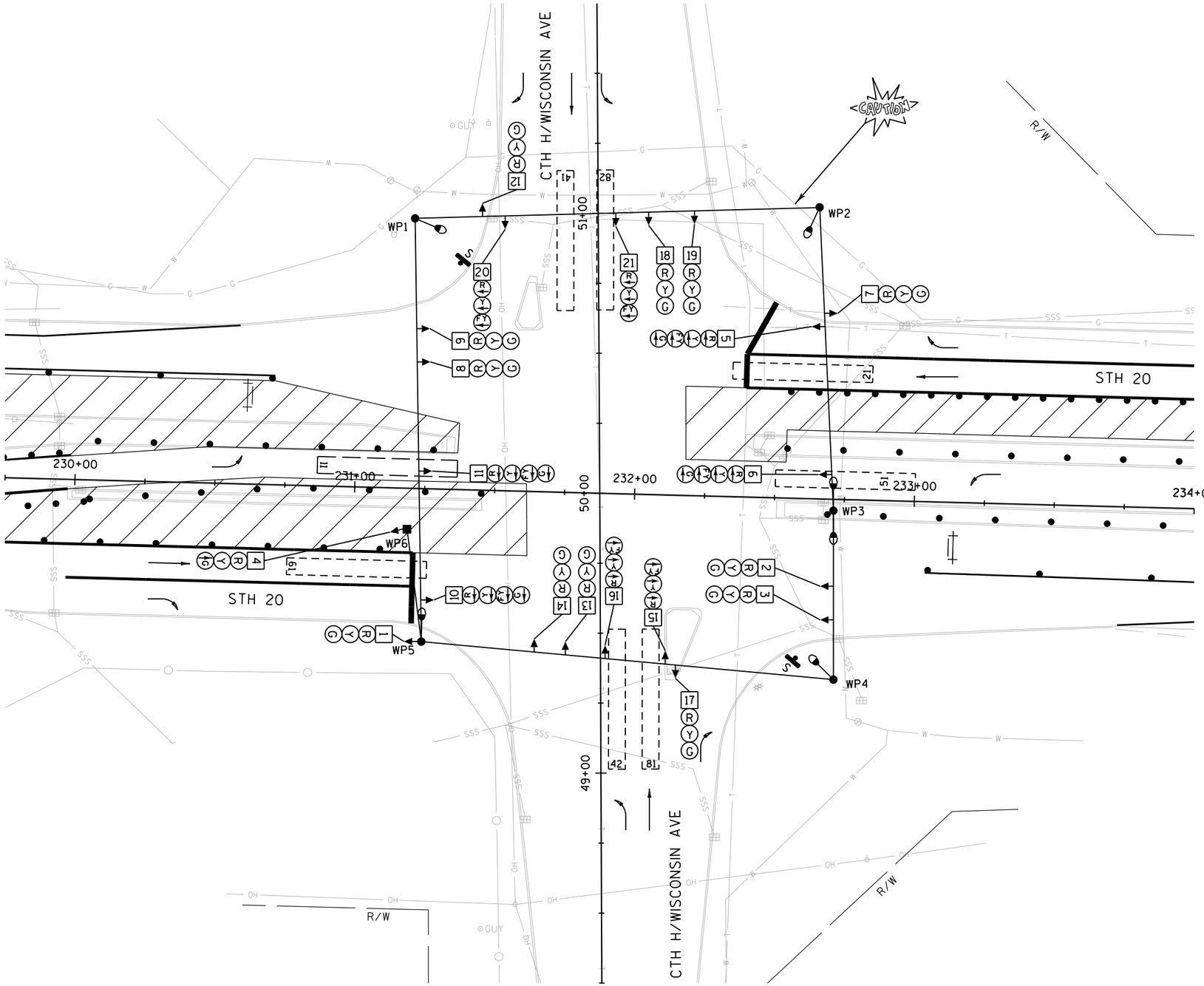
SIGNAL NO. S51-0259

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 1 OF 5

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TEMPORARY TRAFFIC SIGNAL PLAN - PRECONSTRUCTION STAGE	SHEET 103	E

2



N

LEGEND

- SPAN WIRE
- LUMINAIRE (250 W)
- CLASS 4 WOOD POLE
- WOOD POST OR TEMPORARY SKID TYPE
- SIGNAL HEAD, OVERHEAD MOUNT
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- (G) GREEN ARROW
- NON-INTRUSIVE DETECTION AREA
- WORK AREA
- BARRICADE
- TRAFFIC CONTROL DRUM
- S STOP SIGN
- Y YIELD SIGN
- LANE DESIGNATION FOR INFO ONLY

NOTE: ALL LENSES ARE 12-INCH

TRAFFIC CONTROL SIGNAL
STH 20 & CTH H/WISCONSIN ST
VILLAGE OF STURTEVANT/
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0259

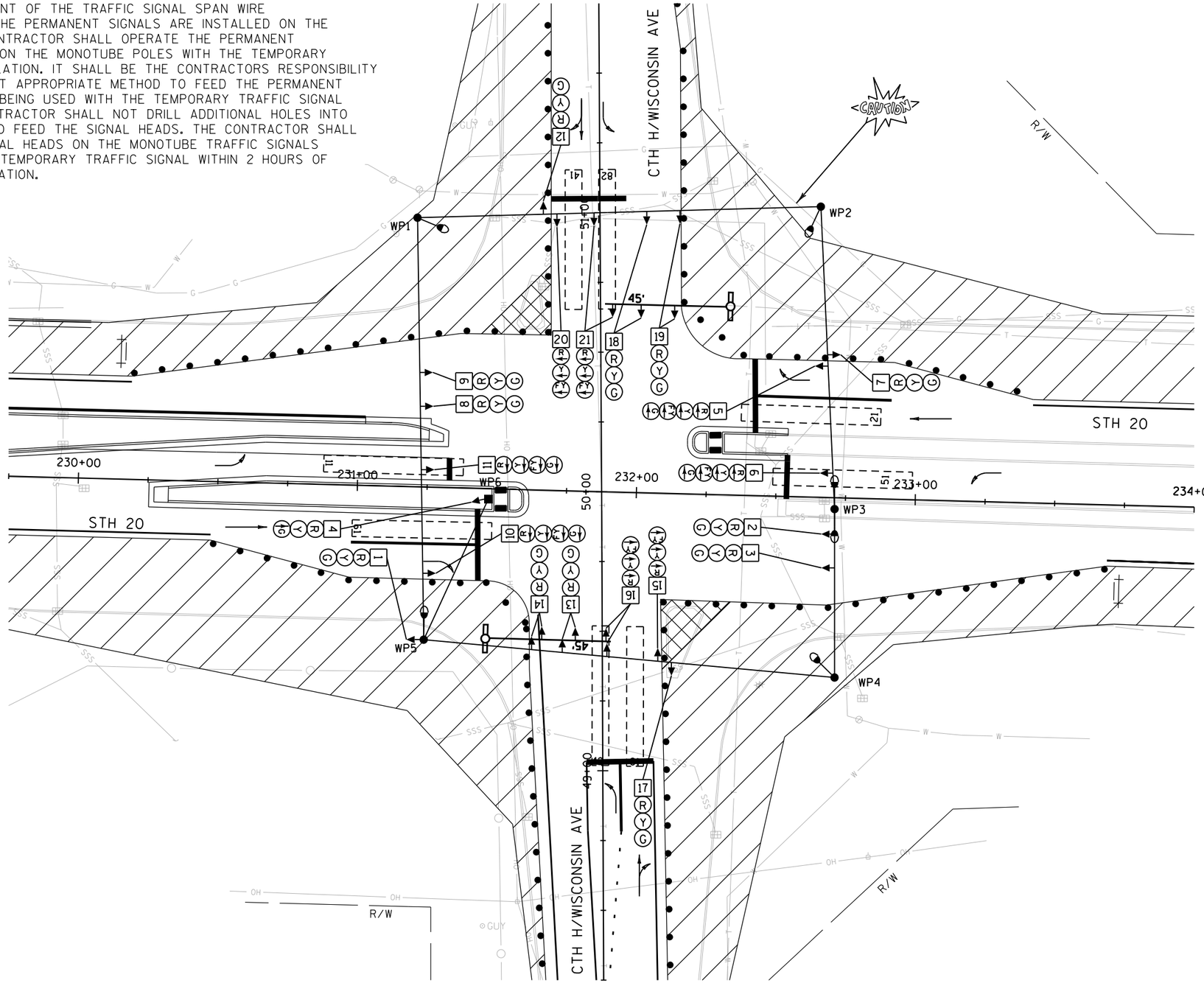
REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1	SHEET 104	E

FILE NAME: L:\work\projects\60222809\000.CAD\Signals\Temp_sig_sh2_CTH H.dgn
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PLOT DATE: 5/2/2014
PLOT TIME: 2:44:57 PM
PLOT SCALE: 1:40

NOTE:

THE TEMPORARY TRAFFIC SIGNAL HEADS INSTALLED ON THE TEMPORARY SIGNAL SPAN WIRE SHALL BE ACTIVE UNTIL THE MONOTUBE ARMS IN FRONT OF THE TRAFFIC SIGNAL SPAN WIRE ARE INSTALLED. ONCE THE PERMANENT SIGNALS ARE INSTALLED ON THE MONOTUBE ARM, THE CONTRACTOR SHALL OPERATE THE PERMANENT TRAFFIC SIGNAL HEADS ON THE MONOTUBE POLES WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE MOST APPROPRIATE METHOD TO FEED THE PERMANENT TRAFFIC SIGNAL HEADS BEING USED WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. THE CONTRACTOR SHALL NOT DRILL ADDITIONAL HOLES INTO THE MONOTUBE ARMS TO FEED THE SIGNAL HEADS. THE CONTRACTOR SHALL HAVE THE TRAFFIC SIGNAL HEADS ON THE MONOTUBE TRAFFIC SIGNALS OPERATIONAL WITH THE TEMPORARY TRAFFIC SIGNAL WITHIN 2 HOURS OF THE MONOTUBE INSTALLATION.



N

LEGEND

- SPAN WIRE
- LUMINAIRE (250 W)
- CLASS 4 WOOD POLE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- WOOD POST OR TEMPORARY SKID TYPE
- SIGNAL HEAD, OVERHEAD MOUNT
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- (G) GREEN ARROW
- NON-INTRUSIVE DETECTION AREA
- WORK AREA
- BARRICADE
- TRAFFIC CONTROL DRUM
- S STOP SIGN
- Y YIELD SIGN
- LANE DESIGNATION FOR INFO ONLY

NOTE: ALL LENSES ARE 12-INCH

TRAFFIC CONTROL SIGNAL
STH 20 & CTH H/WISCONSIN ST
VILLAGE OF STURTEVANT/
VILLAGE OF MT. PLEASANT
RACINE COUNTY

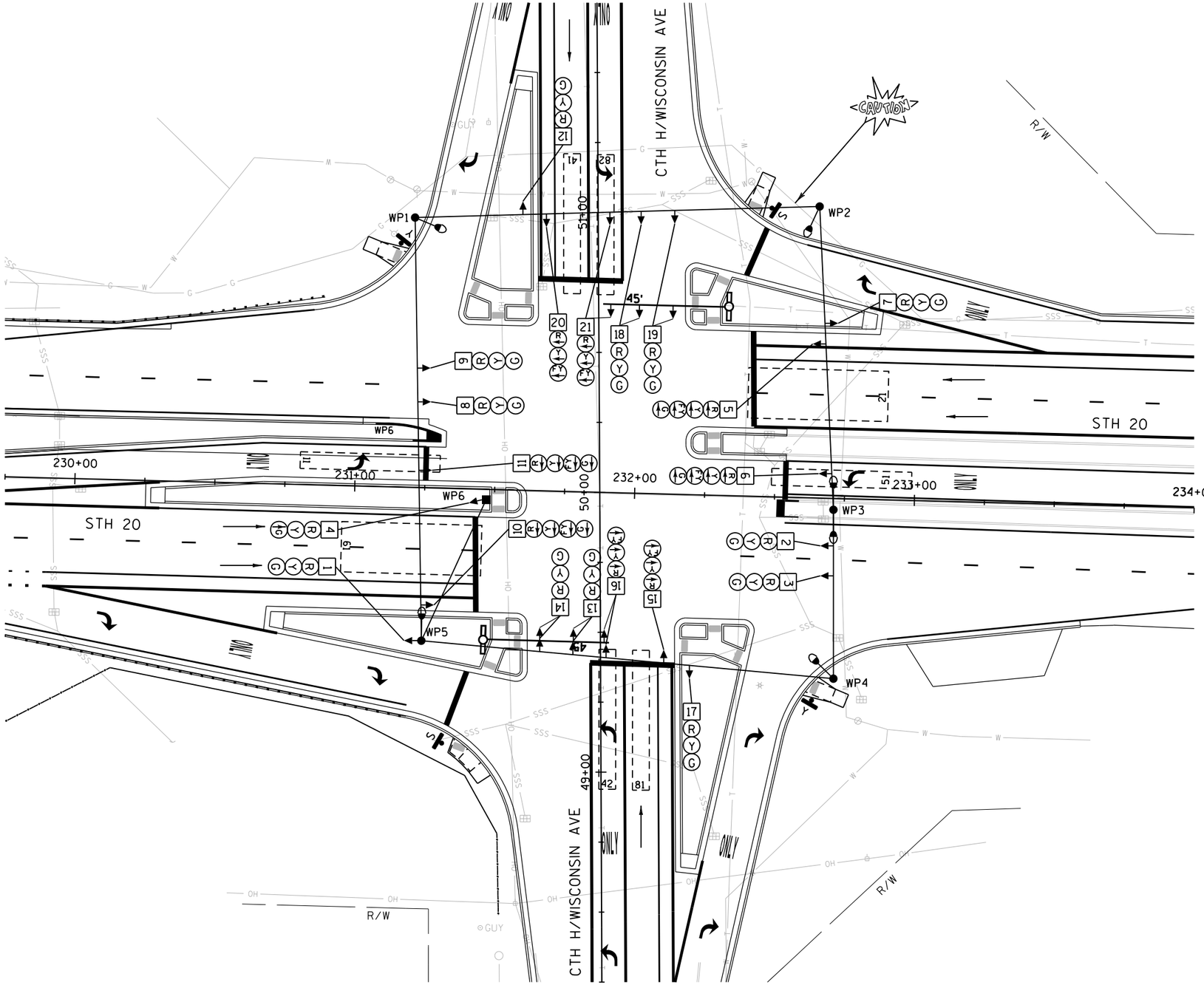
SIGNAL NO. S51-0259

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 2	SHEET 105	E

FILE NAME: L:\work\projects\60222809\000_CAD\Signals\Temp_sig_sh3_CTH H.dgn
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PLOT DATE: 5/2/2014
PLOT TIME: 2:45:02 PM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2



N

LEGEND

- SPAN WIRE
- LUMINAIRE (250 W)
- CLASS 4 WOOD POLE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- WOOD POST OR TEMPORARY SKID TYPE
- SIGNAL HEAD, OVERHEAD MOUNT
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- (G) GREEN ARROW
- NON-INTRUSIVE DETECTION AREA
- WORK AREA
- BARRICADE
- TRAFFIC CONTROL DRUM
- S STOP SIGN
- Y YIELD SIGN
- LANE DESIGNATION FOR INFO ONLY

NOTE: ALL LENSES ARE 12-INCH

TRAFFIC CONTROL SIGNAL
STH 20 & CTH H/WISCONSIN ST
VILLAGE OF STURTEVANT/
VILLAGE OF MT. PLEASANT
RACINE COUNTY

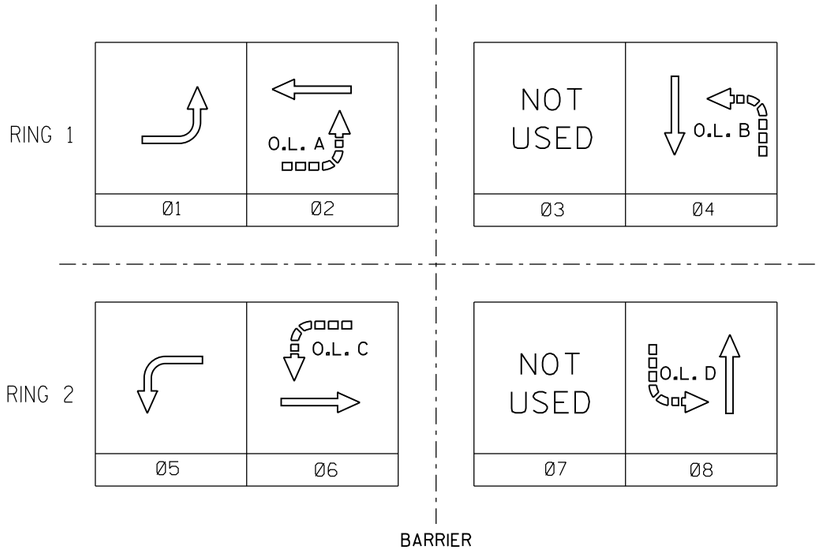
SIGNAL NO. S51-0259

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TEMPORARY TRAFFIC SIGNAL PLAN - POST CONSTRUCTION STAGE	SHEET 106	E

FILE NAME: L:\work\projects\60222809\000_CAD\Signals\Temp_sig_sh4_CTH H.dgn
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PLOT DATE: 5/2/2014
PLOT TIME: 2:45:05 PM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1	5,6	-
Ø2	7,8,9	R
Ø3		
Ø4	12,13,14	R
Ø5	10,11	-
Ø6	1,2,3,4	R
Ø7		
Ø8	17,18,19	R
OLA	5,6	R
OLB	20,21	R
OLC	10,11	R
OLD	15,16	R



CONTROLLER LOGIC

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

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	X
CLOSED LOOP	
TWISTED PAIR*	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	

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

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

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

DETECTOR LOGIC

DETECTOR NUMBER	DETECTOR INPUT	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
11		X			1	1					
21		X			2	2					
41		X			4	4					
42		X			4	4		X			
51		X			5	5					
61		X			6	6					
81		X			8	8					
82		X			8	8		X			

STH 20 & CTH H/WISCONSIN ST
VILLAGE OF MT. PLEASANT
VILLAGE OF STRURTEVANT
RACINE COUNTY

SIGNAL NO. S51-0259

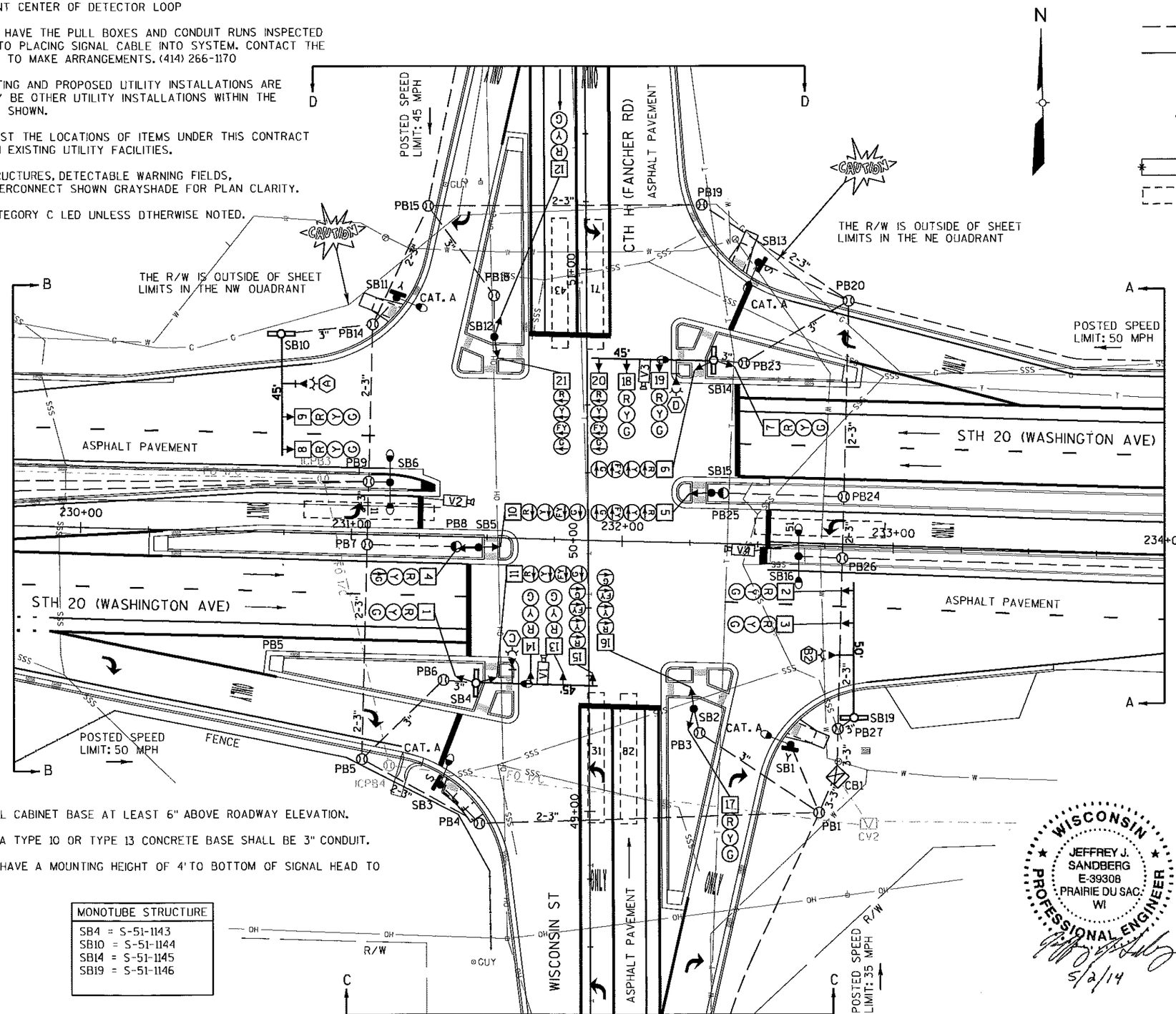
CONTROLLER TYPE: TEMP

DATE MAY 2014 PAGE NO. 5 OF 5

PROJECT NO: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TEMPORARY TRAFFIC SIGNAL SEQUENCE OF OPERATIONS	SHEET 107	E

CONSTRUCTION NOTES:

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL UNIT TO MAKE ARRANGEMENTS. (414) 266-1170
3. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
4. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
5. PROPOSED DRAINAGE STRUCTURES, DETECTABLE WARNING FIELDS, AND TRAFFIC SIGNAL INTERCONNECT SHOWN GRAYSHADE FOR PLAN CLARITY.
6. ALL LUMINAIRES ARE CATEGORY C LED UNLESS DTHERWISE NOTED.



LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- VIDEO DETECTION ZONE
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- Y YIELD SIGN
- S STOP SIGN
- VX VIDEO DETECTION CAMERA
- CONFIRMATION LIGHT
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONDUIT STUBOUT
- LANE DESIGNATION FOR INFO ONLY

NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING

7. INSTALL TRAFFIC SIGNAL CABINET BASE AT LEAST 6" ABOVE ROADWAY ELEVATION.
8. CONDUIT EMBEDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3" CONDUIT.
9. SIGNAL HEAD 4 SHALL HAVE A MOUNTING HEIGHT OF 4' TO BOTTOM OF SIGNAL HEAD TO MAINTAIN VISIBILITY.

MONOTUBE STRUCTURE
SB4 = S-51-1143
SB10 = S-51-1144
SB14 = S-51-1145
SB19 = S-51-1146

WISCONSIN PROFESSIONAL ENGINEER
JEFFREY J. SANDBERG
E-39308
PRAIRIE DU SAC, WI
5/2/14

TRAFFIC CONTROL SIGNAL
STH 20 & CTH H/WISCONSIN ST
VILLAGE OF STURTEVANT/
VILLAGE OF MT PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0259 CABINET TYPE: TS2 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED Date 5/5/14 — REGION TRAFFIC ENGINEER

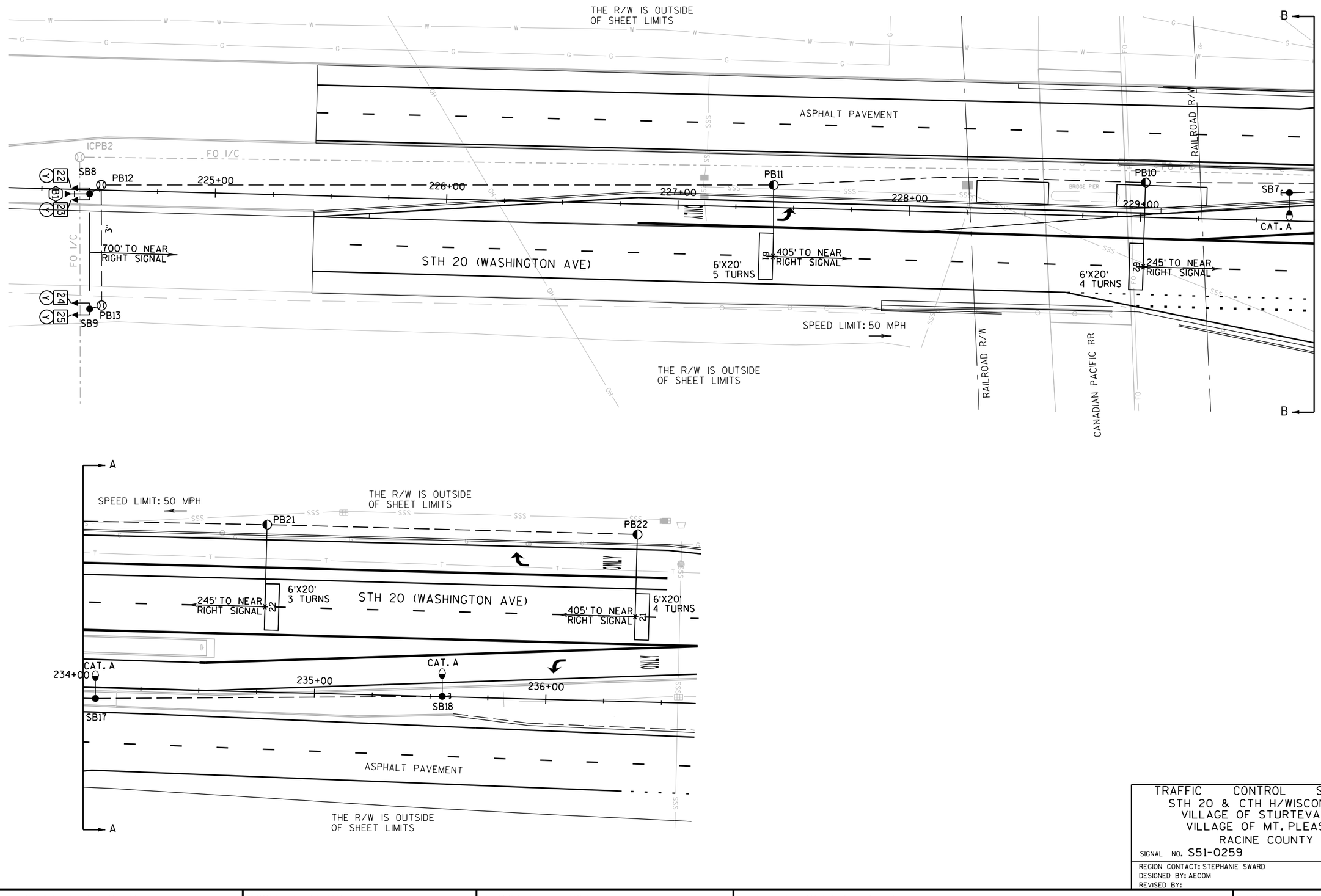
APPROVED Date 5/6/14 — STATE TRAFFIC ENGINEER

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 1 OF 4

SJS 5/6/14

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 108 E



TRAFFIC CONTROL SIGNAL
STH 20 & CTH H/WISCONSIN ST
VILLAGE OF STURTEVANT/
VILLAGE OF MT. PLEASANT
RACINE COUNTY

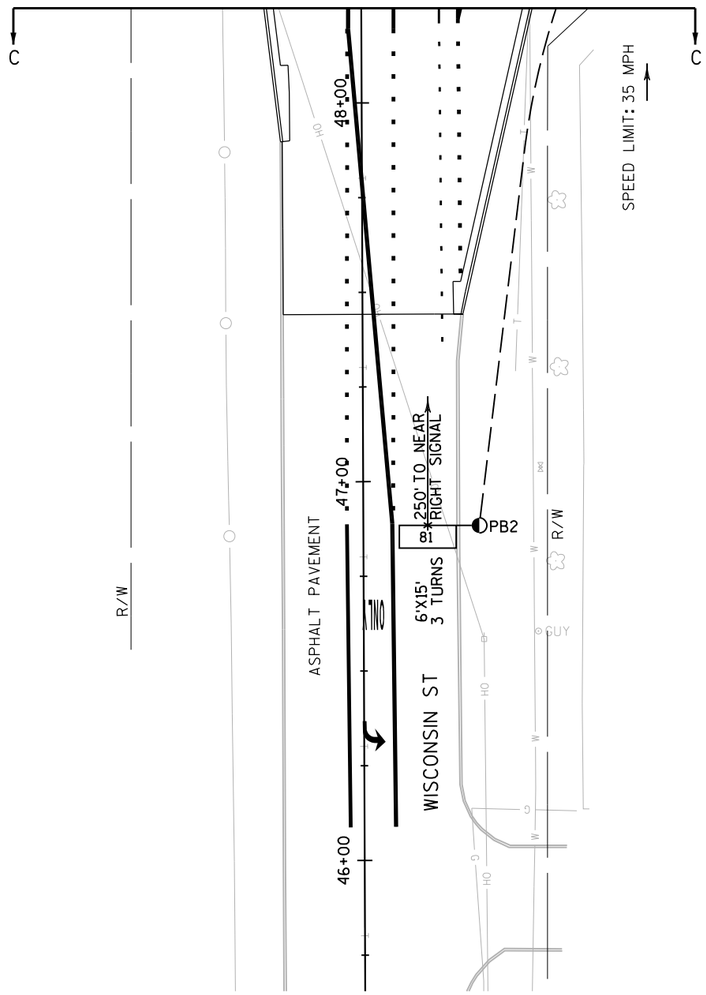
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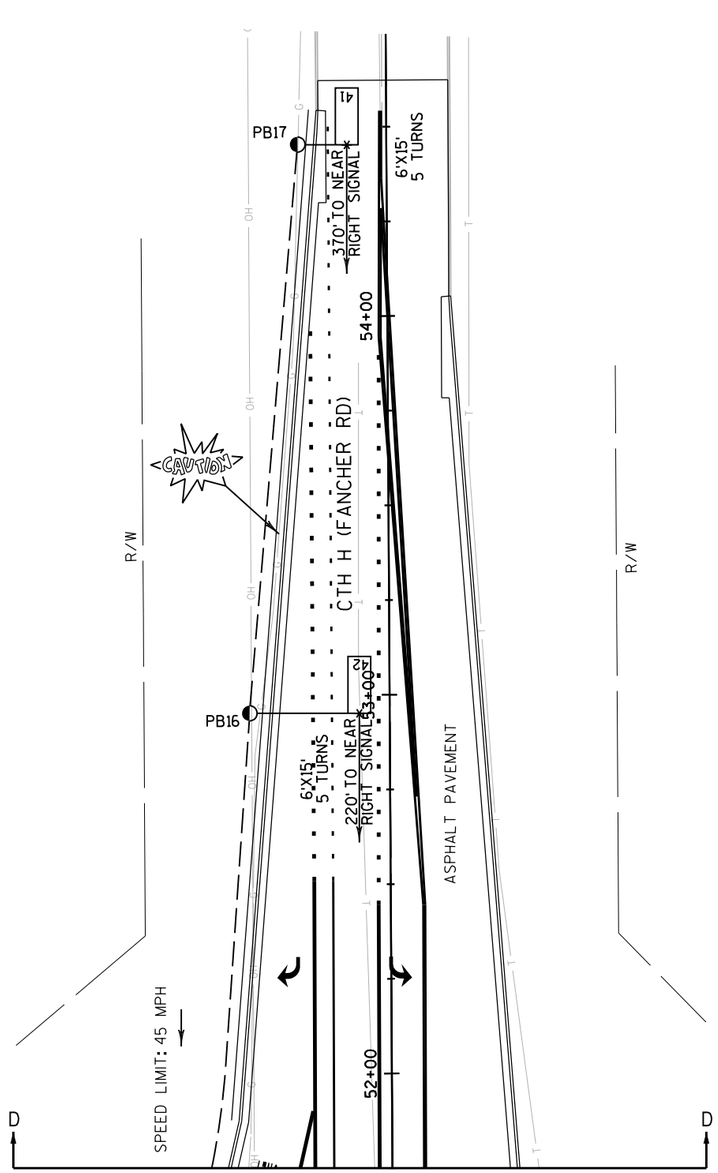
REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 2 OF 4

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 109	E

2





TRAFFIC CONTROL SIGNAL
STH 20 & CTH H/WISCONSIN ST
VILLAGE OF STURTEVANT/
VILLAGE OF MT. PLEASANT
RACINE COUNTY

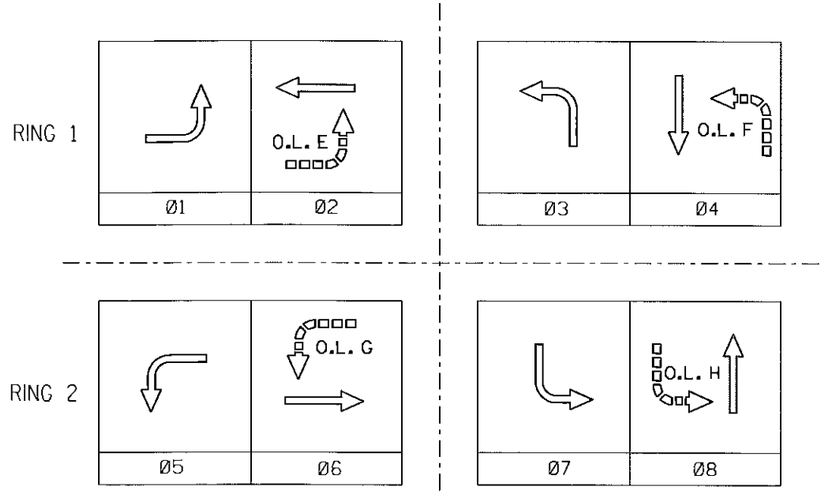
SIGNAL NO. S51-0259

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 3 OF 4

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 110	E

	HEAD NUMBERS	FLASH
Ø1	5,6	-
Ø2	7,8,9	R
Ø3	20,21	-
Ø4	12,13,14	R
Ø5	10,11	-
Ø6	1,2,3,4	R
Ø7	15,16	-
Ø8	17,18,19	R
OLE	5,6	R
OLF	20,21	R
OLG	10,11	R
OLH	15,16	R
BCN	22,23,24,25	FY





BCN = "PREPARE TO STOP WHEN FLASHING" BEACON

PREPARE TO STOP WHEN FLASHING BEACON SHALL DEACTIVATE AT START OF PHASE 6 GREEN INTERVAL AND REACTIVATE 8 SECONDS PRIOR TO START OF PHASE 6 YELLOW INTERVAL

PREPARE TO STOP WHEN FLASHING BEACONS SHALL FLASH ALTERNATELY ON EACH POLE

CONTROLLER LOGIC

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

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
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:	S51-0719
SIGNAL SYSTEM *:	SS-00-94

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE DETECTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	1+6	4+7	3+8

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR *(S)	21	41	61	81				
CALLED PHASE	2	4	6	8				
CALL OPTION	X		X					
DELAY TIME								
EXTEND OPTION	X	X	X	X				
EXTEND TIME		X		X				
USE ADDED INITIAL	X		X					
CROSS SWITCH PHASE								

19	17	23	21	27	25	31	29	DETECTOR INPUT
11	43	71						PLAN LOOP DETECTOR *(S)
1	4	7						CALLED PHASE
X	X	X						CALL OPTION
		X						DELAY TIME
X	X	X						EXTEND OPTION
								EXTEND TIME
								USE ADDED INITIAL
2		8						CROSS SWITCH PHASE

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR *(S)	22	42	62					
CALLED PHASE	2	4	6					
CALL OPTION	X		X					
DELAY TIME								
EXTEND OPTION	X	X	X					
EXTEND TIME		X						
USE ADDED INITIAL	X		X					
CROSS SWITCH PHASE								

20	18	24	22	28	26	32	30	DETECTOR INPUT
31	51	82						PLAN LOOP DETECTOR *(S)
3	5	8						CALLED PHASE
X	X	X						CALL OPTION
X								DELAY TIME
X	X	X						EXTEND OPTION
								EXTEND TIME
								USE ADDED INITIAL
4	6							CROSS SWITCH PHASE

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

STH 20 & CTH H/WISCONSIN ST
VILLAGE OF MT. PLEASANT
VILLAGE OF STRURTEVANT
RACINE COUNTY

SIGNAL NO. S51-0259 CABINET TYPE: TS2

CONTROLLER TYPE: ECONOLITE

DATE MAY 2014 PAGE NO. 4 OF 4

SJS 5/6/14

amw 4/5/14

PROJECT NO: 2340-00-73 | HWY: STH 20 | COUNTY: RACINE | SEQUENCE OF OPERATIONS | SHEET 111 | E

FILE NAME : L:\work\projects\60222809\000_CAD\Signals\Econolite_CTH H.dgn PLOT DATE : 5/2/2014 PLOT BY : $$...plotuser...$$ PLOT NAME : S-400,seq,rev2 PLOT SCALE : 1:480

WISDOT/CADDS SHEET 42

2

PROJECT ID:	2340-00-73
INTERSECTION:	STH 20 & CTH H/WISCONSIN ST

SIGNAL WIRE	BLK-BLACK	RED-RED	GRN-GREEN
COLOR CODING	WHT-WHITE	BLU-BLUE	ORG-ORANGE

DATE: Apr-14

CB1 TO	AWG 14 # OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR							D/WALK	WALK	PED BUTTON	OTHER
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<FLASH YEL>	<GREEN>				
SB2	12	17	RED	ORG	GRN								
		16				RED/BLK	ORG/BLK	BLK/WHT	GRN/BLK				
SB4	21	13	RED	ORG	GRN								
		14	RED	ORG	GRN								
		15				RED/BLK	ORG/BLK	BLK/WHT	GRN/BLK				
		1	RED/WHT	ORG/RED	GRN/WHT								
		11				RED/GRN	ORG/GRN	BLK/RED	BLU/RED				
SB5	12	4	RED	ORG					GRN				
		10				RED/BLK	ORG/BLK	BLK/WHT	GRN/BLK				
SB8	7	22						ORG					
		23						RED					
SB9	7	24						ORG					
		25						RED					
SB10	12	8	RED	ORG	GRN								
		9	RED	ORG	GRN								
SB12	12	21				RED	ORG	BLK/WHT	GRN				
		12	RED/BLK	ORG/BLK	GRN/BLK								
SB14	21	18	RED	ORG	GRN								
		19	RED	ORG	GRN								
		20				RED/BLK	ORG/BLK	BLK/WHT	GRN/BLK				
		6				RED/WHT	ORG/RED	BLK/RED	GRN/WHT				
		7	RED/GRN	ORG/GRN	BLU/RED								
SB15	12	5				RED	ORG	BLK/WHT	GRN				
SB19	12	2	RED	ORG	GRN								
		3	RED	ORG	GRN								



STH 20 & CTH H/WISCONSIN ST
VILLAGE OF STURTEVANT/
VILLAGE OF MT PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0259

CONTROLLER TYPE: ECONOLITE

DATE MAY 2014 PAGE NO. 1 OF 2

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	CABLE ROUTING	SHEET 112	E

FILE NAME: L:\work\projects\6022809\000.CAD\Signals\cable_CTH H_sh01.dgn
BATCH PRINT SHEET 19 OF 45

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PLOT DATE: 5/2/2014
PLOT TIME: 2:45:26 PM

PLOT SCALE: 1:40

WISDOT/CADDS SHEET 42

2

EQUIPMENT GROUNDING CONDUCTORS 10 AWG GRN XLP	
FROM	TO
CB1	SB2
SB2	SB4
SB4	SB5
SB5	SB8
SB8	SB9
SB9	SB10
SB10	SB12
SB12	SB14
SB14	SB15
SB15	SB19
SB19	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	CB1
PB3	SB2
PB4	SB3
PB5	SB4
PB6	SB4
PB7	SB5
PB8	SB5
PB9	SB6
PB10	SB6
PB11	SB8
PB12	SB8
PB13	SB9
PB14	SB11
PB15	SB12
PB18	SB12
PB19	SB13
PB20	SB13
PB23	SB14
PB24	SB15
PB25	SB15
PB26	SB16
PB27	CB1

LIGHTING UF 10 AWG W/ GROUND	
FROM	TO
CB1	SB1
SB1	SB3
SB3	SB4
SB4	SB6
SB6	SB7
SB6	SB11
CB1	SB16
SB16	SB17
SB17	SB18
SB16	SB14
SB14	SB13

EMERGENCY VEHICLE PREEMPTION EVP DETECTOR CABLE		
HEAD	FROM	TO
A	CB1	SB10
B1	CB1	SB8
B2	CB1	SB19
C	CB1	SB4
D	CB1	SB14

EMERGENCY VEHICLE PREEMPTION UF 2-14 AWG GROUNDED (CONFIRMATION LIGHT)		
HEAD	FROM	TO
A	CB1	SB10
B2	CB1	SB19
C	CB1	SB4
D	CB1	SB14

VIDEO DETECTION CABLE	
FROM	TO
CB1	V1
CB1	V2
CB1	V3
CB1	V4

2

NOTES:
1. USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
2. ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.

STH 20 & CTH H/WISCONSIN ST
VILLAGE OF STURTEVANT/
VILLAGE OF MT PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0259

CONTROLLER TYPE: ECONOLITE

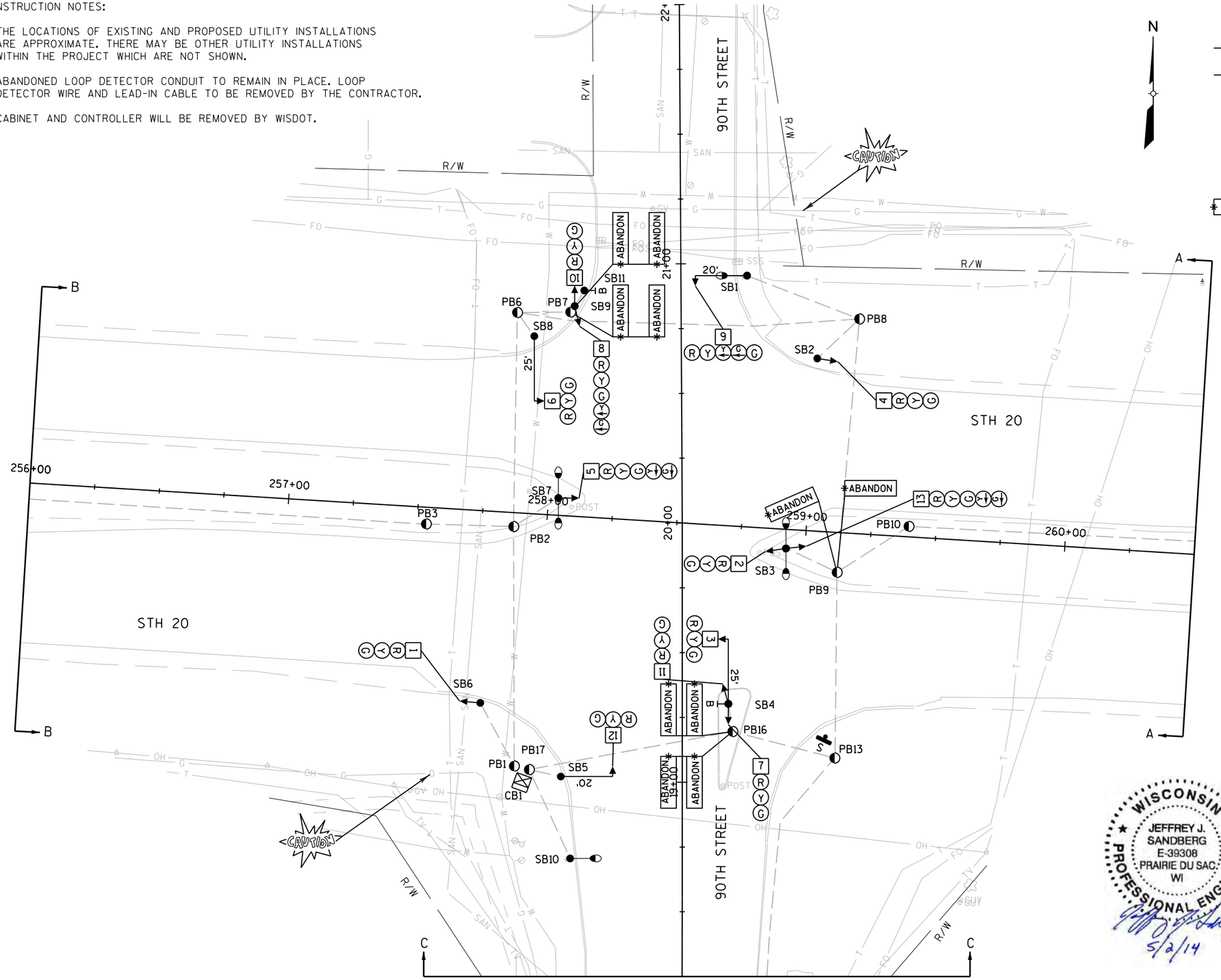
DATE MAY 2014 PAGE NO. 2 OF 2

PROJECT NUMBER: 2340-00-73 | HWY: STH 20 | COUNTY: RACINE | CABLE ROUTING | SHEET 113 | E

2

CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRE AND LEAD-IN CABLE TO BE REMOVED BY THE CONTRACTOR.
3. CABINET AND CONTROLLER WILL BE REMOVED BY WISDOT.



LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- YELLOW ARROW
- GREEN ARROW
- S STOP SIGN
- LANE DESIGNATION FOR INFO ONLY

NOTE: GRAYSHADE REPRESENTS EXISTING
BOLD REPRESENTS ITEMS TO BE REMOVED

2

WISCONSIN
JEFFREY J. SANDBERG
E-39308
PRAIRIE DU SAC. WI
PROFESSIONAL ENGINEER
5/2/14

TRAFFIC CONTROL SIGNAL
STH 20 & 90TH STREET
VILLAGE OF MT. PLEASANT
RACINE COUNTY

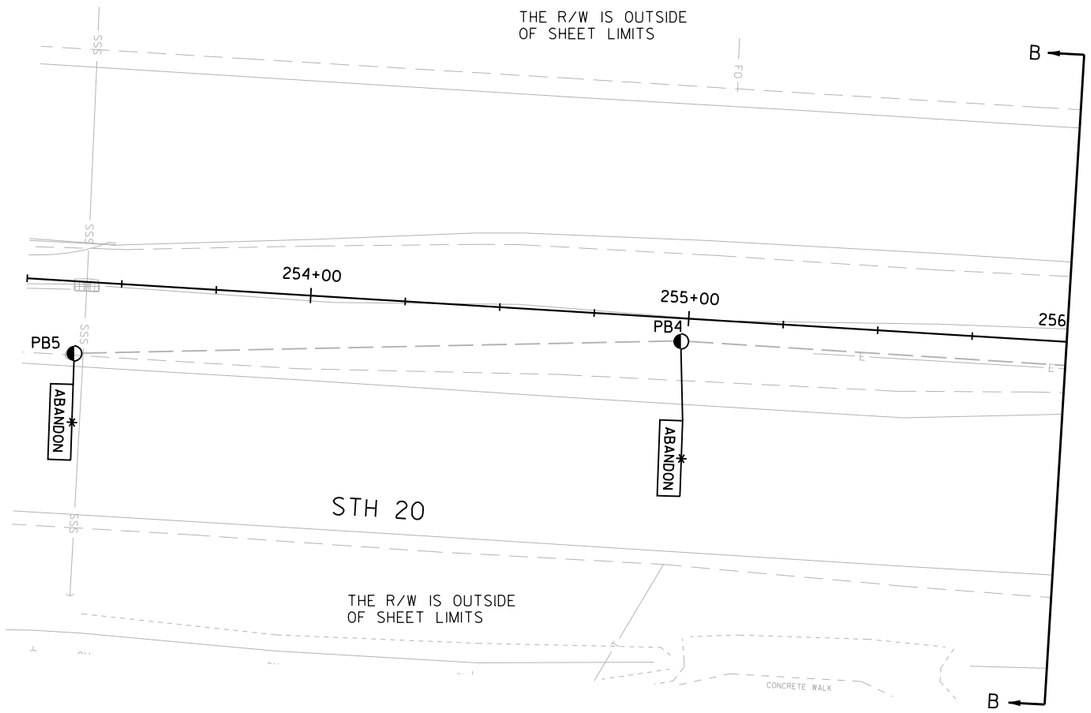
SIGNAL NO. S51-0536

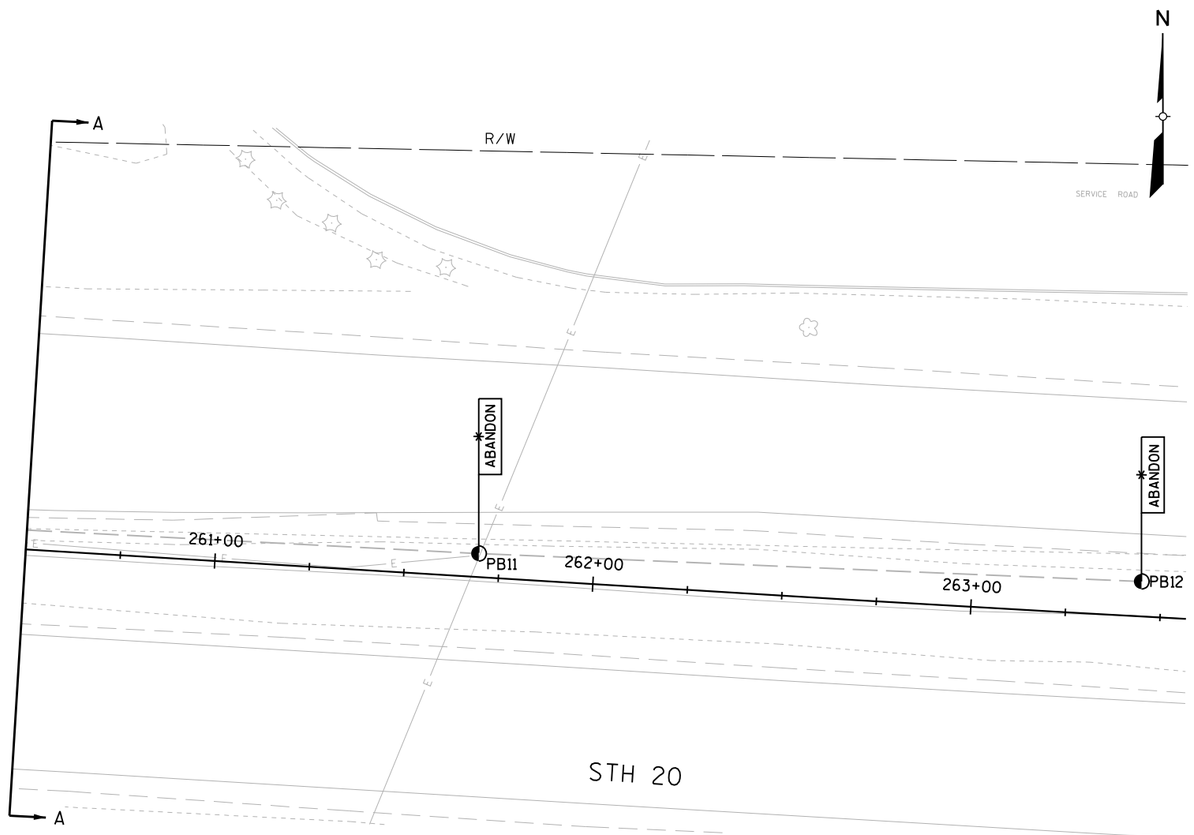
REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

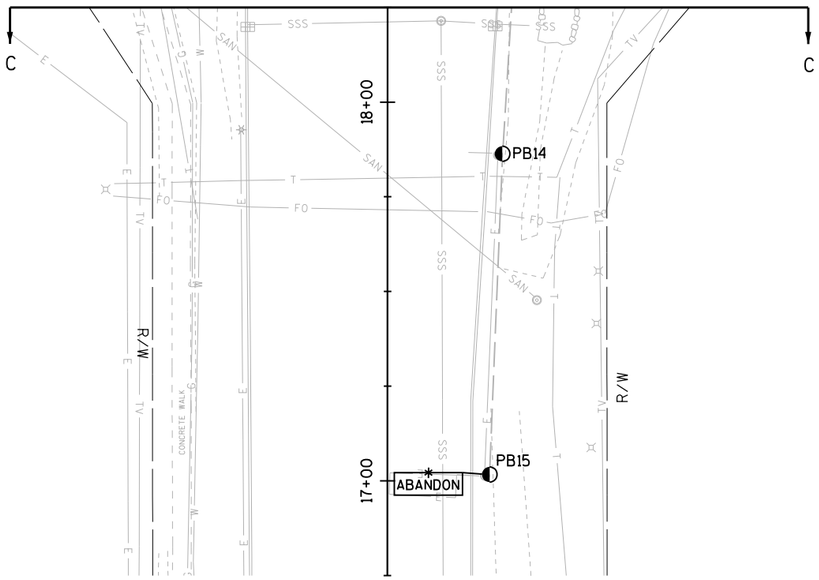
PAGE 1 OF 2

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 114	E

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PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42







TRAFFIC CONTROL SIGNAL
STH 20 & 90TH STREET
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0536

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

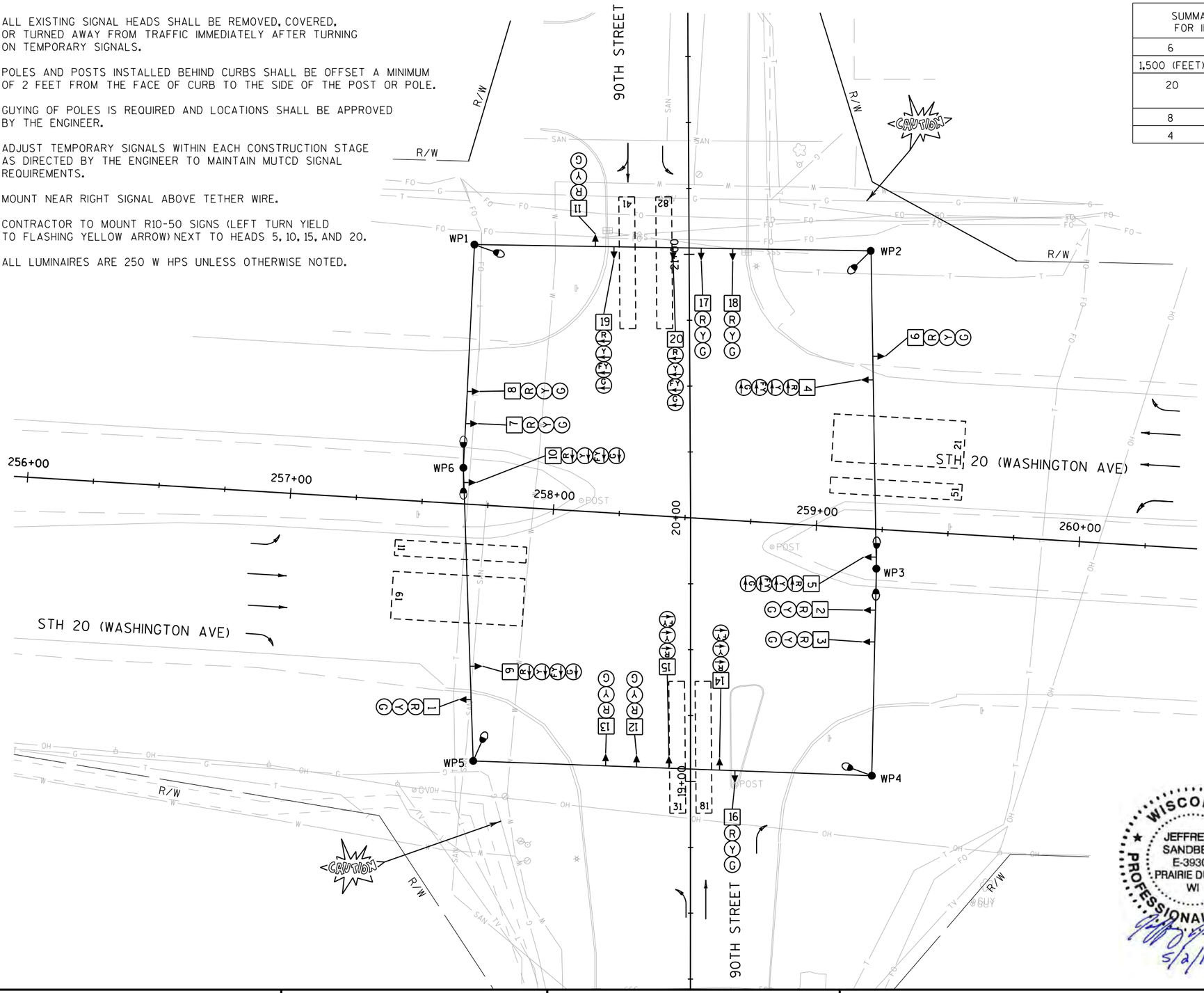
PAGE 2 OF 2

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 115	E

CONSTRUCTION NOTES:

1. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
2. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POST OR POLE.
3. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
4. ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
5. MOUNT NEAR RIGHT SIGNAL ABOVE TETHER WIRE.
6. CONTRACTOR TO MOUNT R10-50 SIGNS (LEFT TURN YIELD TO FLASHING YELLOW ARROW) NEXT TO HEADS 5, 10, 15, AND 20.
7. ALL LUMINAIRES ARE 250 W HPS UNLESS OTHERWISE NOTED.

SUMMARY OF MATERIALS FOR INFORMATION ONLY	
6	WOOD POLES, CLASS 4
1,500 (FEET)	SPAN WIRE
20	TRAFFIC SIGNAL FACES (VERTICAL)
8	LUMINAIRES, 250 W
4	R10-50 SIGNS



N

LEGEND

- SPAN WIRE
- LUMINAIRE (250 W)
- CLASS 4 WOOD POLE
- SIGNAL HEAD, OVERHEAD MOUNT
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- (G) GREEN ARROW
- NON-INTRUSIVE DETECTION AREA
- WORK AREA
- BARRICADE
- TRAFFIC CONTROL DRUM
- S STOP SIGN
- LANE DESIGNATION FOR INFO ONLY

NOTE: ALL LENSES ARE 12-INCH

WISCONSIN
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PRAIRIE DU SAC, WI
PROFESSIONAL ENGINEER
5/2/14

TRAFFIC CONTROL SIGNAL
STH 20 & 90TH STREET
VILLAGE OF MT. PLEASANT
RACINE COUNTY

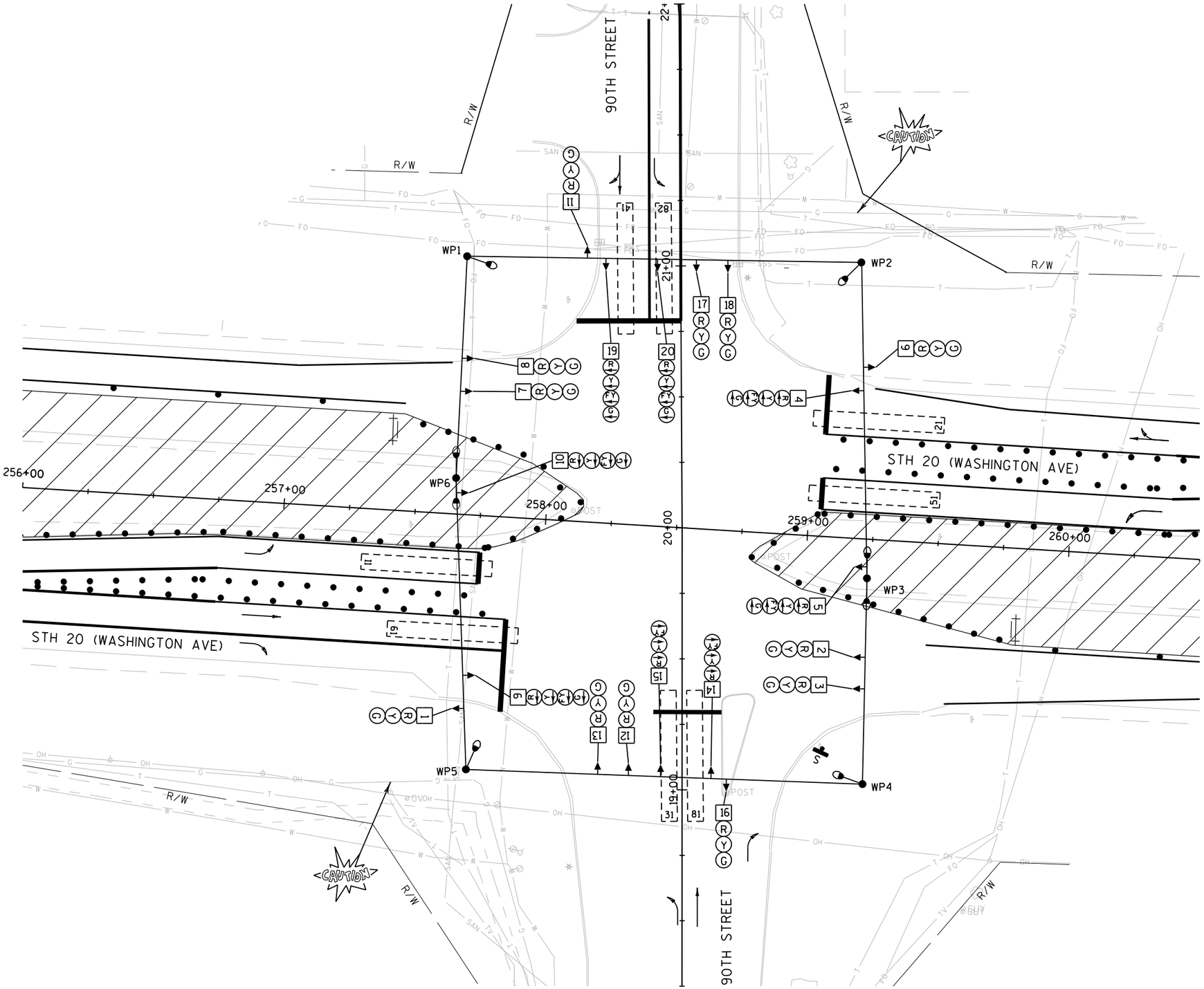
SIGNAL NO. S51-0536

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 1 OF 5

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TEMPORARY TRAFFIC SIGNAL PLAN - PRECONSTRUCTION STAGE	SHEET 116	E

2



N

LEGEND

- SPAN WIRE
- LUMINAIRE (250 W)
- CLASS 4 WOOD POLE
- SIGNAL HEAD, OVERHEAD MOUNT
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- (G) GREEN ARROW
- NON-INTRUSIVE DETECTION AREA
- WORK AREA
- BARRICADE
- TRAFFIC CONTROL DRUM
- S STOP SIGN
- LANE DESIGNATION FOR INFO ONLY

NOTE: ALL LENSES ARE 12-INCH

TRAFFIC CONTROL SIGNAL
STH 20 & 90TH STREET
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0536

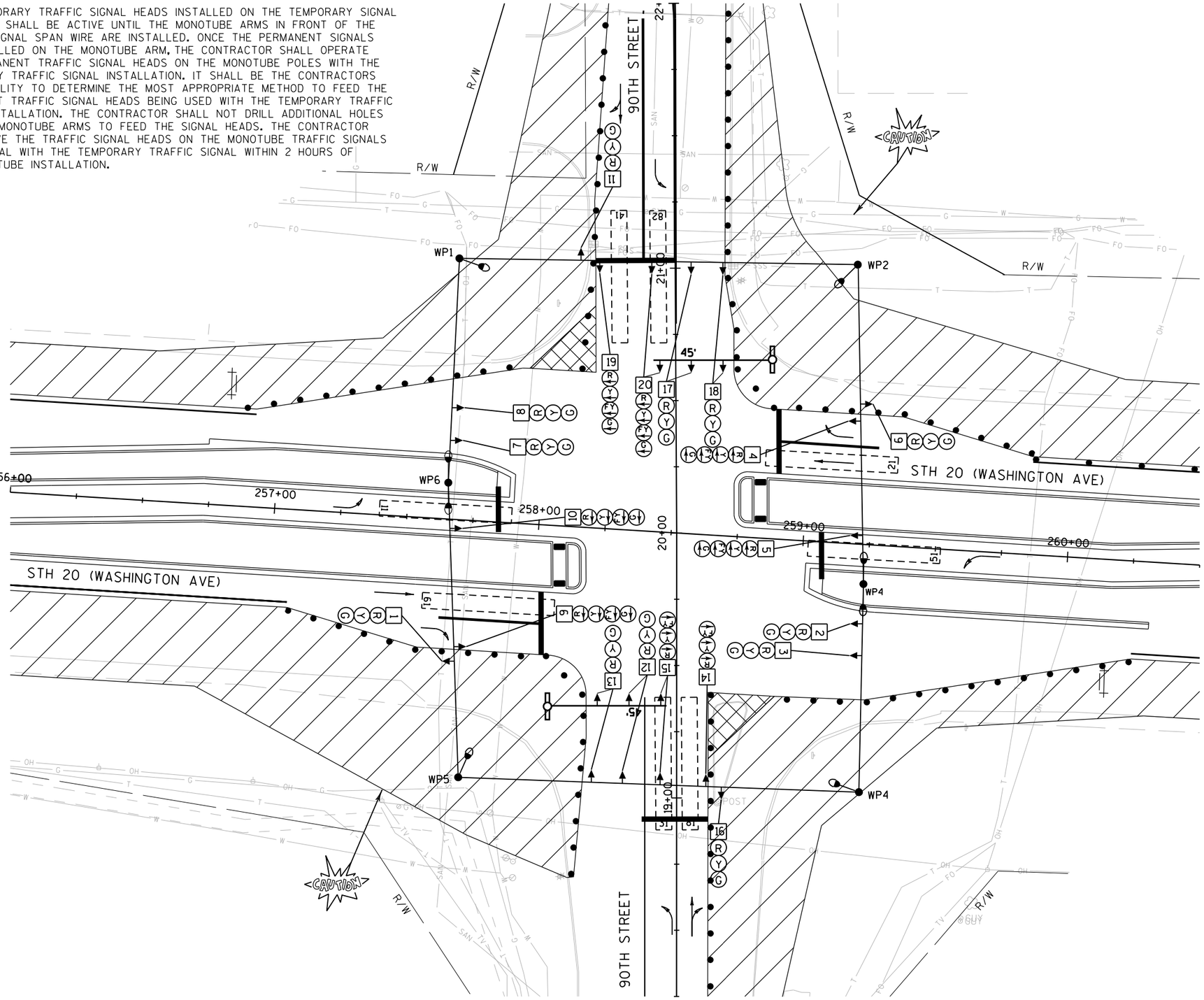
REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 2 OF 5

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1	SHEET 117	E

NOTE:

THE TEMPORARY TRAFFIC SIGNAL HEADS INSTALLED ON THE TEMPORARY SIGNAL SPAN WIRE SHALL BE ACTIVE UNTIL THE MONOTUBE ARMS IN FRONT OF THE TRAFFIC SIGNAL SPAN WIRE ARE INSTALLED. ONCE THE PERMANENT SIGNALS ARE INSTALLED ON THE MONOTUBE ARM, THE CONTRACTOR SHALL OPERATE THE PERMANENT TRAFFIC SIGNAL HEADS ON THE MONOTUBE POLES WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE MOST APPROPRIATE METHOD TO FEED THE PERMANENT TRAFFIC SIGNAL HEADS BEING USED WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. THE CONTRACTOR SHALL NOT DRILL ADDITIONAL HOLES INTO THE MONOTUBE ARMS TO FEED THE SIGNAL HEADS. THE CONTRACTOR SHALL HAVE THE TRAFFIC SIGNAL HEADS ON THE MONOTUBE TRAFFIC SIGNALS OPERATIONAL WITH THE TEMPORARY TRAFFIC SIGNAL WITHIN 2 HOURS OF THE MONOTUBE INSTALLATION.



N

LEGEND

- SPAN WIRE
- LUMINAIRE (250 W)
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- CLASS 4 WOOD POLE
- SIGNAL HEAD, OVERHEAD MOUNT
- SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RA RED ARROW
- YA YELLOW ARROW
- GA GREEN ARROW
- NON-INTRUSIVE DETECTION AREA
- WORK AREA
- BARRICADE
- TRAFFIC CONTROL DRUM
- S STOP SIGN
- LANE DESIGNATION FOR INFO ONLY

NOTE: ALL LENSES ARE 12-INCH

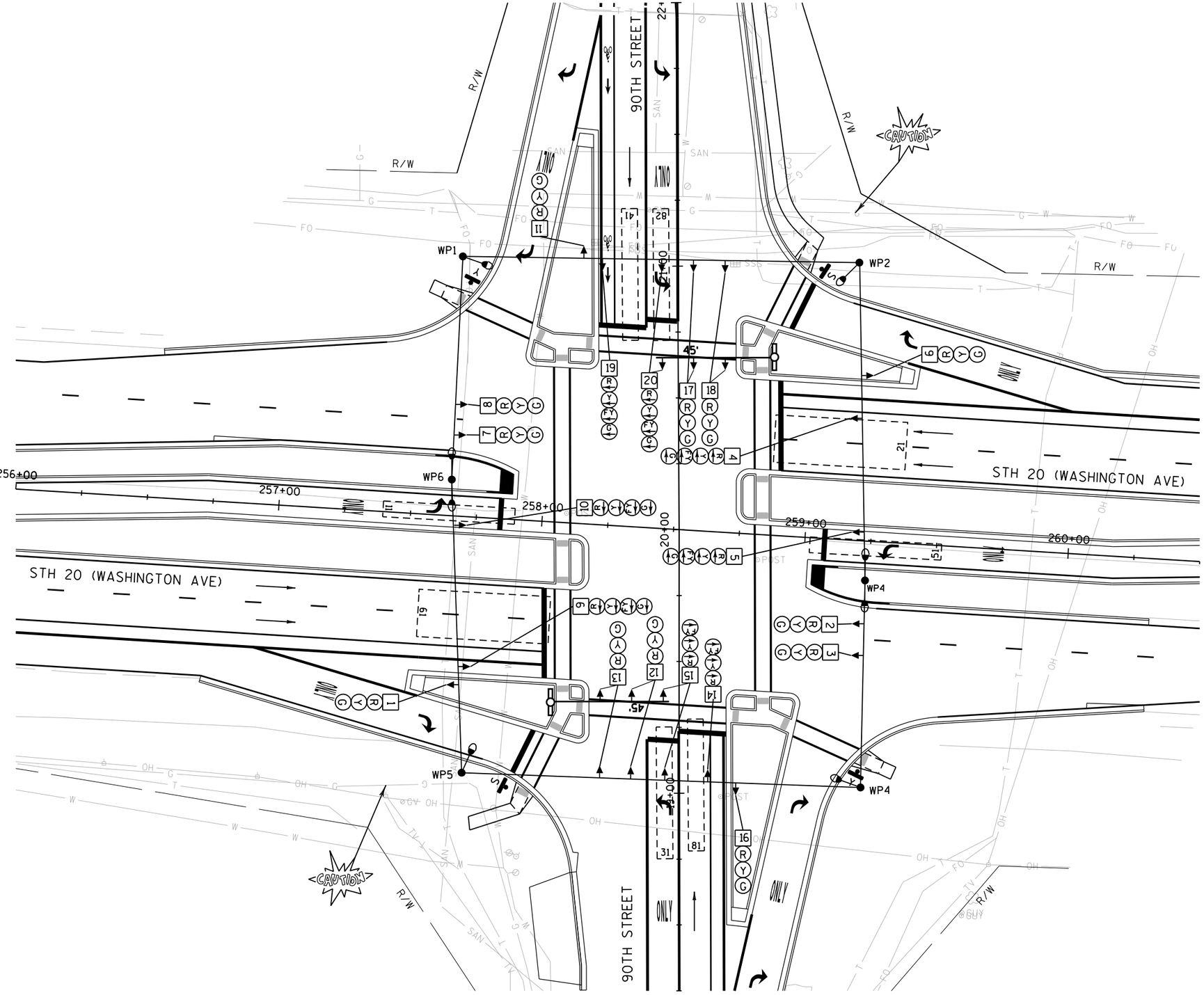
TRAFFIC CONTROL SIGNAL
STH 20 & 90TH STREET
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0536

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 3 OF 5

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 2	SHEET 118	E



N

LEGEND

- SPAN WIRE
- LUMINAIRE (250 W)
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- CLASS 4 WOOD POLE
- SIGNAL HEAD, OVERHEAD MOUNT
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- (G) GREEN ARROW
- NON-INTRUSIVE DETECTION AREA
- WORK AREA
- BARRICADE
- TRAFFIC CONTROL DRUM
- S STOP SIGN
- LANE DESIGNATION FOR INFO ONLY

NOTE: ALL LENSES ARE 12-INCH

TRAFFIC CONTROL SIGNAL
STH 20 & 90TH STREET
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0536

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 4 OF 5

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TEMPORARY TRAFFIC SIGNAL PLAN - POST CONSTRUCTION STAGE	SHEET 119	E

FILE NAME: L:\work\projects\6022809\000_CAD\Signals\Temp_Sig_sh4_90th.dgn
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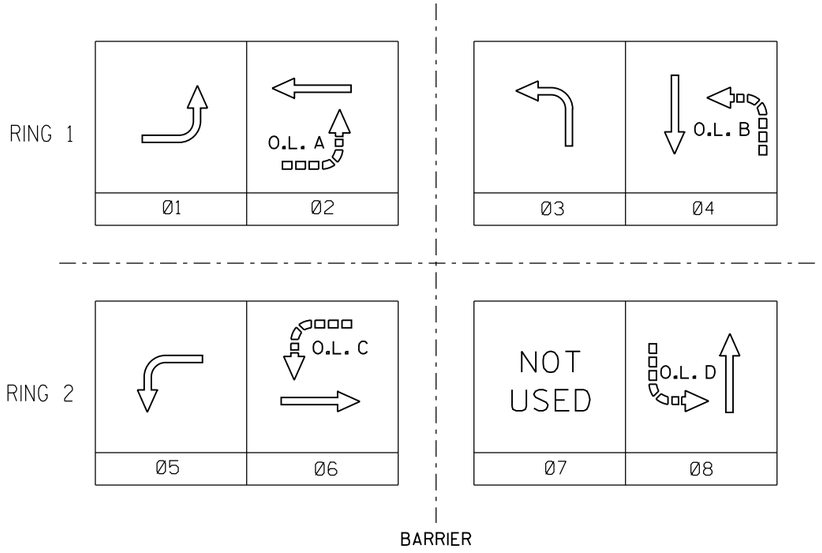
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PLOT DATE: 5/2/2014
PLOT TIME: 2:45:53 PM

PLOT SCALE: 1:40

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1	4,5	-
Ø2	6,7,8	R
Ø3	19,20	-
Ø4	11,12,13	R
Ø5	9,10	-
Ø6	1,2,3	R
Ø7		
Ø8	16,17,18	R
OLA	4,5	R
OLB	19,20	R
OLC	9,10	R
OLD	14,15	R





CONTROLLER LOGIC

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

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	x
CLOSED LOOP	
TWISTED PAIR*	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	

TYPE OF COORDINATION	
NONE	
TBC	x
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM #:	SS- -

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

DETECTOR LOGIC

DETECTOR NUMBER	DETECTOR INPUT	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
11		X			1	1					
21		X			2	2					
31		X			3	3		X			
41		X			4	4					
51		X			5	5					
61		X			6	6					
81		X			8	8					
82		X			8	8		X			

TYPE OF PRE-EMPT	
NONE	x
RAILROAD	
EMERGENCY VEHICLE	
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

STH 20 & 90TH STREET
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0536

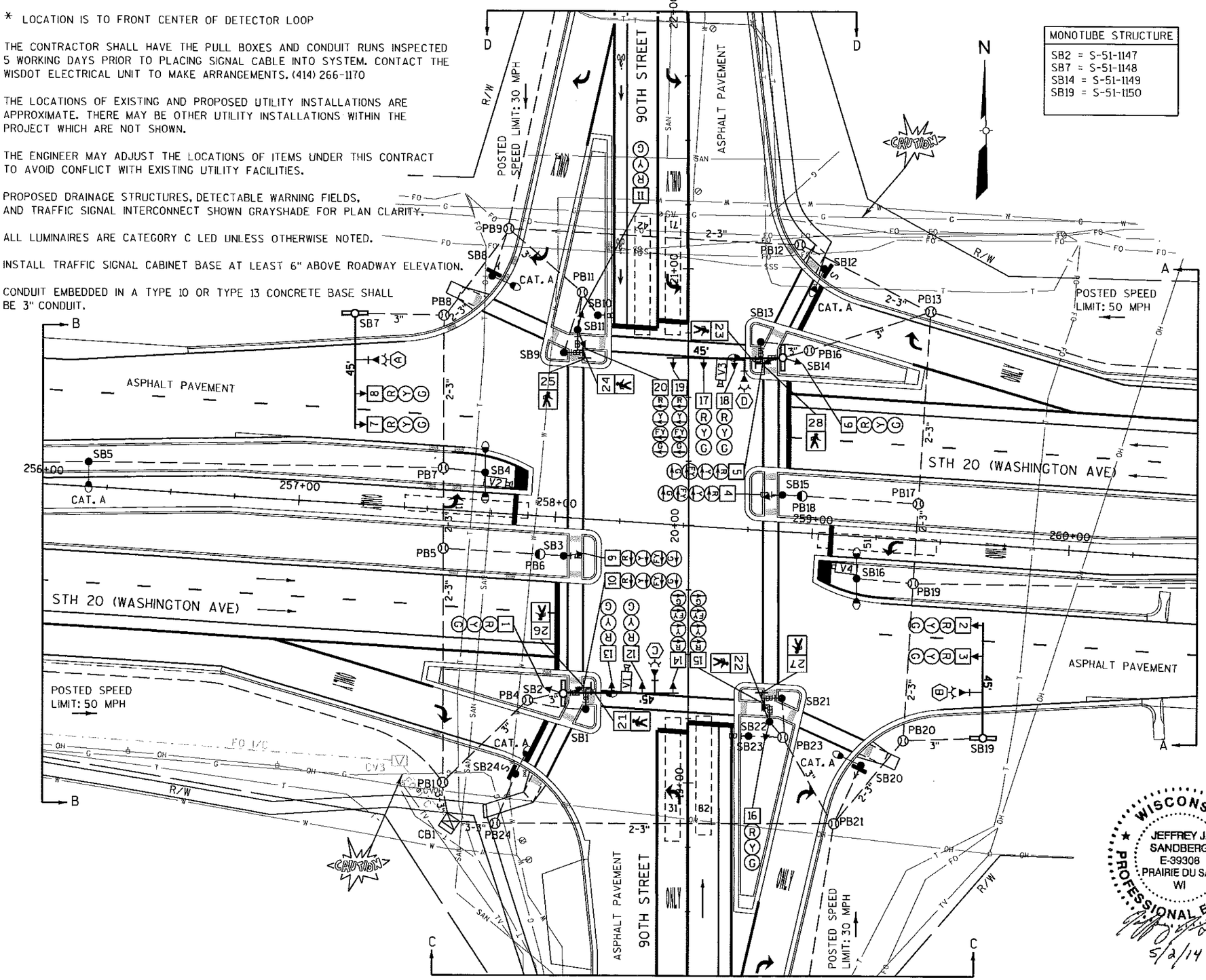
CONTROLLER TYPE: TEMP

DATE MAY 2014 PAGE NO. 5 OF 5

PROJECT NO: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TEMPORARY TRAFFIC SIGNAL SEQUENCE OF OPERATIONS	SHEET 120	E

CONSTRUCTION NOTES:

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL UNIT TO MAKE ARRANGEMENTS. (414) 266-1170
3. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
4. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
5. PROPOSED DRAINAGE STRUCTURES, DETECTABLE WARNING FIELDS, AND TRAFFIC SIGNAL INTERCONNECT SHOWN GRAYSHADE FOR PLAN CLARITY.
6. ALL LUMINAIRES ARE CATEGORY C LED UNLESS OTHERWISE NOTED.
7. INSTALL TRAFFIC SIGNAL CABINET BASE AT LEAST 6" ABOVE ROADWAY ELEVATION.
8. CONDUIT EMBEDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3" CONDUIT.



LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- VIDEO DETECTION ZONE
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- SIGNAL HEAD NUMBER
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- WALK / DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- STOP SIGN
- YIELD SIGN
- VX VIDEO DETECTION CAMERA
- CONFIRMATION LIGHT
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONDUIT STUBOUT
- LANE DESIGNATION FOR INFO ONLY

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

WISCONSIN
JEFFREY J. SANDBERG
E-39308
PRAIRIE DU SAC, WI
PROFESSIONAL ENGINEER
5/2/14

TRAFFIC CONTROL SIGNAL
STH 20 & 90TH STREET
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0536 CABINET TYPE: TS2 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED Date 5/5/14 Mitch M. Dobosell
REGION TRAFFIC ENGINEER

APPROVED Date 5/6/14 Joanna L. Sulk
STATE TRAFFIC ENGINEER

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

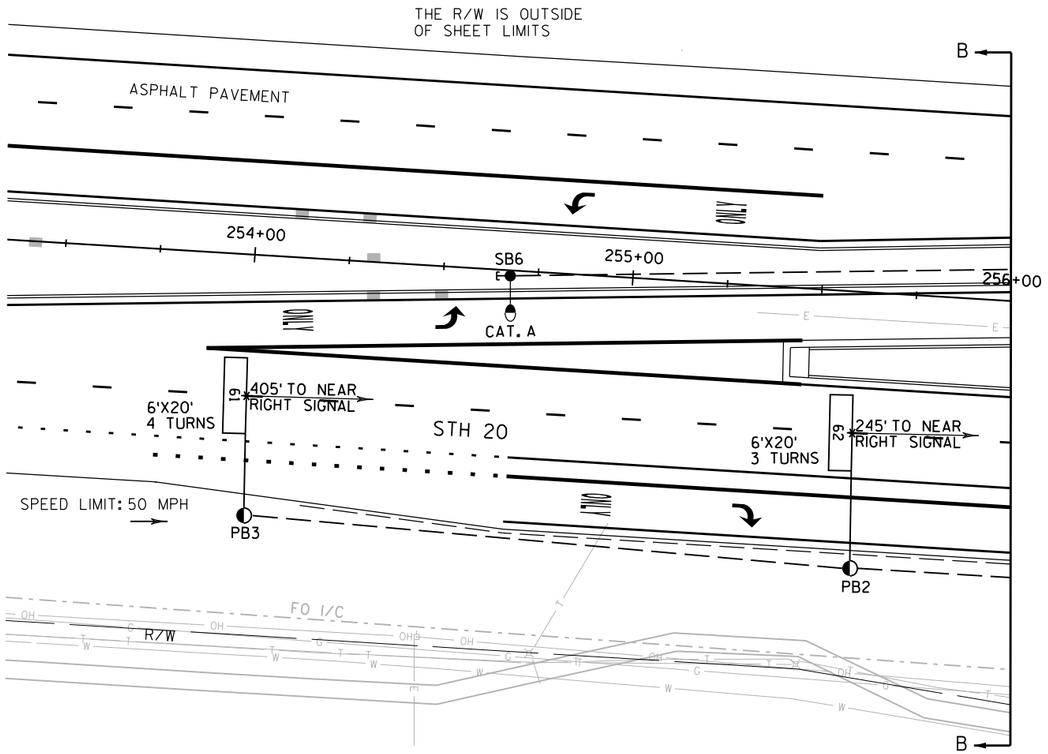
PAGE 1 OF 3

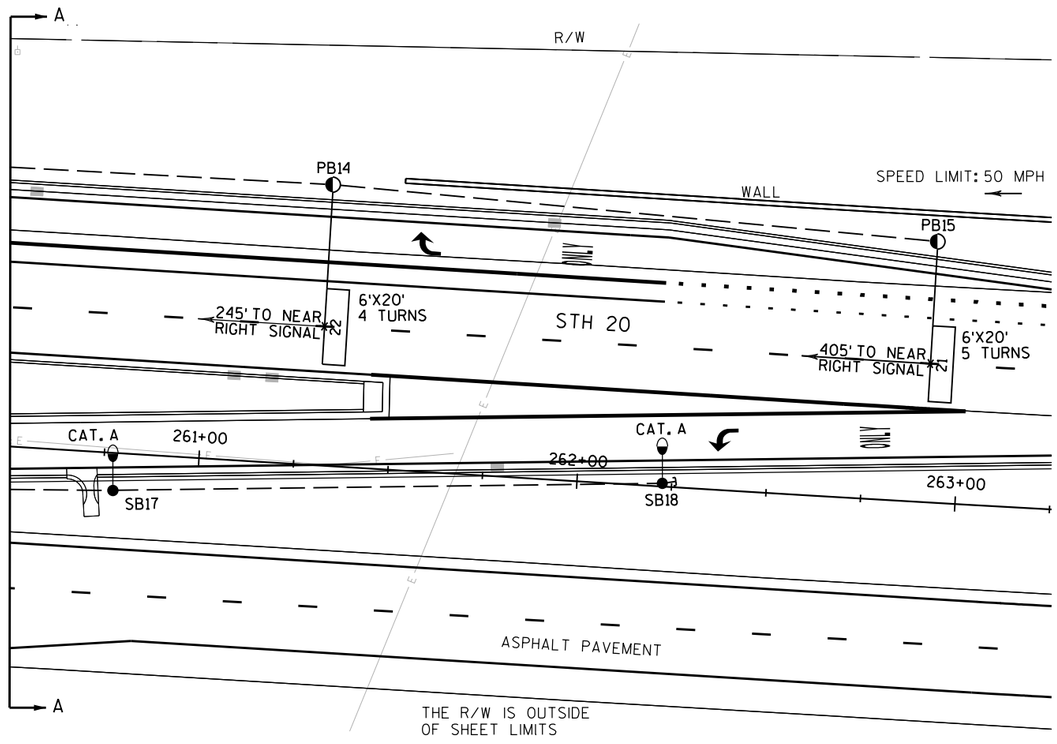
SSS 5/6/14

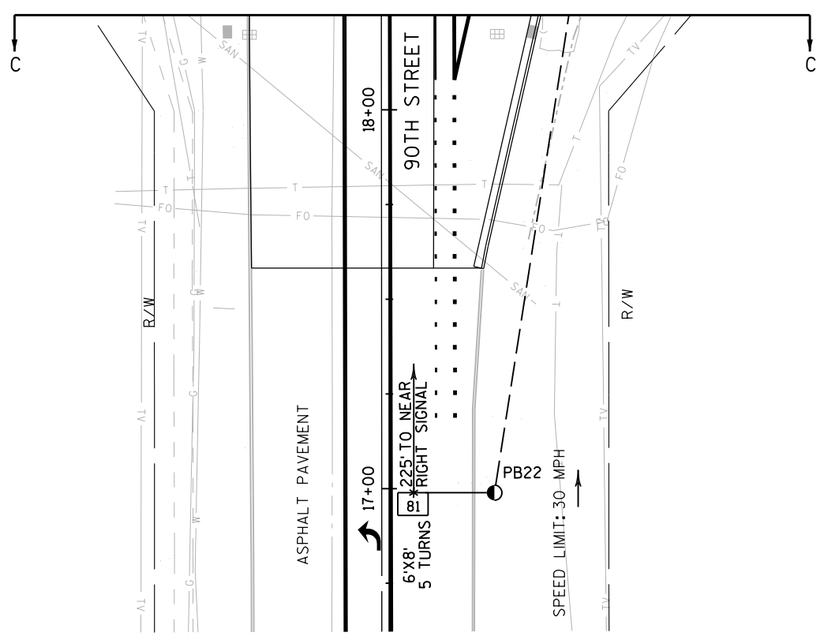
PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 121 E

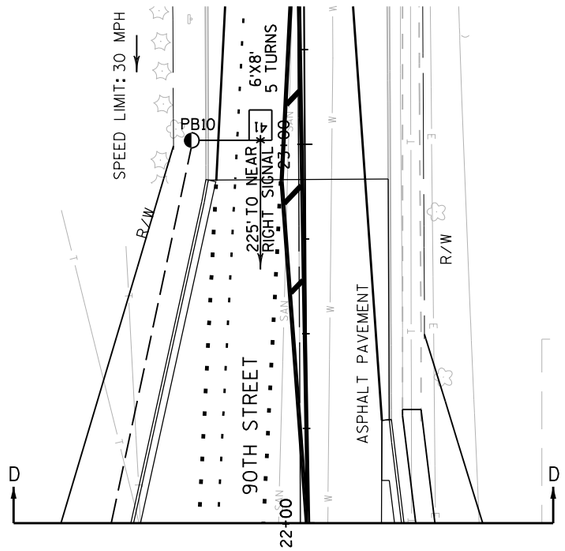
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PLOT TIME: 2:46:00 PM
PLOT SCALE: 1:40

WISDOT/CADDS SHEET 42









TRAFFIC CONTROL SIGNAL
STH 20 & 90TH STREET
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0536

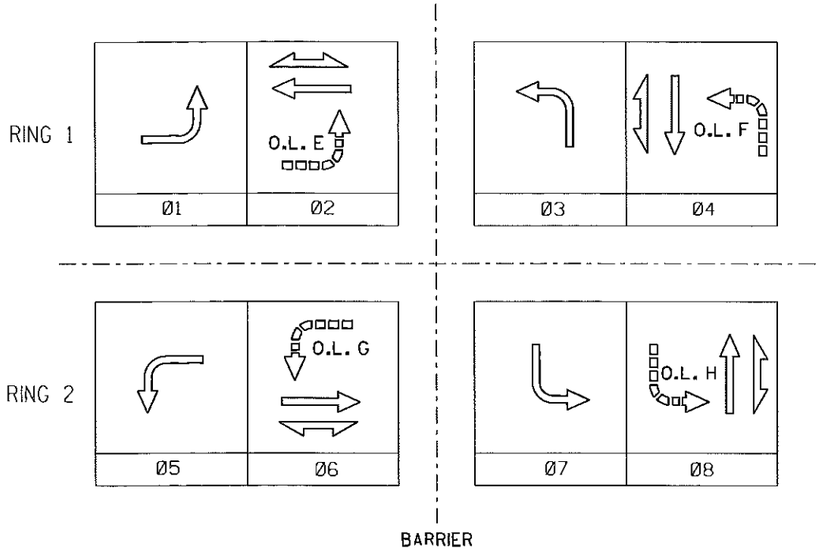
REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 2 OF 3

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 122	E

FILE NAME: L:\work\projects\60222809\000.CAD\Signals\sigplans_sh2_90th.dgn
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PLOT DATE: 5/2/2014
PLOT TIME: 2:46:05 PM
PLOT SCALE: 1:40

	HEAD NUMBERS	FLASH
Ø1	4,5	-
Ø2	6,7,8	R
Ø3	19,20	-
Ø4	11,12,13	R
Ø5	9,10	-
Ø6	1,2,3	R
Ø7	14,15	-
Ø8	16,17,18	R
OLE	4,5	R
OLF	19,20	R
OLG	9,10	R
OLH	14,15	R
Ø2P	23,24	
Ø4P	25,26	
Ø6P	21,22	
Ø8P	27,28	



CONTROLLER LOGIC

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

GENERAL NOTES:

1. BUTTONS ON SB10 AND SB23 USED TO CALL PHASE 4 AND 8 GREEN FOR BICYCLISTS VIA PROGRAMMED PED TIMING.

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE DETECTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	1+6	4+7	3+8

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
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:	S51-0719
SIGNAL SYSTEM #:	SS-00-94

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR #(S)	21	41	61	81				
CALLED PHASE	2	4	6	8				
CALL OPTION	X		X					
DELAY TIME								
EXTEND OPTION	X	X	X	X				
EXTEND TIME		X		X				
USE ADDED INITIAL								
CROSS SWITCH PHASE								

19	17	23	21	27	25	31	29	DETECTOR INPUT
11	42	71						PLAN LOOP DETECTOR #(S)
1	4	7						CALLED PHASE
X	X	X						CALL OPTION
		X						DELAY TIME
X	X	X						EXTEND OPTION
								EXTEND TIME
								USE ADDED INITIAL
2		8						CROSS SWITCH PHASE

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR #(S)	22		62					
CALLED PHASE	2		6					
CALL OPTION	X		X					
DELAY TIME								
EXTEND OPTION	X		X					
EXTEND TIME								
USE ADDED INITIAL	X		X					
CROSS SWITCH PHASE								

20	18	24	22	28	26	32	30	DETECTOR INPUT
31	51	82						PLAN LOOP DETECTOR #(S)
3	5	8						CALLED PHASE
X	X	X						CALL OPTION
X								DELAY TIME
X	X	X						EXTEND OPTION
								EXTEND TIME
								USE ADDED INITIAL
4	6							CROSS SWITCH PHASE

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	x
GTT	x
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

STH 20 & 90TH STREET
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0536 CABINET TYPE: TS2

CONTROLLER TYPE: ECONOLITE

DATE MAY 2014 PAGE NO. 3 OF 3

SJS 5/6/14

5/5/14 mmd

PROJECT NO: 2350-00-73	HWY: STH 20	COUNTY: RACINE	SEQUENCE OF OPERATIONS	SHEET 123	E

2

PROJECT ID:	2340-00-73
INTERSECTION:	STH 20 & 90TH ST

SIGNAL WIRE	BLK-BLACK	RED-RED	GRN-GREEN
COLOR CODING	WHT-WHITE	BLU-BLUE	ORG-ORANGE

DATE: Apr-14

CB1 TO	AWG 14 # OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR							D/WALK	WALK	PED BUTTON	OTHER
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<FLASH YEL>	<GREEN>				
SB1	7	21								BLK	BLU		
		PB										WHT/BLK	
SB2	21	12	RED	ORG	GRN								
		13	RED	ORG	GRN								
		14				RED/BLK	ORG/BLK	BLK/WHT	GRN/BLK				
		1	RED/WHT	ORG/RED	GRN/WHT								
		10				RED/GRN	ORG/GRN	BLK/RED	BLU/RED				
		26								BLK	BLU		
		PB										WHT/BLK	
SB3	12	9				RED	ORG	BLK/WHT	GRN				
		PB										WHT/BLK	
SB7	12	7	RED	ORG	GRN								
		8	RED	ORG	GRN								
SB9	7	25								BLK	BLU		
		PB										WHT/BLK	
SB10	7	PB										WHT/BLK	
SB11	15	20				RED	ORG	BLK/WHT	GRN				
		11	RED/BLK	ORG/BLK	GRN/BLK								
		24								BLK	BLU		
		PB										WHT/BLK	
SB13	7	23								BLK	BLU		
		PB										WHT/BLK	
SB14	21	17	RED	ORG	GRN								
		18	RED	ORG	GRN								
		19				RED/BLK	ORG/BLK	BLK/WHT	GRN/BLK				
		5				RED/GRN	ORG/GRN	BLK/RED	BLU/RED				
		6	RED/WHT	ORG/RED	GRN/WHT								
		28								BLK	BLU		
		PB										WHT/BLK	
SB15	12	4				RED	ORG	BLK/WHT	GRN				
		PB										WHT/BLK	
SB19	12	2	RED	ORG	GRN								
		3	RED	ORG	GRN								
SB21	7	27								BLK	BLU		
		PB										WHT/BLK	
SB22	15	16	RED	ORG	GRN								
		15				RED/BLK	ORG/BLK	BLK/WHT	GRN/BLK				
		22								BLK	BLU		
		PB										WHT/BLK	
SB23	7	PB										WHT/BLK	

2

WISCONSIN
JEFFREY J. SANDBERG
E-39308
PRAIRIE DU SAC. WI
PROFESSIONAL ENGINEER
5/2/14

STH 20 & 90TH STREET
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0536

CONTROLLER TYPE: ECONOLITE

DATE MAY 2014 PAGE NO. 1 OF 2

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	CABLE ROUTING	SHEET 124	E

2

EQUIPMENT GROUNDING CONDUCTORS 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB7
SB7	SB9
SB9	SB10
SB10	SB11
SB11	SB13
SB13	SB14
SB14	SB15
SB15	SB19
SB19	SB21
SB21	SB22
SB22	SB23
SB23	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	CB1
PB4	SB2
PB5	SB3
PB6	SB3
PB7	SB4
PB8	SB7
PB9	SB8
PB11	SB10
PB12	SB12
PB13	SB12
PB16	SB14
PB17	SB15
PB18	SB15
PB19	SB16
PB20	SB19
PB21	SB20
PB23	SB22
PB24	CB1

LIGHTING UF 10 AWG W/ GROUND	
FROM	TO
CB1	SB2
SB2	SB4
SB4	SB5
SB5	SB6
SB4	SB8
SB8	SB12
CB1	SB24
SB24	SB20
SB20	SB16
SB16	SB17
SB17	SB18
SB16	SB14

EMERGENCY VEHICLE PREEMPTION EVP DETECTOR CABLE UF 2-14 AWG GROUNDED (CONFIRMATION LIGHT)		
HEAD	FROM	TO
A	CB1	SB7
B	CB1	SB19
C	CB1	SB2
D	CB1	SB14

VIDEO DETECTION CABLE	
FROM	TO
CB1	V1
CB1	V2
CB1	V3
CB1	V4

2

NOTES:
1. USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
2. ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
3. AT THE SIGNAL BASES, CONNECT ONE TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

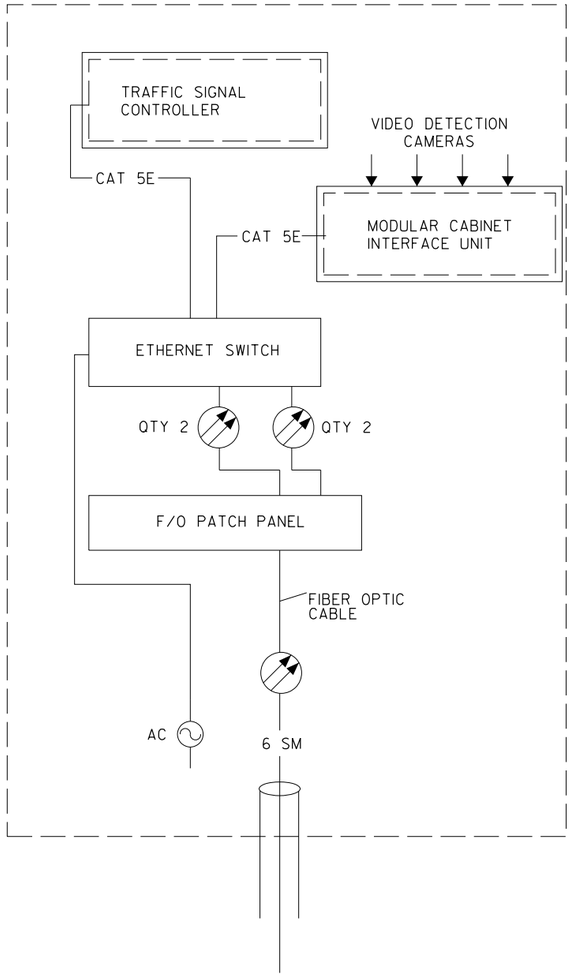
STH 20 & 90TH STREET
VILLAGE OF MT. PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0536

CONTROLLER TYPE: ECONOLITE

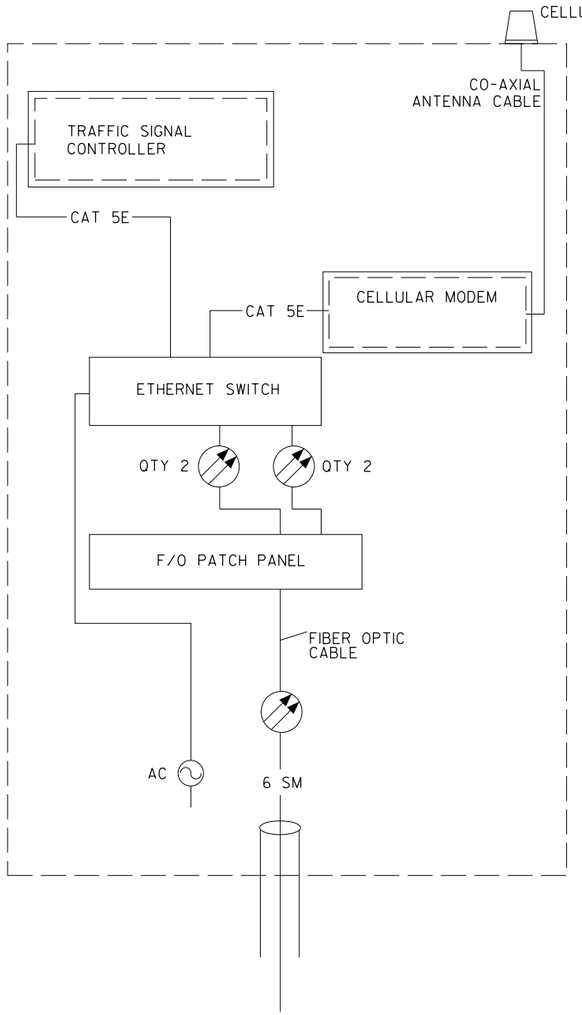
DATE MAY 2014 PAGE NO. 2 OF 2

PROJECT NUMBER: 2340-00-73 | HWY: STH 20 | COUNTY: RACINE | CABLE ROUTING | SHEET 125 | E



TRAFFIC SIGNAL CABINET

STH 20 & CTH H / WISCONSIN STREET (S51-0536)
STH 20 & 90TH STREET (S51-0259)



TRAFFIC SIGNAL CABINET

STH 20 & CTH H / RENAISSANCE BLVD (S51-0719)

LEGEND

F/O - FIBER OPTIC
AC - ALTERNATING CURRENT POWER
QTY 2 - NUMBER OF FIBERS

WISCONSIN
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E-39308
PRAIRIE DU SAC
WI
PROFESSIONAL ENGINEER

5/2/14

TRAFFIC SIGNAL INTERCONNECT PLAN
STH 20 (WASHINGTON AVE)
VILLAGE OF STURTEVANT/
VILLAGE OF MT PLEASANT
RACINE COUNTY

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	CABINET DETAILS	SHEET 126	E

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WISDOT/CADDS SHEET 42

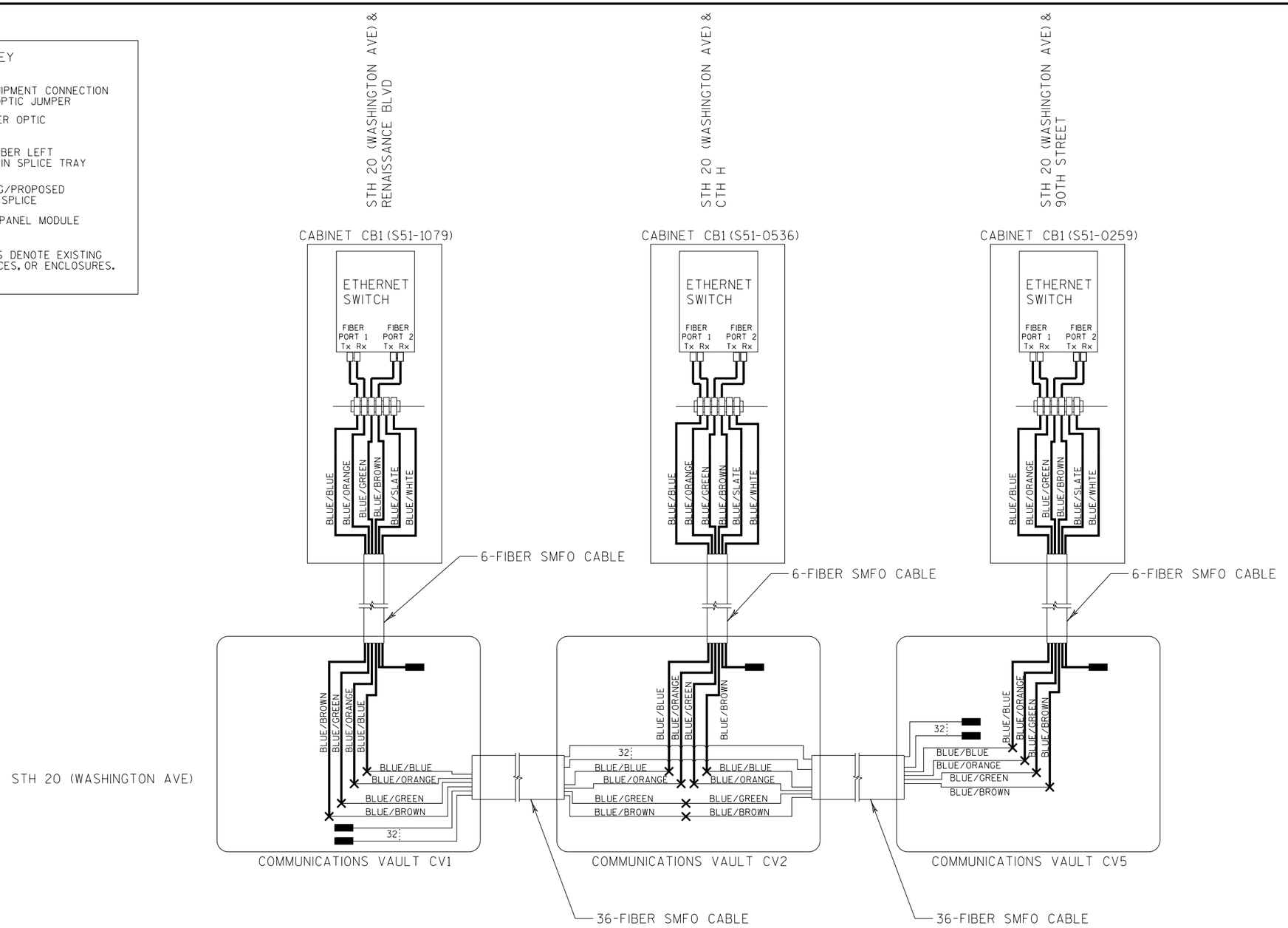
KEY

- SM EQUIPMENT CONNECTION FIBER OPTIC JUMPER
- SM FIBER OPTIC PIGTAIL
- BARE FIBER LEFT COILED IN SPLICE TRAY
- EXISTING/PROPOSED FUSION SPLICE
- PATCH PANEL MODULE

NOTE: DASHED LINES DENOTE EXISTING CABLES, DEVICES, OR ENCLOSURES.

N

NOT TO SCALE



NOTES

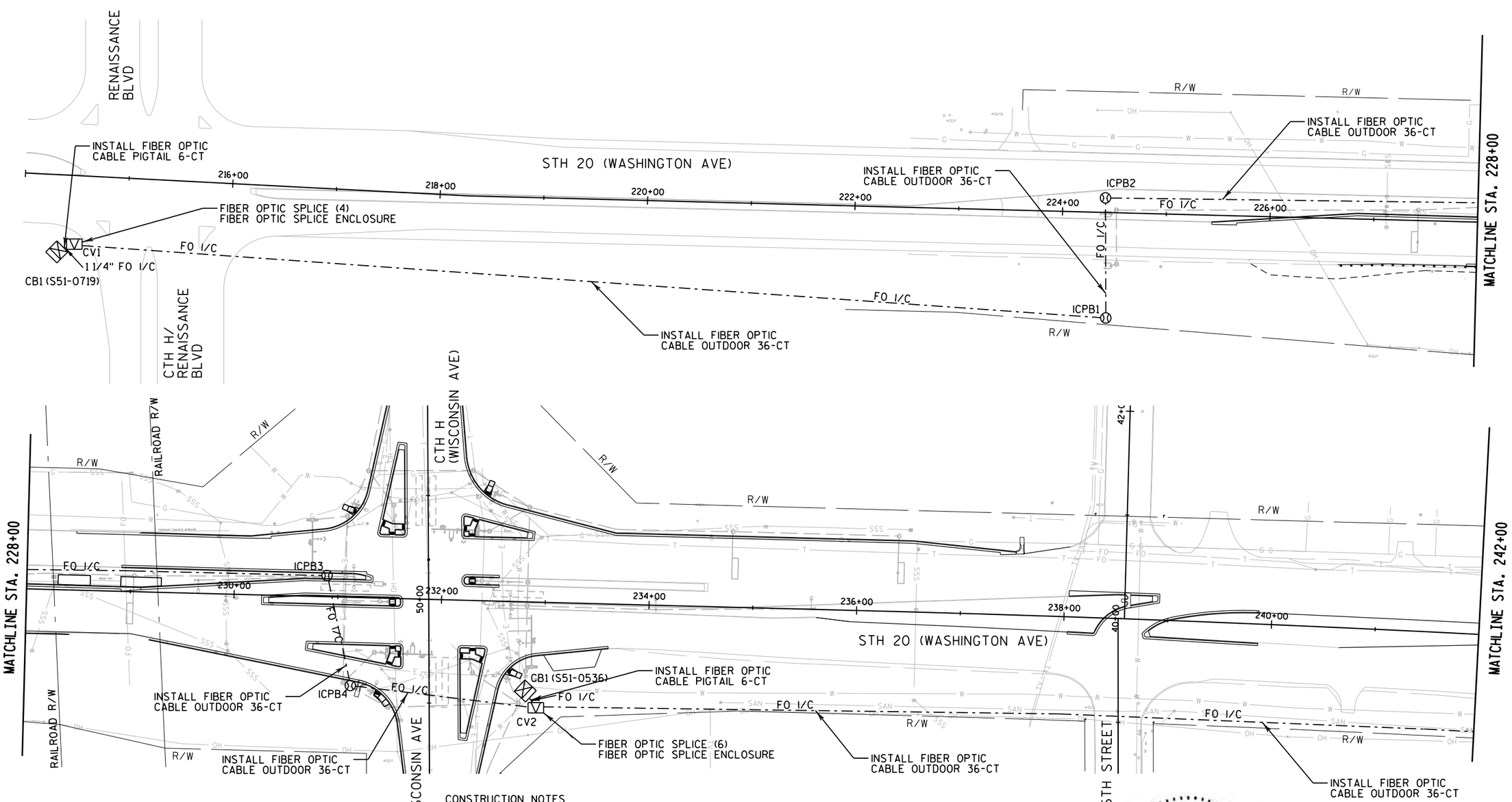
1. COORDINATE FIBER ASSIGNMENTS WITH DON SCHELL, STOC AT 414-227-2148 BEFORE SPLICING FIBER OPTIC CABLE.
2. MAXIMUM SPLICE LOSS SHALL BE 0.1 dB
3. NO INTERMEDIATE SPLICES ALLOWED
4. ALL SPLICES SHALL BE FUSION SPLICES

WISCONSIN PROFESSIONAL ENGINEER
JEFFREY J. SANDBERG
E-39308
PRAIRIE DU SAC. WI
5/2/14

TRAFFIC SIGNAL INTERCONNECT
STH 20 (WASHINGTON AVE)
VILLAGE OF STURTEVANT/
VILLAGE OF MT PLEASANT
RACINE COUNTY

PAGE 1 OF 1

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	FIBER ASSIGNMENT DETAIL	SHEET 127	E



LEGEND

- CONTROL CABINET
- NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED
- PULL BOX, 24" X 42"
- COMMUNICATION VAULT

NOTE: GRAYSHADE REPRESENTS EXISTING

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING FIBER OPTIC TRACER CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL UNIT TO MAKE ARRANGEMENTS. (414) 266-1170
2. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
3. COORDINATE FIBER OPTIC CABLE LENGTHS WITH WISDOT STOC. CONTACT MIKE PREBISH AT (414) 266-1170 PRIOR TO INSTALLATION.
4. LEAVE 100' OF FIBER OPTIC CABLE COILED IN EACH COMMUNICATIONS VAULT. LEAVE 30' OF FIBER OPTIC CABLE COILED IN EACH INTERCONNECT PULL BOX.
5. FIBER OPTIC WARNING TAPE IS REQUIRED WITH CONDUIT INSTALLATION.

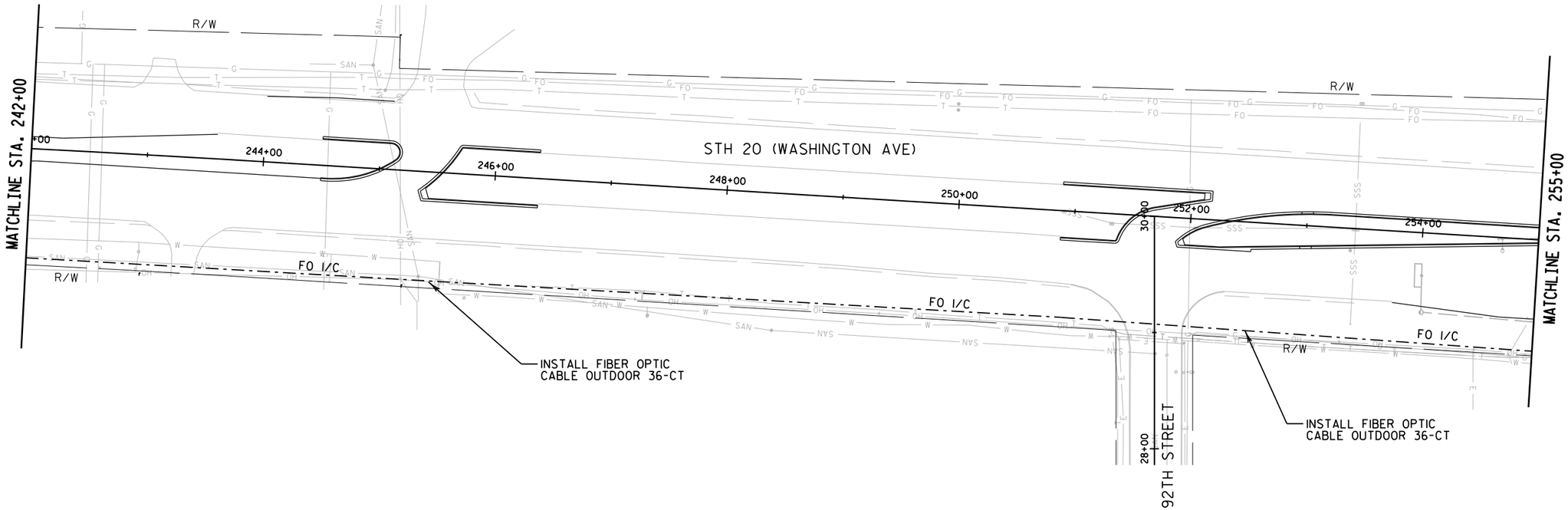
WISCONSIN
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PROFESSIONAL ENGINEER
5/2/14

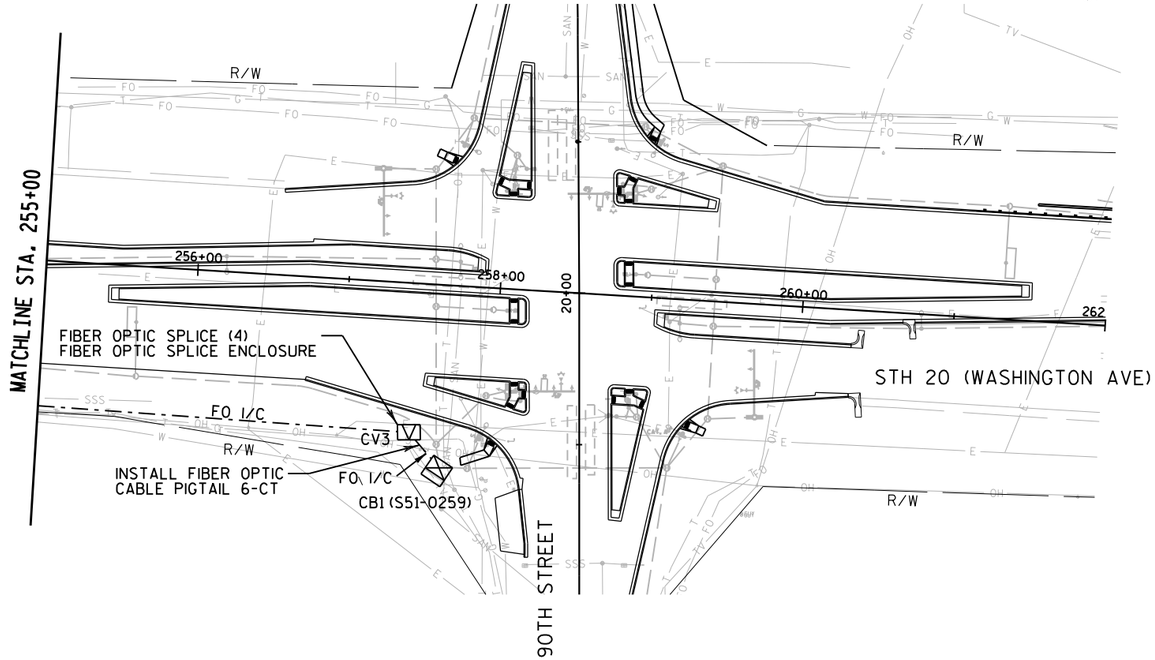
TRAFFIC SIGNAL INTERCONNECT
STH 20 (WASHINGTON AVE)
VILLAGE OF STURTEVANT/
VILLAGE OF MT PLEASANT
RACINE COUNTY
SIGNAL NO. S51-0719, S51-0536, S51-0259

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 1 OF 2

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL INTERCONNECT PLANS	SHEET 128	E





N

2

TRAFFIC SIGNAL INTERCONNECT
STH 20 (WASHINGTON AVE)
VILLAGE OF STURTEVANT/
VILLAGE OF MT PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0719, S51-0536, S51-0259

REGION CONTACT: STEPHANIE SWARD
DESIGNED BY: AECOM
REVISED BY:

PAGE 2 OF 2

PROJECT NUMBER: 2340-00-73	HWY: STH 20	COUNTY: RACINE	TRAFFIC SIGNAL INTERCONNECT PLANS	SHEET 129	E

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PLOT TIME: 2:47:26 PM
PLOT SCALE: 1:40
WISDOT/CADDS SHEET 42

2

N

T 3 N
17 16
17 16
R22 E

Y=183473.224
X=604541.665

PI STA. 418+25.46
N=183432.29
E=605857.75

VILLAGE OF MOUNT PLEASANT

PI STA. 218+26.64
N=183407.29
E=605857.10

418+25

420+00
220+00

318+25

320+00

PI STA. 318+25.45
N=183398.30
E=605856.86

VILLAGE OF STURTEVANT

BEGIN PROJECT
2250-00-75, 2340-00-73
STA. 225+42.81

STH 20

2675.44'
S 88°38'24" E

425+00
225+00

325+00

S 88°30'35" E
1360.92'

S 88°30'35" E
1332.26'

430+00
230+00

330+00

T 3 N
16 16
16 16
R22 E

Y=183409.731
X=607216.348

PI STA. =
431+86.39
N=183396.91
E=607217.41

STA. 231+87.56 =
STA. 50+00
N=183371.90
E=607217.56

N 0°21'12" W
2637.34'
(QUARTER
SECTION LINE)

T 3 N
9 9
16 16
R22 E

Y=186047.019
X=607200.085

VILLAGE OF MOUNT PLEASANT

55+00

N 0°19'55" W
1006.83'

VILLAGE OF STURTEVANT

CTH H

S 88°30'35" E
426.14'

435+00
235+00

335+00

PI STA. 335+61.07
T=403.35'
L=806.62'
D=0°15'00"
DELTA=2°01'00"
R=22917.12'
PC STA. 331+57.72
PT STA. 339+64.34

50+00

WISCONSIN STREET

45+00

N 0°19'39" W
992.77'

N 0°00'23" E
2647.93'
(QUARTER
SECTION LINE)

T 3 N
16 16
21 21
R22 E

Y=180761.798
X=607216.048

PI STA. 46+52.87
N=184005.77
E=607906.03

46+53

652.87'
N 1°35'29" E

45+00

PI STA. 440+16.35
T=403.82'
L=807.55'
D=0°14'59"
DELTA=2°01'00"
R=22943.37'
PC STA. 436+12.53
PT STA. 444+20.08

440+00
240+00

340+00

STA. 238+52.12 =
STA. 40+00
N=183353.37
E=607881.85

40+00

STA. 238+58.17 =
STA. 40+00
N=183353.15
E=607887.90

96TH STREET

35+00

N 0°00'57" W
801.26'

31+99

PI STA. 31+98.75
N=182552.11
E=607882.08

VILLAGE OF STURTEVANT

PI STA. 240+17.08
T=403.38'
L=806.67'
D=0°15'00"
DELTA=2°01'00"
R=22918.37'
PC STA. 236+13.70
PT STA. 244+20.37

VILLAGE OF MOUNT PLEASANT

445+00
245+00

345+00 S 86°29'35" E
1886.04'

S 86°29'35" E
1431.78'

MATCHLINE STA. 247+00

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	ALIGNMENT DIAGRAM	SCALE, FEET 0 100 200	SHEET 130	E

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BATCH PRINT SHEET 81 OF 87
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PLOT DATE: 4/9/2014
PLOT TIME: 11:48:41 AM
PLOT SCALE: 1:200
WISDOT/CADDS SHEET 42

2

N

Y=185961.757
X=609862.263

T 3 N
9 10
16 15
R22 E

90TH STREET

N 0°18'14" W
2624.04'
(SECTION LINE)

N 0°19'37" W
1500.72'

25+00

Y=183337.751
X=609876.181

T 3 N
16 15
16 15
R22 E

VILLAGE OF MOUNT PLEASANT

PISTA. 264+81.02
T=240.50'
L=480.97'
D=0°20'00"
DELTA=1°36'12"
R=17187.84'
PC STA. 262+40.52
PT STA. 267+21.49

PISTA. 464+80.38
T=240.15'
L=480.28'
D=0°20'02"
DELTA=1°36'12"
R=17162.84'
PC STA. 462+40.22
PT STA. 467+20.50

Y=183283.731
X=612512.995

T 3 N
15 15
15 15
R22 E

PISTA. 475+73.42
N=183188.26
E=611599.85

2637.37'
S 88°49'35" E

PISTA. 475+73.42
N=183163.27
E=611599.02

S 86°29'35" E
1431.78'

2660.81'
S 88°26'59" E

PISTA. =
358+51.86
N=183263.12
E=609878.38

STH 20

450+00
250+00
455+00
255+00
460+00
260+00
465+00
265+00
470+00
270+00
475+00 475+73
275+00 275+74

MATCHLINE STA. 247+00

S 86°29'35" E
1886.04'

350+00
355+00
360+00
365+00
370+00
375+00 375+73

30+00
20+00

STA. 251+68.55 =
STA. 30+00
N=183279.88
E=609196.20

STA. 258+52.16 =
N=183238.06
E=609878.52

S 86°29'35" E
388.36'

S 88°05'47" E
852.92'

PISTA. 375+73.33
N=183138.29
E=611598.19

VILLAGE OF STURTEVANT

PISTA. =
358+50.38
N=183213.02
E=609878.51

PISTA. 364+79.59
T=240.85'
L=481.67'
D=0°19'58"
DELTA=1°36'12"
R=17212.84'
PC STA. 362+38.74
PT STA. 367+20.42

END PROJECT
2250-00-75, 2340-00-73
STA. 267+00.00

92ND STREET

801.95'
N 0°01'33" E

25+00

PISTA. 21+98.05
N=182477.93
E=609195.84

21+98

VILLAGE OF STURTEVANT

VILLAGE OF MOUNT PLEASANT

15+00

Y=180692.166
X=609877.623

T 3 N
16 15
21 22
R22 E

1548.86
N 0°01'05" E

N 0°01'52" W
2645.59'
(SECTION LINE)

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	ALIGNMENT DIAGRAM	SCALE, FEET 0 100 200	SHEET 131	E

FILE NAME: \\usmwkIfs001\prod\Data\Library\work\60222809\000_CAD\027202_ad.DGN
BATCH PRINT SHEET 82 OF 87
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PLOT TIME: 11:48:42 AM
PLOT SCALE: 1:200
WISDOT/CADDS SHEET 42

DATE 08JUL14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2250-00-75 QUANTITY	2340-00-73 QUANTITY
0010	201.0110	CLEARING	SY	270.000		270.000
0020	201.0120	CLEARING	ID	9.000		9.000
0030	201.0210	GRUBBING	SY	270.000		270.000
0040	201.0220	GRUBBING	ID	9.000		9.000
0050	204.0100	REMOVING PAVEMENT	SY	6,950.000		6,950.000
0060	204.0125	REMOVING ASPHALTIC SURFACE MILLING	TON	9,400.000	9,400.000	
0070	204.0150	REMOVING CURB & GUTTER	LF	1,600.000		1,600.000
0080	204.0155	REMOVING CONCRETE SIDEWALK	SY	125.000		125.000
0090	204.0157	REMOVING CONCRETE BARRIER	LF	155.000		155.000
0100	204.0165	REMOVING GUARDRAIL	LF	590.000		590.000
0110	204.0170	REMOVING FENCE	LF	230.000		230.000
0120	204.0195	REMOVING CONCRETE BASES	EACH	26.000		26.000
0130	204.0210	REMOVING MANHOLES	EACH	3.000		3.000
0140	204.0220	REMOVING INLETS	EACH	16.000		16.000
0150	204.0245	REMOVING STORM SEWER (SIZE) 01. 12-INCH	LF	102.000		102.000
0160	204.0245	REMOVING STORM SEWER (SIZE) 02. 15-INCH	LF	123.000		123.000
0170	204.0245	REMOVING STORM SEWER (SIZE) 03. 18-INCH	LF	144.000		144.000
0180	204.0245	REMOVING STORM SEWER (SIZE) 04. 21-INCH	LF	170.000		170.000
0190	204.0245	REMOVING STORM SEWER (SIZE) 05. 24-INCH	LF	5.000		5.000
0200	204.0245	REMOVING STORM SEWER (SIZE) 06. 27-INCH	LF	70.000		70.000
0210	204.0245	REMOVING STORM SEWER (SIZE) 07. 30-INCH	LF	110.000		110.000
0220	205.0100	EXCAVATION COMMON	CY	13,100.000		13,100.000
0230	206.6000.S	TEMPORARY SHORING	SF	1,275.000		1,275.000
0240	213.0100	FINISHING ROADWAY (PROJECT) 01. 2250-00-75	EACH	1.000	1.000	
0250	213.0100	FINISHING ROADWAY (PROJECT) 02. 2340-00-73	EACH	1.000		1.000
0260	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	300.000		300.000
0270	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	14,600.000		14,600.000
0280	305.0500	SHAPING SHOULDERS	STA	73.000	73.000	
0290	312.0110	SELECT CRUSHED MATERIAL	TON	750.000		750.000
0300	390.0303	BASE PATCHING CONCRETE	SY	3,860.000		3,860.000
0310	416.0610	DRILLED TIE BARS	EACH	2,320.000		2,320.000
0320	416.0620	DRILLED DOWEL BARS	EACH	2,320.000		2,320.000
0330	440.4410.S	INCENTIVE IRI RIDE	DOL	6,000.000	6,000.000	
0340	455.0115	ASPHALTIC MATERIAL PG64-22	TON	520.000	520.000	
0350	455.0120	ASPHALTIC MATERIAL PG64-28	TON	265.000	265.000	
0360	455.0605	TACK COAT	GAL	3,200.000	3,200.000	
0370	460.1110	HMA PAVEMENT TYPE E-10	TON	13,700.000	13,700.000	
0380	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	8,800.000	8,800.000	
0390	465.0105	ASPHALTIC SURFACE	TON	45.000	45.000	
0400	465.0315	ASPHALTIC FLUMES	SY	100.000	100.000	
0410	520.8000	CONCRETE COLLARS FOR PIPE	EACH	8.000		8.000
0420	522.1012	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	EACH	1.000		1.000
0430	522.1015	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	EACH	2.000		2.000
0440	522.1018	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	EACH	3.000		3.000
0450	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	2.000		2.000
0460	522.1027	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 27-INCH	EACH	1.000		1.000
0470	601.0576	CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J	LF	11,400.000		11,400.000

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DATE 08JUL14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2250-00-75 QUANTITY	2340-00-73 QUANTITY
0480	602.0410	CONCRETE SIDEWALK 5-INCH	SF	10,700.000		10,700.000
0490	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	320.000		320.000
0500	603.1136	CONCRETE BARRIER TYPE S36	LF	140.000		140.000
0510	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	600.000		600.000
0520	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	1,200.000		1,200.000
0530	605.0305	DITCH CHECKS MORTAR RUBBLE	CY	40.000		40.000
0540	606.0200	RIPRAP MEDIUM	CY	39.000		39.000
0550	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	225.000		225.000
0560	608.0315	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF	206.000		206.000
0570	608.0318	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	554.000		554.000
0580	608.0321	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 21-INCH	LF	118.000		118.000
0590	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	265.000		265.000
0600	608.0327	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 27-INCH	LF	54.000		54.000
0610	608.0330	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH	LF	120.000		120.000
0620	608.0412	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH	LF	383.000		383.000
0630	608.0415	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH	LF	90.000		90.000
0640	608.0418	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH	LF	774.000		774.000
0650	608.0424	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH	LF	72.000		72.000
0660	611.0420	RECONSTRUCTING MANHOLES	EACH	2.000		2.000
0670	611.0430	RECONSTRUCTING INLETS	EACH	3.000		3.000
0680	611.0535	MANHOLE COVERS TYPE J-SPECIAL	EACH	13.000		13.000
0690	611.0630	INLET COVERS TYPE HM-GJ	EACH	36.000		36.000
0700	611.0633	INLET COVERS TYPE HM-GJ-S	EACH	17.000		17.000
0710	611.0642	INLET COVERS TYPE MS	EACH	6.000		6.000
0720	611.2003	MANHOLES 3-FT DIAMETER	EACH	3.000		3.000
0730	611.2004	MANHOLES 4-FT DIAMETER	EACH	10.000		10.000
0740	611.2005	MANHOLES 5-FT DIAMETER	EACH	1.000		1.000
0750	611.2006	MANHOLES 6-FT DIAMETER	EACH	1.000		1.000
0760	611.2033	MANHOLES 3X3-FT	EACH	6.000		6.000
0770	611.3003	INLETS 3-FT DIAMETER	EACH	10.000		10.000
0780	611.3230	INLETS 2X3-FT	EACH	31.000		31.000
0790	611.3253	INLETS 2.5X3-FT	EACH	1.000		1.000
0800	611.3901	INLETS MEDIAN 1 GRATE	EACH	4.000		4.000
0810	611.3902	INLETS MEDIAN 2 GRATE	EACH	1.000		1.000
0820	611.8110	ADJUSTING MANHOLE COVERS	EACH	3.000		3.000
0830	611.8115	ADJUSTING INLET COVERS	EACH	2.000		2.000
0840	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	30.000		30.000
0850	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	200.000		200.000
0860	614.0805	CRASH CUSHIONS PERMANENT LOW MAINTENANCE	EACH	2.000		2.000
0870	614.0905	CRASH CUSHIONS TEMPORARY	EACH	1.000		1.000
0880	614.2300	MGS GUARDRAIL 3	LF	745.000		745.000
0890	614.2500	MGS THRIE BEAM TRANSITION	LF	120.000		120.000

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DATE 08JUL14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2250-00-75 QUANTITY	2340-00-73 QUANTITY
0900	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	3.000		3.000
0910	614.2620	MGS GUARDRAIL TERMINAL TYPE 2	EACH	2.000		2.000
0920	616.0204	FENCE CHAIN LINK 4-FT	LF	200.000		200.000
0930	619.1000	MOBILIZATION	EACH	1.000	0.500	0.500
0940	620.0300	CONCRETE MEDIAN SLOPED NOSE	SF	1,300.000		1,300.000
0950	624.0100	WATER	MGAL	160.000		160.000
0960	625.0500	SALVAGED TOPSOIL	SY	19,900.000		19,900.000
0970	627.0200	MULCHING	SY	19,900.000		19,900.000
0980	628.1504	SILT FENCE	LF	1,140.000		1,140.000
0990	628.1520	SILT FENCE MAINTENANCE	LF	1,140.000		1,140.000
1000	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	6.000		6.000
1010	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	6.000		6.000
1020	628.2002	EROSION MAT CLASS I TYPE A	SY	6,300.000		6,300.000
1030	628.2023	EROSION MAT CLASS II TYPE B	SY	920.000		920.000
1040	628.2031	EROSION MAT CLASS III TYPE A	SY	700.000		700.000
1050	628.7005	INLET PROTECTION TYPE A	EACH	27.000		27.000
1060	628.7015	INLET PROTECTION TYPE C	EACH	70.000		70.000
1070	628.7020	INLET PROTECTION TYPE D	EACH	20.000		20.000
1080	628.7504	TEMPORARY DITCH CHECKS	LF	650.000		650.000
1090	628.7555	CULVERT PIPE CHECKS	EACH	4.000		4.000
1100	629.0210	FERTILIZER TYPE B	CWT	48.000		48.000
1110	630.0110	SEEDING MIXTURE NO. 10	LB	50.000		50.000
1120	630.0130	SEEDING MIXTURE NO. 30	LB	170.000		170.000
1130	632.9101	LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES	EACH	1.000		1.000
1140	633.5200	MARKERS CULVERT END	EACH	9.000		9.000
1150	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	117.000	117.000	
1160	637.2210	SIGNS TYPE II REFLECTIVE H	SF	1,355.175	1,355.175	
1170	637.2215	SIGNS TYPE II REFLECTIVE H FOLDING	SF	104.440	104.440	
1180	637.2230	SIGNS TYPE II REFLECTIVE F	SF	50.000	50.000	
1190	638.2102	MOVING SIGNS TYPE II	EACH	14.000	14.000	
1200	638.2602	REMOVING SIGNS TYPE II	EACH	96.000	96.000	
1210	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	83.000	83.000	
1220	643.0100	TRAFFIC CONTROL (PROJECT) 01. 2250-00-75	EACH	1.000	1.000	
1230	643.0100	TRAFFIC CONTROL (PROJECT) 02. 2340-00-73	EACH	1.000		1.000
1240	643.0300	TRAFFIC CONTROL DRUMS	DAY	108,290.000		108,290.000
1250	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	4,080.000		4,080.000
1260	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	3,825.000		3,825.000
1270	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	6,035.000		6,035.000
1280	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	255.000		255.000
1290	643.0900	TRAFFIC CONTROL SIGNS	DAY	15,215.000		15,215.000
1300	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	36.000		36.000
1310	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	130.000		130.000
1320	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	19,100.000		19,100.000
1330	646.0116	PAVEMENT MARKING EPOXY 6-INCH	LF	780.000		780.000
1340	646.0600	REMOVING PAVEMENT MARKINGS	LF	8,370.000		8,370.000
1350	646.0881.S	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH	LF	4,890.000		4,890.000
1360	646.0883.S	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH	LF	6,560.000		6,560.000
1370	647.0456	PAVEMENT MARKING CURB EPOXY	LF	150.000		150.000
1380	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	6.000		6.000
1390	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	17.000		17.000
1400	649.0100	TEMPORARY PAVEMENT MARKING 4-INCH	LF	15,450.000		15,450.000

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DATE 08JUL14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2250-00-75 QUANTITY	2340-00-73 QUANTITY
1410	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	17,000.000		17,000.000
1420	649.0701	TEMPORARY PAVEMENT MARKING 8-INCH	LF	2,640.000		2,640.000
1430	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	1,750.000		1,750.000
1440	649.1100	TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH	LF	185.000		185.000
1450	649.1200	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH	LF	275.000		275.000
1460	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	85.000		85.000
1470	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	11,400.000		11,400.000
1480	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. R-51-61	LS	1.000		1.000
1490	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	8,320.000	8,320.000	
1500	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 2250-00-75	LS	1.000	1.000	
1510	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 02. 2340-00-73	LS	1.000		1.000
1520	652.0215	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	LF	16.000		16.000
1530	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	8,040.000		8,040.000
1540	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	2,100.000		2,100.000
1550	652.0605	CONDUIT SPECIAL 2-INCH	LF	790.000		790.000
1560	652.0615	CONDUIT SPECIAL 3-INCH	LF	1,400.000		1,400.000
1570	652.0800	CONDUIT LOOP DETECTOR	LF	1,130.000		1,130.000
1580	653.0135	PULL BOXES STEEL 24X36-INCH	EACH	17.000		17.000
1590	653.0140	PULL BOXES STEEL 24X42-INCH	EACH	34.000		34.000
1600	653.0180	PULL BOXES STEEL COMMUNICATIONS (INCH) 01. 24X42-INCH	EACH	4.000		4.000
1610	653.0905	REMOVING PULL BOXES	EACH	39.000		39.000
1620	654.0101	CONCRETE BASES TYPE 1	EACH	16.000		16.000
1630	654.0105	CONCRETE BASES TYPE 5	EACH	19.000		19.000
1640	654.0113	CONCRETE BASES TYPE 13	EACH	8.000		8.000
1650	654.0217	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	EACH	2.000		2.000
1660	655.0230	CABLE TRAFFIC SIGNAL 5-14 AWG	LF	1,270.000		1,270.000
1670	655.0240	CABLE TRAFFIC SIGNAL 7-14 AWG	LF	4,760.000		4,760.000
1680	655.0260	CABLE TRAFFIC SIGNAL 12-14 AWG	LF	3,040.000		3,040.000
1690	655.0270	CABLE TRAFFIC SIGNAL 15-14 AWG	LF	650.000		650.000
1700	655.0290	CABLE TRAFFIC SIGNAL 21-14 AWG	LF	1,300.000		1,300.000
1710	655.0515	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	LF	7,940.000		7,940.000
1720	655.0615	ELECTRICAL WIRE LIGHTING 10 AWG	LF	3,340.000		3,340.000
1730	655.0700	LOOP DETECTOR LEAD IN CABLE	LF	6,250.000		6,250.000
1740	655.0800	LOOP DETECTOR WIRE	LF	4,860.000		4,860.000
1750	655.0900	TRAFFIC SIGNAL EVP DETECTOR CABLE	LF	5,530.000		5,530.000
1760	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. STH 20 & CTH H/WISCONSIN ST	LS	1.000		1.000
1770	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 02. STH 20 & 90TH STREET	LS	1.000		1.000
1780	657.0100	PEDESTAL BASES	EACH	16.000		16.000

DATE 08JUL14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2250-00-75 QUANTITY	2340-00-73 QUANTITY
1790	657.0255	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	EACH	19.000		19.000
1800	657.0322	POLES TYPE 5-ALUMINUM	EACH	19.000		19.000
1810	657.0405	TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT	EACH	2.000		2.000
1820	657.0425	TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	EACH	10.000		10.000
1830	657.0430	TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	EACH	4.000		4.000
1840	657.0609	LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT	EACH	23.000		23.000
1850	657.1355	INSTALL POLES TYPE 12	EACH	4.000		4.000
1860	657.1360	INSTALL POLES TYPE 13	EACH	4.000		4.000
1870	657.1545	INSTALL MONOTUBE ARMS 45-FT	EACH	7.000		7.000
1880	657.1550	INSTALL MONOTUBE ARMS 50-FT	EACH	1.000		1.000
1890	657.1815	INSTALL LUMINAIRE ARMS STEEL 15-FT	EACH	4.000		4.000
1900	658.0103	TRAFFIC SIGNAL FACE 1-12 INCH VERTICAL	EACH	4.000		4.000
1910	658.0110	TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	EACH	25.000		25.000
1920	658.0115	TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	EACH	16.000		16.000
1930	658.0210	BACKPLATES SIGNAL FACE 1 SECTION 12-INCH	EACH	4.000		4.000
1940	658.0215	BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	EACH	25.000		25.000
1950	658.0220	BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	EACH	16.000		16.000
1960	658.0416	PEDESTRIAN SIGNAL FACE 16-INCH	EACH	8.000		8.000
1970	658.0500	PEDESTRIAN PUSH BUTTONS	EACH	11.000		11.000
1980	658.0600	LED MODULES 12-INCH RED BALL	EACH	25.000		25.000
1990	658.0605	LED MODULES 12-INCH YELLOW BALL	EACH	25.000		25.000
2000	658.0610	LED MODULES 12-INCH GREEN BALL	EACH	24.000		24.000
2010	658.0615	LED MODULES 12-INCH RED ARROW	EACH	16.000		16.000
2020	658.0620	LED MODULES 12-INCH YELLOW ARROW	EACH	32.000		32.000
2030	658.0625	LED MODULES 12-INCH GREEN ARROW	EACH	17.000		17.000
2040	658.0635	LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	EACH	8.000		8.000
2050	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 01. STH 20 & CTH H/WISCONSIN ST	LS	1.000		1.000
2060	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 02. STH 20 & 90TH STREET	LS	1.000		1.000
2070	659.1115	LUMINAIRES UTILITY LED A	EACH	14.000		14.000
2080	659.1125	LUMINAIRES UTILITY LED C	EACH	13.000		13.000
2090	661.0200	TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 01. STH 20 & CTH H/WISCONSIN ST	LS	1.000		1.000
2100	661.0200	TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 02. STH 20 & 90TH STREET	LS	1.000		1.000
2110	670.0100	FIELD SYSTEM INTEGRATOR	LS	1.000		1.000
2120	670.0200	ITS DOCUMENTATION	LS	1.000		1.000
2130	673.0105	COMMUNICATION VAULT TYPE 1	EACH	3.000		3.000
2140	678.0036	INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 36-CT	LF	5,010.000		5,010.000
2150	678.0200	FIBER OPTIC SPLICE ENCLOSURE	EACH	3.000		3.000
2160	678.0300	FIBER OPTIC SPLICE	EACH	14.000		14.000
2170	678.0500	COMMUNICATION SYSTEM TESTING	LS	1.000		1.000
2180	690.0150	SAWING ASPHALT	LF	2,140.000		2,140.000
2190	690.0250	SAWING CONCRETE	LF	16,650.000		16,650.000
2200	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	HRS	2,200.000		2,200.000
2210	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	1,300.000		1,300.000

3

DATE 08JUL14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2250-00-75 QUANTITY	2340-00-73 QUANTITY
2220	SPV.0060	SPECIAL 01. LED MODULE 12-INCH YELLOW BALL SPECIAL	EACH	4.000		4.000
2230	SPV.0060	SPECIAL 02. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2	EACH	39.000		39.000
2240	SPV.0060	SPECIAL 03. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS	EACH	31.000		31.000
2250	SPV.0060	SPECIAL 04. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS BIKE LANE	EACH	4.000		4.000
2260	SPV.0060	SPECIAL 05. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC SYMBOLS BIKE LANE	EACH	4.000		4.000
2270	SPV.0060	SPECIAL 06. CONEFLOWER PURPLE CG 2.5" HT	EACH	25.000		25.000
2280	SPV.0060	SPECIAL 07. GRASS, PRAIRIE DROPSEED CG 6" HT	EACH	25.000		25.000
2290	SPV.0090	SPECIAL 01. CABLE TYPE UF 2-6 AWG GROUNDED	LF	4,310.000		4,310.000
2300	SPV.0090	SPECIAL 02. CABLE TYPE UF 2-14 AWG GROUNDED	LF	4,430.000		4,430.000
2310	SPV.0090	SPECIAL 04. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH	LF	390.000		390.000
2320	SPV.0105	SPECIAL 01. REMOVE TRAFFIC SIGNALS STH 20 & CTH H/RENAISSANCE BOULEVARD	LS	1.000		1.000
2330	SPV.0105	SPECIAL 02. REMOVE TRAFFIC SIGNALS STH 20 & CTH H/WISCONSIN ST	LS	1.000		1.000
2340	SPV.0105	SPECIAL 03. REMOVE TRAFFIC SIGNALS STH 20 & 90TH STREET	LS	1.000		1.000
2350	SPV.0105	SPECIAL 04. INSTALL STATE-SUPPLIED TRAFFIC SGNAL CABINET STH 20 & CTH H/RENAISSANCE BLVD	LS	1.000		1.000
2360	SPV.0105	SPECIAL 05. INSTALL STATE-SUPPLIED TRAFFIC SIGNL CABINET STH 20 & CTH H/WISCONSIN ST	LS	1.000		1.000
2370	SPV.0105	SPECIAL 06. INSTALL STATE-SUPPLIED TRAFFIC SIGNAL CABINET STH 20 & 90TH STREET	LS	1.000		1.000
2380	SPV.0105	SPECIAL 07. EMERGENCY VEH PREEMPTION DETECTOR HEAD INSTALLATION STH 20 & CTH H/WIS ST	LS	1.000		1.000
2390	SPV.0105	SPECIAL 08. EMERGENCY VEHICLE PREEMPTION DETECTOR HEAD INSTALLATION STH20&90TH ST	LS	1.000		1.000
2400	SPV.0105	SPECIAL 09. TRANSPORTING TRAFFIC SIGNAL AND INTRSCTN LGHTNG MATRL STH20&CTH H/WIS ST	LS	1.000		1.000
2410	SPV.0105	SPECIAL 10. TRANSPORTING TRAFFIC SIGNAL AND INTERSECTION LGHTNG MATRL STH 20&90TH ST	LS	1.000		1.000
2420	SPV.0105	SPECIAL 11. TEMP NON-INTRUSIVE VEHICLE DETECTION SYSTM FOR INTRSCTN STH 20 & CTH H/WIS ST	LS	1.000		1.000
2430	SPV.0105	SPECIAL 12. TEMP NON-INTRUSIVE VEHICLE DETECTION SYSTEM FOR INTERSECTION STH 20 & 90TH ST	LS	1.000		1.000
2440	SPV.0105	SPECIAL 13. TRANS AND INSTALL STATE FURNISHED AUTOSCP VID DETECT SYS STH20&CTHH/WIS ST	LS	1.000		1.000
2450	SPV.0105	SPECIAL 14. TRANS AND INSTALL STATE FURNISHED AUTOSCOPE VID DETECT SYS STH20 & 90TH ST	LS	1.000		1.000

DATE 08JUL14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	2250-00-75 QUANTITY	2340-00-73 QUANTITY
2460	SPV.0105	SPECIAL 15. REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE STH20 & CTH H/WISCONSIN ST	LS	1.000		1.000
2470	SPV.0105	SPECIAL 16. REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE STH 20 & 90TH STREET	LS	1.000		1.000
2480	SPV.0105	SPECIAL 17. INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET STH20 & CTHH/RENAISSANCE BLVD	LS	1.000		1.000
2490	SPV.0105	SPECIAL 18. INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET STH 20 & CTH H/WISCONSIN ST	LS	1.000		1.000
2500	SPV.0105	SPECIAL 19. INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET STH 20 & 90TH STREET	LS	1.000		1.000
2510	SPV.0105	SPECIAL 20. EMERGENCY VEH PREEMPTION DETECTOR HEAD INSTALL STH 20 & RENAISSANCE BLVD	LS	1.000		1.000
2520	SPV.0105	SPECIAL 21. REMOVE SAND BARREL ARRAY	LS	1.000		1.000
2530	SPV.0165	SPECIAL 01. WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD	SF	1,140.000		1,140.000
2540	SPV.0180	SPECIAL 01. WEED FABRIC BARRIER	SY	70.000		70.000
2550	SPV.0180	SPECIAL 02. MULCH WOOD CHIPS	SY	70.000		70.000

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REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STATION - STATION	LOCATION	204.0125 REMOVING ASPHALTIC SURFACE MILLING TON
0010	225+43 - 226+25	LT/RT	150
	RR BRIDGE	LT/RT	600
	231+25 - 231+88	LT/RT	150
	47+44 - 49+62	LT/RT	250
	50+56 - 54+54	LT/RT	500
	231+88 - 238+58	LT/RT	1,500
	238+58 - 251+70	LT/RT	2,450
	251+70 - 258+54	LT/RT	1,250
	258+54 - 267+00	LT/RT	1,500
	17+59 - 19+41	LT/RT	250
	20+59 - 22+91	LT/RT	150
	LEVELING COURSE	LT/RT	650
		TOTAL	9,400

SHAPING SHOULDERS

CATEGORY	STATION - STATION	LOCATION	305.0500 SHAPING SHOULDERS STA
0010	225+43 - 227+90	RT	3
	233+60 - 253+75	RT	20
	239+86 - 240+65	RT MEDIAN	1
	243+17 - 244+50	LT MEDIAN	2
	237+51 - 256+53	LT	19
	246+38 - 250+89	LT & RT MEDIAN	10
	260+32 - 267+00	RT	7
	260+32 - 267+00	RT MEDIAN	7
	264+65 - 267+00	LT MEDIAN	2
	265+82 - 267+00	LT	2
	TOTAL		73

FINISHING ROADWAY

CATEGORY	LOCATION	213.0100 EACH
0010	PROJECT 2250-00-75	1
	TOTAL	1

MOBILIZATION

CATEGORY	LOCATION	619.1000 MOBILIZATION EACH
0010	PROJECT 2250-00-75	0.5
	TOTAL	0.5

CONSTRUCTION STAKING RESURFACING REFERENCE

CATEGORY	LOCATION	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF
0010	PROJECT 2250-00-75	8,320
	TOTAL	8,320

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

HMA PAVEMENT

CATEGORY	STATION - STATION	LOCATION	455.0115 ASPHALTIC MATERIAL PG 64-22, TON	455.0120 ASPHALTIC MATERIAL PG 64-28 TON	455.0605 TACK COAT 7-3/4" DEPTH GAL	455.0605 TACK COAT 4" DEPTH GAL	455.0605 TACK COAT VARIABLE DEPTH VARIES 0" - 4" GAL	460.1101 HMA PAVEMENT TYPE E-10 7-3/4" DEPTH TON	460.1101 HMA PAVEMENT TYPE E-10 4" DEPTH TON	460.1101 HMA PAVEMENT TYPE E-10 VARIABLE DEPTH VARIES 0" - 4" TON	465.0105 ASPHALTIC SURFACE TON	465.0315 ASPHALTIC FLUMES SY
0010	225+43 - 226+25	STH 20 LT/RT, WEST OF CTH H	5	4	--	31	--	--	141	--	--	--
	226+25 - 231+25	RR BRIDGE	33	--	--	--	200	--	--	600	--	--
	231+25 - 238+55	STH 20 LT/RT, CTH H - 96TH ST.	51	41	--	355	--	--	1,625	--	--	--
	238+55 - 251+69	STH 20 LT/RT, 96TH ST. - 92ND ST.	75	59	--	525	--	--	2,410	--	--	--
	251+69 - 258+52	STH 20 LT/RT, 92ND ST. - 90TH ST.	38	30	--	265	--	--	1,210	--	--	--
	258+52 - 267+00	STH 20 LT/RT, EAST OF 90TH ST.	46	36	--	325	--	--	1,475	--	--	--
	47+44 - 49+61	WISCONSIN STREET LT/RT	8	7	--	54	--	--	250	--	--	--
	50+56 - 54+62	CTH H (NORTH) LT/RT	15	12	--	105	--	--	465	--	--	--
	17+58 - 19+43	90TH STREET LT/RT	8	6	--	50	--	--	228	--	--	--
	20+58 - 22+91	90TH STRET RT	4	3	--	27	--	--	122	--	--	--
	225+43 - 229+09	STH 20 MEDIAN	6	2	24	--	--	138	--	--	--	--
	229+96 - 230+25	STH 20 MEDIAN	1	1	3	--	--	13	--	--	--	--
	230+17 - 231+38	STH 20 MEDIAN	1	1	4	--	--	24	--	--	--	--
	228+89 - 231+62	SW QUADRANT OF STH 20 / CTH H	11	4	42	--	--	245	--	--	--	--
	229+94 - 231+68	NW QUADRANT OF STH 20 / CTH H	10	3	39	--	--	227	--	--	--	--
	51+37 - 54+05	CTH H (NORTH) RT	2	1	7	--	--	38	--	--	--	--
	232+59 - 237+51	NE QUADRANT OF STH 20 / CTH H	12	4	45	--	--	266	--	--	--	--
	232+10 - 233+60	SE QUADRANT OF STH 20 / CTH H	11	4	42	--	--	249	--	--	--	--
	238+03 - 238+49	STH 20 MEDIAN	1	1	1	--	--	4	--	--	--	--
	238+26 - 243+59	STH 20 MEDIAN	16	5	63	--	--	375	--	--	--	--
	240+64 - 245+72	STH 20 MEDIAN	16	5	63	--	--	373	--	--	--	--
	244+00 - 245+10	STH 20 LT	1	1	2	--	--	10	--	--	--	--
	251+36 - 256+99	STH 20 MEDIAN	16	5	62	--	--	365	--	--	--	--
	252+26 - 258+52	STH 20 MEDIAN AT 90TH STREET	20	6	80	--	--	460	--	--	--	--
	258+52 - 264+65	STH 20 AT 90TH STREET	19	6	73	--	--	430	--	--	--	--
	253+77 - 258+21	SW QUADRANT OF STH 20 / 90TH STREE	9	3	36	--	--	209	--	--	--	--
	256+53 - 258+48	NW QUADRANT OF STH 20 / 90TH STREE	23	7	90	--	--	525	--	--	--	--
	258+70 - 263+57	NE QUADRANT OF STH 20 / 90TH STREE	15	5	57	--	--	336	--	--	--	--
	258+68 - 260+32	SE QUADRANT OF STH 20 / 90TH STREE	11	3	40	--	--	237	--	--	--	--
	231+20	RT	--	--	--	--	--	--	--	--	--	15
	237+55	LT	--	--	--	--	--	--	--	--	--	10
	238+60	LT	--	--	--	--	--	--	--	--	--	15
	260+38	RT	--	--	--	--	--	--	--	--	--	10
	260+39	RT	--	--	--	--	--	--	--	--	--	10
	260+72	RT	--	--	--	--	--	--	--	--	--	10
	264+71	LT	--	--	--	--	--	--	--	--	--	15
	265+85	LT	--	--	--	--	--	--	--	--	--	15
	225+43 - 267+00	LEVELING COURSE	36	--	--	--	490	--	--	650	--	--
	232+98 - 233+54	ASPHALT DRIVEWAY	--	--	--	--	--	--	--	--	25	--
	18+27 - 18+70	ASPHALT DRIVEWAY	--	--	--	--	--	--	--	--	20	--
TOTAL			520	265	773	1737	690	4524	7926	1250	45	100
						3,200			13,700			

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

Proj: 2250-00-75

TYPE I & II PERMANENT SIGNING — CATEGORY CODE 010

SIGN NO.	CODE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.]	X	H [IN.]	637.221 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	637.223 SIGNS TYPE II REFLECTIVE F [SF]	634.0618 WOOD POSTS 4"x 6"X18' [EA]	638.2102 MOVING SIGNS TYPE II [EA]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
1	--	Be prepared to stop	--	X	--					1				Mount on flashilng becon pole
1a	W16-13P	When flashing	24	X	18			3					1	Add temp 16"x16" flags- incidental
2	--	Be prepared to stop	--	X	--					1				Mount on flashilng becon pole
2a	W16-13P	When flashing	24	X	18			3					2	Add temp 16"x16" flags- incidental
3	R6-2L (2M)	--	30	X	36	7.5			1		1	1		
4	J2-1 (2M)	--	36	X	84	21			1		1	1		
	M3-3	--	36	X	18									
	M1-5A	CO. H	36	X	36									
	M5-1L	--	30	X	30									
5	R3-20L(2M)	--	24	X	36	6			1		1	1		
6	R2-1(2M)	50 MPH	36	X	48	12			1		1	1		
7	R2-1(2M)	50 MPH	36	X	48	12			1		1	1		
8	R3-20L(2M)	--	24	X	36	6			1					
9	R3-20L	--									1	1		
10	J3-1 (2M)	--	36	X	84	21			2		1	1		
	M3-1	--	36	X	18									
	M1-5A	CO. H	36	X	36									
	M6-1	--	30	X	30									
11	D1-65	Renaissance Blvd NEXT SIGNAL	126	X	30	26.25			2		1	2		See sheet 1
12	J2-1 (2M)	--	36	X	84	21			2		1	1		
	M3-1	--	36	X	18									
	M1-5A	CO. H	36	X	36									
	M5-1L	--	30	X	30									
13	J2-1 (2M)	--	36	X	84	21			1		1	1		
	M3-1	--	36	X	18									
	M1-5A	CO. H	36	X	36									
	M5-1L	--	30	X	30									
14	--	RAC. Correctional Inst.							2	1		2		Do not replace existing sign, move only
15	--	DMV / DMR Serv. Center								1			14	Do not replace existing sign, move only
16	D1-65	<- S Fancher rd /Wisconsin St -> NEXT SIGNAL	126	X	42	36.75			3		1			
	D1-1	WISCONSIN ST --->									1	2		
17	D1-1 (MOD)	<--AMTRAK STATION	60	X	24	10			2		1	2		
18	R5-1A(2M)	--	42	X	30	8.75			1		1	1		
19	R6-3(2M)	--	30	X	24	5								MOUNT ON LIGHT POLE
20	R3-20L(2M)	--	24	X	36	6			1		1	1		
21	W12-1D(2M)	--	24	X	24			4	1					MOUNT 2' HT.
22	R3-4(2M)	no u turn	36	X	36	9					1			MOUNT ON SIGNAL POLE

Proj: 2250-00-75

TYPE I & II PERMANENT SIGNING — CATEGORY CODE 010

SIGN NO.	CODE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.]	X	H [IN.]	637.221 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	637.223 SIGNS TYPE II REFLECTIVE F [SF]	634.0618 WOOD POSTS 4"x 6"X18' [EA]	638.2102 MOVING SIGNS TYPE II [EA]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
23	R1-1F(3)	--	36	X	36		7.46				1			MOUNT ON SIGNAL POLE
24	R5-1(2M)	--	36	X	36	9			1		1			MOUNT ON SIGNAL POLE
25	R1-1(3)	--	36	X	36	7.46							24	MOUNT ON LIGHT POLE
26	M1-94S (MOD)	STH 20, WASHINGTON AVE	138	X	24	23								MOUNT ON SIGNAL Arms Bracket- incidental
27	R10-50L(2M)	--	30	X	36	7.5								MOUNT ON SIGNAL Arms Bracket- incidental
28	M1-94S (MOD)	<- Wisconsin st/ S Fancher rd ->	114	X	36	28.5								MOUNT ON SIGNAL Arms Bracket- incidental
29	R6-2L (2M)	--	30	X	36	7.5					1			MOUNT ON SIGNAL POLE
30	R6-2L (2M)	--	30	X	36	7.5								MOUNT ON SIGNAL POLE
31	R1-1F(3)	--	36	X	36		7.46				1			MOUNT ON SIGNAL POLE
32	R10-50L(2M)	--	30	X	36	7.5			1					Mount high on signal pole
33	R5-1(2M)	--	36	X	36	9					1		20	
34	W12-1D(2M)	--	24	X	24			4	1					MOUNT 2' HT.
35	R1-2(2S)	--	36	X	31	3.88					1	1		MOUNT ON LIGHT POLE
36	R1-1F(3)	--	36	X	36		7.46				1			MOUNT ON SIGNAL POLE
37	J3-2(2M)	--	48	X	57	19			2					
	M3-3	--	24	X	12									
	M1-5A	CO. H	24	X	24									
	M6-1	--	21	X	21									
	M1-6	STH 20	24	X	24									
	M6-4	--	21	X	21									
38	R4-7(2M)	--	36	X	48	12					1			MOUNT ON SIGNAL POLE
39	J2-1	NORTH/CTH H/ <--	--	X	--						1	1		
40	J4-1(2M)		24	X	36	6								
	M3-4	--	24	X	12									
	M1-6	STH 20	24	X	24									
41	J4-1(2M)		24	X	36	6			1		1	1		
	M3-2	--	24	X	12									
	M1-6	STH 20	24	X	24									
42	M1-94S (MOD)	<- S Fancher rd /Wisconsin St ->	114	X	36	28.5								MOUNT ON SIGNAL Arms Bracket- incidental
43	R1-1F(3)	--									1			
44	R6-3(2M)	--	30	X	24	5								MOUNT ON SIGNAL POLE
45	R6-2L	--	--	X	--						1			
46	R4-7(2M)	--	36	X	48	12					1			MOUNT ON SIGNAL POLE
47	W12-1D(2M)	--	24	X	24			4	1		1	1		MOUNT 2' HT.
48	R1-1F(3)	--	36	X	36		7.46							MOUNT ON SIGNAL POLE
49	R6-2L (2M)	--	30	X	36	7.5								MOUNT ON SIGNAL POLE
50	R1-2(2S)	--	36	X	31	3.88					1	1		MOUNT ON LIGHT POLE
51	R1-1F(3)	--	36	X	36		7.46				1			MOUNT ON SIGNAL POLE
52	J2-1	--	--	X	--						1	1		
53	J3-1	--	--	X	--						1	1		

SHEET: 2 OF 7

Proj: 2250-00-75

TYPE I & II PERMANENT SIGNING — CATEGORY CODE 010

SIGN NO.	CODE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.]	X	H [IN.]	637.221 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	637.223 SIGNS TYPE II REFLECTIVE F [SF]	634.0618 WOOD POSTS 4"x 6"X18' [EA]	638.2102 MOVING SIGNS TYPE II [EA]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
54	J3-2(2M)	--	72	X	84	42			2					
	M3-3	--	36	X	18									
	M1-5A	CO. H	36	X	36									
	M6-1	--	30	X	30									
	M3-1	--	36	X	18									
	M1-5A	CO. H	36	X	36									
	M6-1	--	30	X	30									
55	R5-1A(2M)	--	42	X	30	8.75					1		54	
56	R3-20L(2M)	--	24	X	36	6			1		1	1		
57	R3-4(2M)	no u turn	36	X	36	9					1			MOUNT ON SIGNAL POLE
58	R5-1(2M)	--	36	X	36	9					1		56	
59	W12-1D(2M)	--	24	X	24			4	1					MOUNT 2' HT.
60	R1-1(3)	--	36	X	36	7.46					1			MOUNT ON LIGHT POLE
61	R1-1F(3)	--	36	X	36		7.46				1			MOUNT ON SIGNAL POLE
62	R5-1(2M)	--	36	X	36	9			1		1			
63	R6-2L (2M)	--	30	X	36	7.5								MOUNT ON SIGNAL POLE
64	M1-94S (MOD)	STH 20, WASHINGTON AVE	138	X	24	23								MOUNT ON SIGNAL Arms Bracket- incidental
65	R10-50L(2M)	--	30	X	36	7.5			1					MOUNT ON SIGNAL Arms Bracket- incidental
66	R10-50L(2M)	--	30	X	36	7.5			1					Mount high on signal pole
67	R5-1(2M)	DO NOT ENTER	--	X	--						1	1		
68	J3-1	SO./ CO. H/ ARROW									1	1		
69	R3-2(2M)	--	36	X	36	9			1					
70	R5-1(2M)	--	36	X	36	9			1					
71	R4-7	KEEP RIGHT		X							1	1		
72	R4-7	KEEP RIGHT		X							1	1		
73	R5-1(2S)	--	30	X	30	6.26			1					SIGN FACING SOUTH
74	R5-1(2S)	--	30	X	30	6.26								SIGN FACING NORTH
75	R1-51 (2S)	RIGHT TURN ONLY	30	X	18	3.75			1					
76	R3-2(2S)	--	24	X	24	4								Mount under R4-7
77	R4-7(2M)		24	X	30	5			1					MOUNT ABOVE (NO LEFT TURN) SIGN
78	R2-1(2M)	50 MPH	36	X	48	12			1		1	1		
79	R2-1(2M)	50 MPH	36	X	48	12			1		1	1		
80	R3-20L(2M)	--	24	X	36	6			1					
81	R5-1A(2M)	--	42	X	30	8.75							82	
82	W3-3	SIGNAL AHEAD SIGN		X					1	1				
83	R6-2R (2S)	--	24	X	30	5			1		1	1		
84	R5-1(2M)	--	36	X	36	9							86	
85	D1-1	<-- WISCONSIN ST									1	2		
86	D1-65	<- Wisconsin st/ S Fancher rd -> NEXT SIGNAL	126	X	42	36.75			3					
87	R1-1(3)	--	36	X	36	7.46			1		1	1		

SHEET: 3 OF 7

PROJECT NO:2250-00-75	HWY:STH 20	COUNTY: RACINE CO.	PERMANENT SIGNING QUANTITIES	SHEET:	E

FILE NAME : __N:\SPO\Operations\Traffic_Ops\Signing\Miscellaneous Quantities\2250-00-75 PLOT DATE March 18,2014 : PLOT BY : ____D. STEEL_____ PLOT NAME : _____ PLOT SCALE : 1:1

Proj: 2250-00-75

TYPE I & II PERMANENT SIGNING — CATEGORY CODE 010

SIGN NO.	CODE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.]	X	H [IN.]	637.221 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	637.223 SIGNS TYPE II REFLECTIVE F [SF]	634.0618 WOOD POSTS 4"x 6"X18' [EA]	638.2102 MOVING SIGNS TYPE II [EA]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
88	R6-2R (2S)	--	24	X	30	5					1	1	74	BELOW (R5-1)SIGN FACING NORTH
89	R3-20L(2M)	--	24	X	36	6			1		1	1		
90	J2-2(2M)		72	X	84	42								
	M3-3		36	X	18				2					
	M1-5A	CO. H	36	X	36									
	M6-1		30	X	30									
	M3-1		36	X	18									
	M1-5A	CO. H	36	X	36									
	M5-1R		30	X	30									
91	J2-1	NORTH/CTH H/ ADV ARROW									1	1		
92	W12-1D(2M)	--	24	X	24			4	1					2' MOUNTING HEIGHT
93	R6-2R (2M)	--	30	X	36	7.5			1					
94	NO. NOT USED			X										
95	R3-2(2S)	--	24	X	24	4								Mount under R4-7
96	R4-7(2M)		24	X	30	5			1		1	1		MOUNT ABOVE (NO LEFT TURN) SIGN
97	NO. NOT USED													
98	W12-1D(2M)	--	24	X	24			4	1					2' MOUNTING HEIGHT
99	R6-2R (2M)	--		X							1	1		
100	R4-7	KEEP RIGHT									1	1		
101	R3-2(2M)	--	36	X	36	9			1				102	
102	R5-1(2M)	--	36	X	36	9					1	1	101	
103	R6-2R (2S)	--	24	X	30	5			1					
104	R5-1(2M)	--	36	X	36	9								
105	R3-53R(3)	RIGHT TURN ONLY	24	X	30	5			1					
106	R1-1(3)	--	36	X	36	7.46			1		1	1		
107	J1-1 (2M)		36	X	58	13.5			1		1	1		
	M2-1		36	X	18									
	M1-5A	CO. H	36	X	36									
108	J1-1 (2M)		36	X	58	13.5			1		1	1		
	M2-1		36	X	18									
	M1-5A	CO. H	36	X	36									
109	D1-61	96th ST	66	X	30	13.75			2					
		<--- --->												
110	R3-20L(2M)	--	24	X	36	6			1					
111	D1-1	96TH ST									1	2		
112	D1-1	92nd ST --->	90	X	21	13.125			2		1	2		
113	D1-1	96 th ST -->	84	X	21	12.25			2		1	2		SEE SHT 3B
114	--	RAC. Correctional Inst.							2	1		2		Do not replace existing sign,SEE SHT 3B
115	--	DMV / DNR Serv. Center								1			114	Do not replace existing sign, SEE SHT 3B
116	R5-1A	WRONG WAY [12]							1	1				MOVE to sta:244+00,facing east /sht5
117	R5-1A	WRONG WAY [12]							1	1				sta:255+50,facing east on shoulder /sht7a

SHEET: 4 OF 7

PROJECT NO:2250-00-75	HWY:STH 20	COUNTY: RACINE CO.	PERMANENT SIGNING QUANTITIES	SHEET:	E

FILE NAME : __N:\SPO\Operations\Traffic_Ops\Signing\Miscellaneous Quantities\2250-00-75 PLOT DATE : March 18,2014 PLOT BY : ___D. STEEL_____ PLOT NAME : _____ PLOT SCALE : 1:1

Proj: 2250-00-75

TYPE I & II PERMANENT SIGNING — CATEGORY CODE 010

SIGN NO.	CODE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.]	X	H [IN.]	637.221 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	637.223 SIGNS TYPE II REFLECTIVE F [SF]	634.0618 WOOD POSTS 4"x 6"X18' [EA]	638.2102 MOVING SIGNS TYPE II [EA]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
118	W3-3	SIGNAL AHEAD SIGN [12]								1				move only if needed/ same location
119	R5-1	DO NOT ENTER[12]								1				
120	R3-2L (2M)	--	36	X	36	9							119	
121	R6-2R (2S)	--	24	X	30	5			1					
122	R4-7	KEEP RIGHT									1	1		
123	R4-7(2M)	KEEP RIGHT	24	X	30	5					1	1	124	
124	R3-2(2S)	--	24	X	24	4							123	Mount under R4-7
25	R3-7R(3)	--	36	X	36	9			1					
	R3-20R	RT. TURN LANE									1	1		
126	D1-1	90 th ST									1	2		
127	D1-65	90 th ST	72	X	30	15			2					
		NEXT SIGNAL												
128	R2-1(2M)	50 MPH	36	X	48	12			1		1	1		
129	R2-1(2M)	50 MPH	36	X	48	12			1		1	1		
130	R5-1A (2M)	--	42	X	30	8.75							128	
131	M1-95A(2)	NORTH FRONTAGE RD	24	X	30	5			1					
	M6-1(2)	--	21	X	21	3.06								
132	M1-95	NORTH FRONTAGE RD									1	1		
	M6-1	ARROW									1			
133	R5-1(2M)	--	36	X	36	9			1					
134	R6-2R	ONE WAY / <--									1	1		
135	R3-20L(2M)	--	24	X	36	6			1					
136	R3-53R(3)	--	24	X	30	5			1					
137	R3-20L(2M)	--	24	X	36	6			1					
138	--	Mt. Pleasant / Civ. Camp/ <--							2	1				
139	R5-1A	WRONG WAY									1	1		
140	R5-1	DO NOT ENTER									1	1		
141	W12-1D(2M)	--	24	X	24			4	1					2' MOUNTING HEIGHT
142	R1-1F(3)	--	36	X	36		7.46				1			MOUNT ON SIGNAL POLE
143	R1-1F(3)	--	36	X	36		7.46				1			MOUNT ON SIGNAL POLE
144	R1-1F(3)	--	36	X	36		7.46				1	1		MOUNT ON SIGNAL POLE
145	R1-1(3)	--	36	X	36	7.46								MOUNT ON LIGHT POLE
146	R5-1(2M)	--	36	X	36	9			1					
147	R4-7	KEEP RIGHT												Mount high on signal pole
148	R4-7(2M)	--	36	X	48	12								MOUNT ON SIGNAL POLE
149	R6-2L (2M)	--	30	X	36	7.5								MOUNT ON SIGNAL POLE
150	M1-94S (MOD)	STH 20, WASHINGTON AVE	138	X	24	23								MOUNT ON SIGNAL Arms Bracket- incidental
151	R10-50L(2M)	--	30	X	36	7.5			1					MOUNT ON SIGNAL Arms Bracket- incidental
152	R10-50L(2M)	--	30	X	36	7.5			1					Mount high on signal pole
153	R5-1(2M)	--	36	X	36	9			1					
154	M1-94S (MOD)	90th ST	66	X	24	11								MOUNT ON SIGNAL Arms Bracket- incidental

SHEET: 5 OF 7

PROJECT NO:2250-00-75	HWY:STH 20	COUNTY: RACINE CO.	PERMANENT SIGNING QUANTITIES	SHEET:	E

FILE NAME : __N:\SPO\Operations\Traffic_Ops\Signing\Miscellaneous Quantities\2250-00-75 PLOT DATE : March 18,2014 PLOT BY : ___D. STEEL_____ PLOT NAME : _____ PLOT SCALE : 1:1

Proj: 2250-00-75

TYPE I & II PERMANENT SIGNING — CATEGORY CODE 010

SIGN NO.	CODE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.]	X	H [IN.]	637.221 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	637.223 SIGNS TYPE II REFLECTIVE F [SF]	634.0618 WOOD POSTS 4"x 6"X18' [EA]	638.2102 MOVING SIGNS TYPE II [EA]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
155	R6-2L (2M)	--	30	X	36	7.5								MOUNT ON SIGNAL POLE
156	W12-1D(2M)	--	24	X	24			4	1					2' MOUNTING HIGHT
157	R6-3(2M)	--	30	X	24	5								MOUNT ON SIGNAL Arms Bracket- incidental
158	R1-1F(3)	--	36	X	36		7.46				1	1		MOUNT ON SIGNAL POLE
159	R6-2L										1			
160	J3-1	STH 20/ <----->									1	1		
161	D1-1	92nd ST --->	90	X	21	13.125			2		1	2		
162	R1-2(2S)	--	36	X	31	3.88			1					
163	W12-1D(2M)	--	24	X	24			4	1					2' MOUNTING HEIGHT/ SHT 6
164	W12-1D(2M)	--	24	X	24			4	1					2' MOUNTING HEIGHT/ SHT 7b
165	M1-94S (MOD)	90th ST	66	X	24	11								MOUNT ON SIGNAL Arms Bracket- incidental
166	R10-50L(2M)	--	30	X	36	7.5			1					Mount high on signal pole
167	R10-50L(2M)	--	30	X	36	7.5			1					MOUNT ON SIGNAL Arms Bracket- incidental
168	*NOT USED*	--												
169	R1-1F(3)	--	36	X	36		7.46				1			MOUNT ON SIGNAL POLE
170	R1-2(2S)	--	36	X	31	3.88					1	1		MOUNT ON LIGHT POLE
171	R6-2L (2M)	--	30	X	36	7.5					1	1		MOUNT ON SIGNAL POLE
172	R1-1F(3)	--	36	X	36		7.46				1			MOUNT ON SIGNAL POLE
173	R4-7(2M)	--	36	X	48	12					1			MOUNT ON SIGNAL POLE
174	R1-1F(3)	--	36	X	36		7.46							MOUNT ON SIGNAL POLE
175	W12-1D(2M)	--	24	X	24			4	1					2' MOUNTING HEIGHT/ SHT 7b
176	R5-1(2M)	--	36	X	36	9			1		1	1		
177	R1-1F(3)	--	36	X	36		7.46				1			MOUNT ON SIGNAL POLE
178	R1-1F(3)	--	36	X	36	7.46								MOUNT ON LIGHT POLE
179	R5-1(2M)	--	36	X	36	9			1					
180	R6-2L (2M)	--	30	X	36	7.5								MOUNT ON SIGNAL POLE
181	M1-94S (MOD)	STH 20, WASHINGTON AVE	138	X	24	23								MOUNT ON SIGNAL Arms Bracket- incidental
182	R3-20LL(2M)	--	24	X	36	6			1					
183	J4-1(2M)		36	X	58	13.5			1		1	1		
	M3-2	--	36	X	18									
	M1-6	STH 20	36	X	36									
184	R5-1A	WRONG WAY [12]							1	1				to sta:263+00
185	R3-20L(2M)	--	24	X	36	6			1					
186	D1-65	90 th ST	72	X	30	15			2					
		NEXT SIGNAL												
187	D1-1	90 th ST									1	2		

SHEET: 6 OF 7

Proj: 2250-00-75

TYPE I & II PERMANENT SIGNING — CATEGORY CODE 010

SIGN NO.	CODE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.]	X	H [IN.]	637.221 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	637.223 SIGNS TYPE II REFLECTIVE F [SF]	634.0618 WOOD POSTS 4"x 6"X18' [EA]	638.2102 MOVING SIGNS TYPE II [EA]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
188	--	Mt. Pleasant / Civ. Camp/ -->							2	1				
189	M1-95A(2)	NORTH FRONTAGE RD	24	X	30	5			1		1	1		
	M6-1(2)	--	21	X	21	3.06								
190	J3-2(2M)	--	48	X	57	19			1					AVOID VISUAL OBSTRUCTION
	M3-3	--	24	X	12									WHEN PLACED
	M1-5A	CO. H	24	X	24									
	M6-1	--	21	X	21									
	M1-6	STH 20	24	X	24									
	M6-4	--	21	X	21									
191	J3-1	STH 20 / ARROW									1	1		
192	J3-1	SO./ CO. H / ARROW									1	1		
193	J1-1 (2M)		24	X	39	6.5			1		1	1		
	M2-1	--	21	X	15									
	M1-6	STH 20	24	X	24									
194	J1-1 (2M)	JCT / STH 20									1	1		
195	J1-1 (2M)		48	X	39	13			1					
	M2-1	--	21	X	15									
	M1-6	STH 20	24	X	24									
	M2-1	--	21	X	15									
	M1-5A	CO. H	24	X	24									
196	J3-2(2M)	--	48	X	45	15			1					
	M1-6	STH 20	24	X	24									
	M6-4	--	21	X	21									
	M1-5A	CO. H	24	X	24									
	M6-6	--	21	X	21									
197	J3-1	STH 20/ <----->									1	1		
198	R6-2L		30	X	36	7.5								MOUNT ON SIGNAL POLE, SEE SHT 3a OF 10
TOTALS						1355.175	104.44	50	117	14	96	83		

SHEET: 7 OF 7

PROJECT NO:2250-00-75	HWY:STH 20	COUNTY: RACINE CO.	PERMANENT SIGNING QUANTITIES	SHEET:	E

FILE NAME : __N:\SPO\Operations\Traffic_Ops\Signing\Miscellaneous Quantities\2250-00-75 PLOT DATE : March 18,2014 PLOT BY : ___D. STEEL_____ PLOT NAME : _____ PLOT SCALE : 1:1

CLEARING AND GRUBBING

CATEGORY	STATION	LOCATION	201.0110 CLEARING SY	201.0120 CLEARING ID	201.0210 GRUBBING SY	201.0220 GRUBBING ID	REMARKS
0010	261+55	LT	--	3	--	3	3" DIAMETER TREE
	262+50	LT	--	3	--	3	3" DIAMETER TREE
	47+74	RT	--	3	--	3	3" DIAMETER TREE
	51+80 - 54+20	LT	270	--	270	--	TREE LINE ON TOP OF SLOPE
		TOTAL	270	9	270	9	

REMOVING PAVEMENT

CATEGORY	STATION - STATION	LOCATION	204.0100 REMOVING PAVEMENT SY
0010	229+00 - 230+00	RT	95
	230+00 - 231+63	LT/RT	325
	48+25 - 49+25	LT/RT	290
	51+00 - 52+00	LT/RT	120
	232+17 - 235+00	LT/RT	285
	235+18 - 238+00	MEDIAN	265
	238+00 - 240+50	LT/RT	730
	240+50 - 246+38	LT/RT	980
	250+89 - 258+25	LT/RT	1545
	17+58 - 19+25	LT/RT	280
	20+48 - 23+00	LT/RT	1020
	258+25 - 266+00	LT/RT	1015
		TOTAL	6950

REMOVING CURB AND GUTTER

CATEGORY	STATION - STATION	LOCATION	204.0150 REMOVING CURB & GUTTER LF
0010	225+43 - 231+38	LT/RT	640
	228+46 - 230+45	LT	200
	47+89 - 48+26	LT	40
	51+39 - 54+05	RT	270
	51+97 - 54+54	LT	260
	18+25 - 18+70	LT	45
	20+86 - 22+27	RT	145
	TOTAL		1,600

REMOVING CONCRETE SIDEWALK

CATEGORY	STATION - STATION	LOCATION	204.0155 REMOVING CONCRETE SIDEWALK SY
0010	229+94 - 230+24	LT	35
	20+72 - 22+30	RT	90
		TOTAL	125

REMOVING GUARDRAIL

CATEGORY	STATION - STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
0010	228+45 - 230+00	MEDIAN	155
	227+82 - 229+72	MEDIAN	193
	227+09 - 229+50	RT	242
		TOTAL	590

REMOVING FENCE

CATEGORY	STATION - STATION	LOCATION	204.0170 REMOVING FENCE LF
0010	229+76 - 231+54	RT	230
		TOTAL	230

FINISHING ROADWAY

CATEGORY	LOCATION	213.0100 EACH
0010	PROJECT 2340-00-73	1
	TOTAL	1

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

3

REMOVING STORM SEWER

STA	-	STA.	OFFSET	204.0210 REMOVING MANHOLES (EACH)	204.0220 REMOVING INLETS (EACH)	204.0245.01 REMOVING STORM SEWER 12-INCH (LF)	204.0245.02 REMOVING STORM SEWER 15-INCH (LS)	204.0245.03 REMOVING STORM SEWER 18-INCH (LS)	204.0245.04 REMOVING STORM SEWER 21-INCH (LS)	204.0245.05 REMOVING STORM SEWER 24-INCH (LS)	204.0245.06 REMOVING STORM SEWER 27-INCH (LS)	204.0245.07 REMOVING STORM SEWER 30-INCH (LS)
PROJECT 2340-00-73												
227+12		227+12	C/L	--	2	24	--	--	--	--	--	--
227+12		228+26	LT	--	--	--	--	--	115	--	--	--
229+92		229+92	C/L	1	--	--	--	--	--	--	--	16
229+92		230+02	RT	--	1	--	8	--	--	--	--	--
229+92		229+92	RT	--	1	--	--	--	--	--	--	7
232+62		232+80	RT	--	2	--	22	13	--	--	--	--
232+45		232+95	LT	--	1	--	--	--	55	--	70	--
236+55		236+55	LT	--	--	--	--	8	--	--	--	--
244+50		244+50	RT	--	--	--	--	--	--	5	--	--
251+31		252+25	RT	--	2	--	--	94	--	--	--	--
253+39		253+39	LT	--	--	--	--	--	--	--	--	87
258+10		258+90	LT	--	2	78	--	--	--	--	--	--
48+77		49+02	RT	1	1	--	23	5	--	--	--	--
48+83		49+15	LT	--	1	--	35	--	--	--	--	--
50+72		50+95	LT	1	1	--	15	--	--	--	--	--
50+95		51+00	LT	--	1	--	--	24	--	--	--	--
51+05		51+10	RT	--	1	--	20	--	--	--	--	--
			TOTAL	3	16	102	123	144	170	5	70	110

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

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EARTHWORK SUMMARY

Division	From / To Station	Location	Common Excavation (1) (item # 205.0100) Cut (2)	EBS Excavation (3)	Salvaged / Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13) Factor 1.25	Mass Ordinate + / - (14)	Waste	Borrow (item #208.0100)	Comment:
Stage 1	225+43 - 231+25	STH 20	763		112	651	24	29	622			
	236+00 - 246+38	STH 20	1177		435	742	361	451	292			
	250+89 - 265+00	STH 20	1689		633	1057	1009	1261	-205			
	CTH H / Wisconsin St. Intersection		100		100	0	0	0	0			
Division 1 Subtotal			3730	0	1280	2450	1393	1742	708			
Stage 2	229+00 - 231+25	STH 20	1080		86	994	228	284	709			
	232+50 - 237+50	STH 20	906		80	826	133	166	659			
	254+00 - 257+75	STH 20	464		8	456	431	539	-83			
	259+00 - 265+00	STH 20	2423		52	2371	502	627	1744			
	47+45 - 49+00	WIS. ST.	569		48	521	95	119	402			
	51+00 - 54+54	CTH H	1451		61	1390	0	0	1390			
	17+59 - 19+00	90TH ST.	318		67	250	143	179	71			
	21+00 - 22+90	90TH ST.	1056		231	824	20	25	800			
	CTH H / Wisconsin St. Intersection		575		350	225	0	0	225			
	90th Street Intersection		529		320	209	0	0	209			
Division 2 Subtotal			9370	0	1304	8066	1552	1939	6127	6835		
Grand Total			13100	0	2584	10516	2945	3681	6835	6835	0	
		Total Common Exc	13100									

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Marsh Excavation - to be backfilled with Select Borrow Material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well. Item number 205.0500
7) Rock Excavation item number 205.0200
8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6
9) Reduced EBS in Fill - Excavated EBS material is usuable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item number 208.11
11) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.11
12) Expanded Rock - Factor = 1.1.
13) Expanded Fill. Factor = 1.25

Depending on selections:

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor

14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

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BASE MATERIAL

CATEGORY	STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON
0010	225+43 - 231+38	LT/RT	--	560	--
	227+89 - 231+61	RT	--	720	--
	228+45 - 231+68	LT	--	770	--
	230+15 - 231+68	RT	--	145	--
	229+95 - 230+33	LT/RT	--	70	--
	232+10 - 233+60	RT	--	690	--
	232+17 - 237+59	LT	--	975	--
	232+18 - 232+54	LT	--	35	--
	235+60 - 243+60	LT/RT	60	1,230	--
	240+64 - 246+38	LT/RT	60	1,160	--
	244+00 - 245+10	LT	20	100	--
	250+89 - 264+65	LT	115	4,260	--
	253+77 - 258+22	RT	45	765	--
	256+53 - 258+48	LT	--	1,210	--
	258+68 - 260+33	RT	--	650	--
	258+64 - 265+81	LT	--	1,040	--
	CONCRETE SIDEWALKS BASE		--	125	--
	ASPHALTIC DRIVEWAYS		--	95	--
	UNDISTRIBUTED EBS		--	--	750
	TOTALS		300	14,600	750

BASE PATCHING CONCRETE

CATEGORY	LOCATION	390.0303 BASE PATCHING CONCRETE SY	REMARKS
0010	STH 20	3,860	10% OF MILLING AREA
	TOTAL	3,860	

TIE BARS

CATEGORY	LOCATION	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	REMARKS
0010	STH 20	2,320	2,320	BASE PATCHING AREAS
	TOTALS	2,320	2,320	

CONCRETE CURB AND GUTTER

CATEGORY	STATION - STATION	LOCATION	601.0576 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J LF	650.5500 CONSTRUCTION STAKING CURB GUTTER & CURB AND GUTTER LF
0010	225+43 - 231+60	LT/RT	1,110	1,110
	227+89 - 231+10	RT	1,170	1,170
	48+71 - 49+55	RT	485	485
	50+60 - 54+54	LT	850	850
	231+91 - 237+51	LT	1,060	1,060
	238+02 - 246+38	LT/RT	735	735
	250+89 - 258+25	LT/RT	2,355	2,355
	17+58 - 19+40	RT	460	460
	20+59 - 22+91	LT/RT	520	520
	258+75 - 261+50	LT/RT	1,685	1,685
	258+57 - 265+82	LT	970	970
		TOTAL	11,400	11,400

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

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CONCRETE SIDEWALK

CATEGORY	STATION	-	STATION	LOCATION	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF
0010	230+00	-	233+00	LT/RT	5,600	160
	257+50	-	259+50	LT/RT	5,100	160
				TOTAL	10,700	320

FENCE CHAIN LINK 4-FT

CATEGORY	STATION - STATION	LOCATION	616.0204 FENCE CHAIN LINK 4-FT LF
0010	229+76 - 231+54	RT	200
		TOTAL	200

CONCRETE MEDIAN SLOPED NOSE

CATEGORY	STATION	LOCATION	620.0300 CONCRETE MEDIAN SLOPED NOSE SF
0010	230+30	RT	64
	230+75	RT	65
	231+30	LT	50
	48+65	RT	66
	51+45	LT	66
	232+85	LT	66
	238+80	RT	56
	238+90	LT	66
	245+40	RT	84
	251+90	RT	56
	252+15	LT	66
	255+45	RT	81
	257+55	RT	66
	257+85	LT	86
	18+50	RT	66
	21+50	LT	66
	259+05	RT	84
	259+35	LT	66
	261+45	LT	80
		TOTAL	1,300

TEMPORARY CONCRETE BARRIER

CATEGORY	STATION	-	STATION	LOCATION	STAGE	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF
0010	261+50	-	267+50	LT	1	600	600
	261+50	-	267+50	LT	2	--	600
				TOTALS		600	1,200

CONCRETE BARRIER

CATEGORY	STATION	-	STATION	LOCATION	204.0157 REMOVING CONCRETE BARRIER LF	603.1136 CONCRETE BARRIER TYPE S36 LF
0010	228+40	-	229+93	LT	155	--
	228+44	-	229+18	RT	--	75
	228+46	-	229+08	LT	--	65
				TOTALS	155	140

MGS GUARDRAIL

CATEGORY	STATION - STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH
0010	226+65 - 227+18	RT	--	--	1	--
	227+18 - 228+44	RT	89	40	--	--
	229+18 - 231+20	RT	167	40	--	1
	229+08 - 230+35	LT	95	40	--	--
	230+35 - 230+88	LT	--	--	1	--
	261+30 - 265+02	LT	394	--	--	1
	265+02 - 265+55	LT	--	--	1	--
		TOTAL	745	120	3	2

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

STORM SEWER PIPE SCHEDULE

PIPE LOCATION		INVERT ELEVATION		STORM SEWER PIPE REINFORCED CONCRETE CLASS III							STORM SEWER PIPE REINFORCED CONCRETE CLASS IV			
				608.0312	608.0315	608.0318	608.0321	608.0324	608.0327	608.0330	608.0412	608.0415	608.0418	608.0424
				12-INCH	15-INCH	18-INCH	21-INCH	24-INCH	27-INCH	30-INCH	12-INCH	15-INCH	18-INCH	24-INCH
FROM	TO	INLET	DISCH.	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF
01-01	01-02	722.23	722.15	8										
01-02	01-03	721.40	717.32				113							
01-03	01-04	717.22	717.12				5							
COLLAR	02-01	714.12	714.10						2					
02-10	02-01	715.60	715.50								10			
02-01	02-04	714.00	713.92							16				
02-02	02-03	715.77	715.70		7									
02-03	02-04	715.60	715.17		43									
02-09	02-05	714.63	714.53	10										
02-05	EX.	714.43	714.40	3										
COLLAR	EX.	713.56	713.46							12				
02-06	02-07	714.06	713.00		53									
02-08	EX.	720.00	709.60								40			
03-02	03-03	725.00	724.82								12			
COLLAR	05-01	714.58	714.61											6
06-01	06-02	708.55	708.39								16			
06-02	06-07	705.68	705.15			74								
06-07	06-14	705.05	704.96			20								
06-03	06-04	707.50	707.42	8										
06-04	06-07	707.32	707.09		23									
06-05	06-06	707.63	707.46	17										
06-06	06-14	707.36	707.20		16									
EX.	06-15	---	702.10							92				
06-13	06-14	705.51	705.46	5										
06-08	06-09	707.38	707.20	18										
06-09	06-12	706.60	706.42	11										
06-10	06-11	707.23	707.05	18										
06-11	06-12	706.08	705.98	10										
06-12	07-07	705.70	704.69										243	
07-07	07-08	704.59	704.18			101								
07-08	07-09	704.08	704.03			10								
07-03	07-04	704.50	704.24										104	
07-04	07-06	704.14	704.02			48								
07-06	07-09	704.02	703.99			14								
07-09	07-11	703.67	703.59					33						
07-11	07-12	703.59	703.51					32						
07-12	07-14	703.51	703.42					37						
07-14	07-15	703.42	703.17					100						
07-15	07-16	703.17	703.00											66
07-05	07-06	707.50	707.40	10										

UNLESS OTHERWISE NOTED ALL ITEMS IN CATEGORY 0010

STORM SEWER PIPE SCHEDULE

PIPE LOCATION		INVERT ELEVATION		STORM SEWER PIPE REINFORCED CONCRETE CLASS III							STORM SEWER PIPE REINFORCED CONCRETE CLASS IV			
				608.0312	608.0315	608.0318	608.0321	608.0324	608.0327	608.0330	608.0412	608.0415	608.0418	608.0424
FROM	TO	INLET	DISCH.	12-INCH LF	15-INCH LF	18-INCH LF	21-INCH LF	24-INCH LF	27-INCH LF	30-INCH LF	12-INCH LF	15-INCH LF	18-INCH LF	24-INCH LF
07-01	07-02	705.75	705.68	7										
07-02	07-04	705.58	705.30	28										
07-10	07-11	706.70	706.48	22										
07-25	07-12	706.00	705.69	31										
07-22	07-23	706.55	706.27								71			
07-23	07-24	706.27	706.20								31			
07-13	07-14	707.47	707.43								4			
07-19	07-20	702.41	702.31	10										
07-20	07-21	702.06	701.42									64		
07-21	08-06	701.32	701.00									26		
07-17	07-18	703.61	703.52								9			
07-18	08-02	703.00	700.28			136								
08-02	08-03	699.64	696.80			143								
08-03	08-04	695.82	695.66			8								
08-04	08-05	695.56	692.00										178	
08-01	08-02	700.23	700.14	9										
09-02	EX.	717.90	717.57								33			
09-06	09-07	718.50	718.33								35			
09-07	COLLAR	718.02	717.94										14	
09-08	09-07	718.71	718.54								17			
09-03	09-04	718.41	718.21								20			
09-04	09-05	718.08	717.71								37			
COLLAR	09-13	717.86	717.65					28						
09-09	09-10	718.92	718.86								6			
09-10	09-11	718.76	718.50								26			
09-11	09-12	718.25	718.16		9									
09-12	09-13	717.37	717.26					35						
09-13	EX.	717.01	716.85						52					
09-14	09-15	721.92	721.37		55									
09-15	EX.	721.12	717.96										182	
10-01	EX.	706.66	706.59								7			
COLLAR	10-02	706.41	706.36								9			
10-02	10-03	706.10	705.80										53	
TOTALS				225	206	554	118	265	54	120	383	90	774	72

NOTES:

1. INLET AND DISCHARGE ELEVATIONS AND PIPE LENGTHS ARE TO THE CENTER OF STRUCTURE
2. OFFSET, INVERT ELEVATIONS, AND PIPE LENGTH FOR OUTFALL STATIONS ARE TO THE END OF PIPE

UNLESS OTHERWISE NOTED ALL ITEMS IN CATEGORY 0010

STORM SEWER INLETS, MANHOLES, ENDWALLS, COVERS, AND STAKING

STRUCTURE NUMBER	MANHOLES 611.2003 3-FT DIAMETER (EACH)	611.2004 4-FT DIAMETER (EACH)	611.2005 5-FT DIAMETER (EACH)	611.2006 6-FT DIAMETER (EACH)	611.2033 3x3 FT (EACH)	INLETS 611.3003 3-FT DIAMETER (EACH)	611.3230 2X3 FT (EACH)	611.3230 2.5X3 FT (EACH)	611.3901 MEDIAN 1-GRATE (EACH)	611.3902 MEDIAN 2-GRATE (EACH)	611.0535 MANHOLE COVERS TYPE J SPECIAL (EACH)	INLET COVERS 611.0630 TYPE HM-GJ (EACH)	611.0633 TYPE HM-GJ-S (EACH)	611.0642 TYPE MS (EACH)	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 522.1012 12-INCH (EACH)	522.1015 15-INCH (EACH)	522.1018 18-INCH (EACH)	522.1024 24-INCH (EACH)	522.1027 27-INCH (EACH)	520.8000 CONCRETE COLLARS FOR PIPE (EACH)	633.5200 MARKERS CULVERT END (EACH)	* 650.4000 CONSTRUCTION STAKING STORM SEWER SYSTEM (EACH)
01-01	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
01-02	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	1
01-03	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	1
01-04	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
02-01	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1
02-02	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
02-03	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
02-04	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
02-05	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1
02-06	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
02-07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1
02-08	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
02-09	-	-	-	-	-	-	1	-	1	-	-	-	-	1	-	-	-	-	-	-	-	1
02-10	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	1 **	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
03-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1
03-03	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
05-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
06-01	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
06-02	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
06-03	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
06-04	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
06-05	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
06-06	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
06-07	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
06-08	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
06-09	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
06-10	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
06-11	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
06-12	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	1
06-13	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
06-14	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
07-01	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
07-02	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
07-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	1
07-04	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
07-05	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
07-06	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
07-07	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
07-08	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
07-09	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
07-10	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
07-11	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
07-12	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
07-13	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
07-14	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
07-15	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
07-16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	1
07-17	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1

CONTINUED ON NEXT PAGE

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

**USE TYPE HM-GJ-S WITHOUT
CURB BOX AT DEPRESSED CURB

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

STORM SEWER INLETS, MANHOLES, ENDWALLS, COVERS, AND STAKING

STRUCTURE NUMBER	MANHOLES 611.2003 3-FT DIAMETER (EACH)	611.2004 4-FT DIAMETER (EACH)	611.2005 5-FT DIAMETER (EACH)	611.2006 6-FT DIAMETER (EACH)	611.2033 3x3 FT (EACH)	INLETS 611.3003 3-FT DIAMETER (EACH)	611.3230 2X3 FT (EACH)	611.3230 2.5X3 FT (EACH)	611.3901 MEDIAN 1-GRATE (EACH)	611.3902 MEDIAN 2-GRATE (EACH)	611.0535 MANHOLE COVERS TYPE J SPECIAL (EACH)	INLET COVERS 611.0630 TYPE HM-GJ (EACH)	611.0633 TYPE HM-GJ-S (EACH)	611.0642 TYPE MS (EACH)	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 522.1012 12-INCH (EACH)	522.1015 15-INCH (EACH)	522.1018 18-INCH (EACH)	522.1024 24-INCH (EACH)	522.1027 27-INCH (EACH)	520.8000 CONCRETE COLLARS FOR PIPE (EACH)	633.5200 MARKERS CULVERT END (EACH)	* 650.4000 CONSTRUCTION STAKING STORM SEWER SYSTEM (EACH)
07-18	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
07-19	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
07-20	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
07-21	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
07-23	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
07-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1
07-25	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
08-01	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
08-02	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
08-03	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
08-04	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
08-05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1
08-06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
09-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
09-02	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
09-03	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
09-04	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
09-05	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
09-06	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
09-07	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	1
09-08	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
09-09	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
09-10	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
09-11	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
09-12	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
09-13	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	1
09-14	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
09-15	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	1
10-01	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	1	-	1
10-02	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	1
10-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1
TOTALS	3	10	1	1	6	10	31	1	4	1	13	36	17	6	1	2	3	2	1	8	9	76

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

MOBILIZATION

CATEGORY	LOCATION	619.1000 MOBILIZATION EACH	628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH
0010	PROJECT 2340-00-73	0.5	6	6
	TOTAL	0.5	6	6

DITCH CHECKS

CATEGORY	STATION	LOCATION	605.0305 DITCH CHECKS MORTAR RUBBLE CY	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH
0010	226+00	STH 20 MEDIAN	--	20	--
	226+75	STH 20 MEDIAN	--	20	--
	227+55	RT	--	20	--
	237+10	STH 20 MEDIAN	--	20	--
	240+25	STH 20 MEDIAN	--	20	--
	241+90	STH 20 MEDIAN	--	20	--
	243+50	STH 20 MEDIAN	--	20	--
	246+90	STH 20 MEDIAN	--	20	--
	252+85	STH 20 MEDIAN	--	20	--
	253+40	RT	--	--	1
	254+75	LT	--	20	--
	254+75	STH 20 MEDIAN	--	20	--
	254+80	RT	--	20	--
	255+90	RT	--	--	1
	256+90	LT	--	--	1
	259+50	RT	--	20	--
	259+80	LT	--	20	--
	260+95	RT	--	20	--
	261+45	STH 20 MEDIAN	--	20	--
	262+15	STH 20 MEDIAN	--	20	--
	262+25	RT	15	--	--
	262+45	RT	--	20	--
	262+90	STH 20 MEDIAN	--	20	--
	263+55	STH 20 MEDIAN	--	20	--
	263+55	RT	--	20	--
	264+20	STH 20 MEDIAN	--	20	--
	264+50	RT	25	--	--
	264+80	RT	--	20	--
	264+85	STH 20 MEDIAN	--	20	--
	265+55	STH 20 MEDIAN	--	20	--
	266+25	STH 20 MEDIAN	--	20	--
	UNDISTRIBUTED		--	130	1
			40	650	4

SILT FENCE

CATEGORY	STATION - STATION	LOCATION	620.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
0010	230+00 - 231+60	RT	275	275
	21+40 - 22+35	RT	100	100
	260+60 - 265+85	LT	530	530
	UNDISTRIBUTED		235	235
			1,140	1,140

WATER

CATEGORY	LOCATION	624.0100 WATER MGAL
0010	PROJECT 2340-00-73	160
	TOTAL	160

RECONSTRUCTING MANHOLES
ADJUSTING MANHOLE AND INLET COVERS

STRUCTURE NUMBER	STATION	(1) OFFSET	RIM OR GRATE ELEVATION	611.0420 RECONSTRUCTING MANHOLES (EACH)	611.0430 RECONSTRUCTING INLETS (EACH)	611.8110 ADJUSTING MANHOLE COVERS (EACH)	611.8115 ADJUSTING INLET COVERS (EACH)	* 650.4000 CONSTRUCTION STAKING STORM SEWER SYSTEM (EACH)
PROJECT 2340-00-73								
01-04	228+26	6.6 LT	722.75	1	--	--	--	1
-	229+93	55 RT	718.68	1	--	--	--	1
-	232+45	16, 22 LT	-	--	--	--	2	1
-	232+65	46 RT	724.21	--	--	1	--	1
03-01	236+45	78 LT	724.80	--	1	--	--	1
-	253+42	C/L	709.80	--	1	--	--	1
07-22	258+09	82.7 LT	709.47	--	1	--	--	1
-	18+20	15 RT	710.20	--	--	1	--	1
SANITARY	21+43	9 LT	-	--	--	1	--	1
	PROJECT 2340-00-73 TOTALS			2	3	3	2	9
	PROJECT TOTALS			2	3	3	2	9

* MORE LISTED ELSEWHERE

1. OFFSETS TO STRUCTURES ARE AT THE CENTER OF STRUCTURES.

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

INLET PROTECTION

CATEGORY	STATION	LOCATION	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7020 INLET PROTECTION TYPE D EACH
0010	227+00	LT	2	2	--
	227+00		1	2	--
	227+00	RT	1	--	--
	228+06	RT	1	--	--
	229+82	LT	1	--	--
	229+94	LT	--	--	2
	229+95	RT	--	--	2
	230+00	RT	--	1	--
	230+37	RT	--	2	--
	230+80	RT	--	1	--
	48+58	RT	--	--	1
	48+76	RT	--	1	--
	48+77	RT	--	1	--
	48+78	RT	--	1	1
	48+84	LT	--	1	--
	49+04	RT	1	--	--
	50+73	LT	--	1	--
	50+92	LT	--	1	--
	50+95	RT	--	--	1
	50+98	LT	--	1	--
	51+14	RT	--	--	1
	51+20	RT	--	--	1
	52+84	LT	--	1	--
	52+85	RT	--	1	--
	232+43	LT	--	1	--
	232+47	RT	--	1	--
	232+66	RT	--	1	--
	232+74	RT	--	1	--

CATEGORY	STATION	LOCATION	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7020 INLET PROTECTION TYPE D EACH
0010	232+67	LT	--	1	--
	232+83	RT	1	--	--
	232+92	LT	--	1	--
	232+92	RT	1	--	--
	235+91	LT	1	--	--
	236+56	LT	1	--	--
	236+79		1	--	--
	236+79	RT	1	--	--
	244+51		1	--	--
	250+90		1	--	--
	251+32	RT	--	2	--
	252+03		--	--	1
	252+05	RT	--	1	--
	252+07	LT	--	1	1
	252+08	LT	--	1	--
	252+12		--	--	1
	252+18	RT	--	1	--
	253+41		1	--	--
	253+44	LT	1	--	--
	254+12	LT	--	--	1
	254+29	LT	--	--	1
	254+31	LT	1	--	--
	254+31	RT	--	--	1
	254+50	RT	--	--	1
	20+71	LT	--	1	--
	20+72	RT	--	1	--
	256+51	LT	--	1	--
	256+53	LT	--	1	--

CATEGORY	STATION	LOCATION	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7020 INLET PROTECTION TYPE D EACH
0010	256+56	LT	--	1	--
	256+61	RT	--	1	--
	256+61	LT	--	2	--
	256+83	RT	--	1	--
	256+98	RT	--	1	--
	18+19	LT	1	1	--
	18+21	RT	--	2	--
	20+94	LT	--	1	--
	21+02	RT	--	1	--
	21+03	LT	--	1	--
	21+08	LT	--	1	--
	25+49	LT	--	1	--
	25+50	RT	--	1	--
	25+68	LT	--	1	--
	261+31	LT	--	1	--
	261+39	LT	--	1	--
	262+00		--	1	--
	263+43	LT	--	1	--
	263+71	LT	--	1	--
	265+88	LT	--	1	--
	265+89	LT	--	1	--
	266+90	LT	1	--	--
	266+91		1	--	--
	UNDISTRIBUTED		6	14	4
			27	70	20

RIPRAP

CATEGORY	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY
0010				
	230+72	RT	3	9
	49+00	LT	5	16
	236+57	LT	2	8
	244+51	LT	4	14
	253+40	LT	6	18
	256+50	LT	3	11
	259+18	LT	3	9
	259+71	RT	4	14
	262+32	RT	3	9
	265+34	LT	3	11
	18+71	RT	3	11
	TOTALS		39	130

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

TRAFFIC CONTROL

CATEGORY	STAGE	DURATION (DAYS)	643.0300 TRAFFIC CONTROL DRUMS QTY	643.0300 DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III QTY	643.0420 DAYS	643.0705 WARNING LIGHTS TYPE A QTY	643.0705 DAYS	643.0715 WARNING LIGHTS TYPE C QTY	643.0715 DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS QTY	643.0800 DAYS	643.0900 TRAFFIC CONTROL SIGNS QTY	643.0900 DAYS
0010														
	STAGE 1	85	681	57,885	21	1,785	21	1,785	31	2,635	2	170	85	7,225
	STAGE 2	85	593	50,405	27	2,295	24	2,040	40	3,400	2	85	94	7,990
	TOTALS			108,290		4,080		3,825		6,035		255		15,215

TRAFFIC CONTROL SIGNS FIXED MESSAGE

CATEGORY	STAGE	SIZE (IN.)	QTY.	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF
0010	STAGES 1 & 2	72 x 36	2	36
		TOTALS		36

3

REMOVING PAVEMENT MARKINGS

CATEGORY	LOCATION	646.0600 REMOVING PAVEMENT MARKINGS LF
0010	STAGE 1	8,370
	TOTAL	8,370

TEMPORARY PAVEMENT MARKING

CATEGORY	STAGE	649.0100 4-INCH WHITE LF	649.0100 4-INCH YELLOW LF	649.0400 REMOVABLE TAPE 4-INCH WHITE LF	649.0400 REMOVABLE TAPE 4-INCH YELLOW LF	649.0701 8-INCH WHITE LF	649.0801 REMOVABLE TAPE 8-INCH WHITE LF	649.1100 STOP LINE 18-INCH WHITE LF	649.1200 STOP LINE REMOVABLE TAPE 18-INCH WHITE LF
0010	STAGE 1	7,730	7,720	2,180	3,370	2,640	1,500	185	--
	STAGE 2	--	--	11,450	--	--	250	--	275
	TOTALS	7,730	7,720	13,630	3,370	2,640	1,750	185	275
	GRAND TOTALS	15,450		17,000		2,640	1,750	185	275

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

PAVEMENT MARKING

CATEGORY	STATION	-	STATION	646.0106 PAVEMENT MARKING EPOXY 4-INCH WHITE LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH YELLOW LF	646.0116 PAVEMENT MARKING EPOXY 6-INCH WHITE LF	646.0881.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH LF	646.0883.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH LF	SPV.0060.04 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS BIKE LANE EACH	SPV.0060.05 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC SYMBOLS BIKE LANE EACH	647.0456 PAVEMENT MARKING CURB EPOXY LF
0010	225+43	-	231+56	1,237	1,153	--	586	940	--	--	24
	232+24	-	258+15	4,265	4,880	284	2,750	3,060	--	--	94
	258+80	-	267+00	1,793	1,566	288	935	770	--	--	32
	46+08	-	49+50	--	662	--	143	476	--	--	--
	50+64	-	54+55	--	1,070	--	243	495	--	--	--
	16+23	-	19+36	--	595	104	115	498	--	--	--
	20+64	-	26+37	975	904	104	118	321	4	4	--
	TOTALS			8,270	10,830	780	4,890	6,560	4	4	150
				19,100							

PAVEMENT MARKING

647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY EACH	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH LF	SPV.0060.02 PAVEMENT MARKING GROOVED PERFORMED THERMOPLASTIC ARROWS TYPE 2 EACH	SPV.0060.03 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS EACH	SPV.0090.04 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR 18-INCH LF
1	--	4	3	70
4	--	14	14	132
1	--	4	4	66
--	--	5	3	31
--	--	4	2	31
--	--	4	3	30
--	17	4	2	30
6	17	39	31	390

LANDSCAPE

CATEGORY	STATION	-	STATION	LOCATION	632.9101 LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES EACH	SPV.0060.06 CONEFLOWER, PURPLE EACH	SPV.0060.07 GRASS, PRAIRIE DROPSEED EACH	SPV.0180.01 WEED FABRIC BARRIER SY	SPV.0180.02 MULCH WOOD CHIPS SY
0010									
	261+50	-	263+50	LT	1	25	25	70	70
	TOTALS				1	25	25	70	70

EROSION MAT

CATEGORY	STATION	-	STATION	LOCATION	628.2002 EROSION MAT CLASS I TYPE A SY	628.2023 EROSION MAT CLASS II TYPE B SY	628.2031 EROSION MAT CLASS III TYPE A SY
0010	228+95	-	231+55	RT	--	628	--
	47+75	-	48+65	RT	155	--	--
	51+65	-	54+50	LT	--	--	560
	51+65	-	53+45	RT	339	--	--
	53+45	-	53+95	RT	--	53	--
	234+50	-	237+65	LT	390	--	--
	236+60			LT	--	4	--
	237+55			LT	--	8	--
	238+45			LT	--	8	--
	253+75	-	257+90	RT	785	--	--
	255+00	-	257+00	LT	495	--	--
	17+60	-	19+25	RT	411	--	--
	18+75			RT	--	6	--
	259+05	-	261+50	LT	424	--	--
	259+80			RT	--	8	--
	259+80	-	264+55	RT	1,145	--	--
	260+38			RT	--	3	--
	260+40			RT	--	4	--
	260+72			RT	--	3	--
	260+40	-	264+65	LT/RT	521	--	--
	262+50			RT	--	6	--
	263+50	-	265+85	LT	375	--	--
	265+45			LT	--	3	--
	265+85			LT	--	--	--
	UNDISTRIBUTED				1,260	186	140
				TOTALS	6,300	920	700

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

SAWING

CATEGORY	STATION - STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
0010	225+42 - 229+09	LT/RT	69	--
	225+43 - 229+09	LT/RT	--	590
	229+09 - 231+75	LT/RT	--	1,350
	47+44 - 49+62	LT/RT	392	45
	50+58 - 54+54	LT/RT	231	550
	232+09 - 235+00	LT/RT	--	525
	235+18 - 239+86	RT	69	665
	239+86 - 243+60	LT/RT	281	1,630
	250+89 - 258+25	LT/RT	182	1,480
	17+33 - 19+25	LT/RT	313	45
	20+75 - 23+00	LT/RT	70	270
	258+25 - 267+00	LT/RT	533	900
	BASE PATCHING	--	--	8,600
	TOTALS		2,140	16,650

CONSTRUCTION STAKING

CATEGORY	STATION - STATION	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT R-51-61 LS
0010	261+50 - 263+50	1
	TOTAL	1

REMOVE SAND BARREL ARRAY

CATEGORY	STATION	LOCATION	SPV.0105.21 REMOVE SAND BARREL ARRAY LS
0010	229+94	61' LT	1
		TOTAL	1

FINISHING ITEMS

CATEGORY	STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0110 SEEDING MIXTURE NO. 10 LB	630.0130 SEEDING MIXTURE NO. 30 LB
0010							
	228+89 - 231+75	LT/RT	2,020	2,020	1	3	4
	47+45 - 49+63	RT	250	250	4	3	--
	50+72 - 54+53	LT	815	815	1	2	6
	51+05 - 54+06	RT	560	560	2	4	1
	232+41 - 237+65	LT	995	995	1	1	8
	253+77 - 257+88	LT/RT	2,020	2,020	1	7	10
	18+48 - 19+03	LT	145	145	6	1	2
	17+59 - 19+35	RT	575	575	2	4	3
	20+85 - 22+89	LT	255	255	4	--	3
	20+95 - 22+31	RT	120	120	7	--	2
	260+52 - 264+70	RT	2,530	2,530	1	13	7
	259+06 - 265+81	LT	1,110	1,110	1	2	10
	232+50 - 238+27	STH 20 MEDIAN	810	810	1	--	8
	238+82 - 245+17	STH 20 MEDIAN	1,820	1,820	1	--	17
	245+75 - 252+11	STH 20 MEDIAN	2,790	2,790	1	--	26
	251+95 - 257+83	STH 20 MEDIAN	1,040	1,040	1	--	10
	258+86 - 261+42	STH 20 MEDIAN	395	395	2	--	4
	259+08 - 265+09	STH 20 MEDIAN	1,650	1,650	1	--	15
	UNDISTRIBUTED		--	--	10	10	34
	TOTALS		19,900	19,900	48	50	170

CRASH CUSHIONS

CATEGORY	STATION	LOCATION	614.0805 CRASH CUSHIONS PERMANENT LOW MAINTENANCE EACH	614.0905 CRASH CUSHIONS TEMPORARY EACH	BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHEILDS
0010	228+59	8' LT	1	-	4	OM-3C	TL-3	BIDIRECTIONAL	L AND R	CONCRETE BRIDGE PIER IN MEDIAN
	228+89	8' LT	1	-	4	OM-3C	TL-3	BIDIRECTIONAL	L AND R	CONCRETE BRIDGE PIER IN MEDIAN
	267+50	54' LT	-	1	2	OM-3R	TL-3	BIDIRECTIONAL	L	TEMPORARY CONCRETE BARRIER
	TOTAL		2	1						

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

* TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRE

LOC.	TO	LOC.	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.	SPV.0090.02 CABLE TYPE UF 2-14 AWG GROUNDED L.F.
CB1		SB1	153	153
CB1		SB4	392	392
CB1		SB7	560	560
CB1		SB12	355	355
		TOTAL	1460	1460

FOR INFORMATION ONLY

* STATE FURNISHED TRAFFIC SIGNAL EQUIPMENT

SIG. BASE NO.	EVP DETECTOR HEADS EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
CB1		1
SB1	1	
SB4	1	
SB7	1	
SB12	1	
TOTAL	4	1

* REMOVE TRAFFIC SIGNALS

** LOCATION	SPV.0105.01 REMOVE TRAFFIC SIGNALS L.S.
STH 20 & CTH H / RENAISSANCE BOULEVARD	1
TOTAL	1

* INSTALL STATE-SUPPLIED TRAFFIC SIGNAL CABINET

CONTROL CABINET NO.	LOCATION	SPV.0105.04 INSTALL STATE-SUPPLIED TRAFFIC SIGNAL CABINET L.S.
CB1	STH 20 & CTH H / RENAISSANCE BOULEVARD	1
	TOTAL	1

* EMERGENCY VEHICLE PREEMPTION

** LOCATION	*** SPV.0105.20 EMERGENCY VEHICLE PREEMPTION DETECTOR HEAD INSTALLATION L.S.
STH 20 & CTH H / RENAISSANCE BOULEVARD	1
TOTAL	1

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LEGEND

*	ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE
**	FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD
***	PAY ITEM INCLUDES INSTALLATION OF STATE FURNISHED MATERIALS

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

STH 20 & CTH H / RENAISSANCE BLVD
PAGE 1 OF 1

* CONDUIT

LOC.	TO	LOC.	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH L.F.	652.0615 CONDUIT SPECIAL 3-INCH L.F.
CB1		PB1		45	
PB1		SB1	27		
PB1		PB2	221		
PB1		PB3		54	
PB3		SB2	9		
PB1		PB4		252	
PB4		SB3	20		
PB4		PB5		100	
PB5		PB6		42	
PB6		SB4		12	
PB5		PB7			158
PB7		PB8	33		
PB8		SB5	8		
PB7		PB9		46	
PB9		SB6	8		
PB9		SB7	142		
PB9		PB10	204		
PB10		PB11	161		
PB11		PB12	291		
PB12		SB8	6		
PB12		PB13			52
PB13		SB9	5		
PB9		PB14			116
PB14		SB10		34	
PB14		SB11	13		
PB14		PB15		96	
PB15		PB16	173		
PB16		PB17	151		
PB15		PB18		41	
PB18		SB12	15		
PB15		PB19		200	
PB19		PB20		130	
PB20		SB13	36		
PB20		PB21	198		
PB21		PB22	160		
PB20		PB23		45	
PB23		SB14		11	
PB20		PB24			144
PB24		PB25	45		
PB25		SB15	4		
PB24		PB26		46	
PB26		SB16	16		
PB26		SB17	124		
SB17		SB18	150		
PB26		PB27			130
PB27		SB19		8	
PB27		CB1		48	
		TOTAL	2220	1210	600

FOR INFORMATION ONLY
STATE FURNISHED TRAFFIC SIGNAL EQUIPMENT

SIG. BASE NO.	* POLES TYPE 12 EACH	* POLES TYPE 13 EACH	* MONOTUBE ARMS 45-FT EACH	MONOTUBE ARMS 50-FT EACH	* LUMINAIRE ARMS STEEL 15-FT EACH	* VIDEO CAMERA EACH	* EVP DETECTOR HEADS EACH	* TRAFFIC SIGNAL CONTROLLER AND CABINET
CB1								1
SB4		1	1		1	1	1	
SB6						1		
SB10	1		1				1	
SB14		1	1		1	1	1	
SB16						1		
SB19	1			1			1	
TOTAL	2	2	3	1	2	4	4	1

* PULL BOXES

PULL BOX NO.	LOCATION	653.0135 PULL BOXES STEEL 24"x36" EACH	653.0140 PULL BOXES STEEL 24"x42" EACH
PB1	232+75, 98' RT		1
PB2	46+88, 31' RT	1	
PB3	232+30, 70' RT		1
PB4	231+50, 105' RT		1
PB5	231+06, 83' RT		1
PB6	231+35, 53' RT		1
PB7	231+06, 4' RT		1
PB8	231+39, 4' RT	1	
PB9	231+06, 20' LT		1
PB10	229+02, 15' LT	1	
PB11	227+41, 10' LT	1	
PB12	224+51, 2' LT		1
PB13	224+52, 50' RT		1
PB14	231+06, 78' LT		1
PB15	231+25, 122' LT		1
PB16	52+95, 37' LT	1	
PB17	54+45, 23' LT	1	
PB18	231+50, 89' LT		1
PB19	232+26, 125' LT		1
PB20	232+81, 91' LT		1
PB21	234+78, 72' LT	1	
PB22	236+38, 72' LT	1	
PB23	232+43, 67' LT		1
PB24	232+81, 18' LT		1
PB25	232+37, 19' LT	1	
PB26	232+81, 4' RT		1
PB27	232+81, 68' RT		1
TOTAL		9	18

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* REMOVING CONCRETE BASES

SIGNAL BASE NO.	LOCATION	204.0195 REMOVING CONCRETE BASES EACH
CB1	232+52, 71' RT	1
SB1	232+18, 56' RT	1
SB2	231+51, 77' RT	1
SB3	231+19, 51' RT	1
SB4	231+17, 5' RT	1
SB5	231+16, 17' LT	1
SB6	231+18, 70' LT	1
SB7	231+62, 68' LT	1
SB8	232+31, 99' LT	1
SB9	232+60, 68' LT	1
SB10	232+64, 19' LT	1
SB11	232+56, 5' RT	1
SB12	232+64, 56' RT	1
SB13	232+46, 67' RT	1
TOTAL		14

LEGEND

* ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

SIGNAL NO. S51-0259
STH 20 & CTH H/WISCONSIN ST
PAGE 1 OF 6

* TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRE (CONTINUED ON NEXT SHEET)

LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0290 CABLE TRAFFIC SIGNAL 21-14 AWG L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG L.F.	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.	SPV.0090.01 CABLE TYPE UF 2-6 AWG GROUNDED L.F.	SPV.0090.02 CABLE TYPE UF 2-14 AWG GROUNDED L.F.
CB1		SB1								71	
CB1		SB2			118		118				
CB1		SB4				319			387		387
CB1		SB5			401						
CB1		SB8		1082					1100		
CB1		SB9		1149							
CB1		SB10			486				554		554
CB1		SB12			518						
CB1		SB14				321			389		389
CB1		SB15			225						
CB1		SB16								139	
CB1		SB19			52		52		120		120
PB1		CB1					34				
PB3		SB2					25				
PB4		SB3					36				
PB5		SB4					72				
PB6		SB4					28				
PB7		SB5					60				
PB8		SB5					25				
PB9		SB6					24				
PB10		SB6					231				
PB11		SB8					316				
PB12		SB8					22				
PB13		SB9					21				
PB14		SB11					50				
PB15		SB12					74				
PB18		SB12					32				
PB19		SB13					120				
PB20		SB13					52				
PB23		SB14					28				
PB24		SB15					67				
PB25		SB15					21				
PB26		SB16					33				
PB27		CB1					35				
SB2		SB4					378				
SB4		SB5					246				
SB5		SB8					826				
SB8		SB9					99				
SB9		SB10					901				
SB10		SB12					190				
SB12		SB14					364				
SB14		SB15					248				
SB15		SB19					212				
SB1		SB3						214			
SB3		SB4						180			
SB4		SB6						235			
SB6		SB7						176			
SB6		SB11						119			
SB16		SB17						165			
SB17		SB18						160			
SB16		SB14						238			

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* REMOVING PULL BOXES

PULL BOX NO.	LOCATION	653.0905 REMOVING PULL BOXES EACH
PB1	232+44, 72' RT	1
PB2	47+41, 30' RT	1
PB3	46+43, 29' RT	1
PB4	232+19, 51' RT	1
PB5	231+44, 69' RT	1
PB6	231+07, 53' RT	1
PB7	229+07, 48' RT	1
PB8	227+58, 49' RT	1
PB9	231+05, 5' RT	1
PB10	231+05, 18' LT	1
PB11	231+08, 68' LT	1
PB12	231+40, 90' LT	1
PB13	51+64, 36' LT	1
PB14	52+95, 27' LT	1
PB15	231+61, 62' LT	1
PB16	232+32, 102' LT	1
PB17	232+56, 74' LT	1
PB18	234+58, 68' LT	1
PB19	235+91, 67' LT	1
PB20	232+58, 19' LT	1
PB21	232+60, 4' RT	1
PB22	232+68, 57' RT	1
	TOTAL	22

* ELECTRICAL SERVICE METER BREAKER PEDESTAL

CONTROL CABINET NO.	** LOCATION	656.0200.01 ELECTRICAL SERVICE METER BREAKER PEDESTAL L.S.
CB1	232+81, 84' RT	1
	TOTAL	1

LEGEND

* ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

SIGNAL NO. S51-0259
STH 20 & CTH H/WISCONSIN ST
PAGE 2 OF 6

* TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRE (CONTINUED)

LOC.	TO LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0290 CABLE TRAFFIC SIGNAL 21-14 AWG L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG L.F.	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.	SPV.0090.01 CABLE TYPE UF 2-6 AWG GROUNDED L.F.	SPV.0090.02 CABLE TYPE UF 2-14 AWG GROUNDED L.F.
SB14	SB13								133	
SB1	LUMINAIRE						120			
SB2	HEAD 16		22							
SB2	HEAD 17	21								
SB3	LUMINAIRE						120			
SB4	HEAD 1	19								
SB4	HEAD 11		22							
SB4	HEAD 13	56								
SB4	HEAD 14	44								
SB4	HEAD 15		69							
SB4	LUMINAIRE						145			
SB5	HEAD 4	14								
SB5	HEAD 10		22							
SB6	LUMINAIRE						240			
SB7	LUMINAIRE						120			
SB8	HEAD 22	21								
SB8	HEAD 23	21								
SB9	HEAD 24	21								
SB9	HEAD 25	21								
SB10	HEAD 8	68								
SB10	HEAD 9	56								
SB11	LUMINAIRE						120			
SB12	HEAD 12	21								
SB12	HEAD 21		22							
SB13	LUMINAIRE						120			
SB14	HEAD 6		22							
SB14	HEAD 7	19								
SB14	HEAD 18	57								
SB14	HEAD 19	45								
SB14	HEAD 20		68							
SB14	LUMINAIRE						145			
SB15	HEAD 5		22							
SB16	LUMINAIRE						240			
SB17	LUMINAIRE						120			
SB18	LUMINAIRE						120			
SB19	HEAD 2	69								
SB19	HEAD 3	57								
		630	2500	1800	640	5040	1610	2550	1830	1450

NOTE: GROUNDING CONDUCTOR (10 AWG) TOTAL INCLUDES RING AND COVER BONDING QUANTITIES

* CONCRETE BASES

SIGNAL BASE NO.	** LOCATION	654.0101 CONCRETE BASES TYPE 1 EACH	654.0105 CONCRETE BASE TYPE 5 EACH	654.0113 CONCRETE BASES TYPE 13 EACH	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
CB1	232+81, 84' RT				1
SB1	232+64, 74' RT		1		
SB2	232+28, 61' RT	1			
SB3	232+35, 92' RT		1		
SB4	231+47, 54' RT			1	
SB5	231+47, 4' RT	1			
SB6	231+14, 20' LT		1		
SB7	229+64, 12' LT		1		
SB8	224+46, 2' RT	1			
SB9	224+47, 52' RT	1			
SB10	230+72, 73' LT			1	
SB11	231+15, 88' LT		1		
SB12	231+51, 74' LT	1			
SB13	232+48, 104' LT		1		
SB14	232+32, 68' LT			1	
SB15	232+32, 19' LT	1			
SB16	232+65, 4' RT		1		
SB17	234+05, 5' RT		1		
SB18	235+55, 0' LT		1		
SB19	232+87, 63' RT			1	
	TOTAL	6	9	4	1

* SIGNAL MOUNTING HARDWARE

** LOCATION	658.5069.01 SIGNAL MOUNTING HARDWARE L.S.
STH 20 & CTH H / WISCONSIN ST	1
TOTAL	1

LEGEND

* ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

SIGNAL NO. S51-0259
STH 20 & CTH H/WISCONSIN ST
PAGE 3 OF 6

FILE NAME: L:\work\projects\60222809\000.CAD\Signals\mq_CTH H_sh03.dgn
BATCH PRINT SHEET 36 OF 46
PRINTER DRIVER: S:_acm-CADstds_Libraries\WISDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\AE_PDF_11 x 17 Traffic Signals.plt
PEN TABLE: S:_acm-CADstds_Libraries\WISDOT\MicroStation\Resources\MS_Printing\pen tables\AE_WisDOT_Traffic.tbl
PLOT DATE: 7/2/2014
PLOT TIME: 10:46:42 AM
PLOT SCALE: 1:479.999
WISDOT/CADDS SHEET 42

TRAFFIC SIGNAL EQUIPMENT

SIG. BASE NO.	* 657.0100 PEDESTAL BASES EACH	* 657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	* 657.0322 POLES TYPE 5-ALUMINUM EACH	* 657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	* 657.0609 LUMINAIRE ARMS SINGLE MEMBER 4 -INCH CLAMP 6-FT EACH	* 657.1355 INSTALL POLES TYPE 12 EACH	* 657.1360 INSTALL POLES TYPE 13 EACH	* 657.1545 INSTALL MONOTUBE ARMS 45-FT EACH	657.1550 INSTALL MONOTUBE ARMS 50-FT EACH	* 657.1815 INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	* 659.1115 LUMINAIRES UTILITY LED-A EACH	* 659.1125 LUMINAIRES UTILITY LED-C EACH
SB1		1	1		1						1	
SB2	1			1								
SB3		1	1		1						1	
SB4							1	1		1		1
SB5	1			1								
SB6		1	1		2							2
SB7		1	1		1							1
SB8	1			1								
SB9	1			1								
SB10						1		1				
SB11		1	1		1						1	
SB12	1			1								
SB13		1	1		1						1	
SB14							1	1		1		1
SB15	1			1								
SB16		1	1		2							2
SB17		1	1		1						1	
SB18		1	1		1						1	
SB19						1			1			
TOTAL	6	9	9	6	11	2	2	3	1	2	6	7

* REMOVE TRAFFIC SIGNALS

** LOCATION	SPV.0105.02 REMOVE TRAFFIC SIGNALS L.S.
STH 20 & CTH H / WISCONSIN ST	1
TOTAL	1

* EMERGENCY VEHICLE PREEMPTION

** LOCATION	*** SPV.0105.07 EMERGENCY VEHICLE PREEMPTION DETECTOR HEAD INSTALLATION L.S.
STH 20 & CTH H / WISCONSIN ST	1
TOTAL	1

* INSTALL STATE-SUPPLIED TRAFFIC SIGNAL CABINET

CONTROL CABINET NO.	** LOCATION	SPV.0105.05 INSTALL STATE-SUPPLIED TRAFFIC SIGNAL CABINET L.S.
CB1	232+81, 84' RT	1
	TOTAL	1

LEGEND

*	ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE
**	FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD
***	PAY ITEM INCLUDES INSTALLATION OF STATE FURNISHED MATERIALS

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

SIGNAL NO. S51-0259
STH 20 & CTH H/WISCONSIN ST
PAGE 4 OF 6

TRAFFIC SIGNAL FACES

SIG. HEAD NO.	SIG. BASE NO.	658.0103 TRAFFIC SIGNAL FACE 1-12" VERTICAL EACH	* 658.0110 TRAFFIC SIGNAL FACE 3-12" VERTICAL EACH	* 658.0115 TRAFFIC SIGNAL FACE 4-12" VERTICAL EACH	658.0210 BACKPLATES SIGNAL FACE 1 SECTION 12-INCH EACH	* 658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	* 658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	* 658.0600 LED MODULES 12-INCH RED BALL EACH	* 658.0605 LED MODULES 12-INCH YELLOW BALL EACH	* 658.0610 LED MODULES 12-INCH GREEN BALL EACH	* 658.0615 LED MODULES 12-INCH RED ARROW EACH	* 658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	* 658.0625 LED MODULES 12-INCH GREEN ARROW EACH	SPV.0060.01 LED MODULE 12-INCH YELLOW BALL SPECIAL EACH
1	SB4		1			1		1	1	1				
2	SB19		1			1		1	1	1				
3	SB19		1			1		1	1	1				
4	SB5		1			1		1	1				1	
5	SB15			1			1				1	2	1	
6	SB14			1			1				1	2	1	
7	SB14		1			1		1	1	1				
8	SB10		1			1		1	1	1				
9	SB10		1			1		1	1	1				
10	SB5			1			1				1	2	1	
11	SB4			1			1				1	2	1	
12	SB12		1			1		1	1	1				
13	SB4		1			1		1	1	1				
14	SB4		1			1		1	1	1				
15	SB4			1			1				1	2	1	
16	SB2			1			1				1	2	1	
17	SB2		1			1		1	1	1				
18	SB14		1			1		1	1	1				
19	SB14		1			1		1	1	1				
20	SB14			1			1				1	2	1	
21	SB12			1			1				1	2	1	
22	SB8	1			1									1
23	SB8	1			1									1
24	SB9	1			1									1
25	SB9	1			1									1
TOTAL		4	13	8	4	13	8	13	13	12	8	16	9	4

* TEMPORARY TRAFFIC SIGNALS

LOCATION	661.0200.01 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS L.S.	SPV.0105.11 TEMPORARY NON-INTRUSIVE VEHICLE DETECTION SYSTEM FOR INTERSECTIONS L.S.
STH 20 & CTH H / WISCONSIN ST	1	1
TOTAL	1	1

* TRANSPORTING MATERIALS

** LOCATION	SPV.0105.09 TRANSPORTING TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS L.S.
STH 20 & CTH H / WISCONSIN ST	1
TOTAL	1

LEGEND

* ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

SIGNAL NO. S51-0259
STH 20 & CTH H/WISCONSIN ST
PAGE 5 OF 6

* TRAFFIC DETECTOR LOOPS

LOOP NO.	HOME RUN PB	** LOCATION	SIZE (FT) X (FT)	NO. OF TURNS	PAVEMENT TYPE	SDD INSTALLATION REFERENCE	652.0800 CONDUIT LOOP DETECTOR L.F.	655.0700 LOOP DETECTOR LEAD IN CABLE L.F.	655.0800 LOOP DETECTOR WIRE L.F.
21	PB22	236+38, 37' LT	6 X 20	4	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	104	541	426
22	PB21	234+78, 37' LT	6 X 20	3	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	104	380	322
41	PB17	54+45, 10' LT	6 X 15	5	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	62	672	322
42	PB16	52+95, 8' LT	6 X 15	5	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	96	528	482
61	PB11	227+42, 21' RT	6 X 20	5	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	90	688	462
62	PB10	229+02, 21' RT	6 X 20	4	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	100	528	412
81	PB2	46+88, 17' RT	6 X 15	3	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	54	243	174
						TOTAL	610	3580	2600

* VIDEO DETECTION SYSTEM

** LOCATION	SPV.0105.13 TRANSPORTING AND INSTALLING STATE FURNISHED AUTOSCOPE VIDEO DETECTION SYSTEM L.S.
STH 20 & CTH H / WISCONSIN ST	1
TOTAL	1

* REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE

** LOCATION	SPV.0105.15 REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE L.S.
STH 20 & CTH H / WISCONSIN ST	1
TOTAL	1

LEGEND

* ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

SIGNAL NO. S51-0259
STH 20 & CTH H/WISCONSIN ST
PAGE 6 OF 6

* CONDUIT

LOC.	TO LOC.	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH L.F.	652.0615 CONDUIT SPECIAL 3-INCH L.F.
CB1	PB1		42	
PB1	PB2	211		
PB2	PB3	162		
PB1	PB4		46	
PB4	SB1	23		
PB4	SB2		14	
PB1	PB5			182
PB5	PB6	38		
PB6	SB3	9		
PB5	PB7		62	
PB7	SB4	16		
PB7	SB5	139		
SB5	SB6	150		
PB7	PB8			120
PB8	SB7		35	
PB8	PB9		42	
PB9	SB8	20		
PB9	PB10	190		
PB11	SB9	46		
PB11	SB10	31		
PB11	SB11	37		
PB9	PB12			226
PB12	SB12	14		
PB12	PB13		57	
PB13	PB16		50	
PB16	SB13	19		
PB16	SB14		11	
PB13	PB14	192		
PB14	PB15	160		
PB13	PB17			150
PB17	PB18	45		
PB18	SB15	8		
PB17	PB19		62	
PB19	SB16	22		
PB19	SB17	133		
SB17	SB18	150		
PB19	PB20			122
PB20	SB19		31	
PB20	PB21		84	
PB21	PB22	188		
PB21	PB23		39	
PB23	SB21	15		
PB23	SB22	8		
PB23	SB23	13		
PB21	PB24		264	
PB24	SB24	21		
PB24	CB1		51	
	TOTAL	2060	890	800

FOR INFORMATION ONLY

* STATE FURNISHED TRAFFIC SIGNAL EQUIPMENT

SIG. BASE NO.	POLES TYPE 12 EACH	POLES TYPE 13 EACH	MONOTUBE ARMS 45-FT EACH	LUMINAIRE ARMS STEEL 15-FT EACH	VIDEO CAMERA EACH	EVP DETECTOR HEADS EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
CB1							1
SB2		1	1	1	1	1	
SB4					1		
SB7	1		1			1	
SB14		1	1	1	1	1	
SB16					1		
SB19	1		1			1	
TOTAL	2	2	4	2	4	4	1

*PULL BOXES

PULL BOX NO.	LOCATION	653.0135 PULL BOXES STEEL 24"x36" EACH	653.0140 PULL BOXES STEEL 24"x42" EACH
PB1	257+63, 106' RT		1
PB2	255+62, 73' RT	1	
PB3	254+02, 69' RT	1	
PB4	257+94, 72' RT		1
PB5	257+57, 15' RT		1
PB6	257+95, 15' RT	1	
PB7	257+55, 16' LT		1
PB8	257+52, 76' LT		1
PB9	257+84, 110' LT		1
PB10	23+01, 30' LT	1	
PB11	258+05, 88' LT		1
PB12	258+95, 112' LT		1
PB13	259+41, 89' LT		1
PB14	261+31, 74' LT	1	
PB15	262+91, 69' LT	1	
PB16	258+94, 71' LT		1
PB17	259+41, 14' LT		1
PB18	258+95, 14' LT	1	
PB19	259+41, 17' RT		1
PB20	259+41, 78' RT		1
PB21	259+16, 112' RT		1
PB22	16+99, 28' RT	1	
PB23	258+94, 80' RT		1
PB24	257+84, 120' RT		1
	TOTAL	8	16

WISCONSIN
JEFFREY J. SANDBERG
E-39308
PRAIRIE DU SAC, WI
PROFESSIONAL ENGINEER
5/2/14

* REMOVING CONCRETE BASES

SIGNAL BASE NO.	LOCATION	204.0195 REMOVING CONCRETE BASES EACH
CB1	257+97, 103' RT	1
SB1	258+71, 97' LT	1
SB2	259+00, 67' LT	1
SB3	258+93, 7' RT	1
SB4	258+74, 69' RT	1
SB5	258+11, 101' RT	1
SB6	257+79, 74' RT	1
SB7	258+04, 7' LT	1
SB8	257+91, 68' LT	1
SB9	258+06, 81' LT	1
SB10	258+17, 132' RT	1
SB11	258+09, 87' LT	1
	TOTAL	12

LEGEND

* ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

SIGNAL NO. S51-0536
STH 20 & 90TH STREET
PAGE 1 OF 6

TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRE (CONTINUED ON NEXT SHEET)

LOC.	TO	LOC.	* 655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	* 655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	* 655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG L.F.	* 655.0290 CABLE TRAFFIC SIGNAL 21-14 AWG L.F.	* 655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	* 655.0615 ELECTRICAL WIRE LIGHTING 10 AWG L.F.	* 655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.	* SPV.0090.01 CABLE TYPE UF 2-6 AWG GROUNDED L.F.	* SPV.0090.02 CABLE TYPE UF 2-14 AWG GROUNDED L.F.
CB1		SB1		127				107				
CB1		SB2					120			188	120	188
CB1		SB3			212							
CB1		SB7			305					373		373
CB1		SB9		405								
CB1		SB10		391								
CB1		SB11				395						
CB1		SB13		546								
CB1		SB14					540			608		608
CB1		SB15			440							
CB1		SB19			283					351		351
CB1		SB21		262								
CB1		SB22				255						
CB1		SB23		260								
CB1		SB24									63	
PB1		CB1						35				
PB4		SB2						30				
PB5		SB3						65				
PB6		SB3						26				
PB7		SB4						32				
PB8		SB7						51				
PB9		SB8						36				
PB11		SB10						27				
PB12		SB12						29				
PB13		SB12						63				
PB16		SB14						27				
PB17		SB15						71				
PB18		SB15						24				
PB19		SB16						38				
PB20		SB19						47				
PB21		SB20						41				
PB23		SB22						24				
PB24		CB1						36				
SB1		SB2						63				
SB2		SB3						268				
SB3		SB7						242				
SB7		SB9						193				
SB9		SB10						60				
SB10		SB11						50				
SB11		SB13						378				
SB13		SB14						55				
SB14		SB15						258				
SB15		SB19						247				
SB19		SB21						183				
SB21		SB22						48				
SB22		SB23						46				
SB2		SB4										269
SB4		SB5										179
SB5		SB6										160
SB4		SB8										469
SB8		SB12										193

* REMOVING PULL BOXES

PULL BOX NO.	LOCATION	653.0905 REMOVING PULL BOXES EACH
PB1	257+93, 98' RT	1
PB2	257+87, 5' RT	1
PB3	257+54, 6' RT	1
PB4	254+98, 6' RT	1
PB5	253+39, 19' RT	1
PB6	257+84, 77' LT	1
PB7	258+04, 79' LT	1
PB8	259+16, 83' LT	1
PB9	259+13, 15' RT	1
PB10	259+39, 4' LT	1
PB11	261+69, 6' LT	1
PB12	263+45, 9' LT	1
PB13	259+16, 87' RT	1
PB14	17+86, 30' RT	1
PB15	17+02, 27' RT	1
PB16	258+76, 79' RT	1
PB17	257+99, 99' RT	1
	TOTAL	17

* ELECTRICAL SERVICE METER BREAKER PEDESTAL

CONTROL CABINET NO.	** LOCATION	656.0200.02 ELECTRICAL SERVICE METER BREAKER PEDESTAL L.S.
CB1	STH 20 & 90TH STREET	1
	TOTAL	1

LEGEND

* ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

SIGNAL NO. S51-0536
STH 20 & 90TH STREET
PAGE 2 OF 6

TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRE (CONTINUED)

LOC.	TO	LOC.	* 655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	* 655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	* 655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG L.F.	* 655.0290 CABLE TRAFFIC SIGNAL 21-14 AWG L.F.	* 655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	* 655.0615 ELECTRICAL WIRE LIGHTING 10 AWG L.F.	* 655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.	* SPV.0090.01 CABLE TYPE UF 2-6 AWG GROUNDED L.F.	* SPV.0090.02 CABLE TYPE UF 2-14 AWG GROUNDED L.F.
SB24		SB20									218	
SB20		SB16									206	
SB16		SB17									180	
SB17		SB18									160	
SB16		SB14									263	
SB2		HEAD 1	21									
SB2		HEAD 10		22								
SB2		HEAD 12	56									
SB2		HEAD 13	44									
SB2		HEAD 14		69								
SB2		HEAD 26	15									
SB2		LUMINAIRE							145			
SB3		HEAD 9		22								
SB4		LUMINAIRE							240			
SB5		LUMINAIRE							120			
SB6		LUMINAIRE							120			
SB7		HEAD 7	68									
SB7		HEAD 8	56									
SB8		LUMINAIRE							120			
SB9		HEAD 25	15									
SB11		HEAD 11	21									
SB11		HEAD 20		22								
SB11		HEAD 24	15									
SB12		LUMINAIRE							120			
SB13		HEAD 23	15									
SB14		HEAD 5		22								
SB14		HEAD 6	22									
SB14		HEAD 17	57									
SB14		HEAD 18	45									
SB14		HEAD 19		68								
SB14		HEAD 28	15									
SB14		LUMINAIRE							145			
SB15		HEAD 4		22								
SB16		LUMINAIRE							240			
SB17		LUMINAIRE							120			
SB18		LUMINAIRE							120			
SB19		HEAD 2	68									
SB19		HEAD 3	56									
SB20		LUMINAIRE							120			
SB21		HEAD 27	15									
SB22		HEAD 15		22								
SB22		HEAD 16	21									
SB22		HEAD 22	15									
SB24		LUMINAIRE							120			
TOTAL			640	2260	1240	650	660	2900	1730	1520	2480	1520

NOTE: GROUNDING CONDUCTOR (10 AWG) TOTAL INCLUDES RING AND COVER BONDING QUANTITIES

* CONCRETE BASES

SIGNAL BASE NO.	** LOCATION	654.0101 CONCRETE BASES TYPE 1 EACH	654.0105 CONCRETE BASE TYPE 5 EACH	654.0113 CONCRETE BASES TYPE 13 EACH	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
CB1	257+67, 121' RT				1
SB1	258+16, 74' RT	1			
SB2	258+07, 68' RT			1	
SB3	258+04, 15' RT	1			
SB4	257+72, 16' LT		1		
SB5	256+17, 10' LT		1		
SB6	254+68, 1' RT		1		
SB7	257+17, 74' LT			1	
SB8	257+69, 92' LT		1		
SB9	257+99, 64' LT	1			
SB10	258+11, 79' LT	1			
SB11	258+04, 73' LT	1			
SB12	258+98, 103' LT		1		
SB13	258+75, 73' LT	1			
SB14	258+84, 68' LT			1	
SB15	258+88, 14' LT	1			
SB16	259+18, 16' RT		1		
SB17	260+78, 10' RT		1		
SB18	262+23, 1' LT		1		
SB19	259+71, 75' RT			1	
SB20	259+25, 89' RT		1		
SB21	258+92, 65' RT	1			
SB22	258+88, 74' RT	1			
SB23	258+81, 80' RT	1			
SB24	257+92, 101' RT		1		
TOTAL		10	10	4	1

LEGEND

* ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

SIGNAL NO. S51-0536
STH 20 & 90TH STREET
PAGE 3 OF 6

* TRAFFIC DETECTOR LOOPS

LOOP NO.	HOME RUN PB	** LOCATION	SIZE (FT) X (FT)	NO. OF TURNS	PAVEMENT TYPE	SDD INSTALLATION REFERENCE	652.0800 CONDUIT LOOP DETECTOR L.F.	655.0700 LOOP DETECTOR LEAD IN CABLE L.F.	655.0800 LOOP DETECTOR WIRE L.F.
21	PB22	262+91, 37' LT	6 X 20	5	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	96	716	492
22	PB21	261+31, 37' LT	6 X 20	4	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	108	556	444
41	PB17	23+01, 11' RT	6 X 8	5	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	60	438	312
61	PB11	254+00, 37' RT	6 X 20	4	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	96	389	396
62	PB10	255+61, 37' RT	6 X 20	3	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	104	229	324
81	PB2	16+99, 7' RT	6 X 6	5	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	56	342	292
						TOTAL	520	2670	2260

* SIGNAL MOUNTING HARDWARE

** LOCATION	658.5069.02 SIGNAL MOUNTING HARDWARE L.S.
STH 20 & 90TH STREET	1
TOTAL	1

* TEMPORARY TRAFFIC SIGNALS

LOCATION	661.0200.02 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS L.S.	SPV.0105.12 TEMPORARY NON-INTRUSIVE VEHICLE DETECTION SYSTEM FOR INTERSECTIONS L.S.
STH 20 & 90TH STREET	1	1
TOTAL	1	1

* EMERGENCY VEHICLE PREEMPTION

** LOCATION	*** SPV.0105.08 EMERGENCY VEHICLE PREEMPTION DETECTOR HEAD INSTALLATION L.S.
STH 20 & 90TH STREET	1
TOTAL	1

* REMOVE TRAFFIC SIGNALS

** LOCATION	SPV.0105.03 REMOVE TRAFFIC SIGNALS L.S.
STH 20 & 90TH STREET	1
TOTAL	1

* INSTALL STATE-SUPPLIED TRAFFIC SIGNAL CABINET

CONTROL CABINET NO.	** LOCATION	SPV.0105.06 INSTALL STATE-SUPPLIED TRAFFIC SIGNAL CABINET L.S.
CB1	257+67, 121' RT	1
	TOTAL	1

LEGEND

*	ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE
**	FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD
***	PAY ITEM INCLUDES INSTALLATION OF STATE FURNISHED MATERIALS

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

SIGNAL NO. S51-0536
STH 20 & 90TH STREET
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TRAFFIC SIGNAL EQUIPMENT

SIG. BASE NO.	* 657.0100 PEDESTAL BASES EACH	* 657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	* 657.0322 POLES TYPE 5- ALUMINUM EACH	657.0405 TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT EACH	* 657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	* 657.0609 LUMINAIRE ARMS SINGLE MEMBER 4 -INCH CLAMP 6-FT EACH	* 657.1355 INSTALL POLES TYPE 12 EACH	* 657.1360 INSTALL POLES TYPE 13 EACH	* 657.1545 INSTALL MONOTUBE ARMS 45-FT EACH	* 657.1815 INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	* 659.1115 LUMINAIRES UTILITY LED-A EACH	* 659.1125 LUMINAIRES UTILITY LED-C EACH
SB1	1					1						1		
SB2									1	1	1			1
SB3	1				1							1		
SB4		1	1				2							2
SB5		1	1				1						1	
SB6		1	1				1						1	
SB7								1		1				
SB8		1	1				1						1	
SB9	1					1						1		
SB10	1			1								1		
SB11	1				1							1		
SB12		1	1				1						1	
SB13	1					1						1		
SB14									1	1	1	1		1
SB15	1				1							1		
SB16		1	1				2							2
SB17		1	1				1						1	
SB18		1	1				1						1	
SB19								1		1				
SB20		1	1				1						1	
SB21	1					1						1		
SB22	1				1							1		
SB23	1			1								1		
SB24		1	1				1						1	
TOTAL	10	10	10	2	4	4	12	2	2	4	2	11	8	6

* TRANSPORTING MATERIALS

** LOCATION	SPV.0105.10 TRANSPORTING TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS L.S.
STH 20 & 90TH STREET	1
TOTAL	1

* VIDEO DETECTION SYSTEM

** LOCATION	SPV.0105.14 TRANSPORTING AND INSTALLING STATE FURNISHED AUTOSCOPE VIDEO DETECTION SYSTEM L.S.
STH 20 & 90TH STREET	1
TOTAL	1

LEGEND

* ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

SIGNAL NO. S51-0536
STH 20 & 90TH STREET
PAGE 5 OF 6

TRAFFIC SIGNAL FACES

SIG. HEAD NO.	SIG. BASE NO.	* 658.0110 TRAFFIC SIGNAL FACE 3-12" VERTICAL EACH	* 658.0115 TRAFFIC SIGNAL FACE 4-12" VERTICAL EACH	* 658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	* 658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	* 658.0416 PEDESTRIAN SIGNAL FACE 16-INCH EACH	* 658.0600 LED MODULES 12-INCH RED BALL EACH	* 658.0605 LED MODULES 12-INCH YELLOW BALL EACH	* 658.0610 LED MODULES 12-INCH GREEN BALL EACH	* 658.0615 LED MODULES 12-INCH RED ARROW EACH	* 658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	* 658.0625 LED MODULES 12-INCH GREEN ARROW EACH	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
1	SB2	1		1			1	1	1				
2	SB19	1		1			1	1	1				
3	SB19	1		1			1	1	1				
4	SB15		1		1					1	2	1	
5	SB14		1		1					1	2	1	
6	SB14	1		1			1	1	1				
7	SB7	1		1			1	1	1				
8	SB7	1		1			1	1	1				
9	SB3		1		1					1	2	1	
10	SB2		1		1					1	2	1	
11	SB11	1		1			1	1	1				
12	SB2	1		1			1	1	1				
13	SB2	1		1			1	1	1				
14	SB2		1		1					1	2	1	
15	SB22		1		1					1	2	1	
16	SB22	1		1			1	1	1				
17	SB14	1		1			1	1	1				
18	SB14	1		1			1	1	1				
19	SB14		1		1					1	2	1	
20	SB11		1		1					1	2	1	
21	SB1					1							1
22	SB22					1							1
23	SB13					1							1
24	SB11					1							1
25	SB9					1							1
26	SB2					1							1
27	SB21					1							1
28	SB14					1							1
TOTAL		12	8	12	8	8	12	12	12	8	16	8	8

* REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE

** LOCATION	SPV.0105.16 REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE L.S.
STH 20 & 90TH STREET	1
TOTAL	1

LEGEND

* ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

SIGNAL NO. S51-0536
STH 20 & 90TH STREET
PAGE 6 OF 6

FILE NAME: L:\work\projects\6022809\000.CAD\Signals\mq_90th_sh06.dgn
BATCH PRINT SHEET 45 OF 46
PRINTER DRIVER: S:_acm-CADstds_Libraries\WISDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\AE_PDF_11 x 17 Traffic Signals.plt
PEN TABLE: S:_acm-CADstds_Libraries\WISDOT\MicroStation\Resources\MS_Printing\pen tables\AE_WisDOT_Traffic.tbl
PLOT DATE: 7/2/2014
PLOT TIME: 10:47:10 AM
PLOT SCALE: 1:480
WISDOT/CADDS SHEET 42

CONDUIT

LOC	TO	LOC	652.0215 CONDUIT NONMETALLIC SCHEDULE 40 1 1/4-INCH L.F.	* 652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	652.0605 CONDUIT SPECIAL 2-INCH L.F.
CB1 (S0719)		CV1	16		
CV1		ICPB1		820	177
ICPB1		ICPB2		36	80
ICPB2		ICPB3		648	
ICPB3		ICPB4			110
ICPB4		CV2			178
CV2		CB1 (S0536)		21	
CV2		CV3		2204	245
CV3		CB1 (S0259)		31	
		TOTAL	16	3760	790

INTERCONNECT TESTING AND INTEGRATION

LOCATION	670.0100 FIELD SYSTEM INTEGRATOR L.S.	670.0200 ITS DOCUMENTATION L.S.	678.0500 COMMUNICATION SYSTEM TESTING L.S.
STH 20 (WASHINGTON AVE) INTERCONNECT	1	1	1
TOTAL	1	1	1

INTERCONNECT CABLE

LOC	TO	LOC	*** 678.0036 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 36-CT L.F.
CV1		CV2	2363
CV2		CV3	2647
		TOTAL	5010

FIBER OPTIC COMMUNICATIONS EQUIPMENT

LOCATION	*** SPV.0105.17 INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET STH 20 & CTH H / RENAISSANCE BLVD LS	*** SPV.0105.18 INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET STH 20 & CTH H / WISCONSIN ST LS	*** SPV.0105.19 INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET STH 20 & 90TH ST LS	FOR INFORMATION ONLY ST-ST SINGLE MODE FIBER JUMPER 2-CT 4-FEET (CONTRACTOR FURNISHED) EACH	FOR INFORMATION ONLY CAT-5E CABLE 4-FEET (CONTRACTOR FURNISHED) EACH	FOR INFORMATION ONLY PATCH PANEL WITH SINGLE MODE FIBER OPTIC CABLE PIGTAIL 6-CT (STATE-FURNISHED) L.F.	FOR INFORMATION ONLY ETHERNET SWITCH 2-PORT (STATE-FURNISHED) EACH	FOR INFORMATION ONLY CELLULAR MODEM (STATE-FURNISHED) EACH	FOR INFORMATION ONLY CELLULAR ANTENNA (STATE-FURNISHED) EACH
CB1 (S51-0719)	1			2	2	200	1	1	1
CB1 (S51-0536)		1		2	2	200	1		
CB1 (S51-0259)			1	2	2	200	1		
TOTAL	1	1	1	6	6	600	3	1	1

PULL BOXES

PULL BOX NO	LOCATION	653.0180 PULL BOXES STEEL COMMUNICATIONS (24x42-INCH) EACH
ICPB1	224+44, 102' RT	1
ICPB2	224+40, 14' LT	1
ICPB3	230+89, 20' LT	1
ICPB4	231+16, 85' RT	1
TOTAL		4

FIBER OPTIC SPLICE

LOCATION	678.0200 FIBER OPTIC SPLICE ENCLOSURE EACH	678.0300 FIBER OPTIC SPLICE EACH
CV1	1	4
CV2	1	6
CV3	1	4
TOTAL	3	14

VAULTS

COMM. VAULT NO.	** LOCATION	673.0105 COMMUNICATION VAULT TYPE 1 EACH
CV1	214+50, 66' RT	1
CV2	232+93, 101' RT	1
CV3	257+46, 98' RT	1
	TOTAL	3

WISCONSIN
JEFFREY J. SANDBERG
E-39308
PRAIRIE DU SAC, WI
PROFESSIONAL ENGINEER
5/2/14

LEGEND

* ADDITIONAL ITEMS FOR QUANTITIES LISTED ELSEWHERE

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

*** PAY ITEM INCLUDES INSTALLATION OF STATE FURNISHED FIBER OPTIC CABLE

ALL ITEMS ON THIS SHEET ARE CATEGORY 0020

STH 20 (WASHINGTON AVE)
PAGE 1 OF 1

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WISDOT/CADDS SHEET 42

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
2250-00-25	4.1	
FEDERAL PROJECT NUMBER		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

WASHINGTON AVE.

CTH "H" TO 90th ST.

STH 20 — RACINE CO.

CONSTRUCTION PROJECT NUMBER
2250-00-75

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET.AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.		
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		
RECORDED AS	(100')		

CURVE DATA

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

CONVENTIONAL SYMBOLS

- FOUND IRON PIPE/PIN (IF UNLESS NOTED)
- R/W MONUMENT
- R/W STANDARD
- SIGN
- SECTION CORNER MONUMENT
- SECTION CORNER SYMBOL
- FEE (HATCH VARIES)
- TEMPORARY LIMITED EASEMENT
- PERMANENT LIMITED EASEMENT
- R/W BOUNDARY POINT
- PARCEL NUMBER
- UTILITY PARCEL NUMBER
- SIGN NUMBER (OFF PREMISE)
- BUILDING

- PROPOSED R/W LINE
- EXISTING H.E. LINE
- PROPERTY LINE
- LOT & TIE LINES
- SLOPE INTERCEPTS
- CORPORATE LIMITS
- ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)
- ACCESS RESTRICTED (BY ACQUISITION)
- NO ACCESS (BY STATUTORY AUTHORITY)
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- EXISTING CENTERLINE
- PROPOSED REFERENCE LINE
- PARALLEL OFFSET

CONVENTIONAL UTILITY SYMBOLS

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

(100) City Of Racine - Water
V. 2074 P. 123
Doc. 1341597 - Pcl. 1
Doc. 2134421 - Pcl. 3
Doc. 2174185 - Pcl. 3

(101) AT & T
No Record Of Easement - Pcl. 2
Doc. 2134421 - Pcl. 3
Doc. 2174185 - Pcl. 3

(102) Village Of Mount Pleasant
V. 1805 P. 275
Doc. 1197617 - Pcl. 2
V. 1815 P. 30
Doc. 1202569 - Pcl. 3
Doc. 2134421 - Pcl. 3
Doc. 2174185 - Pcl. 3

(104) WE Energies - Gas
No Record Of Easement - Pcl. 3

A Cast Iron Mon.
w/ A Plate
Y 186,047.02
X 607,200.08

A Concrete Mon.
w/ a Brass Cap
Y 183,409.73
X 607,216.35

A CastIron Mon.
in a Cast Iron Handhole
Y 185,961.76
X 609,862.26

HWY	BASIS OF EXISTING R/W	YEAR	WIDTH
STH 20	F065-1(6)	1963	VARIES
STH 20	2250-01-21	1976	VARIES
STH 20	DOC. 1456484	1993	33'
90TH ST	DOC. 1506181	1995	66'

For Access Control
See F065-1(6)

Access Easement
Doc. 2134423 - Pcl. 3

SE - NE

(2) WEST LAWN MEMORIAL PARK

(3) COMMUNITY STATE BANK

Frontage Rd.

PRM500 PRM501 PRM502 PRM503 PRM506

CTH "H"

96th St.

Begin Relocation Order
231+87.57
Y 183,409.73
X 607,216.35

For Access Control
See F065-1(6)

PI 240+17.08

SW - NE

2,660.81' S 88°26'59" E

WASHINGTON AVE.

℄ STH 20

235 240 245 250 255 260

2,647.35' N 0°00'23" E

222.80'

N 47°52'46" E

TLE For Slopes

(1) BOUCHER

WISCONSIN ST.

PC 236+13.71

PT 244+20.38

NW - SE

NE - SE

For Access Control
See F065-1(6)

92th St.

A CastIron Mon.
w/ a Brass Cap
Y 180,761.80
X 607,216.05

SCHEDULE OF LANDS & INTERESTS REQUIRED				AREAS SHOWN IN THE TOTAL ACRES COLUMN ARE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS AND OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA ACQUIRED.					
PARCEL NUMBER	OWNER	INTEREST REQUIRED	TOTAL ACRES	R/W REQUIRED (ACRES) NEW	EXISTING	TOTAL	TOTAL REMAINING ACRES	T.L.E. TEMP. ACRES	P.L.E. PERM. ACRES
1	Boucher Holdings, LLC	TLE						0.03	
2	West Lawn Memorial Park	FEE	104.09	0.10	0.00	0.10	103.99		
3	Community State Bank	FEE	2.01	0.05	0.00	0.05	1.96		

UTILITY NUMBER	OWNER	INTEREST REQUIRED
100	CITY OF RACINE	ROR
101	AT & T	ROR
102	VILLAGE OF MOUNT PLEASANT	ROR
104	WE ENERGIES - GAS	ROR

NOTES

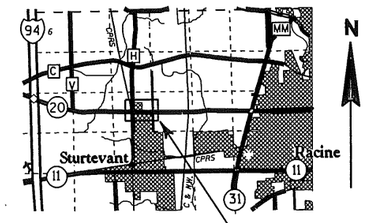
COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, RACINE COUNTY ZONE, NAD 83 (2007) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT-OF-WAY MONUMENTS WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

N

SCALE, FEET
0 100 200



A CastIron Mon.
w/ a Brass Cap
Y 183,337.75
X 609,876.18

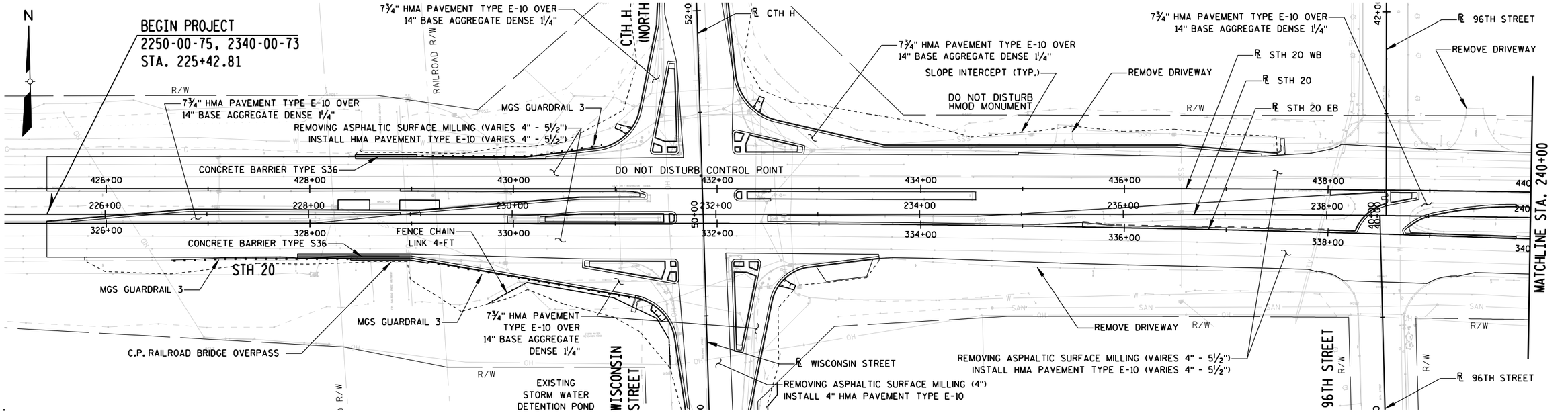
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See F065-1(6)

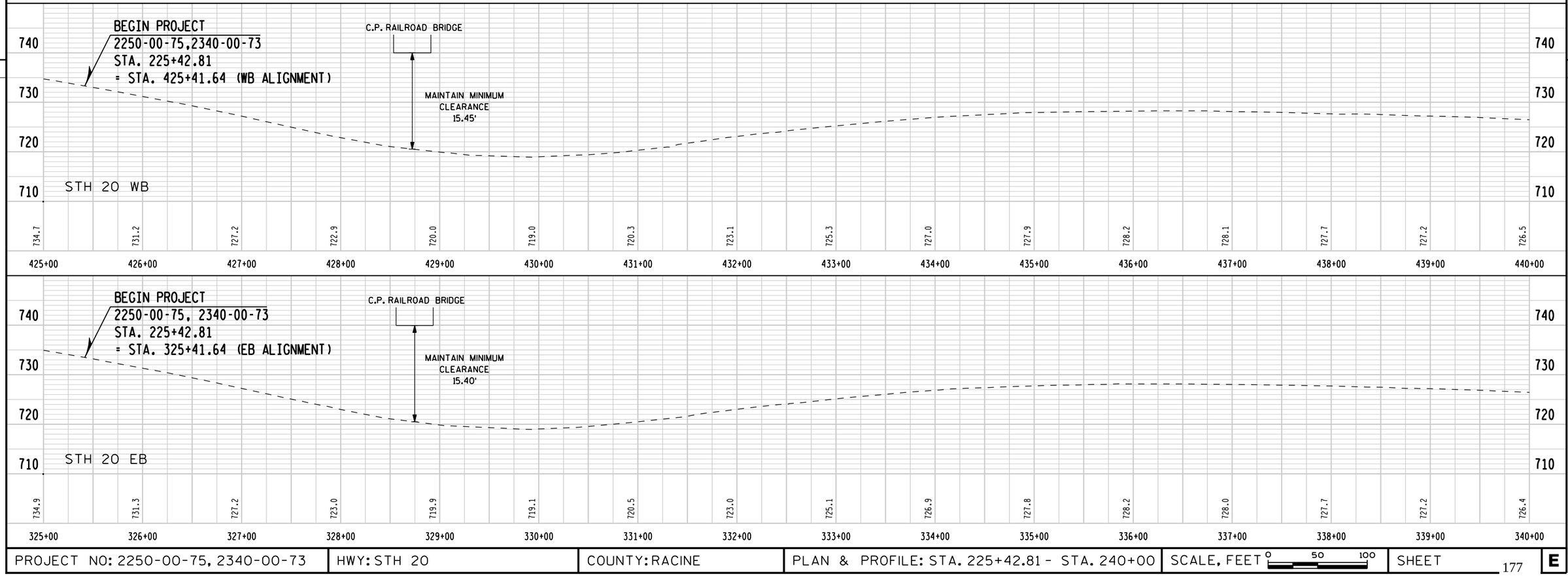
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260+00.00
Y 183,229.02
X 610,026.08

A CastIron Mon.
w/ a Brass Cap
Y 180,692.17
X 609,877.62

REVISION DATE	STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
	APPROVED FOR THE DEPARTMENT
	DATE: Dec. 18, 2012 (Signature)

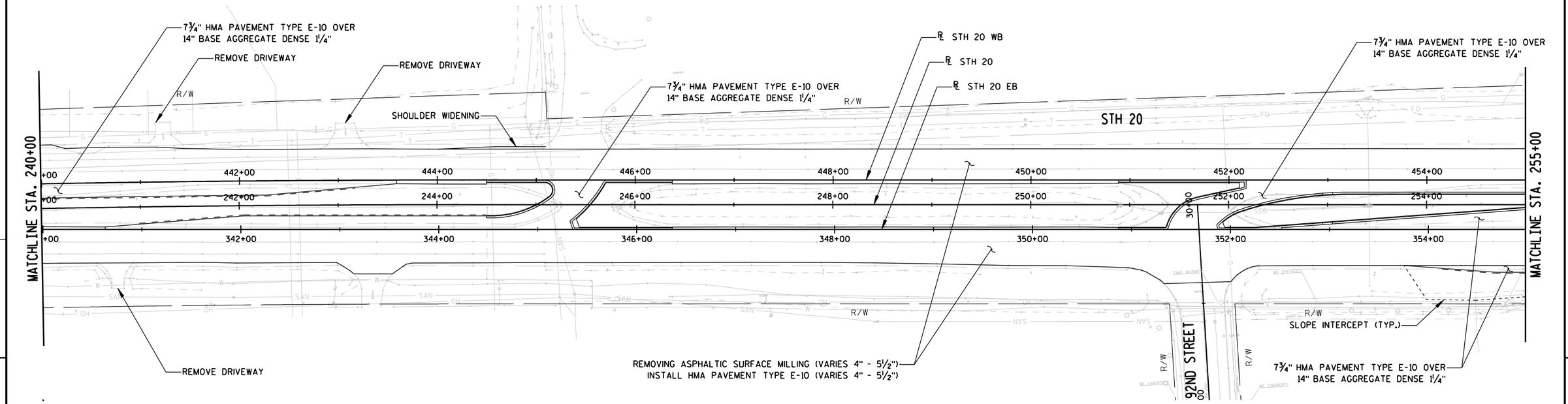
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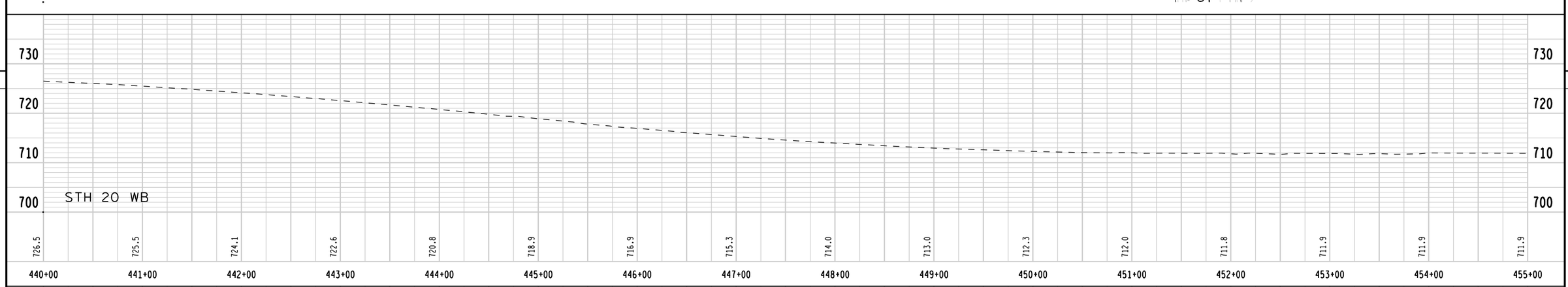


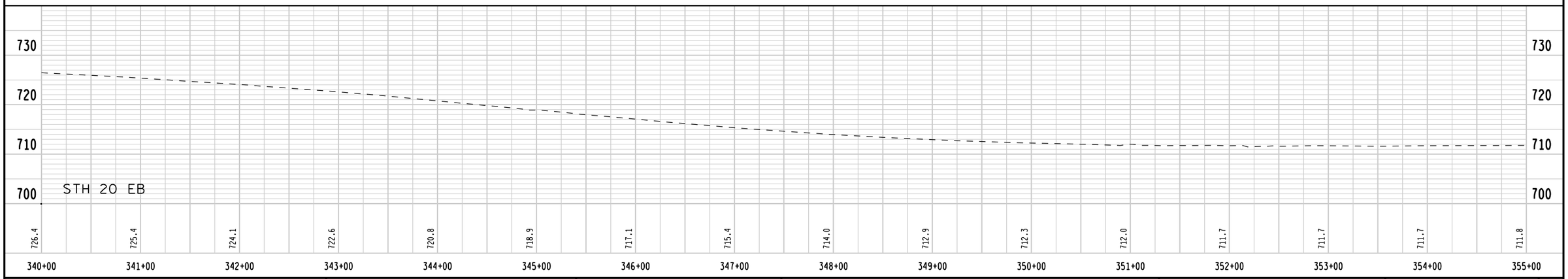


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WISDOT/CADDS SHEET 46

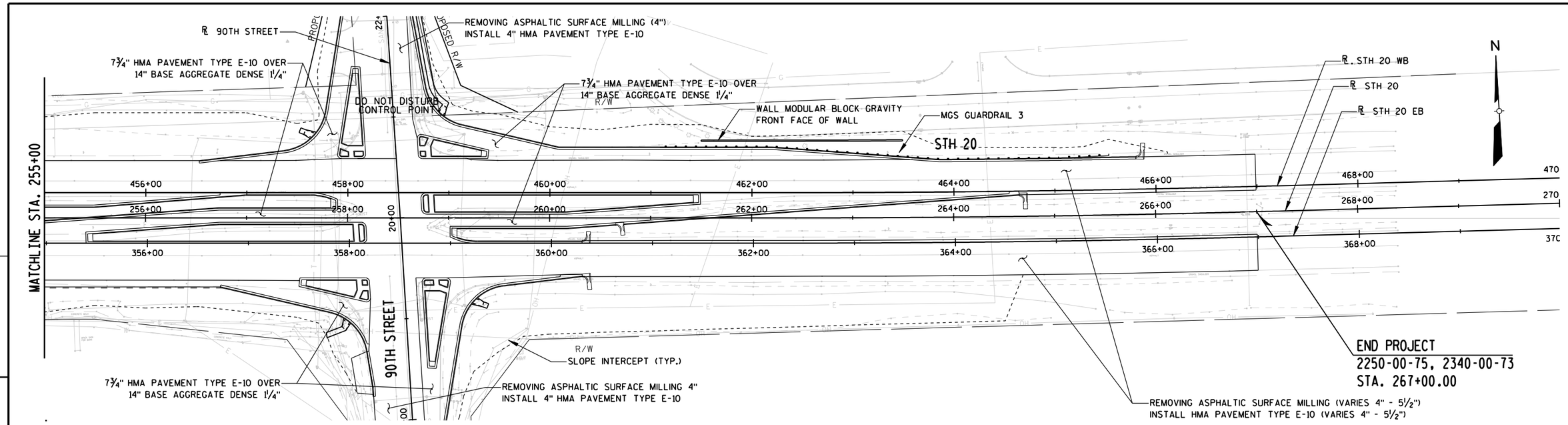


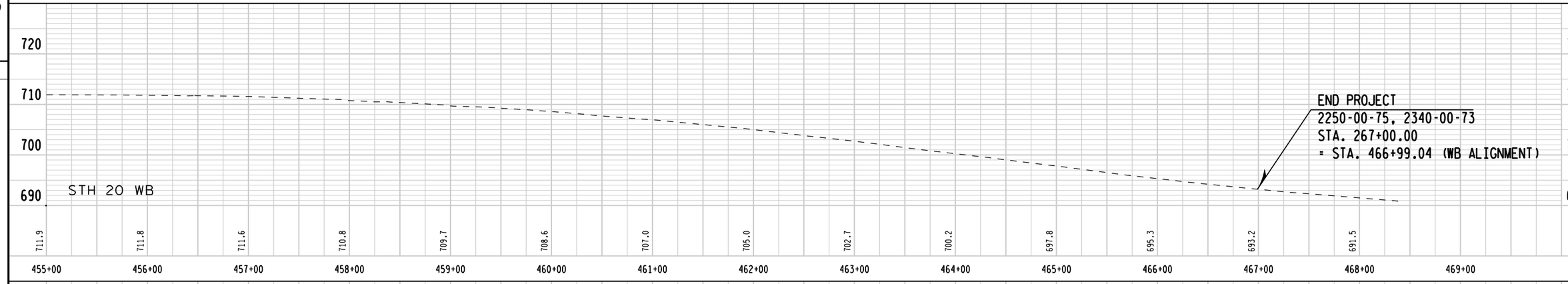




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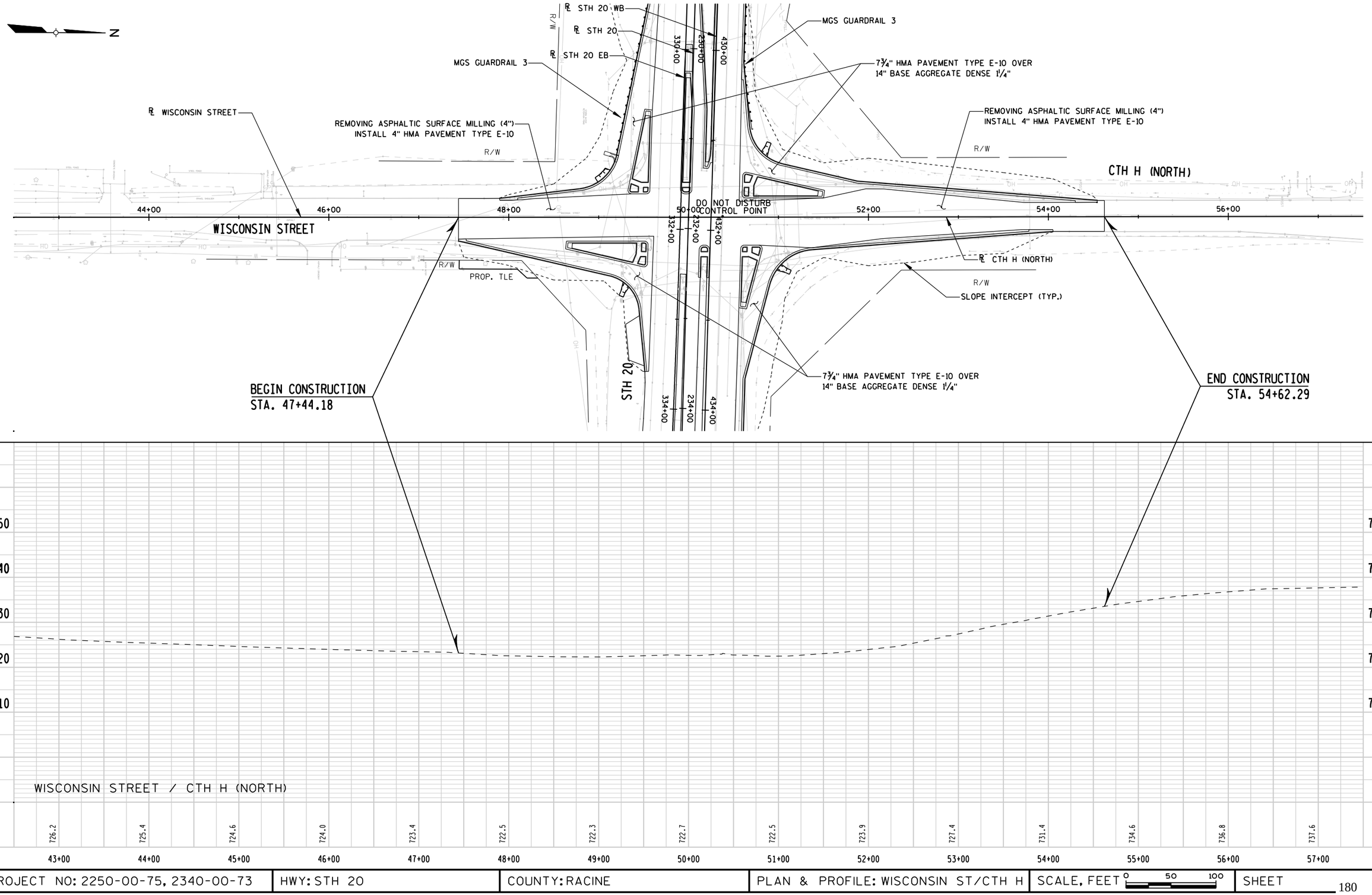
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WISDOT/CADDS SHEET 46





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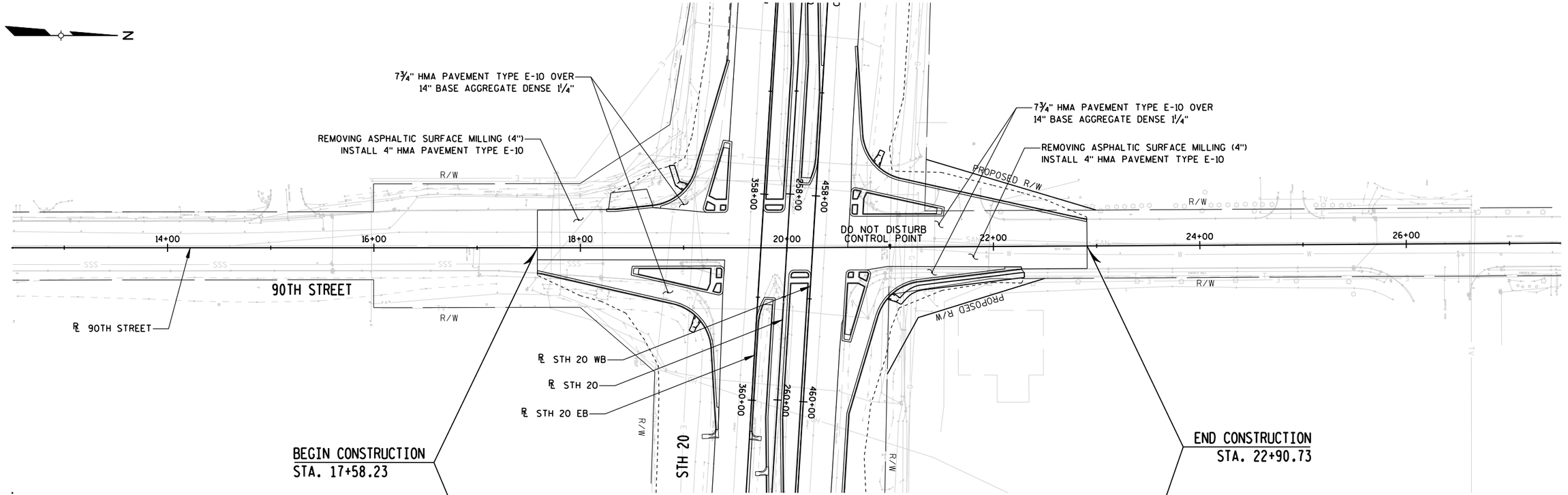


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5

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	PLAN & PROFILE: WISCONSIN ST/CTH H	SCALE, FEET 0 50 100	SHEET 180	E

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5

5

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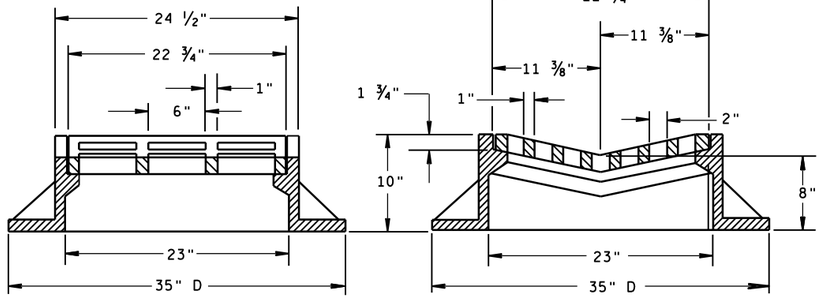
Standard Detail Drawing List

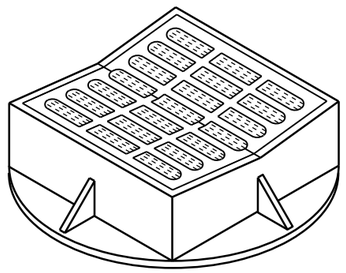
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08B10-01	MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D15-04A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08D15-04B	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-07	CONDUIT
09B04-10	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C03-03	TRANSFORMER/PEDESTAL BASES
09C06-06	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C12-04A	CONCRETE BASE TYPE 10
09C12-04B	CONCRETE BASE TYPE 13
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09E01-12D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-12G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-04	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-05	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-04C	TYPE 12 POLE 35'-55' MONOTUBE ARM
09E08-04D	TYPE 13 POLE 35'-55' MONOTBE ARM
09E08-04E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F15-03A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09F15-03B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
09G01-03A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
11B02-02	CONCRETE MEDIAN NOSE
13C14-04A	BASE PATCHING CONCRETE
13C14-04B	BASE PATCHING CONCRETE
13C14-04C	BASE PATCHING CONCRETE
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B32-02A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-02B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-02C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-02D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-02E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B39-01A	32-INCH SSCB TO 36-INCH SSCB HEIGHT TRANSITION
14B39-01C	36-INCH SSCB TO 42-INCH SSCB HEIGHT TRANSITION

6

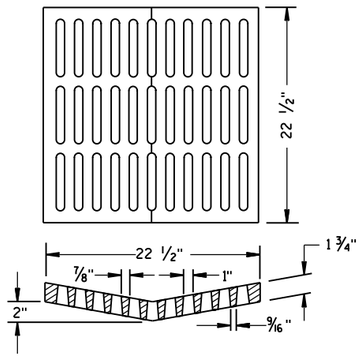
Standard Detail Drawing List

14B39-01E	42-INCH SSCB TO 56-INCH SSCB HEIGHT TRANSITION
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B47-01A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B03-13A	FENCE CHAIN LINK
15B03-13B	FENCE CHAIN LINK
15C07-12A	PAVEMENT MARKING SYMBOLS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C18-03	MEDIAN ISLAND MARKING
15C29-03A	BICYCLE LANE MARKING
15C29-03B	BICYCLE LANE MARKING
15C29-03C	URBAN BICYCLE LANE MARKING
15C29-03D	URBAN BICYCLE LANE MARKING
15C29-03E	PAVEMENT MARKING FOR BIKE LANES
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D21-02	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



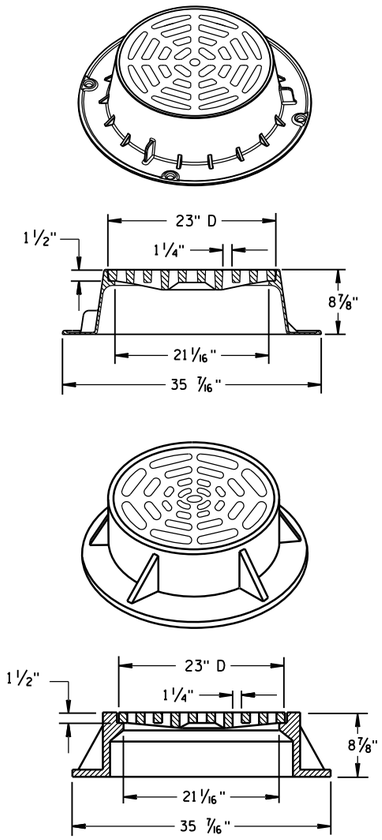


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

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



TYPE "C"

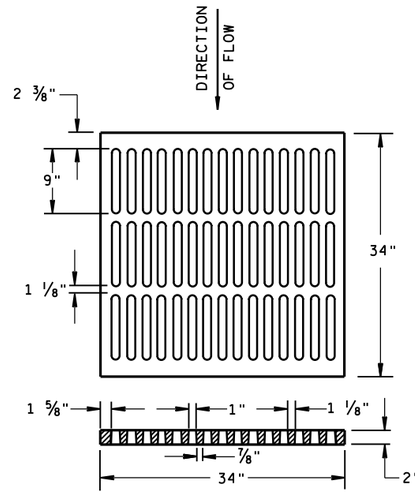
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

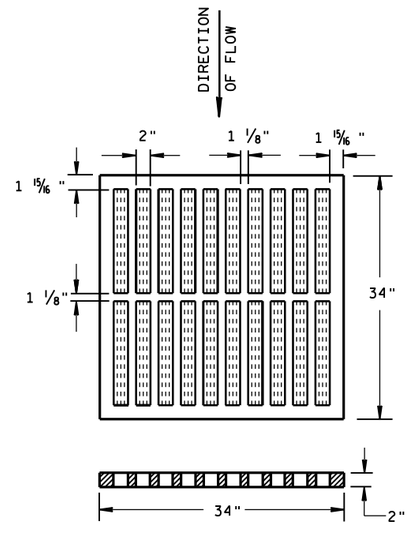
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



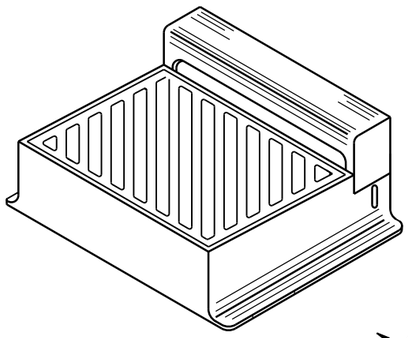
ALTERNATIVE TYPE "MS"

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

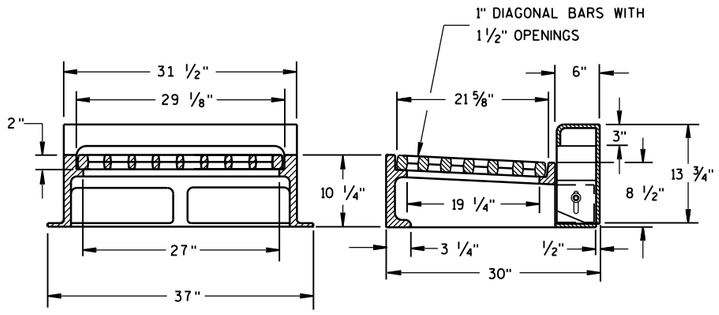


TYPE "MS"

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



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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

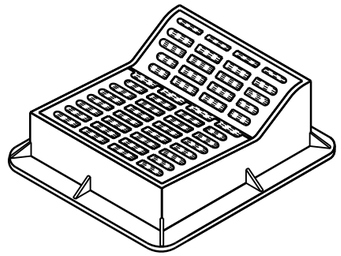
INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

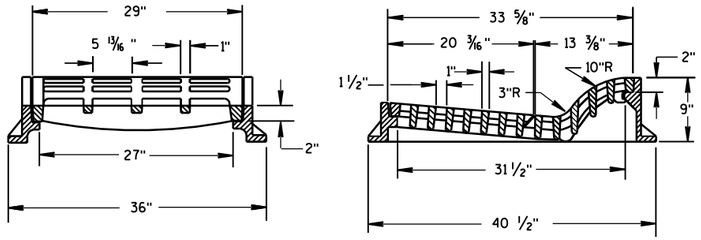
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

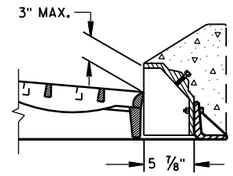
S.D.D. 8 A 5-19b





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

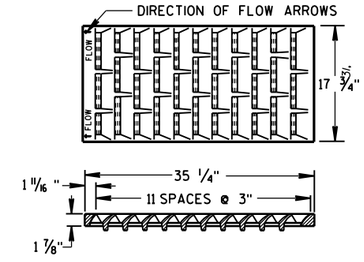
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

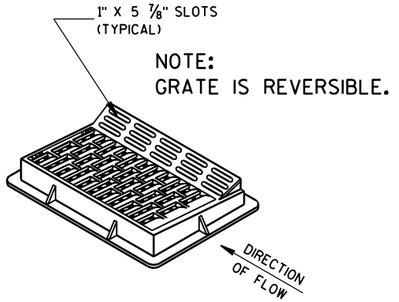
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

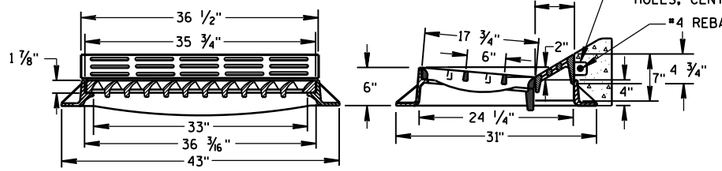
GENERAL NOTES

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.



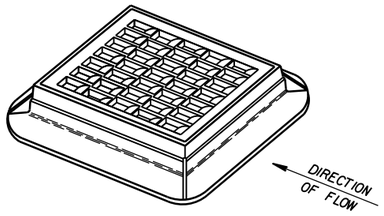


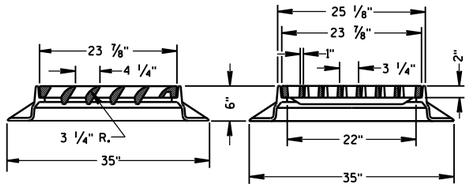


TYPE "HM"

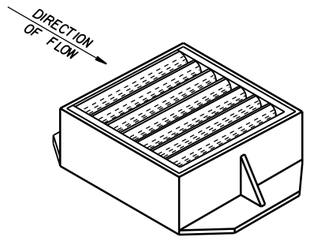
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

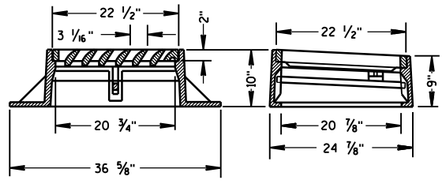
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



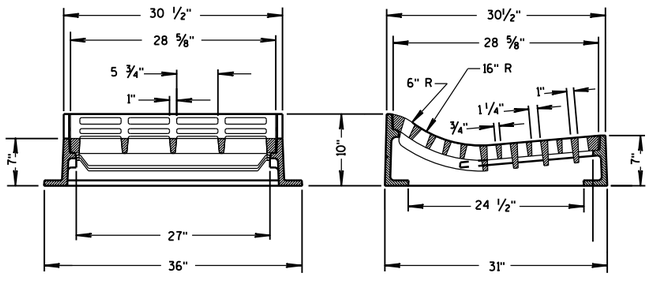


TYPE "S"



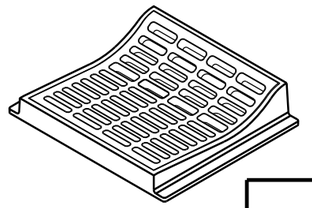


TYPE "V"



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

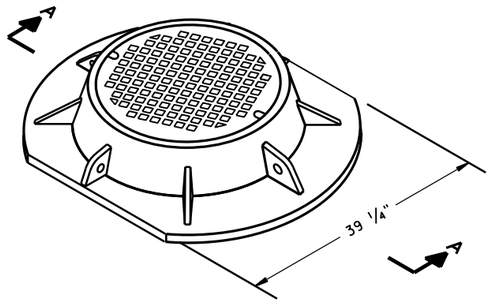
FHWA

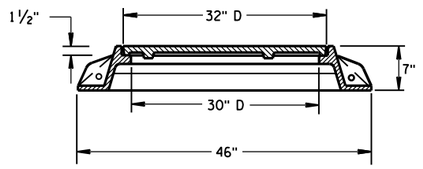
6

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

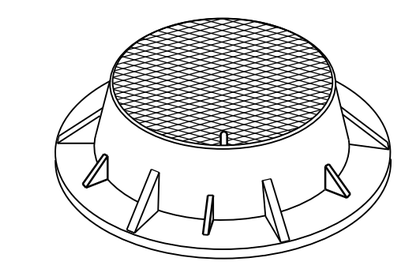
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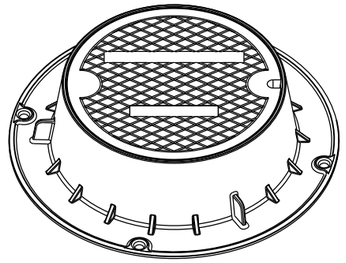
S.D.D. 8 A 5-19c

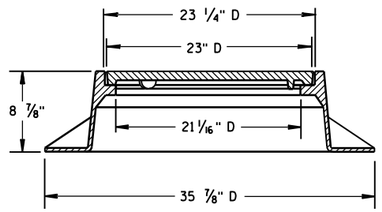


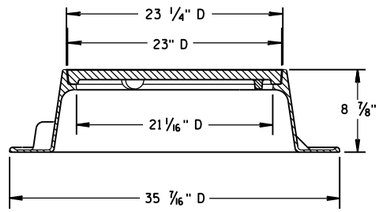


SECTION A-A
TYPE "K"









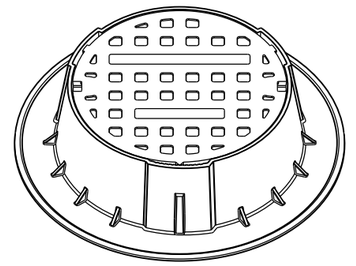
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

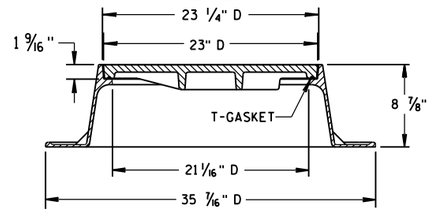
GENERAL NOTES

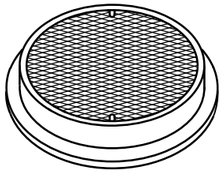
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

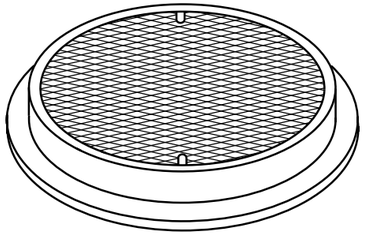
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

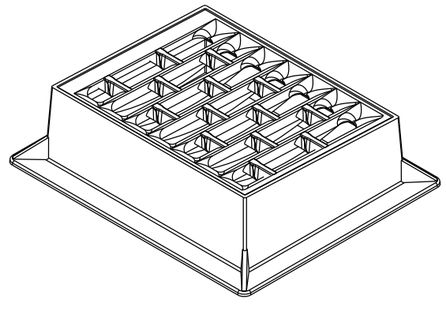
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

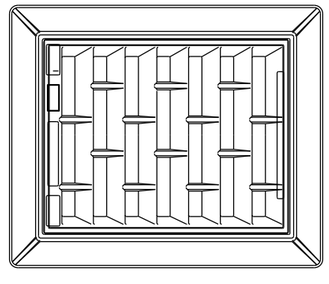


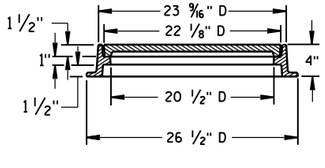




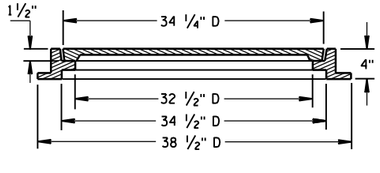




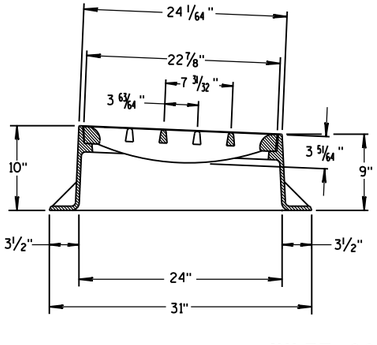


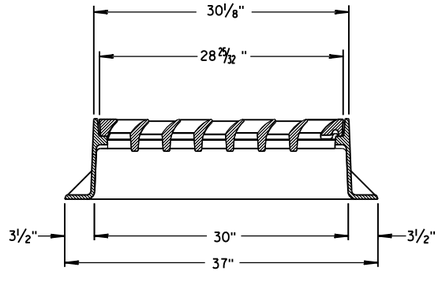


TYPE "L"

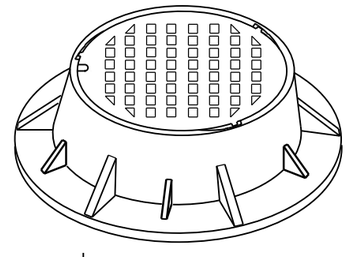


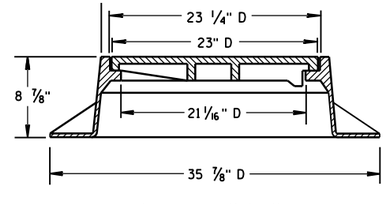
TYPE "M"





INLET COVER TYPE "BW"





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

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

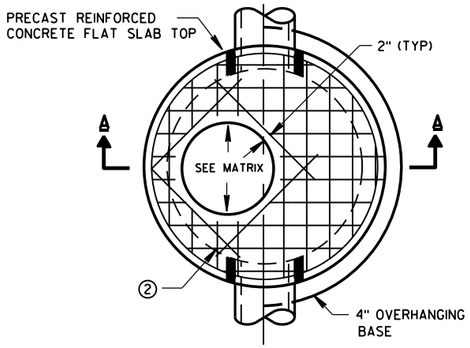
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

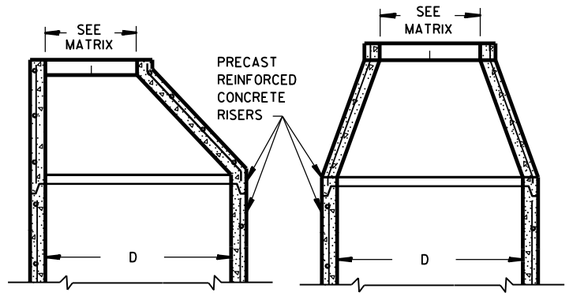
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

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

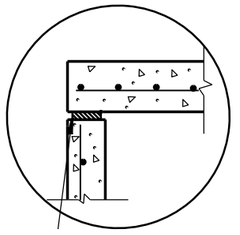


PLAN VIEW CIRCULAR OPENING

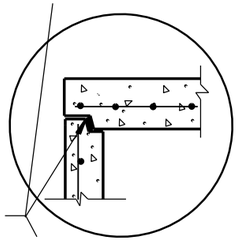


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

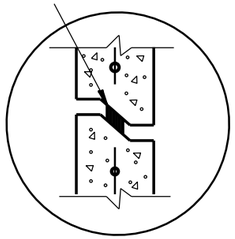


TOP WITH PLAIN END JOINT



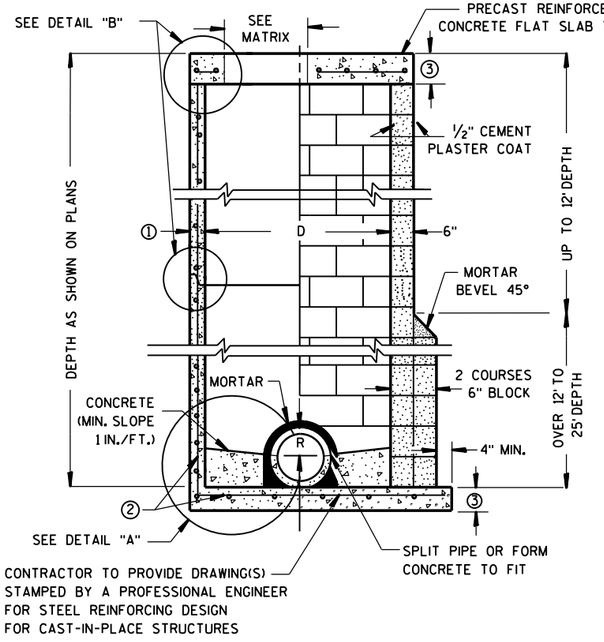
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



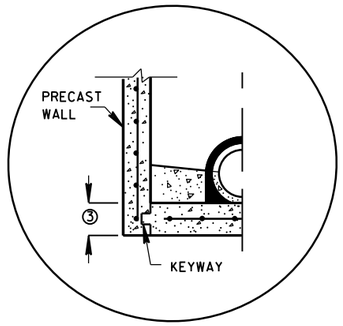
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

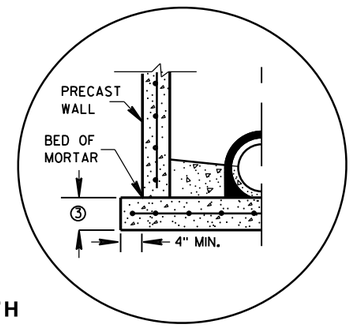


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

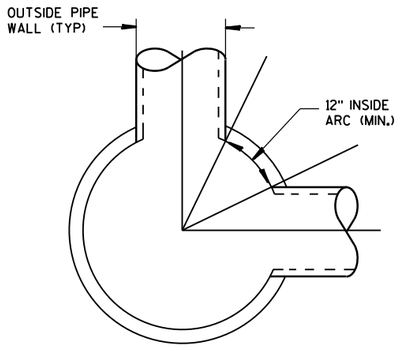


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

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 GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND 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" 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.

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

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

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 "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

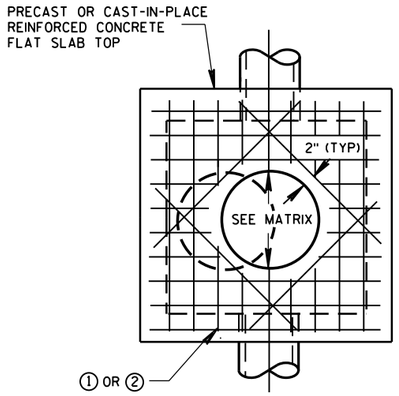
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

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

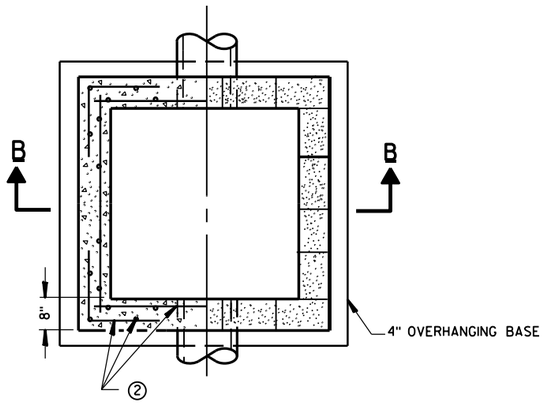
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

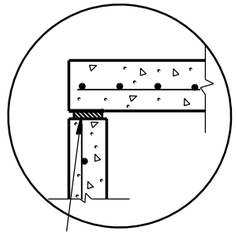
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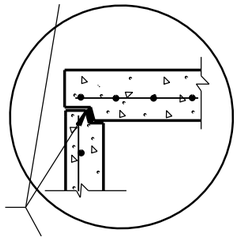
PLAN VIEW
CIRCULAR OPENING



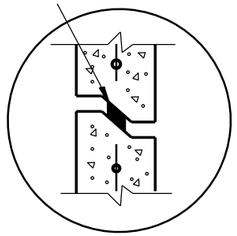
SECTION A-A
PLAN VIEW



TOP WITH PLAIN END JOINT

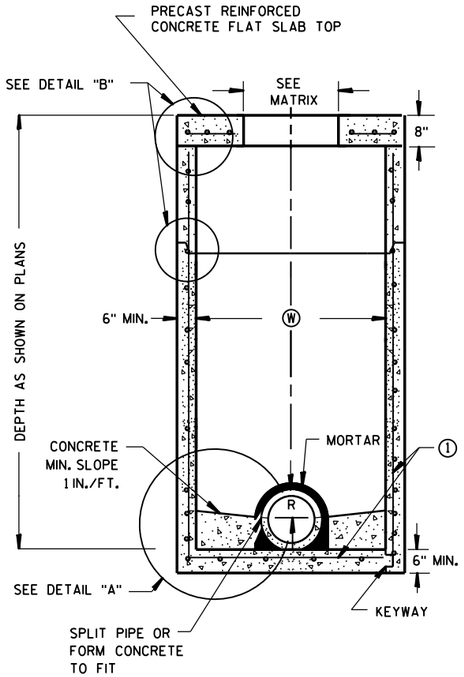


TOP WITH TONGUE AND GROOVE JOINT

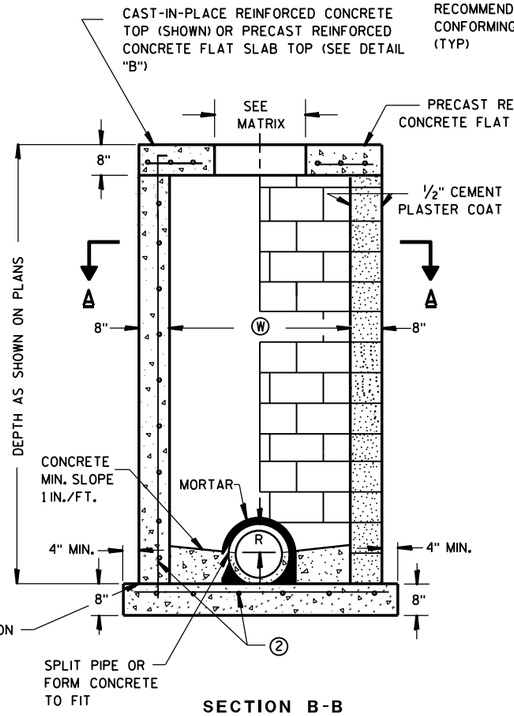


RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

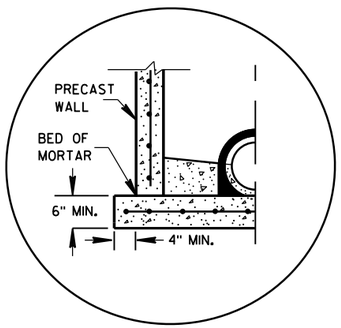


SECTION B-B

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

CAST-IN-PLACE REINFORCED CONCRETE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "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.

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 GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

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.

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN WIDTH.

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

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

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.

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

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

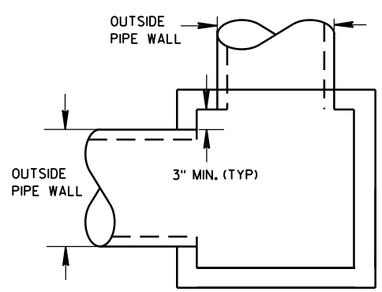
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (W) (IN)	LENGTH (L) (IN)
3X3-FT	24	24
4X4-FT	30	30
5X5-FT	42	42
6X6-FT	54	54



DETAIL "C"

SQUARE MANHOLES W/ FLAT TOP

MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT

MANHOLES 3X3-FT, 4X4-FT 5X5-FT AND 6X6-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

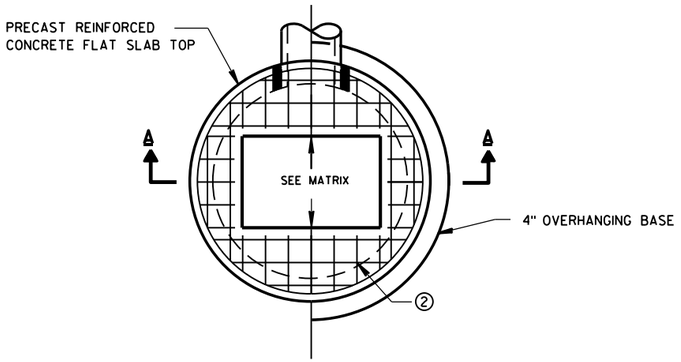
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6/5/2012 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS ENGINEER
FHWA

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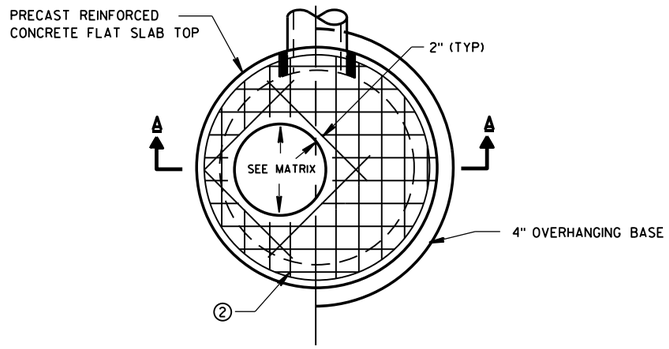
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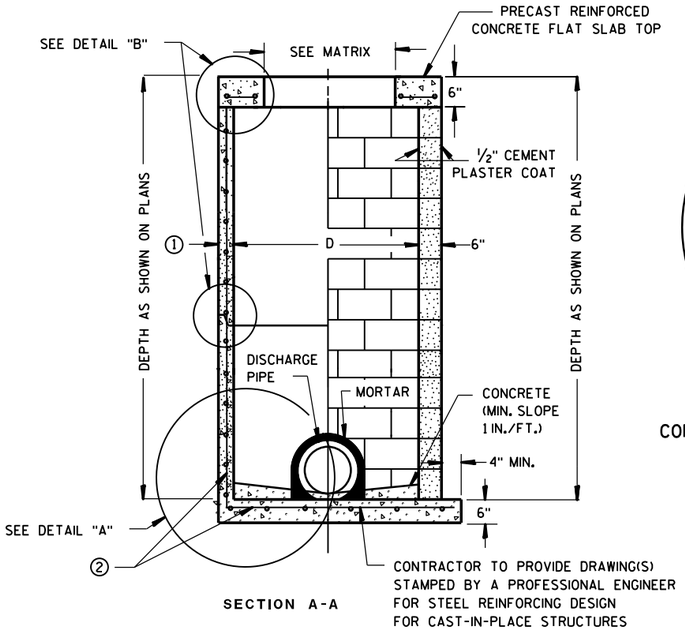
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PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

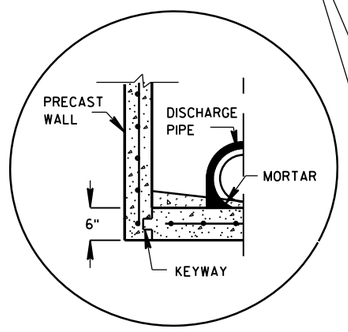


SECTION A-A

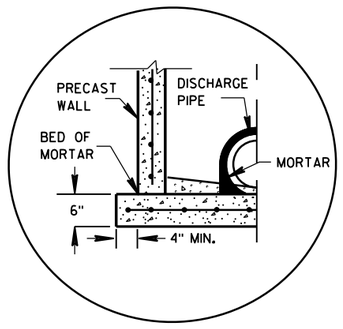
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP

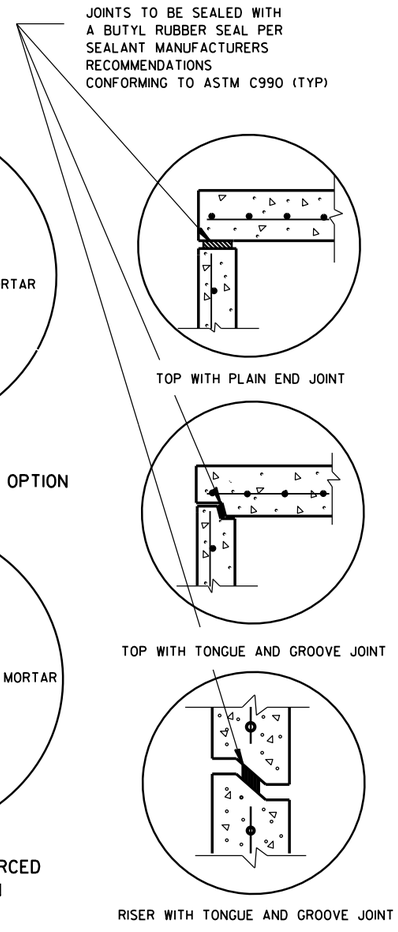


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

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.

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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 GRANULAR 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.

ALL PRECAST INLET 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.

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.

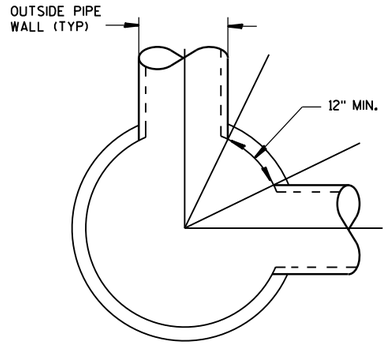
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

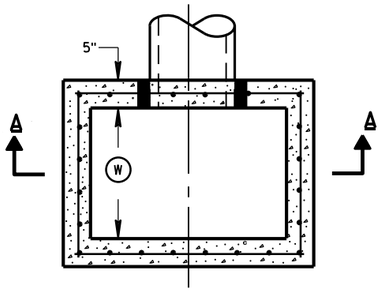
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

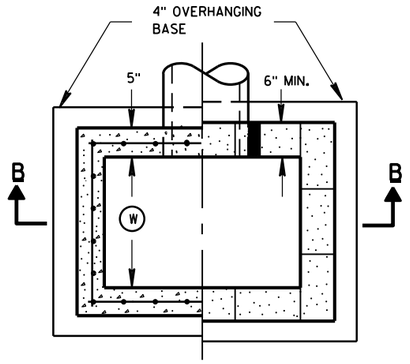
APPROVED
6/5/2012 — DATE
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FHWA

INLETS 3-FT AND 4-FT DIAMETER

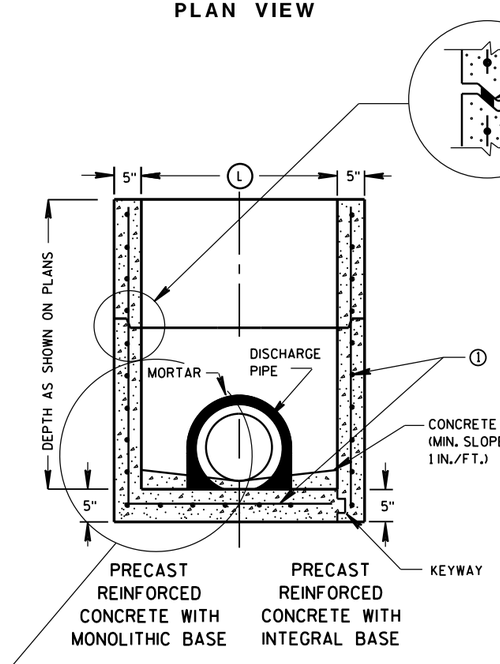
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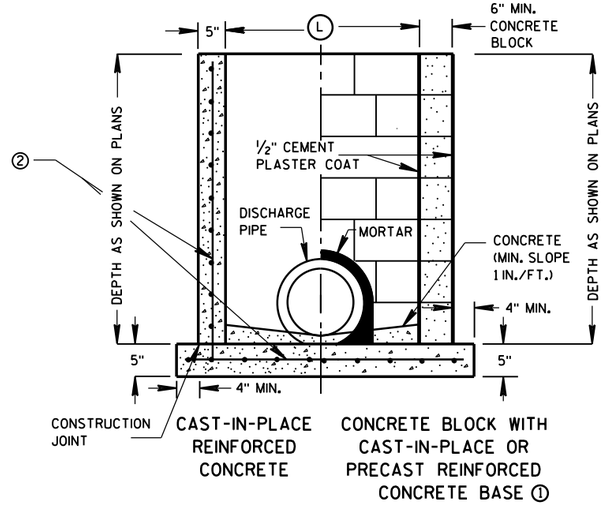
PLAN VIEW



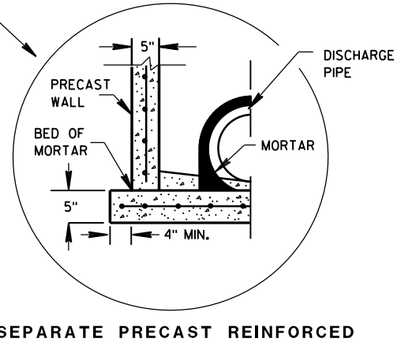
PLAN VIEW



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.

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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.

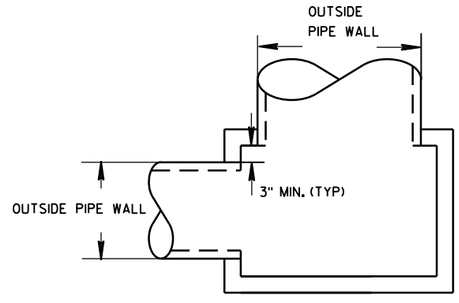
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

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"

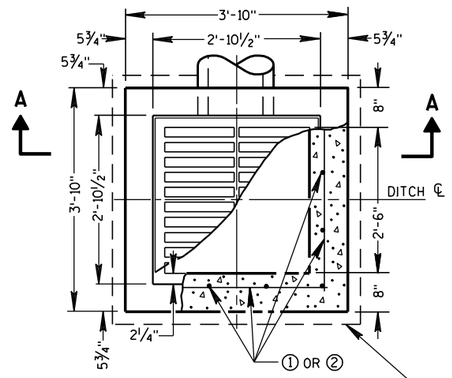
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

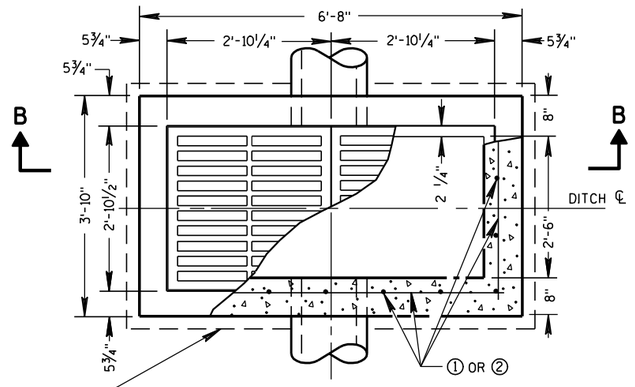
APPROVED
6/5/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DE ENGINEER
FHWA

6

S.D.D. 8 C 7-1

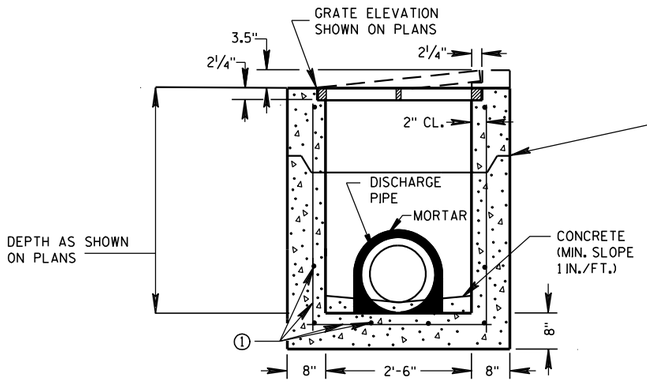


PLAN VIEW

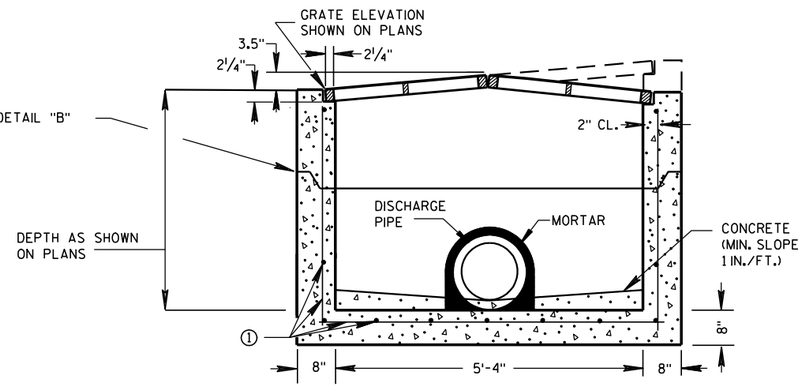


PLAN VIEW

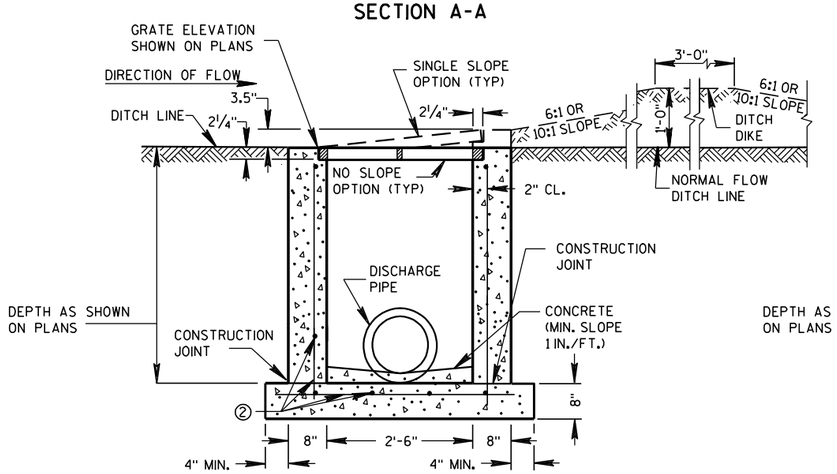
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



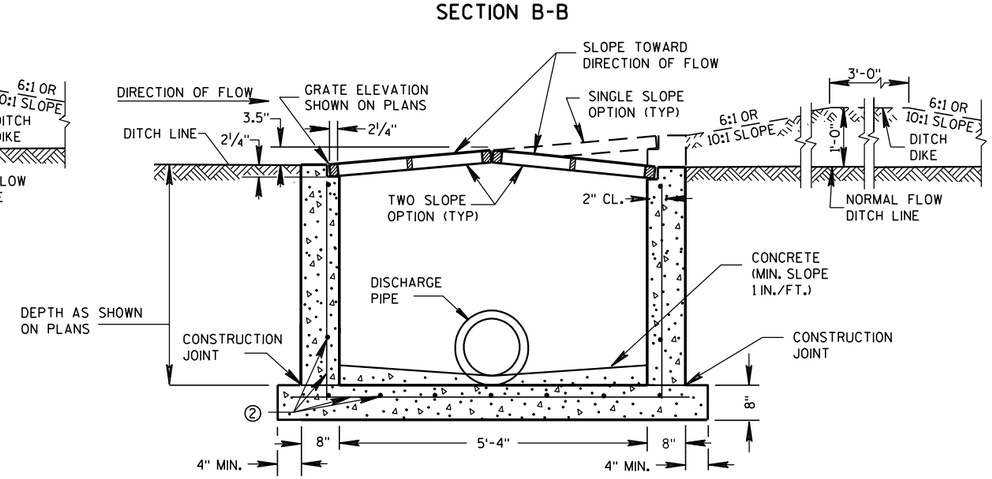
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

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.

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.

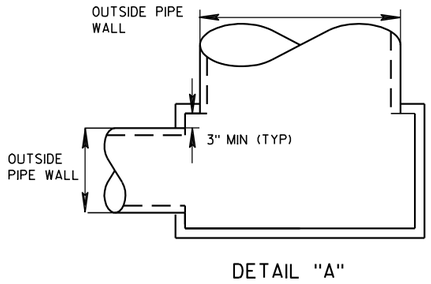
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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.

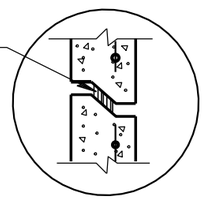
PIPE MATRIX

	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 GRATE

INLETS MEDIAN 2 GRATE

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

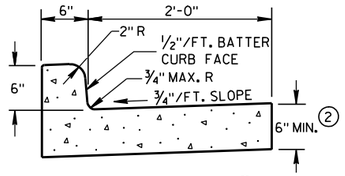
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

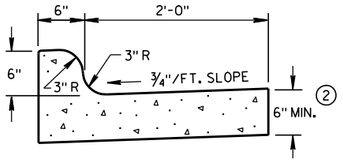
S.D.D. 8 C 8-1

6

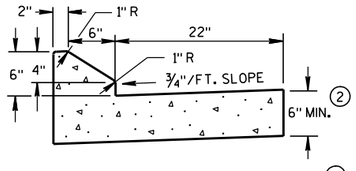
S.D.D. 8 C 8-1



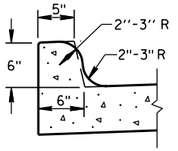
TYPES A & D (1)



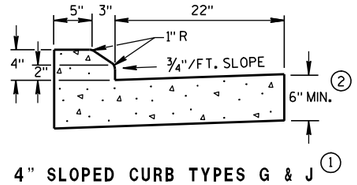
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

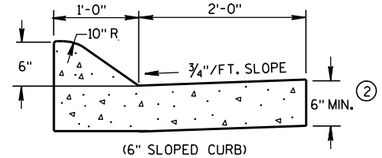


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

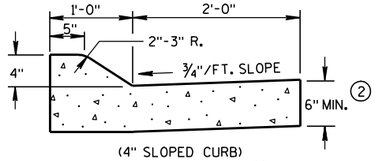


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

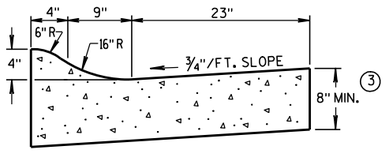


(6" SLOPED CURB)



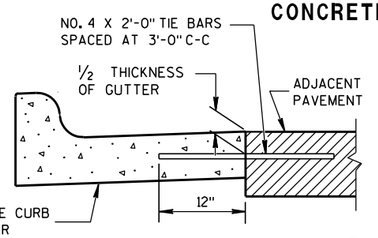
(4" SLOPED CURB)

TYPES A & D (1)

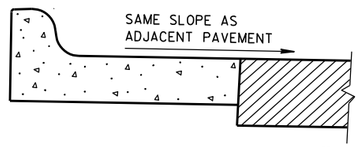


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)



REVERSE SLOPE GUTTER (5)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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

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

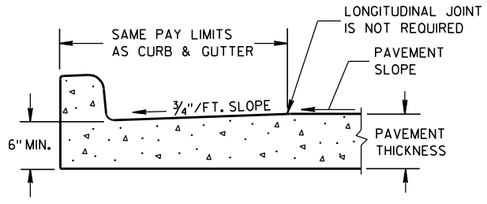
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(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.

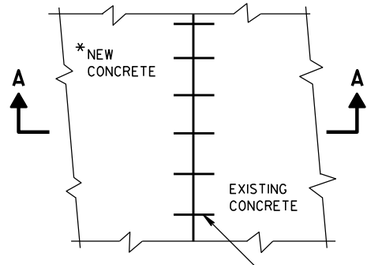
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

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

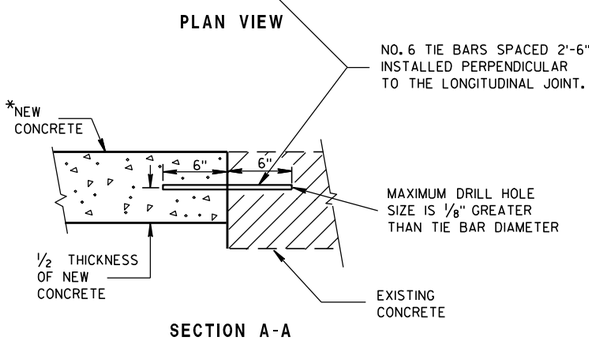


PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



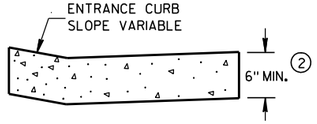
PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

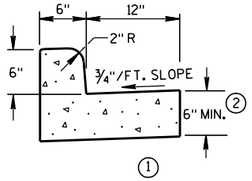


SECTION A-A

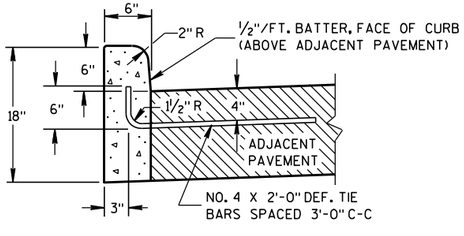
TIE BARS DRILLED INTO EXISTING PAVEMENT



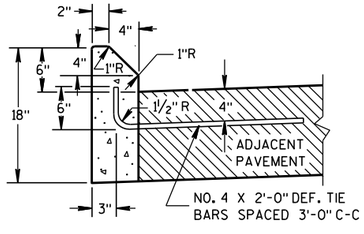
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"

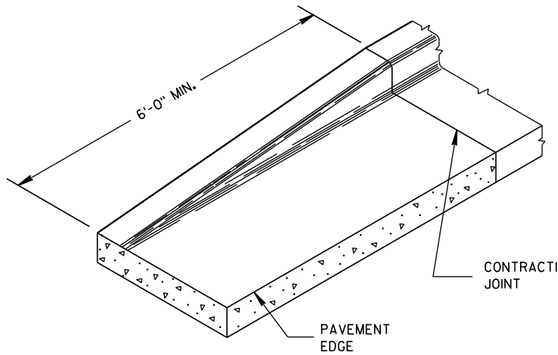


(1)
TYPES A & D



(1)
TYPES G & J

CONCRETE CURB



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

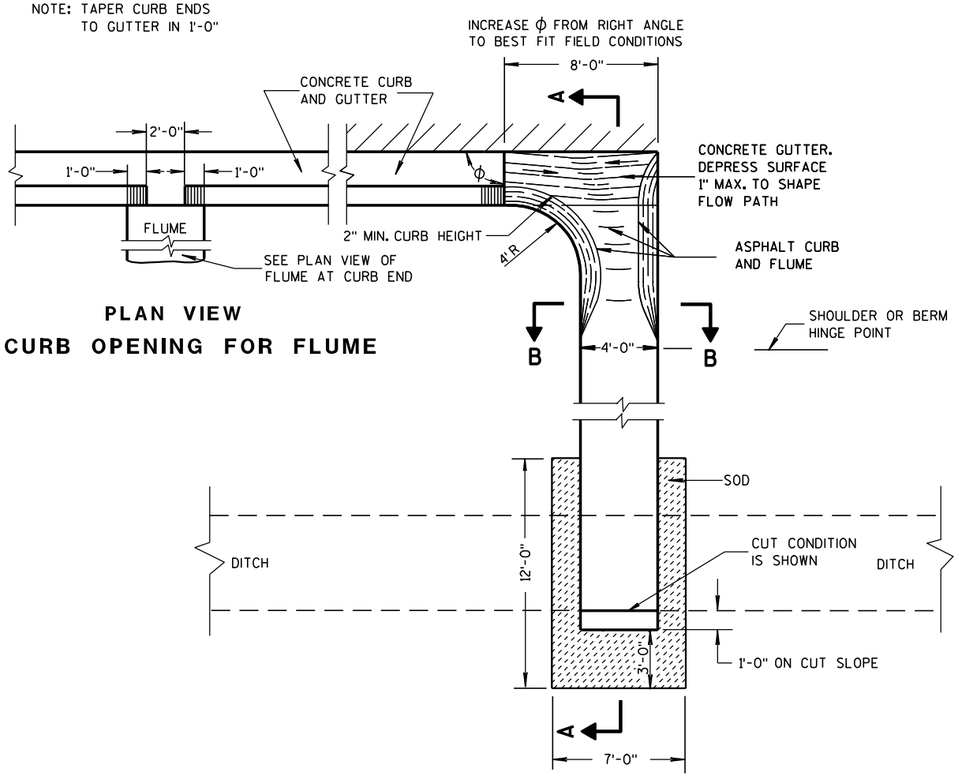
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

6

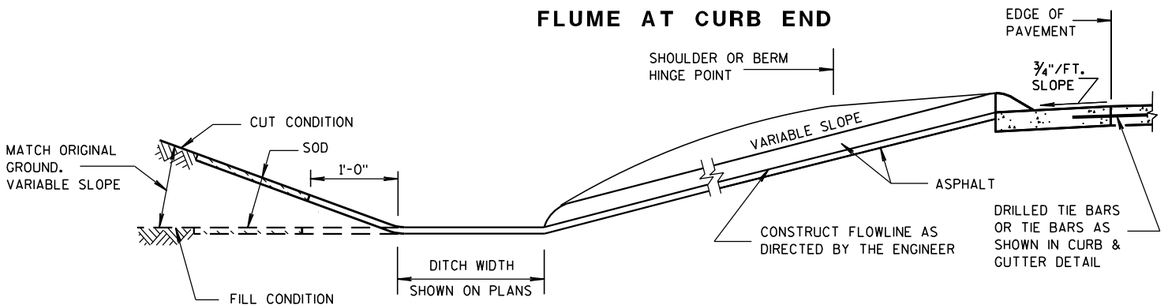
S.D.D. 8 D 1-17

ASPHALTIC FLUME

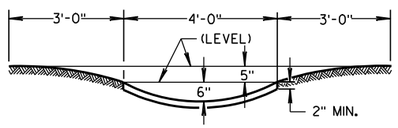


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

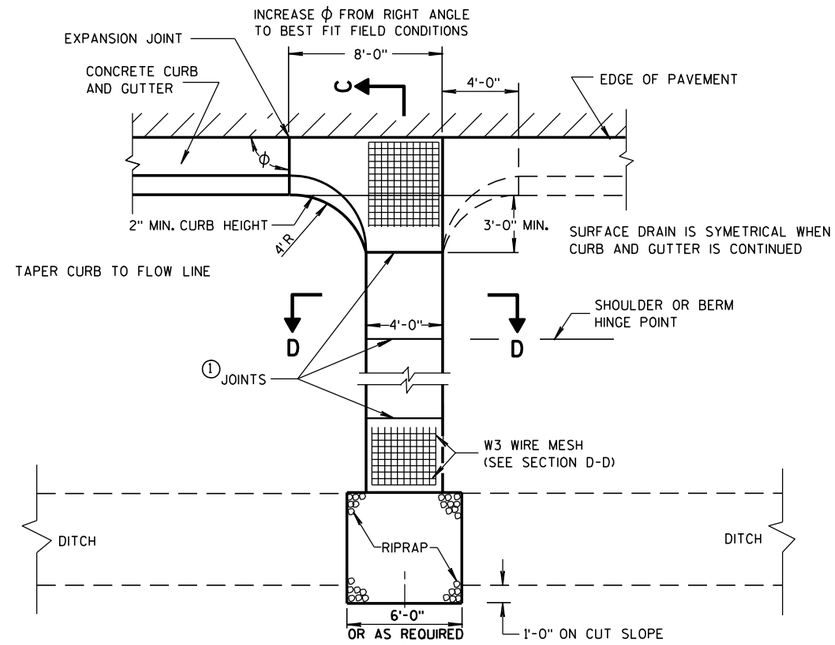
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

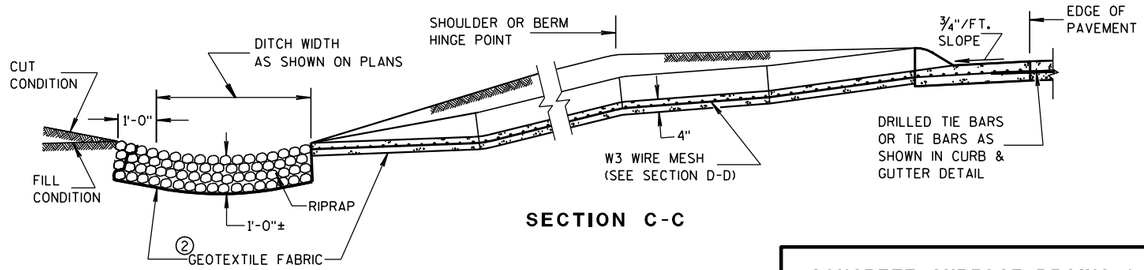
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

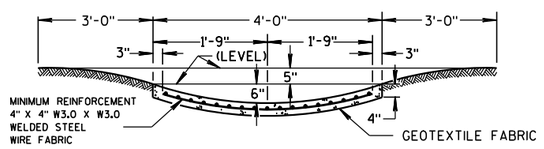
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

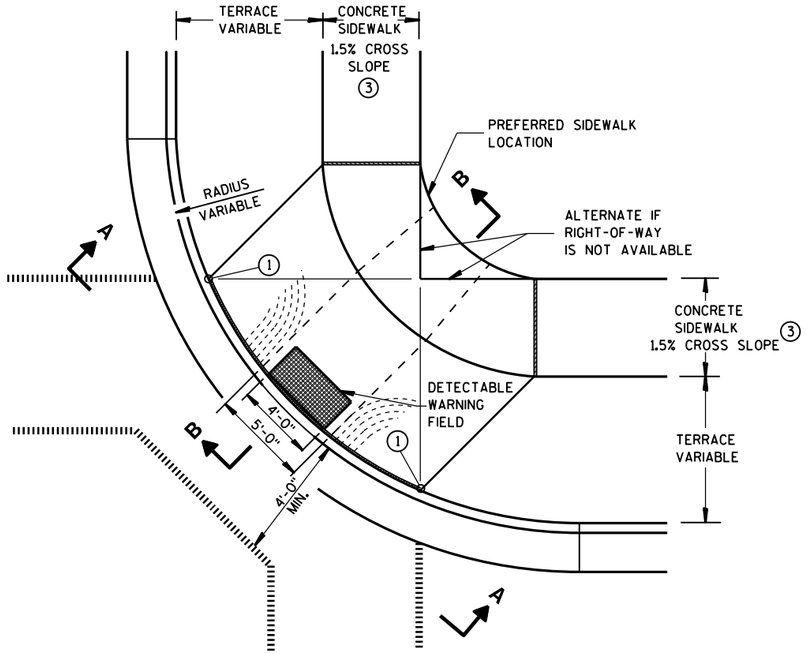
APPROVED
9-4-08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
193
[illegible]MENT
FHWA

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S.D.D. 8 D 4-5

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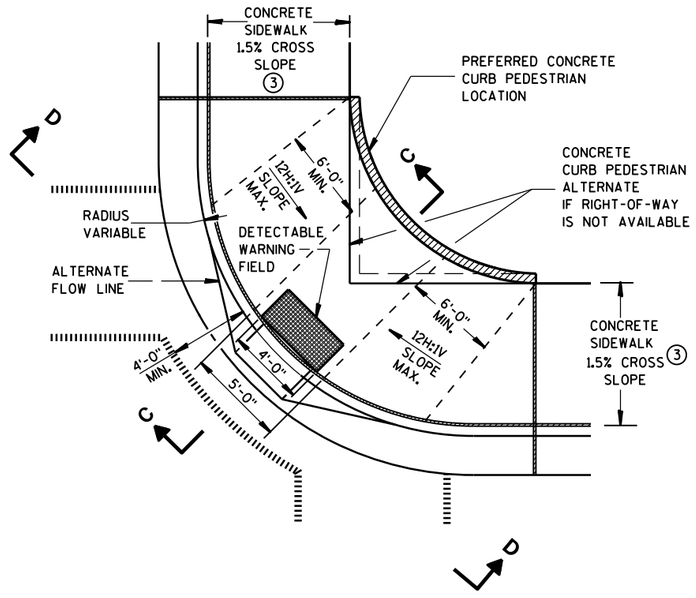
S.D.D. 8 D 4-5



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

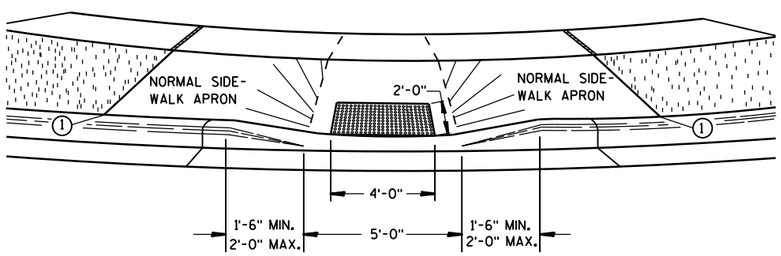
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

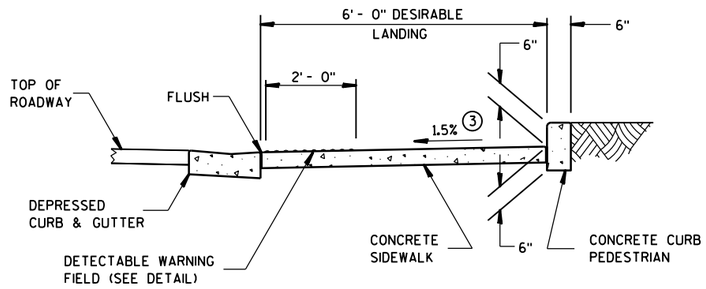
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

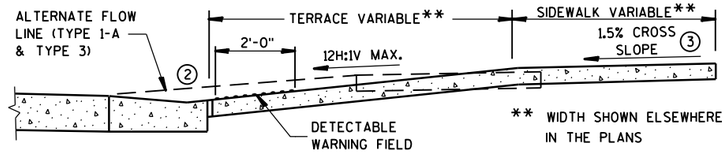
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



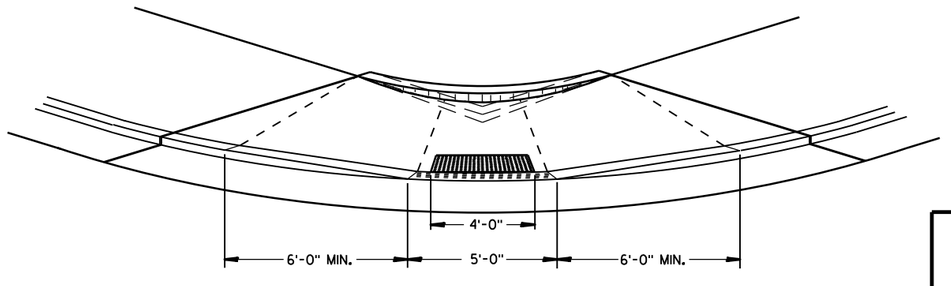
VIEW A-A



SECTION C-C



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

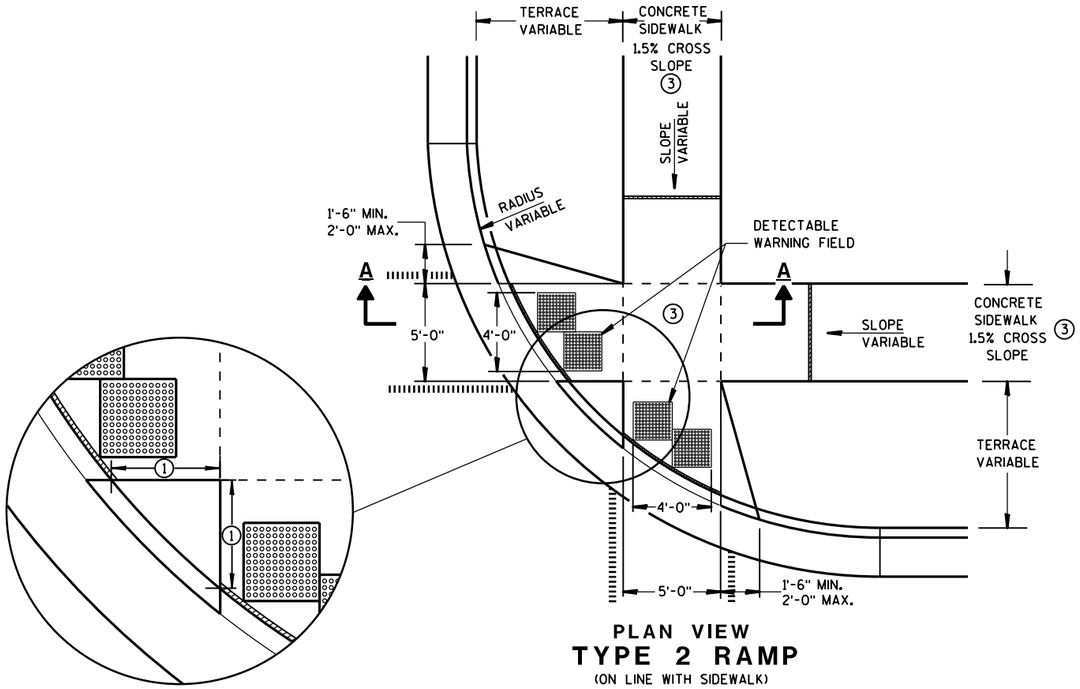
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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

6

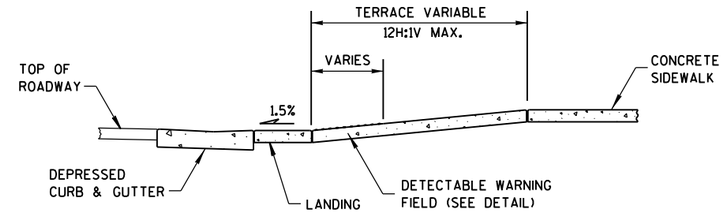
S.D.D. 8 D 5-15a



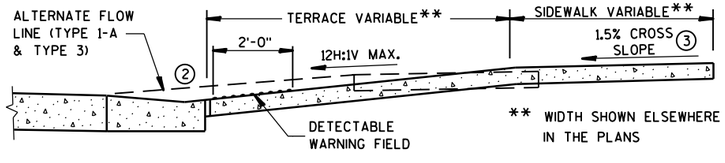
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

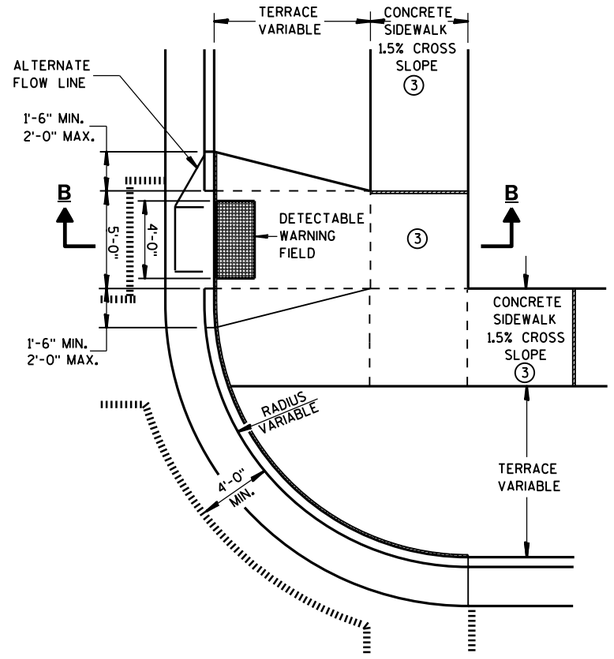
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW

TYPE 3 RAMP

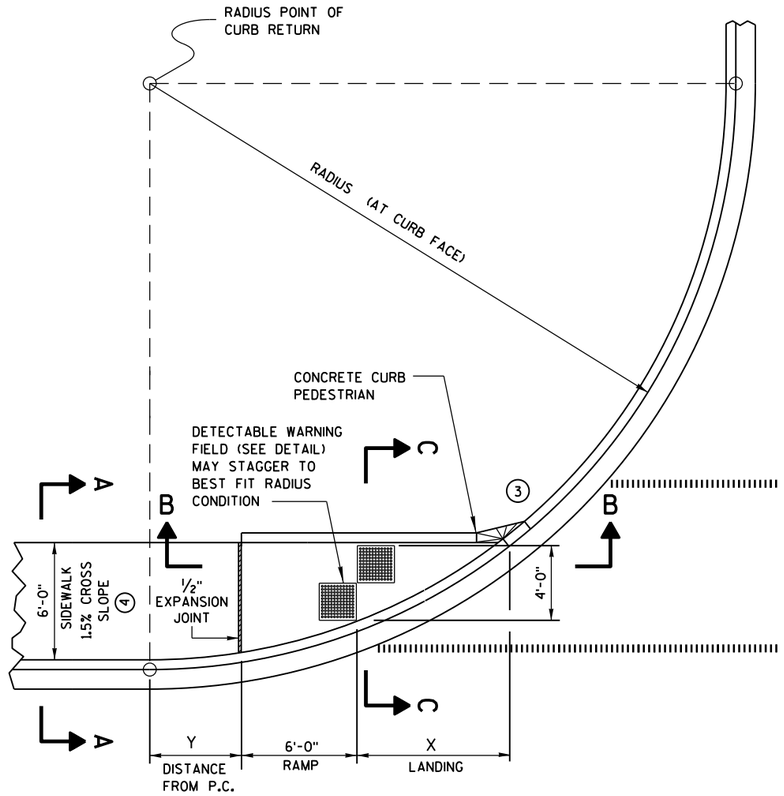
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

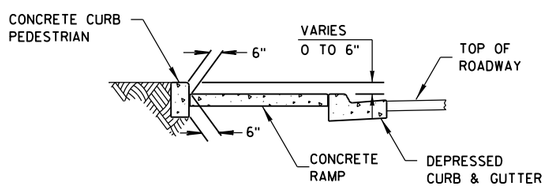
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

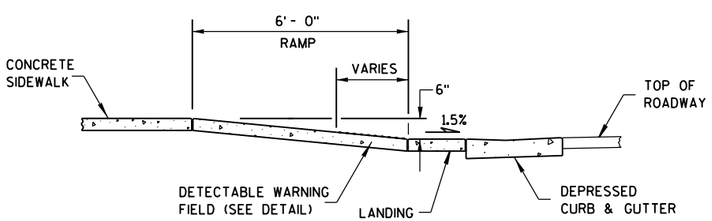
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



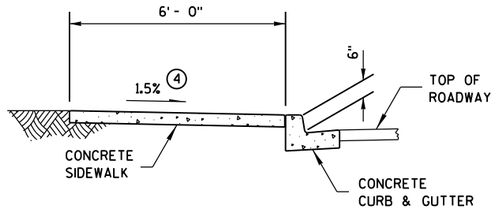
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

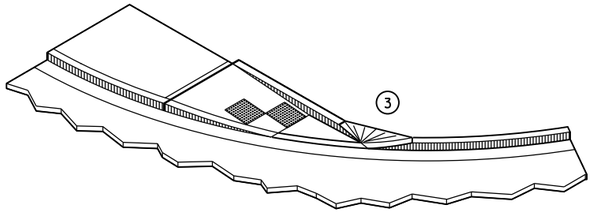
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

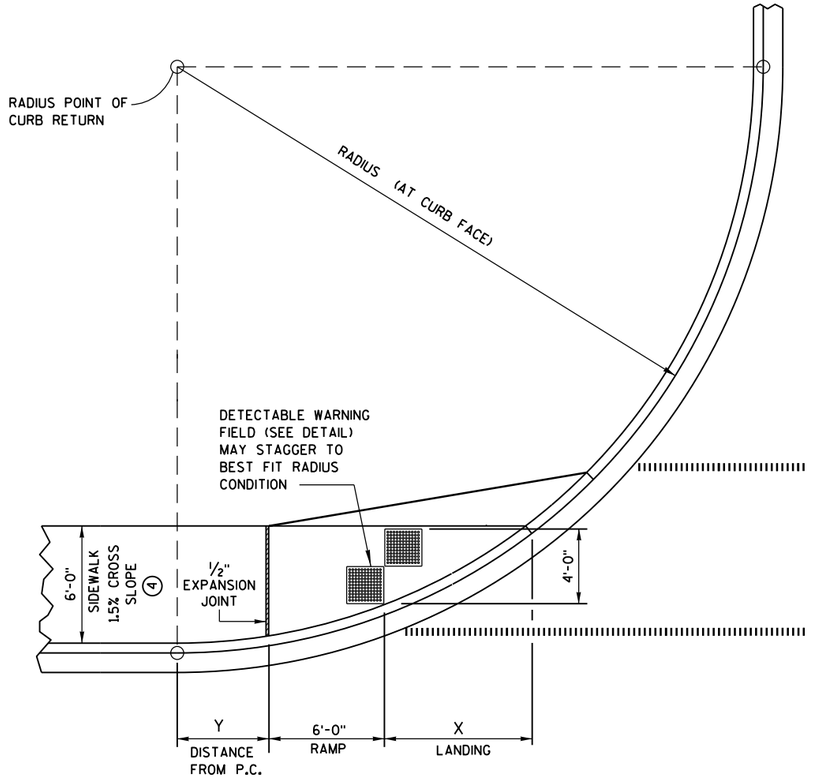
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

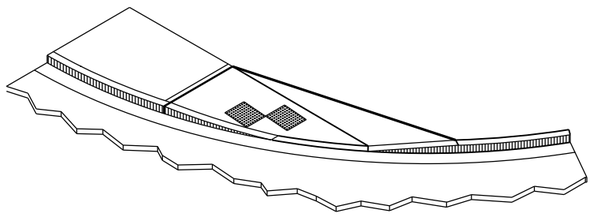
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

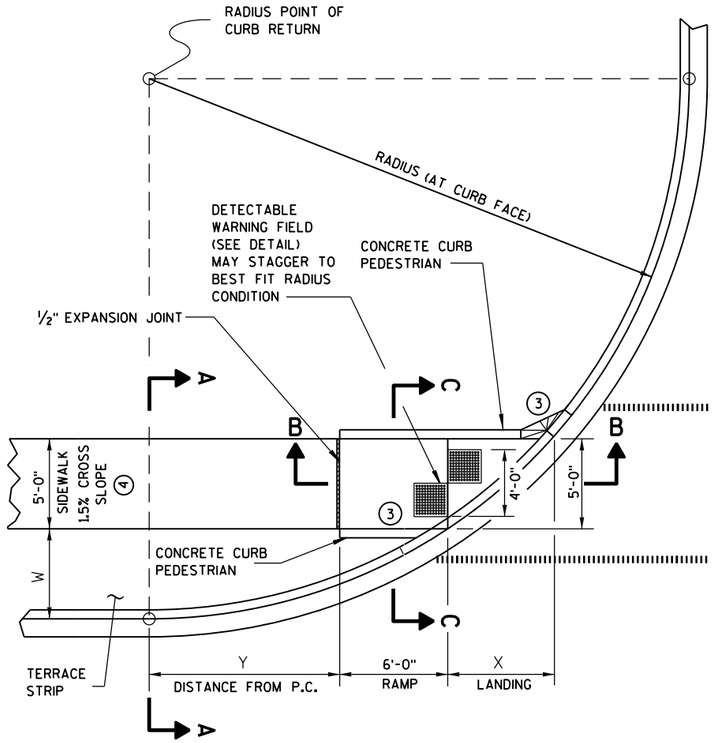
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

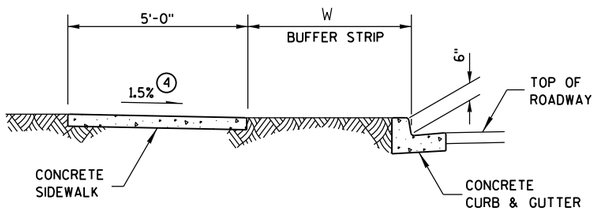
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

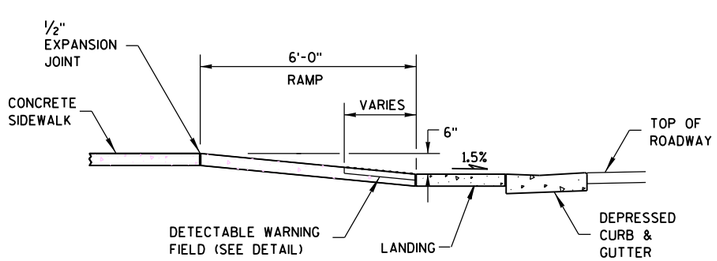
S.D.D. 8 D 5-15c



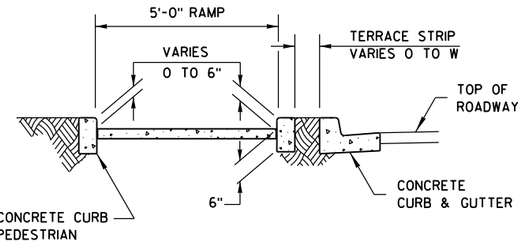
CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



SECTION B-B FOR TYPE 4B



SECTION C-C FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

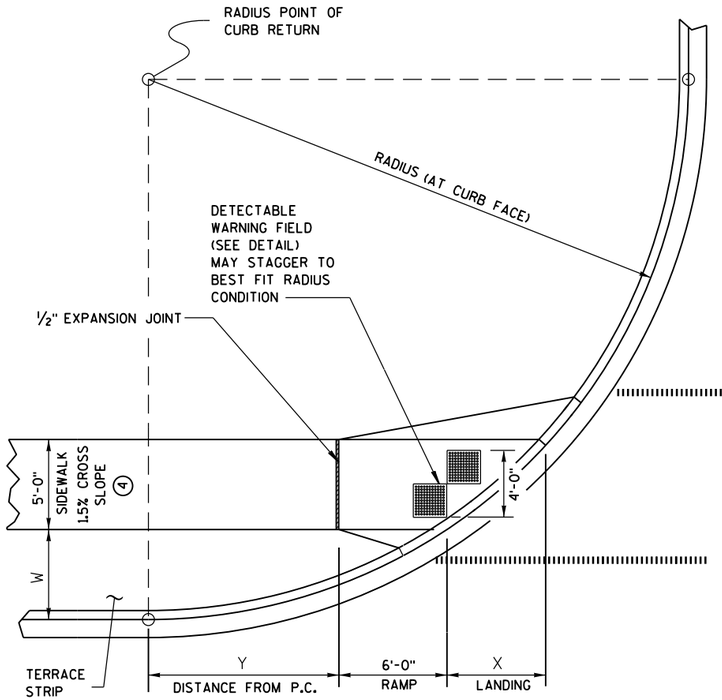
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

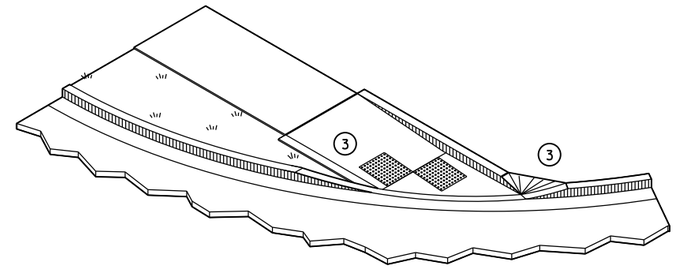
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

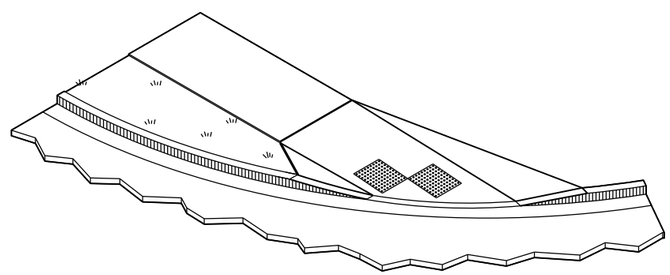
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



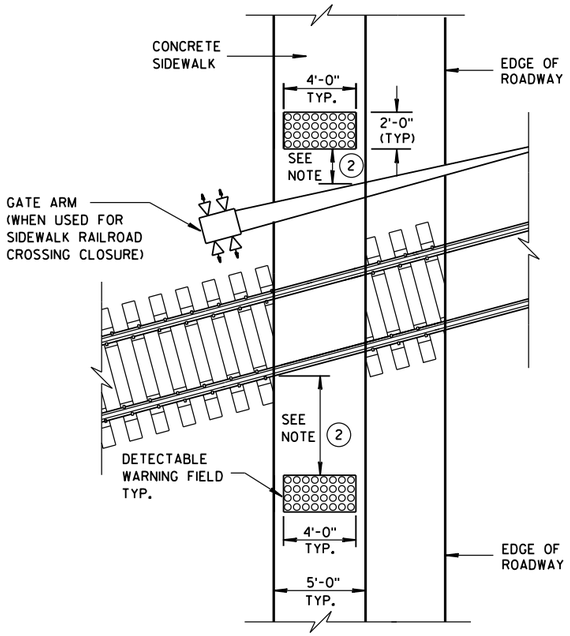
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

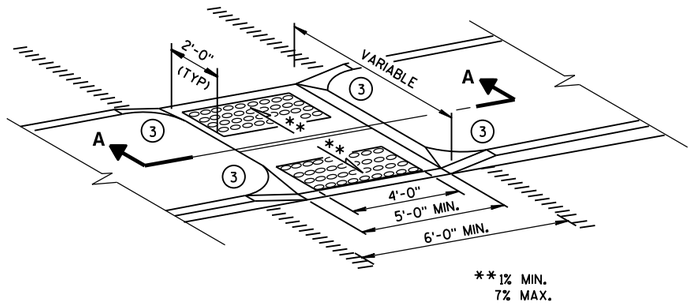
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

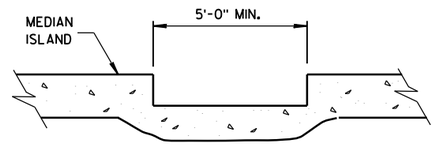
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

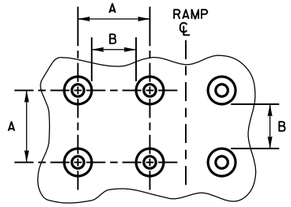
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



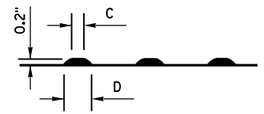
SECTION A-A



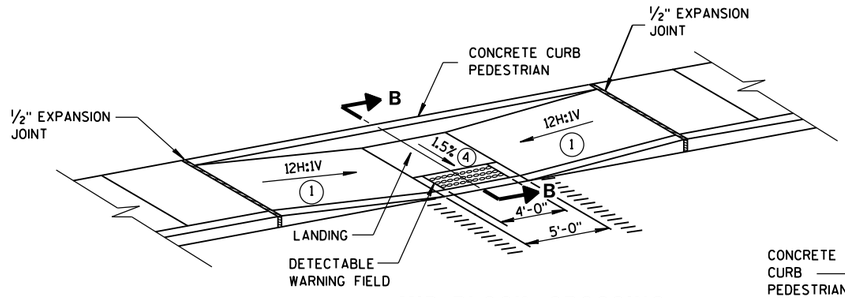
PLAN VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

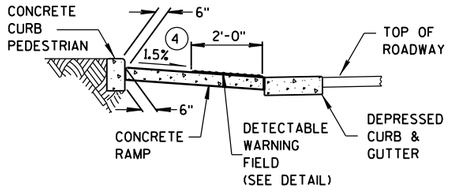
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

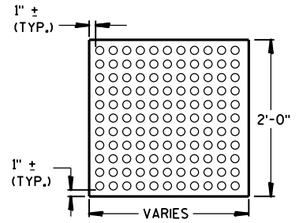


MID-BLOCK CROSSING
TYPE 7A



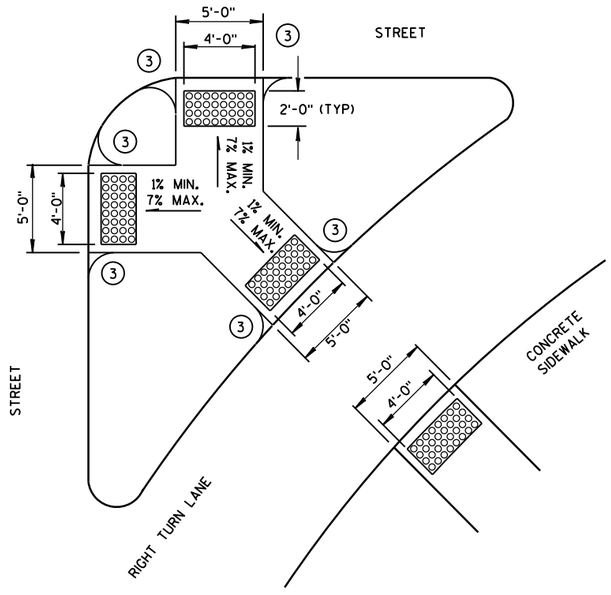
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

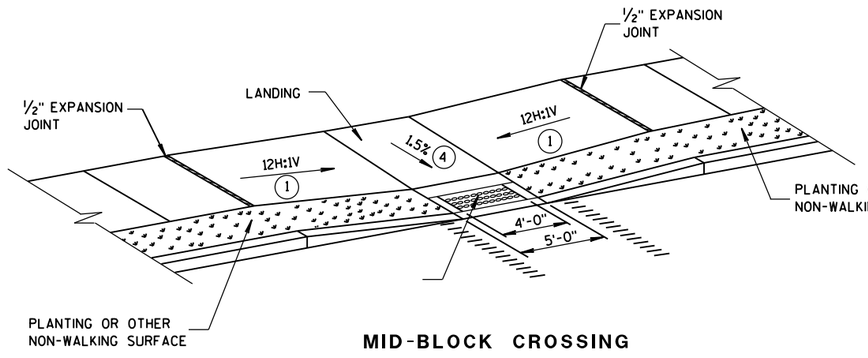


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

6

S.D.D. 8 D 5-15e

GENERAL NOTES

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

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

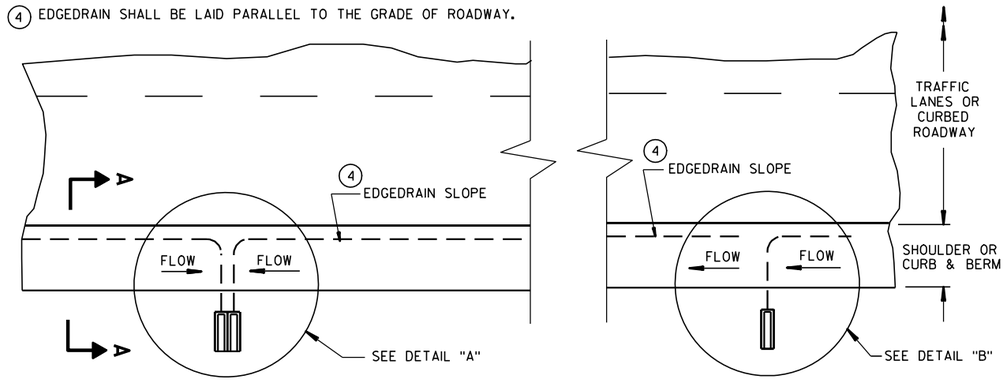
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

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

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

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

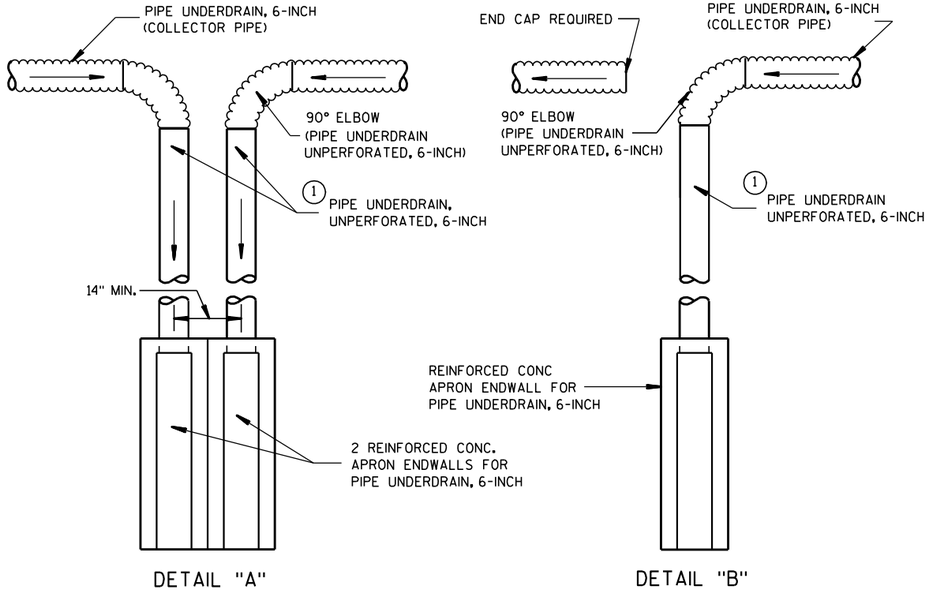
(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



PLAN VIEW

ROADWAY WITH SHOULDERS OR CURBS

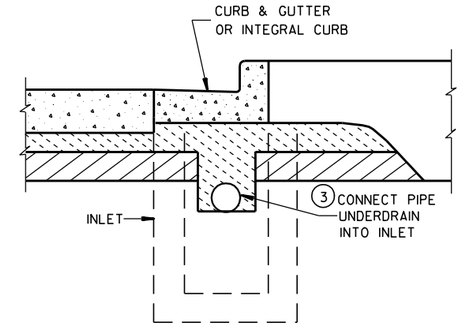
(EDGEDRAIN OUTLETS TO ROADSIDE) (2)



DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

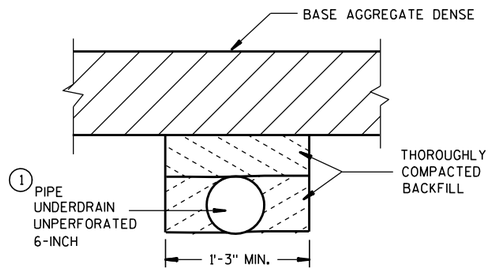
DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



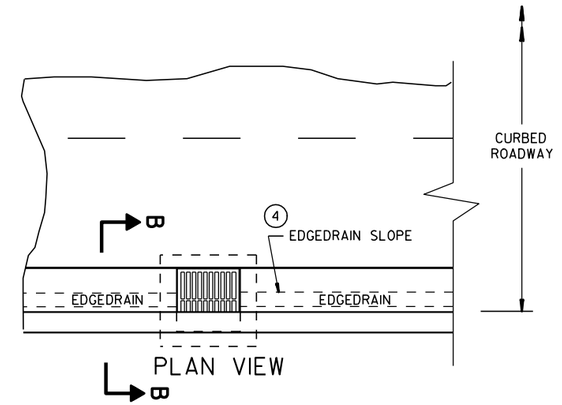
SECTION B-B

URBAN CROSS SECTION



SECTION C-C

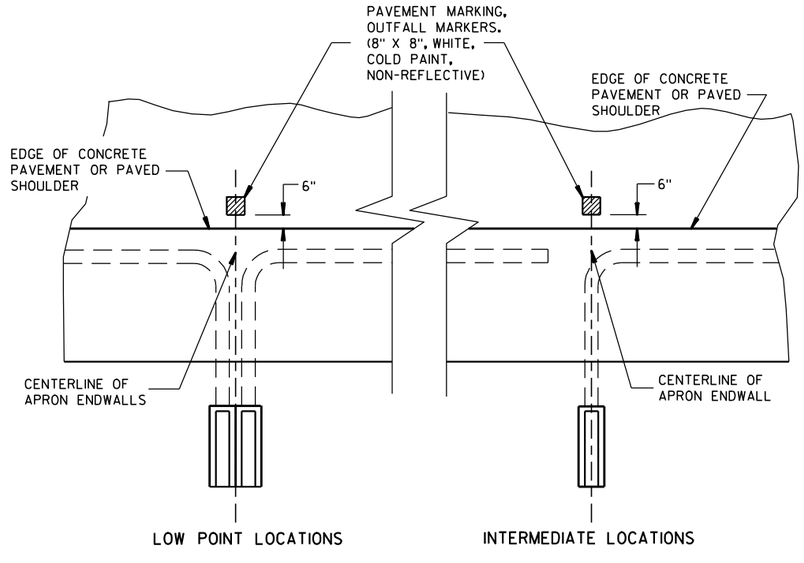
(TRENCH FOR OUTFALL PIPE)



PLAN VIEW

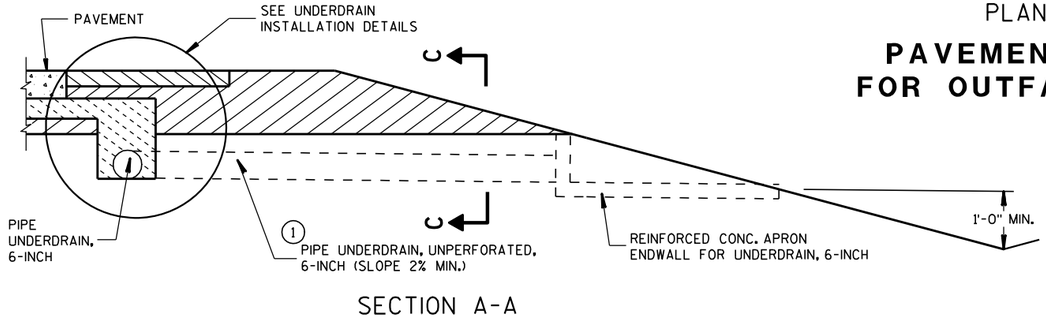
ROADWAY WITH CURBS

(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



PLAN VIEW

PAVEMENT MARKING FOR OUTFALL MARKERS

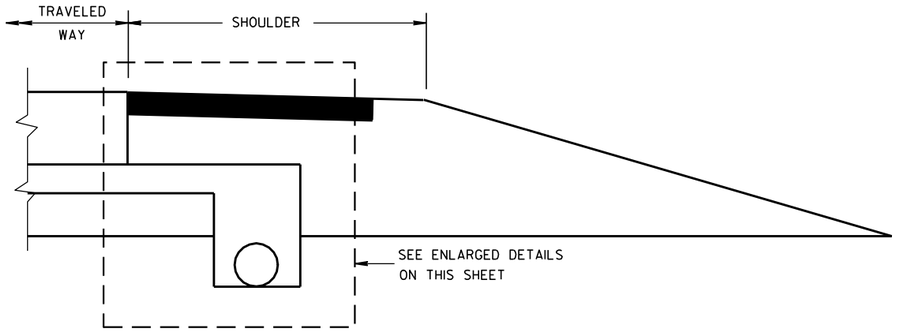


SECTION A-A

RURAL CROSS SECTION

EDGEDRAIN OUTLET AND OUTFALL MARKERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



RURAL CROSS SECTION

GENERAL NOTES

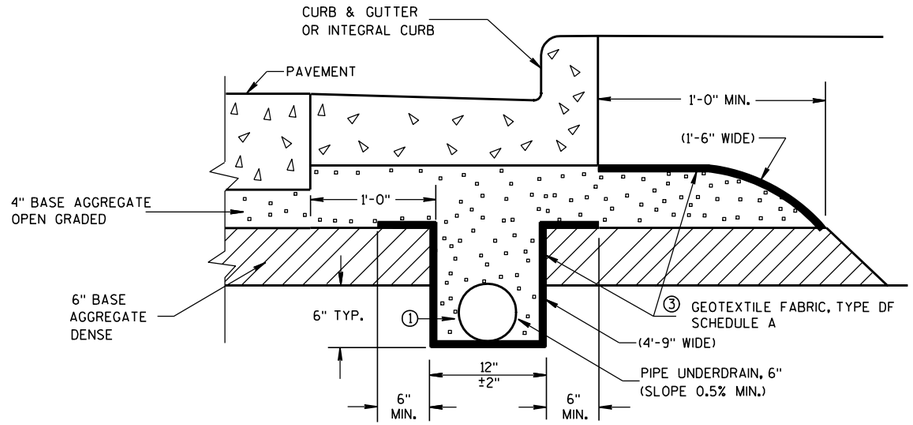
THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

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

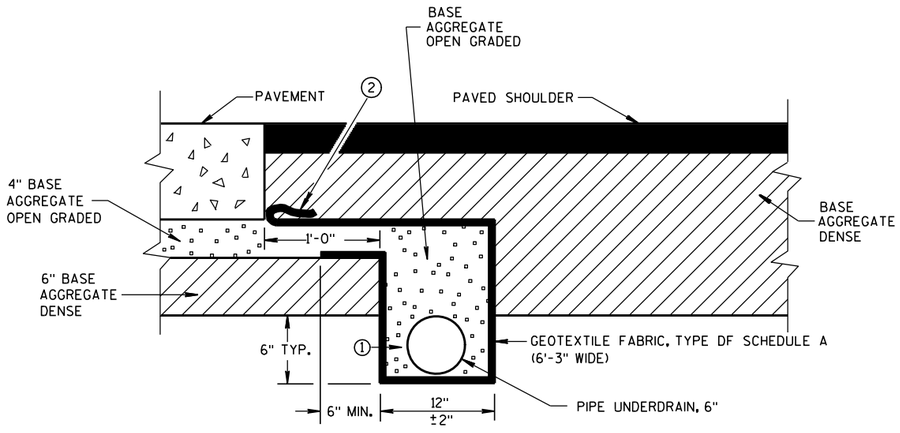
① TRENCH BACKFILL WILL BE PAID FOR AS BASE AGGREGATE OPEN GRADED.

② FOLD OVER EXCESS GEOTEXTILE FABRIC AT THIS LOCATION.

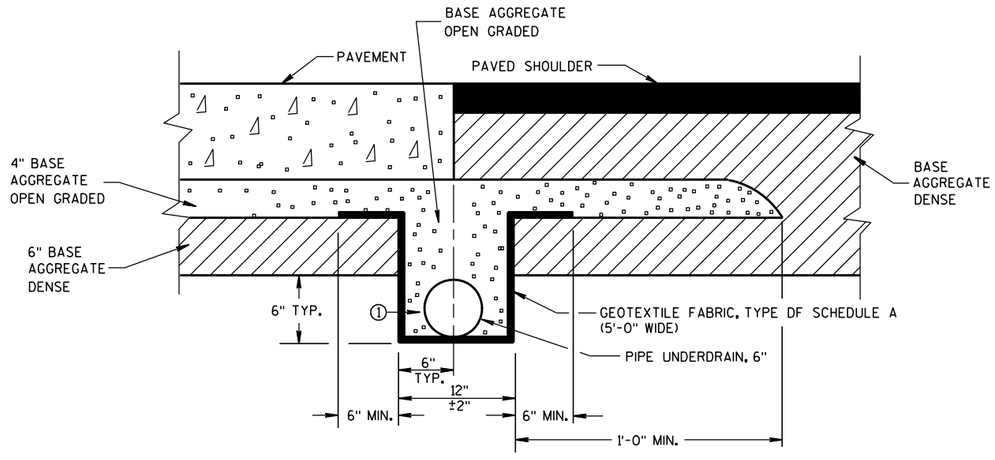
③ TOTAL FABRIC WIDTH IS 6'-3" FOR PAYMENT.



EDGEDRAIN IN URBAN ROADWAY



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



PRE-PAVING INSTALLATION ALTERNATE

EDGEDRAIN IN RURAL ROADWAY

EDGEDRAIN AND BASE AGGREGATE OPEN GRADED

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

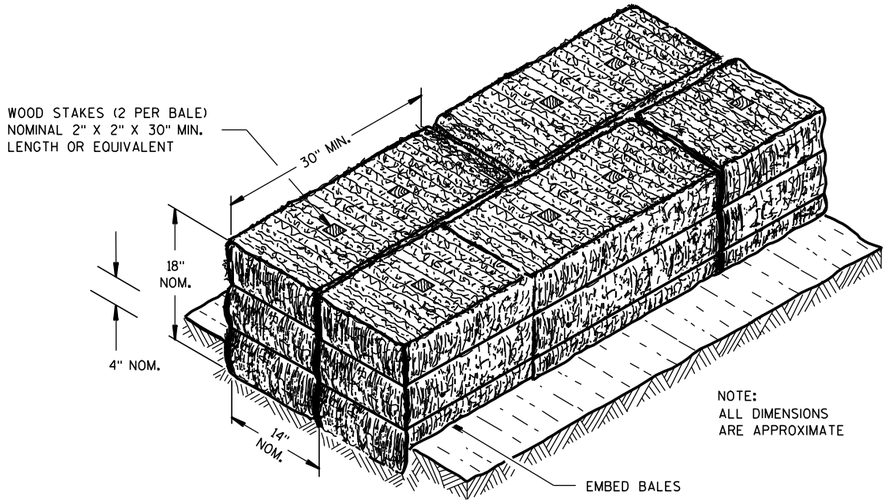
APPROVED

3/21/07 DATE — /S/ Steven W. [illegible] CHIEF MATERIALS MANAGER

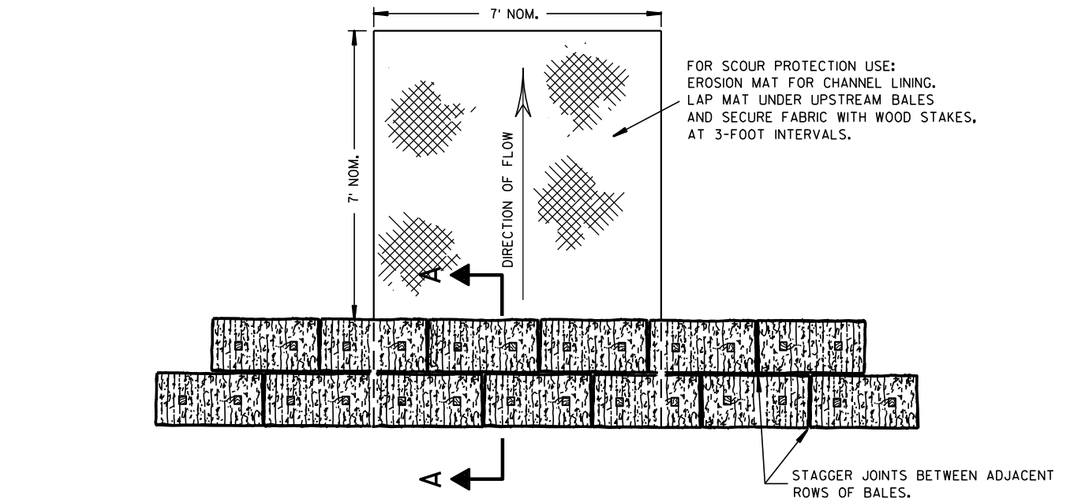
FHWA

6

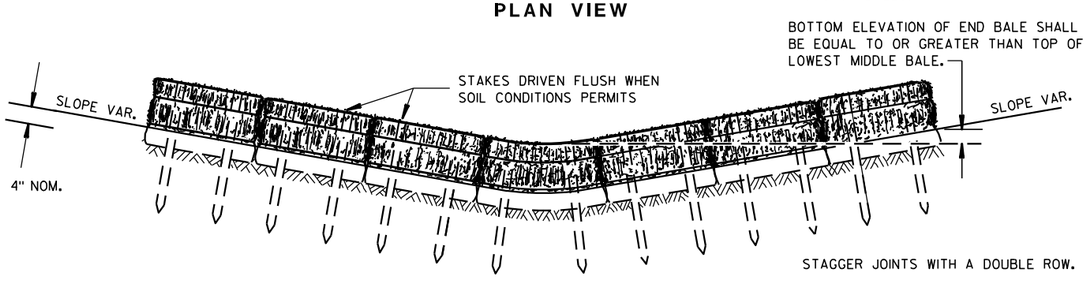
S.D.D. 8 D 15-4b



SECTION A-A



PLAN VIEW



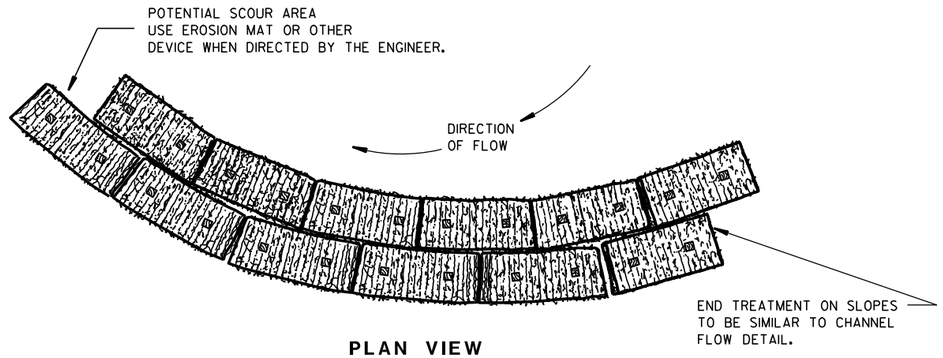
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

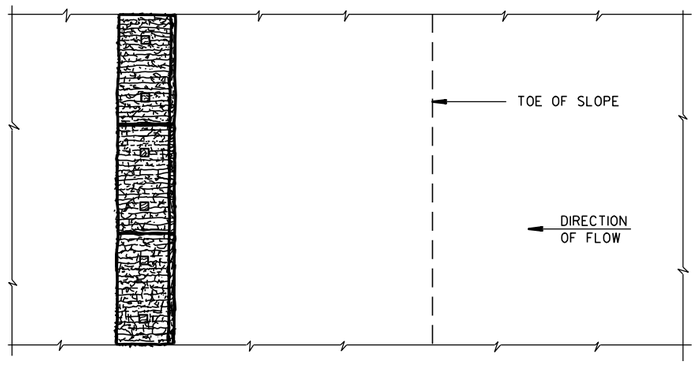
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

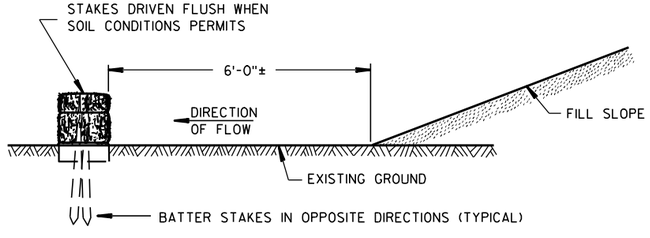


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

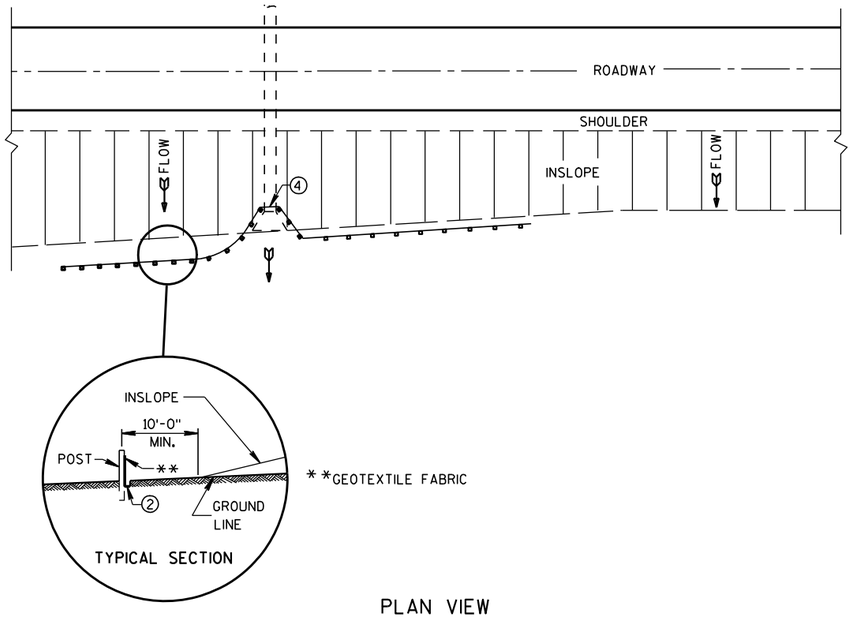
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

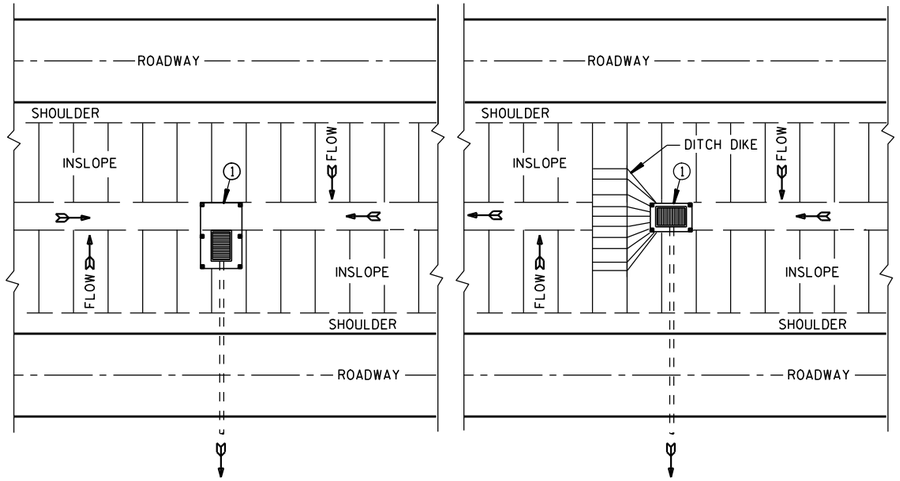
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



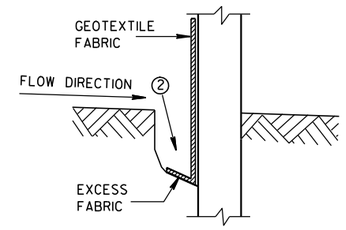
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

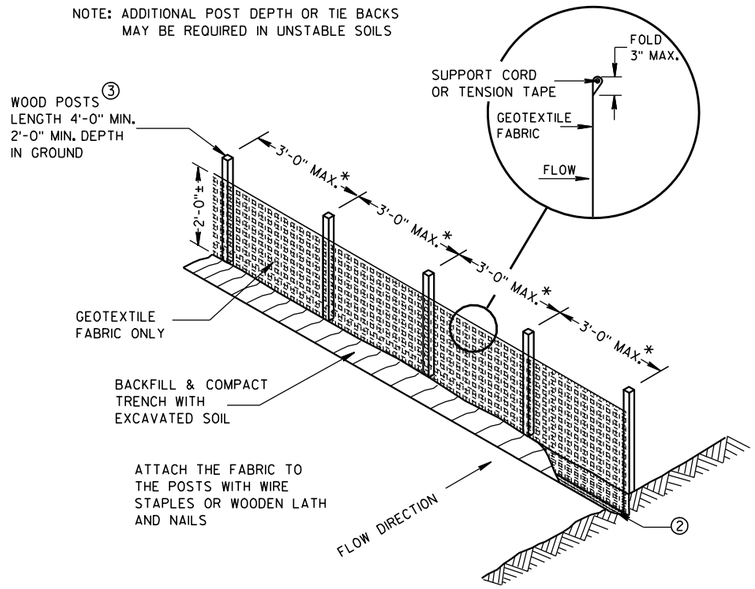
GENERAL NOTES

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.

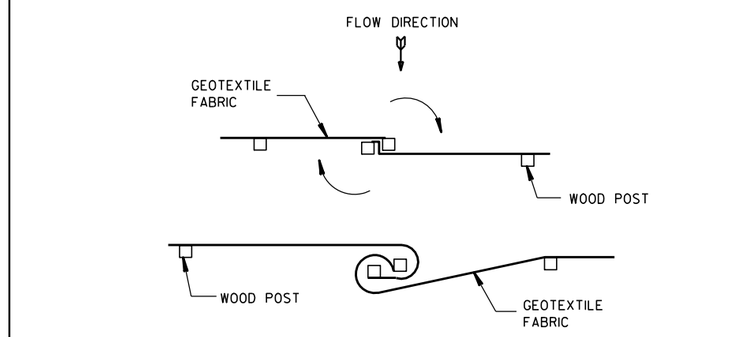


TRENCH DETAIL

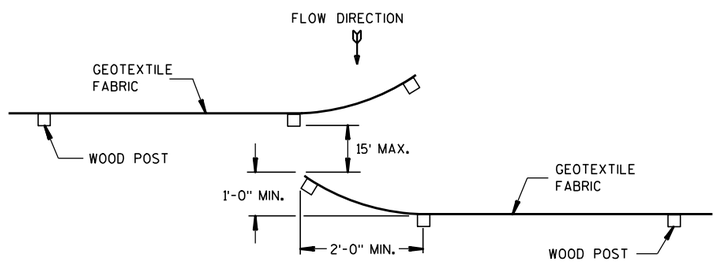


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

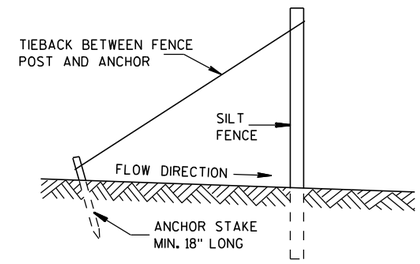


TWIST METHOD



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

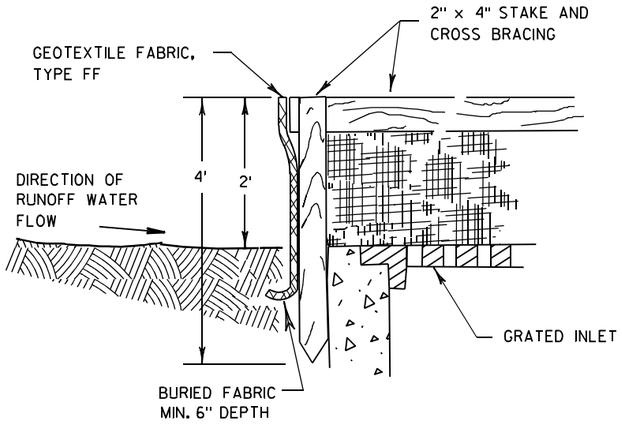
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

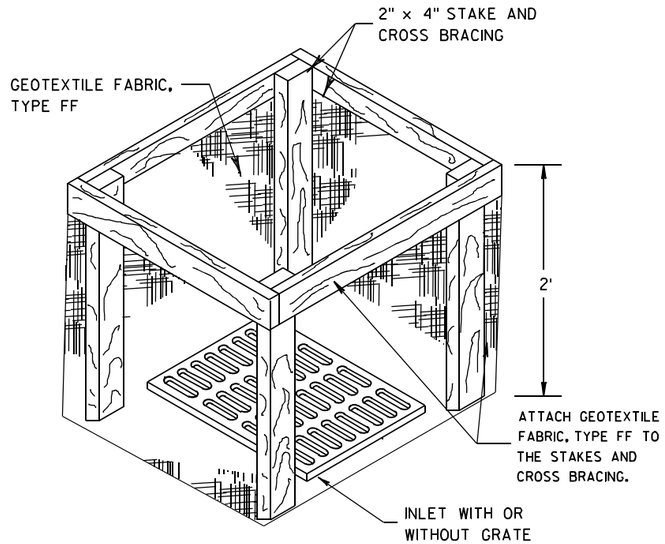
6

S.D.D. 8 E 9-6

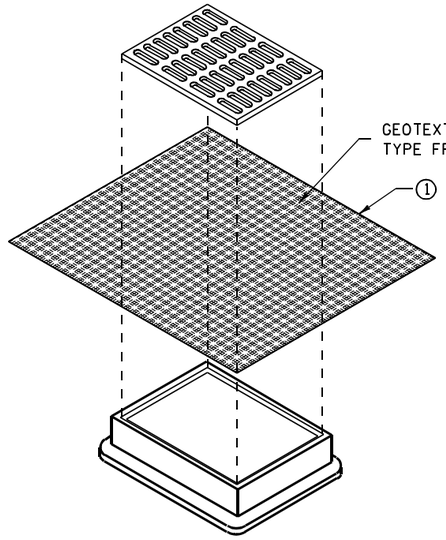
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S.D.D. 8 E 9-6



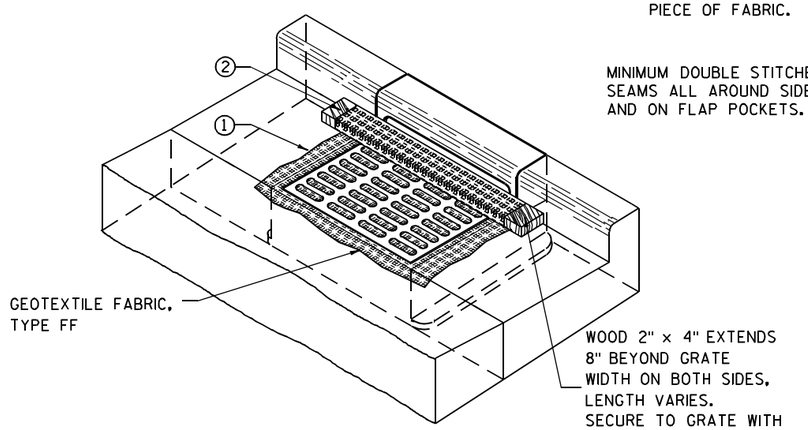


INLET PROTECTION, TYPE A

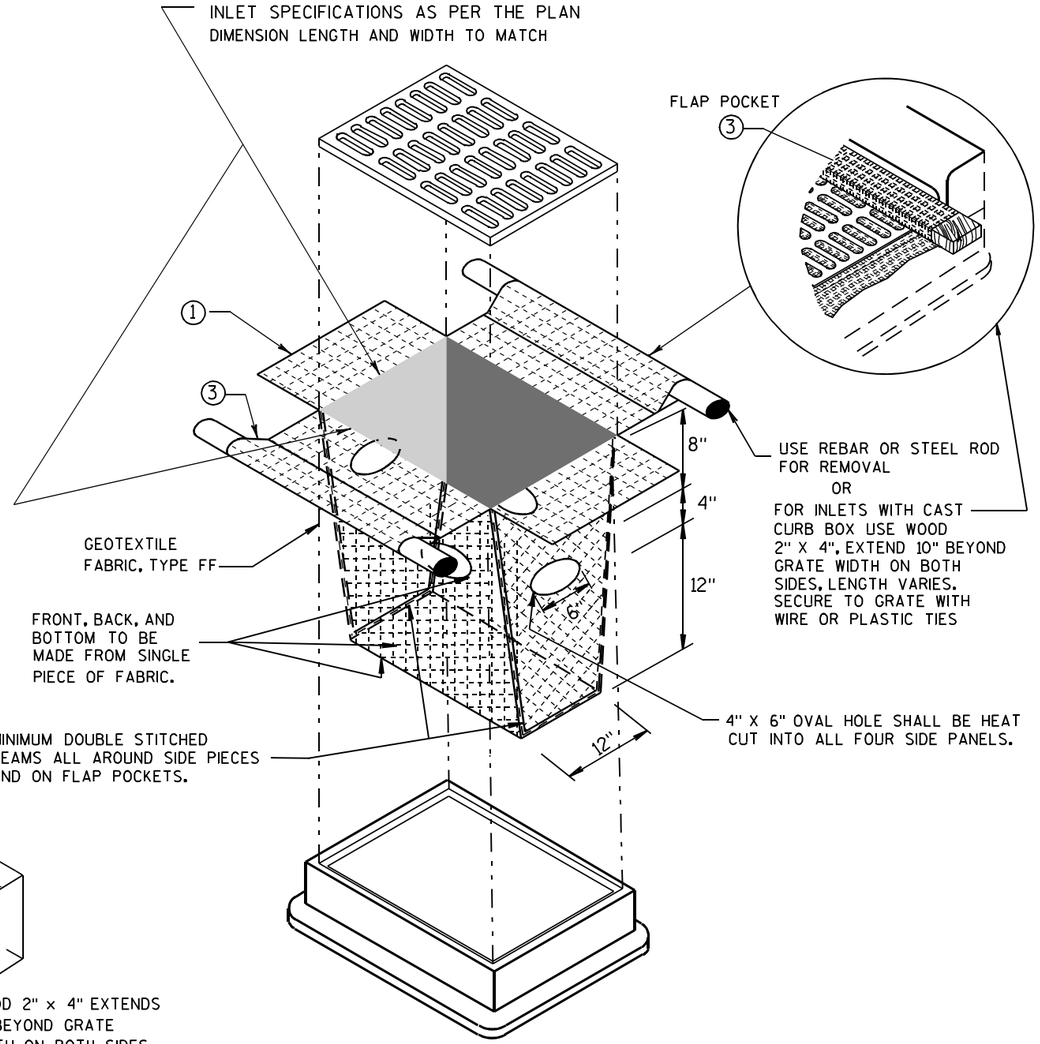


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

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

METAL APRON ENDWALLS

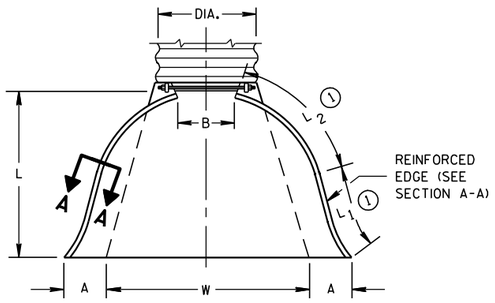
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

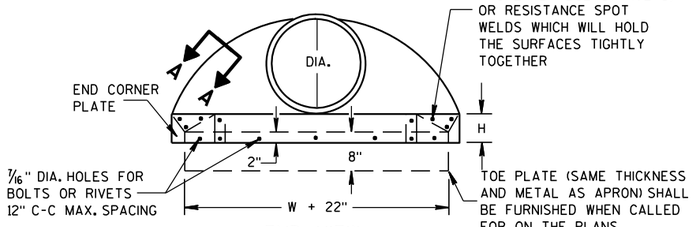
REINFORCED CONCRETE APRON ENDWALLS

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

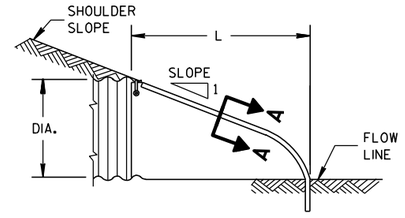
*MINIMUM
**MAXIMUM



PLAN VIEW

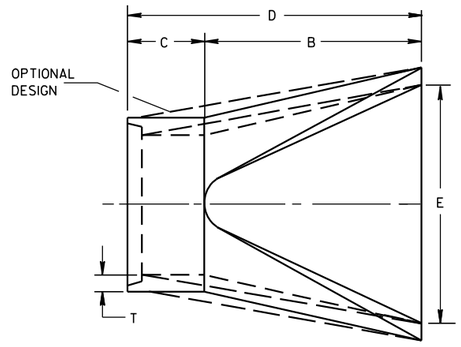


END VIEW

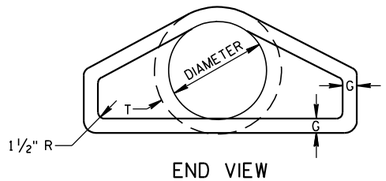


SIDE ELEVATION

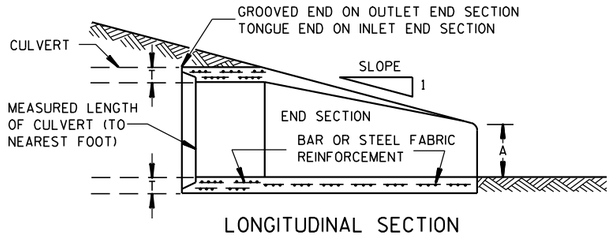
METAL ENDWALLS



PLAN

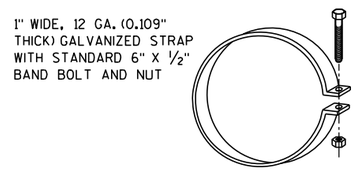


END VIEW



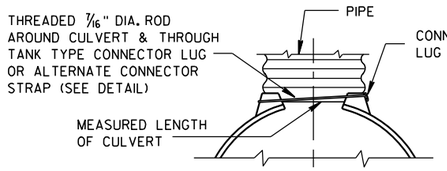
LONGITUDINAL SECTION

CONCRETE ENDWALLS

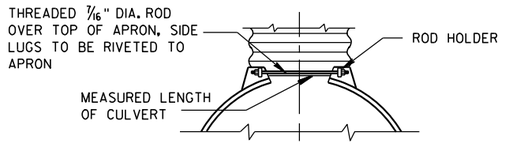


ALTERNATE FOR TYPE 1 CONNECTION

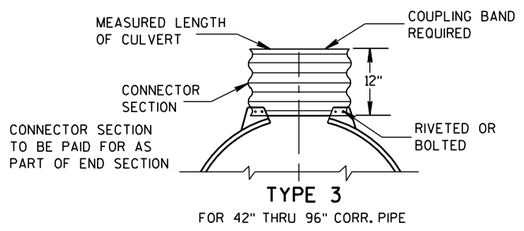
END SECTION CONNECTOR STRAP



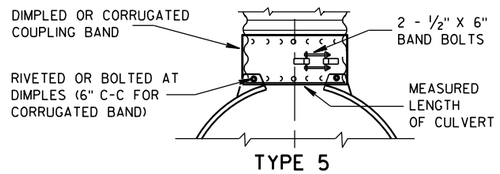
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

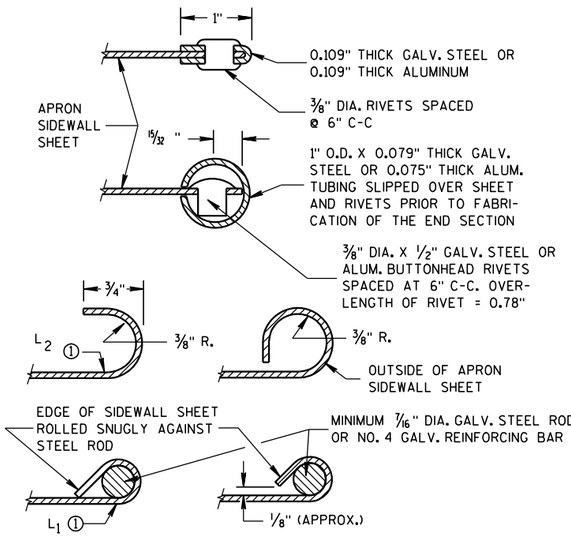
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

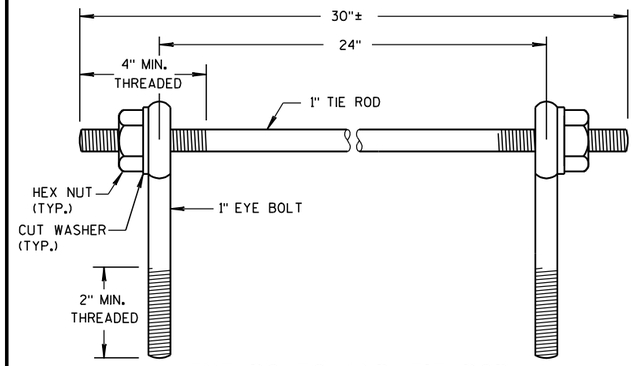
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

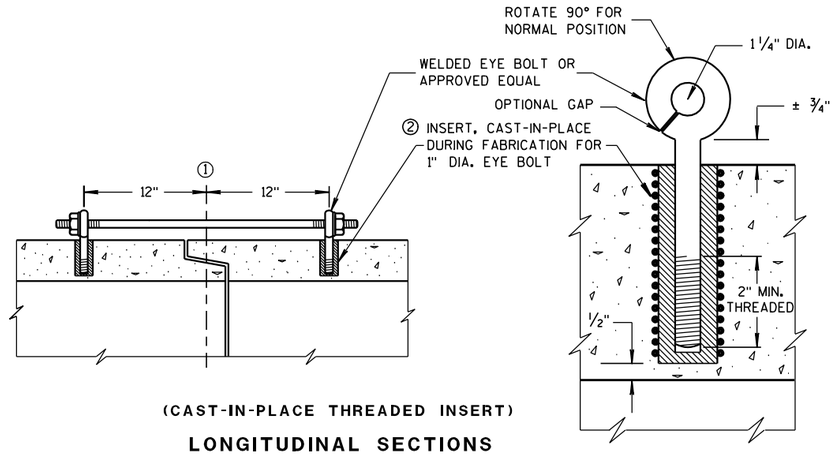
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOP 204 NEER
FHWA

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S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

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

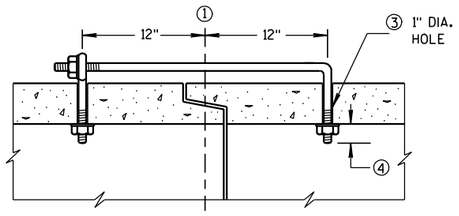
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

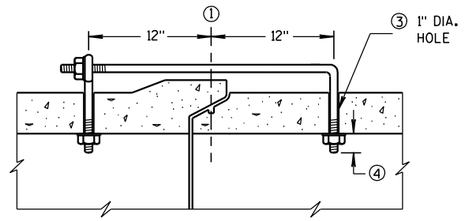
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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



(TONGUE & GROOVE PIPE)

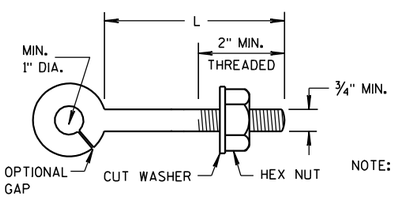


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

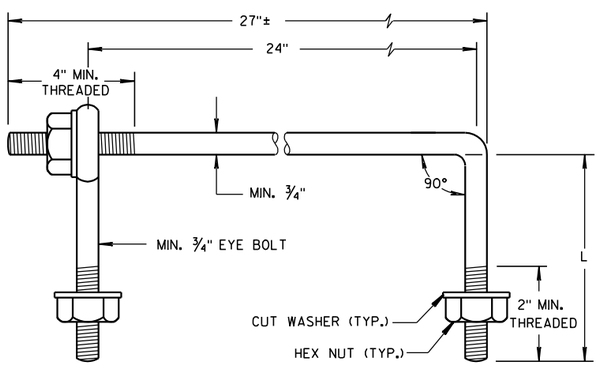
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

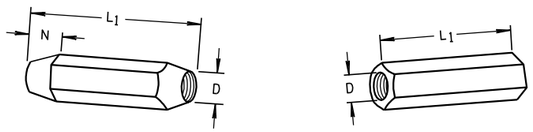
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

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

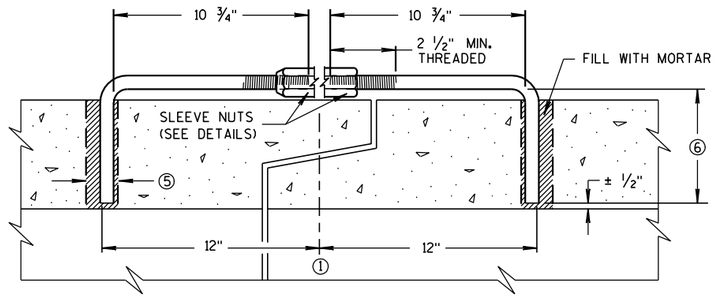
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

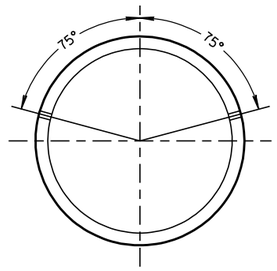
SLEEVE NUTS



LONGITUDINAL SECTION

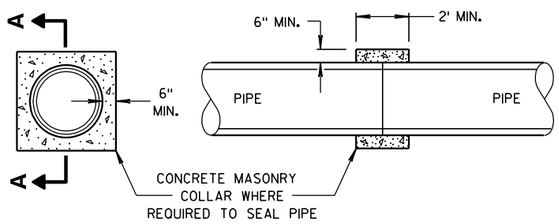
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

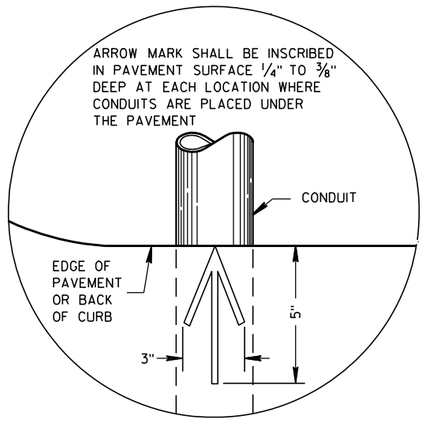
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
205
FHWA

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S.D.D. 8 F 4-7

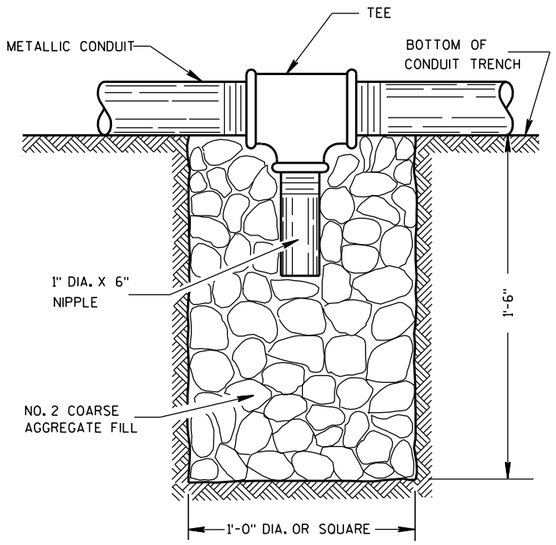
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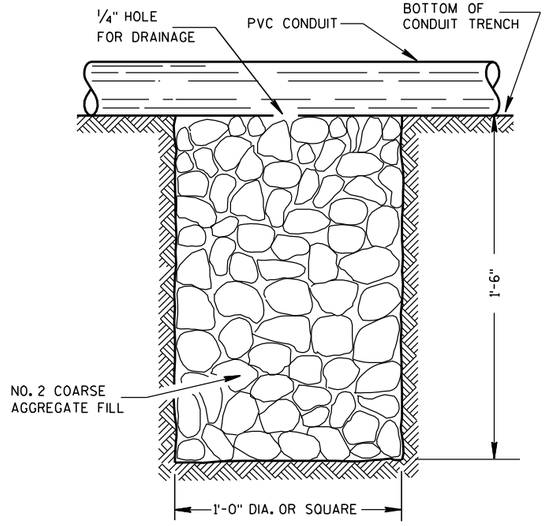
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

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.

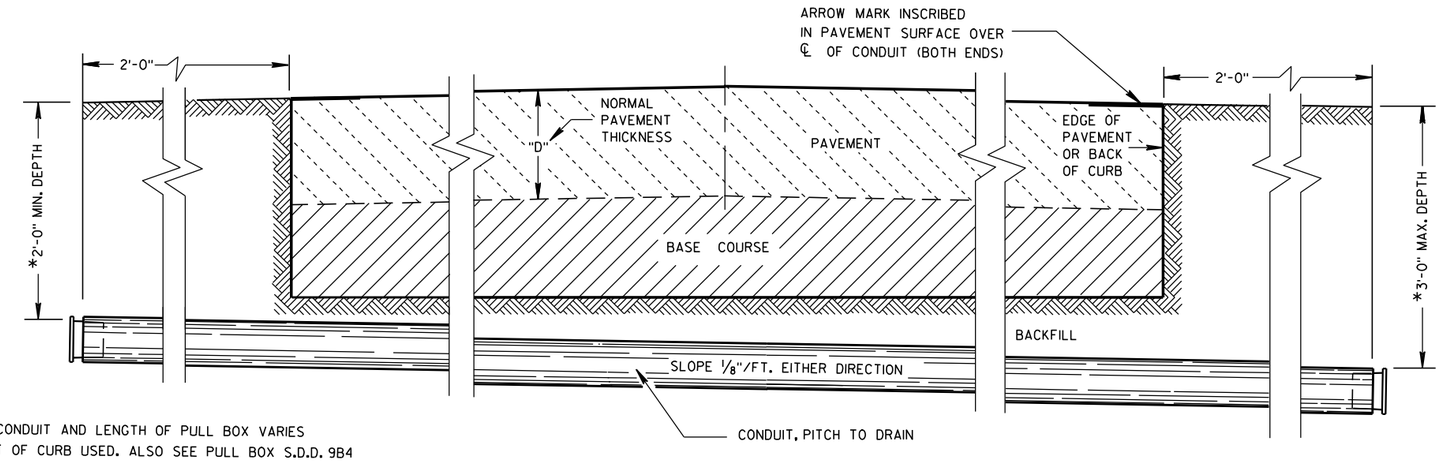
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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.).

POLY ROPE OR A PULL 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.



*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

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI

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HWYS

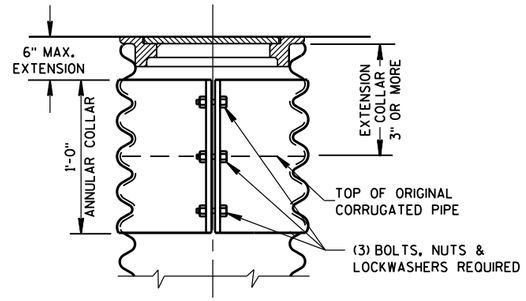
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TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

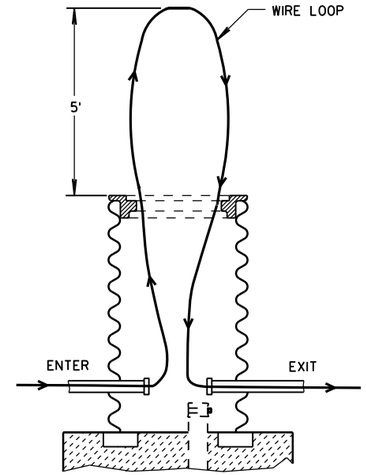
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
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.

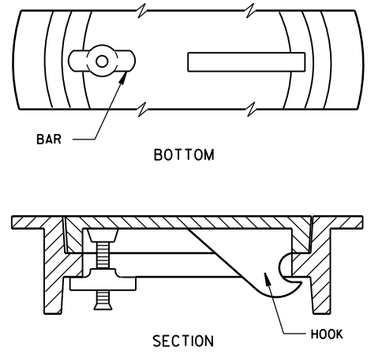
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

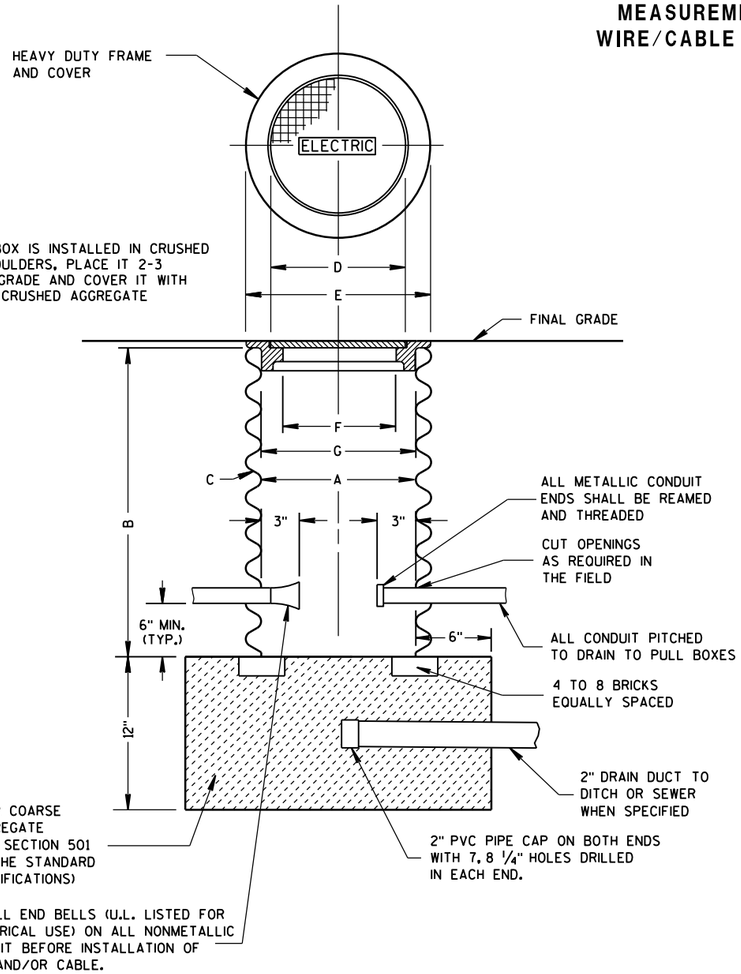


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



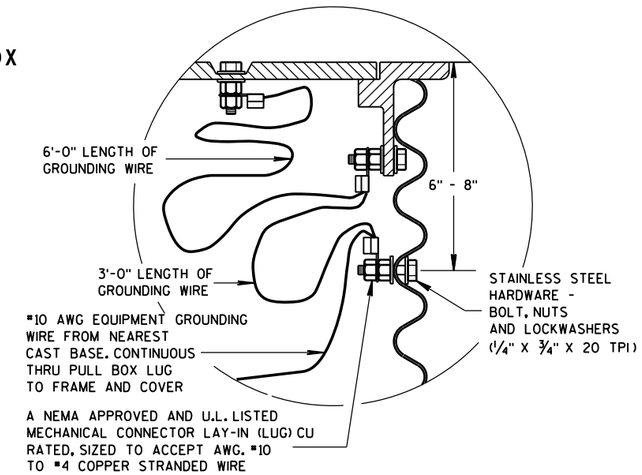
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

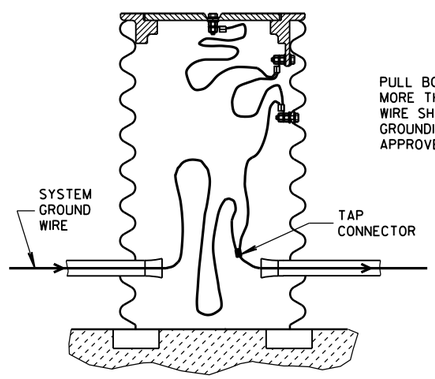


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



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

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 1/4".

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.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

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.

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

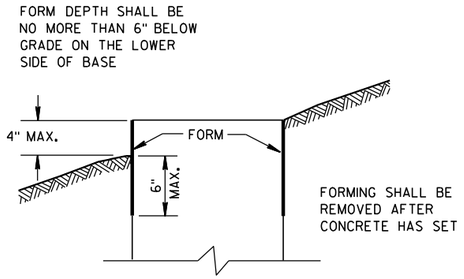
2-7-2013
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

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S.D.D. 9 B 4-10



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

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.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, 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.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2 AND TYPE 5 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES 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.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED 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 EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

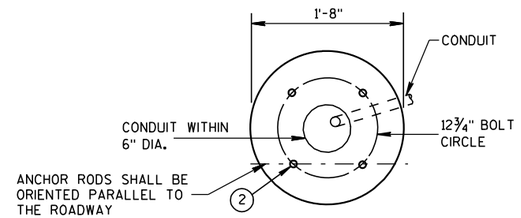
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

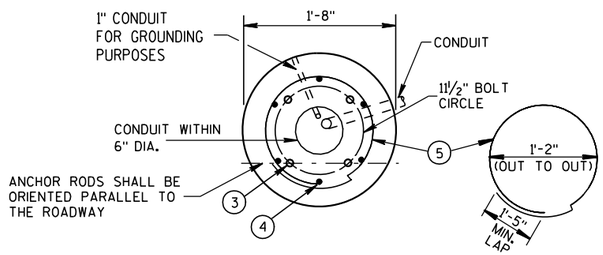
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

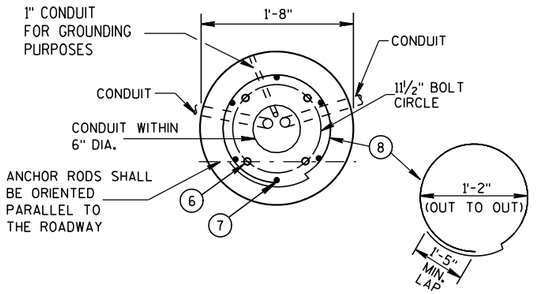
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

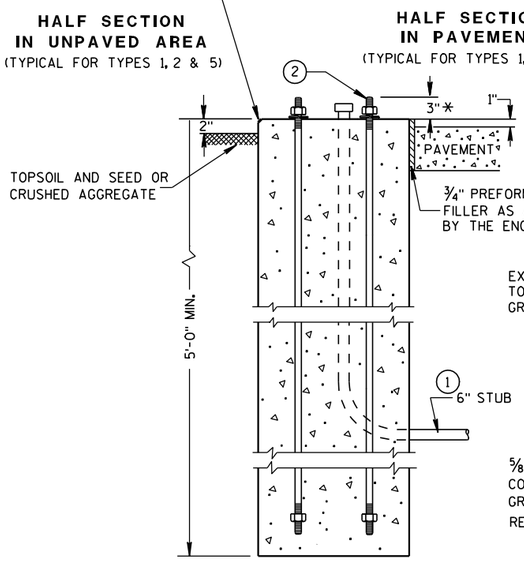






FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

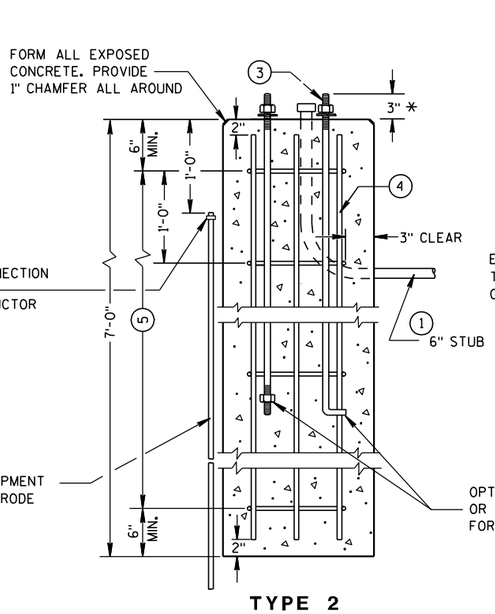
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2 & 5)



HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2 & 5)

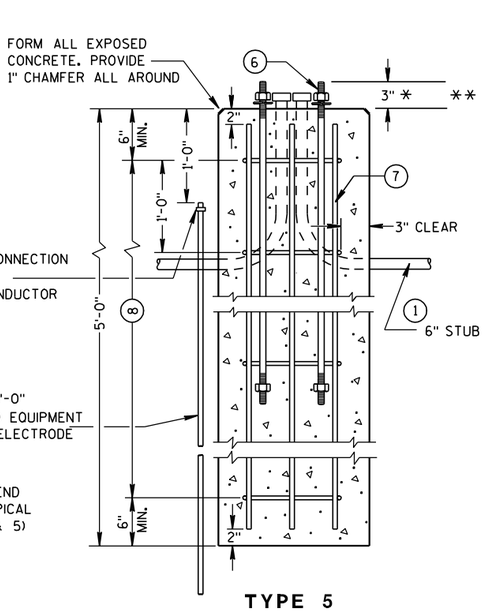
TYPE 1

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 2

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2 & 5

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/3/10 — DATE
/S/ Joanna L. Rush — STATE ELECTRICAL ENGI
208 — HWYS
FHWA

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S.D.D. 9 C 2-6

6

S.D.D. 9 C 2-6

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-325, (92,000 YIELD) HEAVY HEX NUT AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

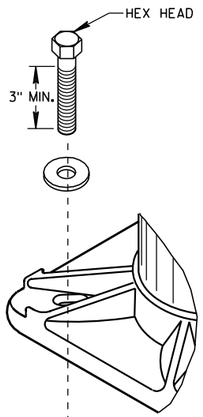
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

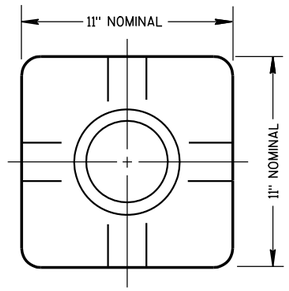
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

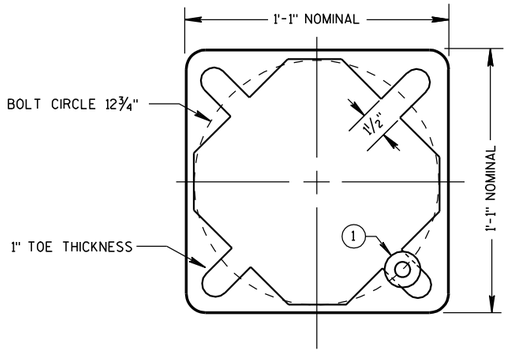
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1½", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

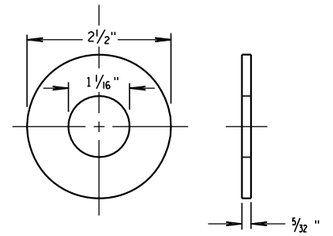




TOP VIEW
(PEDESTAL BASE)

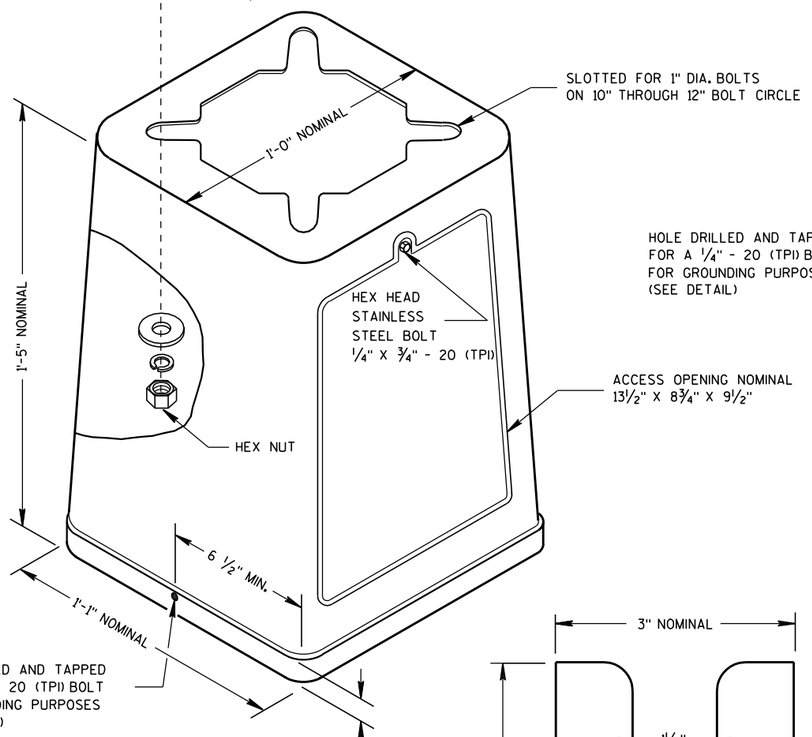


BOTTOM VIEW
(PEDESTAL BASE)

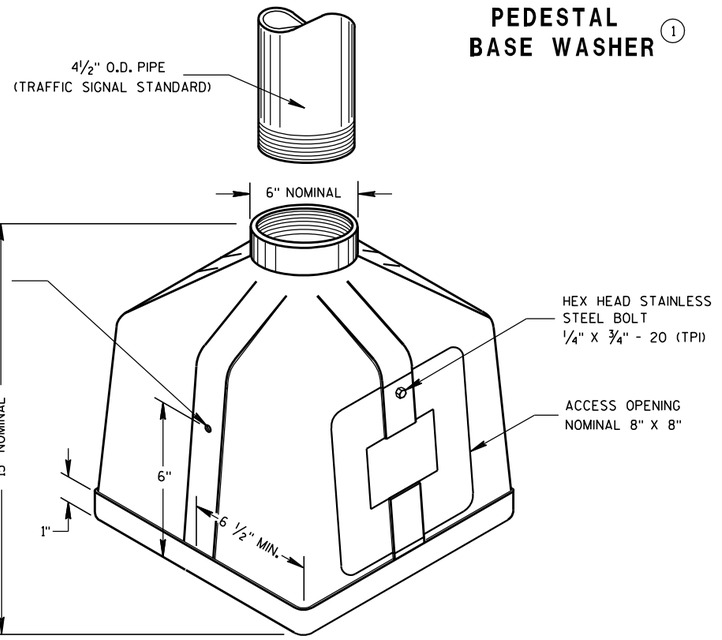


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

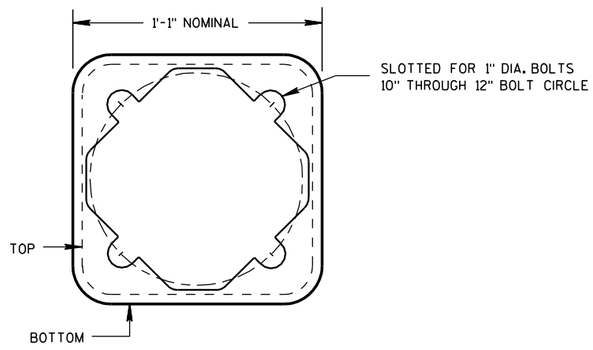


ISOMETRIC VIEW

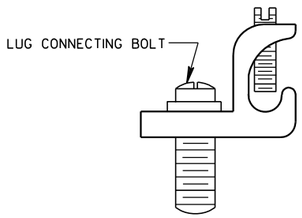


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

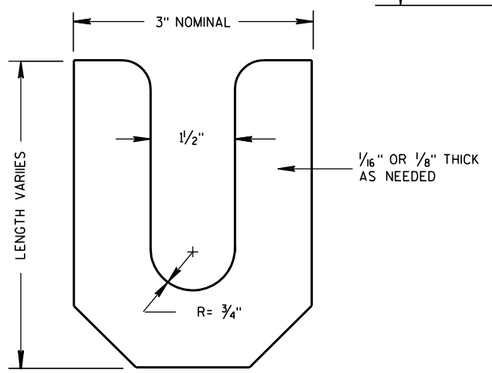


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

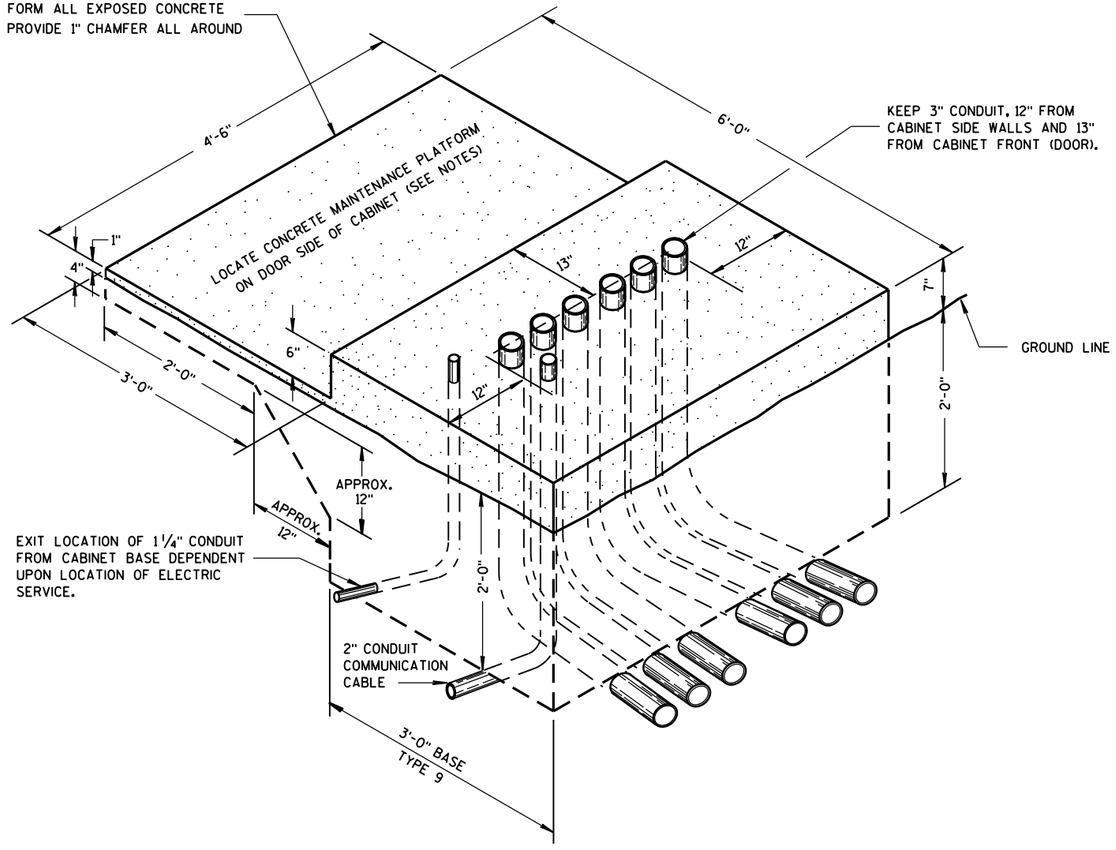
APPROVED
10/27/09 — DATE
/S/ Joanna L. Rich — STATE ELECTRICAL ENGI
209
HWYS
FHWA

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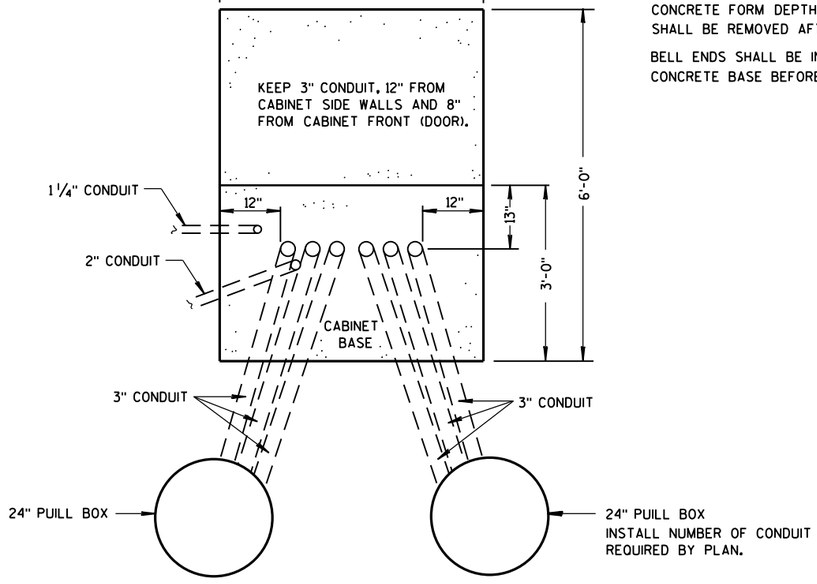
S.D.D. 9 C 3-3



ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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 BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

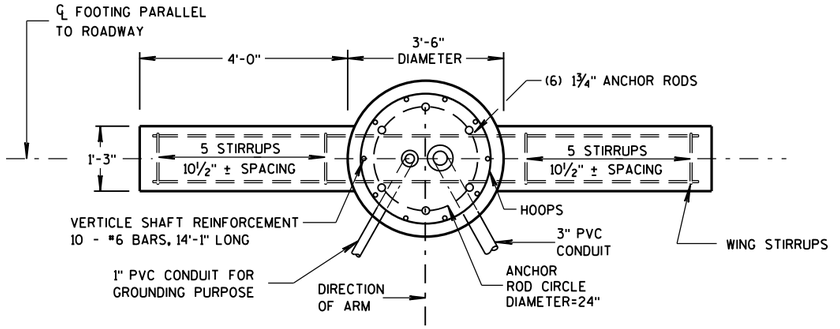
CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

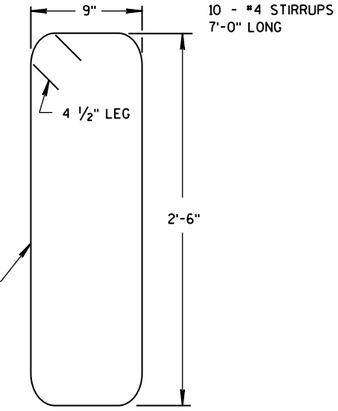
CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

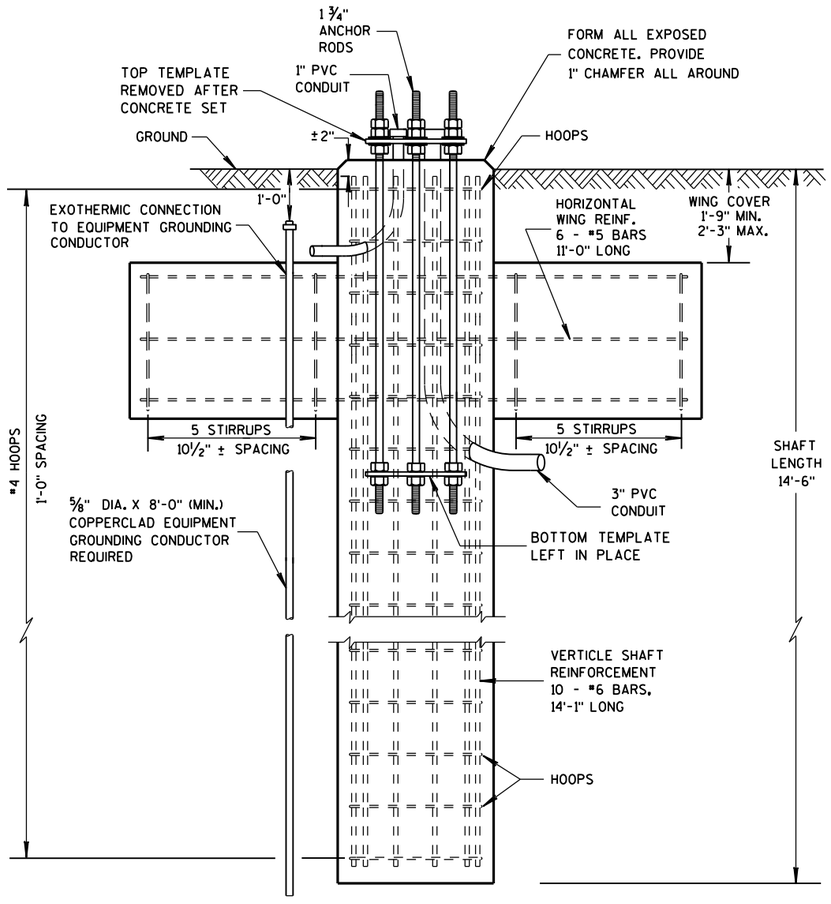
APPROVED
11/26/2013 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA



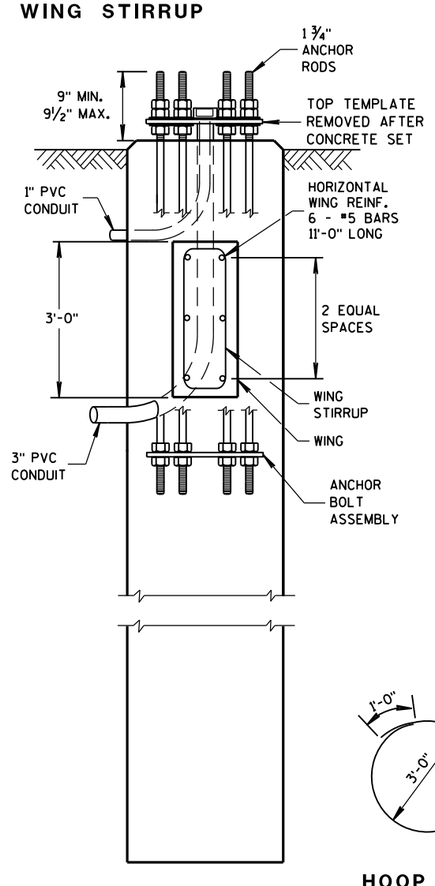
PLAN VIEW



WING STIRRUP

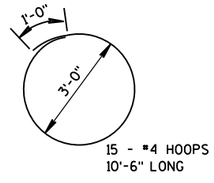


ELEVATION VIEW



SIDE VIEW

DOES NOT SHOW HOOPS OR VERTICAL SHAFT REINFORCEMENT



15 - #4 HOOPS 10'-6" LONG

HOOP DETAIL

GENERAL NOTES

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

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

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.

WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

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 AROUNG 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.

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 4½" 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 THE 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, UL 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.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS.

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.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36	fy=36,000 p.s.i.

(FOR TYPE 12 & 13 POLES)

CONCRETE = 6.3 C.Y.
H.S. REINFORCEMENT = 433 LBS.

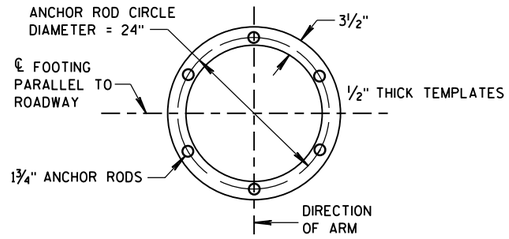
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.
SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

CONCRETE BASE TYPE 13

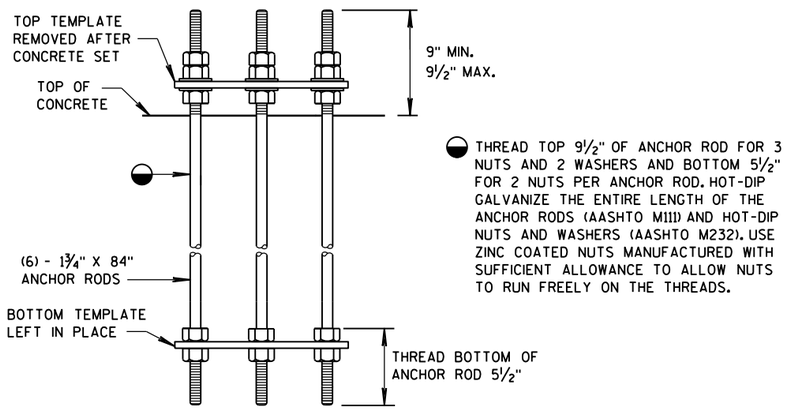
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 9 C 12-4a
S.D.D. 9 C 12-4a

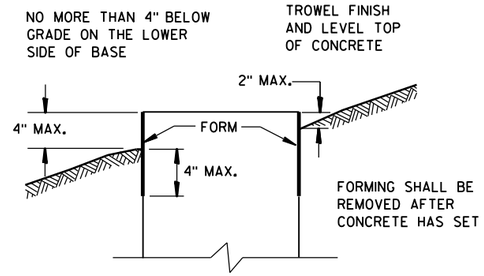


TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY



FORMING DETAIL

CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

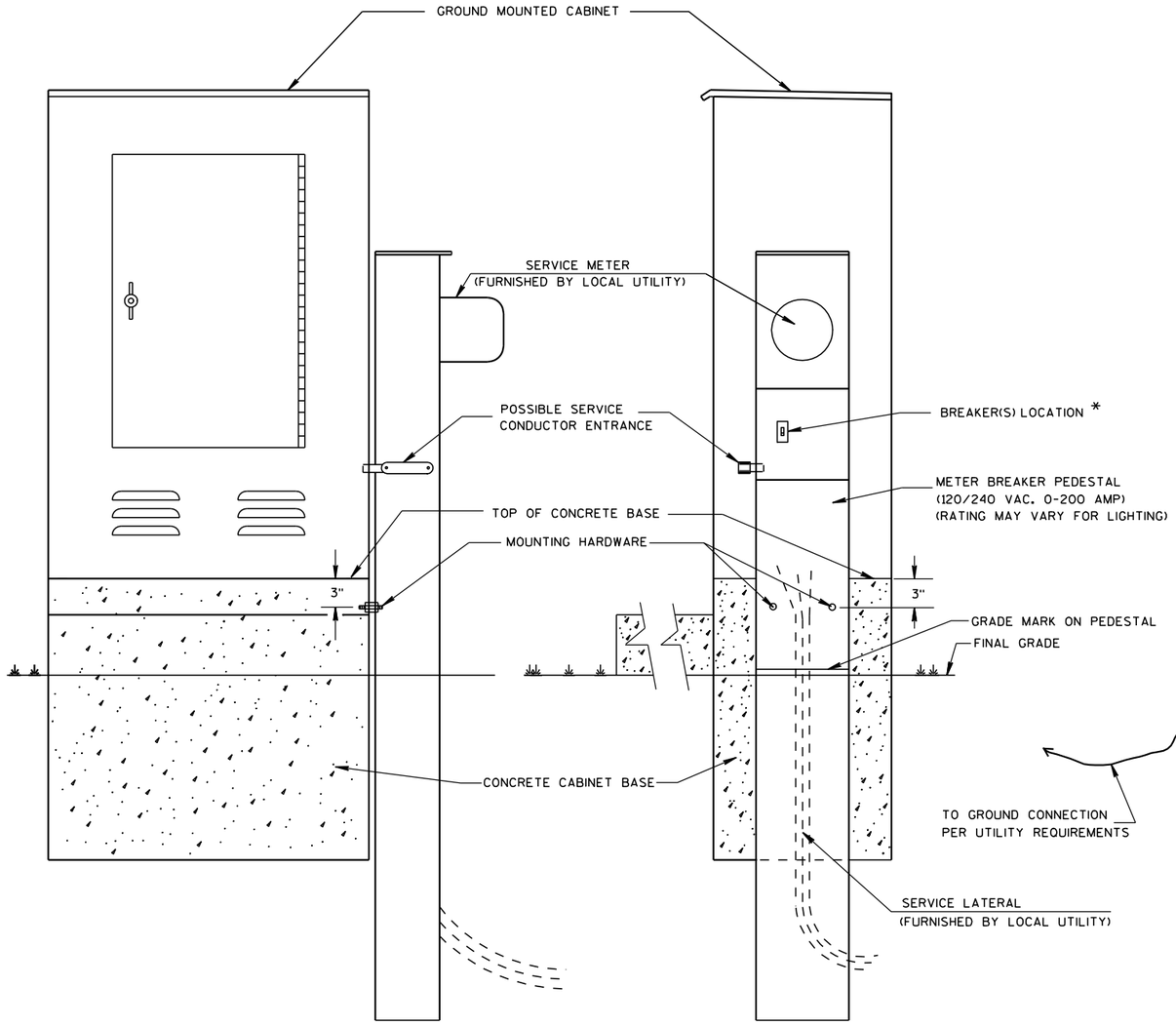
APPROVED
11-26-2013
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

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S.D.D. 9 C 12-4b



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

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S.D.D. 9 D 1-4

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

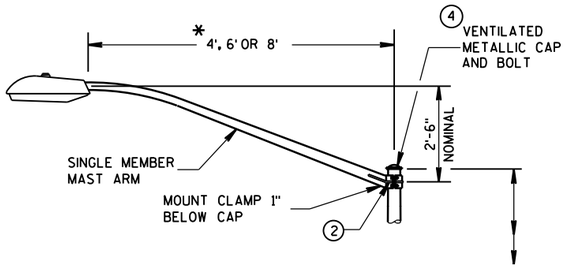
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

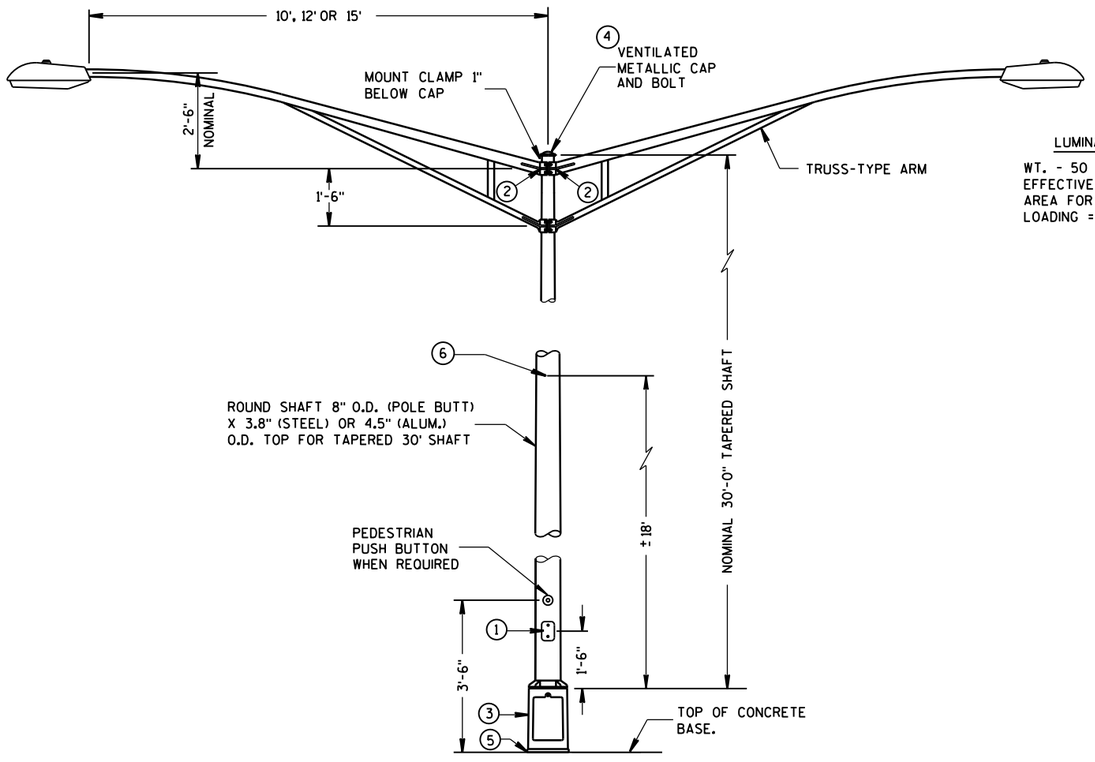
APPROVED
10/27/09 DATE
/S/ Joanna L. Bush STATE ELECTRICAL ENGI
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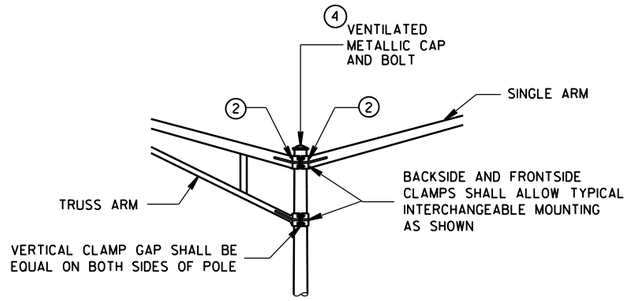
S.D.D. 9 D 1-4

*RISE FOR 4' ARM SHALL BE 2'-0".





TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

LUMINAIRE

WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.

GENERAL NOTES

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONEECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(3) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(4) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(6) INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

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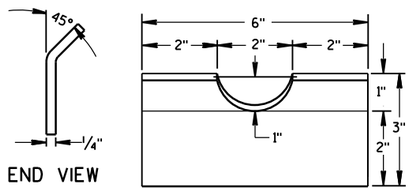
S.D.D. 9 E 1-12d

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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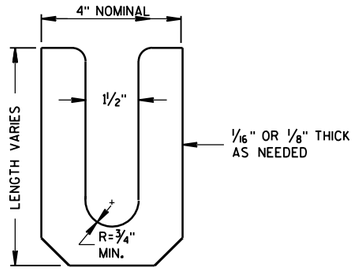
S.D.D. 9 E 1-12d



FRONT VIEW

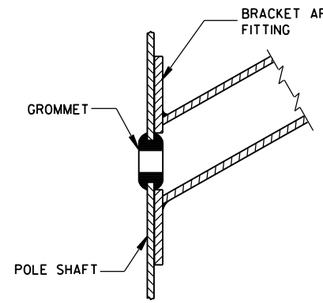
RECTANGULAR CLAMP SHIM

(4 TO A SET)

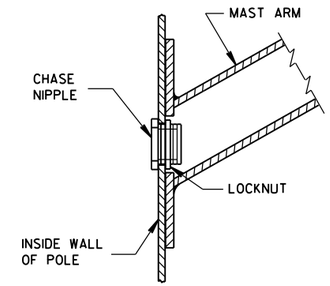


LEVELING SHIM (15)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)

(14) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")

SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".

SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".

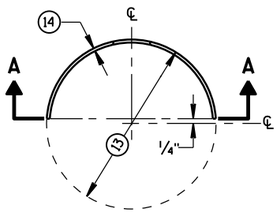
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.

SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.

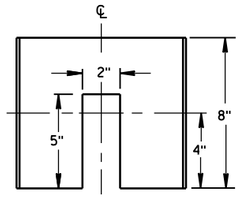
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

(15) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



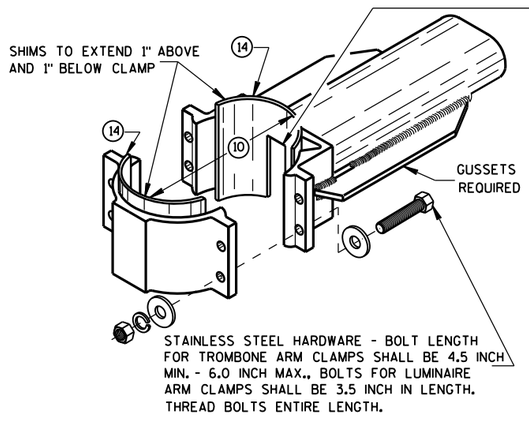
PLAN VIEW



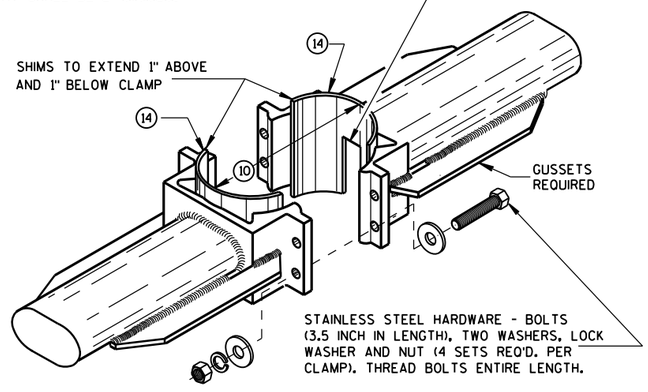
SECTION A-A

CIRCULAR CLAMP SHIM

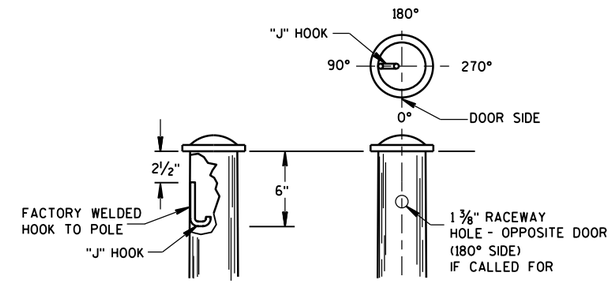
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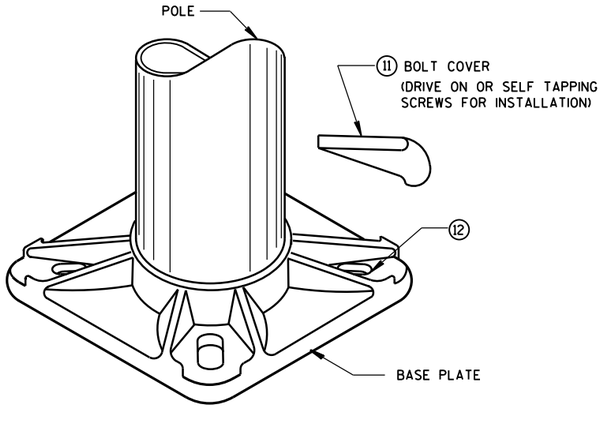
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



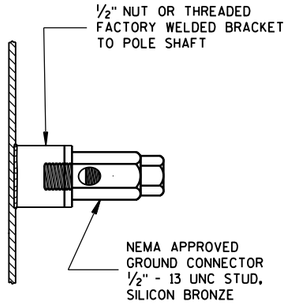
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

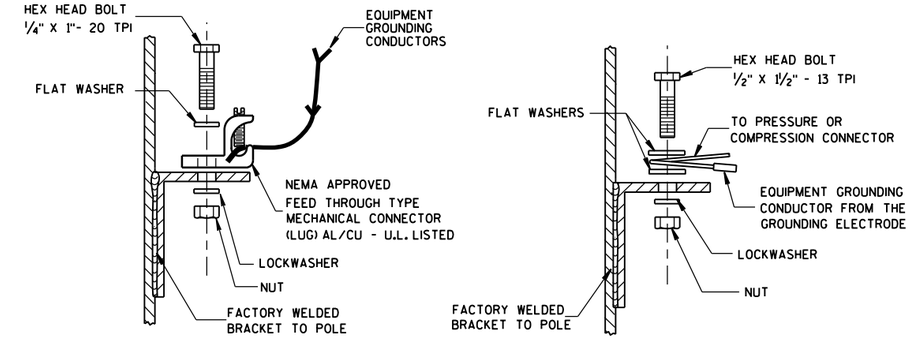


TYPICAL "J" HOOK LOCATION



BASE PLATE





TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

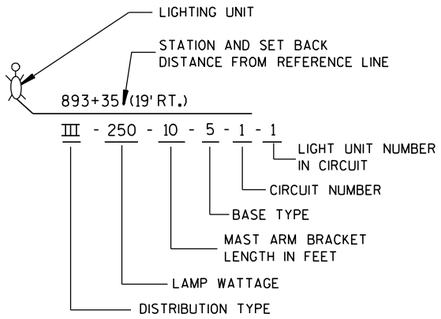
HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

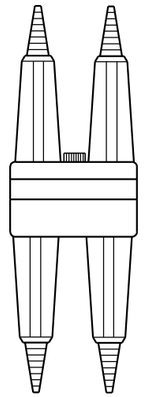
APPROVED
2/7/2013 DATE
/S/ Ahmet Demirbilek
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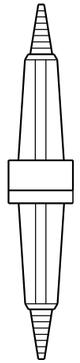
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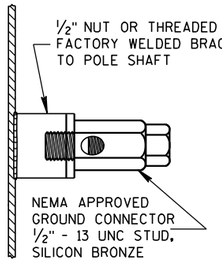
LIGHTING UNIT CODE
(TYPICAL)

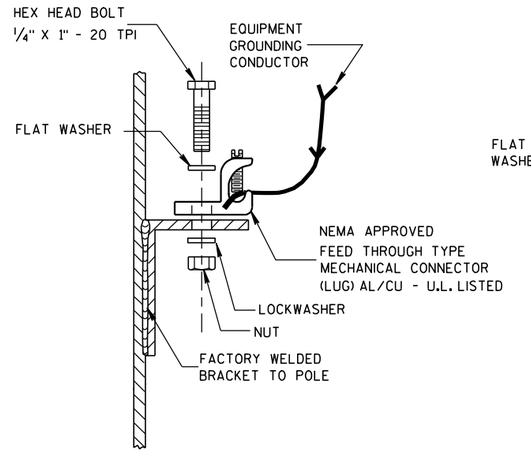


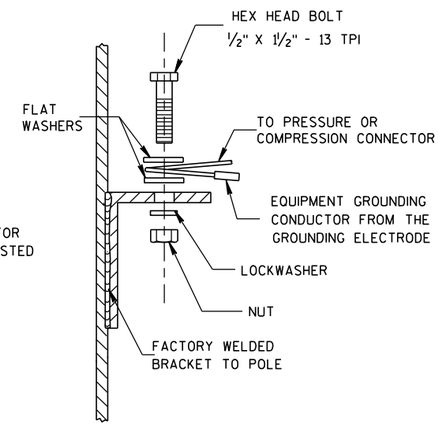
DETAIL "A"
BREAKAWY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



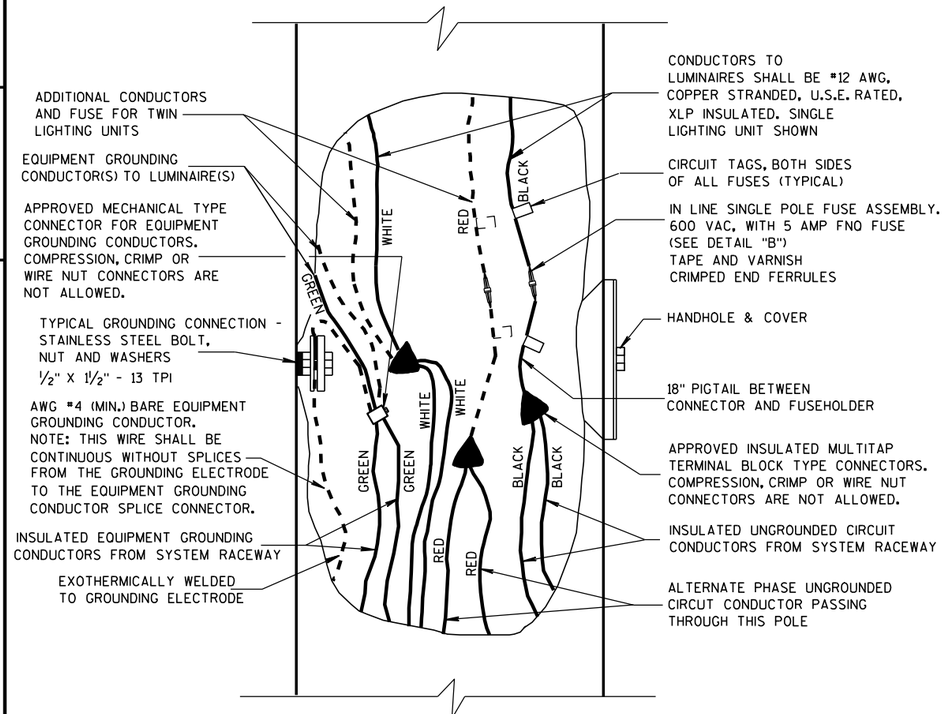
DETAIL "B"
BREAKAWY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



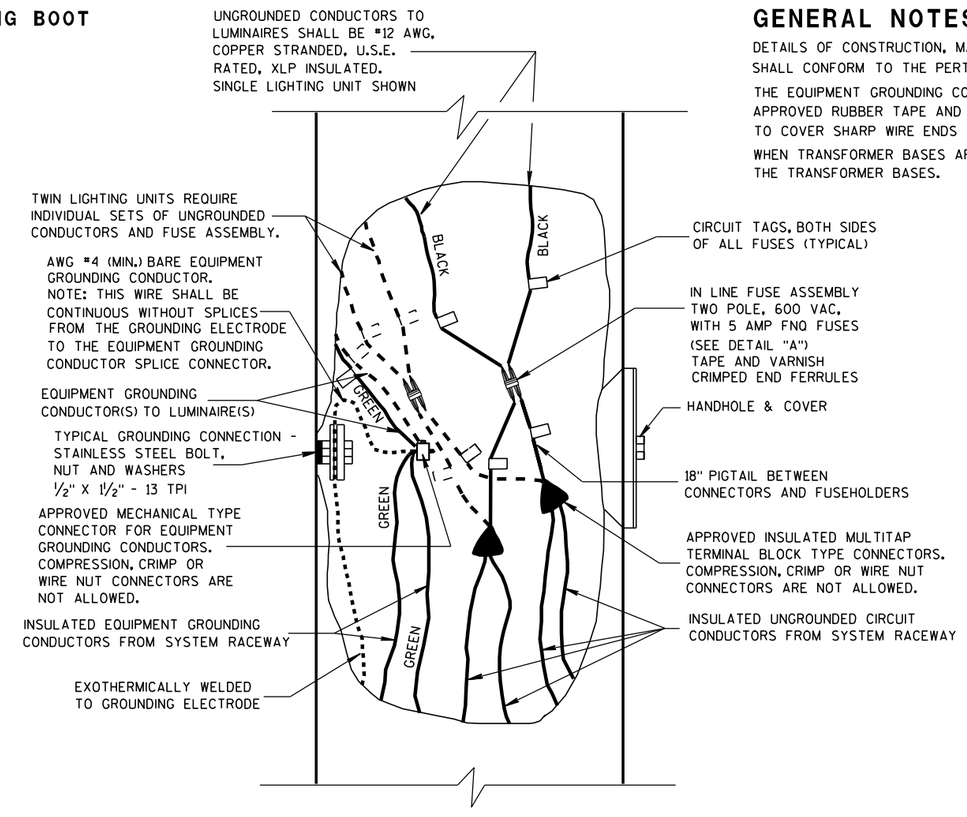




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

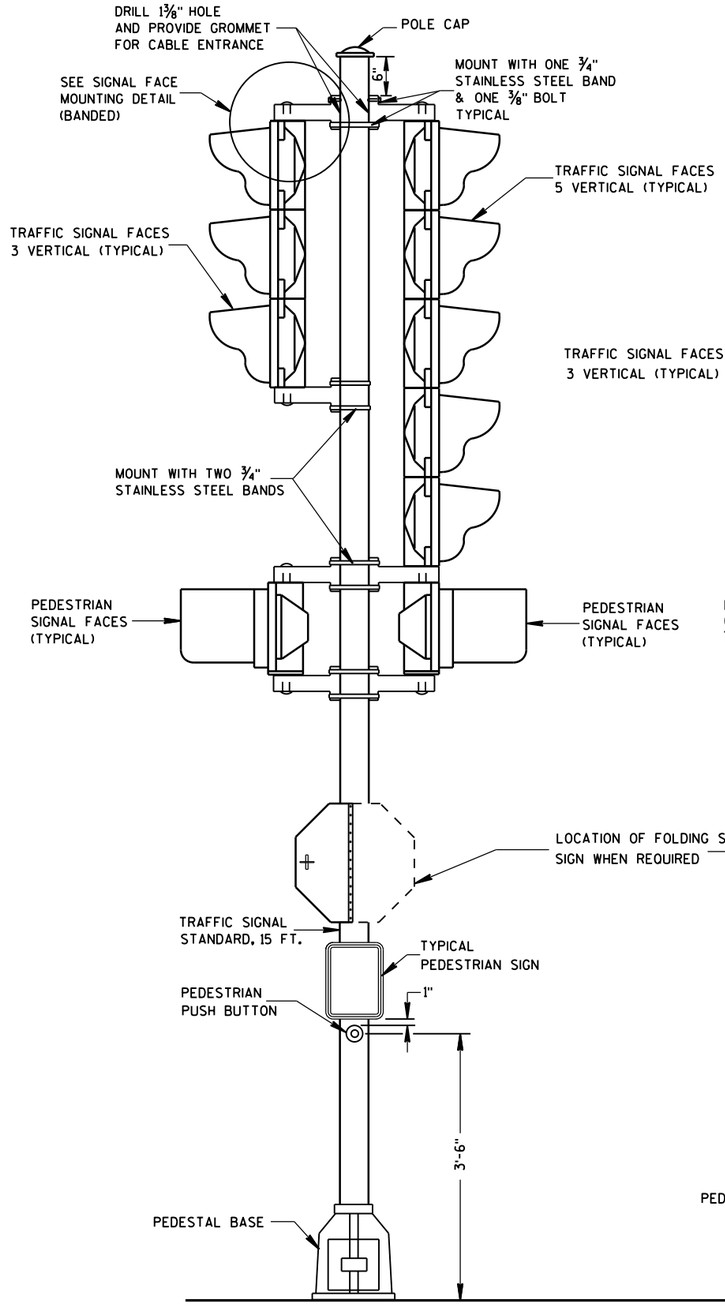
3/2/2011 — DATE

/S/ Thomas J. Gosnine — STATE ELECTRICAL ENGI

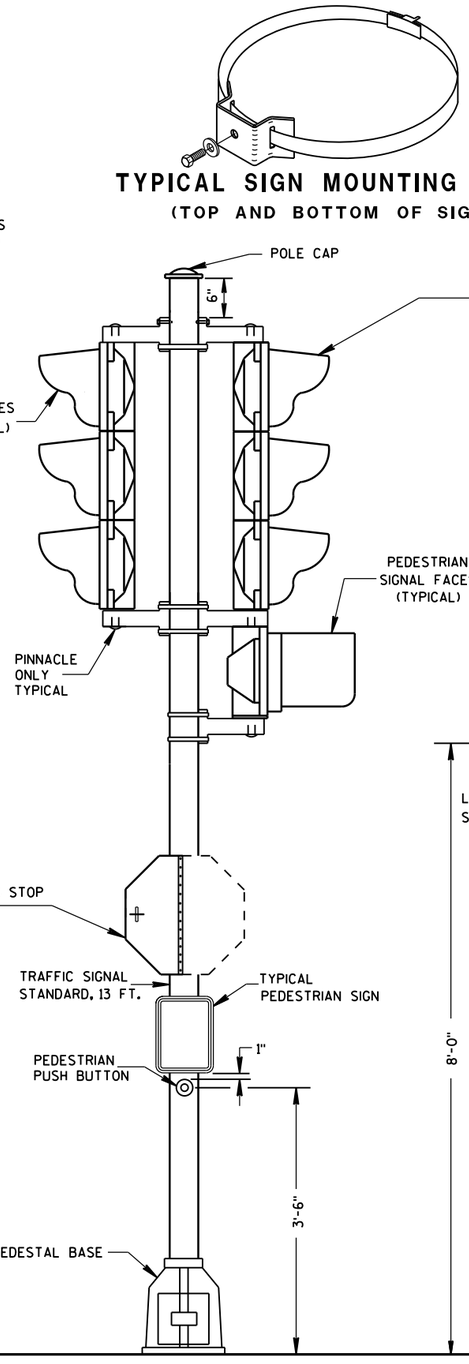
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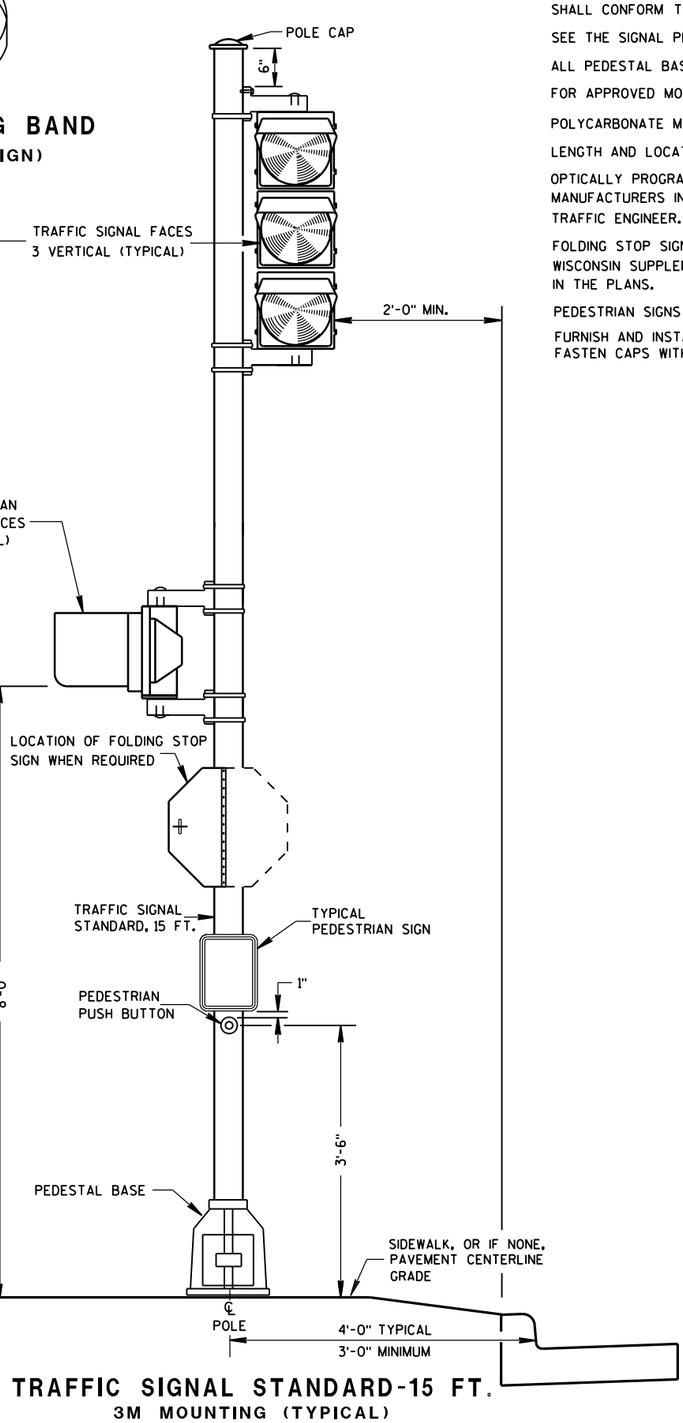


TRAFFIC SIGNAL STANDARD-15 FT.



TRAFFIC SIGNAL STANDARD-13 FT.

TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



TRAFFIC SIGNAL STANDARD-15 FT.
3M MOUNTING (TYPICAL)

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

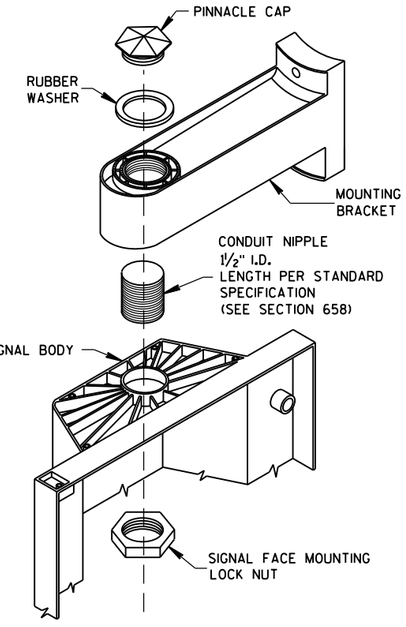
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



SIGNAL FACE MOUNTING DETAIL
(BANDED)

TRAFFIC SIGNAL STANDARD
POLY BRACKET MOUNTINGS
(TYPICAL) 13 FT. OR 15 FT.

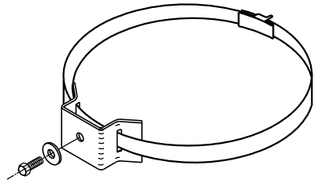
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/28/2013
DATE

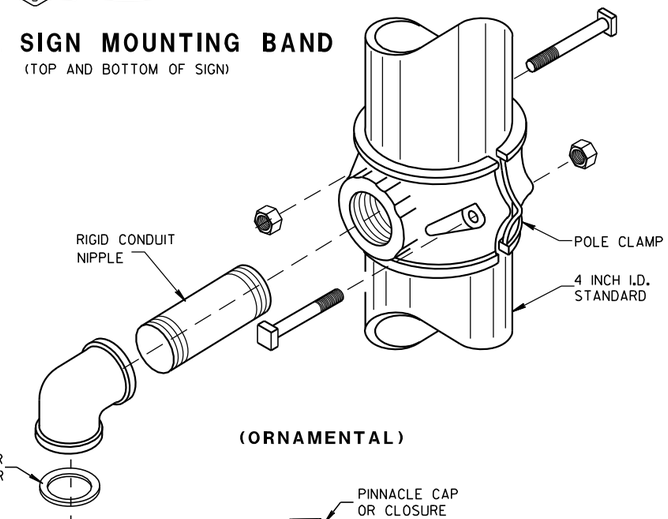
/S/ Ahmet Demirbilek
STATE ELECTRICAL 217

FHWA

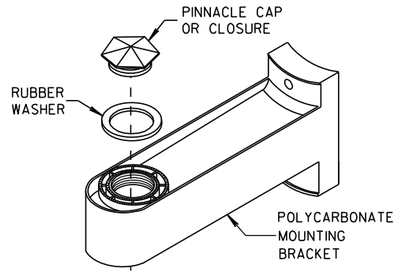
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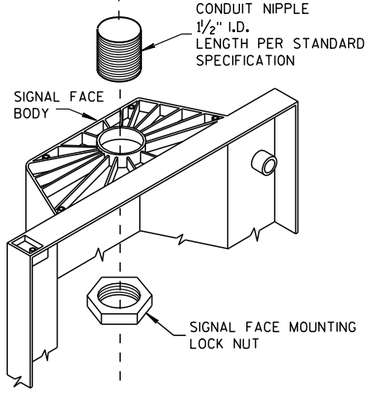
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



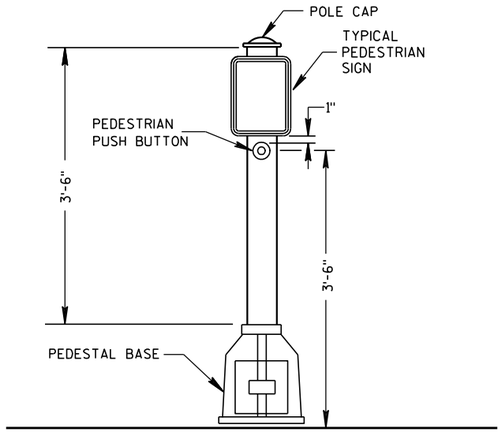
(ORNAMENTAL)



(BANDED)



SIGNAL FACE MOUNTING DETAILS



PEDESTRIAN PUSH BUTTON TYPICAL MOUNTING

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

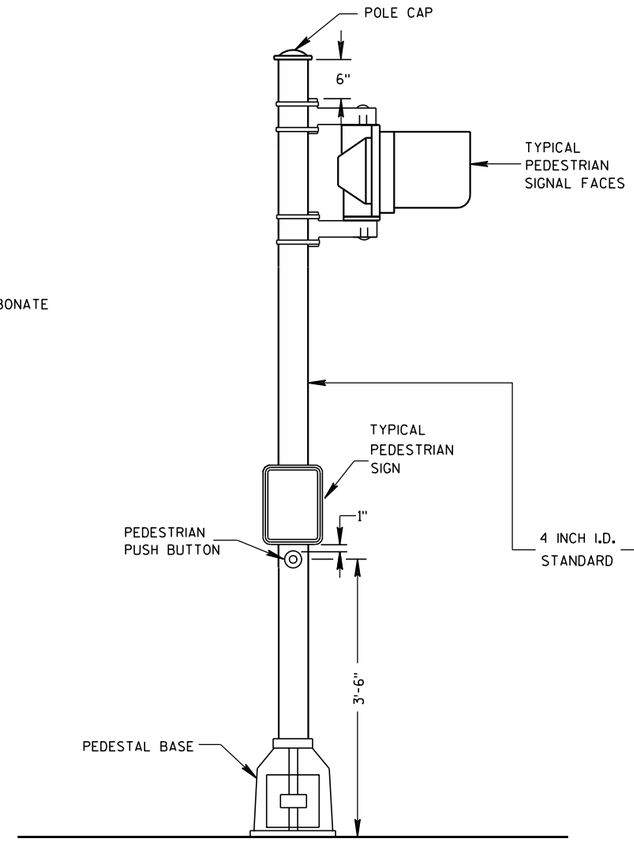
POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

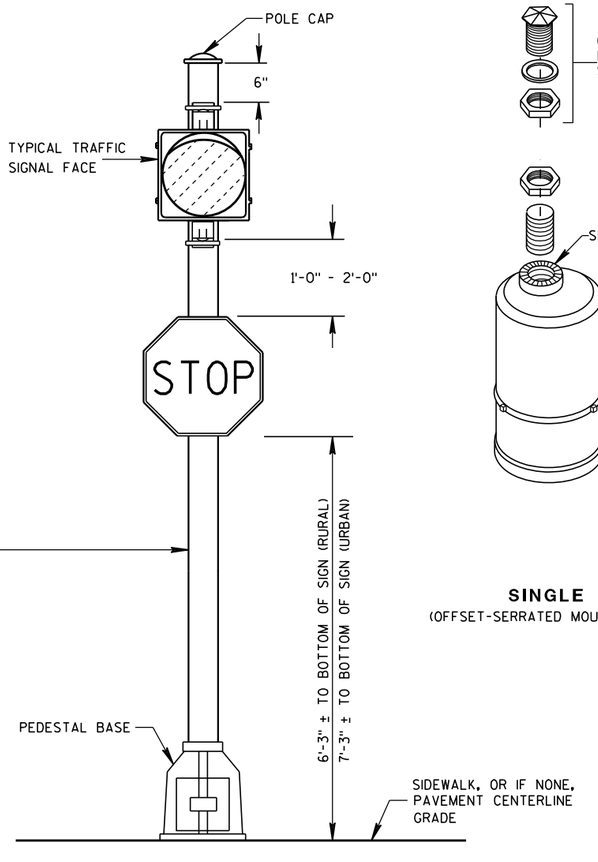
MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

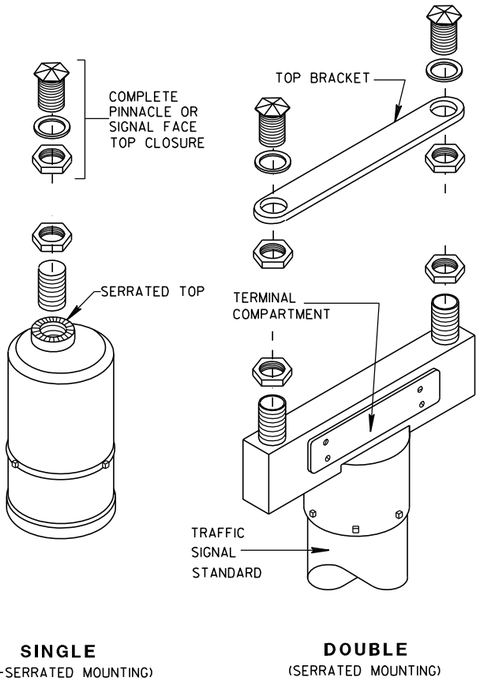
FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



PEDESTRIAN FACE STANDARD-10 FT.
(WALK-DON'T WALK)



STANDARD FLASHER.
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED



SINGLE
(OFFSET-SERRATED MOUNTING)

DOUBLE
(SERRATED MOUNTING)

SLIPFITTERS

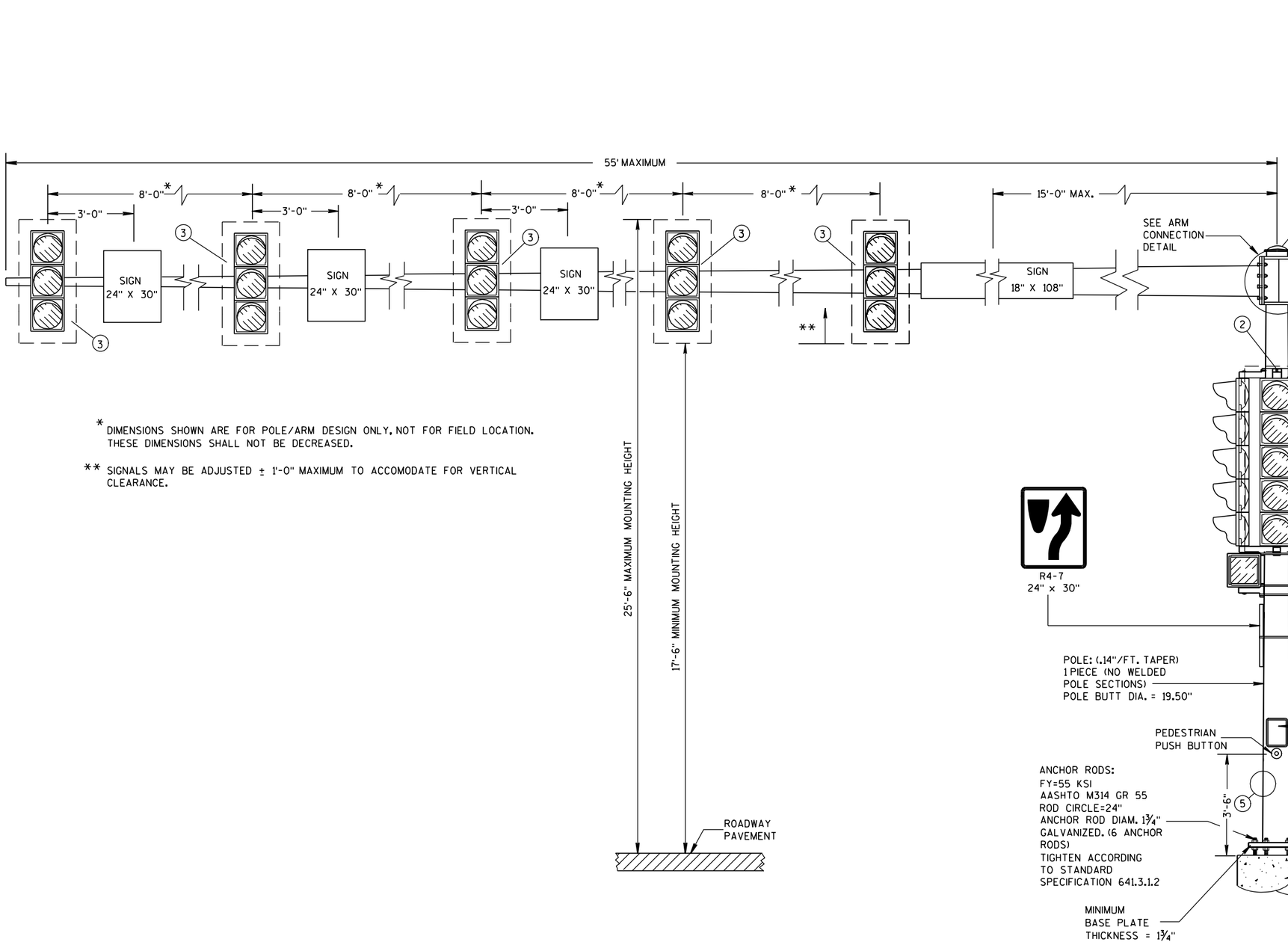
TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/11/10 DATE
/S/ John Corbin STATE ELECTRICAL ENGI
FHWA

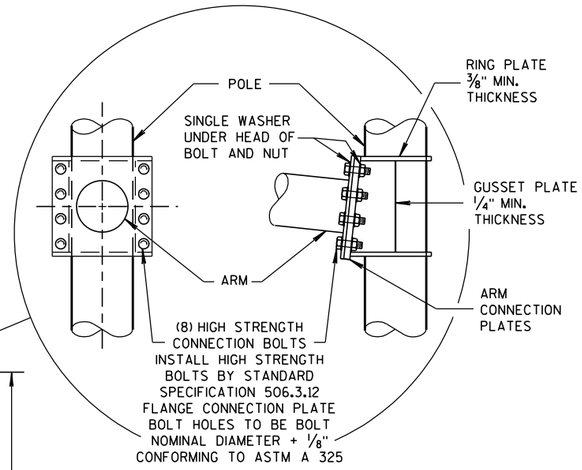
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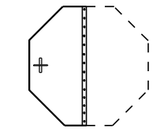


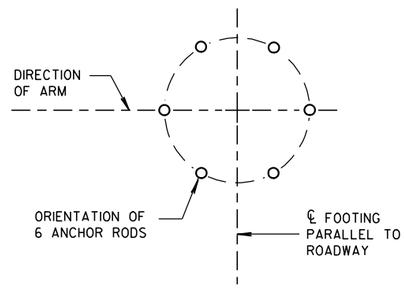
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



8 BOLT ARM CONNECTION DETAIL





ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 12 POLE 35'- 55' MONOTUBE ARM

TYPE 12 POLE
35' - 55' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

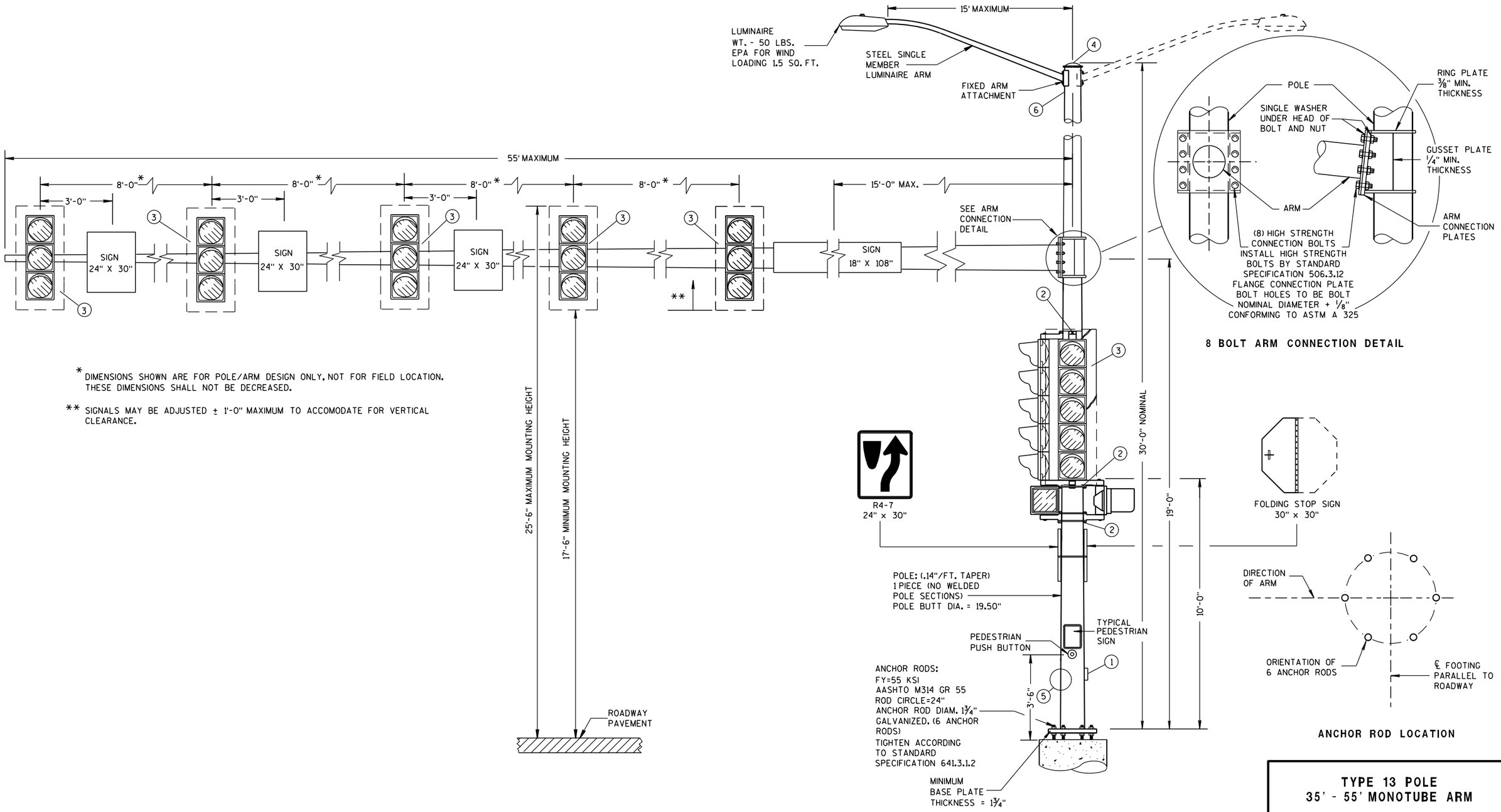
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3/2/2011 — DATE
/S/ Thomas J. Gorring — STATE ELECTRICAL ENGI
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S.D.D. 9 E 8-4c



* 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 ACCOMODATE FOR VERTICAL CLEARANCE.

8 BOLT ARM CONNECTION DETAIL

ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 13 POLE 35'- 55' MONOTUBE ARM

TYPE 13 POLE
35' - 55' MONOTUBE ARM

STATE OF WISCONSIN
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GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP 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 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATIONS 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 LATEST AASHTO AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND 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 GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" S.S. 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 AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS 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 HANDHOLE 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 SPECIFICATIONS SEC. 658).

(3) SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

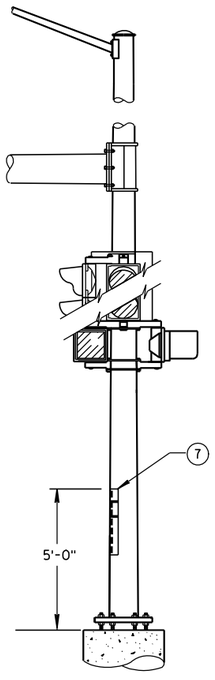
(5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

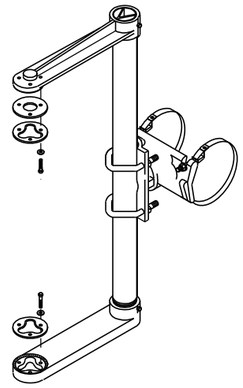
(7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 5'-0" ABOVE THE CURB OR SHOULDER . ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

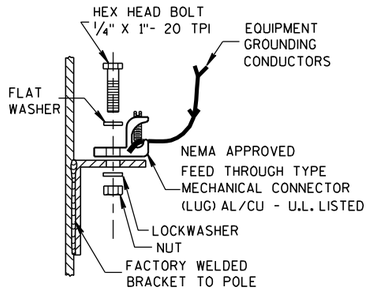


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



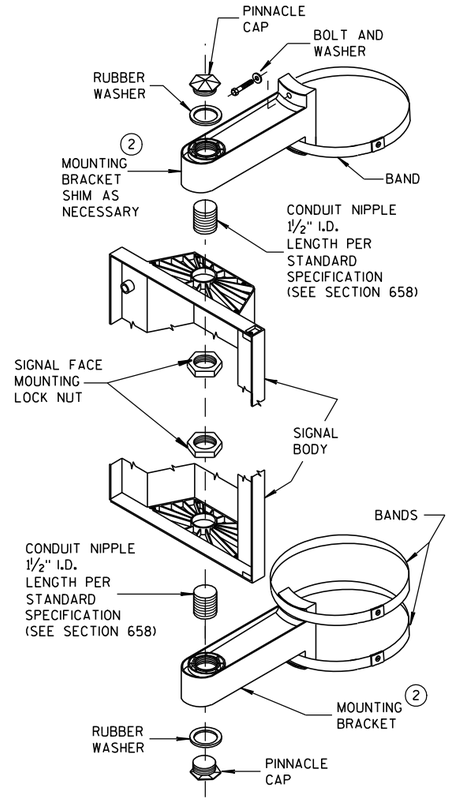
SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

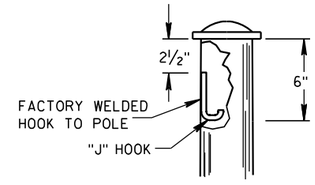


TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



SIGNAL FACE VERTICAL MOUNTING DETAIL



"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 DATE

/S/ Thomas J. Corrigan
STATE ELECTRICAL ENGI

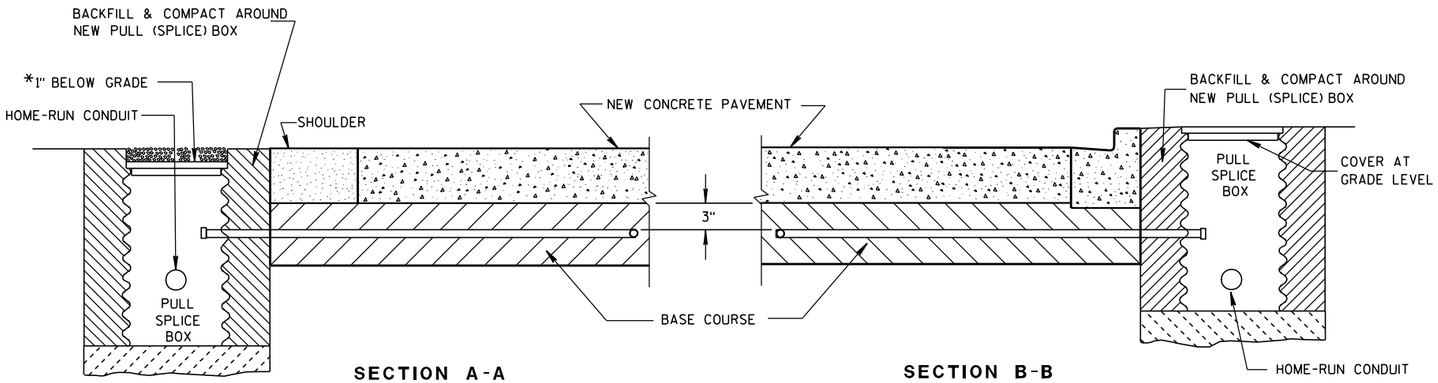
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SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & 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.

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR 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 READINGS 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.

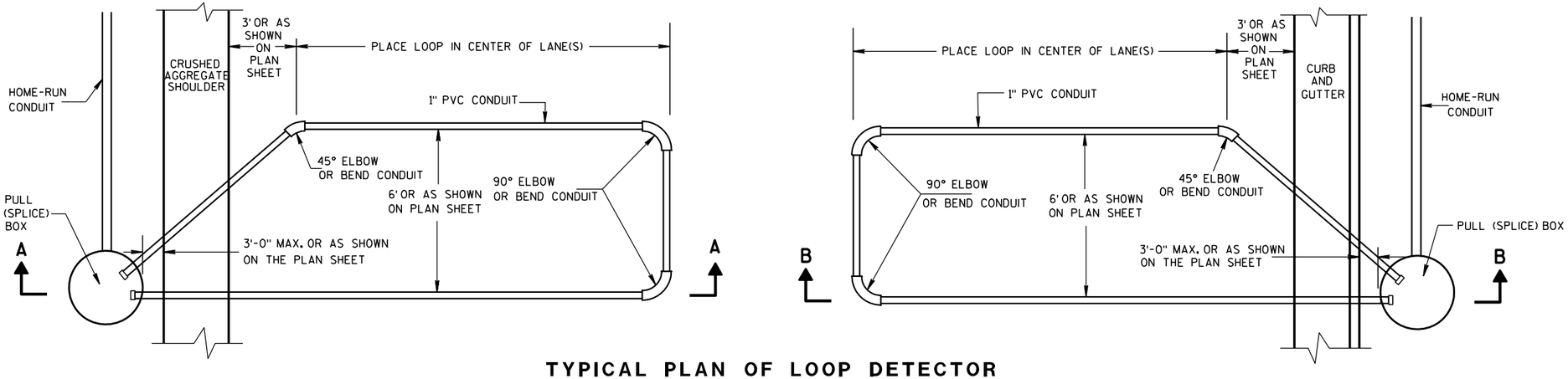
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

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-SPLICE 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 OF 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

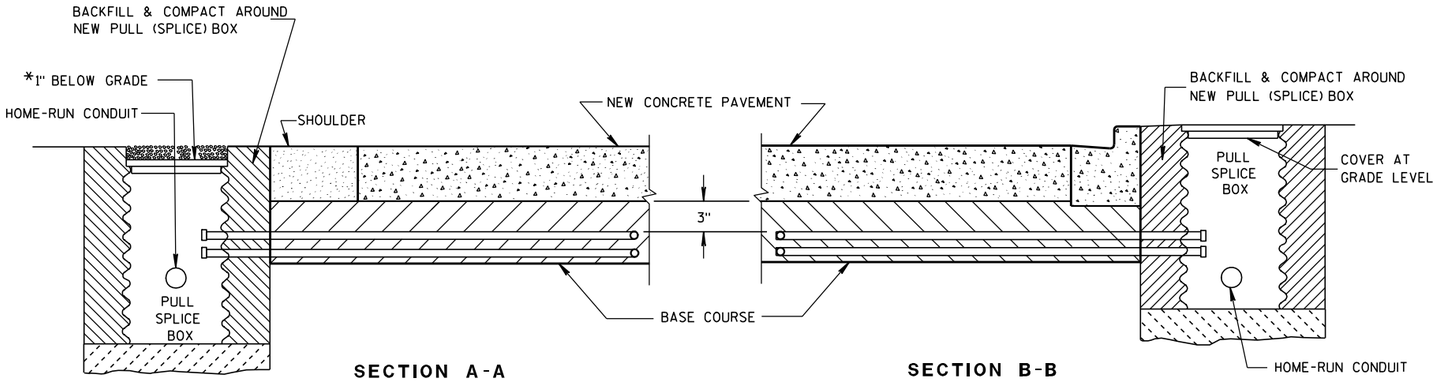
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6/7/06 — DATE
/S/ Balu Aganthangarayanan — STATE ELECTRICAL ENGI
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S.D.D. 9 F 15-3a



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & 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.

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR 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 READINGS 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.

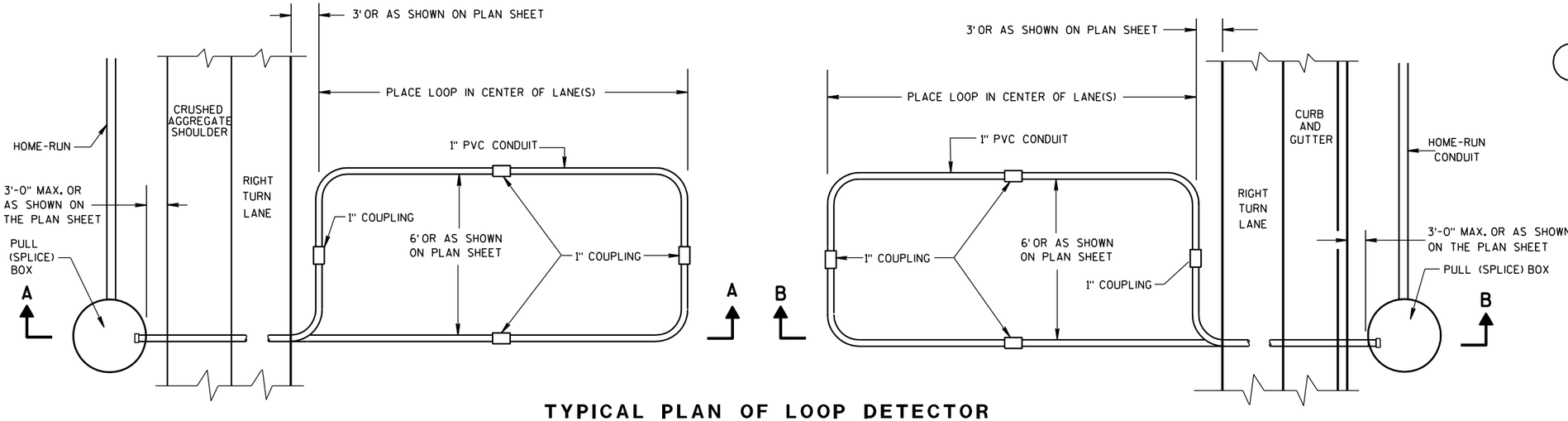
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

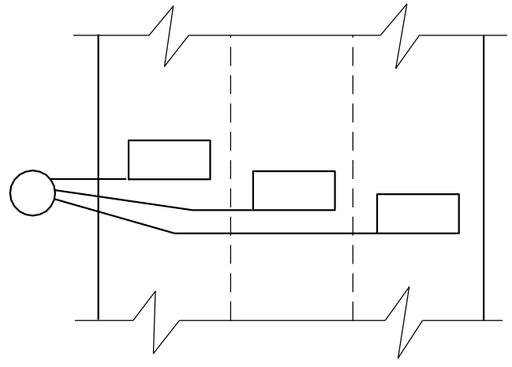
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

PROTECTION OF THE CONDUITS 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 OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/7/06 DATE
/S/ Balu Anantharaman
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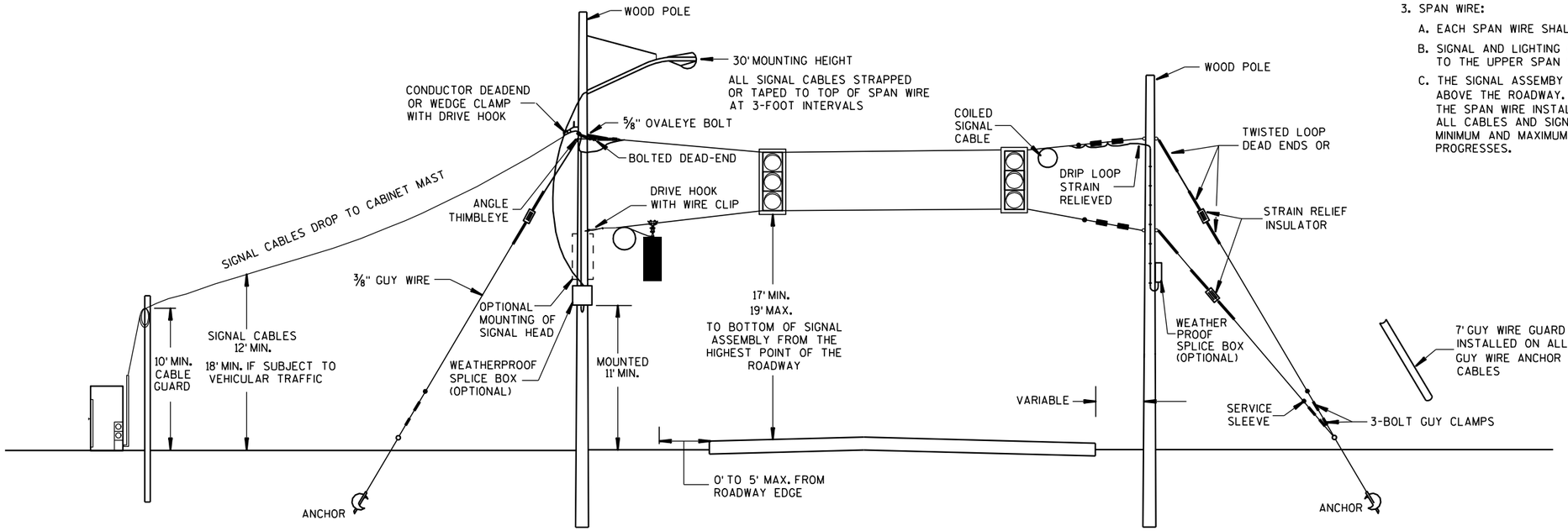
GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.

2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.

3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



SPAN WIRE
TEMPORARY SIGNALS

MINIMUM POLE LENGTHS	POLE BURIEL DEPTHS
25'	5'
30'	6'
35'	7'
40'	8'
45'	9'

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

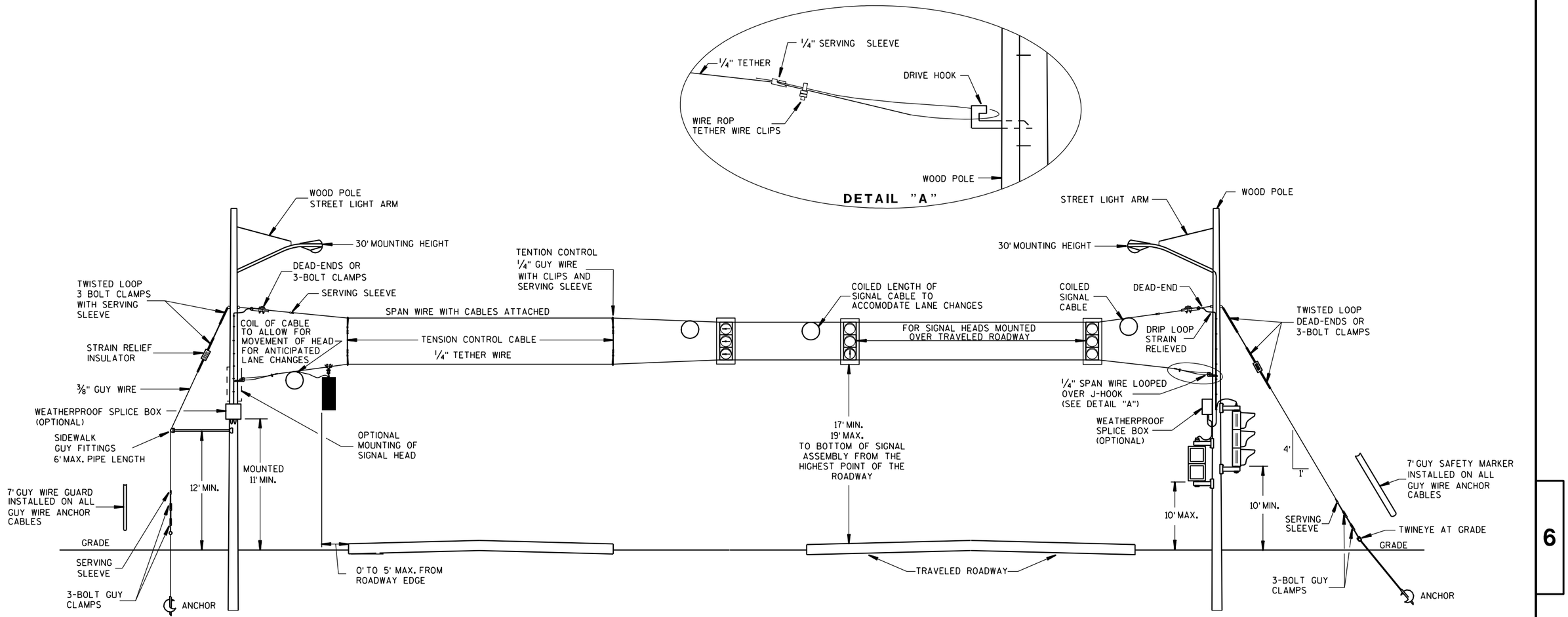
APPROVED

7-14-08 DATE

/S/ Balu Ananthar [illegible] n
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GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.

SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

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

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 225 HWYS

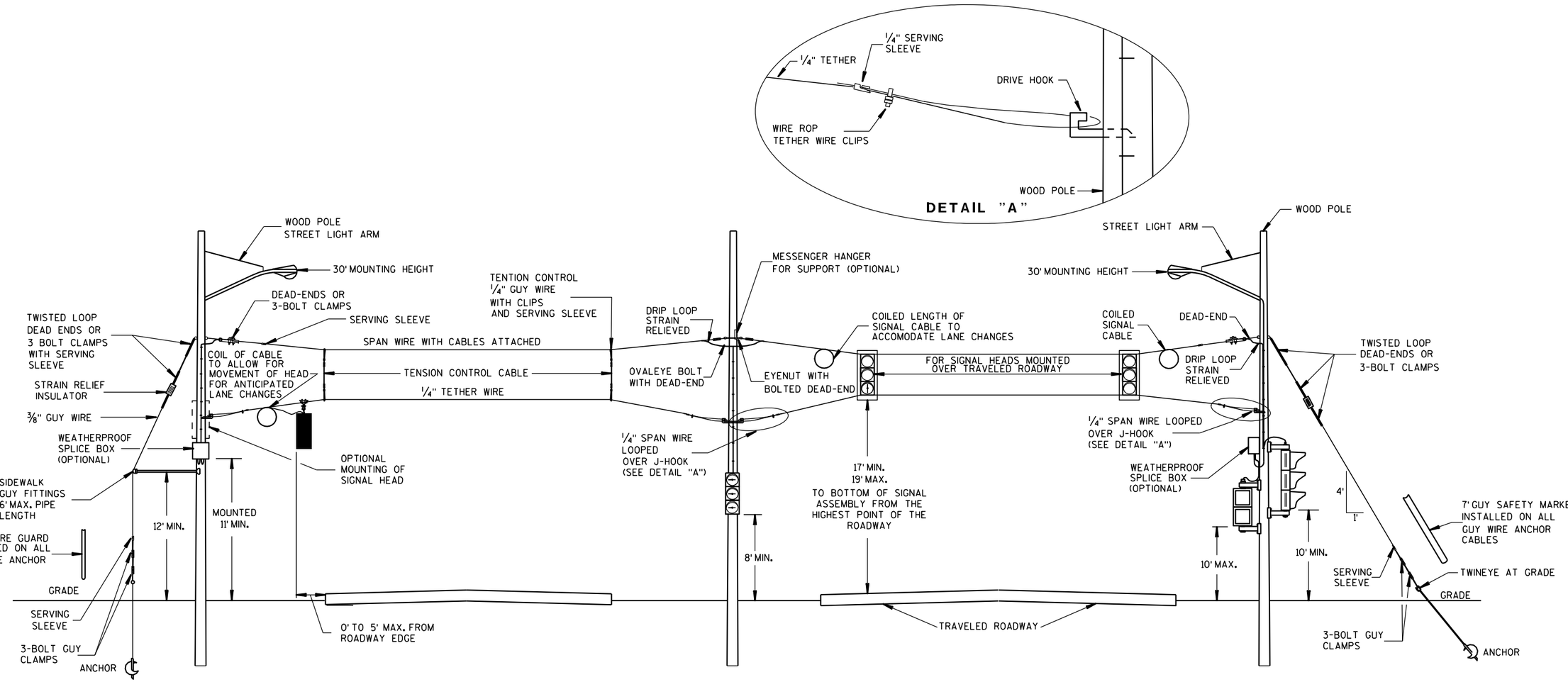
FHWA

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S.D.D. 9 G 1-3b

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S.D.D. 9 G 1-3b



SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.

2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.

3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.

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

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE

/S/ Balu Aganthangarayanan
STATE ELECTRICAL ENGI 226 HWYS

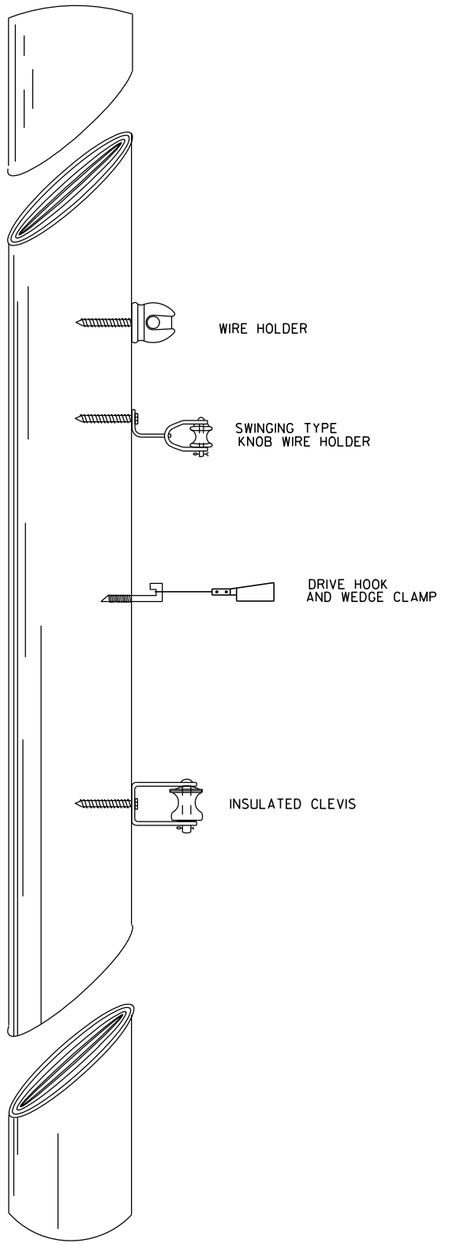
FHWA

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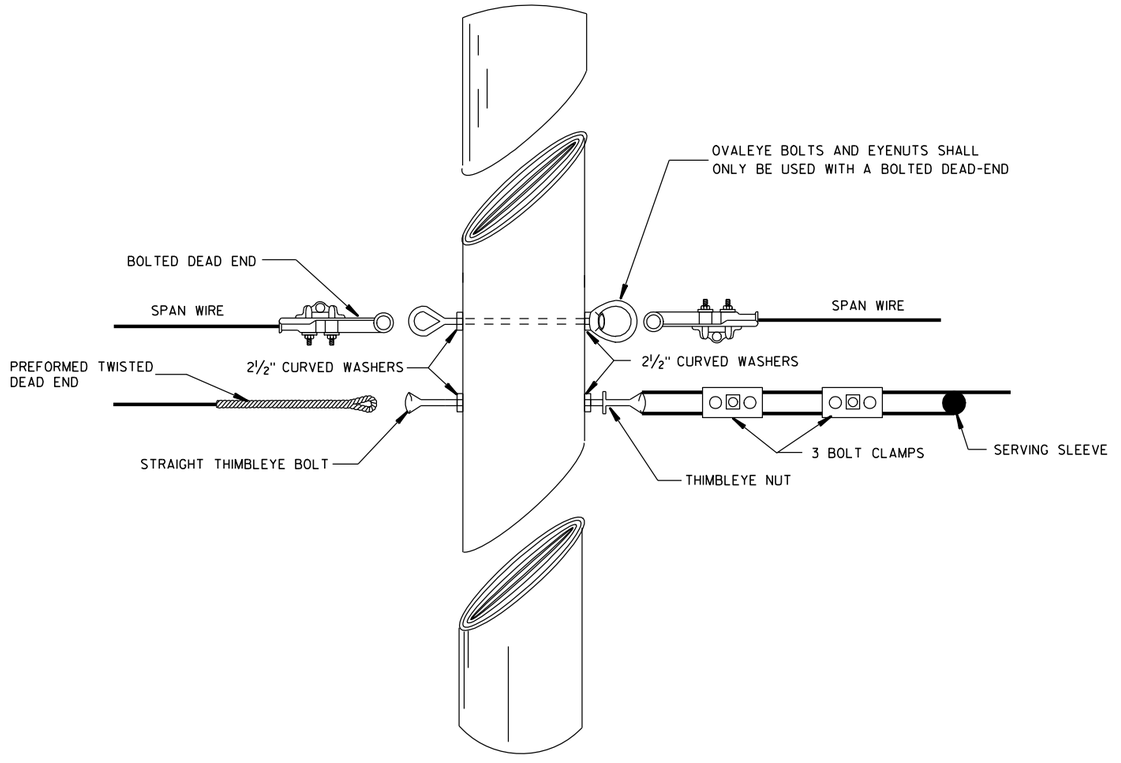
S.D.D. 9 G 1-3c

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S.D.D. 9 G 1-3c



TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

6

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S.D.D. 9 G 1-3d

S.D.D. 9 G 1-3d

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

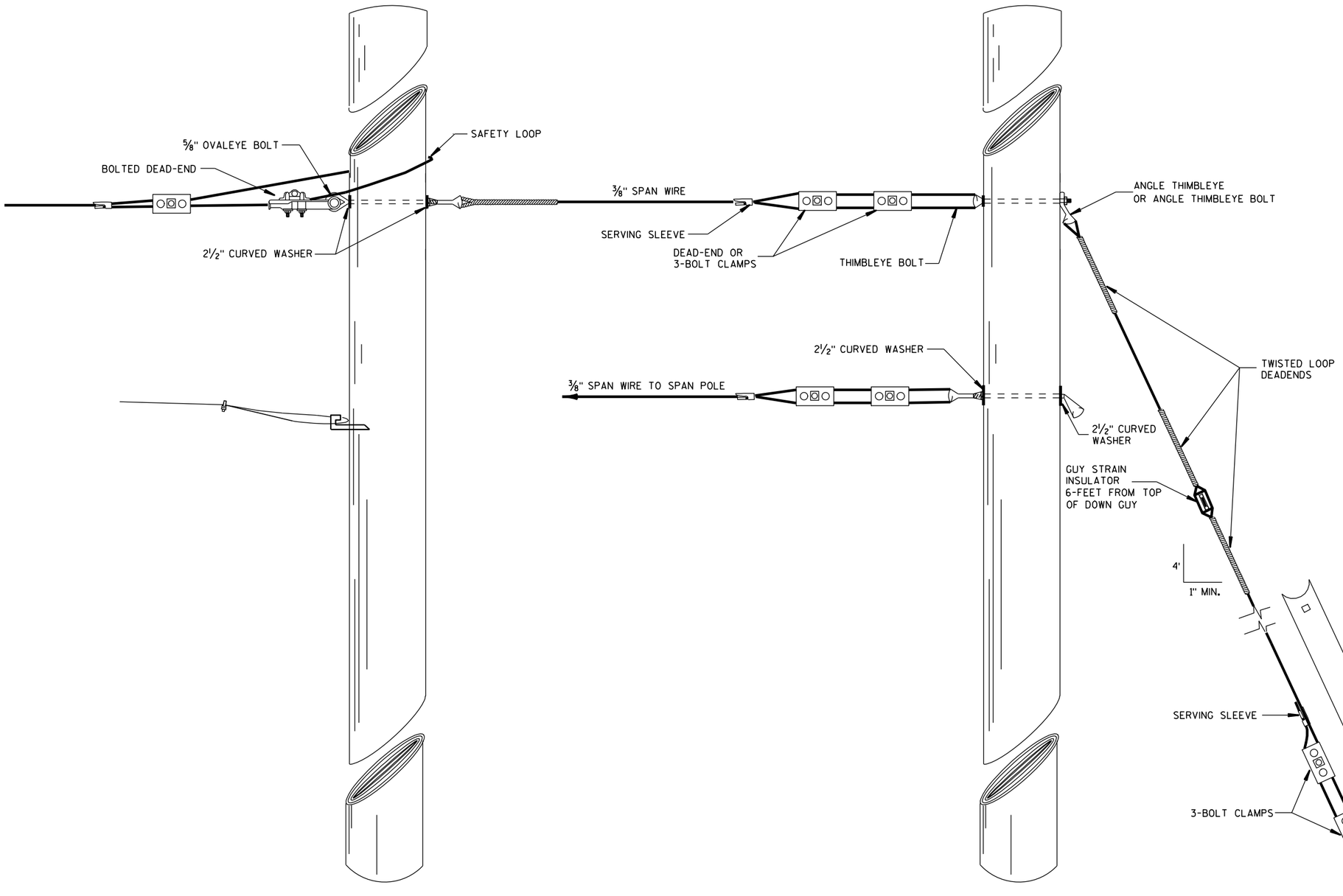
7-14-08
DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 227 HWYS

FHWA

GENERAL NOTES

1. USE ¾" DRILL IN WOOD POLE TO PROVIDE HOLE FOR ⅝" BOLTS.
2. SAFTY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.



SPAN WIRE POLE

GUY POLE

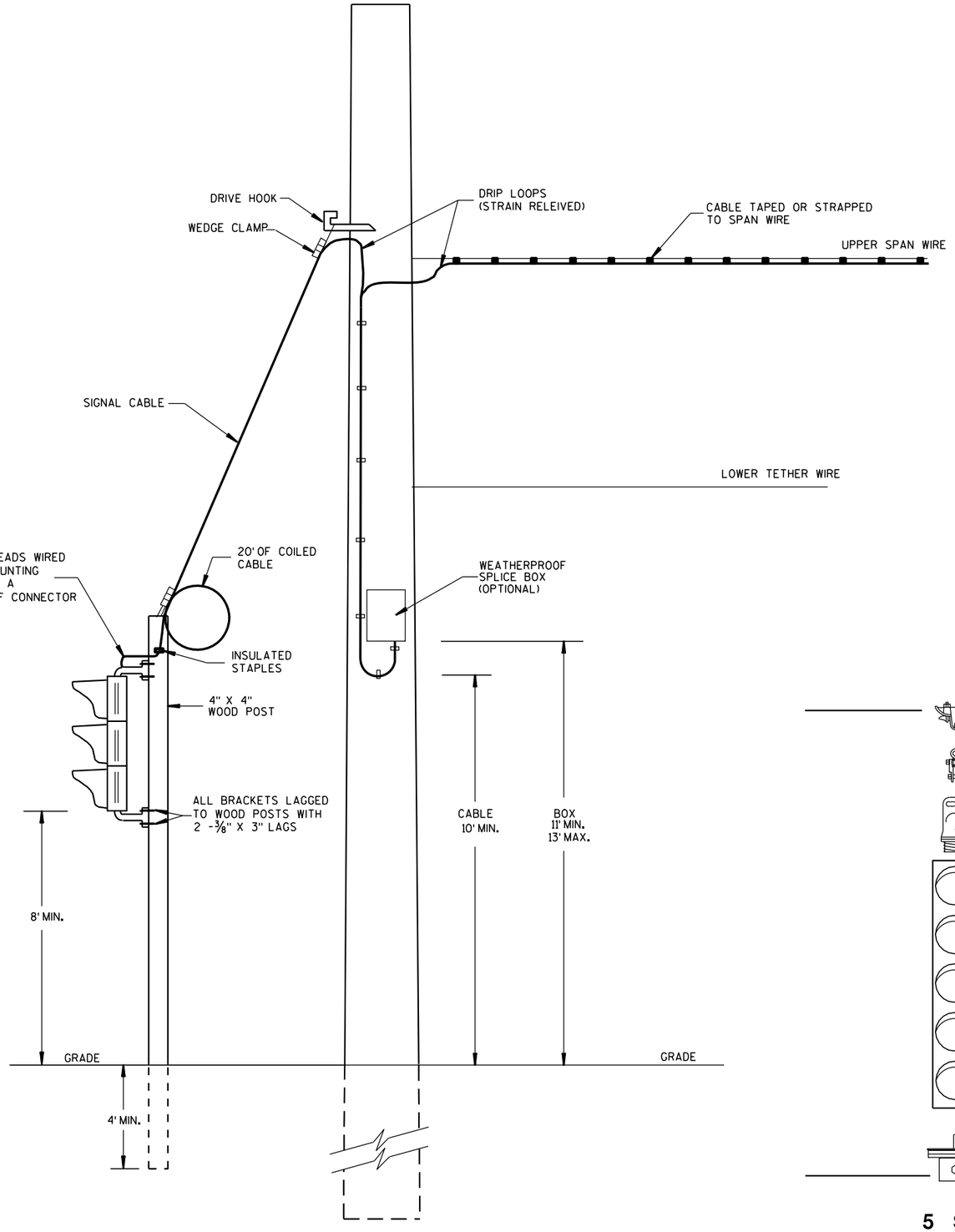
TYPICAL DEAD-ENDINGS OR GUYING

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

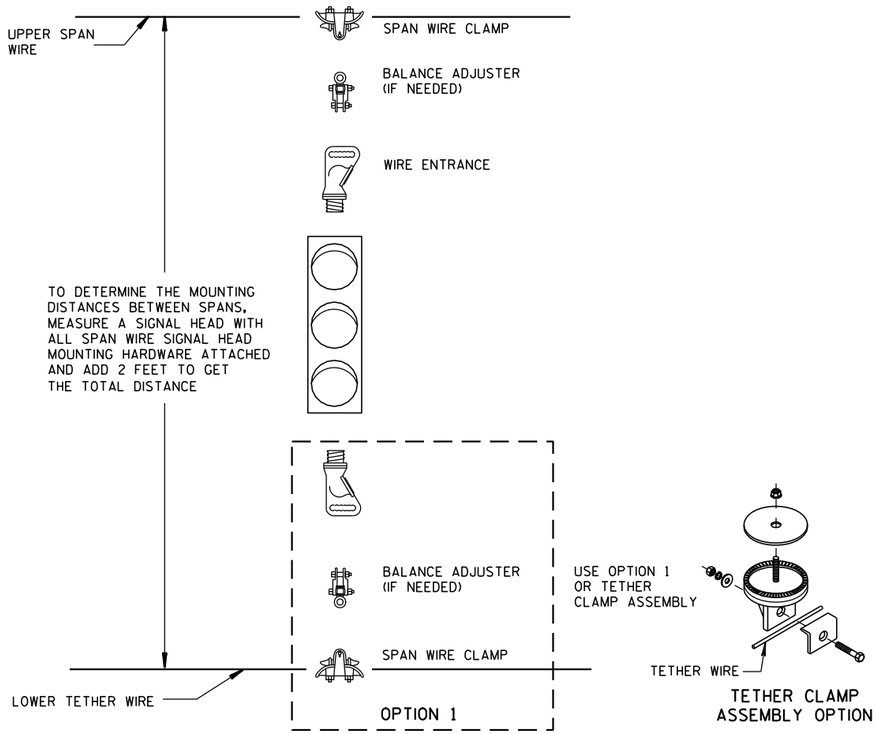
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7-14-08 DATE
/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 228 HWYS
FHWA

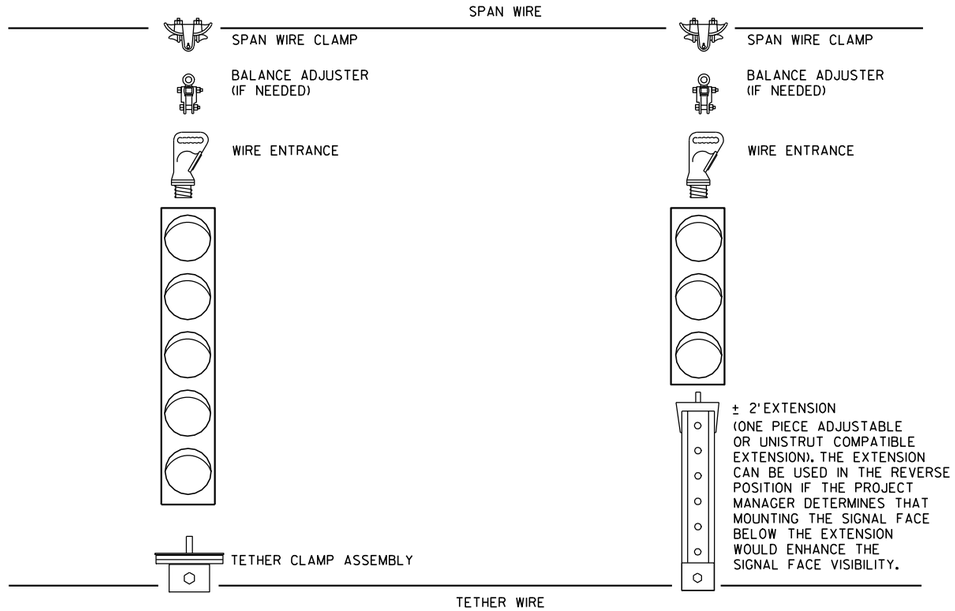
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S.D.D. 9 G 1-3e



TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



TYPICAL SPAN WIRE MOUNTING HARDWARE



5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

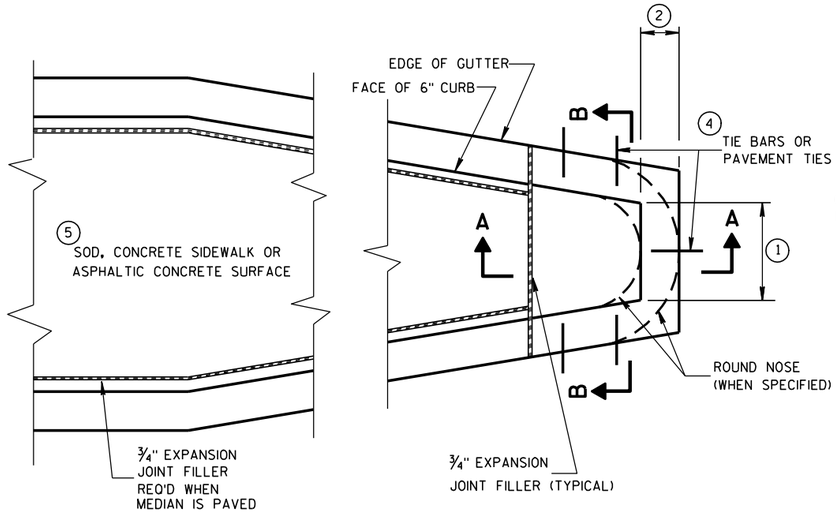
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

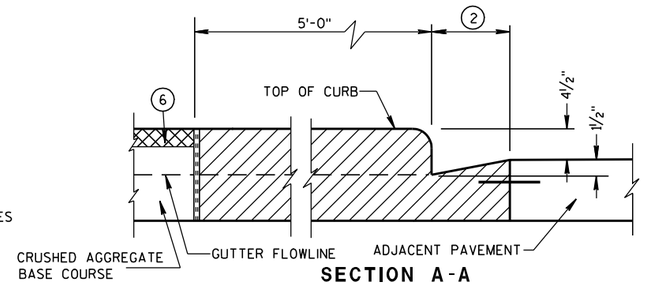
APPROVED

7-14-08	/S/ Balu Aganthangarayanan	
DATE	STATE ELECTRICAL ENGI 229	HWYS

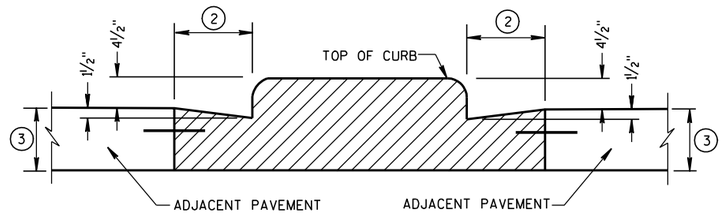
FHWA

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S.D.D. 9 G 1-3f





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.

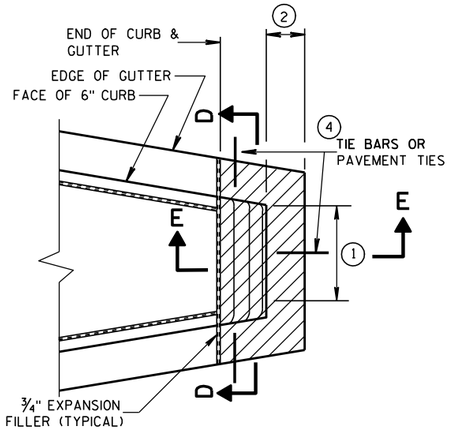
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

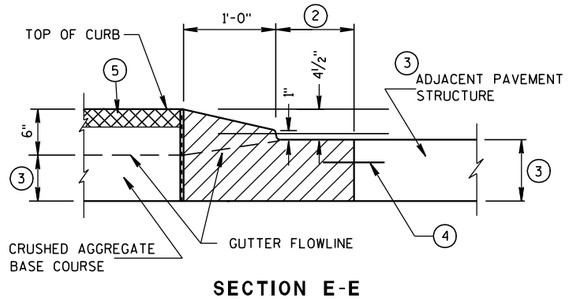
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(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.

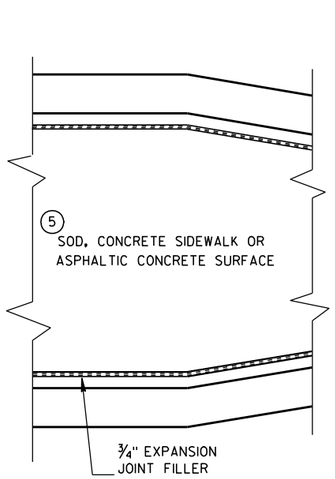
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

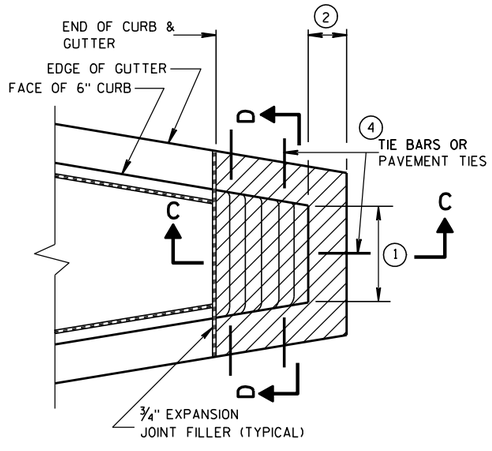




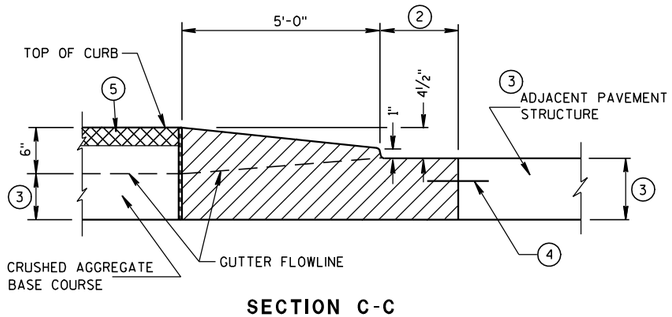
SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2

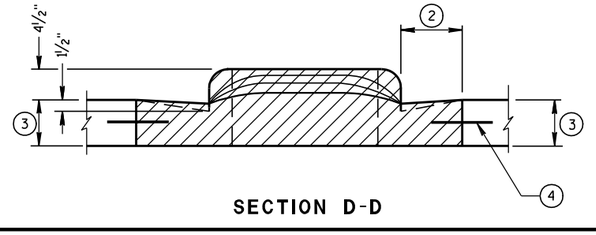




CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION C-C



SECTION D-D

CONCRETE MEDIAN NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/8/2006 DATE FHWA	/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER 230 NT

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S.D.D. 11 B 2-2

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S.D.D. 11 B 2-2

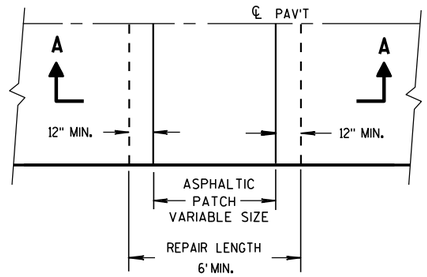
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

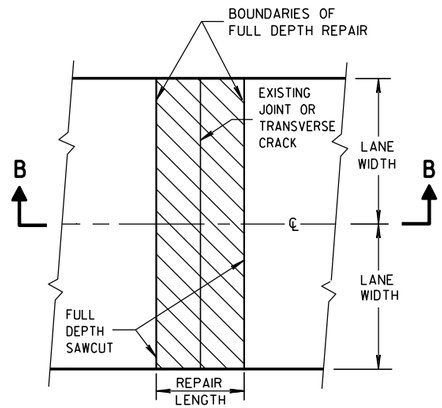
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

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

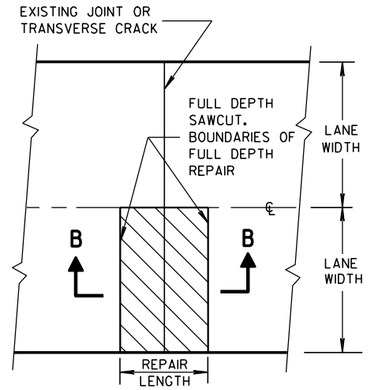
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



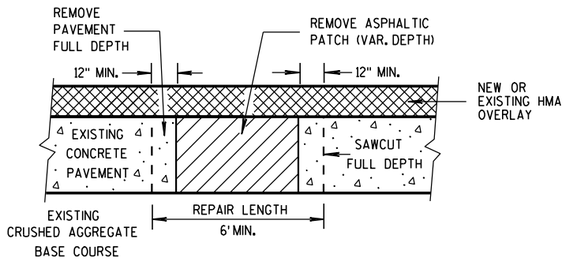
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

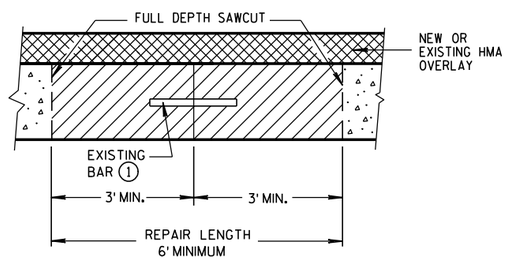
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

BASE PATCHING CONCRETE

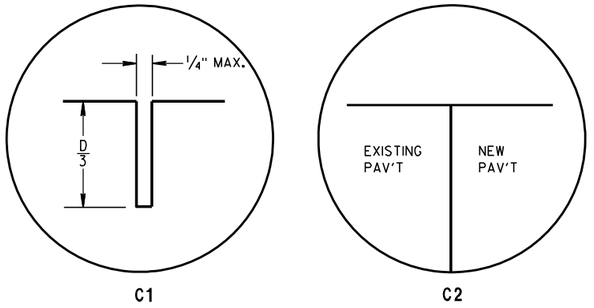
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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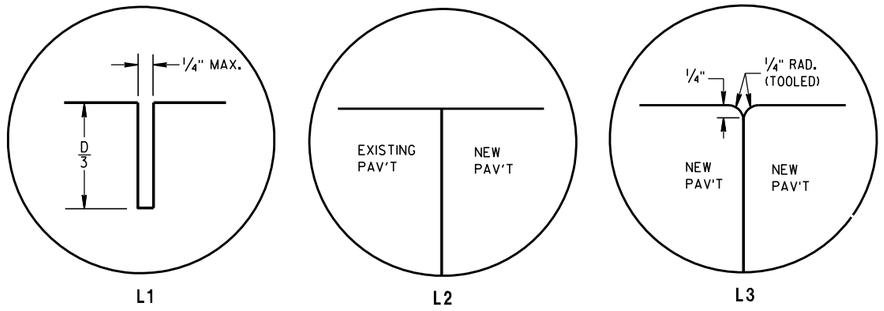
S.D.D. 13 C 14-4a

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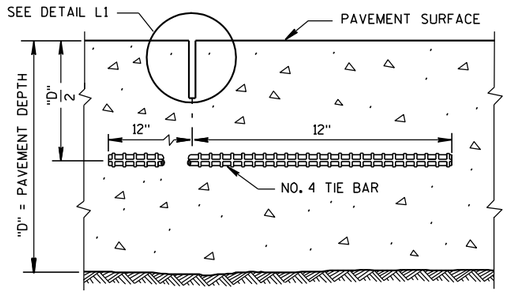
S.D.D. 13 C 14-4a



TRANSVERSE JOINTS

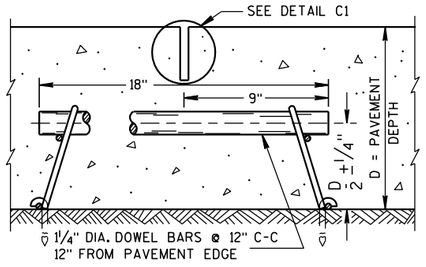


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

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

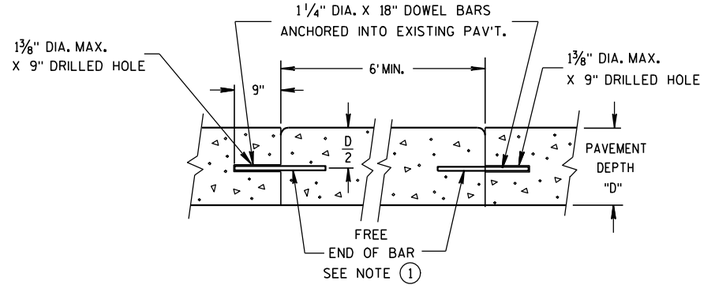
CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

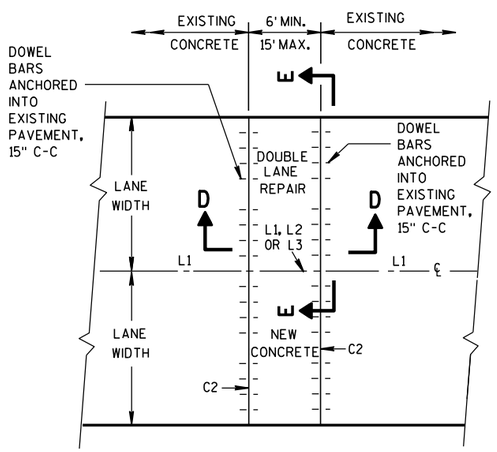
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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

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

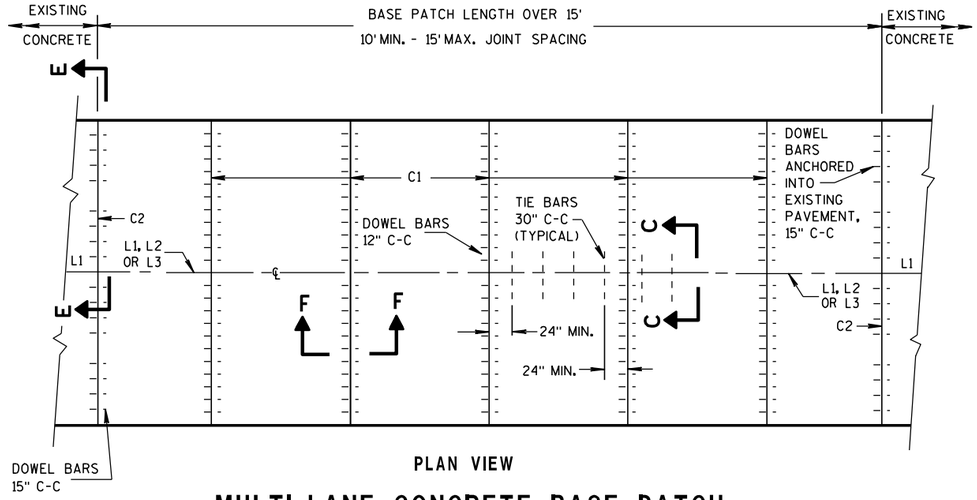


SECTION D-D



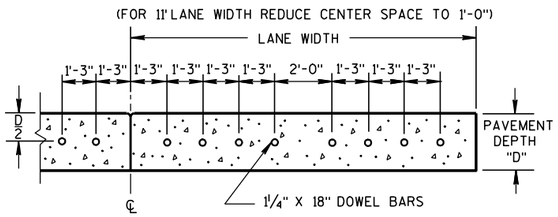
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

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



SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

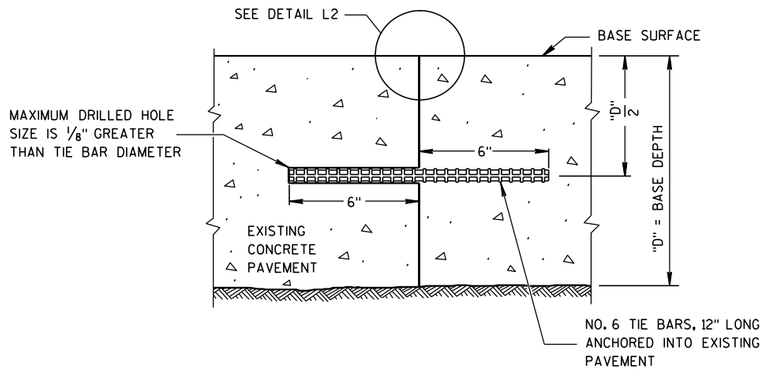
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 13 C 14-4b

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S.D.D. 13 C 14-4b



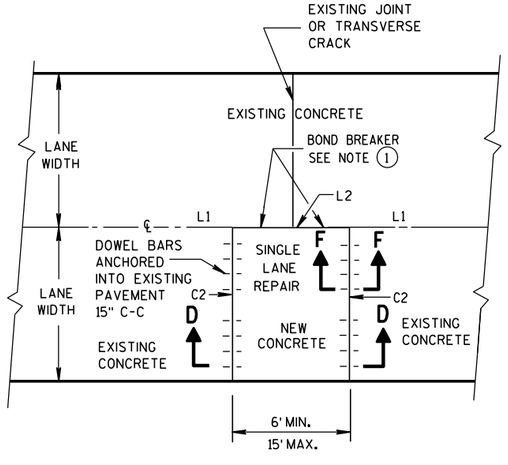
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

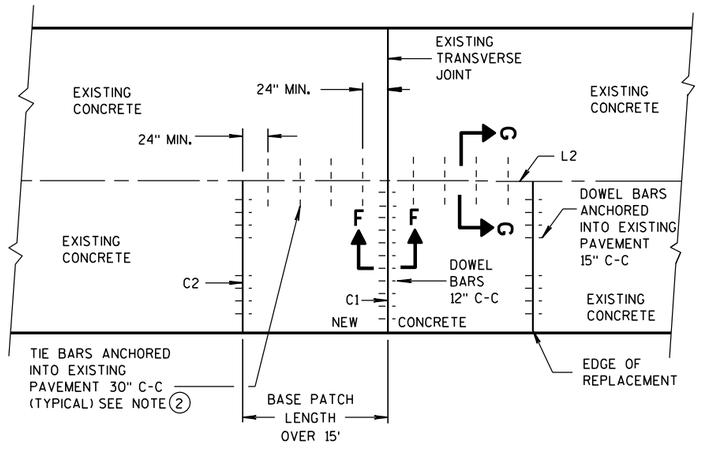
1. USE AN ENGINEER-APPROVED BOND BREAKER FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

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



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

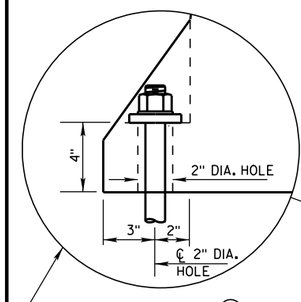
BASE PATCHING CONCRETE

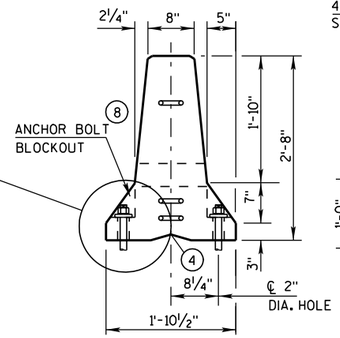
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12-11-2009 DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DE NEER
FHWA

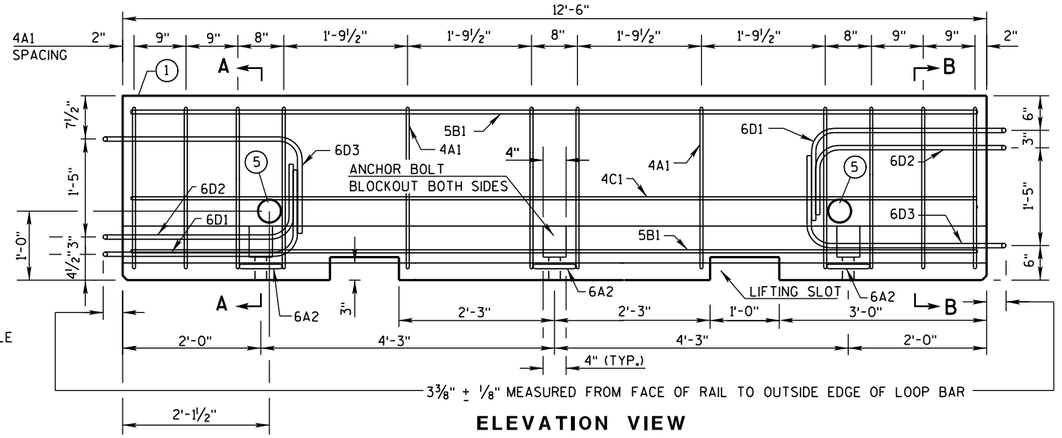
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S.D.D. 13 C 14-4c

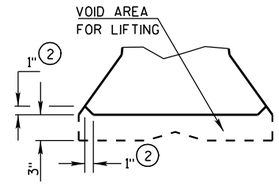




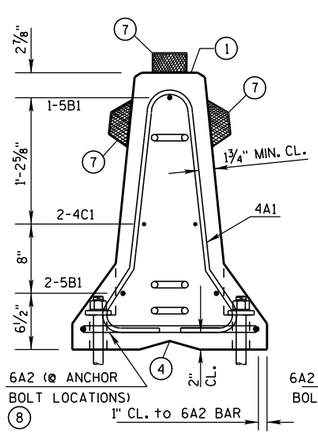
END VIEW



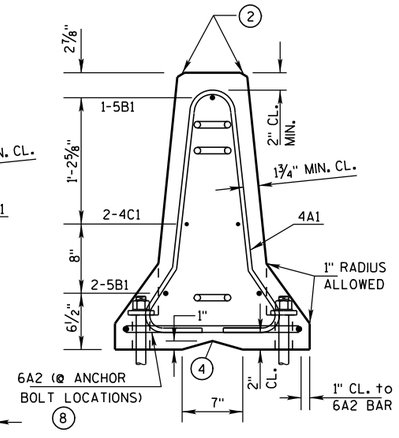
ELEVATION VIEW



DETAIL "B"
LIFTING SLOT DETAIL



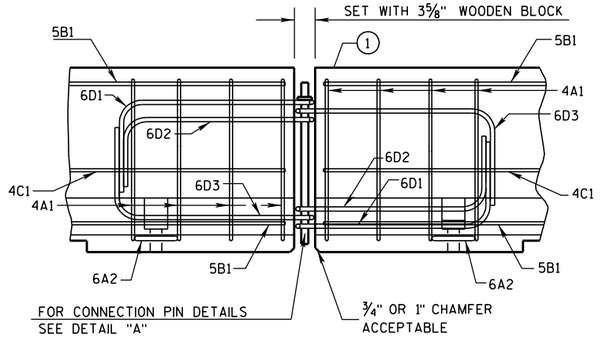
SECTION A-A
(STIRRUP PLACEMENT)



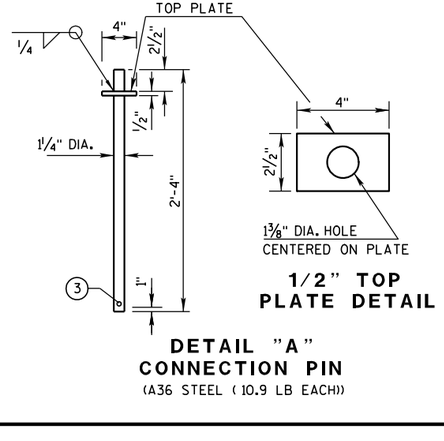
SECTION B-B
(STIRRUP PLACEMENT)

PLAN VIEW

DETAILS OF BARRIER SECTION

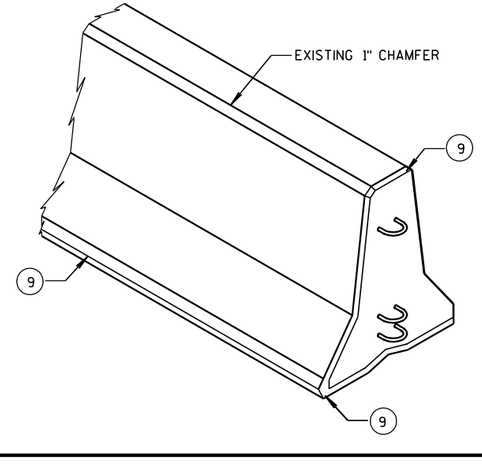


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

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



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(a) THRU 14B7-13(h).

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

(8) SEE SHEET D FOR ANCHORING CRITERIA.

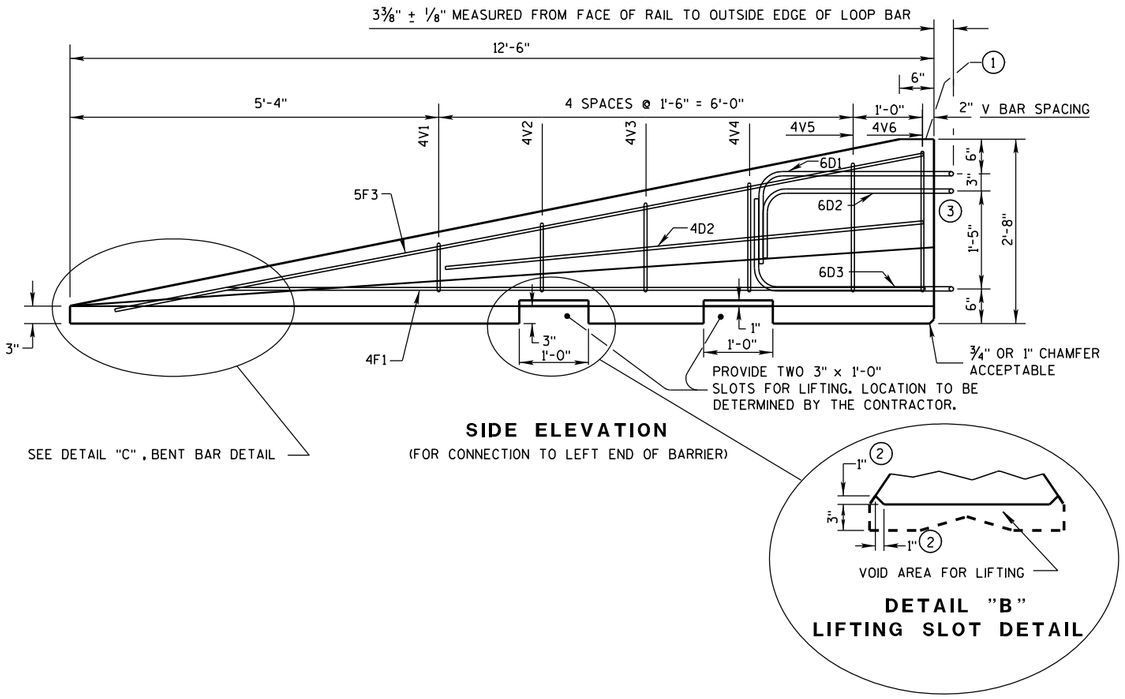
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

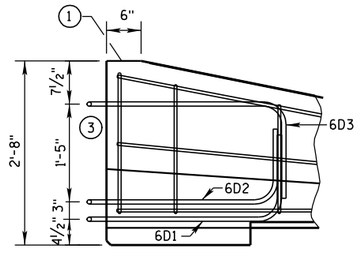
S.D.D. 14 B 7-13a



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)

DETAIL "B"
LIFTING SLOT DETAIL

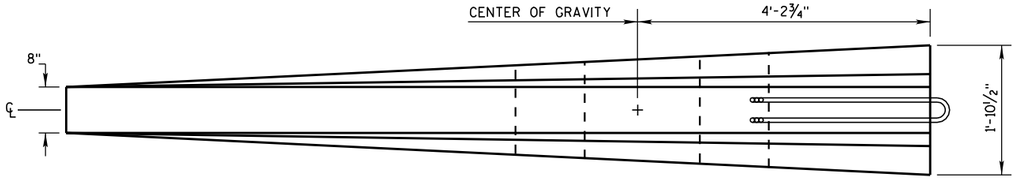


SIDE ELEVATION

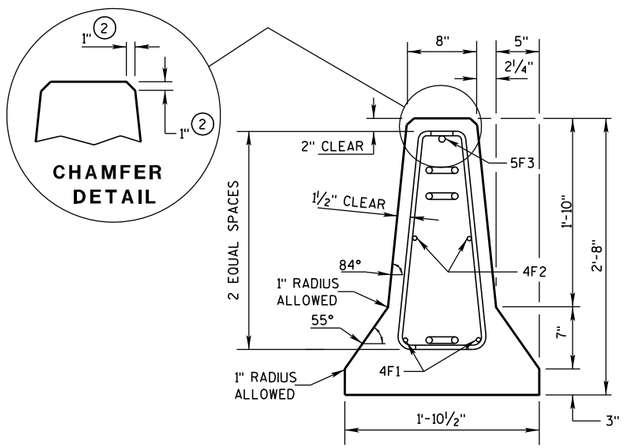
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

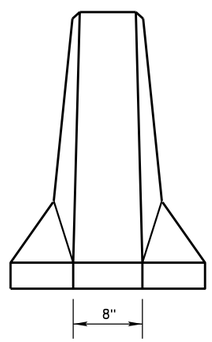
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



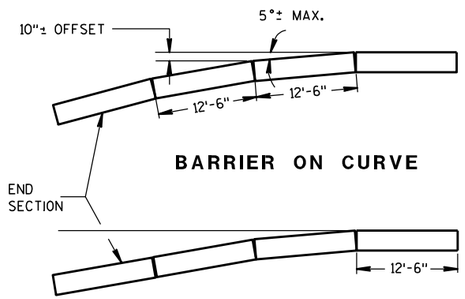
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

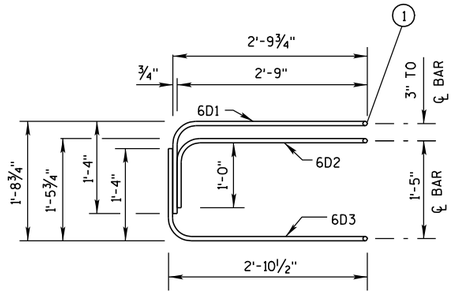
6

S.D.D. 14 B 7-13b

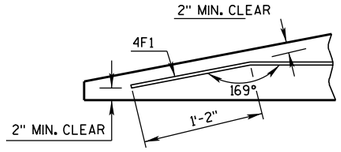
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

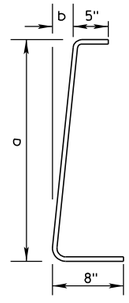
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

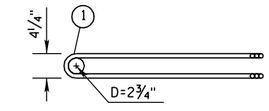
GENERAL NOTES

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

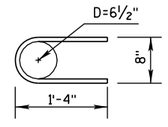
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

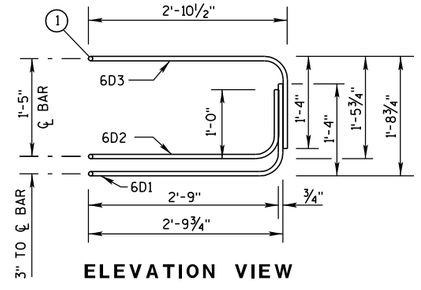
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



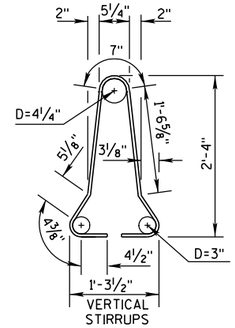
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW



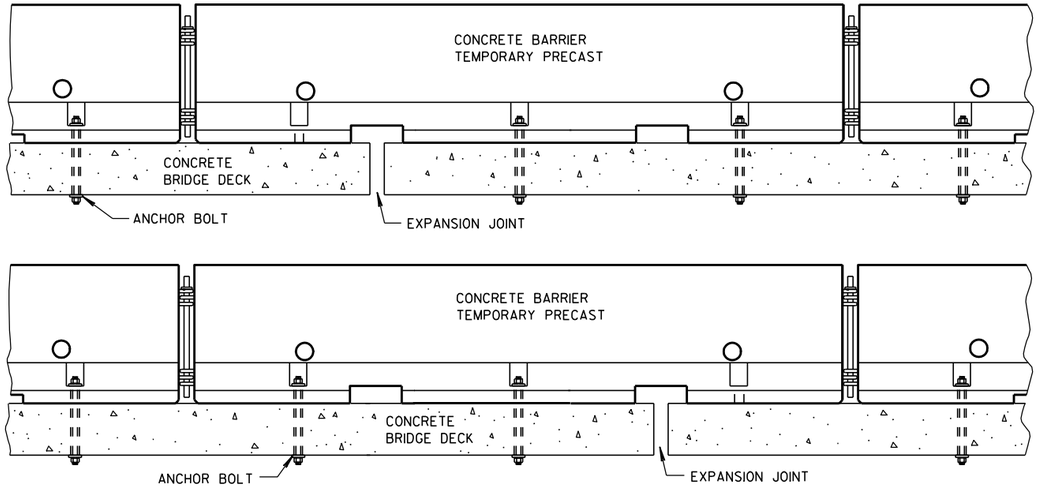
4A1

BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

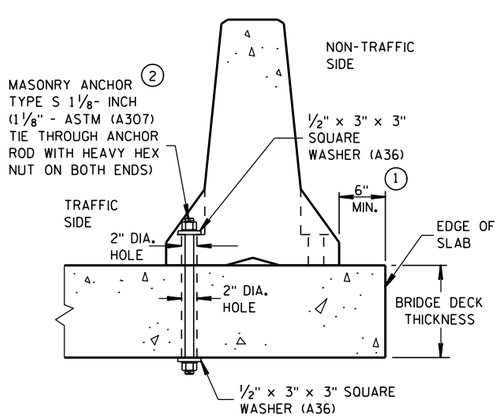
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 7-13c



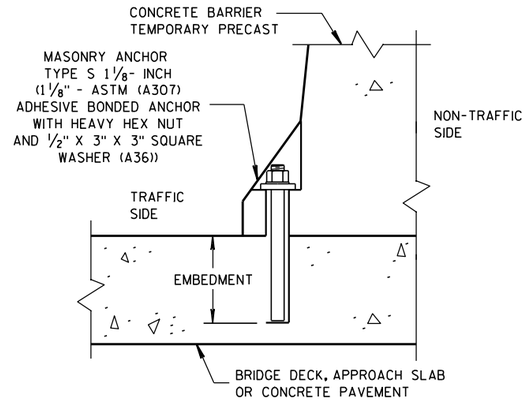
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



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

2

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

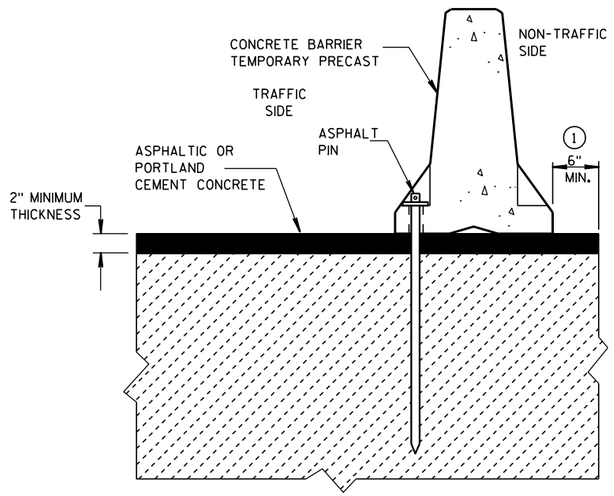
1. CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

2. ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

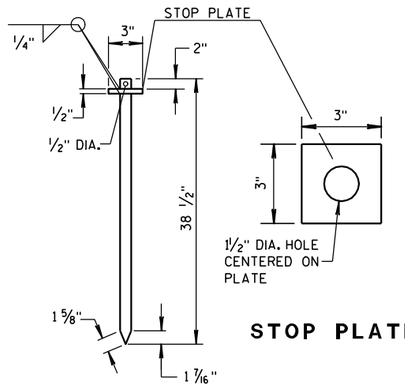
   WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

   UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

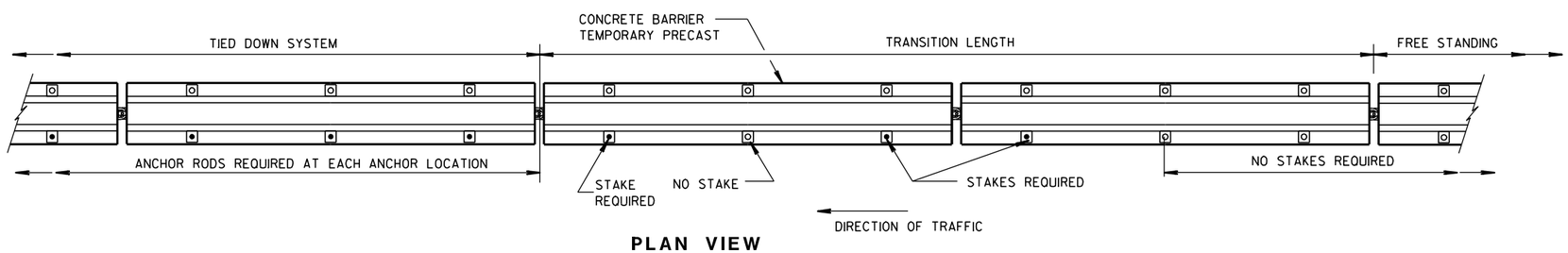
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



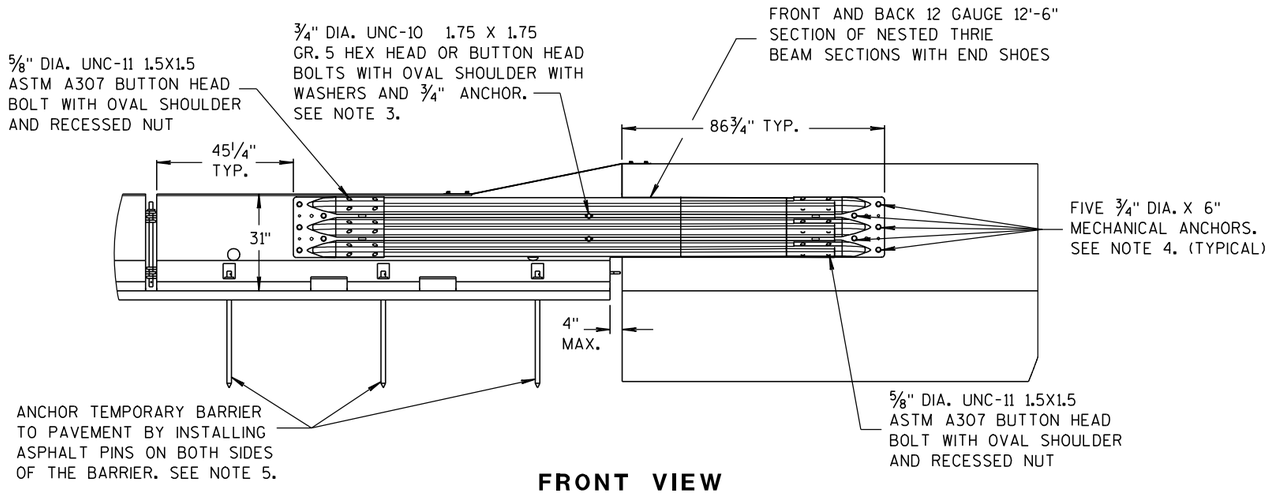
PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

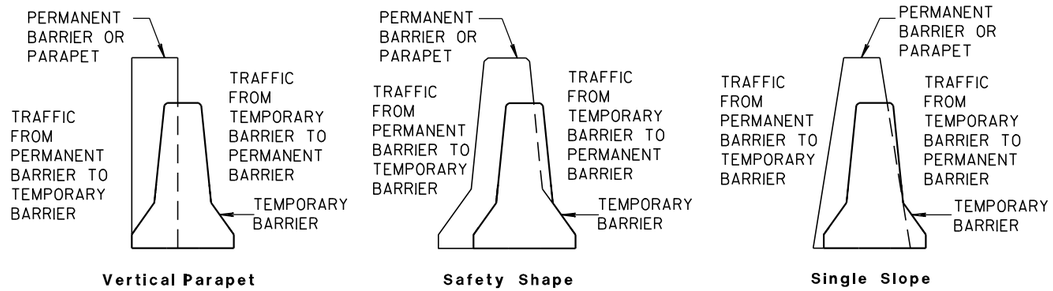
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

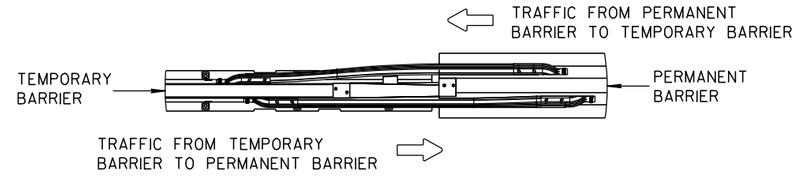


FRONT VIEW

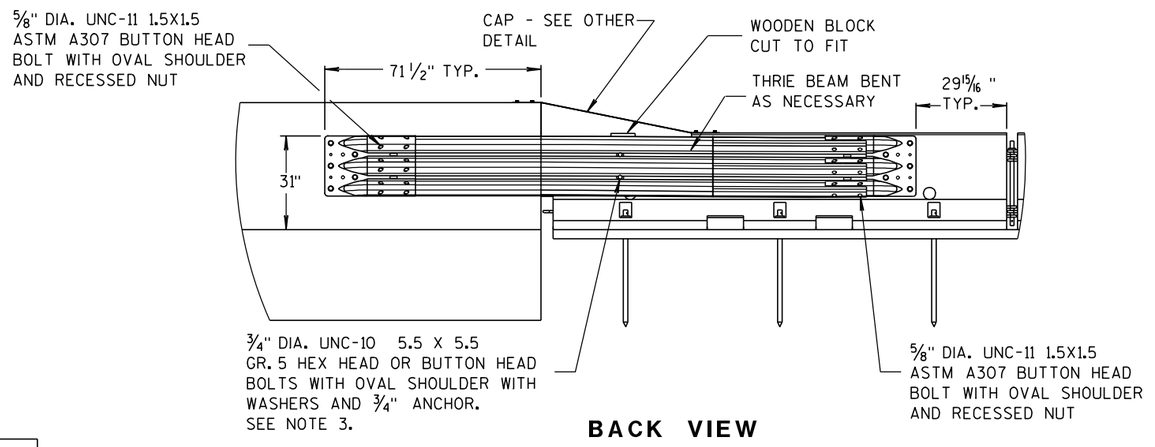
NOTES

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

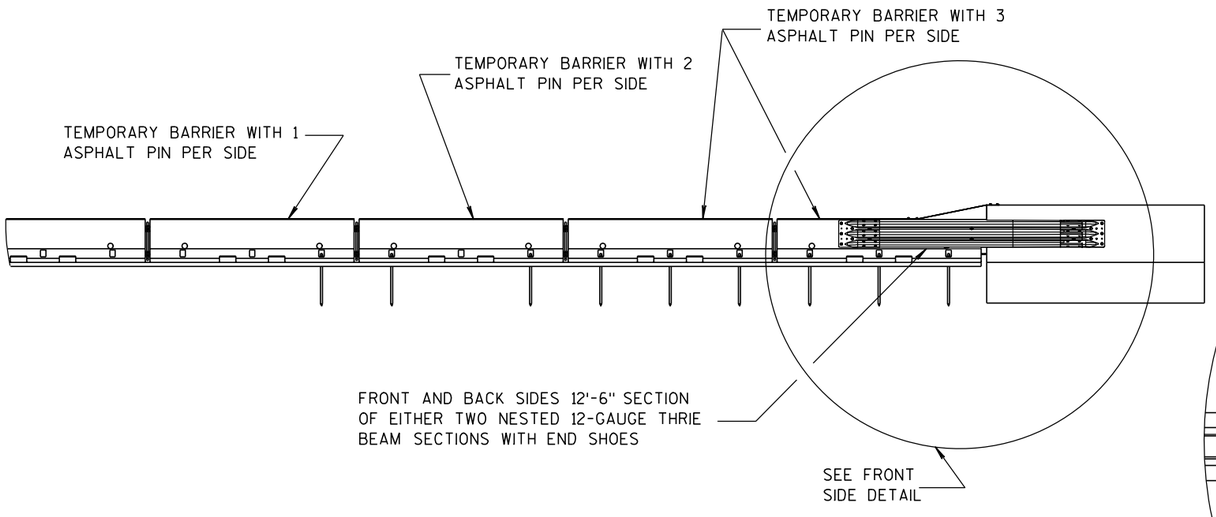




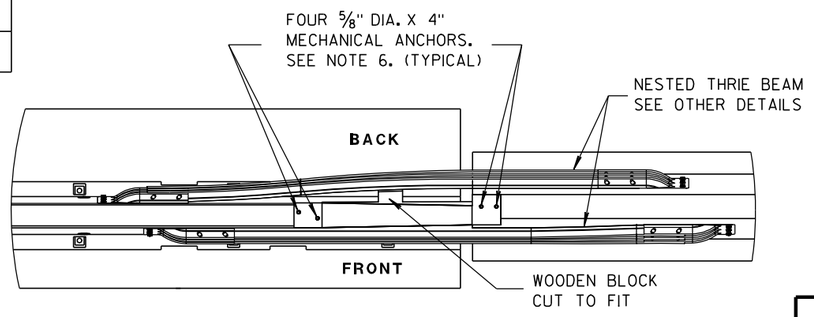
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



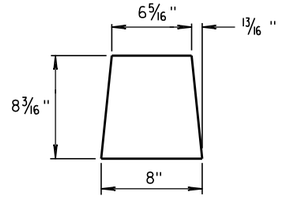
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

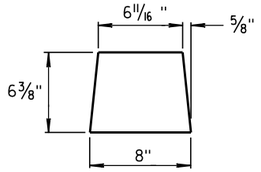
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

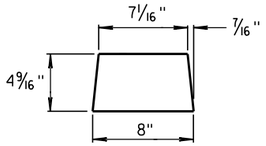
6
S.D.D. 14 B 7-13e



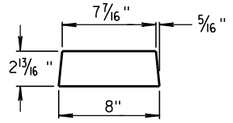
GUSSET 1



GUSSET 2

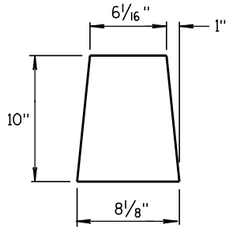


GUSSET 3

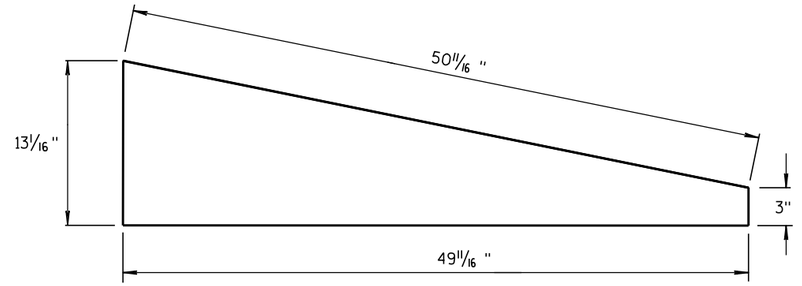


GUSSET 4

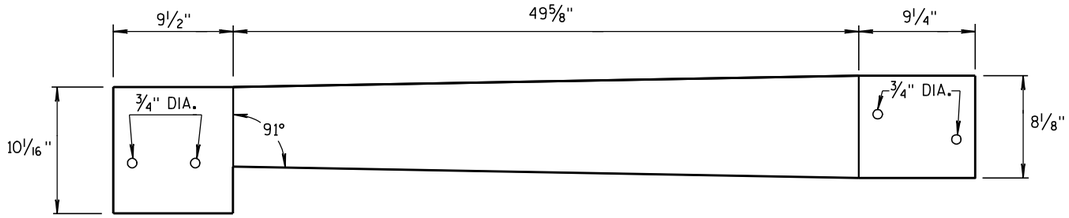
GUSSETS

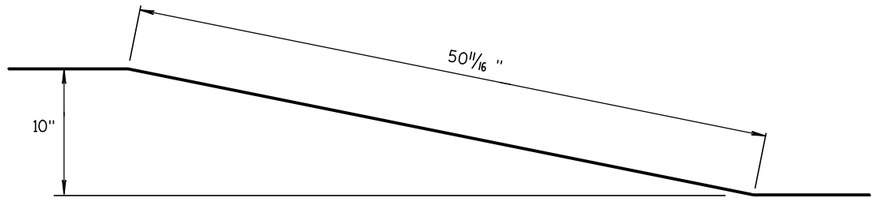


END PLATE

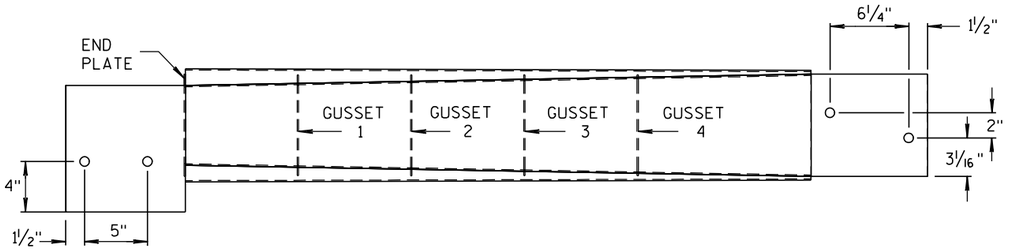


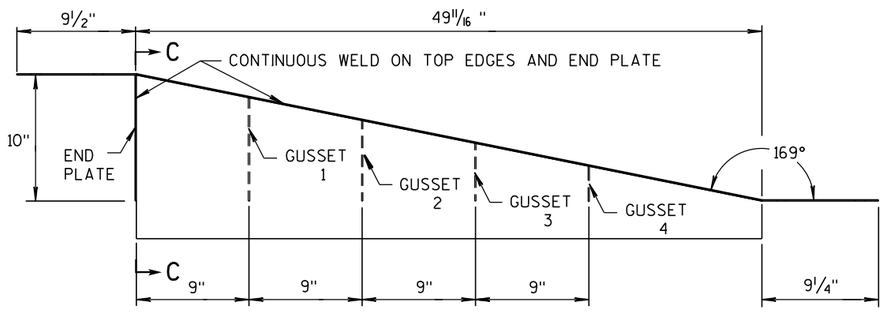
SIDE PLATE

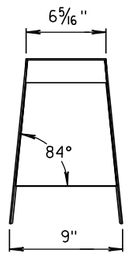




TOP PLATE







SECTION C-C

NOTES

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

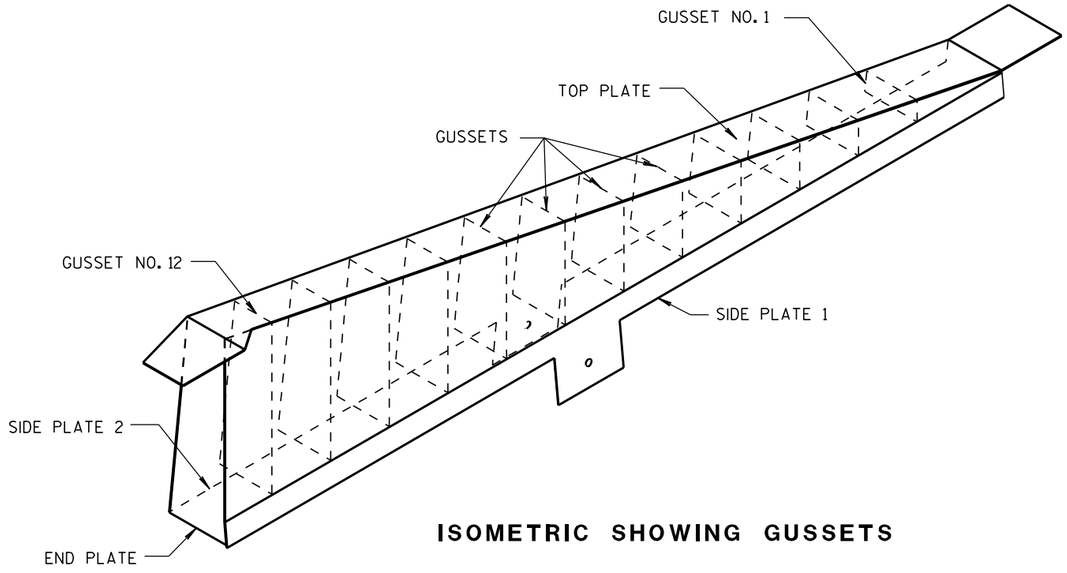
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

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

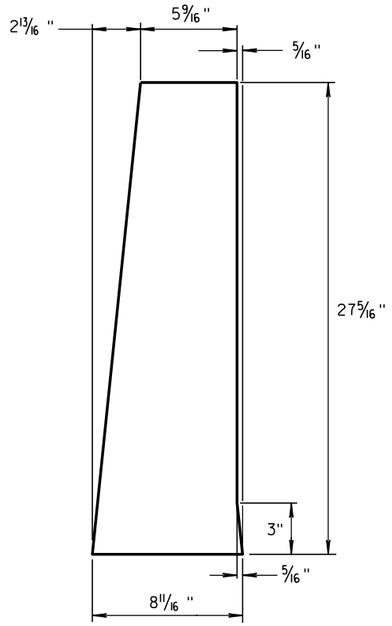
SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

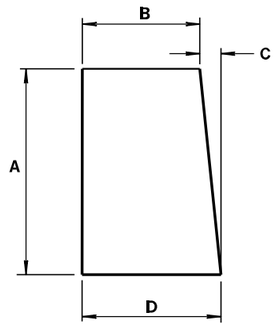


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



GUSSETS 1 - 12

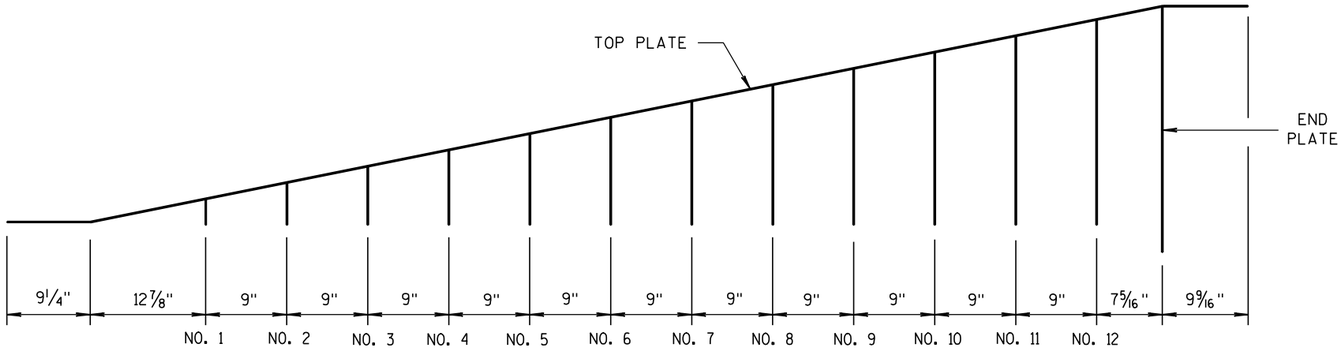
ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS

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

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

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



GUSSET LOCATION

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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

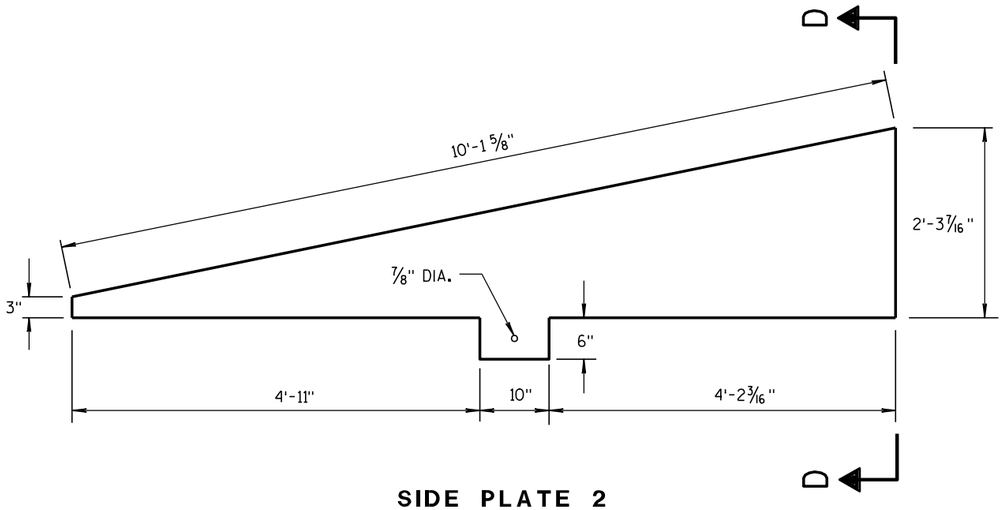
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

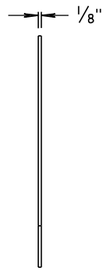
S.D.D. 14 B 7-13g

6

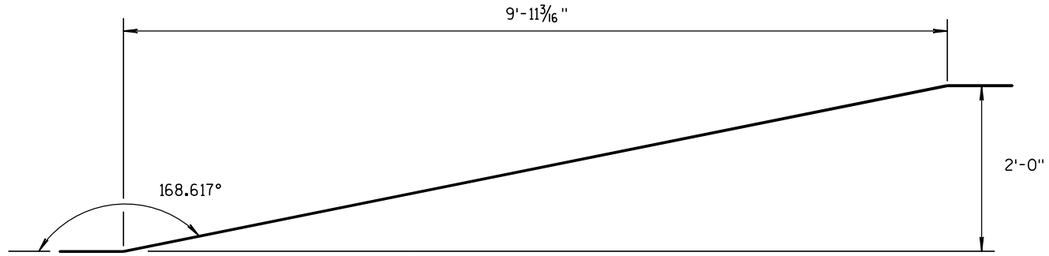
S.D.D. 14 B 7-13g



SIDE PLATE 2

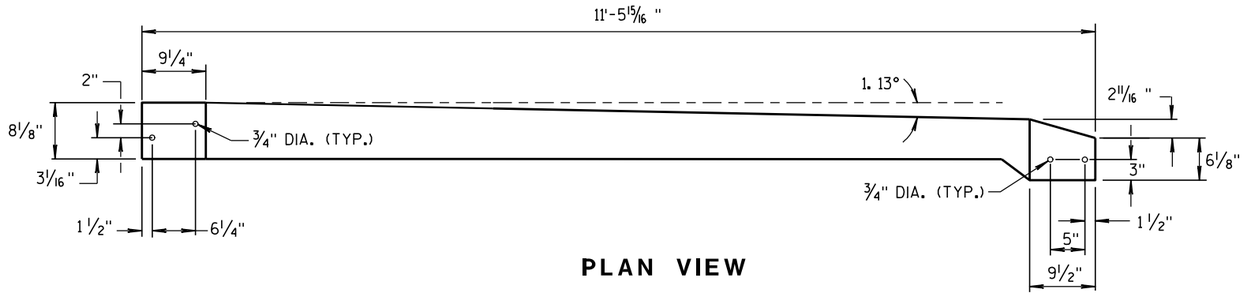


END VIEW



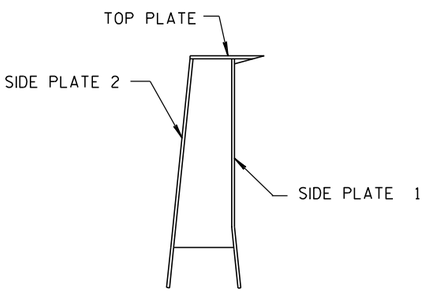
SIDE VIEW

TOP PLATE

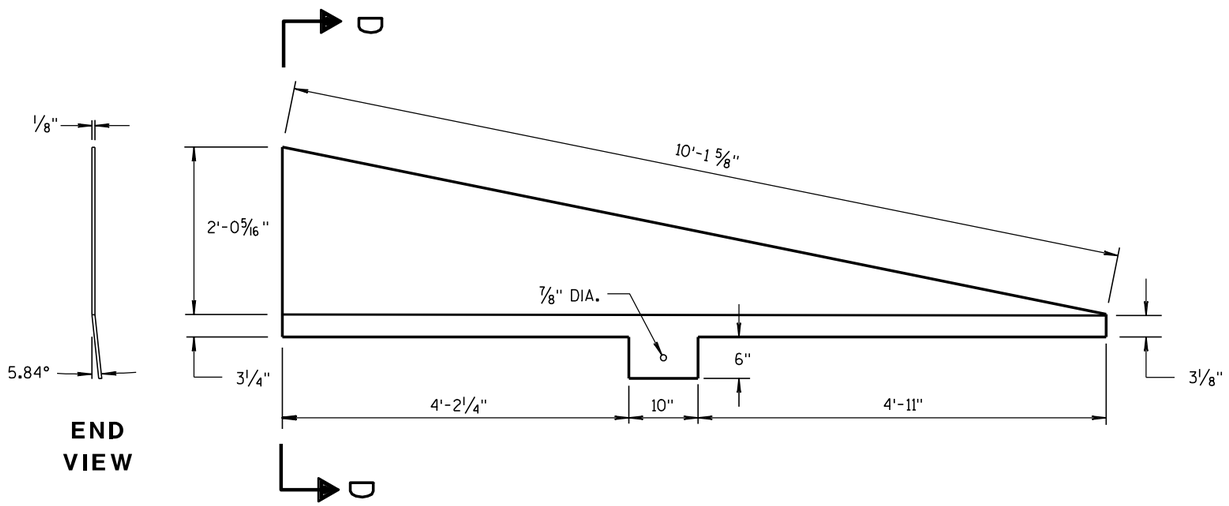


PLAN VIEW

TOP PLATE



SECTION D-D



END VIEW

SIDE PLATE 1

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

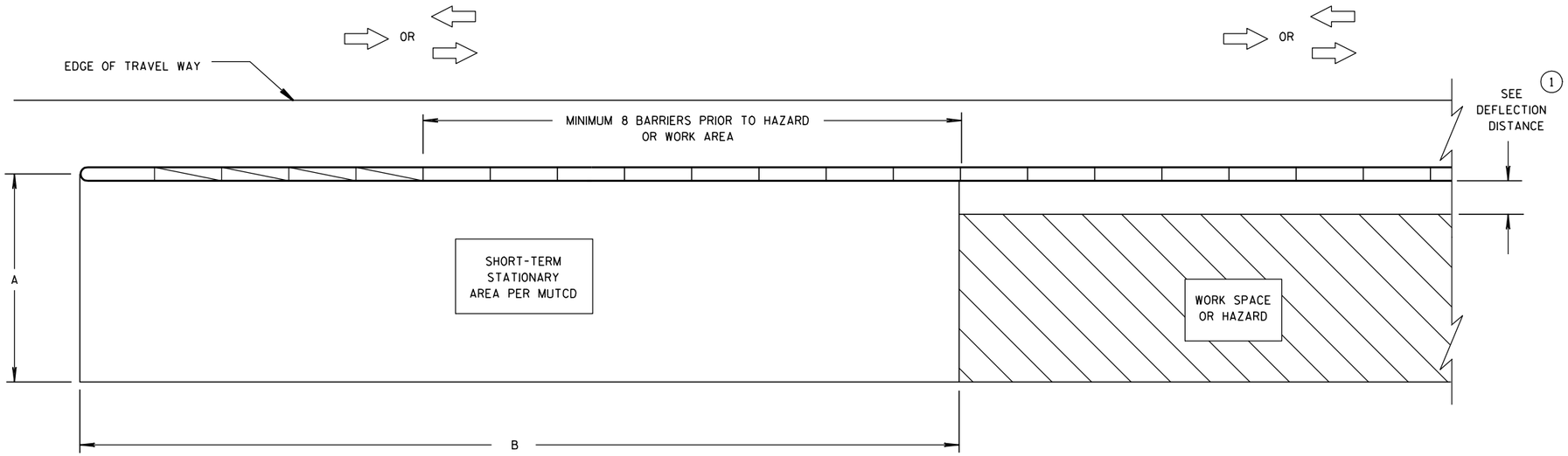
APPROVED
8/31/2012 — DATE
/S/ Jerry H. ---- — ROADWAY STANDARDS ENGINEER
241 — ENT
FHWA

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S.D.D. 14 B 7-13h

6

S.D.D. 14 B 7-13h



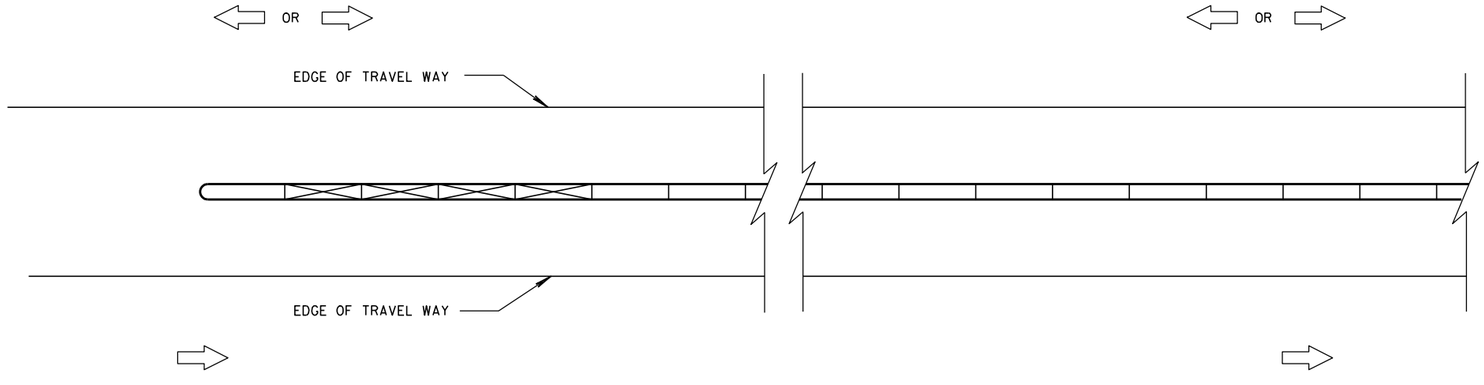
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

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.

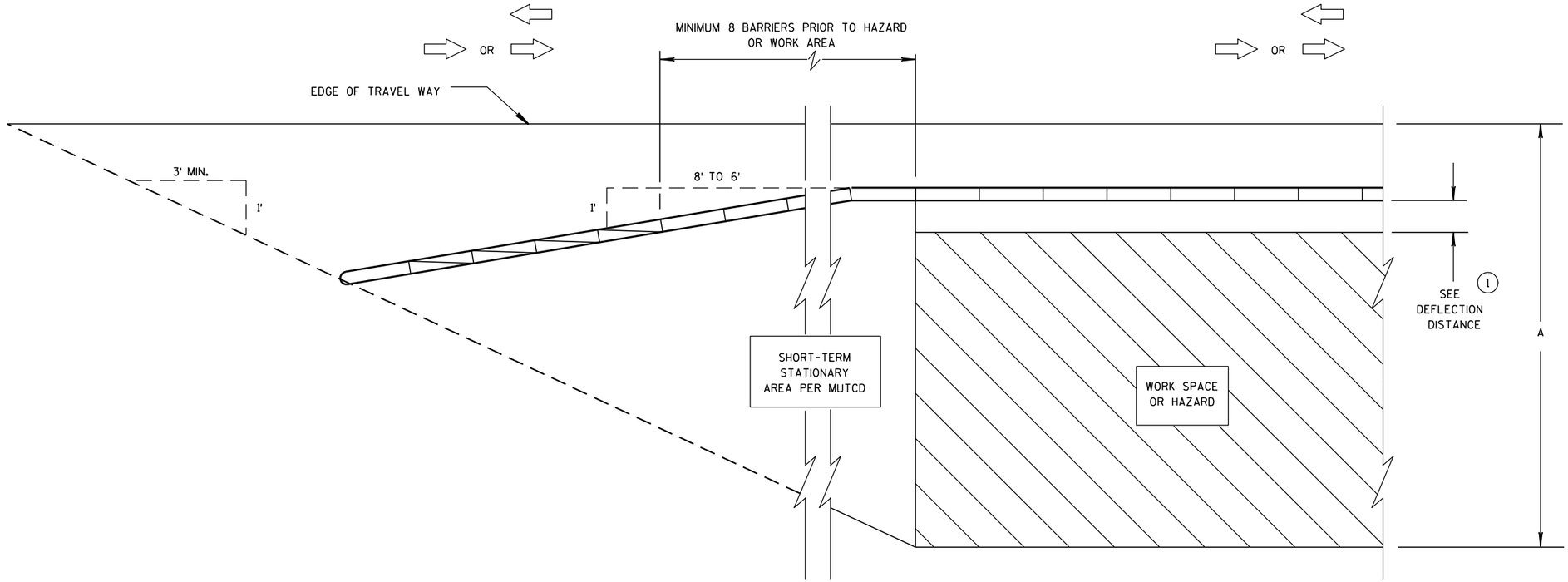
(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

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

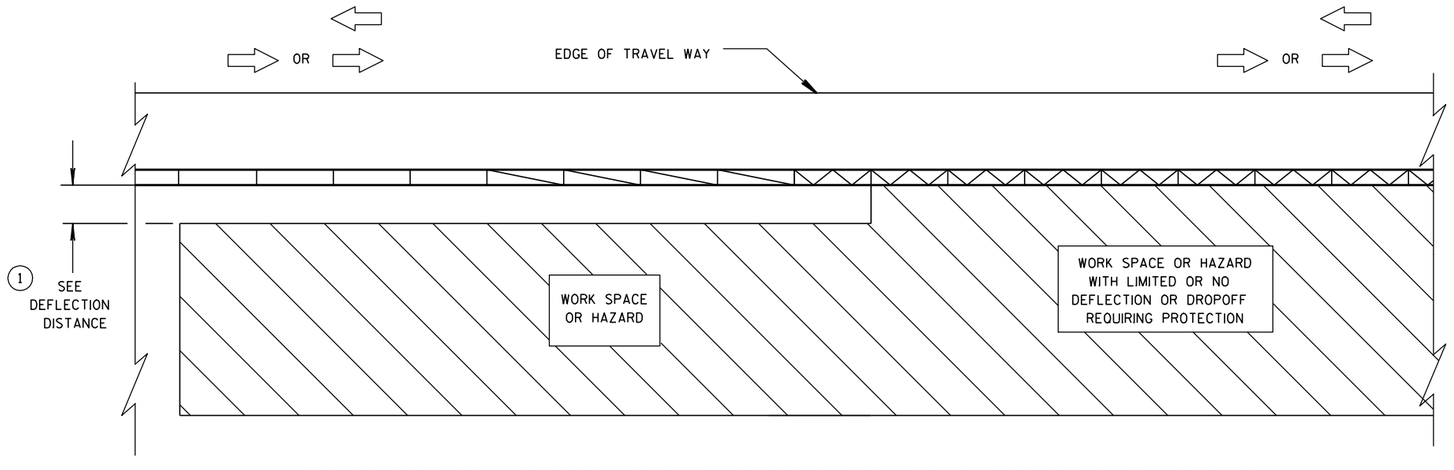
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 8-1a



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

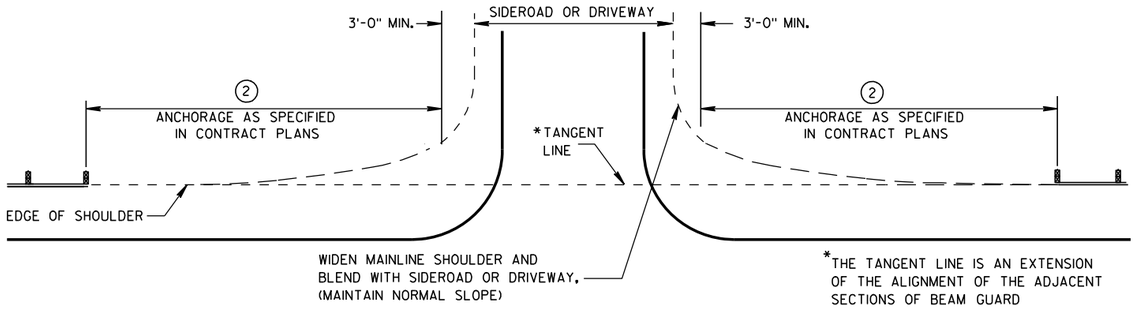
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

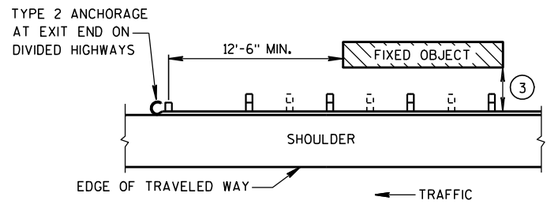
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

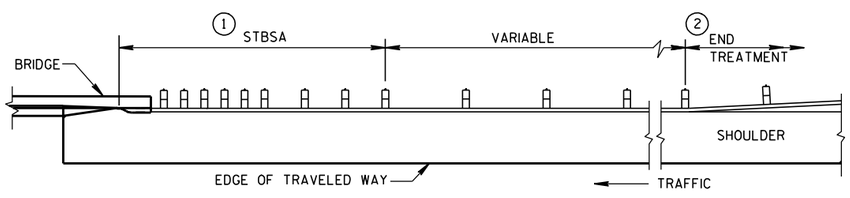
S.D.D. 14 B 8-1b



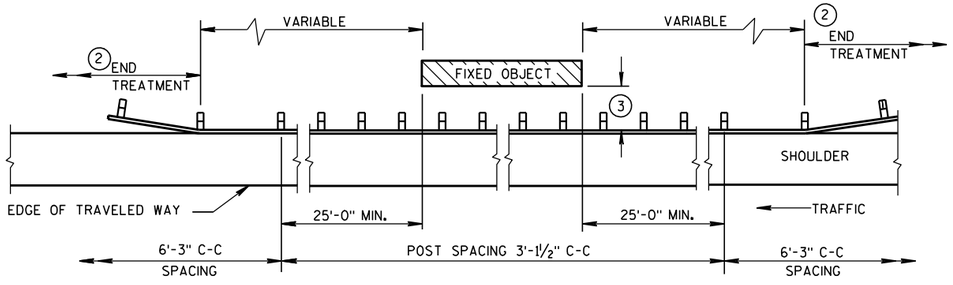
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

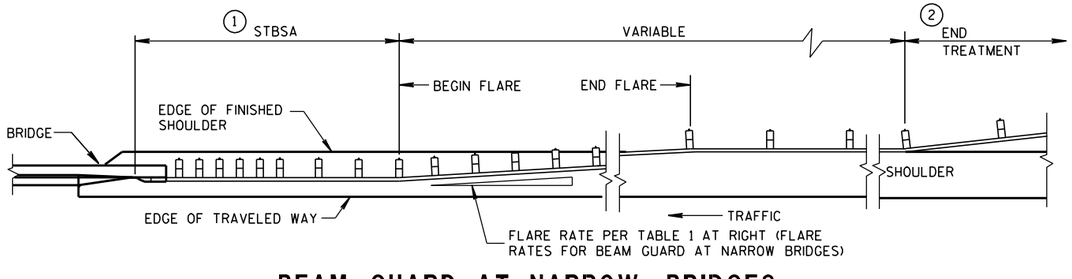


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

GENERAL NOTES

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

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

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

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

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

(3)

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

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

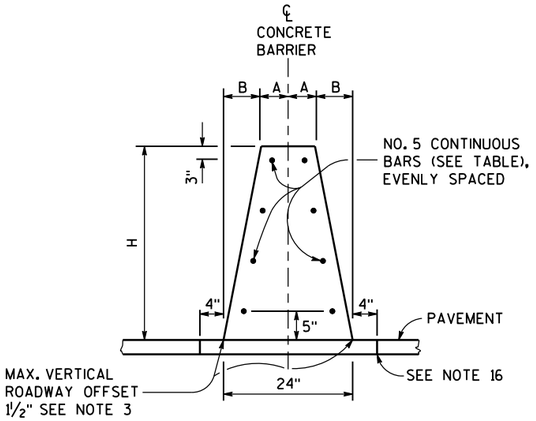
APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

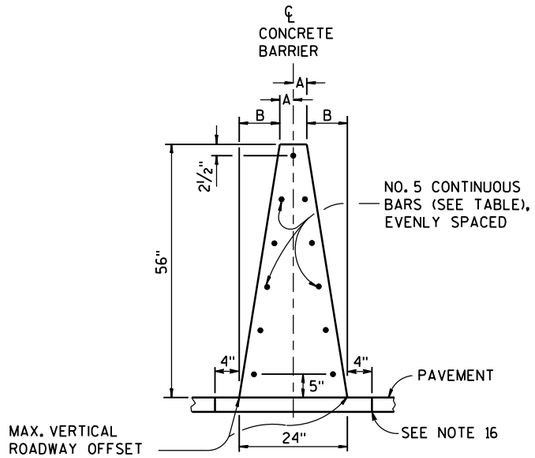
S.D.D. 14 B 18-6a

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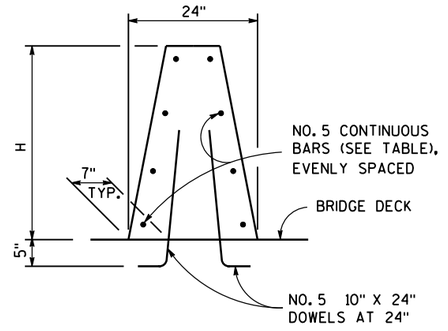
S.D.D. 14 B 18-6a



32-INCH, 36-INCH OR 42-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S32, TYPE S36, AND TYPE S42)



56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)



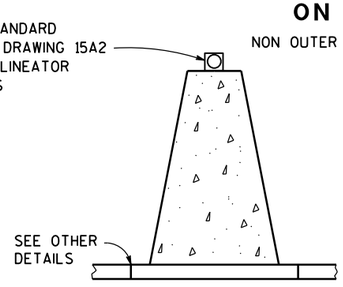
SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

NON OUTER PARAPET APPLICATION

GENERAL NOTES

1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, PAVEMENT AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1½", USE TYPE A
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
6. FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-#8 x 8" @ 2'-0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL.
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
16. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCERET BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11



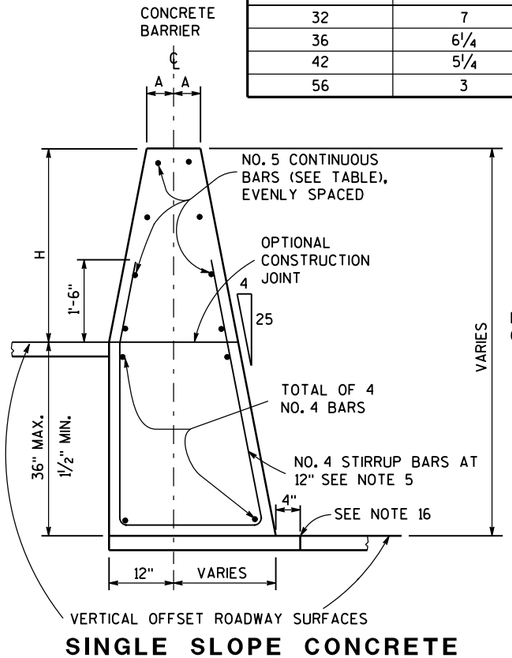
DELINEATION

DELINEATOR SPACING ON HORIZONTAL CURVES

RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

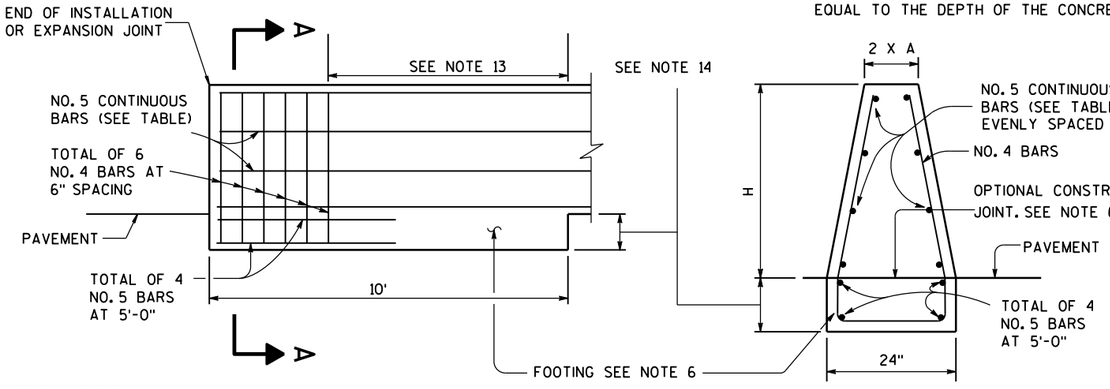
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

	LENGTH OF BARRIER	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	



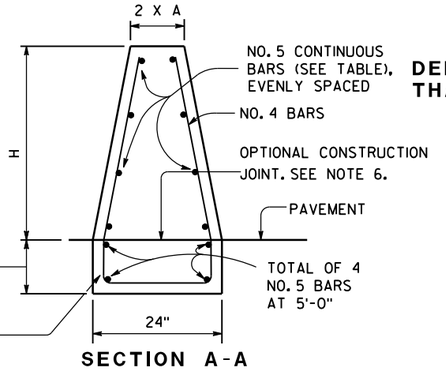
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT

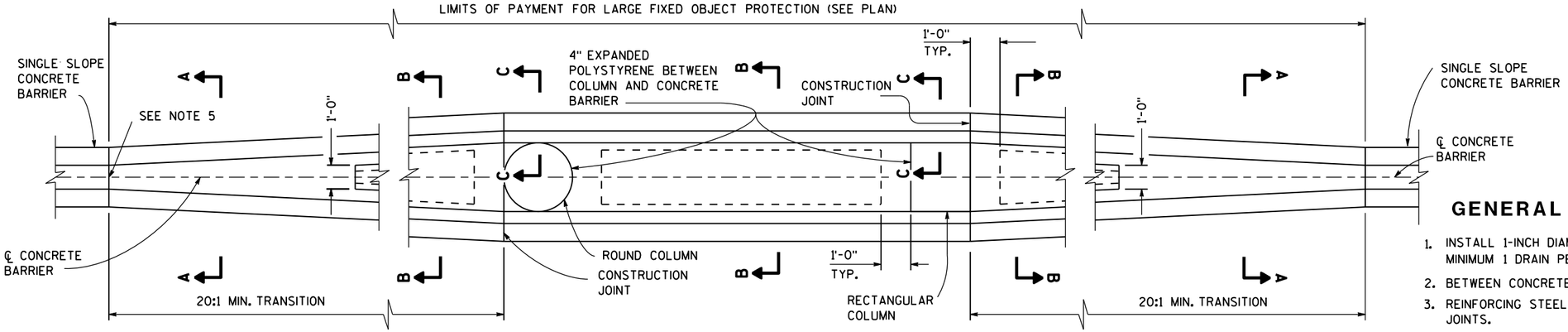


SECTION A-A

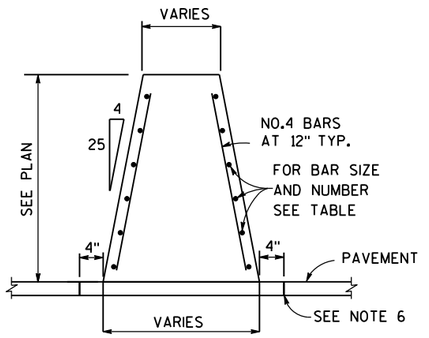
CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

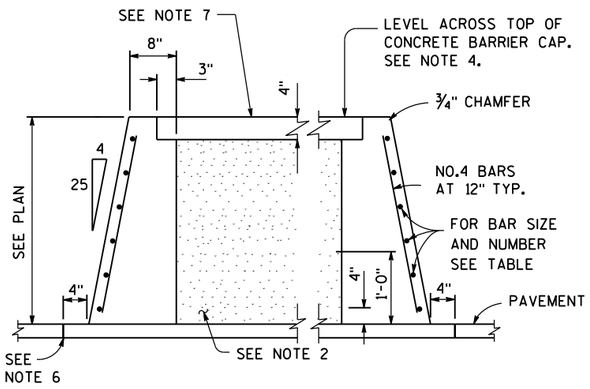
6
S.D.D. 14 B 32-2a



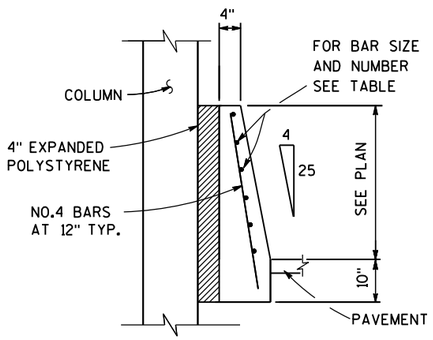
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56



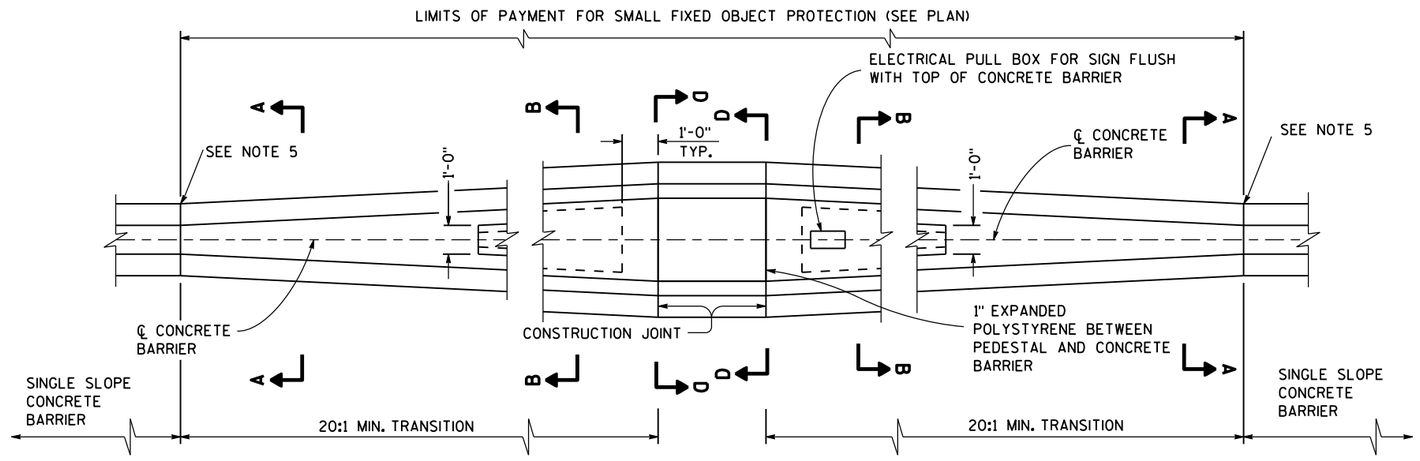
SECTION A-A



SECTION B-B



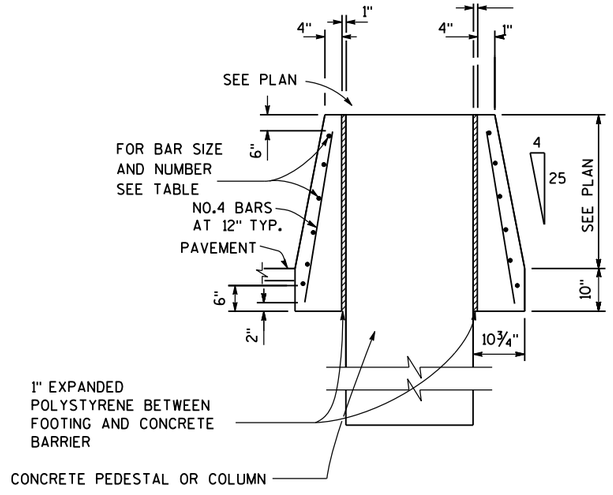
SECTION C-C



SMALL FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56

GENERAL NOTES

1. INSTALL 1-INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH GRANULAR BACKFILL GRADE 2
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.
6. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
7. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.



SECTION D-D

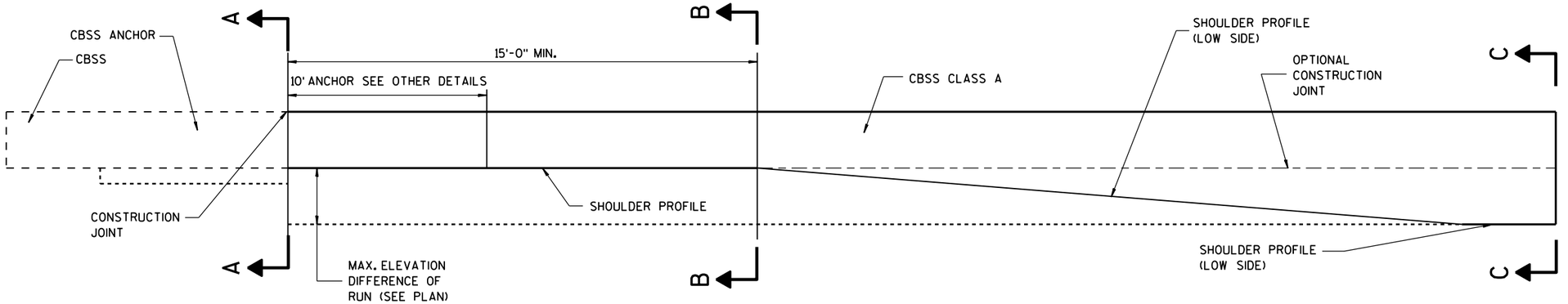
BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	9

CONCRETE BARRIER SINGLE SLOPE (CBSS)

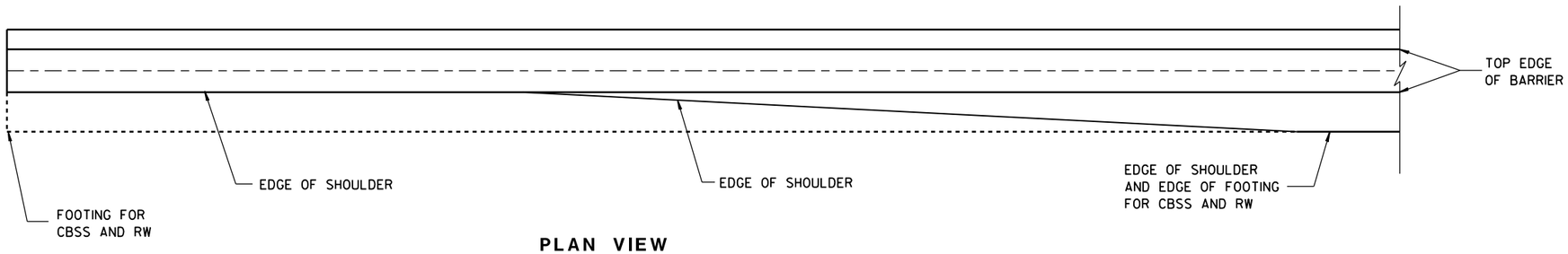
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

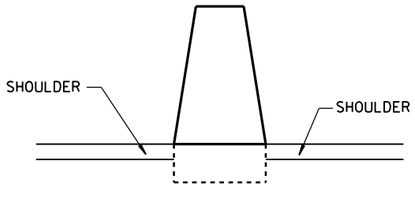
S.D.D. 14 B 32-2b



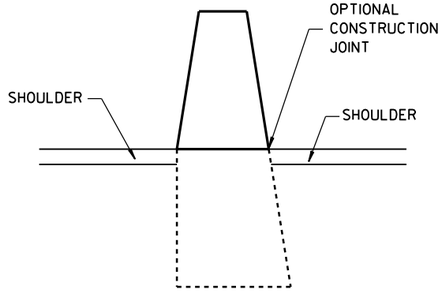
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



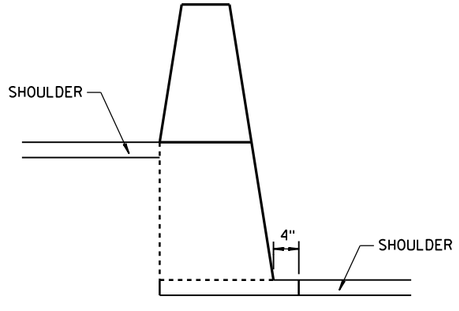
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



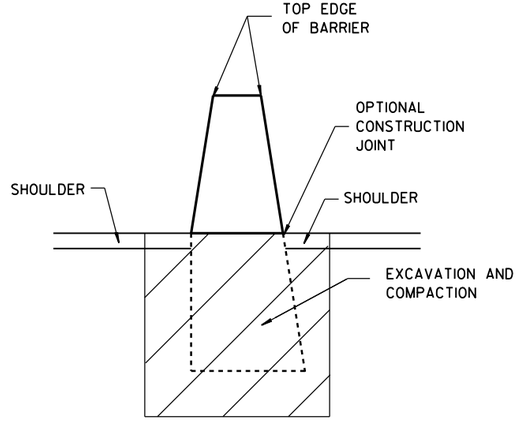
SECTION A-A



SECTION B-B



SECTION C-C



CONCRETE BARRIER SINGLE SLOPE (CBSS)

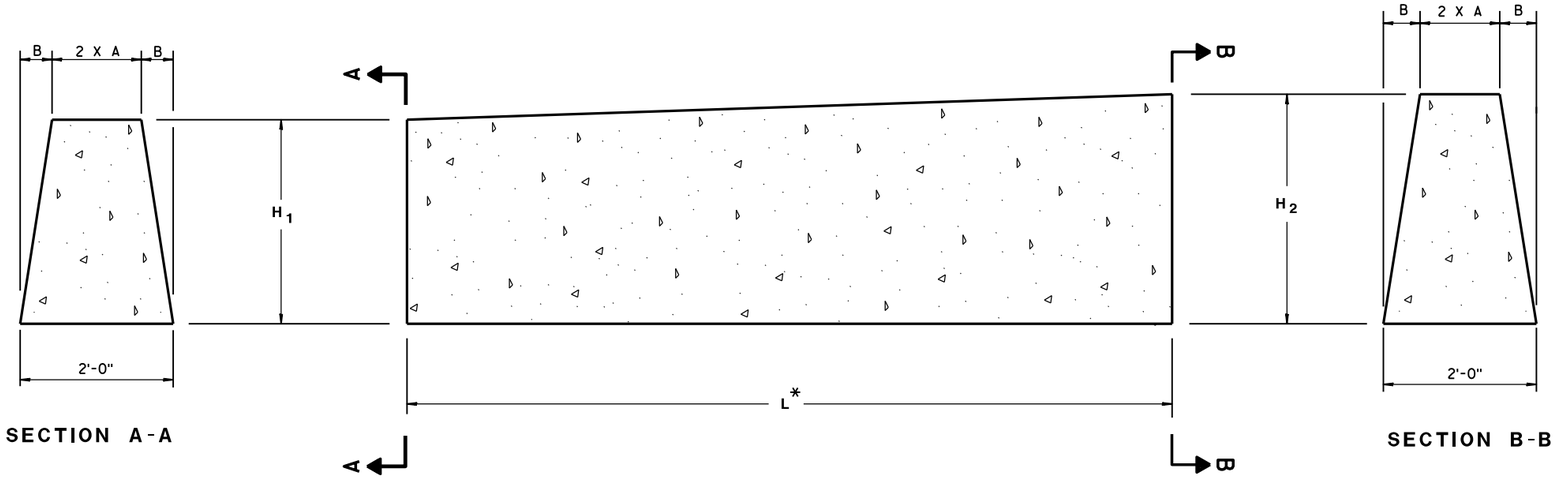
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 32-2c

6

S.D.D. 14 B 32-2c



SECTION A-A

SECTION B-B

DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 1/4	5 3/4
42	5 1/4	6 3/4
56	3	9

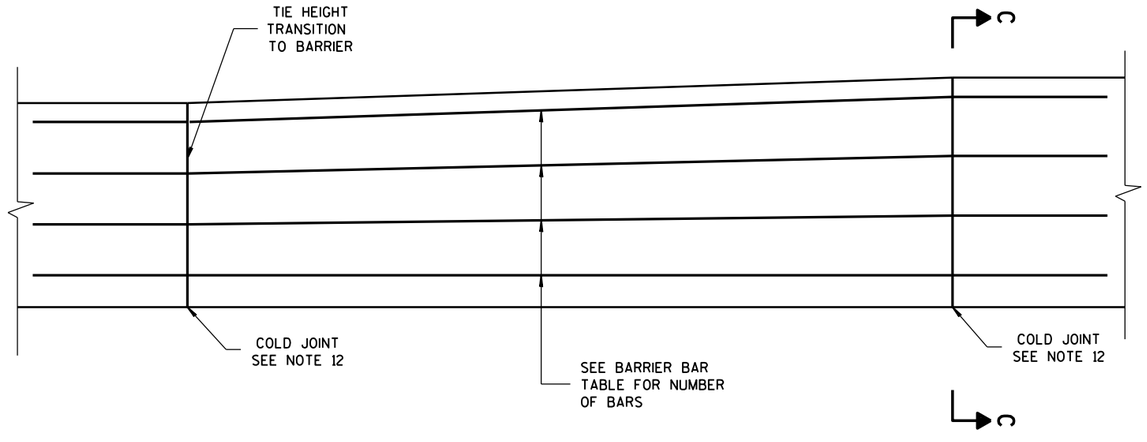
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

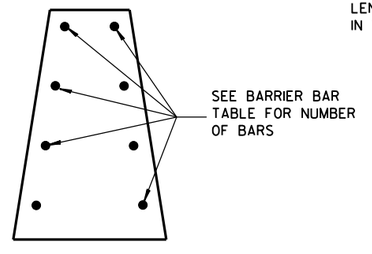
BARRIER BARS

H_1	H_2	L*	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.



STEEL REINFORCEMENT DETAIL



SECTION C-C

CONCRETE BARRIER SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

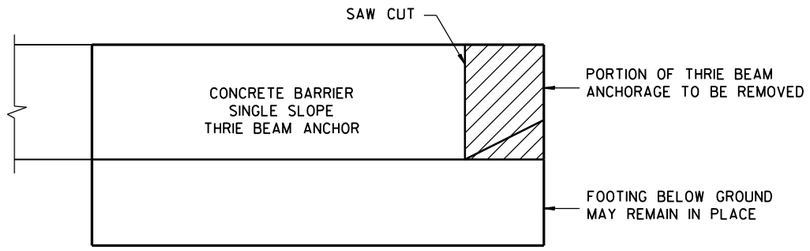
5-10-2013 DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS ENGINEER

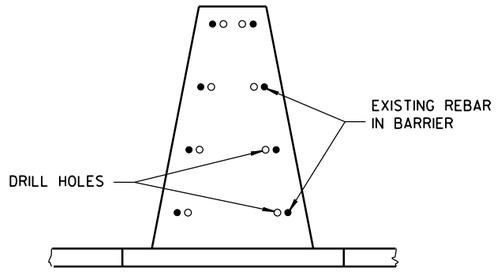
FHWA

6

S.D.D. 14 B 32-2d



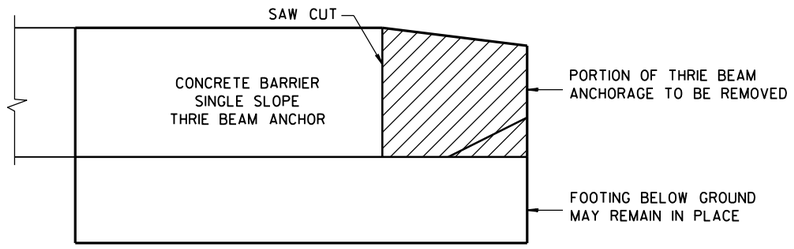
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



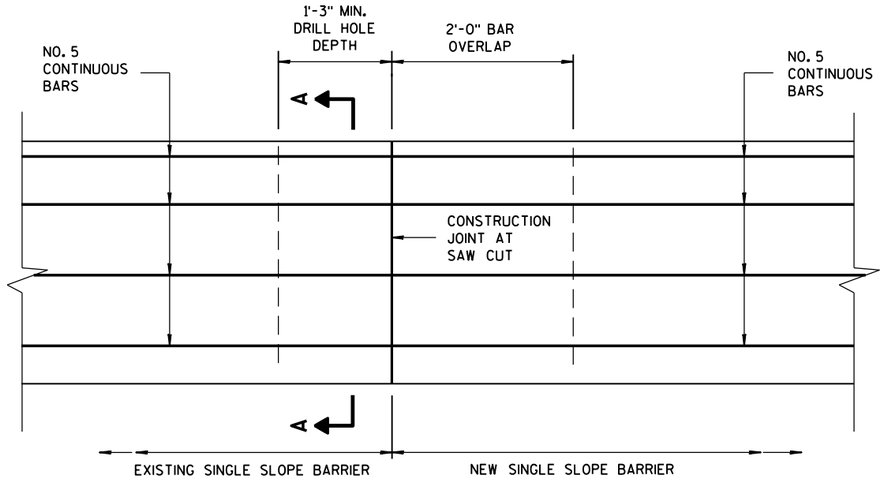
SECTION A-A

GENERAL NOTES

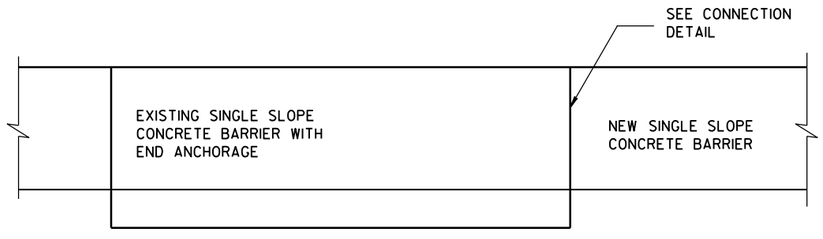
1. THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).
2. MINIMUM DEPTH OF DRILL HOLES IS 1'-3".
3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE.
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.
5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIER.
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.
7. ALL ITEMS INCLUDED WITH CONCRETE BARRIER ITEMS EXCEPT FOR REMOVAL.



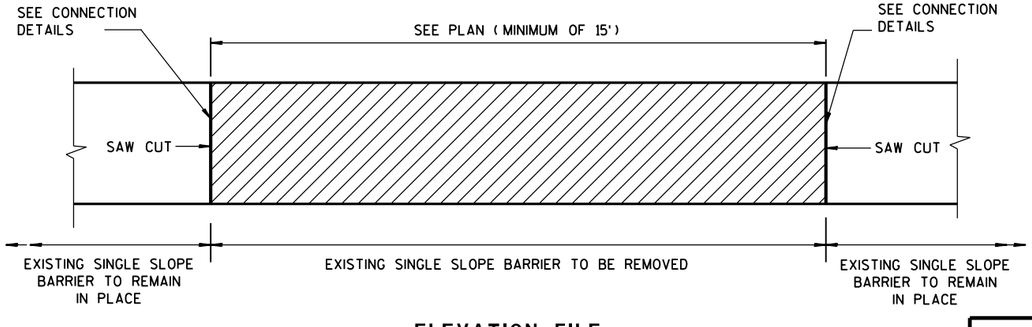
REMOVAL AREA OF CONCRETE THRIE BEAM
ANCHORAGE WITH HEIGHT GREATER THAN 32"



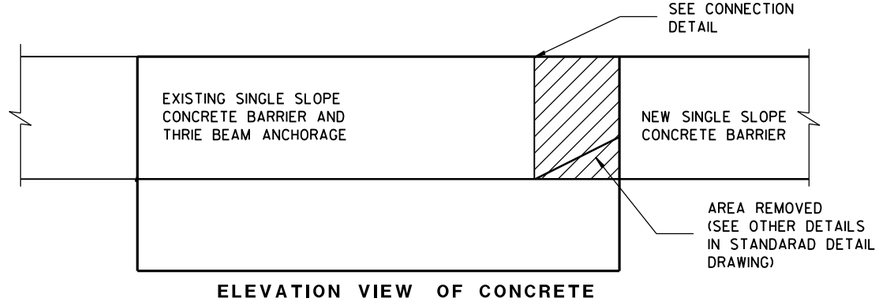
CONNECTION OF EXISTING SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR END ANCHORAGE



ELEVATION FILE
BARRIER REMOVAL AND REPLACEMENT



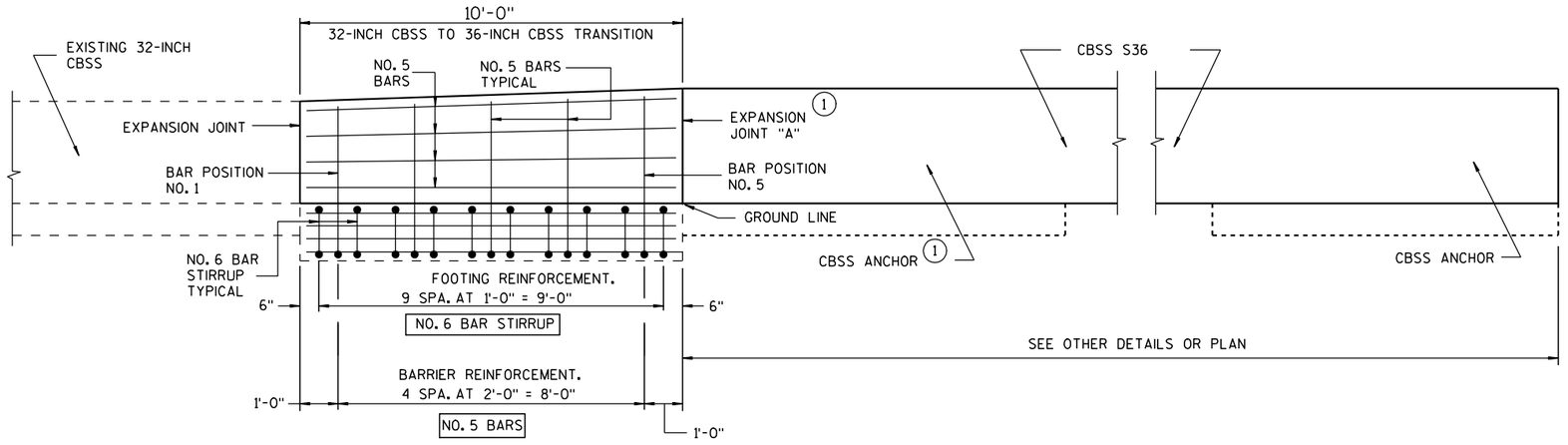
ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR THRIE BEAM TERMINAL

CONCRETE BARRIER
SINGLE SLOPE

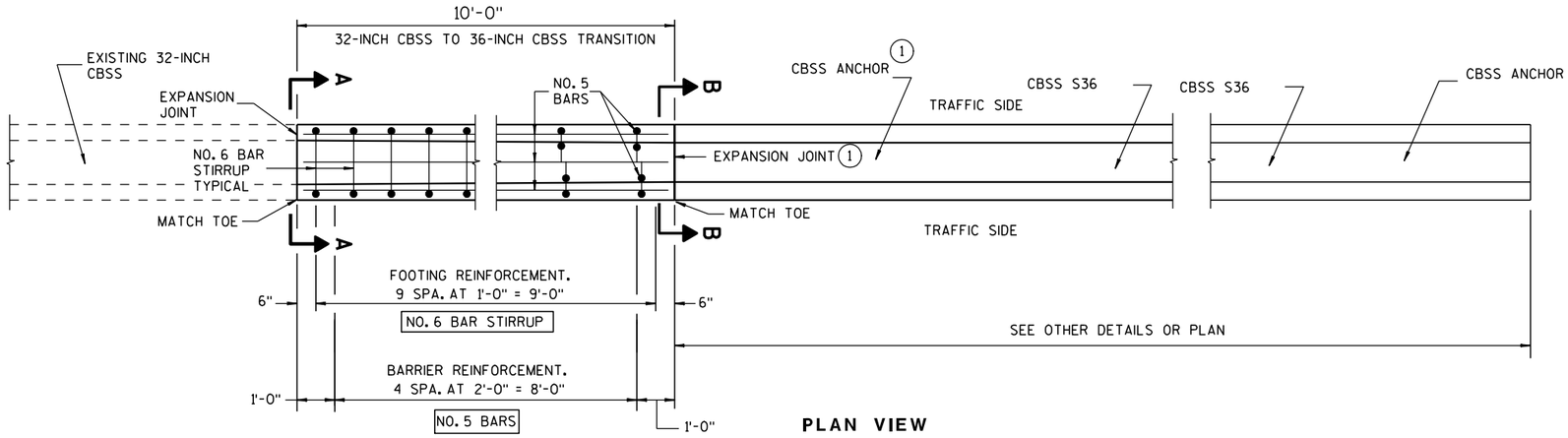
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-10-2013 DATE
/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER



ELEVATION VIEW



PLAN VIEW

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

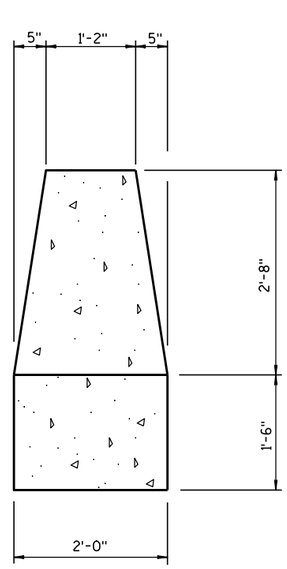
4000 PSICONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

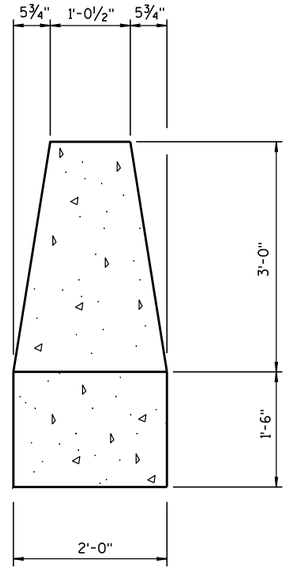
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

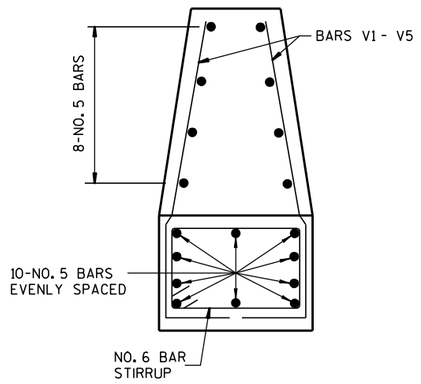
(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



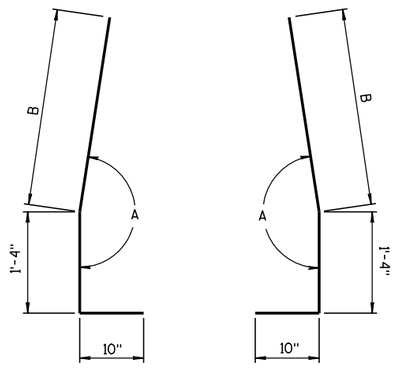
SECTION A-A



SECTION B-B



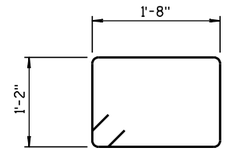
BAR DETAIL
BAR POSITION NO. 1 - NO. 5



BAR BENDING DETAIL
FOR BARS V1 - V5

BAR CHART
SECTIONS V1 - V5

BAR	A	B
V1	171°-10'	2'-6½"
V2	171°-05'	2'-8"
V3	170°-55'	2'-9"
V4	170°-40'	2'-9½"
V5	171°	2'-10"



STIRRUP BAR
BENDING DETAIL

32-INCH SINGLE SLOPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

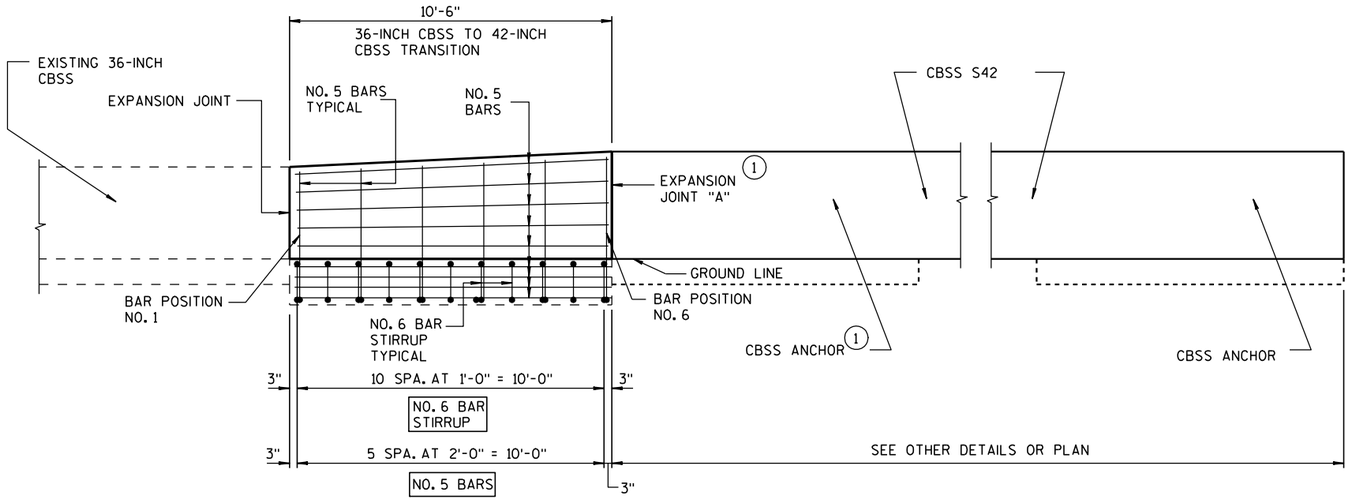
APPROVED
6-3-2010
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS I 250 ENGINEER
ENT
FHWA

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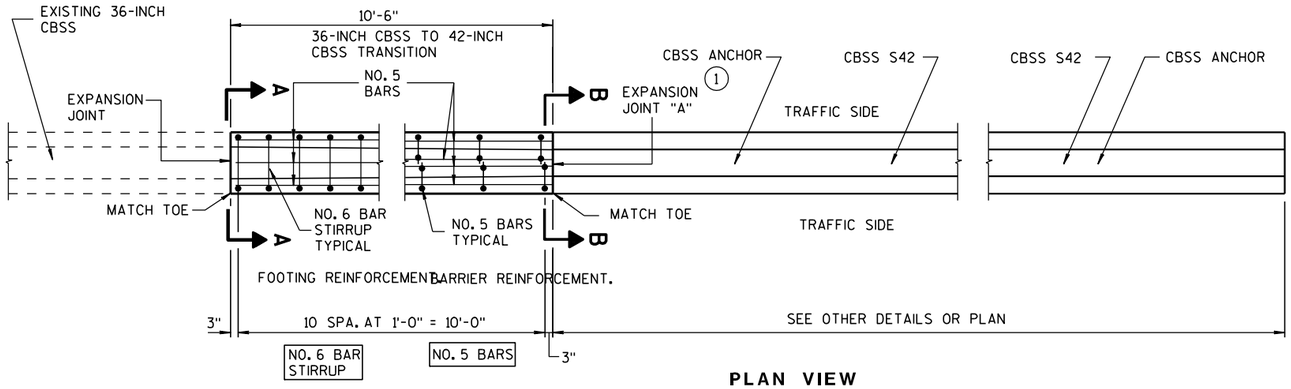
S.D.D. 14 B 39-1a

6

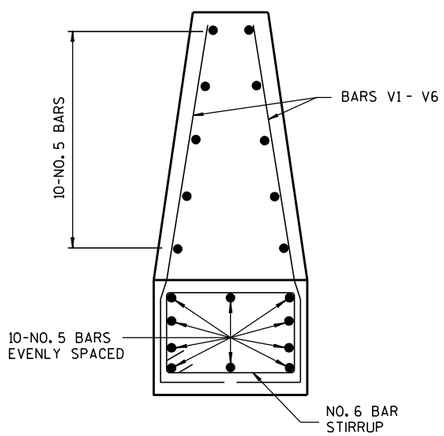
S.D.D. 14 B 39-1a



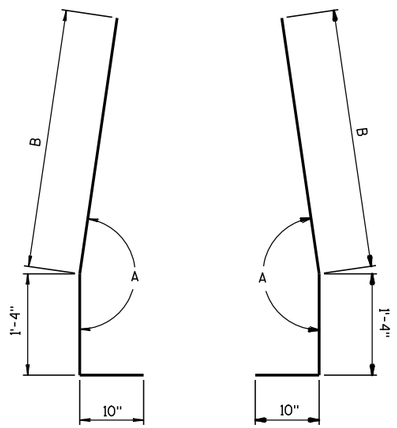
ELEVATION VIEW



PLAN VIEW



BAR DETAIL
BAR POSITION NO. 1 - NO. 6



BAR BENDING DETAIL
FOR BARS V1 - V6

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

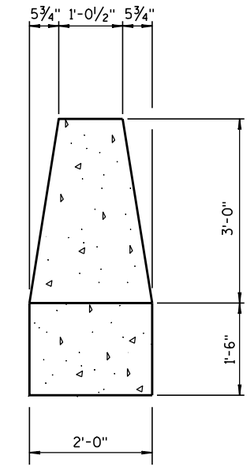
4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

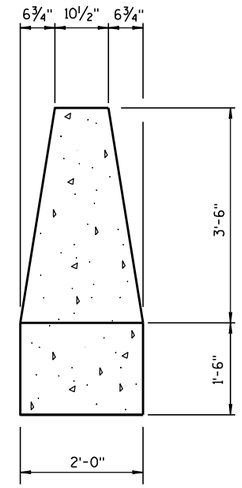
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



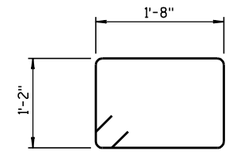
SECTION A-A



SECTION B-B

BAR CHART
SECTIONS V1 - V6

BAR	A	B
V1	170°-55'	2'-10½"
V2	171°-05'	3'-0"
V3	171°-20'	3'-1"
V4	171°-20'	3'-2"
V5	171°-35'	3'-3"
V6	171°-40'	3'-4½"



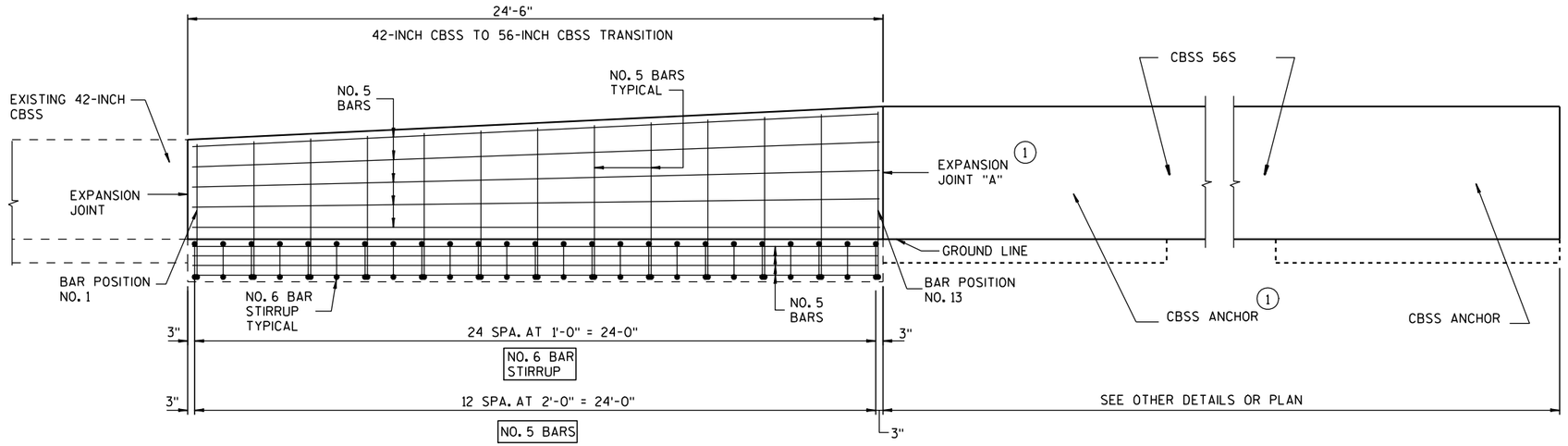
STIRRUP BAR
BENDING DETAIL

36-INCH SINGLE SLOPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

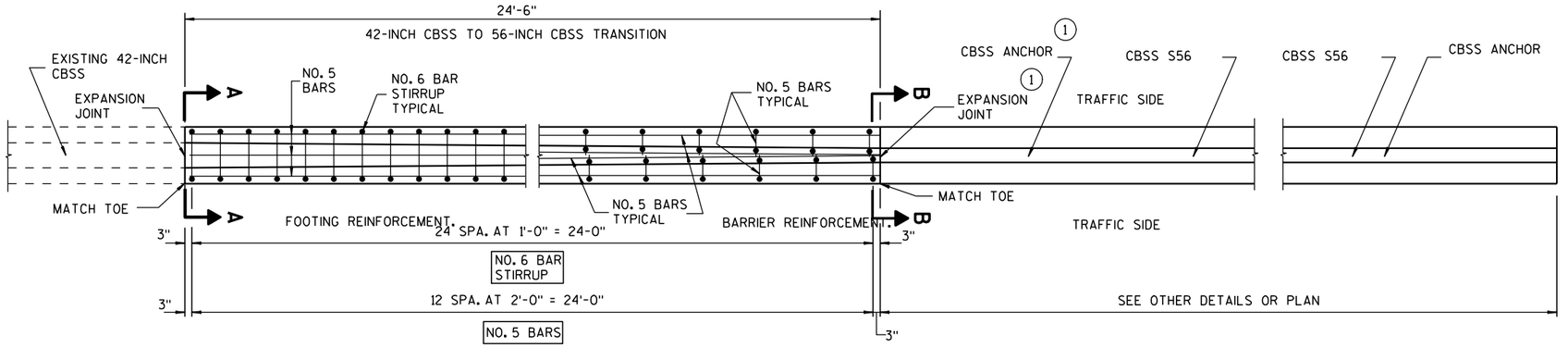
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

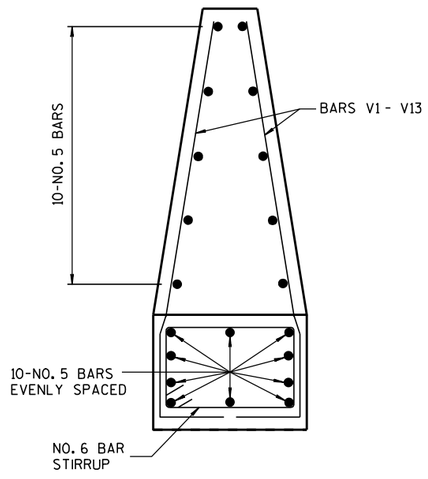
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S.D.D. 14 B 39-1c



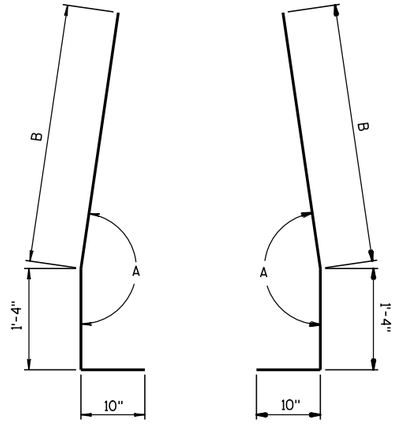
ELEVATION VIEW



PLAN VIEW



BAR DETAIL
BAR POSITION NO. 1 - NO. 13



BAR BENDING DETAIL
FOR BARS V1 - V13

BAR CHART SECTIONS V1 - V13

BAR	A	B
V1	170°-50'	3'-4½"
V2	170°-50'	3'-6"
V3	170°-55'	3'-7"
V4	171°	3'-8"
V5	170°-55'	3'-9½"
V6	170°-50'	3'-10½"
V7	170°-50'	3'-11½"

BAR	A	B
V8	170°-55'	4'-0½"
V9	170°-50'	4'-2"
V10	170°-50'	4'-3"
V11	170°-50'	4'-4½"
V12	170°-55'	4'-5½"
V13	170°-50'	4'-6½"

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

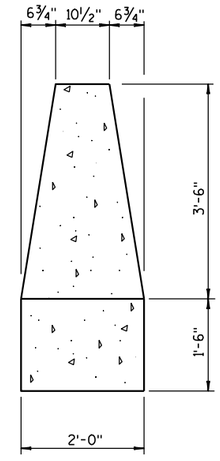
4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

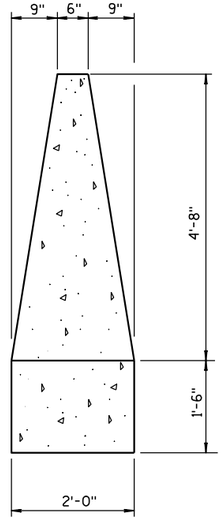
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

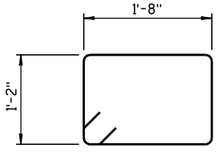
(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



SECTION A-A



SECTION B-B



STIRRUP BAR
BENDING DETAIL

42-INCH SINGLE SLOPE CONCRETE BARRIER TO 56-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

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GENERAL NOTES

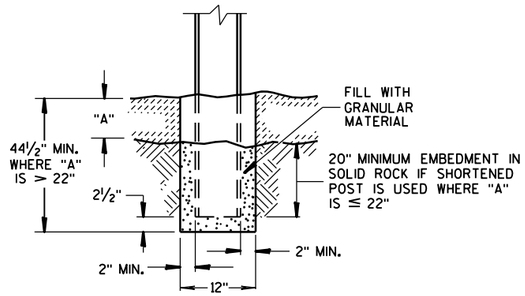
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

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.

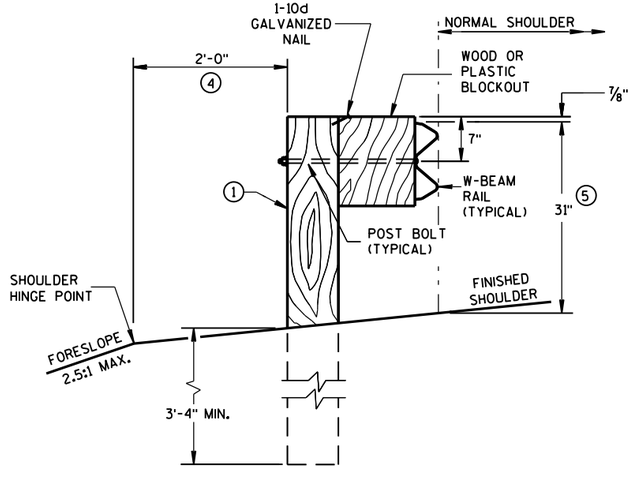
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO 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 27¾" TO 32".

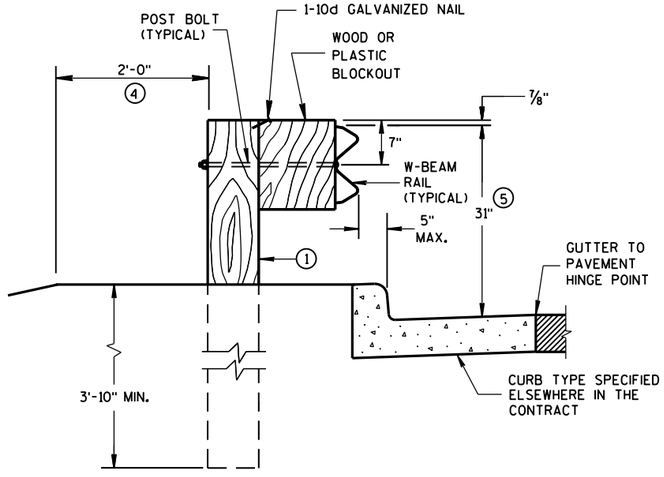


END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



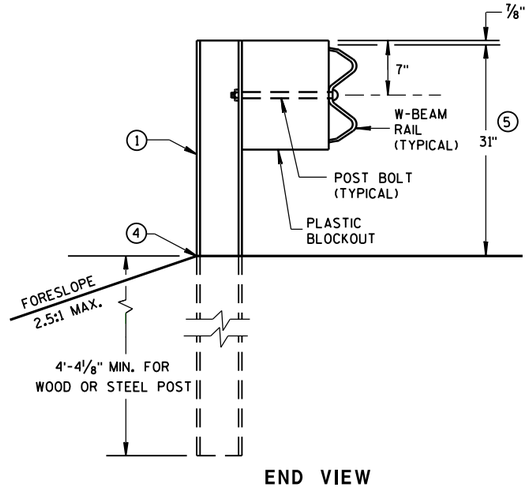
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



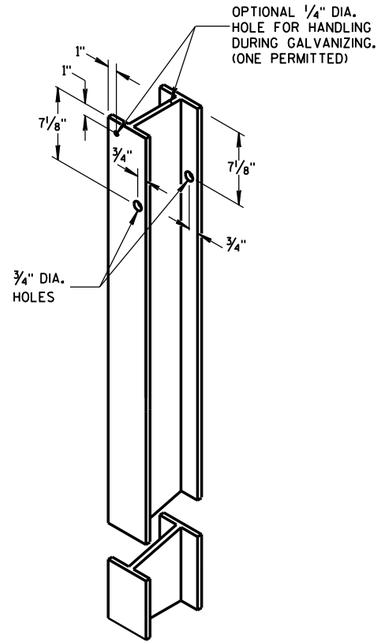
END VIEW

LOCATED ALONG A CURBED ROADWAY

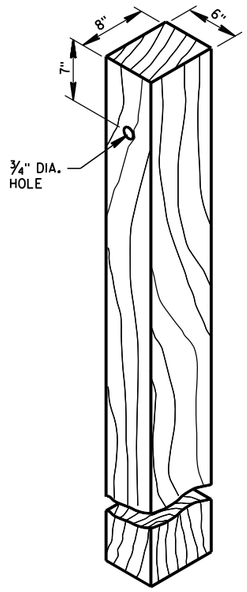


END VIEW

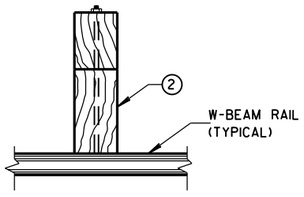
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



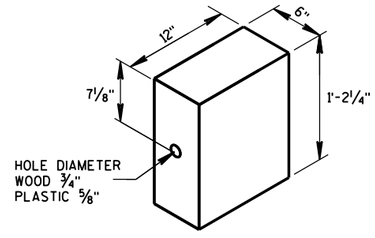
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



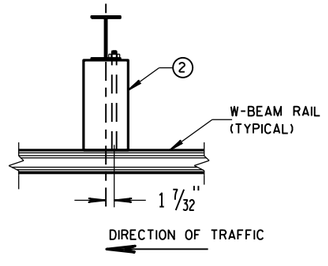
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

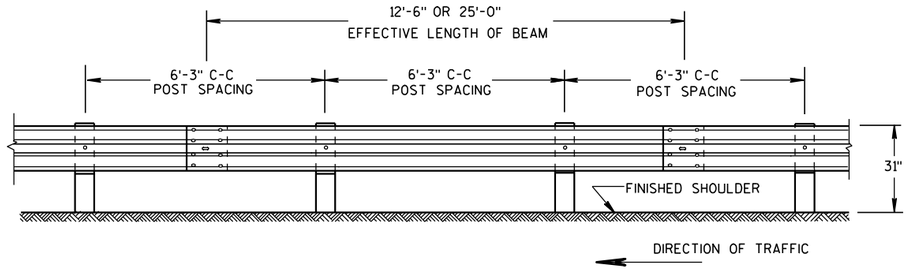


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

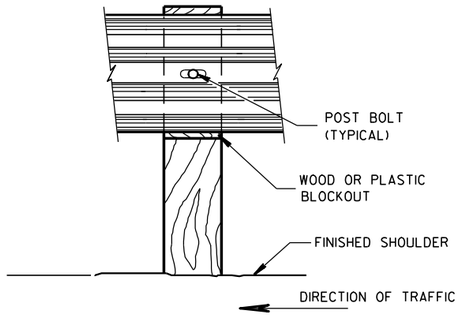
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 42-2a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



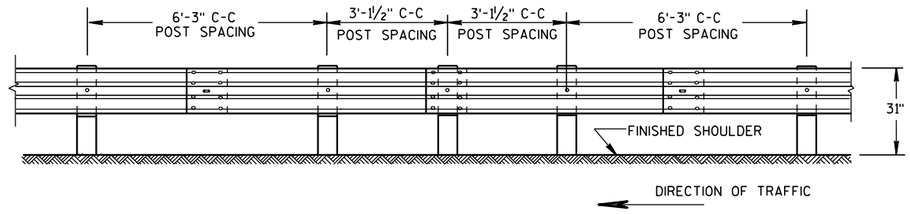
FRONT VIEW AT WOOD POST

GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

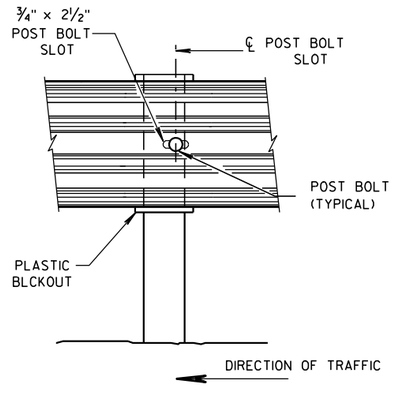
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

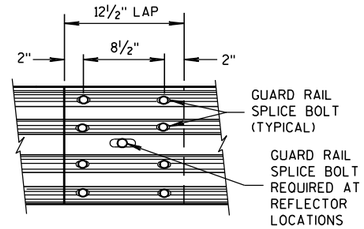


FRONT VIEW

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

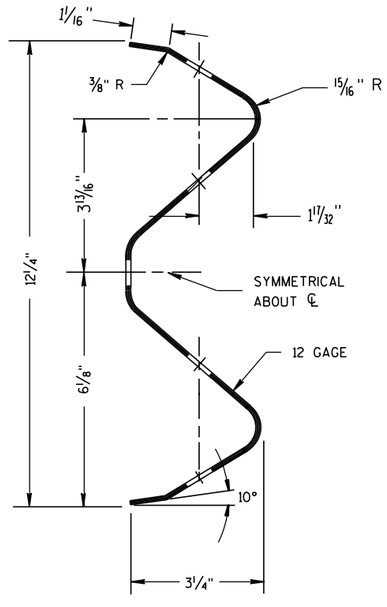


FRONT VIEW AT STEEL POST

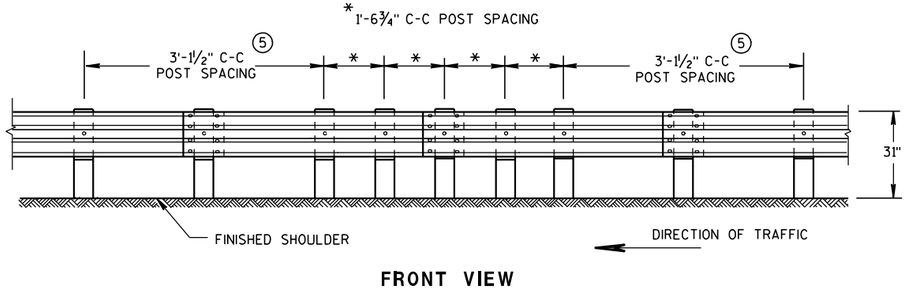


FRONT VIEW

MID-SPAN BEAM SPLICE

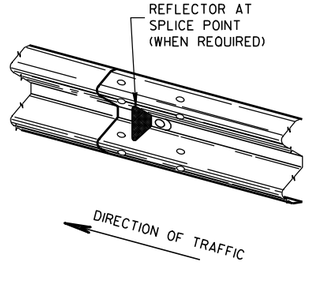


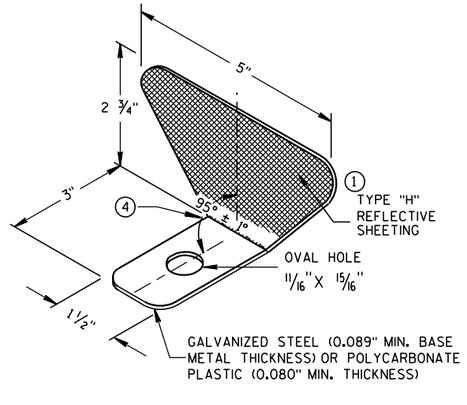
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ①

REFLECTOR SPACING ②

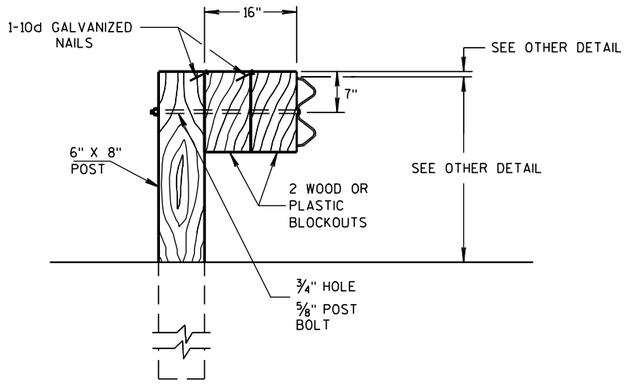
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 1 ③	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ④	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

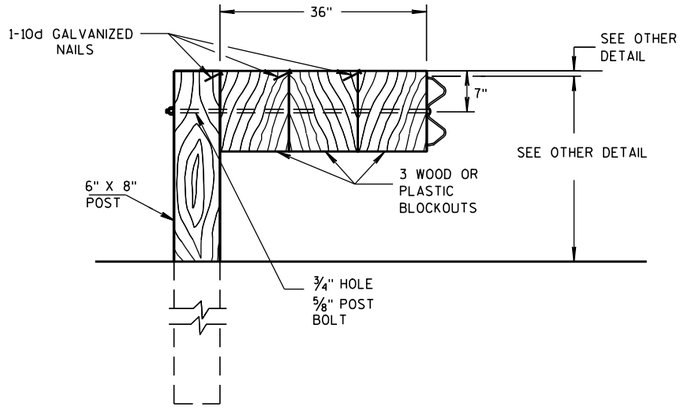
S.D.D. 14 B 42-2b

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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.

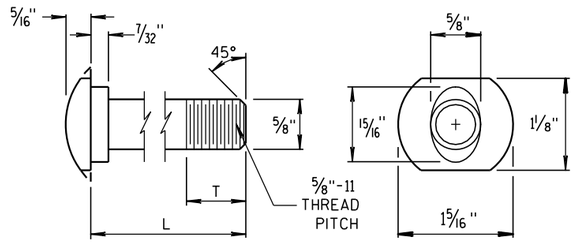


DETAIL FOR 36" BLOCKOUT DEPTH

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

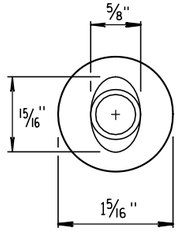
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

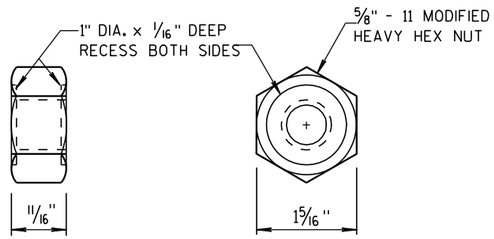


POST BOLT TABLE

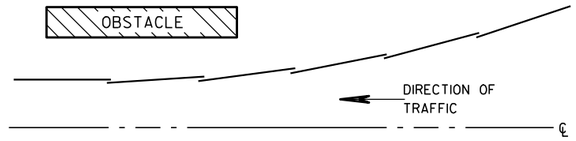
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

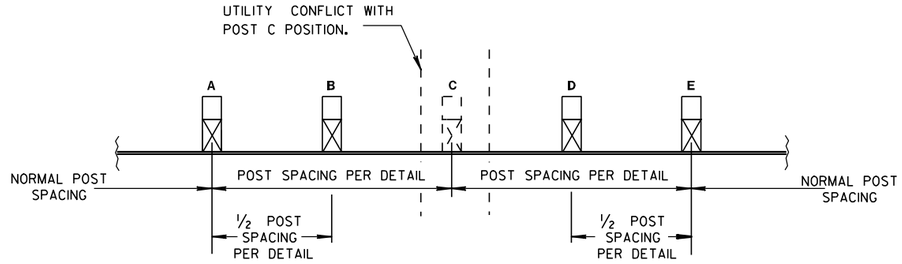


POST BOLT AND RECESS NUT

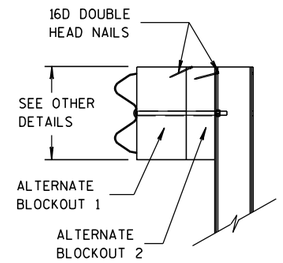


PLAN VIEW

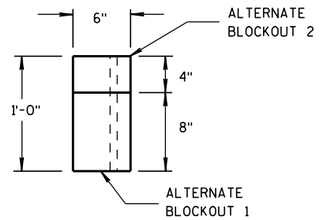
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

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FHWA

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S.D.D. 14 B 42-2c

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S.D.D. 14 B 42-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), 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 MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

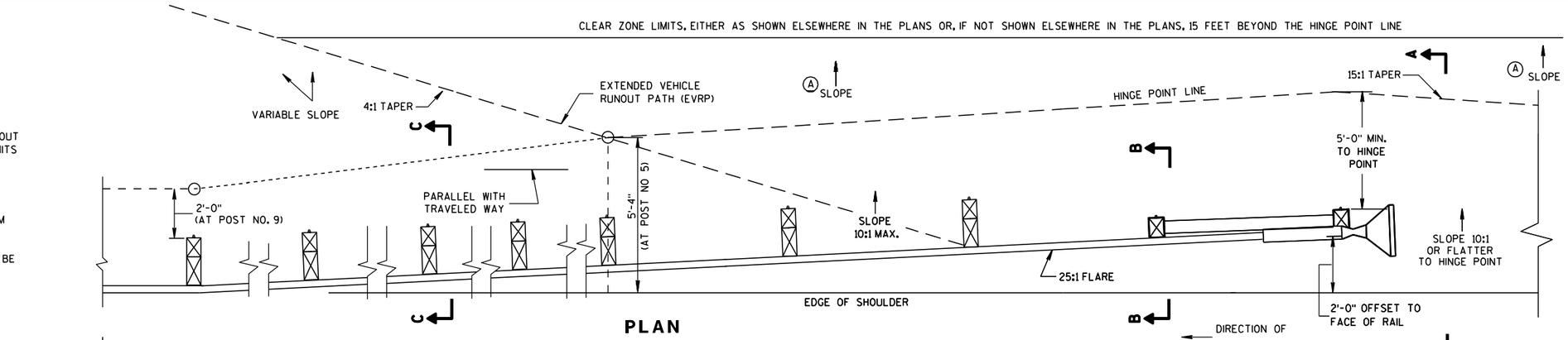
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

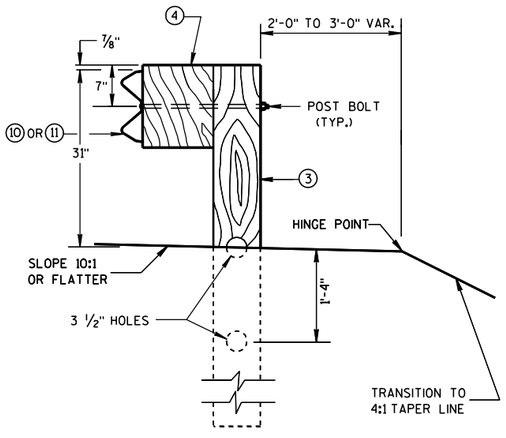
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

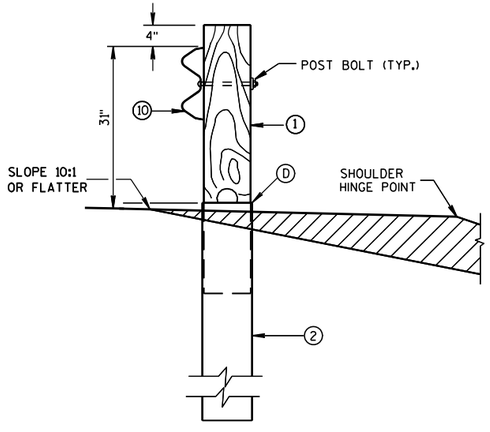
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

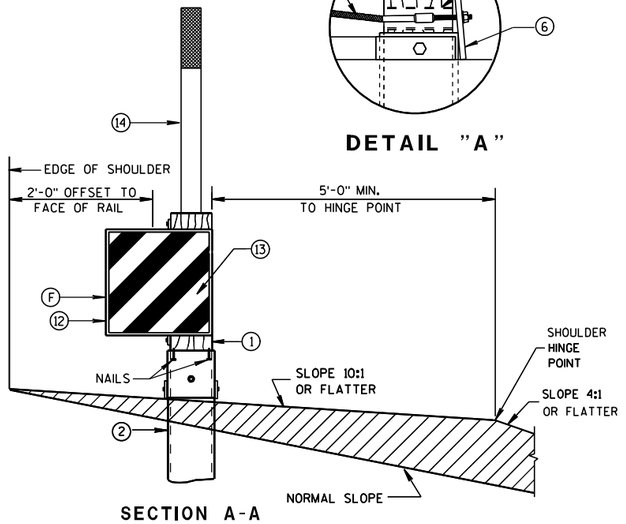




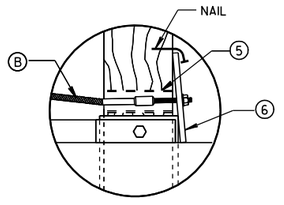
SECTION C-C
TYPICAL AT POST NOS. 3-9



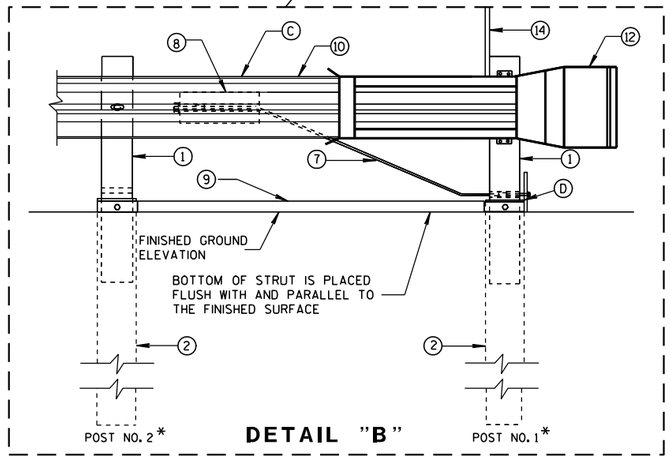
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"

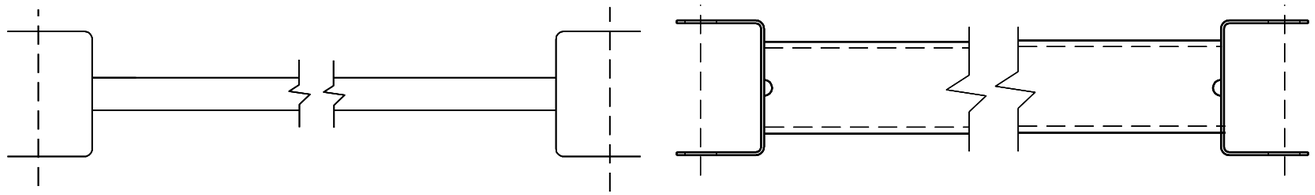


DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

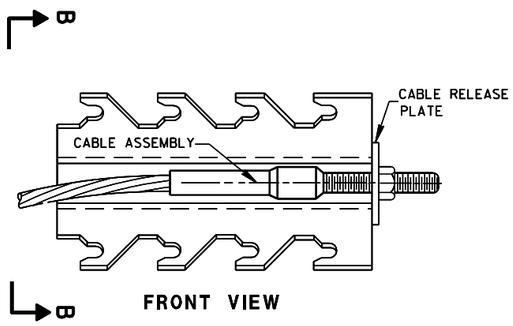
6
S.D.D. 14 B 44-1a



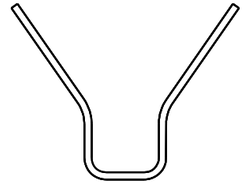
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

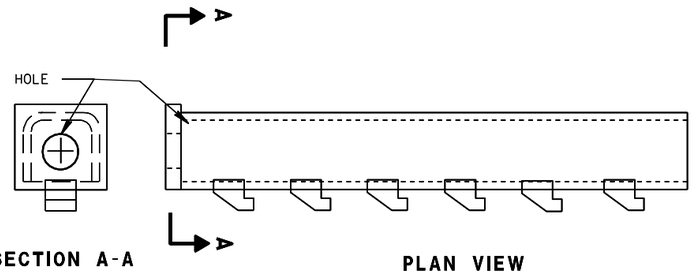
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR 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)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



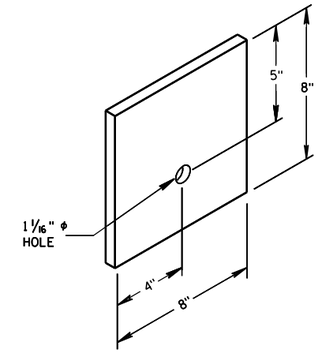
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



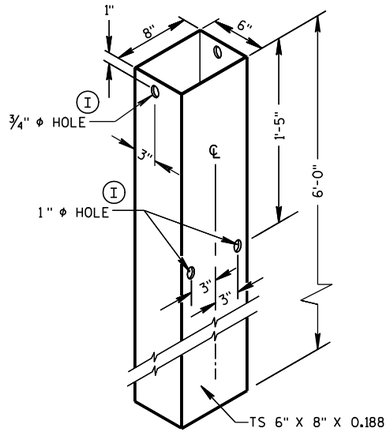
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

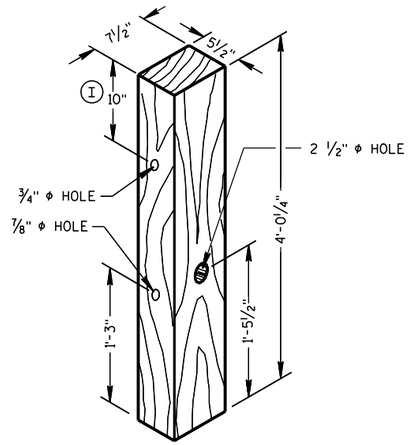
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

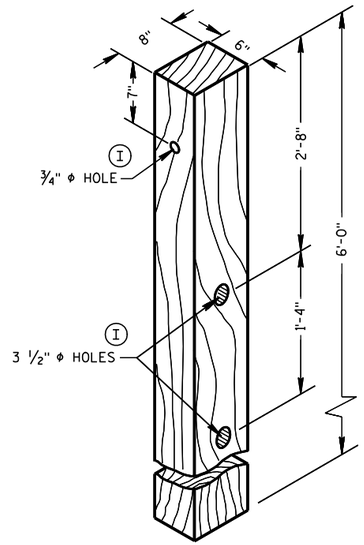


FOUNDATION TUBE (2)



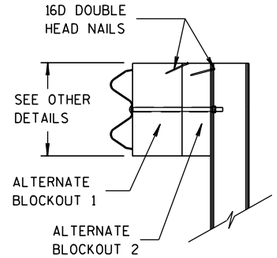
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

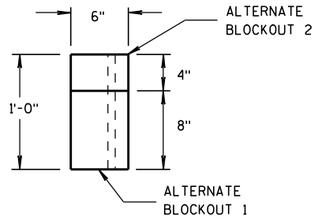


POSTS NUMBER 3-9

WOOD CRT POST (3)

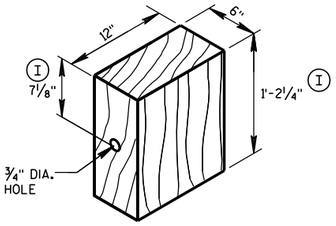


SIDE VIEW



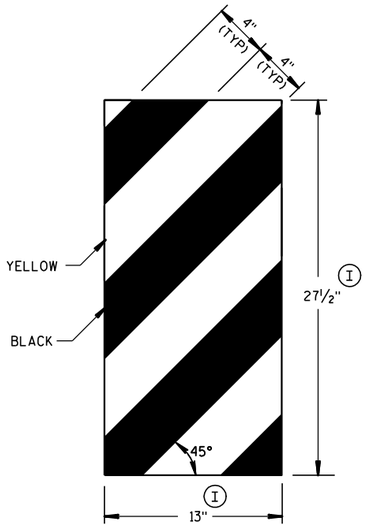
TOP VIEW

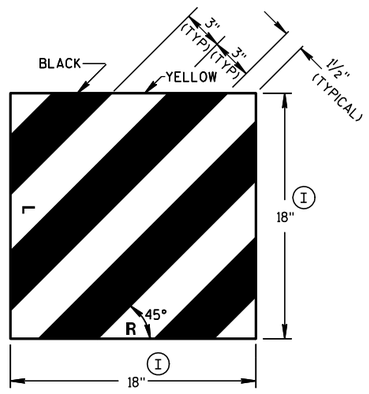
ALTERNATE WOOD BLOCKOUT DETAIL



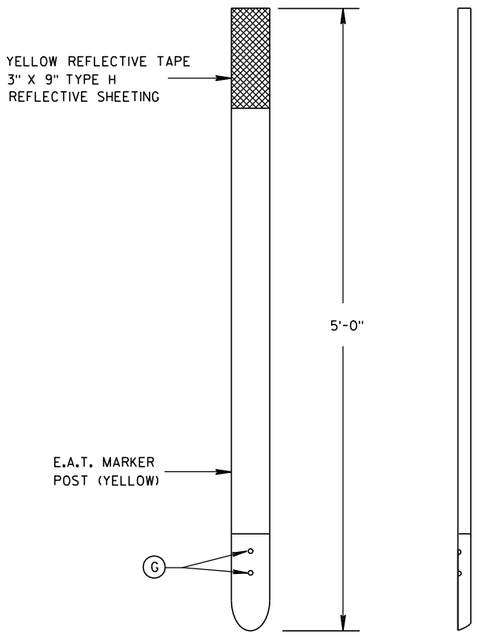
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





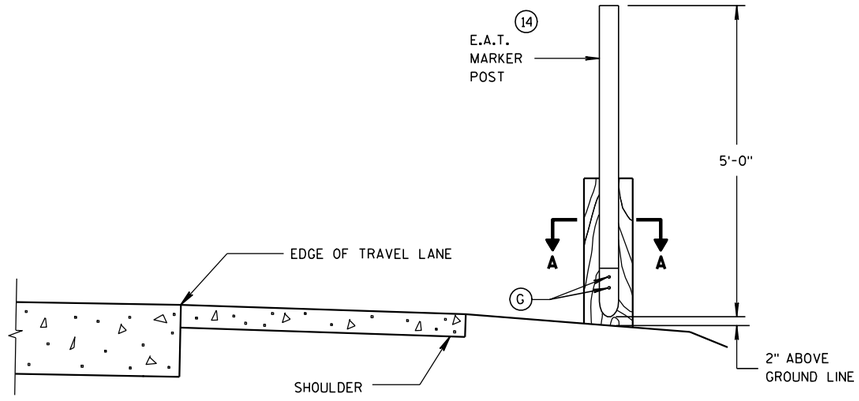
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

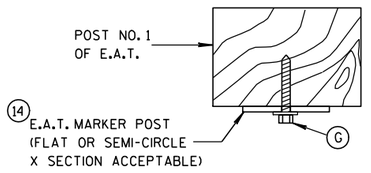
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

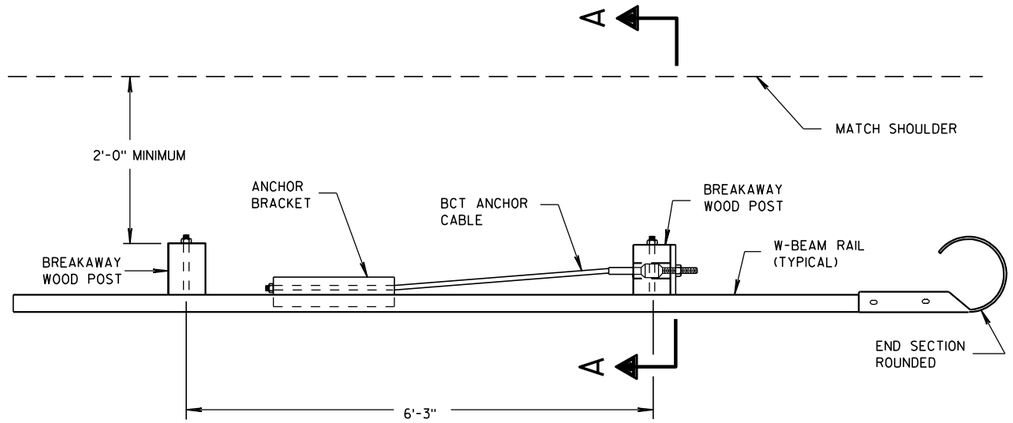
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

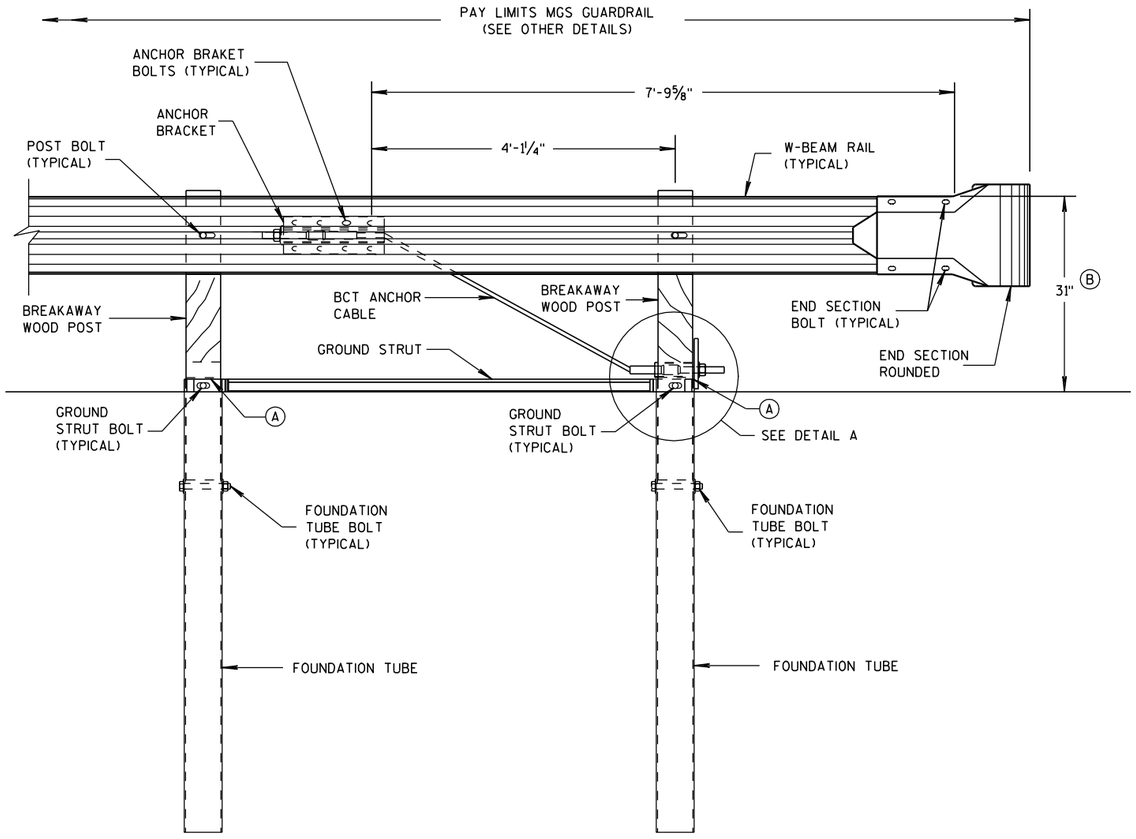
APPROVED
5/23/2011
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-1c

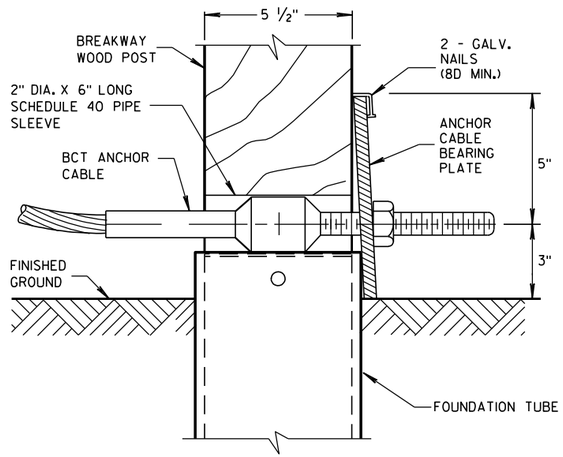


PLAN VIEW



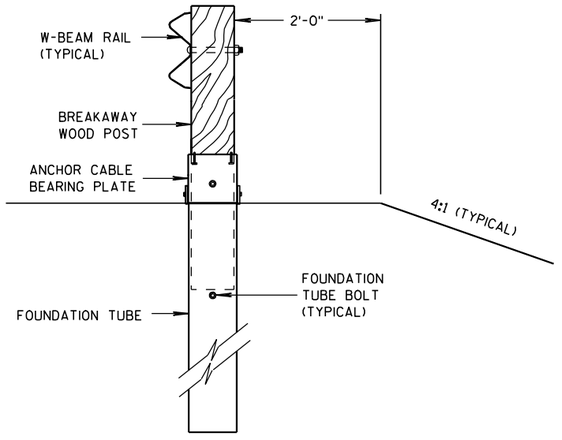
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

POST BOLTS ARE A ⅝" DIAMETER X 10" LONG GUARDRAIL BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER DH MODIFIED (RECESSED) HEAVY HEX NUT AND ⅝" DIAMETER FLAT WASHER.

FOUNDATION TUBE BOLTS ARE A ⅞" DIAMETER X 7½" LONG HEAVY HEX HEAD BOLT. A FOUNDATION TUBE BOLT REQUIRES A ⅞" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

GROUND STRUT BOLTS ARE A ⅝" DIAMETER X 10" LONG HEAVY HEX HEAD BOLT. A GROUND STRUT BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

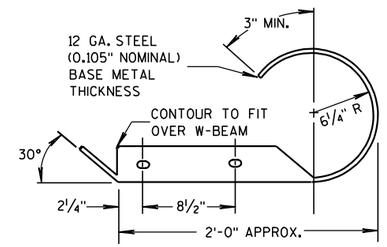
ANCHOR BRAKET BOLTS ARE A ⅝" DIAMETER X 1½" LONG HEAVY HEX HEAD BOLT. AN ANCHOR BRAKET BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A FLAT WASHER.

END SECTION BOLTS ARE A ⅝" DIAMETER X 1½" HEAVY HEX HEAD BOLT. AN END SECTION BOLT REQUIRES ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

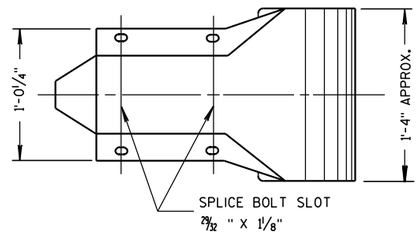
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



FRONT VIEW

W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

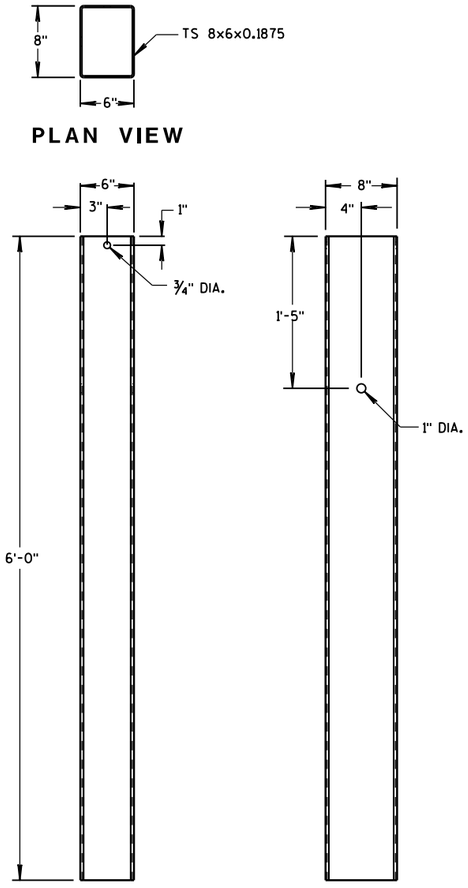
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

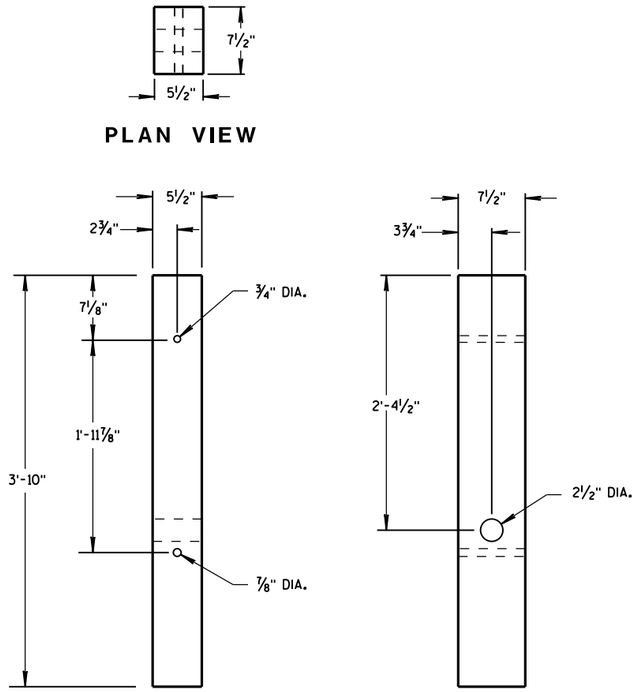
S.D.D. 14 B 47-1a

6

S.D.D. 14 B 47-1a



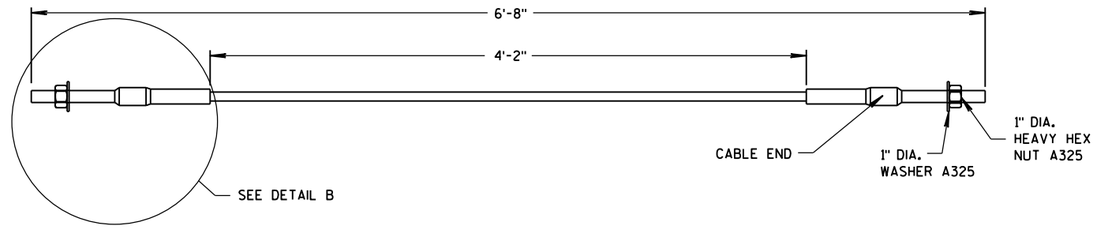
FOUNDATION TUBE



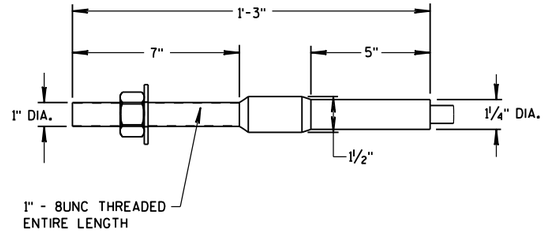
BREAKAWAY WOOD POST

GENERAL NOTES

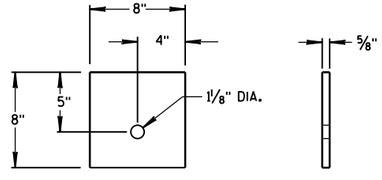
BCT ANCHOR CABLE IS A ⅜" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. THE END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. THE TREADED STUD SHOULD CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.



BCT ANCHOR CABLE



DETAIL B



ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

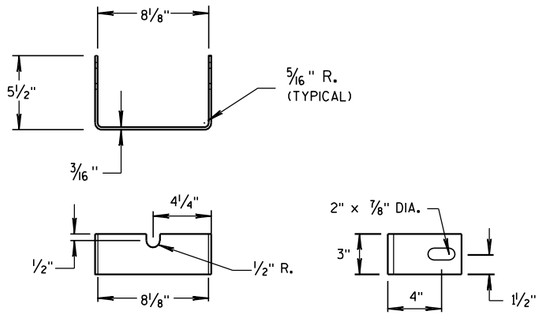
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

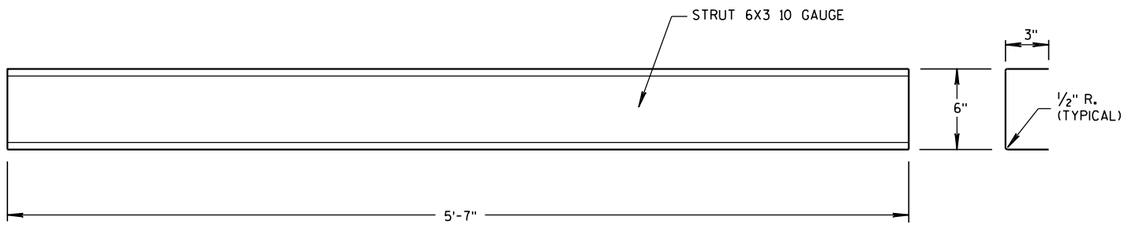
S.D.D. 14 B 47-1b

6

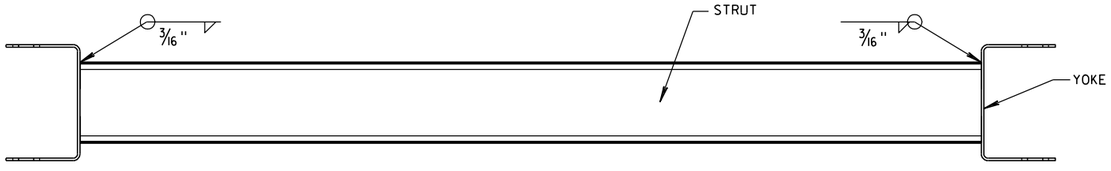
S.D.D. 14 B 47-1b



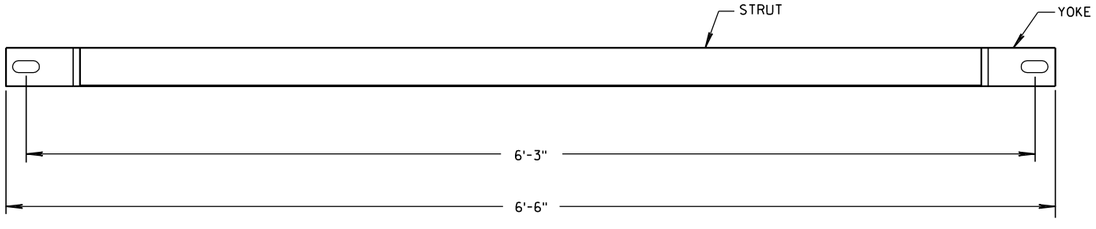
YOKE DETAIL



STRUT DETAIL

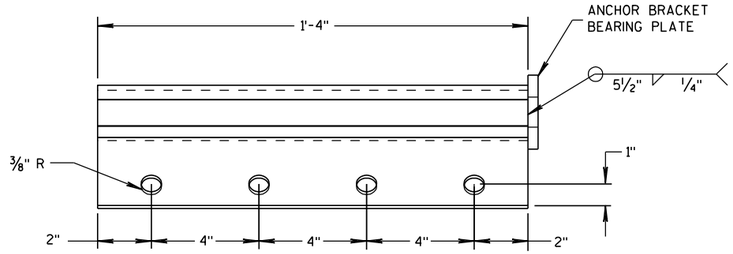


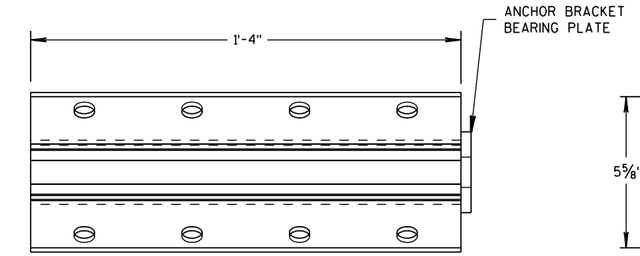
PLAN VIEW

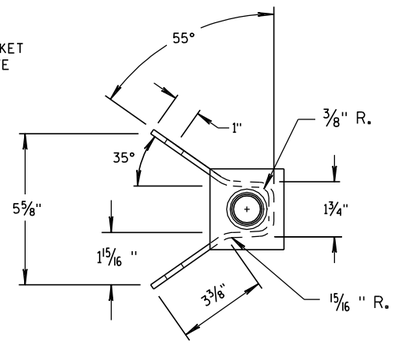


FRONT VIEW

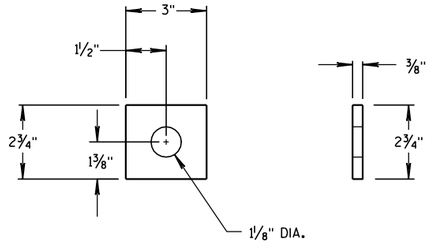
GROUND STRUT DETAIL







ANCHOR BRACKET



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/2011
DATE

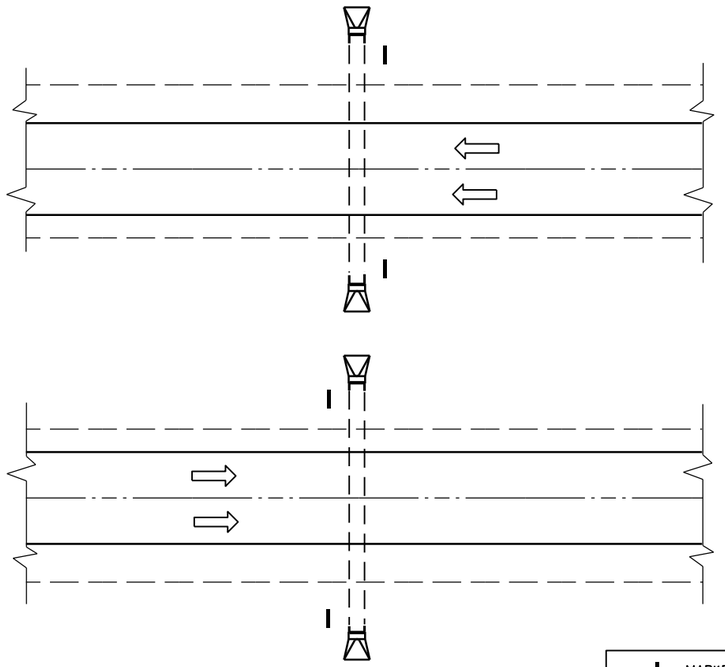
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

[illegible]

FHWA

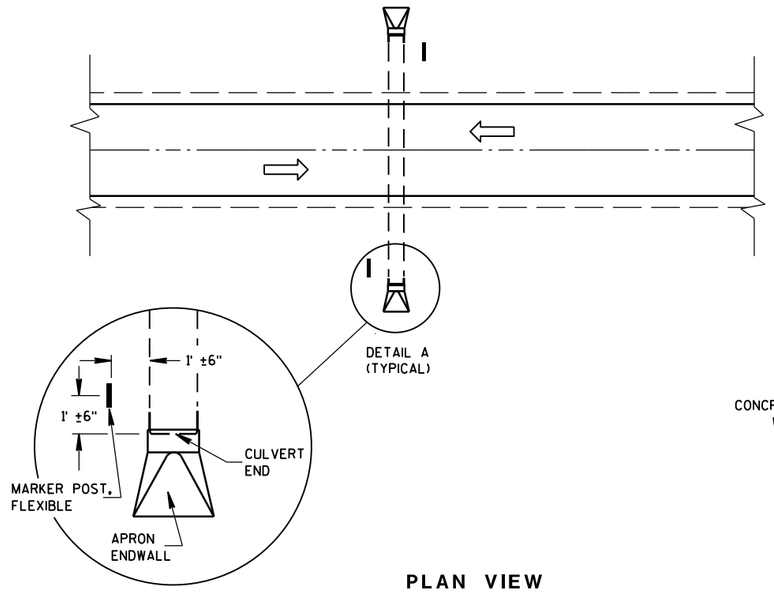
6

S.D.D. 14 B 47-1c



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

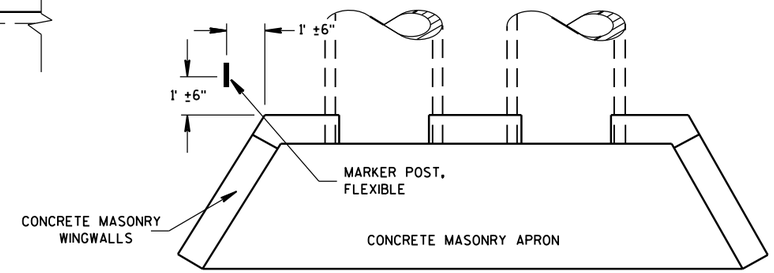
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

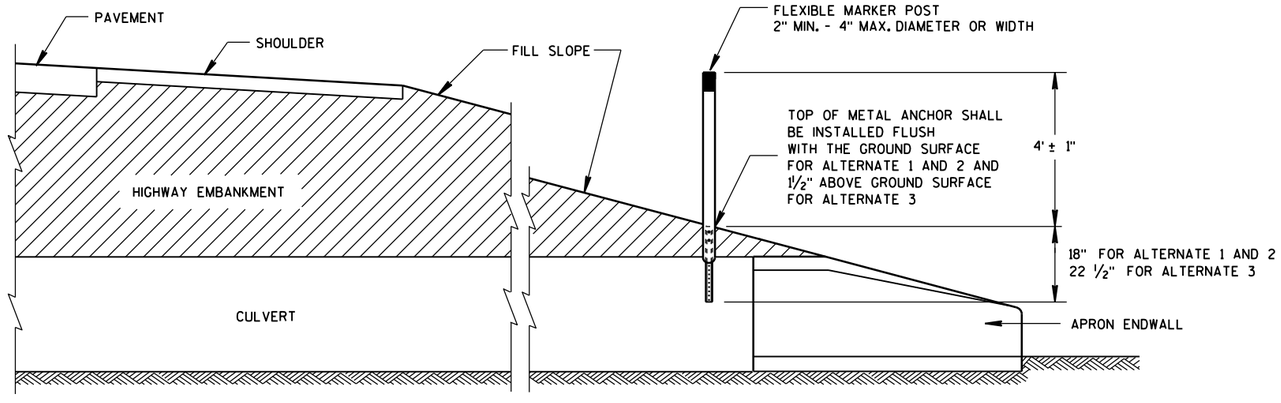
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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

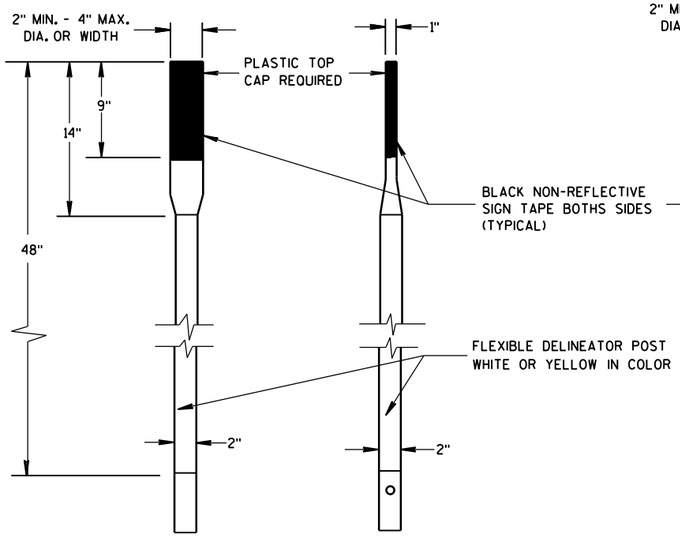
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

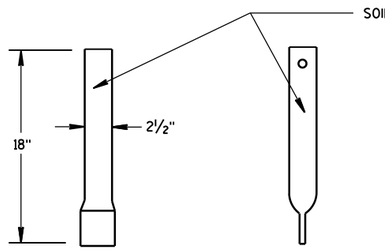
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S.D.D. 15 A 3-2a

6

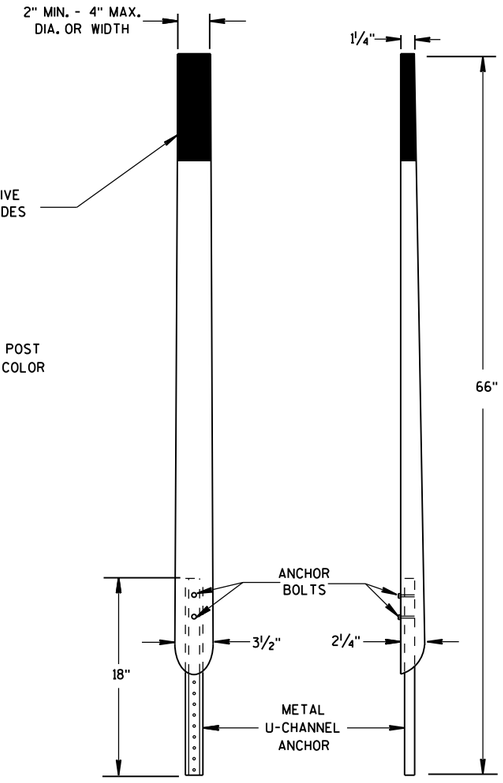
S.D.D. 15 A 3-2a





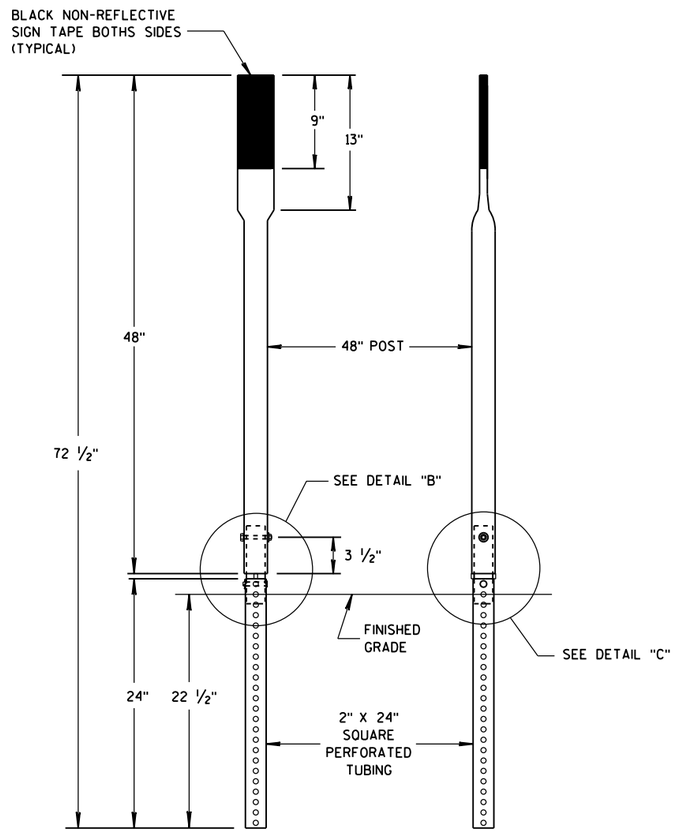
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

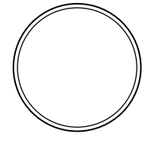
ALTERNATE 2



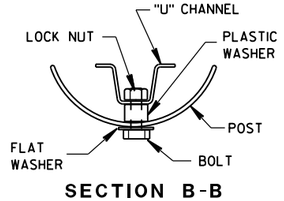
FRONT VIEW SIDE VIEW

ALTERNATE 3

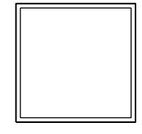
FLEXIBLE MARKER POSTS



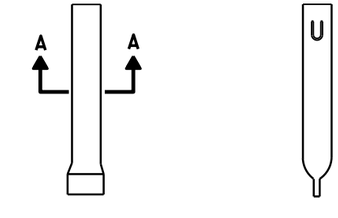
SECTION A-A



SECTION B-B

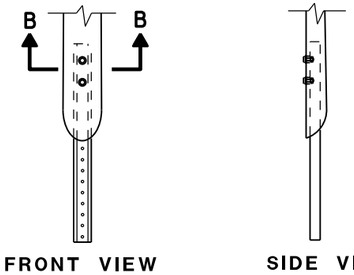


SECTION C-C



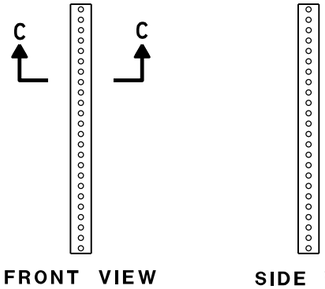
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

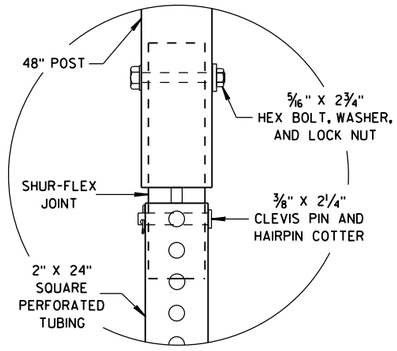
ALTERNATE 2



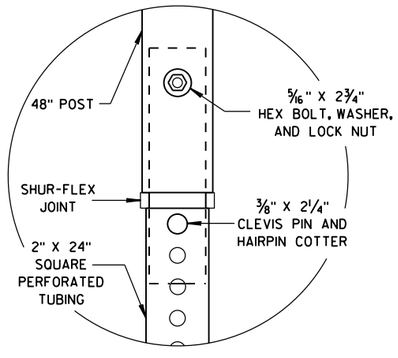
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

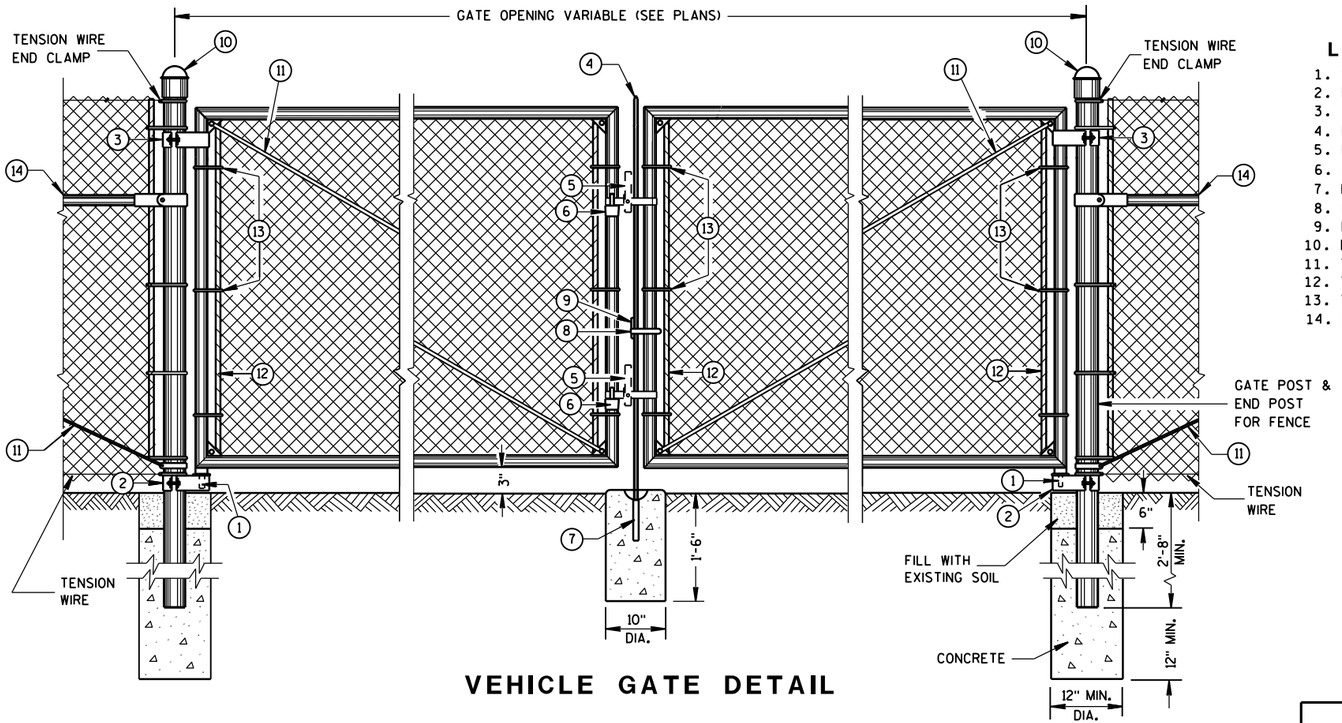
APPROVED
10/1/2012
DATE
/S/ Travis Feltes
STATE TRAFFIC ENGINEER
FHWA

6

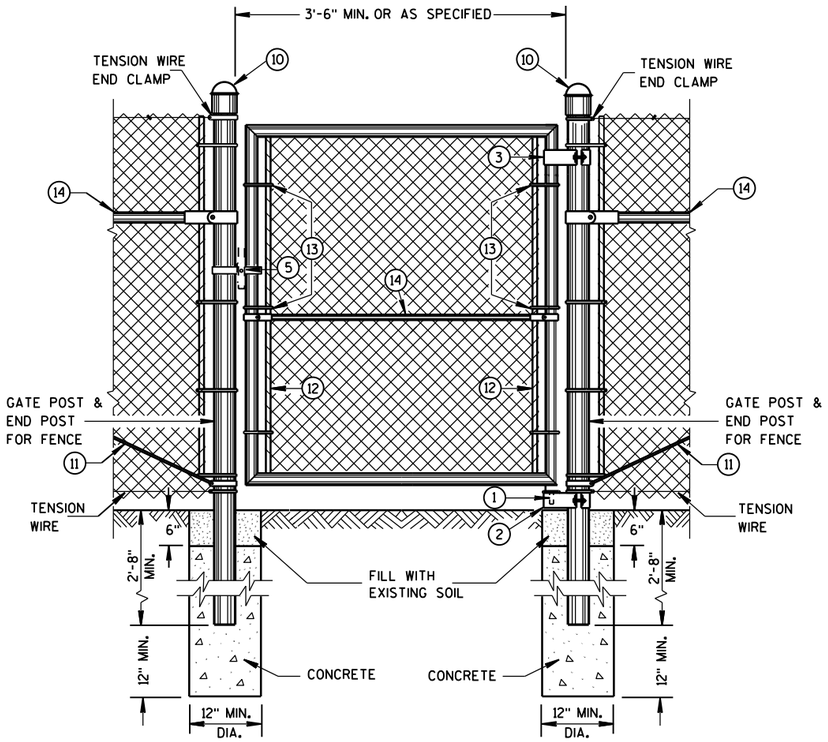
S.D.D. 15 A 3-2b

6

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



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

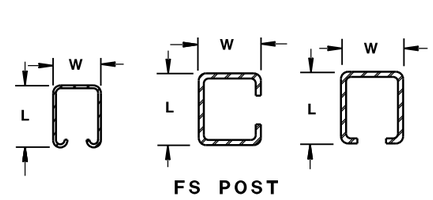
FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

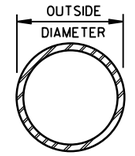
FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.



FS POST



SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR FORMED STEEL FENCE POST

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR ROUND STEEL FENCE POST

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EQUAL TO 8 FT.	FS3

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

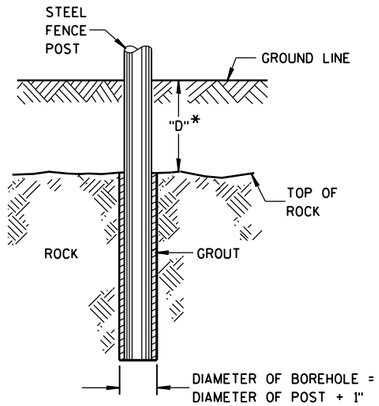
** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

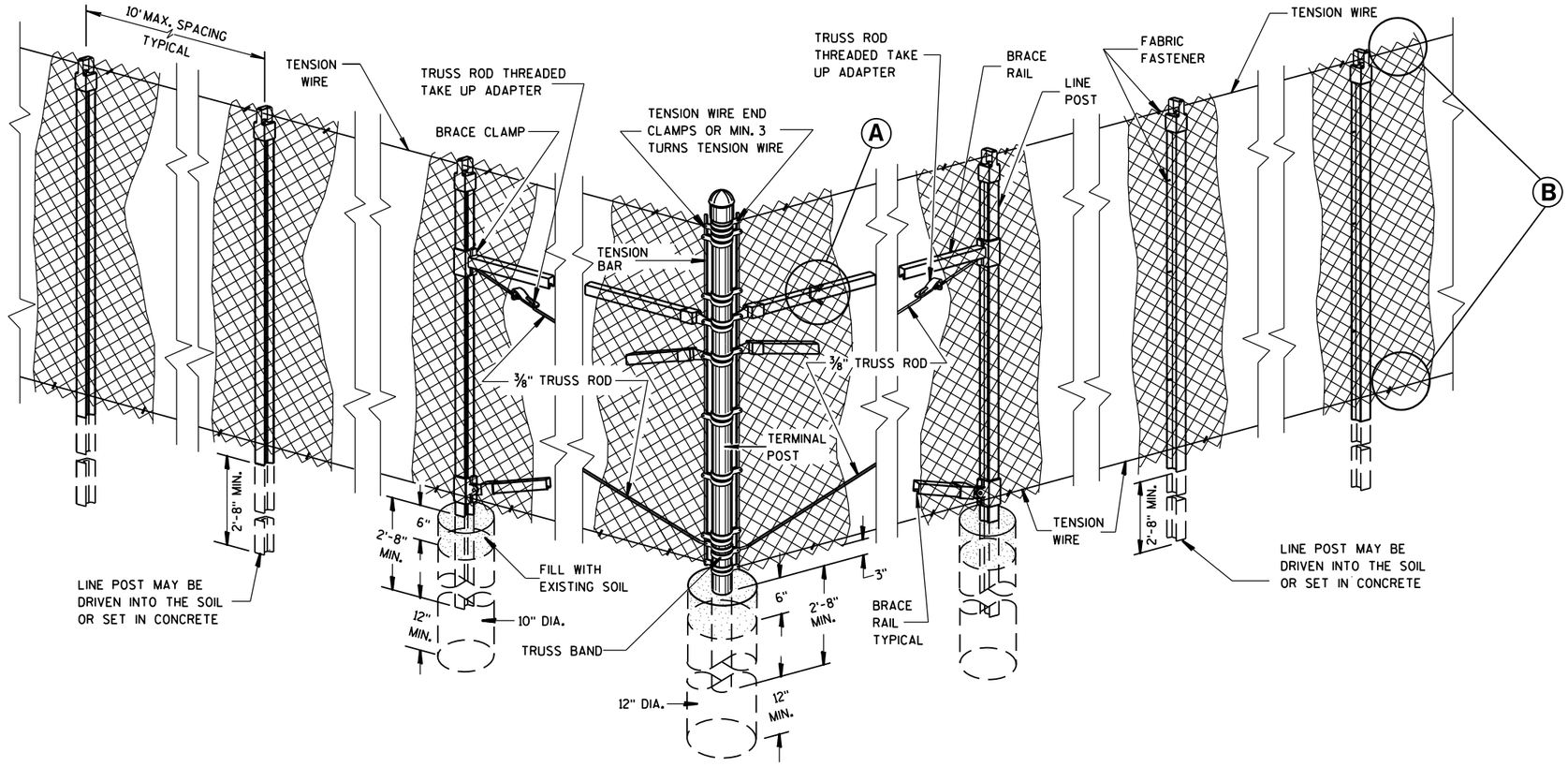
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S.D.D. 15 B 3-13a
S.D.D. 15 B 3-13a

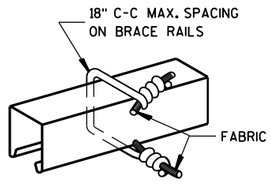


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



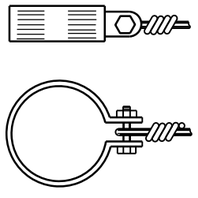
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



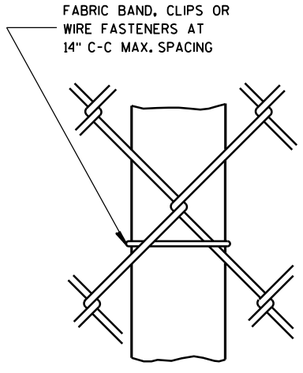
BRACE RAIL

FABRIC FASTENER

Ⓐ



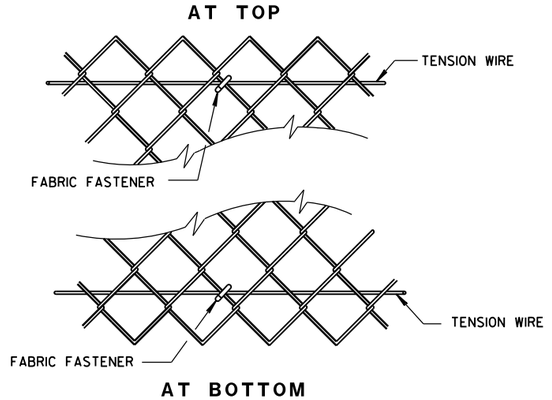
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

Ⓑ

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/16/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 15 B 3-13b

6

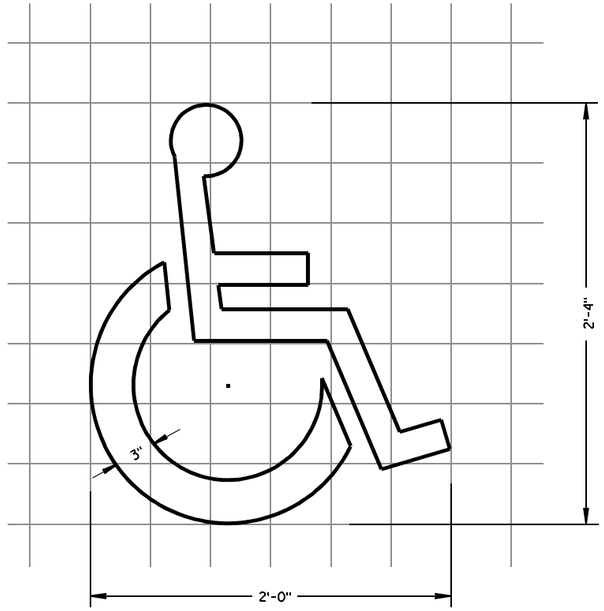
S.D.D. 15 B 3-13b

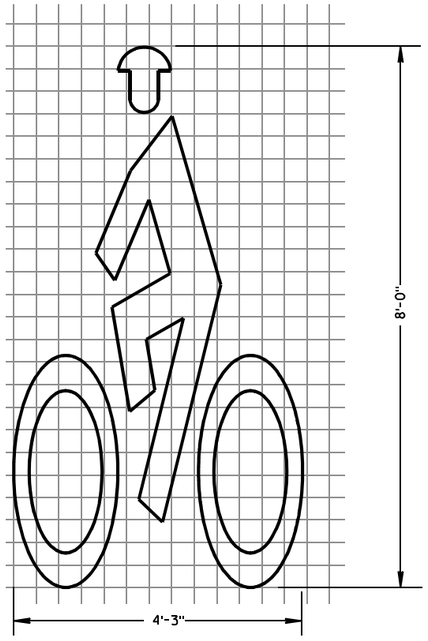
GENERAL NOTES

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.

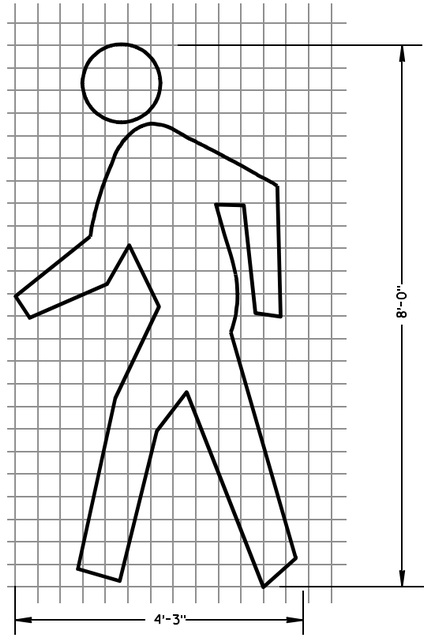
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

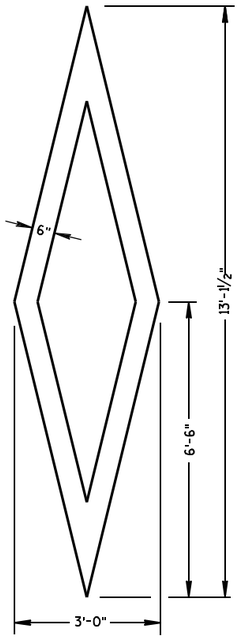




BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



PREFERENTIAL LANE SYMBOL

6

6

S.D.D. 15 C 7-12a

S.D.D. 15 C 7-12a

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 DATE

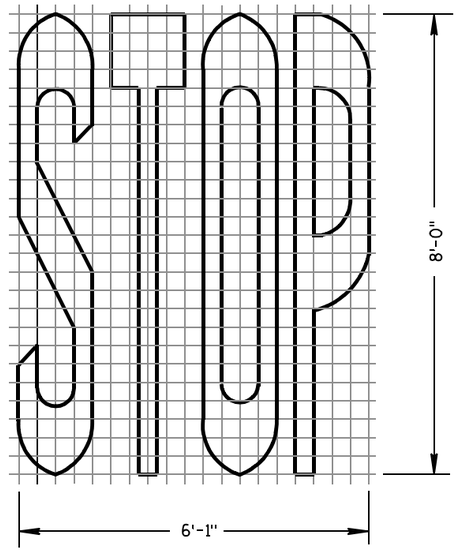
/S/ Thomas N Nathan
STATE TRAFFIC ENGINEER

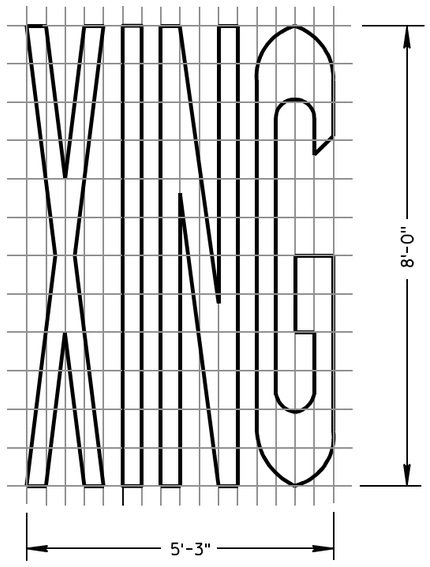
FHWA

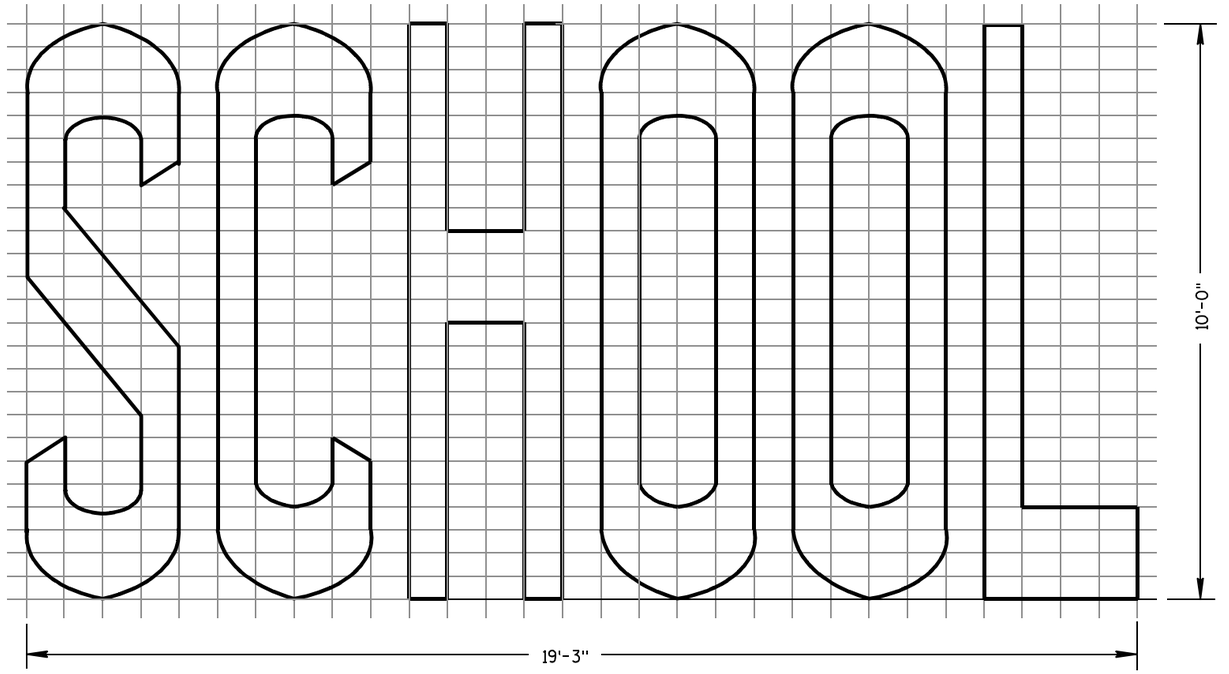
GENERAL NOTES

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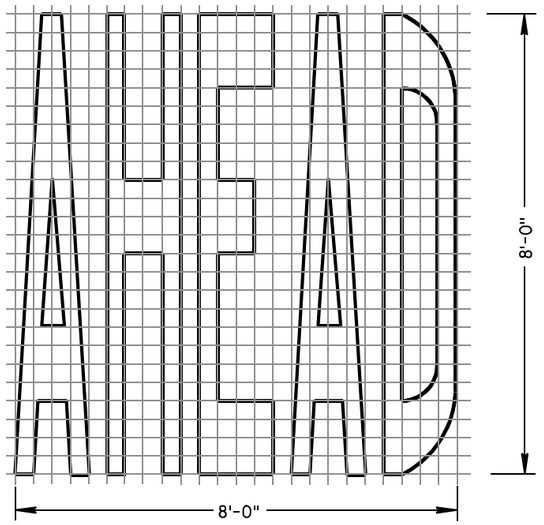
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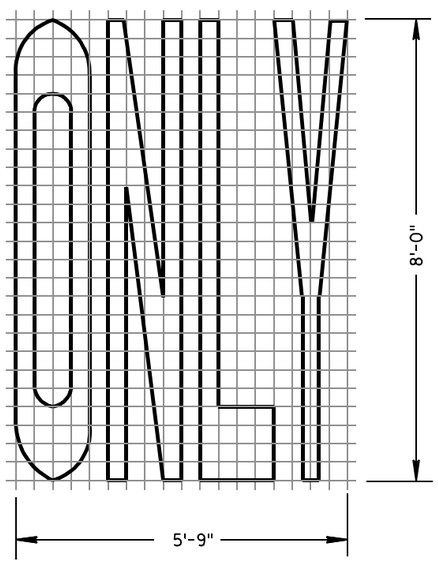


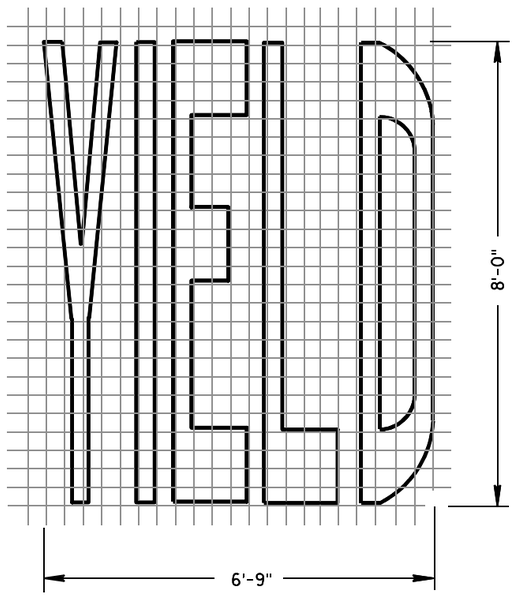


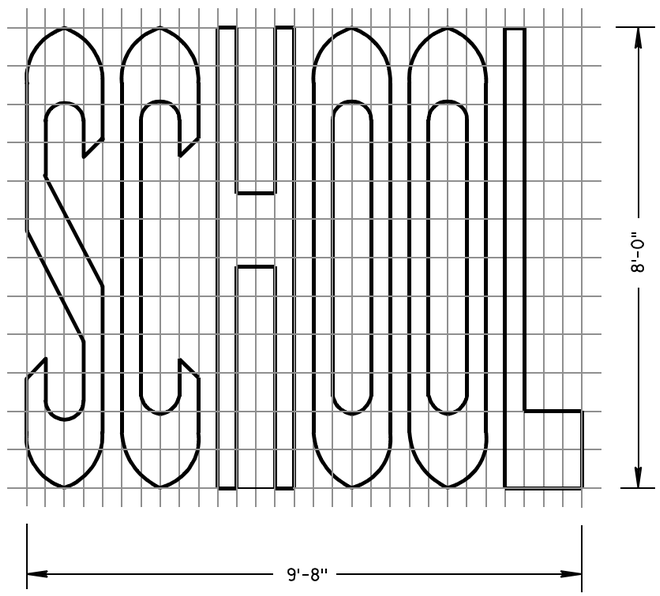


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 DATE — /S/ Thomas N. Nottbohm STATE TRAFFIC ENGINEER — IGN

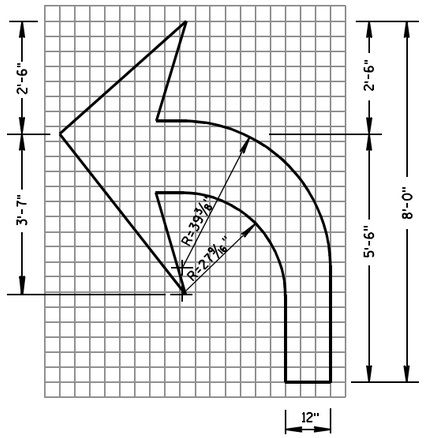
FHWA

6

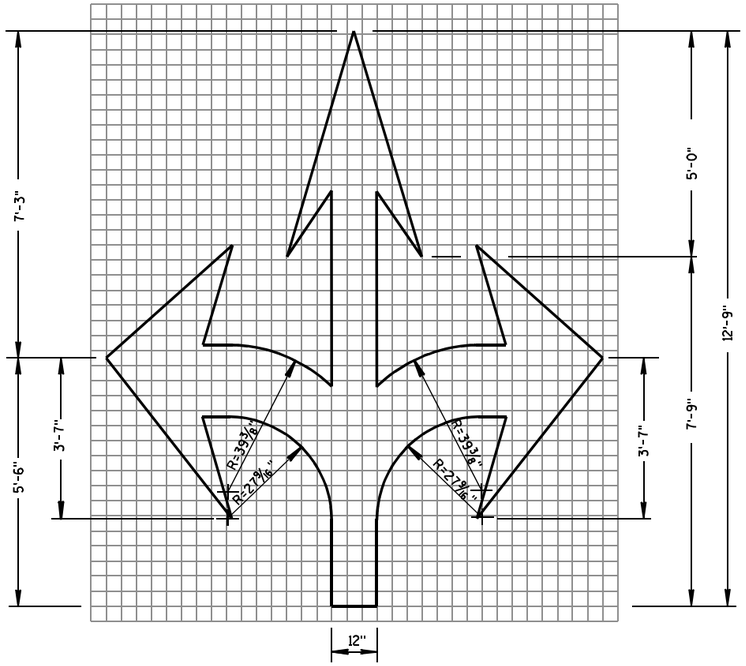
S.D.D. 15 C 7-12b

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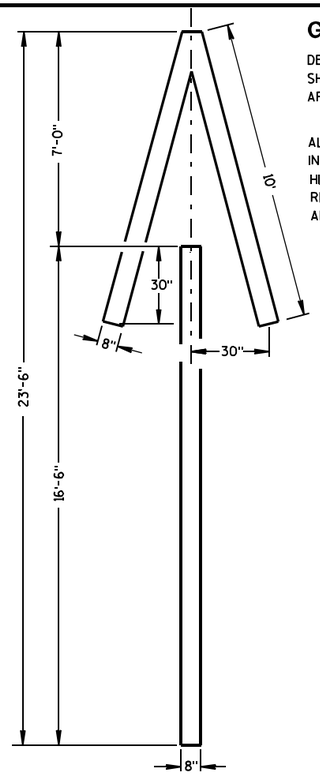
S.D.D. 15 C 7-12b



TYPE 2



TYPE 6

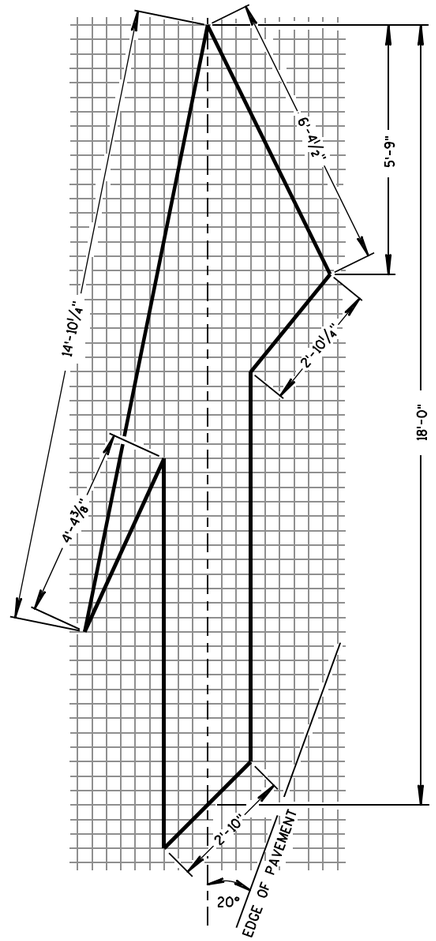


TYPE 4

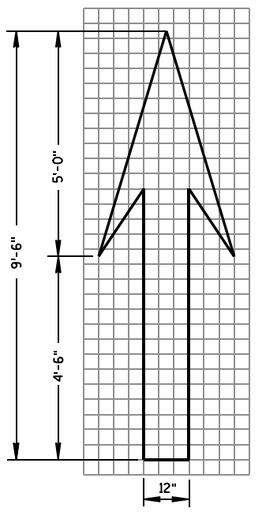
GENERAL NOTES

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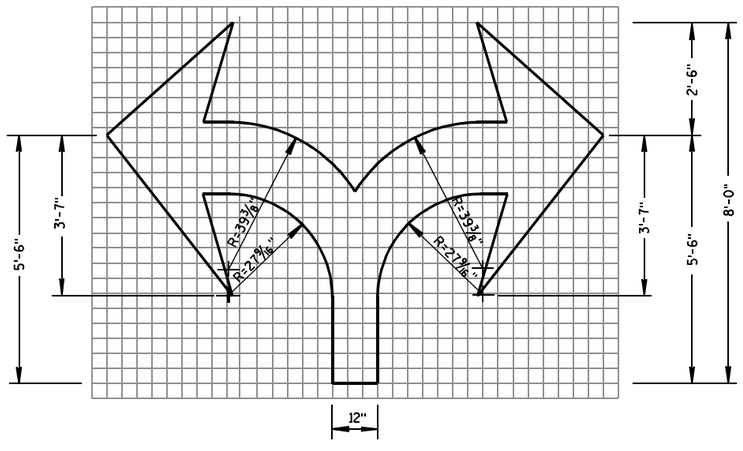
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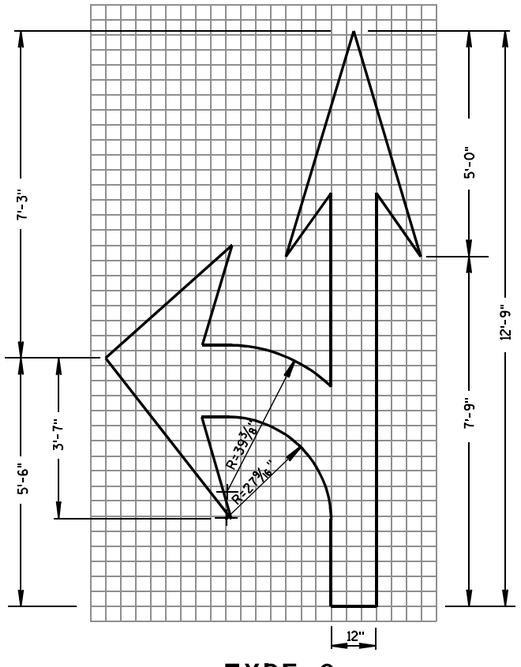
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

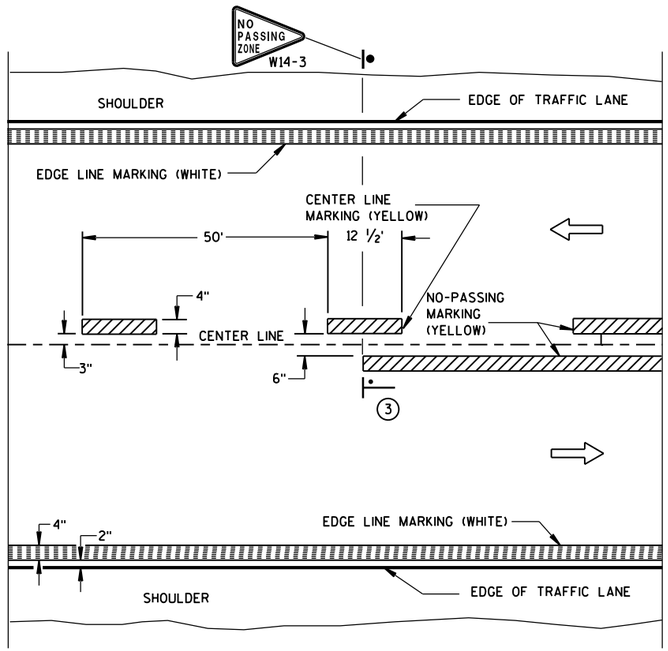
PAVEMENT MARKING ARROWS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
7/1/11 DATE	/S/ Thomas N. Nathobm STATE TRAFFIC ENGINEER
FHWA	

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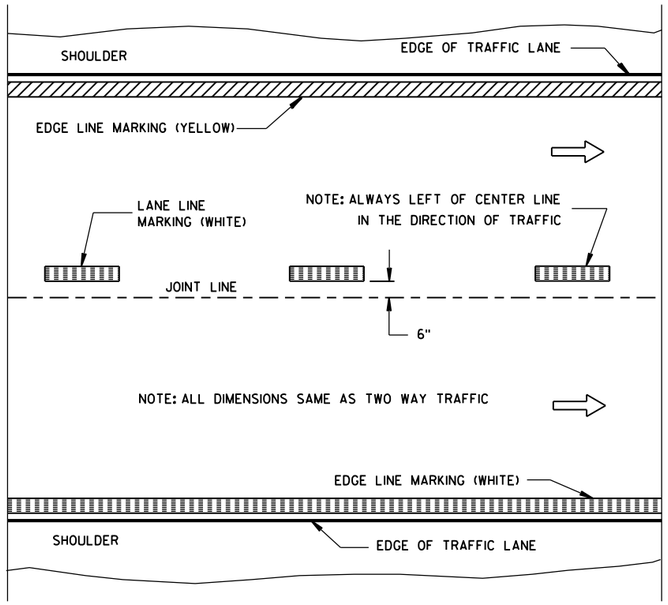
S.D.D. 15 C 7-12c

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S.D.D. 15 C 7-12c

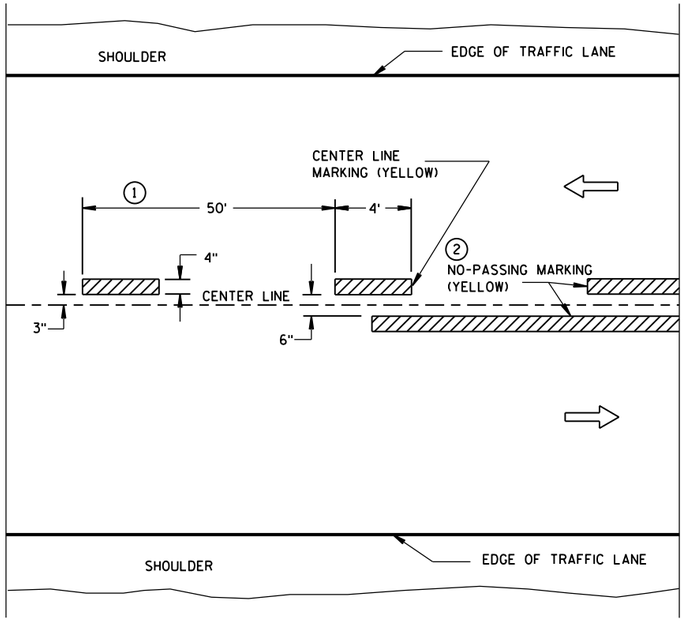


TWO WAY TRAFFIC

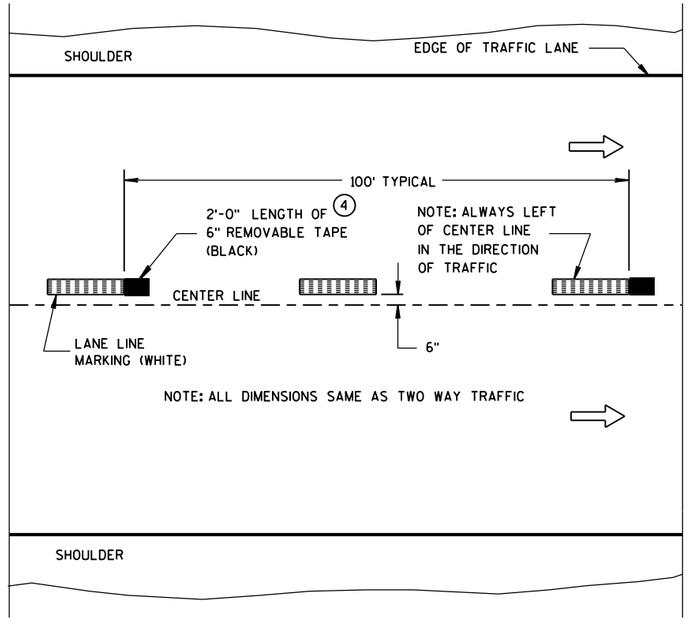


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

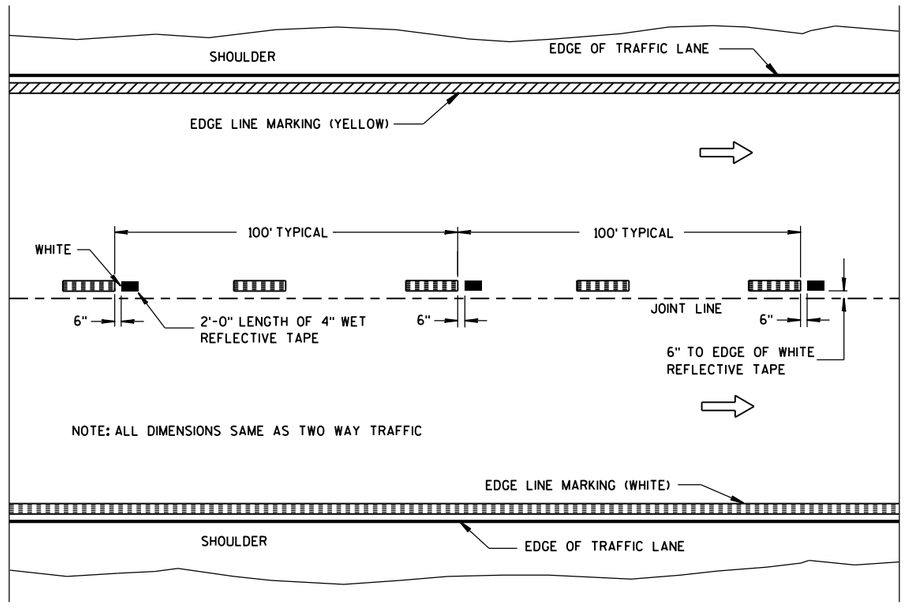
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013 DATE

/S/ Travis Feltes STATE TRAFFIC E

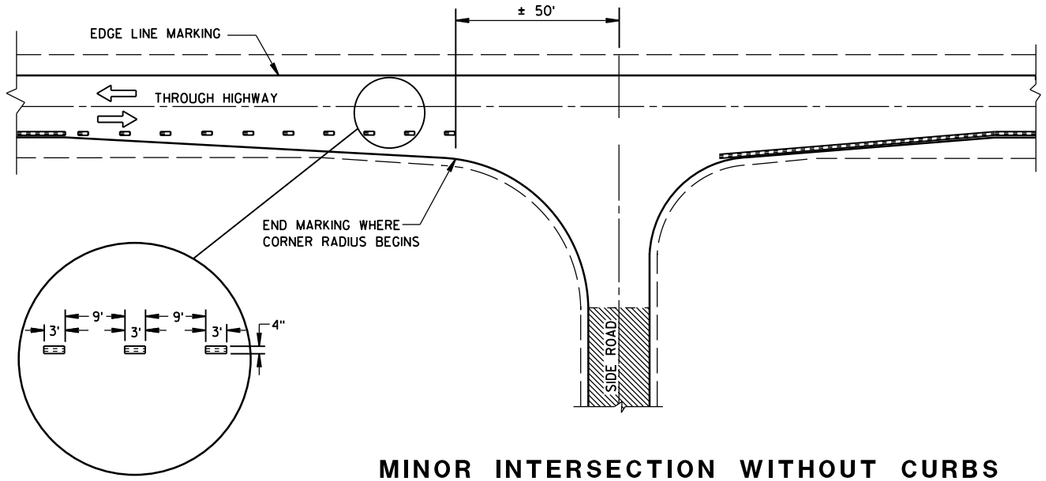
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S.D.D. 15 C 8-16a

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S.D.D. 15 C 8-16a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

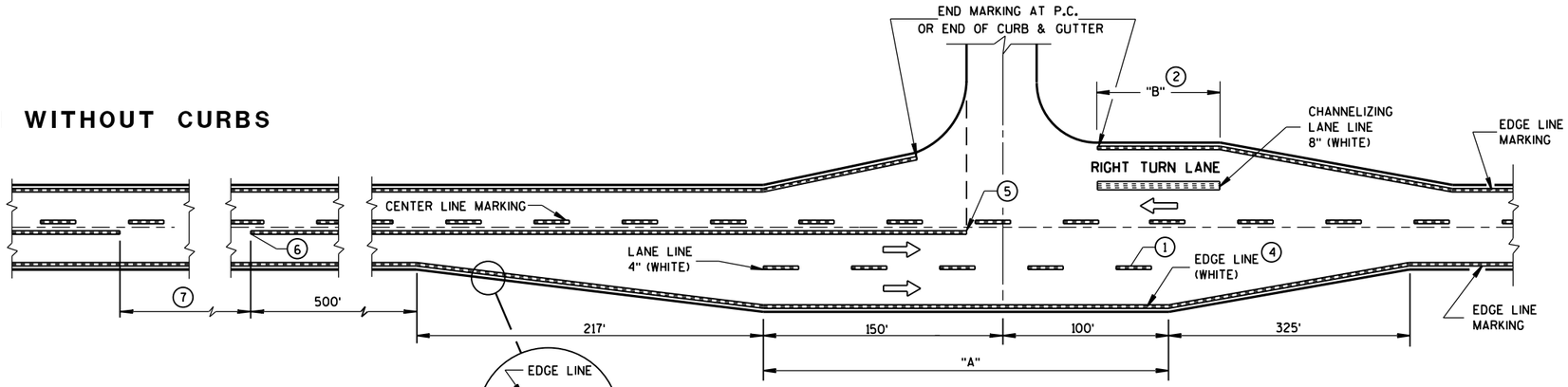
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

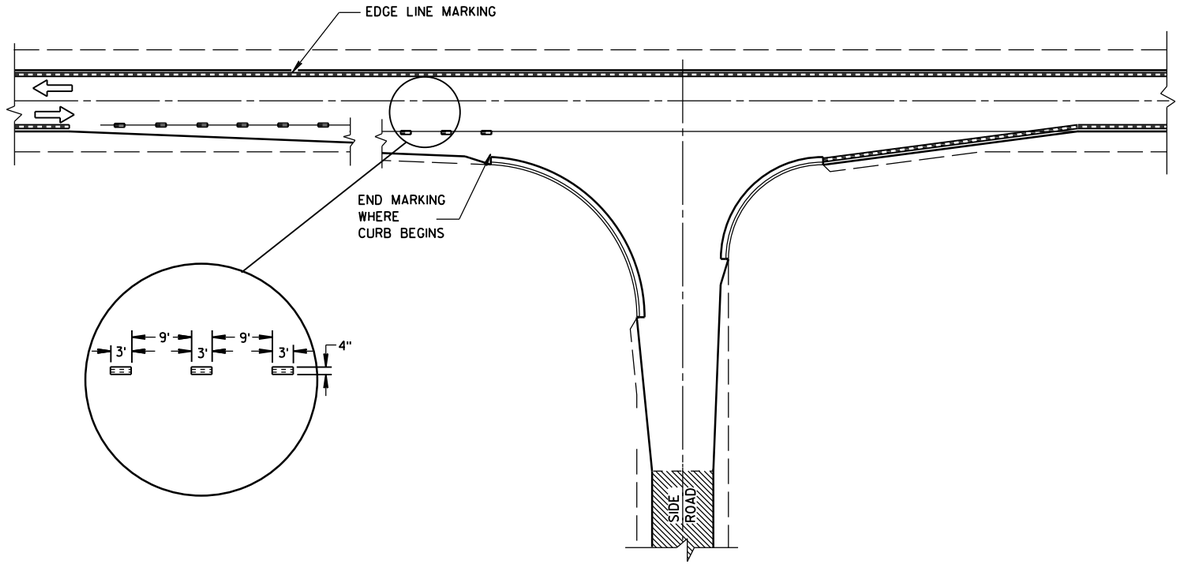
(7)

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



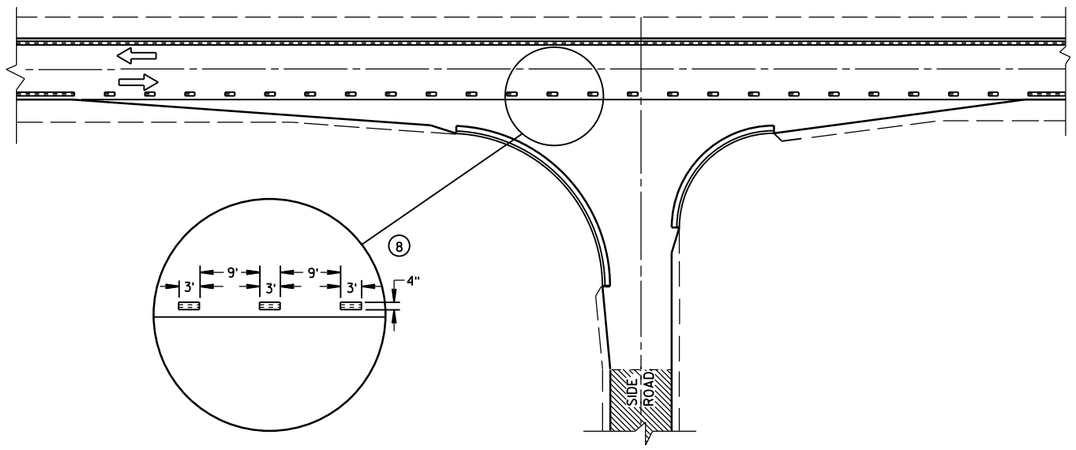
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 270

6

S.D.D. 15 C 8-16b

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S.D.D. 15 C 8-16b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

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

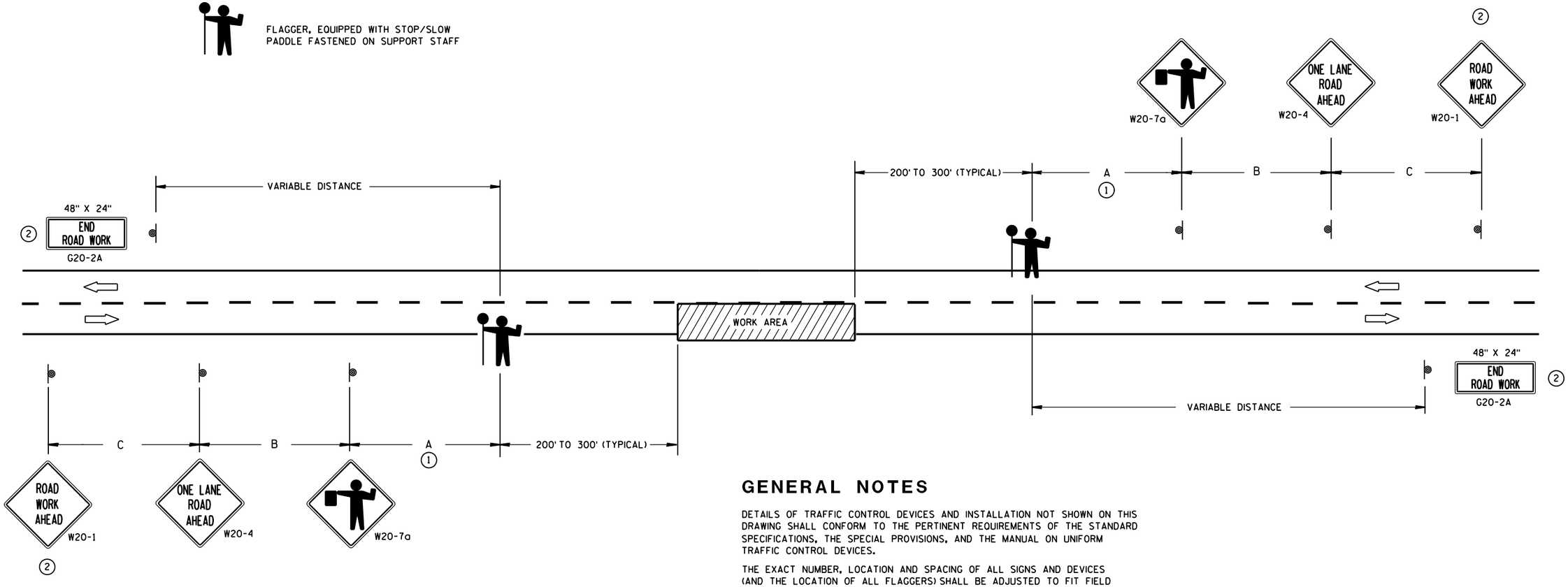
SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

GENERAL NOTES

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

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

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

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.

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, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

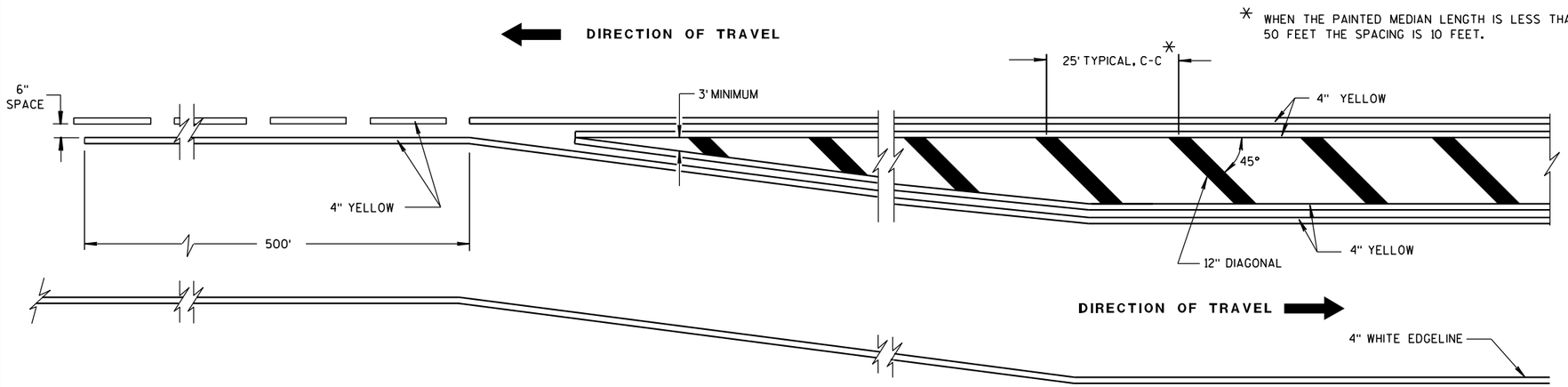
APPROVED
8/2013
DATE
/S/ Travis Feltes
STATE TRAFFIC ENGINEER
FHWA

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S.D.D. 15 C 12-4

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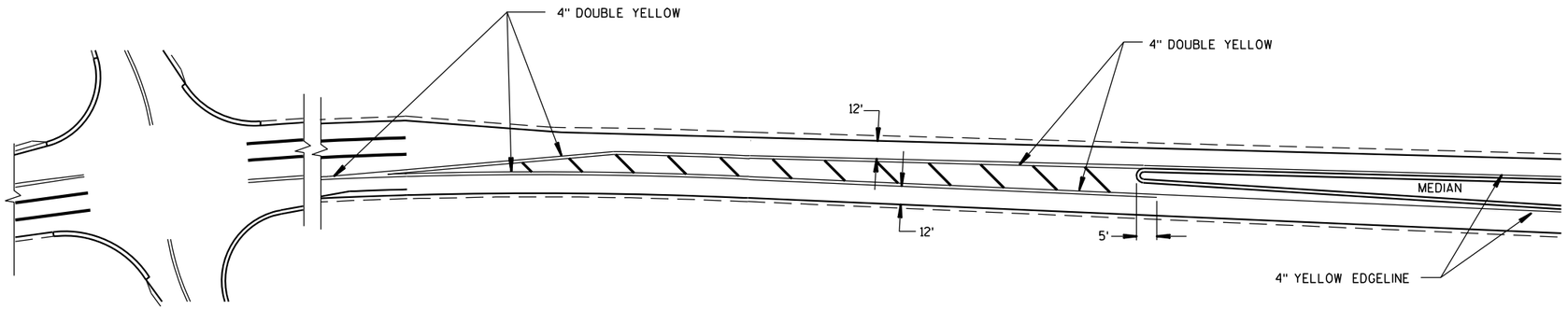
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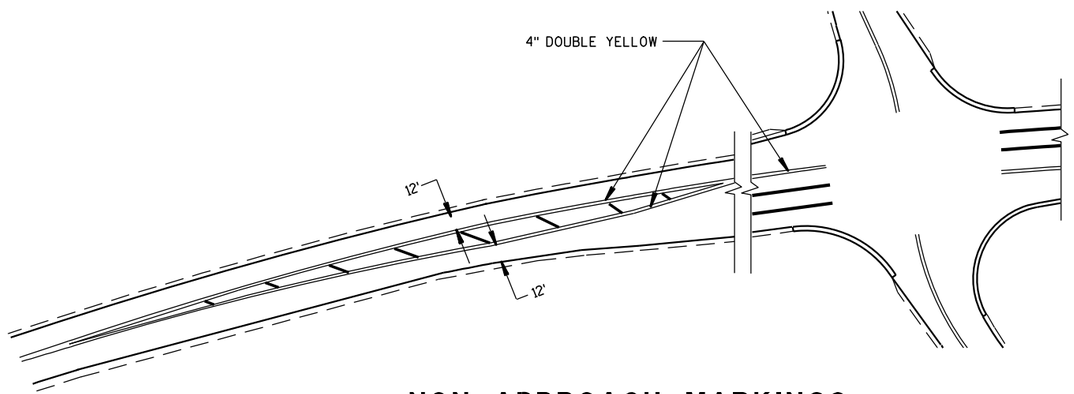
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

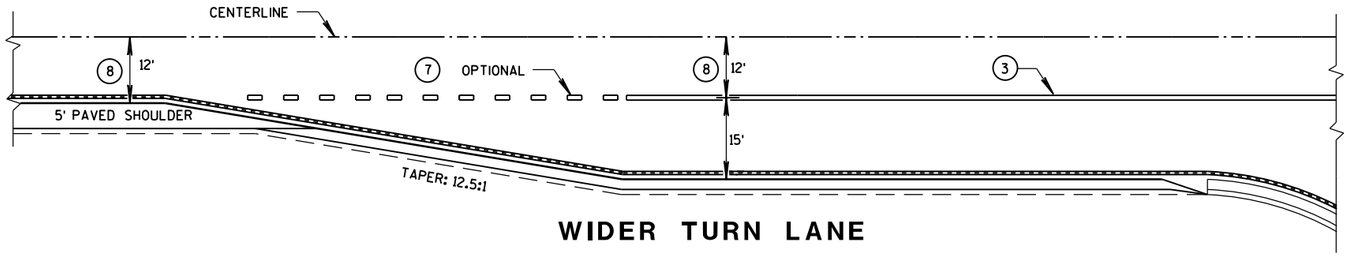
MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER 272 IGN
FHWA	

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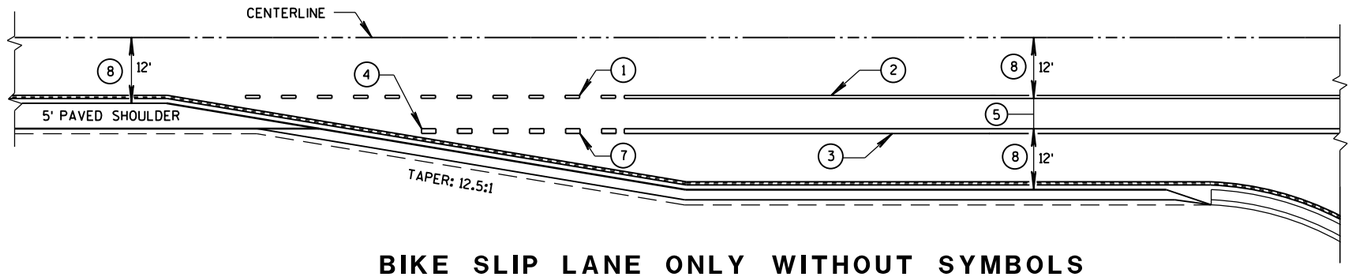
S.D.D. 15 C 18-3

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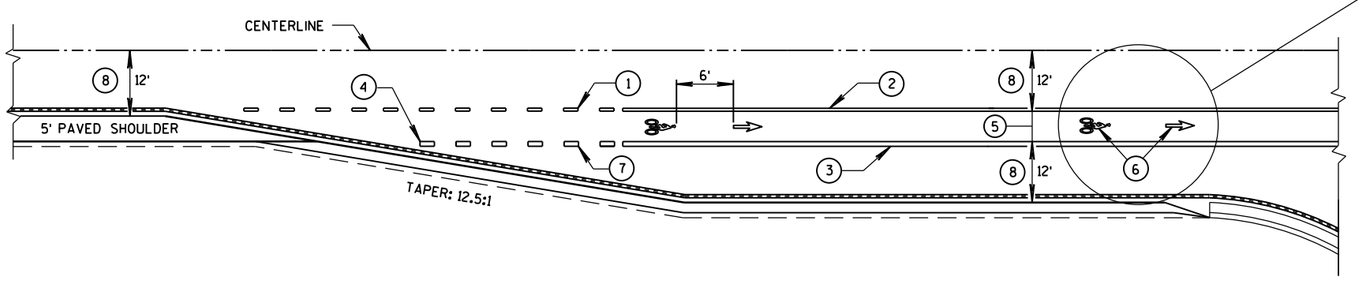
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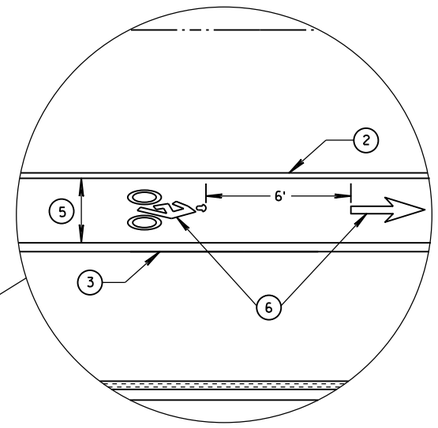
WIDER TURN LANE



BIKE SLIP LANE ONLY WITHOUT SYMBOLS



BIKE LANE WITH SYMBOLS



GENERAL NOTES

1. 3' LINE, 9' GAP - 4-INCH WIDE, WHITE.
2. 4-INCH, WHITE.
3. 8-INCH, WHITE.
4. IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT.
5. BIKE ACCOMMODATION FOR CONCRETE PAVEMENT IS 5' WIDE. BIKE ACCOMMODATION FOR ASPHALT PAVEMENT IS A MINIMUM OF 4', 5' AT ≥ 45 MPH.
6. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
7. 3' LINE, 9' GAP - 8-INCH WIDE, WHITE.
8. REFER TO CONTRACT PLANS.

BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

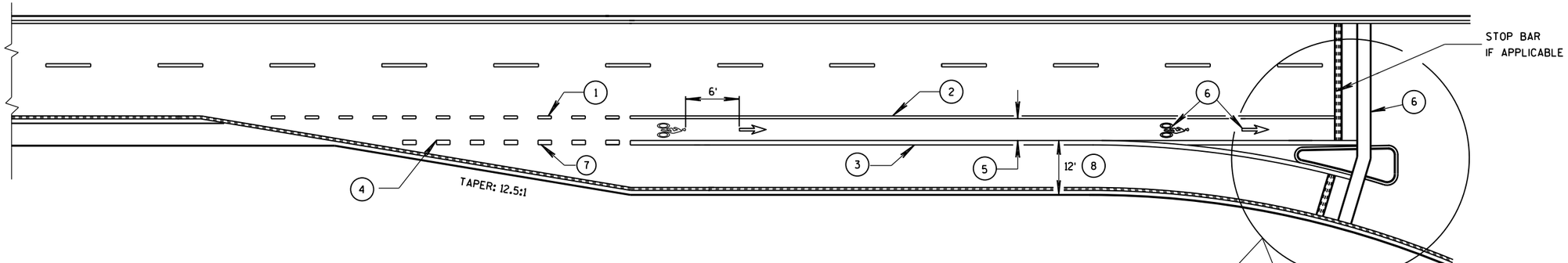
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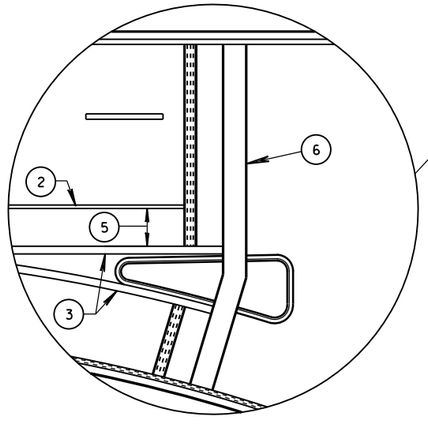
S.D.D. 15 C 29-3a

GENERAL NOTES

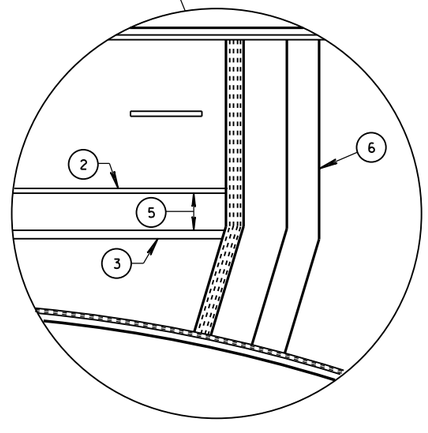
1. 3' LINE, 9' GAP - 4-INCH WIDE, WHITE.
2. 4-INCH, WHITE.
3. 8-INCH, WHITE.
4. IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT.
5. 5' TYPICAL.
6. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
7. 3' LINE, 9' GAP - 8-INCH WIDE, WHITE.
8. REFER TO CONTRACT PLANS.



BIKE LANE - 4-LANE DIVIDED WITH RIGHT TURN LANE



4 LANE DIVIDED WITH ISLAND



4 LANE DIVIDED WITHOUT ISLAND

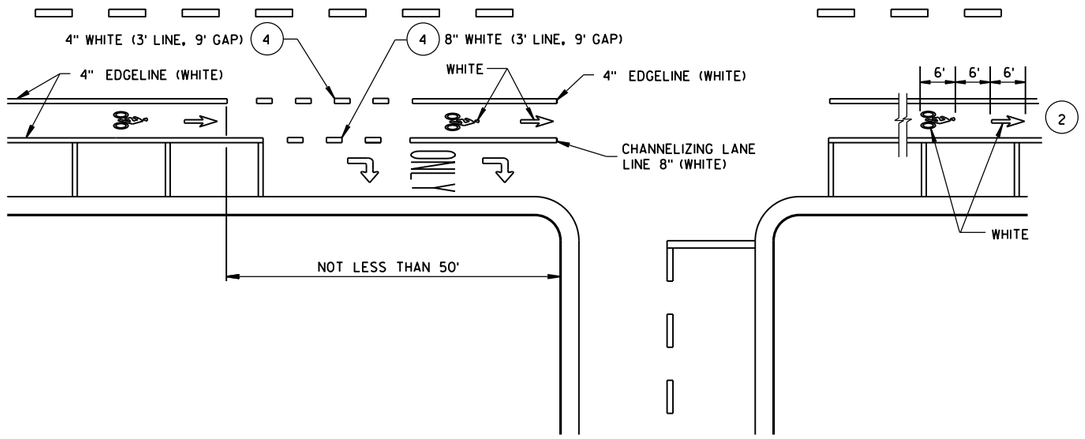
BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/30/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
FHWA

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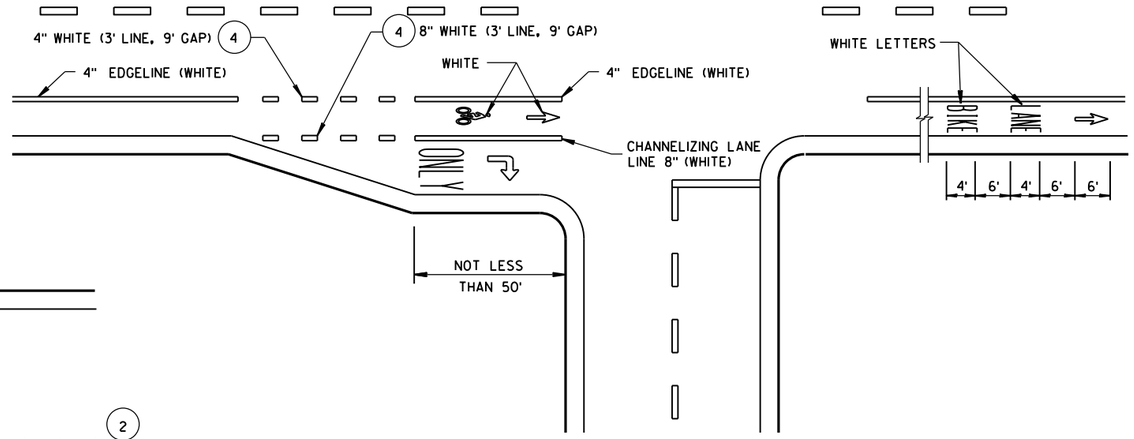
S.D.D. 15 C 29-3b



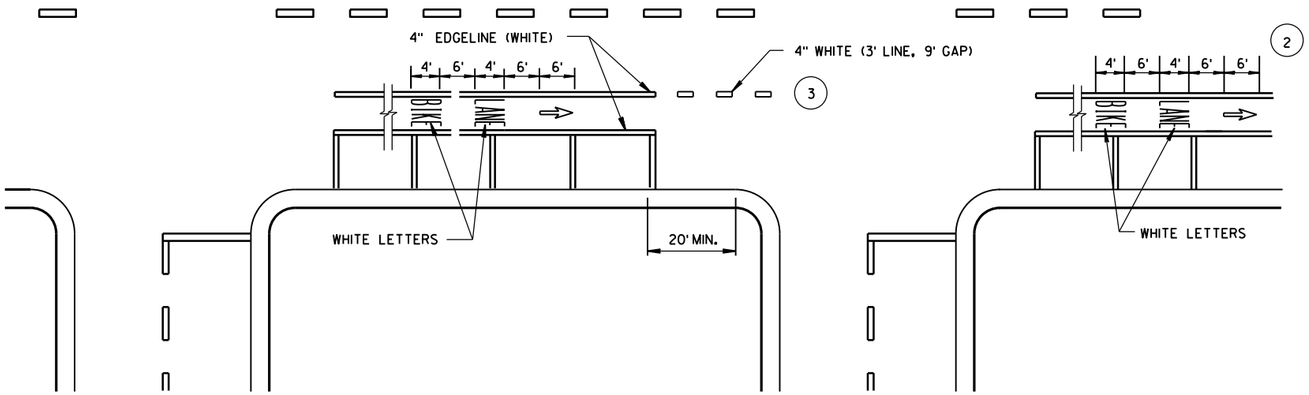
DESIGNATED BICYCLE LANE

GENERAL NOTES

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. THE SERIES OF PAVEMENT MARKING SYMBOLS SHALL BE REPEATED AFTER INTERSECTIONS AND SPACED A MAXIMUM OF 250'. NO PAVEMENT MARKING WILL TAKE PLACE IN THE CROSSWALK.
3. DOTTED LINES SHOULD BE USED 50' TO 200' IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
4. WHEN SPECIFIED IN THE CONTRACT.



DESIGNATED BICYCLE LANE
NO PARKING, RIGHT TURN LANE



DESIGNATED BICYCLE LANE
WITH PARKING, NO RIGHT TURN LANE

URBAN BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/30/2013 DATE
/S/ Travis Feltes
STATE TRAFFIC E
FHWA

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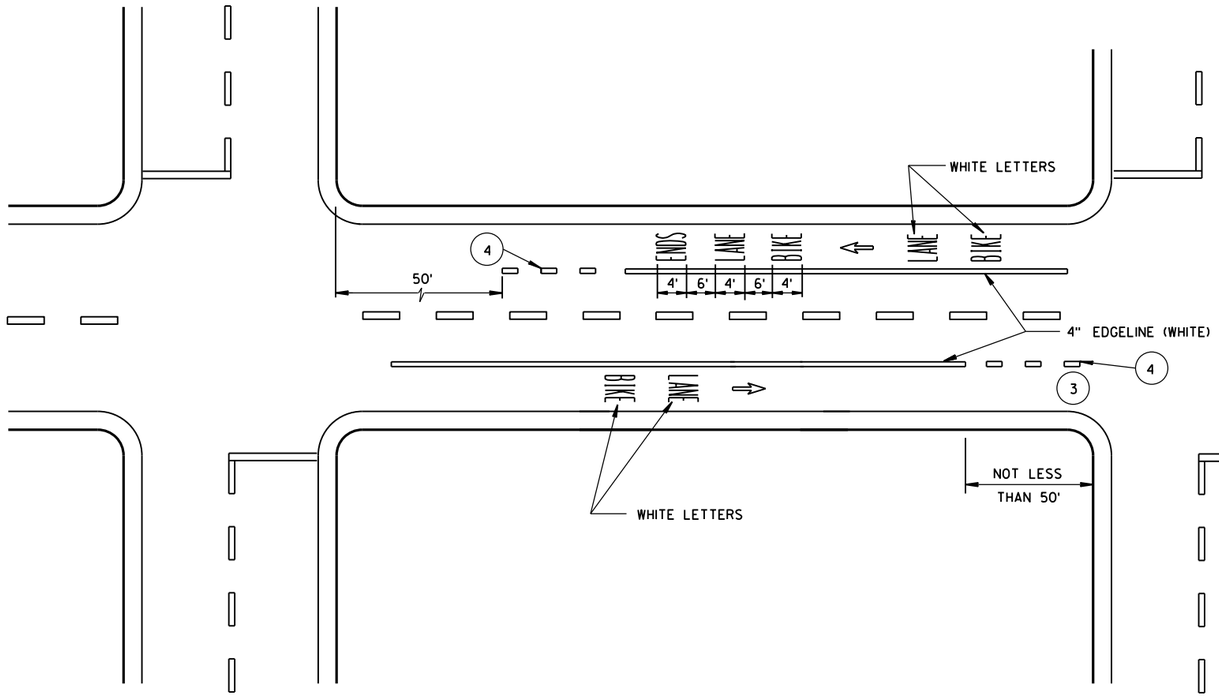
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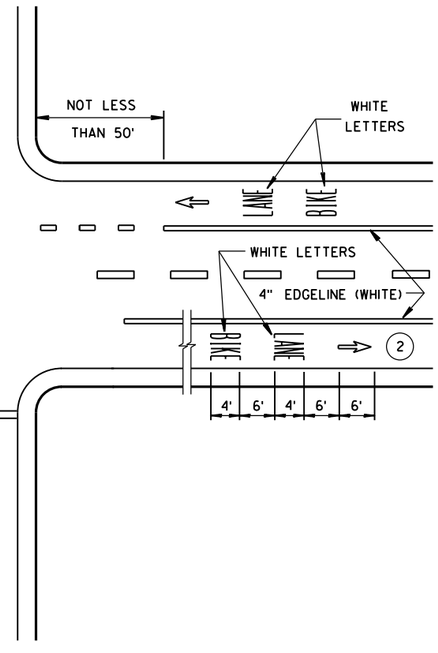
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S.D.D. 15 C 29-3c

GENERAL NOTES

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. THE SERIES OF PAVEMENT MARKING SYMBOLS SHALL BE REPEATED AFTER INTERSECTIONS AND SPACED A MAXIMUM OF 250'. NO PAVEMENT MARKING WILL TAKE PLACE IN THE CROSSWALK.
3. DOTTED LINES SHOULD BE USED 50' TO 200' IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
4. 3' LINE, 9' GAP - 4" WIDE, WHITE.





DESIGNATED BICYCLE LANE
NO PARKING

URBAN BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/30/2013
DATE
/S/ Travis Feltes
STATE TRAFFIC EN
FHWA

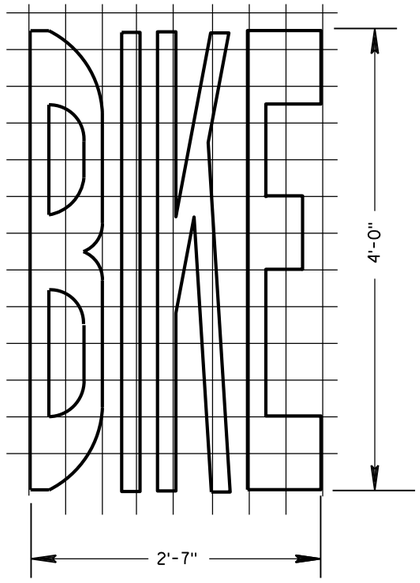
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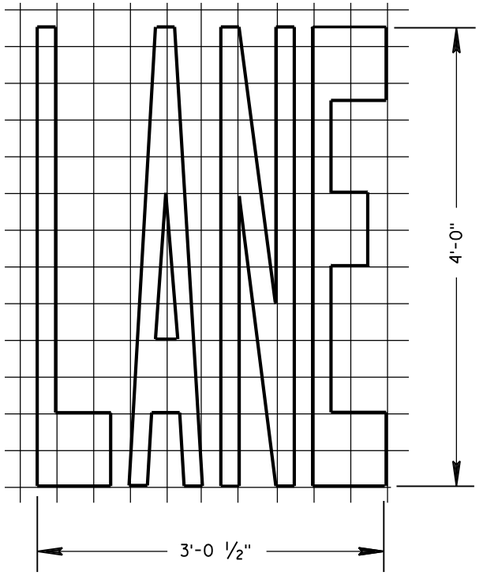
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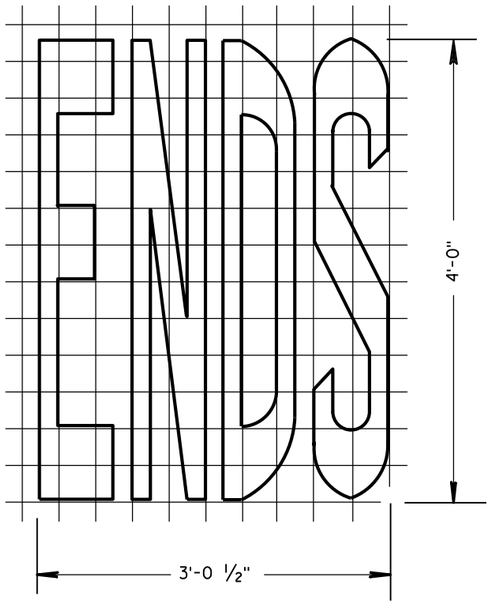
GENERAL NOTES

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.

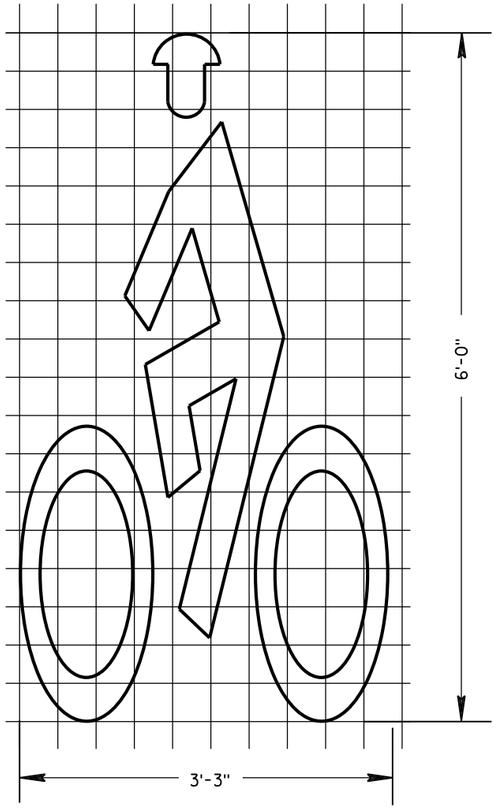
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



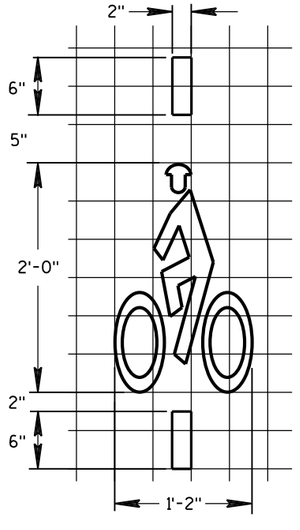




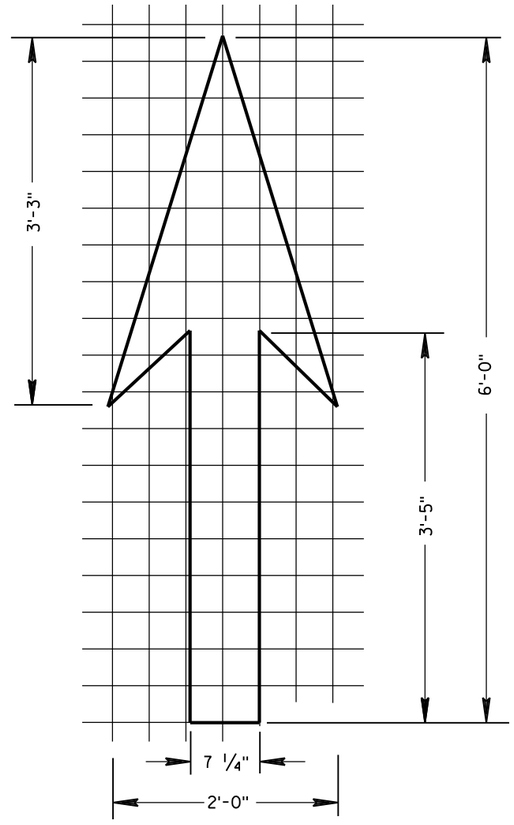
BIKE LANE WORDS



BIKE LANE SYMBOL



BICYCLE DETECTOR PAVEMENT MARKING



BIKE LANE ARROW

PAVEMENT MARKING FOR BIKE LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-30-2013
DATE

/S/ Travis Feltes
STATE TRAFFIC EN

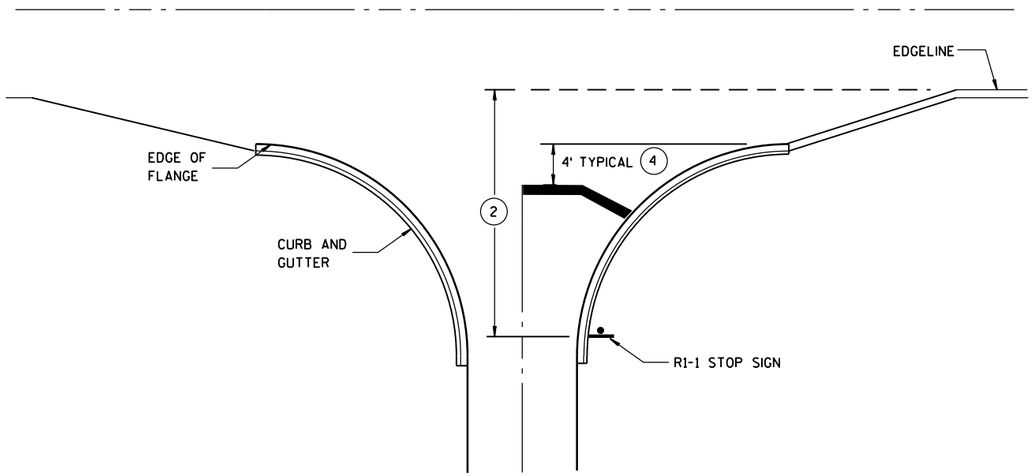
FHWA

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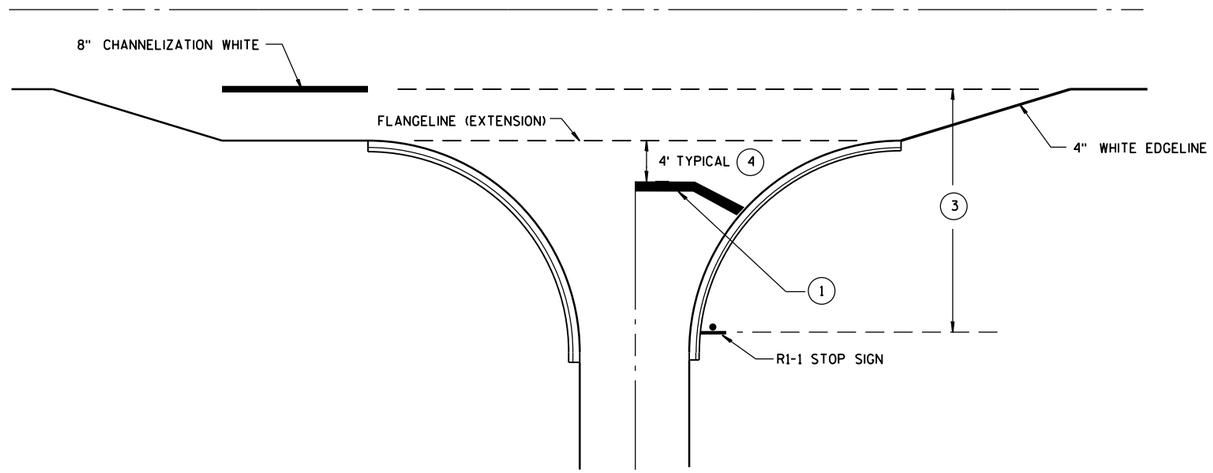
S.D.D. 15 C 29-3e

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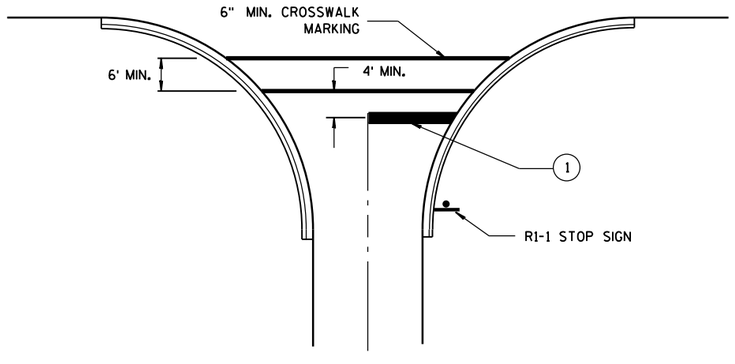
S.D.D. 15 C 29-3e



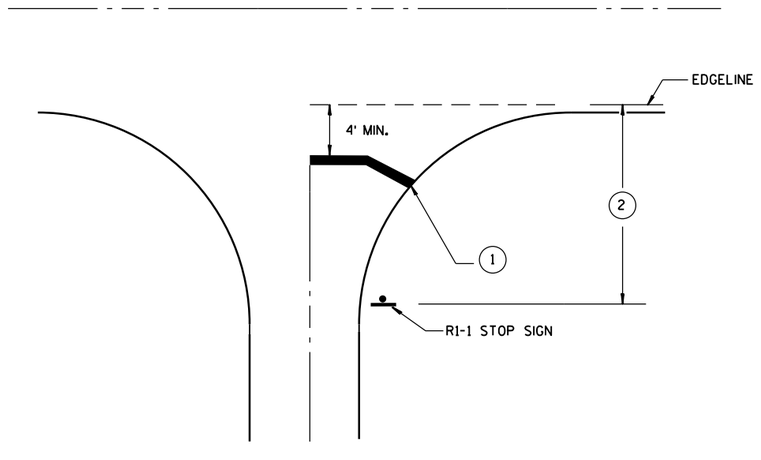
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

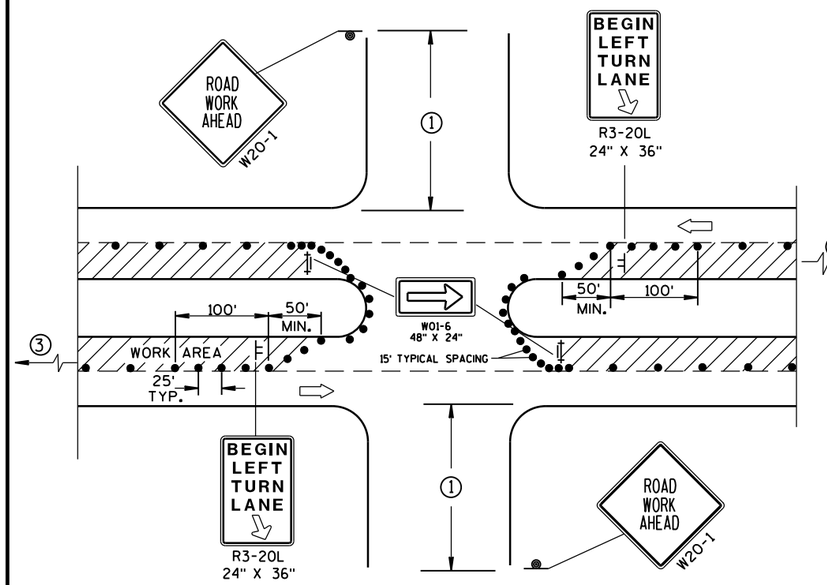
4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

6

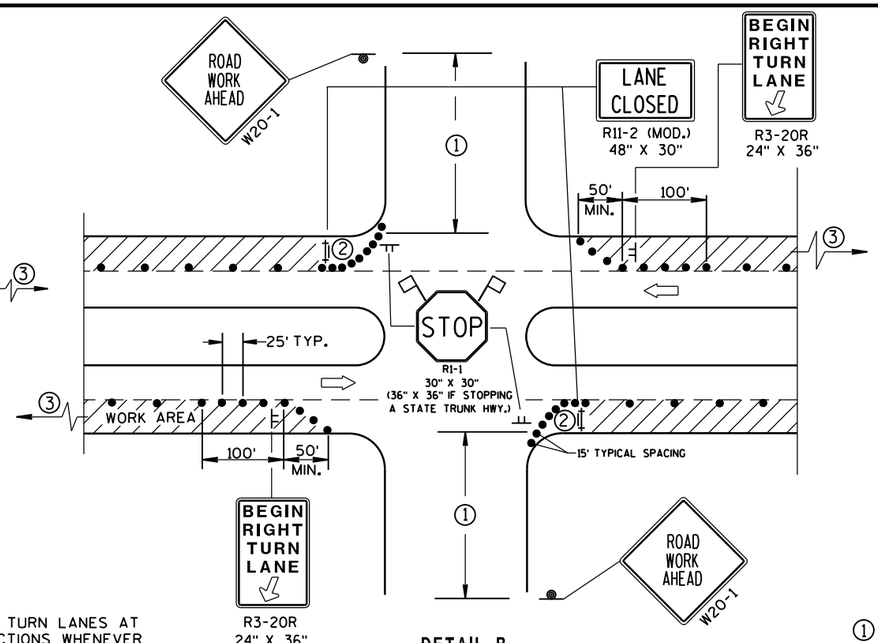
S.D.D. 15 C 33-1



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

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 SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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 DISTRICT TRAFFIC UNIT.

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

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

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 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.

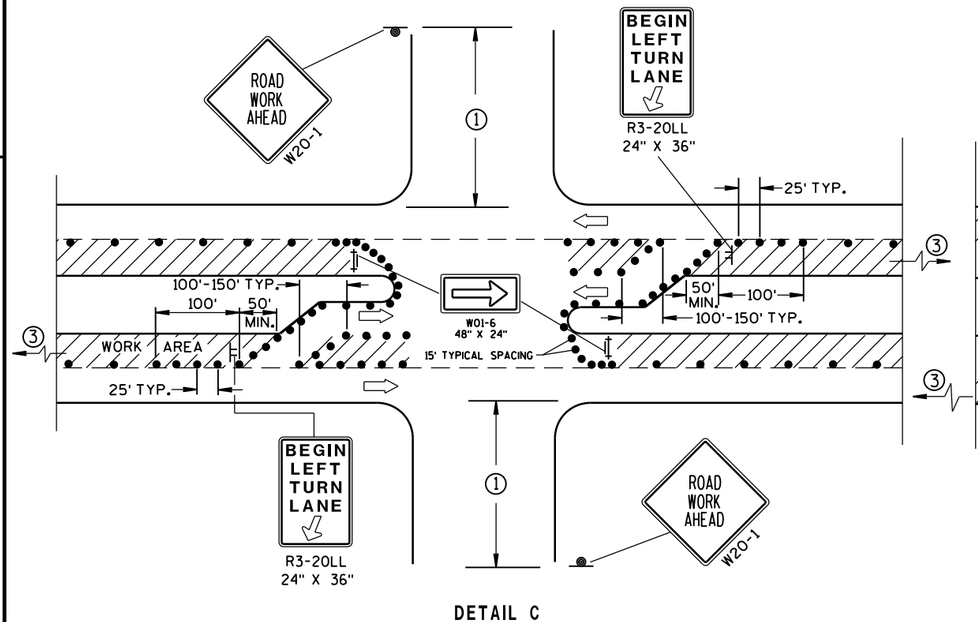
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE 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.

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

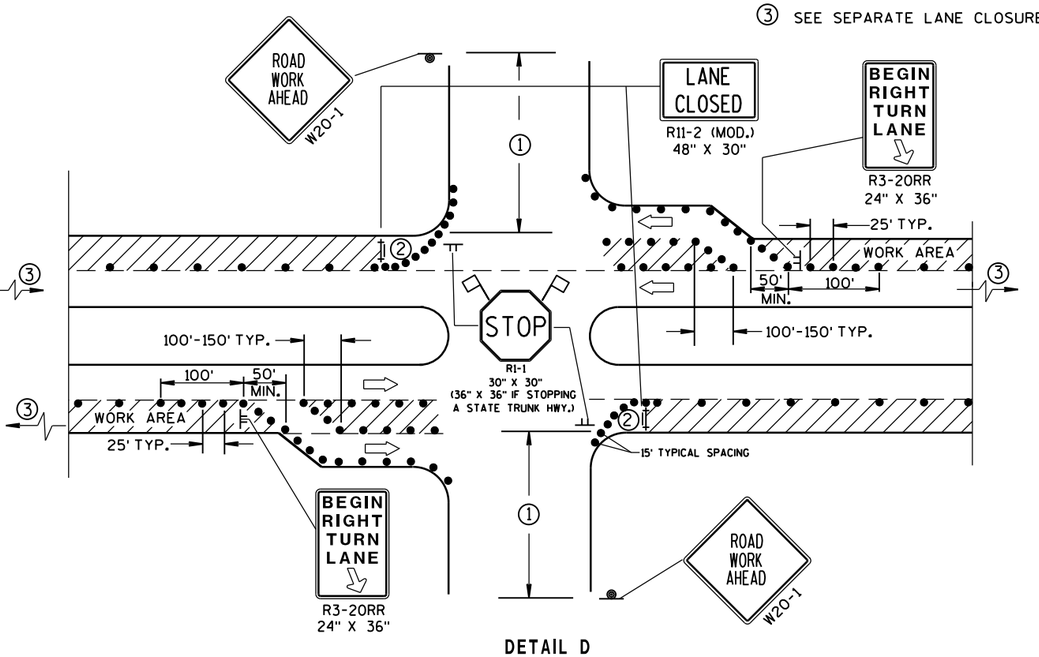
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

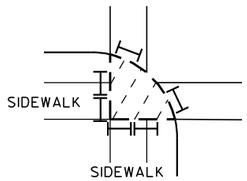
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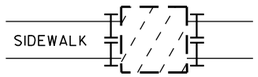
FHWA

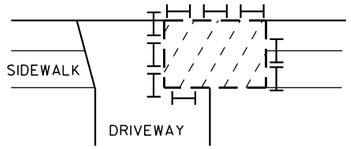
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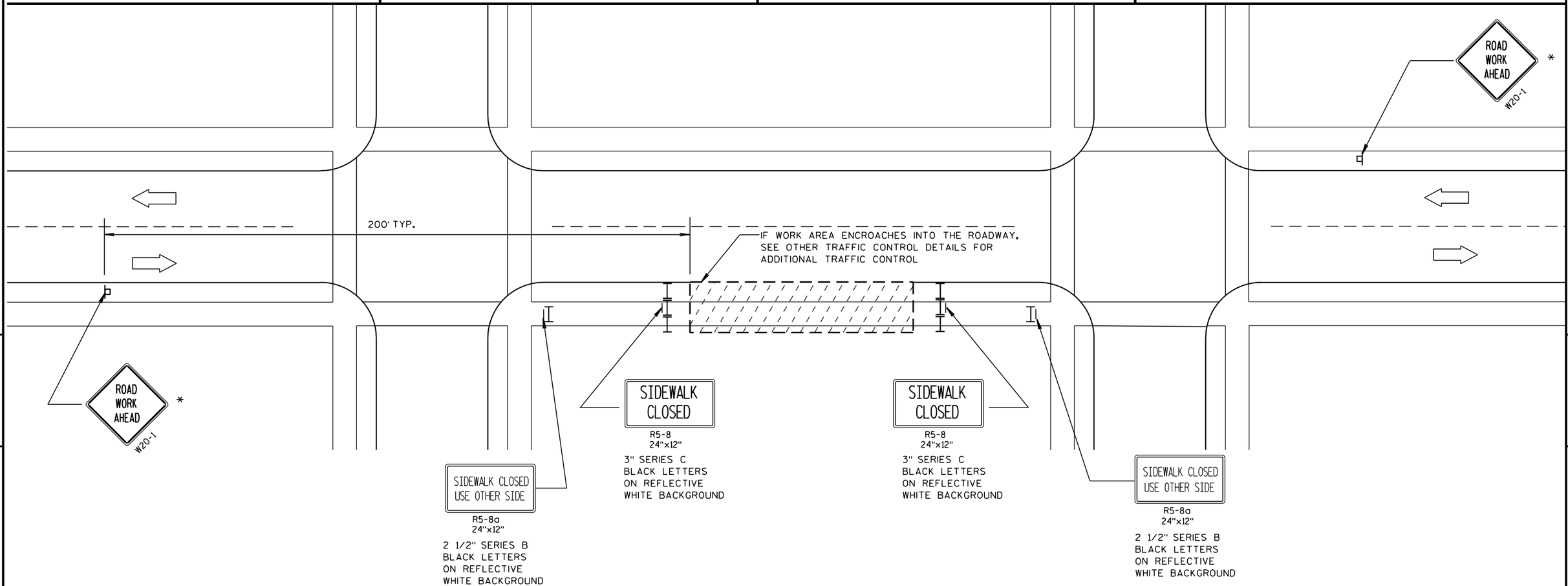
S.D.D. 15 D 21-2

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

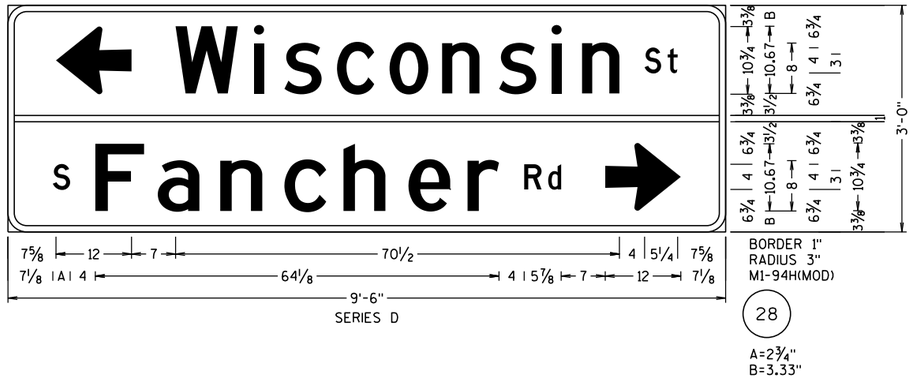
APPROVED
5/23/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK 280 NEER
FHWA

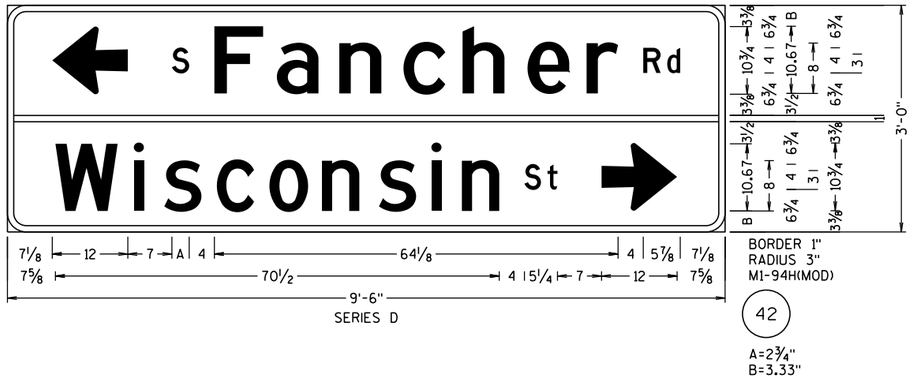
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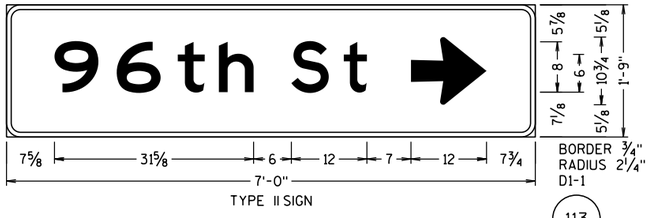
S.D.D. 15 D 30-1

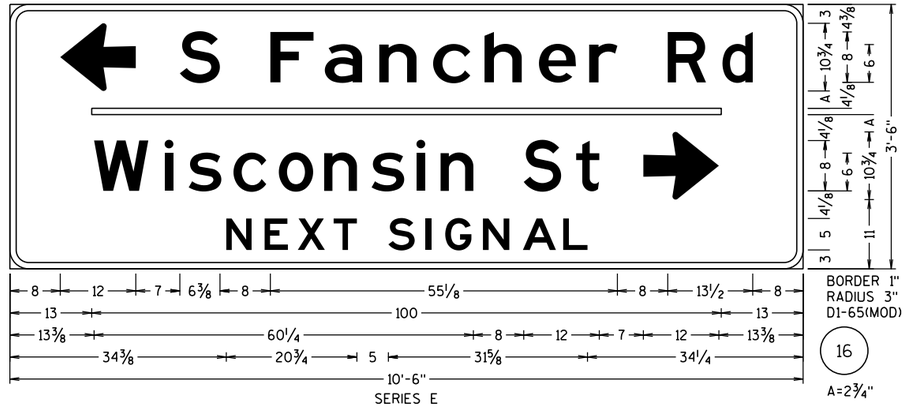
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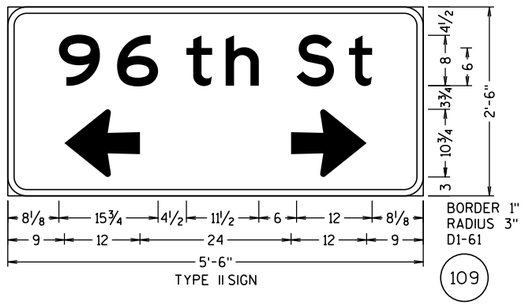
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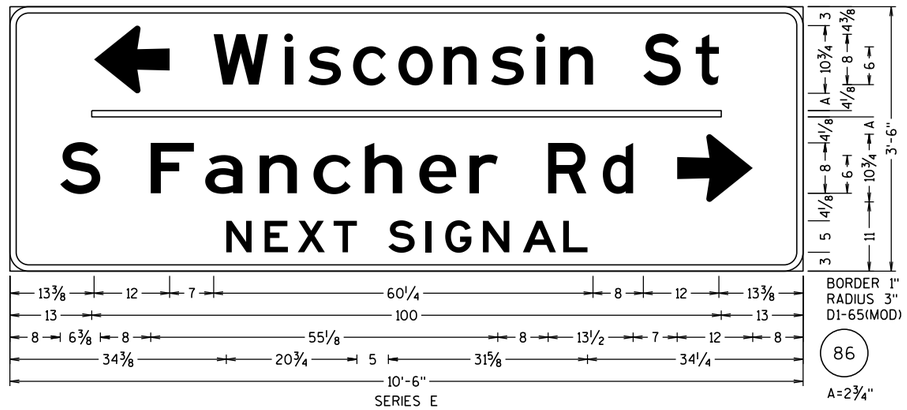












GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE I".

3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.

6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"

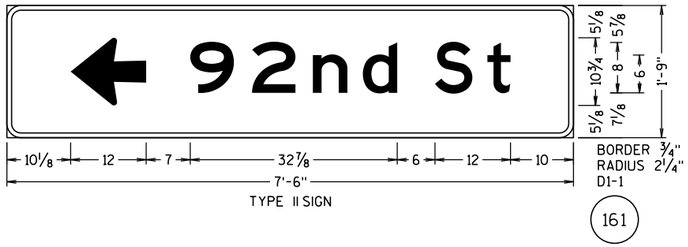
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

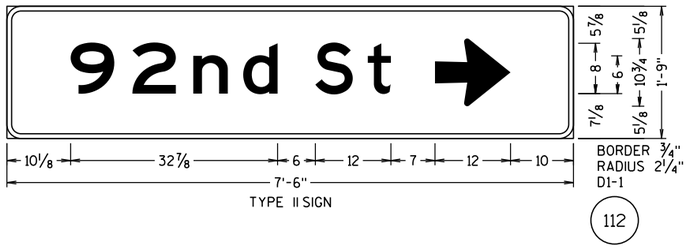
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

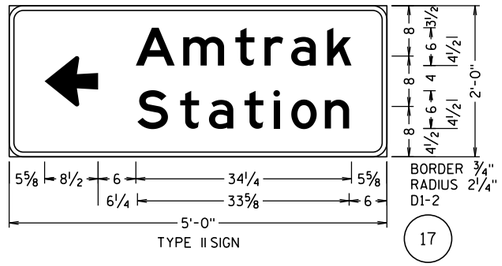
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

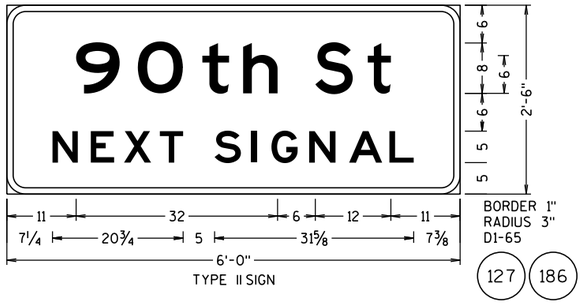
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

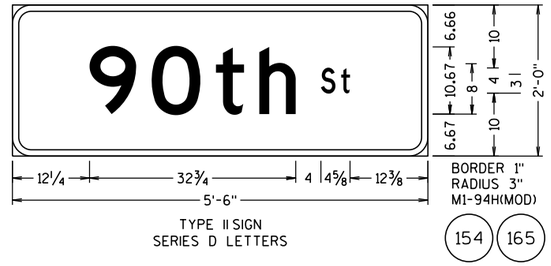
11. DO NOT SCALE.











GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE I".

3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

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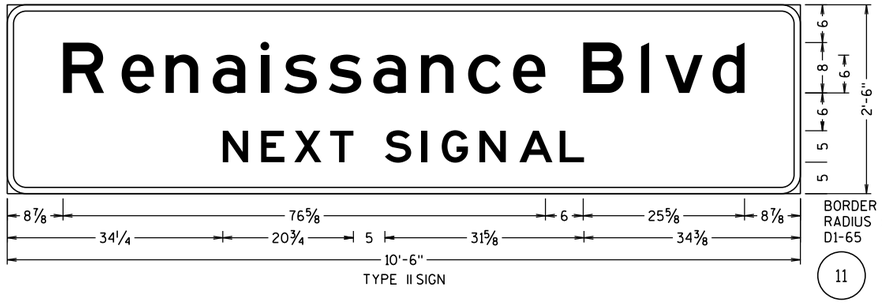
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

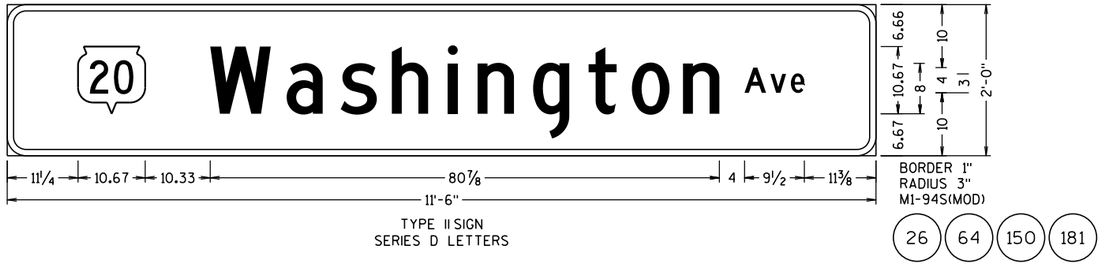
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.

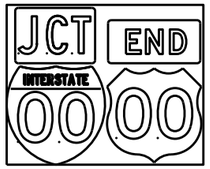




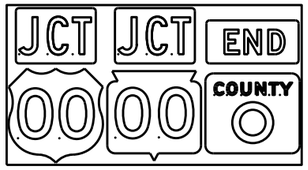
TYPICAL ASSEMBLIES



J1-1



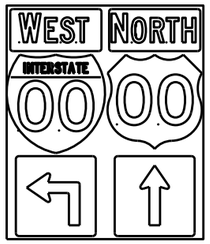
J1-2



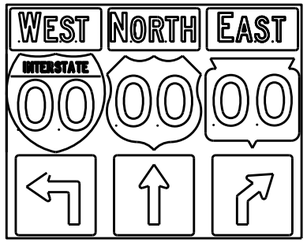
J1-3



J2-1



J2-2

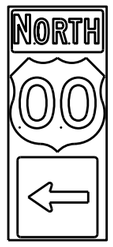


J2-3

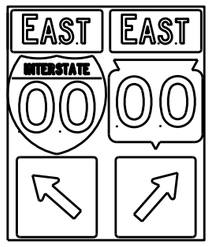


JV

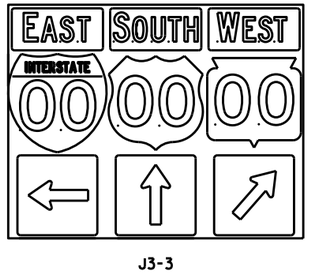
(Typical Vertical J-Assembly
See Note 10 and 11)



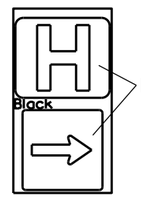
J3-1



J3-2



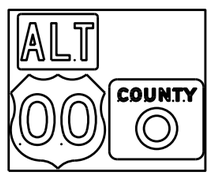
J3-3



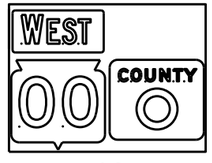
JH-1



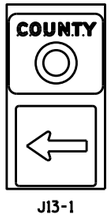
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

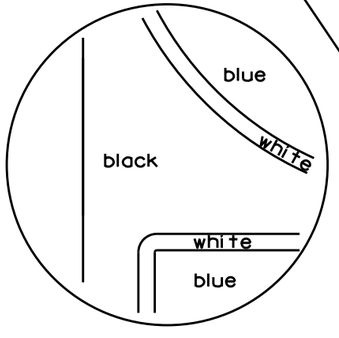


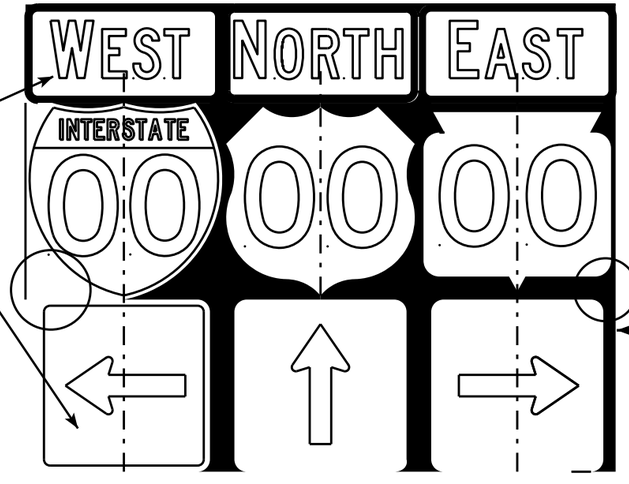
J23-1

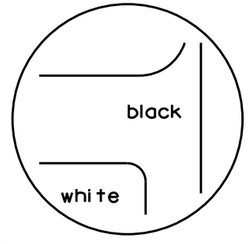


J22-1

[blue background with interstate]







[black background]

NOTES

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

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

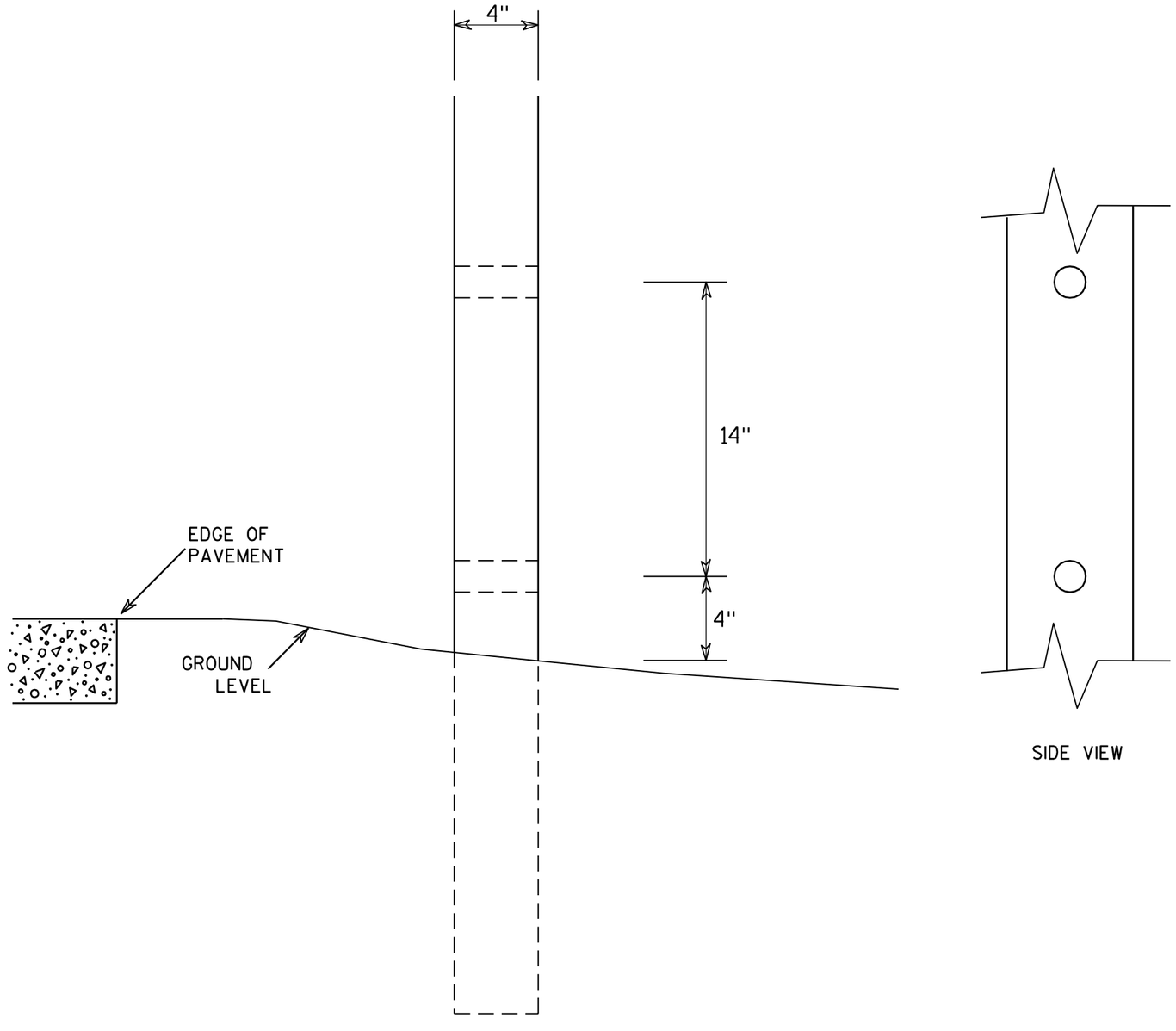
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: SHEET NO: E

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

WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

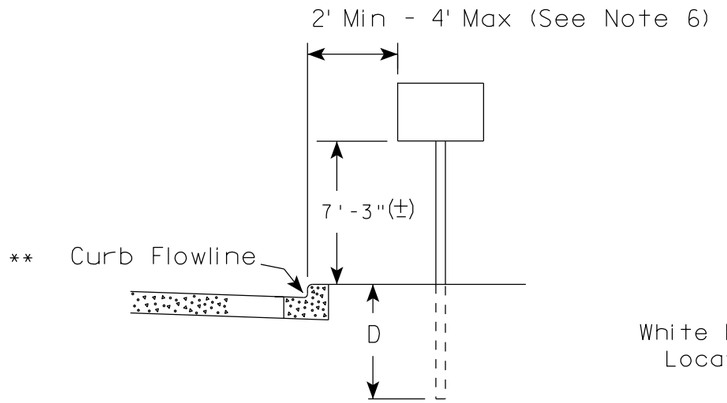
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

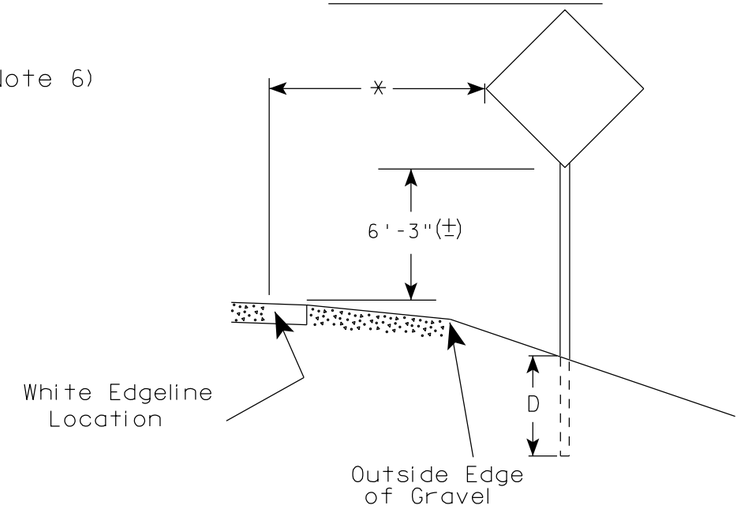
DATE 3/27/97 PLATE NO. A4-11.2

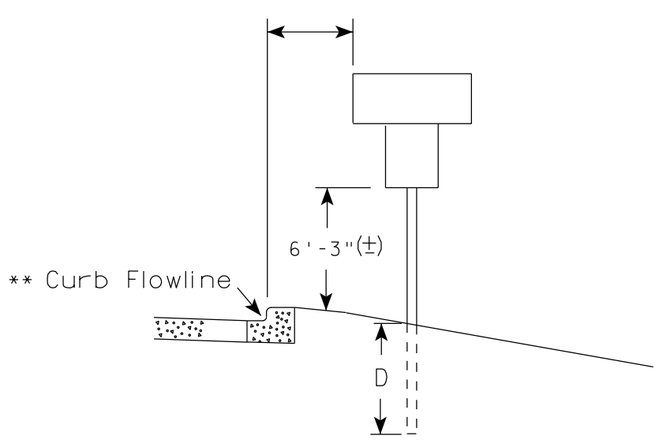
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 284	E

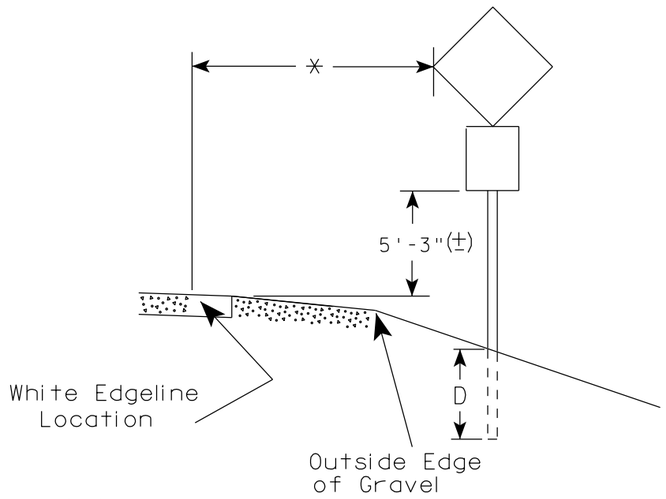
URBAN AREA



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.

GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

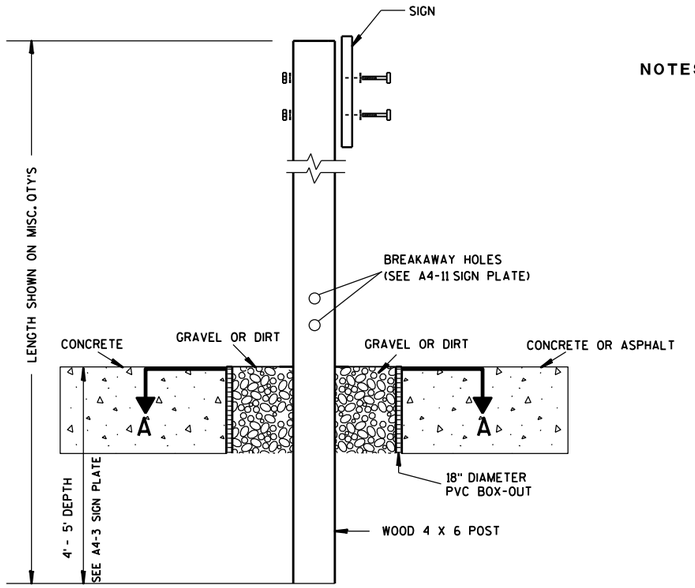
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

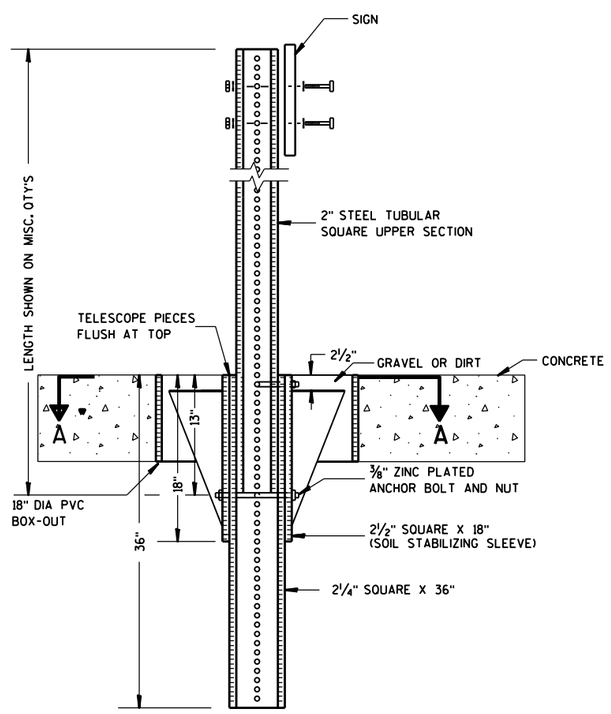
7



ELEVATION VIEW

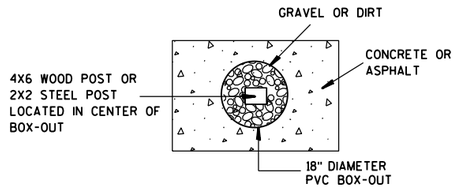
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

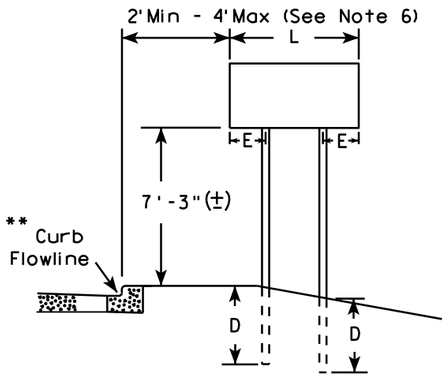
APPROVED Matthew R Rauch
for State Traffic Engineer

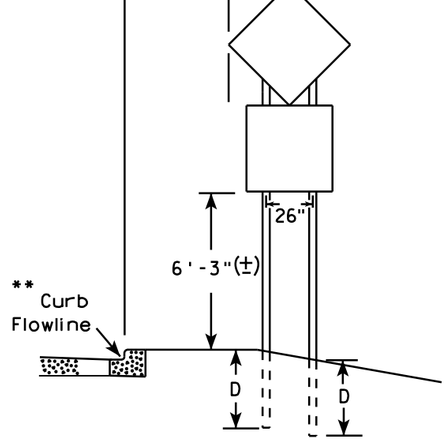
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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

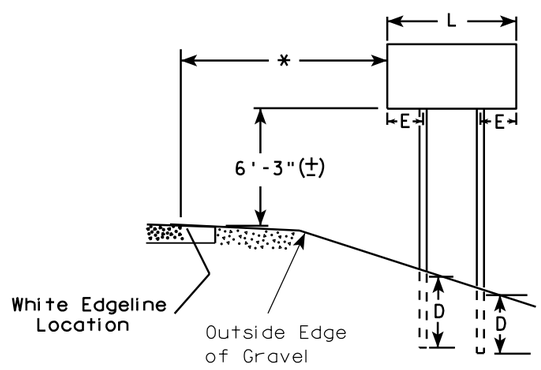
URBAN AREA

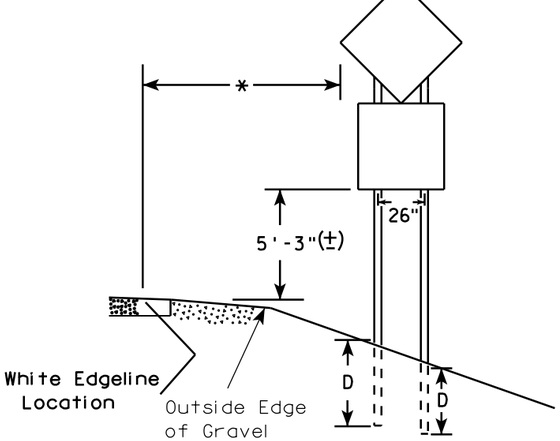




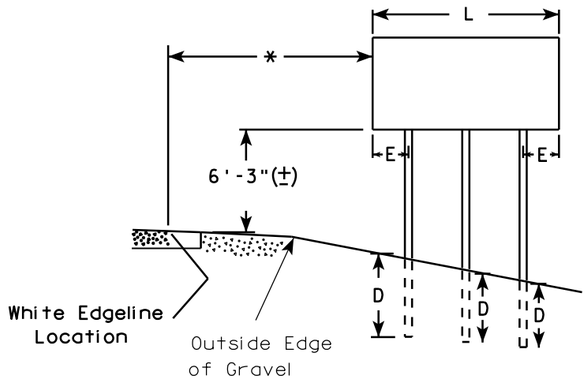
48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)





48" DIAMOND WARNING SIGN



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. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) 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) & End of Road Markers (W5-56 & W5-56A) 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 or less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

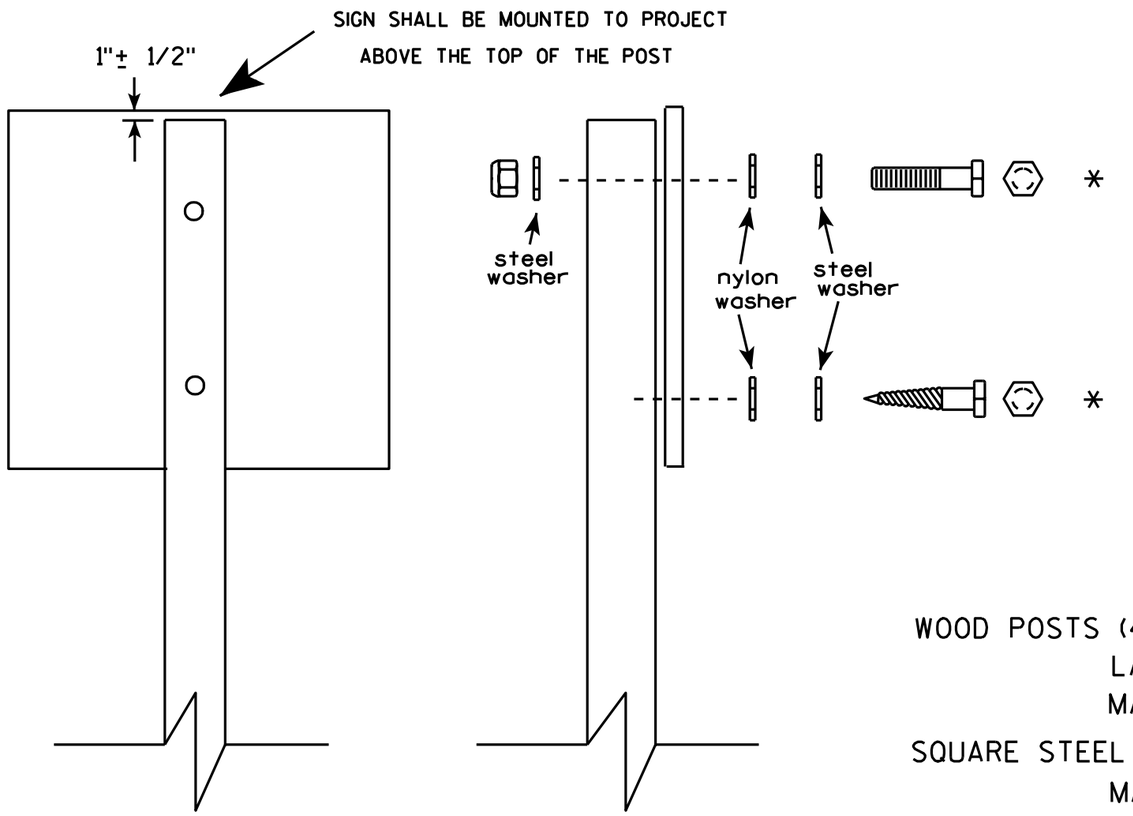
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/29/14 PLATE NO. A4-4 13

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	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.

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

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")

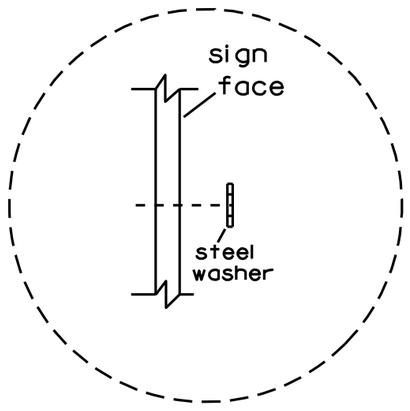
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts

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

WASHERS (ALL POSTS) -

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

1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* 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 3/23/10 PLATE NO. A4-8.7

7

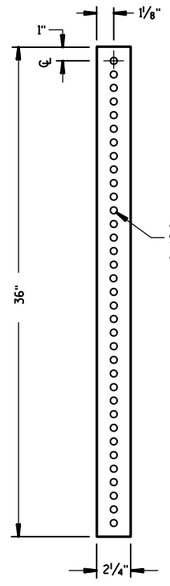
7

PROJECT NO:

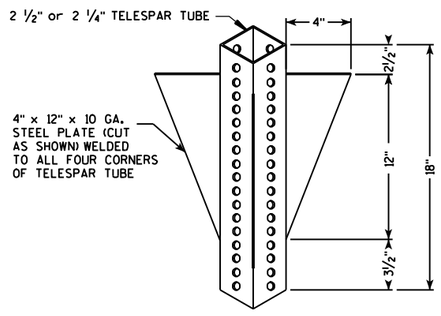
SHEET NO: 288 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

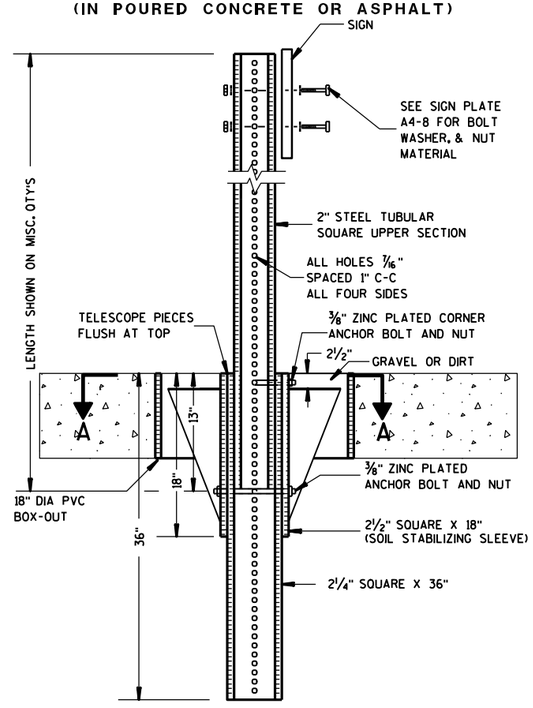
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



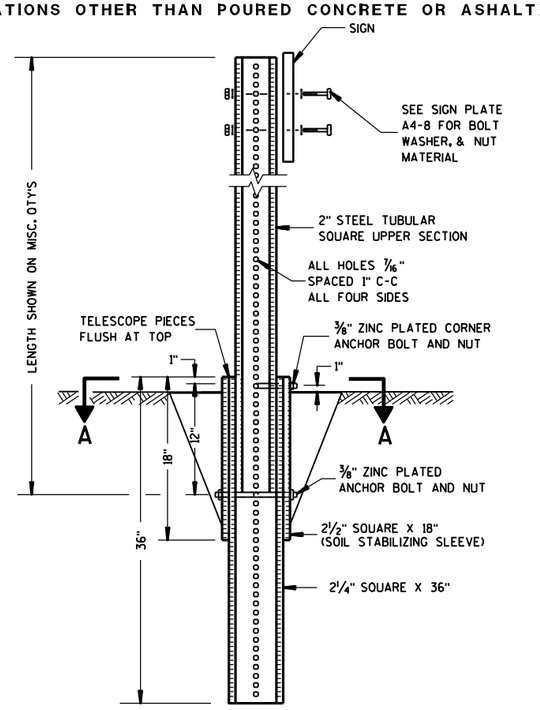
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

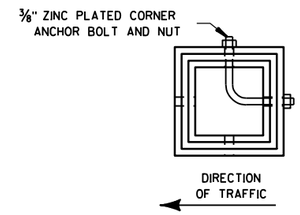


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





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

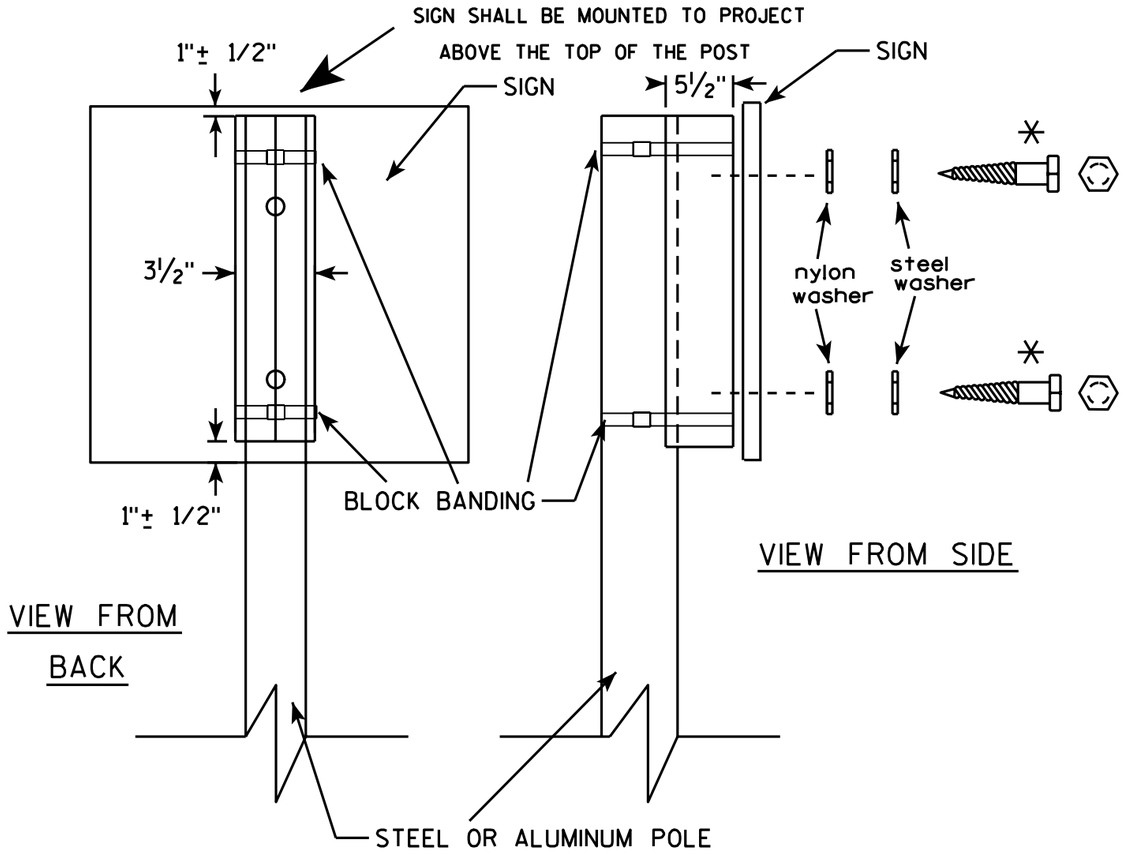
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

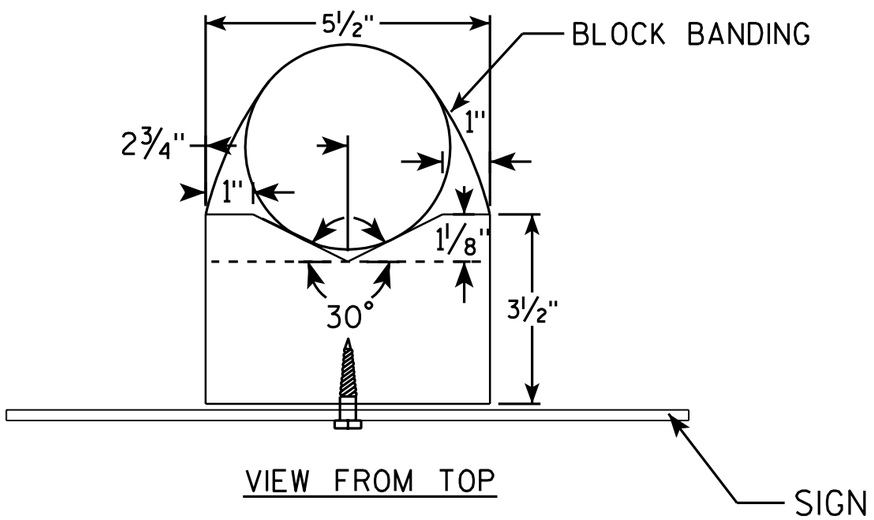
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/30/12 PLATE NO. A4-9.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 289	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

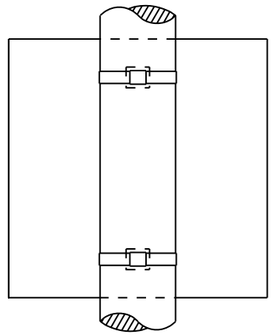
SHEET NO: 290 E

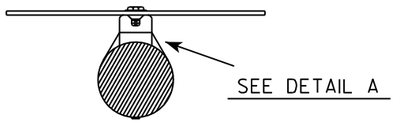
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WISDOT/CADDS SHEET 42

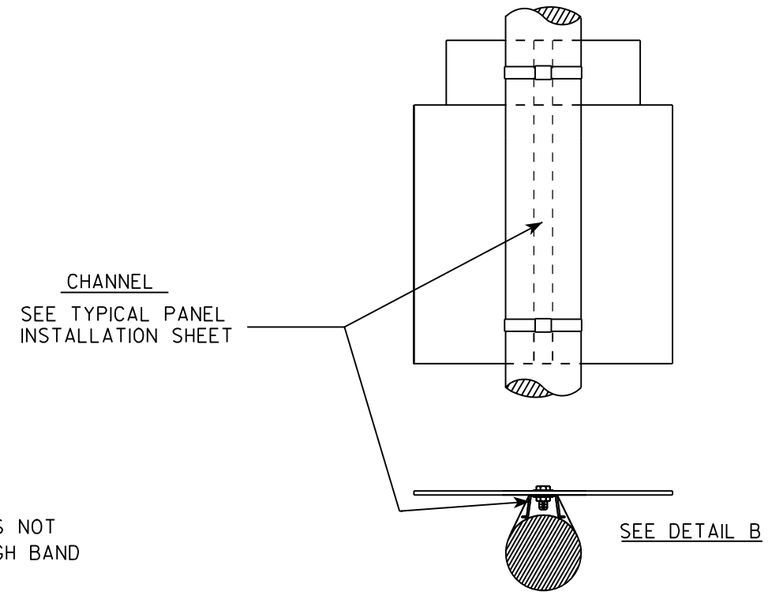
BANDING

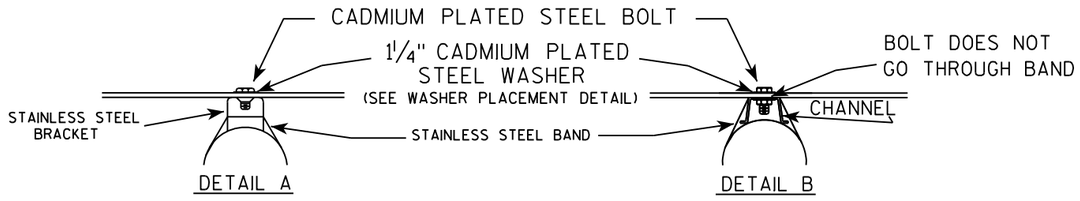
SINGLE SIGN



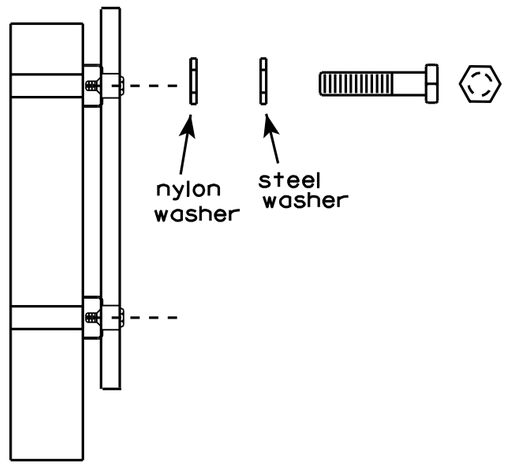


"J" ASSEMBLY





WASHER PLACEMENT



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

GENERAL NOTES

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

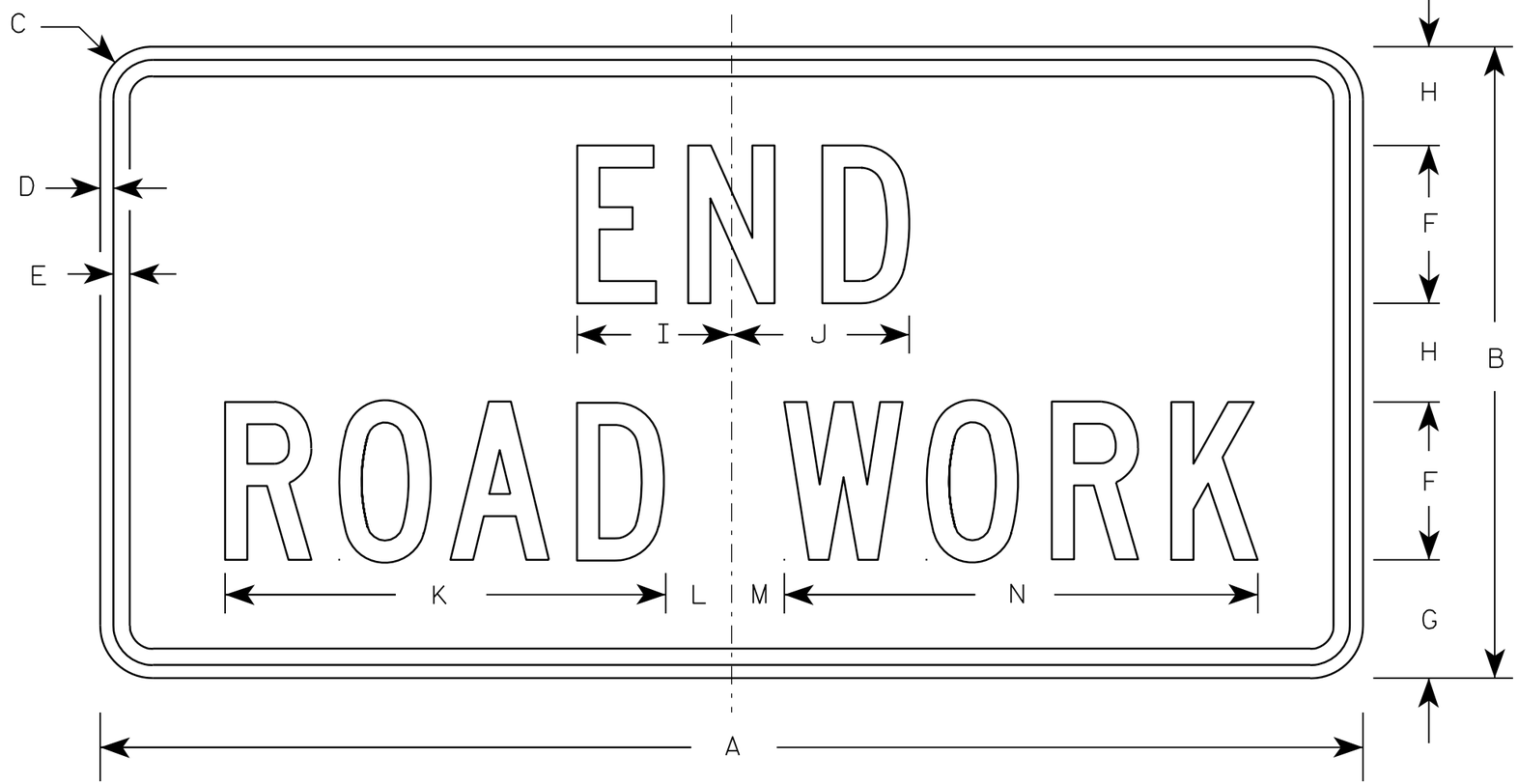
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 291	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

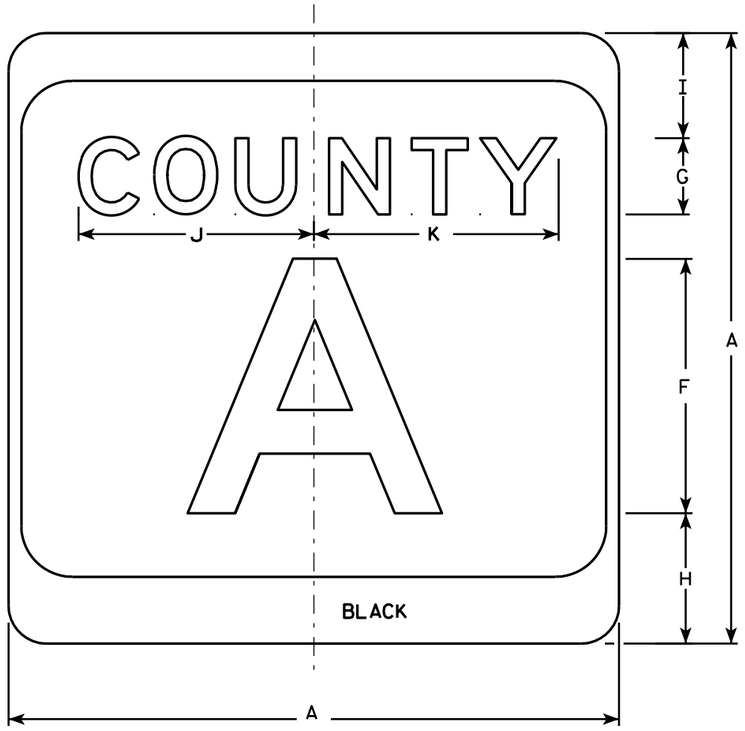
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

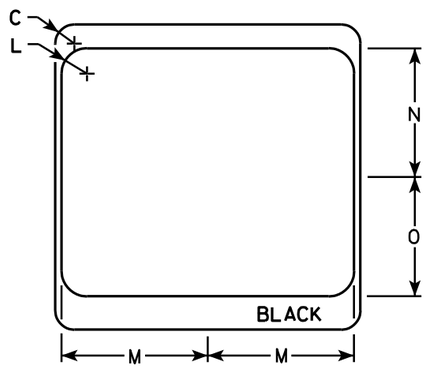
APPROVED Matthew R Rauch
for State Traffic Engineer

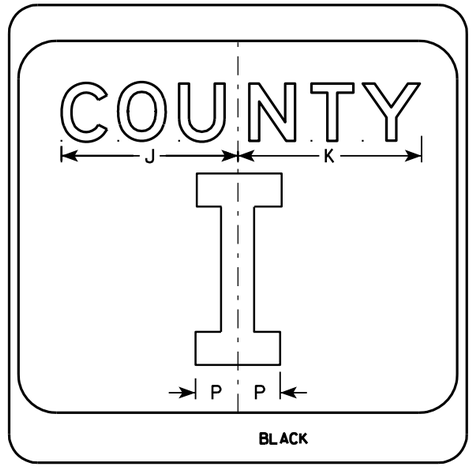
DATE 9/30/09 PLATE NO. G20-2A.8

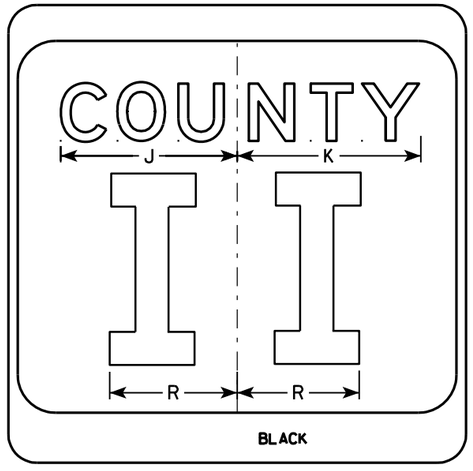
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 292	E



M1-5A







NOTES

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

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

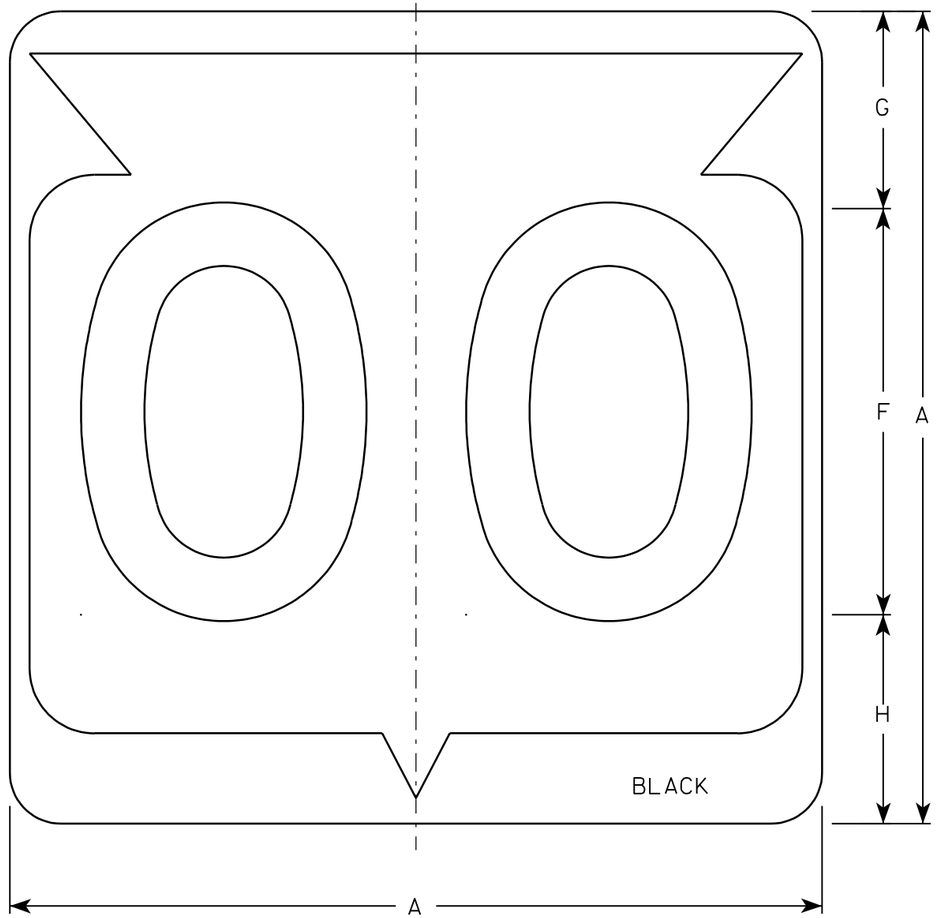
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

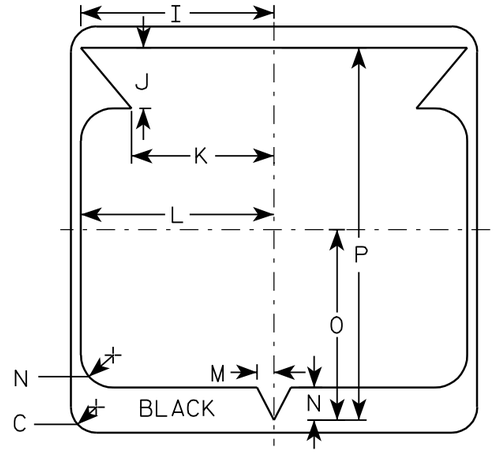
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 293 | E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

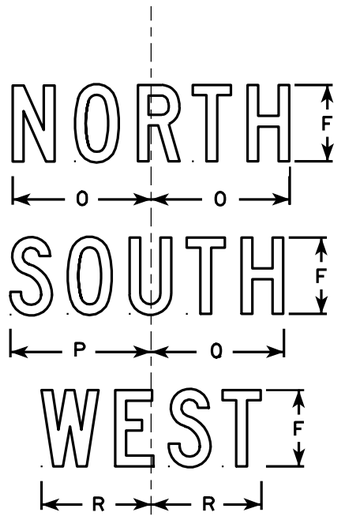
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

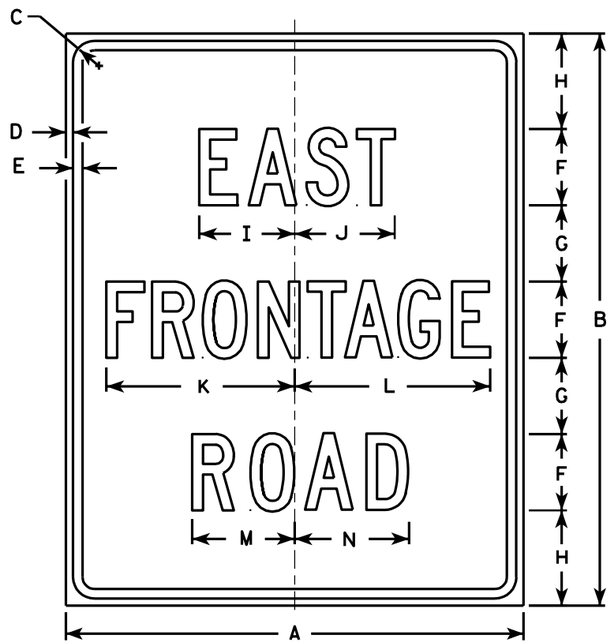
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 294	E





NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate message as required.

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 750 mm
3	
4	900 mm X 1050 mm
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24	30	1 1/8	3/8	1/2	4	4	5	5	5 1/4	9 7/8	10 1/4	5 3/8	6	7 1/4	7 3/8	7	5 3/4									5.0	.45
3																												
4	36	42	1 3/8	5/8	5/8	6	5	7	7 1/2	7 7/8	14 3/4	15 3/8	8	9	10 7/8	11	10 1/2	8 5/8									10.5	.95
5																												

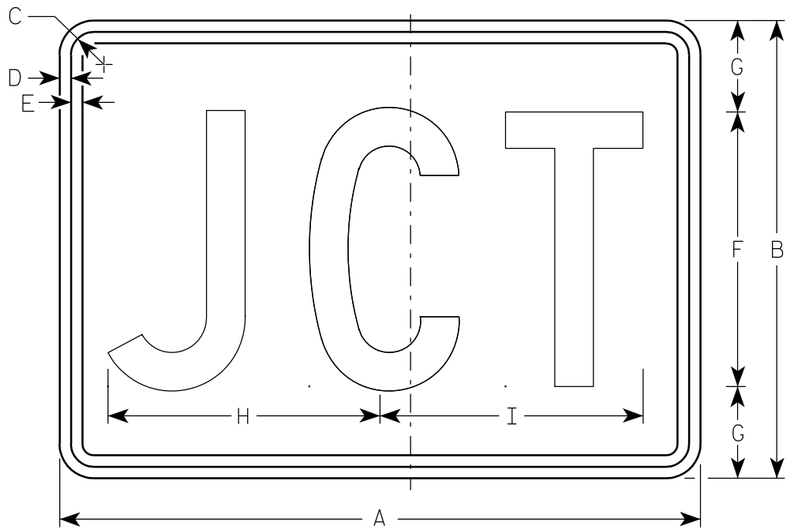
STANDARD SIGN
M1-95A

WISCONSIN DEPT OF TRANSPORTATION

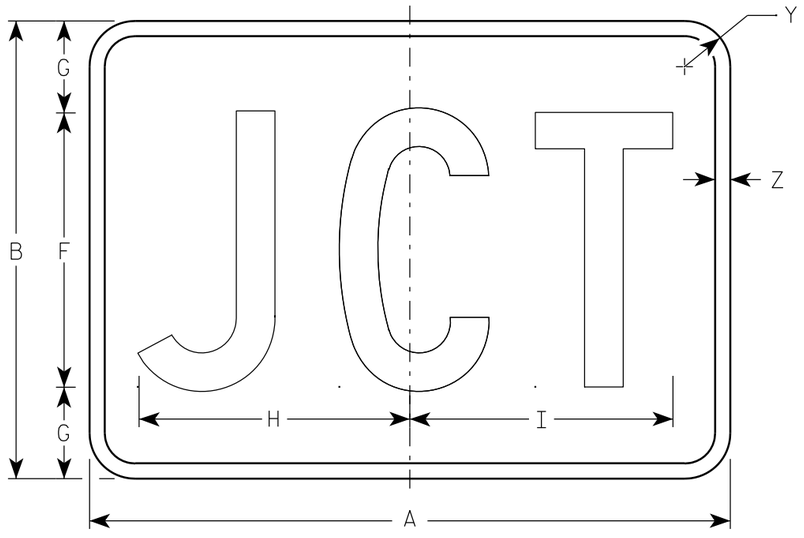
APPROVED Chester J Spang for State Traffic Engineer

DATE 1/30/02 PLATE NO. M1-95A.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 295 | E



M2-1
MK2-1
MM2-1
MR2-1



MB2-1
MG2-1
MN2-1

NOTES

1. Sign is Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White - Type H Reflective
   (Detour or temporary Signs - Reflective)
   Message - Black
   MB2-1 Background - Blue
   Message - White - Type H Reflective
   (Detour or temporary Signs - Reflective)
   MG2-1 Background - Green
   Message - White - Type H Reflective
   MK2-1 Background - Green
   Message - White - Type H Reflective
   MM2-1 Background - White - Type H Reflective
   Message - Green
   MN2-1 Background - Brown
   Message - White - Type H Reflective
   MR2-1 Background - Brown
   Message - Yellow - Type H Reflective

Metric equivalent for this sign is:

SIZE	
1	
2	525 mm X 375 mm
3	750 mm X 525 mm
4	750 mm X 525 mm
5	750 mm X 525 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20	0.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20

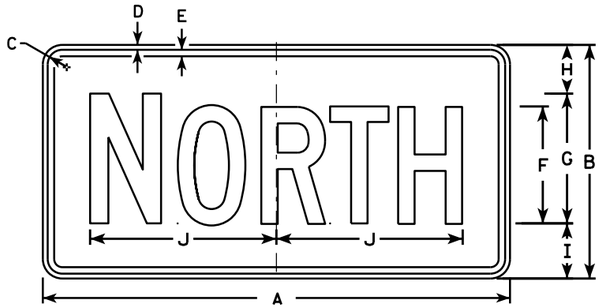
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

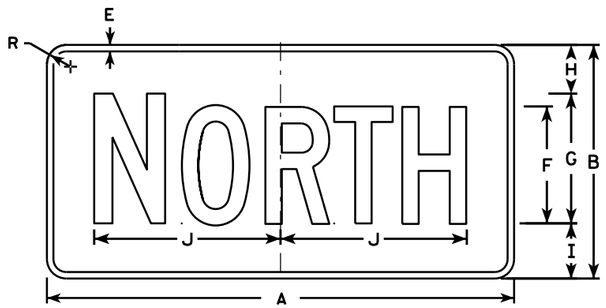
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M2-1.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 296	E



M3-1
MK3-1



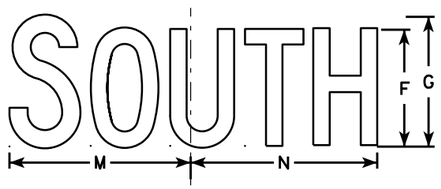
MB3-1
MG3-1
MM3-1
MN3-1



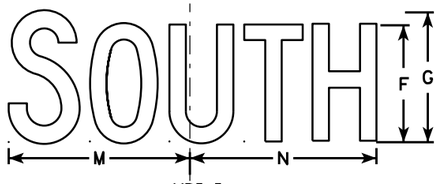
M3-2
MK3-2



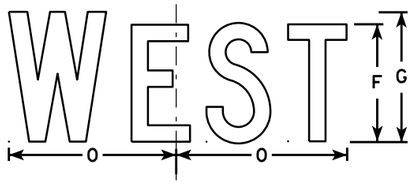
MB3-2
MG3-2
MM3-2
MN3-2



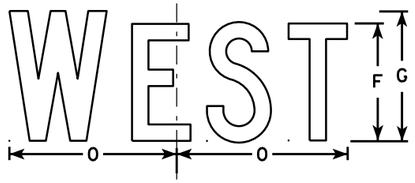
M3-3
MK3-3



MB3-3
MG3-3
MM3-3
MN3-3



M3-4
MK3-4



MB3-4
MG3-4
MM3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MG3-1 thru MG3-4 Background - Green
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
6. Note the first letter of each direction is larger than the remainder of the message.

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

STANDARD SIGNS
M3-1 thur M3-4
SERIES

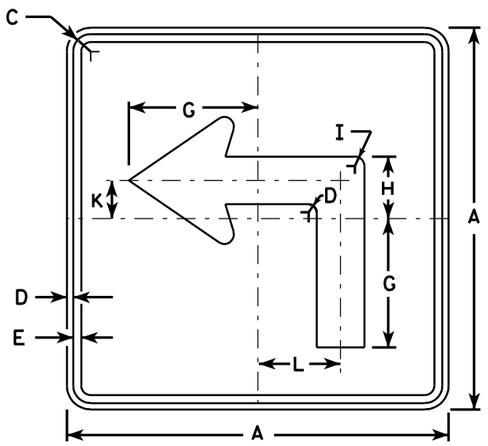
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch
for State Traffic Engineer

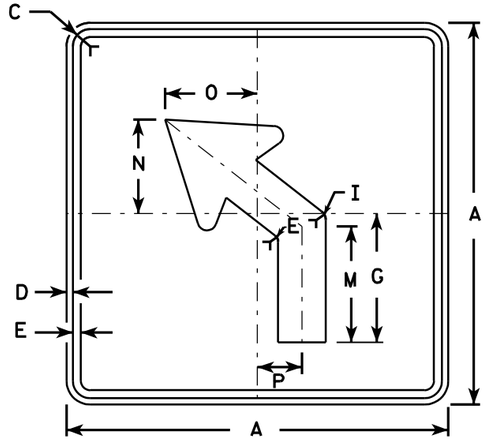
DATE 6/19/14 PLATE NO M3-1.13

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

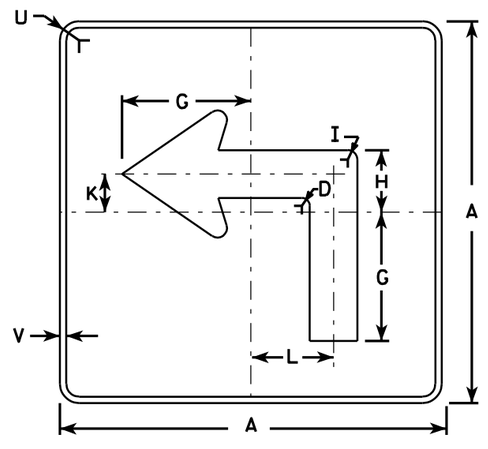
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 19-JUN-2014 16:50 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.675051:1.000000 WISDOT/CADDS SHEET 42



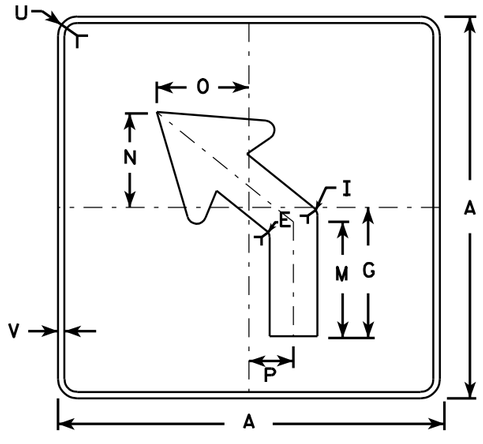
M5-1L
MK5-1L
MM5-1L
MO5-1L
MP5-1L
MR5-1L



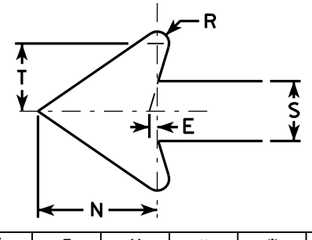
M5-2L
MK5-2L
MM5-2L
MO5-2L
MP5-2L
MR5-2L



MB5-1L
MG5-1L
MN5-1L



MB5-2L
MG5-2L
MN5-2L



NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White - Type H Reflective
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White - Type H Reflective
   MG5-1 and MG5-2 Background - Green
   Message - White - Type H Reflective
   MK5-1 and MK5-2 Background - Green
   Message - White Type H Reflective
   MM5-1 and MM5-2 Background - White - Type H Reflective
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White - Type H Reflective
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

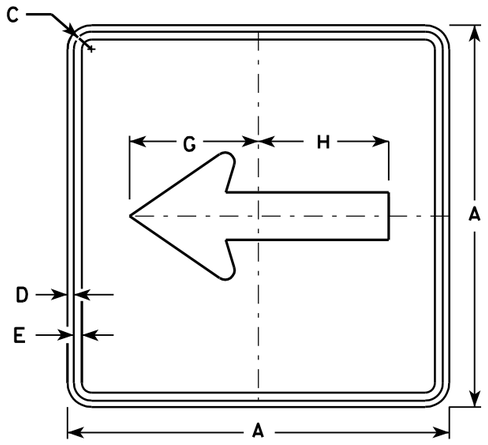
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

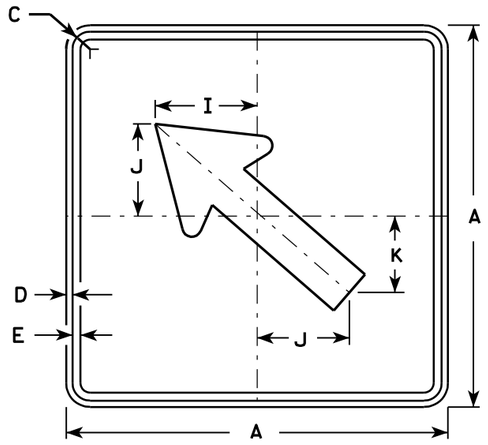
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M5-1.12

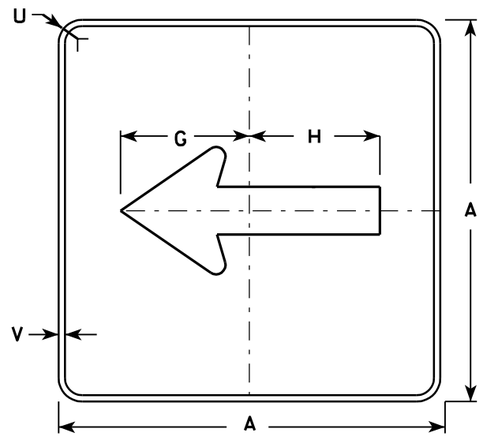
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 298	E



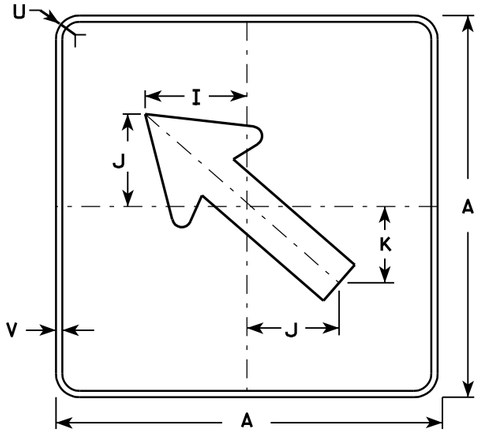
M6-1
MK6-1
MM6-1
MO6-1
MP6-1
MR6-1



M6-2
MK6-2
MM6-2
MO6-2
MP6-2
MR6-2



MB6-1
MG6-1
MN6-1



MB6-2
MG6-2
MN6-2

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White - Type H Reflective
   Message - Black

   MB6-1 and MB6-2 Background - Blue
   Message - White - Type H Reflective

   MG6-1 and MG6-2 Background - Green
   Message - White - Type H Reflective

   MK6-1 and MK6-2 Background - Green
   Message - White - Type H Reflective

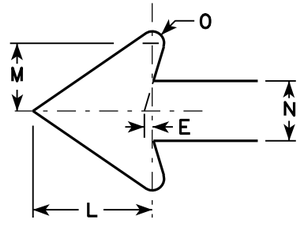
   MM6-1 and MM6-2 Background - White - Type H Reflective
   Message - Green

   MN6-1 and MN6-2 Background - Brown
   Message - White - Type H Reflective

   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black

   MP6-1 and MP6-2 Background - White - Type H Reflective
   Message - Blue

   MR6-1 and MR6-2 Background - Brown
   Message - White - Type H Reflective



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

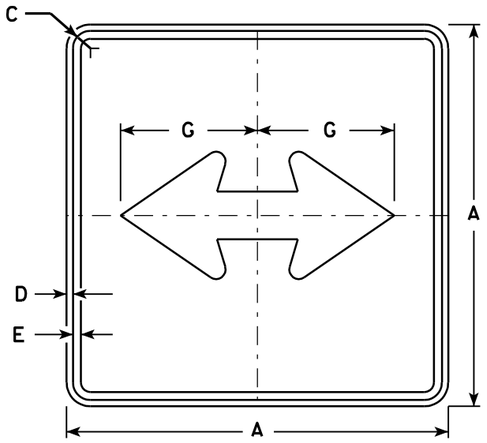
STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

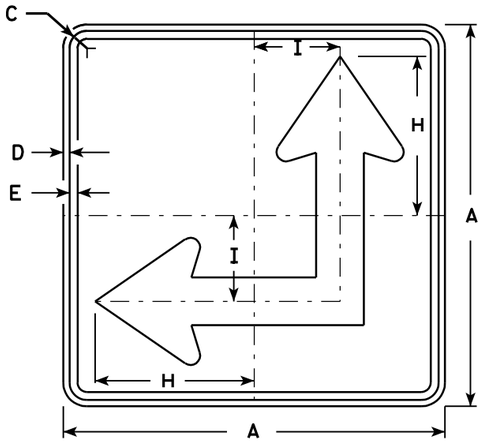
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-1.13

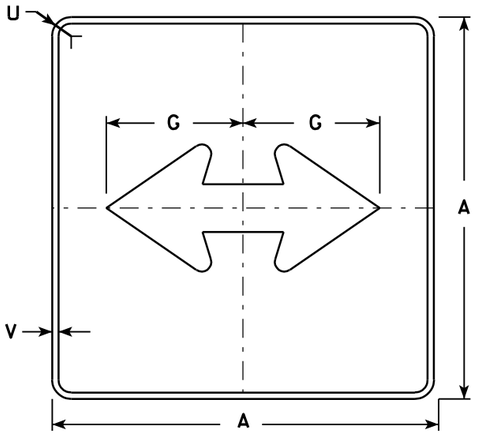
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 299	E



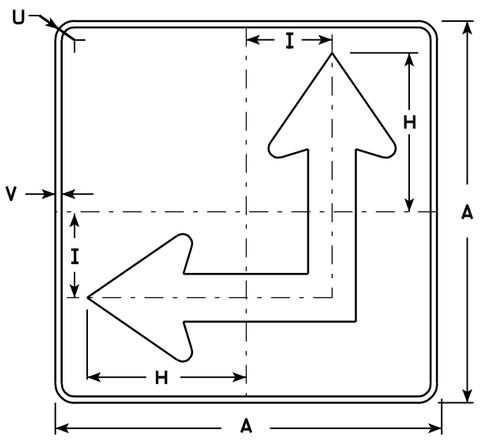
M6-4
MK6-4
MM6-4
MO6-4
MP6-4
MR6-4



M6-6
MK6-6
MM6-6
MO6-6
MP6-6
MR6-6



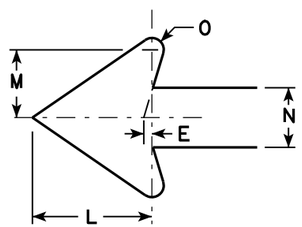
MB6-4
MG6-4
MN6-4



MB6-6
MG6-6
MN6-6

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White - Type H Reflective
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White - Type H Reflective
   MG6-4 and MG6-6 Background - Green
   Message - White - Type H Reflective
   MK6-4 and MK6-6 Background - Green
   Message - White - Type H Reflective
   MM6-4 and MM6-6 Background - White - Type H Reflective
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White - Type H Reflective
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White - Type H Reflective
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow - Type H Reflective
5. M6-6R same as M6-6L except arrow points ahead and right.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

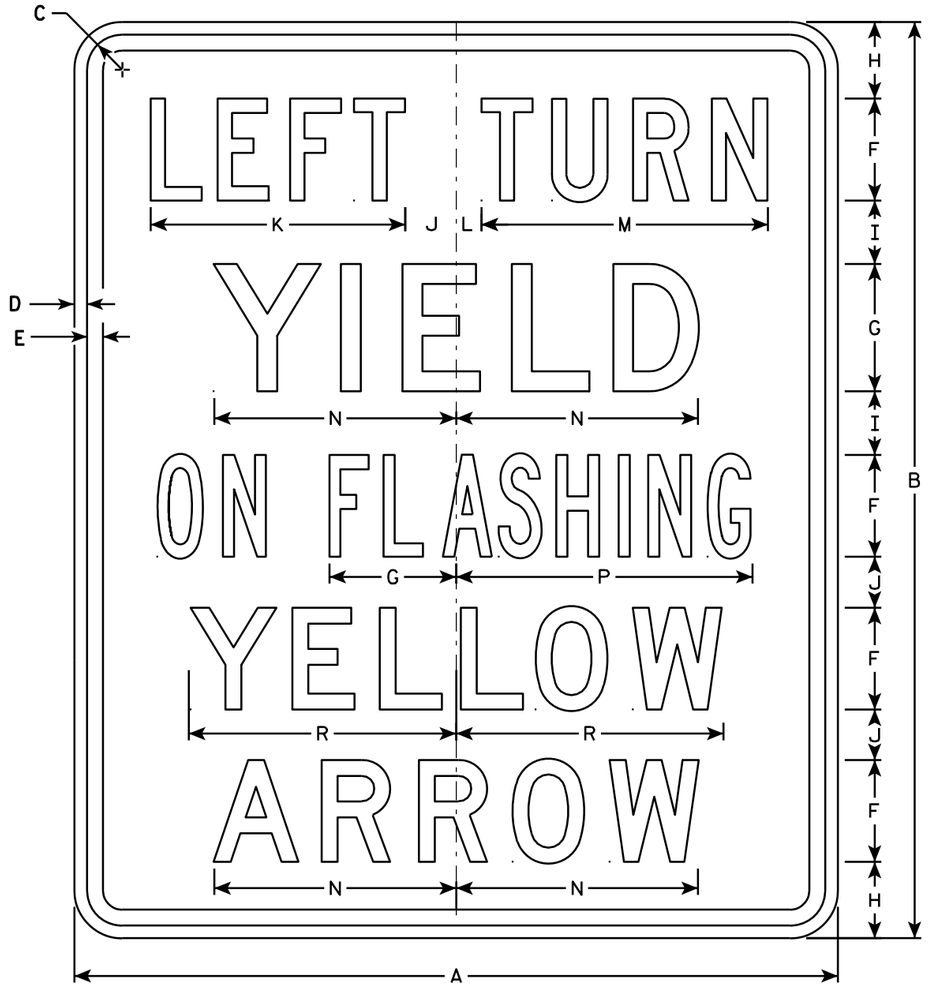
STANDARD SIGN M6-4 & M6-6 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-4.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 300 | E

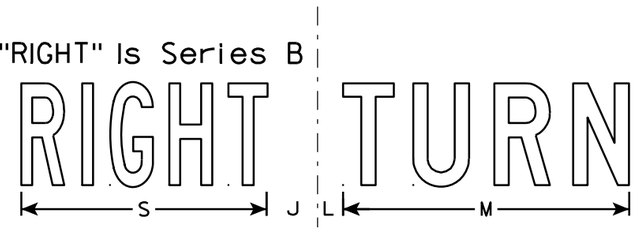


R10-50L

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 - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C.
   Lines 2, 4 and 5 are Series D.
   Line 3 is Series B.

"RIGHT" Is Series B



R10-50R

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	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2	9 5/8								7.5
2M	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2	9 5/8								7.5
3																											
4																											
5																											

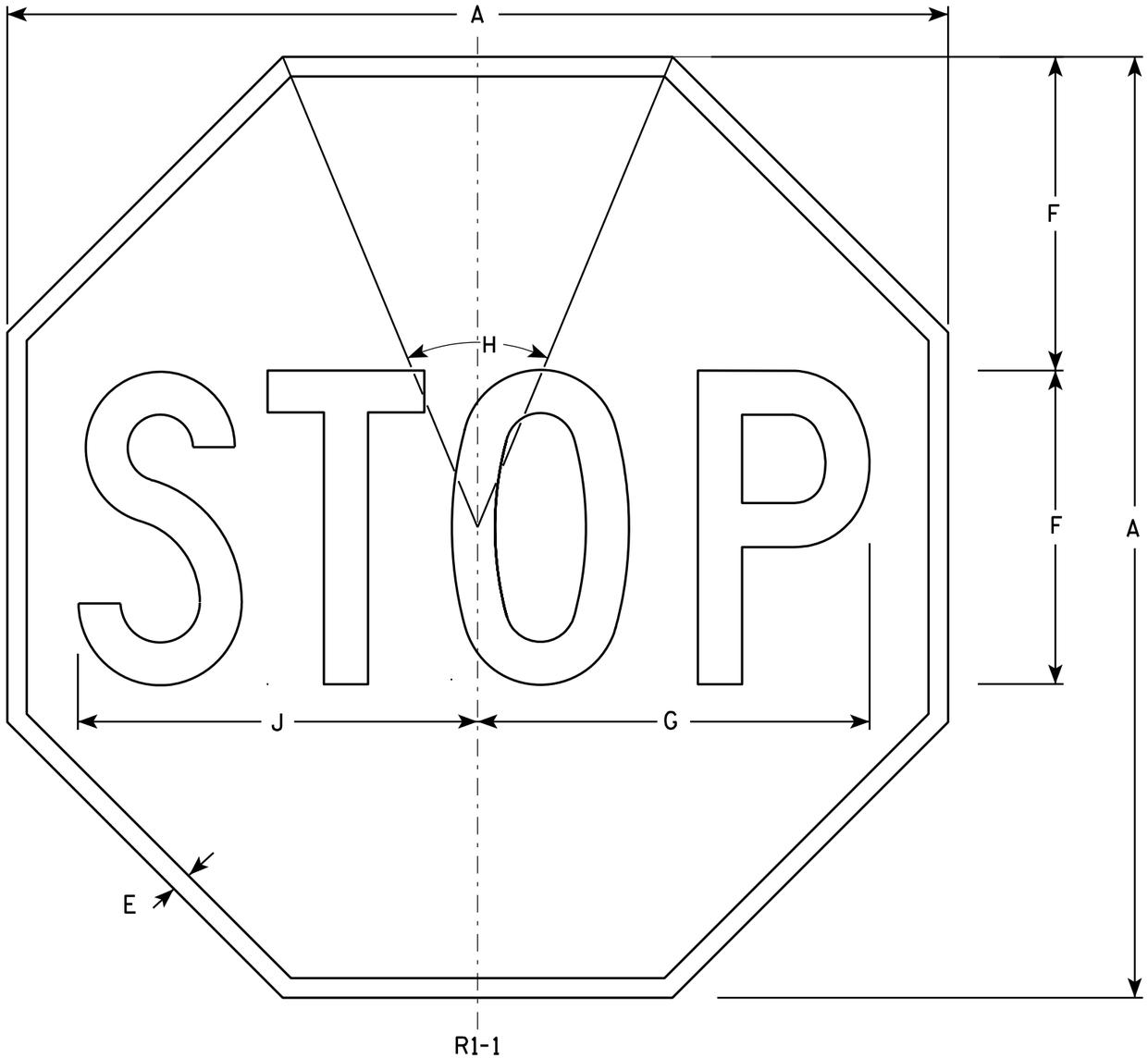
STANDARD SIGN
R10-50

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/11/13 PLATE NO. R10-50.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 301	E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

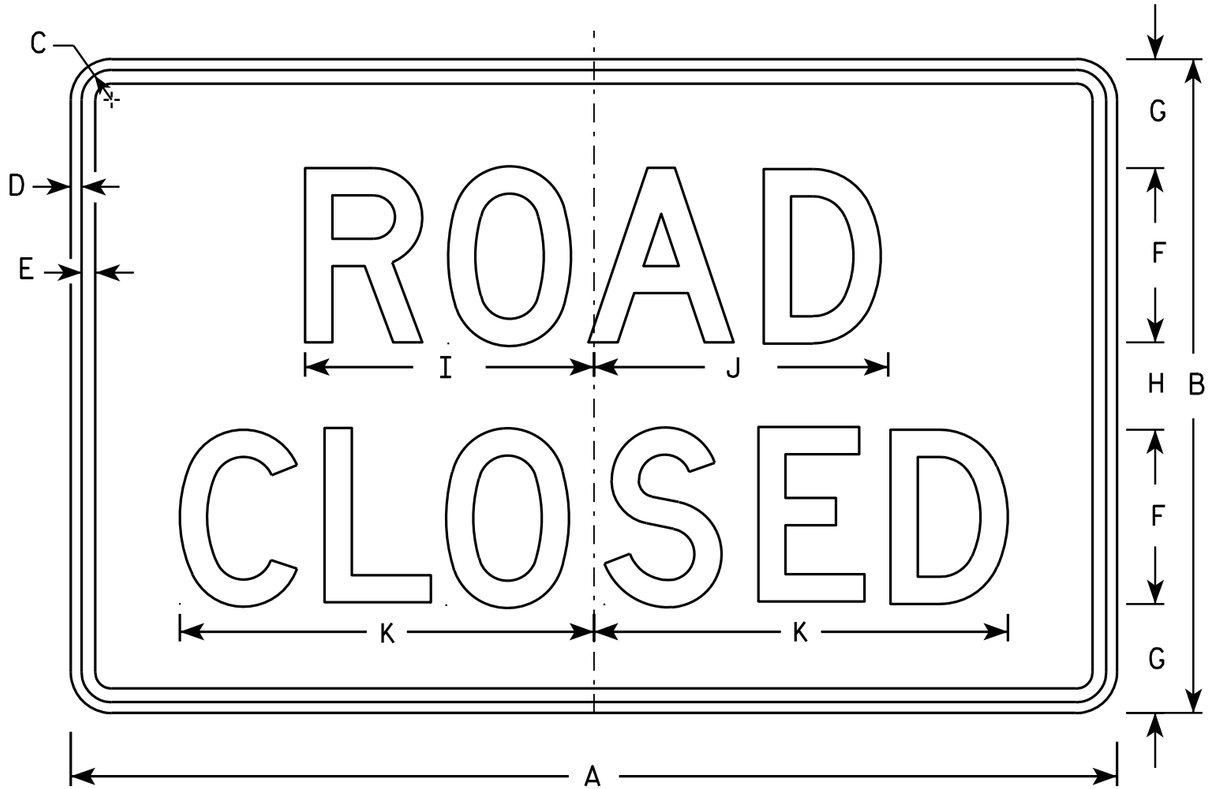
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

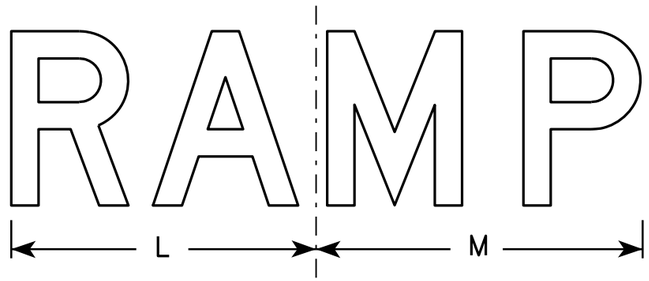
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 302	E



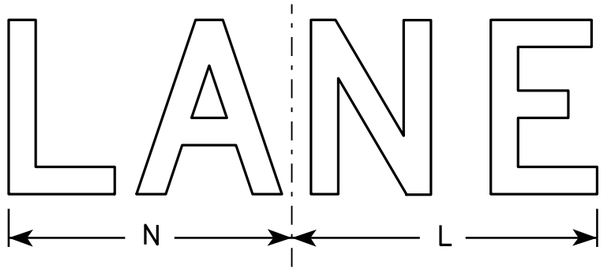
R11-2

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 - 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



R11-2L

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													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													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													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													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													10.0

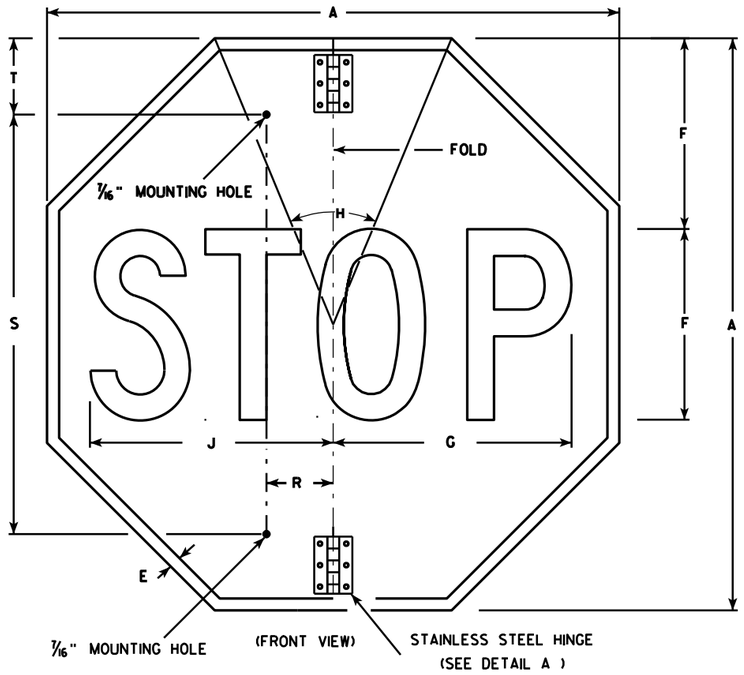
STANDARD SIGN
R11-2

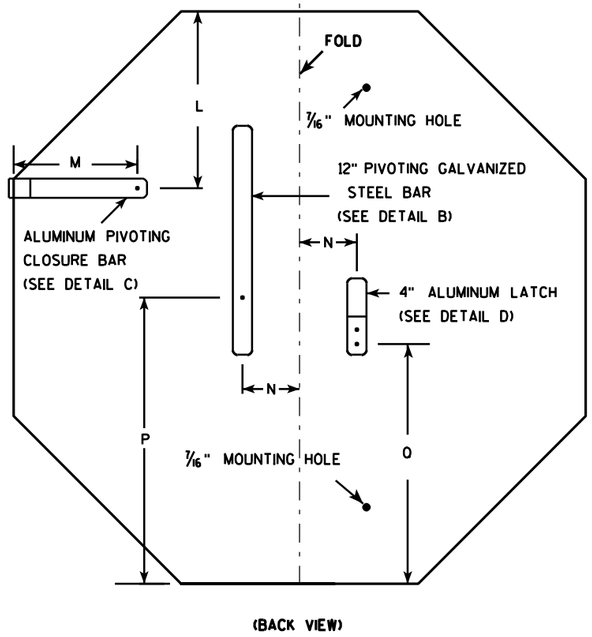
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

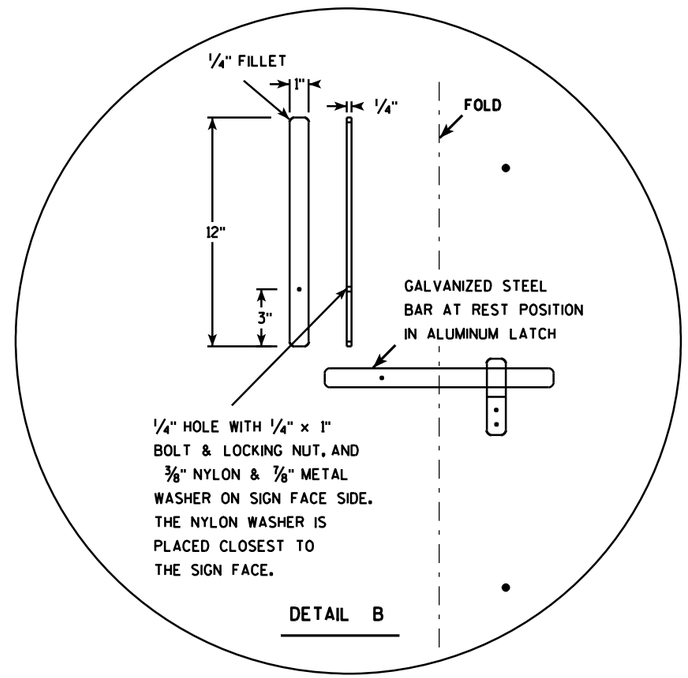
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 303 | E



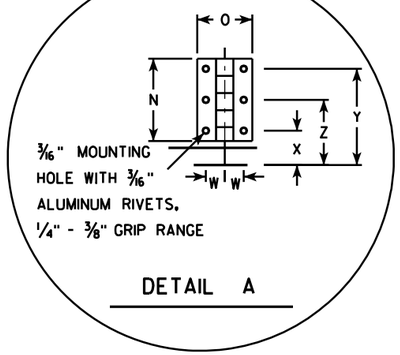


NOTES

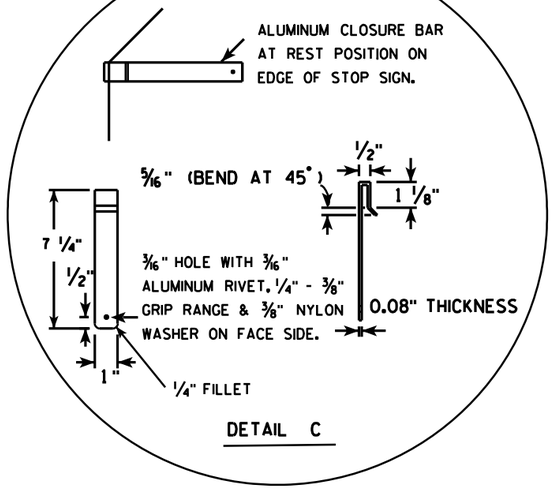
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



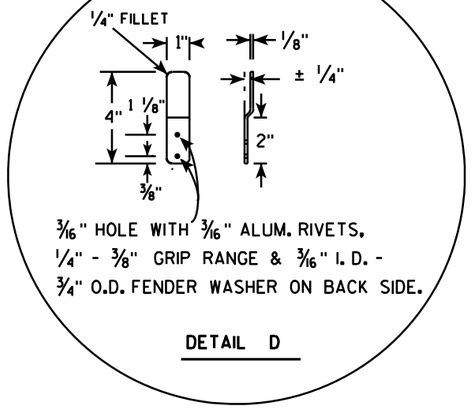
DETAIL B



DETAIL A



DETAIL C



DETAIL D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

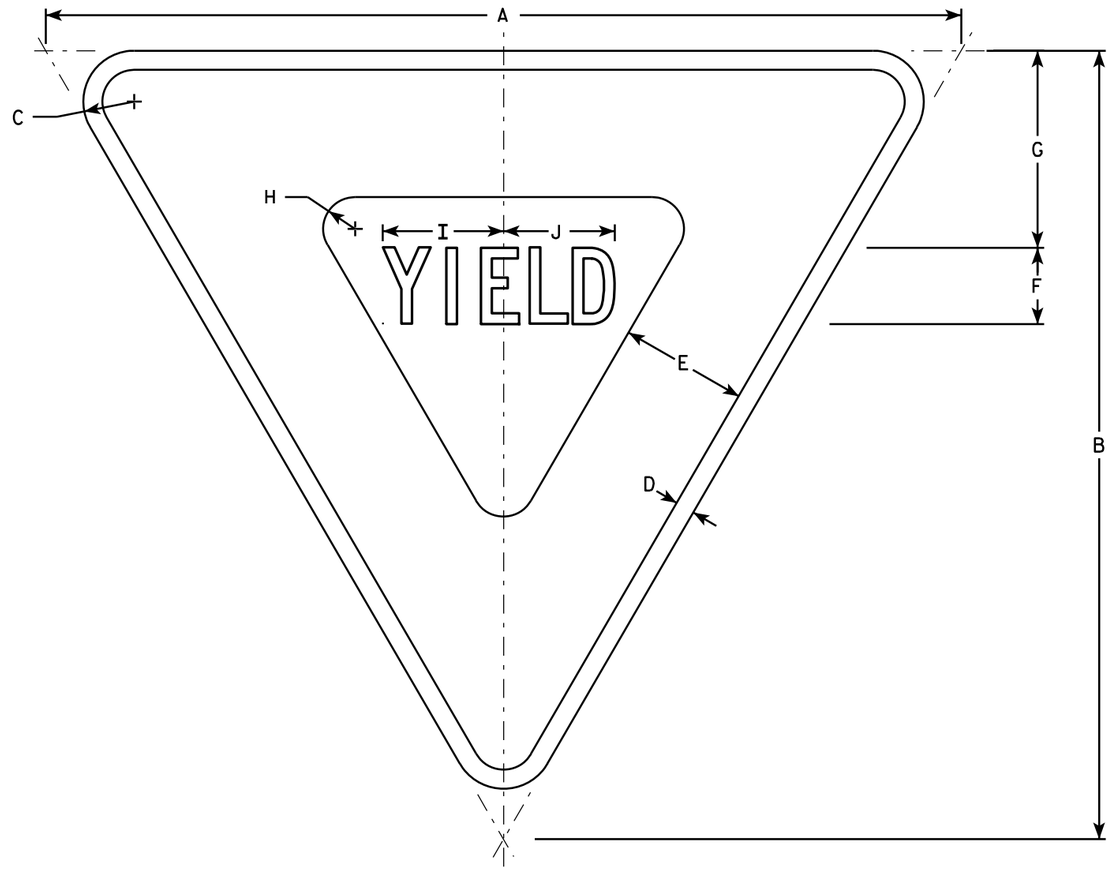
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 304 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R11F.DGN PLOT DATE : 02-DEC-2010 15:26 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 7.945391:1.000000

WISDOT/CADDS SHEET 42

7

7



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	24	21	1 1/2	3/8	3	2	4 3/4	7/8	3 1/4	3																	1.75
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

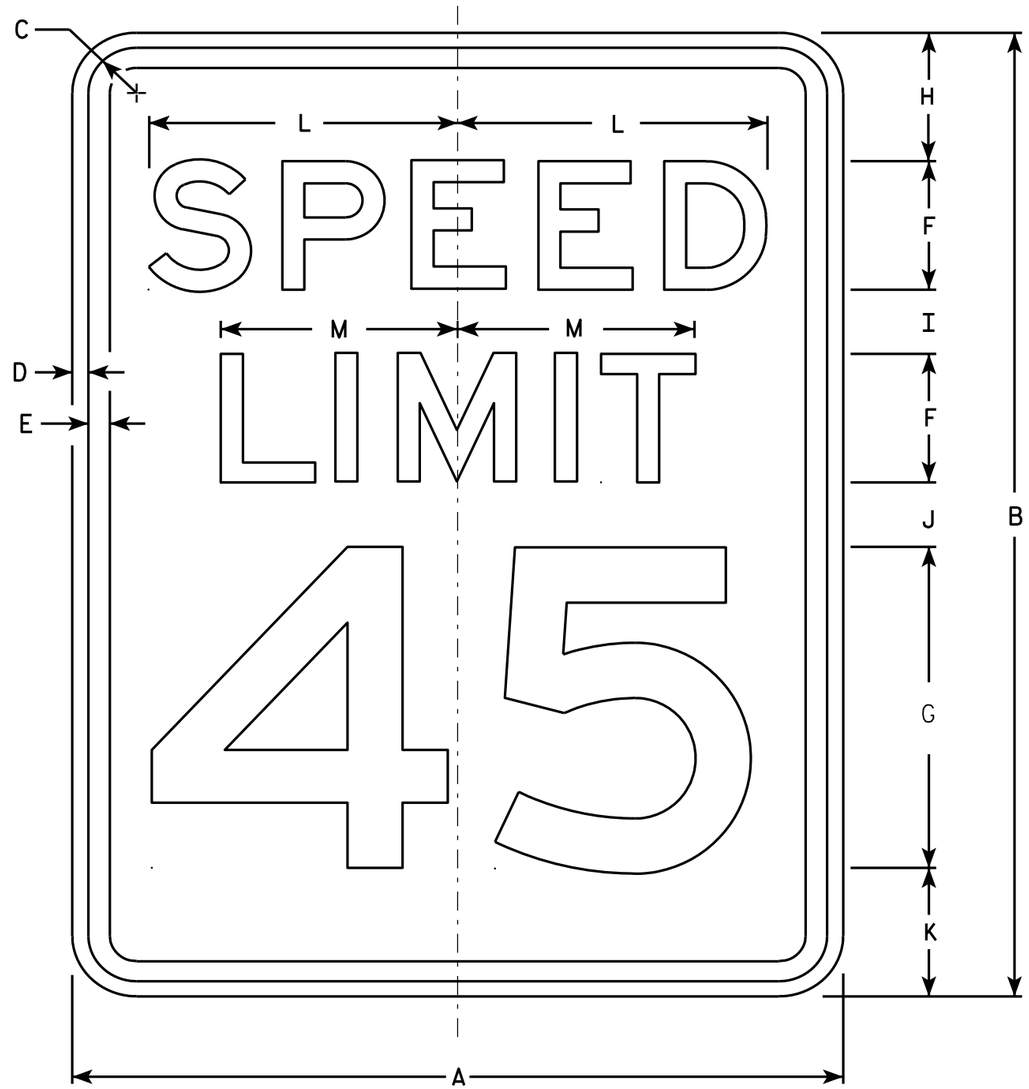
STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. R1-2.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 305 | E



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

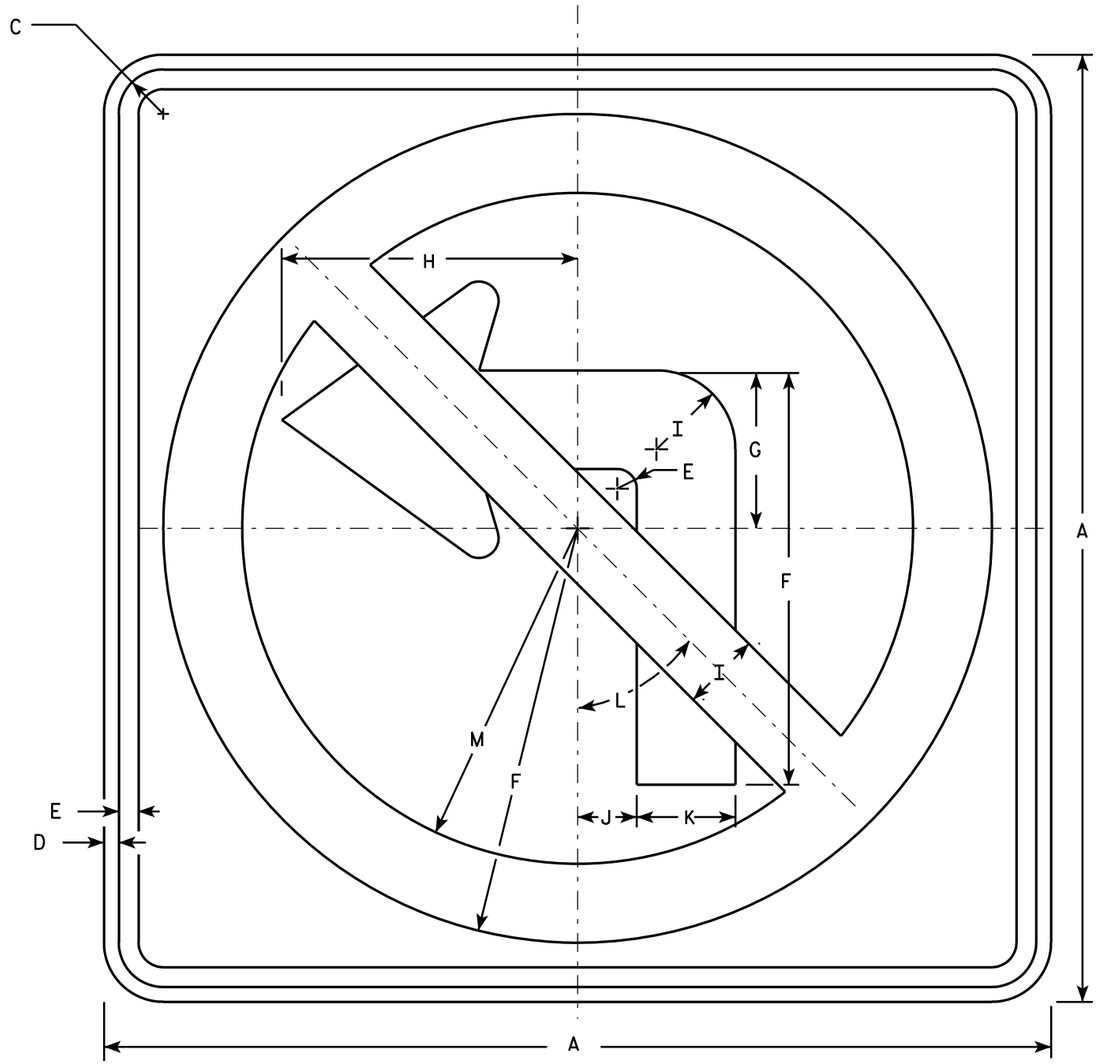
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

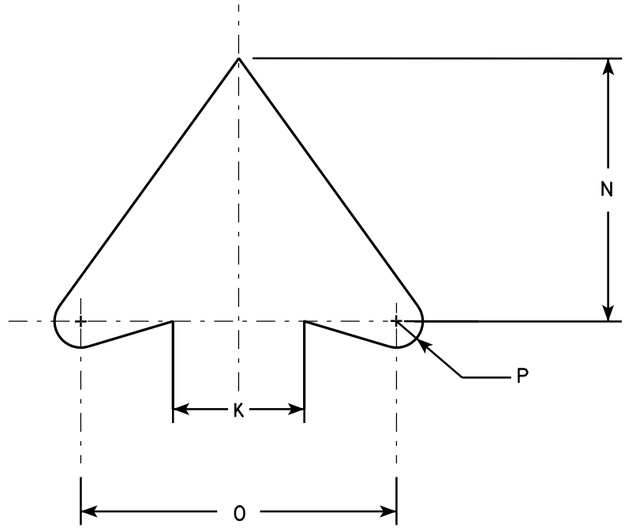
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 306	E



R3-2

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 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

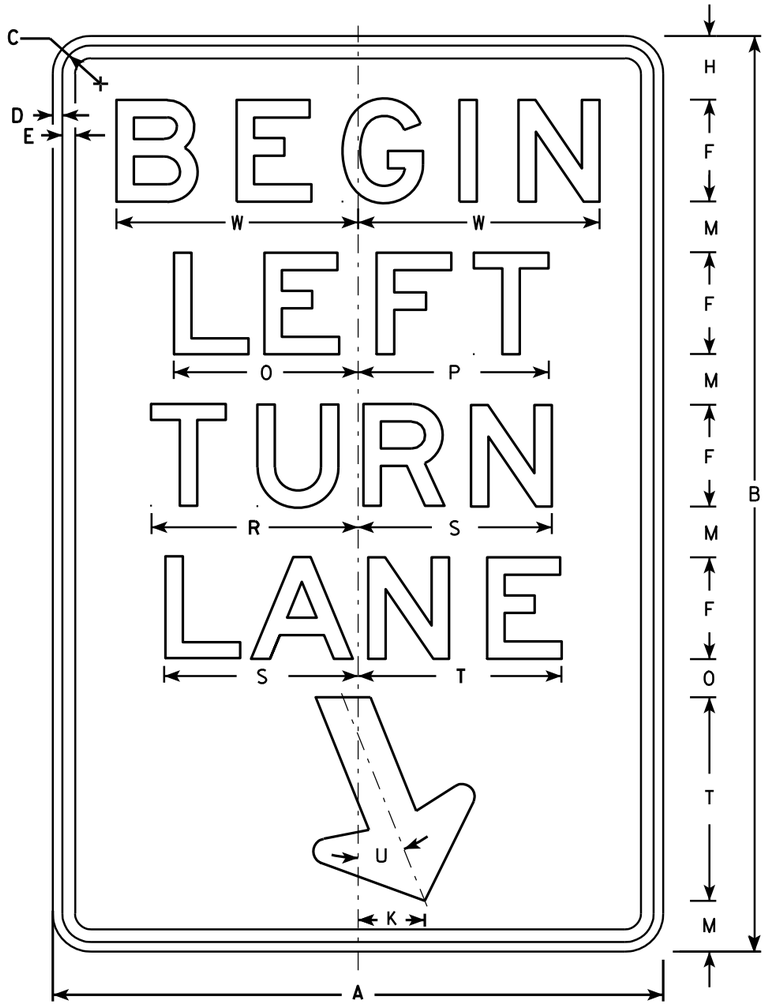
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

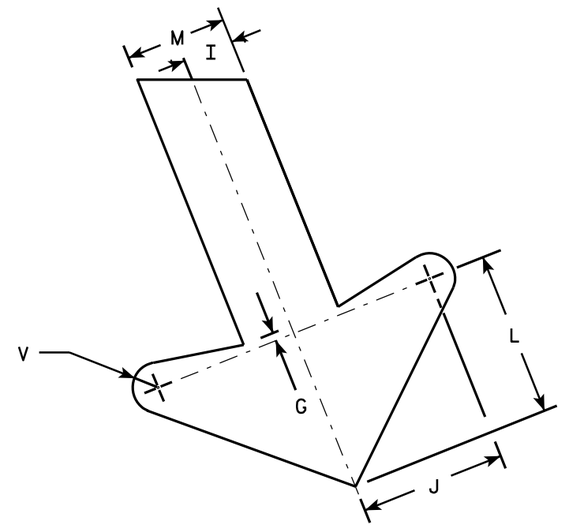
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 307	E



R3-20L

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.



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	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

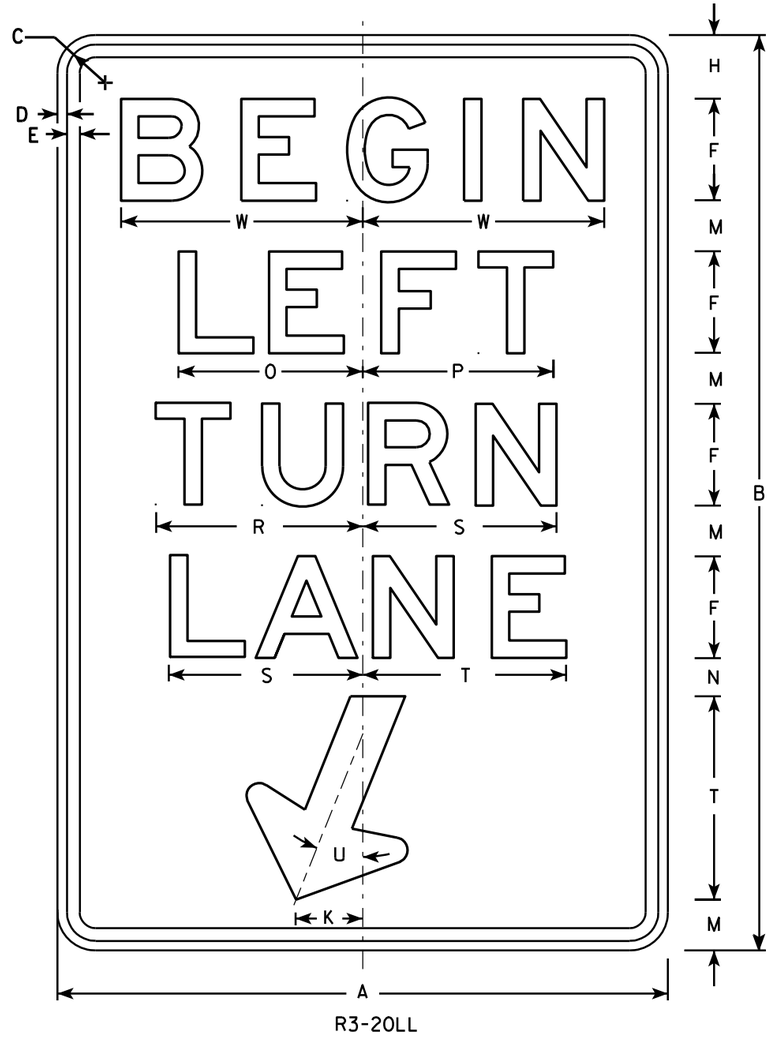
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

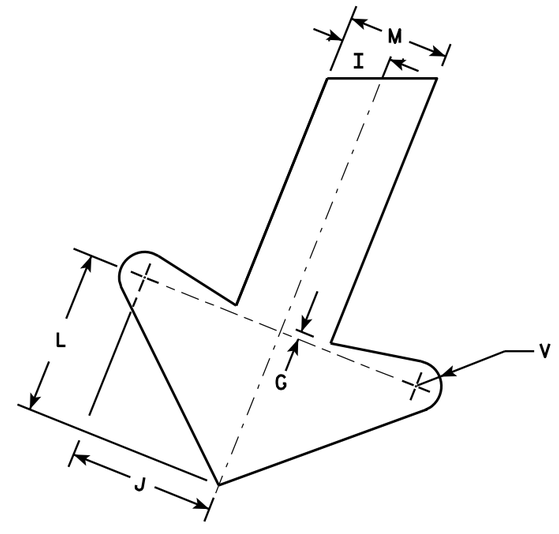
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 308 | E



R3-20LL

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.



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	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN
R3-20LL

WISCONSIN DEPT OF TRANSPORTATION

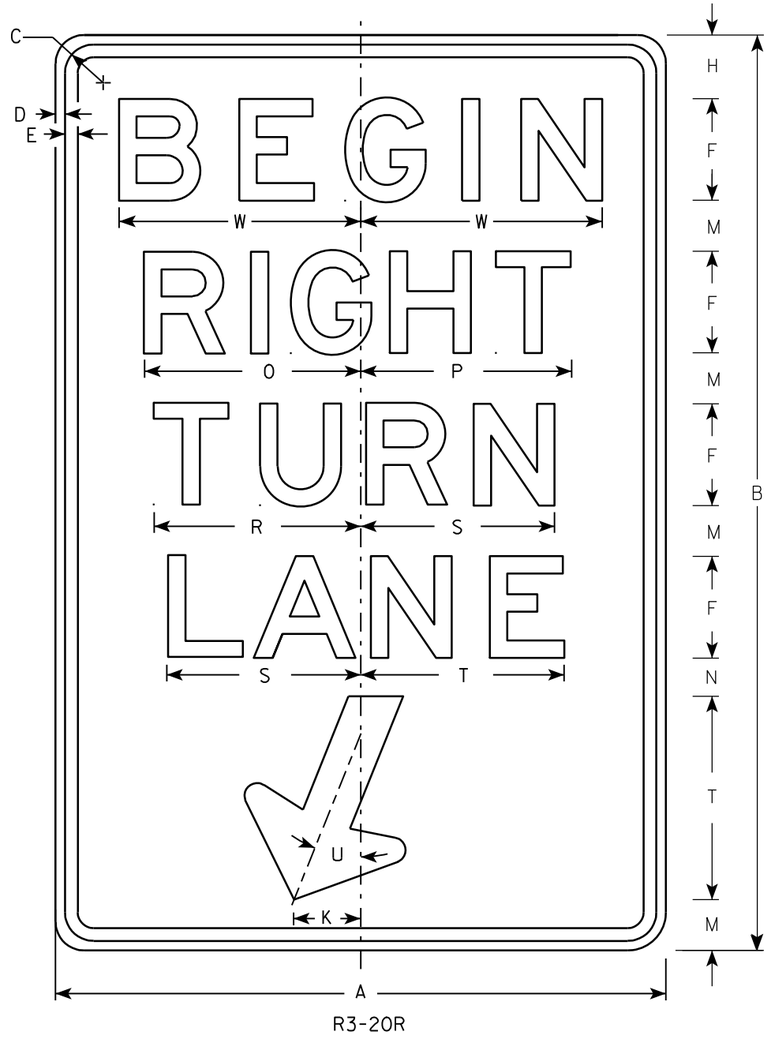
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20LL.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 309	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R320LL.DGN PLOT DATE : 15-OCT-2010 14:38 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 5.959043:1.000000

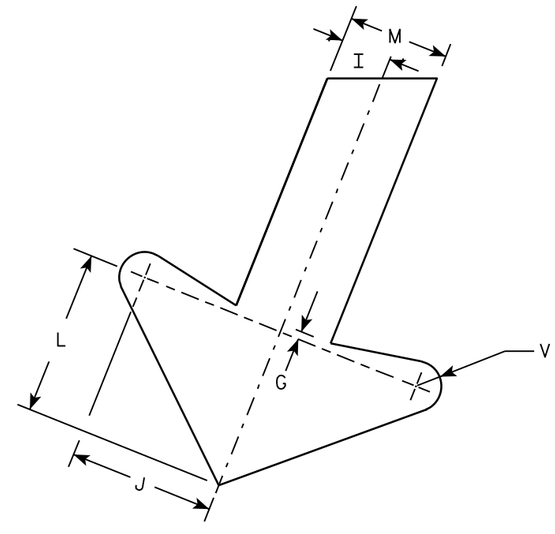
WISDOT/CADDS SHEET 42



R3-20R

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.



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	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

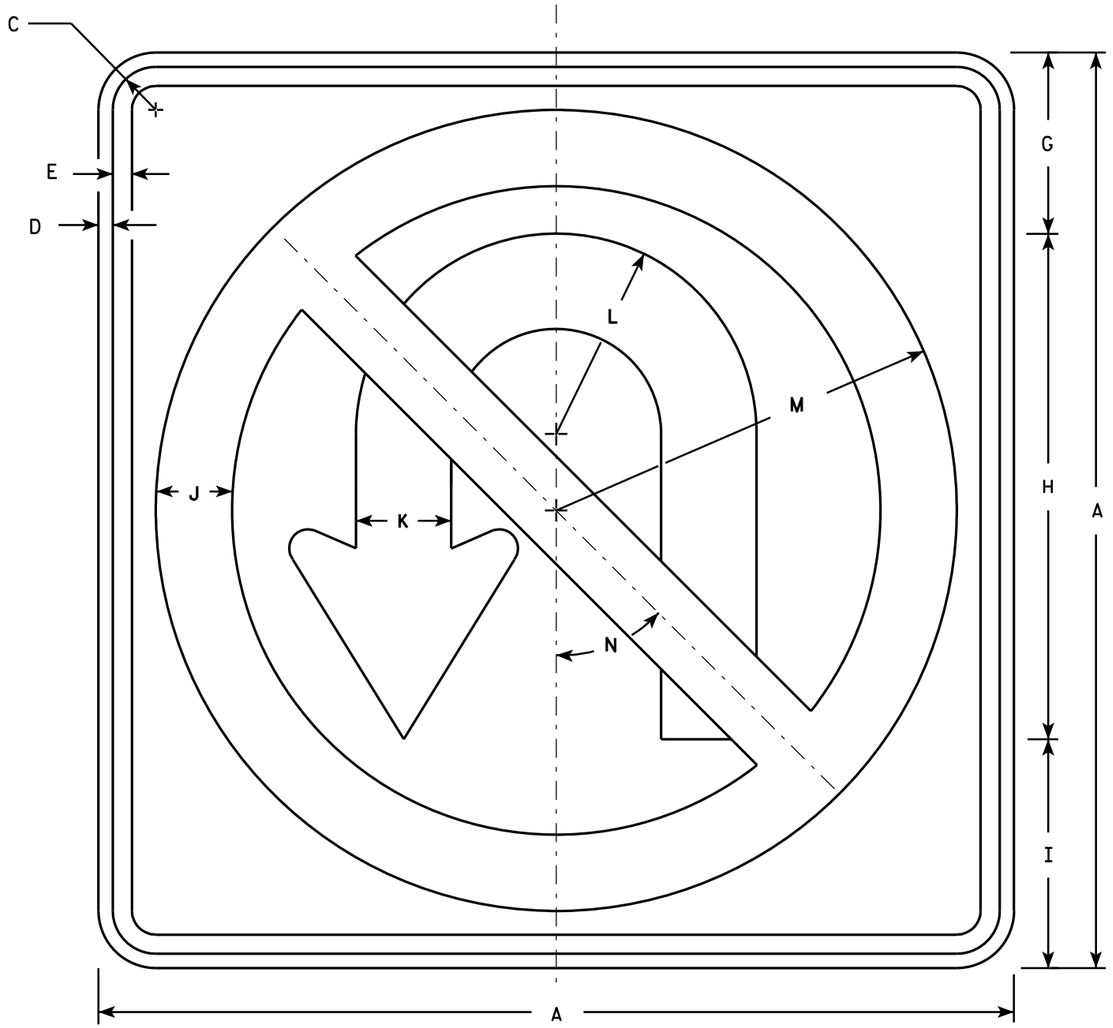
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 310 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R320R.DGN PLOT DATE : 15-OCT-2010 14:59 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 5.959043:1.000000

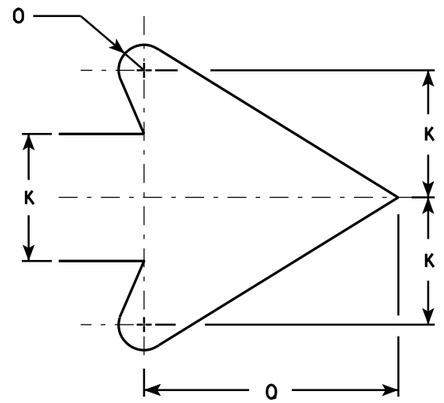
WISDOT/CADDS SHEET 42



R3-4

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		4 3/4	13 1/4	6	2	2 1/2	5 1/4	10 1/2	45°	1/2		5										4.0
2M	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
3	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
4	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
5	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0

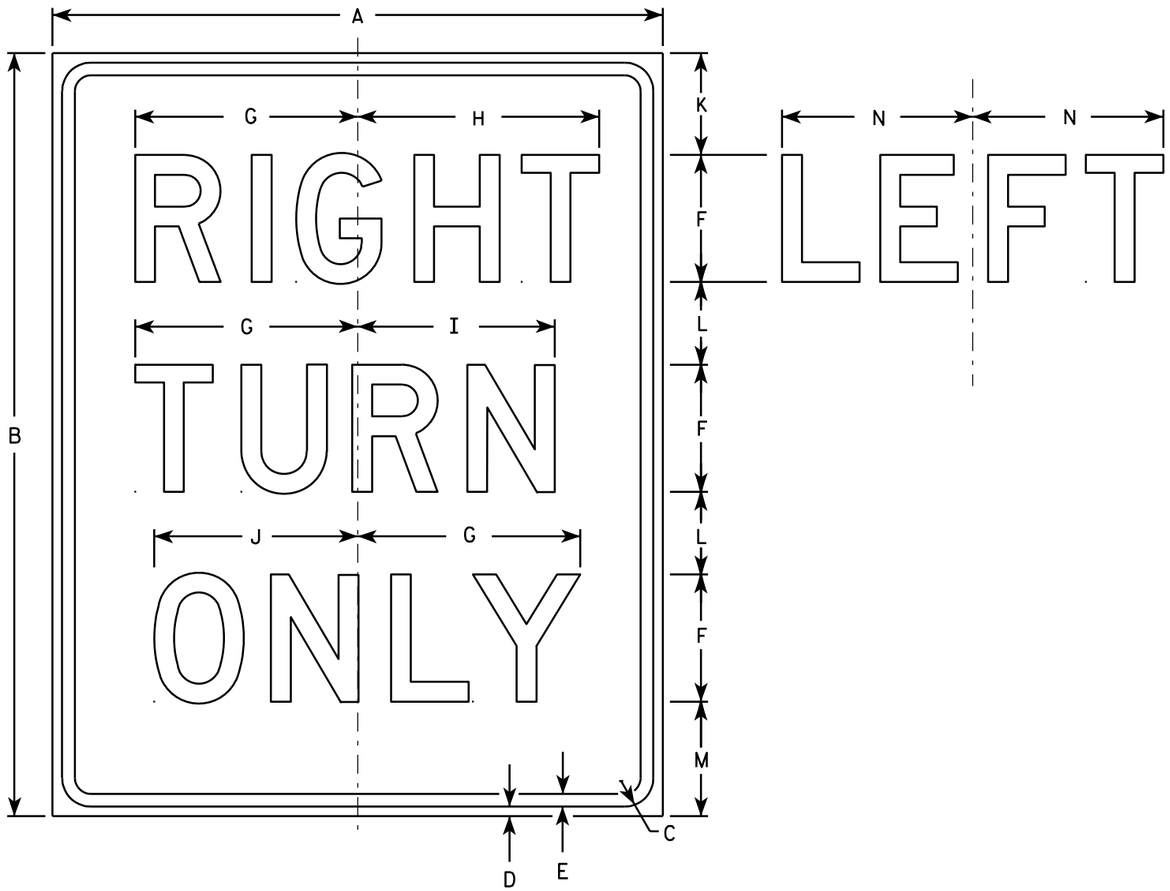
STANDARD SIGN
R3-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 311	E



R3-53R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R3-53L same as R3-53R except LEFT is substituted for RIGHT.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
2M	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
3	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
4																											
5																											

STANDARD SIGN
R3-53

WISCONSIN DEPT OF TRANSPORTATION

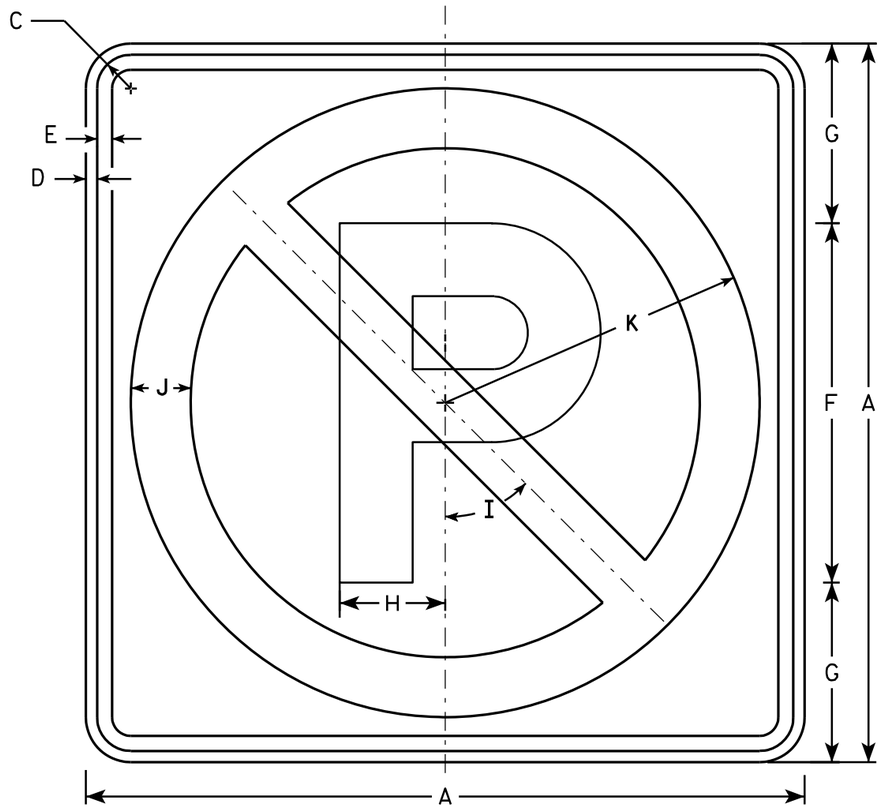
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-53.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 312 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R353.DGN PLOT DATE : 24-MAR-2011 14:54 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.959043:1.000000
WISDOT/CADDS SHEET 42



R3-8A

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 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Letter P are non reflective black, the circle with diagonal bar is reflective 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																											
2S	24		1 1/8	3/8	1/2	12	6	3 1/2	45°	2	10 1/2																4.0
2M	24		1 1/8	3/8	1/2	12	6	3 1/2	45°	2	10 1/2																4.0
3																											
4																											
5																											

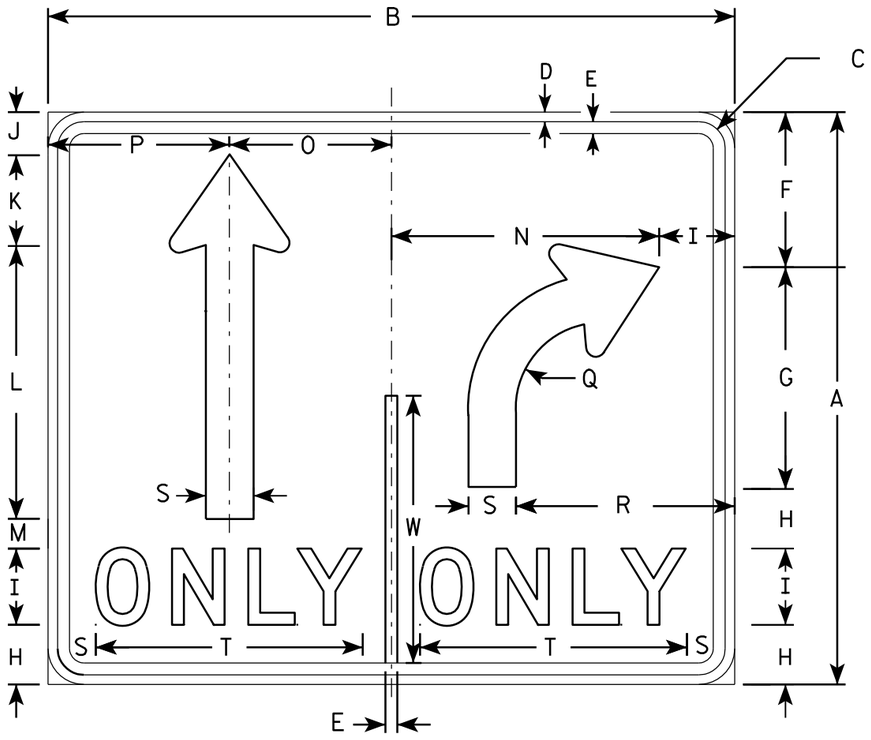
STANDARD SIGN
R3-8A

WISCONSIN DEPT OF TRANSPORTATION

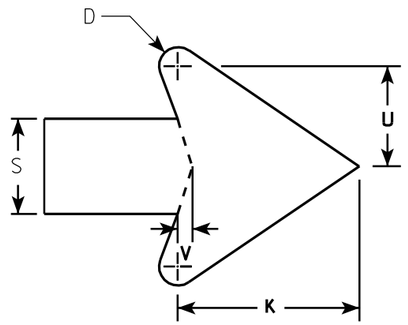
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/01/12 PLATE NO. R3-8A.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 313 | E



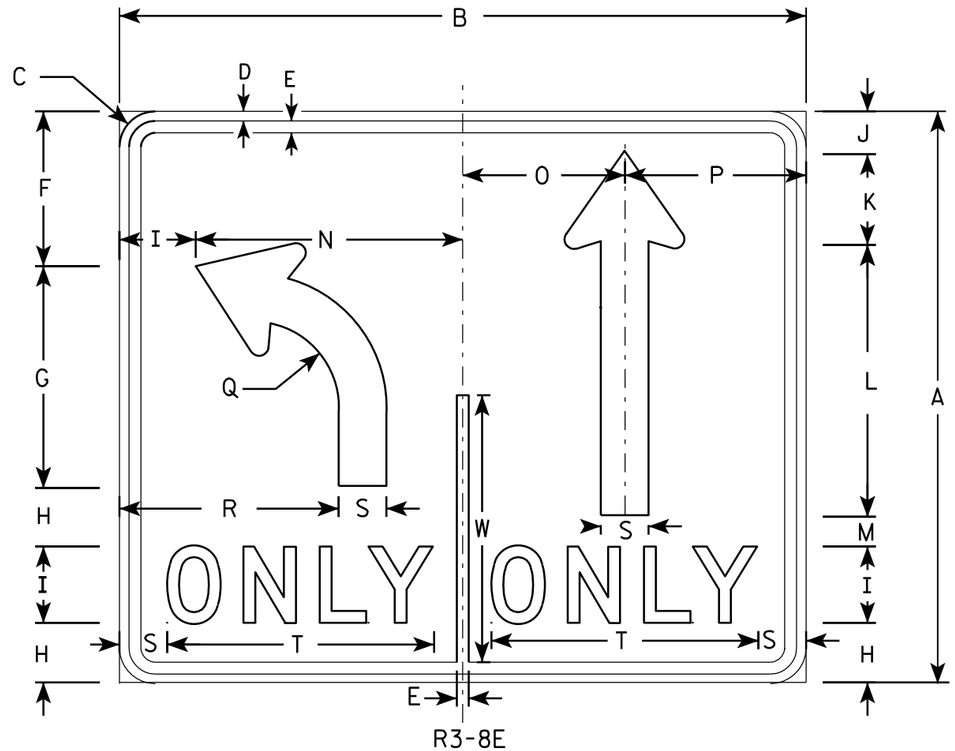
R3-8D



ARROW DETAIL

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - WHITE
   Message - BLACK
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R3-8E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	14	8 1/2	9 1/2	4 1/2	11 1/2	2 1/2	14	2 5/8	3/8	14				7.5
2M	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	14	8 1/2	9 1/2	4 1/2	11 1/2	2 1/2	14	2 5/8	3/8	14				7.5
3																											
4	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7 1/8	21 1/2	4 3/4	21	12 3/4	14 1/4	7 1/4	17 1/8	3 3/4	20 5/8	4	5/8	22 3/8				18.0
5	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7 1/8	21 1/2	4 3/4	21	12 3/4	14 1/4	7 1/4	17 1/8	3 3/4	20 5/8	4	5/8	22 3/8				18.0

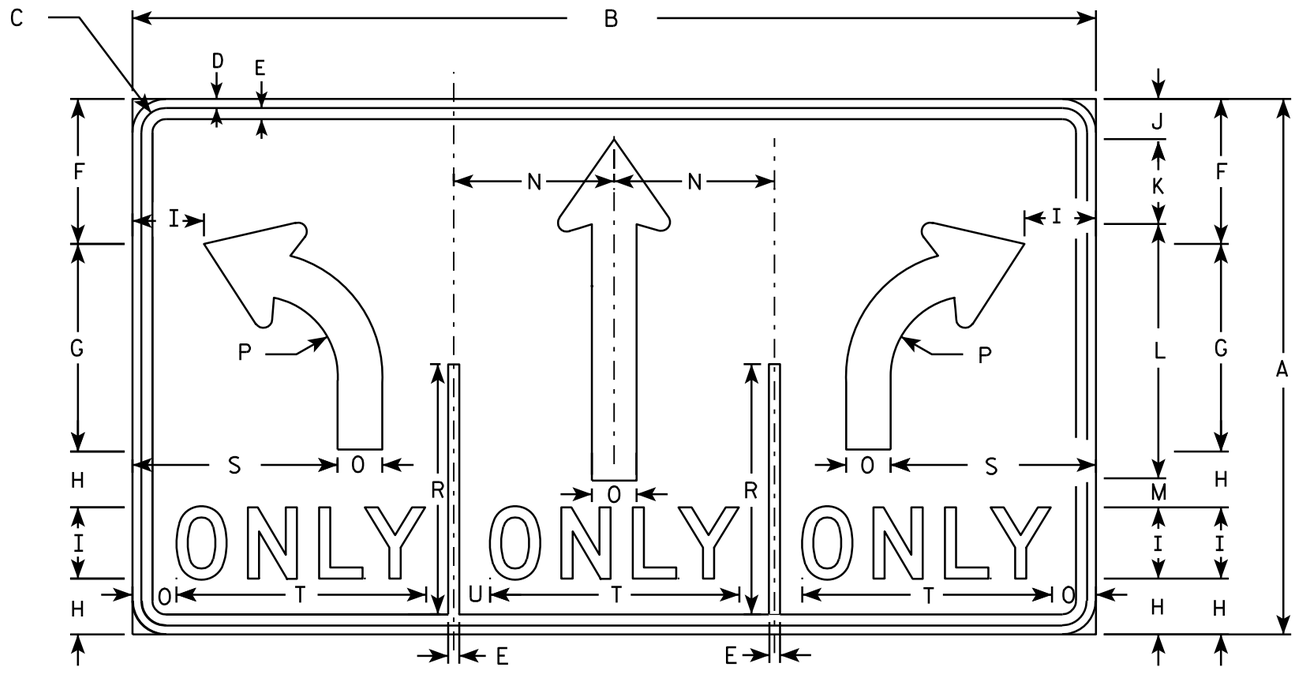
STANDARD SIGN
R3-8D & R3-8E

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-8D.2

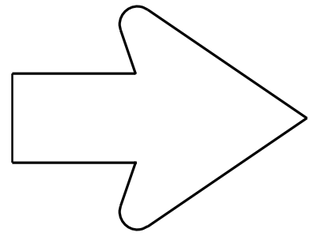
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 314	E



R3-8W

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - WHITE
   Message - BLACK
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



SEE R3-8 FOR ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	9	2 1/2	4 1/2		14	11 1/2	14	2						11.25
2M	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	9	2 1/2	4 1/2		14	11 1/2	14	2						11.25
3																											
4	48	84	2 1/4	3/4	1	13	18 1/2	5 1/4	6	3 3/4	7	29 1/8	2 3/8	14	3 3/4	7 1/4		22 3/8	17 1/4	20 1/2	3 1/4						28.0
5	48	84	2 1/4	3/4	1	13	18 1/2	5 1/4	6	3 3/4	7	29 1/8	2 7/8	14	3 3/4	7 1/4		22 3/8	17 1/4	20 1/2	3 1/4						28.0

STANDARD SIGN
R3-8W

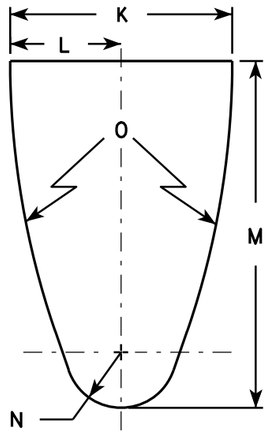
WISCONSIN DEPT OF TRANSPORTATION

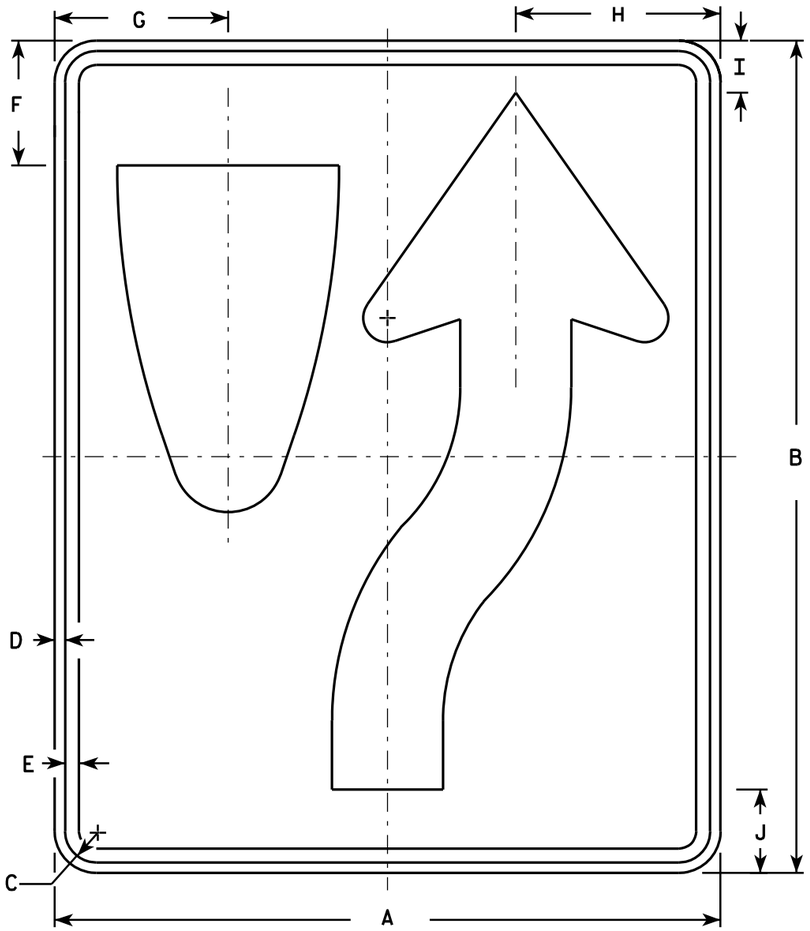
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-8W.4

PROJECT NO:

SHEET NO: 315 E

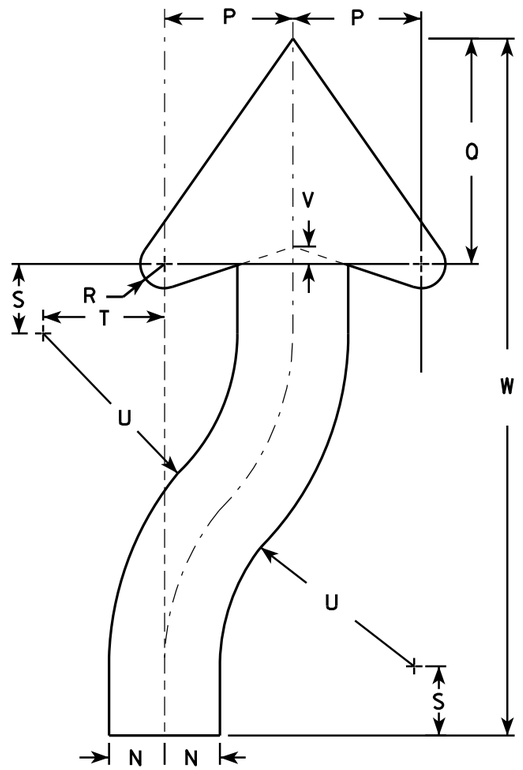




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

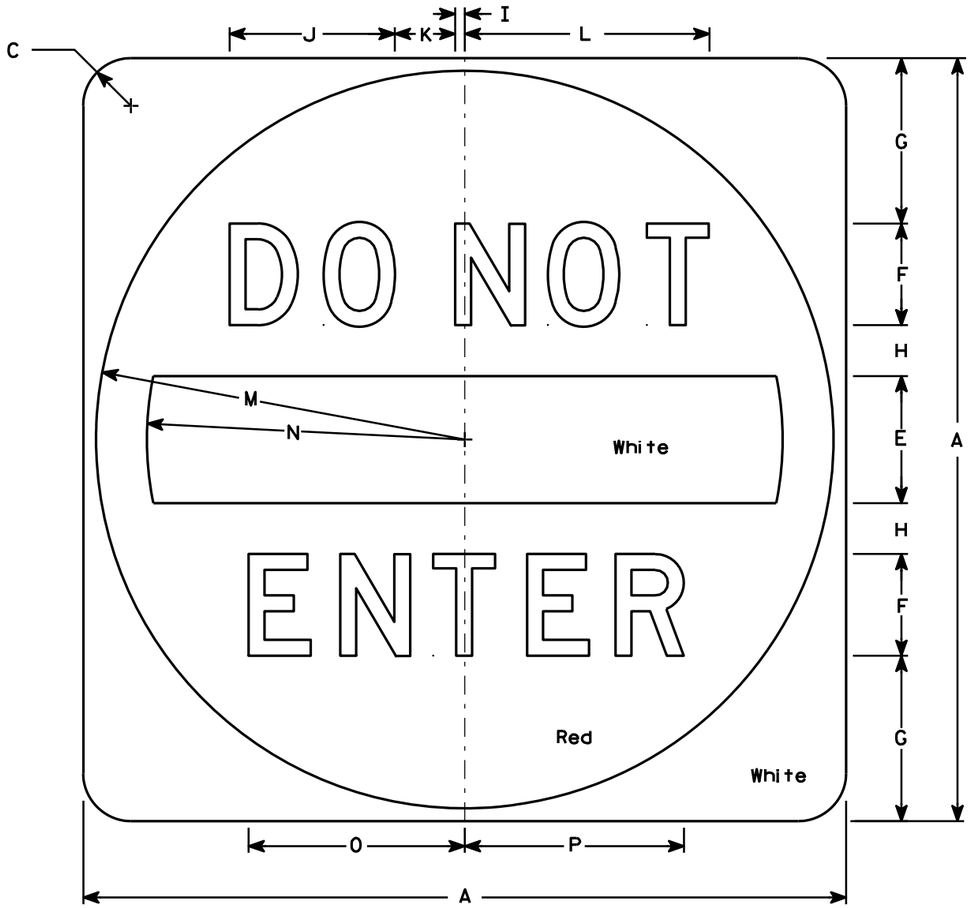
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 316	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See detail
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the cornors 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	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

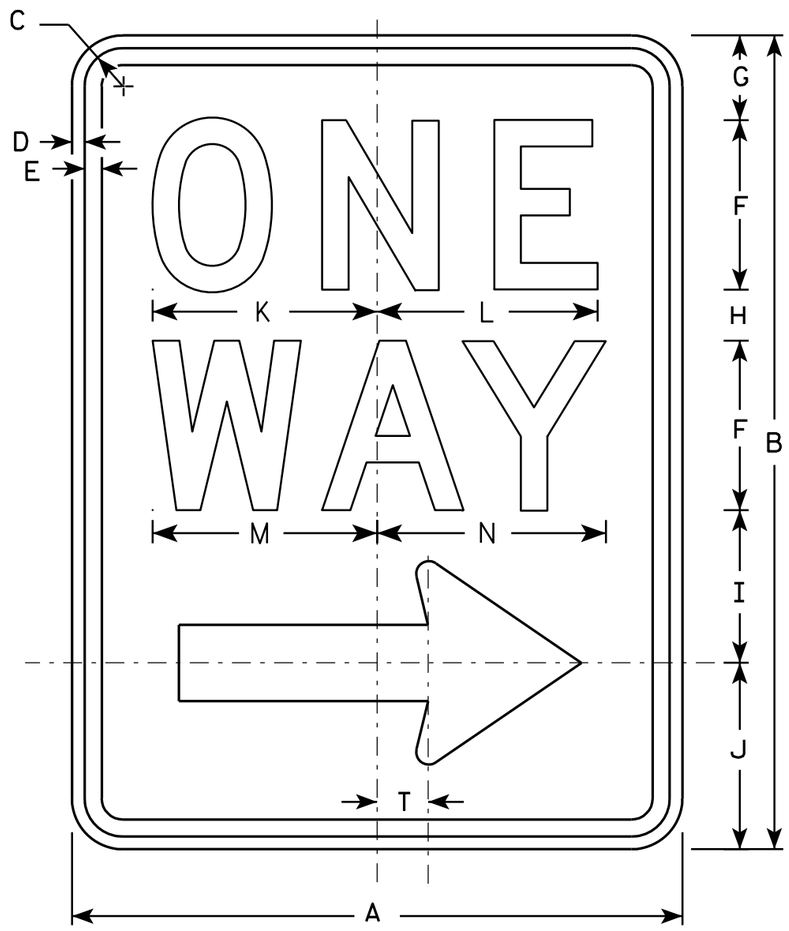
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

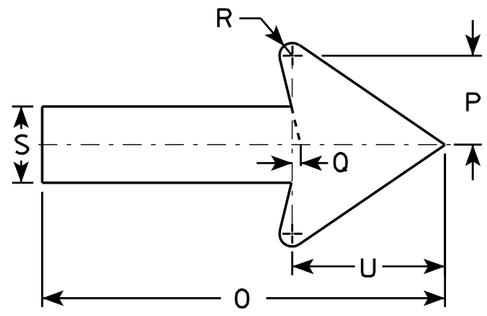
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 317 | E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



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
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

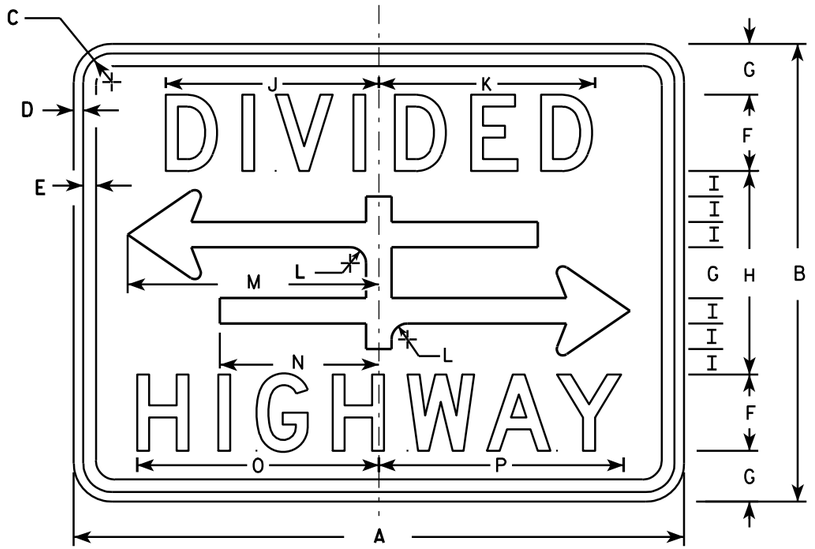
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

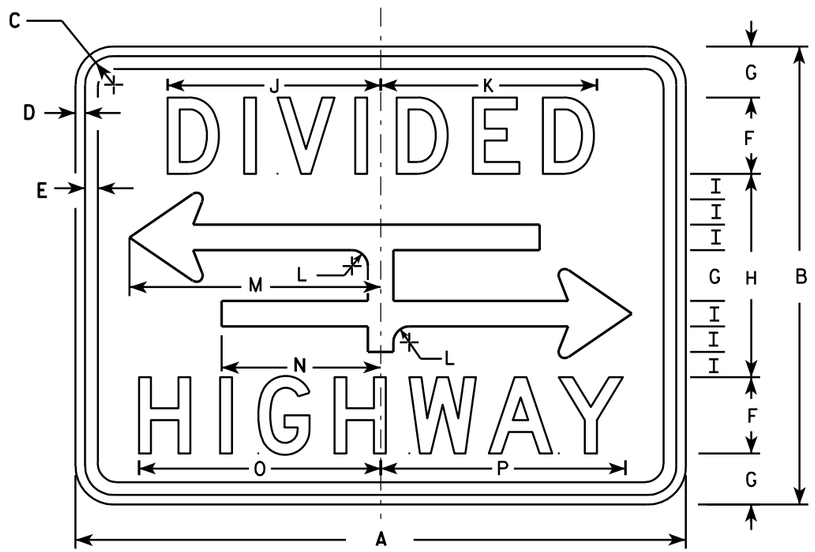
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 318 | E



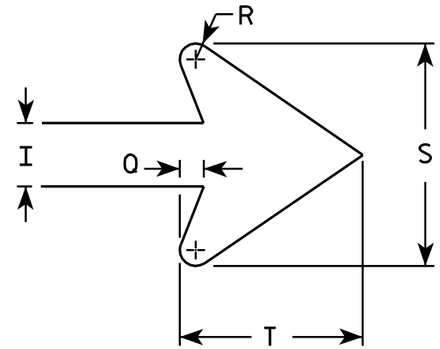
R6-3

NOTES

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



R6-3A



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	18	1 1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

STANDARD SIGN
R6-3 & R6-3A

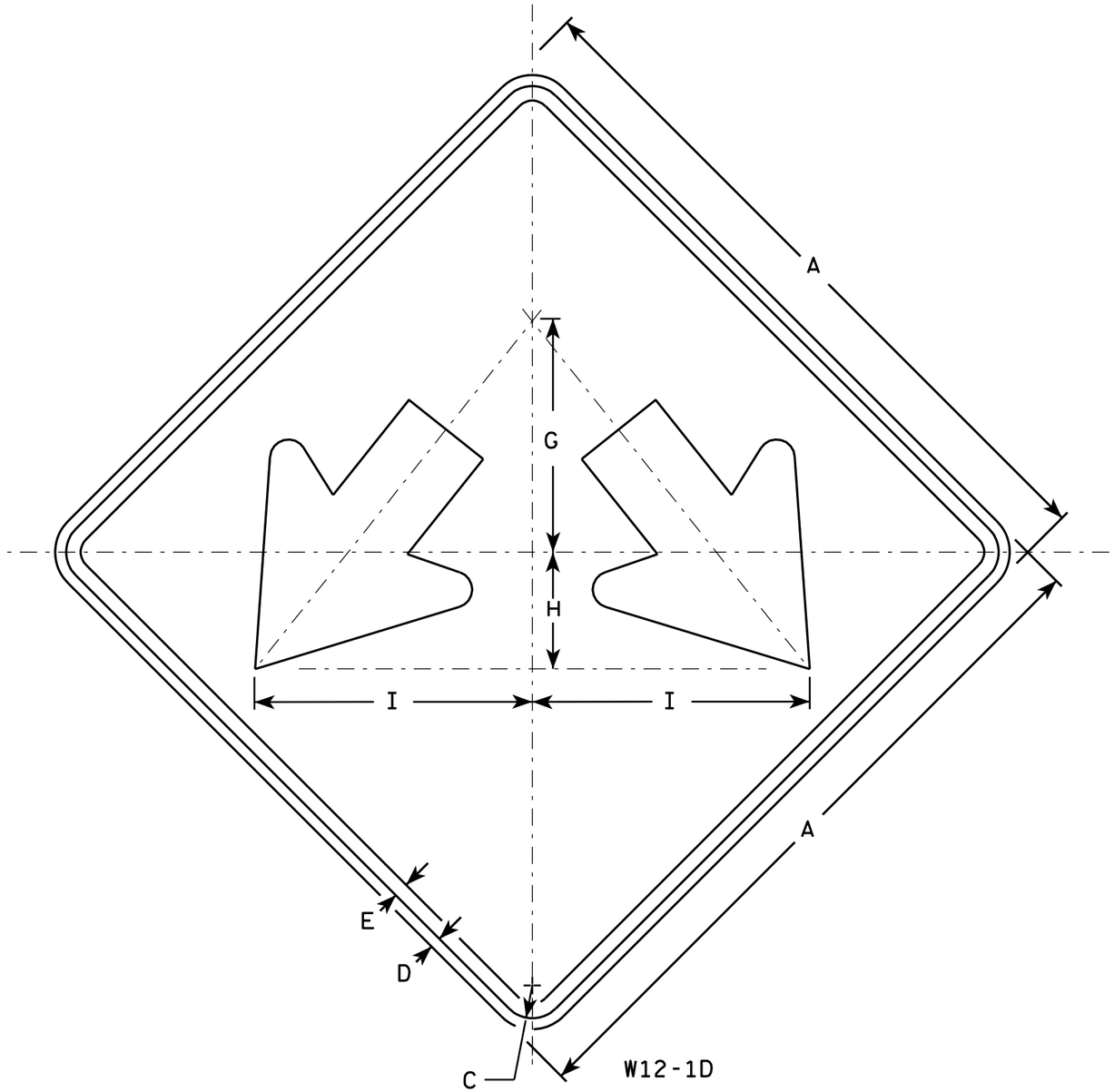
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

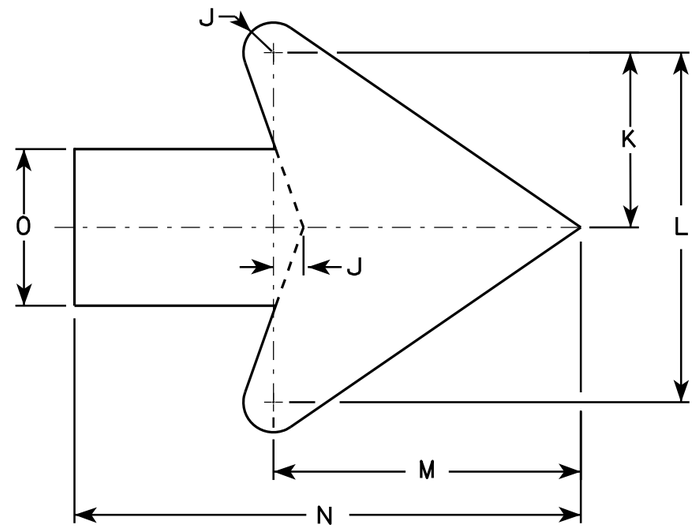
PROJECT NO:

SHEET NO: 319 E



NOTES

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



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	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

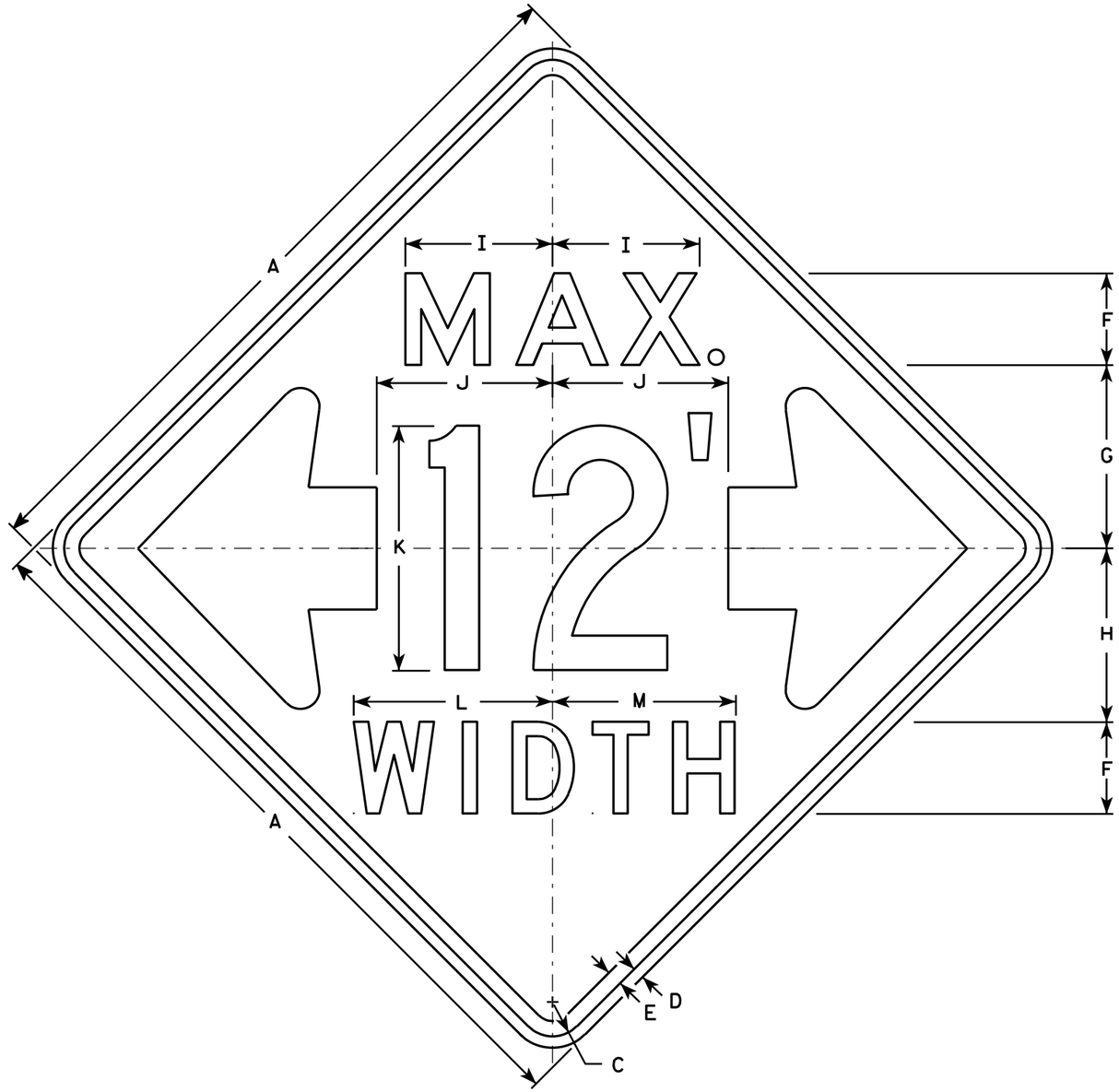
STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15

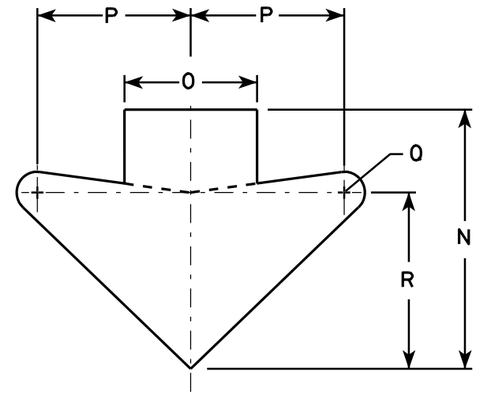
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 320 | E



W12-52

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

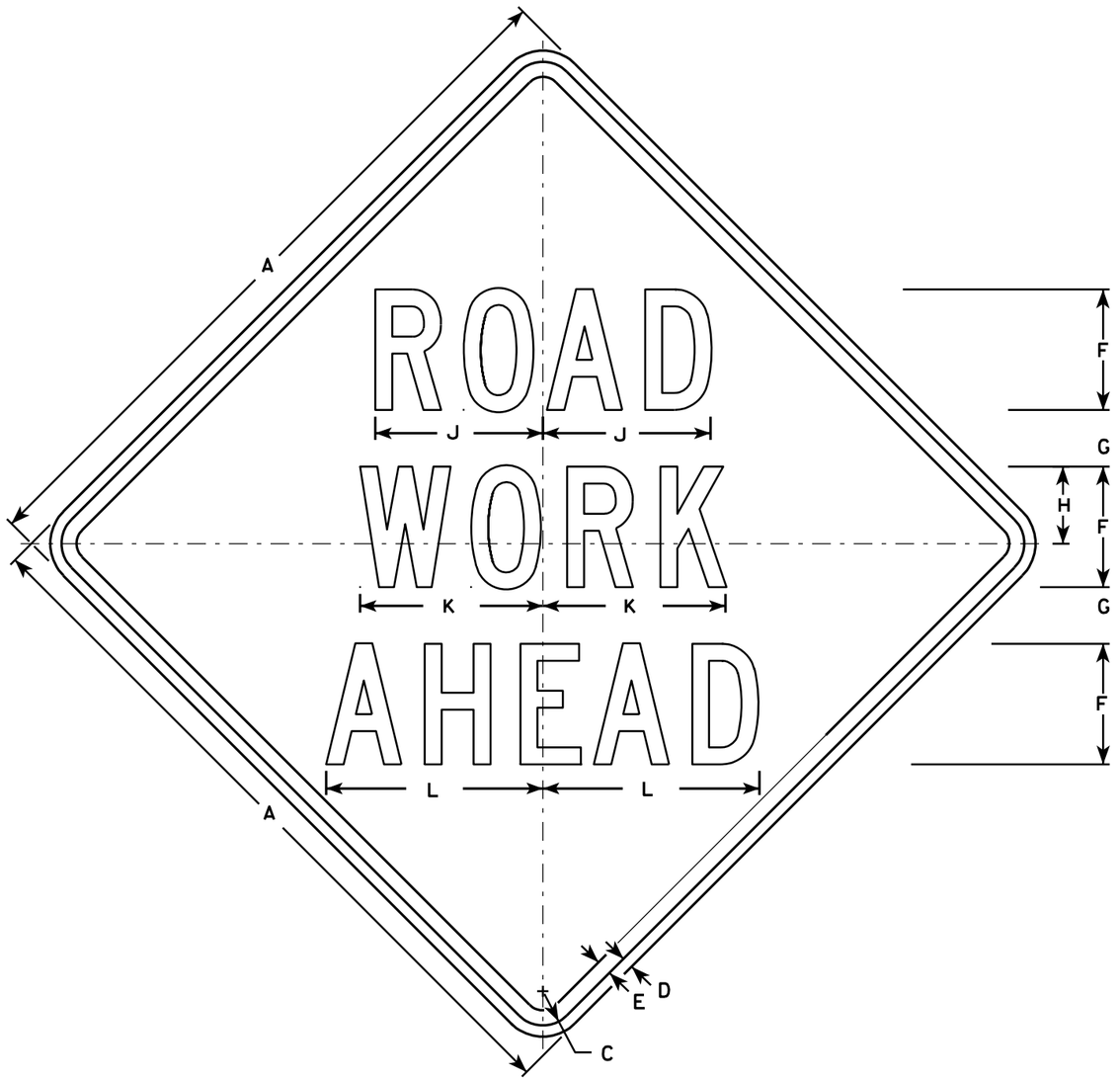
APPROVED Matthew R Rauch
for State Traffic Engineer

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

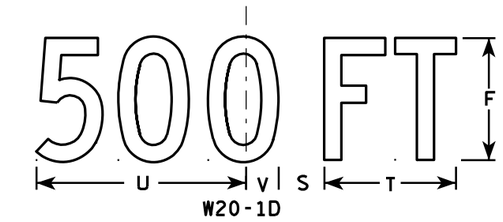
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 321 | E

7

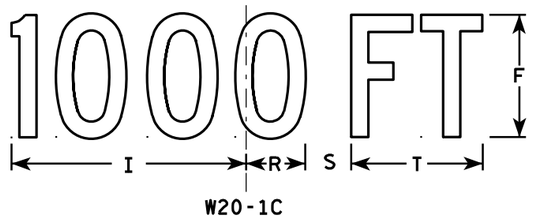
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000
WISDOT/CADDS SHEET 42



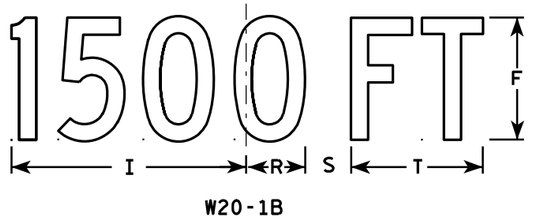
W20-1A



W20-1D



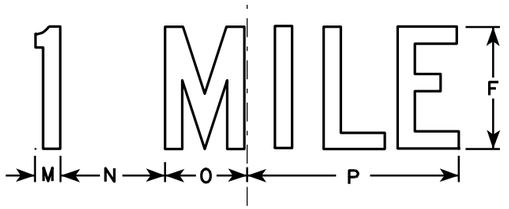
W20-1C



W20-1B



W20-1G



W20-1F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	1 7/8	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		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		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		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		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		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-1.9

PROJECT NO:

SHEET NO: 322 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W201.DGN PLOT DATE : 18-MAR-2011 09:56 PLOT BY : mscj9h

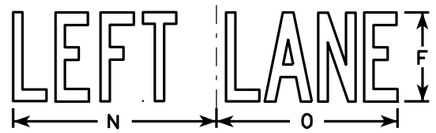
WISDOT/CADDS SHEET 42

7

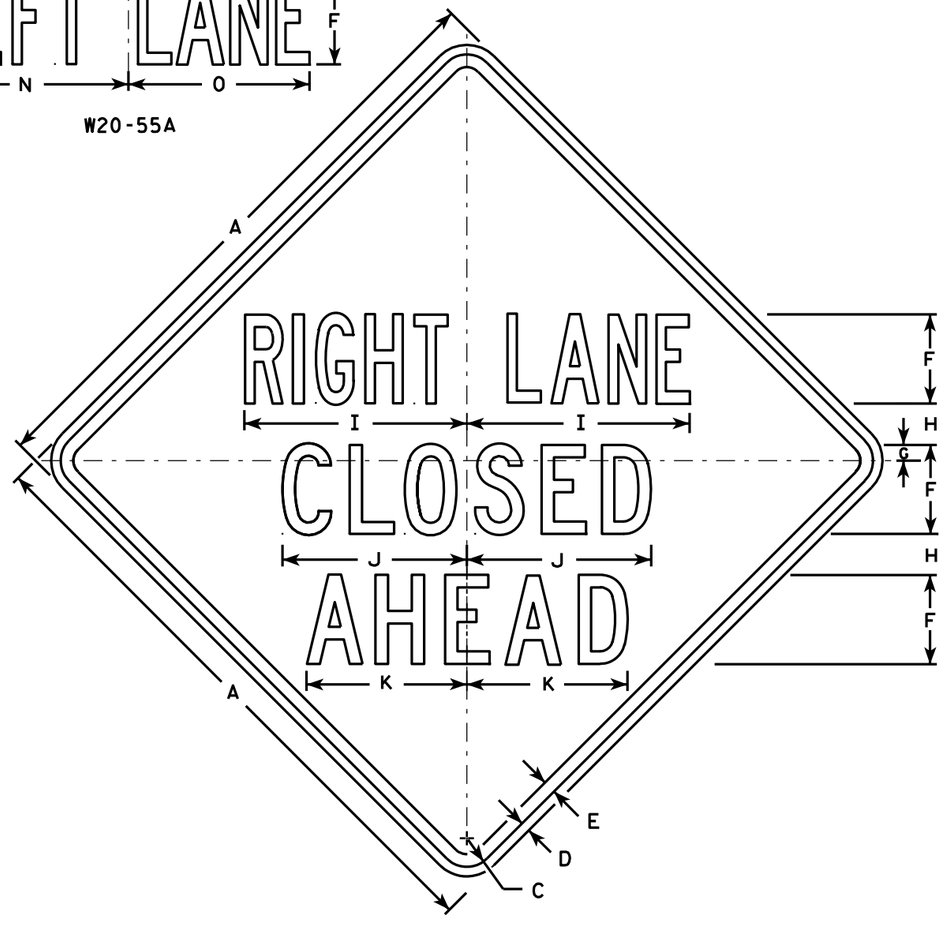
7



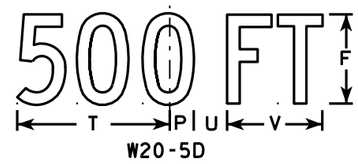
W20-56A



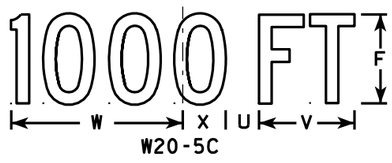
W20-55A



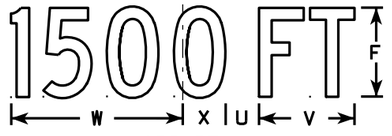
W20-5A



W20-5D



W20-5C



W20-5B



W20-5G



W20-5F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

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

WISCONSIN DEPT OF TRANSPORTATION

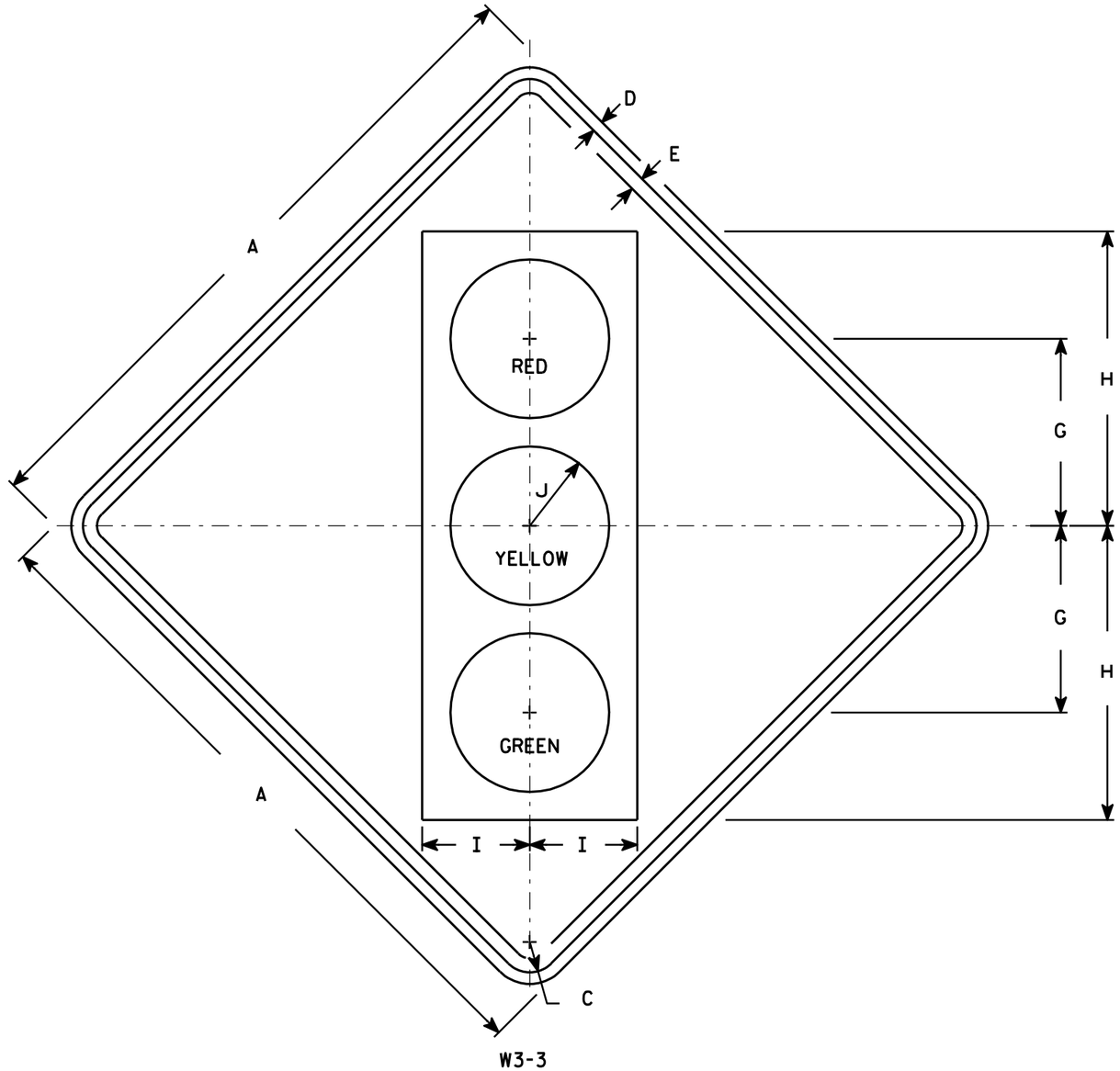
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 323 | E

7

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



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

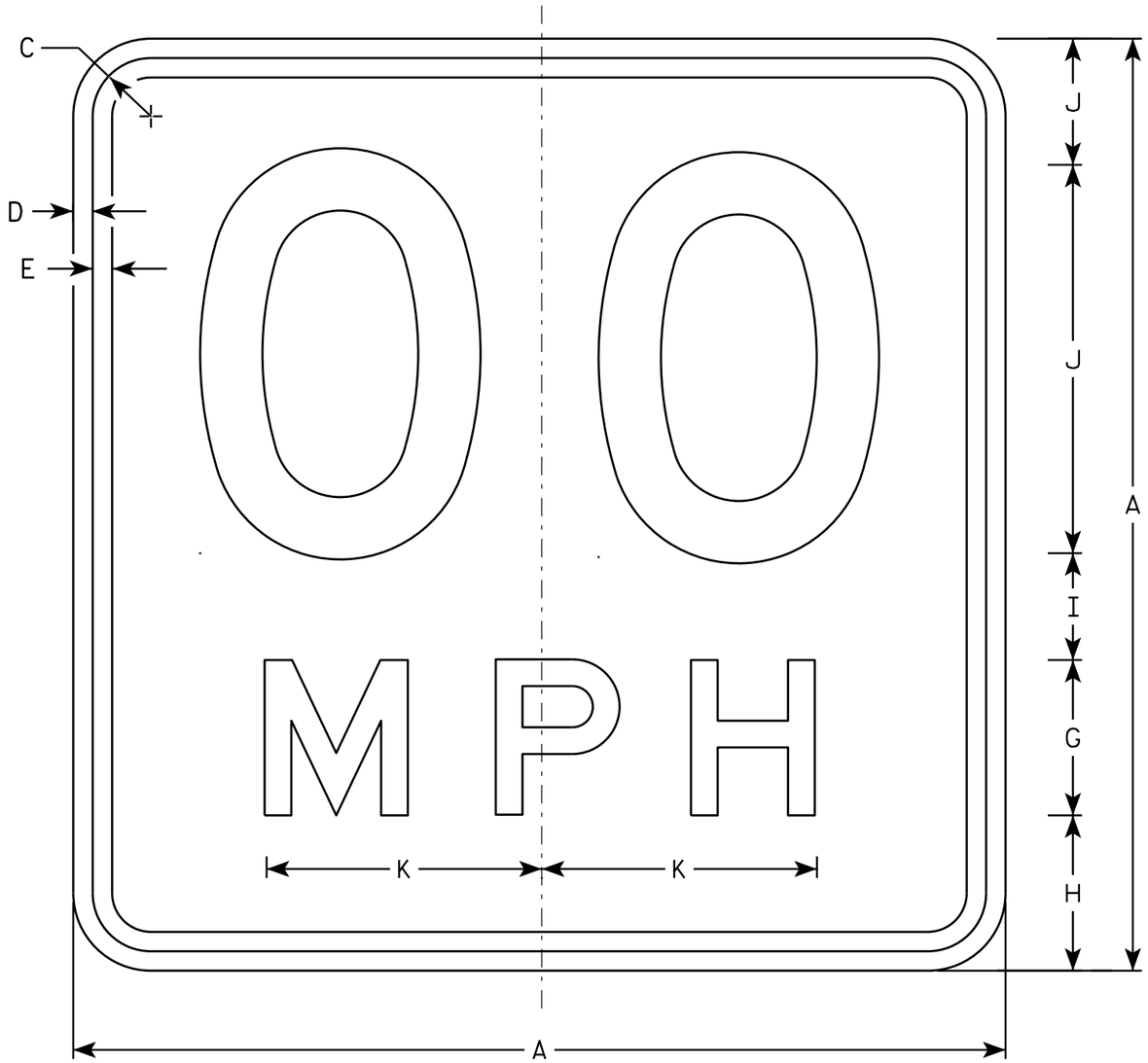
STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 324 | E



W013-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 6
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 space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

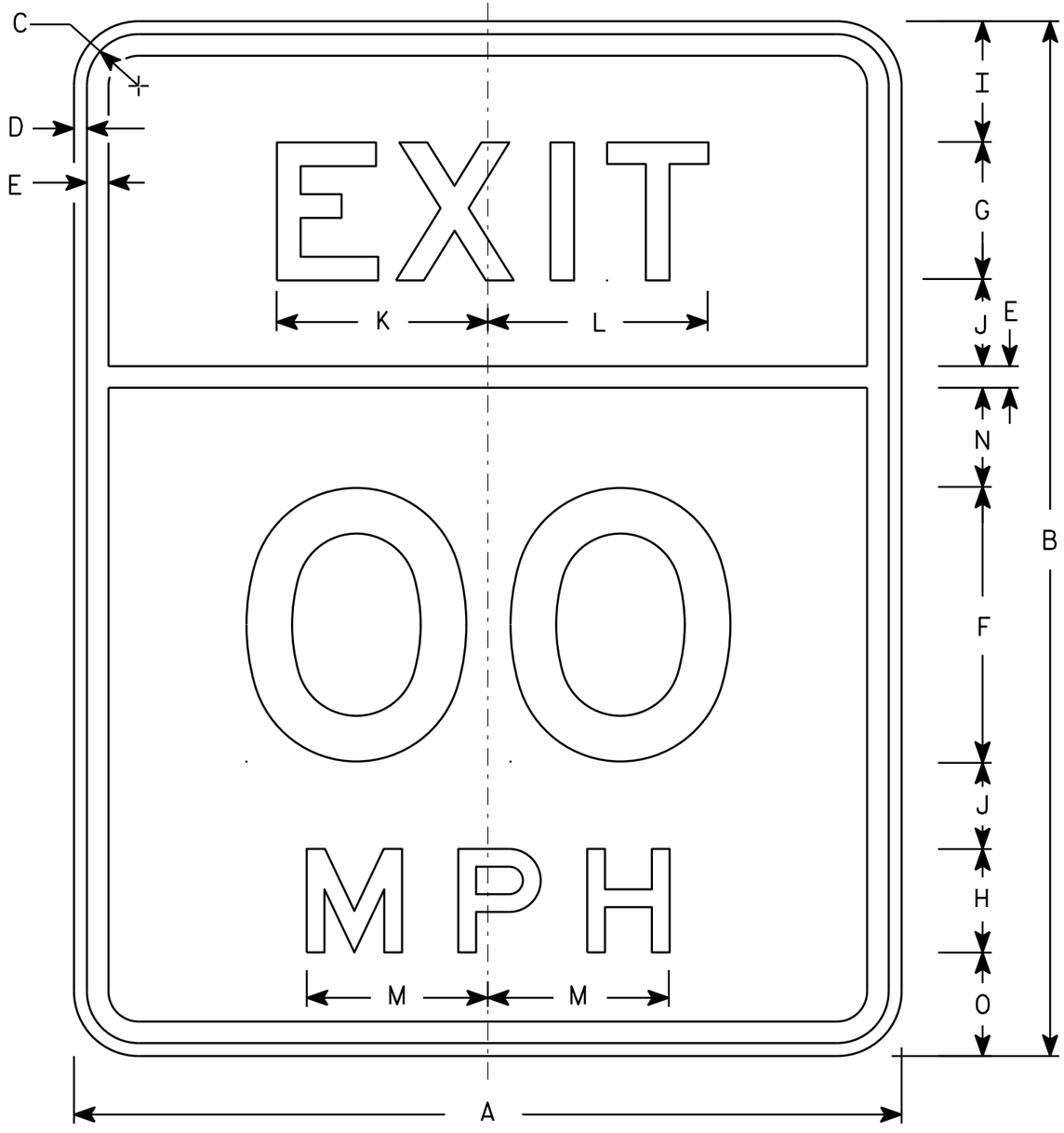
STANDARD SIGN
W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/21/13 PLATE 325 W013-1.1

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



W013-2

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   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 space about centerline 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																											
2S	24	30	1 1/2	3/8	5/8	8	4	3	3 1/2	2 1/2	6 1/8	6 3/8	5 1/4	2 7/8	3												5.0
2M	24	30	1 1/2	3/8	5/8	8	4	3	3 1/2	2 1/2	6 1/8	6 3/8	5 1/4	2 7/8	3												5.0
3	36	48	2 1/4	5/8	7/8	12	6	4	6	4	9 1/4	9 1/2	7 1/8	5 1/8	6												12.0
4	36	48	2 1/4	5/8	7/8	12	6	4	6	4	9 1/4	9 1/2	7 1/8	5 1/8	6												12.0
5	48	60	2 1/4	3/4	1	16	8	6	7	5	12 1/4	12 3/4	10 5/8	5 3/4	6												20.0

STANDARD SIGN
W013-2

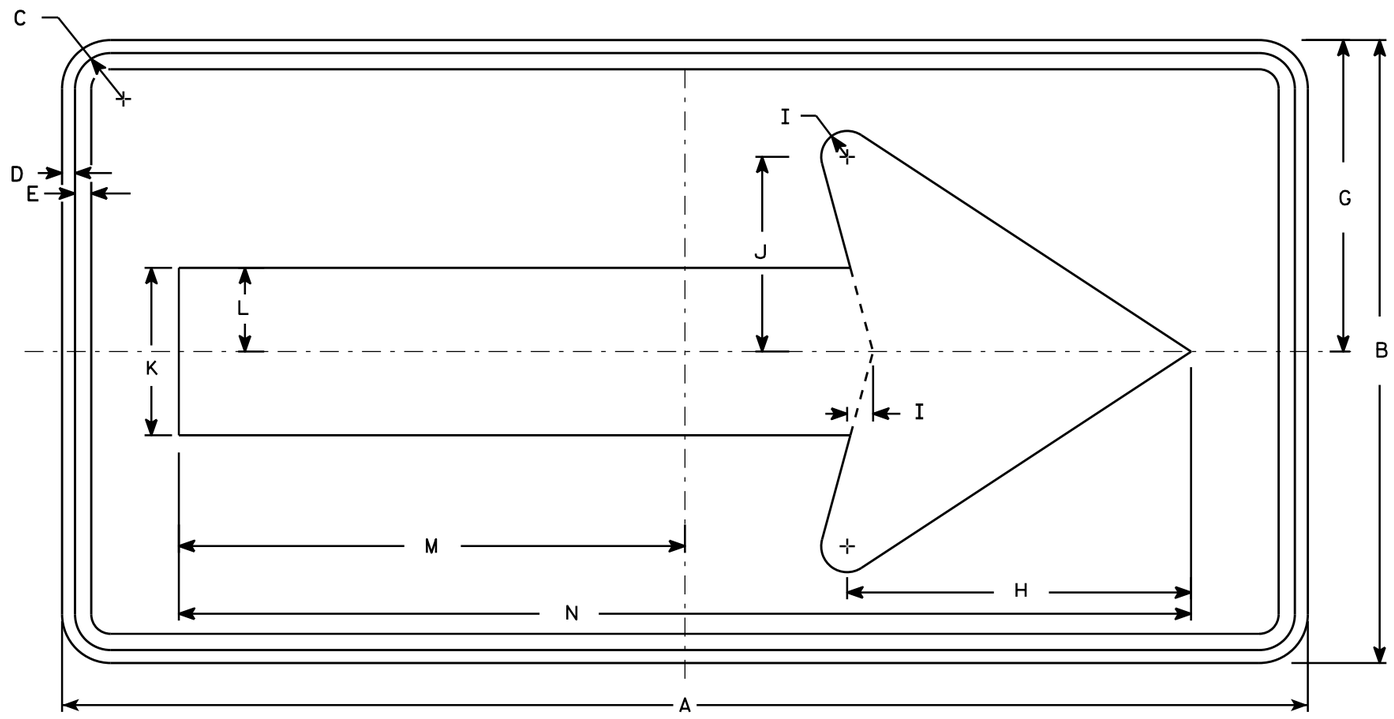
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/10/14 PLATE W013-2.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W0132.DGN PLOT DATE : 10-MAR-2014 13:35 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.086268:1.000000
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

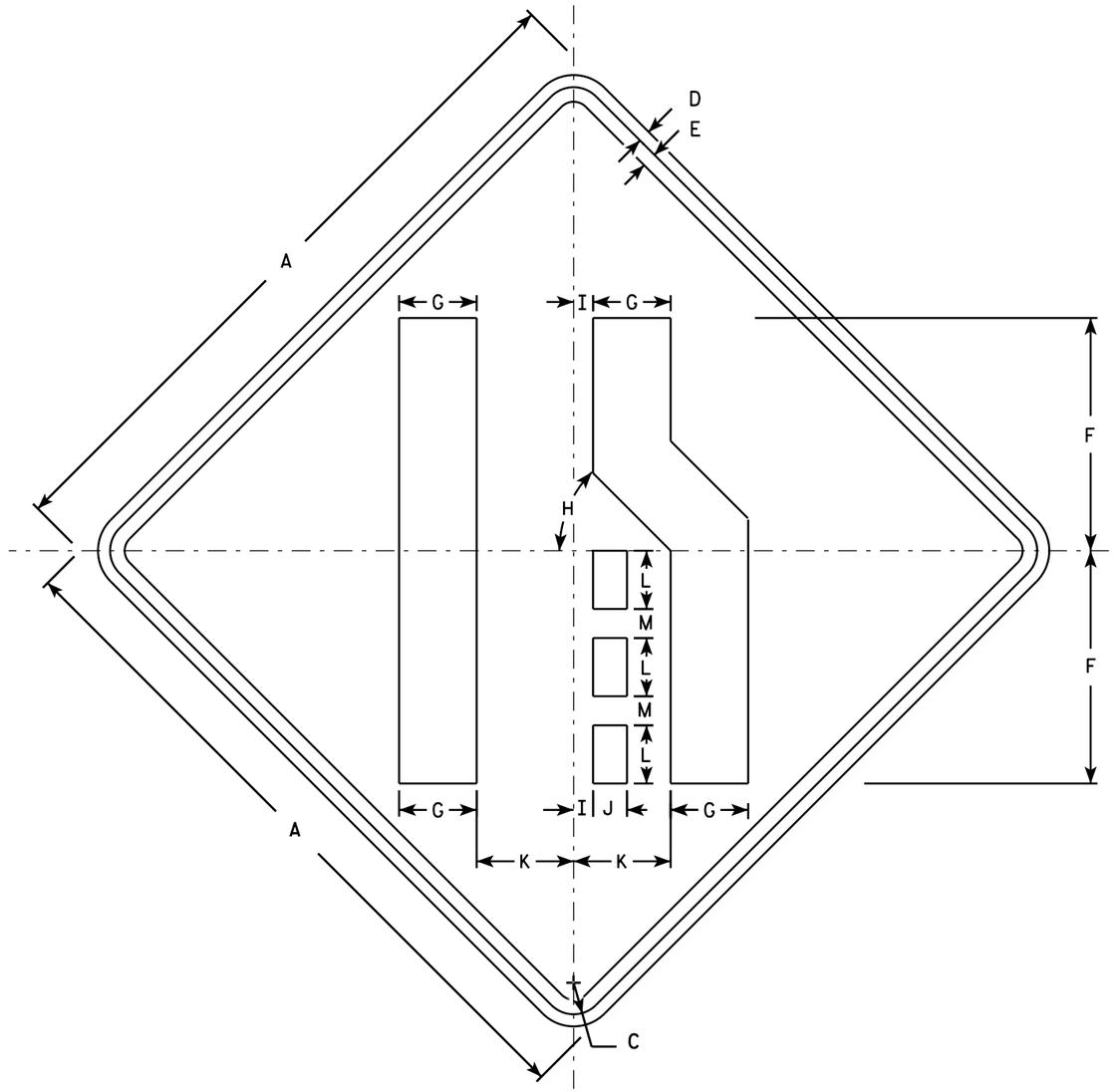
WISCONSIN DEPT OF TRANSPORTATION

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



W04-2R

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. W04-2L is the same as W04-2R except the symbol 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	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W04-2

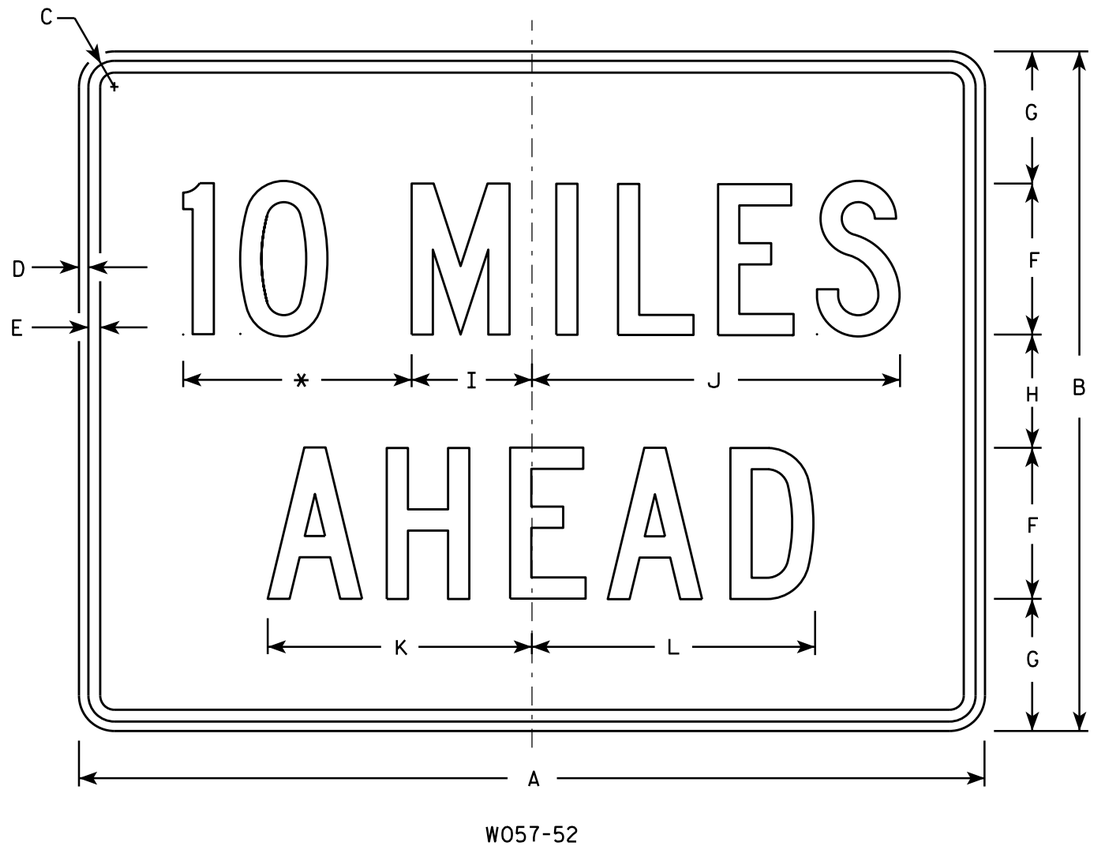
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

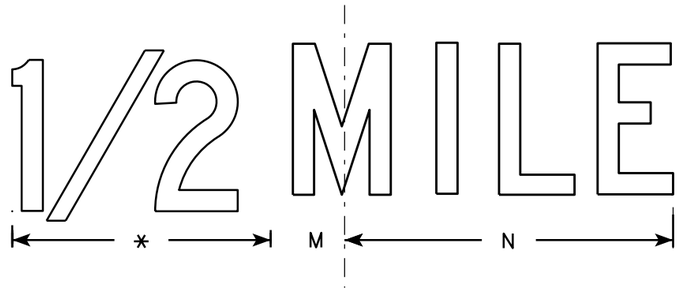
DATE 11/20/13 PLATE 328 W04-2.1

PROJECT NO:

SHEET NO: E



W057-52



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

* See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	13													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0

STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

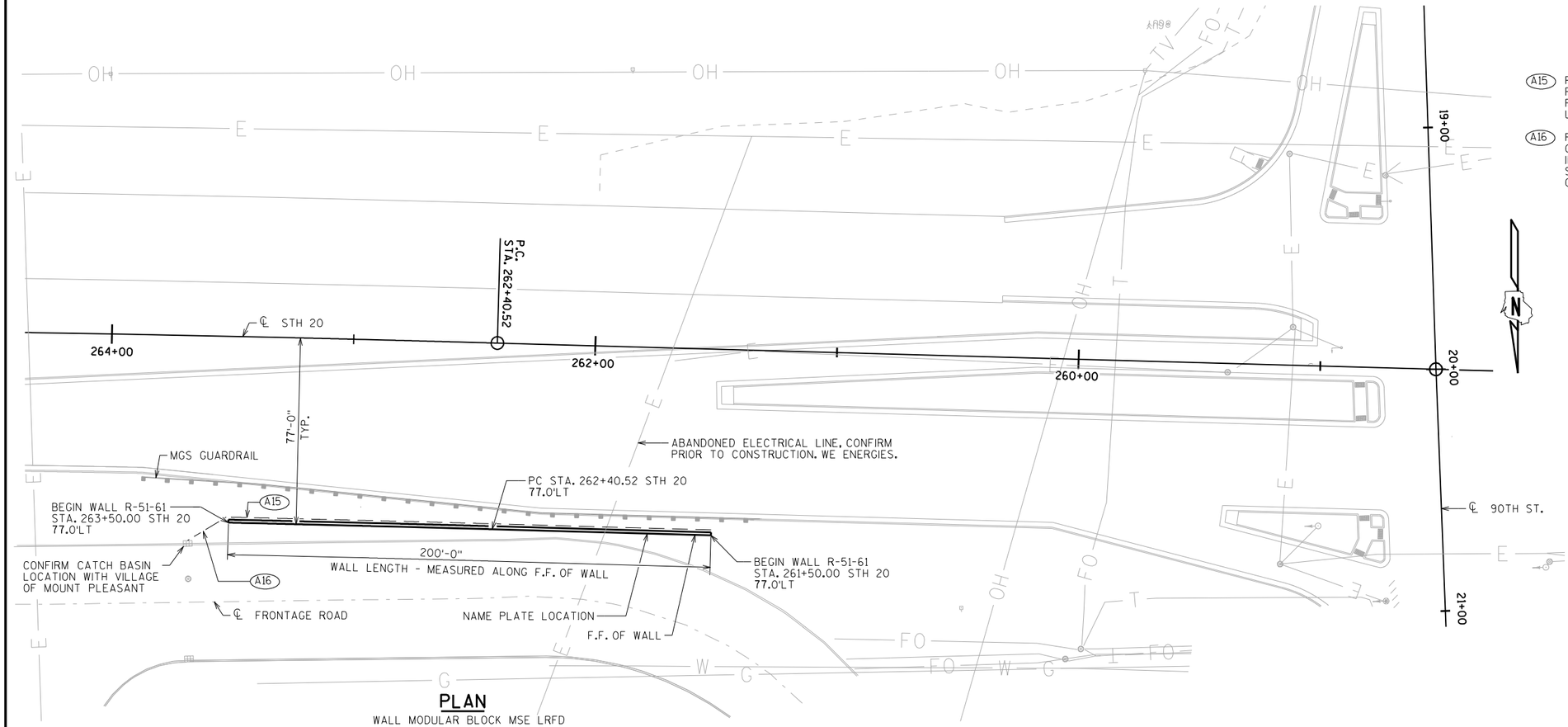
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W057-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

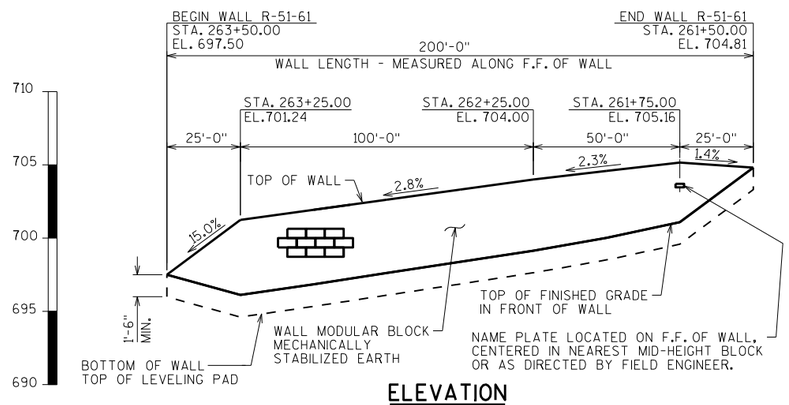
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W05752.DGN PLOT DATE : 28-FEB-2014 11:42 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 8.026599:1.000000 WISDOT/CADDS SHEET 42

STATE PROJECT NUMBER
2340-00-73



PLAN

WALL MODULAR BLOCK MSE LRFD



ELEVATION

LOOKING SOUTH AT F.F. WALL

RETAINING WALL R-51-61		
STATION*	TOP OF WALL EL.	FINISHED GRADE EL.
263+50.00	697.50	697.50
263+25.00	701.24	696.13
263+00.00	701.93	696.85
262+75.00	702.62	697.62
262+50.00	703.31	698.38
262+25.00	704.00	699.14
262+00.00	704.58	700.02
261+75.00	705.16	701.09
261+50.00	704.81	704.81

*OFFSET TO F.F. OF WALL
77.0'LT (TYP.)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	QUANTITY
206.6000.S	TEMPORARY SHORING	SF	1,275
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	30
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	200
SPV.0165	WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD	SF	1,140

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. RODENT SCREEN REQUIRED. TEE CONNECTORS REQUIRED ARE CONSIDERED INCIDENTAL TO "PIPE UNDERDRAIN WRAPPED 6-INCH."

(A16) PIPE UNDERDRAIN UNPERFORATED (6-INCH). SLOPE 0.5% MIN. TO NEAREST LOCAL FRONTAGE ROAD INLET. RODENT SCREEN REQUIRED. SEE GENERAL PLAN SHEET FOR DESIRED LOCATION. 6-INCH TILE TO BE CORED AT CONNECTION TO CATCH BASIN.

CURVE DATA

STH 20

P.I. = STA. 264+81.02
Δ = 01°-36'-12"
D = 00°-20'-00"
T = 240.50
L = 480.97
R = 17,187.84
P.C. = STA. 262+40.52
P.T. = STA. 267+21.49

LIST OF DRAWINGS

1. GENERAL PLAN
2. RETAINING WALL DETAILS
3. SUBSURFACE EXPLORATION

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS PLAN.

DESIGN RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

THE COST OF FURNISHING AND PLACING MSE BACKFILL IS TO BE INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD".

MODULAR BLOCKS TO BE A "CUTSTONE" APPEARANCE WITH COLOR SIMILAR TO THE NEAREST BUILDINGS. MODULAR BLOCK SELECTED MUST BE APPROVED BY ENGINEER.

THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF THE RETAINING WALL R-51-61 WITH GUARDRAIL INSTALLATION. HOLES MAY BE CUT INTO THE RETAINING WALL GEOTEXTILE REINFORCEMENT LAYERS TO ALLOW PLACEMENT OF BEAM GUARD POSTS. POST HOLES SHALL NOT BE DRILLED.

WALL MANUFACTURER SHALL DESIGN THE RETAINING WALL SYSTEM TO ACCOUNT FOR THE OBSTRUCTIONS.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

ALLOWABLE WALL SYSTEMS

WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD

NO.	DATE	REVISION	BY

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C Dietz 4/29/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-51-61

RETAINING WALL ALONG STH 20 FRONTAGE ROAD

COUNTY	~~TOWN/CITY~~/VILLAGE
RACINE	MOUNT PLEASANT

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	EMK	DESIGN CK'D.	ABS	DRAWN BY	EMK	PLANS CK'D.	ABS

GENERAL PLAN

SHEET 1 OF 3

330

I.D. 2250-00-05

DATE: MARCH 2014

SCALE = 25

8

8

STATE PROJECT NUMBER

2340-00-73

WALL EXTERNAL STABILITY EVALUATION

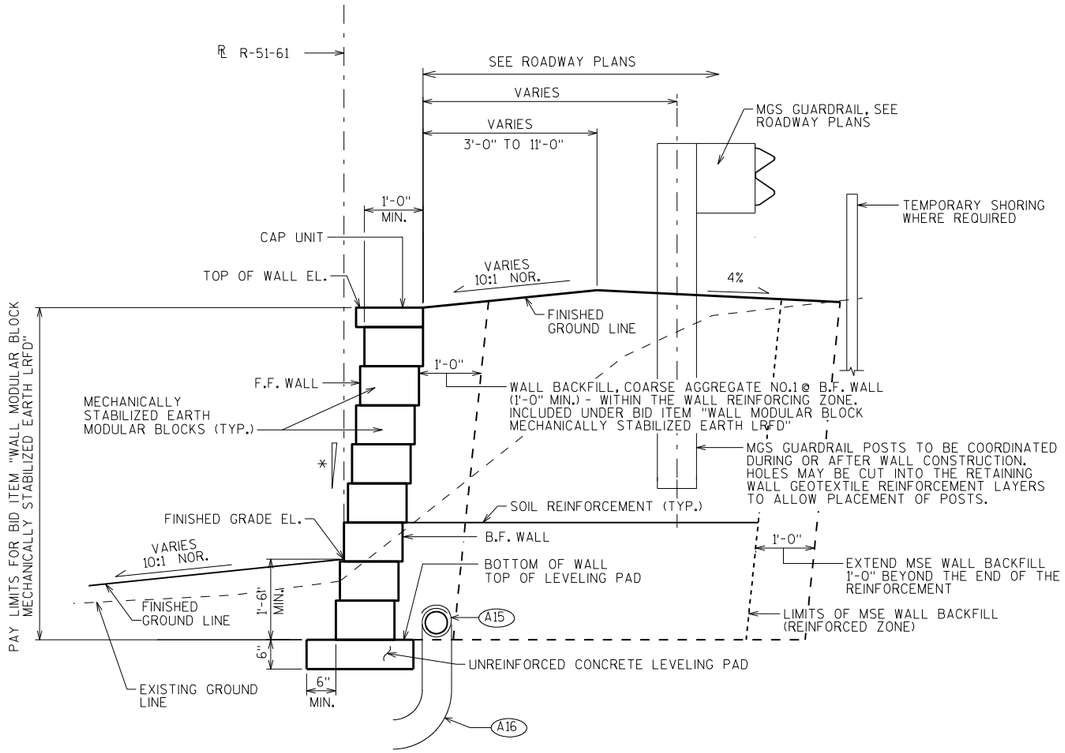
DIMENSIONS				
WALL HEIGHT (FEET)[1]	6.6	6.5	6.4	5.6
EXPOSED WALL HEIGHT (FEET)	5.1	5.0	4.9	4.1
LENGTH OF REINFORCEMENT (FEET)[3]	6	6	6	6
LENGTH OF REINF. / WALL HEIGHT	N/A[6]	N/A[6]	N/A[6]	N/A[6]
WALL STATION	263+25	262+75	262+25	261+75
BORING USED	B-1	B-1	B-2	B-2
CAPACITY TO DEMAND RATIO (CDR)[2,4]				
SLIDING (CDR > 1.0)	1.4	1.4	1.5	1.7
ECCENTRICITY (CDR > 1.0)	1.8	1.8	1.9	2.8
GLOBAL STABILITY (CDR > 1.0)	2.9	NA[5]	NA[5]	NA[5]
BEARING RESISTANCE (CDR > 1.0)	6.0	5.8	6.2	6.0
FACTORED BEARING RESISTANCE (PSF)	10,000	9,000	10,000	8,000

NOTES:

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET.
2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD OF 240PSF.
3. THE LENGTH OF REINFORCEMENT OF 6-FEET IS THE MINIMUM REQUIRED LENGTH.
4. CDR VALUES ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
5. NA NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.
6. N/A (NOT APPLICABLE), THE MINIMUM LENGTH OF REINFORCEMENT OF 6 FEET CONTROLS OVER THE 0.70 RATIO.

NOTES:

1. THE WALL EMBEDMENT DEPTH SHOULD BE 1.5 FEET.
2. THE MSE WALL WITH MODULAR BLOCK FACING WILL ACHIEVE THE EXTERNAL STABILITY CDR VALUES SHOWN IN THE ABOVE TABLE. THE ABOVE TABLE ALSO PRESENTS THE MINIMUM REQUIRED LENGTH OF THE REINFORCEMENT AT SPECIFIC LOCATIONS.
3. THE SETTLEMENT OF THE FOUNDATION WAS ESTIMATED TO BE LESS THAN 1.0 INCH AND SHOULD OCCUR WITHIN WEEKS OF LOADING OF THE WALL. THE SUBSURFACE SOILS ARE RELATIVELY UNIFORM; THEREFORE, DIFFERENTIAL SETTLEMENT SHOULD NOT BE AN ISSUE.
4. THE SOUTHEAST REGION SOILS ENGINEER SHOULD REVIEW THE SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION OF THE WALLS TO DETERMINE IF THE SOILS HAVE ADEQUATE STRENGTH TO SUPPORT THE MSE WALLS.



SECTION THRU MSE MODULAR BLOCK WALL LOOKING EAST

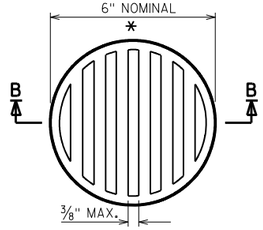
* SET BACK PER BLOCK VARIES BY MANUFACTURER

SOIL PARAMETERS

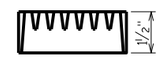
SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
F-C SAND LITTLE GRAVEL BEHIND REINFORCEMENT ZONE	31	0	110
BOR-1, STA. 263+00			
VERY STIFF TO HARD SILT, LITTLE GRAVEL ELEVATION 697.5 FT TO ELEVATION 692.5 FT	0	3,950	130
VERY STIFF TO HARD FINE SANDY SILT ELEVATION 692.5 FT TO ELEVATION 681.5 FT	0	3,000	125
VERY STIFF CLAY, TRACE OF F-M GRAVEL ELEVATION 681.5 FT TO ELEVATION 677.0 FT	0	3,500	130
BOR-2, STA. 261+88			
VERY STIFF TO HARD FINE SANDY SILT ELEVATION 700.7 FT TO ELEVATION 698.1FT	0	3,250	125
HARD SILT, LITTLE F-C GRAVEL, TRACE OF CLAY ELEVATION 698.1FT TO ELEVATION 690.1FT	0	4,500	130
VERY STIFF TO HARD FINE SANDY SILT ELEVATION 690.1FT TO ELEVATION 685.6 FT	0	3,500	125
STIFF CLAY, LITTLE SILT, TRACE OF GRAVEL ELEVATION 685.6 FT TO ELEVATION 677.1FT	0	1,875	120

NOTES:
THE TYPICAL WALL SECTION USED IN THE ANALYSES HAD AN EXPOSED HEIGHT THAT VARIES FROM 4.1 FEET TO 5.1 FEET. THE FOLLOWING ASSUMPTIONS ARE ALSO INCLUDED IN THE ANALYSES:

1. THE SLOPE BEHIND THE WALL IS VARIABLE IT RANGES BETWEEN 1V:3H TO 1V:25H.
2. THE SLOPE IN FRONT OF THE WALL IS VARIABLE FROM 1V:3H TO 1V:10H.
3. THE GROUNDWATER ELEVATION WAS BELOW THE INVESTIGATED DEPTHS.
4. THE GRANULAR BACKFILL IS FREE DRAINING AND WILL NOT BECOME SATURATED.
5. THE MINIMUM EMBEDMENT DEPTH IS 1.5 FEET.
6. 1.5 FEET WAS ADDED TO THE EXPOSED HEIGHTS TO ARRIVE AT THE DESIGN HEIGHTS (TOTAL HEIGHTS).
7. THE THICKNESS OF THE MODULAR BLOCK IS 12-INCHES.
8. A SURCHARGE LOAD OF 240 PSF IS INCLUDED TO MODEL LIGHTWEIGHT CONSTRUCTION EQUIPMENT AND LIVE LOAD.
9. GLOBAL STABILITY WAS DETERMINED BY THE COMPUTER PROGRAM XSTABL.
10. BEARING RESISTANCE IS DETERMINED BY TERZAGHI'S BEARING CAPACITY EQUATION.
11. SETTLEMENT OF THE FOUNDATION ON COHESIONLESS SOIL IS BASED UPON METHODS DESCRIBED IN THE FHWA SOILS AND FOUNDATIONS MANUAL.
12. DESIGN COMPLETED USING LOAD RESISTANCE FACTOR DESIGN (LRFD) METHOD.



RODENT SHIELD DETAIL



SECTION B-B

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

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

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

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. RODENT SCREEN REQUIRED. TEE CONNECTORS REQUIRED ARE CONSIDERED INCIDENTAL TO "PIPE UNDERDRAIN WRAPPED 6-INCH."

(A16) PIPE UNDERDRAIN UNPERFORATED (6-INCH). SLOPE 0.5% MIN. TO NEAREST LOCAL FRONTAGE ROAD INLET. RODENT SCREEN REQUIRED. SEE GENERAL PLAN SHEET FOR DESIRED LOCATION. 6-INCH TILE TO BE CORED AT CONNECTION TO CATCH BASIN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-51-61

DRAWN BY EMK | PLANS CK'D. ABS

RETAINING WALL DETAILS

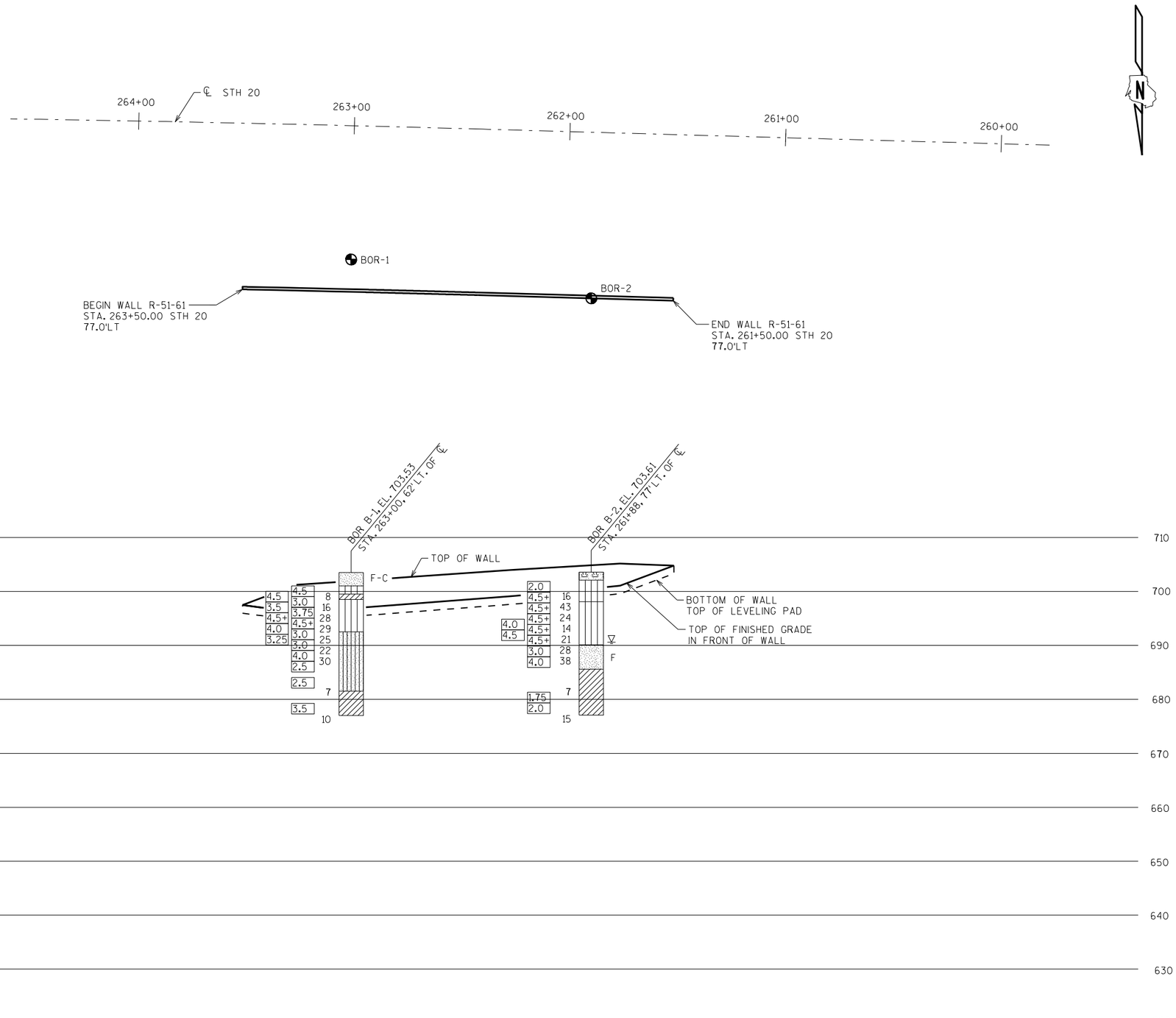
SHEET 2

331

SCALE = 1.25

8

8



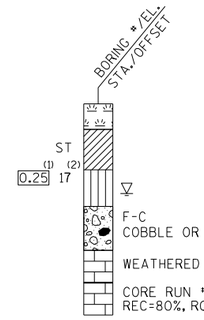
STATE PROJECT NUMBER

2340-00-73

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ END OF DRILLING

▽ AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-51-61

DRAWN BY PR/EMK | PLANS CK'D. ABS

SUBSURFACE EXPLORATION

SHEET 3

332

8

8

SCALE = 25

STAGE 1: STH 20, WEST OF CTH H

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged / Unusable Pavement Material	Fill	Cut	Salvaged / Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	Note 1
225+43.00		0.0	0.0	0.0	0	0	0	0	0	0
225+50.00	7	8.3	1.8	1.6	1	0	0	1	0	1
225+80.00	30	13.8	2.4	2.3	12	2	2	13	3	8
226+00.00	20	16.3	2.4	2.4	11	2	2	25	5	15
226+50.00	50	21.8	2.4	4.7	35	4	7	60	13	38
226+65.00	15	23.3	2.4	4.3	13	1	3	72	16	46
226+90.00	25	26.0	2.4	4.3	23	2	4	95	21	61
227+00.00	10	26.7	2.4	4.2	10	1	2	105	23	68
227+15.00	15	29.0	2.4	0.5	15	1	1	120	25	81
227+50.00	35	30.6	2.4	0.0	39	3	0	159	25	116
228+00.00	50	28.7	2.0	0.2	55	4	0	214	26	166
228+50.00	50	46.0	2.0	0.0	69	4	0	283	26	232
229+00.00	50	52.6	3.6	0.0	91	5	0	374	26	318
229+50.00	50	40.7	4.2	0.0	86	7	0	461	26	397
230+00.00	50	45.4	10.3	0.0	80	13	0	540	26	463
230+15.00	15	44.2	9.3	0.9	25	5	0	565	26	482
230+50.00	35	48.5	13.3	0.9	60	15	1	625	28	526
231+00.00	50	50.3	12.0	0.4	91	23	1	717	29	593
231+25.00	25	49.6	25.3	0.0	46	17	0	763	29	622
					763	112	24			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - FILL x FILL FACTOR

STAGE 1: STH 20, EAST OF CTH H

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged / Unusable Pavement Material	Fill	Cut	Salvaged / Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	Note 1
236+00.00		11.9	5.7	0.0	0	0	0	0	0	0
236+50.00	50	22.0	9.1	0.0	31	14	0	31	0	18
237+00.00	50	23.1	11.9	0.0	42	19	0	73	0	40
237+50.00	50	22.8	11.9	0.0	43	22	0	116	0	60
238+00.00	50	22.0	12.2	0.0	41	22	0	157	0	80
238+03.00	3	21.1	10.5	2.7	2	1	0	160	0	81
238+50.00	47	47.9	37.3	3.5	60	42	5	220	7	92
239+00.00	50	43.2	15.9	10.4	84	49	13	304	23	111
239+50.00	50	37.8	14.5	17.4	75	28	26	379	55	126
239+55.00	5	29.9	13.1	11.7	6	3	3	385	59	126
240+00.00	45	31.0	13.0	0.7	51	22	10	436	71	142
240+50.00	50	27.3	11.0	1.9	54	22	2	490	74	171
241+00.00	50	42.1	9.4	4.0	64	19	5	554	81	210
241+50.00	50	36.0	5.6	10.0	72	14	13	627	98	252
242+00.00	50	33.6	3.4	15.3	64	8	23	691	127	279
242+50.00	50	33.6	3.5	17.5	62	6	30	753	165	297
243+00.00	50	19.1	3.5	15.6	49	6	31	802	203	301
243+50.00	50	41.5	3.6	13.4	56	7	27	858	237	317
244+00.00	50	15.5	1.7	16.9	53	5	28	911	272	329
244+50.00	50	25.3	3.9	38.5	38	5	51	949	336	298
245+00.00	50	30.9	14.1	14.0	52	17	49	1001	397	272
245+50.00	50	51.7	38.7	4.1	76	49	17	1077	418	279
246+00.00	50	25.1	9.8	4.0	71	45	8	1148	427	296
246+38.00	38	16.0	3.8	23.0	29	10	19	1177	451	292
					1177	435	361			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - FILL x FILL FACTOR

STAGE 1: STH 20, EAST & WEST OF 90TH STREET

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged/ Unusable Pavement Material	Fill	Cut	Salvaged/ Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	Note 1
250+89.00		16.2	6.1	7.5	0	0	0	0	0	0
251+00.00	11	26.8	9.8	2.8	9	3	2	9	3	3
251+50.00	50	39.4	31.1	8.0	61	38	10	70	15	14
252+00.00	50	72.2	54.1	3.3	103	79	10	173	28	25
252+50.00	50	52.3	17.7	18.0	115	66	20	289	53	49
253+00.00	50	43.9	17.9	29.5	89	33	44	378	108	50
253+50.00	50	41.4	17.1	40.5	79	32	65	457	189	16
253+77.00	27	42.7	14.5	35.4	42	16	38	499	236	-5
254+00.00	23	45.2	12.4	32.3	37	11	29	536	272	-15
254+50.00	50	37.3	7.1	37.8	76	18	65	613	353	-38
255+00.00	50	39.4	3.8	28.9	71	10	62	684	431	-54
255+50.00	50	34.1	3.6	21.2	68	7	46	752	489	-51
256+00.00	50	32.7	7.0	19.5	62	10	38	814	536	-46
256+50.00	50	29.5	6.9	15.5	58	13	32	871	576	-42
256+53.00	3	29.5	6.8	15.4	3	1	2	874	578	-42
257+00.00	47	23.4	6.9	14.3	46	12	26	920	611	-40
257+50.00	50	12.4	6.9	16.2	33	13	28	954	646	-55
257+75.00	25	23.9	7.2	19.3	17	7	16	970	667	-65
258+50.00	75	90.1	54.2	0.0	158	85	27	1129	700	-25
258+75.00	25	90.1	54.2	0.0	83	50	0	1212	700	8
259+00.00	25	55.4	12.1	3.3	67	31	2	1280	702	43
259+25.00	25	21.5	6.6	17.8	36	9	10	1315	714	57
259+50.00	25	22.6	6.6	17.3	20	6	16	1336	735	51
260+00.00	50	22.6	6.5	16.3	42	12	31	1377	773	42
260+32.00	32	21.9	6.5	18.8	26	8	21	1404	799	35
260+50.00	18	14.7	4.9	17.0	12	4	12	1416	814	28
261+00.00	50	17.7	4.9	23.3	30	9	37	1446	861	3
261+50.00	50	24.3	9.6	27.5	39	13	47	1485	920	-31
262+00.00	50	19.4	6.2	28.8	40	15	52	1525	985	-70
262+50.00	50	17.5	1.8	27.7	34	7	52	1559	1050	-109
263+00.00	50	16.5	1.7	27.0	31	3	51	1591	1114	-144
263+50.00	50	16.8	1.7	24.2	31	3	47	1622	1173	-175
263+82.00	32	16.6	1.8	20.2	20	2	26	1642	1206	-191
264+00.00	18	15.8	1.8	17.8	11	1	13	1652	1222	-197
264+50.00	50	12.0	1.9	8.3	26	3	24	1678	1252	-205
265+00.00	50	0.0	0.0	0.0	11	2	8	1689	1261	-205
					1689	633	1009			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - FILL x FILL FACTOR

STAGE 2: STH 20, WEST OF CTH H

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged / Unusable Pavement Material	Fill	Cut	Salvaged / Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	Note 1
225+80.00		0.0	0.0	0.0	0	0	0	0	0	0
226+00.00	20	0.0	0.0	3.8	0	0	1	0	2	-2
226+50.00	50	0.0	0.0	7.5	0	0	10	0	15	-15
226+65.00	15	0.0	0.0	8.1	0	0	4	0	20	-20
226+90.00	25	0.0	0.0	5.1	0	0	6	0	28	-28
227+00.00	10	0.0	0.0	4.2	0	0	2	0	30	-30
227+15.00	15	0.0	0.0	2.3	0	0	2	0	32	-32
227+50.00	35	0.5	0.0	0.3	0	0	2	0	34	-34
228+00.00	50	13.1	3.5	0.0	13	3	0	13	35	-25
228+50.00	50	37.5	3.9	0.0	47	7	0	60	35	15
229+00.00	50	52.0	3.9	0.0	83	7	0	143	35	91
229+50.00	50	201.6	5.6	0.0	235	9	0	377	35	317
230+00.00	50	87.5	8.4	0.0	268	13	0	645	35	571
230+15.00	15	69.7	8.0	0.0	44	5	0	689	35	610
230+50.00	35	79.4	6.8	13.3	97	10	9	785	46	687
231+00.00	50	105.9	12.0	70.7	172	17	78	957	143	744
231+25.00	25	159.2	21.3	174.1	123	15	113	1080	284	709
					1080	86	228			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - FILL x FILL FACTOR

STAGE 2: STH 20, EAST OF CTH H

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged / Unusable Pavement Material	Fill	Cut	Salvaged / Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	Note 1
232+50.00		297.4	34.8	0.0	0	0	0	0	0	0
232+75.00	25	142.3	16.2	0.6	204	24	0	204	0	180
233+00.00	25	108.2	15.0	0.0	116	14	0	320	1	281
233+50.00	50	100.0	9.3	0.0	193	23	0	512	1	451
233+60.00	10	83.4	4.2	0.0	34	3	0	546	1	483
234+00.00	40	48.4	4.3	0.0	98	6	0	644	1	574
234+50.00	50	25.6	3.7	0.0	69	7	0	712	1	635
235+00.00	50	14.0	0.0	10.4	37	3	10	749	13	656
235+18.00	18	16.1	0.0	5.7	10	0	5	759	19	660
235+50.00	32	34.3	0.0	0.3	30	0	4	789	24	685
236+00.00	50	18.5	0.0	9.9	49	0	9	838	36	722
236+50.00	50	10.8	0.0	31.5	27	0	38	865	84	701
237+00.00	50	13.0	0.0	14.5	22	0	43	887	137	670
237+50.00	50	7.5	0.0	11.0	19	0	24	906	166	659
					906	80	133			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - FILL x FILL FACTOR

STAGE 2: STH 20, WEST OF 90TH STREET

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged/ Unusable Pavement Material	Fill	Cut	Salvaged/ Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	Note 1
254+00.00		9.8	0.0	30.1	0	0	0	0	0	0
254+50.00	50	10.3	0.0	33.1	19	0	59	19	73	-55
255+00.00	50	17.4	0.0	24.3	26	0	53	44	140	-95
255+50.00	50	24.8	0.0	13.0	39	0	35	83	183	-99
256+00.00	50	40.0	0.0	13.7	60	0	25	143	214	-70
256+50.00	50	55.7	0.0	10.4	89	0	22	232	242	-10
256+53.00	3	70.0	1.4	12.9	7	0	1	239	243	-4
257+00.00	47	39.2	0.0	59.2	95	1	63	334	322	11
257+50.00	50	41.7	0.0	75.3	75	0	125	409	477	-70
257+75.00	25	76.4	13.9	31.1	55	6	49	464	539	-83
					464	8	431			

STAGE 2: STH 20, EAST OF 90TH STREET

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged/ Unusable Pavement Material	Fill	Cut	Salvaged/ Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	Note 1
259+00.00		134.8	35.9	21.4	0	0	0	0	0	0
259+25.00	25	152.7	10.9	64.7	133	22	40	133	50	62
259+50.00	25	221.8	6.5	30.4	173	8	44	306	105	172
260+00.00	50	136.3	2.2	28.0	332	8	54	638	172	428
260+32.00	32	139.9	2.7	27.3	164	3	33	802	213	548
260+50.00	18	135.7	0.0	22.9	92	1	17	894	234	618
261+00.00	50	126.4	0.0	33.9	243	0	53	1136	300	795
261+50.00	50	118.1	0.0	35.2	226	0	64	1363	380	941
262+00.00	50	102.8	0.0	14.2	205	0	46	1567	437	1088
262+50.00	50	89.1	0.0	17.4	178	0	29	1745	474	1230
263+00.00	50	92.7	0.0	27.7	168	0	42	1913	526	1346
263+50.00	50	93.5	0.0	18.2	172	0	43	2086	579	1465
263+82.00	32	91.2	1.2	4.0	109	1	13	2195	596	1557
264+00.00	18	85.3	1.4	2.6	59	1	2	2254	598	1612
264+50.00	50	31.4	1.3	2.2	108	3	4	2362	604	1712
265+00.00	50	7.9	1.2	2.6	36	2	4	2398	609	1741
265+05.00	5	7.9	1.2	2.4	1	0	0	2400	610	1742
265+30.00	25	7.9	1.2	4.0	7	1	3	2407	614	1744
265+55.00	25	7.9	1.2	5.9	7	1	5	2414	619	1745
266+13.00	58	0.0	0.0	0.0	8	1	6	2423	627	1744
					2423	52	502			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - FILL x FILL FACTOR

STAGE 2: WISCONSIN STREET, SOUTH OF STH 20

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged / Unusable Pavement Material	Fill	Cut	Salvaged / Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	Note 1
47+45.00		0.0	0.0	0.0	0	0	0	0	0	0
47+50.00	5	19.9	2.1	0.0	2	0	0	2	0	2
47+90.00	40	60.9	4.7	0.0	60	5	0	62	0	56
48+00.00	10	85.1	6.8	0.0	27	2	0	89	0	81
48+50.00	50	154.9	10.9	1.2	222	16	1	311	1	286
49+00.00	50	124.0	15.8	100.0	258	25	94	569	119	402
					569	48	95			

STAGE 2: CTH H (NORTH), NORTH OF STH 20

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged / Unusable Pavement Material	Fill	Cut	Salvaged / Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	Note 1
51+00.00		194.8	17.3	0.0	0	0	0	0	0	0
51+50.00	50	88.8	9.5	0.0	263	25	0	263	0	238
52+00.00	50	126.2	3.0	0.0	199	12	0	462	0	425
52+50.00	50	150.2	3.0	0.0	256	6	0	718	0	676
53+00.00	50	139.0	2.8	0.0	268	5	0	985	0	938
53+50.00	50	130.7	2.8	0.0	250	5	0	1235	0	1183
54+00.00	50	51.0	2.8	0.0	168	5	0	1403	0	1346
54+05.00	5	36.8	1.4	0.0	8	0	0	1411	0	1353
54+50.00	45	9.9	1.7	0.0	39	3	0	1450	0	1390
54+54.00	4	0.0	0.0	0.0	1	0	0	1451	0	1390
					1451	61	0			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - FILL x FILL FACTOR

STAGE 2: 90TH STREET, SOUTH OF STH 20

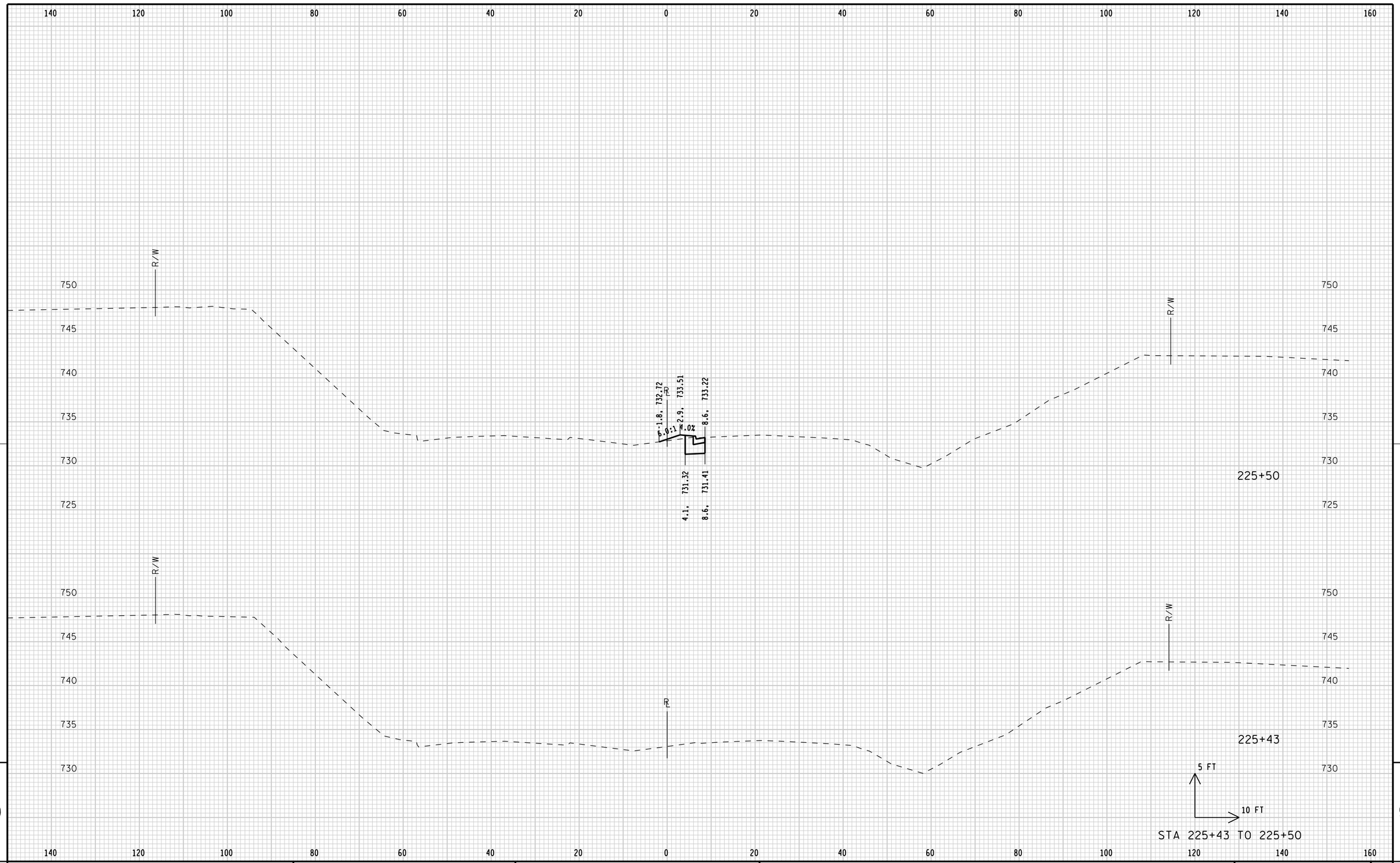
STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged / Unusable Pavement Material	Fill	Cut	Salvaged / Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	Note 1
17+59.00		29.0	14.8	0.0	0	0	0	0	0	0
18+00.00	41	41.3	9.4	16.5	53	18	13	53	16	19
18+20.00	20	41.9	10.1	22.8	31	7	15	84	34	25
18+50.00	30	60.9	13.2	20.1	57	13	24	141	64	39
18+70.00	20	109.1	13.8	47.0	63	10	25	204	95	61
18+85.00	15	97.5	16.3	59.8	57	8	30	262	132	73
19+00.00	15	103.8	21.7	76.4	56	11	38	318	179	71
					318	67	143			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - FILL x FILL FACTOR

STAGE 2: 90TH STREET, NORTH OF STH 20

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged / Unusable Pavement Material	Fill	Cut	Salvaged / Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	Note 1
21+00.00		211.8	32.3	21.4	0	0	0	0	0	0
21+50.00	50	206.7	52.0	0.0	388	78	20	388	25	285
22+00.00	50	161.8	27.9	0.0	341	74	0	729	25	552
22+27.00	27	115.1	24.6	0.0	138	26	0	867	25	664
22+50.00	23	86.1	22.3	0.0	86	20	0	953	25	730
22+90.00	40	53.0	22.5	0.0	103	33	0	1056	25	800
					1056	231	20			

Notes: 1 - MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - FILL x FILL FACTOR



STA 225+43 TO 225+50

9 9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 341 E

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

750 745 740 735 730 725

R/W

-6.4, 730.74
6.0:1
-1.4, 731.58
4.0%
2.0%
9.0, 731.38

-0.2, 729.39
9.0, 729.57

45.5, 730.69
46.9, 730.54
4.0:1
56.3, 728.19

R/W

226+00

R/W

-5.2, 731.42
6.0:1
0.4, 732.35
4.0%
2.0%
9.1, 732.13

1.5, 730.16
9.1, 730.31

STA. 225+80 RT
BEGINNING OF 15:1 APPROACH GRADING TAPER
FOR MGS GUARDRAIL TERMINAL EAT
(SEE S.D.D. SHEET "MIDWEST GUARDRAIL SYSTEM (MGS) EAT")

R/W

225+80

5 FT
10 FT

STA 225+80 TO 226+00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

9 9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 342 E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 2 OF 46
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PLOT DATE: 5/2/2014
PLOT TIME: 11:37:59 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

STA. 226+65
MGS GUARDRAIL TERMINAL EAT
POST NO. 1 FACE OF RAIL AT 45.0' RT

226+65

STA 226+50 TO 226+65

9

9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 343	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 3 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:37:59 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

750 745 740 735 730 725 720

R/W

-14.1, 726.78
10.0%
-8.3, 727.35
4.0%
-2.6, 727.07
2.0%
9.0, 727.30
-7.1, 725.17
9.0, 725.49

44.7, 726.99
10.0:1
48.4, 726.62
4.0:1
54.5, 725.10

R/W

227+00

R/W

-14.2, 727.21
10.0:1
-8.4, 727.79
4.0%
-2.8, 727.50
2.0%
8.9, 727.74
-7.3, 725.60
8.9, 725.92

STA. 226+90
MGS GUARDRAIL TERMINAL EAT
POST NO. 5 FACE OF RAIL AT 44.0' RT

44.8, 727.36
10.0:1
49.2, 726.92
4.0:1
55.8, 725.29

R/W

226+90

5 FT
10 FT

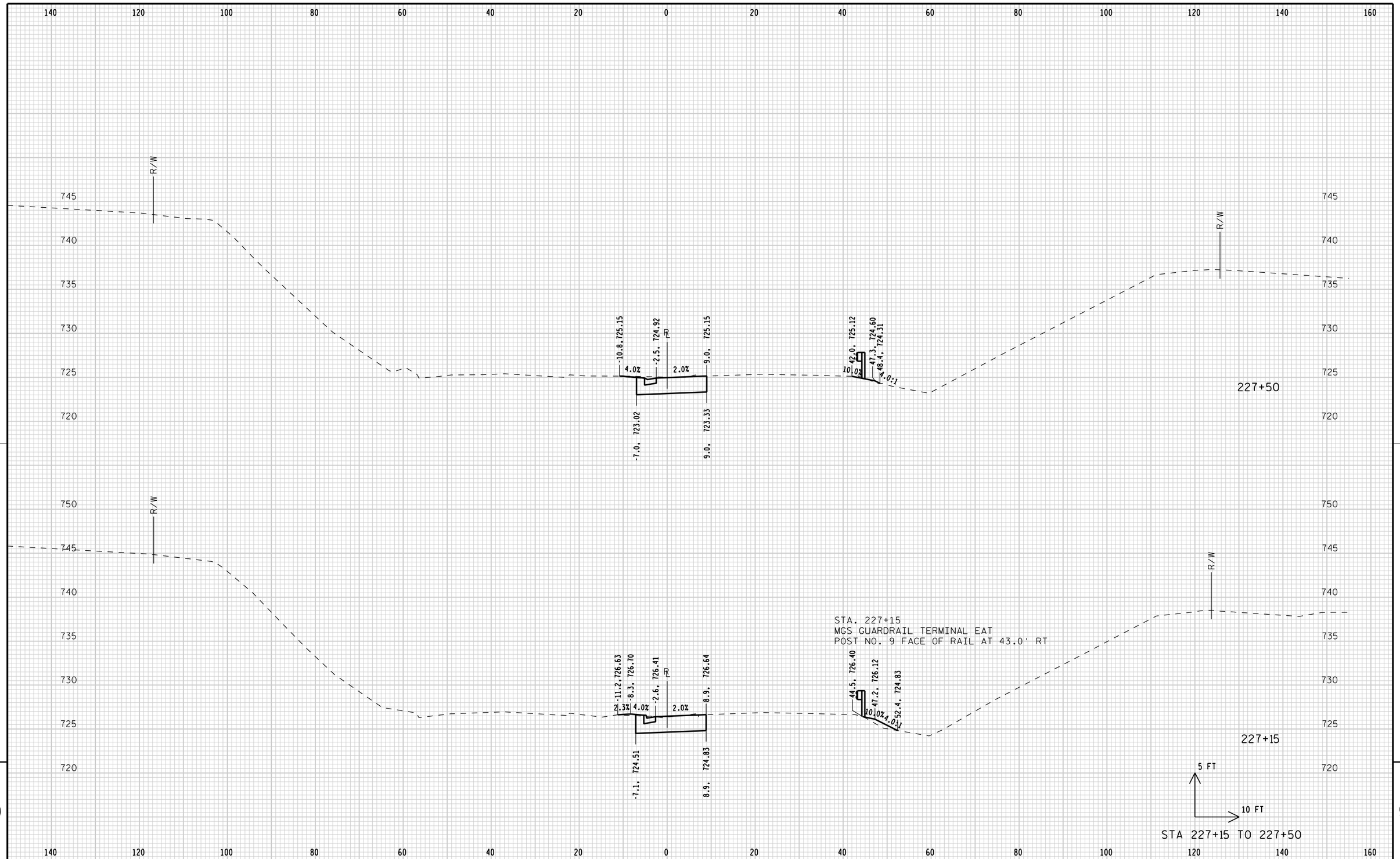
STA 226+90 TO 227+00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

9 9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 344	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 4 OF 46
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PLOT DATE: 5/2/2014
PLOT TIME: 11:37:59 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

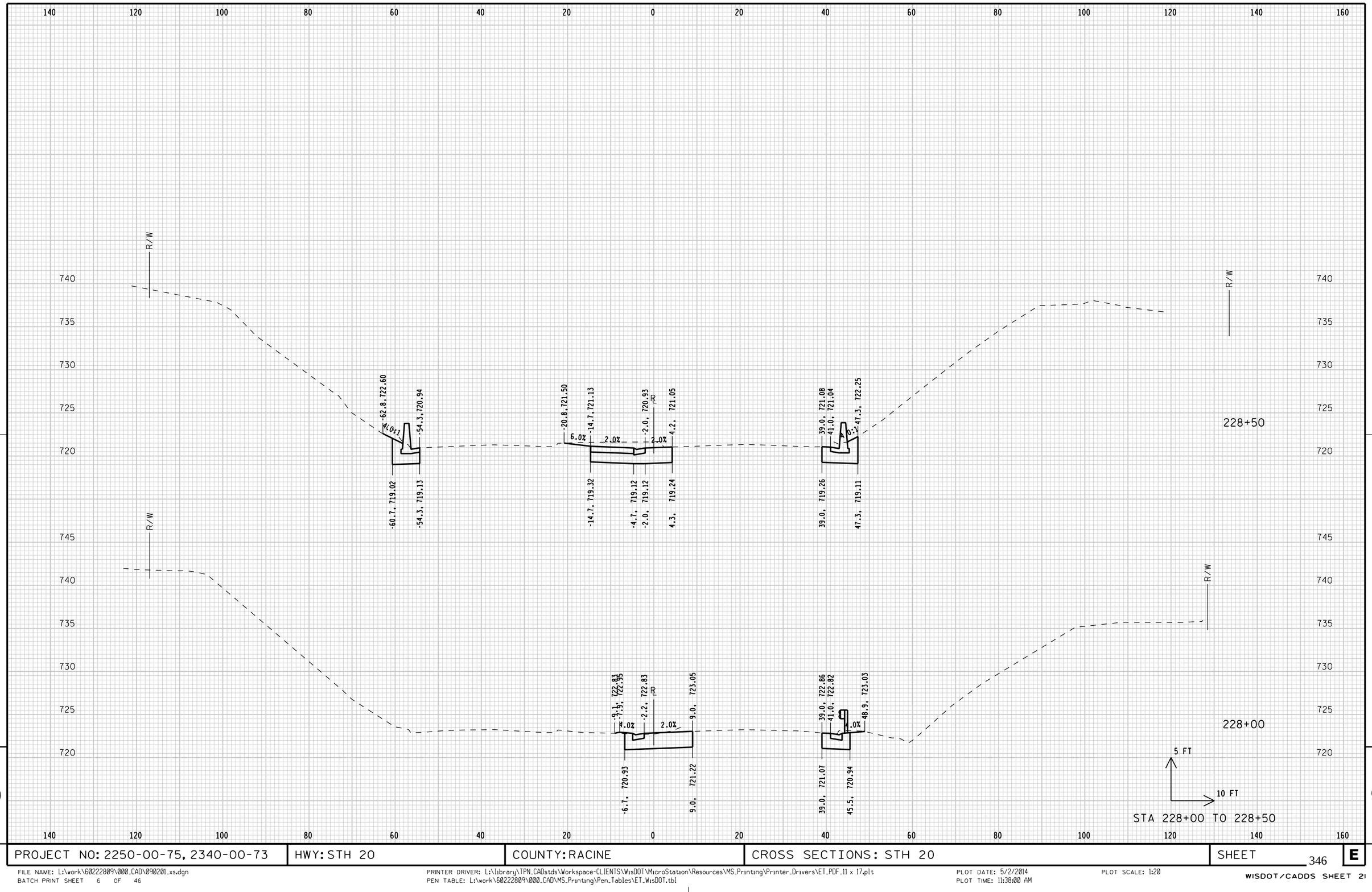


9

9

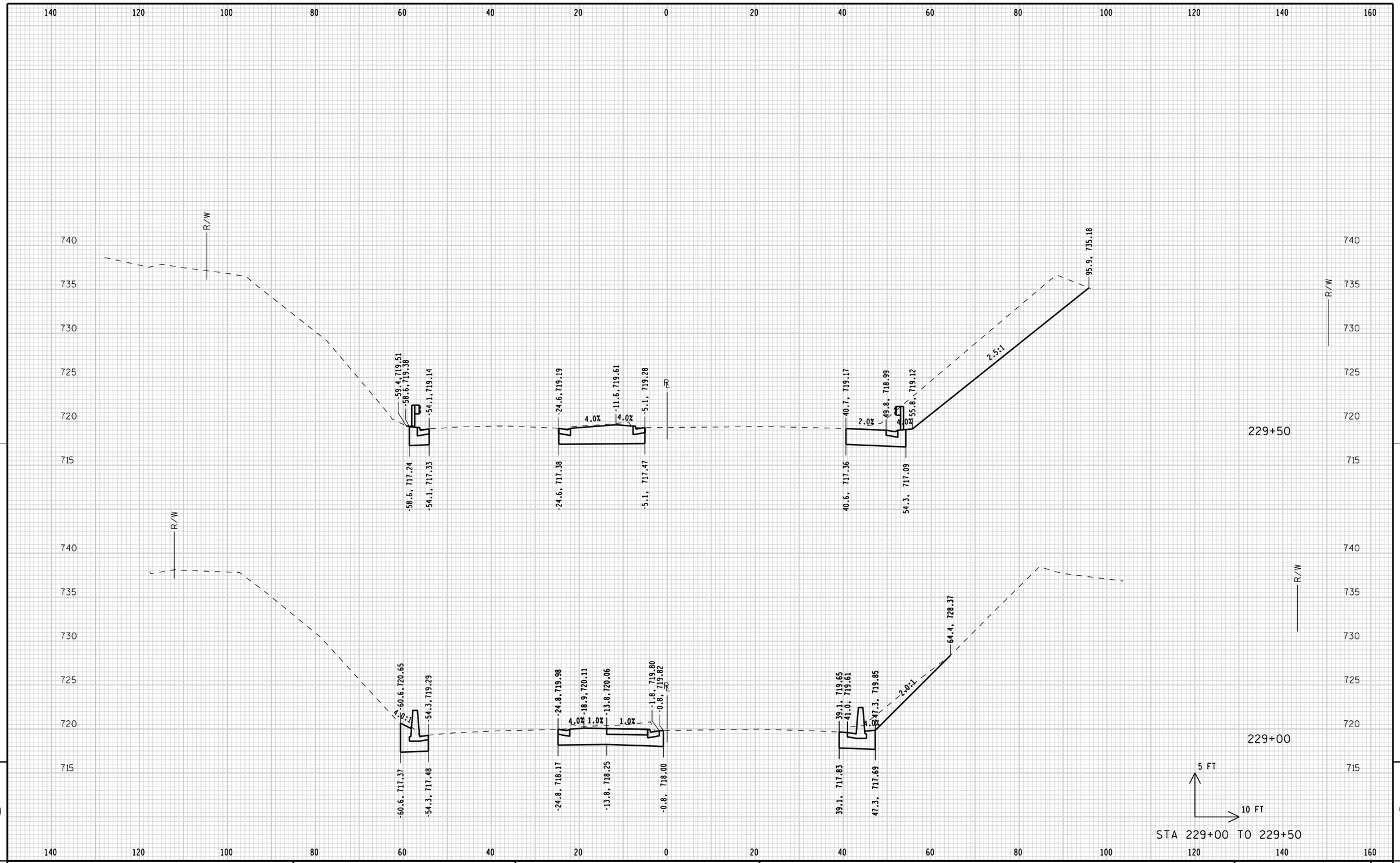
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FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 5 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:37:59 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 6 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:00 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

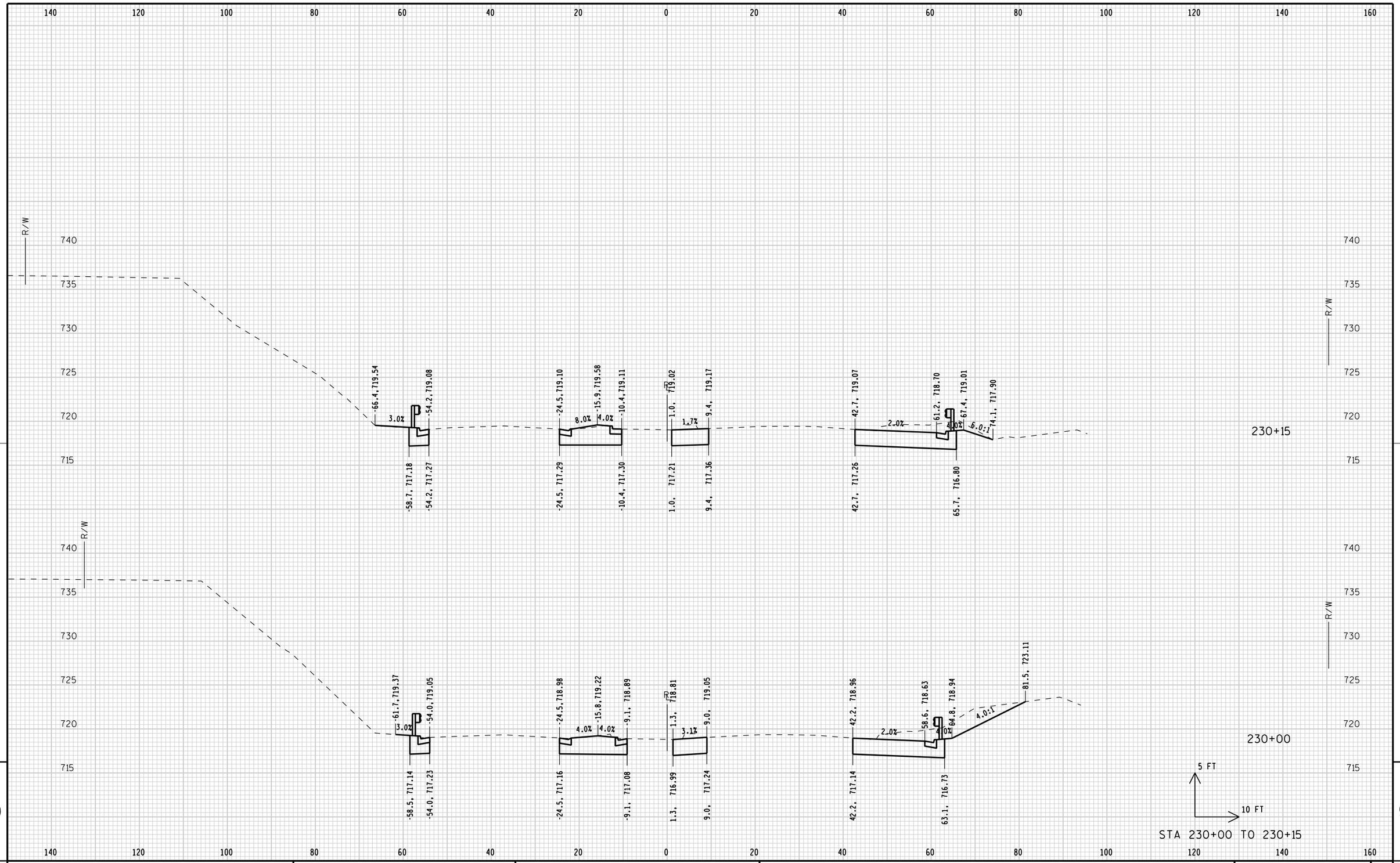


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9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 347 E

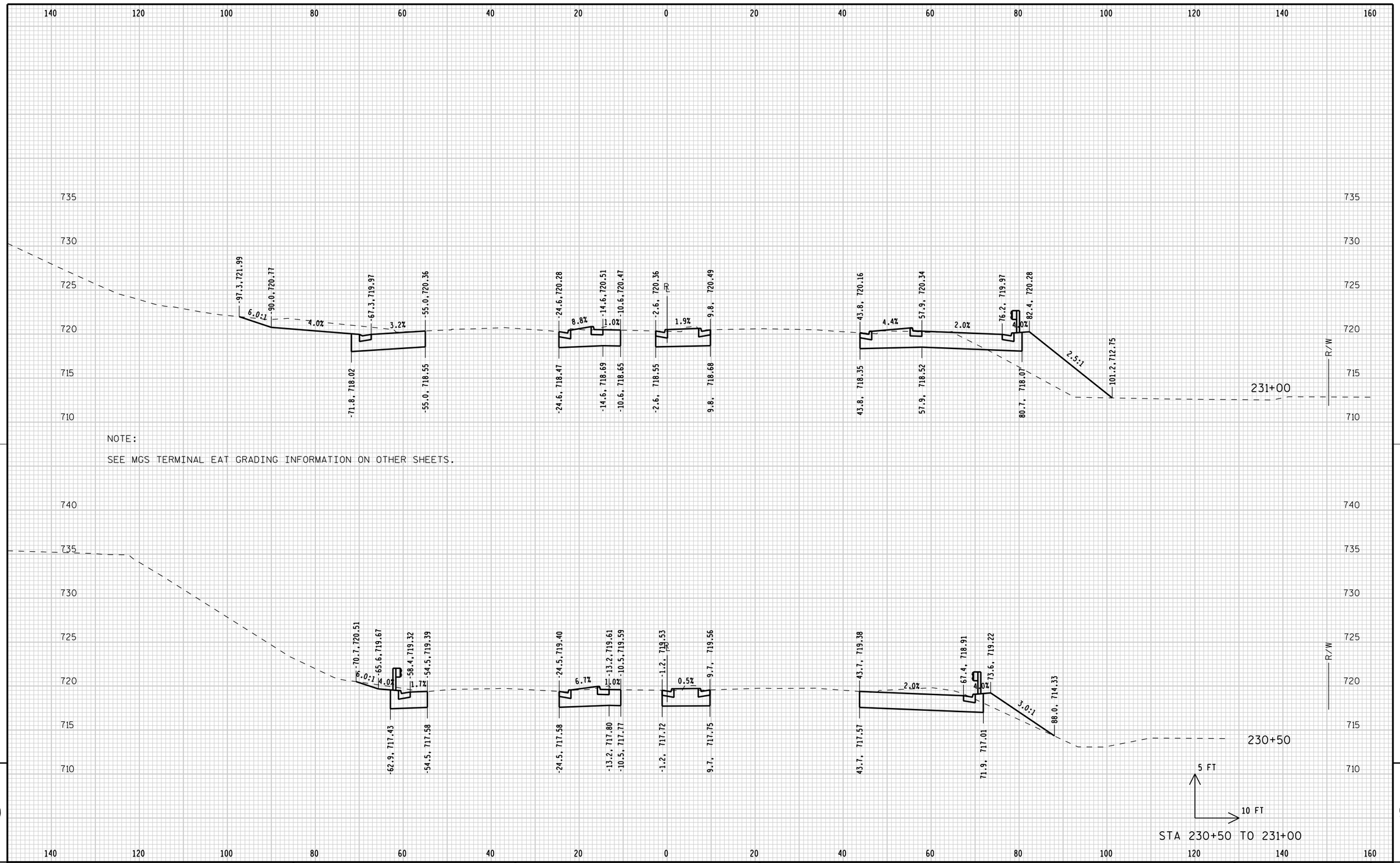
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BATCH PRINT SHEET 7 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:00 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



9 9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 348 E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 8 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:01 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

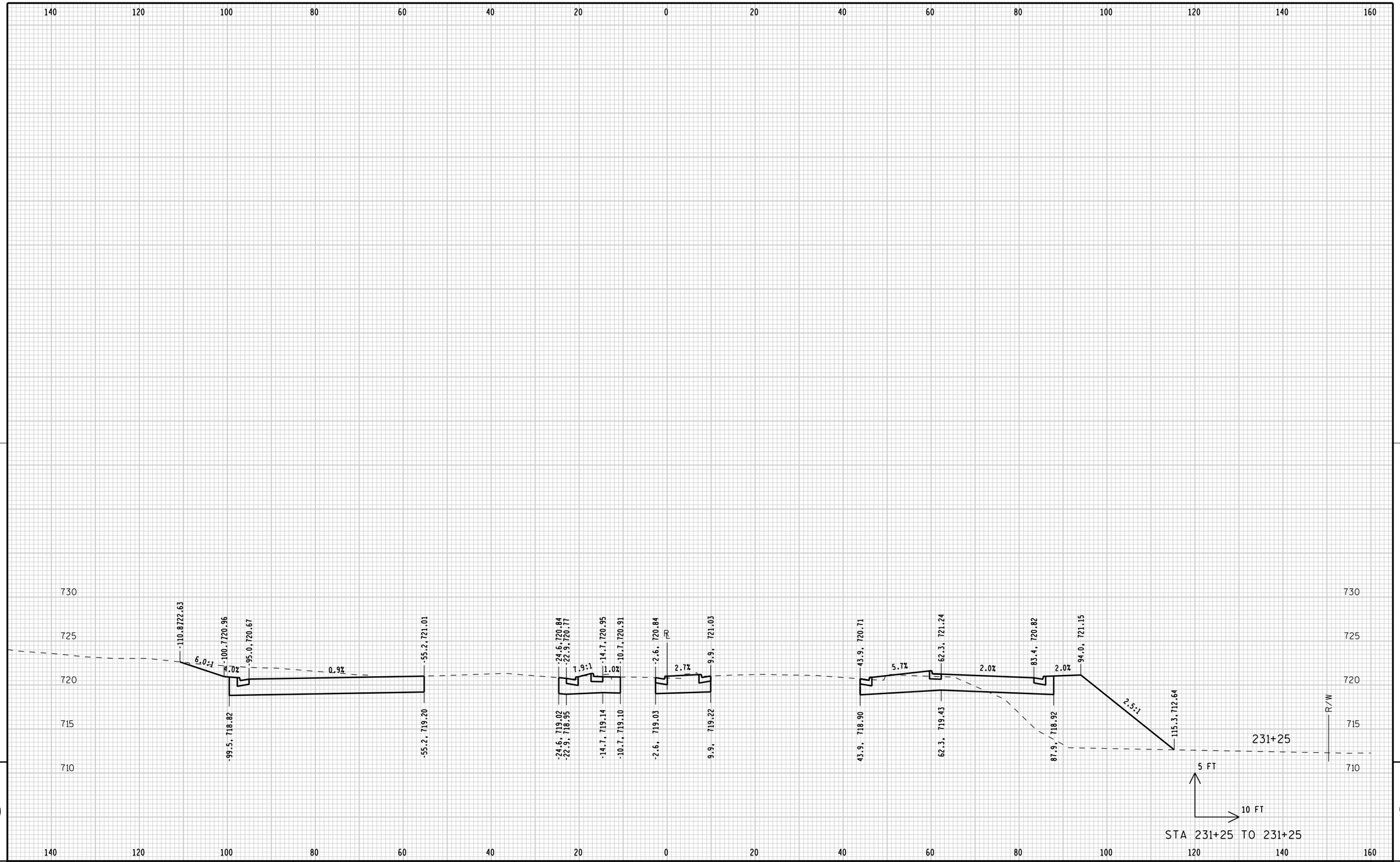


9

9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 349 E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 9 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:01 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

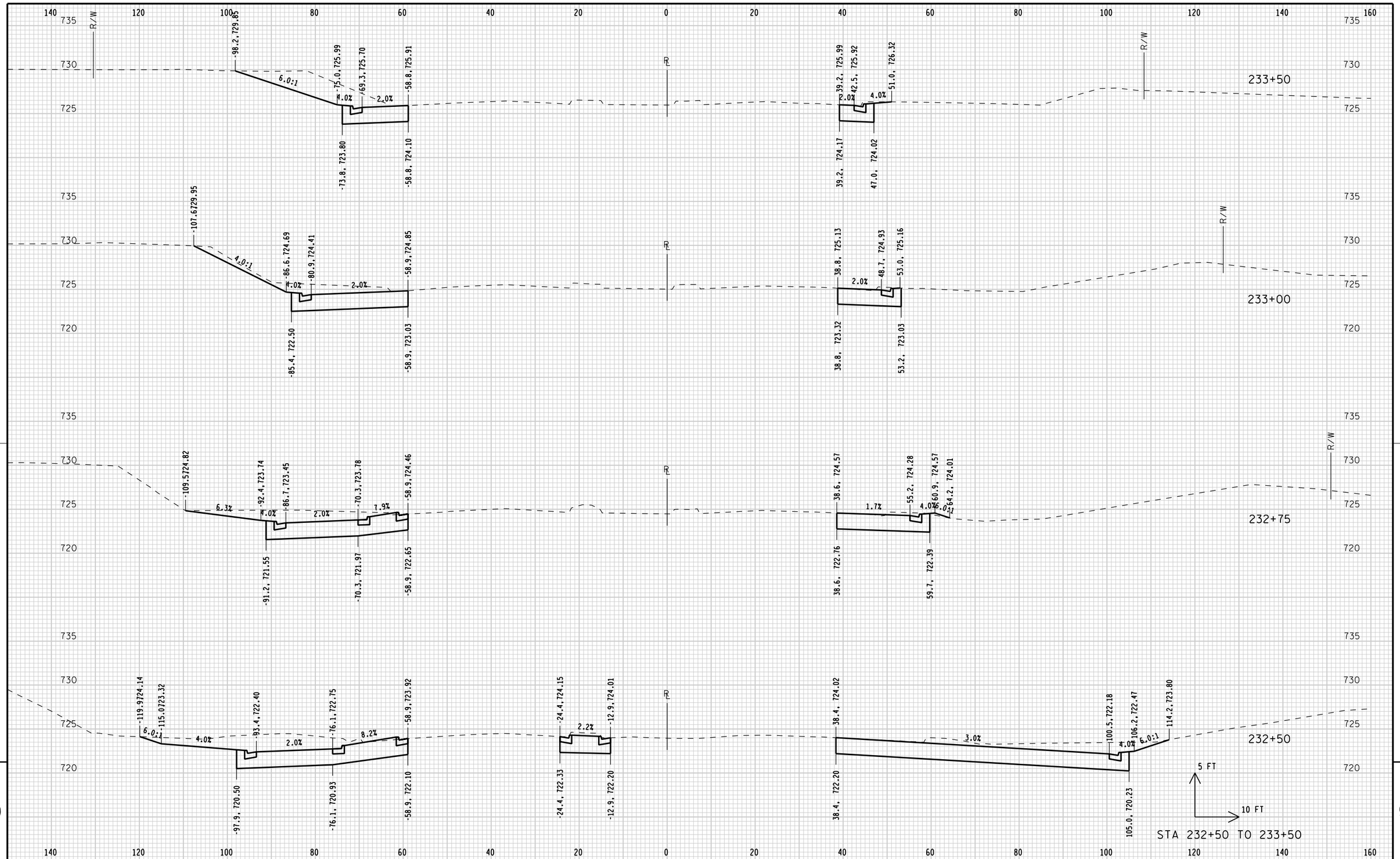


9

9

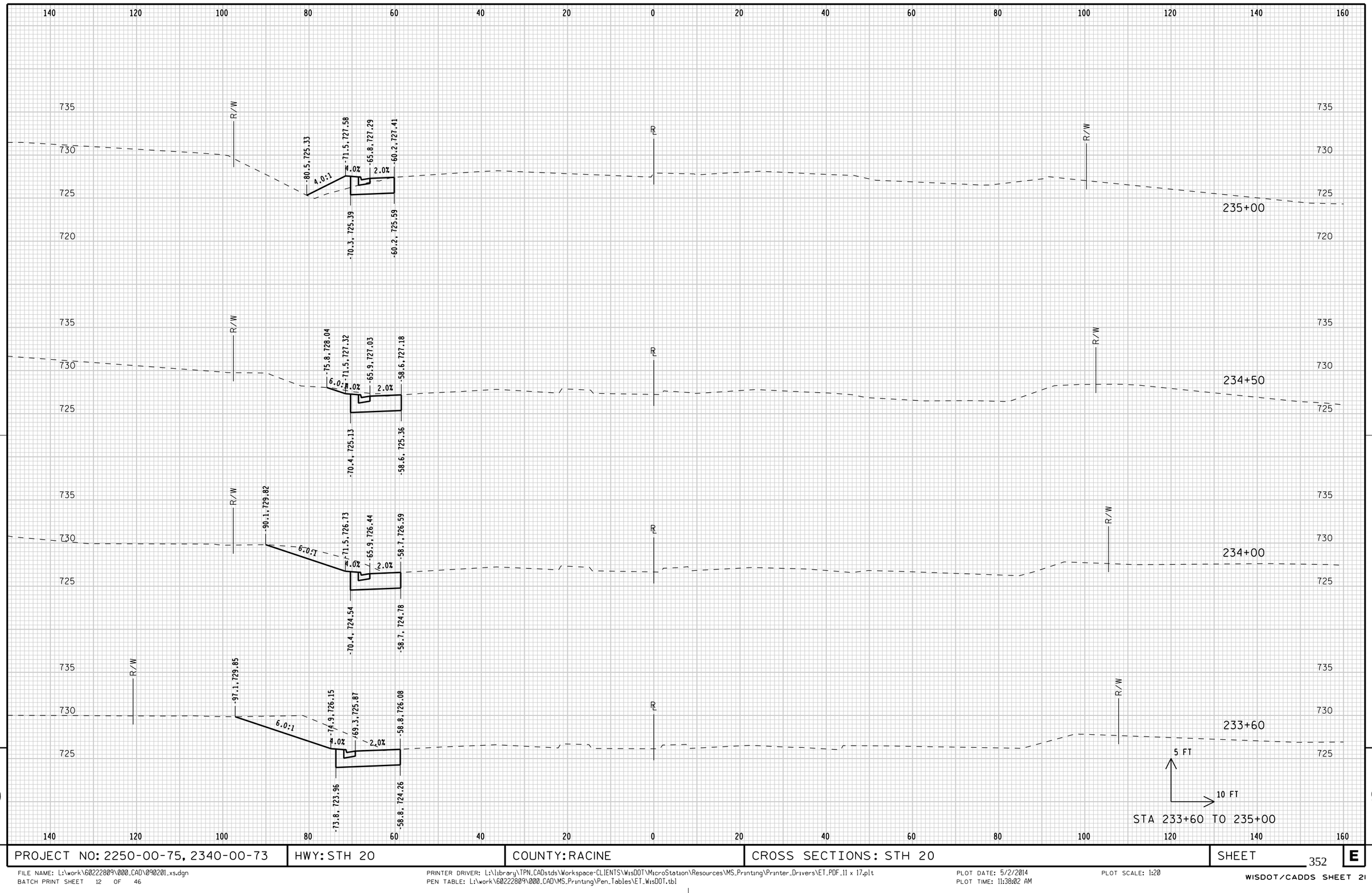
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FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 10 OF 46
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:01 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 351	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 11 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:02 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

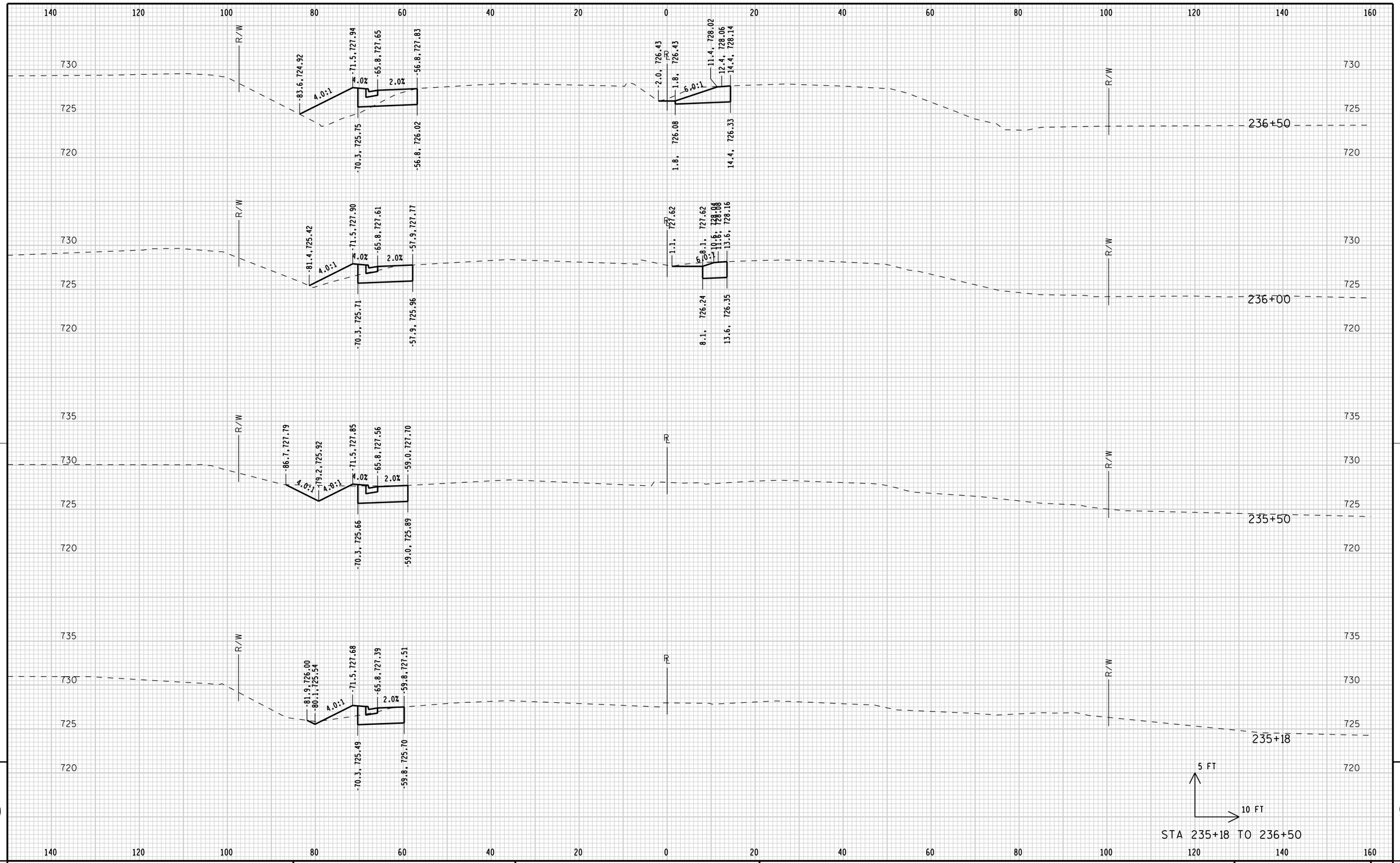


9

9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 352 E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 12 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:38:02 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21


140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160
730
725
720
735
R/W
R/W
R/W

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

730 725 720

R/W

-24.7, 727.66
2.9%
-22.3, 727.59
4.0%
-16.7, 727.87
6.0:1
-12.0, 727.09
PD
6.8.5, 727.51
6.0:1
11.5, 728.01
4.0%
17.1, 727.72
-24.7, 725.84
-17.8, 725.65
12.6, 725.82
17.1, 725.91
238+03

-6.2, 726.71
PD
8.7, 726.71
6.0:1
14.1, 727.60
15.1, 727.64
17.1, 727.72
8.7, 725.74
17.1, 725.91
238+00

-76.9, 725.87
6.0:1
-63.9, 728.03
4.0%
-58.2, 727.74
-62.7, 725.84
-58.2, 725.93
237+50

-3.9, 726.76
PD
6.8, 726.76
6.0:1
13.0, 727.79
14.0, 727.83
16.0, 727.91
6.8, 725.91
16.0, 726.09

-78.9, 725.29
4.0:1
-67.7, 728.10
4.0%
-62.0, 727.81
2.0%
-56.8, 727.91
-66.5, 725.91
-56.8, 726.10
237+00

-3.9, 726.82
PD
5.5, 726.82
6.0:1
12.2, 727.92
13.2, 727.96
15.2, 728.04
5.5, 726.04
15.2, 726.23

5 FT
10 FT

STA 237+00 TO 238+03

9 9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 354 E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 14 OF 46
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:03 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

730 725 720

R/W

-24.7, 726.89
-11.1, 726.62
-5.4, 726.91
PD
724.47
4.3,
2.0%
4.0%
4.0:1
-24.7, 725.08
-6.6, 724.72

239+55

-24.4, 726.93
-10.6, 726.66
-5.0, 726.94
PD
724.58
4.5,
14.8, 727.16
20.5, 726.87
2.0%
4.0%
4.0:1
4.0:1
4.0%
-24.4, 725.12
-6.1, 724.75
16.0, 724.97
20.5, 725.06

239+50

-24.7, 727.23
-2.0, 727.00
PD
3.6, 727.29
726.54
8.1,
13.8, 727.49
19.4, 727.20
1.0%
4.0%
6.0:1
6.0:1
-24.7, 725.42
2.5, 725.14
14.9, 725.30
19.4, 725.39

239+00

-24.7, 727.55
19.0, 727.84
-16.2, 727.36
-16.0, 727.36
-11.9, 728.03
-6.3, 727.74
PD
18.3, 727.50
4.0%
4.0%
1.0%
6.0:1
6.0:1
-24.7, 725.74
-20.2, 725.65
-10.8, 725.97
18.3, 725.69

238+50

5 FT
10 FT

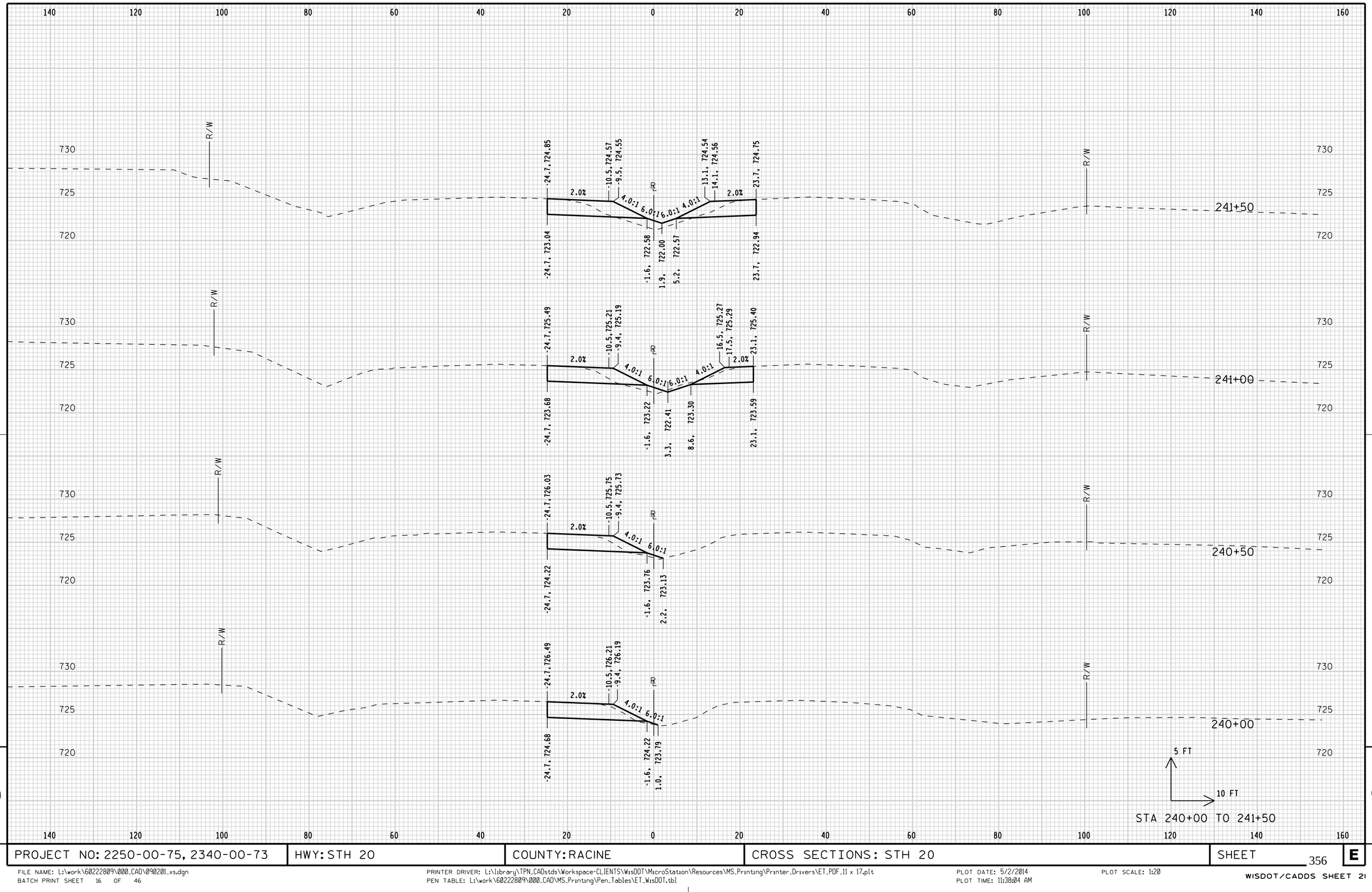
STA 238+50 TO 239+55

9

9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 355	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 15 OF 46
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PLOT TIME: 11:38:03 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

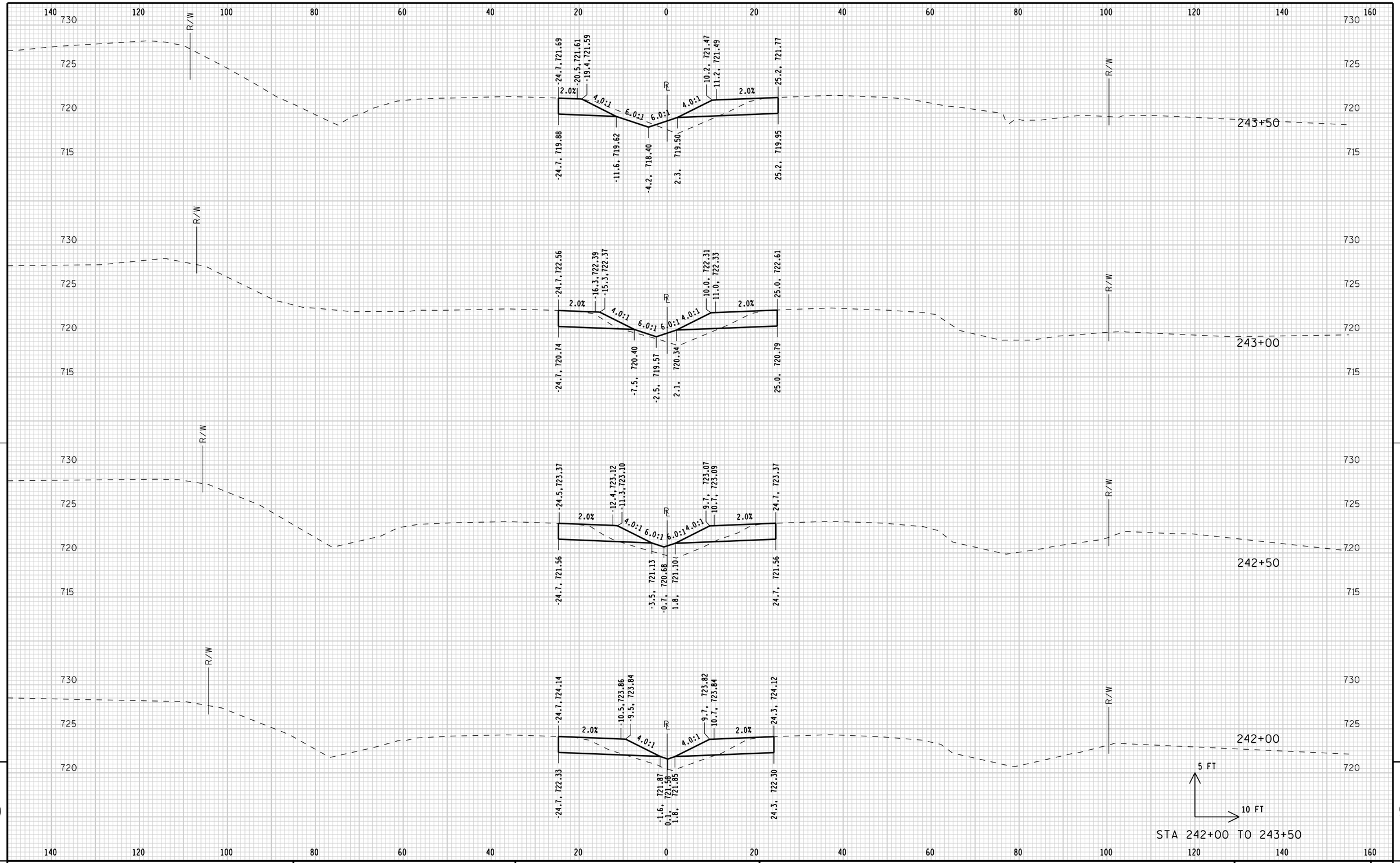


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9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 356	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 16 OF 46
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:04 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

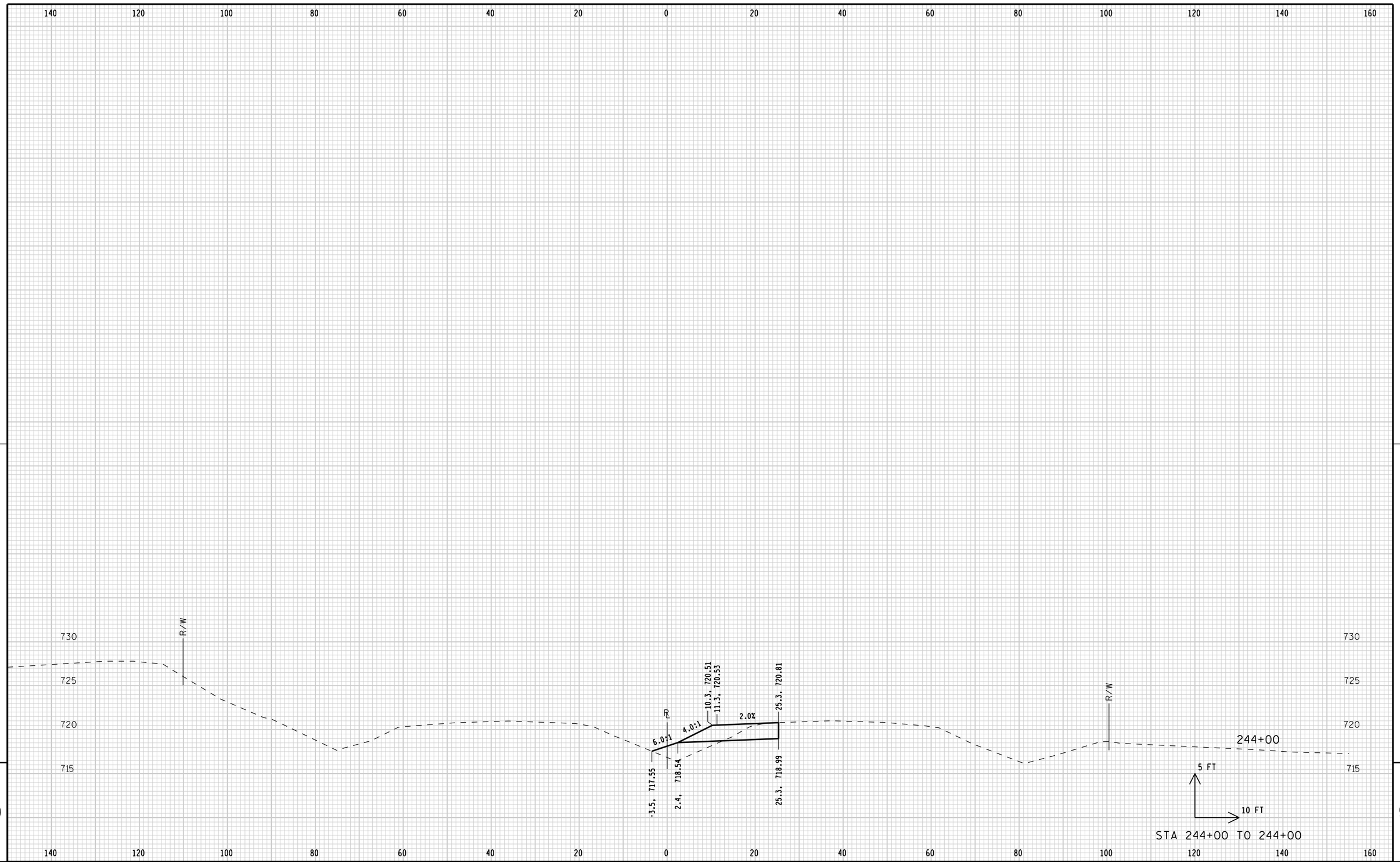


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PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 357	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 17 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:04 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

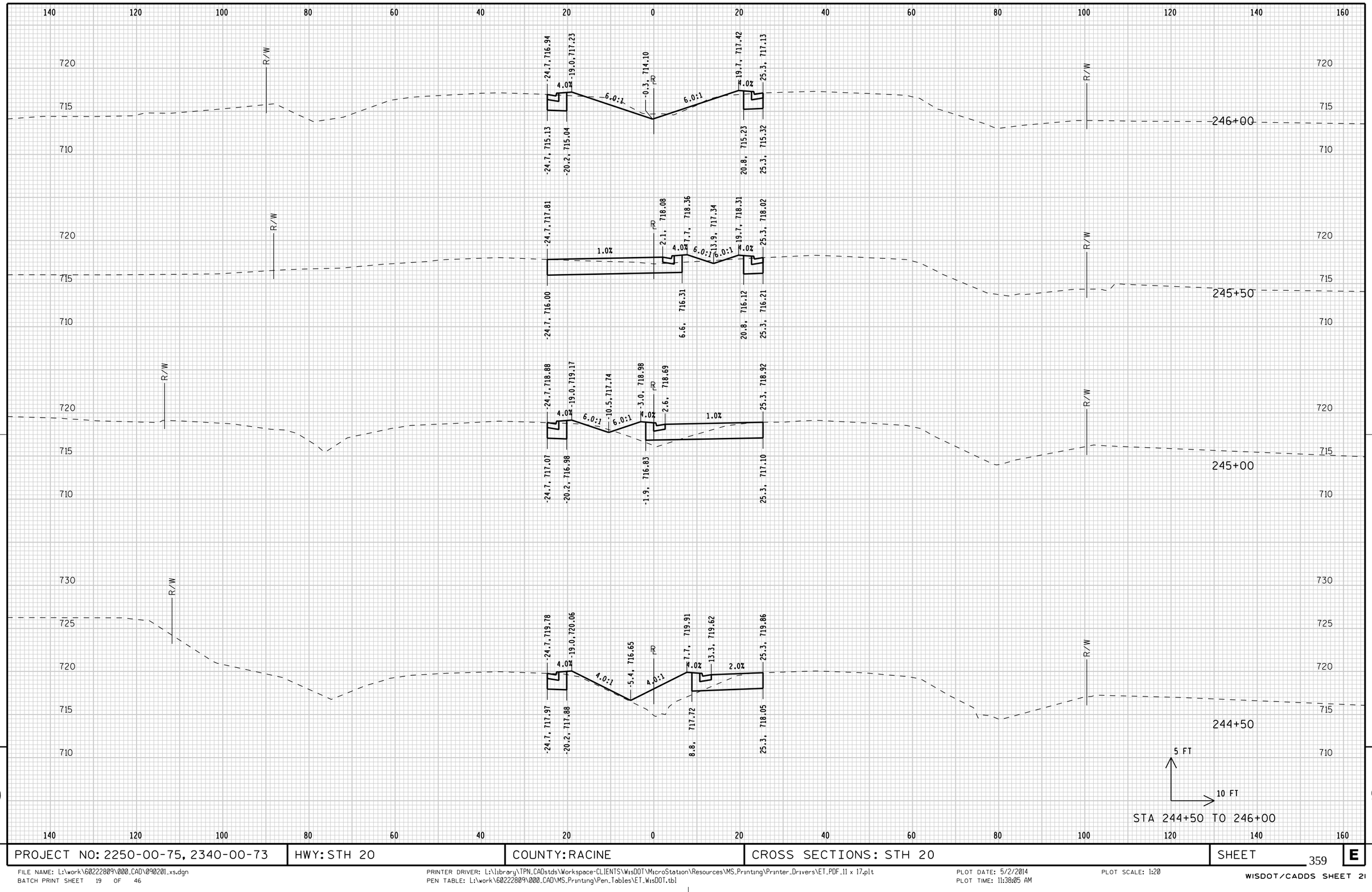


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PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 358	E

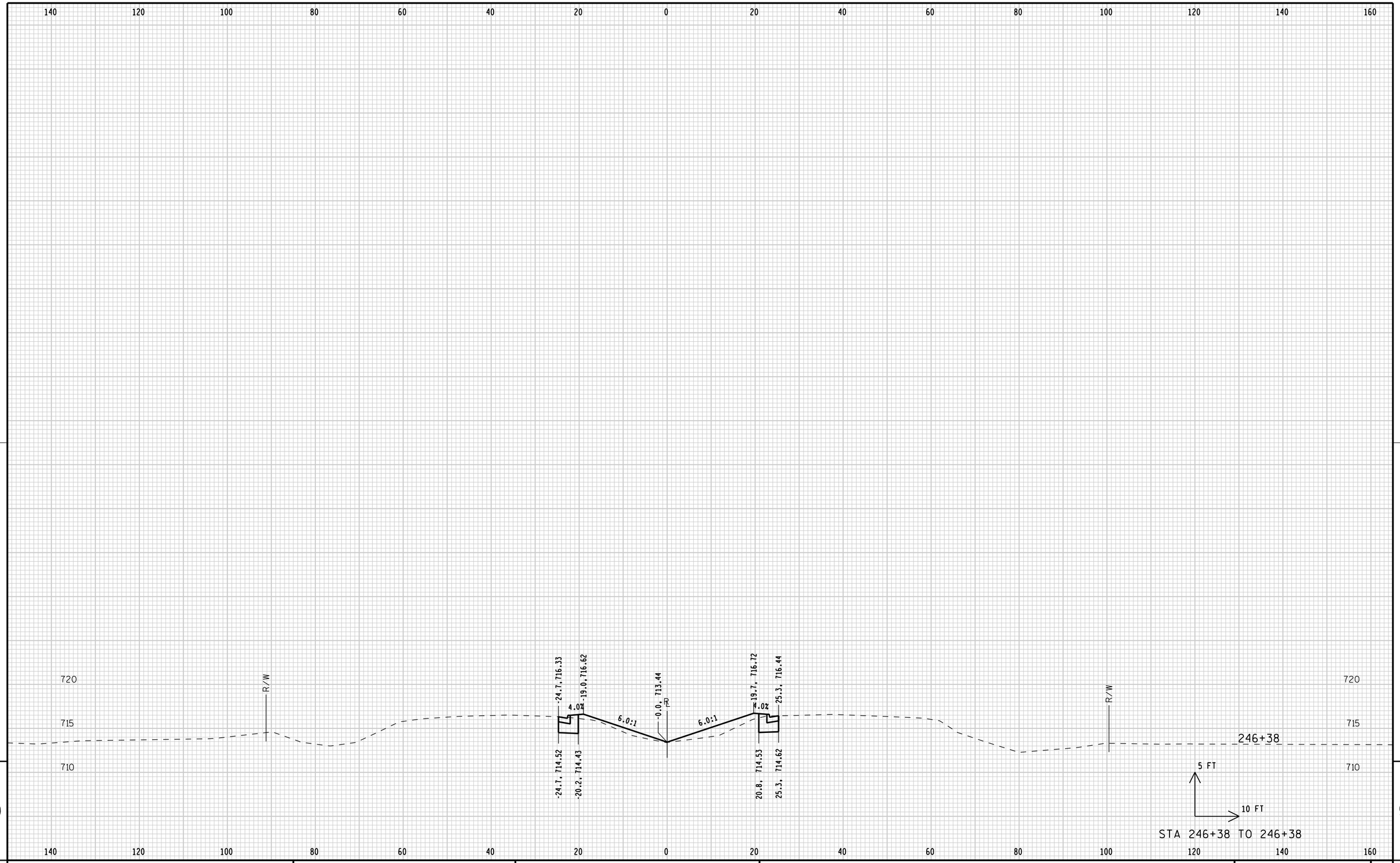
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BATCH PRINT SHEET 18 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:38:05 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 359	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 19 OF 46
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PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:38:05 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



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PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 360	E

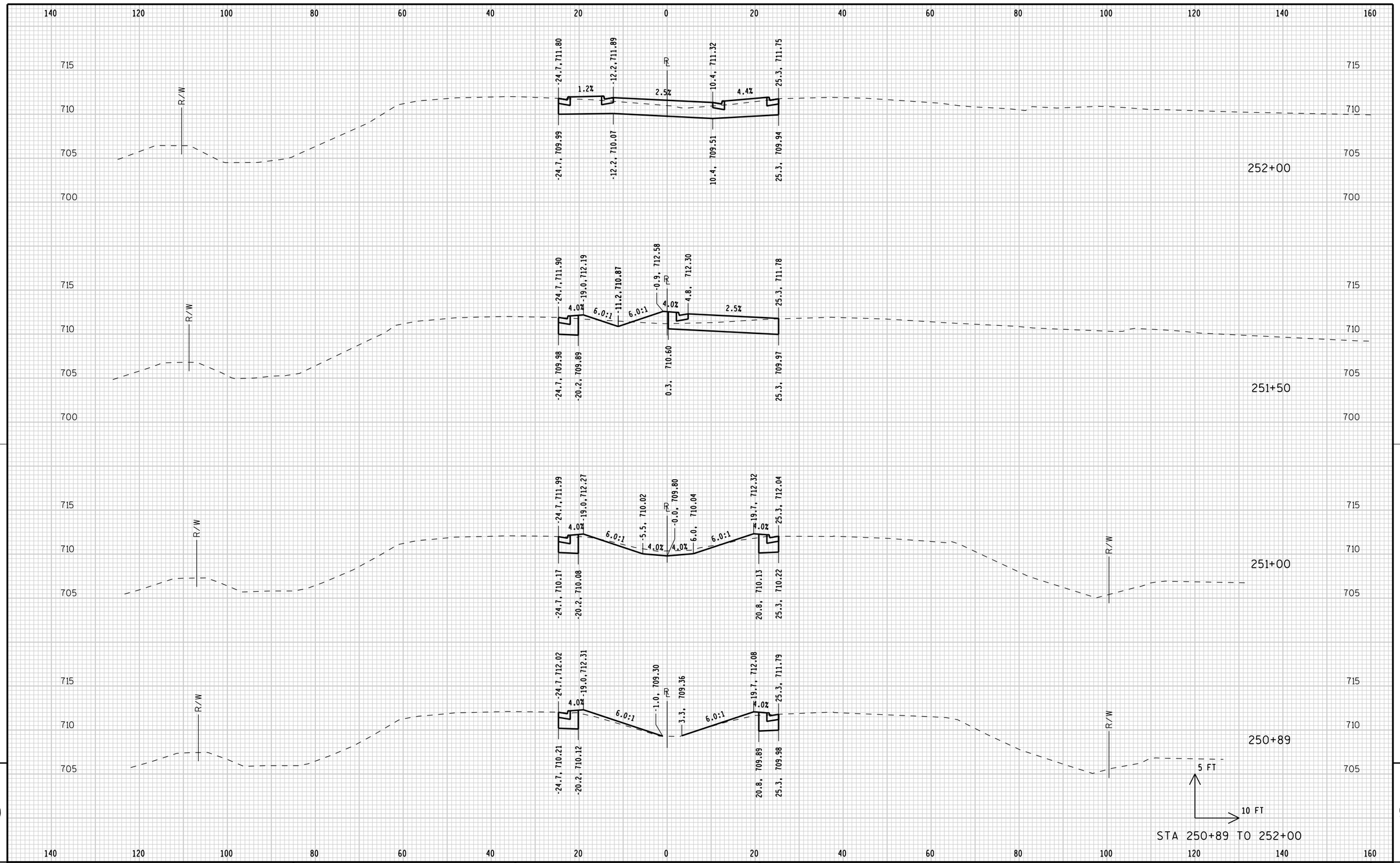
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BATCH PRINT SHEET 20 OF 46

PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl

PLOT DATE: 5/2/2014
PLOT TIME: 11:38:05 AM

PLOT SCALE: 1:20

WISDOT/CADDS SHEET 21



9 9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 361 E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 21 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:38:05 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

715 710 705 700

R/W

-24.7, 711.82 | -12.7, 711.57 | -7.0, 711.86 | 1.8, 710.09 | 10.5, 711.83 | 16.2, 711.54 | 25.3, 711.63

2.1% | 4.0% | 5.0:1 | 5.0:1 | 4.0% | 1.0%

-24.7, 710.01 | -8.2, 709.66 | 11.7, 709.68 | 25.3, 709.81

253+50

-24.7, 711.87 | -12.0, 711.62 | -6.3, 711.91 | 3.8, 710.21 | 14.2, 711.95 | 19.9, 711.66 | 25.3, 711.72

2.0% | 4.0% | 6.0:1 | 6.0:1 | 4.0% | 1.2%

-24.7, 710.06 | -7.5, 709.72 | 15.4, 709.79 | 25.3, 709.91

253+00

-24.7, 711.68 | -5.3, 711.29 | -0.5, 711.58 | 7.4, 710.94 | 17.9, 711.88 | 23.6, 711.60 | 25.3, 711.63

2.0% | 4.0% | 9.0% | 9.0% | 4.0%

-24.7, 709.87 | -0.8, 709.39 | 19.1, 709.69 | 25.3, 709.82

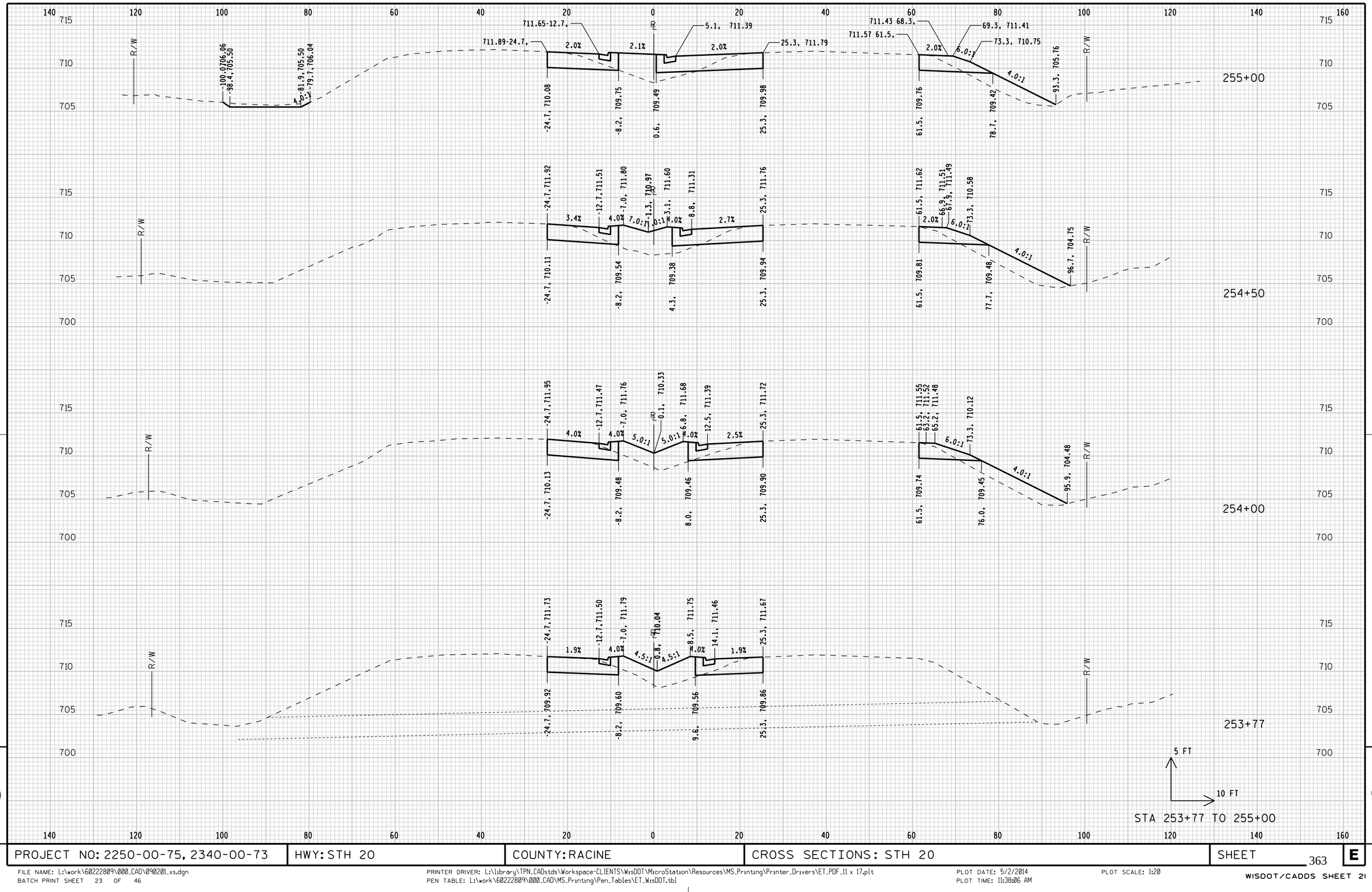
252+50

5 FT

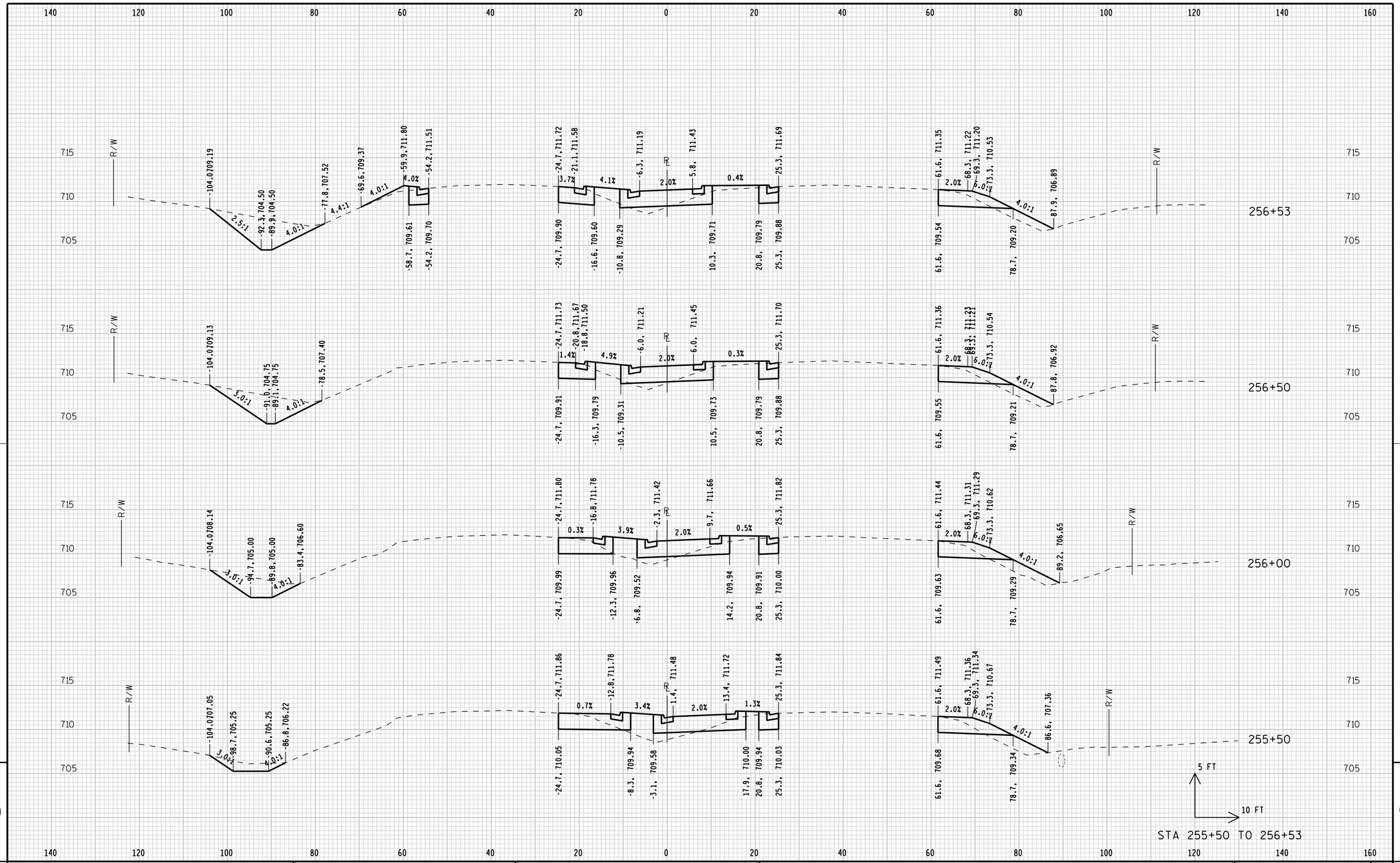
10 FT

STA 252+50 TO 253+50

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 362	E

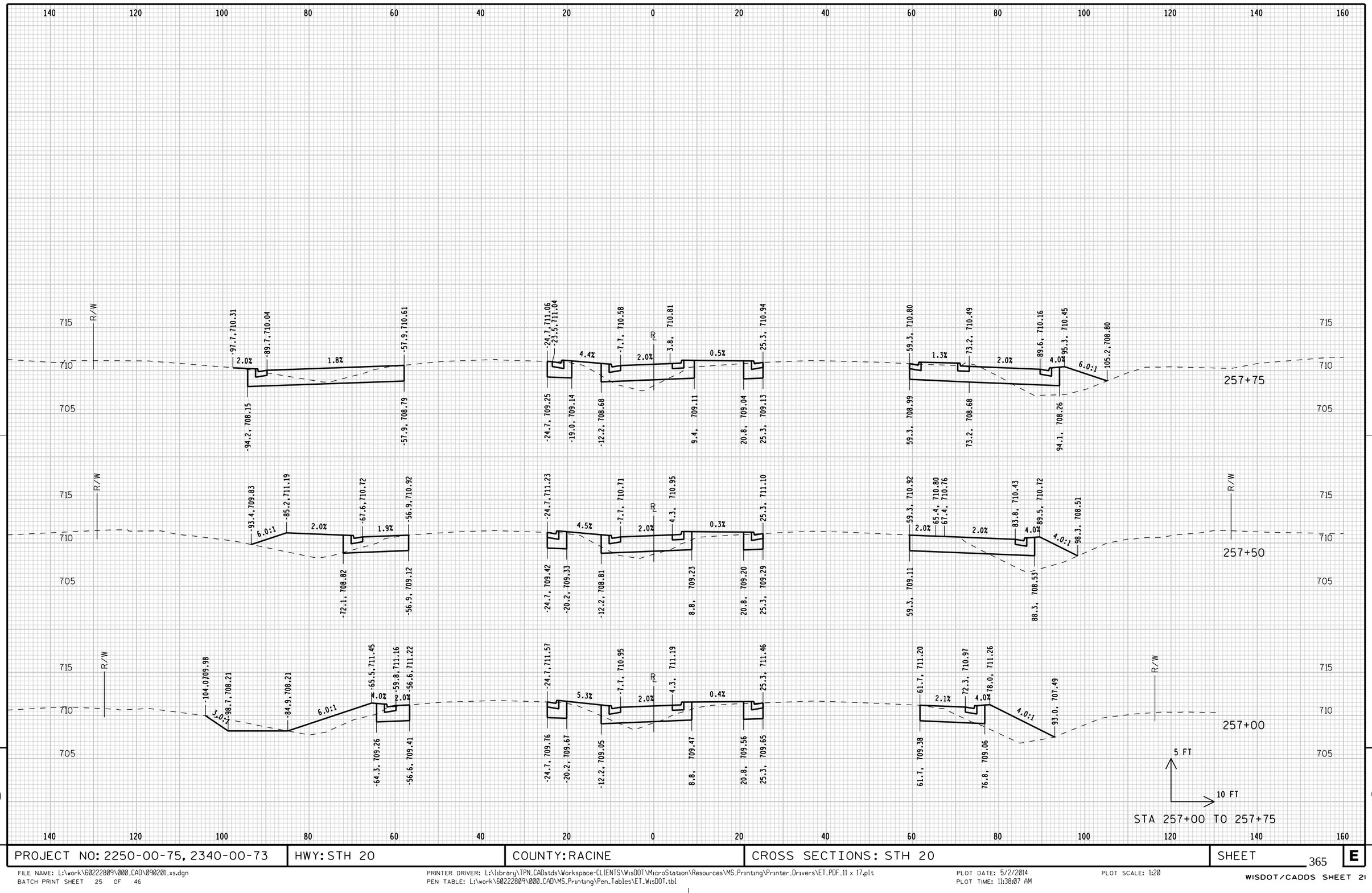


PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 363 E



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 364 E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 24 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:38:07 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

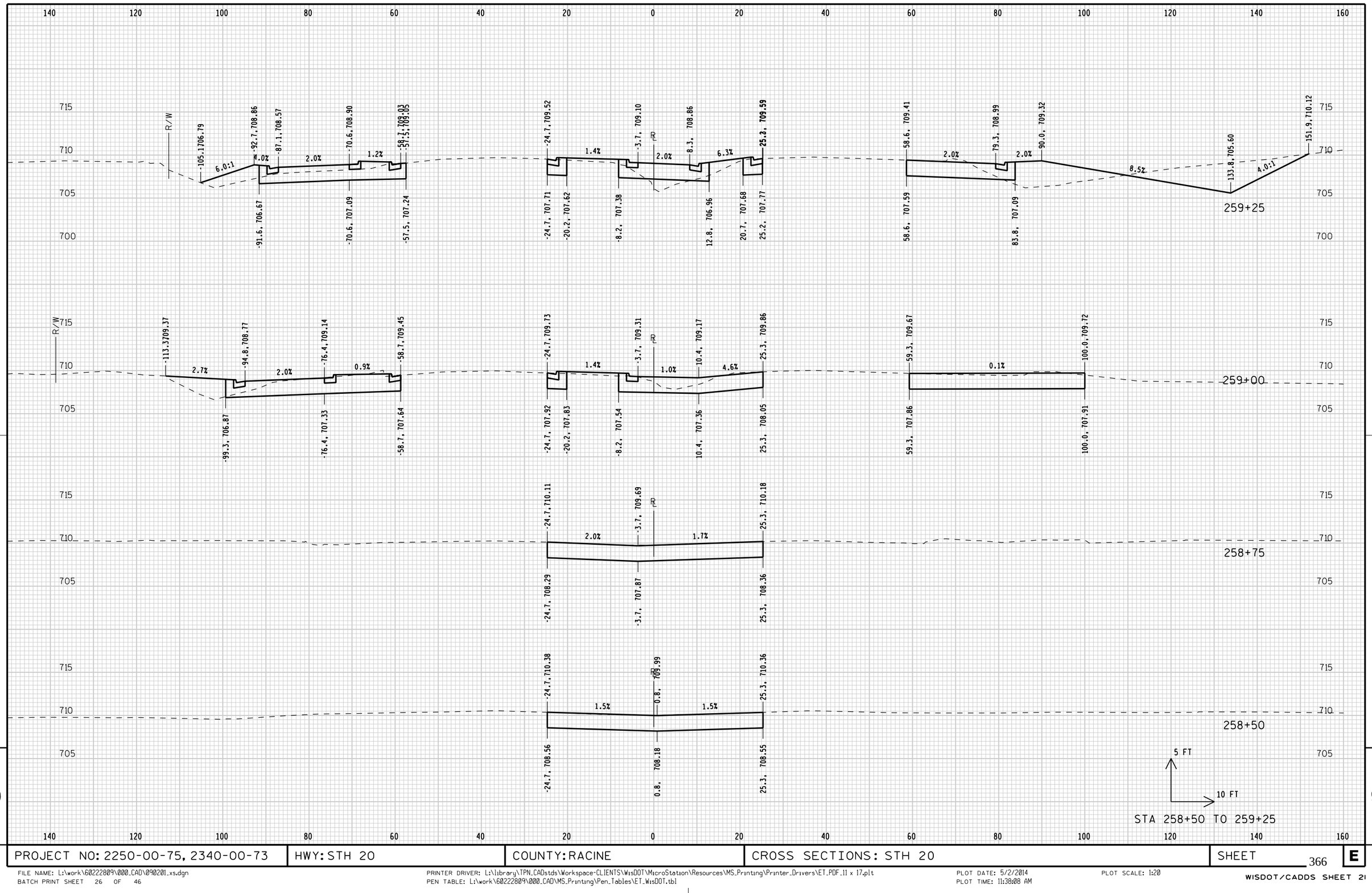


9

9

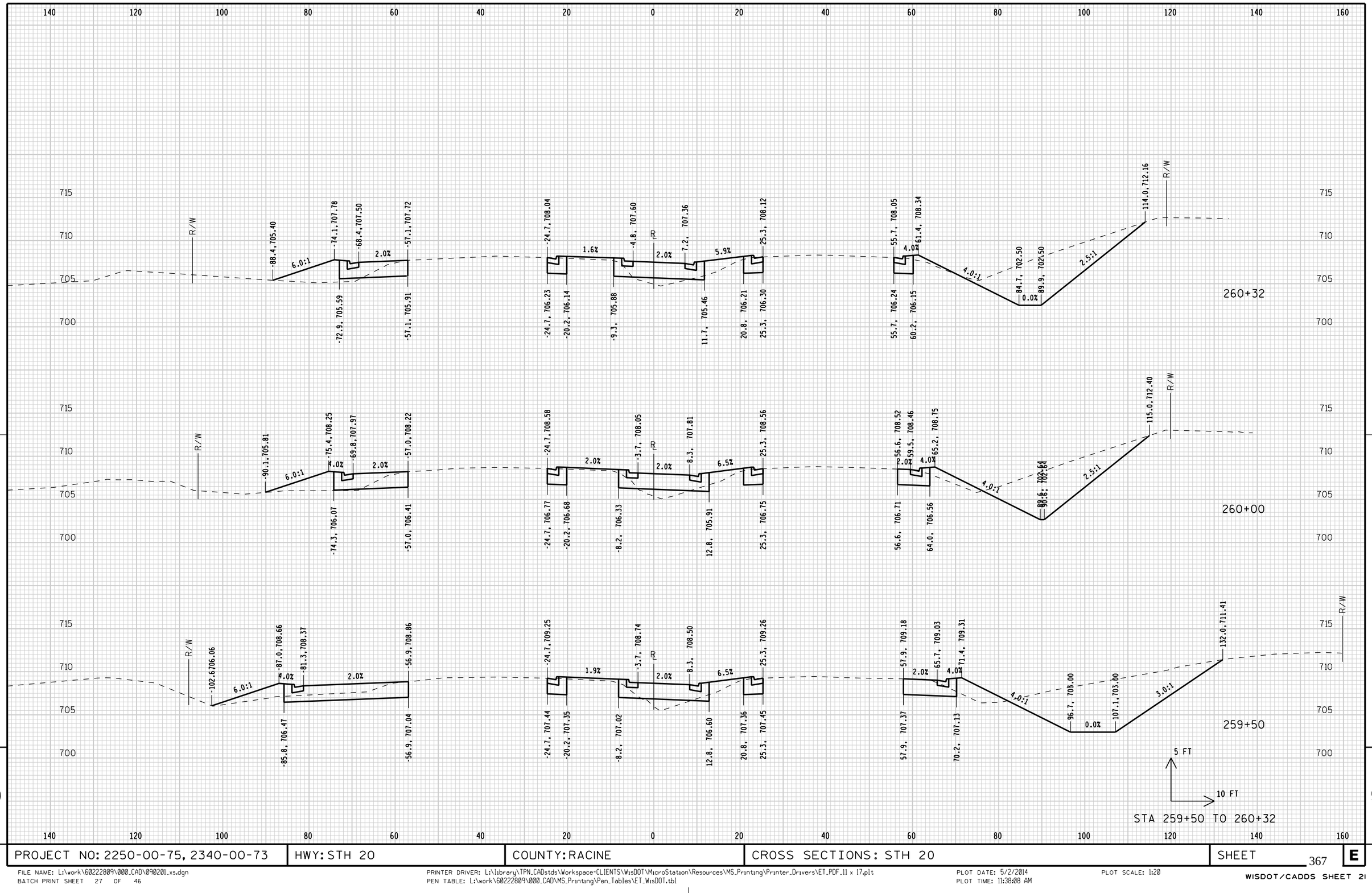
PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 365	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 25 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
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PLOT TIME: 11:38:07 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



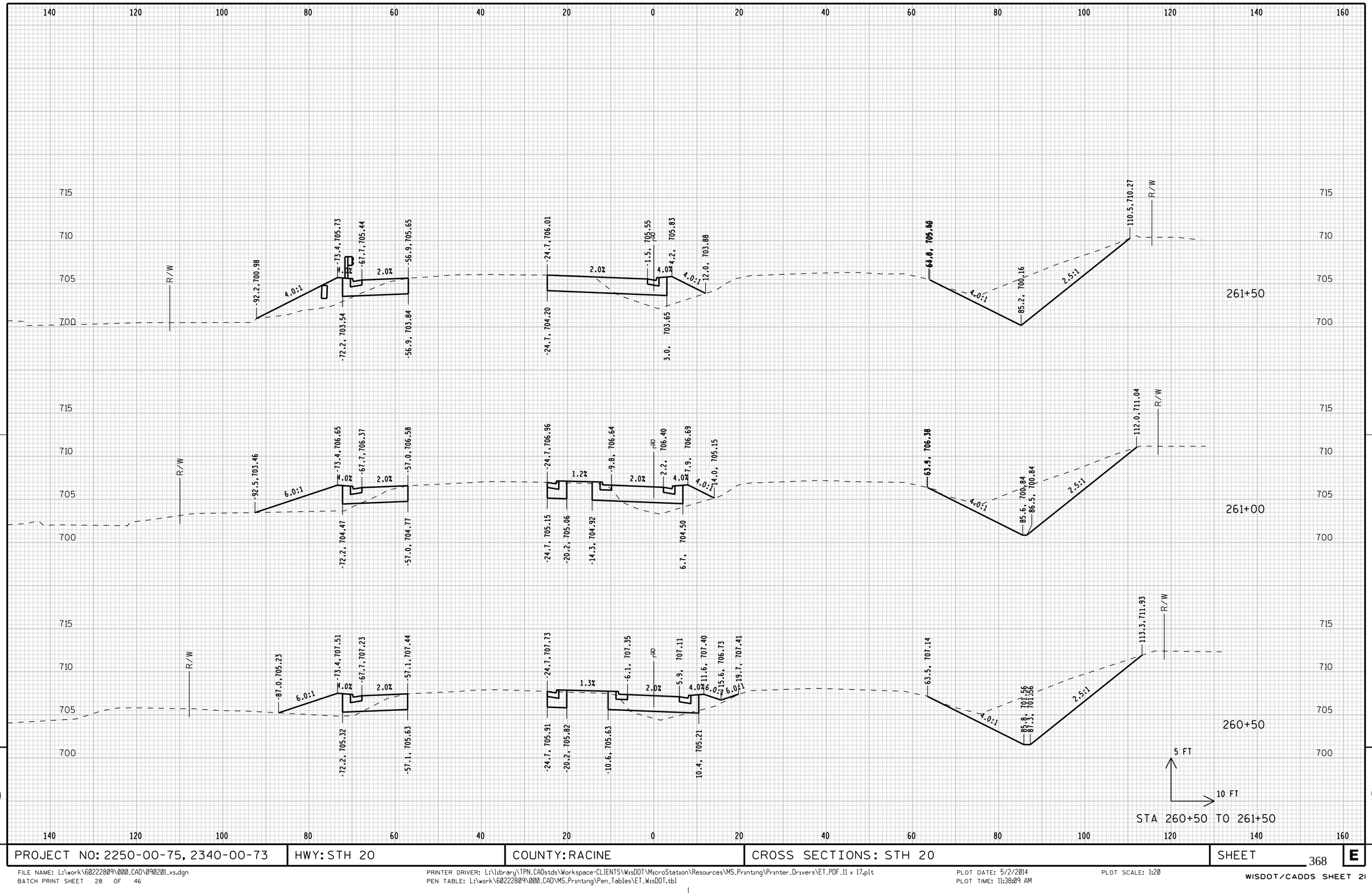
PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 366	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 26 OF 46
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PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:38:08 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 367 E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 27 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:08 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

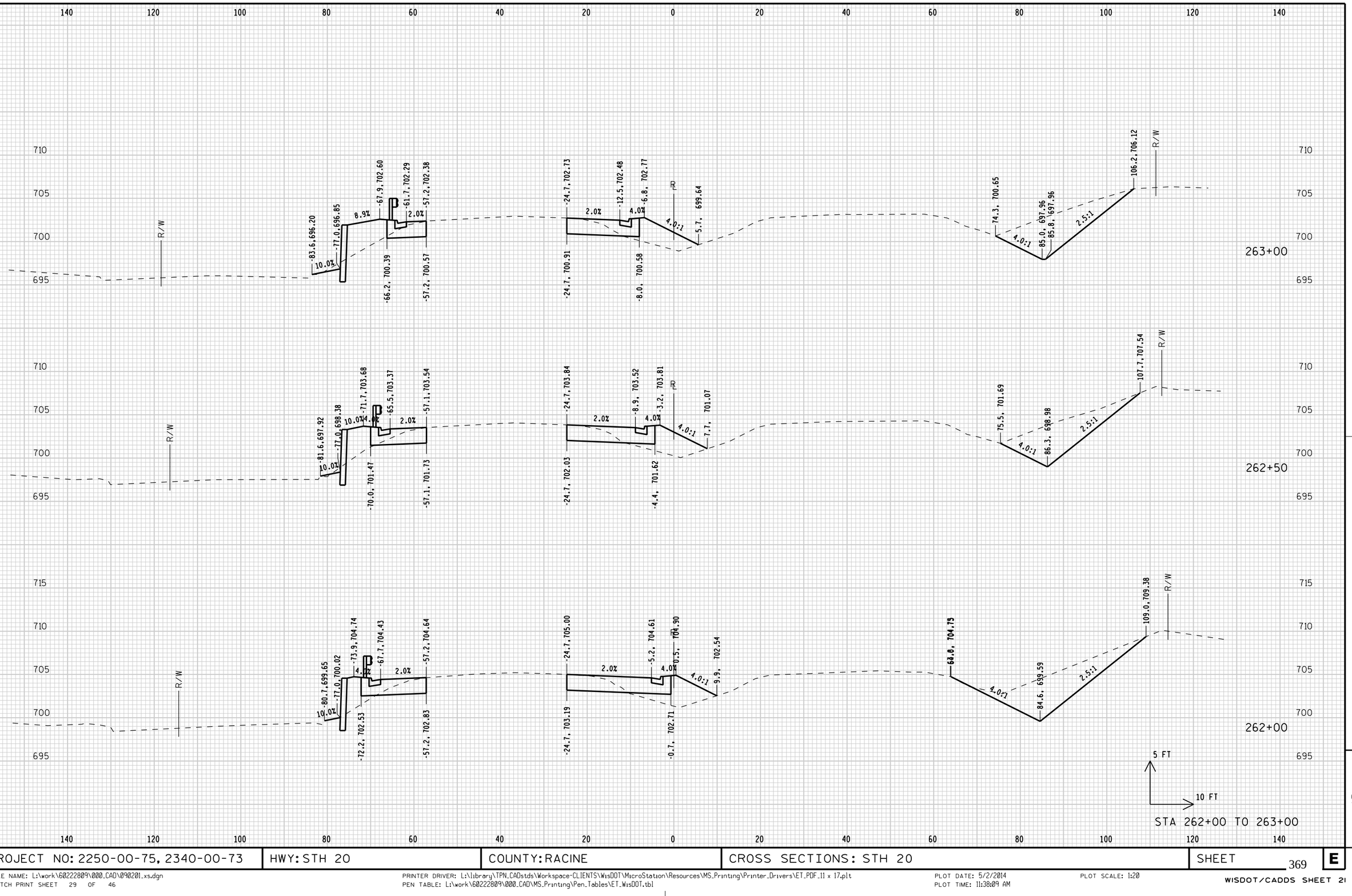


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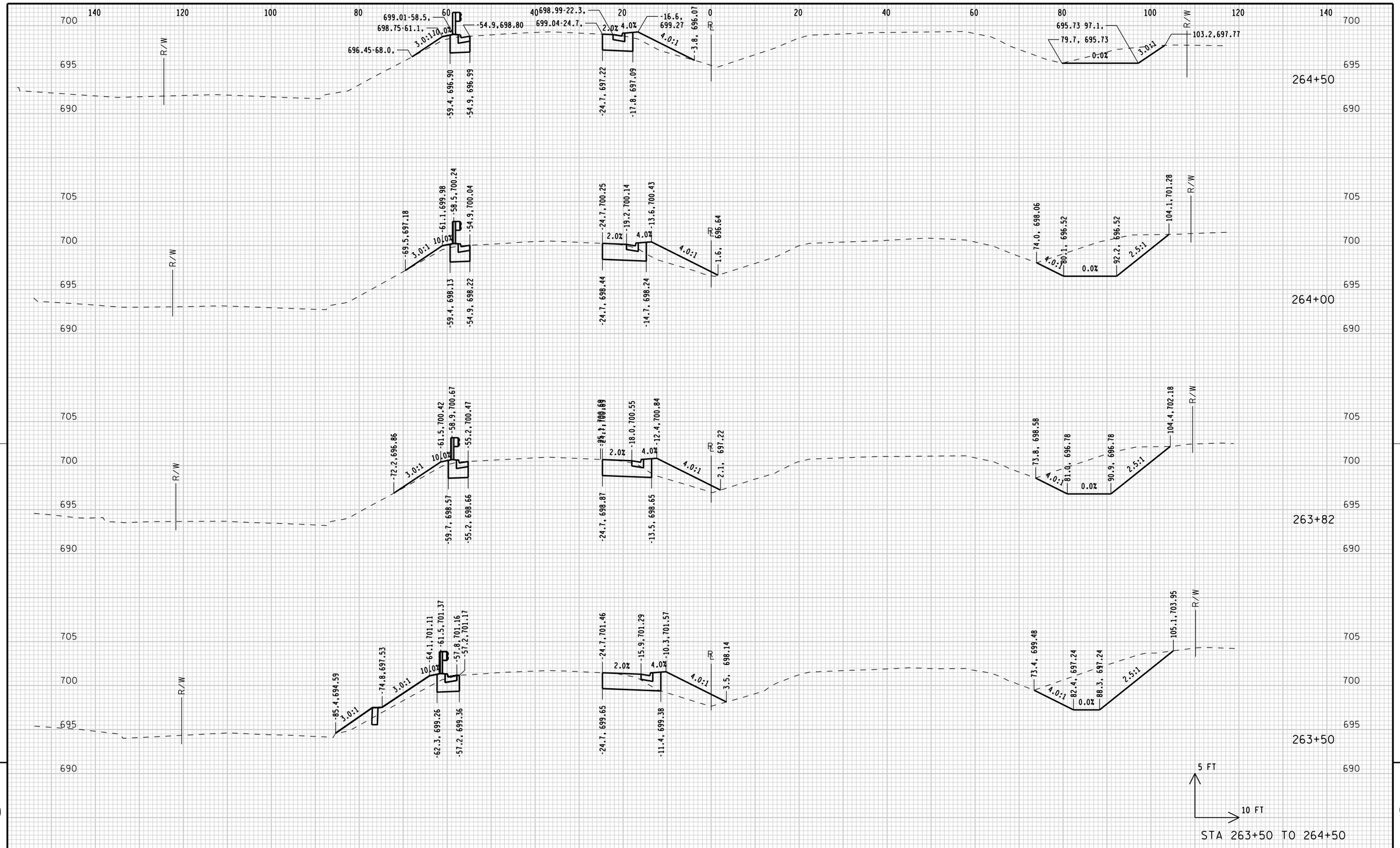
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PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 368 E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 28 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:09 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

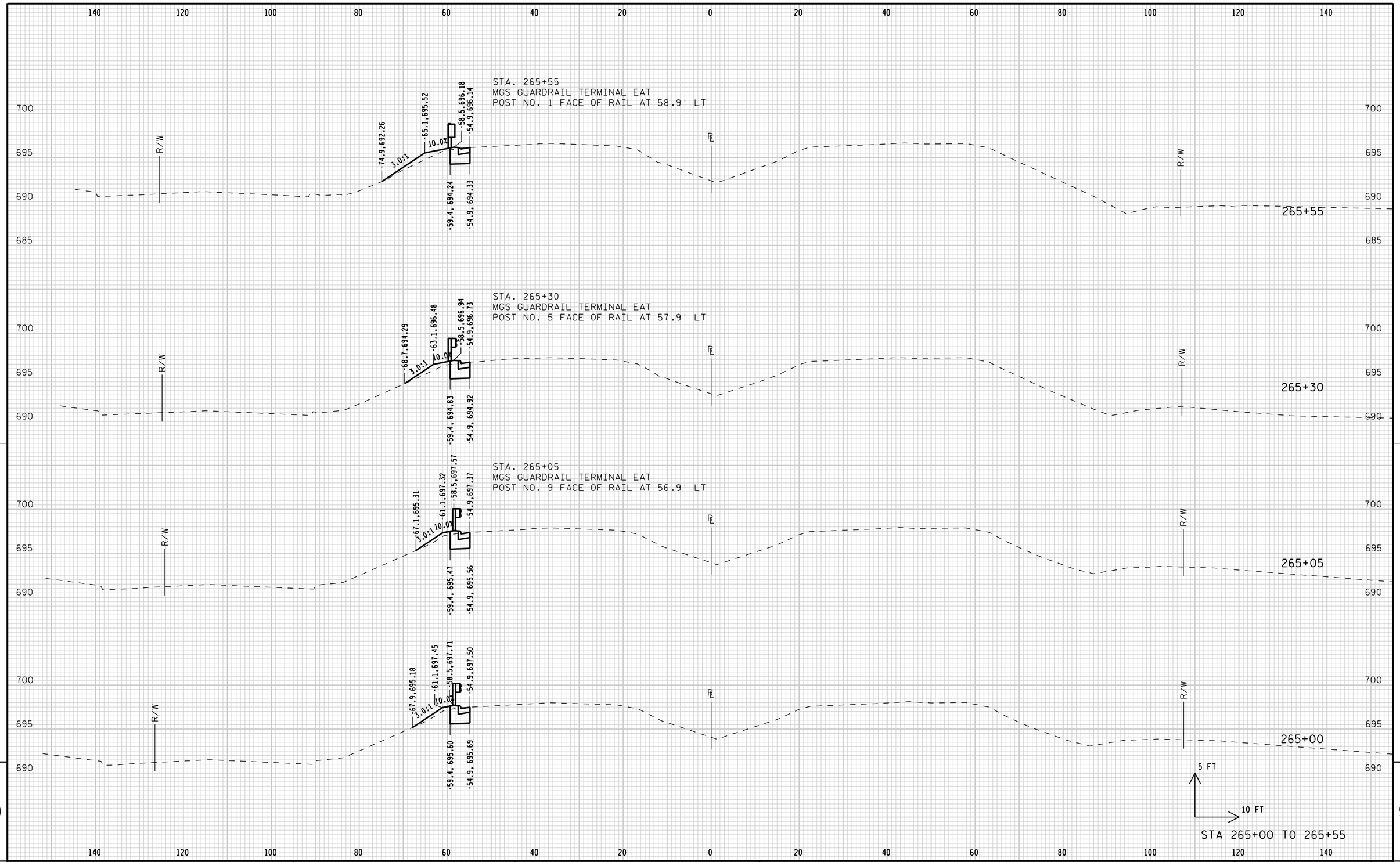


FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 29 OF 46
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:09 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 370	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 30 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:38:10 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



9

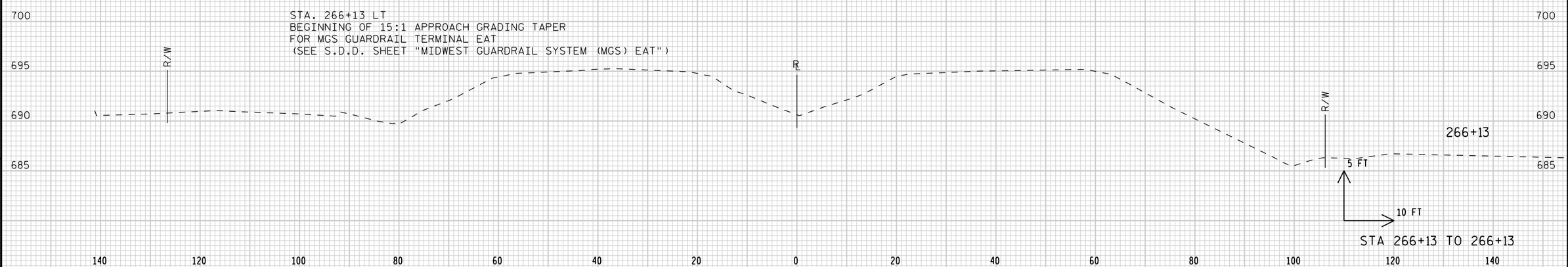
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PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 371 E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 31 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:10 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

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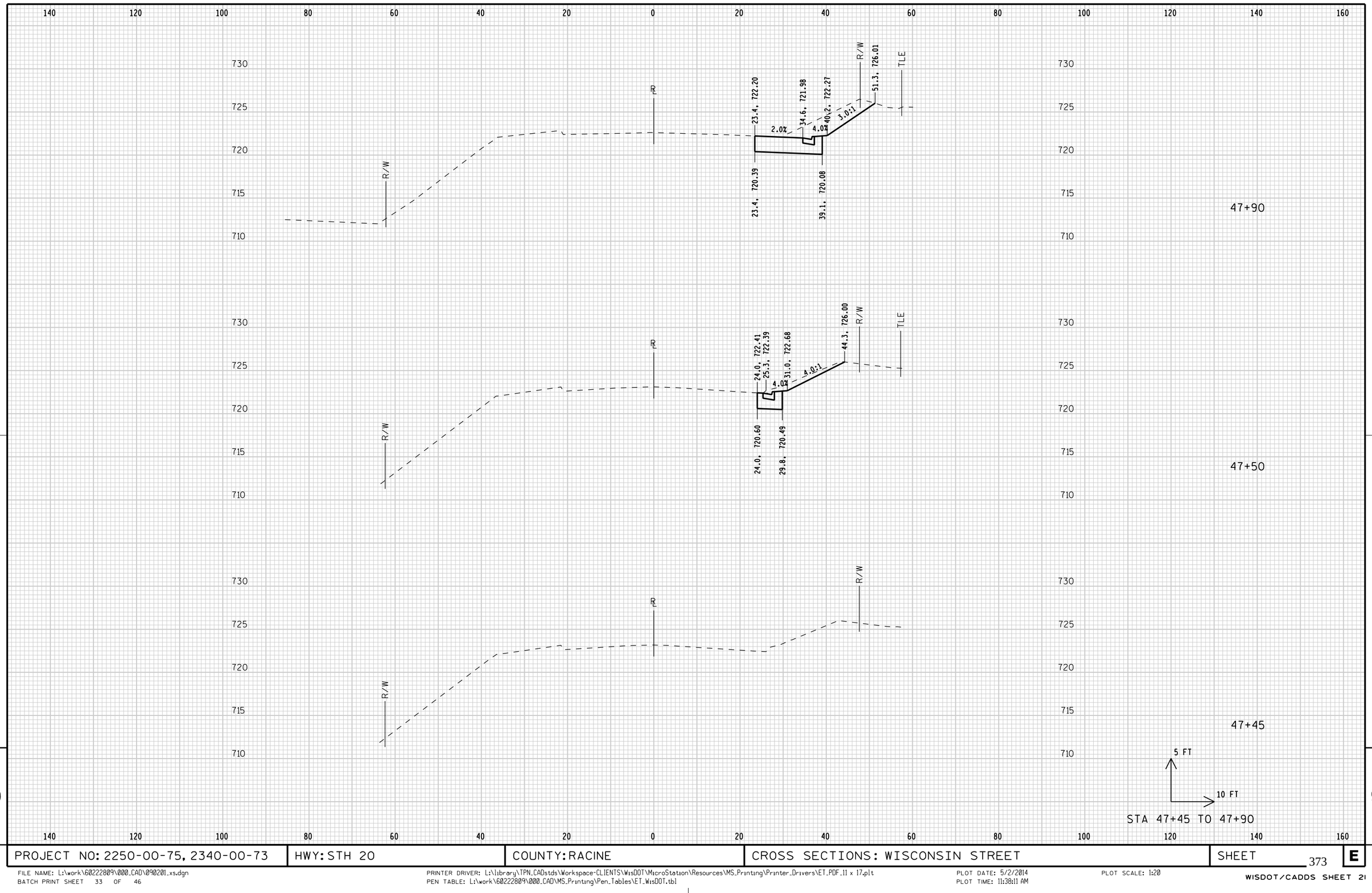
STA. 266+13 LT
BEGINNING OF 15:1 APPROACH GRADING TAPER
FOR MGS GUARDRAIL TERMINAL EAT
(SEE S.D.D. SHEET "MIDWEST GUARDRAIL SYSTEM (MGS) EAT")



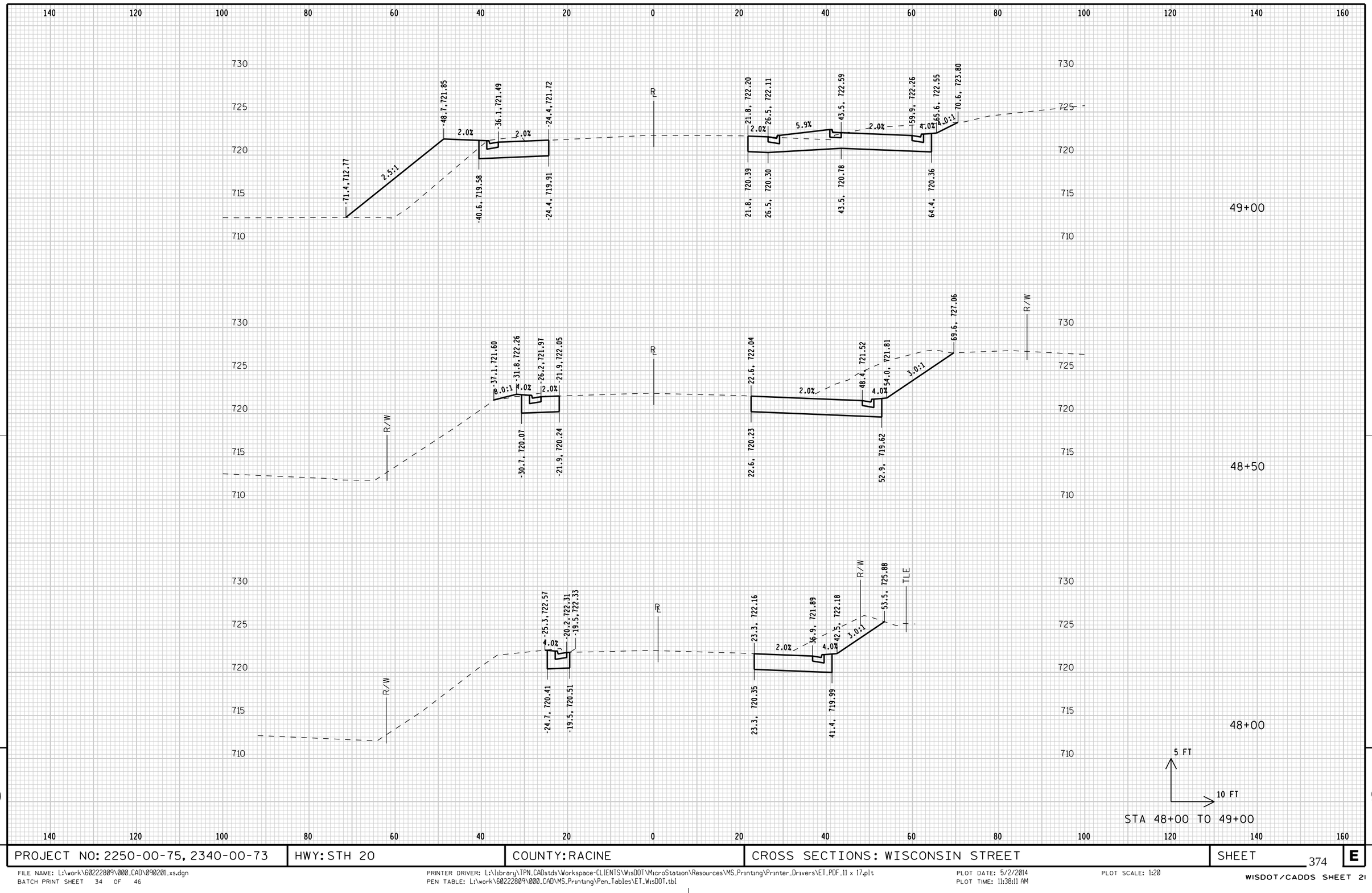
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PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 372	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 32 OF 46
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:10 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: WISCONSIN STREET	SHEET 373	E



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: WISCONSIN STREET	SHEET 374 E

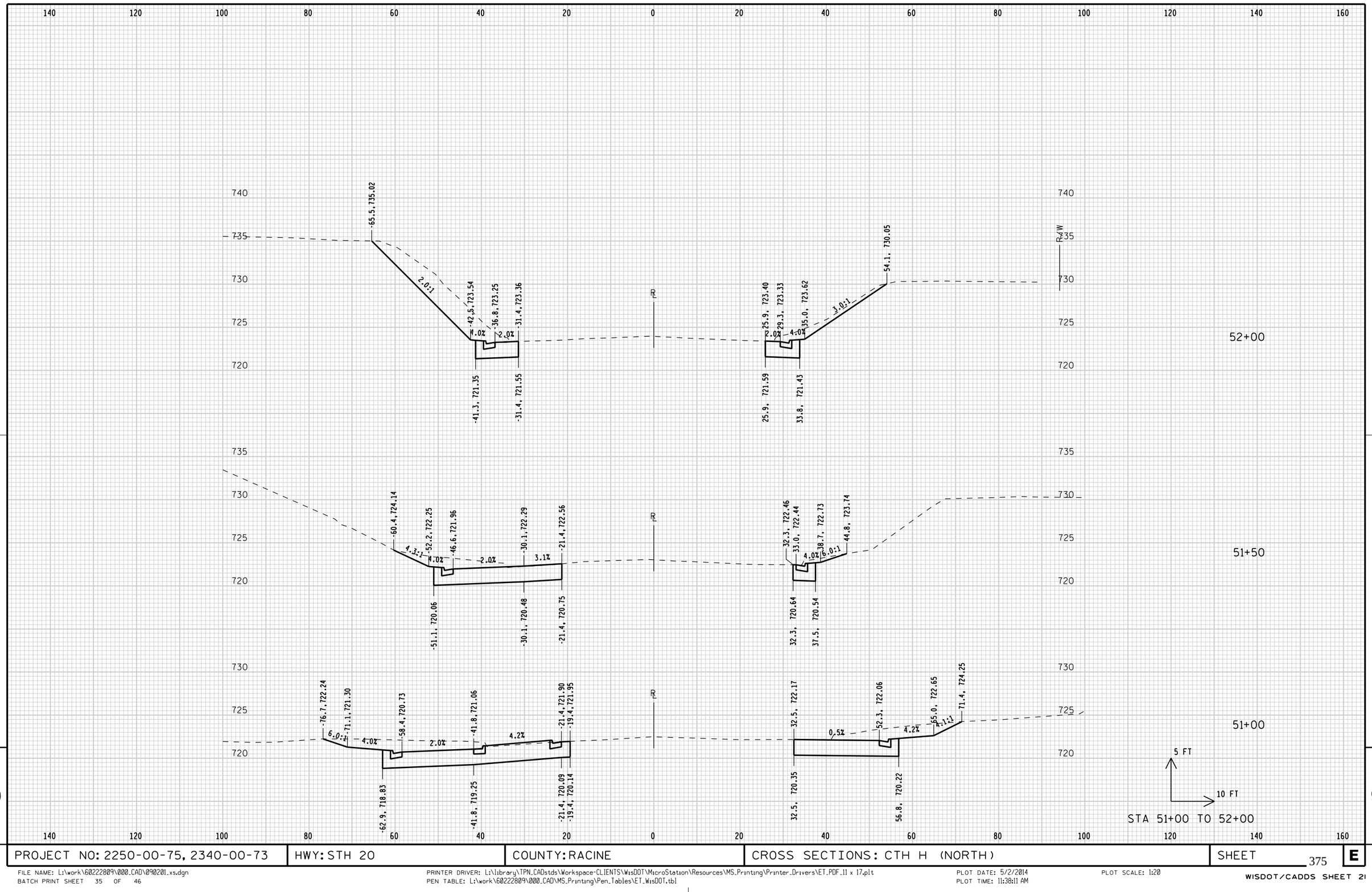
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BATCH PRINT SHEET 34 OF 46

PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:11 AM

PLOT SCALE: 1:20

WISDOT/CADDS SHEET 21

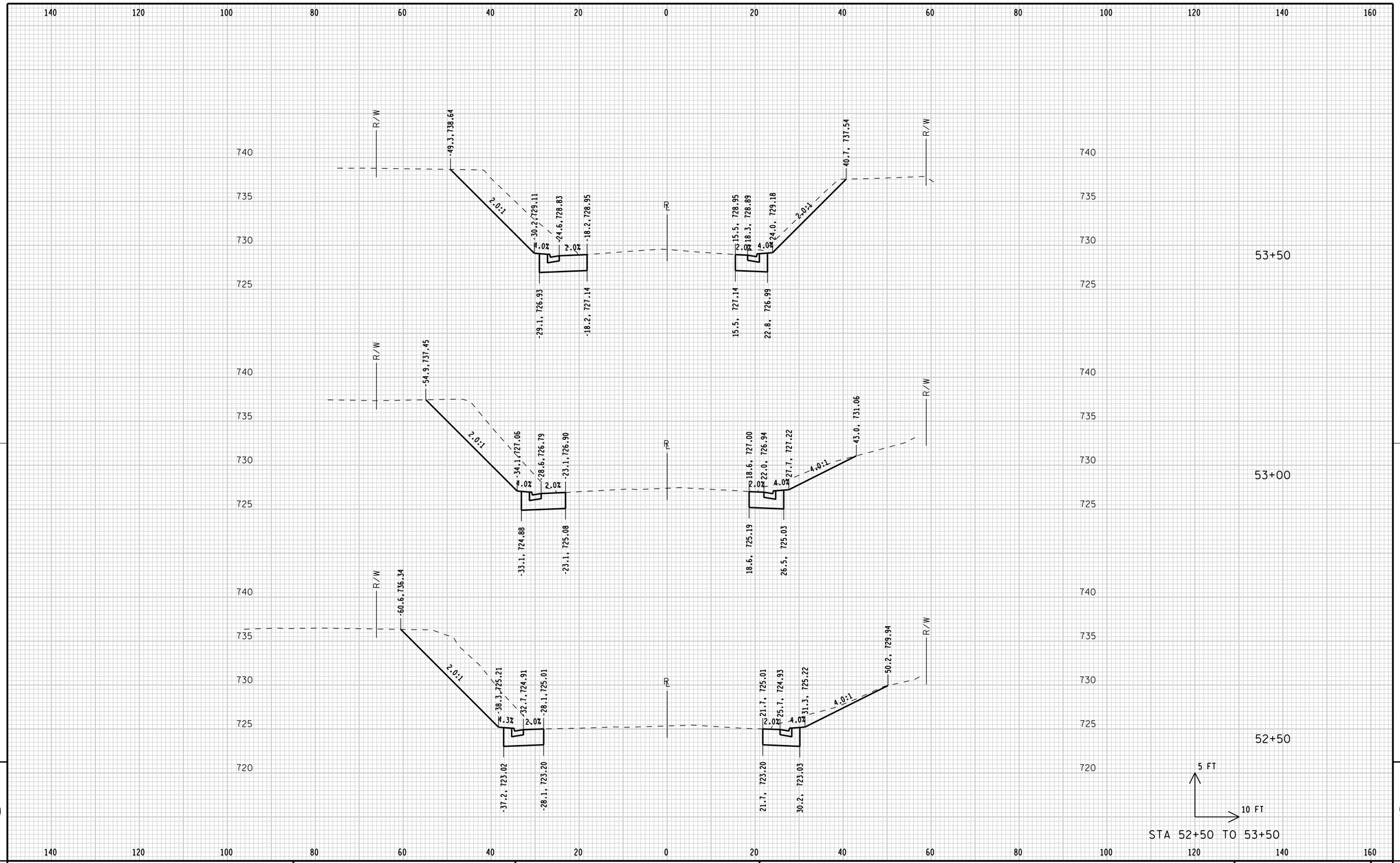


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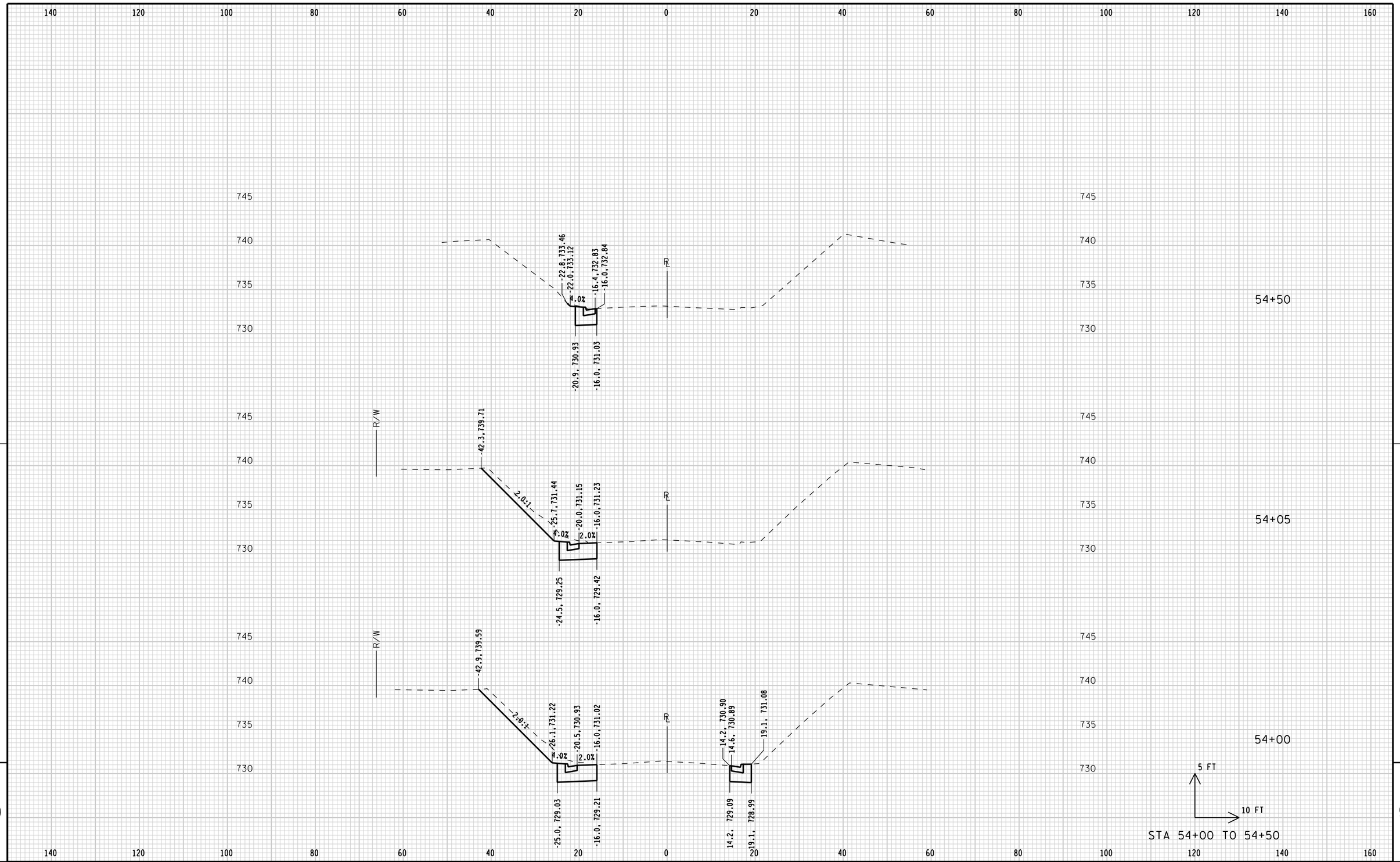
PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: CTH H (NORTH)	SHEET 375 E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 35 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:38:11 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: CTH H (NORTH)	SHEET 376 E

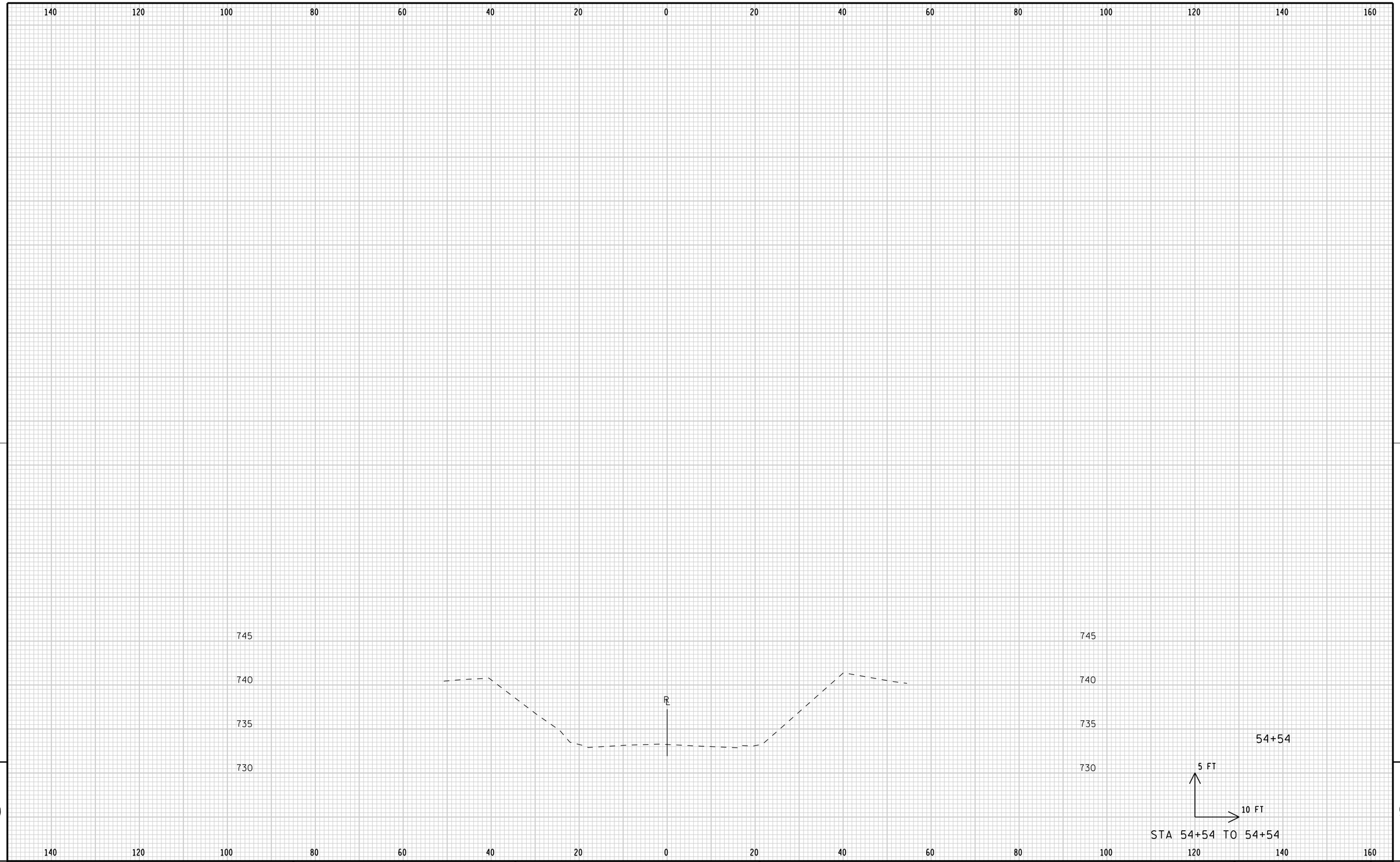
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BATCH PRINT SHEET 36 OF 46
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PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:38:12 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: CTH H (NORTH)	SHEET 377 E

9

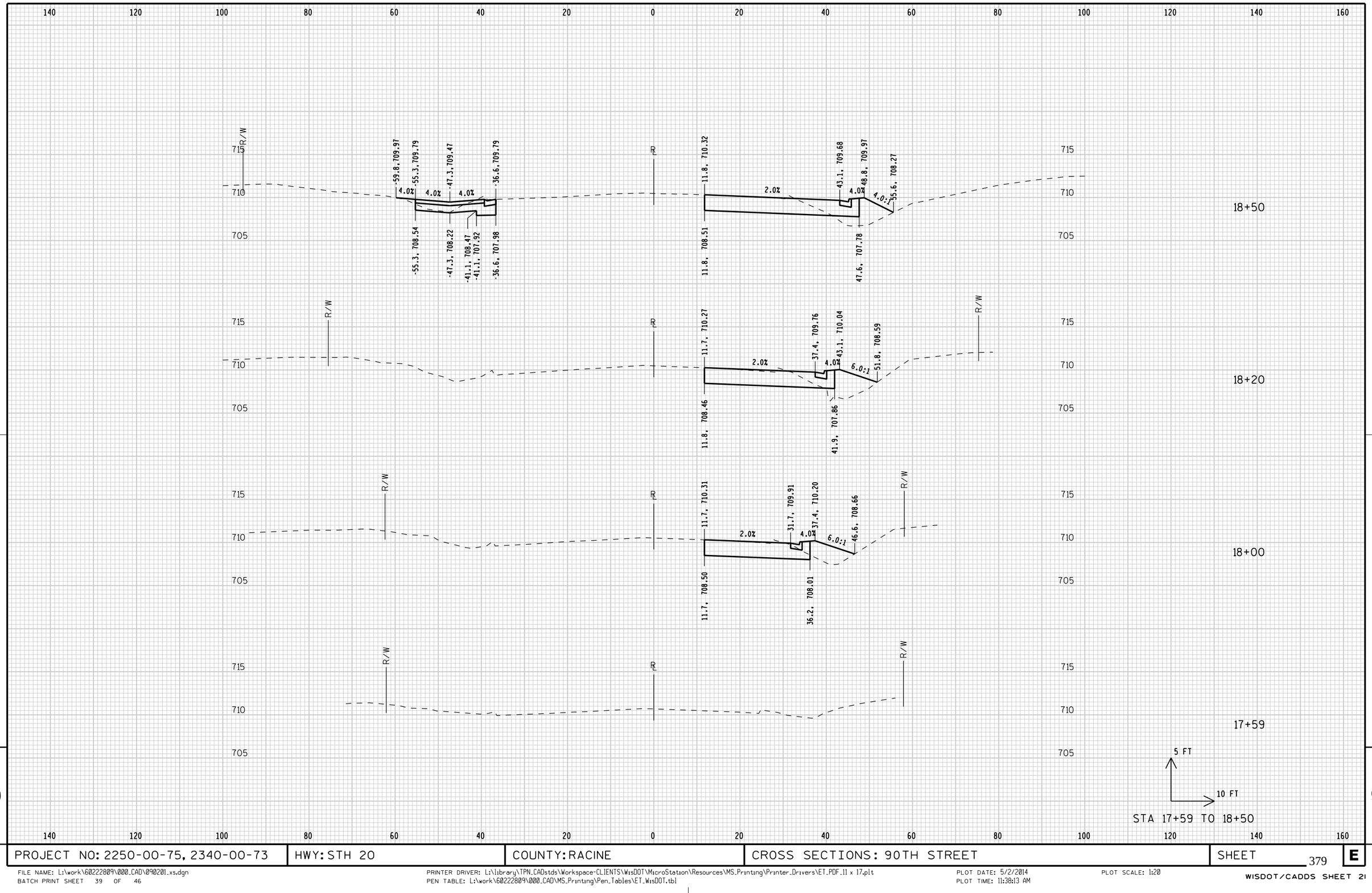


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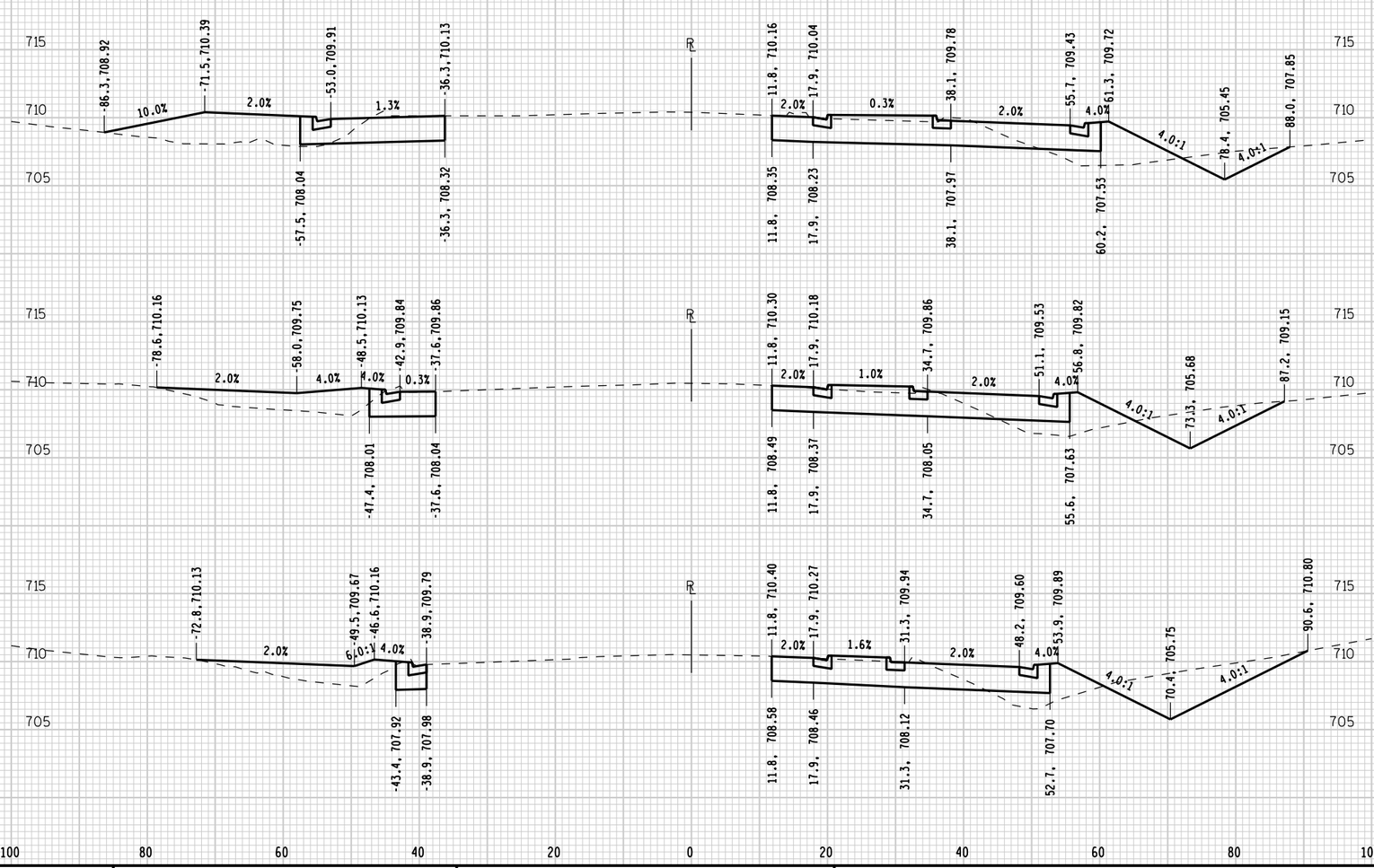
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PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: CTH H (NORTH)	SHEET 378	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 38 OF 46
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:13 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: 90TH STREET	SHEET 379 E



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: 90TH STREET	SHEET 380	E

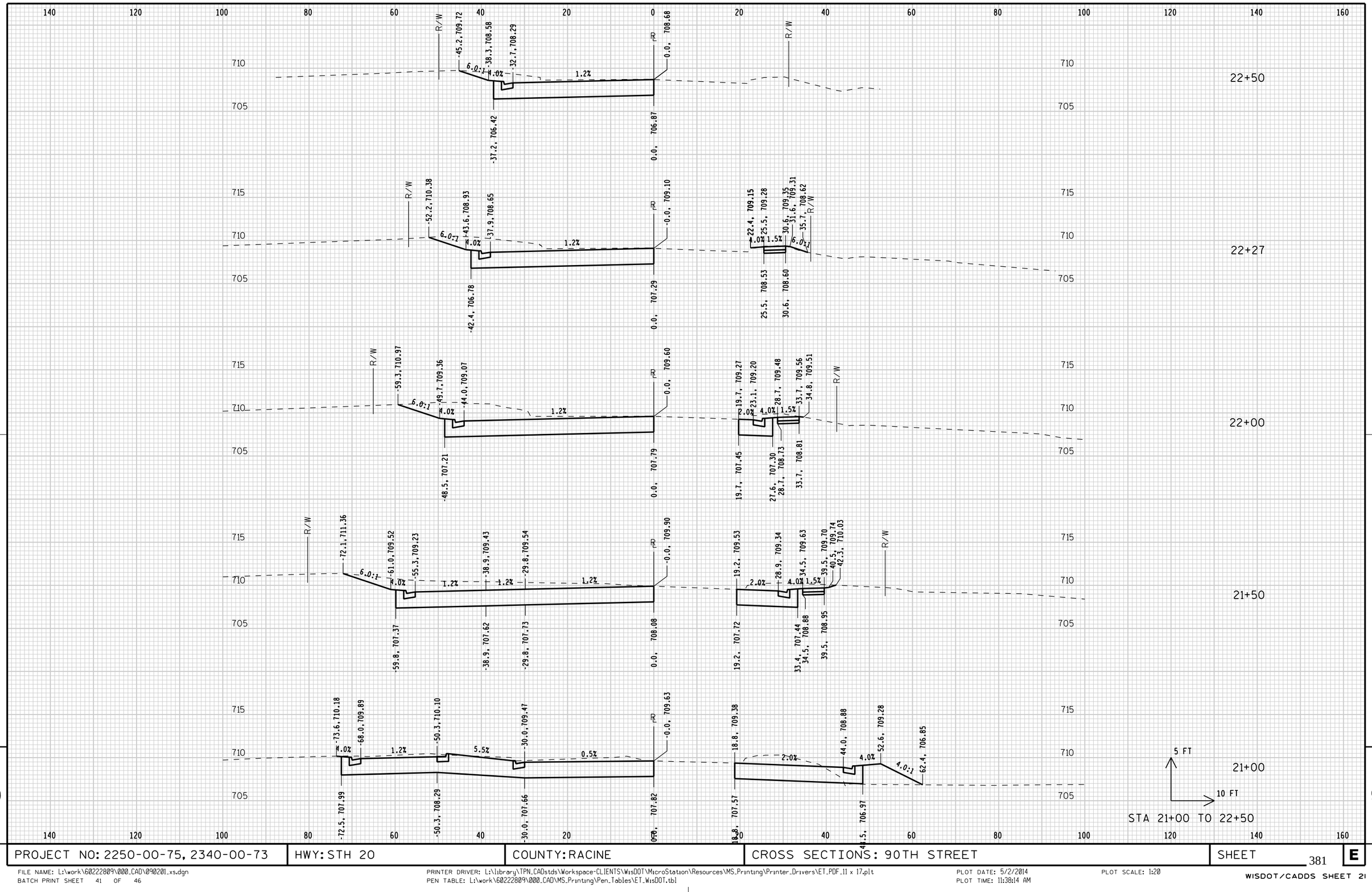
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BATCH PRINT SHEET 40 OF 46

PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl

PLOT DATE: 5/2/2014
PLOT TIME: 11:38:13 AM

PLOT SCALE: 1:20

WISDOT/CADDS SHEET 21



PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: 90TH STREET	SHEET E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 41 OF 46

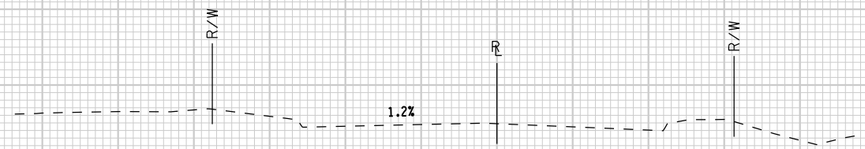
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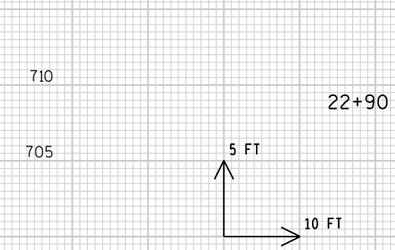
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WISDOT/CADDS SHEET 21

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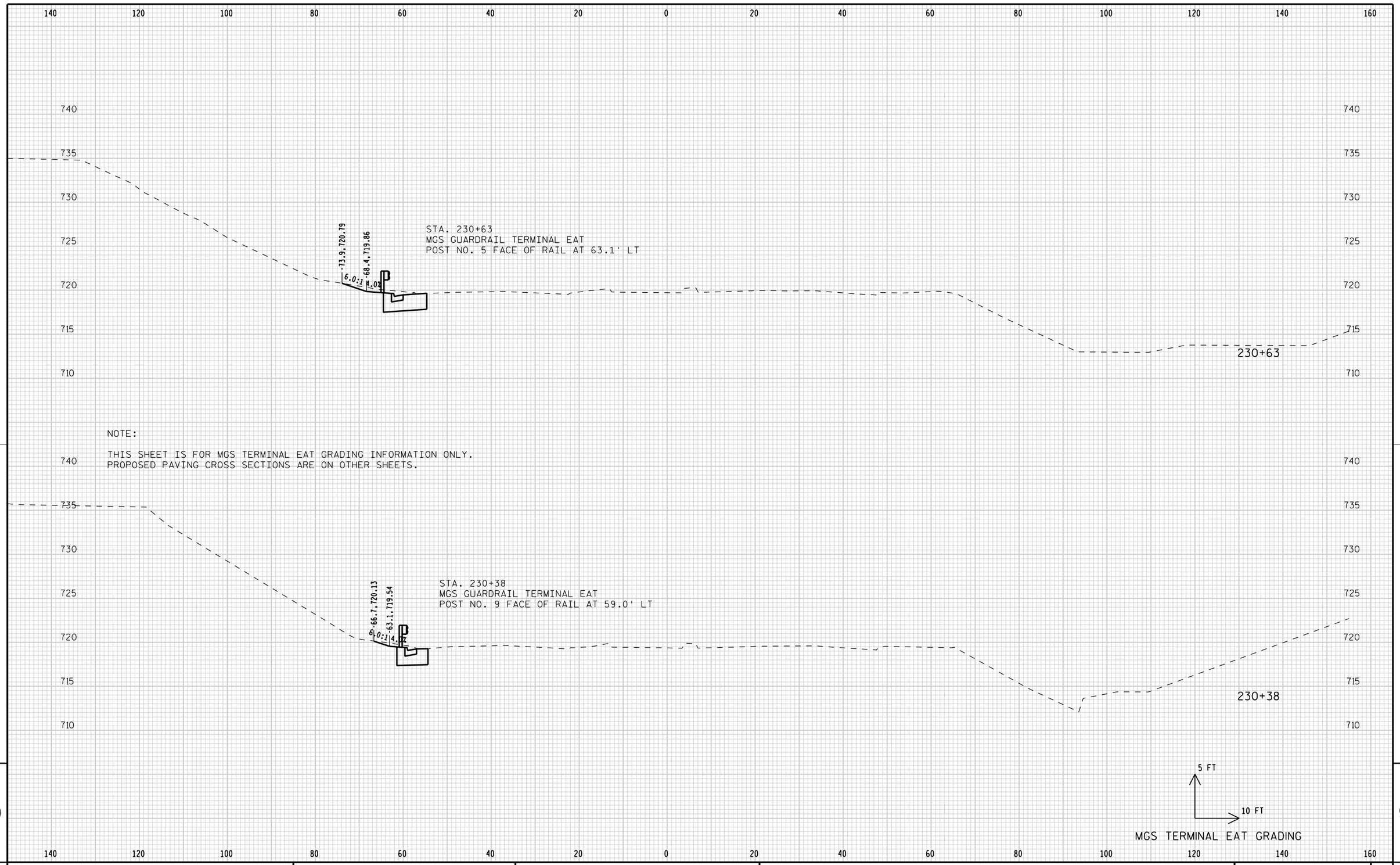


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9 9

PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: 90TH STREET	SHEET 382	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 42 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
PEN TABLE: L:\work\60222809\000_CAD\MS_Printing\Pen_Tables\ET_WisDOT.tbl
PLOT DATE: 5/2/2014
PLOT TIME: 11:38:14 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21



9

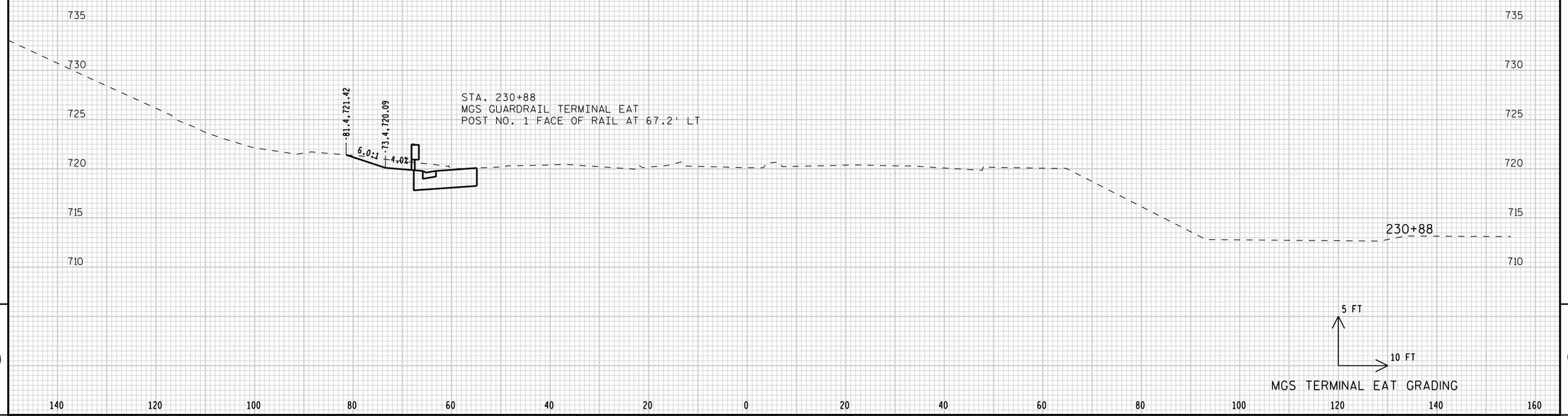
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PROJECT NO: 2250-00-75, 2340-00-73	HWY: STH 20	COUNTY: RACINE	CROSS SECTIONS: STH 20	SHEET 383	E

FILE NAME: L:\work\60222809\000_CAD\090201_xs.dgn
BATCH PRINT SHEET 43 OF 46
PRINTER DRIVER: L:\library\TPN_CADstds\Workspace-CLIENTS\WisDOT\MicroStation\Resources\MS_Printing\Printer_Drivers\ET_PDF_11 x 17.plt
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PLOT DATE: 5/2/2014
PLOT TIME: 11:38:14 AM
PLOT SCALE: 1:20
WISDOT/CADDS SHEET 21

NOTE:

THIS SHEET IS FOR MGS TERMINAL EAT GRADING INFORMATION ONLY.
PROPOSED PAVING CROSS SECTIONS ARE ON OTHER SHEETS.



Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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