WKE SEPTEMBER 27

PROJECT ID: 1100-46-70

WITH: N/A

COUNTY: MILWAUKEE

ORDER OF SHEETS

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

TOTAL SHEETS = 414



DESIGN DESIGNATION 60TH STREET

A.A.D.T.	2021	=	22,000
A.A.D.T.	2041	=	24,690
D.H.V.		=	2,486
D.D.		=	50/50
T.		=	4.0%
DESIGN SPEED		=	35 MPH
ESALS		=	1,400,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

IH 41 AIRPORT FREEWAY

60TH STREET BRIDGE

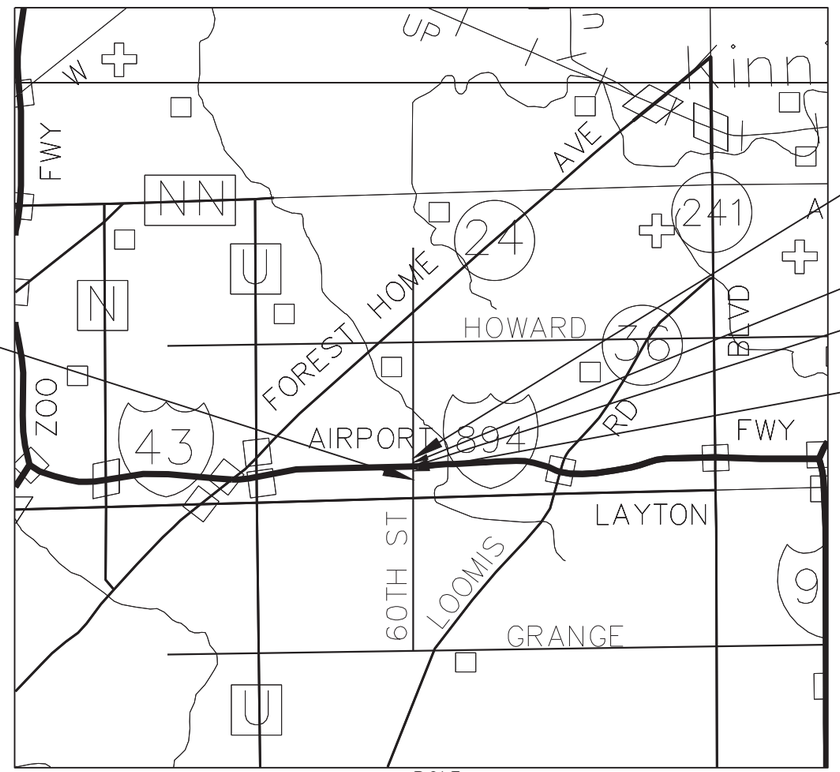
IH 41

MILWAUKEE COUNTY

STATE PROJECT NUMBER
1100-46-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1100-46-70	WISC 2021476	1

R-21-E



R-21-E

LAYOUT

SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = 0.108 MI.

BEGIN PROJECT
STA 107+96.74
Y=271500.0314
X=584835.2168

T-6-N

END PROJECT
STA 113+65.00

RETAINING WALL R-40-703

STRUCTURE B-40-195 (EXISTING)
STRUCTURE B-40-1013 (PROPOSED)

RETAINING WALL R-40-702

T-6-N

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, MILWAUKEE COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2007). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 09-WI.

ORIGINAL PLANS PREPARED BY
AECOM

WISCONSIN
WILLIAM R SCHILLING
E-35841-006
WAUKESHA, WI
PROFESSIONAL ENGINEER

(Professional Engineer Signature) DATE: 5/1/2021

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	AECOM
Project Manager	JOSHUA LEVEQUE, P.E.
Regional Examiner	
Regional Supervisor	WILLIAM MOHR, P.E.

APPROVED FOR THE DEPARTMENT
DATE: 5/1/21 (Signature)

E

FILE NAME : C:\USERS\JESSICA.LANCELLE\DOWNLOADS\60TH\010101_TI.DWG PLOT DATE : 4/21/2021 1:48 PM PLOT BY : LANCELLE, JESSICA PLOT NAME :

GENERAL NOTES

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

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

RADII, ELEVATIONS, AND DIMENSIONS ARE GIVEN AT THE CURB & GUTTER FLANGE, UNLESS OTHERWISE NOTED IN THE PLANS.

STATIONS, OFFSETS, AND DIMENSIONS FOR INLET AND MANHOLE STRUCTURES ARE GIVEN AT THE CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED IN THE PLANS.

WHERE THE QUANTITY OF BASE AGGREGATE DENSE AND HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE, AS SHOWN ON THE PLANS, IS APPROXIMATE. THE ACTUAL THICKNESS WILL DEPEND UPON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

SECTIONS AS SHOWN ON THE CROSS SECTIONS SHEETS INCLUDE THE THICKNESS OF TOPSOIL.

DISTURBED AREAS WITHIN THE RIGHT OF WAY SHALL BE FERTILIZED, SEEDED, TEMPORARY SEEDED, AND PROTECTED WITH EROSION MAT AS DIRECTED BY THE ENGINEER. SOD LAWN SHALL BE PLACED IN URBAN AREAS AS DIRECTED BY THE ENGINEER.

THE EROSION CONTROL FEATURES ARE SHOWN ON THE PLANS AT SUGGESTED LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED BY THE FIELD ENGINEER.

DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES.

THE WISCONSIN DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR AN ALUMINUM MONUMENT TO SET IN THE STRUCTURE AS DESIGNATED BY THE ENGINEER.

THE BASE AGGREGATE DENSE 1 1/4-INCH CALCULATIONS ARE BASED ON A UNIT WEIGHT OF 2.0 TONS/CY.

THE HMA PAVEMENT CALCULATIONS ARE BASED ON A UNIT WEIGHT OF 112 LB/SY/INCH.

HMA MIXTURES			
PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	LOCATION
4 MT 58-28 S 3 MT 58-28 S	6"	2" UPPER 4" LOWER	60TH STREET
4 MT 58-28 S 3 MT 58-28 S 3 MT 58-28 S	6-3/4"	2" UPPER 2-1/4" UPPER-LOWER 2-1/2" LOWER-LOWER	RAMPS A,B,C,D
4 MT 58-28 S 3 MT 58-28 S	5"	2" UPPER 3" LOWER	IH 41/43/894

UTILITY CONTACTS

AT&T LEGACY - COMMUNICATION LINE
KENNETH NINE
110 N MAIN ST
CULVER, IN 46511
PHONE: (574) 842-8830
KNINE@JMCEAINC.COM

AT&T WISCONSIN - COMMUNICATION LINE
MATTHEW DINNAUER
2005 PEWAUKEE RD
WAUKESHA, WI 53188
PHONE: (262) 896-7690
MD9542@ATT.COM

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

SPECTRUM (A.K.A. CHARTER COMMUNICATIONS) - COMMUNICATION LINE
BEAU ABUYA
1320 N DR MARTIN LUTHER KING DR
MILWAUKEE, WI 53212
PHONE: (414) 758-9241
BEAU.ABUYA@CHARTER.COM

CITY OF GREENFIELD - SEWER
JEFF KATZ
7325 W FOREST HOME AVE
GREENFIELD, WI 53220
PHONE: (414) 329-5321
JEFFREY.KATZ@GREENFIELDWI.US

CITY OF GREENFIELD - FIBER OPTIC
JEFF KATZ
7325 W FOREST HOME AVE
GREENFIELD, WI 53220
PHONE: (414) 329-5321
JEFFREY.KATZ@GREENFIELDWI.US

CITY OF GREENFIELD - STREET LIGHTING
JEFF KATZ
7325 W FOREST HOME AVE
GREENFIELD, WI 53220
PHONE: (414) 329-5321
JEFFREY.KATZ@GREENFIELDWI.US

CITY OF MILWAUKEE - WATER
DAVE GOLDAPP
841 N BROADWAY, ROOM 409
MILWAUKEE, WI 53202
PHONE: (414) 286-6301
DAVE.GOLDAPP@MILWAUKEE.GOV

WISCONSIN DEPARTMENT OF TRANSPORTATION - STREET LIGHTING
ERIC PEREA
141 NW BARSTOW STREET
WAUKESHA, WI 53188
PHONE: (262) 574-5422
ERIC.PEREA@DOT.WI.GOV

WISCONSIN DEPARTMENT OF TRANSPORTATION - WISCONSIN SIGNAL
JOANNA BUSH
141 NW BARSTOW STREET
WAUKESHA, WI 53188
PHONE: (608) 572-5726
JOANNA.BUSH@DOT.WI.GOV

WE ENERGIES - ELECTRICITY
DAN BANDOR
500 S 116TH ST
WEST ALLIS, WI 53214
PHONE: (262) 884-6718
EMERGENCY DISPATCH PHONE: (800) 662-4797

WE ENERGIES - GAS/PETROLEUM
SPENSER DOONER
700 S KANE ST
BURLINGTON, WI 53105
PHONE: (262) 763-1083
EMERGENCY DISPATCH PHONE: (800) 261-5325
SPENSER.DOONER@WE-ENERGIES.COM

VERIZON BUSINESS
RJ CICATELLO
15725 W RYERSON RD
NEW BERLIN, WI 53151
PHONE: (262) 232-1323
RANDY.CICATELLO@VERIZON.COM

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

OTHER CONTACTS

WISDOT DESIGN
JOSHUA LEVEQUE, PROJECT MANAGER
141 NW BARSTOW STREET
WAUKESHA, WI 53188
PHONE: (414) 750-1468
JOSHUA.LEVEQUE@DOT.WI.GOV

WISCONSIN DNR
KRISTINA BETZOLD
2300 N SR MARTIN LUTHER KING DR
MILWAUKEE, WI 53213
PHONE: (414) 507-4946
KRISTINA.BETZOLD@WISCONSIN.GOV

MILWAUKEE COUNTY TRANSIT SYSTEM (MCTS) - COORDINATOR OF STREET SUPERVISION (ROUTES)
MELANIE FLYNN
1942 N. 17TH ST.
MILWAUKEE, WI 53205
PHONE: (414) 343-1764
MFLYNN@MCTS.ORG

MILWAUKEE COUNTY TRANSIT SYSTEM (MCTS) - TRANSIT PLANNER (STOPS)
ANDY TILLMAN
1942 N. 17TH ST.
MILWAUKEE, WI 53205
PHONE: (414) 343-1728
ATILLMAN@MCTS.ORG

DESIGN CONTACT

AECOM
WILLIAM SCHILLING, PROJECT MANAGER
1555 N RIVERCENTER DR, SUITE 214
MILWAUKEE, WI 53212
PHONE: (414) 944-6201
BILL.SCHILLING@AECOM.COM

ORDER OF SECTION 2 SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLANS
PLAN DETAILS
PAVING DETAILS
CURB RAMP DETAILS
FINISHED CONTOURS
FTMS PLANS
EROSION CONTROL
STORM SEWER
PERMANENT SIGNING
STREET LIGHTING PLAN
TRAFFIC SIGNAL PLAN
PAVEMENT MARKING
TRAFFIC CONTROL
DETOUR ROUTES
ALIGNMENT DIAGRAM
SURVEY CONTROL

2

2

N

BOTTSFORD AVENUE

60TH STREET

ALLERTON AVENUE

PAVEMENT PATCH FOR TRAFFIC SIGNAL DETECTOR LOOP

END PROJECT
STA 113+65.00
MATCH EXISTING
SAW CUT REQ'D

BEGIN CONSTRUCTION
STA 10+00.00'C'
MATCH EXISTING
SAW CUT REQ'D

TLE

R/L RAMP C

R/L RAMP D

EXISTING NOISE BARRIER

END CONSTRUCTION
STA 12+00.00'D'
MATCH EXISTING
SAW CUT REQ'D

PAVEMENT PATCH FOR TRAFFIC SIGNAL DETECTOR LOOP

BEGIN CONSTRUCTION
STA 174+95
MATCH EXISTING
SAW CUT REQ'D

END CONSTRUCTION
STA 179+69.48
MATCH EXISTING
SAW CUT REQ'D

RAMP C

RAMP D

BEGIN CONSTRUCTION
STA 174+53
MATCH EXISTING
SAW CUT REQ'D

RETAINING WALL R-40-703

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

R/L IH 41/43/894

END CONSTRUCTION
STA 177+60
MATCH EXISTING
SAW CUT REQ'D

RAMP B

RAMP A

R/L RAMP B

BEGIN CONSTRUCTION
STA 172+38.33
MATCH EXISTING
SAW CUT REQ'D

PAVEMENT PATCH FOR TRAFFIC SIGNAL DETECTOR LOOP

STRUCTURE B-40-195 (EXISTING)
STRUCTURE B-40-1013 (PROPOSED)

END CONSTRUCTION
STA 177+20
MATCH EXISTING
SAW CUT REQ'D

R/L RAMP A

END CONSTRUCTION
STA 11+70.00'A'
MATCH EXISTING
SAW CUT REQ'D

BEGIN CONSTRUCTION
STA 10+91.19'B'
MATCH EXISTING
SAW CUT REQ'D

RETAINING WALL R-40-702

EXISTING RETAINING WALL R-40-36

R/L 60TH STREET

60TH STREET

BEGIN PROJECT
STA 107+96.74
Y=271500.0314
X=584835.2168
MATCH EXISTING
SAW CUT REQ'D

ARMOUR AVENUE

PAVEMENT PATCH FOR TRAFFIC SIGNAL DETECTOR LOOP

LAYTON AVENUE

BP: 100+03.80

2

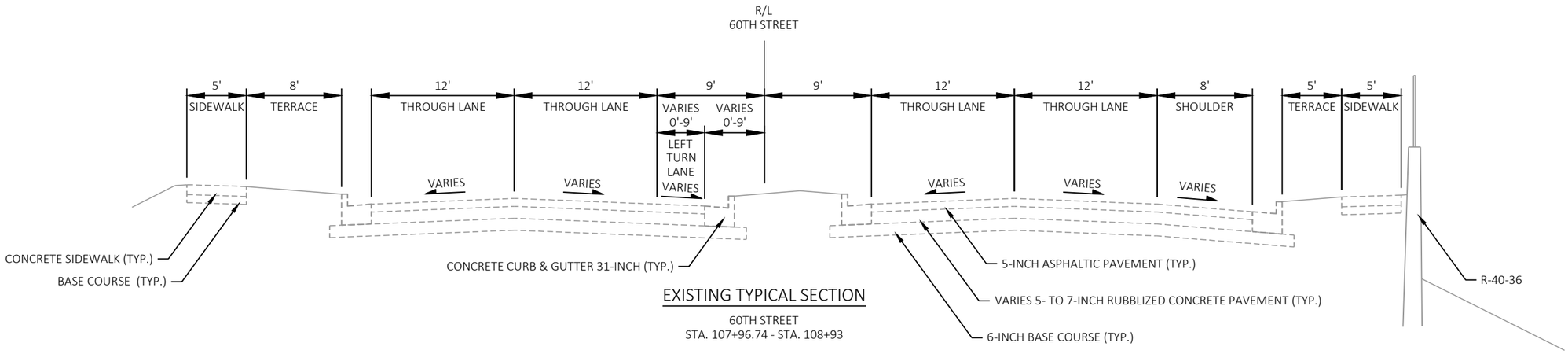
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LAYOUT NAME - Plan 1 IN 100 FT

PLOT DATE : 1/20/2021 12:23 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:200 FT

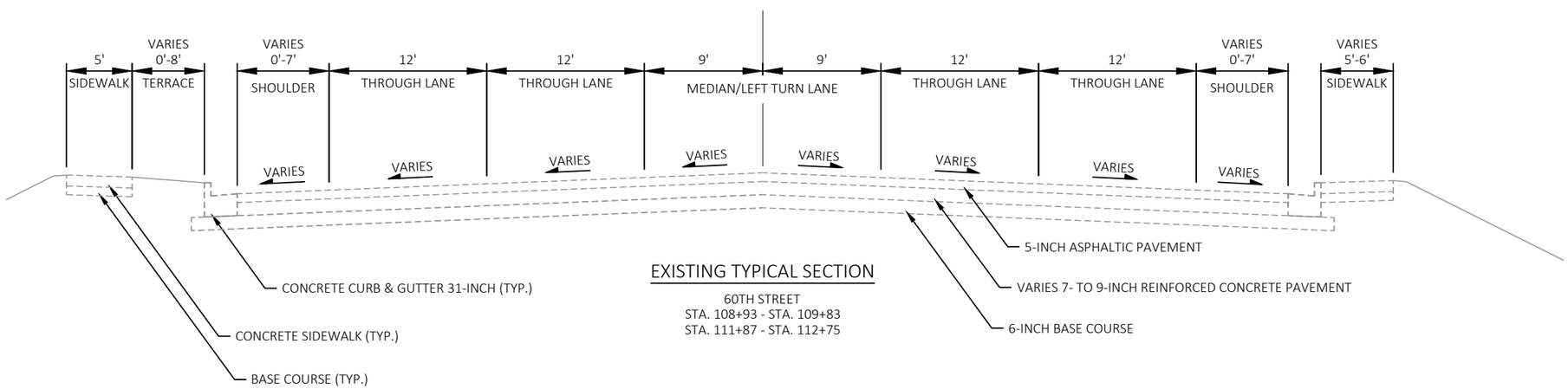
WISDOT/CADDS SHEET 42

2



EXISTING TYPICAL SECTION

60TH STREET
STA. 107+96.74 - STA. 108+93



EXISTING TYPICAL SECTION

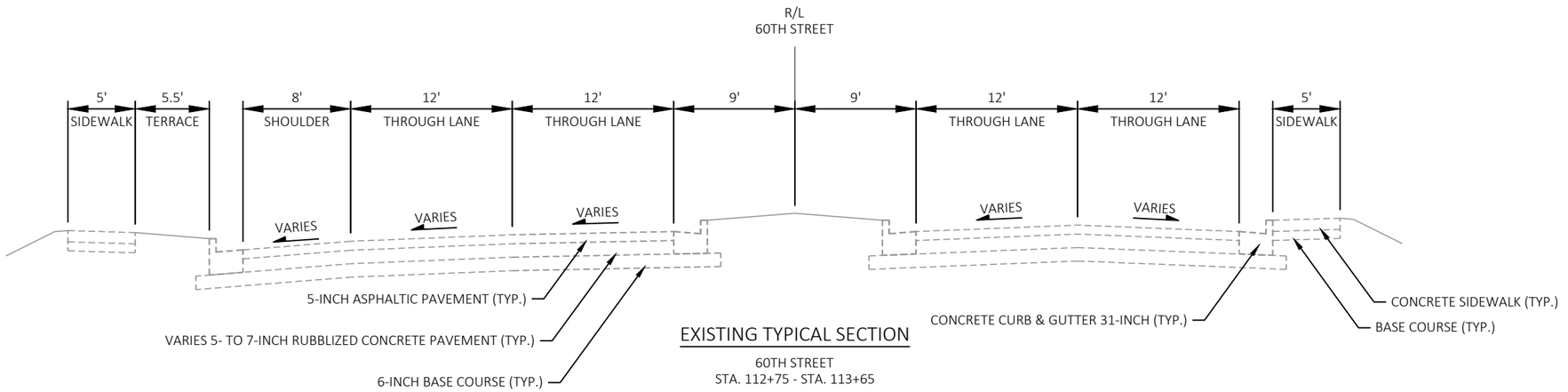
60TH STREET
STA. 108+93 - STA. 109+83
STA. 111+87 - STA. 112+75

EXISTING STRUCURE B-40-195
STA. 109+83 - STA. 111+87

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	EXISTING TYPICAL SECTIONS	SHEET 4	E

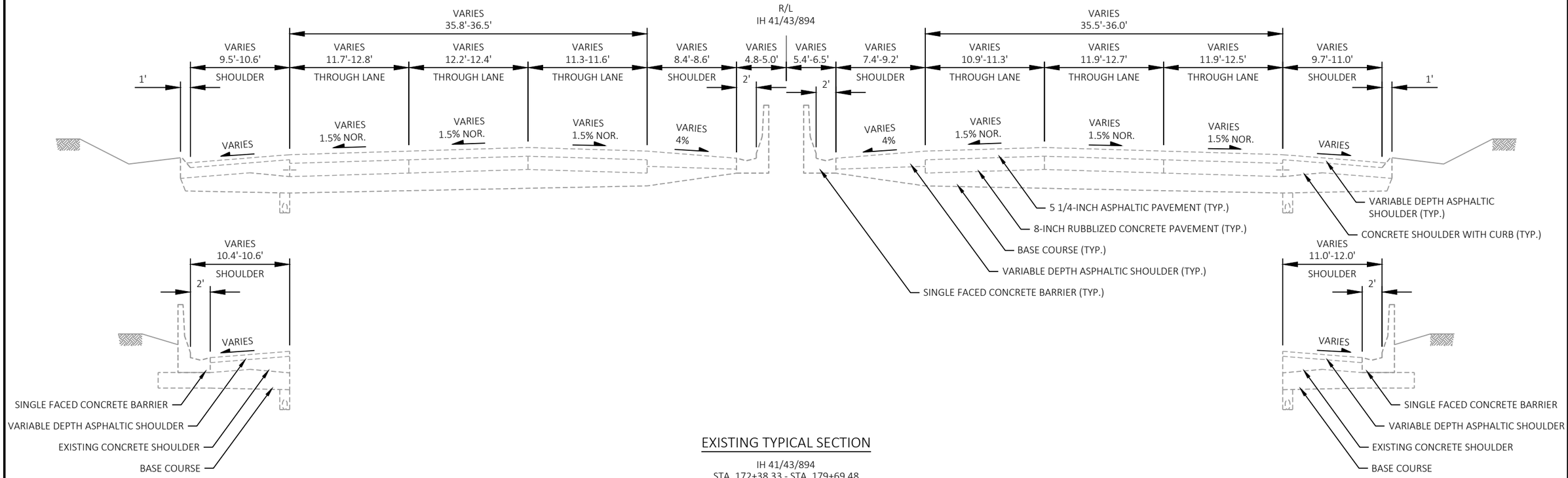
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LAYOUT NAME - 01
PLOT DATE : 1/15/2021 11:01 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



EXISTING TYPICAL SECTION

60TH STREET
STA. 112+75 - STA. 113+65



EXISTING TYPICAL SECTION

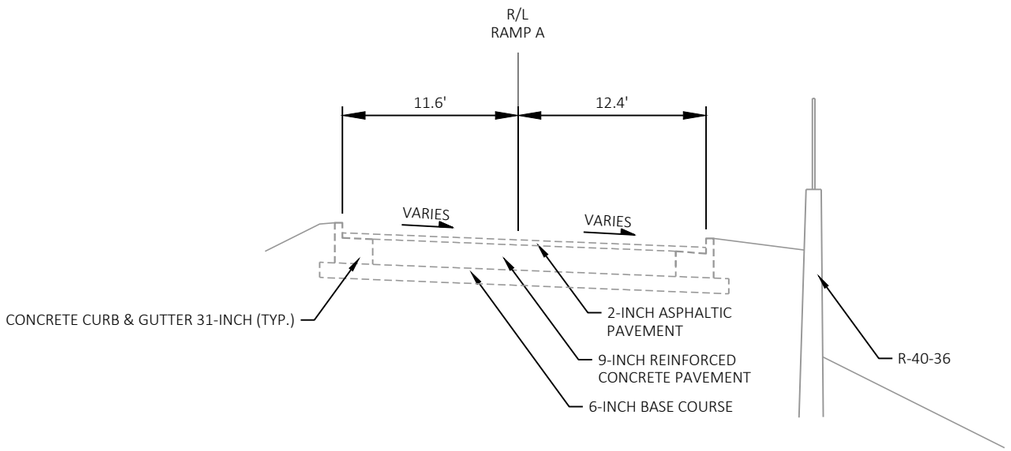
IH 41/43/894
STA. 172+38.33 - STA. 179+69.48

STA. 175+62 - STA. 178+02

STA. 174+10 - STA. 176+50

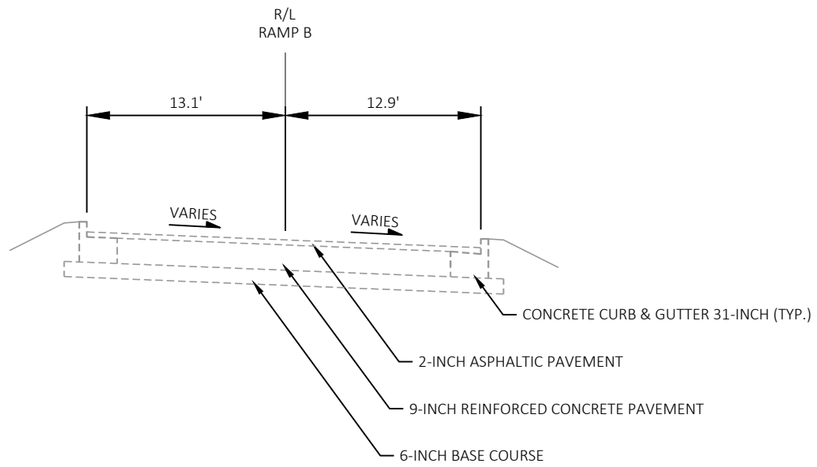
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PLOT BY : MROZ, ZACHARY T.
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



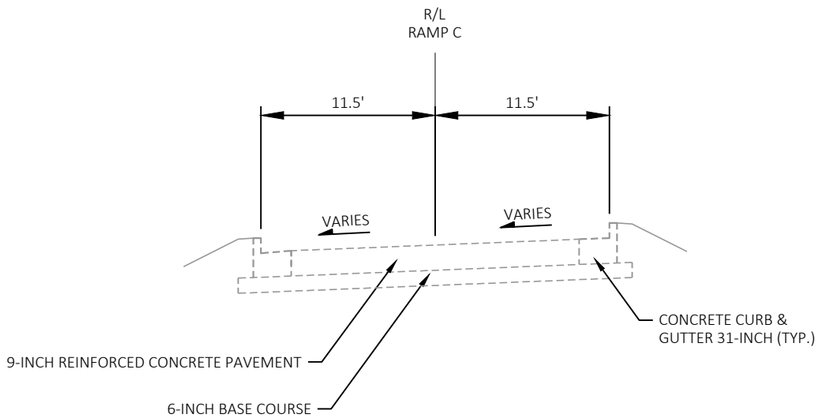
EXISTING TYPICAL SECTION

RAMP A
EB ENTRANCE RAMP
STA. 10+67'A' - STA. 11+70'A'



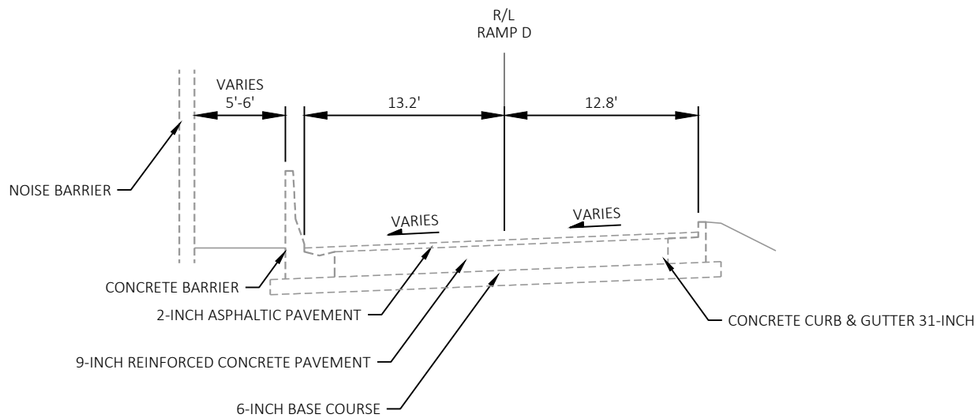
EXISTING TYPICAL SECTION

RAMP B
EB EXIT RAMP
STA. 10+91.19'B' - STA. 11+74'B'



EXISTING TYPICAL SECTION

RAMP C
WB ENTRANCE RAMP
STA. 10+00'C' - STA. 11+69'C'

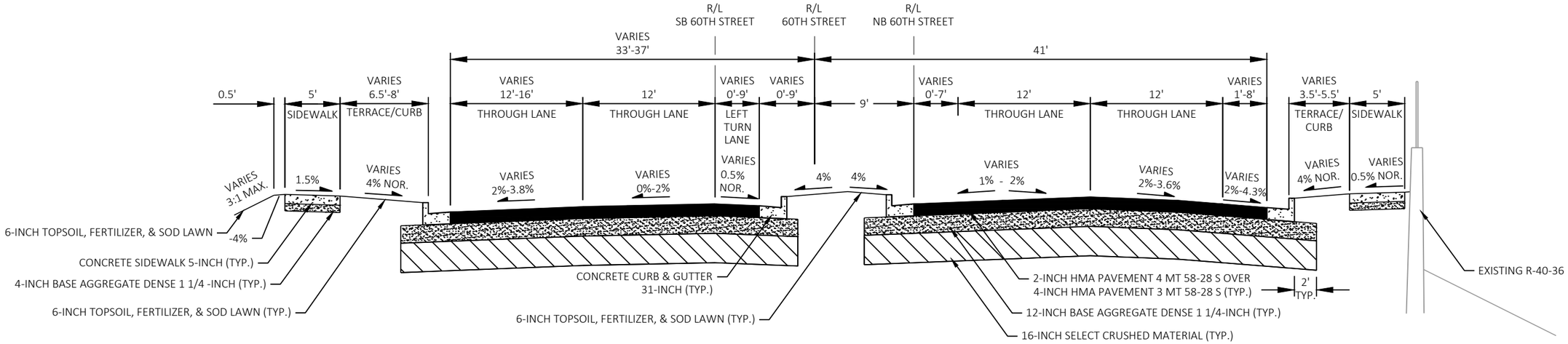


EXISTING TYPICAL SECTION

RAMP D
WB EXIT RAMP
STA. 10+57'D' - STA. 12+00'D'

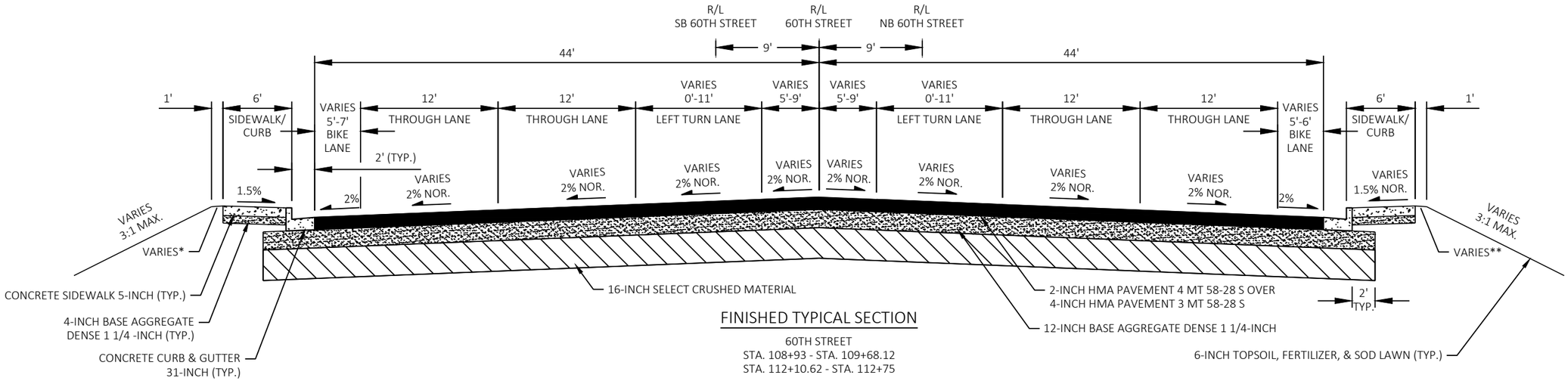
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	EXISTING TYPICAL SECTIONS	SHEET 6	E

2



FINISHED TYPICAL SECTION

60TH STREET
STA. 107+96.74 - STA. 108+93 (SB)
STA. 108+15.47 - STA. 108+93 (NB)



FINISHED TYPICAL SECTION

60TH STREET
STA. 108+93 - STA. 109+68.12
STA. 112+10.62 - STA. 112+75

* STA. 108+93 - STA. 109+68.12 -4%
STA. 112+10.62 - STA. 112+75 +1.5%

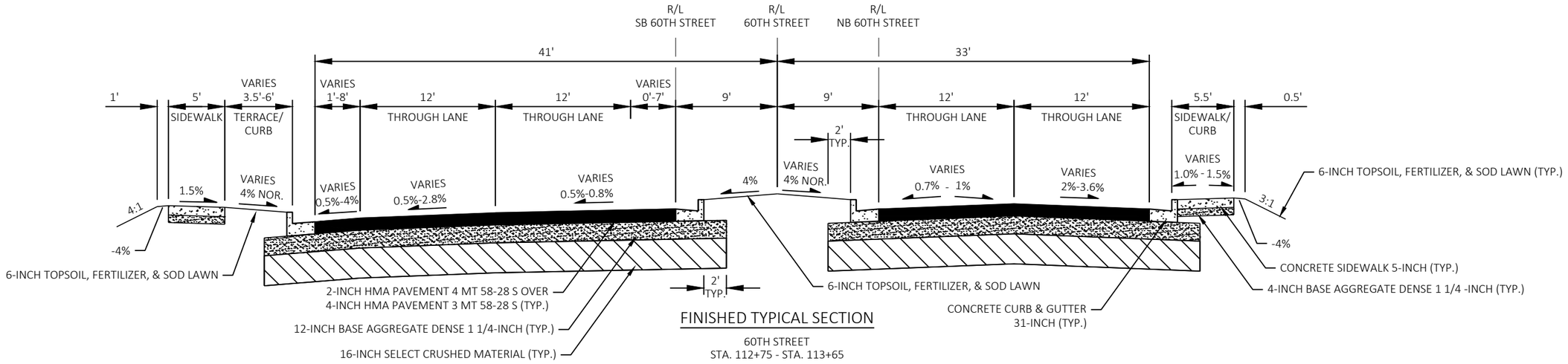
PROPOSED STRUCURE B-40-1013
STA. 109+68.12 - STA. 112+10.62

** STA. 108+93 - STA. 109+68.12 -4%
STA. 112+10.62 - STA. 112+30 +1.5%
STA. 112+30 - STA. 112+35 +1.5% TO -1.5%
STA. 112+35 - STA. 112+75 -1.5%

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	FINISHED TYPICAL SECTIONS	SHEET 7	E

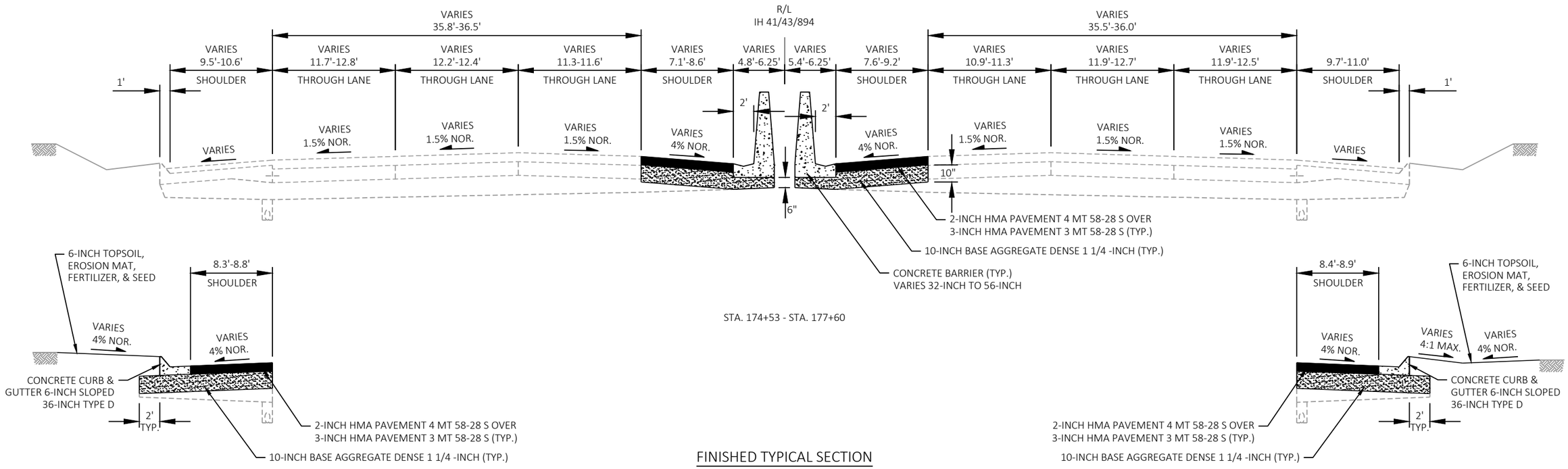
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LAYOUT NAME - 01
PLOT DATE : 1/29/2021 3:08 PM
PLOT BY : MROZ, ZACHARY T.
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



FINISHED TYPICAL SECTION

60TH STREET
STA. 112+75 - STA. 113+65



STA. 174+53 - STA. 177+60

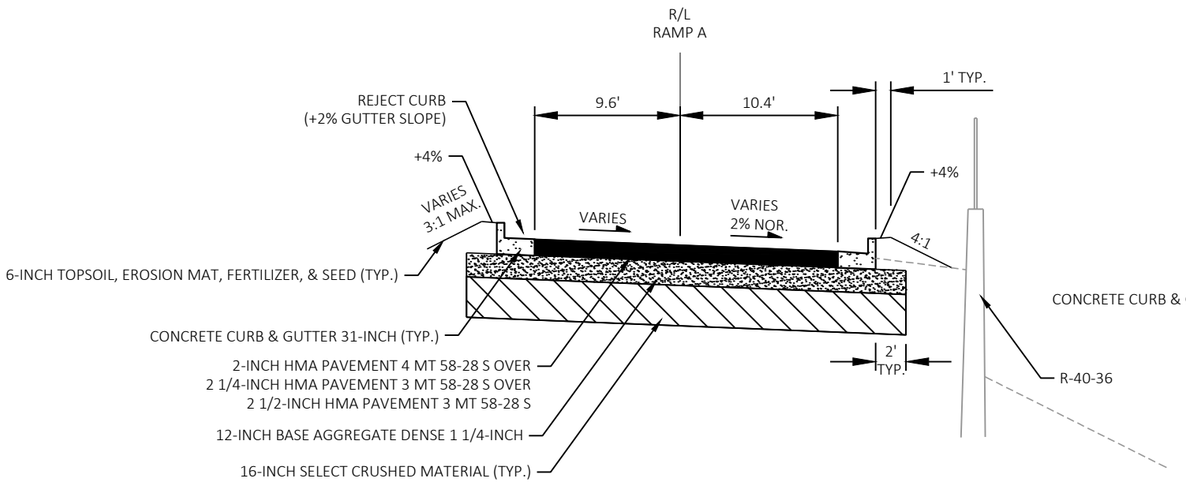
FINISHED TYPICAL SECTION

IH 41/43/894
STA. 172+38.33 - STA. 179+69.48

STA. 174+95 - STA. 179+69.48

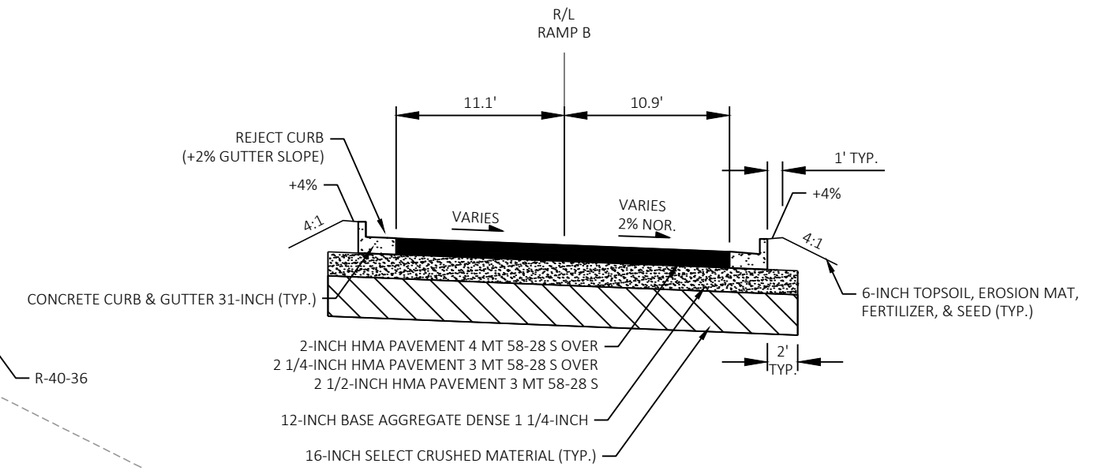
STA. 172+38.33 - STA. 177+20

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	FINISHED TYPICAL SECTIONS	SHEET 8	E



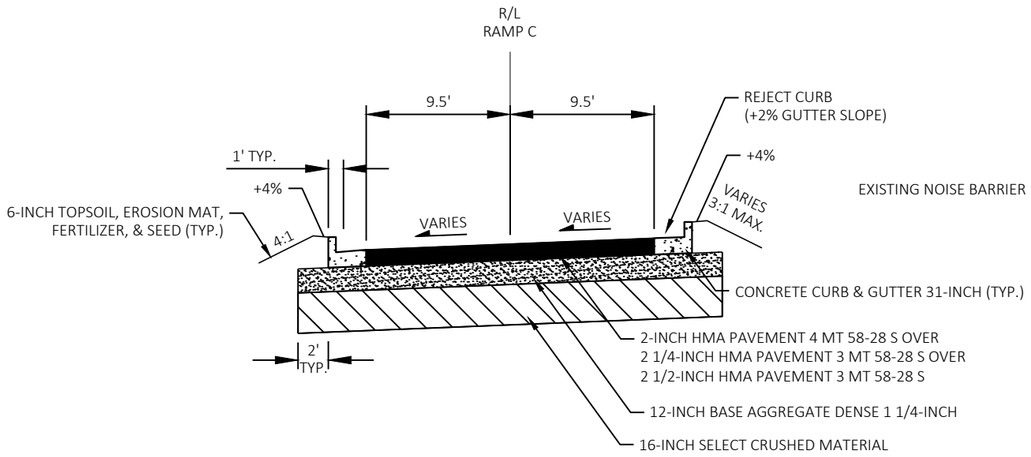
FINISHED TYPICAL SECTION

RAMP A
EB ENTRANCE RAMP
STA. 10+67'A' - STA. 11+70'A'



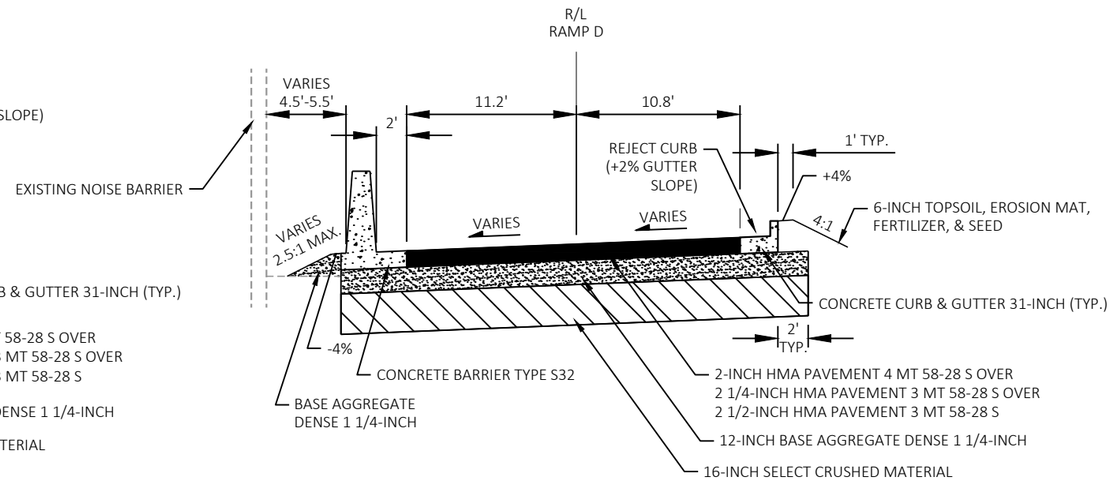
FINISHED TYPICAL SECTION

RAMP B
EB EXIT RAMP
STA. 10+91.19'B' - STA. 11+74'B'



FINISHED TYPICAL SECTION

RAMP C
WB ENTRANCE RAMP
STA. 10+00'C' - STA. 11+69'C'

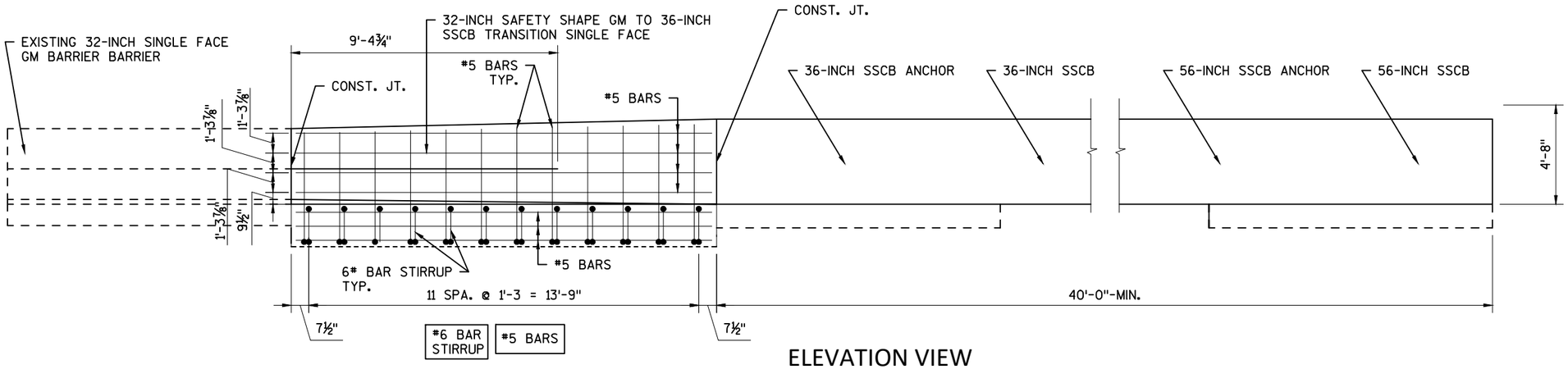


FINISHED TYPICAL SECTION

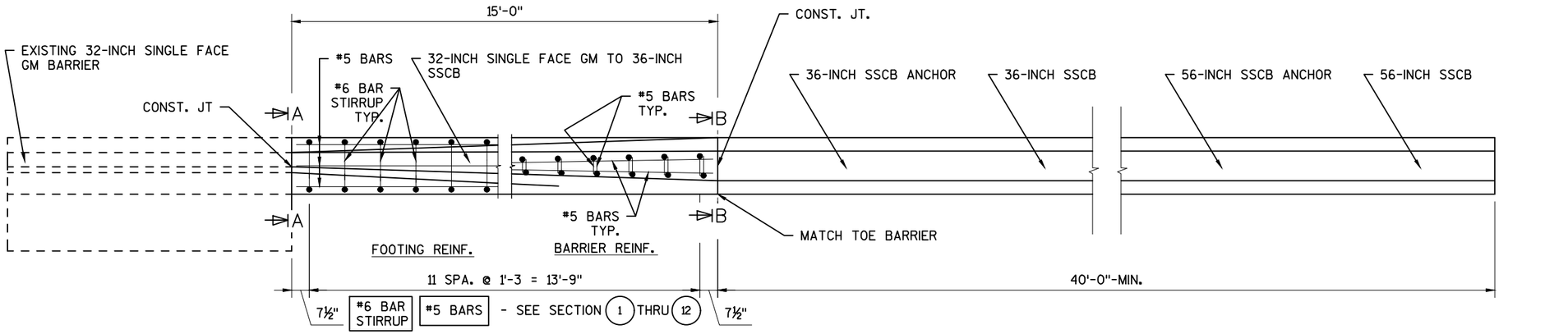
RAMP D
WB EXIT RAMP
STA. 10+57'D' - STA. 12+00'D'

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	FINISHED TYPICAL SECTIONS	SHEET 9	E

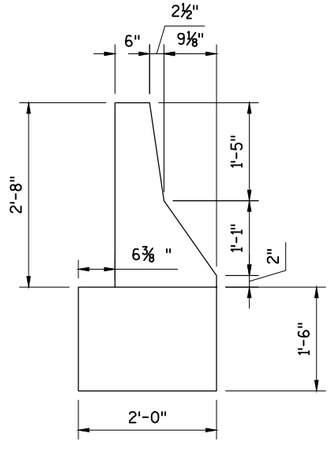
2



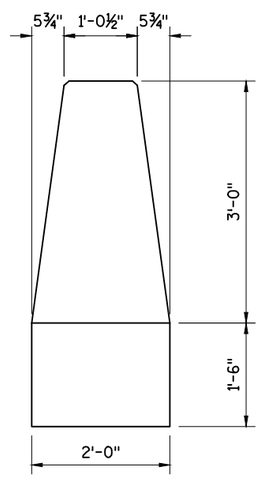
ELEVATION VIEW



PLAN VIEW



SECTION A-A

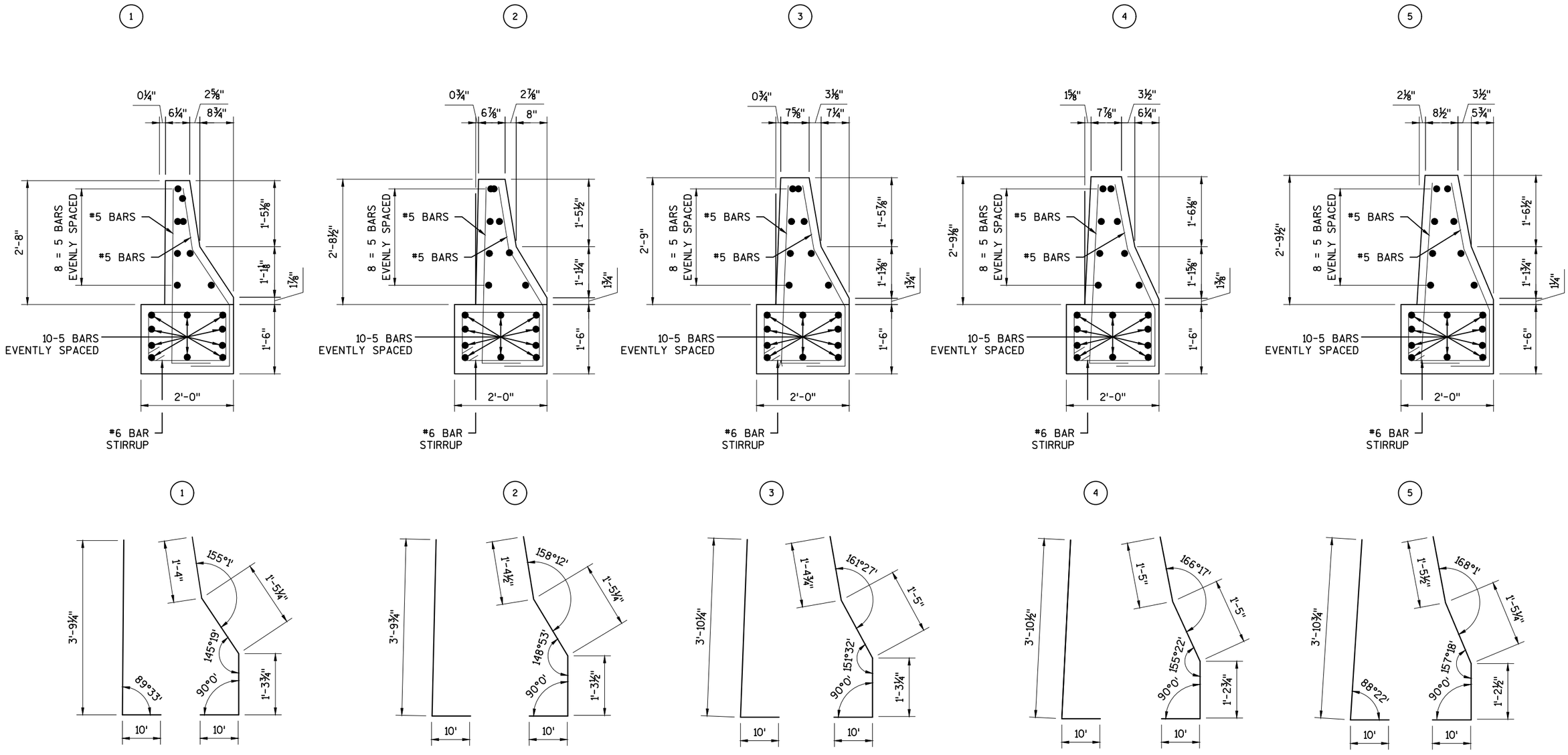


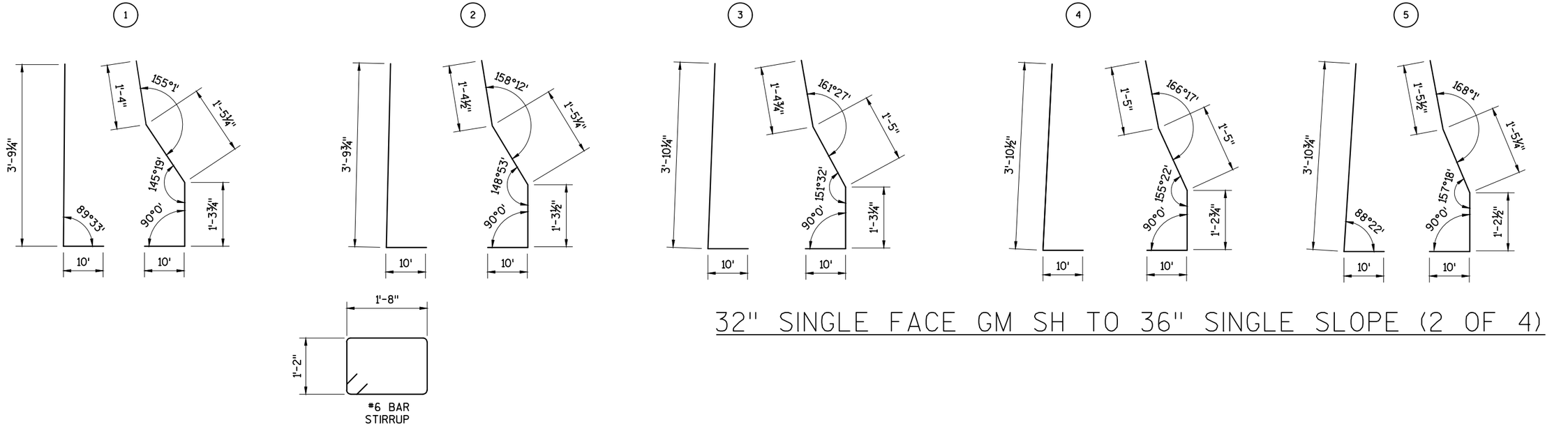
SECTION B-B

32" SINGLE FACE GM SH TO 36" SINGLE SLOPE (1 OF 4)

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 10	E

2



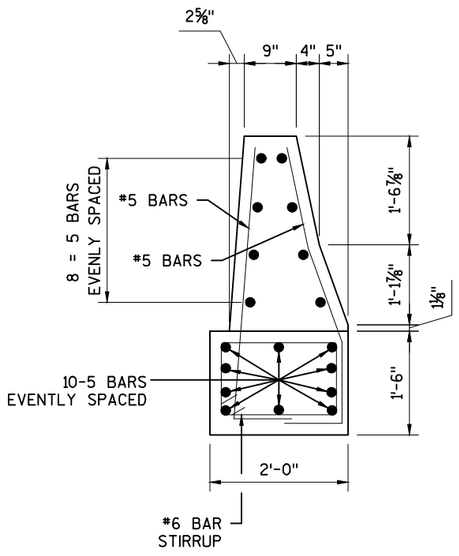


32" SINGLE FACE GM SH TO 36" SINGLE SLOPE (2 OF 4)

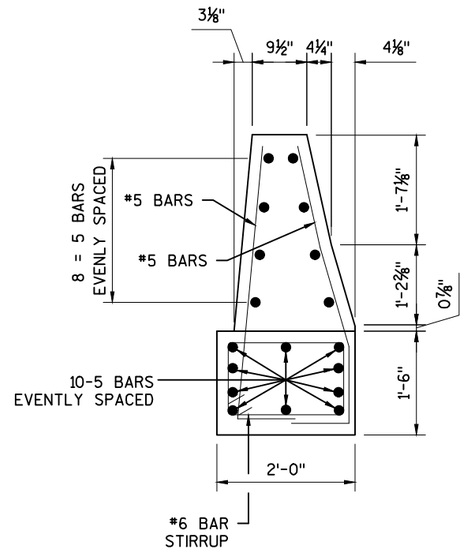
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 11	E

2

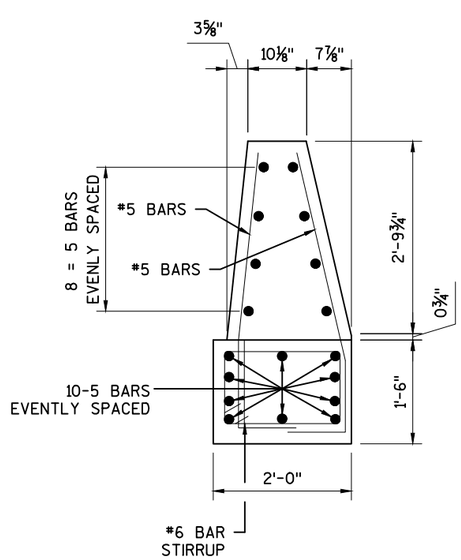
(6)



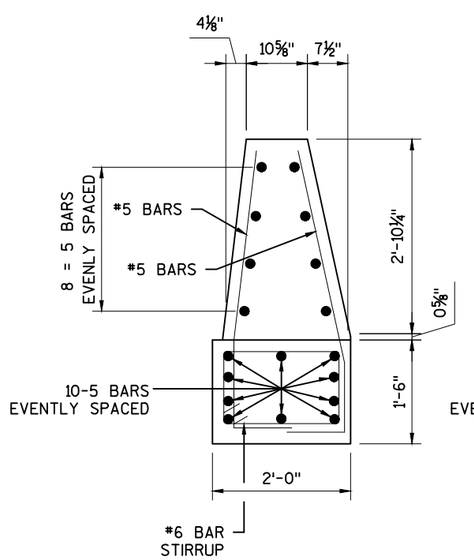
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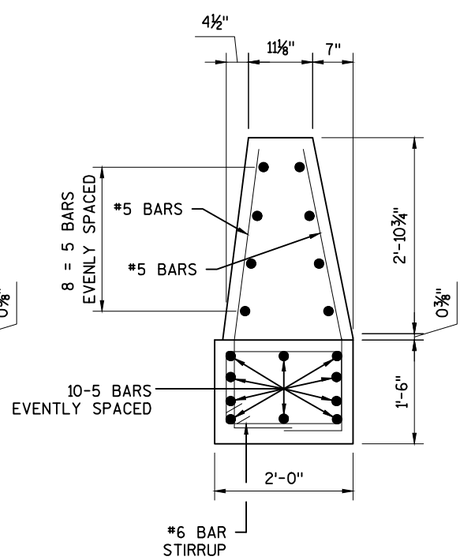
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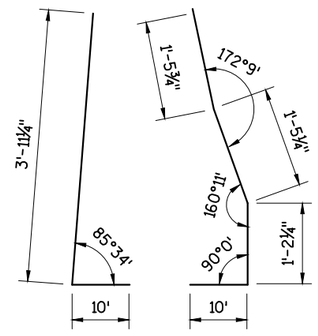
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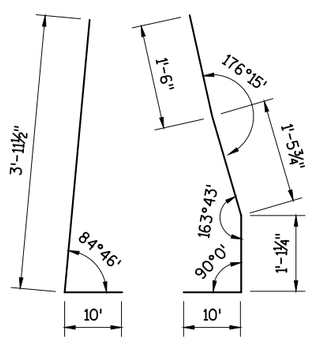
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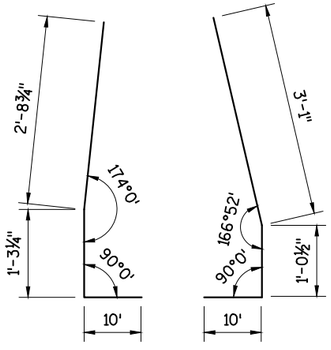
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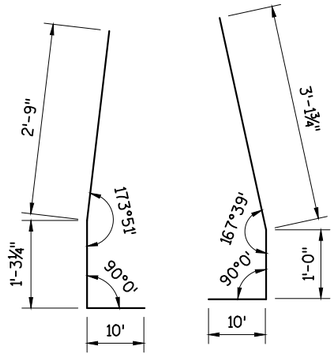
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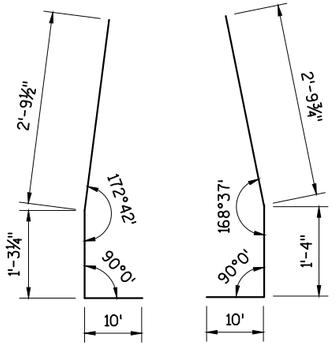
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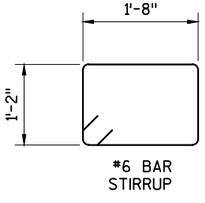


(9)



(10)

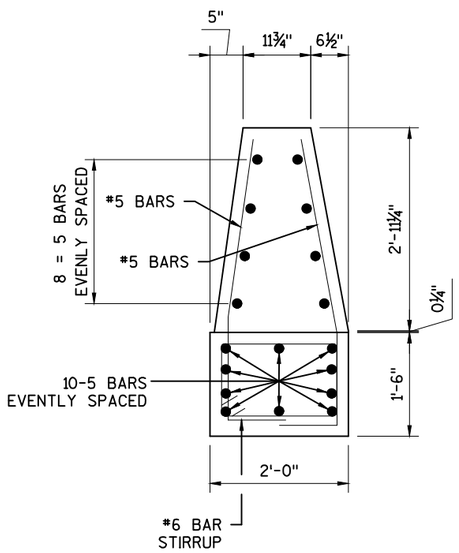




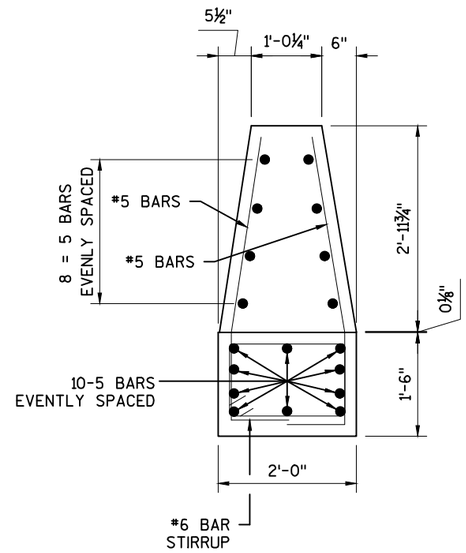
32" SINGLE FACE GM SH TO 36" SINGLE SLOPE (3 OF 4)

2

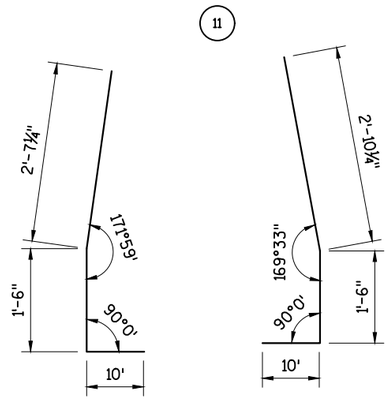
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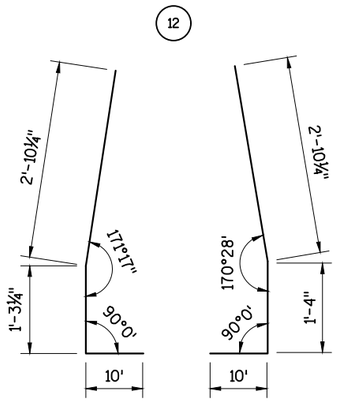
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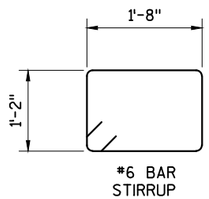


(11)



(12)

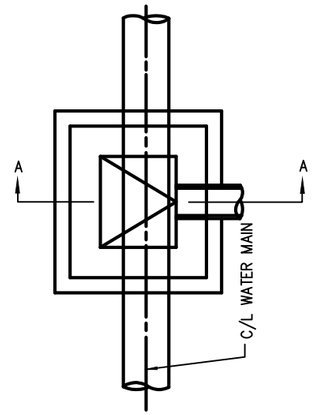




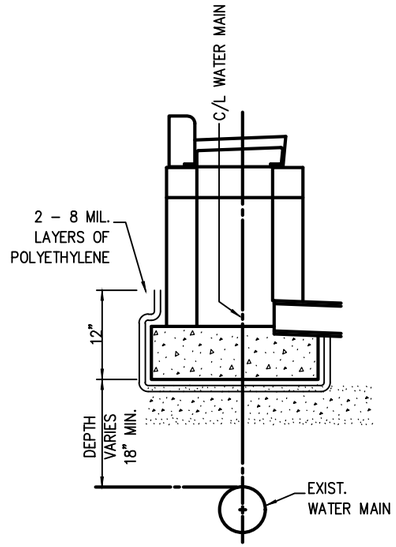
32" SINGLE FACE GM SH TO 36" SINGLE SLOPE (4 OF 4)

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 13	E

2



PLAN VIEW



SECTION A–A

WATER MAIN PROTECTION

INSTALL ON ALL CATCH BASINS OR INLETS WITH
LESS THAN 24" HORIZONTAL OUT-TO-OUT CLEARANCE
FROM STRUCTURE TO WATER MAIN

STA. 109+45, 45.6' LT
STA. 112+16, 45.6' LT

60TH STREET

N

+58.80'D', 23.39' RT
776.75

2.0%

+58.80'D', 13.39' RT
776.95

15'

CONCRETE SIDEWALK 5-INCH OVER
6-INCH BASE AGGREGATE DENSE 1 1/4-INCH

+73.80'D', 23.39' RT
776.01

RAMP D

+73.80'D', 13.39' RT
776.61

6.0%

10'

FENCE CHAIN LINK 6-FT

CONCRETE CURB & GUTTER 31-INCH

SLOPE INTERCEPT

CONCRETE SLAB AT RAMP D

2

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 15	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021002-CD.DWG
LAYOUT NAME - 021002-cd
PLOT DATE : 1/15/2021 1:02 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2

MATCHLINE STA. 10+50'B'

MATCHLINE STA. 174+25

MATCHLINE STA. 10+50'C'

MATCHLINE STA. 107+75

MATCHLINE STA. 113+75

R/L RAMP B

+73.88'B', -26.43' LT

+91.19'B', 13.36' RT

+91.19'B', -13.62' LT

+53.00, 14.59' RT

+53.00, -13.34' LT

+72.53'C', 20.91' RT

R/L RAMP C

+95.01, -60.97' LT

+95.00, -49.94' LT

R/L IH 41/43/894

15", 1B

15", 1A

STAGE 1B

STAGE 1A

SLOPE INTERCEPT (TYP.)

BEGIN PROJECT
STA. 107+96.74

STAGE 2B

+96.74, -48.23' LT

+53.18'B', -26.19' LT

+20.06, -35.01' LT

+24.00, 0.00' T

+53.21'C', 21.19' RT

STAGE 2A

+65.03, -54.32' LT

+62.17, -61.60' LT

R/W

60TH STREET

R/L 60TH
STREET SB

R/L 60TH
STREET

R/L 60TH
STREET NB

108'SB'

109'SB'

110'SB'

111'SB'

112'SB'

113'SB'

108'NB'

109'NB'

110'NB'

111'NB'

112'NB'

113'NB'

+90.16, 0.06' RT

113 +77.87, 0.00' T

+96.72, 2.28' RT

+15.40, 6.19' RT

+15.48, 53.68' RT

R/W

EXISTING R-40-36

STAGE 2A

+28.87, 43.78' RT

+72.22'A', -19.42' LT

+50.41, 62.25' RT

12", 1B

+45.41, 0.00' T

+45.99, 34.24' RT

+65.00, 40.58' RT

STAGE 2B

END PROJECT
STA. 113+65.00

IH 41 SB
IH 43 NB
IH 894 EB

IH 41 NB
IH 43 SB
IH 894 WB

+20.00, 61.52' RT

+20.00, 49.90' RT

+76.39'D', -13.85' LT

+76.25'D', 24.10' RT

+51.66'D', 23.64' RT

R/L RAMP A

R/L RAMP D

+60.00, 14.21' RT

+60.00, -13.40' LT

+73.30'A', -19.65' LT

+70.00'A', -12.15' LT

+70.00'A', 13.01' RT

MATCHLINE STA. 177+75

MATCHLINE STA. 11+75'D'

LEGEND

- SAWING CONCRETE PAVEMENT
- REMOVING CURB & GUTTER
- REMOVING CONCRETE SIDEWALK
- REMOVING CONCRETE PAVEMENT (ADJACENT C&G INCIDENTAL)
- REMOVING GUARDRAIL
- REMOVING FENCE
- REMOVING CONCRETE BARRIER
- CLEARING AND GRUBBING (INCH DIAMETER)
- CLEARING AND GRUBBING (STA)
- SLOPE INTERCEPTS
- REMOVING MANHOLES
- REMOVING INLETS
- REMOVING STORM SEWER (SIZE, STAGE)

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	REMOVAL PLANS - 60TH STREET AND RAMPS	SHEET 16	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JESSICA.LANCELLE@AECOM.COM\DMS24696\021203_RM.DWG
LAYOUT NAME - 01

PLOT DATE : 6/21/2021 10:45 AM PLOT BY : LANCELLE, JESSICA PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

N

LEGEND

- SAWING CONCRETE PAVEMENT
- REMOVING CURB & GUTTER
- REMOVING CONCRETE SIDEWALK
- REMOVING CONCRETE PAVEMENT (ADJACENT C&G INCIDENTAL)
- REMOVING GUARDRAIL
- REMOVING FENCE
- REMOVING CONCRETE BARRIER
- CLEARING AND GRUBBING (INCH DIAMETER)
- CLEARING AND GRUBBING (STA)
- SLOPE INTERCEPTS
- REMOVING MANHOLES
- REMOVING INLETS
- REMOVING STORM SEWER (SIZE, STAGE)

WETLAND

RAMP B

R/L RAMP B

STAGE 2B

PAVEMENT PATCH FOR TRAFFIC SIGNAL DETECTOR LOOP (SEE TRAFFIC SIGNAL PLAN)

+38.33, 61.80' RT

+38.33, 50.27' RT

STAGE 1B

R/L IH 41/43/894

IH 41 SB
IH43 NB
IH 894 EB

IH 41 NB
IH 43 SB
IH 894 WB

RAMP C

+75.22, -146.63' LT

+79.77, -122.80' LT

SLOPE INTERCEPT (TYP.)

STAGE 2A

R/L RAMP C

+10.27, 62.25' RT

MATCHLINE STA. 10+50'B'

MATCHLINE STA. 174+25

MATCHLINE STA. 10+50'C'

MATCHLINE STA. 177+75

MATCHLINE STA. 11+75'D'

+02.44, -61.98' LT

+00.01'D', 13.00' RT

+00.00'D', -14.61' LT

R/L RAMP D

PC: 179+40.49

+69.48, -61.12' LT

+69.45, -49.71' LT

PAVEMENT PATCH FOR TRAFFIC SIGNAL DETECTOR LOOP (SEE TRAFFIC SIGNAL PLAN)

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	REMOVAL PLANS - 60TH STREET AND RAMPS	SHEET 17	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JESSICA.LANCELLE@AECOM.COM\DMS24696\021203_RM.DWG
LAYOUT NAME - 02
PLOT DATE : 6/21/2021 10:47 AM PLOT BY : LANCELLE, JESSICA PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2

LEGEND

- SAWING CONCRETE PAVEMENT
- REMOVING CURB & GUTTER
- REMOVING CONCRETE SIDEWALK
- REMOVING CONCRETE PAVEMENT (ADJACENT C&G INCIDENTAL)
- REMOVING GUARDRAIL
- REMOVING FENCE
- REMOVING CONCRETE BARRIER
- CLEARING AND GRUBBING (INCH DIAMETER)
- CLEARING AND GRUBBING (STA)
- SLOPE INTERCEPTS
- REMOVING MANHOLES
- REMOVING INLETS
- REMOVING STORM SEWER (SIZE, STAGE)

ARMOUR AVENUE

R/W

60TH STREET

105'SB' 106'SB' 107'SB'

R/L 60TH STREET SB

R/L 60TH STREET

105 106 107

105'NB' 106'NB' 107'NB'

+71.48, 8.92' RT

+89.59, 8.88' RT

R/L 60TH STREET NB

STAGE 2B

+71.48, 43.02' RT

+89.59, 41.23' RT

R/W

PAVEMENT PATCH FOR TRAFFIC SIGNAL DETECTOR LOOP
(SEE TRAFFIC SIGNAL PLAN)

MATCHLINE STA. 107+75

MATCHLINE STA. 113+75

PAVEMENT PATCH FOR TRAFFIC SIGNAL DETECTOR LOOP
(SEE TRAFFIC SIGNAL PLAN)

+72.02, -41.37' LT

+82.54, -41.43' LT

STAGE 2B

+72.02, -2.08' LT

+82.54, -2.67' LT

114'SB' 115'SB' 116'SB'

R/L 60TH STREET SB

R/L 60TH STREET

114 115 116

114'NB' 115'NB' 116'NB'

R/L 60TH STREET NB

60TH STREET

ALLERTON AVENUE

2

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	REMOVAL PLANS - 60TH STREET AND RAMPS	SHEET 18	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JESSICA.LANCELLE@AECOM.COM\DMS24696\021203_RM.DWG
LAYOUT NAME - 03

PLOT DATE : 6/21/2021 10:49 AM PLOT BY : LANCELLE, JESSICA PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

LEGEND

- A5 — 2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 3-INCH HMA PAVEMENT 3 MT 58-28 S
- A6 — 2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 4-INCH HMA PAVEMENT 3 MT 58-28 S
- A6.75 — 2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 2 1/2-INCH HMA PAVEMENT 3 MT 58-28 S OVER 2 1/2-INCH HMA PAVEMENT 3 MT 58-28 S
- CG31 — CONCRETE CURB & GUTTER 31-INCH
- CG36 — CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
- CS5 — CONCRETE SIDEWALK 5-INCH
- PV01 — CONCRETE PAVEMENT APPROACH SLAB
- CB32 — CONCRETE BARRIER TYPE S32
- CB42 — CONCRETE BARRIER TYPE S42
- CB56 — CONCRETE BARRIER TYPE S56
- CBT1 — CONCRETE BARRIER TRANSITION TYPE GM TO S36 (SEE CONSTRUCTION DETAIL)
- CBT2 — DOUBLE COLD JOINT HEIGHT TRANSITION S36 TO S42 (PAID AS CONCRETE BARRIER TYPE S42)
- CBT3 — DOUBLE COLD JOINT HEIGHT TRANSITION S42 TO S56 (PAID AS CONCRETE BARRIER TYPE S56)
- CBT4 — CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S32
- X — CURB RAMP (TYPE) WITH DETECTABLE WARNING FIELD NATURAL PATINA

MATCHLINE STA. 10+50'B'

MATCHLINE STA. 174+25

MATCHLINE STA. 10+50'C'

MATCHLINE STA. 107+75

MATCHLINE STA. 113+75

MATCHLINE STA. 177+75

MATCHLINE STA. 11+75'D'

R/L RAMP B

MATCH EXISTING

+73.89'B', -26.44' LT

+91.19'B', 10.92' RT

+91.19'B', -11.08' LT

+36.74, -102.00' LT
65' R

+41.02'B', 10.92' RT

CG31

22'

17'B'

+74.41'B', -11.08' LT

+35.77, -74.18' LT

+27.41, -54.00' LT
10' R

FENCE CHAIN LINK 6-FT

+27.41, -44.00' LT

+88.14, -57.08' LT

+88.14, -53.08' LT

+74.41'B', 20.15' RT

RAMP B

A6.75

CS5

4B1

4A1

A6

PV01

R/W

5'

MATCH EXISTING

+36.74, -37.00' LT

+97.99, -33.13' LT

+96.74, -33.13' LT

+57.13, -9.00' LT

+83.87, 0.00' T
9' R

+83.87, -9.00' LT

+02.71, -0.28' LT

+96.74, -0.28' LT

+83.87, 9.00' RT

+68.12, -44.00' LT

+53.12, -44.00' LT

R/L 60TH STREET SB

R/L 60TH STREET

R/L 60TH STREET NB

60TH STREET

108'SB'

109'SB'

110'SB'

111'SB'

108

109

110

111

108'NB'

109'NB'

110'NB'

111'NB'

24'

28'

8.7'

18'

32'

44'

+15.47, 41.00' RT

+49.37, 41.00' RT

BEGIN PROJECT
STA. 107+96.74

+43.89, 44.00' RT

+53.12, 44.00' RT

+68.12, 44.00' RT

+88.14, 53.08' RT

+88.14, 57.08' RT

+43.89, 60.00' RT
20' R

+39.06, 66.44' RT

+67.02'A', 16.49' RT

+67.02'A', -9.57' LT

+85.27'A', 11.93' RT

+00.27'A', 10.43' RT

+49.37, 106.00' RT
65' R

EXISTING R-40-36

MATCH EXISTING

RAMP A

11'A'

20'

FENCE CHAIN LINK 6-FT

R/L RAMP A

+73.45'A', -19.71' LT

+70.00'A', 10.43' RT

+70.00'A', -9.57' LT

MATCH EXISTING

IH 41 SB
IH 43 NB
IH 894 EB

IH 41 NB
IH 43 SB
IH 894 WB

R/L IH 41/43/894

PROPOSED STRUCTURE B-40-1013

NOTES:

SEE "IH 41/43/894" SHEETS FOR IH 41/43/894 PLAN DETAILS.

SEE "CURB RAMP DETAILS" SHEETS FOR SIDEWALK GEOMETRIC DETAILS.

STATION & OFFSET FOR CONCRETE BARRIER GIVEN TO THE FACE OF BARRIER.

+72.53'C', 20.91' RT

FENCE CHAIN LINK 6-FT

R/L RAMP C

19'

11'C'

+69.06'C', 9.50' RT

+31.58, -76.39' LT

+30.56, -60.00' LT
20' R

+90.64, -57.08' LT

+90.64, -53.08' LT

+10.62, -44.00' LT

+30.56, -44.00' LT

RAMP C

+24.31, -106.35' LT
65' R

+34.05'C', -9.50' LT

+49.05'C', -11.00' LT

SLOPE INTERCEPT (TYP.)

+19.69, -75.62' LT

+69.06'C', -16.32' LT

TLE

FENCE CHAIN LINK 6-FT

MATCH EXISTING

+20.14, -55.82' LT

+24.31, -41.35' LT

+58.82, -41.35' LT

+65.00, -41.35' LT

+84.24, -9.00' LT

+84.24, 0.00' T
9' R

+84.24, 9.00' RT

+25.55, 44.00' RT

+10.62, 44.00' RT

+39.27, 44.00' RT

+01.85, 33.67' RT

+65.00, 33.00' RT

END PROJECT
STA. 113+65.00

+57.43'D', 10.80' RT

+08.59, 33.00' RT

MATCH EXISTING

EXISTING TRANSMISSION TOWER

+05.34, 68.50' RT
35' R

+90.64, 53.08' RT

+90.64, 57.08' RT

FENCE CHAIN LINK 6-FT

+33.52, 72.25' RT

+39.27, 54.00' RT
10' R

CONCRETE SLAB (SEE CONSTRUCTION DETAIL)

RAMP D

+57.43'D', -12.03' LT

+61.49'D', -11.66' LT

+75.31'D', -11.20' LT

+81.34'D', -13.20' LT

+32.83'D', 10.80' RT

+51.67'D', 23.64' RT

R/L RAMP D

+32.75'D', -13.20' LT

CB32

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN DETAILS - 60TH STREET AND RAMPS	SHEET 19	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021201_PD.DWG
LAYOUT NAME - 021201_pd
PLOT DATE : 4/7/2021 3:13 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2

+03.65'B', 11.23' RT

+15.69'B', 11.25' RT

+03.65'B', -10.82' LT

+15.69'B', -10.84' LT

A6.75

PAVEMENT PATCH FOR TRAFFIC SIGNAL DETECTOR LOOP (SEE TRAFFIC SIGNAL PLAN) FULL-DEPTH PAVEMENT PATCH SHALL INCLUDE 12-INCH BASE AGGREGATE DENSE 1 1/4-INCH

R/W

RAMP B

9'

10'

NOTE:

SEE "IH 41/43/894" SHEETS FOR IH 41/43/894 PLAN DETAILS.

R/L IH 41/43/894

IH 41 SB
IH43 NB
IH 894 EB

IH 41 NB
IH 43 SB
IH 894 WB

173

174

MATCHLINE STA. 10+50'B'

MATCHLINE STA. 174+25

MATCH EXISTING

RAMP C

+75.75, -144.03' LT

+00.00'C', 9.50' RT

SLOPE INTERCEPT (TYP.)

CG31

A6.75

19'

R/L RAMP C

MATCHLINE STA. 10+50'C'

R/W

N

LEGEND

A5	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 3-INCH HMA PAVEMENT 3 MT 58-28 S
A6	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 4-INCH HMA PAVEMENT 3 MT 58-28 S
A6.75	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 2 1/2-INCH HMA PAVEMENT 3 MT 58-28 S OVER 2 1/2-INCH HMA PAVEMENT 3 MT 58-28 S
CG31	CONCRETE CURB & GUTTER 31-INCH
CG36	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
CS5	CONCRETE SIDEWALK 5-INCH
PV01	CONCRETE PAVEMENT APPROACH SLAB
CB32	CONCRETE BARRIER TYPE S32
CB42	CONCRETE BARRIER TYPE S42
CB56	CONCRETE BARRIER TYPE S56
CBT1	CONCRETE BARRIER TRANSITION TYPE GM TO S36 (SEE CONSTRUCTION DETAIL)
CBT2	DOUBLE COLD JOINT HEIGHT TRANSITION S36 TO S42 (PAID AS CONCRETE BARRIER TYPE S42)
CBT3	DOUBLE COLD JOINT HEIGHT TRANSITION S42 TO S56 (PAID AS CONCRETE BARRIER TYPE S56)
CBT4	CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S32
X	CURB RAMP (TYPE) WITH DETECTABLE WARNING FIELD NATURAL PATINA

MATCHLINE STA. 177+75

MATCHLINE STA. 11+75'D'

MH

IH 41 SB
IH43 NB
IH 894 EB

IH 41 NB
IH 43 SB
IH 894 WB

178

179

R/L IH 41/43/894

NOTES:

SEE "IH 41/43/894" SHEETS FOR IH 41/43/894 PLAN DETAILS.

STATION & OFFSET FOR CONCRETE BARRIER GIVEN TO THE FACE OF BARRIER.

CG31

A6.75

22'

CB32

+85.00'D', -13.56' LT

SLOPE INTERCEPT (TYP.)

+00.00'D', 10.34' RT

12'

CBT4

+00.00'D', -13.66' LT

MATCH EXISTING

R/L RAMP D

RAMP D

PAVEMENT PATCH FOR TRAFFIC SIGNAL DETECTOR LOOP (SEE TRAFFIC SIGNAL PLAN) FULL-DEPTH PAVEMENT PATCH SHALL INCLUDE 12-INCH BASE AGGREGATE DENSE 1 1/4-INCH

+00.69'D', 10.18' RT

+00.69'D', -11.60' LT

+11.03'D', 10.08' RT

13'

+11.03'D', -11.62' LT

A6.75

R/W

N

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN DETAILS - 60TH STREET AND RAMPS	SHEET 20 E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021201_PD.DWG
LAYOUT NAME - 021202_pd

PLOT DATE : 1/29/2021 12:53 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

N

LEGEND

A5	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 3-INCH HMA PAVEMENT 3 MT 58-28 S
A6	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 4-INCH HMA PAVEMENT 3 MT 58-28 S
A6.75	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 2 ½-INCH HMA PAVEMENT 3 MT 58-28 S OVER 2 ½-INCH HMA PAVEMENT 3 MT 58-28 S
CG31	CONCRETE CURB & GUTTER 31-INCH
CG36	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
CS5	CONCRETE SIDEWALK 5-INCH
PV01	CONCRETE PAVEMENT APPROACH SLAB
CB32	CONCRETE BARRIER TYPE S32
CB42	CONCRETE BARRIER TYPE S42
CB56	CONCRETE BARRIER TYPE S56
CBT1	CONCRETE BARRIER TRANSITION TYPE GM TO S36 (SEE CONSTRUCTION DETAIL)
CBT2	DOUBLE COLD JOINT HEIGHT TRANSITION S36 TO S42 (PAID AS CONCRETE BARRIER TYPE S42)
CBT3	DOUBLE COLD JOINT HEIGHT TRANSITION S42 TO S56 (PAID AS CONCRETE BARRIER TYPE S56)
CBT4	CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S32
X	CURB RAMP (TYPE) WITH DETECTABLE WARNING FIELD NATURAL PATINA

ARMOUR AVENUE

R/W

60TH STREET

105'SB' 106'SB' R/L 60TH STREET SB 107'SB'

105 106 R/L 60TH STREET 107

105'NB' 106'NB' 107'NB'

R/L 60TH STREET NB

+71.48, 8.92' RT +89.59, 8.88' RT

A6

+71.48, 43.02' RT +89.59, 41.23' RT

R/W

PAVEMENT PATCH FOR TRAFFIC SIGNAL DETECTOR LOOP
(SEE TRAFFIC SIGNAL PLAN)
FULL-DEPTH PAVEMENT PATCH SHALL INCLUDE
12-INCH BASE AGGREGATE DENSE 1 1/4-INCH

MATCHLINE STA. 107+75

MATCHLINE STA. 113+75

PAVEMENT PATCH FOR TRAFFIC SIGNAL DETECTOR LOOP
(SEE TRAFFIC SIGNAL PLAN)
FULL-DEPTH PAVEMENT PATCH SHALL INCLUDE
12-INCH BASE AGGREGATE DENSE 1 1/4-INCH

+72.02, -41.37' LT +82.54, -41.43' LT

A6

+72.02, -2.08' LT +82.54, -2.67' LT

114'SB' R/L 60TH STREET SB 115'SB' 116'SB'

114 R/L 60TH STREET 115 116

114'NB' 115'NB' 116'NB'

R/L 60TH STREET NB

60TH STREET

ALLERTON AVENUE

2

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN DETAILS - 60TH STREET AND RAMPS	SHEET 21	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021201_PD.DWG
LAYOUT NAME - 021203_pd

PLOT DATE : 1/29/2021 12:53 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

2

N

RAMP C

IH 41 NB /IH 43 SB / IH 894 WB

167 168 169 170 171 172

R/L IH 41/43/894

MATCHLINE STA. 173+00

IH 41 SB / IH 43 NB / IH 894 EB

A5

+38.33, 50.27' RT

MATCH EXISTING

+38.33, 58.65' RT

SLOPE INTERCEPT (TYP.)

CG36

WETLAND

RAMP B

R/L RAMP B

9'B'

R/W

LEGEND

A5	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 3-INCH HMA PAVEMENT 3 MT 58-28 S
A6	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 4-INCH HMA PAVEMENT 3 MT 58-28 S
A6.75	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 2 1/2-INCH HMA PAVEMENT 3 MT 58-28 S OVER 2 1/2-INCH HMA PAVEMENT 3 MT 58-28 S
CG31	CONCRETE CURB & GUTTER 31-INCH
CG36	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
CS5	CONCRETE SIDEWALK 5-INCH
PV01	CONCRETE PAVEMENT APPROACH SLAB
CB32	CONCRETE BARRIER TYPE S32
CB42	CONCRETE BARRIER TYPE S42
CB56	CONCRETE BARRIER TYPE S56
CBT1	CONCRETE BARRIER TRANSITION TYPE GM TO S36 (SEE CONSTRUCTION DETAIL)
CBT2	DOUBLE COLD JOINT HEIGHT TRANSITION S36 TO S42 (PAID AS CONCRETE BARRIER TYPE S42)
CBT3	DOUBLE COLD JOINT HEIGHT TRANSITION S42 TO S56 (PAID AS CONCRETE BARRIER TYPE S56)
CBT4	CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S32
X	CURB RAMP (TYPE) WITH DETECTABLE WARNING FIELD NATURAL PATINA

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN DETAILS - IH 41/43/894	SHEET 22	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021202_PD.DWG
LAYOUT NAME - 022004_pd
PLOT DATE : 1/29/2021 1:00 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2

MATCHLINE STA. 173+00

NOTES:

STATION & OFFSET FOR CONCRETE BARRIER GIVEN TO THE FACE OF BARRIER.

SEE "60TH STREET AND RAMPS" SHEETS FOR 60TH STREET AND RAMP PLAN DETAILS.

R/L RAMP C

RAMP C

11'C'

12'C'

RAMP D

11'D'

12'D'

R/L RAMP D

PROPOSED STRUCTURE B-40-1013

PROPOSED STRUCTURE R-40-703

SLOPE INTERCEPT (TYP.)

112'SB'

112

112'NB'

111'SB'

111

111'NB'

110'SB'

110

110'NB'

60TH STREET

+95.00, -58.28' LT

MATCH EXISTING

+95.00, -49.94' LT

+78.50, -3.50' LT

+68.00, -3.50' LT

+53.00, -13.34' LT

MATCH EXISTING

+53.00, -2.95' LT

R/L IH 41/43/894

+53.00, -4.25' LT

MATCH EXISTING

+28.50, -3.50' LT

+60.00, -4.25' LT

CBT3

+84.50, -3.50' LT

CG36

A5

+34.50, -3.50' LT

CBT2

+45.00, -3.50' LT

+60.00, -13.40' LT

MATCH EXISTING

CBT1

+60.00, -2.80' LT

IH 41 NB
IH 43 SB
IH 894 WB

173

174

175

176

177

178

+53.00, 3.37' RT

CBT1

MATCH EXISTING

+53.00, 14.59' RT

+68.00, 3.50' RT

A5

CG36

CBT2

+78.50, 3.50' RT

CB42

+28.50, 3.50' RT

CBT3

+53.00, 4.25' RT

MATCH EXISTING

CB56

A5

+60.00, 4.25' RT

CB42

+84.50, 4.00' RT

+60.00, 3.90' RT

MATCH EXISTING

+60.00, 14.21' RT

+45.00, 4.00' RT

+34.50, 4.00' RT

IH 41 SB
IH43 NB
IH 894 EB

+20.00, 49.90' RT

MATCH EXISTING

+20.00, 58.52' RT

R/L RAMP B

10'B'

11'B'

RAMP B

12'B'

R/W

R/L 60TH STREET SB

R/L 60TH STREET

R/L 60TH STREET NB

PROPOSED STRUCTURE R-40-702

R/L RAMP A

11'A'

RAMP A

R/W

EXISTING R-40-36

LEGEND

A5	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 3-INCH HMA PAVEMENT 3 MT 58-28 S
A6	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 4-INCH HMA PAVEMENT 3 MT 58-28 S
A6.75	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 2 1/2-INCH HMA PAVEMENT 3 MT 58-28 S OVER 2 1/2-INCH HMA PAVEMENT 3 MT 58-28 S
CG31	CONCRETE CURB & GUTTER 31-INCH
CG36	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
CS5	CONCRETE SIDEWALK 5-INCH
PV01	CONCRETE PAVEMENT APPROACH SLAB
CB32	CONCRETE BARRIER TYPE S32
CB42	CONCRETE BARRIER TYPE S42
CB56	CONCRETE BARRIER TYPE S56
CBT1	CONCRETE BARRIER TRANSITION TYPE GM TO S36 (SEE CONSTRUCTION DETAIL)
CBT2	DOUBLE COLD JOINT HEIGHT TRANSITION S36 TO S42 (PAID AS CONCRETE BARRIER TYPE S42)
CBT3	DOUBLE COLD JOINT HEIGHT TRANSITION S42 TO S56 (PAID AS CONCRETE BARRIER TYPE S56)
CBT4	CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S32
X	CURB RAMP (TYPE) WITH DETECTABLE WARNING FIELD NATURAL PATINA

2

2

N

R/L RAMP D

130'

RAMP D

SLOPE INTERCEPT (TYP.)

CG36

+69.48, -58.12' LT

MATCH EXISTING

+69.48, -49.71' LT

A5

IH 41 NB /IH 43 SB / IH 894 WB

PT: 185+03.47

185

184

183

182

181

180

179

R/L IH 41/43/894

MATCHLINE STA. 179+00

PC: 179+40.49

IH 41 SB / IH 43 NB / IH 894 EB

RAMP A

R/W

LEGEND

A5	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 3-INCH HMA PAVEMENT 3 MT 58-28 S
A6	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 4-INCH HMA PAVEMENT 3 MT 58-28 S
A6.75	2-INCH HMA PAVEMENT 4 MT 58-28 S OVER 2 1/2-INCH HMA PAVEMENT 3 MT 58-28 S OVER 2 1/2-INCH HMA PAVEMENT 3 MT 58-28 S
CG31	CONCRETE CURB & GUTTER 31-INCH
CG36	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
CS5	CONCRETE SIDEWALK 5-INCH
PV01	CONCRETE PAVEMENT APPROACH SLAB
CB32	CONCRETE BARRIER TYPE S32
CB42	CONCRETE BARRIER TYPE S42
CB56	CONCRETE BARRIER TYPE S56
CBT1	CONCRETE BARRIER TRANSITION TYPE GM TO S36 (SEE CONSTRUCTION DETAIL)
CBT2	DOUBLE COLD JOINT HEIGHT TRANSITION S36 TO S42 (PAID AS CONCRETE BARRIER TYPE S42)
CBT3	DOUBLE COLD JOINT HEIGHT TRANSITION S42 TO S56 (PAID AS CONCRETE BARRIER TYPE S56)
CBT4	CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S32
X	CURB RAMP (TYPE) WITH DETECTABLE WARNING FIELD NATURAL PATINA

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN DETAILS - IH 41/43/894	SHEET 24	E

2

MATCHLINE STA. 10+50'B'

MATCHLINE STA. 174+25

MATCHLINE STA. 10+50'C'

NB 60TH STREET, INSIDE LANE:

108+15.47	+1.0%
108+75.00	-2.0%
112+25.65	-2.0%
112+60.00	-1.0%
113+00.00	-1.0%
113+65.00	+0.7%

NB 60TH STREET, OUTSIDE LANE:

108+15.47	-3.6%
108+75.00	-2.0%
112+70.00	-2.0%
113+00.00	-3.0%
113+40.00	-3.0%
113+65.00	-3.6%

OFFSETS FOR SB LANE EDGE POINTS:

107+96.74:	9.0'	21.0'	33.0'	LT
108+57.13:	9.0'	21.0'	33.0'	LT
109+81.14:	16.0'	28.0'	40.0'	LT
113+24.31:	16.0'	28.0'	40.0'	LT
113+65.00:	9.2'	23.7'	33.0'	LT

SB 60TH STREET, INSIDE LANE:

107+96.74	+0.0%
108+75.00	-2.0%
112+25.65	-2.0%
112+60.00	-0.5%
113+15.00	-0.5%
113+65.00	-0.8%

SB 60TH STREET, OUTSIDE LANE:

107+96.74	-3.8%
108+75.00	-2.0%
112+25.65	-2.0%
112+60.00	-0.5%
113+15.00	-0.5%
113+65.00	-2.8%

OFFSETS FOR NB LANE EDGE POINTS:

108+15.47:	9.0'	21.8'	33.0'	RT
108+49.37:	16.0'	28.0'	40.0'	RT
111+97.64:	16.0'	28.0'	40.0'	RT
113+04.44:	9.0'	21.0'	33.0'	RT
113+65.00:	9.0'	21.0'	33.0'	RT

NOTES:

SEE "IH 41/43/894" SHEETS FOR IH 41/43/894 PAVING DETAILS.

SEE "CURB RAMP DETAILS" SHEETS FOR SIDEWALK GEOMETRIC DETAILS AND CURB RETURN GRADES.

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PAVING DETAILS - 60TH STREET AND RAMPS	SHEET 25	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021204_PG.DWG
LAYOUT NAME - 021204_pg
PLOT DATE : 1/29/2021 1:39 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2

2

R/W

RAMP B

9'B'

10'B'

NOTE:

SEE "IH 41/43/894" SHEETS FOR
IH 41/43/894 PAVING DETAILS.

R/L IH 41/43/894

173

174

IH 41 SB
IH43 NB
IH 894 EB

IH 41 NB
IH 43 SB
IH 894 WB

R/W

RAMP C

MATCH EXISTING

769.74

1.2%

1.2%

769.51

769.62

770.43

770.61

2.0%

2.0%

770.05

770.23

SLOPE INTERCEPT (TYP.)

770.24

770.42

19'

R/L RAMP C

MATCHLINE STA. 10+50'B'

MATCHLINE STA. 174+25

MATCHLINE STA. 10+50'C'

N

MATCHLINE STA. 177+75

MATCHLINE STA. 11+75'D'

IH 41 SB
IH43 NB
IH 894 EB

178

179

IH 41 NB
IH 43 SB
IH 894 WB

R/L IH 41/43/894

R/W

22'

772.25

2.0%

2.0%

771.81

772.04

2.1%

1.8%

771.93

771.51

771.72

12'D'

SLOPE INTERCEPT (TYP.)

MATCH EXISTING

R/L RAMP D

NOTE:

SEE IH 41/43/894 SHEETS FOR
IH 41/43/894 PAVING DETAILS.

RAMP D

13'D'

R/W

N

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PAVING DETAILS - 60TH STREET AND RAMPS	SHEET 26	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021204_PG.DWG
LAYOUT NAME - 021205_pg

PLOT DATE : 1/29/2021 1:39 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

2

N

RAMP C

IH 41 NB /IH 43 SB / IH 894 WB

167 168 169 170 171 172

R/L IH 41/43/894

MATCHLINE STA. 173+00

IH 41 SB / IH 43 NB / IH 894 EB

MATCH EXISTING

761.17 761.09 760.43

761.35 760.77

MATCH EXISTING 3.6% 4.0% 760.43

761.05 760.75 760.09

760.84

SLOPE INTERCEPT (TYP.)

WETLAND

RAMP B

R/L RAMP B

9'B'

R/W

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PAVING DETAILS - IH 41/43/894	SHEET 27	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021205_PG.DWG
LAYOUT NAME - 021206_pg

PLOT DATE : 1/29/2021 1:42 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

MATCHLINE STA. 173+00

MATCHLINE STA. 179+00

2

NOTE:

SEE "60TH STREET AND RAMPS" SHEETS FOR 60TH STREET AND RAMP PAVING DETAILS.

WB IH 41/43/894, INSIDE SHOULDER:

174+53.00	-2.2%
174+80.68	-3.6%
175+75.00	-4.0%
177+20.00	-4.0%
177+60.00	-2.7%

WB IH 41/43/894, OUTSIDE SHOULDER:

174+95.00	-4.8%
175+25.00	-4.0%
179+50.00	-4.0%
179+69.48	-4.3%

EB IH 41/43/894, INSIDE SHOULDER:

174+53.00	-3.1%
174+80.60	-3.3%
175+53.00	-4.0%
177+40.00	-4.0%
177+60.00	-3.4%

EB IH 41/43/894, OUTSIDE SHOULDER:

172+38.33	-3.6%
172+55.00	-4.0%
174+44.25	-4.0%
174+81.49	-5.1%
175+08.82	-4.0%
177+05.00	-4.0%
177+20.00	-3.6%

RAMP C 11'C' 12'C'

RAMP D 11'D' 12'D'

RAMP B 10'B' 11'B' 12'B'

RAMP A 11'A'

R/L RAMP C

R/L RAMP D

R/L RAMP B

R/L RAMP A

R/L IH 41/43/894

R/L 60TH STREET SB

R/L 60TH STREET

R/L 60TH STREET NB

60TH STREET

112'SB' 112 112'NB'

111'SB' 111 111'NB'

110'SB' 110 110'NB'

109'SB' 109 109'NB'

PROPOSED STRUCTURE B-40-1013

PROPOSED STRUCTURE R-40-703

PROPOSED STRUCTURE R-40-702

SLOPE INTERCEPT (TYP.)

EXISTING R-40-36

MATCH EXISTING

IH 41 NB
IH 43 SB
IH 894 WB

IH 41 SB
IH43 NB
IH 894 EB

R/W

N

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PAVING DETAILS - IH 41/43/894	SHEET 28 E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021205_PG.DWG
LAYOUT NAME - 021207_pg
PLOT DATE : 1/29/2021 4:14 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2

2

N

R/L RAMP D

130'

RAMP D

SLOPE INTERCEPT (TYP.)

760.79

760.67 760.73 4.0% 4.3% 760.82

761.02 761.08 761.14 761.18

MATCH EXISTING

MATCH EXISTING

IH 41 NB /IH 43 SB / IH 894 WB

PT: 185+03.47

185

184

183

182

181

180

179

R/L IH 41/43/894

IH 41 SB / IH 43 NB / IH 894 EB

MATCHLINE STA. 179+00

PC: 179+40.49

RAMP A

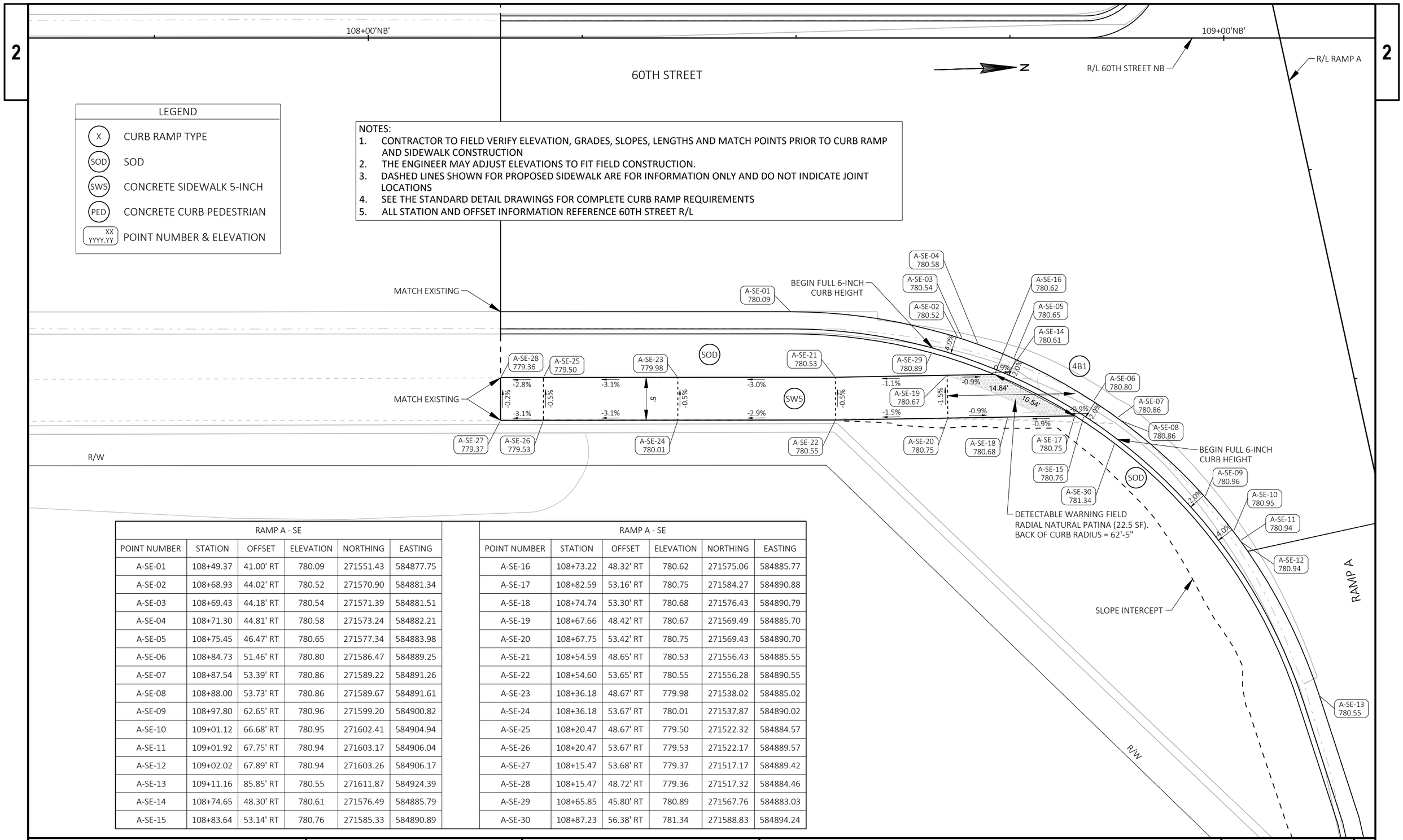
R/W

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PAVING DETAILS - IH 41/43/894	SHEET 29	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021205_PG.DWG
LAYOUT NAME - 021208_pg

PLOT DATE : 1/29/2021 1:44 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

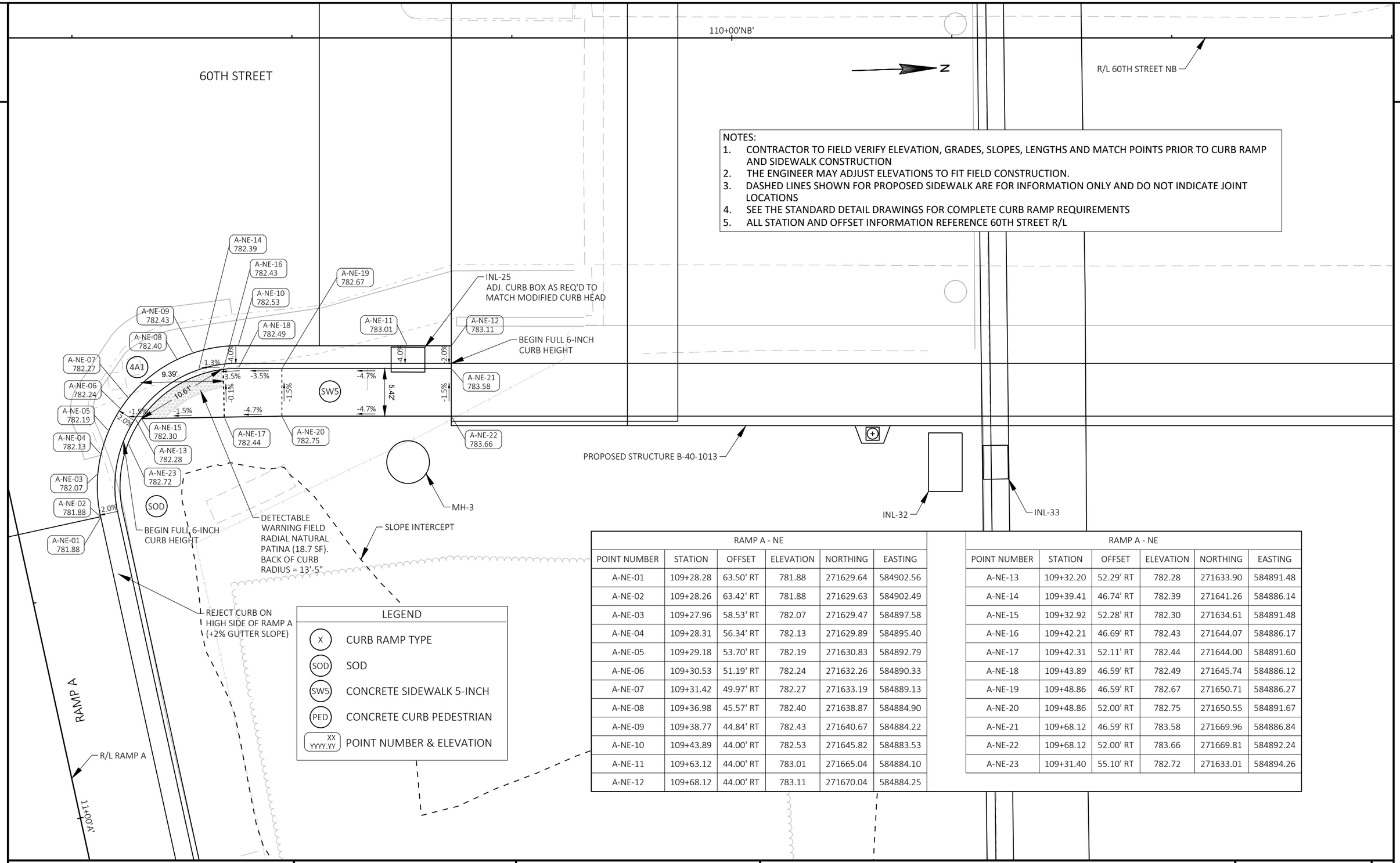


RAMP A - SE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
A-SE-01	108+49.37	41.00' RT	780.09	271551.43	584877.75
A-SE-02	108+68.93	44.02' RT	780.52	271570.90	584881.34
A-SE-03	108+69.43	44.18' RT	780.54	271571.39	584881.51
A-SE-04	108+71.30	44.81' RT	780.58	271573.24	584882.21
A-SE-05	108+75.45	46.47' RT	780.65	271577.34	584883.98
A-SE-06	108+84.73	51.46' RT	780.80	271586.47	584889.25
A-SE-07	108+87.54	53.39' RT	780.86	271589.22	584891.26
A-SE-08	108+88.00	53.73' RT	780.86	271589.67	584891.61
A-SE-09	108+97.80	62.65' RT	780.96	271599.20	584900.82
A-SE-10	109+01.12	66.68' RT	780.95	271602.41	584904.94
A-SE-11	109+01.92	67.75' RT	780.94	271603.17	584906.04
A-SE-12	109+02.02	67.89' RT	780.94	271603.26	584906.17
A-SE-13	109+11.16	85.85' RT	780.55	271611.87	584924.39
A-SE-14	108+74.65	48.30' RT	780.61	271576.49	584885.79
A-SE-15	108+83.64	53.14' RT	780.76	271585.33	584890.89

RAMP A - SE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
A-SE-16	108+73.22	48.32' RT	780.62	271575.06	584885.77
A-SE-17	108+82.59	53.16' RT	780.75	271584.27	584890.88
A-SE-18	108+74.74	53.30' RT	780.68	271576.43	584890.79
A-SE-19	108+67.66	48.42' RT	780.67	271569.49	584885.70
A-SE-20	108+67.75	53.42' RT	780.75	271569.43	584890.70
A-SE-21	108+54.59	48.65' RT	780.53	271556.43	584885.55
A-SE-22	108+54.60	53.65' RT	780.55	271556.28	584890.55
A-SE-23	108+36.18	48.67' RT	779.98	271538.02	584885.02
A-SE-24	108+36.18	53.67' RT	780.01	271537.87	584890.02
A-SE-25	108+20.47	48.67' RT	779.50	271522.32	584884.57
A-SE-26	108+20.47	53.67' RT	779.53	271522.17	584889.57
A-SE-27	108+15.47	53.68' RT	779.37	271517.17	584889.42
A-SE-28	108+15.47	48.72' RT	779.36	271517.32	584884.46
A-SE-29	108+65.85	45.80' RT	780.89	271567.76	584883.03
A-SE-30	108+87.23	56.38' RT	781.34	271588.83	584894.24

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CURB RAMP DETAILS - RAMP A - SE QUADRANT	SHEET 30	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021301_CR.DWG
LAYOUT NAME - 0213101_cr
PLOT DATE : 1/29/2021 12:17 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



NOTES:
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION.
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
4. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS
5. ALL STATION AND OFFSET INFORMATION REFERENCE 60TH STREET R/L

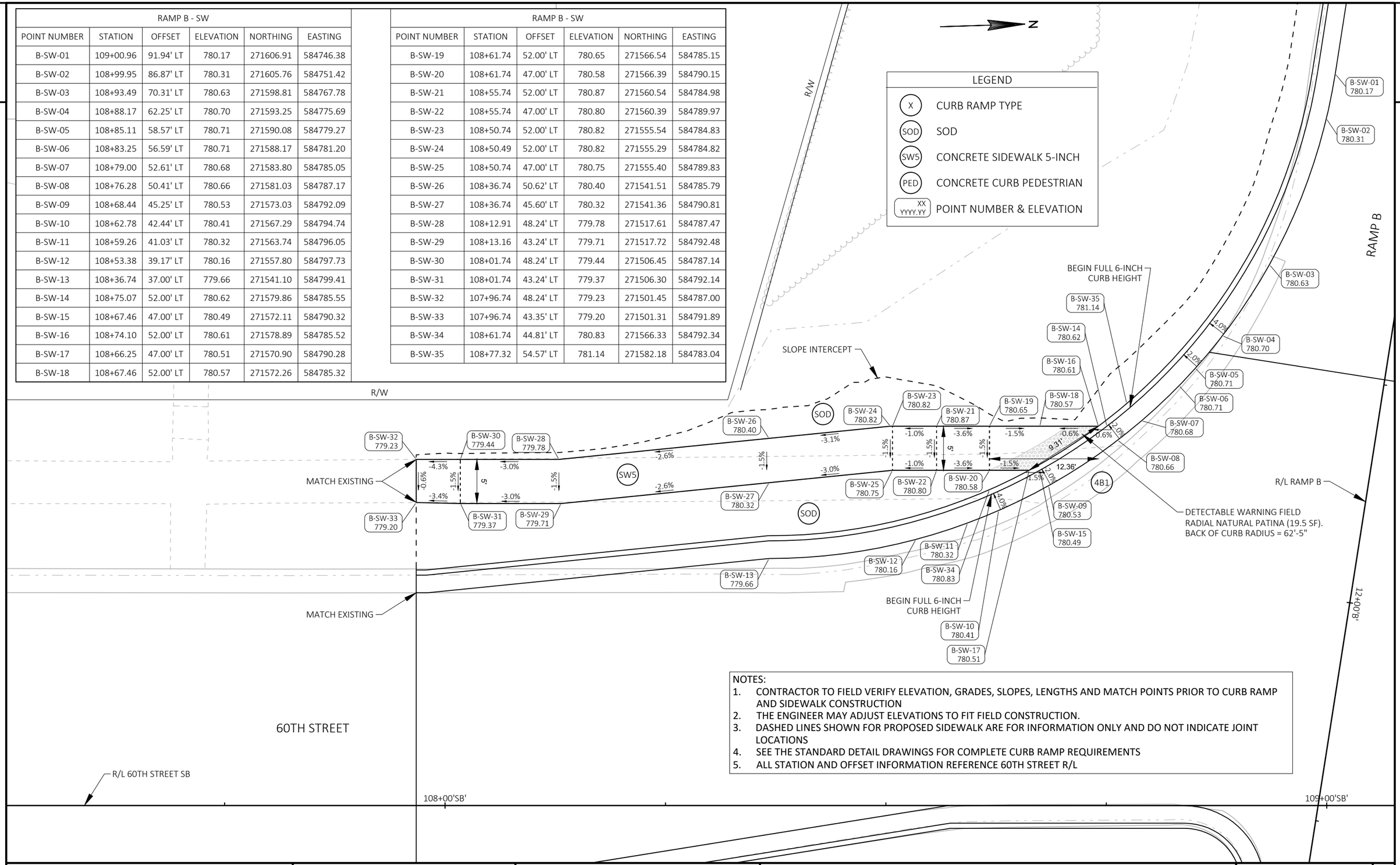
LEGEND	
X	CURB RAMP TYPE
SOD	SOD
SW5	CONCRETE SIDEWALK 5-INCH
PED	CONCRETE CURB PEDESTRIAN
XX YYYY.YY	POINT NUMBER & ELEVATION

RAMP A - NE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
A-NE-01	109+28.28	63.50' RT	781.88	271629.64	584902.56
A-NE-02	109+28.26	63.42' RT	781.88	271629.63	584902.49
A-NE-03	109+27.96	58.53' RT	782.07	271629.47	584897.58
A-NE-04	109+28.31	56.34' RT	782.13	271629.89	584895.40
A-NE-05	109+29.18	53.70' RT	782.19	271630.83	584892.79
A-NE-06	109+30.53	51.19' RT	782.24	271632.26	584890.33
A-NE-07	109+31.42	49.97' RT	782.27	271633.19	584889.13
A-NE-08	109+36.98	45.57' RT	782.40	271638.87	584884.90
A-NE-09	109+38.77	44.84' RT	782.43	271640.67	584884.22
A-NE-10	109+43.89	44.00' RT	782.53	271645.82	584883.53
A-NE-11	109+63.12	44.00' RT	783.01	271665.04	584884.10
A-NE-12	109+68.12	44.00' RT	783.11	271670.04	584884.25

RAMP A - NE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
A-NE-13	109+32.20	52.29' RT	782.28	271633.90	584891.48
A-NE-14	109+39.41	46.74' RT	782.39	271641.26	584886.14
A-NE-15	109+32.92	52.28' RT	782.30	271634.61	584891.48
A-NE-16	109+42.21	46.69' RT	782.43	271644.07	584886.17
A-NE-17	109+42.31	52.11' RT	782.44	271644.00	584891.60
A-NE-18	109+43.89	46.59' RT	782.49	271645.74	584886.12
A-NE-19	109+48.86	46.59' RT	782.67	271650.71	584886.27
A-NE-20	109+48.86	52.00' RT	782.75	271650.55	584891.67
A-NE-21	109+68.12	46.59' RT	783.58	271669.96	584886.84
A-NE-22	109+68.12	52.00' RT	783.66	271669.81	584892.24
A-NE-23	109+31.40	55.10' RT	782.72	271633.01	584894.26

RAMP B - SW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
B-SW-01	109+00.96	91.94' LT	780.17	271606.91	584746.38
B-SW-02	108+99.95	86.87' LT	780.31	271605.76	584751.42
B-SW-03	108+93.49	70.31' LT	780.63	271598.81	584767.78
B-SW-04	108+88.17	62.25' LT	780.70	271593.25	584775.69
B-SW-05	108+85.11	58.57' LT	780.71	271590.08	584779.27
B-SW-06	108+83.25	56.59' LT	780.71	271588.17	584781.20
B-SW-07	108+79.00	52.61' LT	780.68	271583.80	584785.05
B-SW-08	108+76.28	50.41' LT	780.66	271581.03	584787.17
B-SW-09	108+68.44	45.25' LT	780.53	271573.03	584792.09
B-SW-10	108+62.78	42.44' LT	780.41	271567.29	584794.74
B-SW-11	108+59.26	41.03' LT	780.32	271563.74	584796.05
B-SW-12	108+53.38	39.17' LT	780.16	271557.80	584797.73
B-SW-13	108+36.74	37.00' LT	779.66	271541.10	584799.41
B-SW-14	108+75.07	52.00' LT	780.62	271579.86	584785.55
B-SW-15	108+67.46	47.00' LT	780.49	271572.11	584790.32
B-SW-16	108+74.10	52.00' LT	780.61	271578.89	584785.52
B-SW-17	108+66.25	47.00' LT	780.51	271570.90	584790.28
B-SW-18	108+67.46	52.00' LT	780.57	271572.26	584785.32

RAMP B - SW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
B-SW-19	108+61.74	52.00' LT	780.65	271566.54	584785.15
B-SW-20	108+61.74	47.00' LT	780.58	271566.39	584790.15
B-SW-21	108+55.74	52.00' LT	780.87	271560.54	584784.98
B-SW-22	108+55.74	47.00' LT	780.80	271560.39	584789.97
B-SW-23	108+50.74	52.00' LT	780.82	271555.54	584784.83
B-SW-24	108+50.49	52.00' LT	780.82	271555.29	584784.82
B-SW-25	108+50.74	47.00' LT	780.75	271555.40	584789.83
B-SW-26	108+36.74	50.62' LT	780.40	271541.51	584785.79
B-SW-27	108+36.74	45.60' LT	780.32	271541.36	584790.81
B-SW-28	108+12.91	48.24' LT	779.78	271517.61	584787.47
B-SW-29	108+13.16	43.24' LT	779.71	271517.72	584792.48
B-SW-30	108+01.74	48.24' LT	779.44	271506.45	584787.14
B-SW-31	108+01.74	43.24' LT	779.37	271506.30	584792.14
B-SW-32	107+96.74	48.24' LT	779.23	271501.45	584787.00
B-SW-33	107+96.74	43.35' LT	779.20	271501.31	584791.89
B-SW-34	108+61.74	44.81' LT	780.83	271566.33	584792.34
B-SW-35	108+77.32	54.57' LT	781.14	271582.18	584783.04



NOTES:
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2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION.
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
4. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS
5. ALL STATION AND OFFSET INFORMATION REFERENCE 60TH STREET R/L

RAMP B - NW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
B-NW-01	109+68.12	44.00' LT	783.11	271672.63	584796.28
B-NW-02	109+63.12	44.00' LT	783.01	271667.63	584796.14
B-NW-03	109+27.41	44.00' LT	782.07	271631.94	584795.08
B-NW-04	109+23.22	44.92' LT	782.00	271627.78	584794.04
B-NW-05	109+22.56	45.25' LT	781.99	271627.13	584793.69
B-NW-06	109+19.81	47.50' LT	781.93	271624.44	584791.36
B-NW-07	109+17.78	51.27' LT	781.86	271622.53	584787.53
B-NW-08	109+17.72	51.50' LT	781.86	271622.48	584787.30
B-NW-09	109+17.51	52.56' LT	781.84	271622.30	584786.23
B-NW-10	109+17.53	55.55' LT	781.78	271622.40	584783.25
B-NW-11	109+17.84	57.53' LT	781.74	271622.77	584781.28
B-NW-12	109+18.61	62.47' LT	781.59	271623.69	584776.37

RAMP B - NW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
B-NW-13	109+23.53	47.00' LT	781.95	271628.15	584791.97
B-NW-14	109+19.66	52.00' LT	781.90	271624.43	584786.86
B-NW-15	109+20.26	52.00' LT	781.91	271625.03	584786.88
B-NW-16	109+24.95	47.00' LT	781.98	271629.57	584792.01
B-NW-17	109+24.95	52.00' LT	781.98	271629.72	584787.02
B-NW-18	109+27.41	46.59' LT	782.00	271632.01	584792.49
B-NW-19	109+27.41	52.00' LT	782.01	271632.17	584787.09
B-NW-20	109+53.12	46.59' LT	783.19	271657.72	584793.25
B-NW-21	109+53.12	52.00' LT	783.28	271657.87	584787.85
B-NW-22	109+68.12	46.59' LT	783.58	271672.71	584793.69
B-NW-23	109+68.12	52.00' LT	783.66	271672.87	584788.29
B-NW-24	109+20.08	55.15' LT	782.32	271624.94	584783.73

LEGEND

- X — CURB RAMP TYPE
- SOD — SOD
- SW5 — CONCRETE SIDEWALK 5-INCH
- PED — CONCRETE CURB PEDESTRIAN
- XX YYYY.YY — POINT NUMBER & ELEVATION

NOTES:
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION.
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
4. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS
5. ALL STATION AND OFFSET INFORMATION REFERENCE 60TH STREET R/L

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CURB RAMP DETAILS - RAMP B - NW QUADRANT	SHEET 33	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021301_CR.DWG
LAYOUT NAME - 021304_cr
PLOT DATE : 1/29/2021 12:18 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

RAMP C - SW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
C-SW-01	112+44.40	72.10' LT	776.39	271949.62	584776.33
C-SW-02	112+46.23	63.23' LT	776.67	271951.19	584785.25
C-SW-03	112+46.33	57.32' LT	776.86	271951.12	584791.16
C-SW-04	112+46.10	56.19' LT	776.92	271950.85	584792.28
C-SW-05	112+44.75	52.60' LT	777.11	271949.39	584795.83
C-SW-06	112+43.98	51.30' LT	777.13	271948.59	584797.12
C-SW-07	112+42.96	49.89' LT	777.14	271947.53	584798.49
C-SW-08	112+37.42	45.55' LT	777.21	271941.87	584802.67
C-SW-09	112+35.80	44.88' LT	777.23	271940.22	584803.28
C-SW-10	112+30.56	44.00' LT	777.30	271934.96	584804.01
C-SW-11	112+10.62	44.00' LT	778.22	271915.03	584803.43
C-SW-12	112+42.30	52.38' LT	777.17	271946.95	584795.98

RAMP C - SW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
C-SW-13	112+35.14	46.77' LT	777.21	271939.62	584801.38
C-SW-14	112+41.59	52.37' LT	777.18	271946.23	584795.97
C-SW-15	112+32.39	46.71' LT	777.23	271936.87	584801.36
C-SW-16	112+32.27	52.15' LT	777.32	271936.91	584795.91
C-SW-17	112+30.56	46.59' LT	777.38	271935.03	584801.42
C-SW-18	112+25.65	52.00' LT	777.86	271930.29	584795.87
C-SW-19	112+15.62	46.59' LT	778.61	271920.10	584800.98
C-SW-20	112+15.62	52.00' LT	778.69	271920.26	584795.58
C-SW-21	112+10.62	46.59' LT	778.69	271915.10	584800.83
C-SW-22	112+10.62	52.00' LT	778.77	271915.26	584795.43
C-SW-23	112+43.28	55.73' LT	777.52	271948.01	584792.67

LEGEND

- X — CURB RAMP TYPE
- SOD — SOD
- SW5 — CONCRETE SIDEWALK 5-INCH
- PED — CONCRETE CURB PEDESTRIAN
- XX / YYYY.YY — POINT NUMBER & ELEVATION

N

RAMP C

R/L RAMP C

REJECT CURB ON HIGH SIDE OF RAMP C (+2% GUTTER SLOPE)

DETECTABLE WARNING FIELD RADIAL NATURAL PATINA (18.6 SF). BACK OF CURB RADIUS = 13'-5"

SLOPE INTERCEPT

BEGIN FULL 6-INCH CURB HEIGHT

PROPOSED STRUCTURE B-40-1013

C-SW-01 776.39
C-SW-02 776.67
C-SW-03 776.86
C-SW-04 776.92
C-SW-05 777.11
C-SW-06 777.13
C-SW-07 777.14
C-SW-08 777.21
C-SW-09 777.23
C-SW-10 777.30
C-SW-11 778.22
C-SW-12 777.17
C-SW-13 777.21
C-SW-14 777.18
C-SW-15 777.23
C-SW-16 777.32
C-SW-17 777.38
C-SW-18 777.86
C-SW-19 778.61
C-SW-20 778.69
C-SW-21 778.69
C-SW-22 778.77
C-SW-23 777.52

SOD
SW5
4A1

-1.5%
-8.3%
-8.2%
-0.8%
2.0%
5.42'
10.80'
9.33'

INL-27
ADJ. CURB BOX AS REQ'D TO MATCH MODIFIED CURB HEAD

VARY CURB HEIGHT AS REQUIRED TO CONSTRUCT CURB RAMP AND LEVEL LANDING GRADES

NOTES:
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION.
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
4. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS
5. ALL STATION AND OFFSET INFORMATION REFERENCE 60TH STREET R/L

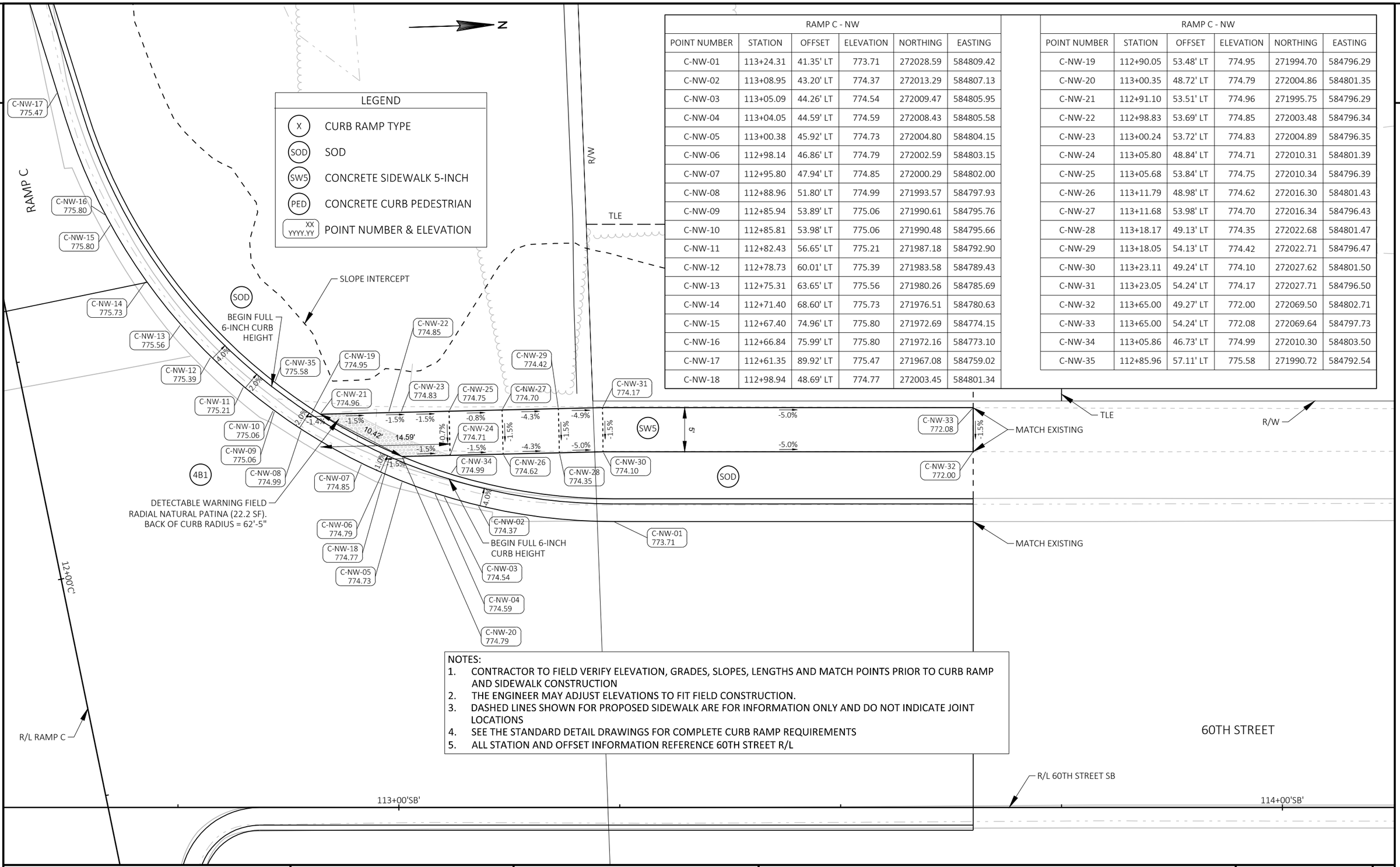
60TH STREET

R/L 60TH STREET SB

111+00'SB'

112+00'SB'

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CURB RAMP DETAILS - RAMP C - SW QUADRANT	SHEET 34	E



RAMP C - NW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
C-NW-01	113+24.31	41.35' LT	773.71	272028.59	584809.42
C-NW-02	113+08.95	43.20' LT	774.37	272013.29	584807.13
C-NW-03	113+05.09	44.26' LT	774.54	272009.47	584805.95
C-NW-04	113+04.05	44.59' LT	774.59	272008.43	584805.58
C-NW-05	113+00.38	45.92' LT	774.73	272004.80	584804.15
C-NW-06	112+98.14	46.86' LT	774.79	272002.59	584803.15
C-NW-07	112+95.80	47.94' LT	774.85	272000.29	584802.00
C-NW-08	112+88.96	51.80' LT	774.99	271993.57	584797.93
C-NW-09	112+85.94	53.89' LT	775.06	271990.61	584795.76
C-NW-10	112+85.81	53.98' LT	775.06	271990.48	584795.66
C-NW-11	112+82.43	56.65' LT	775.21	271987.18	584792.90
C-NW-12	112+78.73	60.01' LT	775.39	271983.58	584789.43
C-NW-13	112+75.31	63.65' LT	775.56	271980.26	584785.69
C-NW-14	112+71.40	68.60' LT	775.73	271976.51	584780.63
C-NW-15	112+67.40	74.96' LT	775.80	271972.69	584774.15
C-NW-16	112+66.84	75.99' LT	775.80	271972.16	584773.10
C-NW-17	112+61.35	89.92' LT	775.47	271967.08	584759.02
C-NW-18	112+98.94	48.69' LT	774.77	272003.45	584801.34

RAMP C - NW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
C-NW-19	112+90.05	53.48' LT	774.95	271994.70	584796.29
C-NW-20	113+00.35	48.72' LT	774.79	272004.86	584801.35
C-NW-21	112+91.10	53.51' LT	774.96	271995.75	584796.29
C-NW-22	112+98.83	53.69' LT	774.85	272003.48	584796.34
C-NW-23	113+00.24	53.72' LT	774.83	272004.89	584796.35
C-NW-24	113+05.80	48.84' LT	774.71	272010.31	584801.39
C-NW-25	113+05.68	53.84' LT	774.75	272010.34	584796.39
C-NW-26	113+11.79	48.98' LT	774.62	272016.30	584801.43
C-NW-27	113+11.68	53.98' LT	774.70	272016.34	584796.43
C-NW-28	113+18.17	49.13' LT	774.35	272022.68	584801.47
C-NW-29	113+18.05	54.13' LT	774.42	272022.71	584796.47
C-NW-30	113+23.11	49.24' LT	774.10	272027.62	584801.50
C-NW-31	113+23.05	54.24' LT	774.17	272027.71	584796.50
C-NW-32	113+65.00	49.27' LT	772.00	272069.50	584802.71
C-NW-33	113+65.00	54.24' LT	772.08	272069.64	584797.73
C-NW-34	113+05.86	46.73' LT	774.99	272010.30	584803.50
C-NW-35	112+85.96	57.11' LT	775.58	271990.72	584792.54

NOTES:
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION.
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
4. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS
5. ALL STATION AND OFFSET INFORMATION REFERENCE 60TH STREET R/L

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CURB RAMP DETAILS - RAMP C - NW QUADRANT	SHEET 35	E

'NB'

112+00'NB'

60TH STREET

N

R/L 60TH STREET NB

NOTES:
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION.
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
4. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS
5. ALL STATION AND OFFSET INFORMATION REFERENCE 60TH STREET R/L

INL-26
ADJ. CURB BOX AS REQ'D TO MATCH MODIFIED CURB HEAD

VARY CURB HEIGHT AS REQUIRED TO CONSTRUCT CURB RAMP AND LEVEL LANDING GRADES

INL-37

INL-36

PROPOSED STRUCTURE B-40-1013

D-SE-01 778.22
D-SE-02 776.88
D-SE-03 776.74
D-SE-04 776.69
D-SE-05 776.66
D-SE-06 776.60
D-SE-07 776.52
D-SE-08 776.51
D-SE-09 776.49
D-SE-10 776.44
D-SE-11 776.39
D-SE-12 776.29
D-SE-13 776.64
D-SE-14 776.55
D-SE-15 776.67
D-SE-16 776.56
D-SE-17 776.64
D-SE-18 776.82
D-SE-19 776.80
D-SE-20 778.61
D-SE-21 778.69
D-SE-22 778.69
D-SE-23 778.77
D-SE-24 776.97

2.0%
4.0%
-1.5%
-7.6%
-8.0%
-0.4%
-0.6%
-1.0%
5.42'

4A1
SW5
SOD

DETECTABLE WARNING FIELD NATURAL PATINA (10 SF)

SLOPE INTERCEPT

MH-18

REJECT CURB ON HIGH SIDE OF RAMP D (+2% GUTTER SLOPE)

BEGIN FULL 6-INCH CURB HEIGHT

RAMP D

R/L RAMP D

11+00'

RAMP D - SE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
D-SE-01	112+10.62	44.00' RT	778.22	271912.44	584891.39
D-SE-02	112+39.27	44.00' RT	776.88	271941.07	584892.23
D-SE-03	112+42.33	44.48' RT	776.74	271944.12	584892.80
D-SE-04	112+43.41	44.90' RT	776.69	271945.19	584893.25
D-SE-05	112+44.11	45.25' RT	776.66	271945.87	584893.62
D-SE-06	112+46.81	47.44' RT	776.60	271948.51	584895.89
D-SE-07	112+48.85	51.15' RT	776.52	271950.44	584899.66
D-SE-08	112+48.95	51.50' RT	776.51	271950.53	584900.01
D-SE-09	112+49.17	52.65' RT	776.49	271950.72	584901.17
D-SE-10	112+49.17	55.38' RT	776.44	271950.63	584903.90
D-SE-11	112+48.86	57.62' RT	776.39	271950.26	584906.13
D-SE-12	112+48.17	62.57' RT	776.29	271949.42	584911.06

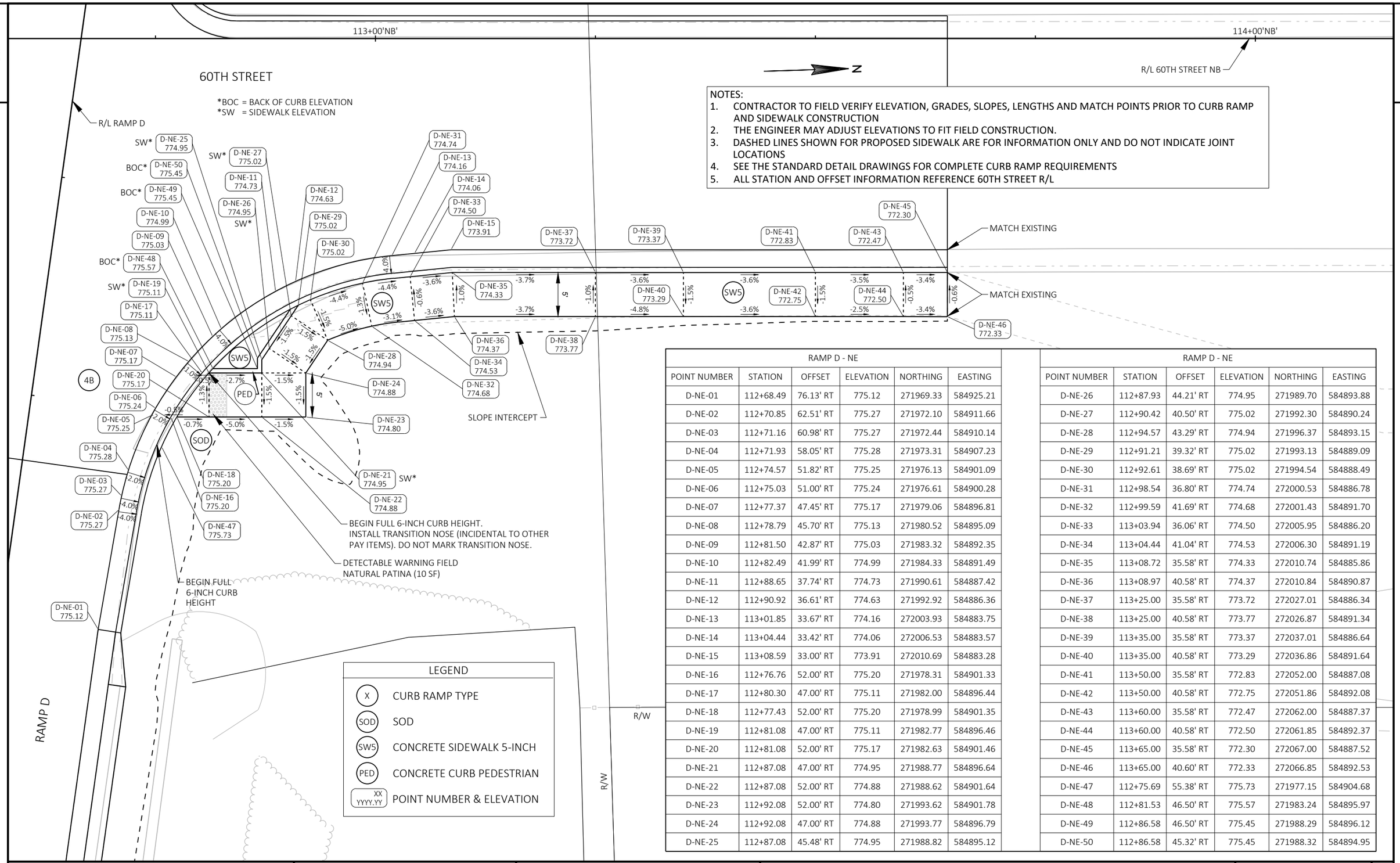
RAMP D - SE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
D-SE-13	112+43.14	47.00' RT	776.64	271944.85	584895.34
D-SE-14	112+47.01	52.00' RT	776.55	271948.58	584900.46
D-SE-15	112+41.27	46.86' RT	776.67	271942.98	584895.15
D-SE-16	112+46.41	52.00' RT	776.56	271947.97	584900.44
D-SE-17	112+41.27	52.00' RT	776.64	271942.83	584900.29
D-SE-18	112+39.27	46.59' RT	776.82	271940.99	584894.82
D-SE-19	112+39.27	52.00' RT	776.80	271940.83	584900.23
D-SE-20	112+15.62	46.59' RT	778.61	271917.36	584894.13
D-SE-21	112+15.62	52.00' RT	778.69	271917.20	584899.53
D-SE-22	112+10.62	46.59' RT	778.69	271912.36	584893.98
D-SE-23	112+10.62	52.00' RT	778.77	271912.20	584899.38
D-SE-24	112+46.58	55.28' RT	776.97	271948.04	584903.72

LEGEND

X	CURB RAMP TYPE
SOD	SOD
SW5	CONCRETE SIDEWALK 5-INCH
PED	CONCRETE CURB PEDESTRIAN
XX YYYY.YY	POINT NUMBER & ELEVATION

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CURB RAMP DETAILS - RAMP D - SE QUADRANT	SHEET 36	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021301_CR.DWG
LAYOUT NAME - 021307_cr
PLOT DATE : 1/29/2021 12:18 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



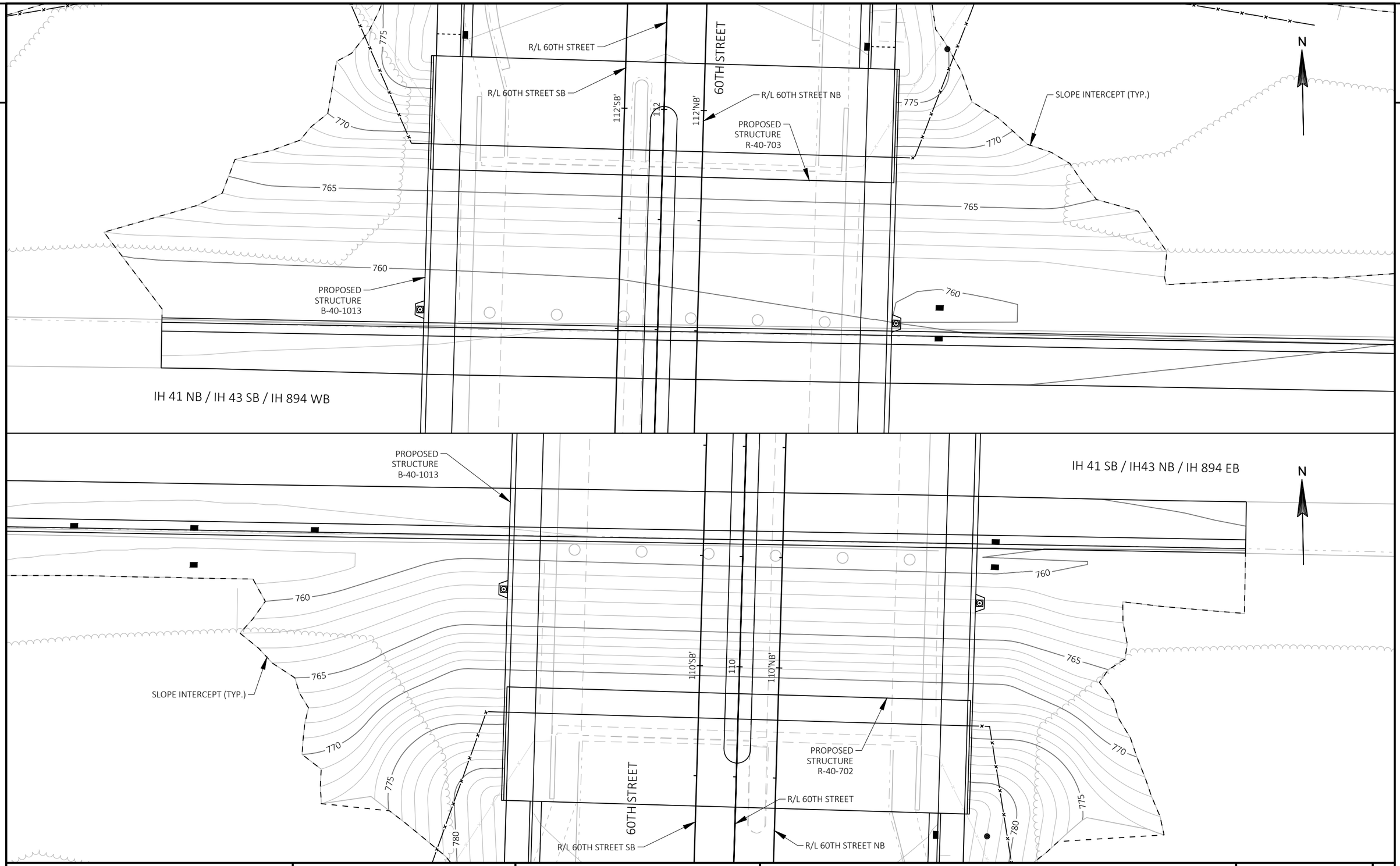
RAMP D - NE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
D-NE-01	112+68.49	76.13' RT	775.12	271969.33	584925.21
D-NE-02	112+70.85	62.51' RT	775.27	271972.10	584911.66
D-NE-03	112+71.16	60.98' RT	775.27	271972.44	584910.14
D-NE-04	112+71.93	58.05' RT	775.28	271973.31	584907.23
D-NE-05	112+74.57	51.82' RT	775.25	271976.13	584901.09
D-NE-06	112+75.03	51.00' RT	775.24	271976.61	584900.28
D-NE-07	112+77.37	47.45' RT	775.17	271979.06	584896.81
D-NE-08	112+78.79	45.70' RT	775.13	271980.52	584895.09
D-NE-09	112+81.50	42.87' RT	775.03	271983.32	584892.35
D-NE-10	112+82.49	41.99' RT	774.99	271984.33	584891.49
D-NE-11	112+88.65	37.74' RT	774.73	271990.61	584887.42
D-NE-12	112+90.92	36.61' RT	774.63	271992.92	584886.36
D-NE-13	113+01.85	33.67' RT	774.16	272003.93	584883.75
D-NE-14	113+04.44	33.42' RT	774.06	272006.53	584883.57
D-NE-15	113+08.59	33.00' RT	773.91	272010.69	584883.28
D-NE-16	112+76.76	52.00' RT	775.20	271978.31	584901.33
D-NE-17	112+80.30	47.00' RT	775.11	271982.00	584896.44
D-NE-18	112+77.43	52.00' RT	775.20	271978.99	584901.35
D-NE-19	112+81.08	47.00' RT	775.11	271982.77	584896.46
D-NE-20	112+81.08	52.00' RT	775.17	271982.63	584901.46
D-NE-21	112+87.08	47.00' RT	774.95	271988.77	584896.64
D-NE-22	112+87.08	52.00' RT	774.88	271988.62	584901.64
D-NE-23	112+92.08	52.00' RT	774.80	271993.62	584901.78
D-NE-24	112+92.08	47.00' RT	774.88	271993.77	584896.79
D-NE-25	112+87.08	45.48' RT	774.95	271988.82	584895.12

RAMP D - NE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
D-NE-26	112+87.93	44.21' RT	774.95	271989.70	584893.88
D-NE-27	112+90.42	40.50' RT	775.02	271992.30	584890.24
D-NE-28	112+94.57	43.29' RT	774.94	271996.37	584893.15
D-NE-29	112+91.21	39.32' RT	775.02	271993.13	584889.09
D-NE-30	112+92.61	38.69' RT	775.02	271994.54	584888.49
D-NE-31	112+98.54	36.80' RT	774.74	272000.53	584886.78
D-NE-32	112+99.59	41.69' RT	774.68	272001.43	584891.70
D-NE-33	113+03.94	36.06' RT	774.50	272005.95	584886.20
D-NE-34	113+04.44	41.04' RT	774.53	272006.30	584891.19
D-NE-35	113+08.72	35.58' RT	774.33	272010.74	584885.86
D-NE-36	113+08.97	40.58' RT	774.37	272010.84	584890.87
D-NE-37	113+25.00	35.58' RT	773.72	272027.01	584886.34
D-NE-38	113+25.00	40.58' RT	773.77	272026.87	584891.34
D-NE-39	113+35.00	35.58' RT	773.37	272037.01	584886.64
D-NE-40	113+35.00	40.58' RT	773.29	272036.86	584891.64
D-NE-41	113+50.00	35.58' RT	772.83	272052.00	584887.08
D-NE-42	113+50.00	40.58' RT	772.75	272051.86	584892.08
D-NE-43	113+60.00	35.58' RT	772.47	272062.00	584887.37
D-NE-44	113+60.00	40.58' RT	772.50	272061.85	584892.37
D-NE-45	113+65.00	35.58' RT	772.30	272067.00	584887.52
D-NE-46	113+65.00	40.60' RT	772.33	272066.85	584892.53
D-NE-47	112+75.69	55.38' RT	775.73	271977.15	584904.68
D-NE-48	112+81.53	46.50' RT	775.57	271983.24	584895.97
D-NE-49	112+86.58	46.50' RT	775.45	271988.29	584896.12
D-NE-50	112+86.58	45.32' RT	775.45	271988.32	584894.95

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CURB RAMP DETAILS - RAMP D - NE QUADRANT	SHEET 37	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021301_CR.DWG
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PLOT DATE : 1/30/2021 3:50 PM
PLOT BY : MROZ, ZACHARY T.
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2



PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	FINISHED CONTOURS	SHEET 38	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\021601_CM.DWG
LAYOUT NAME - 021601_cm
PLOT DATE : 1/28/2021 4:49 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

LEGEND

FTMS CONVENTIONAL SYMBOLS

	PROPOSED	EXISTING
ITS FIELD CABINET AND BASE		
METER BREAKER PEDESTAL		
24X42-INCH CSCP PULL BOX		
FTMS (ITS) CONDUIT		
BREAKER DISCONNECT BOX		
COMMUNICATIONS VAULT, TYPE 1		
TYPE 1 CONCRETE MANHOLE		
CCTV CAMERA, POLE, AND BASE		

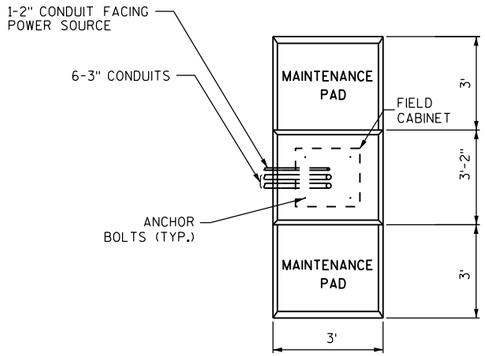
FTMS STANDARD ABBREVIATIONS

CB	CONTROLLER CABINET
CCTV	CLOSED CIRCUIT TELEVISION SITE
CV	COMMUNICATIONS VAULT
PB	PULL BOX
EX	EXISTING
FOC	FIBER OPTIC CABLE
F.O.	FIBER OPTIC
S-F	STATE-FURNISHED
MH	MANHOLE

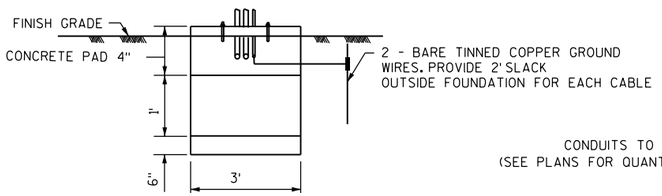
FTMS GENERAL NOTES

1. THESE PLANS AND THE ASSOCIATED SPECIAL PROVISIONS REFLECT CONDITIONS KNOWN DURING THE DEVELOPMENT OF THE PLANS AND TECHNICAL SPECIAL PROVISIONS. ALL SCALES, DIMENSIONS AND LOCATIONS SHOWN IN THESE PLANS ARE APPROXIMATE. ACTUAL PHYSICAL FIELD CONDITIONS SHALL PROVIDE THE BASIS FOR THE APPLICATION OF WORK SHOWN IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE APPLICATION OF ALL WORK SHOWN IN THE PLANS TO THE ACTUAL PHYSICAL FIELD CONDITIONS TO PROVIDE A COMPLETE AND ACCEPTED PROJECT. IN THE EVENT THAT ACTUAL PHYSICAL FIELD CONDITIONS AFFECT OR PREVENT THE APPLICATION OR PROGRESSION OF ANY WORK SHOWN IN THE PLANS OR TECHNICAL SPECIAL PROVISIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND PRIOR TO ANY FURTHER WORK ACTIVITY. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY LOCATION CHANGES OTHER THAN MINOR ADJUSTMENTS.
2. BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.
3. BE AWARE THAT NO TEST BORINGS WERE MADE WHERE CONDUITS, PULLBOXES, POLES, CABINET FOUNDATIONS, OR OTHER EQUIPMENT IS TO BE INSTALLED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR EXAMINING THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS.
4. NO TREES (AND/OR SHRUBS) SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.
5. AREAS WITHIN THE RIGHT-OF-WAY DISTURBED SPECIFICALLY FOR FTMS CONSTRUCTION SHALL BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER, SEED, AND EROSION MAT, AND SHALL BE INCLUDED IN THE COST OF INSTALLING FTMS ITEMS. RESTORATION FOR AREAS DISTURBED FOR OTHER CONSTRUCTION OPERATIONS BUT ALSO CONTAINING FTMS CONSTRUCTION SHALL BE DONE ACCORDING TO REQUIREMENTS AND PAYMENT PROVISIONS FOR THE OTHER CONSTRUCTION OPERATIONS.
6. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
7. DUE TO RAMP, LANE, SHOULDER CLOSURE RESTRICTIONS, AND WORK UNDER OTHER CONTRACTS, SOME WORK MAY BE REQUIRED TO BE PERFORMED AT NIGHT.
8. THE CONTRACTOR IS FULLY RESPONSIBLE FOR COORDINATING RAMP, LANE, SHOULDER, AND ROADWAY CLOSURES WITH OTHER CONTRACTS IN THE AREA.
9. THE CONTRACTOR SHALL CONTACT THE WISDOT STATEWIDE TRAFFIC OPERATIONS CENTER AT (414) 227-2166 FIVE (5) WORKING DAYS PRIOR TO ENTERING ANY EXISTING WISDOT FTMS OR ITS CABINET.
10. ALL LOOP DETECTORS ARE STATIONED TO CENTER OF LEADING EDGE AS APPROACHED BY NORMAL VEHICLE PATH.
11. HAND DIG TRENCHES CROSSING EXISTING CONDUIT CONTAINING FIBER OPTIC CABLE.
12. VISUALLY VERIFY DEPTHS OF EXISTING CONDUITS CONTAINING FIBER OPTIC CABLE PRIOR TO CROSSING BY DIRECTIONAL BORE OR SPECIAL METHOD.

2



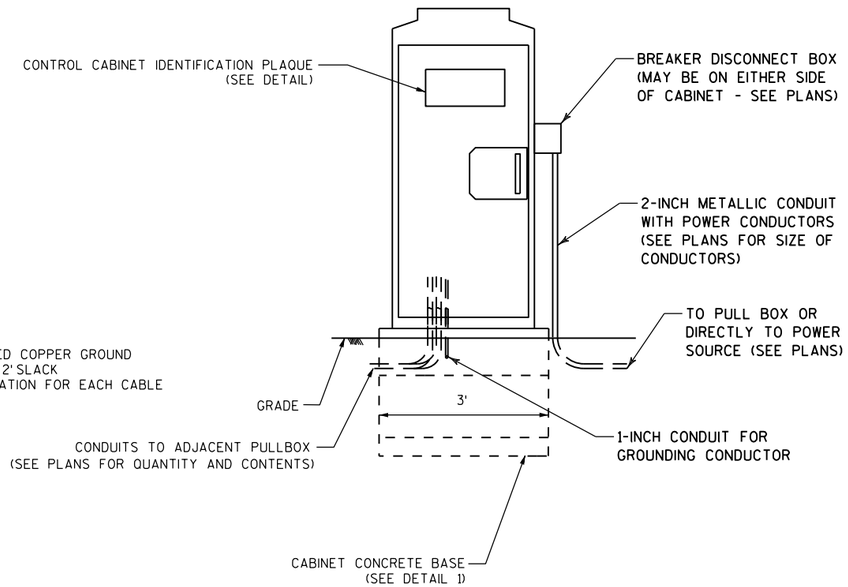
PLAN VIEW



FRONT VIEW

FTMS FIELD CABINET

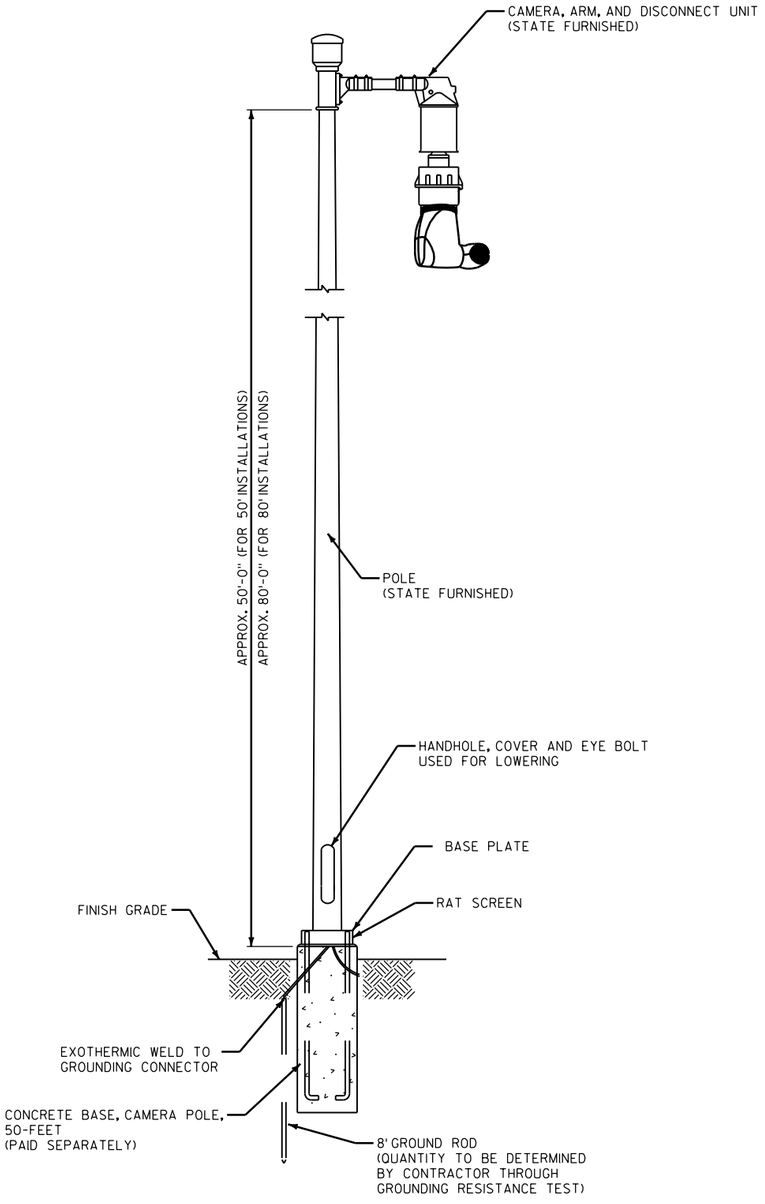
STATE-FURNISHED FIELD CABINET



ITS FIELD CABINET

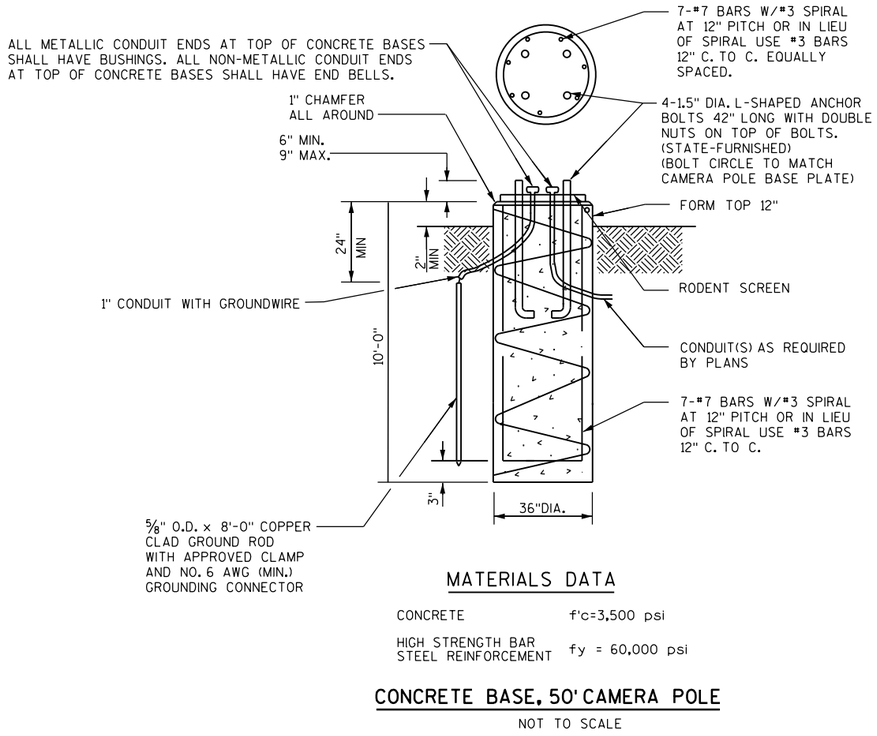
NOTES

1) DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
2) WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.
3) CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 3-INCHES.
4) DEPTH OF CONDUIT SHALL BE 24-INCHES MINIMUM AND 36-INCHES MAXIMUM.
5) ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.
6) CONTROLLER CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED AND LEVEL PRIOR TO CABINET INSTALLATION. LEVELING OF TOP SURFACES AFTER CONCRETE BASE HAS CURED SHALL ONLY BE ACCOMPLISHED BY GRINDING.
7) MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.
8) MINIMUM BENDING RADIUS OF CONDUIT SHALL BE SIX TIMES THE CONDUIT DIAMETER.
9) ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.
10) CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.
11) PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.
12) 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 PLACED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.
13) CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6-INCH MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.
14) ALL METALLIC CONDUIT ENDS AT TOP OF CONCRETE BASES SHALL HAVE BUSHINGS IF WIRE IS INSTALLED.
15) ALL NON METALLIC CONDUIT ENDS AT TOP OF CONCRETE BASES SHALL HAVE END BELLS IF WIRE IS INSTALLED.
16) ANCHOR BOLTS TO ANCHOR THE FIELD CABINETS TO THE CABINET BASE WILL BE STATE FURNISHED WITH THE FIELD CABINET.
17) CONTRACTOR SHALL CONFIRM BOLT PATTERN OF CABINET PRIOR TO CONSTRUCTION OF CONCRETE BASE.
18) THE CABINET SHALL BE SEALED WITH A SILICONE SEALANT AT THE INSIDE AND OUTSIDE JOINTS.
19) MAINTENANCE PADS SHALL BE INSTALLED ON BOTH SIDES OF THE CABINET.
20) STATE FURNISHED FIELD CABINETS WILL BE TYPE 334 CONTROLLER CABINETS.



CAMERA POLE WITH CAMERA LOWERING HARDWARE

WITHOUT POLE MOUNTED CABINET

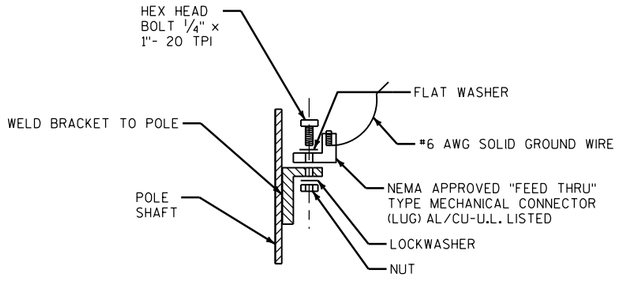


MATERIALS DATA

CONCRETE	f'c=3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT	fy = 60,000 psi

CONCRETE BASE, 50' CAMERA POLE

NOT TO SCALE



FIELD INSTALLED GROUNDING LUG

NOTES

1) ALL HARDWARE AND FASTENERS SHALL BE STAINLESS STEEL
2) POLE DRAWINGS SHOWN FOR BIDDING INFORMATION PURPOSES ONLY. POLES WILL BE STATE FURNISHED.
3) CONTRACTOR SHALL CONFIRM BOLT PATTERN OF CAMERA POLE PRIOR TO CONSTRUCTION OF CONCRETE BASE.
4) CONTRACTOR SHALL INSTALL GROUNDING LUG AS SHOWN

2

LEGEND

1. REMOVE PULL BOX
2. REMOVE TYPE 1 ADVANCE FLASHER ASSEMBLY
3. REMOVE TYPE 2 ADVANCE FLASHER ASSEMBLY
4. REMOVE CABLE (CONDUIT TO BE RE-USED)
5. REMOVE CABLE AND ABANDON CONDUIT
6. REMOVE CONTROLLER CABINET AND CONTROLLER CABINET BASE
7. REMOVE CCTV CAMERA, CAMERA POLE, AND CONCRETE BASE
8. REMOVE MANHOLE

NOTES

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

FOR REMOVAL OF LIGHTING, BRIDGE, OR SIGN ITEMS, REFER TO RESPECTIVE REMOVAL PLAN SECTIONS.

REMOVALS AND DISCONNECTION OF EQUIPMENT OR UTILITY SERVICES MUST BE PROPOSED TO WISDOT STOC A MINIMUM OF TWO WEEKS PRIOR TO SCHEDULED REMOVAL WORK. UNLESS FTMS REMOVALS WORK IS DEMONSTRATED TO BE CRITICAL TO PROJECT COMPLETION SCHEDULE, STOC MAY DENY PROPOSED SCHEDULE AND REQUIRE THAT LOCATIONS BE MAINTAINED UNTIL REMOVALS ARE NECESSARY.

FIBER OPTIC SEQUENCE NOTES

NOTIFY THE WISDOT TRAFFIC MANAGEMENT CENTER A MINIMUM OF 14-DAYS PRIOR TO BEGINNING ANY WORK THAT WILL IMPACT THE FUNCTIONALITY OF WISDOT COMMUNICATIONS NETWORK.

PROPOSED CONDUIT AND VAULTS BETWEEN EXMH6001 AND EXMH6007 MUST BE COMPLETED PRIOR TO CUTTING THE EXISTING FIBER OPTIC CABLES FOR SPLICING ONTO NEW FIBER OPTIC CABLES.

ONCE CONDUIT AND VAULT SYSTEM BENWEET EXMH6001 AND EXMH6007 IS CONSTRUCTED AND READY FOR NEW CABLE TO BE INSTALLED, AND FIBER OPTIC WORK HAS BEEN SCHEDULED WITH THE WISDOT TRAFFIC MANAGEMENT CENTER, COMPLETE THE FIBER OPTIC SPLICING FROM EXISTING CABLE TO PROPOSED CABLE DURING AN 8-HOUR WINDOW. WISDOT TRAFFIC MANAGEMENT CENTER MAY REQUIRE THIS WORK TO BE DONE OVERNIGHT, OR ON A WEEKEND.

NO FIBER OPTIC REMOVALS MAY BE INITIATED UNTIL FIBER OPTIC NETWORK IS REROUTED ONTO NEW FIBER OPTIC CABLE.

N

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EXFYWB02 EXPBWB11 EXPBWB10 EXPBWB09 EXPBWB07 EXPBWB08 EXFYWB01 EXSBWB01 EXPBWB02 EXSBWB02 EXPBWB01 EXPBWB04 EXPBWB05 EXPBWB03 EXPBWB06 EX-CCTV-40-0026 EXJB6003 EXMH6004 EX-CB-CCTV-40-0026 / RM-40-0050 EXPB6101 EXPB6100 IH 43/894 S 60th ST EXMH6002 EXPB6001 EXMH6001 (COIL 200-FEET OF 72-COUNT FOC IN EXISTING MANHOLE DURING REMOVALS OPERATION) EXMH6003 EXJB6001 EXJB6002 EXMH6005 EXPBEB04 EXPBEB07 EXMH6006 EXPBEB09 EXSBEB01 EXSBEB02 EXMH6007 EXPBEB08 EXPBEB01 EXPBEB02 EXPBEB03 EXPBEB06 EXPBEB05 EX-CB-RM-40-0051 EXFYEB02 EXFYEB01 EXMBEB01

PROJECT NO: 1100-46-70	HWY: IH 41 / 43 / 894	COUNTY: MILWAUKEE	FTMS REMOVALS PLAN	SHEET E

FILE NAME : \\milw00\ingrproj\77532\base\milwaukee\11004670_894_60th_fm.dgn PLOT DATE : 1/21/2021 PLOT BY : PKutz PLOT NAME : PLOT SCALE : 100:1

2

2

N

INSTALL IN EXISTING CONDUIT
(1) CONDUIT WITH (1) 6-COUNT FOC (S-F) AND (6) LDLIC
(1) CONDUIT WITH (1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

EXPB174
(SPLICE NEW LDLICS ONTO EXISTING
LOOP DETECTOR WIRES)

INSTALL IN EXISTING CONDUIT
(1) CONDUIT WITH (1) 6-COUNT FOC (S-F) AND
(5) LDLIC
(1) CONDUIT WITH (1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

EXSB173

EXSB172

INSTALL IN EXISTING CONDUIT
(1) 9/C NO. 10 AW TRAFFIC SIGNAL CABLE AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

EXPB172
(SPLICE NEW LDLICS ONTO EXISTING
LOOP DETECTOR WIRES)

INSTALL IN EXISTING CONDUIT
(1) 6-COUNT FOC (S-F),
(1) LDLIC, AND (1) NO. 10 AWG
TRAFFIC SIGNAL WIRE

CV6002

(1) 2-INCH NONMETALLIC CONDUIT WITH
(1) 6-COUNT FOC (S-F) AND (1) NO. 10 AWG
TRAFFIC SINAL WIRE

EXPB170
(1) INSTALL PROPOSED CONDUIT INTO
EXISTING PULL BOX
(SPLICE NEW LDLIC ONTO EXISTING
LOOP DETECTOR WIRES)

(3) 2-INCH HDPE DUCTS, DIRECTIONAL BORE
(1) WITH (1) 6-COUNT FOC (S-F) AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

(3) 3-INCH NONMETALLIC CONDUITS
(1) WITH (8) LDLIC
(1) WITH (1) 6-COUNT FOC (S-F) AND (6) LDLIC
(1) WITH (1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

(WB QUEUE A) 6'X6'(4-TURNS)

(WB QUEUE B) 6'X6'(3-TURNS)

(WB ENT A)
6'X6'(4-TURNS)

(WB ENT B)
6'X6'(3-TURNS)

PB12C

(1) 2-INCH NONMETALLIC CONDUIT WITH
(1) 5/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

FY12C

(1) 2-INCH NONMETALLIC CONDUIT WITH
(1) 5/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

FY11C

EX-CB-RM-40-0050 /
CCTV-40-0026

EXPB12C
(2) INSTALL PROPOSED CONDUIT
INTO EXISTING PULL BOX

PB11C

EXPB175
(1) INSTALL PROPOSED CONDUIT INTO
EXISTING PULL BOX

CCTV-40-0026
(1) 50-FOOT CAMERA POLE BASE
(1) 50-FOOT CAMERA POLE (S-F)
(1) CCTV CAMERA (S-F)

EXPB176
(SPLICE NEW LDLICS ONTO EXISTING
LOOP DETECTOR WIRES)

INSTALL IN EXISTING CONDUIT
(1) CONDUIT WITH (6) LDLIC AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

(4) 3-INCH NONMETALLIC CONDUITS
(1) WITH (1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE
(1) WITH (8) LDLIC
(1) WITH (6) LDLIC
(1) WITH (1) 6-COUNT FOC AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

INSTALL IN EXISTING CONDUIT
(2) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLES AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

EXPB173

INSTALL IN EXISTING CONDUIT
(1) CONDUIT WITH (1) 6-COUNT FOC (S-F) AND
(3) LDLIC
(1) CONDUIT WITH (1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

(1) 2-INCH NONMETALLIC CONDUIT WITH
(1) 5/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

PB12A

FY12A

(4) 3-INCH NONMETALLIC CONDUITS
(1) WITH (1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE,
(1) 5/C NO. 10 AWG TRAFFIC SIGNAL CABLE, AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE
(1) WITH (8) LDLIC
(1) WITH (7) LDLIC

PB11A

FY11A

PB10A

EXMH6001
(1) INSTALL PROPOSED CONDUIT INTO
EXISTING MANHOLE (QTY. 1)

(3) 2-INCH HDPE DUCTS
(1) WITH (1) 72-COUNT FOC
(SALVAGED FROM COIL LEFT IN EXMH6001
DURING REMOVAL),
AND (1) NO. 10 AWG TRAFFIC SIGNAL WIRE

CV6001
(74) F.O. SPLICES IN NEW F.O. SPLICE
ENCLOSURE (S-F)

(3) 2-INCH HDPE DUCTS
(1) WITH (1) 72-COUNT FOC (S-F),
(1) 6-COUNT FOC (S-F) AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

CV6003

(3) 2-INCH HDPE DUCTS, DIRECTIONAL BORE
(1) WITH (1) 72-COUNT FOC (S-F),
(1) 6-COUNT FOC (S-F) AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

(6) 3-INCH NONMETALLIC CONDUITS
(1) WITH (1) 6-COUNT FOC AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE
(1) WITH (1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) 5/C NO. 10 AWG TRAFFIC SIGNAL CABLE
(1) WITH (8) LDLIC
(1) WITH (9) LDLIC

CB-RM-40-0051
(1) ITS FIELD CABINET BASE
(1) ITS FIELD CABINET (S-F)
(1) BREAKER DISCONNECT BOX
(1) F.O. TERMINATION PANEL (S-F)
(6) F.O. TERMINATIONS
(1) ETHERNET SWITCH (S-F)
(1) 2070 RAMP METER CONTROLLER (S-F)

EXMB10A

(1) 2-INCH METALLIC CONDUIT WITH
(3) NO. 6 AWG TRAFFIC SIGNAL WIRES

EXPB182
(SPLICE NEW LDLICS ONTO EXISTING
LOOP DETECTOR WIRES)

EXPB13D
(SPLICE NEW LDLICS ONTO EXISTING
LOOP DETECTOR WIRES)

INSTALL IN EXISTING CONDUIT
(1) CONDUIT WITH (1) LDLIC AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

EXMH181

INSTALL IN EXISTING CONDUIT
(1) WITH (1) 7/C NO. 10 AWG TRAFFIC
SIGNAL CABLE
(1) WITH (3) LDLIC
(1) WITH (1) 6-COUNT FOC AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

INSTALL IN EXISTING CONDUIT
(1) CONDUIT WITH (1) LDLIC AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

EXPB178
(SPLICE NEW LDLICS ONTO EXISTING
LOOP DETECTOR WIRES)

INSTALL IN EXISTING CONDUIT
(1) CONDUIT WITH (6) LDLIC AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

EXPB13A
(SPLICE NEW LDLICS ONTO EXISTING
LOOP DETECTOR WIRES)

INSTALL IN EXISTING CONDUIT
(1) CONDUIT WITH (1) LDLIC AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

EXPB15A

EXPB14A
(SPLICE NEW LDLIC ONTO EXISTING
LOOP DETECTOR WIRES)

EXSB15A

EXSB16A

CV6004

EXMH182
(1) INSTALL PROPOSED
CONDUIT INTO
EXISTING MANHOLE
(72) F.O. SPLICES IN
NEW SPLICE ENCLOSURE (S-F)

(3) 2-INCH HDPE DUCTS
(1) WITH (1) 72-COUNT FOC (S-F) AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

EXPB16A

(EB ENT A)
6'X6'(3-TURNS)

(1) INSTALL PROPOSED
CONDUIT INTO EXISTING
PULL BOX

(EB ENT B)
6'X6'(4-TURNS)

(1) 2-INCH NONMETALLIC CONDUIT WITH
(1) 6-COUNT FOC (S-F) AND (1) NO.
10 AWG TRAFFIC SIGNAL WIRE

(4) 3-INCH NONMETALLIC CONDUITS
(1) WITH (1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE,
(1) 5/C NO. 10 AWG TRAFFIC SIGNAL CABLE, AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE
(1) WITH (8) LDLIC
(1) WITH (8) LDLIC

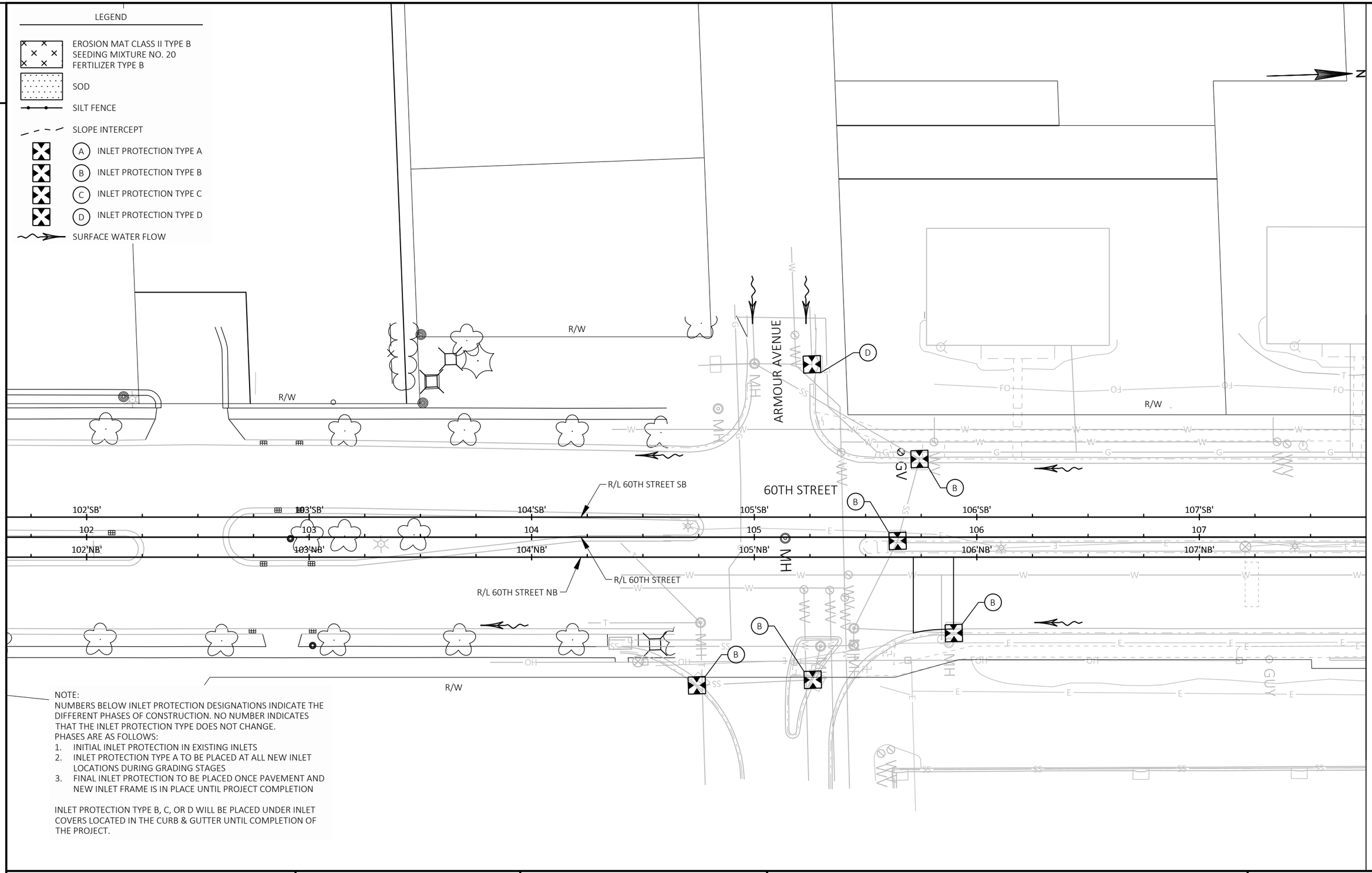
EX-CB-RM-40-0050 / CCTV-40-0026 CONDUIT AND CABLE ROUTING
EX-CB-RM-40-0050 / CCTV-40-0026
(6) F.O. TERMINATIONS IN EXISTING F.O. TERMINATION PANEL
CABINET - EXPB12C
INSTALL IN EXISTING CONDUITS
(1) WITH (8) LDLIC AND (1) 6-COUNT FOC (S-F)
(1) WITH (8) LDLIC AND (1) CAMERA CABLE
(1) WITH (1) 5/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE
(1) 2-INCH NONMETALLIC CONDUIT WITH
(1) 5/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE
EXPB12C - PB11C
(3) 3-INCH NONMETALLIC CONDUITS WITH
(1) WITH (8) LDLIC, (1) 6-COUNT FOC (S-F), AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE
(1) WITH (8) LDLIC
(1) WITH (1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) 5/C NO. 10 AWG TRAFFIC SIGNAL CABLE
PB11C - FY11C
(1) 2-INCH NONMETALLIC CONDUIT WITH
(2) 5/C NO. 10 AWG TRAFFIC SIGNAL CABLES AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE
EXPB12C - CCTV-40-0026
(2) 2-INCH NONMETALLIC CONDUITS
(1) WITH (1) CAMERA CABLE AND (1) NO. 10 AWG TRAFFIC SIGNAL WIRE

ADDITIONAL RM-40-0051 CONDUIT AND CABLING DIRECTIONS
PB11A - FY11A
(1) 2-INCH NONMETALLIC CONDUIT WITH
(2) 5/C NO. 10 AWG TRAFFIC SIGNAL CABLES AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE
PB12A - FY12A
(1) 2-INCH NONMETALLIC CONDUIT WITH
(1) 5/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE
EXPB13A - EXPB14A
INSTALL IN EXISTING CONDUIT
(1) WITH (1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE
(1) WITH (7) LDLIC
(1) WITH (1) 6-COUNT FOC (S-F) AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE
EXPB14A - EXPB15A
INSTALL IN EXISTING CONDUIT
(1) WITH (1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE
(1) WITH (6) LDLIC
(1) WITH (1) 6-COUNT FOC (S-F) AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE
EXPB16A - EXFY16A
(1) WITH (1) 7/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE
EXPB15A - EXFY15A
(1) WITH (1) 9/C NO. 10 AWG TRAFFIC SIGNAL CABLE,
(1) 7/C NO. 10 AWG TRAFFIC SIGNAL CABLE AND
(1) NO. 10 AWG TRAFFIC SIGNAL WIRE

PROJECT NO: 1100-46-70	HWY: IH 41 / 43 / 894	COUNTY: MILWAUKEE	FTMS DESIGN	SHEET 43	E

LEGEND

- EROSION MAT CLASS II TYPE B
  SEEDING MIXTURE NO. 20
  FERTILIZER TYPE B
- SOD
- SILT FENCE
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- SURFACE WATER FLOW



NOTE:
NUMBERS BELOW INLET PROTECTION DESIGNATIONS INDICATE THE DIFFERENT PHASES OF CONSTRUCTION. NO NUMBER INDICATES THAT THE INLET PROTECTION TYPE DOES NOT CHANGE.
PHASES ARE AS FOLLOWS:

1. INITIAL INLET PROTECTION IN EXISTING INLETS
2. INLET PROTECTION TYPE A TO BE PLACED AT ALL NEW INLET LOCATIONS DURING GRADING STAGES
3. FINAL INLET PROTECTION TO BE PLACED ONCE PAVEMENT AND NEW INLET FRAME IS IN PLACE UNTIL PROJECT COMPLETION

INLET PROTECTION TYPE B, C, OR D WILL BE PLACED UNDER INLET COVERS LOCATED IN THE CURB & GUTTER UNTIL COMPLETION OF THE PROJECT.

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	EROSION CONTROL - 60TH STREET	SHEET 44	E

LEGEND

- EROSION MAT CLASS II TYPE B SEEDING MIXTURE NO. 20 FERTILIZER TYPE B
- SOD
- SILT FENCE
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- SURFACE WATER FLOW

NOTE:
NUMBERS BELOW INLET PROTECTION DESIGNATIONS INDICATE THE DIFFERENT PHASES OF CONSTRUCTION. NO NUMBER INDICATES THAT THE INLET PROTECTION TYPE DOES NOT CHANGE.
PHASES ARE AS FOLLOWS:
1. INITIAL INLET PROTECTION IN EXISTING INLETS
2. INLET PROTECTION TYPE A TO BE PLACED AT ALL NEW INLET LOCATIONS DURING GRADING STAGES
3. FINAL INLET PROTECTION TO BE PLACED ONCE PAVEMENT AND NEW INLET FRAME IS IN PLACE UNTIL PROJECT COMPLETION

INLET PROTECTION TYPE B, C, OR D WILL BE PLACED UNDER INLET COVERS LOCATED IN THE CURB & GUTTER UNTIL COMPLETION OF THE PROJECT.

SEE "EROSION CONTROL - IH 41/43/894" FOR EROSION CONTROL DEVICES ON IH 41/43/894

MATCHLINE STA. 107+75

MATCHLINE STA. 113+75

RAMP B

RAMP C

RAMP A

RAMP D

R/L RAMP B

R/L IH 41/43/894

B-40-1013

R/L 60TH STREET SB

R/L 60TH STREET

R/L 60TH STREET NB

R/L RAMP C

R/L RAMP A

R/L RAMP D

60TH STREET

IH 41 SB / IH 43 NB / IH 894 EB

IH 41 NB /IH 43 SB / IH 894 WB

BEGIN PROJECT STA. 107+96.74

EXISTING R-40-36

END PROJECT STA. 113+65.00

TLE

R/W

CAUTION

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	EROSION CONTROL - 60TH STREET	SHEET 45	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\022001_EC.DWG
LAYOUT NAME - 022002_ec-60th

PLOT DATE : 1/29/2021 3:23 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

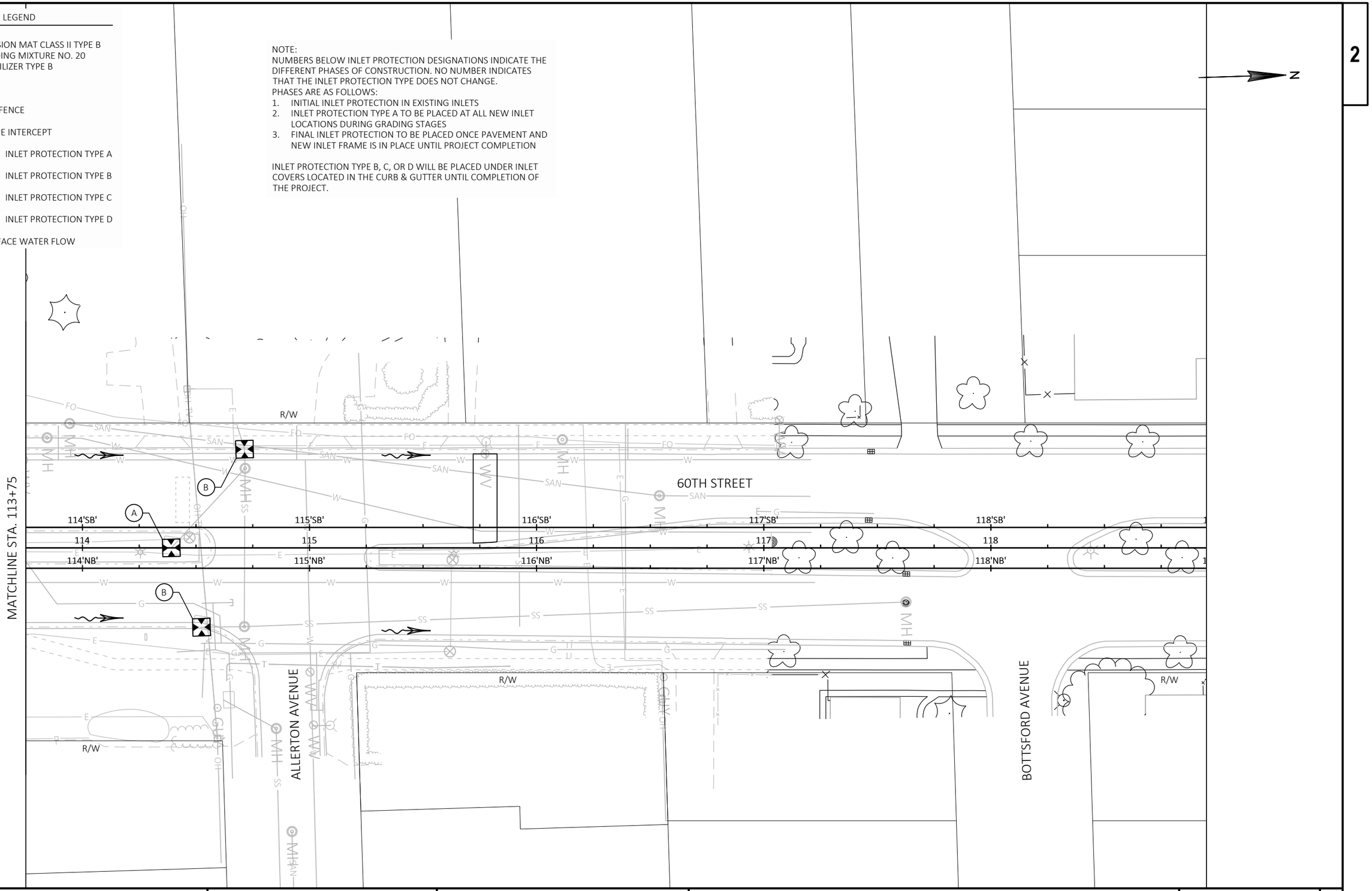
LEGEND

- EROSION MAT CLASS II TYPE B SEEDING MIXTURE NO. 20 FERTILIZER TYPE B
- SOD
- SILT FENCE
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- SURFACE WATER FLOW

NOTE:
NUMBERS BELOW INLET PROTECTION DESIGNATIONS INDICATE THE DIFFERENT PHASES OF CONSTRUCTION. NO NUMBER INDICATES THAT THE INLET PROTECTION TYPE DOES NOT CHANGE.
PHASES ARE AS FOLLOWS:

1. INITIAL INLET PROTECTION IN EXISTING INLETS
2. INLET PROTECTION TYPE A TO BE PLACED AT ALL NEW INLET LOCATIONS DURING GRADING STAGES
3. FINAL INLET PROTECTION TO BE PLACED ONCE PAVEMENT AND NEW INLET FRAME IS IN PLACE UNTIL PROJECT COMPLETION

INLET PROTECTION TYPE B, C, OR D WILL BE PLACED UNDER INLET COVERS LOCATED IN THE CURB & GUTTER UNTIL COMPLETION OF THE PROJECT.



PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	EROSION CONTROL - 60TH STREET	SHEET 46	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\022001_EC.DWG
LAYOUT NAME - 022003_ec-60th
PLOT DATE : 1/29/2021 2:59 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########

2

LEGEND

- EROSION MAT CLASS II TYPE B, SEEDING MIXTURE NO. 20, FERTILIZER TYPE B
- SOD
- SILT FENCE
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- SURFACE WATER FLOW

N

RAMP C

IH 41 NB /IH 43 SB / IH 894 WB

R/L IH 41/43/894

IH 41 SB / IH 43 NB / IH 894 EB

WETLAND

RAMP B

9'B'

R/W

MATCHLINE STA. 173+00

NOTE:
NUMBERS BELOW INLET PROTECTION DESIGNATIONS INDICATE THE DIFFERENT PHASES OF CONSTRUCTION. NO NUMBER INDICATES THAT THE INLET PROTECTION TYPE DOES NOT CHANGE.
PHASES ARE AS FOLLOWS:

1. INITIAL INLET PROTECTION IN EXISTING INLETS
2. INLET PROTECTION TYPE A TO BE PLACED AT ALL NEW INLET LOCATIONS DURING GRADING STAGES
3. FINAL INLET PROTECTION TO BE PLACED ONCE PAVEMENT AND NEW INLET FRAME IS IN PLACE UNTIL PROJECT COMPLETION

INLET PROTECTION TYPE B, C, OR D WILL BE PLACED UNDER INLET COVERS LOCATED IN THE CURB & GUTTER UNTIL COMPLETION OF THE PROJECT.

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	EROSION CONTROL - IH 41/43/894	SHEET 47	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\022001_EC.DWG
LAYOUT NAME - 022004_ec-IH41

PLOT DATE : 1/29/2021 3:00 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

MATCHLINE STA. 173+00

RAMP C

12'C'

11'C'

R/L RAMP C

60TH STREET

11'D'

RAMP D

12'D'

R/L RAMP D

N

SEE "EROSION CONTROL - 60TH STREET" FOR EROSION CONTROL DEVICES ON 60TH STREET AND RAMP INTERSECTIONS

112'SB'

112

112'NB'

IH 41 NB /IH 43 SB / IH 894 WB

111'SB'

111

111'NB'

R/L IH 41/43/894

IH 41 SB / IH 43 NB / IH 894 EB

110'SB'

110

110'NB'

SEE "EROSION CONTROL - 60TH STREET" FOR EROSION CONTROL DEVICES ON 60TH STREET AND RAMP INTERSECTIONS

LEGEND

- EROSION MAT CLASS II TYPE B, SEEDING MIXTURE NO. 20, FERTILIZER TYPE B
- SOD
- SILT FENCE
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- SURFACE WATER FLOW

11'B'

RAMP B

12'B'

R/L RAMP B

R/L 60TH STREET SB

R/L 60TH STREET NB

R/L 60TH STREET

109'SB'

109

109'NB'

11'A'

RAMP A

R/L RAMP A

NOTE:
NUMBERS BELOW INLET PROTECTION DESIGNATIONS INDICATE THE DIFFERENT PHASES OF CONSTRUCTION. NO NUMBER INDICATES THAT THE INLET PROTECTION TYPE DOES NOT CHANGE.
PHASES ARE AS FOLLOWS:

1. INITIAL INLET PROTECTION IN EXISTING INLETS
2. INLET PROTECTION TYPE A TO BE PLACED AT ALL NEW INLET LOCATIONS DURING GRADING STAGES
3. FINAL INLET PROTECTION TO BE PLACED ONCE PAVEMENT AND NEW INLET FRAME IS IN PLACE UNTIL PROJECT COMPLETION

INLET PROTECTION TYPE B, C, OR D WILL BE PLACED UNDER INLET COVERS LOCATED IN THE CURB & GUTTER UNTIL COMPLETION OF THE PROJECT.

MATCHLINE STA. 179+00

2

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	EROSION CONTROL - IH 41/43/894	SHEET 48	E

2

2

MATCHLINE STA. 179+00

N

RAMP D

B

D

13'D'

PC: 179+40.49

PT: 185+03.47

IH 41 NB /IH 43 SB / IH 894 WB

R/L IH 41/43/894

IH 41 SB / IH 43 NB / IH 894 EB

RAMP A

B

D

R/W

NOTE:
NUMBERS BELOW INLET PROTECTION DESIGNATIONS INDICATE THE DIFFERENT PHASES OF CONSTRUCTION. NO NUMBER INDICATES THAT THE INLET PROTECTION TYPE DOES NOT CHANGE.
PHASES ARE AS FOLLOWS:

1. INITIAL INLET PROTECTION IN EXISTING INLETS
2. INLET PROTECTION TYPE A TO BE PLACED AT ALL NEW INLET LOCATIONS DURING GRADING STAGES
3. FINAL INLET PROTECTION TO BE PLACED ONCE PAVEMENT AND NEW INLET FRAME IS IN PLACE UNTIL PROJECT COMPLETION

INLET PROTECTION TYPE B, C, OR D WILL BE PLACED UNDER INLET COVERS LOCATED IN THE CURB & GUTTER UNTIL COMPLETION OF THE PROJECT.

LEGEND

- EROSION MAT CLASS II TYPE B SEEDING MIXTURE NO. 20 FERTILIZER TYPE B
- SOD
- SILT FENCE
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- SURFACE WATER FLOW

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	EROSION CONTROL - IH 41/43/894	SHEET 49	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\022001_EC.DWG
LAYOUT NAME - 022006_ec-IH41

PLOT DATE : 1/29/2021 3:02 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

IH 41 SB / IH 43 NB / IH 894 EB

STA 110+28, 124.6' L
INLETS 2x3-HM
INL-29

CONC. COLLAR 1
STA 110+34, 124.7' L
CONC. COLLAR REQ'D

STA 110+28, 151.8' L
INLETS 2x3-HM
INL-30

STA 110+19, 124.5' L
INLETS MEDIAN 2G-MS
INL-28

STA 110+28, 97.2' L
INLETS 2x3-HM
INL-31

STRUCTURE B-40-195 (EXISTING)
STRUCTURE B-40-1013 (PROPOSED)

STA 109+45, 45.6' L
INLETS 2x3-H
INL-24

SLOPE INTERCEPT (TYP.)

R/L 60TH STREET SB
R/L 60TH STREET
R/L 60TH STREET NB

110+00'SB'
110+00
110+00'NB'

109+00'SB'
109+00
109+00'NB'

9+00'B'
10+00'B'
11+00'B'
12+00'B'

R/L RAMP B
RAMP B

60TH STREET

R/W

CONC. COLLAR 5
STA 110+35, 58.3' R
CONC. COLLAR REQ'D

INL-33
STA 110+30, 57.2' R
INLETS 2x3-HM

CONNECT INLET TO EXISTING 4" TILE E. & W.

OFFSET PIPE CONNECTIONS AS REQ'D

INL-32
STA 110+24, 57.2' R
INLETS MEDIAN 2G-MS

33-LF PIPE UNDERDRAIN UNPERFORATED 6-INCH @ 5.12%
INVERT ELEV.: 756.50 (AT MSE WALL)
SEE STRUCTURE PLANS FOR CONNECTION TO MSE WALL UNDERDRAIN

MH-3
STA 109+63, 57.2' R
MANHOLES 4-J

INL-25
STA 109+63, 45.6' R
INLETS 2x3-H

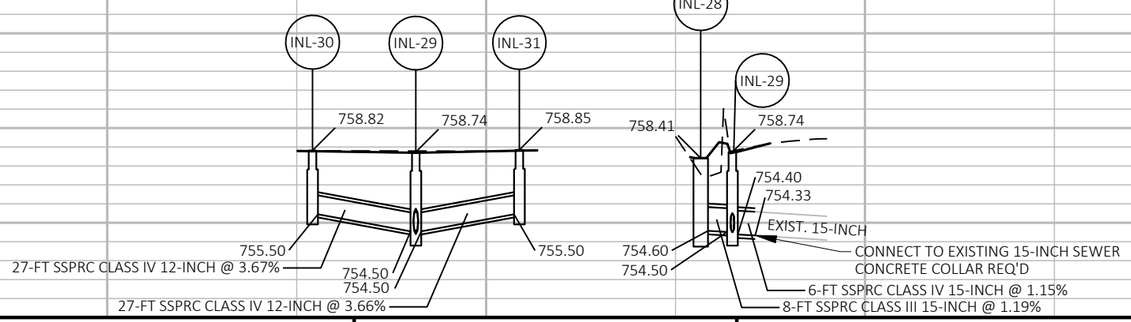
R/L RAMP A
RAMP A
11+00'A'

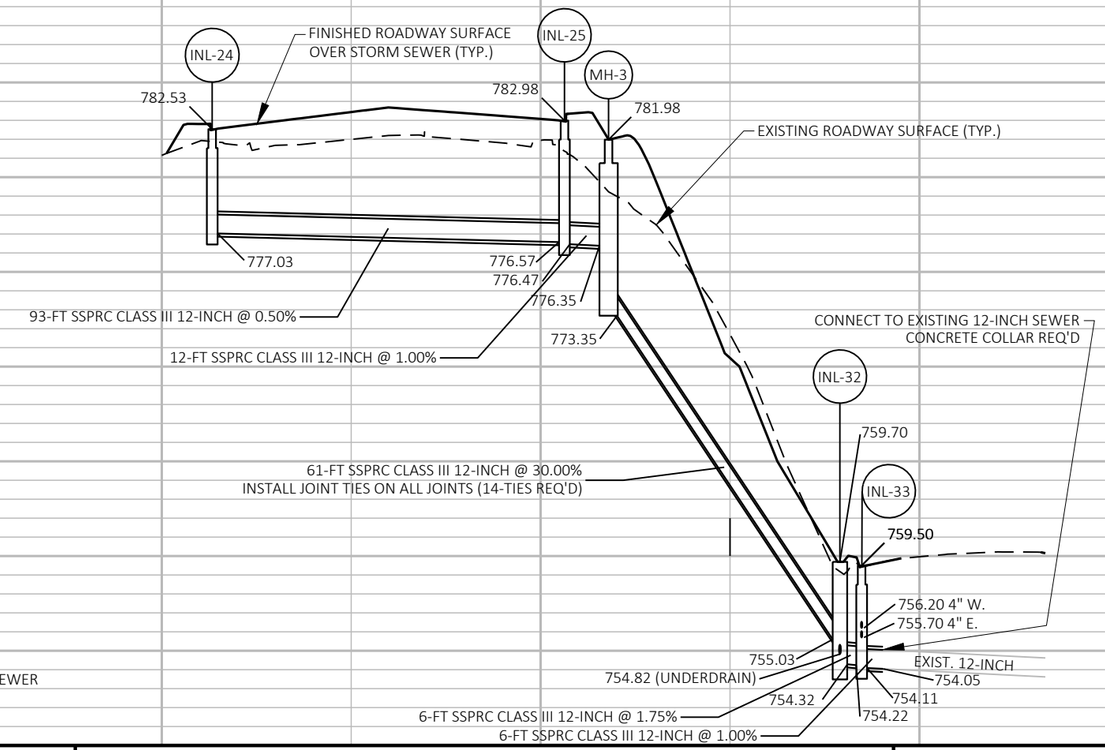
SEE CURB RAMP DETAILS
ADJ. CURB BOX AS REQ'D TO MATCH MODIFIED CURB HEAD

N

2

2

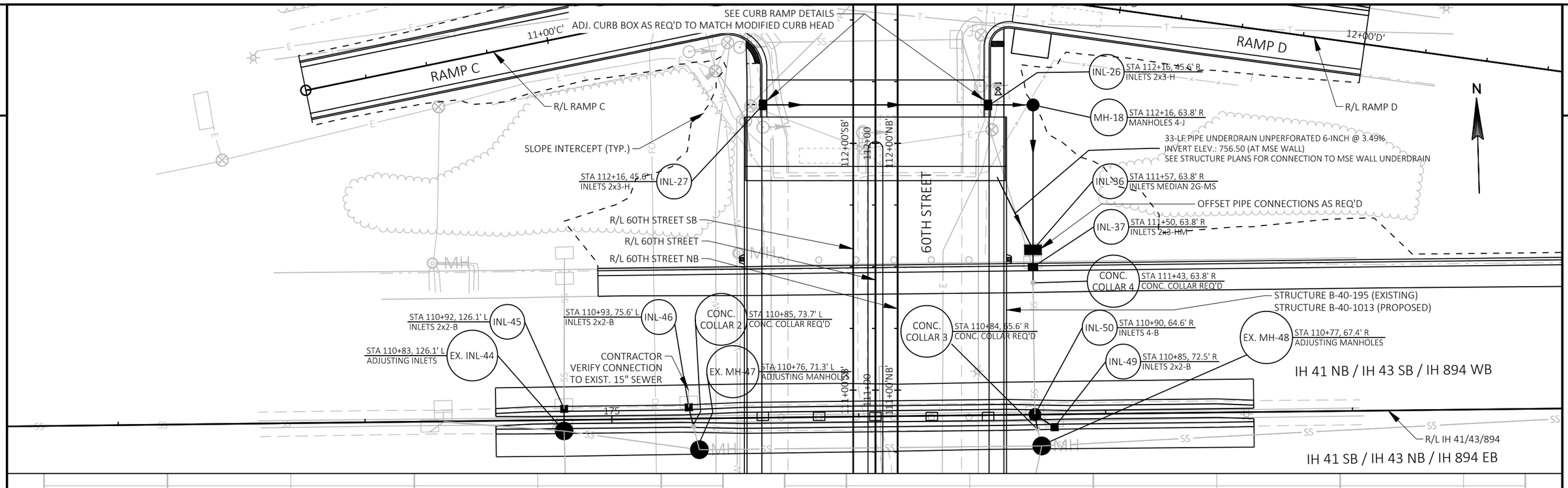




785
780
775
770
765
760
755
750

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	STORM SEWER	SHEET 50	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JESSE.WEBER@AECOM.COM\DMS24696\022501_SS.DWG
LAYOUT NAME - 022501_ss
PLOT DATE : 4/12/2021 1:56 PM
PLOT BY : WEBER, JESSE
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



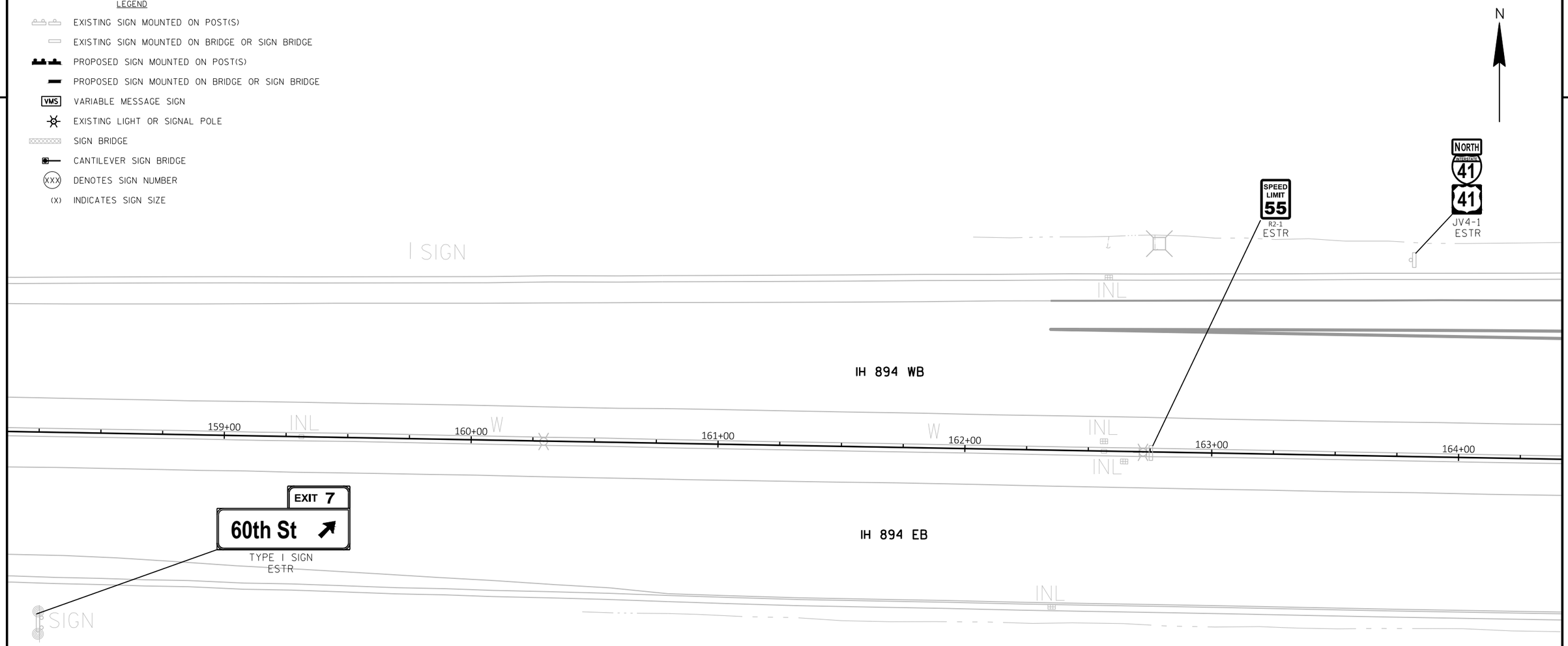
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	STORM SEWER	SHEET 51	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JESSE.WEBER@AECOM.COM\DMS24696\022501_SS.DWG
LAYOUT NAME - 022502_ss
PLOT DATE : 4/12/2021 1:57 PM
PLOT BY : WEBER, JESSE
PLOT NAME :
PLOT SCALE : ##########
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
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE



TYPE II ALUMINUM SIGNS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE COUNTY SIGN SHOP. CONTACT THE FOLLOWING INDIVIDUAL AT THE SIGN SHOP FOR DISTRIBUTION COUNTY LOCATION.

SIGNING COORDINATOR COUNTY(S) PHONE*

- DENNIS NEWTON MILWAUKEE 414-750-0257
- DENNIS NEWTON RACINE 414-750-0257
- JENNY BUCKETT KENOSHA, WASHINGTON, OZAUKEE 414-750-2427
- CHUCK SALDIVAR WALWORTH, WAUKESHA 414-750-1682

SIGNS SHALL BE CAREFULLY REMOVED FROM SIGN SUPPORTS. THE SIGNS SHALL BE PALLETIZED FOR HANDLING WITH A FORKLIFT (SEE STANDARD SPEC 638.3.4). THE REGIONAL SIGN SHOP (414-266-1165) SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF THE SIGNS.

WHEN AN EXISTING STOP SIGN SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED, THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POST SIZES, FOR TYPE II SIGNS ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

STREET NAME SIGNS ARE PROPERTY OF THE MUNICIPALITY (CITY, VILLAGE OR TOWN). THE MUNICIPALITY SHALL BE CONTACTED TO REMOVE THEIR STREET NAME SIGNS PRIOR TO CONSTRUCTION AND IT IS THEIR RESPONSIBILITY TO REINSTALL THE OLD SIGNS OR REPLACE THEM FOLLOWING CONSTRUCTION. WISDOT DOES NOT FURNISH OR INSTALL STREET NAME SIGNS. THE STREET NAME SIGNS SHALL NOT BE PLACED ON TOP OF THE STOP SIGNS.

LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM. PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.

PROJECT NO: 1100-46-70	HWY: IH 894	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 52	E

FILE NAME : C:\CIVIL 3D PROJECTS\11004600\SIGN\023201_PS_1100-46-00.DWG
LAYOUT NAME - Sheet-01_894
PLOT DATE : 10/14/2020 2:47 PM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT
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
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE

N

Boerner Botanical Gardens
EXIT 5 A
TYPE I SIGN
ESTR

SOUTH INTERSTATE 43 WEST INTERSTATE 894
JV4-1
ESTR

RIDESHARE INFORMATION
www.rideshare.wi.gov
D12-2B
ESTR

INL
SLAB
SIGN
INL
SIGN

IH 894 WB ON RAMP

IH 894 WB

W
165+00
INL
166+00
167+00
INL
168+00
INL
W
169+00
170+00

IH 894 EB

INL
MH

IH 894 EB OFF RAMP

INL INL INL

SHEET 2 OF 10

PROJECT NO: 1100-46-70	HWY: IH 894	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 53	E

FILE NAME : C:\CIVIL 3D PROJECTS\11004600\SIGN\023201_PS_1100-46-00.DWG
LAYOUT NAME - Sheet-02_894
PLOT DATE : 10/14/2020 2:48 PM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

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
- (X) INDICATES SIGN SIZE

W4-2R ESTR

RIGHT LANE SIGNAL R10-65R ESTR

STOP HERE ON RED R10-6 ESTR

STOP HERE ON RED R10-6 ESTR

LEFT LANE BUSES MOTORCYCLES AND 2 OR MORE OCCUPANT CAR POOLS ONLY R3-51L ESTR

LEFT LANE SIGNAL R10-65L ESTR

IH 894 WB ON RAMP

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED (1) R5-57 MOVE

W4-1R

MILE 7 D10-1 ESTR

(2) LEFT LANE BUSES MOTORCYCLES AND 2 OR MORE OCCUPANT CAR POOLS ONLY R3-51L MOVE

IH 894 WB

IH 894 EB

170+00 171+00 172+00 173+00 174+00 175+00 176+00

11+00 12+00

N

30' 40'

SLAB SIGN MH INL W POST

60 th St REMOVE

(3) 60th St M1-94 ON BRIDGE

(4) MILE 7 D10-1 MOVE

S. 60TH ST.

EXIT 8A (36) Loomis Rd 3/4 MILE TYPE I SIGN ESTR

(59) Historic Downtown Greendale MOVE

WRONG WAY R5-1A ESTR

R3-8ER ESTR

IH 894 EB OFF RAMP

9+00 10+00 11+00 12+00 100+00

EXIT 7 E5-1A ESTR

60th St NORTH SOUTH D1-60 ESTR

W3-3 ESTR

SHEET 3 OF 10

PROJECT NO: 1100-46-70	HWY: IH 894	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 54	E

FILE NAME : C:\CIVIL 3D PROJECTS\11004600\SIGN\023201_PS_1100-46-00.DWG
LAYOUT NAME - Sheet-03_894

PLOT DATE : 10/14/2020 2:49 PM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

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
- (X) — INDICATES SIGN SIZE

N

IH 894 WB OFF RAMP

EXITS 5 A-B

24 U

76th St
Forest Home Ave
1 MILE

TYPE I SIGN
ESTR

R3-8ER
ESTR

W3-3
ESTR

6 Historic Downtown Greendale
MOVE

WRONG WAY
R5-1A
ESTR

60th St
M1-94
ON BRIDGE

60 th St
REMOVE

IH 894 WB

IH 894 EB

S. 60TH ST.

W4-1R
ESTR

7 LEFT LANE
BUSES MOTORCYCLES AND 2 OR MORE OCCUPANT CAR POOLS ONLY
R3-51L
MOVE

8 PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
R5-57
MOVE

LEFT LANE
BUSES MOTORCYCLES AND 2 OR MORE OCCUPANT CAR POOLS ONLY
R3-51L
ESTR

IH 894 EB ON RAMP

LEFT LANE SIGNAL
R10-65L
ESTR

STOP HERE ON RED
R10-6
ESTR

STOP HERE ON RED
R10-6
ESTR

RIGHT LANE SIGNAL
R10-65R
ESTR

W4-2R
ESTR

SHEET 4 OF 10

PROJECT NO: 1100-46-70	HWY: IH 894	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 55	E

FILE NAME : C:\CIVIL 3D PROJECTS\11004600\SIGN\023201_PS_1100-46-00.DWG
LAYOUT NAME - Sheet-04_894

PLOT DATE : 10/14/2020 2:50 PM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

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
- XXX — DENOTES SIGN NUMBER
- (XXT) — INDICATES SIGN SIZE

N

EXIT 7

E5-1A
ESTR

NORTH INTERSTATE 43 EAST INTERSTATE 894

JV4-1
ESTR

IH 894 WB OFF RAMP

IH 894 WB

182+00 183+00 184+00 185+00 186+00 187+00

IH 894 EB

IH 894 EB ON RAMP

Park & Ride
EXIT 8 A-B

D4-3
ESTR

SHEET 5 OF 10

PROJECT NO: 1100-46-70	HWY: IH 894	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 56	E

FILE NAME : C:\CIVIL 3D PROJECTS\11004600\SIGN\023201_PS_1100-46-00.DWG
LAYOUT NAME - Sheet-05_894

PLOT DATE : 10/14/2020 2:51 PM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

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
- (X) — INDICATES SIGN SIZE

N

EXISTING SIGN BRIDGE
S-40-009

EXIT 7
60th St
EXIT ONLY
E11-1D
ESTR

IH 894 WB

IH 894 EB

SPEED LIMIT 55
R2-1
ESTR

TRAVEL INFO CALL 511
D12-5
ESTR

187+00 188+00 189+00 190+00 191+00 192+00 193+00

MH

W INL SIGN

SHEET 6 OF 10

PROJECT NO: 1100-46-70	HWY: IH 894	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 57	E

FILE NAME : C:\CIVIL 3D PROJECTS\11004600\SIGN\023201_PS_1100-46-00.DWG
LAYOUT NAME - Sheet-06_894

PLOT DATE : 10/14/2020 2:53 PM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

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
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE

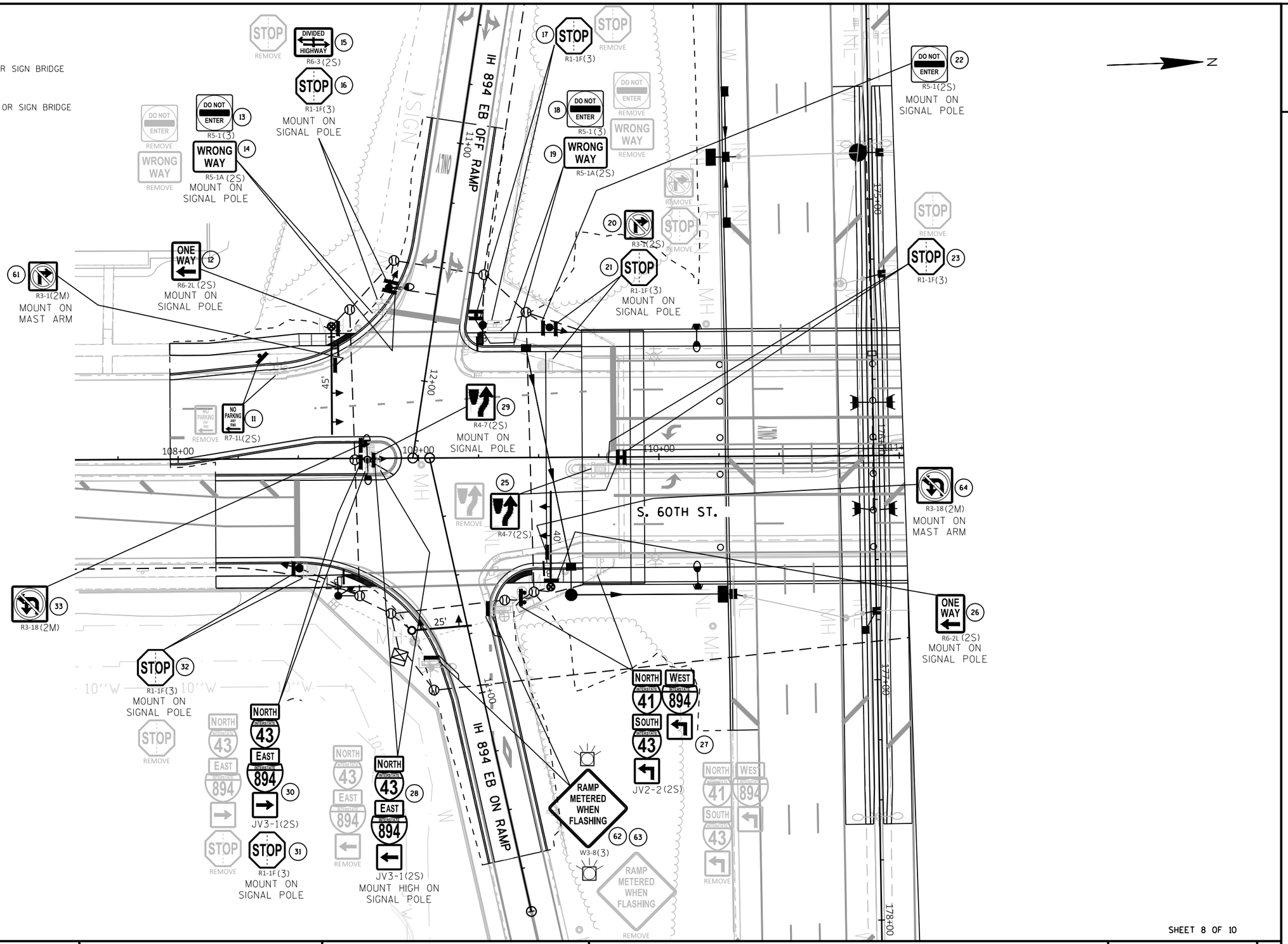
N

2

SIGN
INL
MH
INL INL
INL INL
INL
MH
INL
INL INL
INL INL
MH
INL
INL
MH
MH
MH
INL
MH
INL
MH
INL

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
- (X) — INDICATES SIGN SIZE



SHEET 8 OF 10

PROJECT NO: 1100-46-70	HWY: IH 894	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 59	E

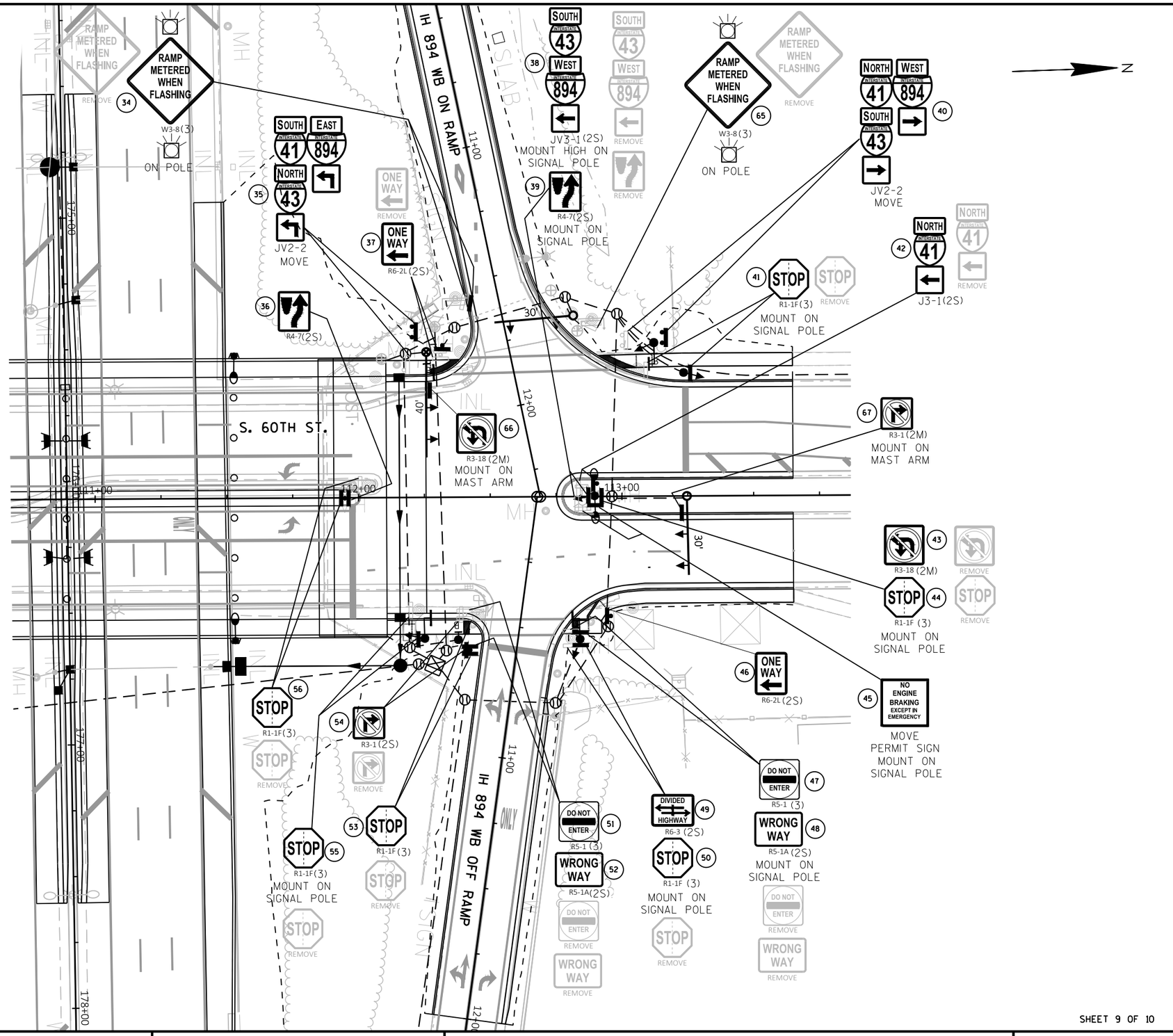
FILE NAME : C:\CIVIL 3D PROJECTS\11004600\SIGN\023201_PS_1100-46-00.DWG
LAYOUT NAME - Sheet-08_60th

PLOT DATE : 10/14/2020 2:55 PM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

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
- (X) INDICATES SIGN SIZE



SHEET 9 OF 10

PROJECT NO: 1100-46-70	HWY: IH 894	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 60	E

FILE NAME : C:\CIVIL 3D PROJECTS\11004600\SIGN\023201_PS_1100-46-00.DWG
LAYOUT NAME - Sheet-09_60th

PLOT DATE : 10/14/2020 2:56 PM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

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
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

NORTH INTERSTATE 43 | EAST INTERSTATE 894 | SOUTH INTERSTATE 43 | WEST INTERSTATE 894

J2-4
ESTR

W3-3
ESTR

W3-3
MOVE

58

RESTRICTED LANE
LEFT LANE

57

REMOVE

POST

POST

MH

INL

S. 60TH ST.

114+00

115+00

116+00

117+00

118+00

119+00

503
767.910
CP F10005PK BERNTSEN FENO WITH ALUMINUM CAP

NO OUTLET
W14-2

R5-2
ESTR

STOP
R1-1
ESTR

SHEET 10 OF 10

PROJECT NO: 1100-46-70	HWY: IH 894	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 61	E

FILE NAME : C:\CIVIL 3D PROJECTS\11004600\SIGN\023201_PS_1100-46-00.DWG
LAYOUT NAME - Sheet10_60th

PLOT DATE : 10/14/2020 2:58 PM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

S. 72ND ST.

S. 68TH ST.

OH

INL

PI 152+44.150

150+15
DAL36

150

152

152+60
CAL35

154

155+05
DAL34

156

157+50
CAL33 / 1894

158

159+90
DAL32

160

162+40
CAL31

162

164

164+43
AAL21

CAL36

DAL35

CAL34

DAL33 / 1894

CAL32

#2 C,D,N

DAL31

S-40-220
1MV-C/AL

#4 A,B,N

3" #4 A,B,N
#2 C,D,N

B-40-194

B10

A10

PB20

4"

2"

12' GATE

DISTRIBUTION
CENTER
HL-40-AL

3-#10
PCAL

2 UDL
A/B/AL

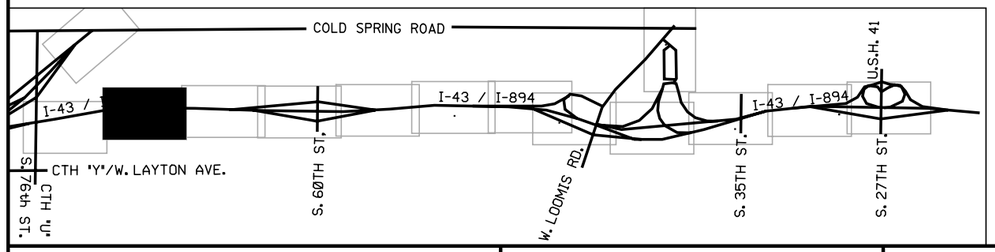
2 UDL
C/D/AL

S-40-221
1MV-B/AL

BAL21

HL-40-AL	
A,C	RED
B,D	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D	30A
240/480VAC 3 WIRE GROUNDED NEUTRAL	

N



FOR INFORMATION
PURPOSES ONLY

PROJECT NO: AS-BUILT	HWY: I-894, I-43	COUNTY: MILWAUKEE	DISTRIBUTION CENTER - AL	SHEET 62	E

2

2

W. ALLERTON AVE.

S. 67TH ST.

S. 64TH ST.

OH

W

INL

164+43
AAL21

166+85
AAL22

169+30
BAL23

171+75
AAL24

174+20
BAL25

176+65
AAL26

179+05
BAL27

166

168

170

172

174

176

178

180

S-40-221
1MV-B/AL

BAL21

BAL22

AAL23

BAL24

AAL25

BAL26

AAL27

COLD SPRING ROAD

I-43 / I-894

CTH 'Y'/W. LAYTON AVE.

S. 76TH ST.

S. 60TH ST.

W. LOOMIS RD.

S. 35TH ST.

S. 27TH ST.

U.S.H. 41

N

FOR INFORMATION
PURPOSES ONLY

PROJECT NO: AS-BUILT	HWY: I-894, I-43	COUNTY: MILWAUKEE	DISTRIBUTION CENTER - AL	SHEET 63	E

2

2

N

OBSCURED

S. 61ST ST.

S. 60TH ST.

OH

INL

BAL10 BAL6 BAL7 BAL8 BAL9

AAL27 BAL27 179+05

180 182 184 186 188 190 192 194

AAL29 BAL28 181+45 AAL28 183+90 BAL29 3" 3"

AAL30 BAL30 186+30

AAL31 BAL31 188+70

B15 A15 A16 B16

B-40-195

AAL11 AAL7 AAL8 AAL9 AAL10

SIGN

2 UDL
SIGNAL

CB010 CB011 CB09

191+50 CB031 DB031

I 43 / I 894

193+90 DB030 CB030

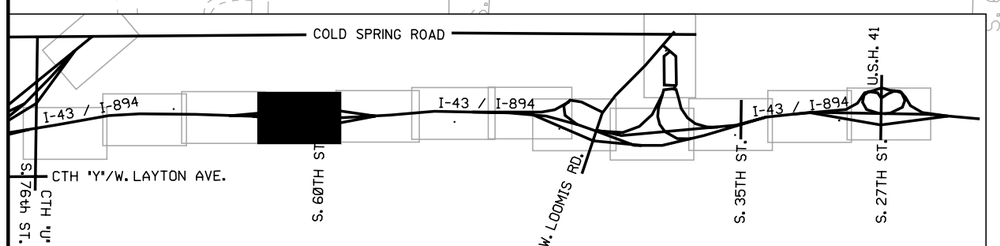
4 UDL
A/B/AL

DB08 DB09 DB010

W

S. 62ND ST.

S. 61ST ST.



FOR INFORMATION
PURPOSES ONLY

PROJECT NO: AS-BUILT	HWY: I-894, I-43	COUNTY: MILWAUKEE	DISTRICT CENTER - AL & BO	SHEET 64	E

FILE NAME : J:\projects\d2_light\40mil\40894EW19.dgn PLOT DATE : 27-JUN-2006 11:44 PLOT BY : DITJ3S PLOT NAME : PLOT SCALE : 100.000000:1.000000 WISDOT/CADDS SHEET 42

GENERAL NOTES

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

LOCATIONS OF THE PVC CONDUITS ARE IDENTIFIED IN THE PLANS WHERE THEY ARE REQUIRED. APPROPRIATE ADJUSTMENT ON CONDUIT LOCATIONS MAY BE MADE IF THE FIELD CONDITIONS ARE SUCH THAT THE CONDUIT CANNOT BE INSTALLED AT THE SPECIFIED LOCATIONS. FIELD MARK EACH CONDUIT LOCATIONS IN RED.

THE TRENCH SHALL NOT BE BACK FILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL CONDUITS SHALL BE CAPPED OR PLUGGED WITH ENGINEER APPROVED FITTINGS IMMEDIATELY AFTER INSTALLATION.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR IMMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO ALL REMOVE ALL ROUGH EDGES ON THE ALL CONDUITS

PRIOR TO CONDUIT ACCEPTANCE ALL CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND BE CAPPED WITH THE APPROPRIATE CAST PLASTIC CAP WHICH FITS SNUGGLY ON THE CONDUIT, BUT EASILY REMOVED IN THE FUTURE. DUCT TAPE OR ANY OTHER CAPPING METHOD IS NOT ACCEPTABLE.

CONDUIT RUNS SHALL BE THE SAME SIZE PIPE FROM ONE END TO THE OTHER (FROM PULL BOX-TO-PULL BOX OR JUNCTION BOX OR BASE-TO-BASE, ETC.) UNLESS OTHERWISE NOTED ON PLANS.

PULL ROPE (3/8-INCH NYLON) SHALL BE INSTALLED IN ALL NEW CONDUITS.

CONTRACTOR SHALL SUPPLY AS-BUILT DRAWING FOR ALL THE WORK BEING DONE.

INSTALLATION OF LATERAL UNDERGROUND CONDUIT UNDER PAVEMENT SHALL BE INSTALLED MINIMUM 30 INCHES BELOW PROPOSED GRADE. CONDUIT LATERALS SHALL BE TRENCHED UNDER PAVEMENT BEFORE PAVEMENT CONSTRUCTION. CONTRACTOR IS RESPONSIBLE TO COORDINATED WITH ROADWAY CONSTRUCTION FOR CONDUIT LATERALS INSTALLATION.

PITCH ALL CONDUITS TOWARDS PULL BOXES. INSTALL A 2" DRAIN DUCT TO STORM SEWER OR DRAIN SUMP AS REQUIRED FOR DRAINAGE. THE 2' DRAIN DUCT OR SUMP IS INCIDENTAL TO THE PULL BOX BID ITEM AND IS NOT SHOWN.

THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE, IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY T HE LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION.

HAND DIGGING MAY BE REQUIRED FOR LOCATIONS ADJACENT TO EXISTING GAS AND POWER LINES. HAND EXCAVATION SHOULD BE ANTICIPATED & WILL BE CONSIDERED INCIDENTAL TO THE CONCRETE BASES BID ITEM. COORDINATE ALL WORK NEAR GAS LINES WITH WE ENERGIES.

EXISTING CONDUIT AND CID NO LONGER BEING USED IS ABANDONED IN PLACE UNLESS NOTED OTHERWISE. CONTRACTOR MAY SALVAGE ABANDONED WIRING AT HIS OWN EXPENSE.

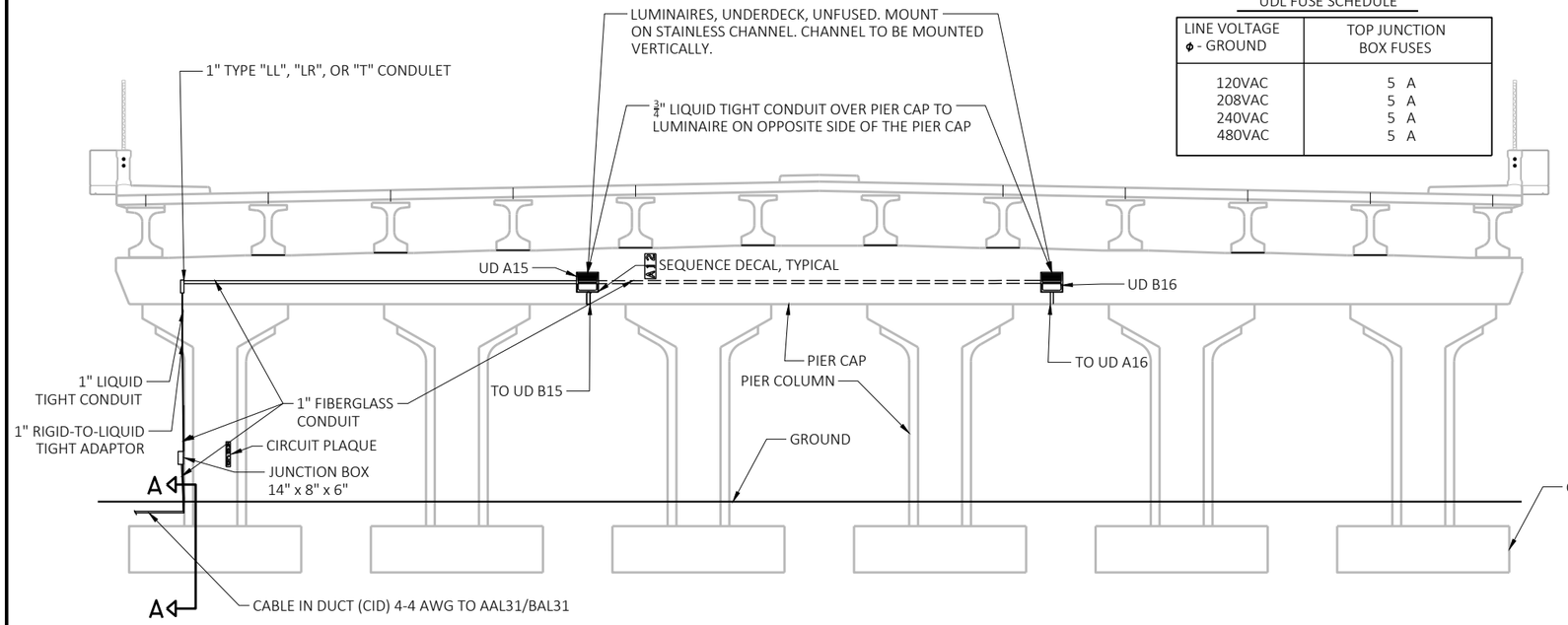
IF CID CONTAINS PHASE CONDUCTORS(S) THAT WILL NOT BE USED FOR FURTHER POLES, I.E. AT THE END OF A CIRCUIT, DO NOT ENERGIZE THE CONDUCTOR(S) LEAVING THE LAST POLE THE PHASE WAS UTILIZED. REMOVED EXCESS CONDUCTOR(S) IN ALL SUBSEQUENT POLES.

SEAL THE ENDS OF ALL CID RACEWAY WITH A UL RECOGNIZED CONDUIT SEALANT. PROVIDE A 1#2" NYLON ROPE EXTENDING BEYOND THE PLUG TO ASSIST IN REMOVING THE PLUG IN THE FUTURE.

SEE DETAIL "CONDUIT DETAILS AT STRUCTURE PARAPET TO ROADWAY BARRIER INTERFACE" WHEN CONDUIT EXISTS TO GRADE FROM A BRIDGE PARAPET OR RETAINING WALL. RIGID METALLIC CONDUIT IN CONCRETE BARRIER IS INCIDENTAL TO THE RIGID NONMETALLIC CONDUIT.

PROVIDE MINIMUM CABLE SLACK AS NOTED BELOW:

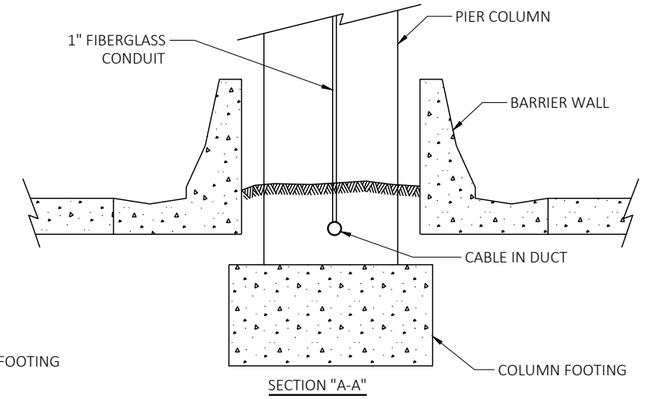
PULL BOXES:	5-FT ONE WAY IN OR OUT
EMBEDDED JUNCTIONS BOXES:	3-FT
DISTRIBUTION CENTER/LOAD CENTER:	10-FT



UDL FUSE SCHEDULE

LINE VOLTAGE ϕ - GROUND	TOP JUNCTION BOX FUSES
120VAC	5 A
208VAC	5 A
240VAC	5 A
480VAC	5 A

TYPICAL UNDERDECK LIGHTING INSTALLATION



SECTION "A-A"

DETAIL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING.

THE PLANS WILL SHOW WHICH CIRCUIT LEGS(S) ARE CONNECTED TO EACH INSTALLATION AND THE REQUIRED NUMBER OF LUMINAIRES.

ELECTRICAL WIRE FROM JUNCTION BOX TO UNDERDECK LIGHTS WILL BE #12 AWG.

THE JUNCTION BOX (FOR FUSE ASSEMBLIES) SHALL CONFORM TO THE APPLICABLE PROVISIONS OF SECTION 653.2.2 OF THE STANDARD SPECIFICATIONS; SHALL BE SUITABLE FOR SURFACE MOUNTING WITH EXTERNAL MOUNTING LUGS; AND SHALL HAVE A HINGED COVER, WING-NUT FASTENERS, AND PADLOCK HASP, ALL HARDWARE SHALL BE STAINLESS STEEL. FURNISH O-Z/GEDNEY YW-120603, SPRING CITY HC-12-06-04, CROUSE-HINDS WTB-120604, OR APPROVED EQUAL.

WIRING FOR THE FIRST LUMINAIRE PAIR IS SHOWN IN SOLID LINES. WIRING FOR ADDITIONAL LUMINAIRE PAIRS, WHERE REQUIRED, IS SHOWN IN DOTTED LINES.

LEGEND

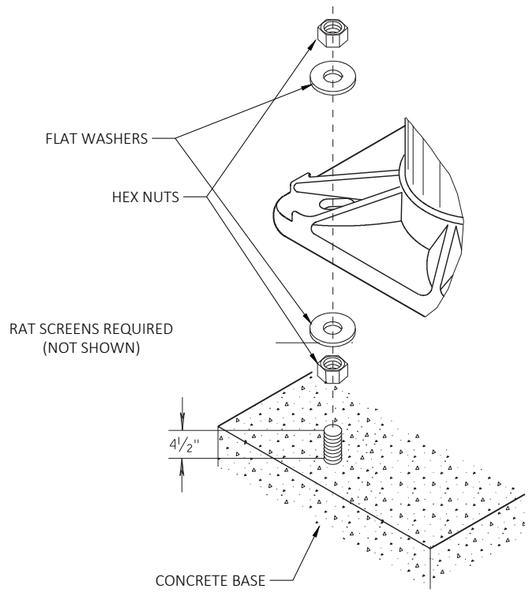
A.B.X.Y.Z	UNGROUNDED CIRCUIT CONDUCTORS		UNFUSED LUMINAIRE
N	GROUNDED CIRCUIT CONDUCTORS		SINGLE POLE (1P) FUSE ASSEMBLY
GND	EQUIPMENT GROUNDING CONDUCTOR		TERMINAL
P	POLE (ELECTRICAL CIRCUIT)		SPLICE
	PHASE (ELECTRICAL CURRENT)		
	HANDHOLE GROUND LUG		CONDUCTOR

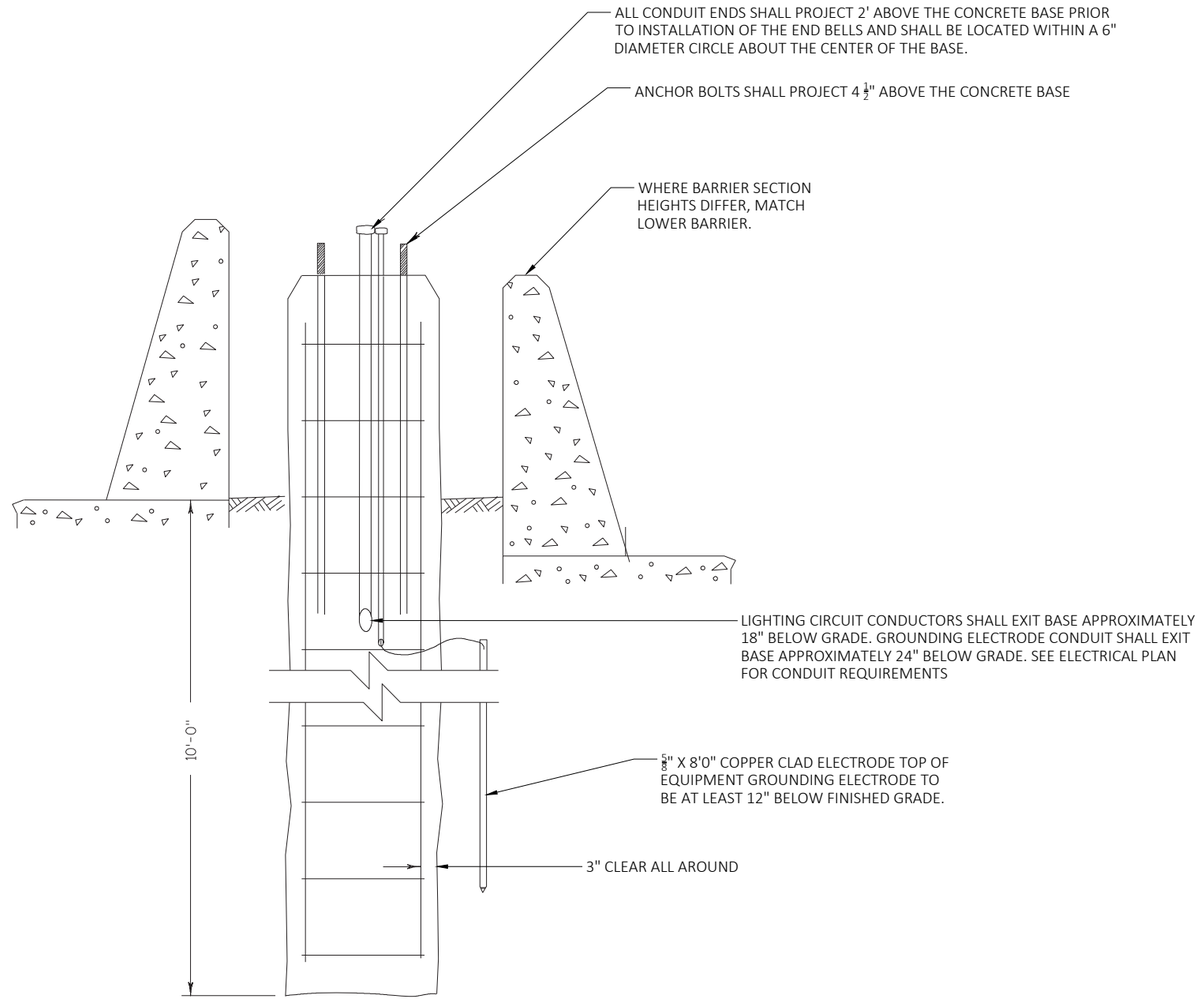
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	LIGHTING GENERAL NOTES AND CONSTUCTION DETAIL	SHEET 65	E

NOTES

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

DETAILS OF CONSTRUCTION WITH THE EXCEPTION OF HEIGHT ABOVE GRADE AND CONDUIT SIZE SHALL BE AS DEFINED IN THE STANDARD DETAIL FOR TYPE B BASE.





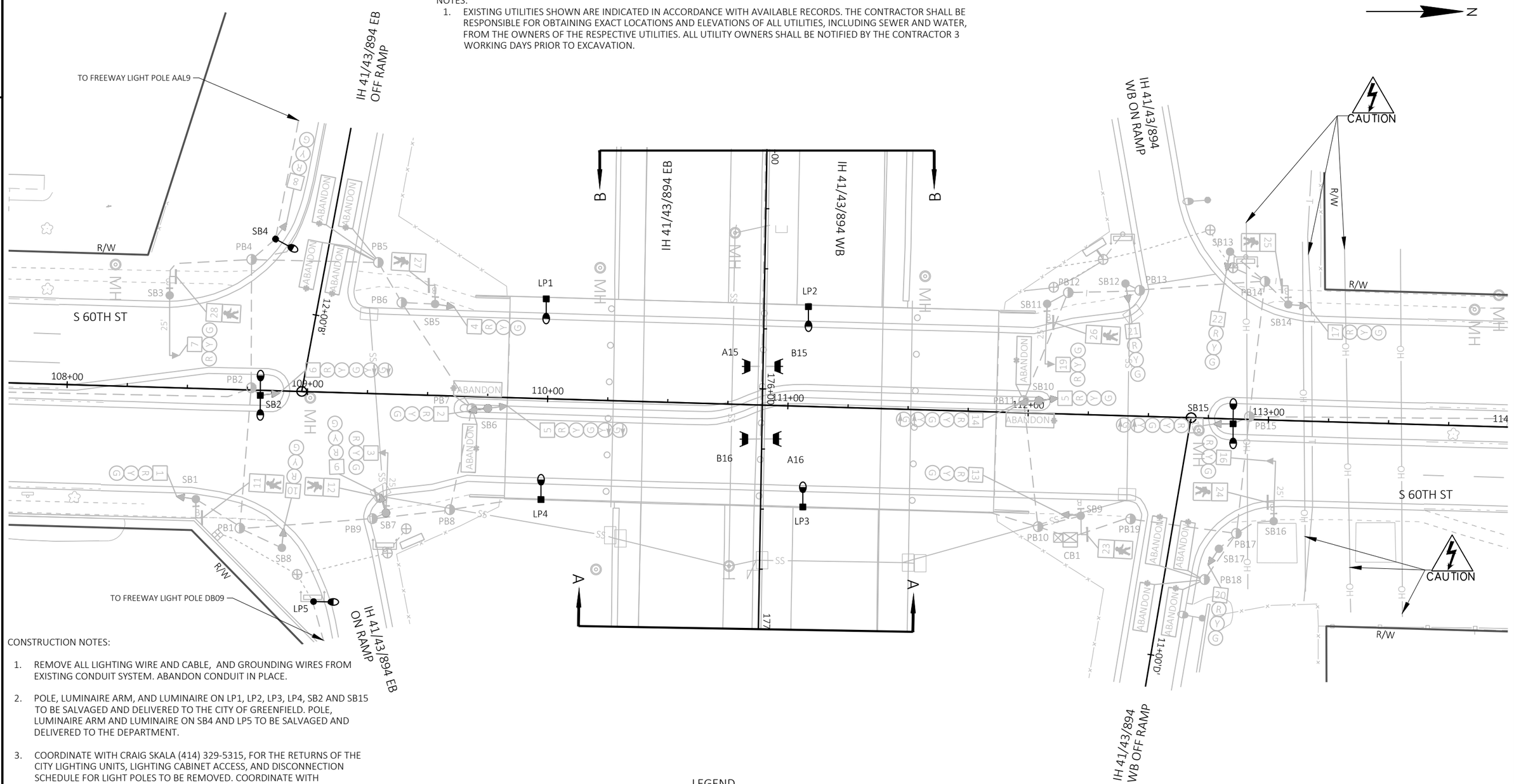
CONCRETE BASE, TYPE "B"

(1" ANCHOR RODS, 15" BOLT CIRCLE, 4 ½ " PROJECTION)

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	LIGHTING CONSTUCTION DETAIL	SHEET 66	E

NOTES:

1. EXISTING UTILITIES SHOWN ARE INDICATED IN ACCORDANCE WITH AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXACT LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SEWER AND WATER, FROM THE OWNERS OF THE RESPECTIVE UTILITIES. ALL UTILITY OWNERS SHALL BE NOTIFIED BY THE CONTRACTOR 3 WORKING DAYS PRIOR TO EXCAVATION.



CONSTRUCTION NOTES:

1. REMOVE ALL LIGHTING WIRE AND CABLE, AND GROUNDING WIRES FROM EXISTING CONDUIT SYSTEM. ABANDON CONDUIT IN PLACE.
2. POLE, LUMINAIRE ARM, AND LUMINAIRE ON LP1, LP2, LP3, LP4, SB2 AND SB15 TO BE SALVAGED AND DELIVERED TO THE CITY OF GREENFIELD. POLE, LUMINAIRE ARM AND LUMINAIRE ON SB4 AND LP5 TO BE SALVAGED AND DELIVERED TO THE DEPARTMENT.
3. COORDINATE WITH CRAIG SKALA (414) 329-5315, FOR THE RETURNS OF THE CITY LIGHTING UNITS, LIGHTING CABINET ACCESS, AND DISCONNECTION SCHEDULE FOR LIGHT POLES TO BE REMOVED. COORDINATE WITH DEPARTMENT AT (414) 266-1170 FOR DISCONNECTION OF SB4 AND LP5 FROM FREEWAY LIGHTING SYSTEM.
4. REMOVE ALL ELECTRICAL WIRE AND ABANDON CONDUIT IN PLACE FOR UNDER DECK LUMINAIRES A15, A16, B15, AND B16.
5. REMOVE ALL ELECTRICAL WIRES AND ABANDON CONDUIT IN PLACE FROM LP5 TO DB09 AND SB4 TO AAL9.

LEGEND

- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- UDL (UNDER DECK LUMINAIRE)
- TWIN ARM FREEWAY LIGHTING UNIT

NOTE: GRAYSHADE REPRESENTS EXISTING, BOLD REPRESENTS ITEMS TO BE REMOVED.

HIGHWAY LIGHTING
IH 41/43/894 & S 60TH ST
CITY OF GREENFIELD
MILWAUKEE COUNTY

INST. NO.

REGION CONTACT: ERIC PEREA
DESIGNED BY: AECOM
REVISED BY:

PAGE 1 OF 2

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	LIGHTING REMOVAL PLAN	SHEET 67	E

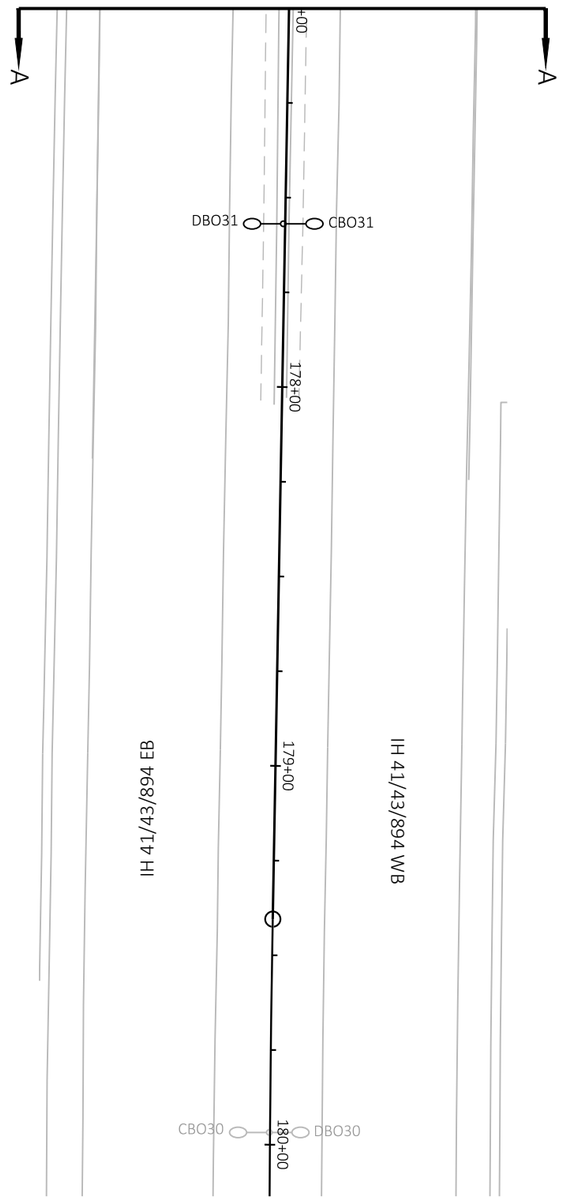
FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JAMES.JENINGA@AECOM.COM\DMS24562\E_LGT.DWG
LAYOUT NAME - 60TH ST. LIGHTING REMOVAL PLAN SHEET 1

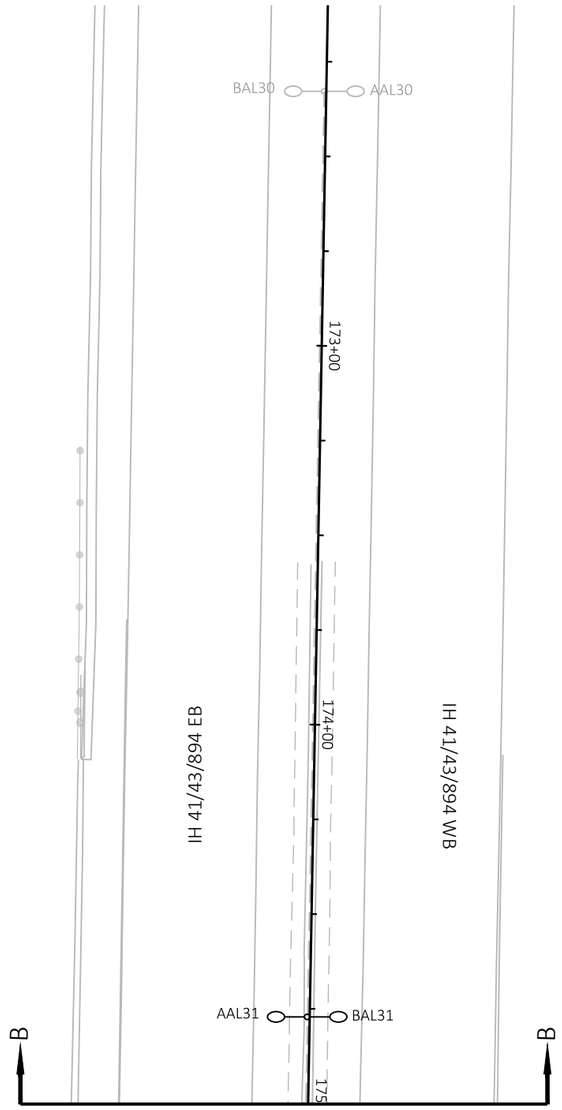
PLOT DATE : 1/19/2021 3:50 PM PLOT BY : JENINGA, JAMES PLOT NAME : PLOT SCALE : 1 IN = 40 FT

WISDOT/CADDS SHEET 42

2

N





HIGHWAY LIGHTING
IH 41/43/894 & S 60TH ST
CITY OF GREENFIELD
MILWAUKEE COUNTY

INST. NO.

REGION CONTACT: ERIC PEREA
DESIGNED BY: AECOM
REVISED BY:

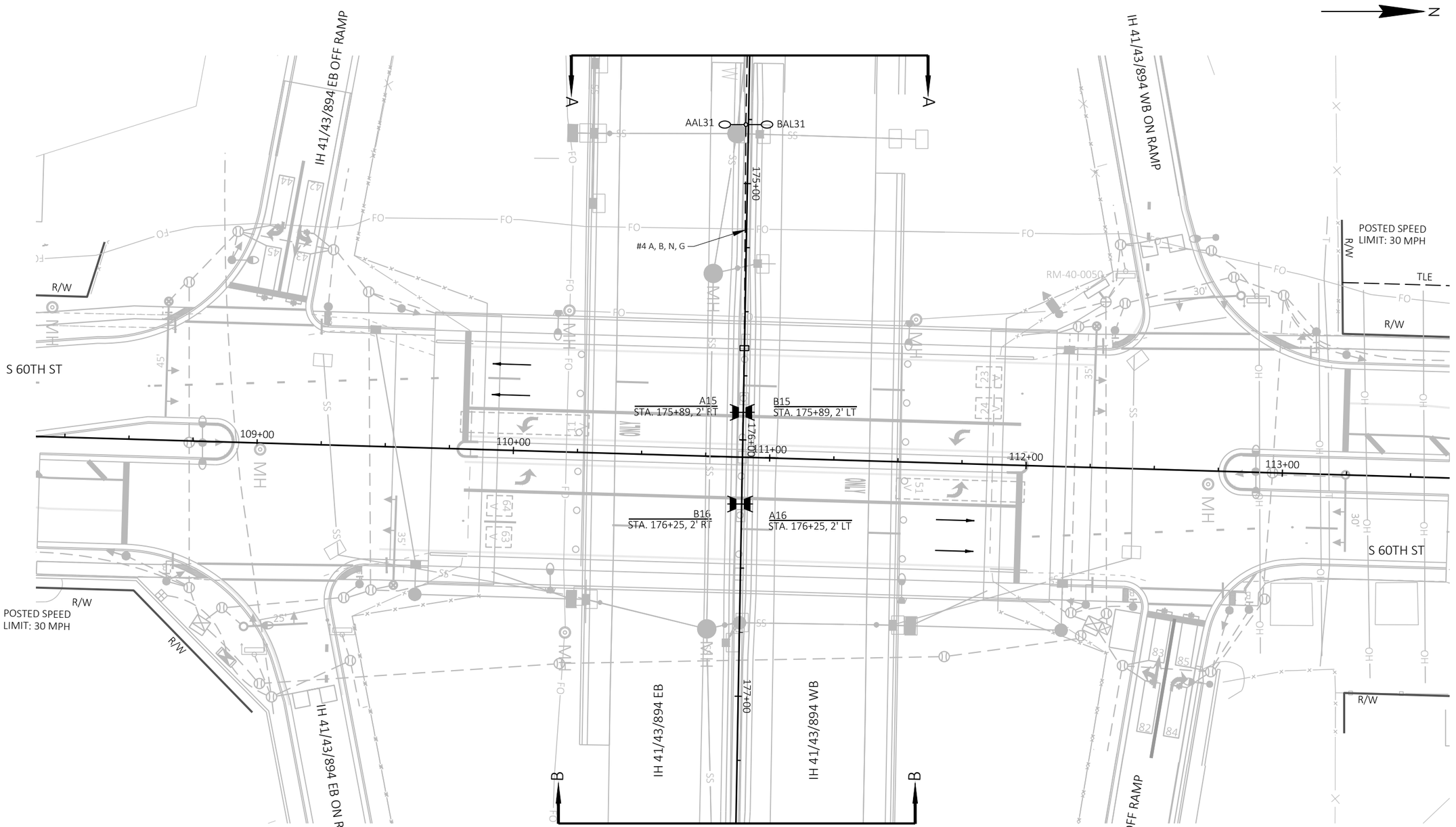
PAGE 2 OF 2

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	LIGHTING REMOVAL PLAN	SHEET 68	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JAMES.JENINGA@AECOM.COM\DMS24562\E_LGT.DWG
LAYOUT NAME - 60TH ST. LIGHTING REMOVAL PLAN SHEET 2

PLOT DATE : 1/18/2021 8:17 AM PLOT BY : JENINGA, JAMES PLOT NAME : PLOT SCALE : 1 IN = 40 FT

2



CONSTRUCTION NOTES:

1. GRAYSHADE REPRESENTS EXISTING & PROPOSED SIGNALS, PAVEMENT MARKINGS AND UTLITIES.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. UNDERDECK LUMINAIRES WILL BE CONNECTED INTO EXISTING LIGHTING SYSTEM 'AL' FROM THE WEST LOCATED IN THE IH 41/43/894 MEDIAN.

LEGEND

- UNDER DECK LUMINAIRE LED B (UDL-LED B)
- LUMINAIRE, LED D, POLES TYPE A, CONCRETE BASE TYPE B
- JUNCTION BOX
- CABLE IN DUCT

HIGHWAY LIGHTING
IH 41/43/894 & S 60TH ST
CITY OF GREENFIELD
MILWAUKEE COUNTY

INST. NO.

REGION CONTACT: ERIC PEREA
DESIGNED BY: AECOM
REVISED BY:

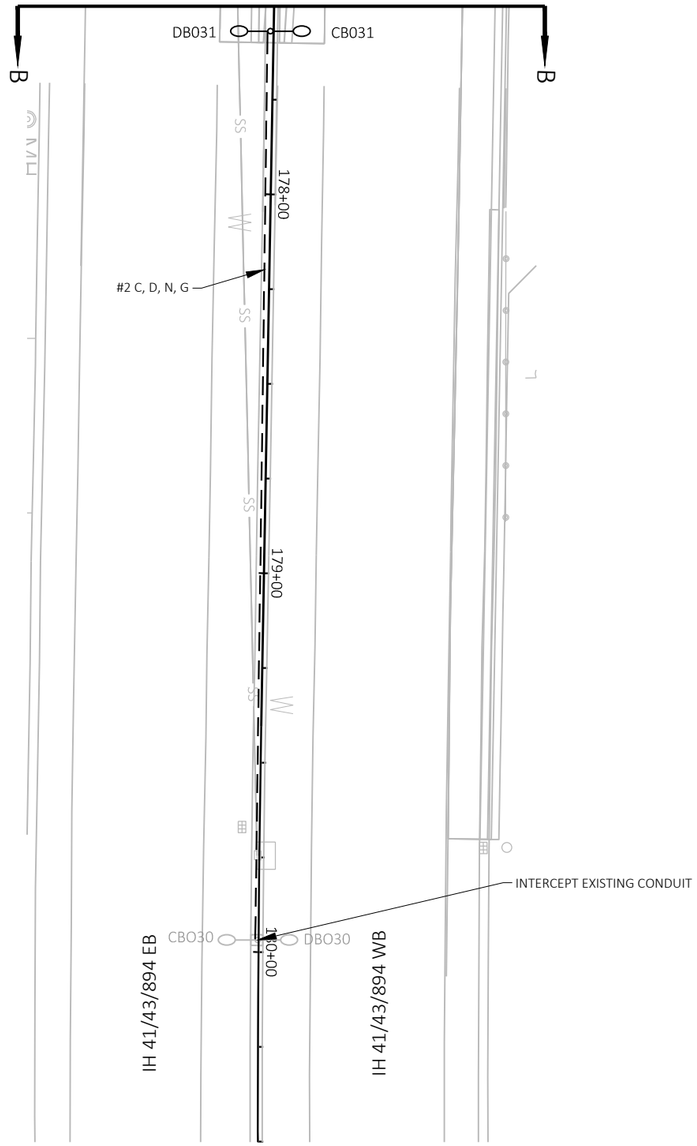
PAGE 1 OF 2

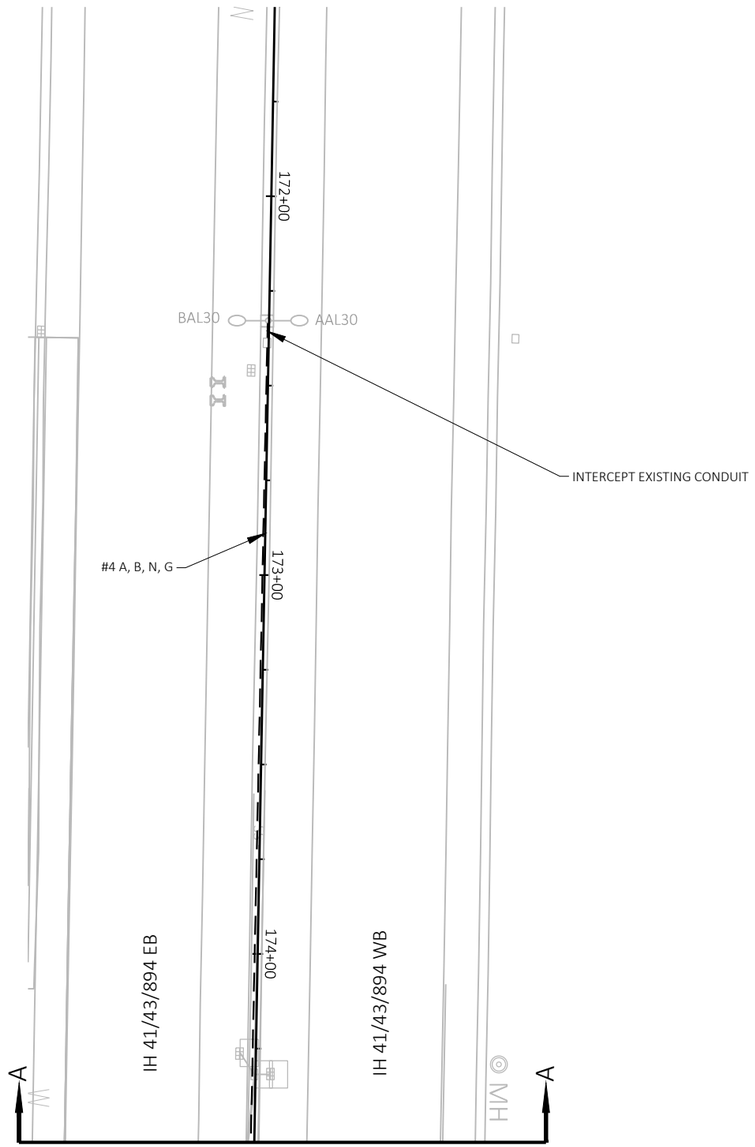
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	STREET LIGHTING PLAN	SHEET 69	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JAMES.JENINGA@AECOM.COM\DMS24562\P_LGT.DWG
LAYOUT NAME - 60th ST. LIGHTING PLAN - SHEET 1
PLOT DATE : 1/18/2021 2:09 PM PLOT BY : JENINGA, JAMES PLOT NAME : PLOT SCALE : 1 IN = 40 FT
WISDOT/CADDS SHEET 42

2

N





HIGHWAY LIGHTING
IH 41/43/894 & S 60TH ST
CITY OF GREENFIELD
MILWAUKEE COUNTY

INST. NO.

REGION CONTACT: ERIC PEREA
DESIGNED BY: AECOM
REVISED BY:

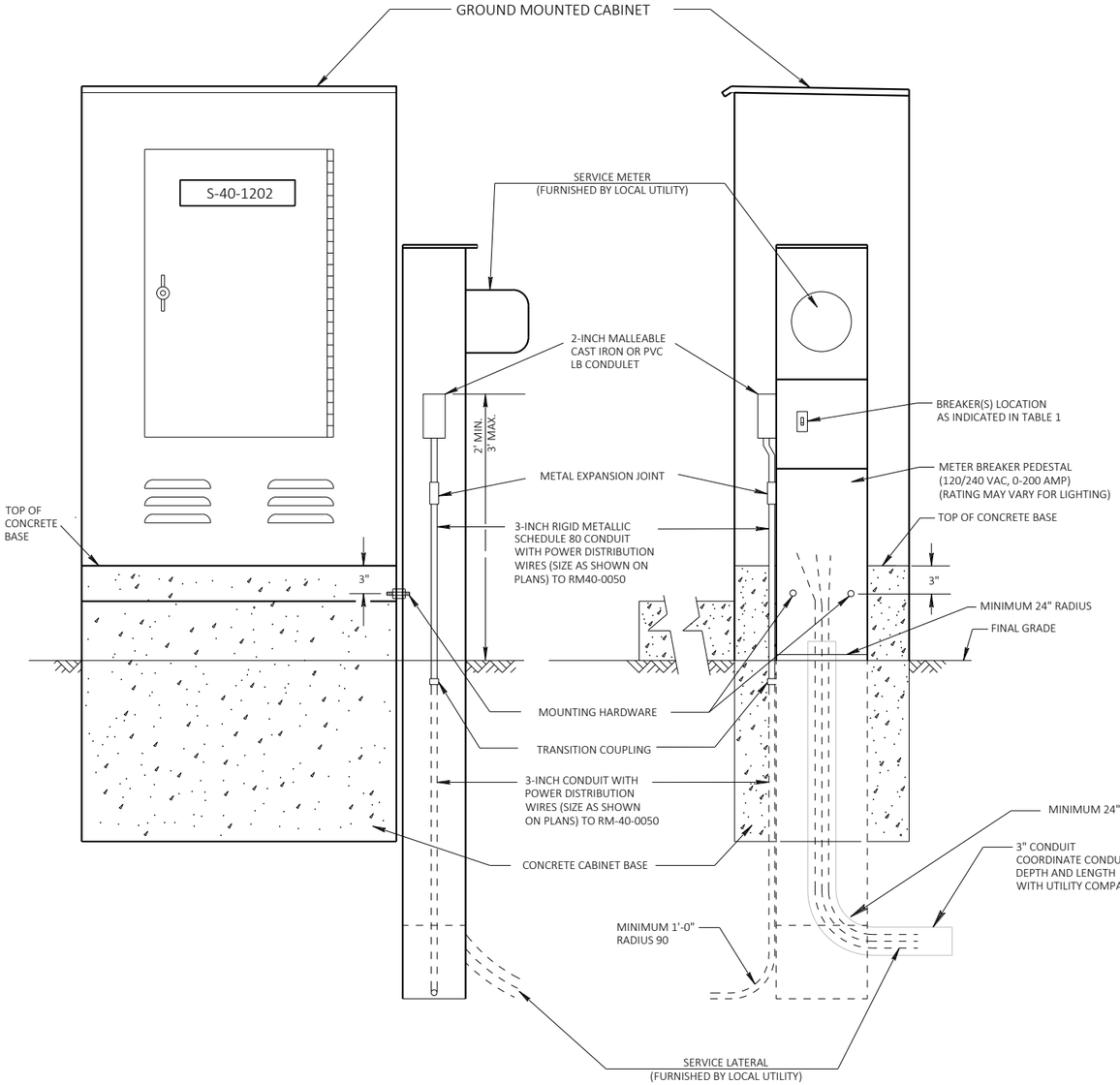
PAGE 2 OF 2

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	STREET LIGHTING PLAN	SHEET 70	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JAMES.JENINGA@AECOM.COM\DMS24562\P_LGT.DWG
LAYOUT NAME - 60th ST. LIGHTING PLAN - SHEET 2

PLOT DATE : 1/19/2021 3:53 PM PLOT BY : JENINGA, JAMES PLOT NAME : PLOT SCALE : 1 IN = 40 FT

WISDOT/CADDS SHEET 42



TYPICAL CABINET SERVICE
INSTALLATION
FOR SHARED ITS SERVICE

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 ON 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.

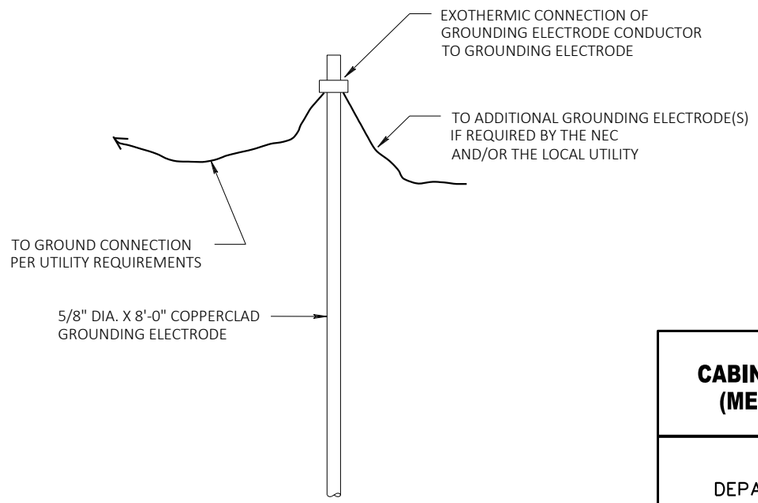
SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF NO MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE NO LESS THAN 6 FEET OR PER LOCAL UTILITY REGULATIONS.

TABLE 1

BREAKER SIZES BY LOCATION

LOCATION	ID	MAIN BREAKER SIZE	MAIN BREAKER #2 SIZE	SUB-BREAKER #1 SIZE	SUB-BREAKER #2 SIZE
IH 41 RAMPS & 60TH ST	CB1 RM-40-0050	50 AMPS (1P) (CB1)	50 AMPS (1P) (RM-40-0050)	30 AMPS (SPARE)	

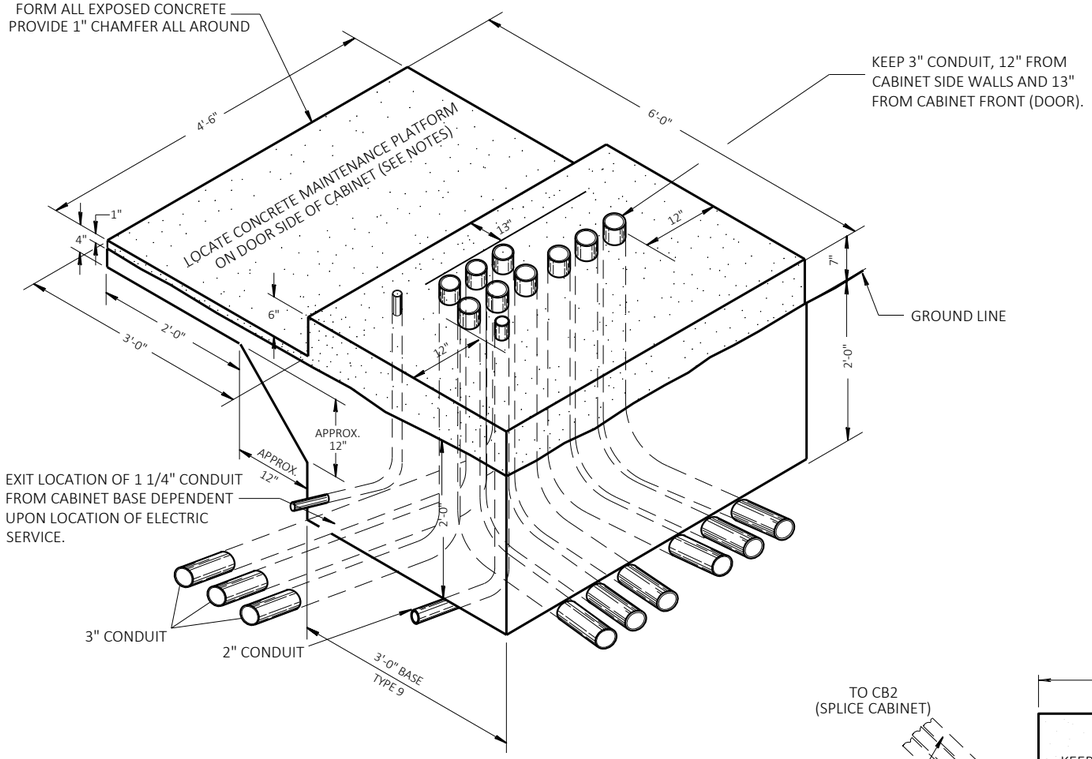


CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL	SHEET 71	E

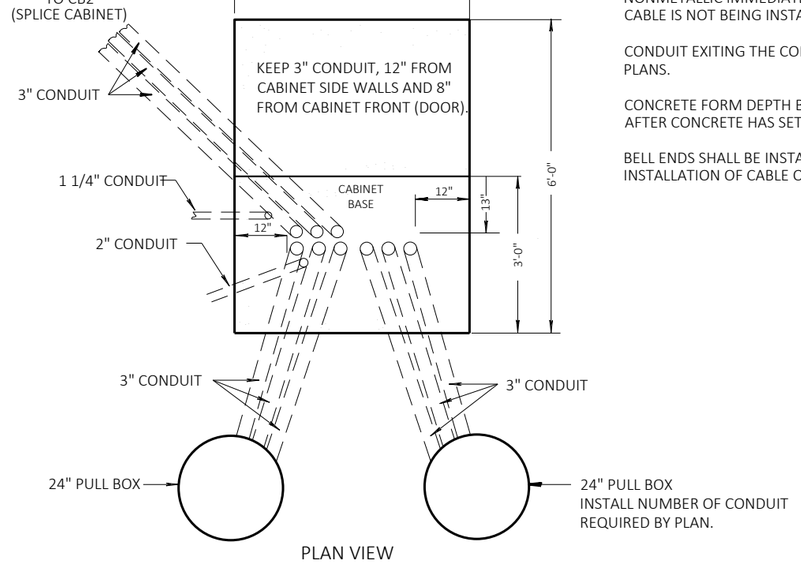
FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JAMES.JENINGA@AECOM.COM\DMS24562\P_SIG.DWG
LAYOUT NAME - 60TH ST. CONSTRUCTION DETAIL SIGNAL SHEET 1
PLOT DATE : 1/26/2021 8:50 AM PLOT BY : JENINGA, JAMES PLOT NAME : PLOT SCALE : 1 IN = 40 FT
WISDOT/CADDS SHEET 42



ISOMETRIC VIEW (NTS)

TYPE 9, SPECIAL MODIFIED

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

GENERAL NOTES

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

INSTALL FOUR $\frac{1}{2}$ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 KBS. 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.

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 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 THE 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.

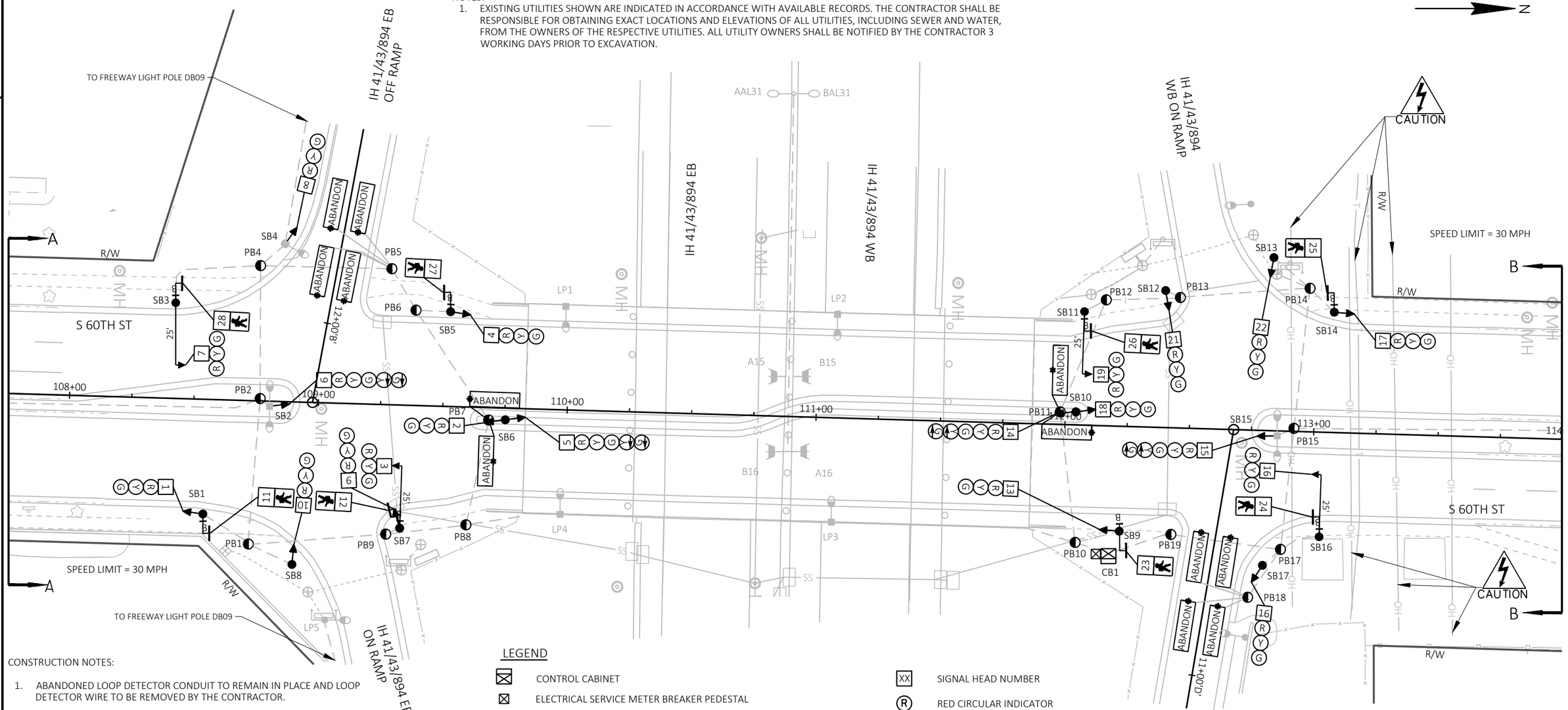
CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6' MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

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 MODIFIED

NOTES:

1. EXISTING UTILITIES SHOWN ARE INDICATED IN ACCORDANCE WITH AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXACT LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SEWER AND WATER, FROM THE OWNERS OF THE RESPECTIVE UTILITIES. ALL UTILITY OWNERS SHALL BE NOTIFIED BY THE CONTRACTOR 3 WORKING DAYS PRIOR TO EXCAVATION.



CONSTRUCTION NOTES:

1. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE AND LOOP DETECTOR WIRE TO BE REMOVED BY THE CONTRACTOR.
2. REMOVE ALL TRAFFIC SIGNAL CABLE, LOOP DETECTOR LEAD IN CABLE, AND GROUNDING WIRES FROM EXISTING CONDUIT SYSTEM. ABANDON CONDUIT IN PLACE.
3. CABINET AND CONTROLLER SHALL BE REMOVED BY WISDOT ELECTRICAL PERSONNEL.
4. SIGNAL EQUIPMENT ON SB2, SB4 AND SB15 TO BE SALVAGED AND DELIVERED TO THE DEPARTMENT.

LEGEND

- CONTROL CABINET
- ELECTRICAL SERVICE METER BREAKER PEDESTAL
- 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
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- YELLOW ARROW
- GREEN ARROW
- XX PEDESTRIAN COUNTDOWN INDICATION (16-INCH)
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- UDL (UNDER DECK LUMINAIRE)

NOTE: GRAYSHADE REPRESENTS EXISTING, BOLD REPRESENTS ITEMS TO BE REMOVED.

TRAFFIC CONTROL SIGNAL
IH 41/43/894 & S 60TH ST
CITY OF GREENFIELD
MILWAUKEE COUNTY

SIGNAL NO. S40-1202

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: AECOM
REVISED BY:

PAGE 1 OF 2

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 73	E

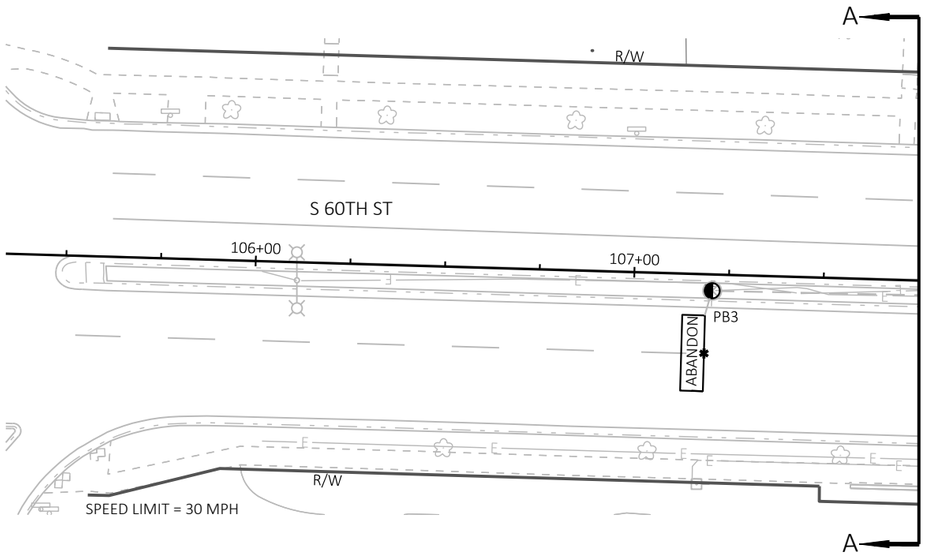
FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JAMES.JENINGA@AECOM.COM\DMS24562\E_SIG.DWG
LAYOUT NAME - 60TH ST. SIGNAL REMOVAL PLAN SHEET 1

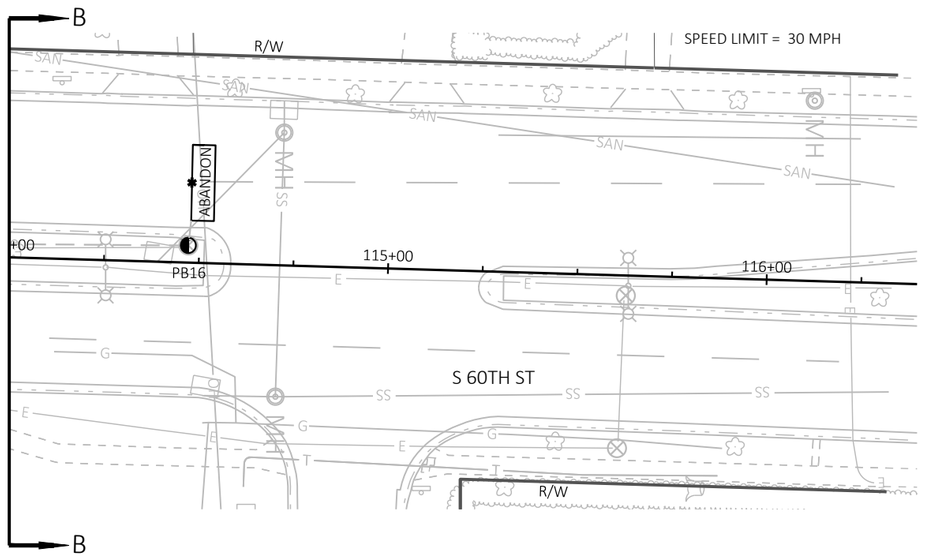
PLOT DATE : 1/25/2021 1:27 PM PLOT BY : JENINGA, JAMES PLOT NAME : PLOT SCALE : 1 IN = 40 FT

WISDOT/CADDS SHEET 42

2

N





TRAFFIC CONTROL SIGNAL
IH 41/43/894 & S 60TH ST
CITY OF GREENFIELD
MILWAUKEE COUNTY

SIGNAL NO. S40-1202

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: AECOM
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 74	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JAMES.JENINGA@AECOM.COM\DMS24562\E_SIG.DWG
LAYOUT NAME - 60TH ST. SIGNAL REMOVAL PLAN SHEET 2

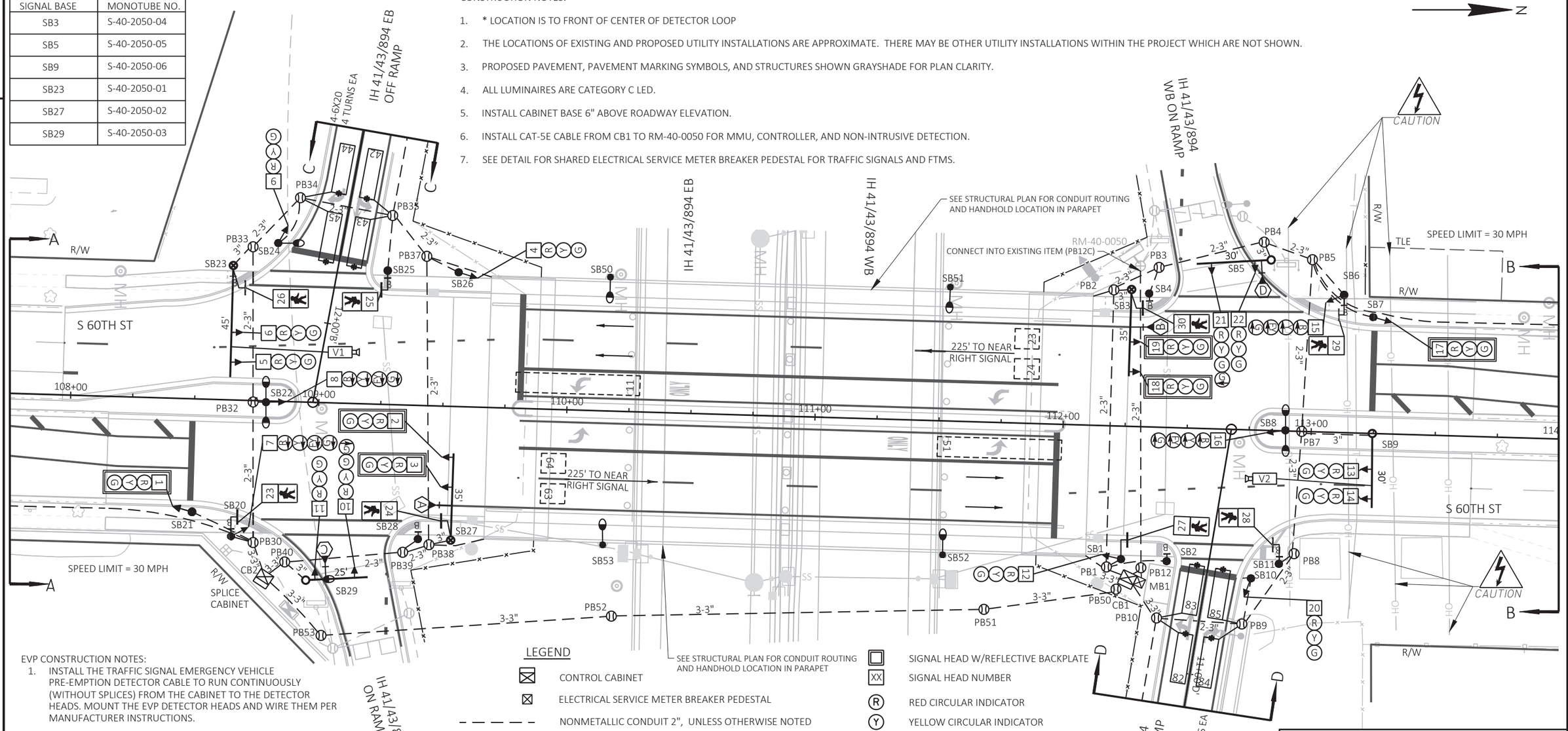
PLOT DATE : 1/25/2021 1:27 PM PLOT BY : JENINGA, JAMES PLOT NAME : PLOT SCALE : 1 IN = 40 FT

WISDOT/CADDS SHEET 42

SIGNAL BASE	MONOTUBE NO.
SB3	S-40-2050-04
SB5	S-40-2050-05
SB9	S-40-2050-06
SB23	S-40-2050-01
SB27	S-40-2050-02
SB29	S-40-2050-03

CONSTRUCTION NOTES:

1. * LOCATION IS TO FRONT OF CENTER OF DETECTOR LOOP
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. PROPOSED PAVEMENT, PAVEMENT MARKING SYMBOLS, AND STRUCTURES SHOWN GRAYSHADE FOR PLAN CLARITY.
4. ALL LUMINAIRES ARE CATEGORY C LED.
5. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
6. INSTALL CAT-5E CABLE FROM CB1 TO RM-40-0050 FOR MMU, CONTROLLER, AND NON-INTRUSIVE DETECTION.
7. SEE DETAIL FOR SHARED ELECTRICAL SERVICE METER BREAKER PEDESTAL FOR TRAFFIC SIGNALS AND FTMS.



EVP CONSTRUCTION NOTES:

1. INSTALL THE TRAFFIC SIGNAL EMERGENCY VEHICLE PRE-EMPTION DETECTOR CABLE TO RUN CONTINUOUSLY (WITHOUT SPLICES) FROM THE CABINET TO THE DETECTOR HEADS. MOUNT THE EVP DETECTOR HEADS AND WIRE THEM PER MANUFACTURER INSTRUCTIONS.
2. THE DEPARTMENT WILL DETERMINE THE EXACT LOCATION OF THE EVP DETECTORS TO ENSURE THAT THE INSTALLATION DOES NOT CREATE A SIGHT OBSTRUCTION.
3. ALL EVP DETECTOR CABLE SHALL BE ROUTED THROUGH EXISTING SIGNAL BASES, PULL BOXES, AND CONDUIT AS INDICATED. PROVIDE ENOUGH CABLE TO ALLOW 10 FEET OF SLACK IN THE CABINET, IN EACH PULL BOX, AND IN THE SIGNAL POLE HANDHOLE.
4. FOR A CABINET THAT IS NOT OPERATING THE SIGNAL, CABINET WIRING SHALL BE COMPLETED BY THE CONTRACTOR. IF THE CABINET IS OPERATING THE SIGNAL, THE CABINET WIRING WILL BE COMPLETED BY THE DEPARTMENT. THE CONTRACTOR SHALL INSTALL AND TERMINATE THE EVP CABLE AS DESCRIBED AND SHALL LABEL EACH CABLE AS NOTED ON THE SIGNAL PLAN SHEETS (I.E EVP A-B-C-D).

LEGEND

- CONTROL CABINET
- ELECTRICAL SERVICE METER BREAKER PEDESTAL
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- (XX) MONOTUBE BASE, POLE, 35'-45' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- VIDEO DETECTION ZONE
- VX VIDEO DETECTION CAMERA
- SIGNAL HEAD W/REFLECTIVE BACKPLATE
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- Y YELLOW ARROW
- G GREEN ARROW
- XX PEDESTRIAN COUNTDOWN INDICATION (16-INCH)
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"

TRAFFIC CONTROL SIGNAL

IH 41/43/894 & S 60TH ST

CITY OF GREENFIELD

MILWAUKEE COUNTY

SIGNAL NO. S40-1202

CABINET TYPE: TS2-S

CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED

DATE 1/27/21 Joyce M Murphy REGION TRAFFIC ENGINEER

APPROVED

DATE 2/1/21 STATE TRAFFIC ENGINEER

REGION CONTACT: JOYCE MURPHY

DESIGNED BY: AECOM

REVISED BY:

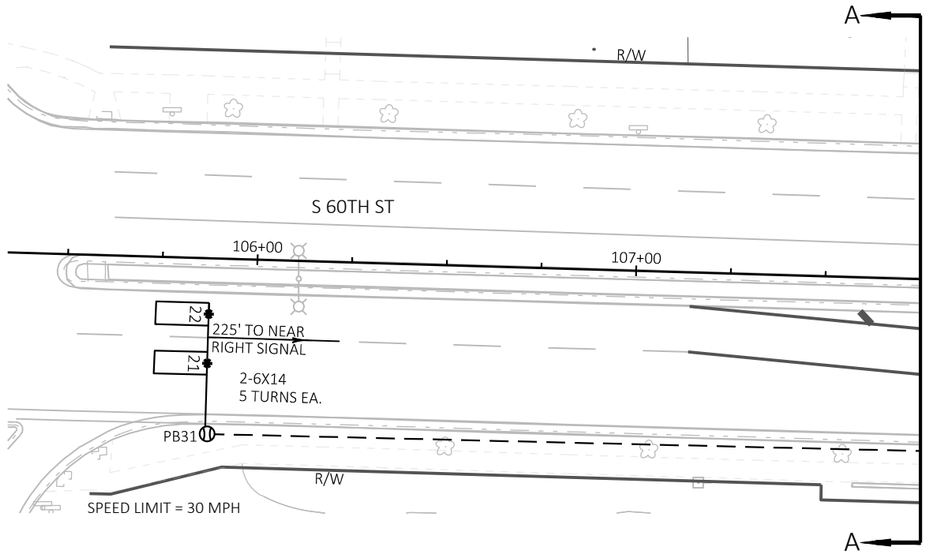
PAGE 1 OF 3

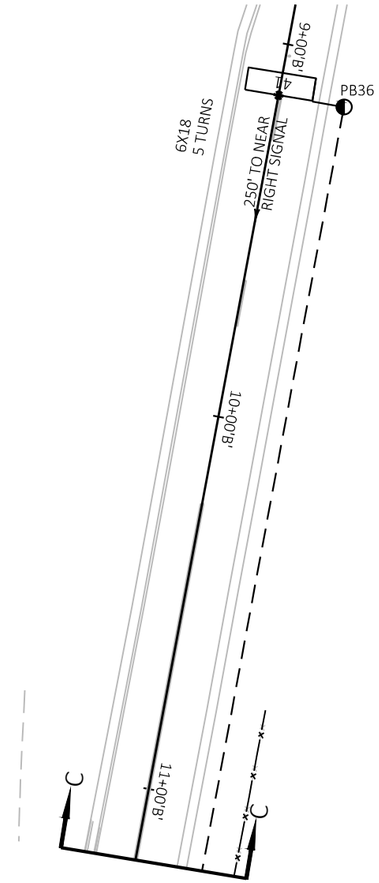
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 75	E

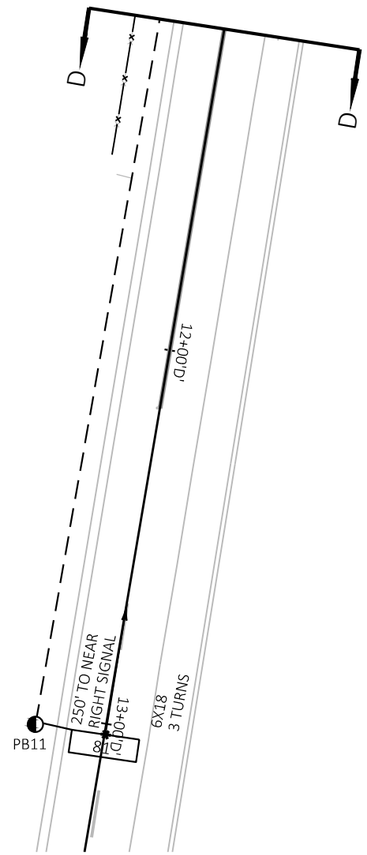
FILE NAME : N:\PDS\C3D\CAD\11004600\SIG\S40-1202_18.DWG
LAYOUT NAME - 60TH ST. SIGNAL PLAN SHEET 1

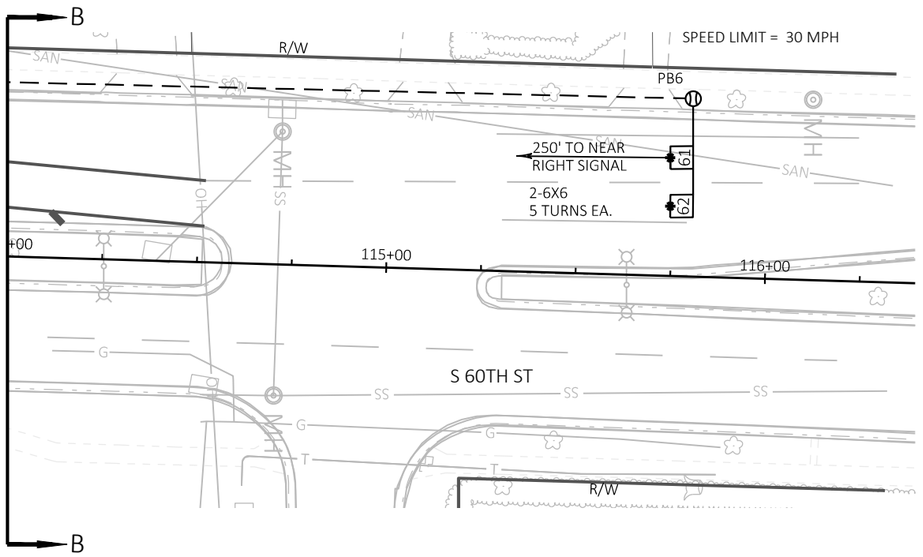
PLOT DATE : 2/18/2021 9:14 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN = 40 FT

WISDOT/CADDS SHEET 42









TRAFFIC CONTROL SIGNAL
IH 41/43/894 & S 60TH ST
CITY OF GREENFIELD
MILWAUKEE COUNTY

SIGNAL NO. S40-1202

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: AECOM
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 76	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JAMES.JENINGA@AECOM.COM\DMS24562\P_SIG.DWG
LAYOUT NAME - 60TH ST. SIGNAL PLAN SHEET 2

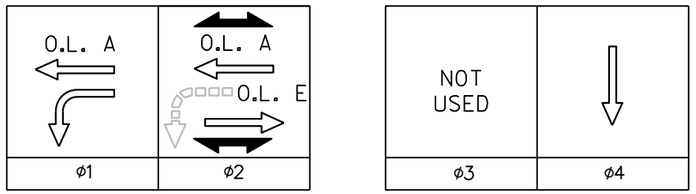
PLOT DATE : 1/26/2021 11:57 AM PLOT BY : JENINGA, JAMES PLOT NAME : PLOT SCALE : 1 IN = 40 FT

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
ø1	7,8	R
ø2	1,2,3	R
ø3		
ø4	9,10,11	R
ø5	15,16	R
ø6	17,18,19	R
ø7		
ø8	20,21,22	R
O.L. A	4,5,6	R
O.L. B	12,13,14	R
O.L. E	7,8	-
O.L. G	15,16	-
ø2 PED	23,24,25,26	
ø4 PED		
ø6 PED	27,28,29,30	
ø8 PED		

** SOUTH RAMP INTERSECTION

RING 1



** NORTH RAMP INTERSECTION

*RING 1 SHALL CONTROL THE SOUTH RAMP
*RING 2 SHALL CONTROL THE NORTH RAMP

N

CONTROLLER LOGIC

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE DETECTOR	A	B	C	D
MOVEMENT	O.L. A, O.L. E, O.L. B	O.L. A, O.L. G, O.L. B	O.L. B	O.L. A
PHASE	2+5	6+1	4+5	8+1

AFTER PREEMPTION SEQUENCE 2+5, CONTROLLER SHALL RETURN TO PHASES 2+5.
AFTER PREEMPTION SEQUENCE 6+1, CONTROLLER SHALL RETURN TO PHASES 6+1.
AFTER PREEMPTION SEQUENCE 4+5, CONTROLLER SHALL RETURN TO PHASES 4+5.
AFTER PREEMPTION SEQUENCE 8+1, CONTROLLER SHALL RETURN TO PHASES 8+1.

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR #(S)	21	41	43	45	62	82	84	
CALLED PHASE	2	4	4	4	6	8	8	
CALL OPTION	X		X	X	X	X	X	
DELAY TIME				X			X	
EXTENSION OPTION	X	X	X	X	X	X	X	
EXTEND TIME		X						
USE ADDED INITIAL	X				X			
CROSS SWITCH PHASE								

19	17	23	21	27	25	31	29	DETECTOR INPUT
11	24	63						PLAN LOOP DETECTOR #(S)
1	2	6						CALLED PHASE
X	X	X						CALL OPTION
								DELAY TIME
X	X	X						EXTENSION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR #(S)	22	42	44	61	81	83	85	
CALLED PHASE	2	4	4	6	8	8	8	
CALL OPTION	X	X	X	X		X	X	
DELAY TIME			X				X	
EXTENSION OPTION	X	X	X	X	X	X	X	
EXTEND TIME					X			
USE ADDED INITIAL	X			X				
CROSS SWITCH PHASE								

20	18	24	22	28	26	32	30	DETECTOR INPUT
23	51	64						PLAN LOOP DETECTOR #(S)
2	5	6						CALLED PHASE
X	X	X						CALL OPTION
								DELAY TIME
X	X	X						EXTENSION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

TRAFFIC CONTROL SIGNAL
IH 41/43/894 & S 60TH ST
CITY OF GREENFIELD
MILWAUKEE COUNTY

SIGNAL NO. S40-1202

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: AECOM
REVISED BY:

PAGE 3 OF 3

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JAMES.JENINGA@AECOM.COM\DMS24562\P_SIG.DWG
LAYOUT NAME - 60TH ST. SIGNAL PLAN SOO Sheet 3
PLOT DATE : 1/26/2021 8:51 AM PLOT BY : JENINGA, JAMES PLOT NAME : PLOT SCALE : NTS
WISDOT/CADDS SHEET 42

PROJECT ID:	1100-46-70
INTERSECTION:	IH 41/43/894 WB RAMP & 60TH ST

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

DATE:	Feb-21

CB1 TO	AWG 14 # OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR									PED BUTTON	OTHER
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<FLASH YEL>	<GREEN>	D/WALK	WALK		
SB1	7	12	RED	ORG	GRN								
		27								BLK	BLU		
SB2	7	PB										WHT/BLK	
SB3	12	18	RED	ORG	GRN								
		19	RED	ORG	GRN								
		30								BLK	BLU		
SB4	7	PB										WHT/BLK	
SB5	12	21	RED	ORG	GRN				GRN				
		22	RED	ORG	GRN								
SB6	12	15				RED	ORG	BLK/WHT	GRN				
		29								BLK	BLU		
		PB										WHT/BLK	
SB7	7	17	RED	ORG	GRN								
SB8	12	16				RED	ORG	BLK/WHT	GRN				
SB9	12	13	RED	ORG	GRN								
		14	RED	ORG	GRN								
SB10	7	20	RED	ORG	GRN								
SB11	7	28								BLK	BLU		
		PB										WHT/BLK	

CB1 TO	AWG 12 FEEDER # OF CONDUCTORS	WHITE GROUND	GREEN BONDING	
CB2 (SPLICE)	15 (CABLE 1)	AWG 6	AWG 6	SEE PAGE 3 FOR CB2 (SPLICE CABINET) CABLING
CB2 (SPLICE)	15 (CABLE 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.
4. RECONNECT THE GROUNDING CONDUCTORS WHEREVER THE CIRCUIT HAS BEEN INTERRUPTED TO ENSURE THE GROUNDING CIRCUIT IS COMPLETE.

EQUIPMENT GROUNDING CONDUCTORS 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	SB9
SB9	SB10
SB10	SB11
SB11	CB1

PULL BOX	
BONDING JUMPER 10 AWG GREEN XLP	
FROM	TO
PB1	CB1
PB2	SB3
PB3	SB4
PB4	SB5
PB5	SB5
PB7	SB9
PB8	SB11
PB9	SB10
PB10	CB1
PB50	CB1
PB51	CB1

LIGHTING UF	
8 AWG W/ GROUND	
FROM	TO
CB1	SB8
SB8	SB51
SB51	SB50
SB50	SB24
CB1	SB52
SB52	SB53
SB53	SB29
SB29	SB22

EMERGENCY VEHICLE PREEMPTION WITH CONFIRMATION LIGHTS		
HEAD	FROM	TO
A	CB1	SB27
B	CB1	SB3
C	CB1	SB29
D	CB1	SB5

CAT-5E	
FROM	TO
CB1	RM40-0050

VIDEO DETECTION CABLE	
FROM	TO
CB1	V1 (SB23)
CB1	V2 (SB9)

2

PROJECT ID:	1100-46-70
INTERSECTION:	IH 41/43/894 EB RAMP & 60TH ST

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

DATE: Feb-21

	AWG 12		SIGNAL INDICATION WIRE COLOR									PED	
CB2 TO	# OF COND.	HEAD NO.	RED	YELLOW	GREEN	<RED>	<YELLOW>	<FLASH YEL>	<GREEN>	D/WALK	WALK	BUTTON	OTHER
SB20	12	7				RED	ORG	BLK/WHT	GRN				
		23								BLK	BLU		
		PB										WHT/BLK	
SB21	7	1	RED	ORG	GRN								
SB22	7	8				RED	ORG	BLK	GRN				
SB23	12	5	RED	ORG	GRN								
		6	RED	ORG	GRN								
		26								BLK	BLU		
		PB										WHT/BLK	
SB24	7	9	RED	ORG	GRN								
SB25	7	25								BLK	BLU		
		PB										WHT/BLK	
SB26	7	4	RED	ORG	GRN								
SB27	12	2	RED	ORG	GRN								
		3	RED	ORG	GRN								
		24								BLK	BLU		
SB28	7	PB										WHT/BLK	
SB29	12	10	RED	ORG	GRN				GRN				
		11	RED	ORG	GRN								

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.
4. RECONNECT THE GROUNDING CONDUCTORS WHEREVER THE CIRCUIT HAS BEEN INTERRUPTED TO ENSURE THE GROUNDING CIRCUIT IS COMPLETE.

EQUIPMENT GROUNDING CONDUCTORS 10 AWG GRN XLP	
FROM	TO
CB2	SB20
SB20	SB21
SB21	SB22
SB22	SB23
SB23	SB24
SB24	SB25
SB25	SB26
SB26	SB27
SB27	SB28
SB28	SB29
SB29	CB2

PULL BOX	
BONDING JUMPER 10 AWG GREEN XLP	
FROM	TO
PB30	CB2
PB32	SB22
PB33	SB23
PB34	SB24
PB35	SB25
PB37	SB26
PB38	SB27
PB39	SB28
PB40	SB29
PB53	CB2
PB52	CB2

LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
4. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
5. MARKING LINE GROOVED WET REF EPOXY 4-INCH (YELLOW)
6. MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
8. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)
9. MARKING LINE EPOXY 8-INCH (DOT PATTERN WHITE) (3' LINE 9' SKIP)
10. MARKING ARROW EPOXY (WHITE)
11. MARKING WORD EPOXY (WHITE)
12. MARKING SYMBOL EPOXY (WHITE)
13. MARKING STOP LINE EPOXY 18-INCH (WHITE)
14. MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
15. MARKING DIAGONAL EPOXY 12-INCH (WHITE)
16. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
17. MARKING CURB EPOXY (YELLOW)
18. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
19. MARKING CHEVRON EPOXY 24-INCH (WHITE)

MATCHLINE STA. 10+25'B'

MATCHLINE STA. 10+25'C'

RAMP B

RAMP C

RAMP A

RAMP D

60TH STREET

IH 41 SB / IH 43 NB / IH 894 EB

IH 41 NB /IH 43 SB / IH 894 WB

R/L IH 41/43/894

R/L 60TH STREET SB

R/L 60TH STREET

R/L 60TH STREET NB

R/L RAMP A

R/L RAMP B

R/L RAMP C

R/L RAMP D

B-40-1013

EXISTING R-40-36

BEGIN PROJECT STA. 107+96.74

107+14.4, 9.0' RT BEGIN TAPER

107+14.4, 21.0' RT BEGIN TAPER

114+51.7, -21.5' LT END TAPER

114+51.7, -9.5' LT END TAPER

END PROJECT STA. 113+65.00

SEE SHEETS "PAVEMENT MARKING - IH 41/43/894" FOR IH 41/43/894 MARKINGS AND RAMP MATCHLINES

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING - 60TH STREET	SHEET 82 E

2

LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
4. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
5. MARKING LINE GROOVED WET REF EPOXY 4-INCH (YELLOW)
6. MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
8. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)
9. MARKING LINE EPOXY 8-INCH (DOT PATTERN WHITE) (3' LINE 9' SKIP)
10. MARKING ARROW EPOXY (WHITE)
11. MARKING WORD EPOXY (WHITE)
12. MARKING SYMBOL EPOXY (WHITE)
13. MARKING STOP LINE EPOXY 18-INCH (WHITE)
14. MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
15. MARKING DIAGONAL EPOXY 12-INCH (WHITE)
16. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
17. MARKING CURB EPOXY (YELLOW)
18. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
19. MARKING CHEVRON EPOXY 24-INCH (WHITE)

N

+33.6, -60.5' LT
END EDGELINE

+33.9, -48.9' LT
END THEORETICAL GORE

IH 41 NB /IH 43 SB / IH 894 WB

RAMP C

163 164 165 166 167 168

R/L IH 41/43/894

+75.0, 14.8' RT

IH 41 SB / IH 43 NB / IH 894 EB

+08.4, 49.8' RT

RAMP B

MATCHLINE STA. 168+75

2

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING - IH 41/43/894	SHEET 83	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JESSICA.LANCELLE@AECOM.COM\DMS24696\024501_PM.DWG
LAYOUT NAME - 024502_pm-IH41

PLOT DATE : 6/21/2021 10:10 AM PLOT BY : LANCELLE, JESSICA PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
4. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
5. MARKING LINE GROOVED WET REF EPOXY 4-INCH (YELLOW)
6. MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
8. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)
9. MARKING LINE EPOXY 8-INCH (DOT PATTERN WHITE) (3' LINE 9' SKIP)
10. MARKING ARROW EPOXY (WHITE)
11. MARKING WORD EPOXY (WHITE)
12. MARKING SYMBOL EPOXY (WHITE)
13. MARKING STOP LINE EPOXY 18-INCH (WHITE)
14. MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
15. MARKING DIAGONAL EPOXY 12-INCH (WHITE)
16. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
17. MARKING CURB EPOXY (YELLOW)
18. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
19. MARKING CHEVRON EPOXY 24-INCH (WHITE)

SEE SHEET "PAVEMENT MARKING - 60TH STREET" FOR MATCHLINE STA. 10+25'C'

N

RAMP C

+85.0, -108.5' LT

+89.2, -86.9' LT

+90.0, -72.3' LT

MATCHLINE STA. 10+25'C'

R/L RAMP C

MATCHLINE STA. 168+75

MATCHLINE STA. 174+50

+98.6, -48.9' LT

IH 41 NB /IH 43 SB / IH 894 WB

+50.0, -13.9' LT

169 170 171 172 173 174

R/L IH 41/43/894

IH 41 SB / IH 43 NB / IH 894 EB

+14.4, 49.8' RT

+11.6, 81.1' RT

RAMP B

SEE SHEET "PAVEMENT MARKING - 60TH STREET" FOR MATCHLINE STA. 10+25'B'

9'B'

+99.1'B'

10'B'

+23.4'B'

MATCHLINE STA. 10+25'B'

R/L RAMP B

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING - IH 41/43/894	SHEET 84	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JESSICA.LANCELLE@AECOM.COM\DMS24696\024501_PM.DWG
LAYOUT NAME - 024503_pm-IH41
PLOT DATE : 6/21/2021 10:11 AM PLOT BY : LANCELLE, JESSICA PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
4. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
5. MARKING LINE GROOVED WET REF EPOXY 4-INCH (YELLOW)
6. MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
8. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)
9. MARKING LINE EPOXY 8-INCH (DOT PATTERN WHITE) (3' LINE 9' SKIP)
10. MARKING ARROW EPOXY (WHITE)
11. MARKING WORD EPOXY (WHITE)
12. MARKING SYMBOL EPOXY (WHITE)
13. MARKING STOP LINE EPOXY 18-INCH (WHITE)
14. MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
15. MARKING DIAGONAL EPOXY 12-INCH (WHITE)
16. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
17. MARKING CURB EPOXY (YELLOW)
18. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
19. MARKING CHEVRON EPOXY 24-INCH (WHITE)

MATCHLINE STA. 174+50

IH 41 NB /IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

MATCHLINE STA. 180+25

MATCHLINE STA. 11+50'D'

RAMP D

11'D'

12'D'

13'D'

R/L RAMP D

SEE SHEET "PAVEMENT MARKING - 60TH STREET" FOR 60TH STREET MARKINGS AND MATCHLINE STA. 11+50'D'

+95.6'D'

PC: 179+40.46

R/L IH 41/43/894

175 176 177 178 179 180

11'B' 11 11'B'

10'SB' 110 10'NB'

SEE SHEET "PAVEMENT MARKING - 60TH STREET" FOR 60TH STREET MARKINGS AND MATCHLINE STA. 11+50'A'

MATCHLINE STA. 11+50'A'

RAMP A

11'A'

RAMP B

11'B'

12'B'

R/L 60TH STREET SB

R/L 60TH STREET NB

R/L 60TH STREET

R/L RAMP A

R/L RAMP B

9'SB' 109 9'NB'

R/W

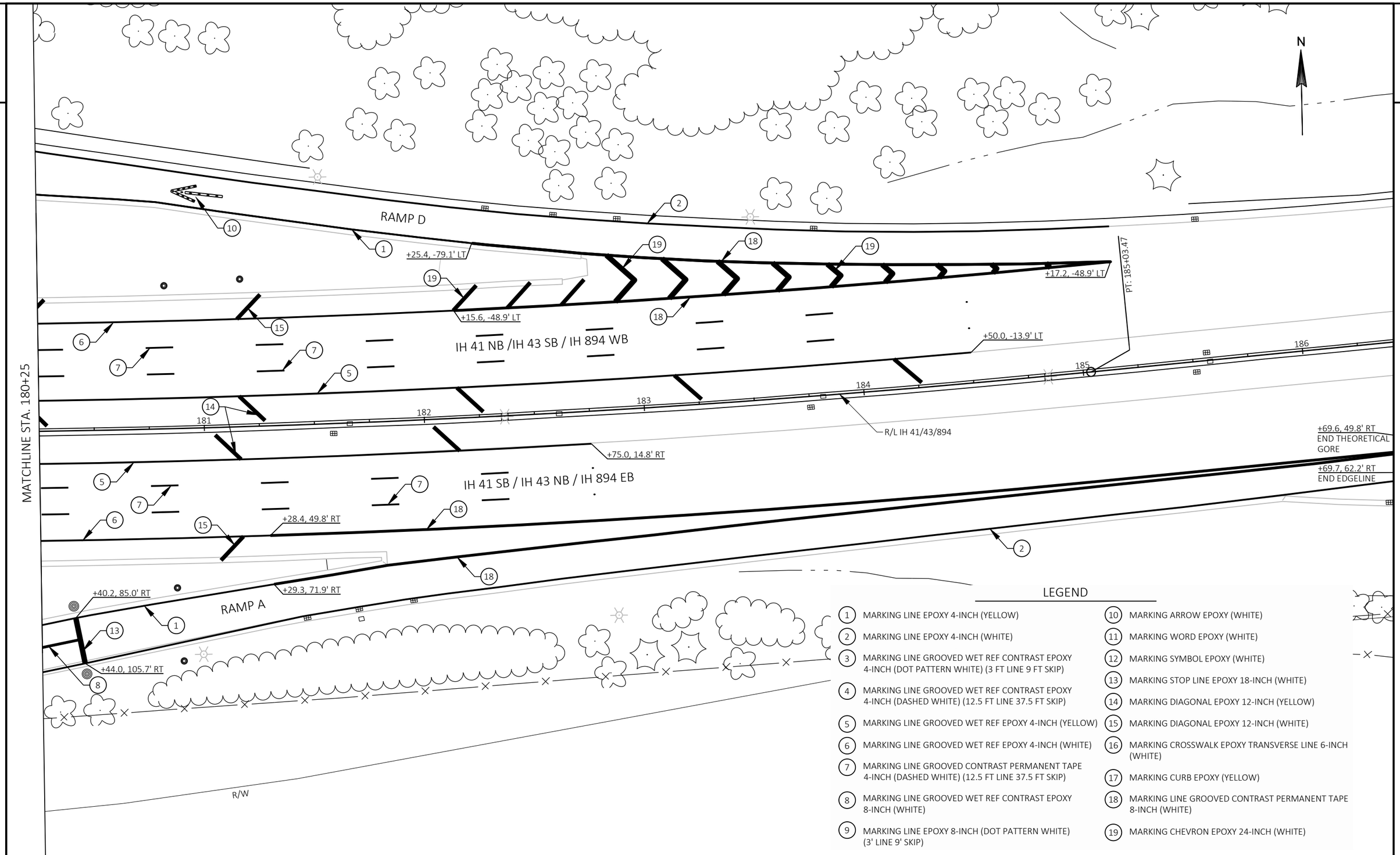
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING - IH 41/43/894	SHEET 85	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JESSICA.LANCELLE@AECOM.COM\DMS24696\024501_PM.DWG
LAYOUT NAME - 024504_pm-IH41

PLOT DATE : 6/21/2021 10:12 AM PLOT BY : LANCELLE, JESSICA PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2



LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
4. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
5. MARKING LINE GROOVED WET REF EPOXY 4-INCH (YELLOW)
6. MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
7. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
8. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)
9. MARKING LINE EPOXY 8-INCH (DOT PATTERN WHITE) (3' LINE 9' SKIP)
10. MARKING ARROW EPOXY (WHITE)
11. MARKING WORD EPOXY (WHITE)
12. MARKING SYMBOL EPOXY (WHITE)
13. MARKING STOP LINE EPOXY 18-INCH (WHITE)
14. MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
15. MARKING DIAGONAL EPOXY 12-INCH (WHITE)
16. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
17. MARKING CURB EPOXY (YELLOW)
18. MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH (WHITE)
19. MARKING CHEVRON EPOXY 24-INCH (WHITE)

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING - IH 41/43/894	SHEET 86	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\JESSICA.LANCELLE@AECOM.COM\DMS24696\024501_PM.DWG
LAYOUT NAME - 024505_pm-IH41
PLOT DATE : 6/21/2021 10:13 AM PLOT BY : LANCELLE, JESSICA PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

GENERAL NOTES FOR TRAFFIC CONTROL

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

2) A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE WORK AREAS IF WARRANTED BY CONDITIONS OR AS DIRECTED BY THE ENGINEER. FLAGGING IS NOT PERMITTED ON FREEWAY LANES.

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

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

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

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

7) DIMENSIONS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE FACE OF BARRIER ADJACENT TO TRAFFIC. STATION CALL-OUTS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE FACE OF BARRIER.

8) WORK AREAS SHOWN MAY NOT ILLUSTRATE ALL REMOVALS. SEE REMOVAL SHEETS FOR ADDITIONAL INFORMATION.

9) ALL TRAFFIC CONTROL SIGNS LOCATED IN MEDIANS WITH CONCRETE BARRIER SHALL BE MOUNTED ON CONCRETE BARRIER UNLESS OTHERWISE NOTED. SEE TRAFFIC CONTROL DETAILS.

10) WHEN A SEGMENT OF THE PROJECT IS NOT SHOWN ON THE STAGING PLANS, USE THE SAME TRAFFIC CONTROL AS THE PREVIOUS STAGE FOR THAT SEGMENT.

11) TRAFFIC CONTROL DRUM SPACING SHALL BE 50' UNLESS OTHERWISE NOTED.

12) 16" X 16" ORANGE FLAGS SHALL BE INCIDENTAL TO TRAFFIC CONTROL SIGN BID ITEM.

13) 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.

14) TEMPORARY TRAFFIC CONTROL AND DETOUR SIGNS SHALL NOT BE ATTACHED TO ANY LIGHT POLES MAINTAINED BY THE CITY OF GREENFIELD.

TEMPORARY PAVEMENT MARKING LEGEND

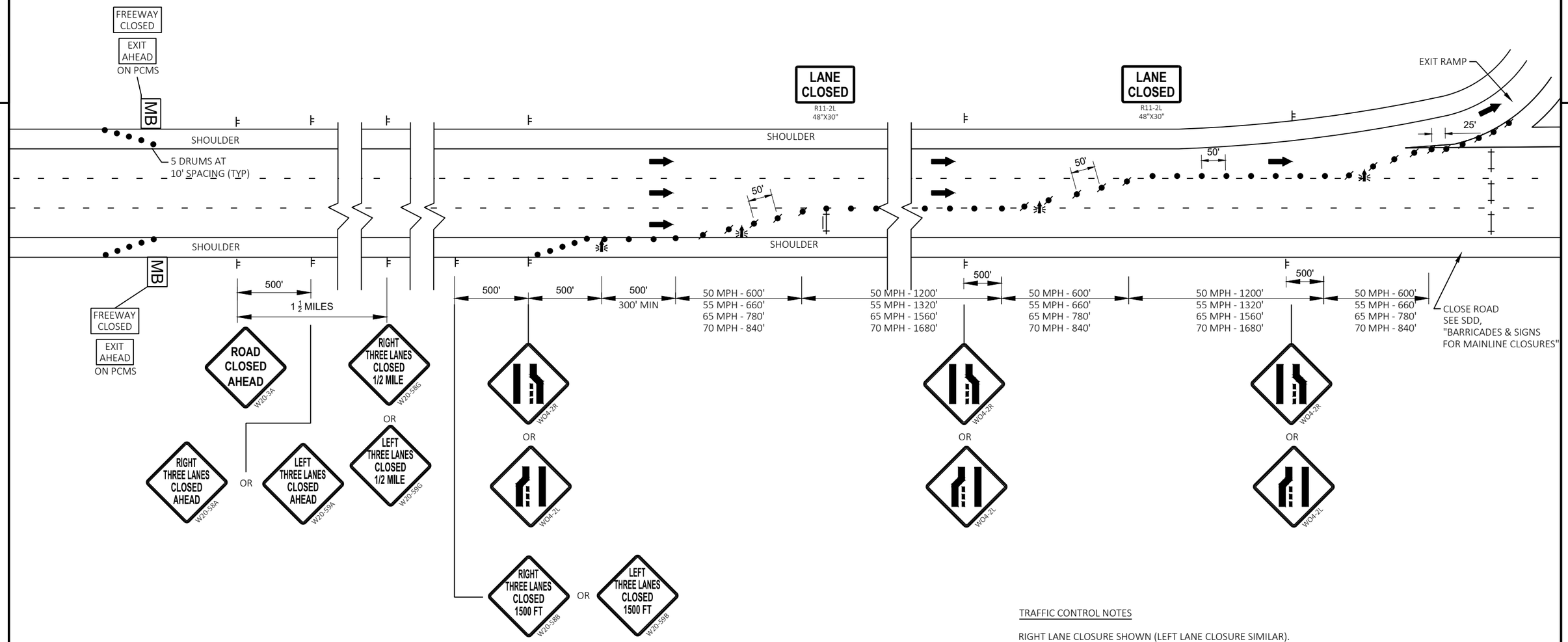
1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)
4. TEMPORARY MARKING LINE PAINT 4-INCH (YELLOW)
5. TEMPORARY MARKING LINE PAINT 4-INCH (WHITE)
6. TEMPORARY MARKING LINE PAINT 8-INCH (WHITE)
7. TEMPORARY MARKING LINE EPOXY 4-INCH (YELLOW)
8. TEMPORARY MARKING LINE EPOXY 4-INCH (WHITE)
9. TEMPORARY MARKING LINE EPOXY 8-INCH (WHITE)

PAVEMENT MARKING REMOVAL LEGEND

- WB1 MARKING REMOVAL LINE WATER BLASTING 4-INCH
- MR1 MARKING REMOVAL LINE 4-INCH
- MR2 MARKING REMOVAL LINE WIDE

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" WARNING LIGHTS
- TYPE III BARRICADE WTH TWO TYPE "A" WARNING LIGHTS AND ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION



LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" WARNING LIGHTS
- TYPE III BARRICADE WITH TWO TYPE "A" WARNING LIGHTS AND ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- WORK AREA

THREE LANE FULL FREEWAY CLOSURE

TRAFFIC CONTROL NOTES

RIGHT LANE CLOSURE SHOWN (LEFT LANE CLOSURE SIMILAR).

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

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

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

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

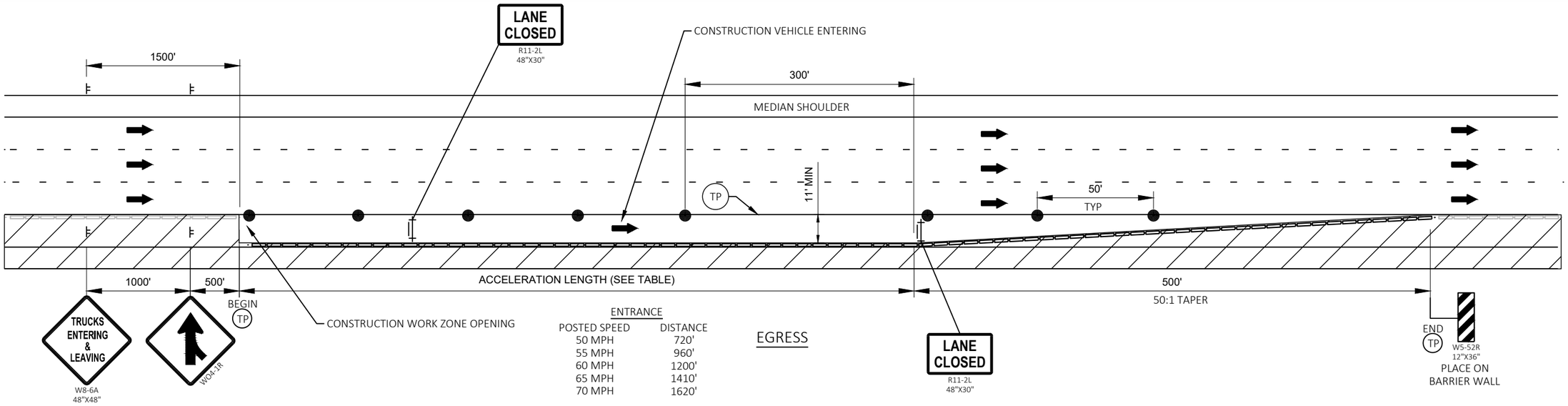
WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROL SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

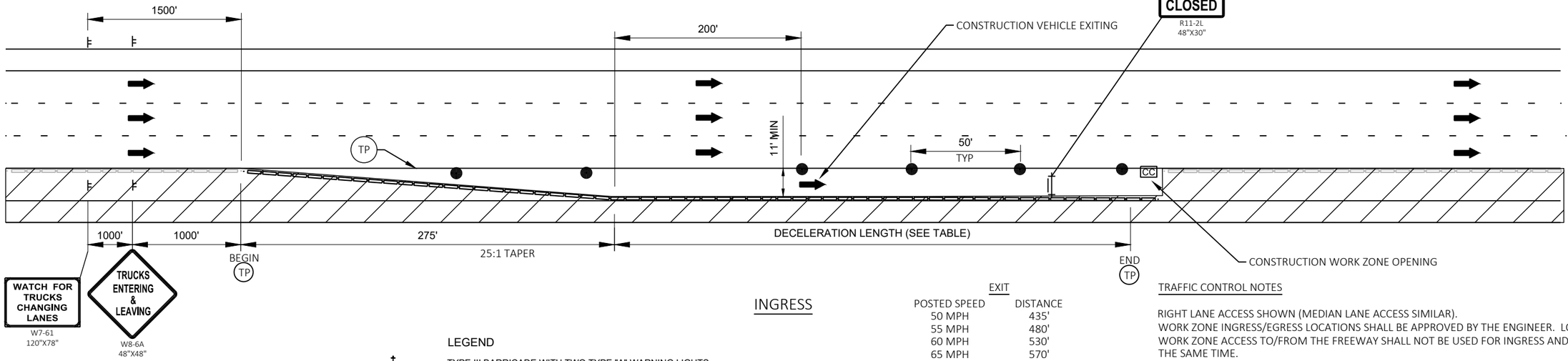
IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS EACH CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' IN FRONT OF DRUMS, WITH LANE CLOSED SIGN.

REFER TO DETOUR ROUTES FOR TRAFFIC CLOSING SIGNS.

2





WORK ZONE INGRESS/EGRESS 6-LANE

TRAFFIC CONTROL NOTES

RIGHT LANE ACCESS SHOWN (MEDIAN LANE ACCESS SIMILAR).
WORK ZONE INGRESS/EGRESS LOCATIONS SHALL BE APPROVED BY THE ENGINEER. LOCATIONS FOR WORK ZONE ACCESS TO/FROM THE FREEWAY SHALL NOT BE USED FOR INGRESS AND EGRESS AT THE SAME TIME.

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

TEMPORARY SUPPORTS MAYBE USED IF PLACED BEHIND TEMPORARY BARRIER WALL.

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

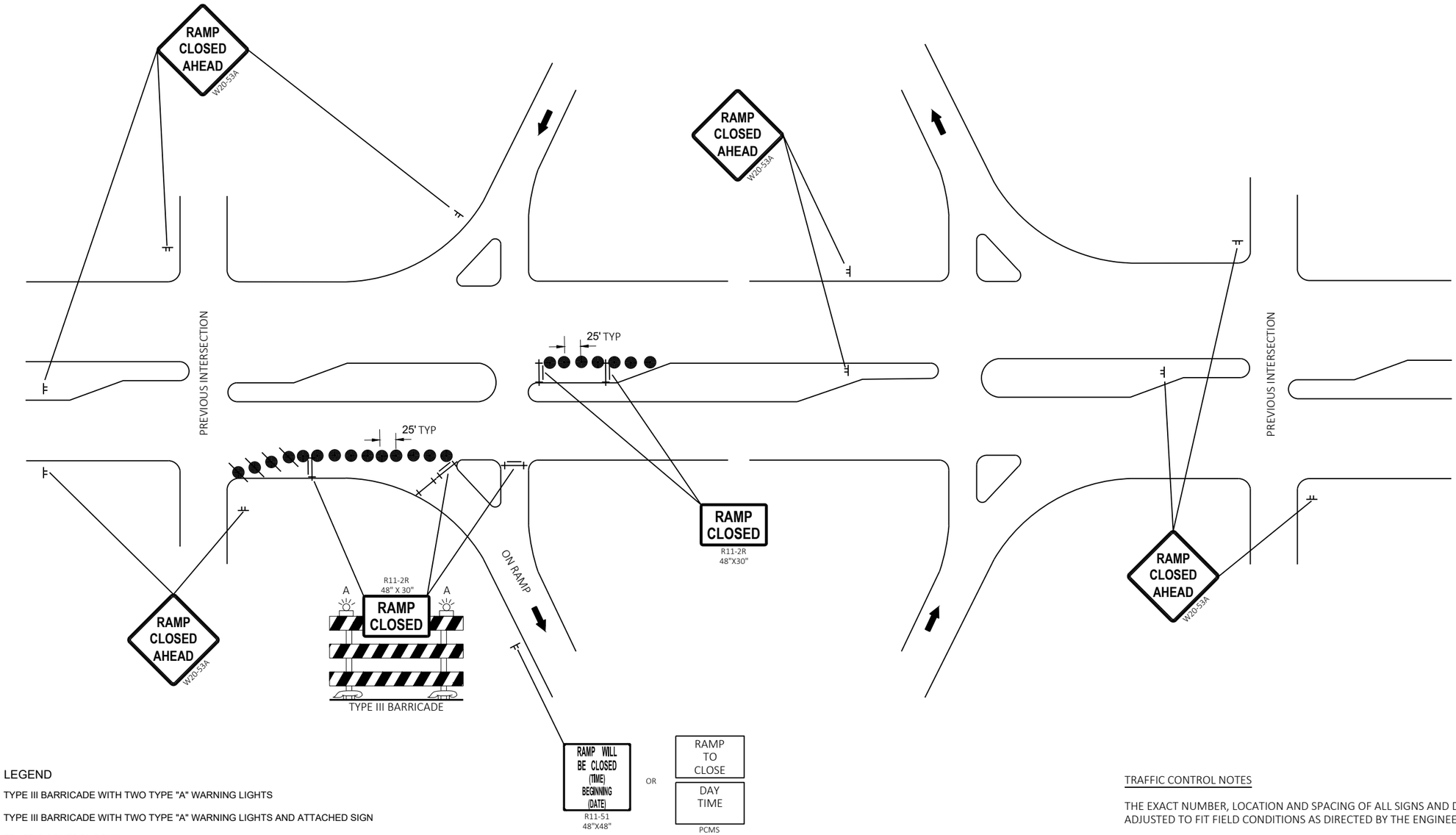
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

TRUCKS SHALL USE FLASHING YELLOW BEACON WHEN ENTERING AND EXITING LIVE TRAFFIC.

FREE FLOW TRAFFIC LANES SHALL BE A MINIMUM WIDTH OF ELEVEN FEET AND ACCOMMODATE A ONE FOOT SHY DISTANCE FROM TRAFFIC CONTROL DEVICES.

ITEMS ON THIS SHEET TO BE PAID USING STANDARD ID ITEMS.

2



LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" WARNING LIGHTS
- TYPE III BARRICADE WITH TWO TYPE "A" WARNING LIGHTS AND ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL NOTES

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

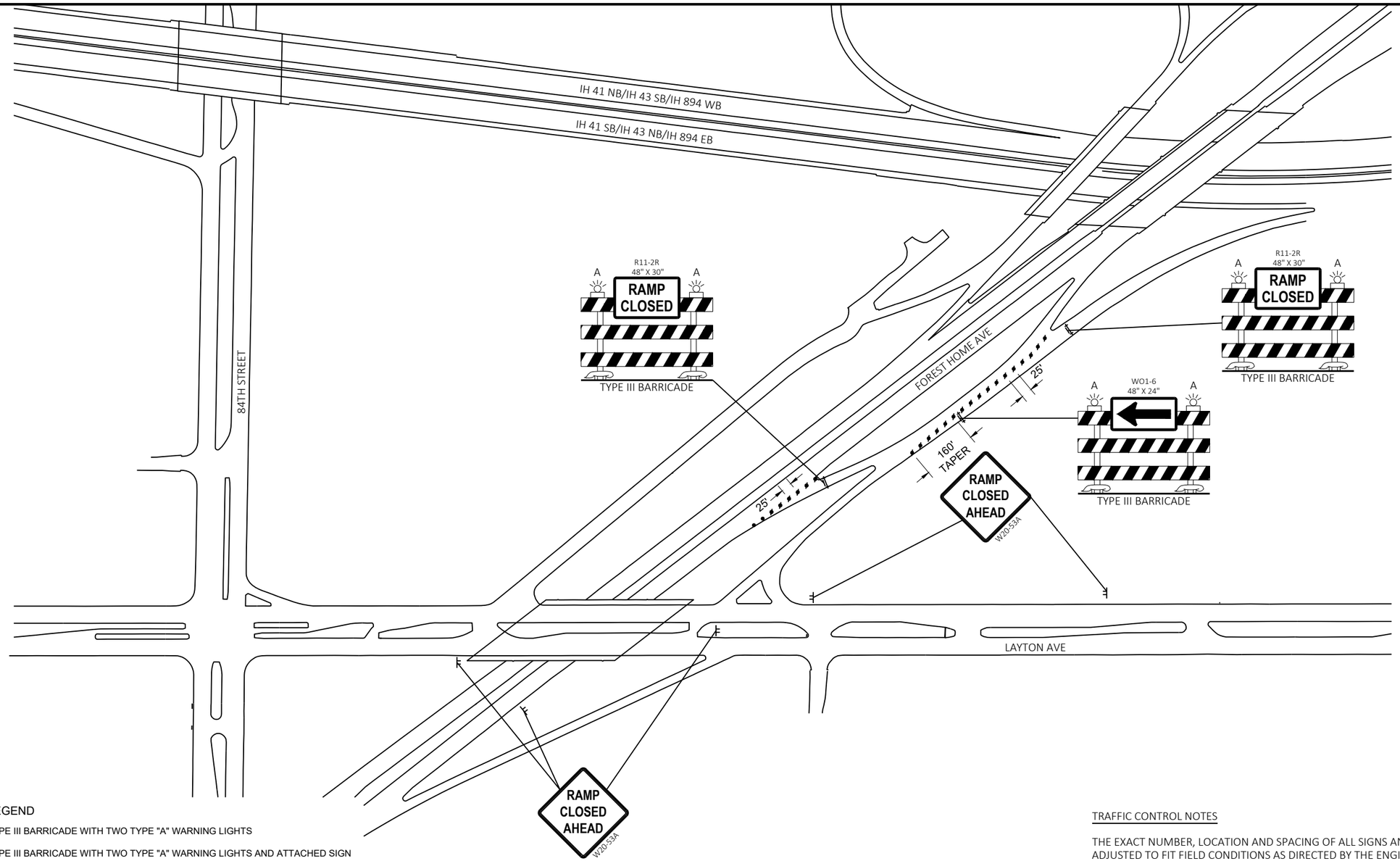
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

SHORT TERM DEFINED AS 7 DAYS OR LESS. FOR NIGHT TIME OPERATIONS ALL DRUMS IN TAPERS SHALL HAVE WARNING LIGHT, TYPE C (STEADY BURN). MAY BE APPLIED TO ARTERIALS OR LOCAL ROADS.

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE
76TH ST & LOOMIS RD - SHORT TERM ONLY

2



LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" WARNING LIGHTS
- TYPE III BARRICADE WITH TWO TYPE "A" WARNING LIGHTS AND ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC

RAMP CLOSED AHEAD W20-53A

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE
FOREST HOME AVE - SHORT TERM ONLY

TRAFFIC CONTROL NOTES

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

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

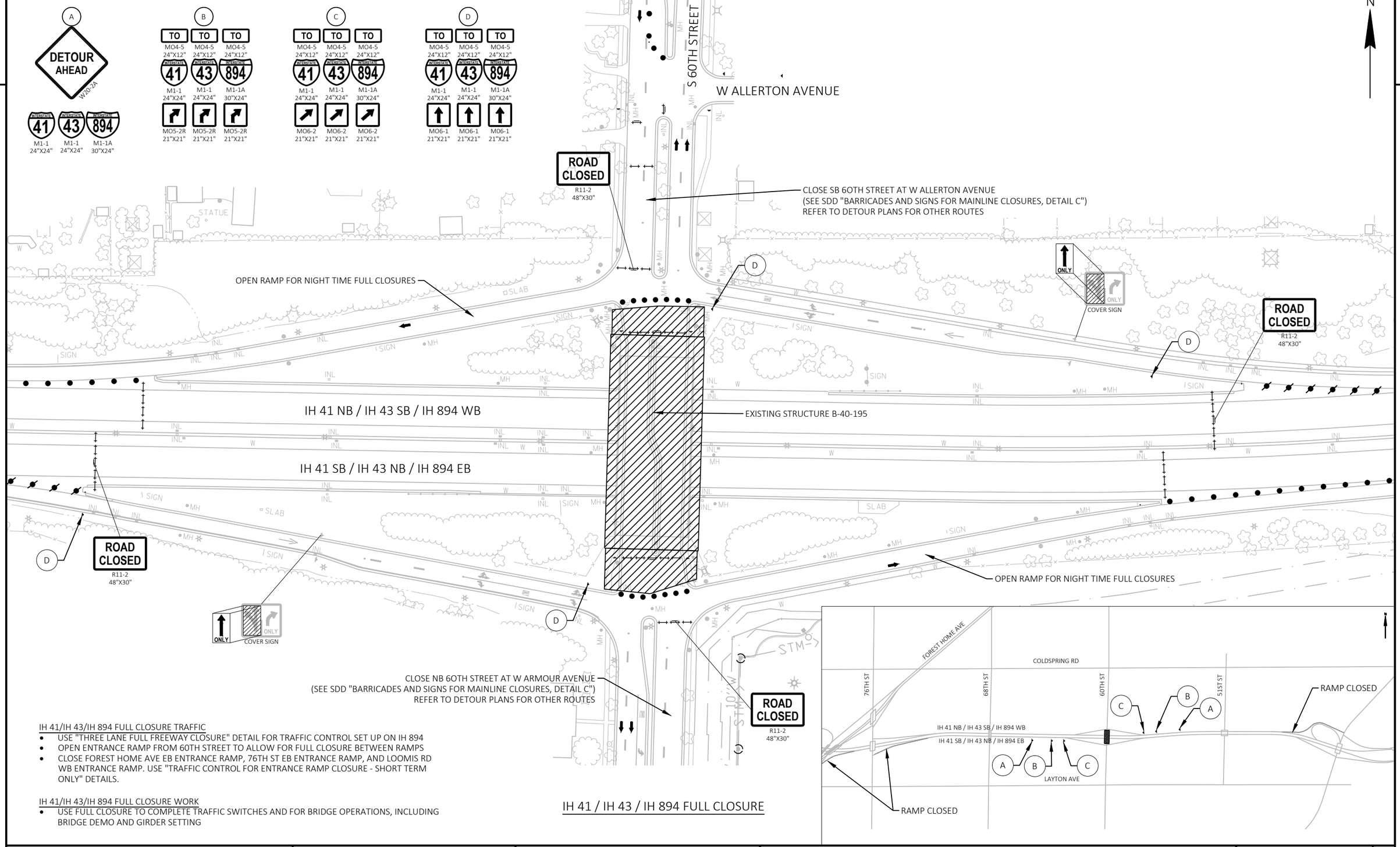
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

FOR NIGHT TIME OPERATIONS ALL DRUMS IN TAPERS SHALL HAVE WARNING LIGHT, TYPE C (STEADY BURN). MAY BE APPLIED TO ARTERIALS OR LOCAL ROADS.

"RAMP CLOSED AHEAD" SIGNS SHALL BE PLACED ADJACENT TO EXISTING INTERSTATE DIRECTIONAL ASSEMBLIES.

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAIL	SHEET 91	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\025101_TC.DWG
LAYOUT NAME - 025105_tc
PLOT DATE : 1/20/2021 2:30 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



IH 41/IH 43/IH 894 FULL CLOSURE TRAFFIC

- USE "THREE LANE FULL FREEWAY CLOSURE" DETAIL FOR TRAFFIC CONTROL SET UP ON IH 894
- OPEN ENTRANCE RAMP FROM 60TH STREET TO ALLOW FOR FULL CLOSURE BETWEEN RAMPS
- CLOSE FOREST HOME AVE EB ENTRANCE RAMP, 76TH ST EB ENTRANCE RAMP, AND LOOMIS RD WB ENTRANCE RAMP. USE "TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE - SHORT TERM ONLY" DETAILS.

IH 41/IH 43/IH 894 FULL CLOSURE WORK

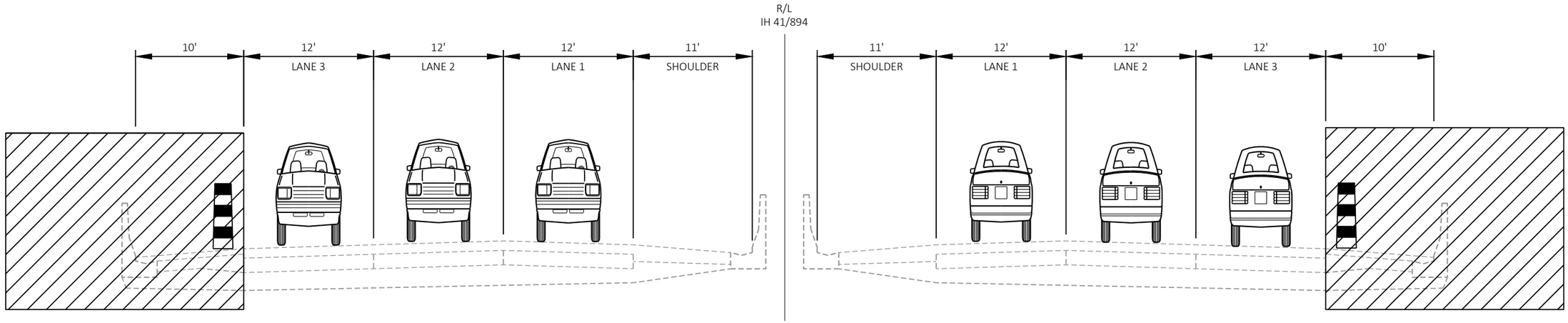
- USE FULL CLOSURE TO COMPLETE TRAFFIC SWITCHES AND FOR BRIDGE OPERATIONS, INCLUDING BRIDGE DEMO AND GIRDER SETTING

IH 41 / IH 43 / IH 894 FULL CLOSURE

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAIL	SHEET 92	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\025106_TC_FC.DWG
LAYOUT NAME - 025106_tc
PLOT DATE : 1/20/2021 2:31 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

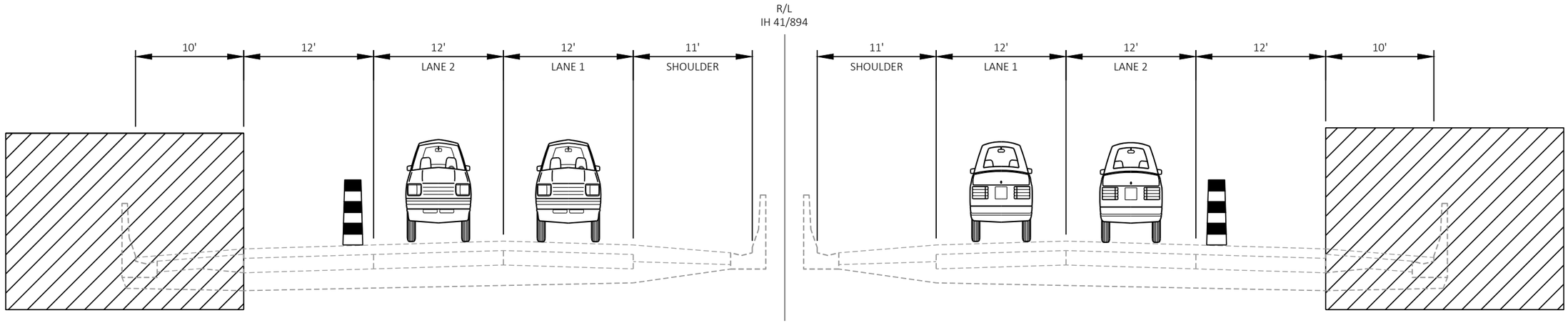


PRE-STAGE WORK:

-SHOULDER AND JOINT REPAIR
-REMOVE BRIDGE B-40-195

TYPICAL SECTION - PRE-STAGE

IH 41/43/894
SHOULDER CLOSURE



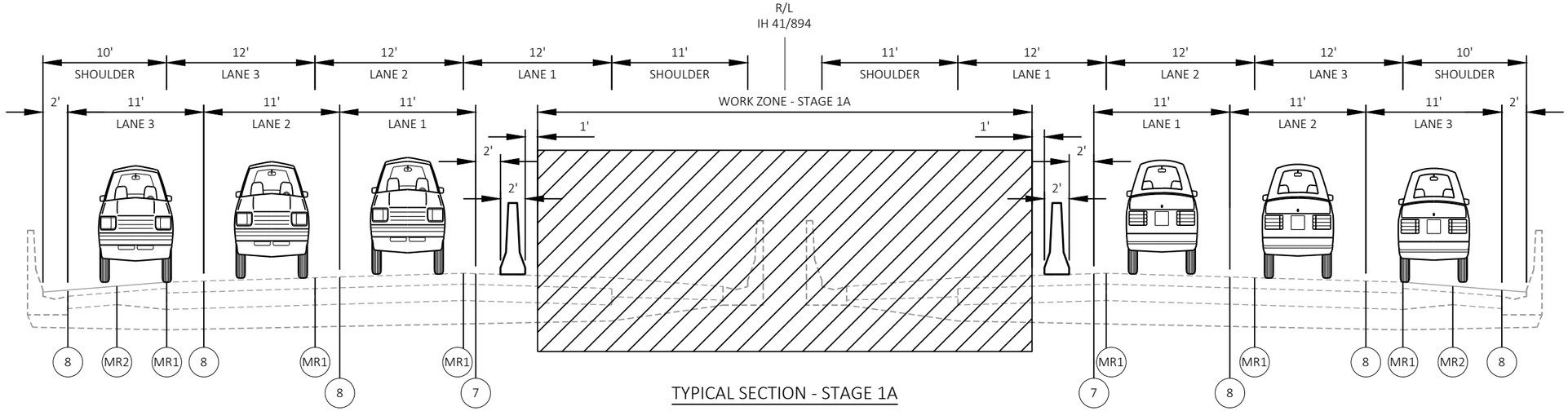
TYPICAL SECTION - PRE-STAGE

IH 41/43/894
NIGHT TIME LANE CLOSURE

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 93	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\025107_TC_TS.DWG
LAYOUT NAME - 025107_tc_ts
PLOT DATE : 1/20/2021 3:06 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2

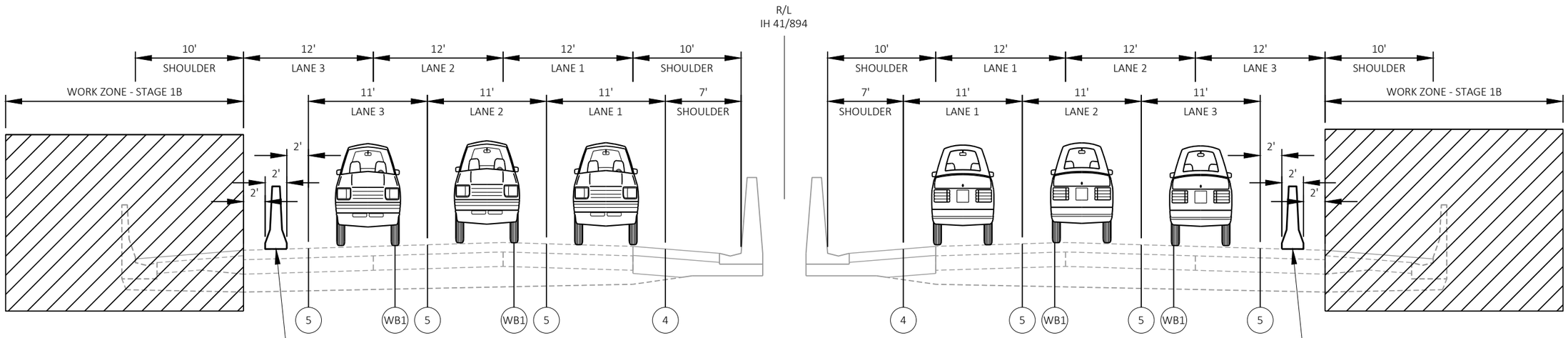


TYPICAL SECTION - STAGE 1A

IH 41/43/894

STAGE 1A WORK:

-REMOVE MEDIAN BARRIER WALL
-REMOVE EXISTING MEDIAN PIERS
-BEGIN WORK ON ABUTMENTS
-BUILD MEDIAN PIERS FOR NEW BRIDGE
-RECONSTRUCT INSIDE SHOULDERS



TYPICAL SECTION - STAGE 1B

IH 41/43/894

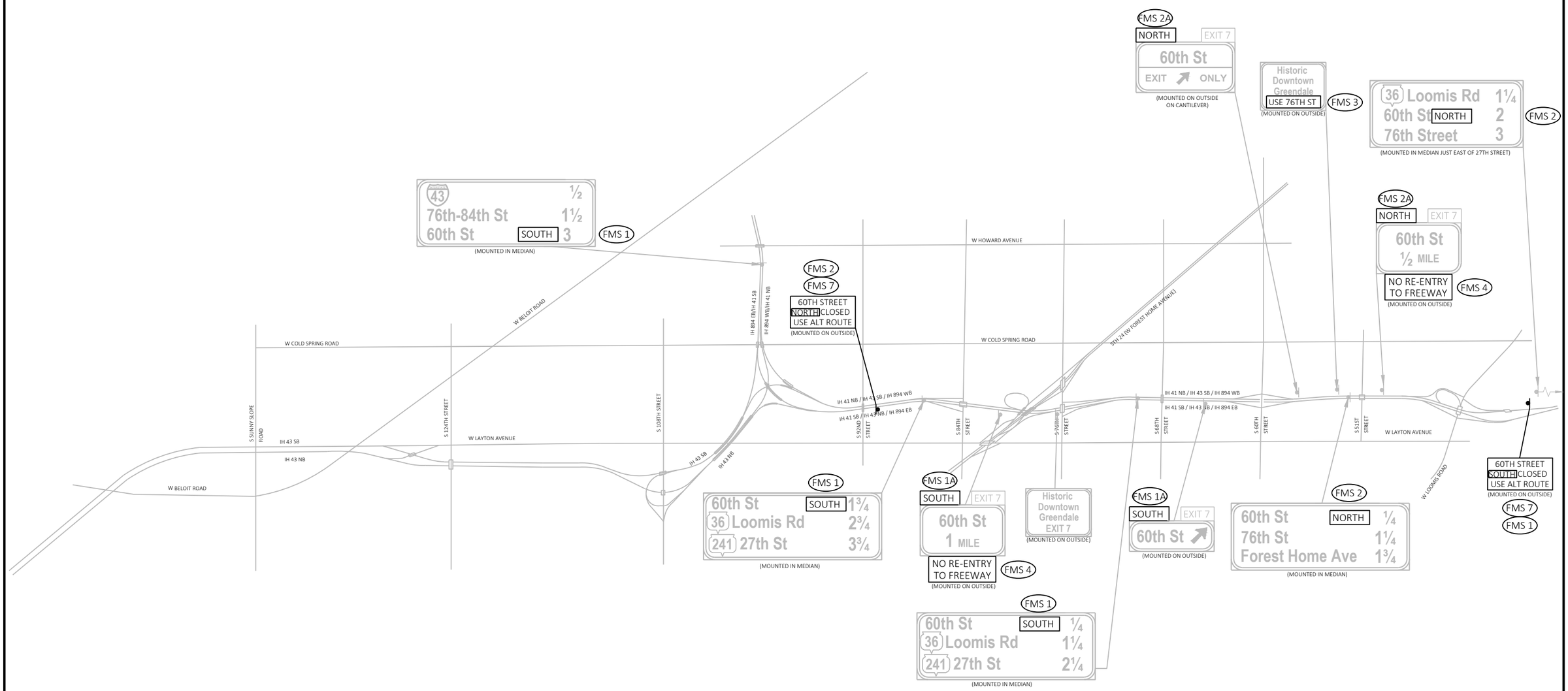
STAGE 1B WORK:

-REMOVE EXISTING OUTSIDE PIERS
-FINISH ABUTMENT WORK
-RECONSTRUCT OUTSIDE SHOULDERS

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 94	E

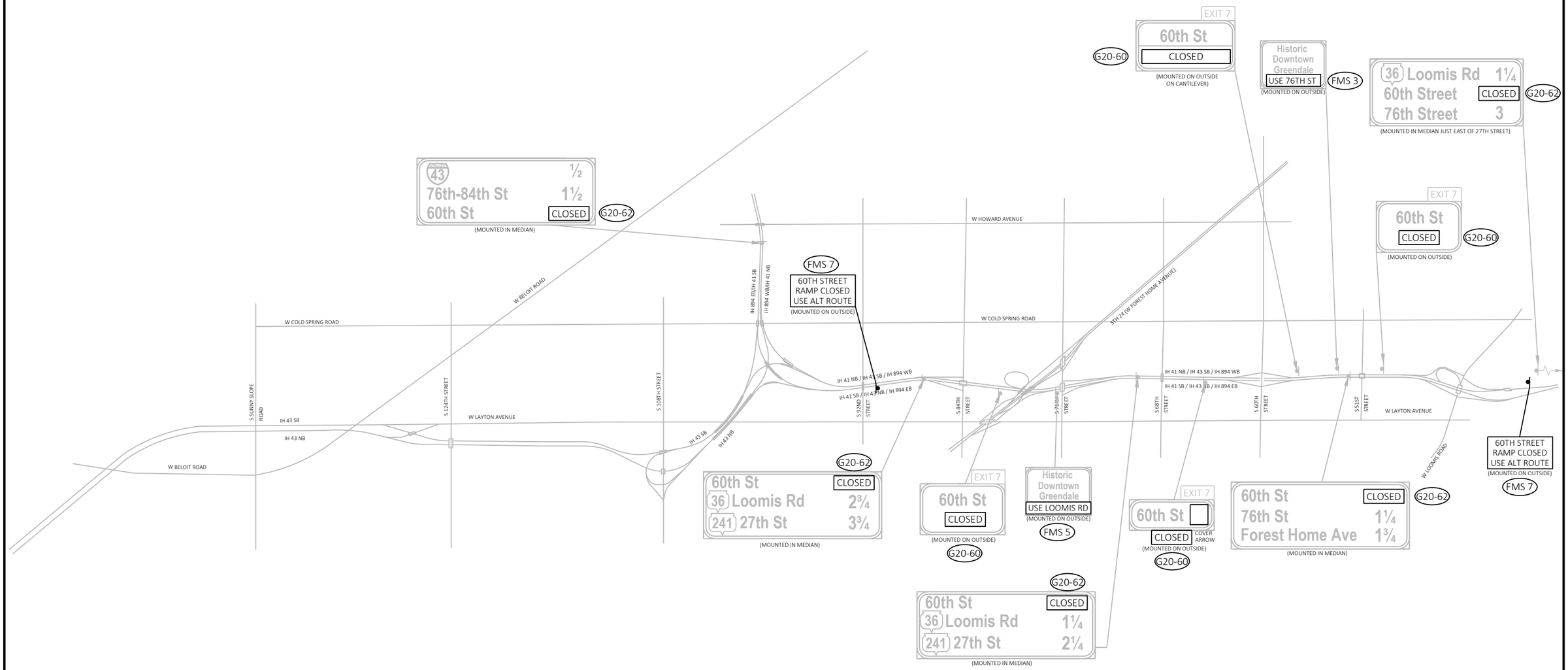
2

N



PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - FIXED MESSAGE SIGNS - PRE-STAGE, STAGE 1A/1B/2A	SHEET 95	E

2



PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - FIXED MESSAGE SIGNS - STAGE 2B	SHEET 96	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\025109_TC_FM.DWG
LAYOUT NAME - 025110_tc_fm

PLOT DATE : 1/20/2021 2:32 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:0.5 MI

2

N

ROAD CLOSED AHEAD
W20-3A
SOUTH
M3-1
24"X12"
60TH ST
FMS 8
A

ROAD TO CLOSE LONGTERM
DAY TIME
(60TH ST MB MESSAGE)

RAMP TO CLOSE LONGTERM
DAY TIME
(ENTRANCE RAMP MB MESSAGE)

SEE "PEDESTRIAN DETOUR" FOR ADDITIONAL SIGNS

SIDEWALK CLOSED

BRIDGE OUT
R11-2B
48"X30"

S 60TH STREET

END ROAD WORK
G20-2A
48"X24"

R3-2
24"X24"

A

W ALLERTON AVENUE

SEE "PEDESTRIAN DETOUR" FOR ADDITIONAL SIGNS

MB

ROAD CLOSED
R11-2
48"X30"

CLOSE SB 60TH STREET AT W ALLERTON AVENUE
(SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL C")
REFER TO DETOUR PLANS FOR OTHER ROUTES

BRIDGE OUT
R11-2B
48"X30"

RAMP CLOSED (RAMP TO BE OPENED FOR I-894 FULL CLOSURES)

STATUE

SLAB

YIELD
R1-2
36"X31"

COVER SIGN

LANE CLOSED
R11-2L
48"X30"

ONLY
COVER SIGN

COVER SIGN

SIDEWALK CLOSED
R9-9
24"X12"

IH 41 NB / IH 43 SB / IH 894 WB

EXISTING STRUCTURE B-40-195

IH 41 SB / IH 43 NB / IH 894 EB

COMPLETE SHOULDER REPAIR WORK USING SHOULDER CLOSURES AND NIGHT TIME LANE CLOSURES.
(SEE SDD "TRAFFIC CONTROL, LANE CLOSURE" AND "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH")

SIDEWALK CLOSED
R9-9
24"X12"

RAMP CLOSED (RAMP TO BE OPENED FOR I-894 FULL CLOSURES)

60th St
SOUTH
COVER SIGN

ONLY
COVER SIGN

COVER SIGN

WO1-6
48"X24"

LANE CLOSED
R11-2L
48"X30"

YIELD
R1-2
36"X31"

BRIDGE OUT
R11-2B
48"X30"

ROAD CLOSED
R11-2
48"X30"

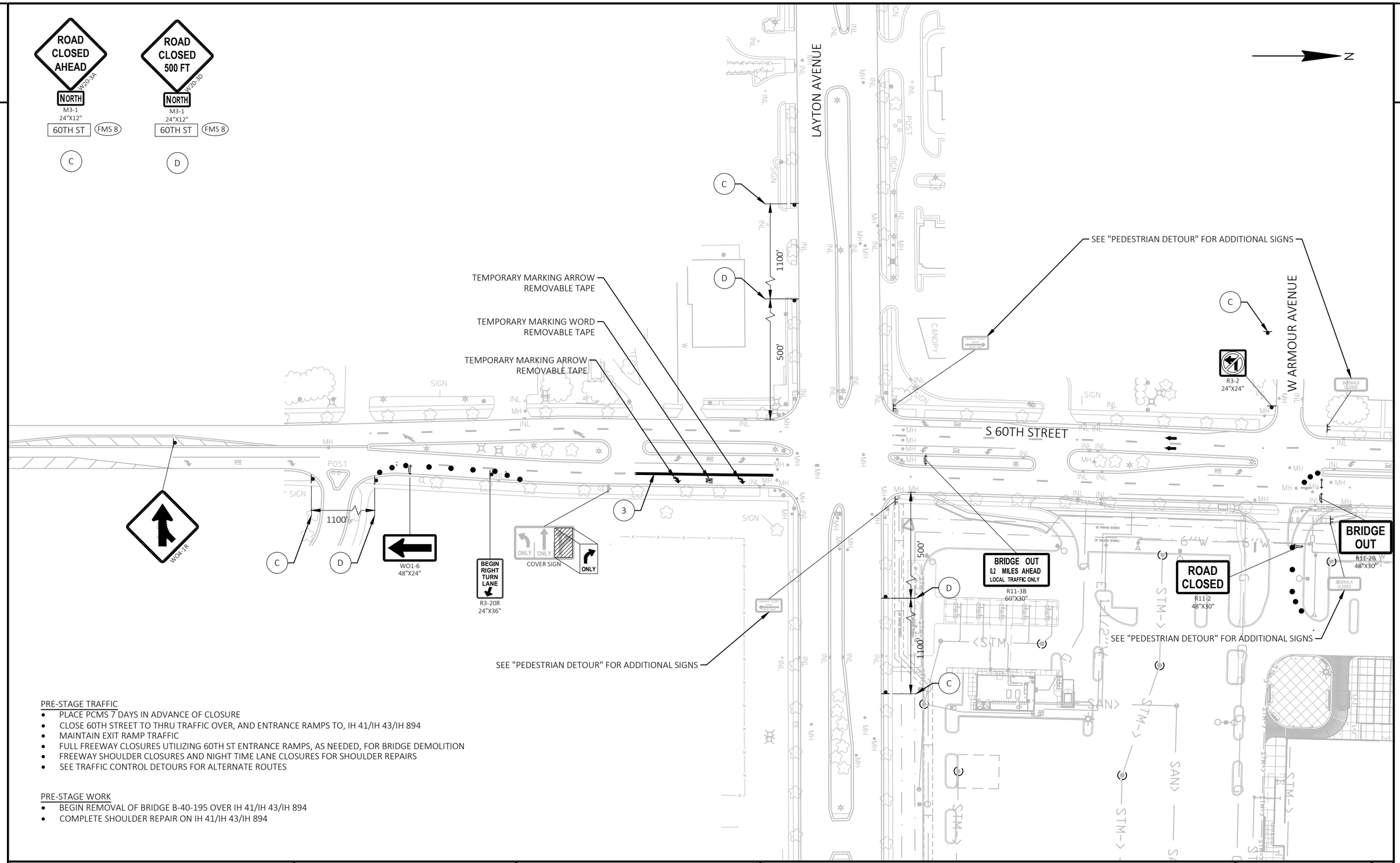
END ROAD WORK
G20-2A
48"X24"

CLOSE NB 60TH STREET AT W ARMOUR AVENUE
(SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL C")
REFER TO DETOUR PLANS FOR OTHER ROUTES

PRE-STAGE TRAFFIC
- PLACE PCMS 7 DAYS IN ADVANCE OF CLOSURE
- CLOSE 60TH STREET TO THRU TRAFFIC OVER, AND ENTRANCE RAMPS TO, IH 41/IH 43/IH 894
- MAINTAIN EXIT RAMP TRAFFIC
- FULL FREEWAY CLOSURES UTILIZING 60TH ST ENTRANCE RAMPS, AS NEEDED, FOR BRIDGE DEMOLITION
- FREEWAY SHOULDER CLOSURES AND NIGHT TIME LANE CLOSURES FOR SHOULDER REPAIRS
- SEE TRAFFIC CONTROL DETOURS FOR ALTERNATE ROUTES

PRE-STAGE WORK
- BEGIN REMOVAL OF BRIDGE B-40-195 OVER IH 41/IH 43/IH 894
- COMPLETE SHOULDER REPAIR ON IH 41/IH 43/IH 894

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - PRE-STAGE - 60TH ST	SHEET 97	E



PRE-STAGE TRAFFIC

- PLACE PCMS 7 DAYS IN ADVANCE OF CLOSURE
- CLOSE 60TH STREET TO THRU TRAFFIC OVER, AND ENTRANCE RAMPS TO, IH 41/IH 43/IH 894
- MAINTAIN EXIT RAMP TRAFFIC
- FULL FREEWAY CLOSURES UTILIZING 60TH ST ENTRANCE RAMPS, AS NEEDED, FOR BRIDGE DEMOLITION
- FREEWAY SHOULDER CLOSURES AND NIGHT TIME LANE CLOSURES FOR SHOULDER REPAIRS
- SEE TRAFFIC CONTROL DETOURS FOR ALTERNATE ROUTES

PRE-STAGE WORK

- BEGIN REMOVAL OF BRIDGE B-40-195 OVER IH 41/IH 43/IH 894
- COMPLETE SHOULDER REPAIR ON IH 41/IH 43/IH 894

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - PRE-STAGE - 60TH ST	SHEET 98	E

2

N

ROAD CLOSED AHEAD
W20-3A
SOUTH
M3-1
24"X12"
60TH ST
FMS 8
A

ROAD CLOSED 500 FT
W20-3D
SOUTH
M3-1
24"X12"
60TH ST
FMS 8
B

COVER SIGN

WO1-6
48"X24"

A

W BOTTSFORD AVENUE

1

180' TAPER

WO1-6
48"X24"

A

W BOTTSFORD AVENUE

BRIDGE OUT
0.2 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3B
60"X30"

WO4-2L

S 60TH STREET

SEE "PEDESTRIAN DETOUR" FOR ADDITIONAL SIGNS

A
B
1100'
500'

LEFT LANE CLOSED AHEAD
W20-5SA

B
A
500'
1100'

SEE "PEDESTRIAN DETOUR" FOR ADDITIONAL SIGNS

500'
1100'
B
A

W COLD SPRING ROAD

PRE-STAGE TRAFFIC

- PLACE PCMS 7 DAYS IN ADVANCE OF CLOSURE
- CLOSE 60TH STREET TO THRU TRAFFIC OVER, AND ENTRANCE RAMPS TO, IH 41/IH 43/IH 894
- MAINTAIN EXIT RAMP TRAFFIC
- FULL FREEWAY CLOSURES UTILIZING 60TH ST ENTRANCE RAMPS, AS NEEDED, FOR BRIDGE DEMOLITION
- FREEWAY SHOULDER CLOSURES AND NIGHT TIME LANE CLOSURES FOR SHOULDER REPAIRS
- SEE TRAFFIC CONTROL DETOURS FOR ALTERNATE ROUTES

PRE-STAGE WORK

- BEGIN REMOVAL OF BRIDGE B-40-195 OVER IH 41/IH 43/IH 894
- COMPLETE SHOULDER REPAIR ON IH 41/IH 43/IH 894

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - PRE-STAGE - 60TH ST	SHEET 99	E

2

2

N

300' SHIFTING TAPER

RAMP CLOSED. SEE "TRAFFIC CONTROL - STAGE 1A - 60TH ST" FOR MORE INFORMATION.

WO1-6
48" X 24"

TYPE III BARRICADE

COVER SIGN

END ROAD WORK
G20-2A
48"X24"

50'

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

100'

8:1 TAPER

WO5-52L
12"X36"

200' TAPER

1000'

WO1-6
48" X 24"

TYPE III BARRICADE

300' SHIFTING TAPER

2640' 1140' 1000' 500'

ROAD WORK 1 MILE
W20-1F

ROAD WORK 1/2 MILE
W20-1G

LEFT SHOULDER CLOSED AHEAD
W21-5BL

LEFT SHOULDER CLOSED
W21-5AL

WO1-4CR
48"X48"

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1A - IH 894	SHEET 100	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\026001_S1A.DWG
LAYOUT NAME - 026001-S1a

PLOT DATE : 1/20/2021 2:37 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

N

S 60TH STREET

RAMP CLOSED. SEE "TRAFFIC CONTROL - STAGE 1A - 60TH ST" FOR MORE INFORMATION.

300' SHIFTING TAPER

WO5-52L
12"X36"

WO1-6
48" X 24"

TYPE III BARRICADE

200'
TAPER

PC: 179+40.49

PT: 185+03.47

WO1-4CL
48"X48"

8

7

11'
11'
11'

50'

8:1 TAPER

178

180

182

184

186

188

74

12'
12'
12'

IH 41 NB / IH 43 SB / IH 894 WB

100'

IH 41 SB / IH 43 NB / IH 894 EB

END
ROAD WORK

G20-2A
48"X24"

WO1-4CL
48"X48"

COVER SIGN

WO1-6
48" X 24"

TYPE III BARRICADE

300' SHIFTING TAPER

RAMP CLOSED. SEE "TRAFFIC CONTROL - STAGE 1A - 60TH ST" FOR MORE INFORMATION.

S 60TH STREET

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1A - IH 894	SHEET 101	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\026001_S1A.DWG
LAYOUT NAME - 026002-S1a

PLOT DATE : 1/20/2021 2:38 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

N

WO1-4CR
48"X48"

LEFT SHOULDER CLOSED
W21-5AL

1000'

LEFT SHOULDER CLOSED AHEAD
W21-5BL

1140'

ROAD WORK 1/2 MILE
W20-1G

2640'

ROAD WORK 1 MILE
W20-1F

200' TAPER

PC: 190+51.77

PT: 199+82.94

50'

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

190 192 194 196 198 200 202 204

12' 12' 12'

SUBSTATION

S 51ST STREET

SIGN

INL

MH

W

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1A - IH 894	SHEET 102	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\026001_S1A.DWG
LAYOUT NAME - 026003-S1a

PLOT DATE : 1/20/2021 2:39 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

N

MAINTAIN TRAFFIC CONTROL ON 60TH STREET AND RAMPS FROM PRE-STAGE
(SEE "TRAFFIC CONTROL - PRE-STAGE - 60TH ST" FOR DETAILS)

S 60TH STREET

CLOSE SB 60TH STREET AT W ALLERTON AVENUE
(SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL C")
REFER TO DETOUR PLANS FOR OTHER ROUTES

W ALLERTON AVENUE

RAMP CLOSED (RAMP TO BE OPENED FOR I-894 FULL CLOSURES)

PROPOSED RETAINING WALL R-40-703

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

EXISTING STRUCTURE B-40-195
PROPOSED STRUCTURE B-40-1013

PROPOSED RETAINING WALL R-40-702

RAMP CLOSED (RAMP TO BE OPENED FOR I-894 FULL CLOSURES)

COMPLETE SHOULDER WORK USING LANE SHIFTS

CLOSE NB 60TH STREET AT W ARMOUR AVENUE
(SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL C")
REFER TO DETOUR PLANS FOR OTHER ROUTES

W ARMOUR AVENUE

MAINTAIN TRAFFIC CONTROL ON 60TH STREET AND RAMPS FROM PRE-STAGE
(SEE "TRAFFIC CONTROL - PRE-STAGE - 60TH ST" FOR DETAILS)

STAGE 1A TRAFFIC

- PLACE PCMS 7 DAYS IN ADVANCE OF CLOSURE
- MAINTAIN 60TH STREET CLOSURE AND IH 41/IH 43/IH 894 ENTRANCE RAMP CLOSURES FROM PRE-STAGE
- MAINTAIN EXIT RAMP TRAFFIC RESTRICTIONS FROM PRE-STAGE
- CLOSE INSIDE SHOULDERS OF IH 41/IH 43/IH 894 AND SHIFT TRAFFIC
- FULL FREEWAY CLOSURES UTILIZING 60TH ST ENTRANCE RAMPS, AS NEEDED, FOR BRIDGE DEMOLITION
- SEE TRAFFIC CONTROL DETOURS FOR ALTERNATE ROUTES

STAGE 1A WORK

- COMPLETE REMOVAL OF BRIDGE B-40-195 OVER IH 41/IH 43/IH 894, INCLUDING CENTER PIERS
- COMPLETE NEW CENTER PIER FOR BRIDGE B-40-1013
- COMPLETE MEDIAN BARRIER AND SHOULDER WORK ON IH 41/IH 43/IH 894

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1A - 60TH ST	SHEET 103	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\026004_S1A.DWG
LAYOUT NAME - 026004_S1a
PLOT DATE : 1/20/2021 2:41 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2

N

300' SHIFTING TAPER

RAMP CLOSED. SEE "TRAFFIC CONTROL -
- STAGE 1B - 60TH ST" FOR MORE INFORMATION.

WO1-6
48" X 24"

TYPE III BARRICADE

COVER SIGN

END
ROAD WORK
G20-2A
48"X24"

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

50'

12'
12'
12'

11'
11'
11'

25'

8:1 TAPER

RIGHT
SHOULDER
CLOSED
W21-5A

1000'

WO1-4CL
48"X48"

WO1-6
48" X 24"

TYPE III BARRICADE

300' SHIFTING TAPER

WO5-52R
12"X36"

2640'

1140'

1000'

ROAD
WORK
1 MILE
W20-1F

ROAD
WORK
1/2 MILE
W20-1G

RIGHT
SHOULDER
CLOSED
AHEAD
W21-5B

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1B - IH 894	SHEET 104	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\026101_S1B.DWG
LAYOUT NAME - 026101-S1b

PLOT DATE : 1/20/2021 2:43 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

N

S 60TH STREET

RAMP CLOSED. SEE "TRAFFIC CONTROL - - STAGE 1B - 60TH ST" FOR MORE INFORMATION.

WO1-4CR
48"X48"

WO5-52R
12"X36"

300' SHIFTING TAPER

WO1-6
48" X 24"

TYPE III BARRICADE

PC: 179+40.49

PT: 185+03.47

8:1 TAPER

50'

25'

12'

11'

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

END
ROAD WORK

G20-2A
48"X24"

COVER SIGN

RAMP CLOSED. SEE "TRAFFIC CONTROL - - STAGE 1B - 60TH ST" FOR MORE INFORMATION.

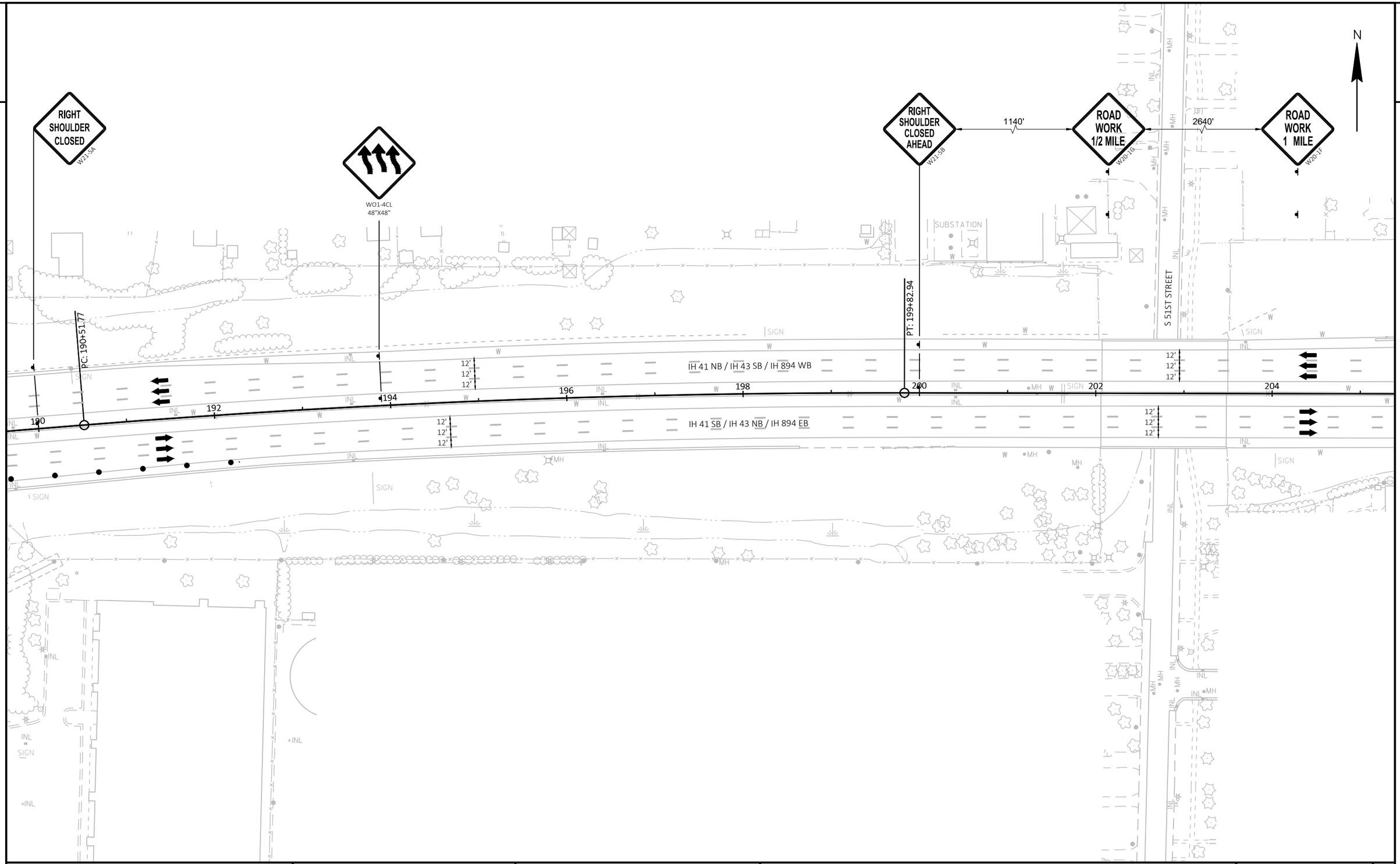
S 60TH STREET

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1B - IH 894	SHEET 105	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\026101_S1B.DWG
LAYOUT NAME - 026102-S1b

PLOT DATE : 1/20/2021 2:44 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1B - IH 894	SHEET 106	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\026101_S1B.DWG
LAYOUT NAME - 026103-S1b

PLOT DATE : 1/20/2021 2:45 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

N

MAINTAIN TRAFFIC CONTROL ON 60TH STREET AND RAMPS FROM PRE-STAGE
(SEE "TRAFFIC CONTROL - PRE-STAGE - 60TH ST" FOR DETAILS)

CLOSE SB 60TH STREET AT W ALLERTON AVENUE
(SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL C")
REFER TO DETOUR PLANS FOR OTHER ROUTES

RAMP CLOSED (RAMP TO BE OPENED FOR I-894 FULL CLOSURES)

S 60TH STREET

W ALLERTON AVENUE

PROPOSED RETAINING WALL R-40-703

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

EXISTING STRUCTURE B-40-195
PROPOSED STRUCTURE B-40-1013

PROPOSED RETAINING WALL R-40-702

RAMP CLOSED (RAMP TO BE OPENED FOR I-894 FULL CLOSURES)

COMPLETE SHOULDER WORK USING LANE SHIFTS

CLOSE NB 60TH STREET AT W ARMOUR AVENUE
(SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL C")
REFER TO DETOUR PLANS FOR OTHER ROUTES

W ARMOUR AVENUE

MAINTAIN TRAFFIC CONTROL ON 60TH STREET AND RAMPS FROM PRE-STAGE
(SEE "TRAFFIC CONTROL - PRE-STAGE - 60TH ST" FOR DETAILS)

STAGE 1B TRAFFIC

- MAINTAIN 60TH STREET CLOSURE AND IH 41/IH 43/IH 894 ENTRANCE RAMP CLOSURES FROM PRE-STAGE
- MAINTAIN EXIT RAMP TRAFFIC RESTRICTIONS FROM PRE-STAGE
- CLOSE OUTSIDE SHOULDERS OF IH 41/IH 43/IH 894 AND SHIFT TRAFFIC
- FULL FREEWAY CLOSURES UTILIZING 60TH ST ENTRANCE RAMPS, AS NEEDED, FOR GIRDER SETTINGS
- FREEWAY SINGLE AND DOUBLE LANE CLOSURES, AS NEEDED, FOR POURING BRIDGE DECK (SEE SDD SHEETS FOR ADDITIONAL INFORMATION)
- SEE TRAFFIC CONTROL DETOURS FOR ALTERNATE ROUTES

STAGE 1B WORK

- COMPLETE ALL NEW STRUCTURE B-40-1013 WORK REQUIRING MAINLINE CLOSURES
- COMPLETE RETAINING WALL WORK
- COMPLETE OUTSIDE SHOULDER WORK ON IH 41/IH 43/IH 894
- BEGIN APPROACH ROADWAY WORK ON 60TH STREET

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1B - 60TH ST	SHEET 107	E

2

N

MAINTAIN TRAFFIC CONTROL ON 60TH STREET AND RAMPS FROM PRE-STAGE
(SEE "TRAFFIC CONTROL - PRE-STAGE - 60TH ST" FOR DETAILS)

CLOSE SB 60TH STREET AT W ALLERTON AVENUE
(SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL C")
REFER TO DETOUR PLANS FOR OTHER ROUTES

S 60TH STREET

W ALLERTON AVENUE

RAMP CLOSED

PROPOSED RETAINING WALL R-40-703

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

PROPOSED STRUCTURE B-40-1013

PROPOSED RETAINING WALL R-40-702

RAMP CLOSED

CLOSE NB 60TH STREET AT W ARMOUR AVENUE
(SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL C")
REFER TO DETOUR PLANS FOR OTHER ROUTES

W ARMOUR AVENUE

MAINTAIN TRAFFIC CONTROL ON 60TH STREET AND RAMPS FROM PRE-STAGE
(SEE "TRAFFIC CONTROL - PRE-STAGE - 60TH ST" FOR DETAILS)

STAGE 2A TRAFFIC

- MAINTAIN 60TH STREET CLOSURE AND IH 41/IH 43/IH 894 ENTRANCE RAMP CLOSURES FROM PRE-STAGE
- NO MAINLINE OR FULL OVERNIGHT CLOSURES
- SEE TRAFFIC CONTROL DETOURS FOR ALTERNATE ROUTES

STAGE 2A WORK

- FINISH APPROACH ROADWAY WORK ON 60TH STREET
- FINISH ALL NEW STRUCTURE B-40-1013 WORK
- BEGIN ENTRANCE RAMP WORK

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 2A	SHEET 108	E

2

RAMP TO CLOSE LONGTERM

DAY TIME

(EXIT RAMP MB MESSAGE)

N

2

MAINTAIN TRAFFIC CONTROL ON 60TH STREET FROM PRE-STAGE
(SEE "TRAFFIC CONTROL - PRE-STAGE - 60TH ST" FOR DETAILS)

W BOTTSFORD AVENUE

S 60TH STREET

CONSTRUCT LOOP DETECTOR IN STAGES TO MAINTAIN ACCESS TO DRIVEWAYS SOUTH OF WORK AREA
(SEE SDD "TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY")

CLOSE SB 60TH STREET AT W ALLERTON AVENUE
(SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL C")
REFER TO DETOUR PLANS FOR OTHER ROUTES

W ALLERTON AVENUE

RAMP CLOSED

RAMP CLOSED

CLOSE WB EXIT RAMP TO 60TH STREET
(SEE SDD "TRAFFIC CONTROL, EXIT LANE CLOSURE")
REFER TO DETOUR PLANS FOR OTHER ROUTES

PROPOSED RETAINING WALL R-40-703

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

PROPOSED STRUCTURE B-40-1013

PROPOSED RETAINING WALL R-40-702

RAMP CLOSED

CLOSE EB EXIT RAMP TO 60TH STREET
(SEE SDD "TRAFFIC CONTROL, EXIT LANE CLOSURE")
REFER TO DETOUR PLANS FOR OTHER ROUTES

CLOSE NB 60TH STREET AT W ARMOUR AVENUE
(SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL C")
REFER TO DETOUR PLANS FOR OTHER ROUTES

W ARMOUR AVENUE

MAINTAIN TRAFFIC CONTROL ON 60TH STREET FROM PRE-STAGE
(SEE "TRAFFIC CONTROL - PRE-STAGE - 60TH ST" FOR DETAILS)

STAGE 2B TRAFFIC

- PLACE PCMS 7 DAYS IN ADVANCE OF CLOSURE OF EXIT RAMPS
- MAINTAIN 60TH STREET CLOSURE AND IH 41/IH 43/IH 894 ENTRANCE RAMP CLOSURES FROM PRE-STAGE
- NO MAINLINE OR FULL OVERNIGHT CLOSURES
- SEE TRAFFIC CONTROL DETOURS FOR ALTERNATE ROUTES

STAGE 2B WORK

- COMPLETE ALL RAMP WORK
- COMPLETE ROADWAY PATCHES FOR LOOP DETECTORS

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 2B	SHEET 109	E

2

N

A

RAMP CLOSED AHEAD W20.5SA

M1-1 24"X24" | M1-1 24"X24" | M1-1A 30"X24"

*SIGNS SHOWN ON SHEET "ENTRANCE RAMP - NB 60TH STREET TO NB IH 41 / SB IH 43/ WB IH 894" AS PART OF CONCURRENT DETOUR ROUTE

B

TO | TO | TO
MO4-5 24"X12" | MO4-5 24"X12" | MO4-5 24"X12"
NORTH | SOUTH | WEST
M3-3 24"X12" | M3-1 24"X12" | M3-2 24"X12"
M1-1 24"X24" | M1-1 24"X24" | M1-1A 30"X24"
MO5-1R 21"X21" | MO5-1R 21"X21" | MO5-1R 21"X21"

C

TO | TO | TO
MO4-5 24"X12" | MO4-5 24"X12" | MO4-5 24"X12"
SOUTH | NORTH | EAST
M3-3 24"X12" | M3-1 24"X12" | M3-2 24"X12"
M1-1 24"X24" | M1-1 24"X24" | M1-1A 30"X24"
MO6-1 21"X21" | MO6-1 21"X21" | MO6-1 21"X21"

D

TO | TO | TO
MO4-5 24"X12" | MO4-5 24"X12" | MO4-5 24"X12"
M1-1 24"X24" | M1-1 24"X24" | M1-1A 30"X24"
MO6-1 21"X21" | MO6-1 21"X21" | MO6-1 21"X21"

E

TO | TO | TO
MO4-5 24"X12" | MO4-5 24"X12" | MO4-5 24"X12"
M1-1 24"X24" | M1-1 24"X24" | M1-1A 30"X24"
MO5-1L 21"X21" | MO5-1L 21"X21" | MO5-1L 21"X21"

F

TO | TO | TO

EXISTING SIGN TO REMAIN (MOUNTED IN MEDIAN)

LEGEND

- DETOUR ROUTE
- WORK ZONE
- xxxxxxxxxx CLOSURE

W HOWARD AVENUE

STH 24 (W FOREST HOME AVENUE)

W COLD SPRING ROAD

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

S 84TH STREET

S 76TH STREET

S 68TH STREET

S 60TH STREET

S 51ST STREET

W LAYTON AVENUE

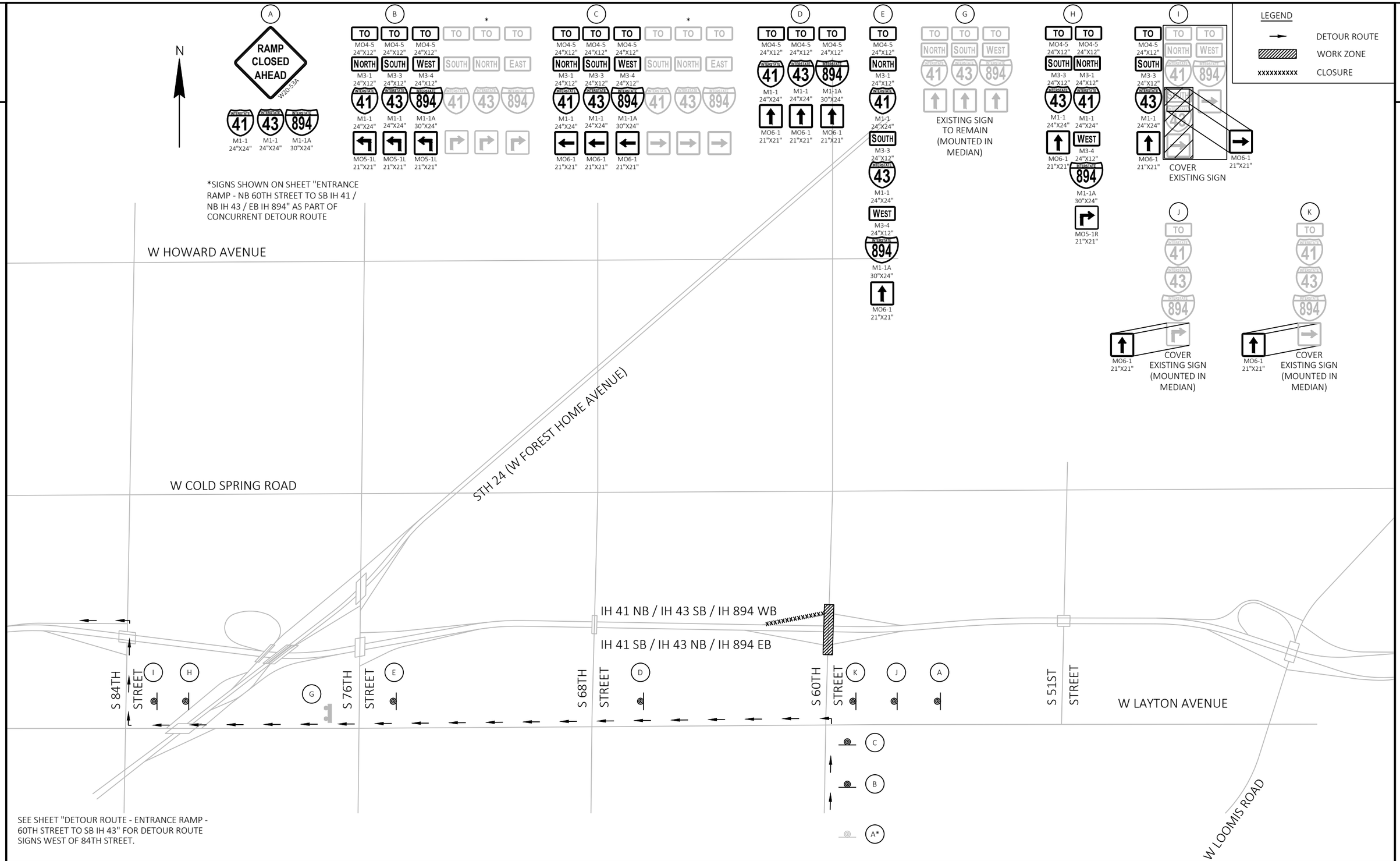
W LOOMIS ROAD

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	DETOUR ROUTE - ENTRANCE RAMP - NB 60TH STREET TO SB IH 41 / NB IH 43 / EB IH 894	SHEET 110	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027001_dt

PLOT DATE : 1/20/2021 2:54 PM | PLOT BY : JOE MAAS | PLOT NAME : | PLOT SCALE : 1 IN:1000 FT

WISDOT/CADDS SHEET 42



PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	DETOUR ROUTE - ENTRANCE RAMP - NB 60TH STREET TO NB IH 41 / SB IH 43 / WB IH 894	SHEET 111	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027002_dt
PLOT DATE : 1/20/2021 2:54 PM
PLOT BY : JOE MAAS
PLOT NAME :
PLOT SCALE : 1 IN:1000 FT

N

W HOWARD AVENUE

W COLD SPRING ROAD

STH 24 (W FOREST HOME AVENUE)

S 84TH STREET

S 76TH STREET

S 68TH STREET

S 60TH STREET

S 51ST STREET

W LAYTON AVENUE

W LOOMIS ROAD

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

xxxxxxxxxxxxxxx

A

RAMP CLOSED AHEAD
W20-5-SA
M1-1 24"X24" — 41
M1-1 24"X24" — 43
M1-1A 30"X24" — 894

*SIGNS SHOWN ON SHEET "ENTRANCE RAMP - SB 60TH STREET TO NB IH 41 / WB IH 894" AS PART OF CONCURRENT DETOUR ROUTE

** SIGNS SHOWN ON SHEET "ENTRANCE RAMP - 60TH STREET TO SB IH 43" AS PART OF CONCURRENT DETOUR ROUTE

BRIDGE OUT
0.95 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3B
60"X30"

BRIDGE OUT
0.75 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3B
60"X30"

JCT 41 43 894

COVER EXISTING SIGN
(MOUNTED IN MEDIAN)

NORTH EAST SOUTH WEST
43 894 43 894

COVER EXISTING SIGN
(MOUNTED IN MEDIAN)

B

TO MO4-5 24"X12"
41 M1-1 24"X24"
43 M1-1 24"X24"
894 M1-1A 30"X24"
MO5-1R 21"X21"

C

TO MO4-5 24"X12"
41 M1-1 24"X24"
43 M1-1 24"X24"
894 M1-1A 30"X24"
MO6-1 21"X21"

D

TO MO4-5 24"X12" — 41 M1-1 24"X24" — MO6-1 21"X21"
TO MO4-5 24"X12" — 43 M1-1 24"X24" — MO6-1 21"X21"
TO MO4-5 24"X12" — 894 M1-1A 30"X24" — MO6-1 21"X21"

E

* TO TO MO4-5 24"X12" — NORTH WEST SOUTH M3-3 24"X12" — 41 894 41 M1-1 24"X24" — MO5-2R 21"X21"
TO MO4-5 24"X12" — 43 M1-1 24"X24" — MO5-2R 21"X21"
TO MO4-5 24"X12" — EAST M3-2 24"X12" — 894 M1-1A 30"X24" — MO5-2R 21"X21"

F

* TO TO MO4-5 24"X12" — NORTH WEST SOUTH M3-3 24"X12" — 41 894 41 M1-1 24"X24" — MO6-2 21"X21"
TO MO4-5 24"X12" — 43 M1-1 24"X24" — MO6-2 21"X21"
TO MO4-5 24"X12" — EAST M3-2 24"X12" — 894 M1-1A 30"X24" — MO6-2 21"X21"

G

TO MO4-5 24"X12" — SOUTH M3-3 24"X12" — 41 M1-1 24"X24" — MO5-1L 21"X21"
TO MO4-5 24"X12" — NORTH M3-1 24"X12" — 43 M1-1 24"X24" — MO5-1L 21"X21"
TO MO4-5 24"X12" — EAST M3-2 24"X12" — 894 M1-1A 30"X24" — MO5-1L 21"X21"
** TO — SOUTH — 43 — (arrow)

H

TO MO4-5 24"X12" — SOUTH M3-3 24"X12" — 41 M1-1 24"X24" — MO6-1 21"X21"
TO MO4-5 24"X12" — NORTH M3-1 24"X12" — 43 M1-1 24"X24" — MO6-1 21"X21"
TO MO4-5 24"X12" — EAST M3-2 24"X12" — 894 M1-1A 30"X24" — MO6-1 21"X21"
** TO — SOUTH — 43 — (arrow)

LEGEND
- DETOUR ROUTE
- WORK ZONE
- xxxxxxxxxx CLOSURE

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	DETOUR ROUTE - ENTRANCE RAMP - SB 60TH STREET TO SB IH 41 / NB IH 43 / EB IH 894	SHEET 112	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027003_dt

PLOT DATE : 1/20/2021 2:54 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:1000 FT

WISDOT/CADDS SHEET 42

N

W HOWARD AVENUE

W COLD SPRING ROAD

STH 24 (W FOREST HOME AVENUE)

BRIDGE OUT
0.95 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3B
60"X30"

BRIDGE OUT
0.75 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3B
60"X30"

*SIGNS SHOWN ON SHEET "ENTRANCE RAMP - SB 60TH STREET TO SB IH 41 / NB IH 43 / EB IH 894" AS PART OF CONCURRENT DETOUR ROUTE

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

S 84TH STREET

S 76TH STREET

S 68TH STREET

S 60TH STREET

S 51ST STREET

W LAYTON AVENUE

W LOOMIS ROAD

(NB IH 41 / WB IH 894 SIGNS ONLY)

LEGEND

DETOUR ROUTE

WORK ZONE

xxxxxxxxxx CLOSURE

A*

RAMP CLOSED AHEAD

B*

C*

D*

E

F

J

K

EXISTING SIGN TO REMAIN

EXISTING SIGN TO REMAIN

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	DETOUR ROUTE - ENTRANCE RAMP - SB 60TH STREET TO NB IH 41 / WB IH 894	SHEET 113	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027004_dt

PLOT DATE : 1/20/2021 2:54 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:1000 FT

WISDOT/CADDS SHEET 42

2

LEGEND

DETOUR ROUTE

WORK ZONE

xxxxxxxxxx CLOSURE

N

G H I J K L M

TO TO TO TO MO4-5 24"X12"

SOUTH NORTH EAST SOUTH M3-3 24"X12"

INTERSTATE 41 INTERSTATE 43 INTERSTATE 894 INTERSTATE 43 M1-1 24"X24"

MO6-1 21"X21" MO5-2R 21"X21" MO6-2 21"X21" MO5-1R 21"X21" MO6-1 21"X21" MO6-1 21"X21"

*SIGNS SHOWN ON SHEET "ENTRANCE RAMP - SB 60TH STREET TO SB IH 41 / NB IH 43 / EB IH 894" AS PART OF CONCURRENT DETOUR ROUTE

S SUNNY SLOPE ROAD

S 124TH STREET

W LAY

IH 43 SB

IH 43 NB

W BELOIT ROAD

2

N

S 124TH STREET

W LAYTON AVENUE

S 108TH STREET

M

IH 43 SB

IH 43 NB

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

S 92ND STREET

S 84TH STREET

N

W COLD SPRING ROAD

STH 24 (W FOREST HOME A

SEE SHEET "DETOUR ROUTE - ENTRANCE RAMP - SB 60TH STREET TO NB IH 41 / WB IH 894" FOR DETOUR ROUTE NORTH OF COLD SPRING ROAD.

G H I J K L

S 84TH STREET

S 76TH STREET

S 68TH STREET

S 60TH STREET

S 51ST STREET

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

W LAYTON AVENUE

SEE SHEET "DETOUR ROUTE - ENTRANCE RAMP - NB 60TH STREET TO NB IH 41 / SB IH 43 / WB IH 894" FOR DETOUR ROUTE SIGNS EAST OF 84TH STREET.

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	DETOUR ROUTE - ENTRANCE RAMP - 60TH STREET TO SB IH 43	SHEET 114 E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027005_dt

PLOT DATE : 1/20/2021 2:54 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:1000 FT

WISDOT/CADDS SHEET 42

N

LEGEND

DETOUR ROUTE

WORK ZONE

xxxxxxxxxx CLOSURE

A — DETOUR AHEAD (W20-2A) — SOUTH — M3-3 24"X12" — 60TH ST — FMS 8

B — DETOUR M4-8 24"X12" — SOUTH M3-3 24"X12" — 60TH ST — FMS 8 — MO5-1R 21"X21"

C — DETOUR M4-8 24"X12" — SOUTH M3-3 24"X12" — 60TH ST — FMS 8 — MO6-1 21"X21"

D — DETOUR M4-8 24"X12" — SOUTH M3-3 24"X12" — 60TH ST — FMS 8 — MO6-1 21"X21"

E — DETOUR M4-8 24"X12" — SOUTH M3-3 24"X12" — 60TH ST — FMS 8 — MO5-2R 21"X21"

F — DETOUR M4-8 24"X12" — SOUTH M3-3 24"X12" — 60TH ST — FMS 8 — MO6-2 21"X21"

G — DETOUR M4-8 24"X12" — SOUTH M3-3 24"X12" — 60TH ST — FMS 8 — MO5-1L 21"X21"

H — DETOUR M4-8 24"X12" — SOUTH M3-3 24"X12" — 60TH ST — FMS 8 — MO6-1 21"X21"

I — END DETOUR M4-8A 24"X18" — SOUTH M3-3 24"X12" — 60TH ST — FMS 8

1 — DETOUR AHEAD (W20-2A) — NORTH — M3-1 24"X12" — 60TH ST — FMS 8

2 — DETOUR M4-8 24"X12" — NORTH M3-1 24"X12" — 60TH ST — FMS 8 — MO5-1L 21"X21"

3 — DETOUR M4-8 24"X12" — NORTH M3-1 24"X12" — 60TH ST — FMS 8 — MO6-1 21"X21"

4 — DETOUR M4-8 24"X12" — NORTH M3-1 24"X12" — 60TH ST — FMS 8 — MO6-1 21"X21"

5 — DETOUR M4-8 24"X12" — NORTH M3-1 24"X12" — 60TH ST — FMS 8 — MO5-1R 21"X21"

6 — DETOUR M4-8 24"X12" — NORTH M3-1 24"X12" — 60TH ST — FMS 8 — MO6-1 21"X21"

7 — END DETOUR M4-8A 24"X18" — NORTH M3-1 24"X12" — 60TH ST — FMS 8

W HOWARD AVENUE

W COLD SPRING ROAD

STH 24 (W FOREST HOME AVENUE)

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

S 84TH STREET

S 76TH STREET

S 68TH STREET

S 60TH STREET

S 51ST STREET

W LAYTON AVENUE

W LOOMIS ROAD

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	DETOUR ROUTE - 60TH ST	SHEET 115	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027006_dt

PLOT DATE : 1/20/2021 2:54 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:1000 FT

2

LEGEND

DETOUR ROUTE

WORK ZONE

xxxxxxxxxx CLOSURE

N

W HOWARD AVENUE

W COLD SPRING ROAD

STH 24 (W FOREST HOME AVENUE)

IH 41 NB / IH 43 SB / IH 894 WB

IH 41 SB / IH 43 NB / IH 894 EB

S 84TH STREET

S 76TH STREET

S 68TH STREET

S 60TH STREET

S 51ST STREET

W LAYTON AVENUE

W LOOMIS ROAD

DETOUR M4-9BR 30"X24"

DETOUR M4-9BL 30"X24"

DETOUR AHEAD M4-9BA 30"X24"

DETOUR M4-9B (MOD) 30"X24"

MO6-1 21"X21"

R9-11 (MOD) 24"X12"

R9-11 24"X12"

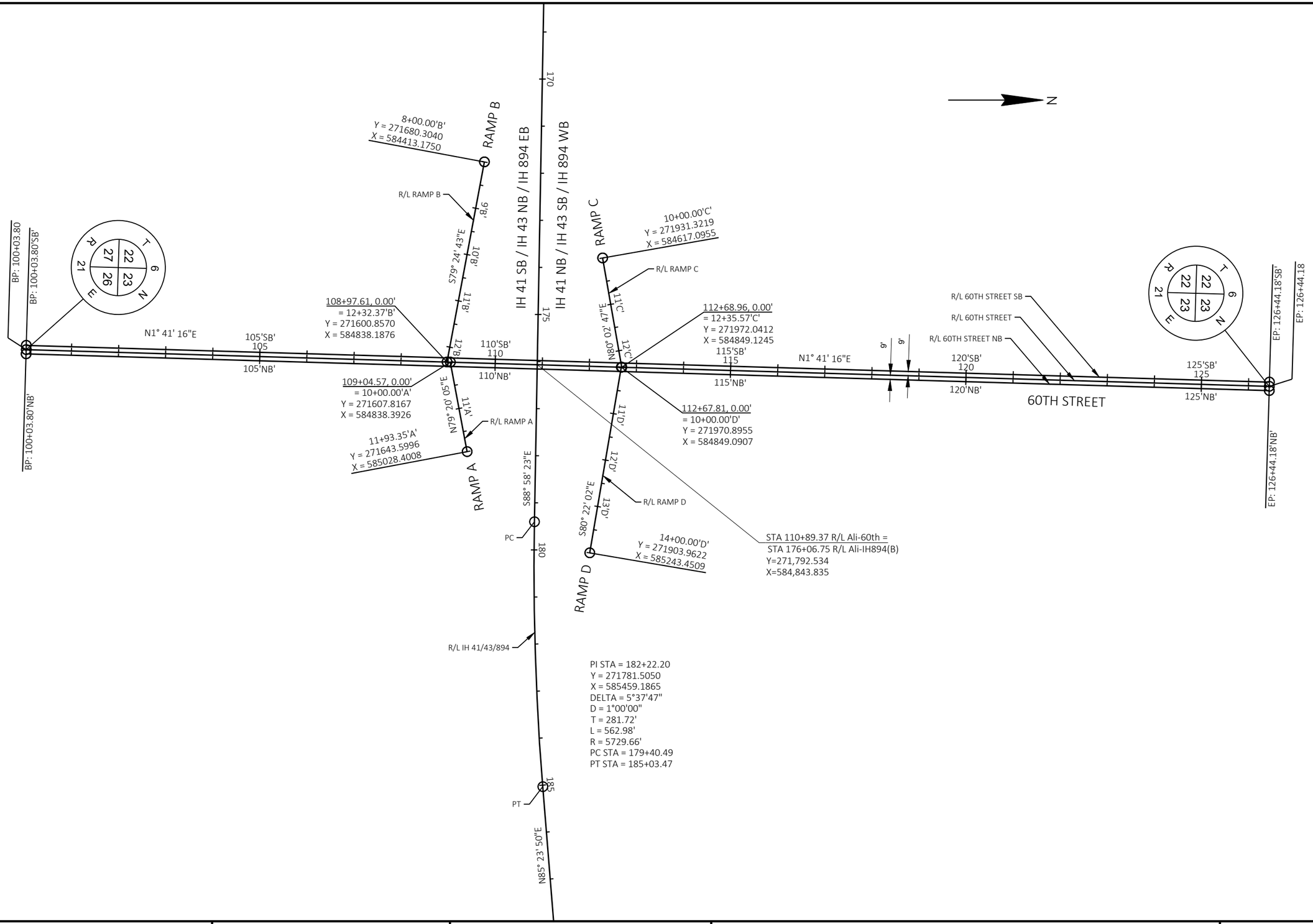
SIDEWALK CLOSED R9-9 24"X12"

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	DETOUR ROUTE - PEDESTRIAN DETOUR	SHEET 116	E

FILE NAME : L:\DESIGN PROJECTS\1100-46-00 I-894 60TH STREET IC\10. ROADWAY\CADD\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027007_dt

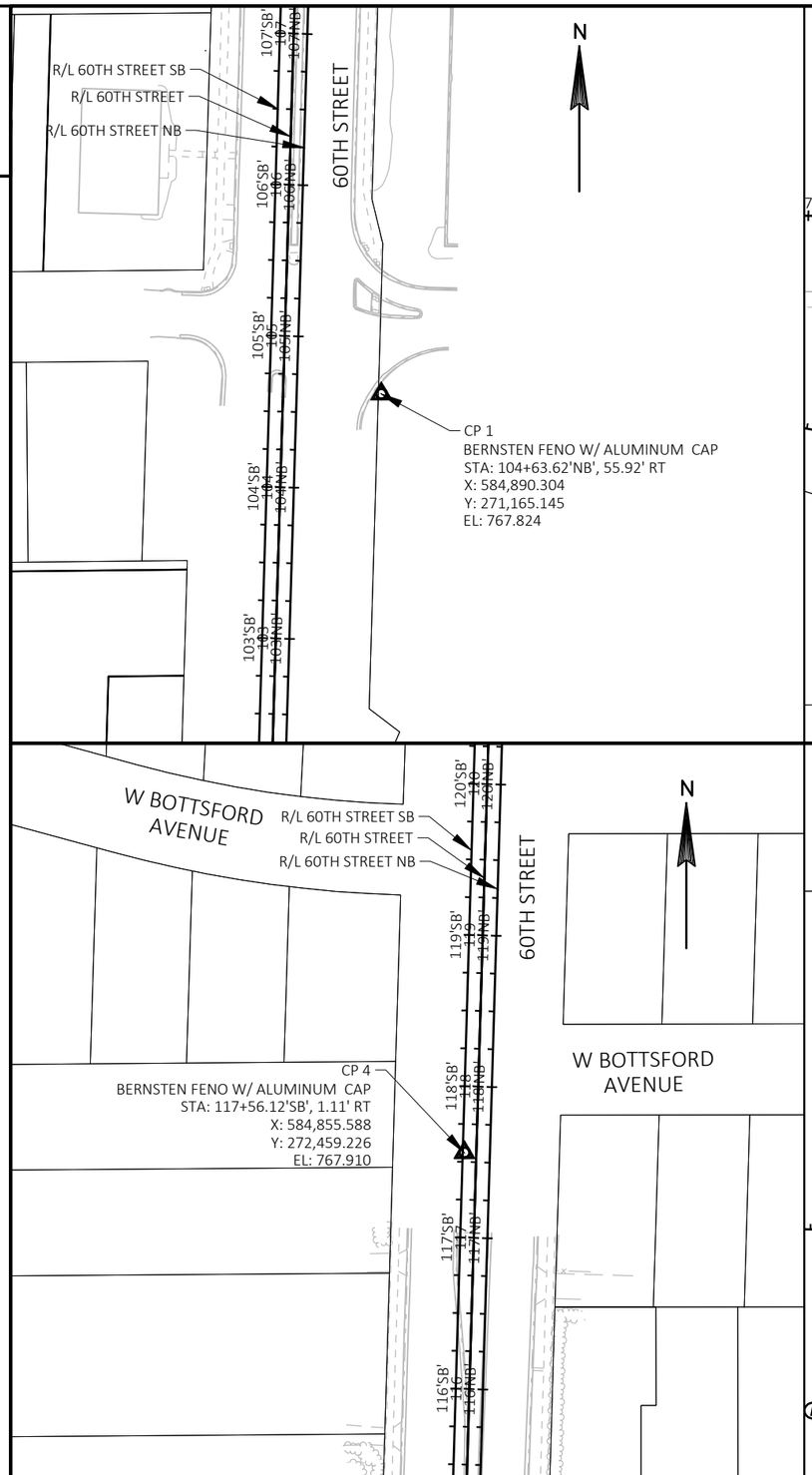
PLOT DATE : 1/20/2021 2:54 PM PLOT BY : JOE MAAS PLOT NAME : PLOT SCALE : 1 IN:1000 FT

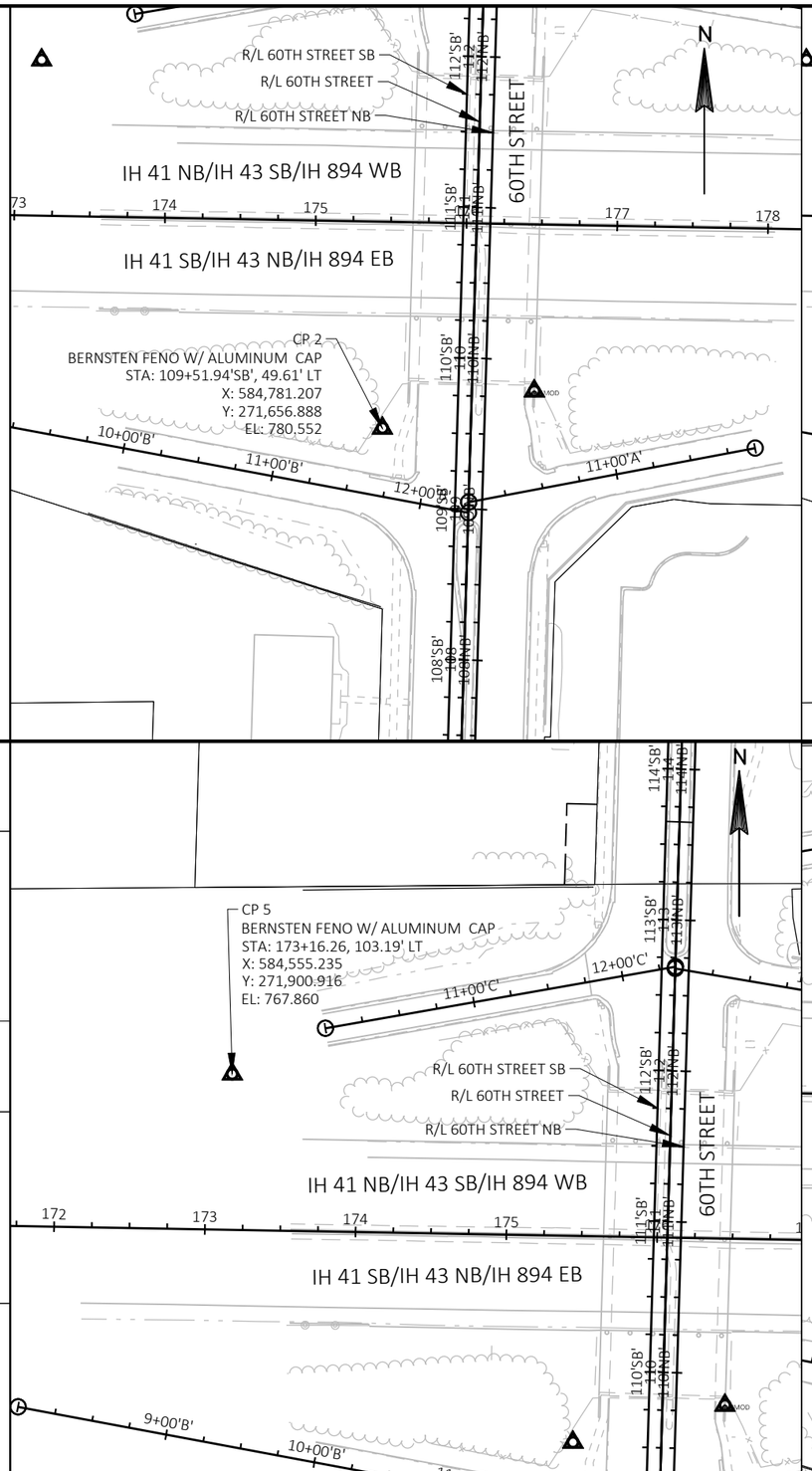
2

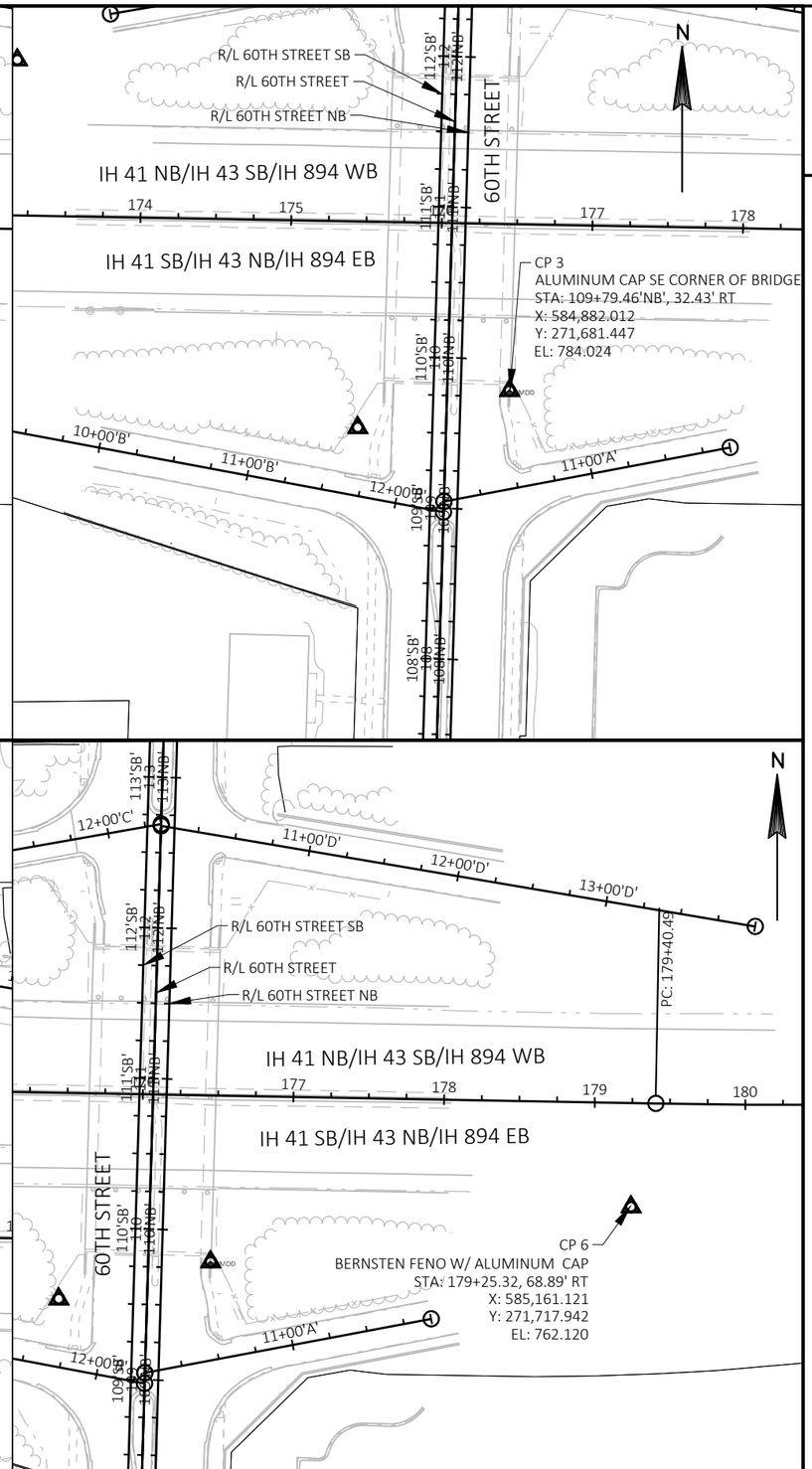


PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	ALIGNMENT DIAGRAM	SHEET 117	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\027201_AD.DWG
LAYOUT NAME - Plan 1 IN 100 FT
PLOT DATE : 10/30/2020 4:53 PM
PLOT BY : MROZ, ZACHARY T.
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42







PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	SURVEY CONTROL	SHEET 118 E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\027221_AD_CP.DWG
LAYOUT NAME - 01
PLOT DATE : 10/30/2020 5:45 PM
PLOT BY : MROZ, ZACHARY T.
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

1100-46-70

Line	Item	Item Description	Unit	Total	Qty
0002	108.4400	CPM Progress Schedule	EACH	1.000	1.000
0004	201.0105	Clearing	STA	9.000	9.000
0006	201.0205	Grubbing	STA	9.000	9.000
0008	203.0200	Removing Old Structure (station) 400. 109+81.70	LS	1.000	1.000
0010	203.0210.S	Abatement of Asbestos Containing Material (structure) 400. B-40-0195	LS	1.000	1.000
0012	203.0225.S	Debris Containment (structure) 400. B-40-0195	LS	1.000	1.000
0014	204.0100	Removing Concrete Pavement	SY	6,450.000	6,450.000
0016	204.0120	Removing Asphaltic Surface Milling	SY	235.000	235.000
0018	204.0155	Removing Concrete Sidewalk	SY	327.000	327.000
0020	204.0157	Removing Concrete Barrier	LF	1,218.000	1,218.000
0022	204.0165	Removing Guardrail	LF	166.000	166.000
0024	204.0170	Removing Fence	LF	577.000	577.000
0026	204.0195	Removing Concrete Bases	EACH	23.000	23.000
0028	204.0210	Removing Manholes	EACH	6.000	6.000
0030	204.0220	Removing Inlets	EACH	15.000	15.000
0032	204.0245	Removing Storm Sewer (size) 002. 12-Inch	LF	368.000	368.000
0034	204.0245	Removing Storm Sewer (size) 003. 15-Inch	LF	95.000	95.000
0036	204.9001.S	Removing Advance Flasher Assemblies Type 1	EACH	3.000	3.000
0038	204.9002.S	Removing Advance Flasher Assemblies Type 2	EACH	1.000	1.000
0040	204.9060.S	Removing (item description) 100. Underdeck Lighting B-40-195	EACH	1.000	1.000
0042	204.9060.S	Removing (item description) 101. Remove and Salvage Lighting Assembly	EACH	8.000	8.000
0044	204.9060.S	Removing (item description) 300. Electrical Service Meter Breaker Pedestal	EACH	1.000	1.000
0046	204.9105.S	Removing (item description) 301. Traffic Signals IH 41 Ramps & 60th Street	LS	1.000	1.000
0048	204.9105.S	Removing (item description) 302. Loop Detector Wire and Lead-In Cable, IH 41 Ramps & 60th St	LS	1.000	1.000
0050	205.0100	Excavation Common	CY	5,951.000	5,951.000
0052	206.1000	Excavation for Structures Bridges (structure) 400. B-40-1013	LS	1.000	1.000
0054	208.1100	Select Borrow	CY	1,011.000	1,011.000
0056	211.0100	Prepare Foundation for Asphaltic Paving (project) 001. 1100-46-70	LS	1.000	1.000
0058	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	19.000	19.000
0060	213.0100	Finishing Roadway (project) 001. 1100-46-70	EACH	1.000	1.000
0062	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	5,449.000	5,449.000
0064	312.0110	Select Crushed Material	TON	4,414.000	4,414.000
0066	415.0410	Concrete Pavement Approach Slab	SY	294.000	294.000
0068	450.4000	HMA Cold Weather Paving	TON	406.000	406.000
0070	455.0605	Tack Coat	GAL	796.000	796.000
0072	460.2000	Incentive Density HMA Pavement	DOL	1,150.000	1,150.000
0074	460.6223	HMA Pavement 3 MT 58-28 S	TON	1,220.000	1,220.000
0076	460.6224	HMA Pavement 4 MT 58-28 S	TON	640.000	640.000
0078	495.1000.S	Cold patch	TON	10.000	10.000
0080	502.0100	Concrete Masonry Bridges	CY	1,676.000	1,676.000
0082	502.3200	Protective Surface Treatment	SY	2,915.000	2,915.000
0084	502.3210	Pigmented Surface Sealer	SY	206.000	206.000
0086	503.0146	Prestressed Girder Type I 45W-Inch	LF	2,409.000	2,409.000
0088	505.0400	Bar Steel Reinforcement HS Structures	LB	21,660.000	21,660.000
0090	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	284,130.000	284,130.000
0092	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	3,540.000	3,540.000
0094	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	48.000	48.000
0096	506.4000	Steel Diaphragms (structure) 400. B-40-1013	EACH	44.000	44.000
0098	511.1200	Temporary Shoring (structure) 400. B-40-1013	SF	1,890.000	1,890.000

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Line	Item	Item Description	Unit	Total	Qty
0100	511.2200	Temporary Shoring Left in Place (structure) 400. R-40-702	SF	240.000	240.000
0102	511.2200	Temporary Shoring Left in Place (structure) 401. R-40-703	SF	200.000	200.000
0104	513.2001	Railing Pipe	LF	212.000	212.000
0106	513.4091	Railing Tubular Screening	LF	484.000	484.000
0108	516.0500	Rubberized Membrane Waterproofing	SY	87.000	87.000
0110	520.8000	Concrete Collars for Pipe	EACH	5.000	5.000
0112	531.4050	Foundation Camera Pole 50-FT	EACH	1.000	1.000
0114	531.8990	Anchor Assemblies Poles on Structures	EACH	4.000	4.000
0116	550.0600	Pile Redriving	EACH	28.000	28.000
0118	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	9,900.000	9,900.000
0120	601.0331	Concrete Curb & Gutter 31-Inch	LF	1,819.000	1,819.000
0122	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	957.000	957.000
0124	601.0600	Concrete Curb Pedestrian	LF	14.000	14.000
0126	602.0410	Concrete Sidewalk 5-Inch	SF	2,430.000	2,430.000
0128	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	30.000	30.000
0130	602.0615	Curb Ramp Detectable Warning Field Radial Natural Patina	SF	104.000	104.000
0132	603.1132	Concrete Barrier Type S32	LF	110.000	110.000
0134	603.1142	Concrete Barrier Type S42	LF	242.000	242.000
0136	603.1156	Concrete Barrier Type S56	LF	312.000	312.000
0138	603.3111	Concrete Barrier Transition Type NJ32SF to S32	EACH	1.000	1.000
0140	603.8000	Concrete Barrier Temporary Precast Delivered	LF	2,314.000	2,314.000
0142	603.8125	Concrete Barrier Temporary Precast Installed	LF	2,314.000	2,314.000
0144	604.0400	Slope Paving Concrete	SY	64.000	64.000
0146	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	269.000	269.000
0148	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	112.000	112.000
0150	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	63.000	63.000
0152	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	15.000	15.000
0154	611.0530	Manhole Covers Type J	EACH	2.000	2.000
0156	611.0606	Inlet Covers Type B	EACH	4.000	4.000
0158	611.0624	Inlet Covers Type H	EACH	4.000	4.000
0160	611.0627	Inlet Covers Type HM	EACH	5.000	5.000
0162	611.0642	Inlet Covers Type MS	EACH	6.000	6.000
0164	611.2004	Manholes 4-FT Diameter	EACH	2.000	2.000
0166	611.3004	Inlets 4-FT Diameter	EACH	1.000	1.000
0168	611.3220	Inlets 2x2-FT	EACH	3.000	3.000
0170	611.3230	Inlets 2x3-FT	EACH	9.000	9.000
0172	611.3902	Inlets Median 2 Grate	EACH	3.000	3.000
0174	611.8110	Adjusting Manhole Covers	EACH	2.000	2.000
0176	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0178	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	66.000	66.000
0180	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	320.000	320.000
0182	614.0905	Crash Cushions Temporary	EACH	4.000	4.000
0184	616.0206	Fence Chain Link 6-FT	LF	569.000	569.000
0186	616.0700.S	Fence Safety	LF	300.000	300.000
0188	618.0100	Maintenance And Repair of Haul Roads (project) 001. 1100-46-70	EACH	1.000	1.000
0190	619.1000	Mobilization	EACH	1.000	1.000
0192	623.0200	Dust Control Surface Treatment	SY	8,477.000	8,477.000
0194	624.0100	Water	MGAL	84.000	84.000
0196	625.0100	Topsoil	SY	3,489.000	3,489.000

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Line	Item	Item Description	Unit	Total	Qty
0198	628.1504	Silt Fence	LF	1,110.000	1,110.000
0200	628.1520	Silt Fence Maintenance	LF	1,110.000	1,110.000
0202	628.1905	Mobilizations Erosion Control	EACH	9.000	9.000
0204	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0206	628.2023	Erosion Mat Class II Type B	SY	2,480.000	2,480.000
0208	628.7005	Inlet Protection Type A	EACH	25.000	25.000
0210	628.7010	Inlet Protection Type B	EACH	22.000	22.000
0212	628.7015	Inlet Protection Type C	EACH	9.000	9.000
0214	628.7020	Inlet Protection Type D	EACH	28.000	28.000
0216	628.7560	Tracking Pads	EACH	8.000	8.000
0218	629.0210	Fertilizer Type B	CWT	2.900	2.900
0220	630.0120	Seeding Mixture No. 20	LB	69.000	69.000
0222	630.0500	Seed Water	MGAL	58.000	58.000
0224	631.0300	Sod Water	MGAL	24.000	24.000
0226	631.1000	Sod Lawn	SY	1,010.000	1,010.000
0228	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	19.000	19.000
0230	634.0622	Posts Wood 4x6-Inch X 22-FT	EACH	9.000	9.000
0232	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	2.000	2.000
0234	637.2210	Signs Type II Reflective H	SF	323.000	323.000
0236	637.2215	Signs Type II Reflective H Folding	SF	89.520	89.520
0238	637.2230	Signs Type II Reflective F	SF	64.000	64.000
0240	638.2102	Moving Signs Type II	EACH	11.000	11.000
0242	638.2602	Removing Signs Type II	EACH	28.000	28.000
0244	638.3000	Removing Small Sign Supports	EACH	23.000	23.000
0246	643.0300	Traffic Control Drums	DAY	64,236.000	64,236.000
0248	643.0420	Traffic Control Barricades Type III	DAY	10,487.000	10,487.000
0250	643.0705	Traffic Control Warning Lights Type A	DAY	16,353.000	16,353.000
0252	643.0715	Traffic Control Warning Lights Type C	DAY	14,940.000	14,940.000
0254	643.0800	Traffic Control Arrow Boards	DAY	380.000	380.000
0256	643.0900	Traffic Control Signs	DAY	164,018.000	164,018.000
0258	643.0910	Traffic Control Covering Signs Type I	EACH	18.000	18.000
0260	643.0920	Traffic Control Covering Signs Type II	EACH	50.000	50.000
0262	643.1000	Traffic Control Signs Fixed Message	SF	446.000	446.000
0264	643.1050	Traffic Control Signs PCMS	DAY	465.000	465.000
0266	643.4100.S	Traffic Control Interim Lane Closure	EACH	100.000	100.000
0268	643.5000	Traffic Control	EACH	1.000	1.000
0270	646.1020	Marking Line Epoxy 4-Inch	LF	7,610.000	7,610.000
0272	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	5,250.000	5,250.000
0274	646.1545	Marking Line Grooved Wet Ref Contrast Epoxy 4-Inch	LF	280.000	280.000
0276	646.1555	Marking Line Grooved Contrast Permanent Tape 4-Inch	LF	1,503.000	1,503.000
0278	646.3020	Marking Line Epoxy 8-Inch	LF	25.000	25.000
0280	646.3545	Marking Line Grooved Wet Ref Contrast Epoxy 8-Inch	LF	1,330.000	1,330.000
0282	646.3555	Marking Line Grooved Contrast Permanent Tape 8-Inch	LF	4,020.000	4,020.000
0284	646.5020	Marking Arrow Epoxy	EACH	14.000	14.000
0286	646.5120	Marking Word Epoxy	EACH	6.000	6.000
0288	646.5220	Marking Symbol Epoxy	EACH	7.000	7.000
0290	646.6120	Marking Stop Line Epoxy 18-Inch	LF	165.000	165.000
0292	646.6464	Cold Weather Marking Epoxy 4-Inch	LF	2,720.000	2,720.000
0294	646.6468	Cold Weather Marking Epoxy 8-Inch	LF	835.000	835.000
0296	646.7120	Marking Diagonal Epoxy 12-Inch	LF	886.000	886.000
0298	646.7220	Marking Chevron Epoxy 24-Inch	LF	357.000	357.000
0300	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	350.000	350.000
0302	646.8120	Marking Curb Epoxy	LF	110.000	110.000
0304	646.9000	Marking Removal Line 4-Inch	LF	4,158.000	4,158.000
0306	646.9010	Marking Removal Line Water Blasting 4-Inch	LF	16,632.000	16,632.000
0308	646.9200	Marking Removal Line Wide	LF	762.000	762.000

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Line	Item	Item Description	Unit	Total	Qty
0310	649.0105	Temporary Marking Line Paint 4-Inch	LF	10,788.000	10,788.000
0312	649.0120	Temporary Marking Line Epoxy 4-Inch	LF	11,088.000	11,088.000
0314	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	1,980.000	1,980.000
0316	649.0205	Temporary Marking Line Paint 8-Inch	LF	300.000	300.000
0318	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	158.000	158.000
0320	649.0550	Temporary Marking Arrow Removable Tape	EACH	1.000	1.000
0322	649.0650	Temporary Marking Word Removable Tape	EACH	2.000	2.000
0324	649.0760	Temporary Marking Raised Pavement Marker Type I	EACH	192.000	192.000
0326	652.0125	Conduit Rigid Metallic 2-Inch	LF	88.000	88.000
0328	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	1,947.000	1,947.000
0330	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	3,176.000	3,176.000
0332	652.0605	Conduit Special 2-Inch	LF	580.000	580.000
0334	652.0615	Conduit Special 3-Inch	LF	964.000	964.000
0336	652.0700.S	Install Conduit into Existing Item	EACH	7.000	7.000
0338	652.0800	Conduit Loop Detector	LF	1,262.000	1,262.000
0340	653.0135	Pull Boxes Steel 24x36-Inch	EACH	2.000	2.000
0342	653.0140	Pull Boxes Steel 24x42-Inch	EACH	31.000	31.000
0344	653.0222	Junction Boxes 18x12x6-Inch	EACH	4.000	4.000
0346	653.0905	Removing Pull Boxes	EACH	27.000	27.000
0348	654.0101	Concrete Bases Type 1	EACH	16.000	16.000
0350	654.0102	Concrete Bases Type 2	EACH	3.000	3.000
0352	654.0110	Concrete Bases Type 10	EACH	3.000	3.000
0354	654.0120	Concrete Bases Type 10-Special	EACH	3.000	3.000
0356	654.1239	Concrete Control Cabinet Bases ITS	EACH	1.000	1.000
0358	655.0142	Cable In Duct 4-2 AWG	LF	240.000	240.000
0360	655.0144	Cable In Duct 4-4 AWG	LF	354.000	354.000
0362	655.0223	Cable Traffic Signal 5-10 AWG	LF	180.000	180.000
0364	655.0230	Cable Traffic Signal 5-14 AWG	LF	727.000	727.000
0366	655.0235	Cable Traffic Signal 7-12 AWG	LF	1,134.000	1,134.000
0368	655.0240	Cable Traffic Signal 7-14 AWG	LF	1,103.000	1,103.000
0370	655.0243	Cable Traffic Signal 9-10 AWG	LF	880.000	880.000
0372	655.0255	Cable Traffic Signal 12-12 AWG	LF	440.000	440.000
0374	655.0260	Cable Traffic Signal 12-14 AWG	LF	1,212.000	1,212.000
0376	655.0265	Cable Traffic Signal 15-12 AWG	LF	718.000	718.000
0378	655.0325	Cable Type UF 2-8 AWG Grounded	LF	1,488.000	1,488.000
0380	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	5,780.000	5,780.000
0382	655.0525	Electrical Wire Traffic Signals 6 AWG	LF	718.000	718.000
0384	655.0610	Electrical Wire Lighting 12 AWG	LF	2,598.000	2,598.000
0386	655.0625	Electrical Wire Lighting 6 AWG	LF	120.000	120.000
0388	655.0700	Loop Detector Lead In Cable	LF	13,507.000	13,507.000
0390	655.0800	Loop Detector Wire	LF	5,038.000	5,038.000
0392	655.0900	Traffic Signal EVP Detector Cable	LF	1,714.000	1,714.000
0394	656.0200	Electrical Service Meter Breaker Pedestal (location) 300. IH 41 Ramps & 60th Street	LS	1.000	1.000
0396	657.0100	Pedestal Bases	EACH	12.000	12.000
0398	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	3.000	3.000
0400	657.0310	Poles Type 3	EACH	3.000	3.000
0402	657.0322	Poles Type 5-Aluminum	EACH	4.000	4.000
0404	657.0405	Traffic Signal Standards Aluminum 3.5-FT	EACH	3.000	3.000
0406	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	5.000	5.000
0408	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	2.000	2.000
0410	657.0430	Traffic Signal Standards Aluminum 10-FT	EACH	2.000	2.000
0412	657.0609	Luminaire Arms Single Member 4-Inch Clamp 6-FT	EACH	5.000	5.000
0414	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	4.000	4.000
0416	658.0173	Traffic Signal Face 3S 12-Inch	EACH	16.000	16.000
0418	658.0174	Traffic Signal Face 4S 12-Inch	EACH	6.000	6.000

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Line	Item	Item Description	Unit	Total	Qty
0420	658.0416	Pedestrian Signal Face 16-Inch	EACH	8.000	8.000
0422	658.0500	Pedestrian Push Buttons	EACH	8.000	8.000
0424	658.5069	Signal Mounting Hardware (location) 300. IH 41 Ramps & 60th Street	LS	1.000	1.000
0426	659.0600	Underdeck Lighting (location) 100. B-40-1013	LS	1.000	1.000
0428	659.1125	Luminaires Utility LED C	EACH	10.000	10.000
0430	659.1130	Luminaires Utility LED D	EACH	4.000	4.000
0432	659.1210	Luminaires Underdeck LED B	EACH	4.000	4.000
0434	670.0100	Field System Integrator	LS	1.000	1.000
0436	670.0200	ITS Documentation	LS	1.000	1.000
0438	671.0132	Conduit HDPE 3-Duct 2-Inch	LF	420.000	420.000
0440	671.0232	Conduit HDPE Directional Bore 3-Duct 2-Inch	LF	905.000	905.000
0442	673.0105	Communication Vault Type 1	EACH	4.000	4.000
0444	673.0200.S	Install ITS Field Cabinet	EACH	1.000	1.000
0446	674.0300	Remove Cable	LF	2,950.000	2,950.000
0448	675.0100	Install Controller Ramp Meter Processor Assembly	EACH	1.000	1.000
0450	677.0150	Install Camera Pole 50-FT	EACH	1.000	1.000
0452	677.0200	Install Camera Assembly	EACH	1.000	1.000
0454	677.9051.S	Removing 50-FT Camera Pole	EACH	1.000	1.000
0456	677.9200.S	Removing CCTV Camera	EACH	1.000	1.000
0458	678.0006	Install Fiber Optic Cable Outdoor Plant 6-CT	LF	2,815.000	2,815.000
0460	678.0072	Install Fiber Optic Cable Outdoor Plant 72-CT	LF	1,335.000	1,335.000
0462	678.0300	Fiber Optic Splice	EACH	146.000	146.000
0464	678.0400	Fiber Optic Termination	EACH	12.000	12.000
0466	678.0500	Communication System Testing	LS	1.000	1.000
0468	678.0600	Install Ethernet Switches	EACH	1.000	1.000
0470	690.0250	Sawing Concrete	LF	2,973.000	2,973.000
0472	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0474	715.0502	Incentive Strength Concrete Structures	DOL	9,708.000	9,708.000
0476	715.0603	Incentive Strength Concrete Barrier	DOL	355.000	355.000
0478	999.2000.S	Installing and Maintaining Bird Deterrent System	EACH	1.000	1.000
0480	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	3,000.000	3,000.000
0482	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	4,320.000	4,320.000
0484	SPV.0060	Special 001. Concrete Barrier Transition Type GM to S36	EACH	4.000	4.000
0486	SPV.0060	Special 002. Traffic Control Close-Open Freeway Entrance Ramp	EACH	45.000	45.000
0488	SPV.0060	Special 003. Traffic Control Full Freeway Closure	EACH	30.000	30.000
0490	SPV.0060	Special 004. Mobilization Emergency Pavement Repair	EACH	10.000	10.000
0492	SPV.0060	Special 005. Fastening Sewer Access Covers	EACH	20.000	20.000
0494	SPV.0060	Special 006. Adjusting Water Manholes	EACH	2.000	2.000
0496	SPV.0060	Special 007. Water Main Protection	EACH	2.000	2.000
0498	SPV.0060	Special 008. Field Facilities Office Space	EACH	1.000	1.000
0500	SPV.0060	Special 009. Emergency Inlet Repair	EACH	6.000	6.000
0502	SPV.0060	Special 010. Crack and Damage Survey Single or Double Unit Residential	EACH	2.000	2.000
0504	SPV.0060	Special 011. Crack and Damage Survey Multi-Unit Residential	EACH	1.000	1.000
0506	SPV.0060	Special 100. Concrete Bases Type B	EACH	2.000	2.000
0508	SPV.0060	Special 101. Salvage and Reinstall Freeway Lighting Assembly	EACH	2.000	2.000
0510	SPV.0060	Special 200. Removing Controller Cabinet	EACH	1.000	1.000
0512	SPV.0060	Special 201. Removing Controller Cabinet Base	EACH	1.000	1.000
0514	SPV.0060	Special 202. Signal Assembly Advance Flasher Type 1	EACH	4.000	4.000
0516	SPV.0060	Special 203. Ground Rod	EACH	1.000	1.000
0518	SPV.0060	Special 300. Install Poles Type 9	EACH	2.000	2.000
0520	SPV.0060	Special 301. Install Poles Special Type 9	EACH	3.000	3.000

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Line	Item	Item Description	Unit	Total	Qty
0522	SPV.0060	Special 302. Install Poles Type 10	EACH	1.000	1.000
0524	SPV.0060	Special 303. Install Monotube Arms 25-ft	EACH	1.000	1.000
0526	SPV.0060	Special 304. Install Monotube Arms 30-ft	EACH	2.000	2.000
0528	SPV.0060	Special 305. Install Monotube Arms Special 35-ft	EACH	2.000	2.000
0530	SPV.0060	Special 306. Install Monotube Arms Special 45-ft	EACH	1.000	1.000
0532	SPV.0060	Special 307. Install Luminaire Arms Steel 15-ft	EACH	1.000	1.000
0534	SPV.0060	Special 308. Concrete Control Cabinet Base, Type 9 Special Modified	EACH	2.000	2.000
0536	SPV.0075	Special 001. Pavement Cleanup Project 1100-46-70	HRS	100.000	100.000
0538	SPV.0090	Special 300. Transport and Install State Furnished CAT-5E Cable	LF	175.000	175.000
0540	SPV.0105	Special 001. Survey Project 1100-46-70	LS	1.000	1.000
0542	SPV.0105	Special 300. Transport and Install State Furnished Traffic Signal Cabinet, IH41 EB Ramps	LS	1.000	1.000
0544	SPV.0105	Special 301. Transport and Install State Furnished Traffic Signal Cabinet, IH41 WB Ramps	LS	1.000	1.000
0546	SPV.0105	Special 302. Transport Signal and Intersection Lighting Materials, IH 41 Ramps & 60th St	LS	1.000	1.000
0548	SPV.0105	Special 303. Transport and Install Sate Furnished Video Detection, IH 41 Ramps & 60th St	LS	1.000	1.000
0550	SPV.0105	Special 304. Transport and Install Sate Furnished EVP Detector Heads IH 41 Ramps & 60 St	LS	1.000	1.000
0552	SPV.0135	Special 001. Vibration Monitoring	MON	9.000	9.000
0554	SPV.0165	Special 400. Wall Concrete Panel Mechanically Stabilized Earth R-40-702	SF	3,205.000	3,205.000
0556	SPV.0165	Special 401. Wall Concrete Panel Mechanically Stabilized Earth R-40-703	SF	2,540.000	2,540.000
0558	SPV.0180	Special 400. Slope Paving Crushed Aggregate Special	SY	846.000	846.000
0560	SPV.0195	Special 001. Joint and Crack Repair	TON	20.000	20.000

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CPM PROGRESS SCHEDULE

PROJECT	108.4400 CPM PROGRESS SCHEDULE EACH
1100-46-70	1
TOTAL	1

CLEARING AND GRUBBING

STAGE	STA	STA	OFFSET	201.0105 CLEARING STA	201.0205 GRUBBING STA
1B	109SB+55	110SB+05	LT	1	1
	174+92	175+48	RT	1	1
	109NB+55	110NB+05	RT	1	1
	176+65	177+05	RT	1	1
	111SB+60	112SB+15	LT	1	1
	174+75	175+65	LT	1	1
	111NB+70	111NB+90	RT	1	1
	176+85	177+30	LT	1	1
2A	113SB+05	113SB+30	LT	1	1
TOTALS				9	9

STORM SEWER REMOVALS

STAGE	LOCATION	204.0210 REMOVING MANHOLES EACH	204.0220 REMOVING INLETS EACH	204.0245.002 REMOVING STORM SEWER (12-INCH) LF	204.0245.003 REMOVING STORM SEWER (15-INCH) LF
1A	IH 894 CL	--	5	9	18
1B	IH 894 EB/WB SHOULDER, 60TH ST.	2	10	359	77
2		--	--	--	--
TOTALS		2	15	368	95

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REMOVALS

STAGE	LOCATION	STA	STA	SIDE	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0155 REMOVING CONCRETE SIDEWALK SY	204.0157 REMOVING CONCRETE BARRIER LF	204.0165 REMOVING GUARDRAIL LF	204.0170 REMOVING FENCE LF	690.0250 SAWING CONCRETE LF
1A	IH 894 EB	174+52.00	177+60.00	LT	298	-	307	-	-	332
	IH 894 WB	174+52.00	177+60.00	RT	292	-	307	-	-	332
1B	IH 894 EB	172+15.00	177+20.00	RT	506	-	240	83	-	505
	IH 894 WB	174+95.00	179+70.00	LT	511	-	240	83	-	497
	NORTH ABUTMENT	111+88.00	112+45.00	LT/RT	473	80	-	-	112	84
	SOUTH ABUTMENT	109+24.00	109+83.00	LT/RT	482	81	-	-	108	84
2A	NORTH	112+45.00	113+65.00	LT/RT	1,287	43	-	-	176	371
	60TH NORTH SIGNAL PAD	115SB+72	115SB+82	LT/RT	46	-	-	-	-	100
	SOUTH	107+96.00	109+24.00	LT/RT	1,068	39	-	-	181	318
	60TH SOUTH SIGNAL PAD	105NB+71	105NB+89	RT	66	-	-	-	-	103
2B	NORTHEAST RAMP	10D+00	12D+00	-	695	41	124	-	-	54
	NE RAMP SIGNAL PAD	13D+01	13D+11	-	25	-	-	-	-	64
	SOUTHWEST RAMP	10B+91	12B+32	-	671	43	-	-	-	61
	SW RAMP SIGNAL PAD	9B+03	9B+15	-	30	-	-	-	-	68
TOTALS					6,450	327	1,218	166	577	2,973

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

EARTHWORK SUMMARY

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1) CUT (2)	205.0100 COMMON EXCAVATION (1) EBS EXCAVATION (3)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (2)	AVAILABLE MATERIAL (5)	208.1100 SELECT BORROW (EXPANDED EBS BACKFILL (11)) FACTOR 1.30	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.25	MASS ORDINATE +/- (14)	WASTE
DIVISION 1											
	174+53 to 177+60	IH 41 Inside Shoulders	450	--	--	450	--	0	0	450	--
DIVISION 1 SUBTOTAL			450	0	0	450	0	0	0	450	450
DIVISION 2											
	172+38 to 177+20	IH 41 EB Outside Shoulder	312	--	--	312	--	108	135	177	--
DIVISION 2 SUBTOTAL			312	0	0	312	0	108	135	177	177
DIVISION 3											
	174+95 to 179+69	IH 41 WB Outside Shoulder	527	--	--	527	--	65	81	446	--
DIVISION 3 SUBTOTAL			527	0	0	527	0	65	81	446	446
DIVISION 4											
	107+97 to 109+68	60th Street	1,451	--	--	1,451	--	71	89	1,362	--
	10+67'A' to 11+70'A'	Ramp A	272	--	--	272	--	11	14	258	--
	10+91'B' to 11+74'B'	Ramp B	270	--	--	270	--	4	5	265	--
DIVISION 4 SUBTOTAL			1,993	0	0	1,993	0	86	108	1,885	1,885
DIVISION 5											
	112+11 to 113+65	60th Street	1,143	--	--	1,143	--	66	83	1,060	--
	10+00'C' to 11+69'C'	Ramp C	369	--	--	369	--	26	33	336	--
	10+57'D' to 12+00'D'	Ramp D	380	--	--	380	--	17	21	359	--
DIVISION 5 SUBTOTAL			1,892	0	0	1,892	0	109	137	1,755	1,755
UNDISTRIBUTED EBS EXCAVATION	15% Undistributed		--	777	--	--	1,011	--	--	--	--
GRAND TOTAL			5,174	777	0	5,174	1,011	368	461	4,713	4,713
TOTAL COMMON EXC			5,951								

NOTES:

(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.

(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL

(11) EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH SELECT BORROW MATERIAL. EBS BACKFILL FACTOR = 1.30. ITEM NUMBER 208.1100

(13) EXPANDED FILL FACTOR = 1.25

(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.

(15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

3

PAVING INCIDENTALS

LOCATION	STA	STA	211.0100 PREPARE FOUNDATION FOR ASPHALTIC PAVING 1100-46-70 LS	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	495.1000.S COLD PATCH TON
PROJECT	-	-	1	-	10
IH 894 EB OUTSIDE	172+15	177+20	-	6	-
IH 894 EB INSIDE	174+52	177+60	-	4	-
IH 894 WB INSIDE	174+52	177+60	-	4	-
IH 894 WB OUTSIDE	174+95	179+70	-	5	-
TOTALS			1	19	10

FINISHING ROADWAY

LOCATION	213.0100 FINISHING ROADWAY 1100-46-70 EACH
PROJECT	1
TOTAL	1

3

PAVING ITEMS

STAGE	LOCATION	STA	STA	SIDE	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	450.4000 HMA COLD WEATHER PAVING TON	455.0605* TACK COAT GAL	460.6223* HMA PAVEMENT 3 MT 58-28 S TON	460.6224* HMA PAVEMENT 4 MT 58-28 S TON	602.0410 CONCRETE SIDEWALK 5-INCH SF	624.0100 WATER MGAL
1A	IH 894 EB - PAVEMENT	174+52	177+60	LT	161	-	-	80	40	48	32	-	3
	IH 894 EB - BARRIER	174+52	177+60	LT	44	-	-	-	-	-	-	-	1
	IH 894 WB - PAVEMENT	174+52	177+60	RT	145	-	-	74	37	44	30	-	3
	IH 894 WB- BARRIER	174+52	177+60	RT	45	-	-	-	-	-	-	-	1
1B	IH 894 EB	172+15	177+20	RT	404	-	-	127	64	76	51	-	7
	IH 894 WB	174+95	179+70	LT	388	-	-	125	62	75	50	-	6
	NORTH APPROACH SLAB	112+10	112+25	LT/RT	115	144	147	-	-	-	-	-	2
	SOUTH APPROACH SLAB	109+53	109+68	LT/RT	120	152	147	-	-	-	-	-	2
2A	60TH ST - NORTH OF 894	112+25	113+65	LT/RT	714	882	-	-	118	188	94	685	11
	RAMP C (NW RAMP)	10'C'+00	11'C'+69	LT/RT	430	544	-	-	52	98	42	-	7
	60TH NORTH SIGNAL PAD	115SB+72	115SB+82	LT	31	39	-	-	7	11	6	-	1
	60TH ST - SOUTH OF 894	107+96	109+53	LT/RT	754	931	-	-	127	203	102	740	12
	RAMP A (SE RAMP)	10'A'+67	11'A'+70	LT/RT	268	339	-	-	34	63	27	-	5
	60TH SOUTH SIGNAL PAD	105NB+71	105NB+89	RT	45	56	-	-	10	15	8	-	1
2B	60TH ST - NORTH OF 894	111+90	113+65	LT/RT	286	330	-	-	53	85	43	486	5
	RAMP D (NE RAMP)	10'D'+57	12'D'+00	LT/RT	270	325	-	-	49	93	40	-	5
	RAMP D - CONCRETE SLAB	10'D'+58	10'D'+73	RT	19	0	-	-	-	-	-	150	1
	NE RAMP SIGNAL PAD	13D+01	13D+11	-	30	21	-	-	4	6	3	-	1
	60TH ST - SOUTH OF 894	107+96	109+68	LT/RT	358	425	-	-	70	111	56	369	6
	RAMP B (SW RAMP)	10'B'+91	11'B'+74	LT/RT	172	201	-	-	31	58	25	-	3
	SW RAMP SIGNAL PAD	9B+03	9B+15	-	20	25	-	-	5	7	4	-	1
TOTALS					4,819	4,414	294	406	763	1,181	613	2,430	84

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

MAINLINE REPAIRS

LOCATION	SPV.0060.004 MOBILIZATION EMERGENCY PAVEMENT REPAIR EACH	SPV.0060.009 EMERGENCY INLET REPAIR EACH	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	455.0605* TACK COAT GAL	460.6223* HMA PAVEMENT 3 MT 58-28 S TON	460.6224* HMA PAVEMENT 4 MT 58-28 S TON	SPV.0195.001 JOINT AND CRACK REPAIR TON
PRESTAGE	-	-	145	21	25	17	10
STAGE 1A	5	4	45	6	7	5	5
STAGE 1B	5	2	45	6	7	5	5
TOTAL	10	6	235	33	39	27	20

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

CONCRETE CURB & GUTTER

STAGE	LOCATION	STA	STA	SIDE	601.0331 31-INCH LF	601.0557 6-INCH SLOPED 36-INCH TYPE D LF	601.0600 CONCRETE CURB PEDESTRIAN LF
1B	IH 894 EB	172+15	177+20	RT	-	482	-
	IH 894 WB	174+95	179+70	LT	-	475	-
	NORTH APPROACH SLAB	112+10	112+25	LT/RT	49	-	-
	SOUTH APPROACH SLAB	109+53	109+68	LT/RT	65	-	-
2A	NORTH	112+25	113+65	LT/RT	804	-	14
	SOUTH	107+96	109+53	LT/RT	601	-	-
2B	NORTH	112+57	113+65	LT/RT	120	-	-
	SOUTH	107+96	109+09	LT/RT	180	-	-
TOTALS					1819	957	14

3

DETECTABLE WARNING FIELDS

LOCATION	SIDE	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF	602.0615 CURB RAMP DETECTABLE WARNING FIELD RADIAL NATURAL PATINA SF
108SB+70	LT	-	20
108NB+75	RT	-	23
109SB+25	LT	10	-
109NB+40	RT	-	19
112SB+35	LT	-	19
112NB+40	RT	10	-
112NB+82	RT	10	-
113SB+00	LT	-	23
TOTALS		30	104

CONCRETE BARRIER

STAGE	LOCATION	STA	STA	SIDE	603.1132 CONCRETE BARRIER TYPE S32 LF	603.1142 CONCRETE BARRIER TYPE S42 LF	603.1156 CONCRETE BARRIER TYPE S56 LF	603.3111 CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S32 EACH	SPV.0060.001 CONCRETE BARRIER TRANSITION TYPE GM TO S36 EACH
1A	IH 894 EB	174+52.00	177+60.00	LT	-	121	156	-	2
	IH 894 WB	174+52.00	177+60.00	RT	-	121	156	-	2
2B	NE RAMP	11D+75	12D+00	-	110	-	-	1	-
TOTALS					110	242	312	1	4

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

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STORM SEWER PIPES

FROM	-	TO	520.8000 CONCRETE COLLARS FOR PIPE EACH	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF	608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH LF	612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH LF	JOINT TIES* EACH	INLET ELEVATION	DISCHARGE ELEVATION	SLOPE FT/FT
INL-24	-	INL-25	--	93	--	--	--	--	--	777.03	776.57	0.0049
INL-25	-	MH-3	--	12	--	--	--	--	--	776.47	776.35	0.0100
INL-26	-	MH-18	--	--	18	--	--	--	--	769.49	769.31	0.0100
INL-27	-	INL-26	--	91	--	--	--	--	--	772.44	771.99	0.0049
INL-28	-	INL-29	--	--	8	--	--	--	--	754.60	754.50	0.0125
INL-29	-	COLLAR 1	1	--	--	--	6	--	--	754.40	754.33	0.0117
INL-30	-	INL-29	--	--	--	27	--	--	--	755.50	754.50	0.0370
INL-31	-	INL-29	--	--	--	27	--	--	--	755.50	754.50	0.0370
INL-32	-	INL-33	--	6	--	--	--	--	--	754.32	754.22	0.0167
S. MSE WALL	-	INL-32	--	--	--	--	--	33	--	756.50	754.82	0.0509
INL-33	-	COLLAR 5	1	6	--	--	--	--	--	754.11	754.05	0.0100
INL-36	-	INL-37	--	--	7	--	--	--	--	754.60	754.40	0.0286
N. MSE WALL	-	INL-36	--	--	--	--	--	33	--	756.50	755.35	0.0348
INL-37	-	COLLAR 4	1	--	6	--	--	--	--	754.30	754.18	0.0200
INL-45	-	EX. INL-44	--	--	--	--	9	--	--	754.00	753.80	0.0222
INL-46	-	COLLAR 2	1	--	8	--	--	--	--	753.60	753.52	0.0100
INL-49	-	INL-50	--	--	--	9	--	--	--	755.25	755.06	0.0211
INL-50	-	COLLAR 3	1	--	6	--	--	--	--	753.20	753.14	0.0100
MH-18	-	INL-36	--	--	59	--	--	--	14	766.82	755.08	0.1990
MH-3	-	INL-32	--	61	--	--	--	--	14	773.35	755.03	0.3003
			5	269	112	63	15	66	28			

* NON-BID ITEM: FOR INFORMATION ONLY

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

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STORM SEWER STRUCTURES

STRUCTURE	STATION	OFFSET*	611.0530 MANHOLE COVERS TYPE J EACH	611.0606 INLET COVERS TYPE B EACH	611.0624 INLET COVERS TYPE H EACH	611.0627 INLET COVERS TYPE HM EACH	611.0642 INLET COVERS TYPE MS EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	611.3004 INLETS 4-FT DIAMETER EACH	611.3220 INLETS 2X2-FT EACH	611.3230 INLETS 2X3-FT EACH	611.3902 INLETS MEDIAN 2 GRATE EACH	611.8110 ADJUSTING MANHOLE COVERS EACH	611.8115 ADJUSTING INLET COVERS EACH	RIM**** ELEVATION	INVERT** ELEVATION	DEPTH*** FT
EX. INL-44	110+83.46	126.10'LT	--	--	--	--	--	--	--	--	--	--	--	1	758.88	--	--
EX. MH-47	110+75.88	71.31'LT	--	--	--	--	--	--	--	--	--	--	1	--	759.38	--	--
EX. MH-48	110+77.40	67.35'RT	--	--	--	--	--	--	--	--	--	--	1	--	760.16	--	--
INL-24	109+44.93	45.58'LT	--	--	1	--	--	--	--	--	1	--	--	--	782.53	777.03	4.67
INL-25	109+63.20	45.58'RT	--	--	1	--	--	--	--	--	1	--	--	--	782.98	776.47	5.68
INL-26	112+15.55	45.59'RT	--	--	1	--	--	--	--	--	1	--	--	--	777.95	769.49	7.64
INL-27	112+15.57	45.59'LT	--	--	1	--	--	--	--	--	1	--	--	--	777.98	772.44	4.70
INL-28	110+19.47	124.45'LT	--	--	--	--	2	--	--	--	--	1	--	--	758.41	754.60	4.00
INL-29	110+27.84	124.56'LT	--	--	--	1	--	--	--	--	1	--	--	--	758.74	754.40	3.52
INL-30	110+27.52	151.83'LT	--	--	--	1	--	--	--	--	1	--	--	--	758.82	755.50	2.48
INL-31	110+28.16	97.23'LT	--	--	--	1	--	--	--	--	1	--	--	--	758.85	755.50	2.51
INL-32	110+24.27	57.23'RT	--	--	--	--	2	--	--	--	--	1	--	--	759.70	754.32	5.54
INL-33	110+29.99	57.24'RT	--	--	--	1	--	--	--	--	1	--	--	--	759.50	754.11	4.56
INL-36	111+56.84	63.80'RT	--	--	--	--	2	--	--	--	--	1	--	--	759.69	754.60	5.27
INL-37	111+49.86	63.80'RT	--	--	--	1	--	--	--	--	1	--	--	--	759.53	754.30	4.42
INL-45	110+92.42	126.11'LT	--	1	--	--	--	--	--	1	--	--	--	--	758.93	754.00	3.79
INL-46	110+93.05	75.65'LT	--	1	--	--	--	--	--	1	--	--	--	--	759.09	753.60	4.34
INL-49	110+85.02	72.51'RT	--	1	--	--	--	--	--	1	--	--	--	--	759.83	755.25	3.42
INL-50	110+90.13	64.58'RT	--	1	--	--	--	--	1	--	--	--	--	--	759.85	753.20	5.50
MH-18	112+15.54	63.80'RT	1	--	--	--	--	1	--	--	--	--	--	--	775.11	766.82	7.23
MH-3	109+63.20	57.23'RT	1	--	--	--	--	1	--	--	--	--	--	--	781.98	773.35	7.55
			2	4	4	5	6	2	1	3	9	3	2	1			

REMARKS

* STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE

** FOR STRUCTURES WITH SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE SUMP. FOR STRUCTURES WITHOUT SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE LOWEST PIPE FLOW LINE

*** DEPTH = RIM ELEV - TOP OF STRUCTURE BASE ELEV - COVER HEIGHT - 6 -INCH ADJUSTMENT RING HEIGHT

****RIM ELEVATIONS FOR INLET COVERS TYPE B, H AND HM ARE GIVEN TO THE FLAG SIDE EDGE OF INLET COVER.

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

FILE NAME: 60595499-Airport Freeway 60th Street\400-Technical\434_Estimate\Working Quantities\030201_MQ_60th.pptx ORIGINATOR: JESSICA LANCELLLE ORIG. DATE:4/21/21 PLOTTED DATE: 4/21/2021 2:16 PM

FENCE

STATION	OFFSET	STATION	OFFSET	616.0206 FENCE CHAIN LINK 6-FT LF
10B+73.89	26.43' LT	109SB+88.14	44.08' LT	139
11A+73.45	19.71' LT	109NB+88.14	44.08' RT	155
111SB+90.64	44.08' LT	10C+72.53	20.91' RT	130
111NB+90.64	44.08' RT	11D+51.67	23.64' RT	125
113SB+19.69	66.62' LT	113SB+20.14	46.81' LT	20
TOTAL				569

FENCE SAFETY

LOCATION	616.0700.S FENCE SAFETY LF
UNDISTRIBUTED	300
TOTAL	300

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MAINTENANCE AND REPAIR OF HAUL ROADS

LOCATION	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS 1100-46-70 EACH
PROJECT	1
TOTAL	1

DUST

STAGE	623.0200 DUST CONTROL SURFACE TREATMENT SY
1A	813
1B	1,774
2A	3,938
2B	1,952
TOTAL	8,477

TRACKING PAD

LOCATION	628.7560 TRACKING PADS EACH
RAMP A	1
RAMP B	1
RAMP C	1
RAMP D	1
NORTH LIMITS	2
SOUTH LIMITS	2
TOTAL	8

RESTORATION

LOCATION	625.0100 TOPSOIL SY	628.2023 EROSION MAT CLASS II TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO.20 LB	630.0500 SEED WATER MGAL	631.1000 SOD LAWN SY	631.0300 SOD WATER MGAL
STAGE 1B	1,589	1,589	1.1	43	36	-	-
STAGE 2A	627	276	0.4	8	7	352	8
STAGE 2B	575	119	0.4	4	3	456	11
UNDISTRIBUTED	698	496	1.0	14	12	202	5
TOTAL	3,489	2,480	2.9	69	58	1,010	24

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

EROSION CONTROL

STAGE	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7005 INLET PROTECTION TYPE A EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7020 INLET PROTECTION TYPE D EACH
1A	60TH ST.	--	--	--	--	--	--
1A	IH 41 / IH 43 / IH 894	--	--	5	2	--	3
1B	60TH ST.	--	--	4	--	4	--
1B	IH 41 / IH 43 / IH 894	--	--	5	2	--	3
2	60TH ST.	1,110	1,110	2	7	4	1
2	IH 41 / IH 43 / IH 894	--	--	5	10	--	19
	UNDISTRIBUTED	0	0	4	1	1	2
	TOTAL	1,110	1,110	25	22	9	28

NOTE: INLET PROTECTION PLACED DURING STAGE 1 TO REMAIN IN PLACE THROUGHOUT PROJECT

MOBILIZATIONS EROSION CONTROL

	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
STAGE 1	6	4
STAGE 2	3	2
TOTAL	9	6

3

FIELD OFFICE

LOCATION	SPV.0060.008 FIELD FACILITIES OFFICE SPACE EACH
PROJECT	1
TOTAL	1

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

LINE MARKING

LOCATION	646.1020 MARKING LINE EPOXY 4-INCH YELLOW SOLID LF	646.1020 MARKING LINE EPOXY 4-INCH WHITE SOLID LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH YELLOW SOLID LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH WHITE SOLID LF	646.1545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH WHITE 3' LINE-9' GAP LF	646.1545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH WHITE 12.5' LINE-37.5' GAP LF	646.1555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH WHITE 12.5' LINE-37.5' GAP LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH WHITE SOLID LF	646.3020 MARKING LINE EPOXY 8-INCH WHITE 3' LINE-9' GAP LF	646.3555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH WHITE SOLID LF	646.5020 MARKING ARROW EPOXY EACH	646.5120 MARKING WORD EPOXY EACH	646.5220 MARKING SYMBOL EPOXY EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.6464 COLD WEATHER MARKING EPOXY 4-INCH LF	646.6468 COLD WEATHER MARKING EPOXY 8-INCH LF	646.7120 MARKING DIAGONAL EPOXY 12-INCH YELLOW LF	646.7120 MARKING DIAGONAL EPOXY 12-INCH WHITE LF	646.7220 MARKING CHEVRON EPOXY 24-INCH WHITE LF	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF	646.8120 MARKING CURB EPOXY LF
60TH ST	1,250	1,270	-	-	60	140	-	810	25	-	8	4	2	120	2,720	835	63	-	-	350	110
IH 41 / IH 43 / IH 894	1,520	3,570	3,010	2,240	-	80	1,503	520	-	4,020	6	2	5	45	-	-	480	343	357	-	-
TOTALS	2,770	4,840	3,010	2,240	60	220	1,503	1,330	25	4,020	14	6	7	165	2,720	835	543	343	357	350	110
	7,610		5,250		280												886				

BIRD DETERRENT SYSTEM

LOCATION	999.2000.S INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM EACH
1100-46-70	1
TOTAL	1

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

SEWER ACCESS

STAGE	STATION	OFFSET	SPV.0060.005 FASTENING SEWER ACCESS COVERS EACH
1A	172+40	55' RT	1
	174+55	55' RT	1
	174+80	55' RT	1
	174+80	60' LT	1
	175+09	55' RT	1
	176+63	55' RT	1
	176+70	60' LT	1
	179+75	60' LT	1
1B	170+60	MEDIAN	2
	172+40	MEDIAN	2
	174+25	MEDIAN	1
	174+30	MEDIAN	1
	174+80	MEDIAN	2
	175+30	MEDIAN	1
	176+70	MEDIAN	1
	176+80	MEDIAN	1
	179+60	MEDIAN	1
TOTAL			20

UTILITIES

STA	OFFSET	SPV.0060.006 ADJUSTING WATER MANHOLES EACH	SPV.0060.007 WATER MAIN PROTECTION EACH
109+01	2.5' RT	1	-
112+71	5.2' RT	1	-
109+45	45.6' LT	-	1
112+16	45.6' LT	-	1
TOTALS		2	2

PAVEMENT CLEANUP

LOCATION	SPV.0075.001 PAVEMENT CLEANUP PROJECT 1100-46-70 HRS
PROJECT	100
TOTAL	100

SURVEY PROJECT

LOCATION	SPV.0105.001 SURVEY PROJECT LS
1100-46-70	1
TOTAL	1

VIBRATION MONITORING

LOCATION	SPV.0060.010 CRACK AND DAMAGE SURVEY SINGLE OR DOUBLE UNIT RESIDENTIAL EACH	SPV.0060.011 CRACK AND DAMAGE SURVEY MULTI- UNIT RESIDENTIAL EACH	SPV.0135.001 VIBRATION MONITORING MONTHS
PROJECT	2	1	9
TOTALS	2	1	9

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

3

TRAFFIC CONTROL PROJECT

PROJECT	643.5000 TRAFFIC CONTROL PROJECT EACH
1100-46-71	1
PROJECT TOTALS	1

FIXED MESSAGE SIGNS

ROADWAY	LOCATION	STAGES	SIGN NUMBER	NUMBER REQUIRED	SIGN SIZE W X H FT	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF
IH 41 SB/IH 894 EB	SOUTH OF HOWARD AVE, MEDIAN	1A/1B/2A	FMS 1	1	4.0 X 1.0	4
IH 41 SB/IH 43 NB/IH 894 EB	WEST OF 84TH STREET, MEDIAN	1A/1B/2A	FMS 1	1	4.0 X 1.0	4
IH 41 SB/IH 43 NB/IH 894 EB	WEST OF FOREST HOME AVE, OUSIDE	1A/1B/2A	FMS 1A	1	6.0 X 2.0	12
		1A/1B/2A	FMS 4	1	9.0 X 3.5	32
IH 41 SB/IH 43 NB/IH 894 EB	WEST OF 68TH ST, MEDIAN	1A/1B/2A	FMS 1	1	4.0 X 1.0	4
IH 41 SB/IH 43 NB/IH 894 EB	AT 60TH ST EXIT, OUTSIDE	1A/1B/2A	FMS 1A	1	6.0 X 2.0	12
IH 41 SB/IH 43 NB/IH 894 EB	EAST OF 92ND ST, OUTSIDE	1A/1B/2A/2B	FMS 7	1	10.5 X 5.0	53
		1A/1B/2A	FMS 2	1	4.0 X 1.0	4
IH 41 NB/IH 43 SB/IH 894 WB	WEST OF 27TH ST, MEDAIN	1A/1B/2A	FMS 2	1	4.0 X 1.0	4
IH 41 NB/IH 43 SB/IH 894 WB	EAST OF LOOMIS RD, OUTSIDE	1A/1B/2A/2B	FMS 7	1	10.5 X 5.0	53
		1A/1B/2A	FMS 1	1	4.0 X 1.0	4
IH 41 NB/IH 43 SB/IH 894 WB	EAST OF 51ST ST, OUTSIDE	1A/1B/2A	FMS 2A	1	6.0 X 2.0	12
		1A/1B/2A	FMS 4	1	9.0 X 3.5	32
IH 41 NB/IH 43 SB/IH 894 WB	WEST OF 51ST ST, MEDIAN	1A/1B/2A	FMS 2	1	4.0 X 1.0	4
IH 41 NB/IH 43 SB/IH 894 WB	WEST OF 51ST ST, OUTSIDE	1A/1B/2A/2B	FMS 3	1	8.5 X 1.5	13
IH 41 NB/IH 43 SB/IH 894 WB	AT 60TH ST EXIT, OVERHEAD	1A/1B/2A	FMS 2A	1	6.0 X 2.0	12
IH 41 SB/IH 43 NB/IH 894 EB	WEST OF 76TH ST, OUTSIDE	2B	FMS 5	1	10.0 X 1.5	15
60TH STREET DETOUR		1A/1B/2A/2B	FMS 8	42	3.0 X 1.0	126
60TH ST	NORTH OF CLOSURE	1A/1B/2A/2B	FMS 8	9	3.0 X 1.0	27
60TH ST	SOUTH OF CLOSURE	1A/1B/2A/2B	FMS 8	7	3.0 X 1.0	21
			PROJECT TOTALS			446

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

*FOR PROJECT INFORMATION ONLY
**ADDITIONAL QUANTITIES FOUND ELSEWHERE
NOTE: ALL COVERED SIGNS TO BE COVERED FOR DURATION OF WORK IN AREA, ONE CYCLE ONL

TRAFFIC CONTROL

STAGE	ROADWAY	DURATION (CALENDAR DAYS)*	643.0300 TRAFFIC CONTROL DRUMS NO.*	643.0300 TRAFFIC CONTROL DRUMS DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO.*	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A NO.*	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C NO.*	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS NO.*	643.0800 TRAFFIC CONTROL ARROW BOARDS DAYS	643.0900** TRAFFIC CONTROL SIGNS NO.*	643.0900** TRAFFIC CONTROL SIGNS DAYS	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE 1 EA	643.0920** TRAFFIC CONTROL COVERING SIGNS TYPE 2 EA	643.1050 TRAFFIC CONTROL SIGNS PCMS NO.*	643.1050 TRAFFIC CONTROL SIGNS PCMS DAYS	643.4100.S TRAFFIC CONTROL INTERIM LANE CLOSURE EA	SPV.0060.002 TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP EA	SPV.0060.003 TRAFFIC CONTROL FULL FREEWAY CLOSURE EA
Pre-Stage	60TH STREET	15	86	1290	27	405	42	630	8	120	--	--	69	1035	--	9	2	20	--	--	--
	IH 894	15	78	1170	34	510	54	810	8	120	--	--	72	1080	--	9	2	20	--	--	--
	PRE-STAGE TOTALS	--	164	2460	61	915	96	1440	16	240	--	--	141	2115	--	18	4	40	--	--	--
1A	60TH STREET	70	86	6020	27	1890	42	2940	8	560	--	--	69	4830	--	9	--	--	--	--	--
	IH 894	70	117	8190	4	280	8	560	28	1960	--	--	34	2380	8	2	--	--	--	--	--
	STAGE 1A TOTALS	--	203	14210	31	2170	50	3500	36	2520	--	--	103	7210	8	11	--	--	--	--	--
1B	60TH STREET	136	86	11696	27	3672	42	5712	8	1088	--	--	69	9384	--	--	--	--	--	--	--
	IH 894	136	113	15368	4	544	8	1088	44	5984	--	--	34	4624	--	--	--	--	--	--	--
	STAGE 1B TOTALS	--	199	27064	31	4216	50	6800	52	7072	--	--	103	14008	--	--	--	--	--	--	--
2A	60TH STREET	45	86	3870	27	1215	42	1890	8	360	--	--	69	3105	--	--	--	--	--	--	--
	IH 894	45	--	--	--	--	--	--	--	--	--	--	4	180	--	--	--	--	--	--	--
	STAGE 2A TOTALS	--	86	3870	27	1215	42	1890	8	360	--	--	73	3285	--	--	--	--	--	--	--
2B	60TH STREET	28	50	1400	24	672	36	1008	5	140	--	--	66	1848	--	--	--	--	--	--	--
	IH 894	28	--	--	--	--	--	--	--	--	--	--	13	364	10	--	--	--	--	--	--
	IH 894 EXIT RAMP CLOSURES	28	68	1904	8	224	--	--	16	448	--	--	12	336	--	2	2	20	--	--	--
	STAGE 2B TOTALS	--	118	3304	32	896	36	1008	21	588	--	--	91	2548	10	2	2	20	--	--	--
IH 894	SINGLE LANE CLOUSE	40	55	2208	2	80	4	160	13	528	2	80	6	240	--	--	--	--	40	--	--
	DUAL LANE CLOSURE	60	93	5568	5	300	10	600	26	1584	3	180	11	660	--	--	--	--	60	--	--
	FULL CLOSURE	30	137	4122	14	420	19	570	48	1428	4	120	21	630	--	--	2	270	--	--	30
	76TH ST EB ENTRANCE RAMP CLOSURE	15	15	225	5	75	10	150	--	--	--	--	7	105	--	--	1	45	--	15	--
	FOREST HOME AVE EB ENTRANCE RAMP CLOSURE	15	25	375	3	45	6	90	23	345	--	--	9	135	--	--	1	45	--	15	--
	LOOMIS RD WB ENTRANCE RAMP CLOSURE	15	32	480	8	120	5	75	16	240	--	--	9	135	--	--	1	45	--	15	--
	UNDISTRIBUTED	7	50	350	5	35	10	70	5	35	--	--	5	35	--	--	--	--	--	--	--
	PROJECT TOTALS		1177	64236	224	10487	338	16353	264	14940	9	380	579	31106	18	31	11	465	100	45	30

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

TEMPORARY PAVEMENT MARKING

STAGE	ROADWAY	LOCATION	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH YELLOW LF	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH WHITE LF	649.0120 TEMPORARY MARKING LINE EPOXY 4-INCH YELLOW LF	649.0120 TEMPORARY MARKING LINE EPOXY 4-INCH WHITE LF	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH YELLOW LF	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH WHITE LF	649.0205 TEMPORARY MARKING LINE PAINT 8-INCH WHITE LF	649.0250 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH WHITE LF	649.0550 TEMPORARY MARKING ARROW REMOVABLE TAPE WHITE EACH	649.0650 TEMPORARY MARKING WORD REMOVABLE TAPE WHITE EACH	649.0760 TEMPORARY MARKING RAISED PAVEMENT MARKER TYPE 1 WHITE EACH	649.0760 TEMPORARY MARKING RAISED PAVEMENT MARKER TYPE 1 YELLOW EACH
Pre-Stage	60TH STREET	SOUTH OF 894	--	--	--	--	--	--	--	158	1	2	36	12
		NORTH OF 894	--	--	--	--	180	--	--	--	--	--	36	12
1A	IH 894	EB	--	--	1385	4155	--	--	--	--	--	--	--	--
		WB	--	--	1387	4161	--	--	--	--	--	--	--	--
1B	IH 894	EB	1385	4005	--	--	--	--	150	--	--	--	36	12
		WB	1387	4011	--	--	--	--	150	--	--	--	36	12
2B	IH 894	EB	--	--	--	--	--	900	--	--	--	--	--	--
		WB	--	--	--	--	--	900	--	--	--	--	--	--
		PROJECT TOTALS	2772	8016	2772	8316	180	1800	300	158	1	2	144	48
			10788		11088		1980						192	

PAVEMENT MARKING REMOVAL

ROADWAY	LOCATION	646.9000 MARKING REMOVAL LINE 4-INCH LF	646.9010 REMOVAL LINE WATER BLASTING 4-INCH LF	646.9200 MARKING REMOVAL LINE WIDE LF
IH 894	STAGE 1A	4158	--	371
	STAGE 1B	--	5544	391
	FINAL PMS	--	11088	--
	PROJECT TOTALS	4158	16632	762

DETOUR TRAFFIC CONTROL

DETOUR PLAN	DURATION DAYS	643.0900** TRAFFIC CONTROL SIGNS NO.*	643.0900** TRAFFIC CONTROL SIGNS DAYS	643.0920** TRAFFIC CONTROL COVERING SIGNS TYPE 2 EA
60TH STREET	294	118	34692	--
60TH STREET PEDESTRIAN DEOUR	294	46	13524	--
NB 60TH STREET TO IH 41 SB/IH43 NB/IH 894 EB	294	59	17346	--
NB 60TH STREET TO IH 41 NB/IH43 SB/IH 894 WB	294	69	20286	3
SB 60TH STREET TO IH 41 SB/IH43 NB/IH 894 EB	294	100	29400	16
SB 60TH STREET TO IH 41 NB/IH43 SB/IH 894 WB	294	24	7056	--
60TH STREET TO IH 43 SB	294	32	9408	--
IH 41/IH 43/IH 894 FULL CLOSURE	30	40	1200	--
PROJECT TOTALS		488	132912	19

*FOR PROJECT INFORMATION ONLY

**ADDITIONAL QUANTITIES FOUND ELSEWHERE

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

3

3

TRAFFIC CONTROL BARRIER

ROADWAY	STAGE	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF
IH 894 EB	1A	Median Work Area	557	557
	1B	Outside Work Area	600	600
IH 894 WB	1A	Median Work Area	557	557
	1B	Outside Work Area	600	600
		PROJECT TOTALS	2314	2314

CRASH CUSHION

ROADWAY	STAGE	LOCATION	614.0905 CRASH CUSHION TEMPORARY EACH	BACK WIDTH FT	OBJECT MARKING PATTERN --	CRASH TEST LEVEL --	TRAFFIC DIRECTION --	TRAFFIC LOCATION --	CRASH CUSHION SHIELDS --
IH 894 EB	1A	Inside Shoulder	1	2	OM-3L (WO5-58L)	TL-3	Unidirectional	R	Temp Barrier Wall
IH 894 WB	1A	Outside Shoulder	1	2	OM-3L (WO5-58L)	TL-3	Unidirectional	R	Temp Barrier Wall
IH 894 EB	1B	Outside Shoulder	1	2	OM-3R (WO5-58R)	TL-3	Unidirectional	L	Temp Barrier Wall
IH 894 WB	1B	Outside Shoulder	1	2	OM-3R (WO5-58R)	TL-3	Unidirectional	L	Temp Barrier Wall
		PROJECT TOTALS	4						

ALL ITEMS ARE CATEGORY 1000 UNLESS OTHERWISE SPECIFIED.

3

FTMS CABLE REMOVALS

CATEGORY	ROADWAY	ITEM ID	674.0300 REMOVE CABLE LF
1300	IH 41 / IH 43 / IH 894		
		EXMH6001 - EXMH6002	35
		EXPB6001 - EXMH6002	40
		EXMH6002 - EXMH6003	800
		EXMH6003 - EXMH6004	135
		EXMH6004 - EXPBWB07	80
		EXPBWB07 - EX-CB-RM-40-0050	15
		EXPBWB07 - EXPBWB08	20
		EXPBWB07 - EX-CCTV-40-0026	10
		EXPBWB01 - EXPBWB02	125
		EXPBWB02 - EXPBWB03	30
		EXPBWB03 - EXPBWB04	155
		EXPBWB04 - EXPBWB05	80
		EXPBWB05 - EXPBWB06	55
		EXPBWB05 - EXPBWB09	115
		EXPBWB09 - EXFYWB01	15
		EXPBWB02 - EXSBWB01	15
		EXPBWB03 - EXSBWB02	15
		EXPBWB09 - EXPBWB10	30
		EXPBWB10 - EXPBWB11	10
		EXPBWB11 - EXFYWB02	10
		EXPBWB08 - EXJB6003	15
		EXJB6003 - EXJB6002	95
		EXJB6002 - EXJB6001	85
		EXJB6001 - EXPBEB01	40
		EXPBEB01 - EX-CB-RM-40-0051	10
		EXPBEB01 - EXPBEB02	15
		EXPBEB02 - EXFYEB02	10
		EXPBEB02 - EXPBEB03	35
		EXPBEB03 - EXFYEB01	10
		EXPBEB03 - EXMBEB01	30
		EXMH6005 - EXPBEB01	75
		EXPBEB02 - EXPBEB05	120
		EXPBEB05 - EXPBEB06	65
		EXPBEB06 - EXPBEB07	170
		EXPBEB07 - EXSBEB01	10
		EXPBEB07 - EXPBEB08	30
		EXPBEB08 - EXSBEB02	10
		EXPBEB07 - EXMH6006	35
		EXMH6006 - EXMH6007	25
		EXPBEB08 - EXPBEB09	145
		EXMH6006 - EXPB6100	130
		EXPB6100 - EXPB6101	20
		TOTAL	2,950

*DENOTES QUANTIITES FOUND ELSEWHERE

FTMS EACH REMOVALS

CATEGORY	ROADWAY	ITEM ID.	204.0195* REMOVING CONCRETE BASES EACH	204.0210 REMOVING MANHOLES EACH	653.0905* REMOVING PULL BOXES EACH	204.9001.S REMOVING ADVANCE FLASHER ASSEMBLIES TYPE 1 EACH	204.9002.S REMOVING ADVANCE FLASHER ASSEMBLIES TYPE 2 EACH	677.9051.S REMOVING 50-FOOT CAMERA POLE EACH	677.9200.S REMOVING CCTV CAMERA EACH	SPV.0060.200 REMOVING CONTROLLER CABINET EACH	SPV.0060.201 REMOVING CONTROLLER CABINET BASE EACH
1300	IH 41 / IH 43 / IH 894										
		EXFYWB02	1	--	--	1	--	--	--	--	--
		EXFYWB01	1	--	--	1	--	--	--	--	--
		EXPBWB08	--	--	1	--	--	--	--	--	--
		EXPBWB09	--	--	1	--	--	--	--	--	--
		EXPBWB10	--	--	1	--	--	--	--	--	--
		EXPBWB11	--	--	1	--	--	--	--	--	--
		EXMH6002	--	1	--	--	--	--	--	--	--
		EXPB6001	--	--	1	--	--	--	--	--	--
		EXMH6003	--	1	--	--	--	--	--	--	--
		EXMH6005	--	1	--	--	--	--	--	--	--
		EXMH6004	--	1	--	--	--	--	--	--	--
		EXPBEB01	--	--	1	--	--	--	--	--	--
		EXPBEB02	--	--	1	--	--	--	--	--	--
		EXPBEB03	--	--	1	--	--	--	--	--	--
		EXFYEB01	--	--	--	--	1	--	--	--	--
		EXFYEB02	1	--	--	1	--	--	--	--	--
		EX-CB-RM-40-0051	--	--	--	--	--	--	--	1	1
		EX-CCTV-40-0026	1	--	--	--	--	1	1	--	--
		TOTALS	4	4	8	3	1	1	1	1	1

FTMS UNDERGROUND EACH ITEMS

CATEGORY	ROADWAY	ITEM ID	652.0700.S* INSTALL CONDUIT INTO EXISTING ITEM EACH	653.0140* PULL BOXES STEEL 24 X 42 - INCH EACH	654.0101* CONCRETE BASES TYPE 1 EACH	673.0105 COMMUNICATION VAULT TYPE 1 EACH	678.0300 FIBER OPTIC SPLICE EACH	SPV.0060.202 SIGNAL ASSEMBLY ADVANCE FLASHER TYPE 1 EACH
1300	IH 41 / IH 43 / IH 894							
		EXPB175	1	--	--	--	--	--
		PB11C	--	1	--	--	--	--
		PB12C	--	1	--	--	--	--
		EXPB12C	2	--	--	--	--	--
		CV6001	--	--	--	1	74	--
		CV6002	--	--	--	1	--	--
		EXMH6001	1	--	--	--	--	--
		CV6003	--	--	--	1	--	--
		CV6004	--	--	--	1	--	--
		EXMH182	1	--	--	--	72	--
		EXPB16A	1	--	--	--	--	--
		PB12A	--	1	--	--	--	--
		FY12A	--	--	1	--	--	1
		PB11A	--	1	--	--	--	--
		FY11A	--	--	1	--	--	1
		FY12C	--	--	1	--	--	1
		FY11C	--	--	1	--	--	1
		PB11A	--	1	--	--	--	--
		PB10A	--	1	--	--	--	--
		TOTALS	6	6	4	4	146	4

3

FTMS CONDUIT AND WIRE

CATEGORY	ROADWAY	ITEM ID	LINEAR DISTANCE	652.0125* CONDUIT RIGID METALLIC 2-INCH LF	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	655.0223 CABLE TRAFFIC SIGNAL 5-10 AWG LF	655.0243 CABLE TRAFFIC SIGNAL 9-10 AWG LF	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG LF	655.0700* LOOP DETECTOR LEAD IN CABLE LF	671.0132 CONDUIT HDPE 3-DUCT 2-INCH LF	671.0232 CONDUIT HDPE DIRECTIONAL BORE 3-DUCT 2-INCH LF	678.0006 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT LF	678.0072 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 72-CT LF
1300	IH 41 / IH 43 / IH 894														
		EXMH6001	--	--	--	--	--	--	--	--	--	--	--	100	50
		EXMH6001 - CV6001	20	--	--	--	--	--	--	--	--	20	--	40	20
		CV6001	--	--	--	--	--	--	--	--	--	--	--	50	50
		CV6001 - CV6002	240	--	--	--	--	--	--	--	--	--	240	240	--
		CV6002 - EXPB170	20	--	20	--	--	--	20	--	--	--	--	20	--
		EXPB170 - EXPB172	125	--	--	--	--	--	125	--	125	--	--	125	--
		EXPB172 - EXPB173	30	--	--	--	--	30	30	--	30	--	--	30	--
		EXPB172 - EXSB173	10	--	--	--	--	10	10	--	--	--	--	--	--
		EXPB172 - EXSB172	10	--	--	--	--	10	10	--	--	--	--	--	--
		EXPB173 - EXPB174	165	--	--	--	--	165	165	--	825	--	--	165	--
		EXPB174 - EXPB175	80	--	--	--	--	80	80	--	480	--	--	80	--
		EXPB175 - EXPB176	55	--	--	--	--	--	55	--	330	--	--	--	--
		EXPB175 - PB11C	90	--	--	270	--	90	90	--	1,260	--	--	90	--
		PB12C - PB11C	30	--	30	--	30	--	30	--	--	--	--	--	--
		PB12C - FY12C	20	--	20	--	20	--	20	--	--	--	--	--	--
		PB11C - FY11C	10	--	10	--	10	--	10	--	--	--	--	--	--
		PB11C - EXPB12C	15	--	--	--	--	--	--	--	--	--	--	--	--
		EXPB12C - EX-CB-RM-40-0050	10	--	--	--	10	10	10	--	160	--	--	10	--
		EXPB12C - CCTV-40-0026	20	--	40	--	--	--	20	--	--	--	--	--	--
		CV6001 - CV6003	350	--	--	--	--	--	350	--	--	350	--	350	350
		CV6003	--	--	--	--	--	--	--	--	--	--	--	50	50
		CV6003 - CV6004	665	--	--	--	--	--	665	--	--	--	665	665	665
		CV6004	--	--	--	--	--	--	50	--	--	--	--	50	50
		CV6004 - EXMH182	50	--	--	--	--	--	50	--	--	50	--	--	50
		EXMH182	--	--	--	--	--	--	--	--	--	--	--	50	50
		EXMH182 - EXPB16A	45	--	45	--	--	--	45	--	--	--	--	45	--
		EXPB182 - EXPB16A	145	--	--	--	--	--	145	--	145	--	--	145	--
		EXPB16A - EXSB16A	10	--	--	--	--	10	10	--	--	--	--	--	--
		EXPB16A - EXPB15A	35	--	--	--	--	35	35	--	105	--	--	35	--
		EXPB15A - EXSB15A	10	--	--	--	--	20	10	--	--	--	--	--	--
		EXSB15A - EXPB14A	170	--	--	--	--	170	170	--	850	--	--	170	--
		EXPB14A - EXPB13A	70	--	--	--	--	70	70	--	420	--	--	70	--
		EXPB178 - EXPB13A	55	--	--	--	--	--	55	--	330	--	--	55	--
		EXPB13A - PB12A	110	--	--	440	--	110	110	--	1,540	--	--	110	--
		PB12A - FY12A	10	--	10	--	10	--	10	--	--	--	--	--	--
		PB12A - PB11A	30	--	--	120	30	30	30	--	450	--	--	30	--
		PB11A - FY11A	15	--	15	--	30	--	15	--	--	--	--	--	--
		PB11A - PB10A	30	--	--	120	30	30	30	--	480	--	--	30	--
		PB10A - CB-RM-40-0051	10	--	--	60	10	10	10	--	160	--	--	10	--
		EXMB10A - CB-RM-40-0051	40	40	--	--	--	--	--	120	--	--	--	--	--
		TOTALS		40	190	1,010	180	880	2,535	120	7,690	420	905	2,815	1,335

*DENOTES QUANTIITES FOUND ELSEWHERE

FTMS BASES, POLES, CABINETS, AND EQUIPMENT

CATEGORY	ROADWAY	ITEM ID.	654.1239 CONCRETE CONTROL CABINET BASES ITS EACH	531.4050 FOUNDATION CAMERA POLE 50-FT EACH	673.0200.S INSTALL ITS FIELD CABINET EACH	675.0100 INSTALL CONTROLLER RAMP METER PROCESSOR ASSEMBLY EACH	677.0150 INSTALL CAMERA POLE 50-FT EACH	677.0200 INSTALL CAMERA ASSEMBLY EACH	678.0400 FIBER OPTIC TERMINATION EACH	678.0600 INSTALL ETHERNET SWITCHES EACH	SPV.0060.203 GROUND ROD EACH
1300	IH 41 / IH 43 / IH 894										
		CB-RM-40-0051	1	--	1	1	--	--	6	1	1
		EX-CB-CCTV-40-0026	--	--	--	--	--	--	6	--	--
		CCTV-40-0026	--	1	--	--	1	1	--	--	--
		TOTALS	1	1	1	1	1	1	12	1	1

FTMS LOOP DETECTORS

CATEGORY	ROADWAY	LOCATION	LOOP DETECTOR	SIZE	NO. OF TURNS	652.0800* CONDUIT LOOP DETECTOR LF	655.0800* LOOP DETECTOR WIRE LF
1300	IH 41 / IH 43 / IH 894						
			WB QUEUE A	6'X6'	4	45	140
			WB QUEUE B	6'X6'	3	35	120
			WB ENT A	6'X6'	4	45	140
			WB ENT B	6'X6'	3	35	120
			EB ENT A	6'X6'	4	45	140
			EB ENT B	6'X6'	3	35	120
					TOTALS	240	780

MISCELLANEOUS ITEMS

CATEGORY	ROADWAY	670.0100 FIELD SYSTEM INTEGRATOR LS	670.0200 ITS DOCUMENTATION LS	678.0500 COMMUNICATION SYSTEM TESTING LS
1300	IH 41 / IH 43 / IH 894			
	PROJECT	1	1	1
	TOTALS	1	1	1

*DENOTES QUANTIITES FOUND ELSEWHERE

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0622 WOOD POSTS 4"X6"X22' [EA]	634.0814 POSTS TUBULAR STEEL 2"X2"X14' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1	R5-57	--	--	x	--	--	--	--	--	1	1	--	--	1	--	--
2	R3-51L	--	--	x	--	--	--	--	--	2	2	--	--	1	--	--
3	M1-94	60TH ST	66	x	21	9.625	--	--	1	--	--	--	--	--	--	MOUNT ON BRIDGE - BRACKETS INCIDENTAL
4	D10-1	MILE 7	--	x	--	--	--	--	--	1	1	--	--	1	--	--
5	M1-94	60TH ST	66	x	21	9.625	--	--	1	--	--	--	--	--	--	MOUNT ON BRIDGE - BRACKETS INCIDENTAL
6	D1-1	HISTORIC DOWNTOWN…	--	x	--	--	--	--	--	2	2	--	--	1	--	--
7	R3-51L	--	--	x	--	--	--	--	--	2	2	--	--	1	--	--
8	R5-57	--	--	x	--	--	--	--	--	1	1	--	--	1	--	--
9	JV2-1(2S)	--	30	x	93	19.375	--	--	--	--	--	1	--	--	--	--
	MB3-1	NORTH	24	x	12											
	M1-1	IH 43	24	x	24											
	MB3-2	EAST	24	x	12											
	M1-1A	IH 894	30	x	24											
	MB5-1R	--	21	x	21											
10	--	RESTRICTED LANE…LEFT LANE	--	x	--	--	--	--	1	1	--	--	--	--	--	REMOVE SIGN AND POST
11	R7-1L(2S)	--	18	x	24	3.000	--	--	1	--	--	--	1	--	--	--
12	R6-2L(2S)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
13	R5-1(3)	--	36	x	36	9.000	--	--	1	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
14	R5-1A(2S)	--	36	x	24	6.000	--	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
15	R6-3(2S)	--	30	x	24	5.000	--	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
16	R1-1F(3)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
17	R1-1F(3)	--	36	x	36	--	--	7.460	1	1	1	--	--	--	--	--
18	R5-1(3)	--	36	x	36	9.000	--	--	--	--	--	--	--	--	#17	BACK OF SIGN #17
19	R5-1A(2S)	--	36	x	24	6.000	--	--	--	--	--	--	--	--	#17	BACK OF SIGN #17
20	R3-1(2S)	--	24	x	24	4.000	--	--	1	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
21	R1-1F(3)	--	36	x	36	--	--	7.460	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
22	R5-1(2S)	--	30	x	30	6.250	--	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
23	R1-1F(3)	--	36	x	36	--	--	7.460	1	--	--	--	1	--	--	--
24	--	--	--	x	--	--	--	--	--	--	--	--	--	--	--	--
25	R4-7(2S)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	#23	BACK OF SIGN #23
26	R6-2L(2S)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0622 WOOD POSTS 4"X6"X22' [EA]	634.0814 POSTS TUBULAR STEEL 2"X2"X14' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
27	JV2-2(2S)	--	54	x	93	34.875	--	--	1	2	--	2	--	--	--	--
	MB3-1	NORTH	24	x	12											
	M1-1	IH 41	24	x	24											
	MB3-3	SOUTH	24	x	12											
	M1-1	IH 43	24	x	24											
	MB5-1L	--	21	x	21											
	MB3-4	WEST	24	x	12											
	M1-1A	IH 894	30	x	24											
	MB5-1L	--	21	x	21											
28	JV3-1(2S)	--	30	x	93	19.375	--	--	1	--	--	--	--	--	--	MOUNT HIGH ON SIGNAL POLE
	MB3-1	NORTH	24	x	12											
	M1-1	IH 43	24	x	24											
	MB3-2	EAST	24	x	12											
	M1-1A	IH 894	30	x	24											
	MB6-1	--	21	x	21											
29	R4-7(2S)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
30	JV3-1(2S)	--	--	x	--	--	--	--	1	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
	MB3-1	NORTH	24	x	12											
	M1-1	IH 43	24	x	24											
	MB3-2	EAST	24	x	12											
	M1-1A	IH 894	30	x	24											
	MB6-1	--	21	x	21											
31	R1-1F(3)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
32	R1-1F(3)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
33	R3-18(2M)	--	36	x	36	9.000	--	--	--	--	1	--	--	--	--	--
34	W3-8(3)	--	48	x	48	--	16.000	--	1	--	--	--	--	--	--	MOUNT ON POLE
35	JV2-2	--	--	x	--	--	--	--	--	2	--	2	--	1	--	--
36	R4-7(2S)	--	24	x	30	5.000	--	--	--	--	1	--	--	--	--	--
37	R6-2L(2S)	--	24	x	30	5.000	--	--	1	--	1	--	--	--	--	--
38	JV3-1(2S)	--	30	x	93	19.375	--	--	1	--	--	--	--	--	--	MOUNT HIGH ON SIGNAL POLE
	MB3-3	SOUTH	24	x	12											
	M1-1	IH 43	24	x	24											
	MB3-4	WEST	24	x	12											
	M1-1A	IH 894	30	x	24											
	MB6-1	--	21	x	21											

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	SIGN SIZE H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0622 WOOD POSTS 4"X6"X22' [EA]	634.0814 POSTS TUBULAR STEEL 2"X2"X14' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
39	R4-7(2S)	--	24	x	30	5.000	--	--	1	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
40	JV2-2	--	--	x	--	--	--	--	--	2	--	2	--	1	--	--
41	R1-1F(3)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
42	J3-1(2S)	--	24	x	57	9.500	--	--	1	1	1	--	--	--	--	--
	MB3-1	NORTH	24	x	12											
	M1-1	IH 41	24	x	24											
	MB6-1	--	21	x	21											
43	R3-18(2M)	--	36	x	36	9.000	--	--	1	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
44	R1-1F(3)	--	36	x	36	--	--	7.460	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
45	--	NO ENGINE BRAKING…	--	x	--	--	--	--	--	--	--	--	--	1	--	MOUNT ON SIGNAL POLE
46	R6-2L(2S)	--	24	x	30	5.000	--	--	--	--	1	--	--	--	--	--
47	R5-1(3)	--	36	x	36	9.000	--	--	1	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
48	R5-1A(2S)	--	36	x	24	6.000	--	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
49	R6-3(2S)	--	30	x	24	5.000	--	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
50	R1-1F(3)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
51	R5-1(3)	--	36	x	36	9.000	--	--	1	1	1	--	--	--	--	--
52	R5-1A(2S)	--	36	x	24	6.000	--	--	--	--	--	--	--	--	#51	3 FT MOUNT HEIGHT
53	R1-1F(3)	--	36	x	36	--	--	7.460	--	--	--	--	--	--	#51	BACK OF SIGN #51
54	R3-1(2S)	--	24	x	24	4.000	--	--	--	--	--	--	--	--	#51	--
55	R1-1F(3)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
56	R1-1F(3)	--	36	x	36	--	--	7.460	--	--	--	--	--	--	#36	BACK OF SIGN #36
57	--	RESTRICTED LANE…LEFT LANE	--	x	--	--	--	--	1	1	--	--	--	--	--	REMOVE SIGN AND POST
58	W3-3	--	--	x	--	--	--	--	--	1	1	--	--	1	--	--
59	D1-1	HISTORIC DOWNTOWN…	--	x	--	--	--	--	--	2	2	--	--	1	--	SHEET 3 OF 10
60	JV2-1(2S)	--	30	x	96	20.000	--	--	--	--	--	2	--	--	--	SHEET 7 OF 10
	MB3-3	SOUTH	24	x	12											
	M1-1	IH 43	24	x	24											
	MB3-4	WEST	24	x	12											
	M1-1A	IH 894	30	x	24											
	MB4-20L	--	24	x	24											

3

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0622 WOOD POSTS 4"X6"X22' [EA]	634.0814 POSTS TUBULAR STEEL 2"X2"X14' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
61	R3-1(2M)	--	36	x	36	9.000	--	--	--	--	--	--	--	--	--	SHEET 8 OF 10 - MOUNT ON MAST ARM
62	W3-8(3)	--	48	x	48	--	16.000	--	1	--	--	--	--	--	--	SHEET 8 OF 10 - MOUNT ON POLE
63	W3-8(3)	--	48	x	48	--	16.000	--	1	--	--	--	--	--	--	SHEET 8 OF 10 - MOUNT ON POLE
64	R3-18(2M)	--	36	x	36	9.000	--	--	--	--	--	--	--	--	--	SHEET 8 OF 10 - MOUNT ON MAST ARM
65	W3-8(3)	--	48	x	48	--	16.000	--	--	--	--	--	--	--	--	SHEET 9 OF 10 MOUNT ON POLE
66	R3-18(2M)	--	36	x	36	9.000	--	--	--	--	--	--	--	--	--	SHEET 9 OF 10 - MOUNT ON MAST ARM
67	R3-1(2M)	--	36	x	36	9.000	--	--	--	--	--	--	--	--	--	SHEET 9 OF 10 - MOUNT ON MAST ARM
--	--	--	--	x	--	--	--	--	--	--	--	--	--	--	--	--
	TOTALS					323.000	64.000	89.520	28	23	19	9	2	11		

3

3

UNDERDECK LIGHTING REMOVAL

DESCRIPTION	204.9060.S.100 REMOVING UNDERDECK LIGHTING B-40-195 EACH
UDL 60TH CIRCUIT A/B	1
TOTAL	1

FREEWAY LIGHTING

NO.	LOCATION	659.1130 LUMINAIRES UTILITY LED D EACH	SPV.0060.100 CONCRETE BASES TYPE B EACH	SPV.0060.101 SALVAGE AND REINSTALL FREEWAY LIGHTING ASSEMBLY EACH
AAL31/BAL31	174+77, 1' RT	2	1	1
DBO31/CBO31	177+57, 1' RT	2	1	1
	TOTAL	4	2	2

LIGHTING CONDUIT AND CABLE

LOC.	TO	LOC.	655.0142 CABLE IN DUCT 4-2 AWG LF	655.0144 CABLE IN DUCT 4-4 AWG LF	* 655.0610 ELECTRICAL WIRE LIGHTING 12 AWG LF
AAL30/BAL30		AAL31/BAL31		244	324
AAL31/BAL31		JUNCTION BOX		110	
JUNCTION BOX		A15			150
A15		A16			165
JUNCTION BOX		B15			210
B15		B16			225
CBO31/DBO31		CBO30/DBO30	240		324
		TOTAL	240	354	1398

3

UNDERDECK LUMINAIRES

UDL NO.	LOCATION	659.1210 LUMINARIES UNDERDECK LED B EACH
A15	175+89, 2' RT	1
A16	176+25, 2' LT	1
B15	175+89, 2' LT	1
B16	176+25, 2' RT	1
	TOTAL	4

UNDERDECK LIGHTING

DESCRIPTION	659.0600 UNDERDECK LIGHTING B-40-1013 L.S.
IH 41 & 60th Street	1
TOTAL	1

REMOVE AND SALVAGE LIGHTING

NO.	LOCATION	* 204.0195 REMOVING CONCRETE BASES EACH	204.9060.S.101 REMOVE AND SALVAGE LIGHTING ASSEMBLY EACH
LP1	EXISTING		1
LP2	EXISTING		1
LP3	EXISTING		1
LP4	EXISTING		1
LP5	EXISTING	1	1
SB2	EXISTING	1	1
SB4	EXISTING	1	1
SB15	EXISTING	1	1
	TOTAL	4	8

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 1100

IH 41/43/894 & S 60th ST. LIGHTING

PAGE 1 OF 1

STATE FURNISHED MATERIALS SUMMARY (FOR INFORMATION PURPOSES ONLY)

EACH	DESCRIPTION
1	TRAFFIC SIGNAL CONTROLLER, FULLY ACTUATED, 8 PHASE
2	TRAFFIC SIGNAL CABINET
2	POLES TYPE 9
3	POLES SPECIAL TYPE 9
1	POLES TYPE 10
1	VIDEO DETECTION SYSTEM
2	VIDEO DETECTION CAMERAS
1	MONOTBUE ARMS 25-FT
2	MONOTUBE ARMS, 30-FT
2	MONOTUBE ARMS SPECIAL 35-FT
1	MONOTUBE ARMS SPECIAL 45-FT
1	LUMINAIRE ARMS, STEEL, 15-FT
4	EVP DETECTOR HEADS
1	ETHERNET SWITCH

STATE FURNISHED MATERIALS SUMMARY (FOR INFORMATION PURPOSES ONLY)

FT	DESCRIPTION
175	CAT-5E CABLE
1050	CABLE 7/C #14 AWG STRANDED (VIDEO DETECTION CABLE)

REMOVING ELECTRICAL SERVICE METER BREAKER PEDESTAL

** LOCATION	204.9060.S.300 REMOVING ELECTRICAL SERVICE METER BREAKER PEDESTAL EACH
IH 41 Ramps & 60th Street	1
TOTAL	1

REMOVING CONCRETE BASES

SIGNAL BASE NO.	* 204.0195 REMOVING CONCRETE BASES EACH
SB1	1
SB3	1
SB5	1
SB6	1
SB7	1
SB8	1
SB9	1
SB10	1
SB11	1
SB12	1
SB13	1
SB14	1
SB16	1
SB17	1
CB1	1
TOTAL	15

REMOVING PULL BOXES

PULL BOX NO.	* 653.0905 REMOVING PULL BOXES EACH
PB1	1
PB2	1
PB3	1
PB4	1
PB5	1
PB6	1
PB7	1
PB8	1
PB9	1
PB10	1
PB11	1
PB12	1
PB13	1
PB14	1
PB15	1
PB16	1
PB17	1
PB18	1
PB19	1
TOTAL	19

REMOVING TRAFFIC SIGNALS

** LOCATION	204.9105.S.301 REMOVING TRAFFIC SIGNALS L.S.
IH 41 Ramps & 60th Street	1
TOTAL	1

ELECTRICAL SERVICE

CABINET NO.	** LOCATION	656.0200.300 ELECTRICAL SERVICE METER BREAKER PEDESTAL L.S.
CB1	IH 41 Ramps & 60th Street	1
TOTAL		1

REMOVING LOOP DETECTOR AND LEAD-IN CABLE

** LOCATION	204.9105.S.302 REMOVING LOOP DETECTOR WIRE AND LEAD-IN CABLE L.S.
IH 41 Ramps & 60th 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 1500

IH 41/43/894 & S. 60th ST SIGNALS

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CONCRETE BASES

SIGNAL BASE NO.	LOCATION	* 654.0101 CONCRETE BASES TYPE 1 EACH	654.0102 CONCRETE BASES TYPE 2 EACH	654.0110 CONCRETE BASES TYPE 10 EACH	654.0120 CONCRETE BASES TYPE 10-SPECIAL EACH	SPV.0060.308 CONCRETE CONTROL CABINET BASE, TYPE 9 SPECIAL MODIFIED EACH
CB1	112+29, 62' RT					1
SB1	112+25, 54' RT	1				
SB2	112+43, 54' RT	1				
SB3	112+26, 55' LT				1	
SB4	112+33, 54' LT	1				
SB5	112+82, 69' LT			1		
SB6	113+12, 55 LT	1				
SB7	113+24, 47' LT	1				
SB8	112+90, 00' RT		1			
SB9	113+25, 00' RT			1		
SB10	112+78, 60' RT	1				
SB11	112+89, 54' RT	1				
SB20	108+66, 55' RT	1				
SB21	108+50, 46' RT	1				
SB22	108+79, 1' RT		1			
SB23	108+64, 55' LT				1	
SB24	108+82, 64' LT		1			
SB25	109+26, 54' LT	1				
SB26	109+55, 54' LT	1				
SB27	109+55, 54' RT				1	
SB28	109+42, 54' RT	1				
SB29	108+97, 72' RT			1		
CB2	108+92, 82' RT					1
	TOTAL	12	3	3	3	2

SIGNAL MOUNTING HARDWARE

** LOCATION	658.5069.300 SIGNAL MOUNTING HARDWARE L.S.
IH 41 Ramps & 60th Street	1
TOTAL	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.	652.0605 CONDUIT SPECIAL 2-INCH L.F.	652.0615 CONDUIT SPECIAL 3-INCH L.F.
CB1		PB1		36		
PB1		SB1	24			
PB1		SB2	19			
PB1		BRIDGE	10			
PB1		PB2		223		
PB2		BRIDGE	8			
PB2		SB3		8		
PB2		PB3		43		
PB3		SB4	12			
PB3		PB4		88		
PB4		SB5		8		
PB4		PB5		42		
PB5		SB6	18			
PB5		SB7	35			
PB5		PB6			291	
PB5		PB7		140		
PB7		SB8	7			
PB7		SB9		29		
PB7		PB8		100		
PB8		PB9		72		
PB9		SB10	18			
PB8		SB11	7			
PB9		PB10		70		
PB10		PB11	224			
PB10		CB1		54		
CB1		PB12	7			
PB12		PB12C		246		
PB12		MB1		7		
CB1		PB50		21		
PB50		PB51				162

CONDUIT (CONTINUED)

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.	652.0605 CONDUIT SPECIAL 2-INCH L.F.	652.0615 CONDUIT SPECIAL 3-INCH L.F.
PB51		PB52				451
PB52		PB53				352
PB53		CB2		99		
CB2		PB40		30		
CB2		PB30		45		
PB30		SB20	9			
PB30		SB21	28			
PB30		PB31			289	
PB30		PB32		114		
PB32		SB22	6			
PB32		PB33		126		
PB33		SB23		11		
SB33		SB34		56		
PB34		SB24	20			
PB34		PB35		76		
PB35		SB25	21			
PB35		PB36	239			
PB35		PB37		48		
PB37		SB26	13			
PB37		BRIDGE	23			
PB37		PB38		233		
PB38		SB27		8		
PB38		BRIDGE	12			
PB38		PB39		25		
PB39		SB28	7			
PB39		PB40		96		
PB40		SB29		12		
		TOTAL	767	2166	580	964

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 1500

IH 41/43/894 & S. 60th ST SIGNALS

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TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRE

LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0235 CABLE TRAFFIC SIGNAL 7-12 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0255 CABLE TRAFFIC SIGNAL 12-12 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0265 CABLE TRAFFIC SIGNAL 15-12 AWG L.F.	655.0325 CABLE TYPE UF 2-8 AWG GROUNDED L.F.	* 655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0525 ELECTRICAL WIRE TRAFFIC SIGNALS 6 AWG L.F.	* 655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
CB1		SB1			47					47			
CB1		SB2			59								
CB1		SB3					174						263
CB1		SB4			213								
CB1		SB5					269						348
CB1		SB6					313						
CB1		SB7			328								
CB1		SB8					217		217				
CB1		SB9					239						
CB1		SB10			115								
CB1		SB11			155					155			
CB1		SB27											600
CB1		SB29											503
CB2		SB20				52				52			
CB2		SB21		70									
CB2		SB22		120									
CB2		SB23				202							
CB2		SB24		255									
CB2		SB25		309									
CB2		SB26		272									
CB2		SB27				136							
CB2		SB28		108									
CB2		SB29				50				50			
SB1		SB2								51			
SB2		SB3								179			
SB3		SB4								80			
SB4		SB5								102			
SB5		SB6								88			
SB6		SB7								80			
SB7		SB8								151			
SB8		SB9								61			
SB9		SB10								186			
SB10		SB11								101			
SB20		SB21								63			
SB21		SB22								129			
SB22		SB23								119			
SB23		SB24								99			
SB24		SB25								120			
SB25		SB26								97			
SB26		SB27								176			
SB27		SB28								67			
SB28		SB29								112			

CONTINUED ON NEXT PAGE

PULL BOXES

PULL BOX NO.	LOCATION	653.0135 PULL BOXES STEEL 24x36-INCH EACH	* 653.0140 PULL BOXES STEEL 24x42-INCH EACH
PB1	112+19, 57' RT		1
PB2	112+18, 55' LT		1
PB3	112+37, 64' LT		1
PB4	112+79, 76' LT		1
PB5	112+98, 69' LT		1
PB6	115+80, 47' LT		1
PB7	112+96, 00' RT		1
PB8	112+95, 49' RT		1
PB9	112+74, 78' RT		1
PB10	112+40, 77' RT		1
PB11	13+04 'D', 18 LT	1	
PB12	112+33, 57' RT		1
PB30	108+75, 57' RT		1
PB31	105+88, 46' RT		1
PB32	108+74, 1' RT		1
PB33	108+72, 62'LT		1
PB34	108+90, 82' LT		1
PB35	109+28, 76' LT		1
PB36	9+14 'B', 18' LT	1	
PB37	109+42, 60' LT		1
PB38	109+46, 56' RT		1
PB39	109+36, 59' RT		1
PB40	108+88, 65' RT		1
PB50	112+23, 66' RT		1
PB51	111+70, 75' RT		1
PB52	110+20, 83' RT		1
PB53	109+04, 99' RT		1
	TOTAL	2	25

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 1500

IH 41/43/894 & S. 60th ST SIGNALS

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TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRE (CONTINUED)

LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0235 CABLE TRAFFIC SIGNAL 7-12 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0255 CABLE TRAFFIC SIGNAL 12-12 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0265 CABLE TRAFFIC SIGNAL 15-12 AWG L.F.	655.0325 CABLE TYPE UF 2-8 AWG GROUNDED L.F.	* 655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0525 ELECTRICAL WIRE TRAFFIC SIGNALS 6 AWG L.F.	* 655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
PB1		CB1								32			
PB2		SB3								24			
PB3		SB4								27			
PB4		SB5								24			
PB5		SB5								46			
PB7		SB9								44			
PB8		SB11								25			
PB9		SB10								34			
PB10		CB1								37			
PB30		CB2								34			
PB32		SB22								22			
PB33		SB23								27			
PB34		SB24								28			
PB35		SB25								37			
PB37		SB26								28			
PB38		SB27								24			
PB39		SB28								23			
PB40		SB29								28			
PB50		CB1								26			
PB51		CB1								87			
PB52		CB2								171			
PB53		CB2								52			
SB8		SB51							314				
SB51		SB50							152				
SB50		SB24							203				
CB2		SB52							109				
SB52		SB53							152				
SB53		SB29							198				
SB29		SB22							143				
SB1		HEAD 12	19										
SB1		HEAD 27	15										
SB3		HEAD 18	60										
SB3		HEAD 19	48										
SB3		HEAD 30	15										
SB5		HEAD 21		51									
SB5		HEAD 22	33										
SB6		HEAD 15		22									
SB6		HEAD 29	15										
SB7		HEAD 17	19										
SB8		HEAD 16		22									
SB8		LUMINAIRE										240	
SB9		HEAD 13	41										
SB9		HEAD 14	53										
SB10		HEAD 20	19										
SB11		HEAD 28	15										

TRAFFIC SIGNAL FACES

SIG. HEAD NO.	SIG. BASE NO.	658.0173 TRAFFIC SIGNAL FACE 3S 12-INCH EACH	658.0174 TRAFFIC SIGNAL FACE 4S 12-INCH EACH	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH EACH
1	SB21	1 ***		
2	SB27	1 ***		
3	SB27	1 ***		
4	SB26	1		
5	SB23	1		
6	SB23	1		
7	SB20		1	
8	SB22		1	
9	SB24	1		
10	SB29		1	
11	SB29	1		
12	SB1	1		
13	SB9	1		
14	SB9	1		
15	SB6		1	
16	SB8		1	
17	SB7	1 ***		
18	SB3	1 ***		
19	SB3	1 ***		
20	SB10	1		
21	SB5		1	
22	SB5	1		
23	SB20			1
24	SB27			1
25	SB25			1
26	SB23			1
27	SB1			1
28	SB10			1
29	SB6			1
30	SB3			1
TOTAL		16	6	8

***RETROREFLECTIVE BACKPLATE REQUIRED**

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 1500

IH 41/43/894 & S. 60th ST SIGNALS

PAGE 4 OF 7

TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRE (CONTINUED)

LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0235 CABLE TRAFFIC SIGNAL 7-12 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0255 CABLE TRAFFIC SIGNAL 12-12 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0265 CABLE TRAFFIC SIGNAL 15-12 AWG L.F.	655.0325 CABLE TYPE UF 2-8 AWG GROUNDED L.F.	* 655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0525 ELECTRICAL WIRE TRAFFIC SIGNALS 6 AWG L.F.	* 655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
SB20		HEAD 7			22								
SB20		HEAD 23	15										
SB21		HEAD 1	19										
SB22		HEAD 8			22								
SB22		LUMINAIRE										240	
SB23		HEAD 5	66										
SB23		HEAD 6	54										
SB23		HEAD 26	15										
SB24		HEAD 9	19										
SB24		LUMINAIRE										120	
SB25		HEAD 25	15										
SB26		HEAD 4	19										
SB27		HEAD 2	60										
SB27		HEAD 3	48										
SB27		HEAD 24	15										
SB29		HEAD 10			47								
SB29		HEAD 11	30										
SB29		LUMINAIRE										120	
SB50		LUMINAIRE										120	
SB29		LUMINAIRE										120	
SB50		LUMINAIRE										120	
SB51		LUMINAIRE										120	
SB52		LUMINAIRE										120	
SB53		LUMINAIRE										120	
CB1		CB2						718			718		
		TOTAL	727	1134	1103	440	1212	718	1488	3245	718	1200	1714

TRANSPORT AND INSTALL STATE FURNISHED CAT-5E CABLE

LOC	LOC	SPV.0090.300 TRANSPORT AND INSTALL STATE FURNISHED CAT-5E CABLE L.F.
CB1	FTMS CABINET (RM-40-0050)	175
	TOTAL	175

TRANSPORT AND INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET

** LOCATION	SPV.0105.300 TRANSPORT AND INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET L.S.	SPV.0105.301 TRANSPORT AND INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET L.S.
IH 41 EB RAMPS & 60TH STREET	1	
IH 41 WB RAMPS & 60TH STREET		1
TOTAL	1	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 1500

IH 41/43/894 & S. 60th ST SIGNALS

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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	PB31	105+88, 28' RT	6	X	14	5	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	72	675	372
22	PB31	105+88, 15' RT	6	X	14	5	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	98	675	502
41	PB36	109+47, 315' LT	6	X	18	5	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	66	810	342
42	PB35	109+16, 83' LT	6	X	20	4	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	72	571	300
43	PB35	109+13, 55' LT	6	X	20	4	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	72	571	300
44	PB34	109+06, 85' LT	6	X	20	4	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	78	544	324
45	PB34	109+01, 57' LT	6	X	20	4	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	78	544	324
61	PB6	115+74, 31' LT	6	X	6	5	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	50	503	262
62	PB6	115+74, 19' LT	6	X	6	5	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	76	503	392
81	PB11	112+26, 300' RT	6	X	18	3	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	68	249	216
82	PB10	112+52, 82' RT	6	X	20	3	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	74	26	234
83	PB10	112+56, 55' RT	6	X	20	3	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	74	26	234
84	PB9	112+62, 84' RT	6	X	20	3	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	74	60	234
85	PB9	112+66, 57' RT	6	X	20	3	HMA	LOOP DETECTOR INSTALLED IN BASE COURSEWITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	70	60	222
								TOTAL	1022	5817	4258

TRANSPORT AND INSTALL STATE FURNISHED VIDEO DETECTION

** LOCATION	SPV.0105.303 TRANSPORT AND INSTALL STATE FURNISHED VIDEO DETECTION L.S.
IH 41 RAMPS & 60TH STREET	1
TOTAL	1

TRANSPORT SIGNAL AND INTERSECTION LIGHTING MATERIALS

** LOCATION	SPV.0105.302 TRANSPORT SIGNAL AND INTERSECTION LIGHTING MATERIALS L.S.
IH 41 RAMPS & 60TH STREET	1
TOTAL	1

INSTALL CONDUIT INTO EXISTING ITEM

PULL BOX NO.	LOCATION	* 652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH
PB12C	EXISTING	1
TOTAL		1

TRANSPORT AND INSTALL STATE FURNISHED EVP DETECTOR HEADS

** LOCATION	SPV.0105.304 TRANSPORT AND INSTALL STATE FURNISHED EVP DETECTOR HEADS L.S.
IH 41 RAMPS & 60TH 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 1500

IH 41/43/894 & S. 60th ST SIGNALS

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CONTRACTOR FURNISHED TRAFFIC SIGNAL EQUIPMENT

SIG. BASE NO.	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0310 POLES TYPE 3 EACH	657.0322 POLES TYPE 5-ALUMINUM EACH	657.0405 TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-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	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	659.1125 LUMINAIRES UTILITY LED-C EACH
SB1	1					1						
SB2	1				1						1	
SB4	1				1						1	
SB6	1						1				1	
SB7	1					1						
SB8		1	1						2			2
SB10	1					1						
SB11	1							1			1	
SB20	1						1				1	
SB21	1					1						
SB22		1	1						2			2
SB23											1	
SB24		1	1						1			1
SB25	1							1			1	
SB26	1					1						
SB28	1				1						1	
SB29												1
SB50				1						1		1
SB51				1						1		1
SB52				1						1		1
SB53				1						1		1
TOTAL	12	3	3	4	3	5	2	2	5	4	8	10

STATE FURNISHED TRAFFIC SIGNAL EQUIPMENT

SIG. BASE NO.	SPV.0060.300 INSTALL POLES TYPE 9 EACH	SPV.0060.301 INSTALL POLES SPECIAL TYPE 9 EACH	SPV.0060.302 INSTALL POLES TYPE 10 EACH	SPV.0060.303 INSTALL MONOTUBE ARMS 25-FT EACH	SPV.0060.304 INSTALL MONOTUBE ARMS 30-FT EACH	SPV.0060.305 INSTALL MONOTUBE ARMS SPECIAL 35-FT EACH	SPV.0060.306 INSTALL MONOTUBE ARMS SPECIAL 45-FT EACH	SPV.0060.307 INSTALL LUMINAIRE ARMS STEEL 15-FT EACH
SB3		1				1		
SB5	1				1			
SB9	1				1			
SB23		1					1	
SB27		1				1		
SB29			1	1				1
TOTAL	2	3	1	1	2	2	1	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 1500

IH 41/43/894 & S. 60th ST SIGNALS

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CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING HE LINE
PROPERTY LINE (P.L.)
LOT, TIE, AND OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC) (W (TYPE))
FEE ACQUISITION AREA (HATCHING VARIES BY OWNER)
TEMP. LIMITED EASEMENT AREA
EASEMENT AREA (HIGHWAY, PERMANENT LIMITED, OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING
BUILDING (TO BE REMOVED)
BRIDGE

PARCEL NUMBER (25)
SECTION CORNER (18, 13, 24, 16, 15, 9)
NOTATION FOR COMBUSTABLE FLUIDS (CAUTION)
NOTATION FOR HIGH VOLTAGE TRANSMISSION LINES (CAUTION)

UTILITY NUMBER (40)
R/W MONUMENT
NON-MONUMENTED R/W POINT
FOUND IRON PIN (IP)
VALVE (GAS, WATER, ETC.) (TYPE)
SIGN (SIGN)
OFF-PREMISE SIGN (#1-25) (SIGN)

ACCESS CONTROLLED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)
NATIONAL GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
PARALLEL OFFSETS

CONVENTIONAL ABBREVIATIONS

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

CONVENTIONAL UTILITY SYMBOLS

WATER	W	
GAS	G	
TELEPHONE	T	
OVERHEAD TRANSMISSION LINES	OH	
ELECTRIC	E	
CABLE TELEVISION	TV	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
ELECTRIC TOWER		
	NON-COMPENSABLE	COMPENSABLE
POWER POLE	•	■
TELEPHONE POLE	•	■
TELEPHONE PEDESTAL	•	■

CURVE DATA ABBREVIATIONS

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

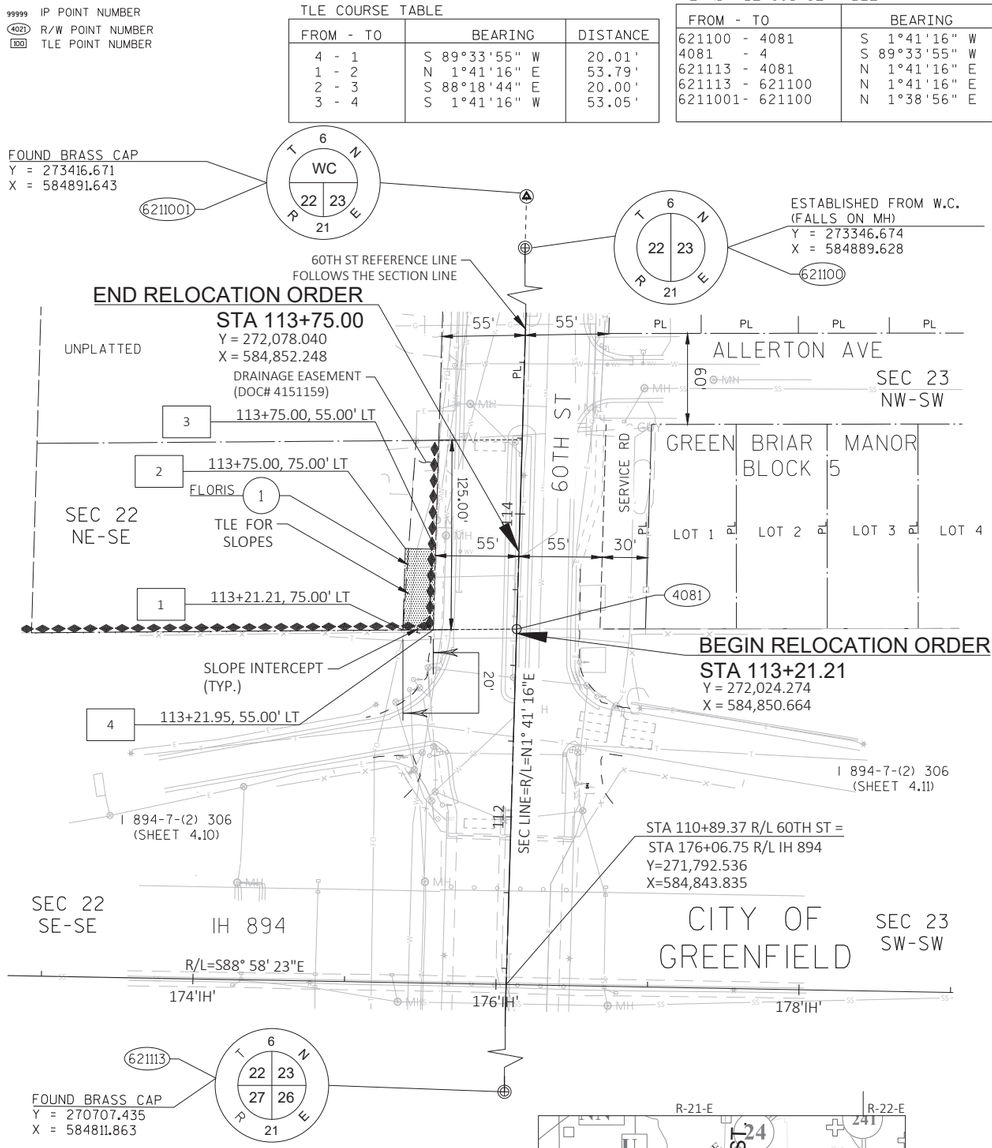
99999 IP POINT NUMBER
(4021) R/W POINT NUMBER
100 TLE POINT NUMBER

TLE COURSE TABLE

FROM - TO	BEARING	DISTANCE
4 - 1	S 89°33'55" W	20.01'
1 - 2	N 1°41'16" E	53.79'
2 - 3	S 88°18'44" E	20.00'
3 - 4	S 1°41'16" W	53.05'

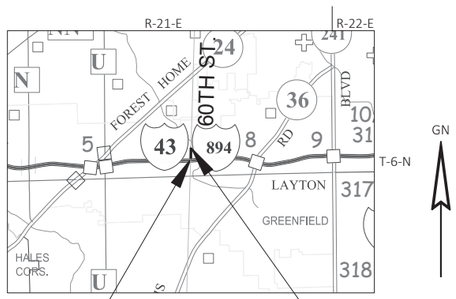
LAND TIE COURSE TABLE

FROM - TO	BEARING	DISTANCE
621100 - 4081	S 1°41'16" W	1320.19'
4081 - 4	S 89°33'55" W	55.04'
621113 - 4081	N 1°41'16" E	1320.19'
621113 - 621100	N 1°41'16" E	2640.38'
6211001- 621100	N 1°38'56" E	70.03'



HISTORICAL BASE TABLE

STREET	WIDTH	SOURCE	YEAR
60TH	55'	ROAD RESERVATION DEDICATION DOCUMENT 4100218	1964
SERVICE ROAD	30'	GREEN BRIAR MANOR	1956
60TH	55'	GREEN BRIAR MANOR	1956



LOCATION MAP

BEGIN RELOCATION ORDER
STA. 113+21.21
1316.84 FEET NORTH AND 38.80 FEET EAST OF THE SE CORNER OF SECTION 22, T6N, R21E

END RELOCATION ORDER
STA. 113+75.00
1370.61 FEET NORTH AND 40.38 FEET EAST OF THE SE CORNER OF SECTION 22, T6N, R21E

SCALE 0 2.0 MI

TOTAL NET LENGTH OF CENTERLINE = 0.010 MI

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

PARCEL NUMBER	OWNER	INTEREST REQUIRED	AREAS SF REQUIRED NEW	EXISTING	TOTAL	TLE SF	PLE SF
1	LOIS O. FLORIS AND ANNA J. FLORIS	TLE	-----	-----	-----	1068	-----

R/W PROJECT NUMBER 1100-46-20	SHEET NUMBER 01 / TOTAL SHEETS
CONSTRUCTION PROJECT NUMBER 1100-46-70	

PLAT OF RIGHT OF WAY REQUIRED FOR

AIRPORT FREEWAY
60TH STREET BRIDGE

IH 894 | MILWAUKEE COUNTY

CAUTION:
THIS PLAT IS FOR ILLUSTRATIVE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES.

NOTES:

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, MILWAUKEE COUNTY, NAD83 (2007), IN US SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICALLY ¾" X 24" REBAR) AND ARE 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.

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

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

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

A TEMPORARY LIMITED EASEMENT(TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENT ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MILWAUKEE.

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EAST LINE OF SE 1/4 - SECTION 22, T6N, R21E, I894-7(2)306.

EXISTING SECTION CORNER AND PROPERTY CORNER INFORMATION PROVIDED BY WISDOT SOUTHEAST REGION.

ORIGINAL PLAT OF RIGHT OF WAY PREPARED BY
AECOM

WISCONSIN
DONALD J. BUZA
S-2338
CUSTER, WI
LAND SURVEYOR

DATE: 5/20/2020 Donald J Buza (RLS SIGNATURE)

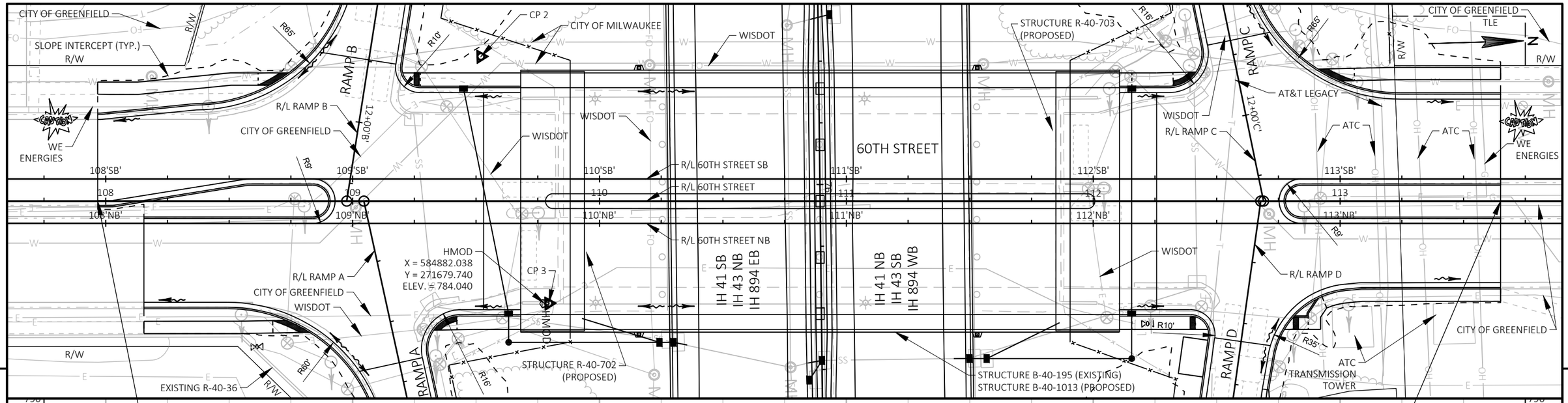
REVISION DATE

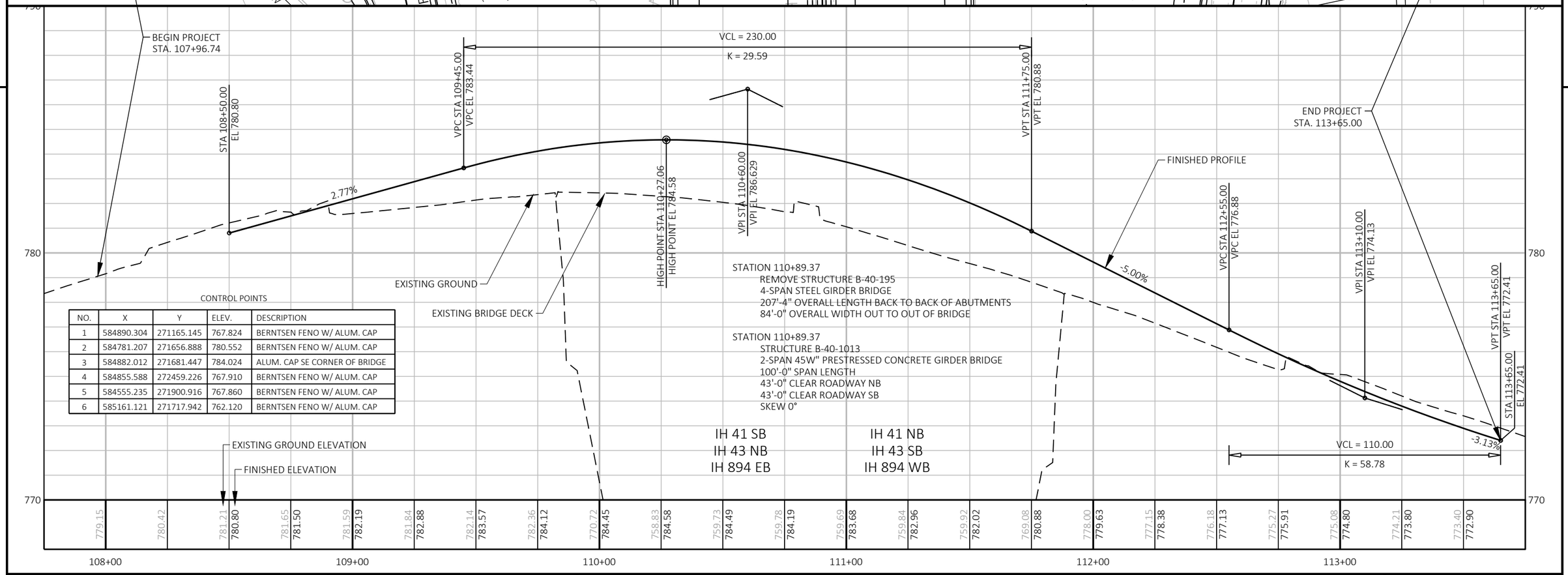
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED FOR THE DEPARTMENT

DATE: _____ _____ (Signature)

FILE NAME : C:\USERS\ARBUCKLEA\DESKTOP\60TH ST AND I894\CADD\040101_RP.DWG
PLOT DATE : 5/20/2020 11:14 AM PLOT BY : ARBUCKLE, ADRIAN PLOT NAME :



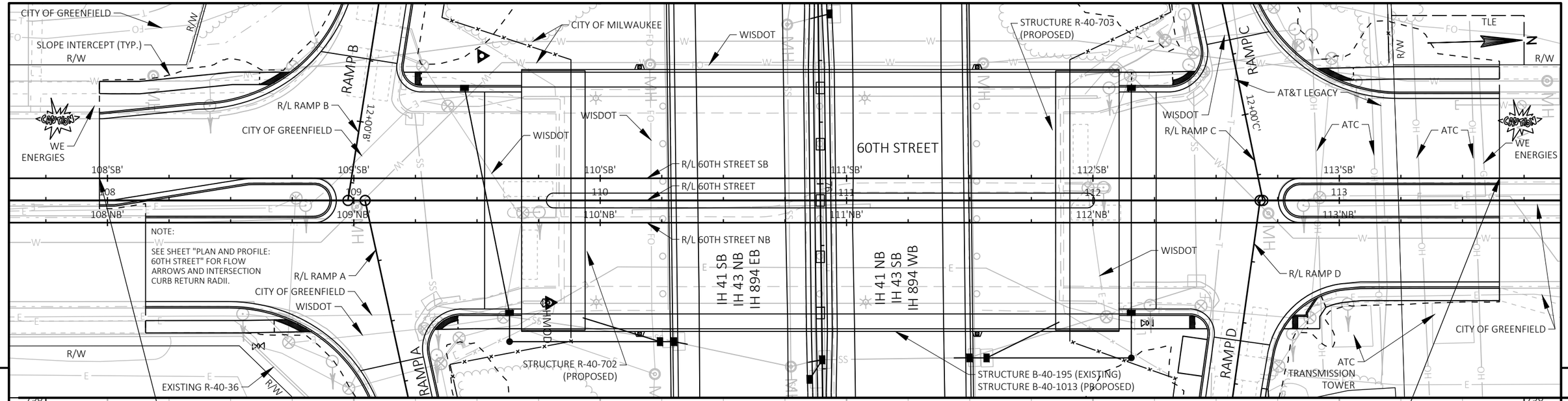


CONTROL POINTS

NO.	X	Y	ELEV.	DESCRIPTION
1	584890.304	271165.145	767.824	BERNTSEN FENO W/ ALUM. CAP
2	584781.207	271656.888	780.552	BERNTSEN FENO W/ ALUM. CAP
3	584882.012	271681.447	784.024	ALUM. CAP SE CORNER OF BRIDGE
4	584855.588	272459.226	767.910	BERNTSEN FENO W/ ALUM. CAP
5	584555.235	271900.916	767.860	BERNTSEN FENO W/ ALUM. CAP
6	585161.121	271717.942	762.120	BERNTSEN FENO W/ ALUM. CAP

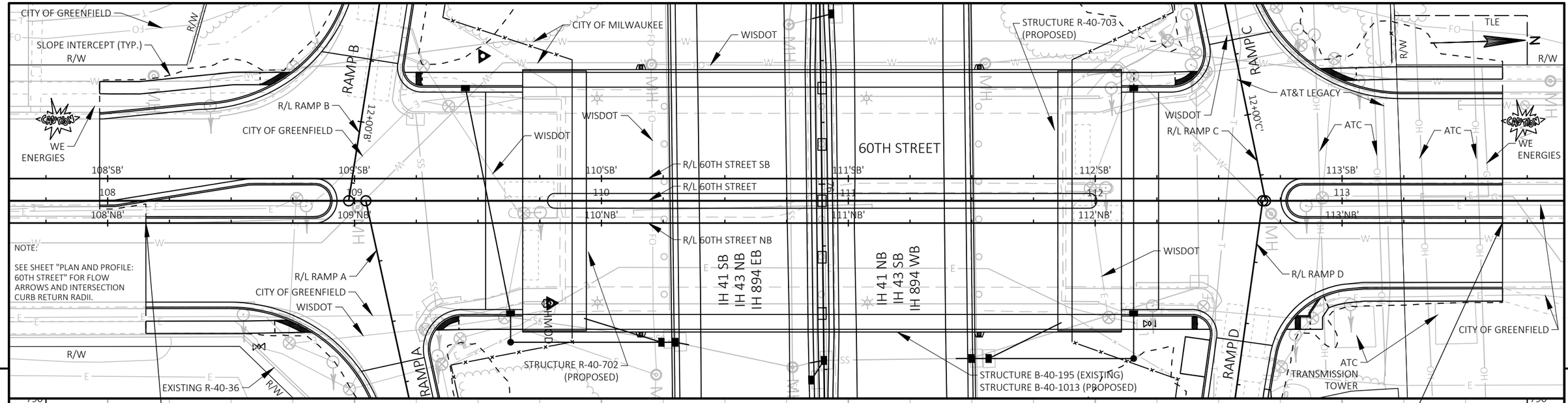
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN AND PROFILE: 60TH STREET	SHEET 155	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\050101_PP.DWG
LAYOUT NAME - 050101_pp
PLOT DATE : 6/21/2021 12:48 PM
PLOT BY : MROZ, ZACHARY T.
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44



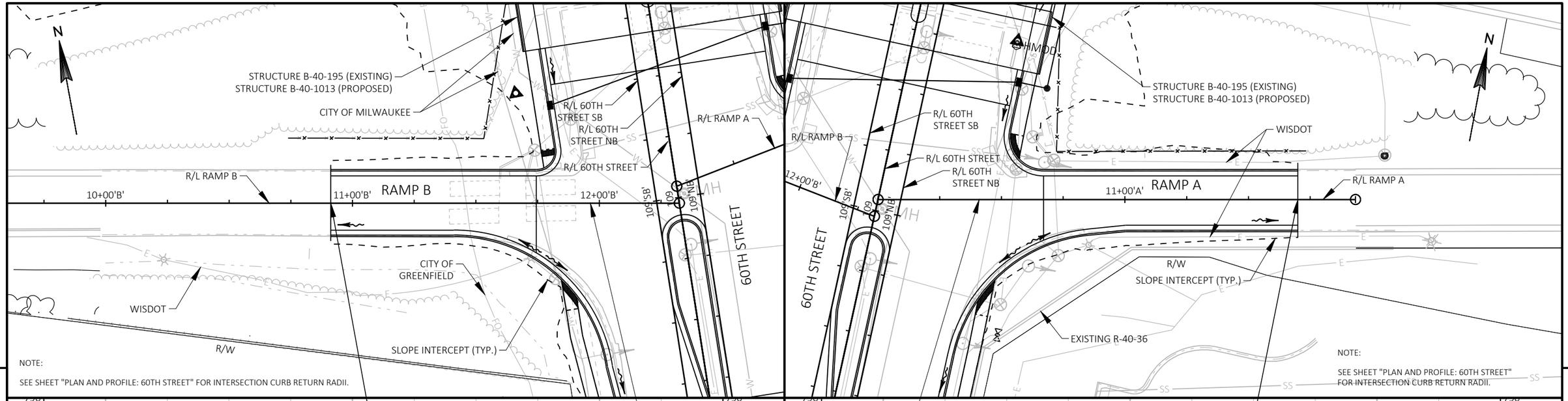
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN AND PLOT: 60TH STREET SOUTHBOUND - 9' LT OF 60TH STREET R/L	SHEET 156	E

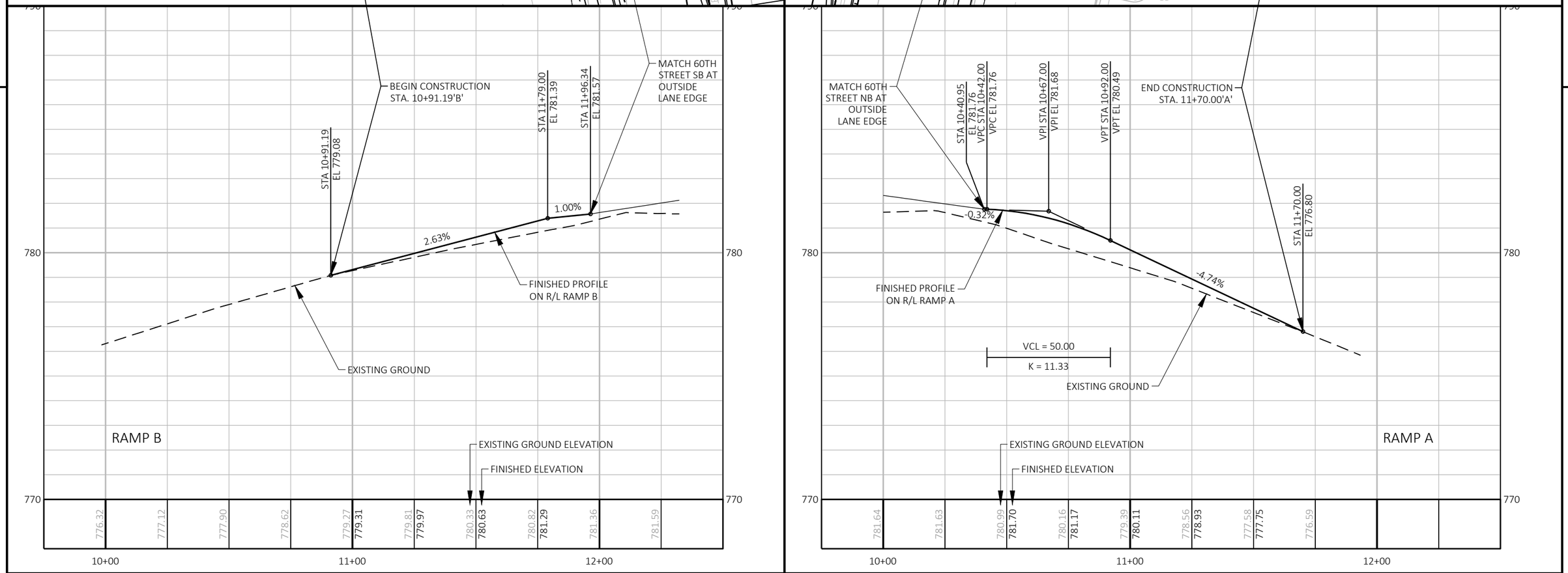
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LAYOUT NAME - 050103_pp
PLOT DATE : 6/21/2021 12:51 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:40 FT



PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN AND PROFILE: 60TH STREET NORTHBOUND - 9' RT OF 60TH STREET R/L	SHEET 157 E

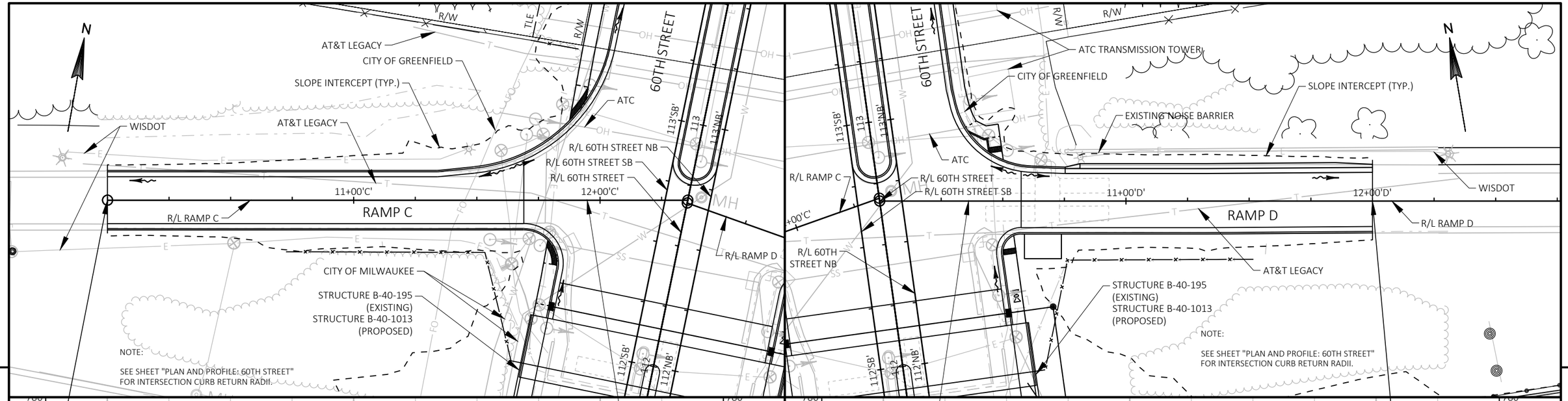
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LAYOUT NAME - 050102_pp
PLOT DATE : 6/21/2021 12:49 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:40 FT

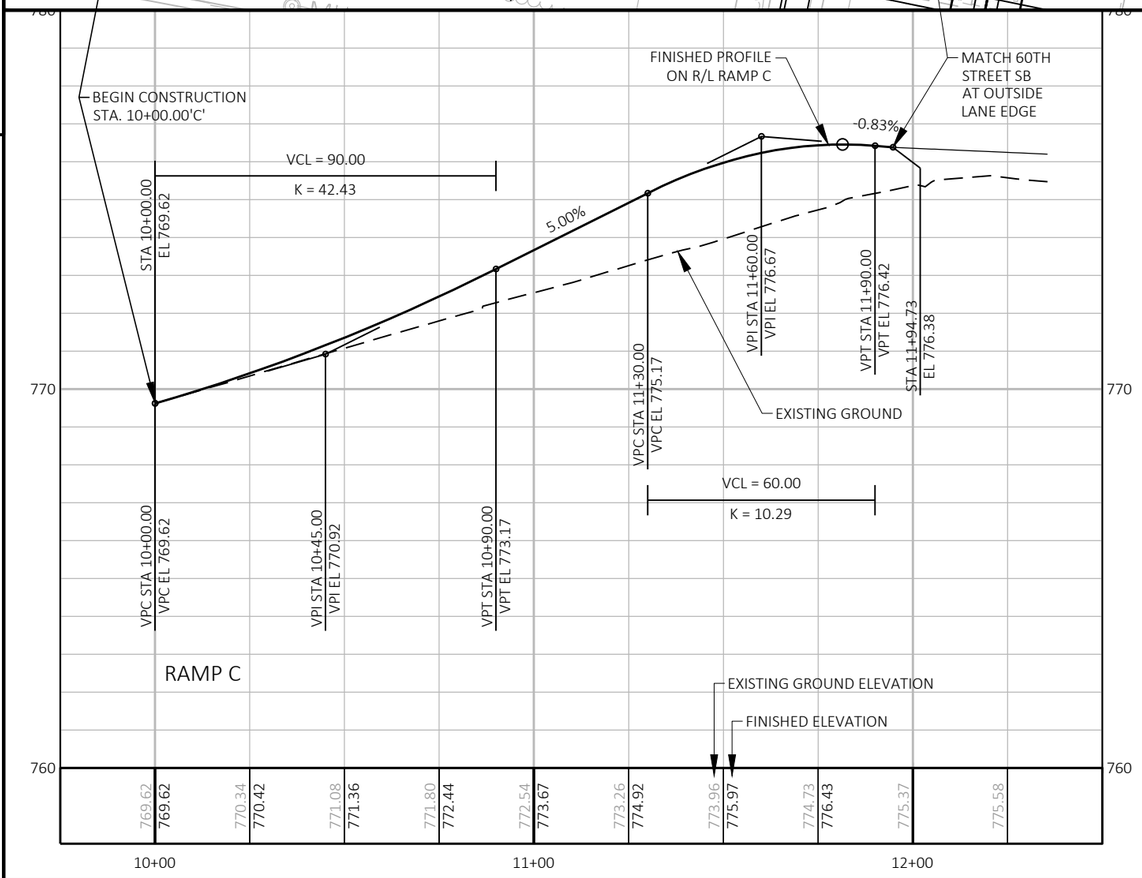


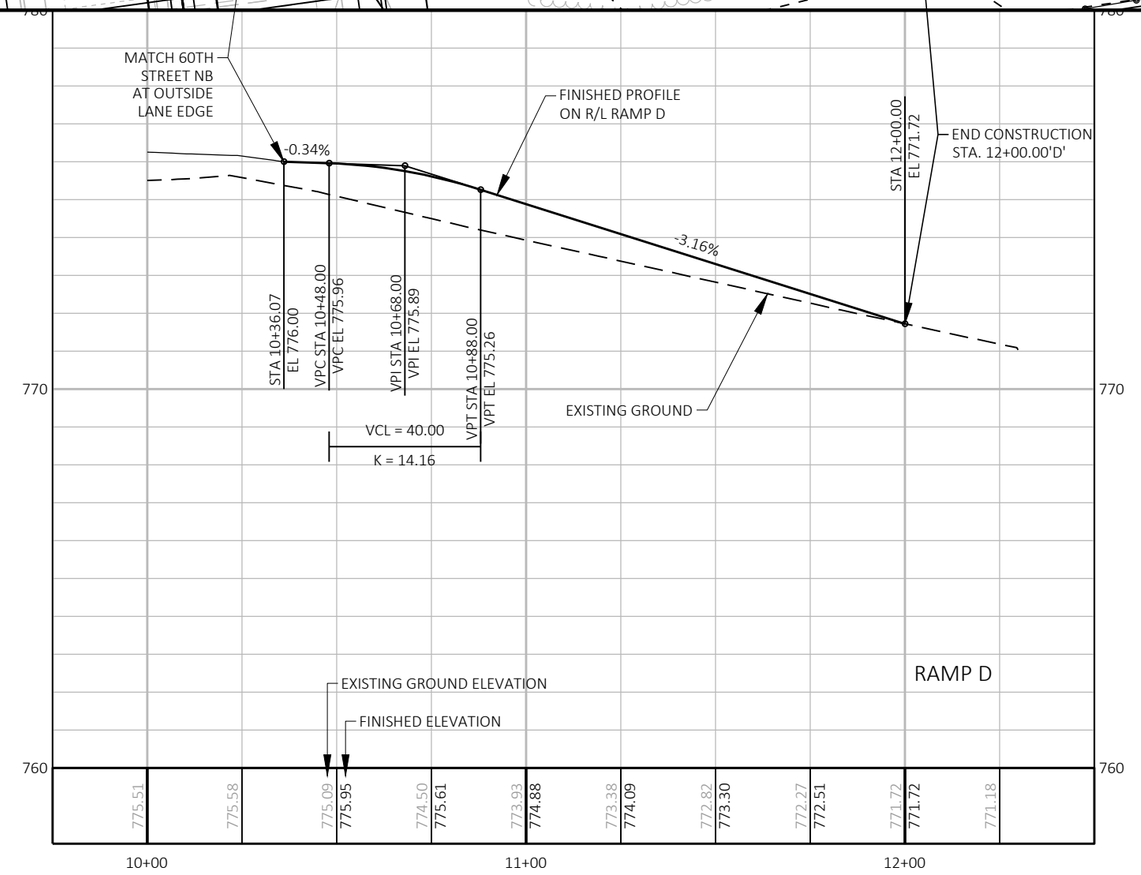


PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN AND PROFILE: RAMP A AND RAMP B	SHEET 158	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\050101_PP.DWG
LAYOUT NAME - 050104_pp
PLOT DATE : 1/29/2021 6:23 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44







PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN AND PROFILE: RAMP C AND RAMP D	SHEET 159 E

N

RAMP C

IH 41 NB /IH 43 SB / IH 894 WB

167 168 169 170 171 172

R/L IH 41/43/894

IH 41 SB / IH 43 NB / IH 894 EB

SLOPE INTERCEPT (TYP.)

WETLAND

RAMP B

R/L RAMP B

9+00'B'

R/W

MATCHLINE STA. 173+00

5

5

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN: IH 41/43/894	SHEET 160	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\050101_PP.DWG
LAYOUT NAME - 050106_pp

PLOT DATE : 1/29/2021 6:28 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 44

MATCHLINE STA. 173+00

MATCHLINE STA. 179+00

5

5

N

WISDOT

12+00'C'

AT&T LEGACY

R/L RAMP C

RAMP C

11+00'C'

11+00'D'

RAMP D

12+00'D'

R/L RAMP D

WISDOT

STRUCTURE R-40-703
(PROPOSED)

PROPOSED
STRUCTURE
B-40-1013

112'SB'

112

112'NB'

MH

60TH STREET

CITY OF MILWAUKEE

IH 41 NB
IH 43 SB
IH 894 WB

R/L IH 41/43/894

173

174

175

176

177

178

111'SB'

111

111'NB'

IH 41 SB
IH43 NB
IH 894 EB

CITY OF GREENFIELD

WISDOT

WISDOT

110'SB'

110

110'NB'

SLOPE INTERCEPT (TYP.)

HMOD

STRUCTURE R-40-702
(PROPOSED)

WISDOT

R/L RAMP A

R/L RAMP B

10+00'B'

11+00'B'

RAMP B

12+00'B'

R/L 60TH STREET SB

R/L 60TH STREET

WISDOT 11+00'A'

RAMP A

CITY OF GREENFIELD

CITY OF GREENFIELD

R/L 60TH STREET NB

60'SB'

60'NB'

R/W

R/W

EXISTING R-40-36

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN: IH 41/43/894	SHEET 161	E

5

MATCHLINE STA. 179+00

N

R/L RAMP D

3+00'D'

RAMP D

SLOPE INTERCEPT (TYP.)

PC: 179+40.49

PT: 185+03.47

IH 41 NB /IH 43 SB / IH 894 WB

179

180

181

182

183

184

185

R/L IH 41/43/894

IH 41 SB / IH 43 NB / IH 894 EB

RAMP A

R/W

5

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	PLAN: IH 41/43/894	SHEET 162	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\050101_PP.DWG
LAYOUT NAME - 021308_pp

PLOT DATE : 1/29/2021 6:30 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 44

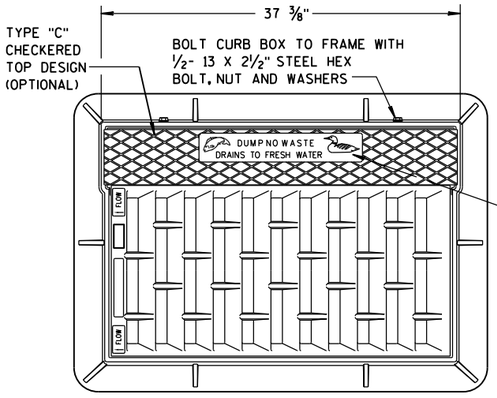
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-20A	CURB RAMPS TYPES 1 AND 1-A
08D05-20B	CURB RAMPS TYPES 2 AND 3
08D05-20C	CURB RAMPS TYPES 4A AND 4A1
08D05-20D	CURB RAMPS TYPE 4B AND 4B1
08D05-20E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-20F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-20G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D16-11	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-10	CONDUIT
09B04-11	PULL BOX
09C02-09	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C11-10	CONCRETE BASE TYPE 10
09C15-01	CONCRETE BASE TYPE 10 SPECIAL
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09E01-15C	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4
09E01-15D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-15G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E02-05	FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-06	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-09A	TYPE 9 POLE 15'-30' MONOTUBE ARM
09E08-09B	TYPE 9 SPECIAL POLE 35' MONOTUBE ARM
09E08-09D	TYPE 9 SPECIAL POLE 45' MONOTUBE ARM
09E08-09E	TYPE 10 POLE 15'-30' MONOTUBE ARM
09E08-09K	GENERAL NOTES,HARDWARE DETAILS FOR TYPE 9/10,9/10 SPECIAL,12 & 13 POLES W/MONOTUBE ARMS
09E12-01E	GENERAL NOTES AND HARDWARE DETAILS FOR OVER HEIGHT TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F15-04A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09F15-04B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
09H01-01	BASE ITS CONTROLLER CABINET
09H05-01	CABINET BREAKER DISCONNECT BOX INSTALLATION
09H06-02	SIGNAL ASSEMBLY ADVANCE FLASHER TYPE 1
09H09-02	COMMUNICATION VAULT TYPE 1
09H11-01	IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS
10A01-03	ELECTRICAL HANDHOLE WIRING
10A02-03	IDENTIFICATION PLAQUES LIGHT POLES
10A03-03	CIRCUIT IDENTIFICATION PLAQUES SIGN BRIDGES
10A15-04B	ELECTRICAL DETAILS UNDERDECK LIGHTING
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGITUDINAL JOINTS
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

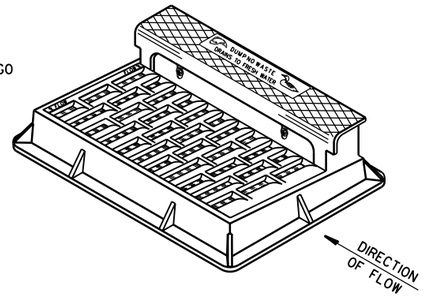
6

Standard Detail Drawing List

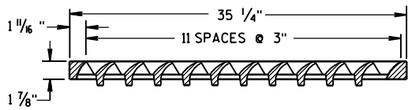
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B32-07A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-07B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-07C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-07D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-07E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B35-02A	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 32-INCH SSCB TRANSITION
14B35-02B	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 32-INCH SSCB TRANSITION
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-15A	PAVEMENT MARKING SYMBOLS
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C08-20C	PAVEMENT MARKING (TURN LANES)
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-05B	PAVEMENT MARKINGS, MEDIAN ISLAND NOSE
15C18-05C	PAVEMENT MARKINGS, DOUBLE ARROW WARNING SIGN PLACEMENT
15C31-03A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-03C	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D16-04	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-05A	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D41-01	TRAFFIC CONTROL, MULTIPLE LANE SHIFT, MULTILANE DIVIDED ROAD

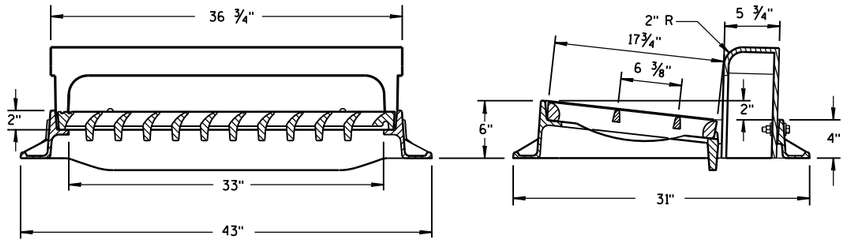


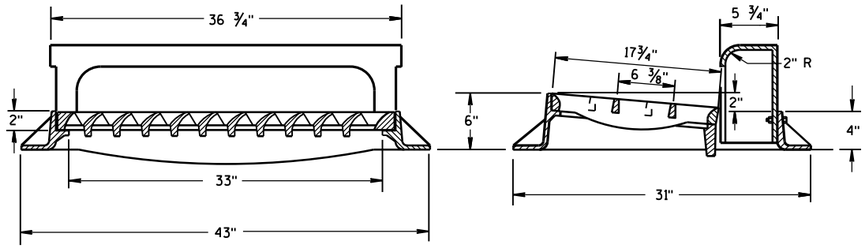
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

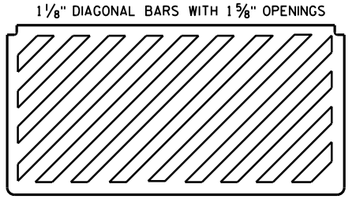






TYPE "H"

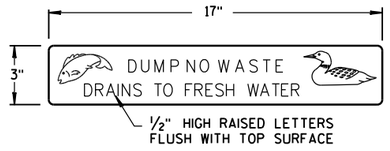
NOTE: EITHER CASTING IS ACCEPTABLE



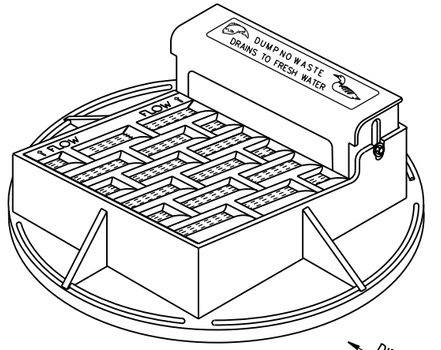
SPECIAL GRATE FOR TYPE "H" COVER

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

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

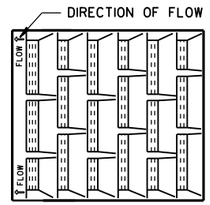
NOTE:
GRATE IS REVERSIBLE.

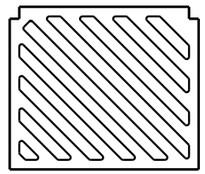
GENERAL NOTES

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

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

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

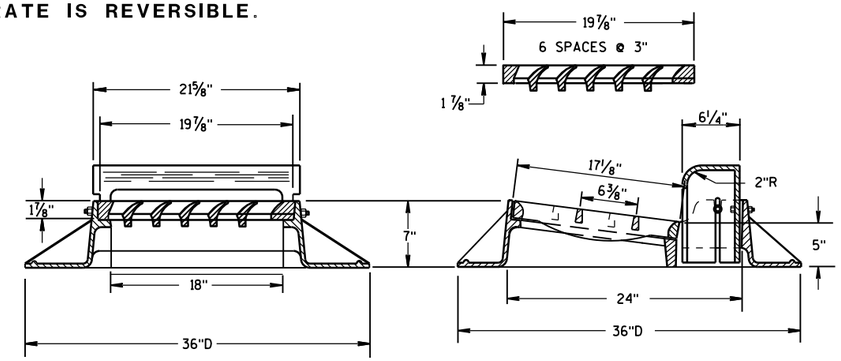




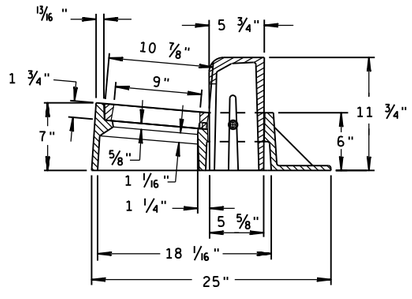
SPECIAL GRATE FOR TYPE "A" COVER

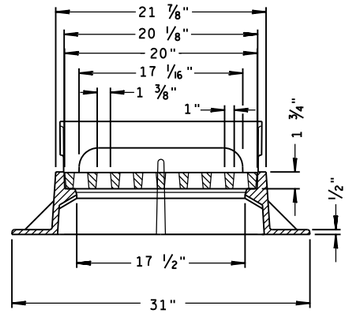
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)

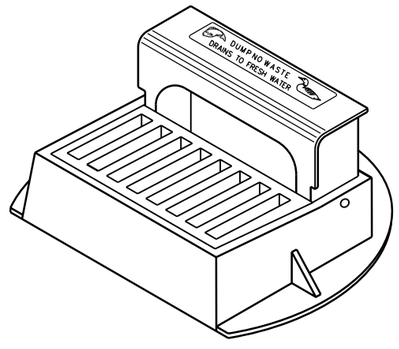


TYPE "A"





TYPE "Z"



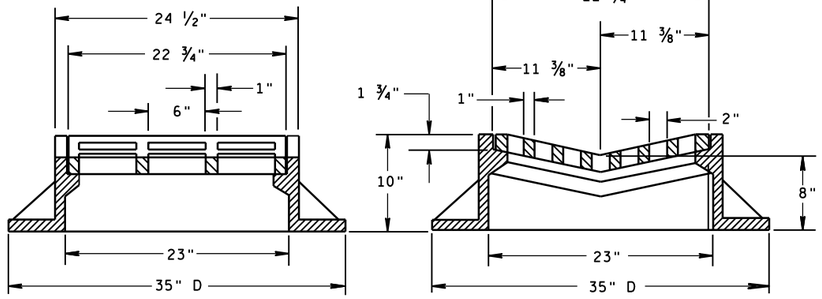
INLET COVERS
TYPE A, H, A-S, H-S & Z

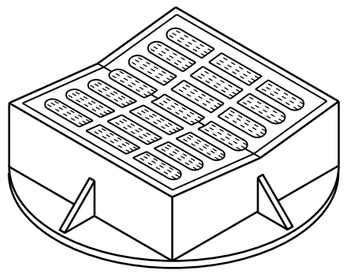
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

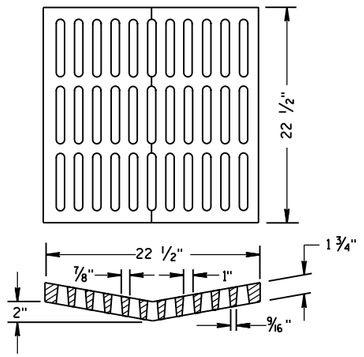
6

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



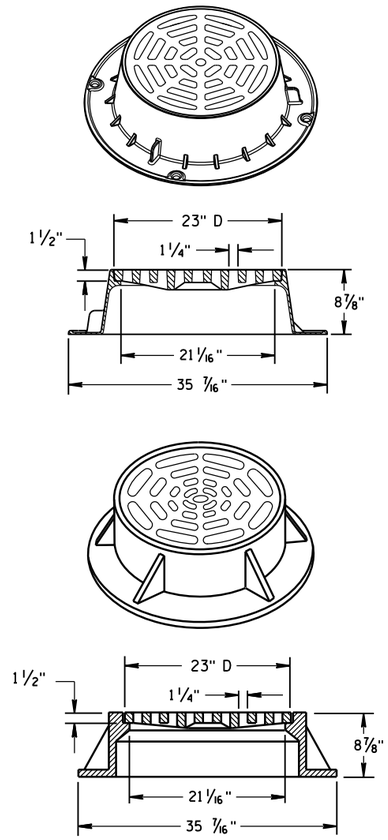


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

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



TYPE "C"

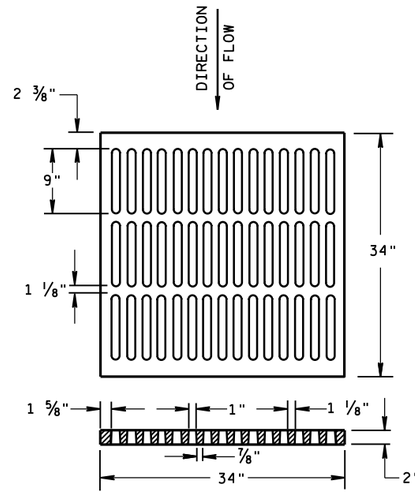
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

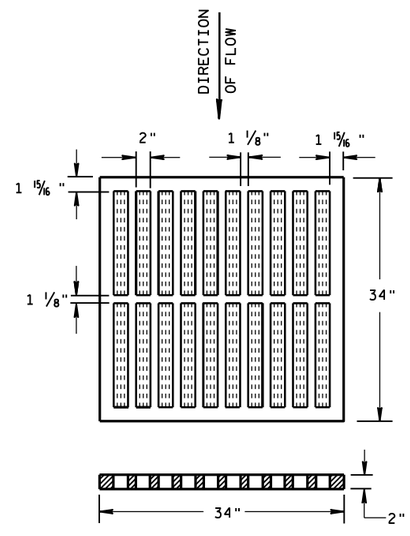
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



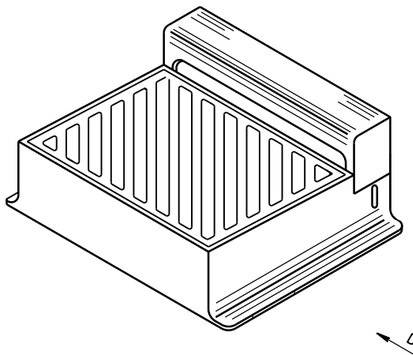
ALTERNATIVE TYPE "MS"

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

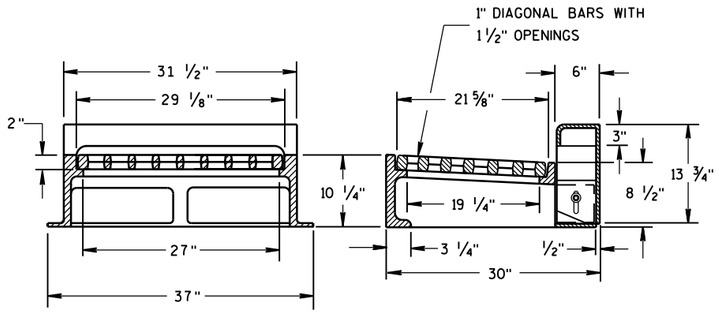


TYPE "MS"

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



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"

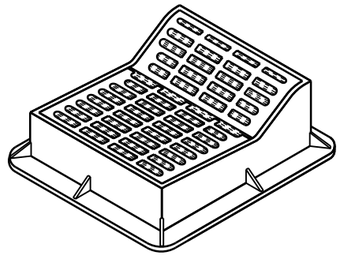
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

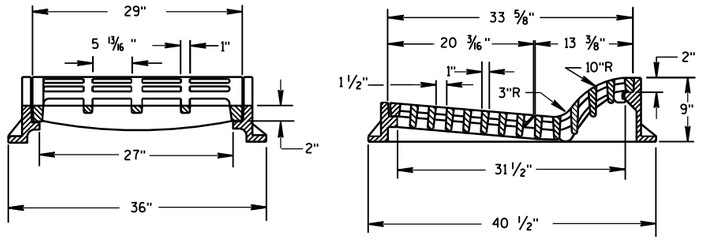
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

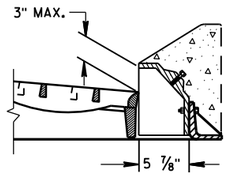
S.D.D. 8 A 5-19b





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

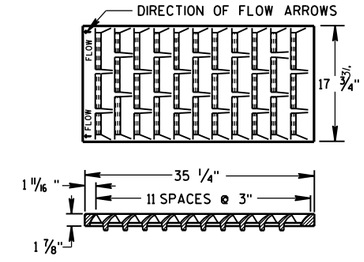
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

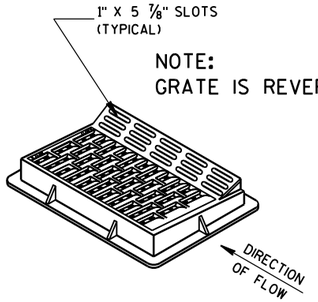
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

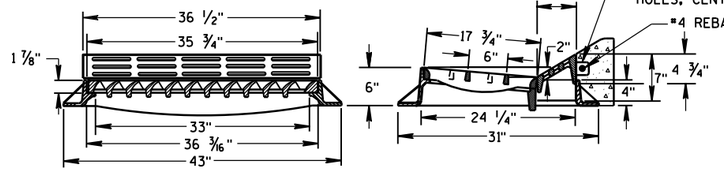
GENERAL NOTES

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.



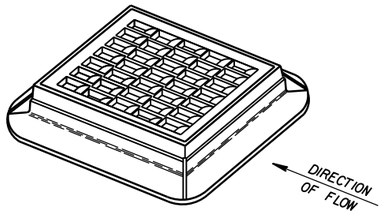


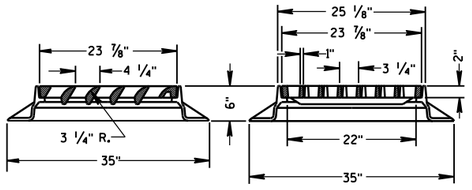


TYPE "HM"

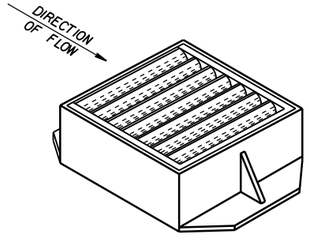
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

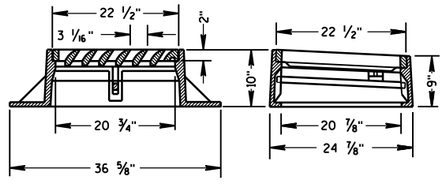
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



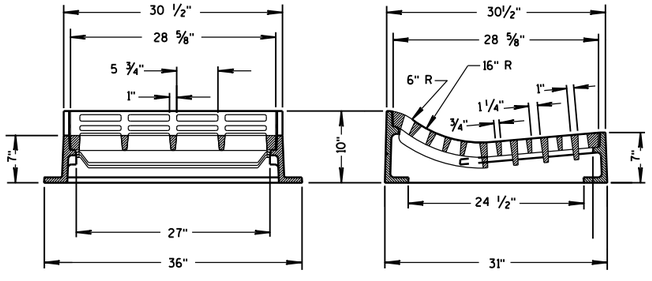


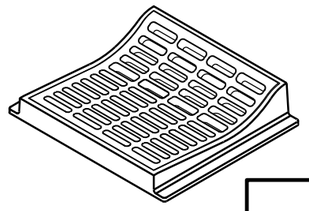
TYPE "S"





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

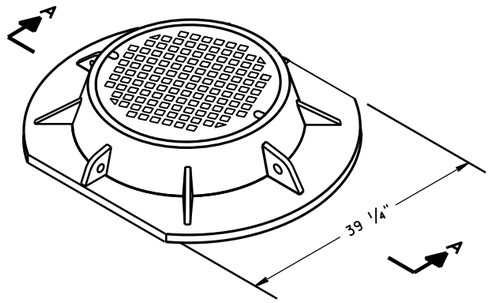
FHWA

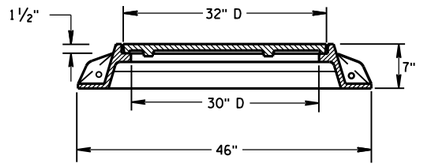
6

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

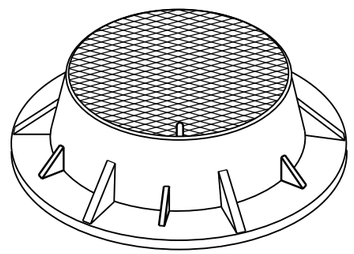
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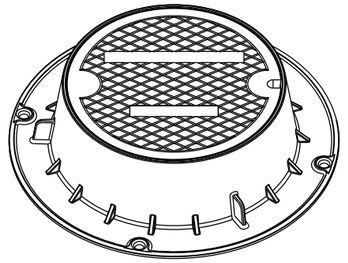
S.D.D. 8 A 5-19c

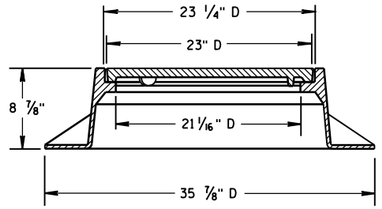


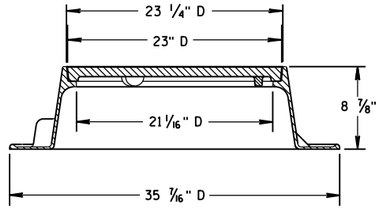


SECTION A-A
TYPE "K"









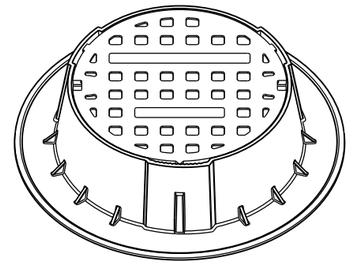
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

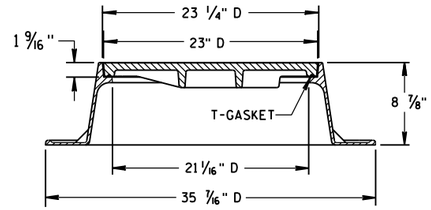
GENERAL NOTES

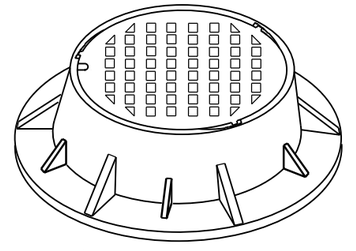
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

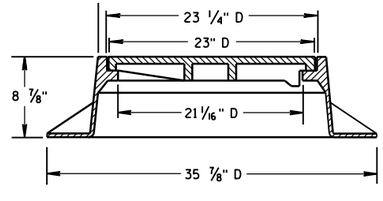
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

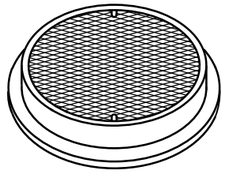


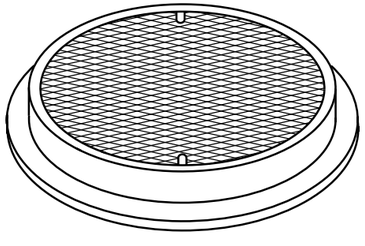


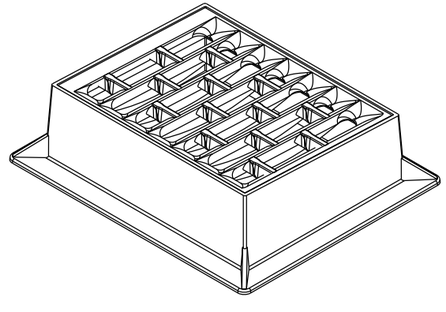


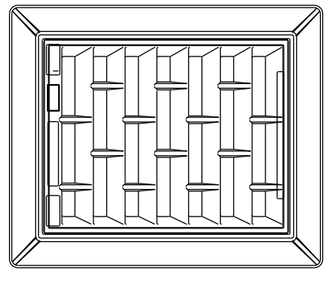


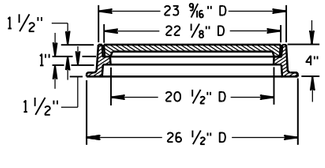
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



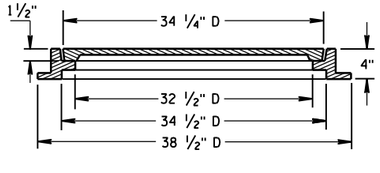




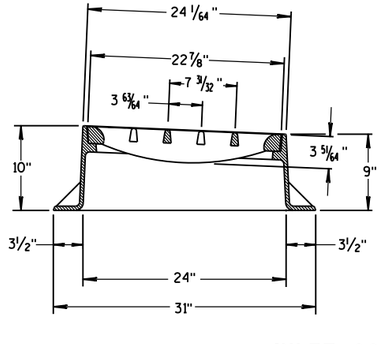


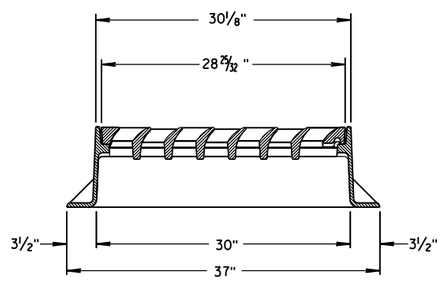


TYPE "L"



TYPE "M"





INLET COVER TYPE "BW"

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

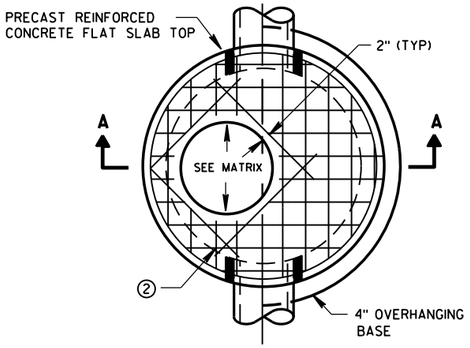
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

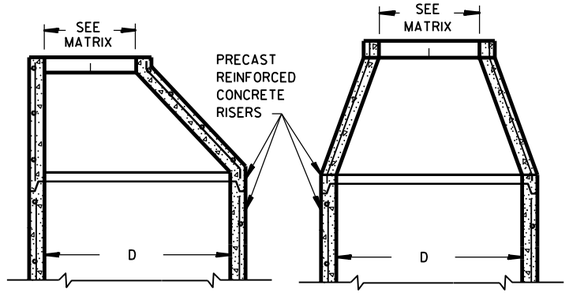
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

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

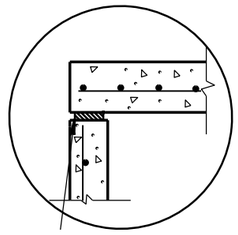


PLAN VIEW CIRCULAR OPENING

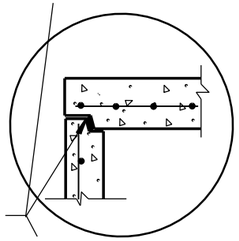


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

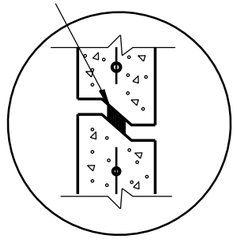


TOP WITH PLAIN END JOINT



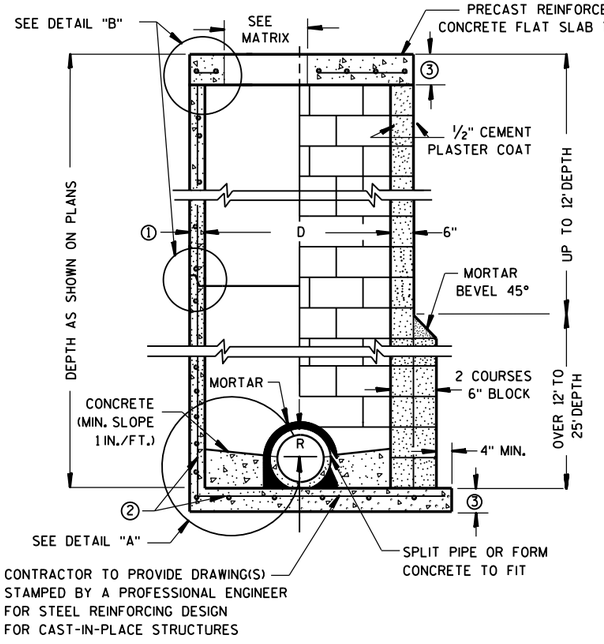
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



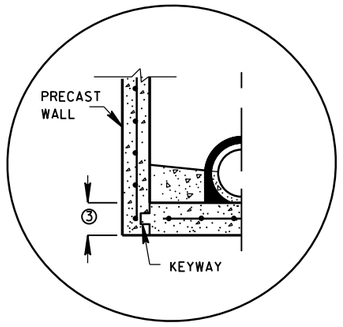
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

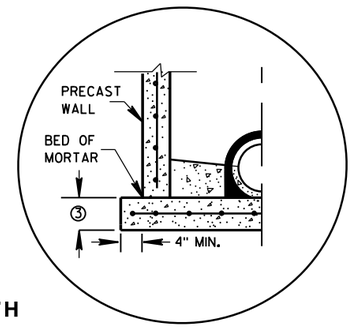


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

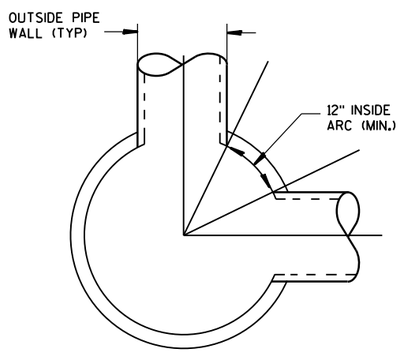


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



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 FOUNDATION 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.

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

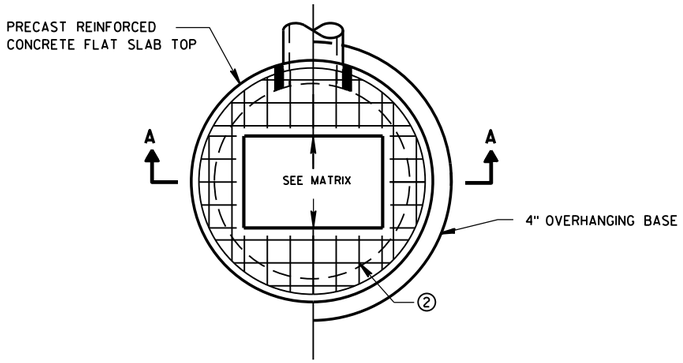
APPROVED

Sept., 2016
DATE

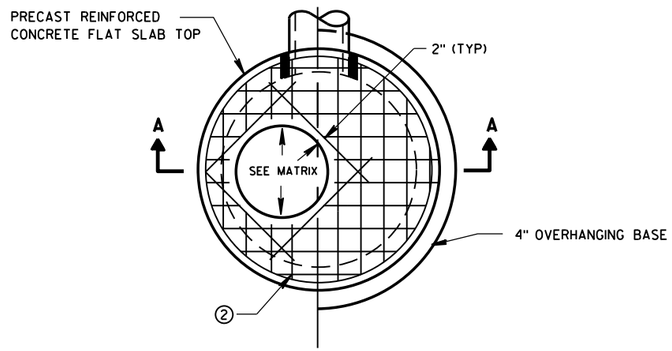
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERV

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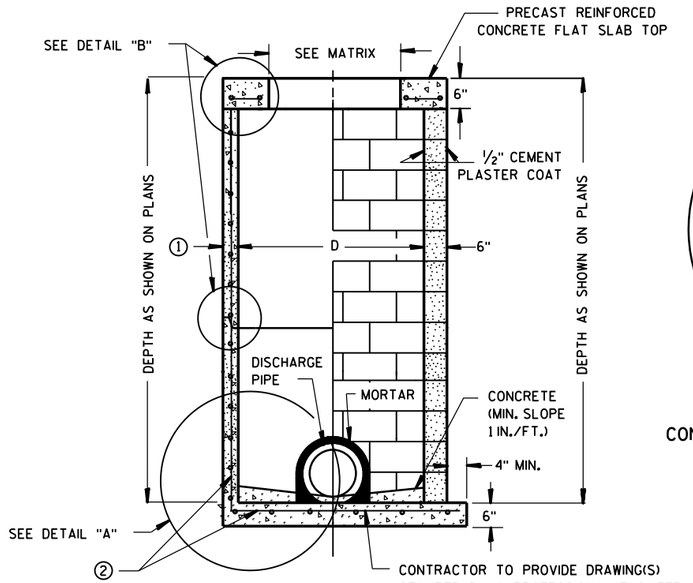
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S.D.D. 8 B 9-2



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

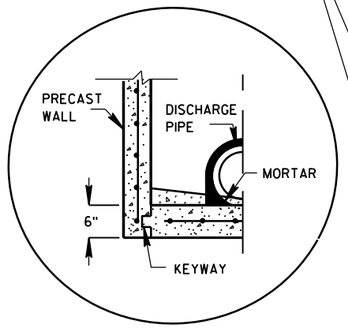


SECTION A-A

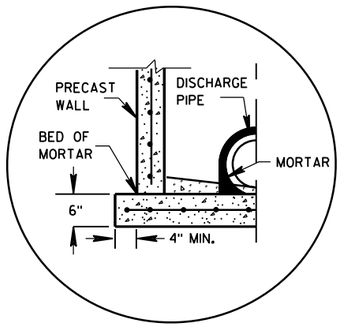
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP

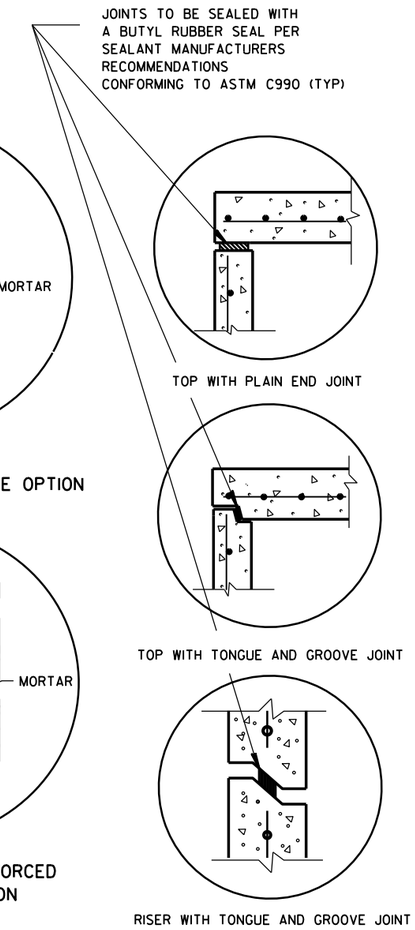


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



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.

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

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

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

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

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.

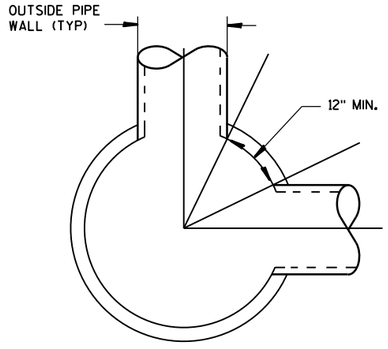
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

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

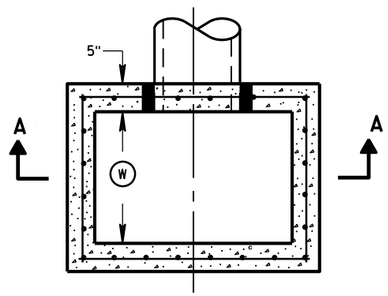
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

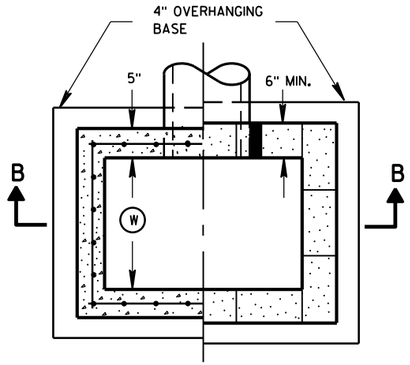
INLETS 3-FT AND 4-FT DIAMETER

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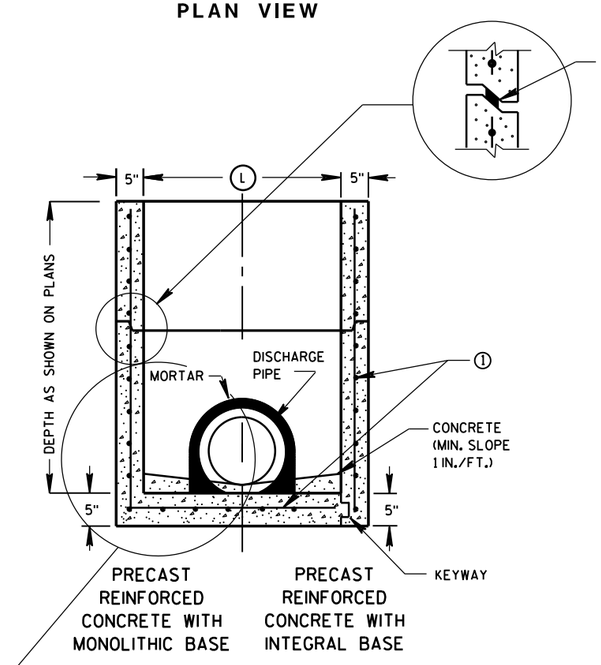
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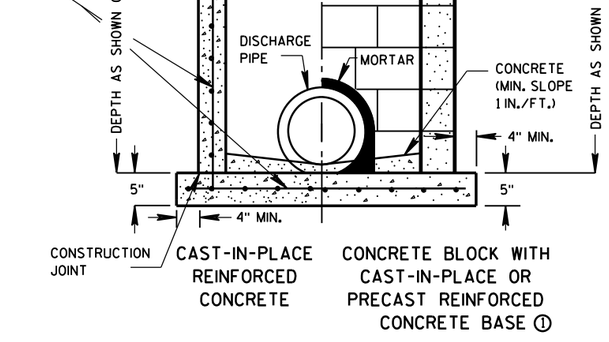
PLAN VIEW



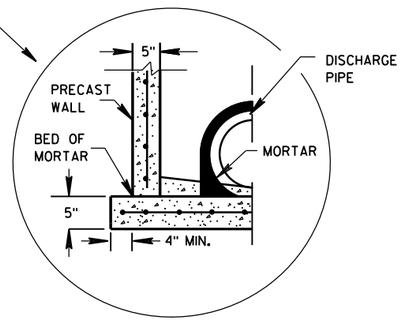
PLAN VIEW



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

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

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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.

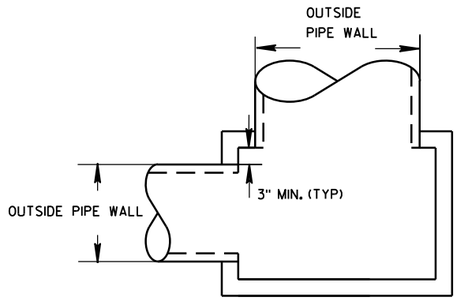
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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



DETAIL "A"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

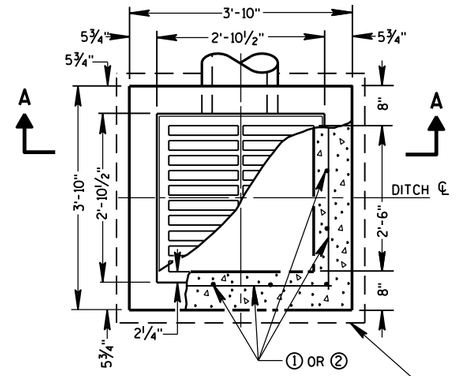
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

6

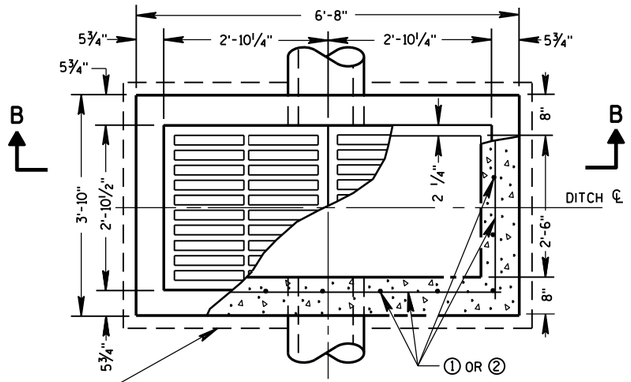
S.D.D. 8 C 7-2

6

S.D.D. 8 C 7-2

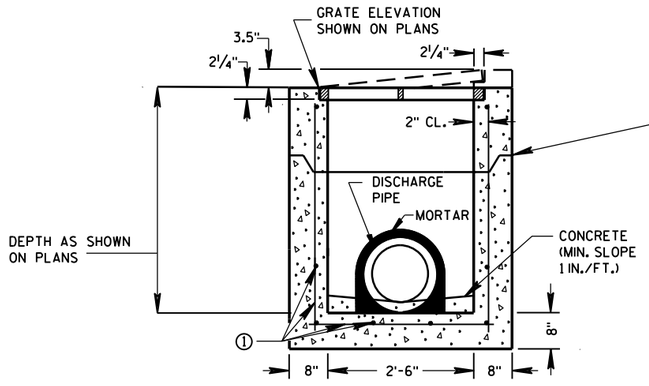


PLAN VIEW

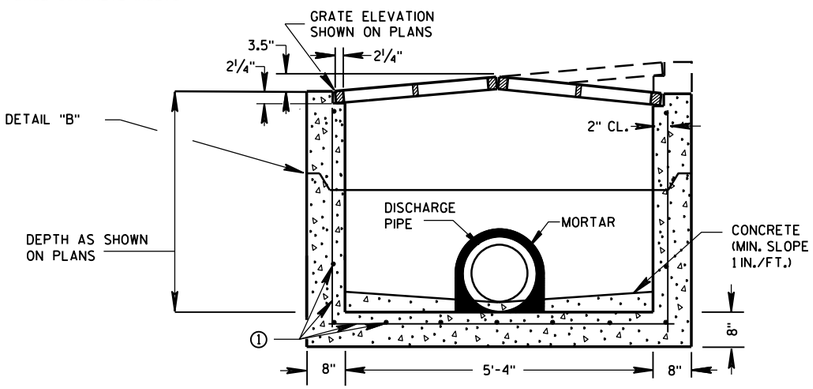


PLAN VIEW

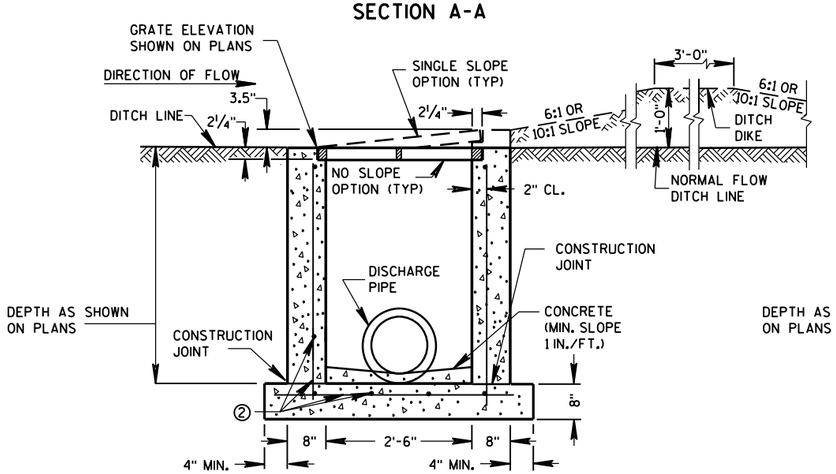
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



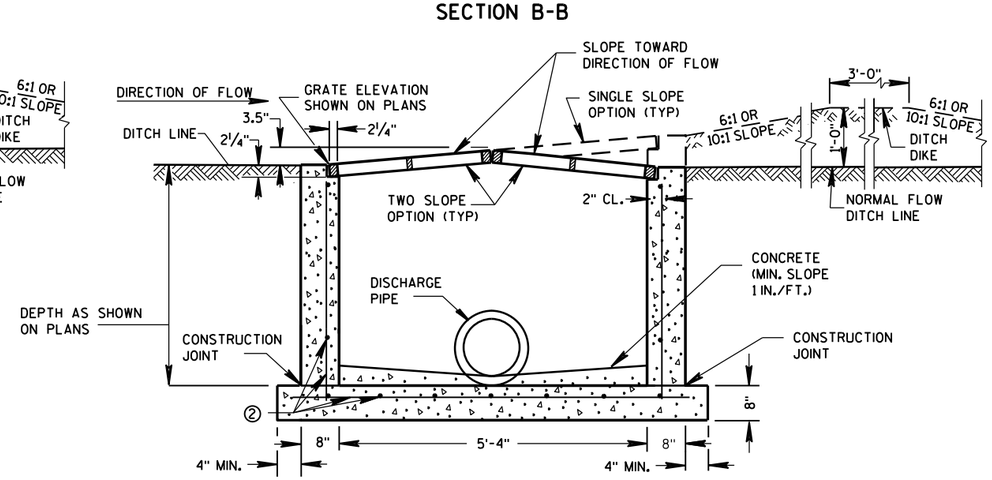
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

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

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

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

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

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

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

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

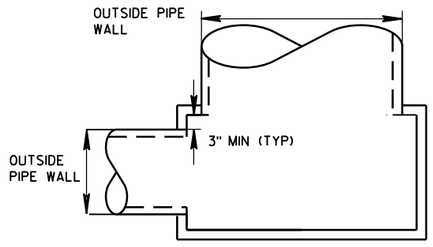
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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

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

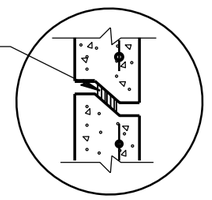
PIPE MATRIX

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



DETAIL "A"

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



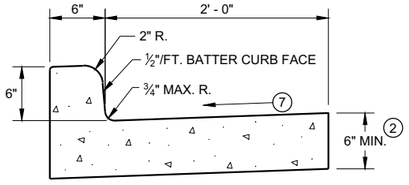
DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

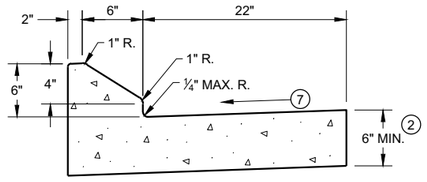
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

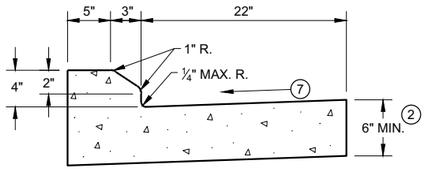
6
S.D.D. 8 C 8-2



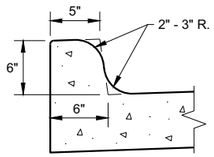
TYPES A[1] & D



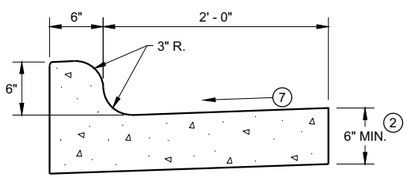
6" SLOPED CURB TYPES G[1] & J



4" SLOPED CURB TYPES G[1] & J

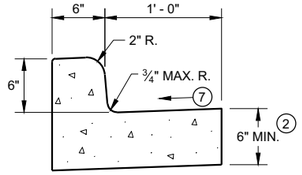


TYPES K[1] & L
(OPTIONAL CURB SHAPE)



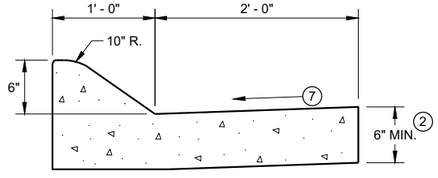
TYPES K[1] & L

CONCRETE CURB AND GUTTER 30"

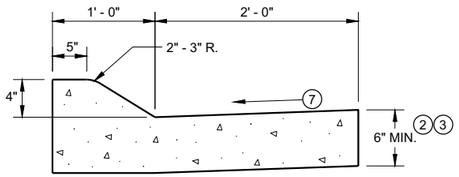


TYPES A[1] & D

CONCRETE CURB AND GUTTER 18"

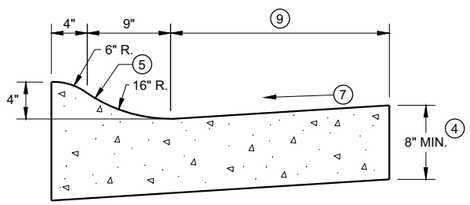


6" SLOPED CURB TYPES A[1] & D



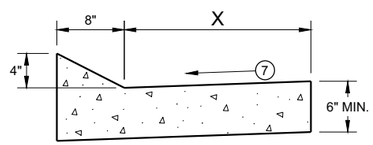
4" SLOPED CURB TYPES A[1] & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R[1] & T

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

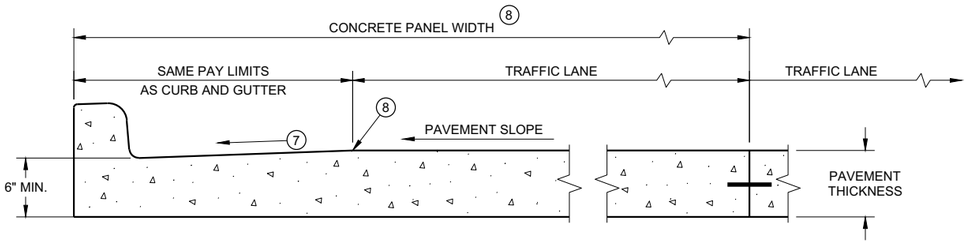


TYPES TBT & TBTT[1]

CONCRETE CURB AND GUTTER

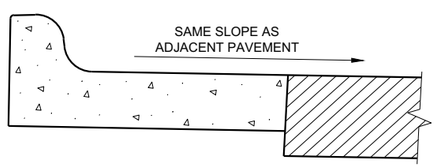
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

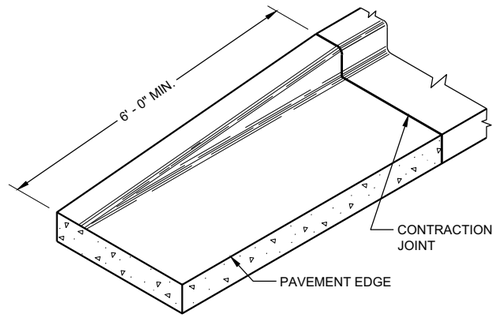
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

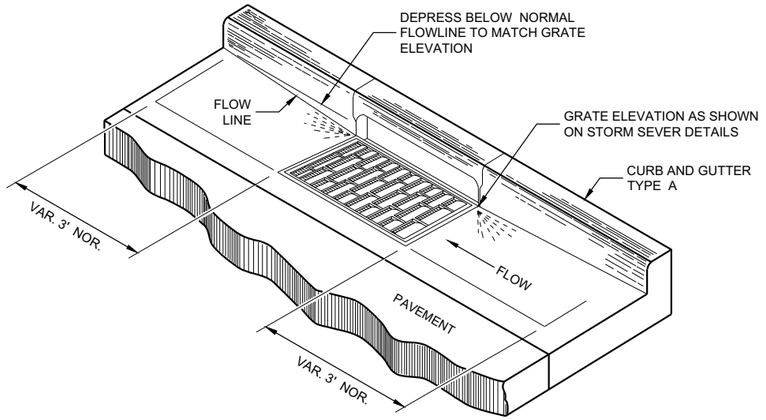
1. TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
3. USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH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

CONCRETE CURB AND GUTTER

6
SDD 08D01 - 22a



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

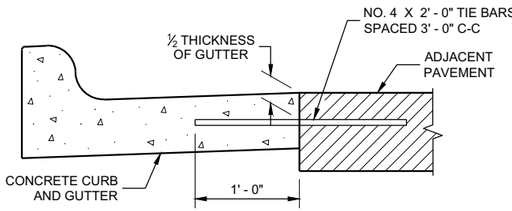
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

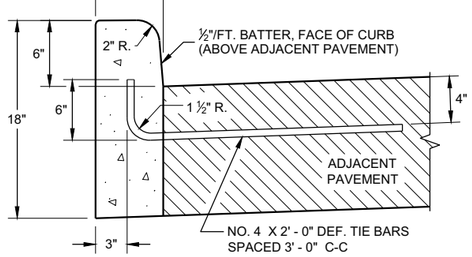
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

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

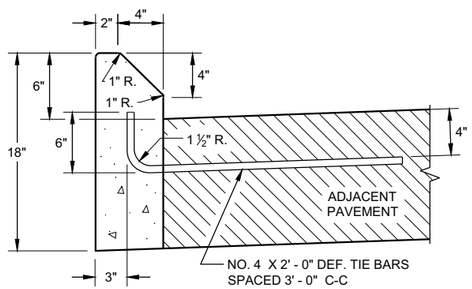
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

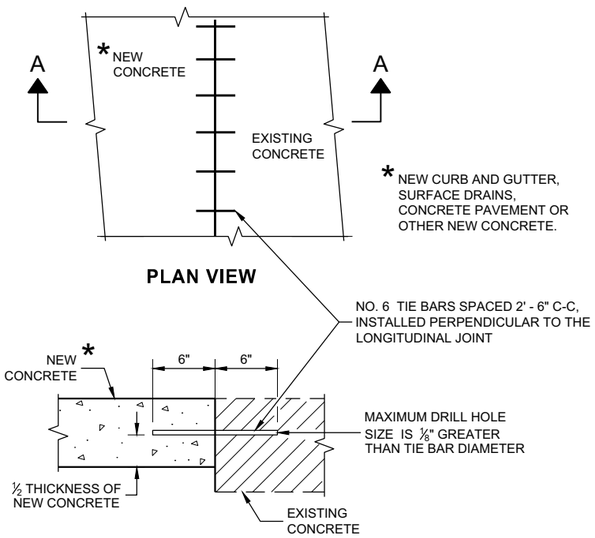


TYPES A (1) & D



TYPES G (1) & J

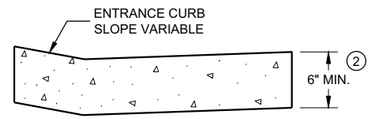
CONCRETE CURB



PLAN VIEW

SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

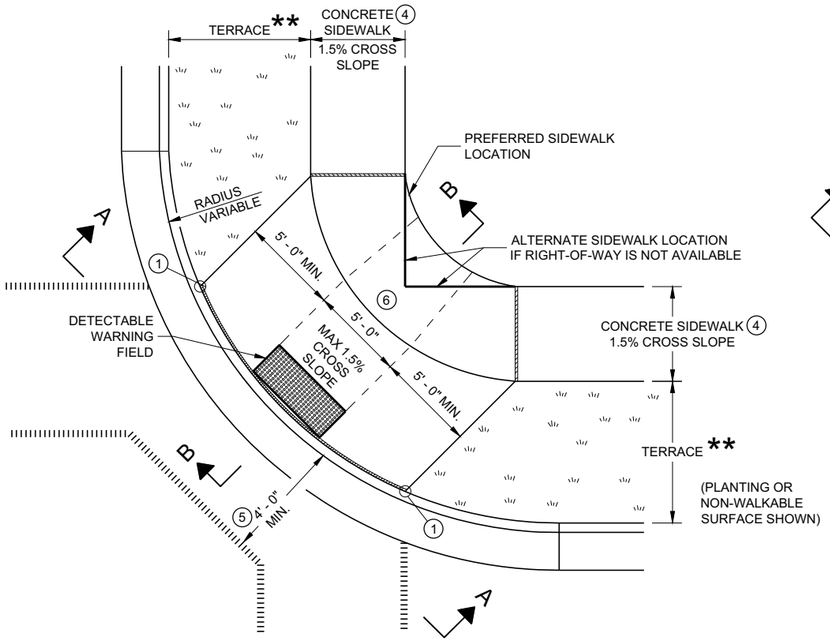
CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

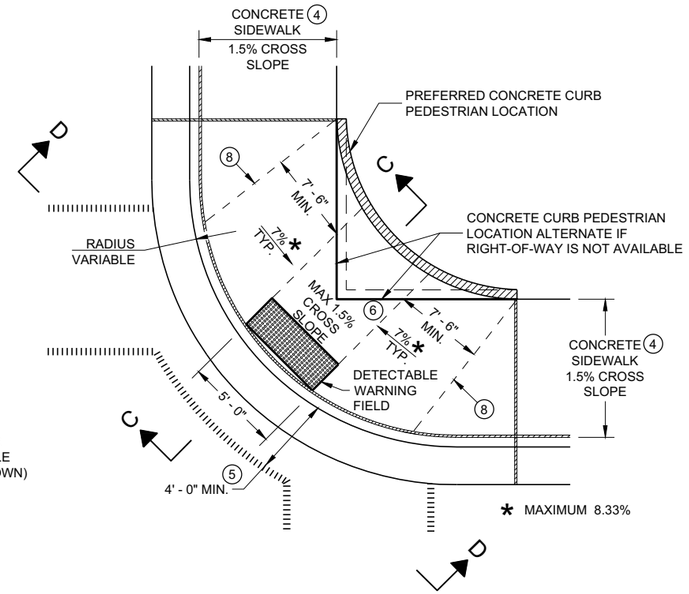
SDD08D01 - 22b



PLAN VIEW

CURB RAMP TYPE 1

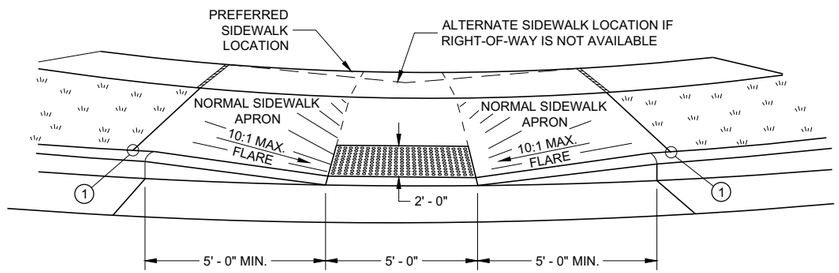
(CENTER OF CORNER RADIUS)



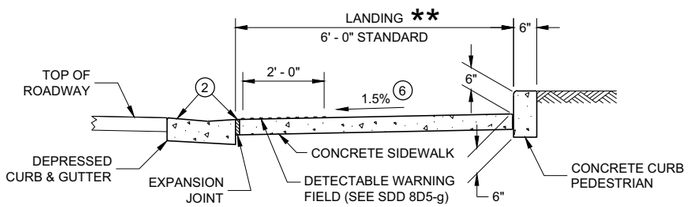
PLAN VIEW

CURB RAMP TYPE 1 - A

(NO TERRACE)

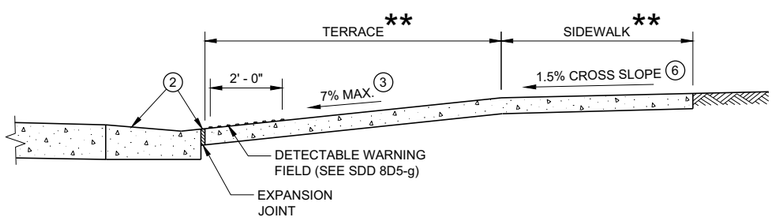


VIEW A - A FOR TYPE 1

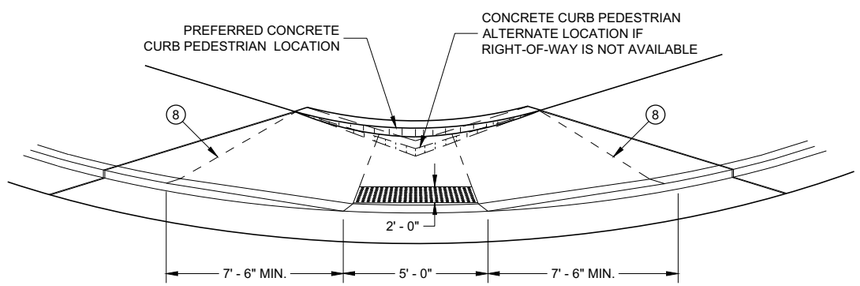


SECTION C - C FOR TYPE 1 - A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B - B FOR TYPE 1



VIEW D - D FOR TYPE 1 - A

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 CURB RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FILED 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 LINEAR 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. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPE 1 AND 1-A

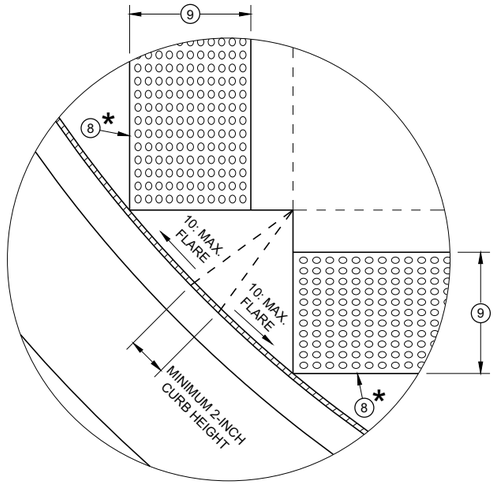
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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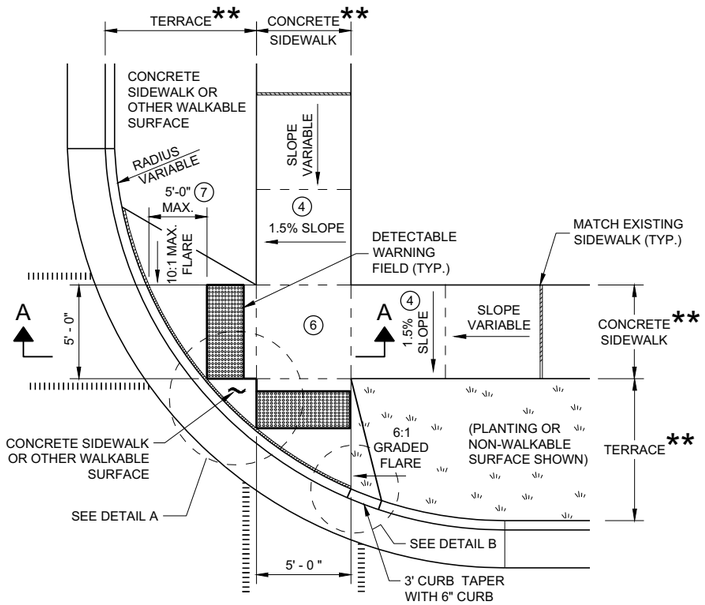
SDD 08D05 - 20a

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SDD 08D05 - 20a



DETAIL A



PLAN VIEW
CURB RAMP TYPE 2
(CENTER OF CORNER RADIUS)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.

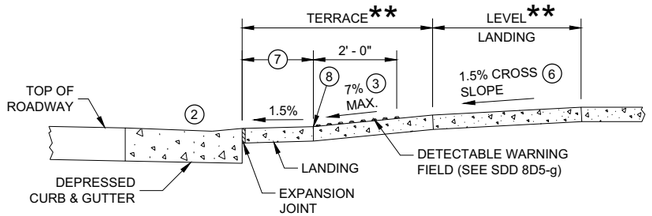
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.

(7) WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

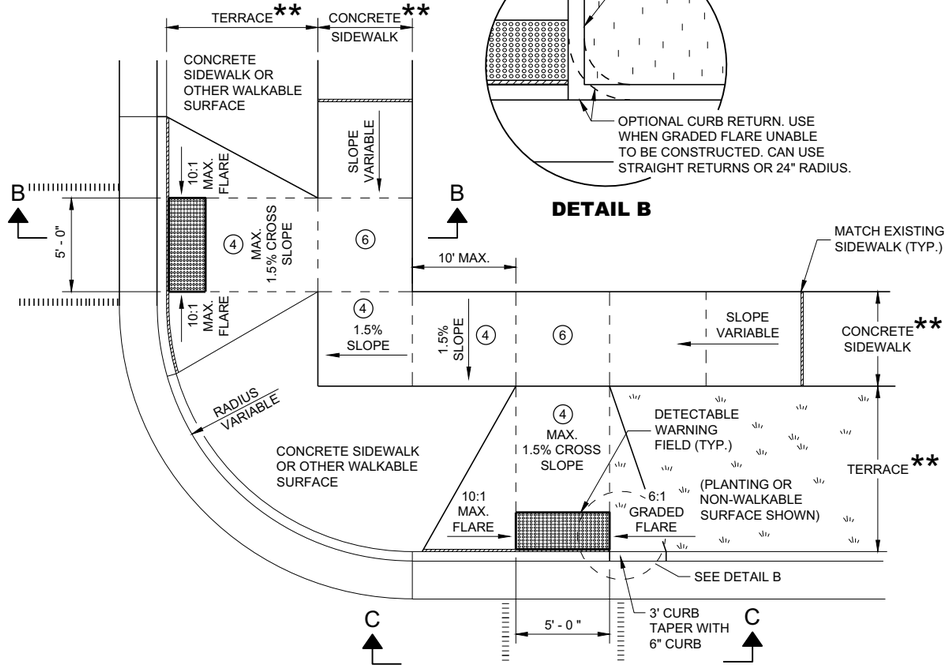
(9) WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.



SECTION A - A FOR TYPE 2

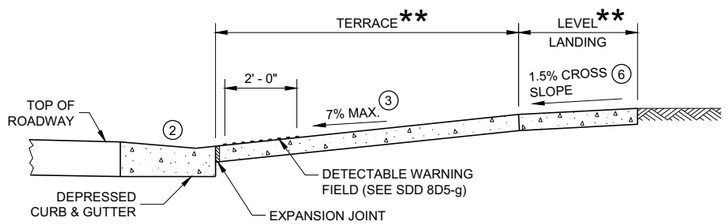
* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS



DETAIL B

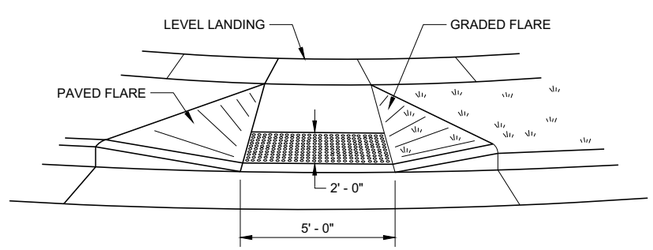
PLAN VIEW
CURB RAMP TYPE 3
(OUTSIDE OF CROSSWALK AREA)



SECTION B - B FOR TYPE 3

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)



VIEW C - C FOR TYPE 3

CURB RAMPS TYPE 2 AND 3

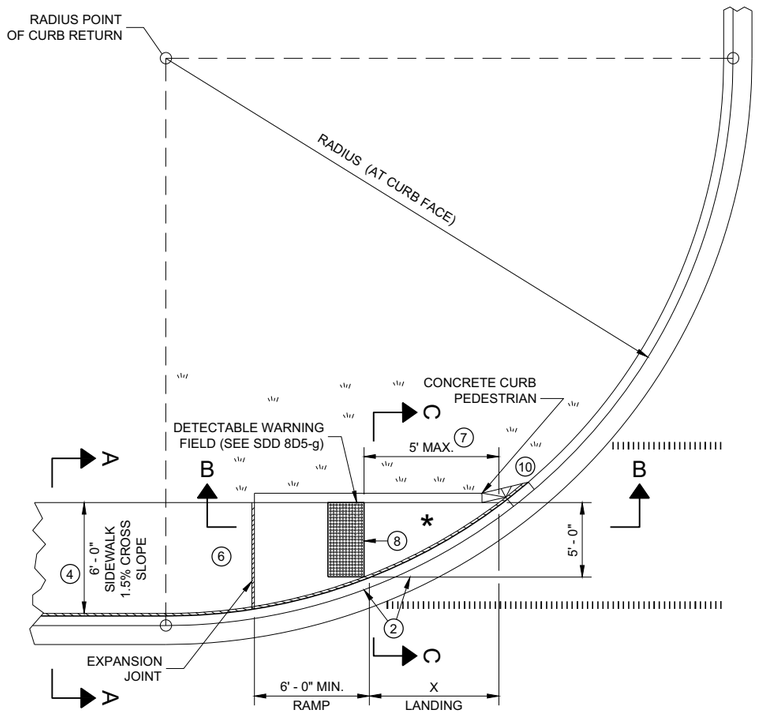
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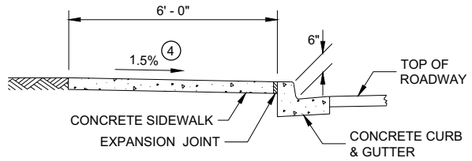


PLAN VIEW

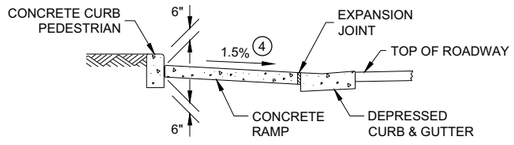
CURB RAMP TYPE 4A

RADIUS (AT CURB FACE)	X
10 FEET	4' - 7"
15 FEET	6' - 5½"

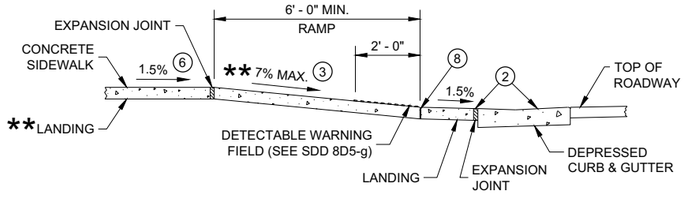
INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A - A FOR TYPE 4A

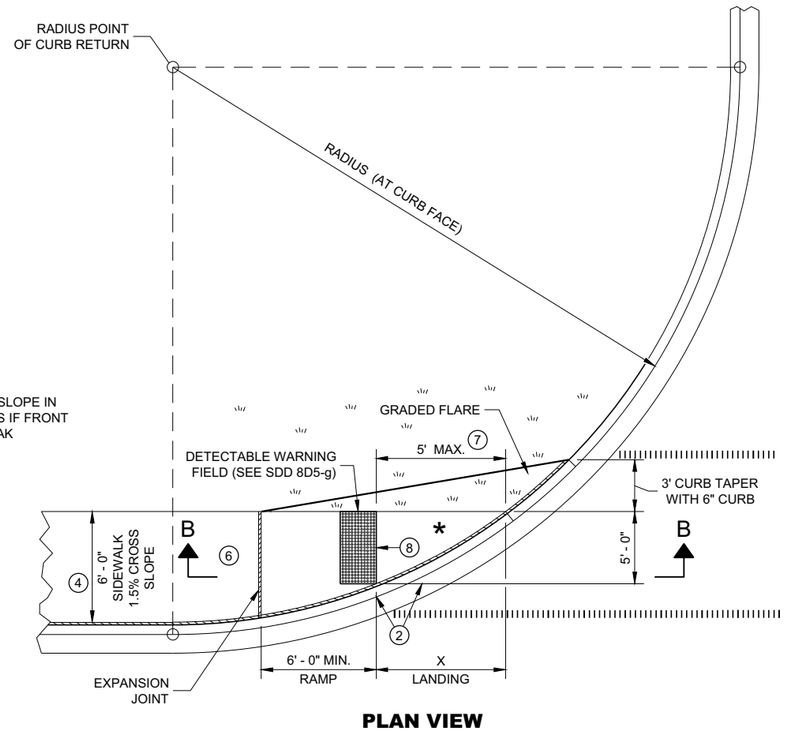


SECTION C - C FOR TYPE 4A



SECTION B - B FOR TYPE 4A AND TYPE 4A1

** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED



PLAN VIEW

CURB RAMP TYPE 4A1

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

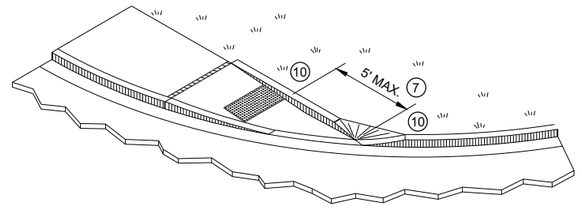
(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

LEGEND

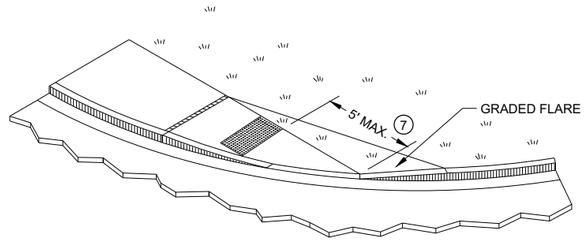
½" EXPANSION JOINT SIDEWALK

CONTRACTION JOINT SIDEWALK

PAVEMENT MARKING CROSSWALK (WHITE)



ISOMETRIC VIEW FOR TYPE 4A



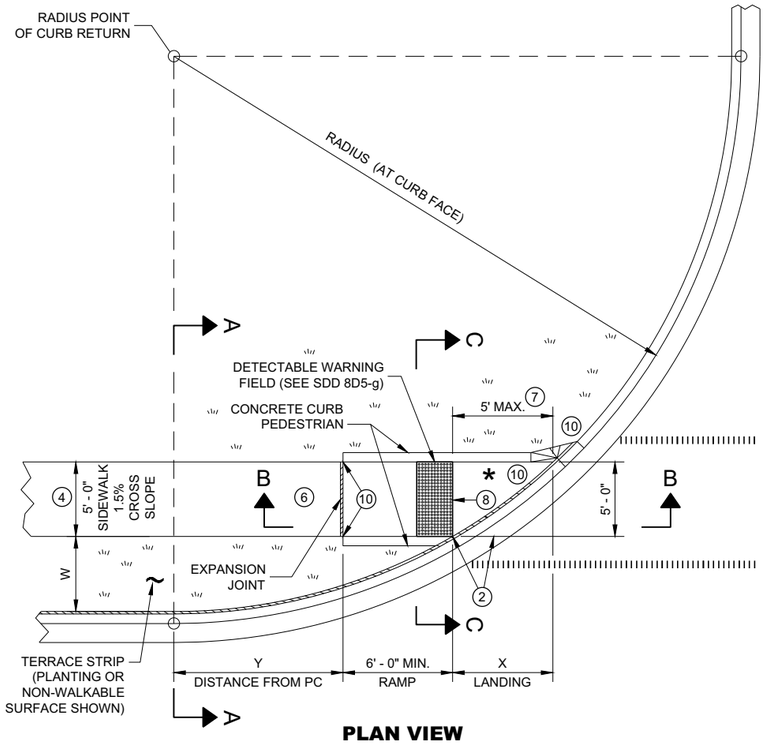
ISOMETRIC VIEW FOR TYPE 4A1

CURB RAMPS
TYPE 4A AND 4A1

STATE OF WISCONSIN
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PLAN VIEW

CURB RAMP TYPE 4B

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 ¼"	0' - 5"	2' - 1"	1' - 4 ½"	1' - 5"	2' - 1"	0' - 10"	2' - 7 ½"	0' - 3 ¼"	3' - 0 ¼"						
15 FEET	4' - 6 ¾"	2' - 1 ¾"	3' - 9"	3' - 5 ¾"	3' - 1 ¼"	4' - 6"	2' - 6 ¾"	5' - 4 ½"	2' - 1"	6' - 1"	1' - 8"	6' - 8 ½"	1' - 3 ¼"	7' - 2 ½"	0' - 10 ¾"	7' - 7 ¼"
20 FEET	5' - 9 ¾"	3' - 6 ½"	4' - 11 ½"	5' - 1 ¾"	4' - 3 ¼"	6' - 5 ½"	3' - 8 ¾"	7' - 7"	3' - 3"	8' - 6 ½"	2' - 10"	9' - 4 ½"	2' - 5 ½"	10' - 1 ¼"	2' - 1 ¼"	10' - 9"
30 FEET			6' - 9 ¼"	7' - 11 ¼"	6' - 0 ¼"	9' - 8"	5' - 5"	11' - 1 ¾"	4' - 10 ¾"	12' - 5 ¾"	4' - 5 ½"	13' - 7 ¾"	4' - 0 ¾"	14' - 8 ½"	3' - 8 ½"	15' - 8 ¼"
40 FEET									6' - 1 ¾"	15' - 8 ½"	5' - 8"	17' - 2"	5' - 3"	18' - 5 ¾"	4' - 10 ¾"	19' - 8 ¼"
50 FEET															5' - 10 ¼"	23' - 2"

INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

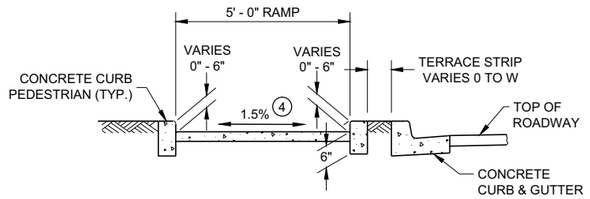
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

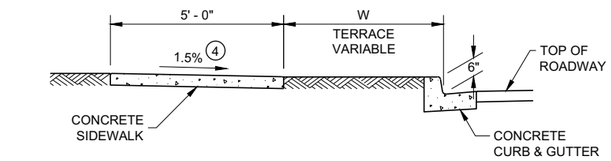
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

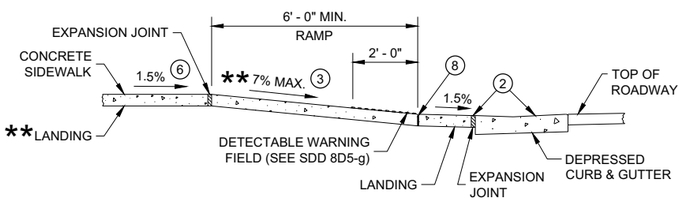
(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



SECTION C - C FOR TYPE 4B



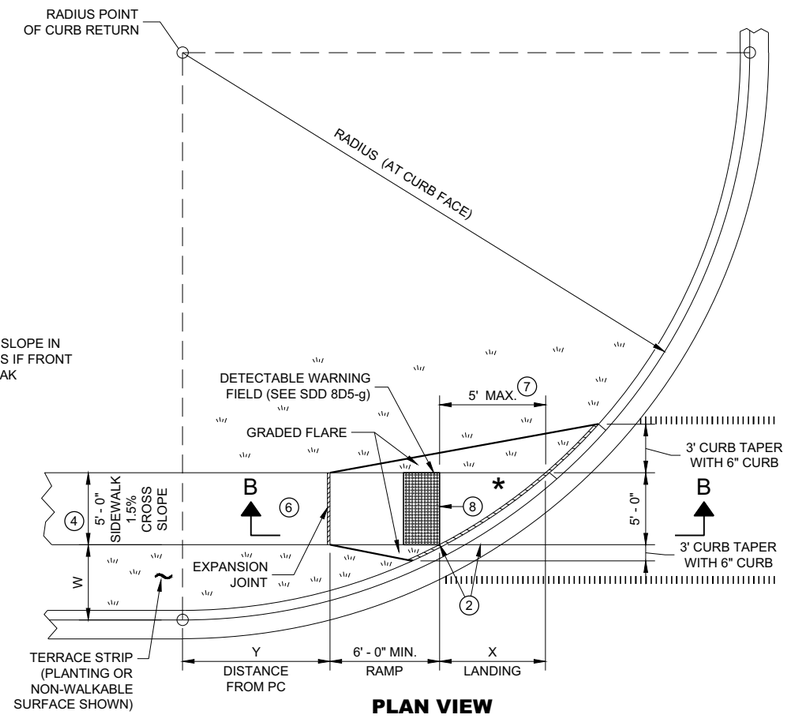
SECTION A - A FOR TYPE 4B



SECTION B - B FOR TYPE 4B AND TYPE 4B1

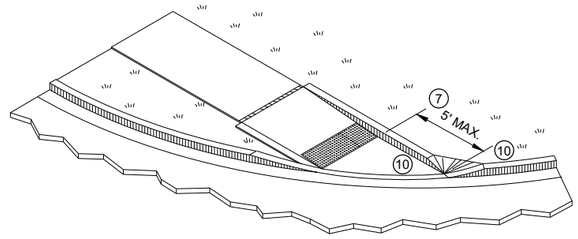
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

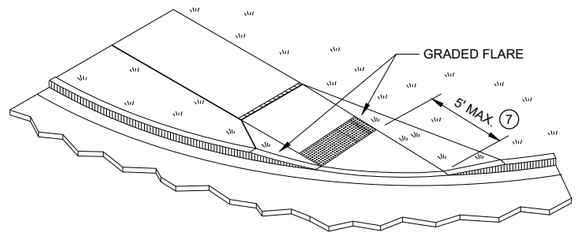


PLAN VIEW

CURB RAMP TYPE 4B1



ISOMETRIC VIEW FOR TYPE 4B

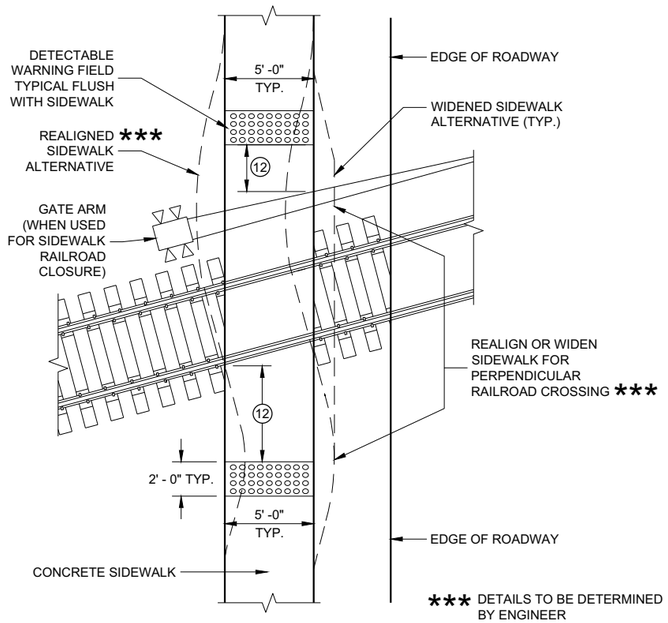


ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

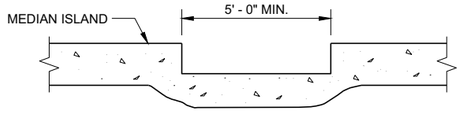
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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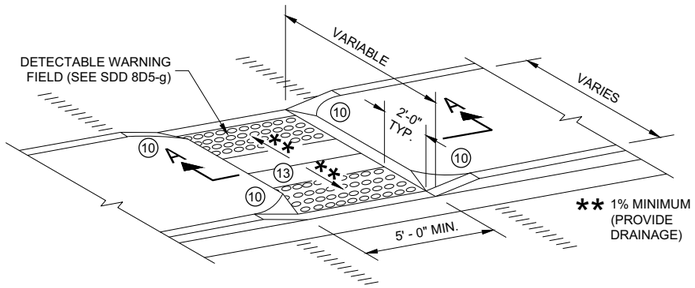


CURB RAMP TYPE 8

DETECTABLE WARNINGS AT RAILROAD CROSSING



SECTION A - A FOR TYPE 5



CURB RAMP TYPE 5

MEDIAN ISLAND NON-ELEVATED PEDESTRIAN CROSSING

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

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.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

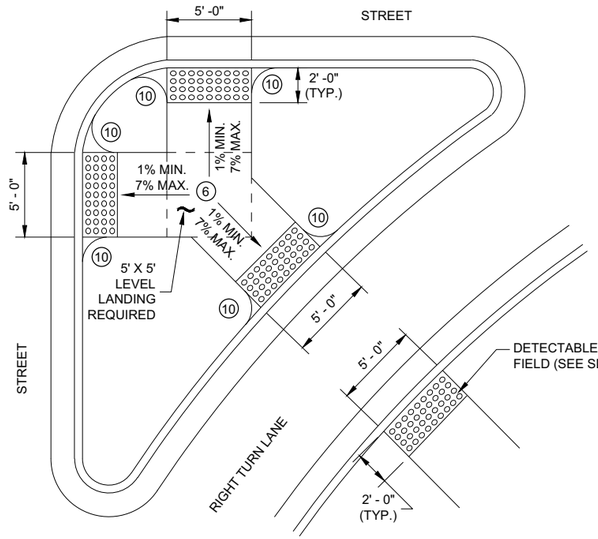
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) 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.

(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

LEGEND

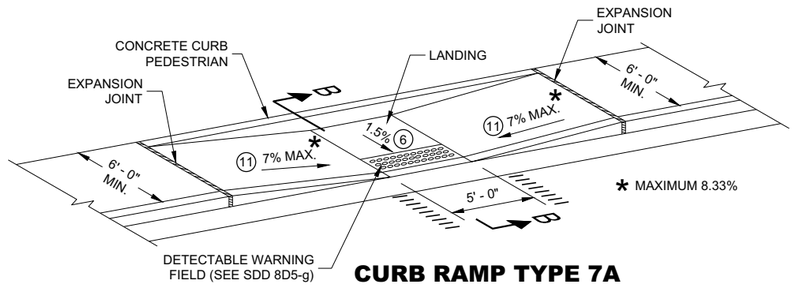
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



CURB RAMP TYPE 6

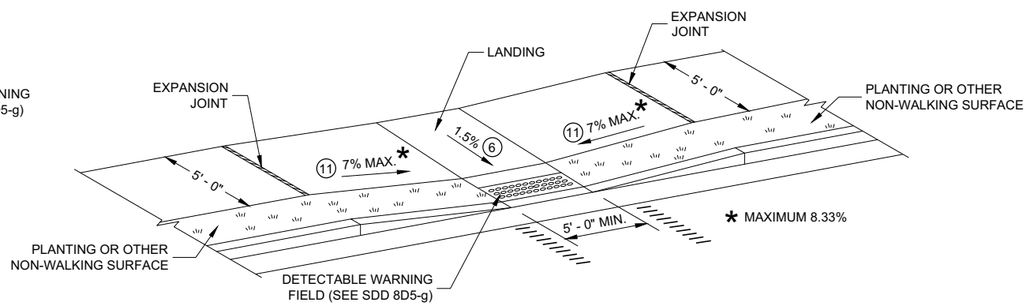
DETECTABLE WARNING AT ISLANDS

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



CURB RAMP TYPE 7A

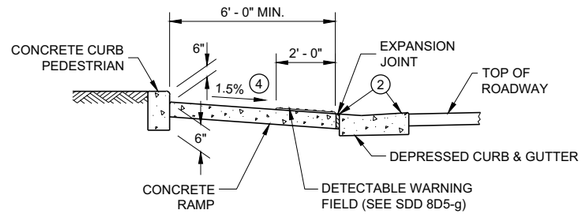
MID BLOCK CROSSING



CURB RAMP TYPE 7B

MID BLOCK CROSSING

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.



SECTION B - B FOR TYPE 7A

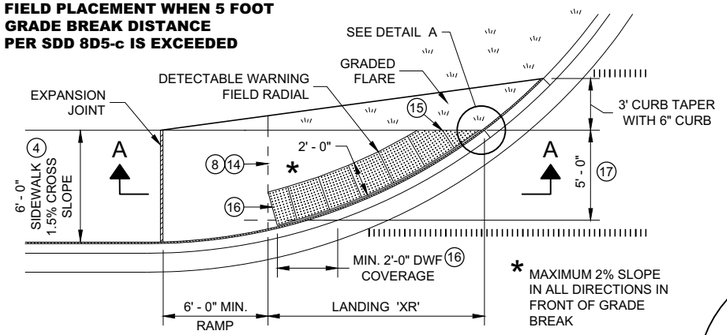
CURB RAMPS TYPE 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
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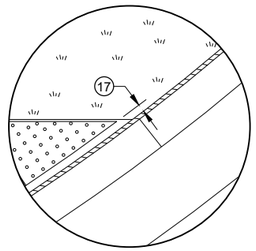
RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-c IS EXCEEDED



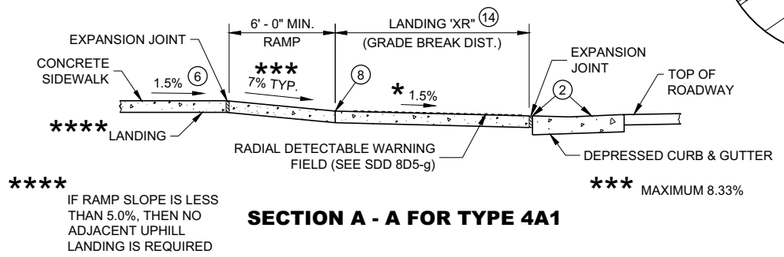
PLAN VIEW

CURB RAMP TYPE 4A1

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



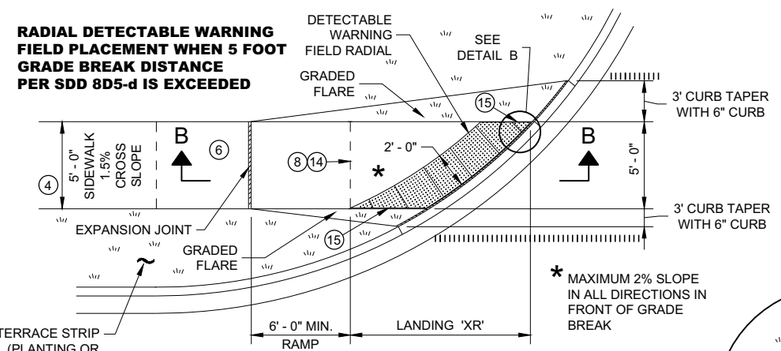
DETAIL A



**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION A - A FOR TYPE 4A1

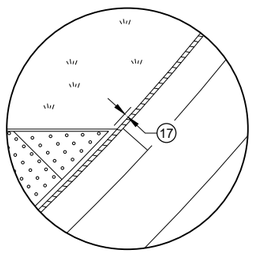
RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-d IS EXCEEDED



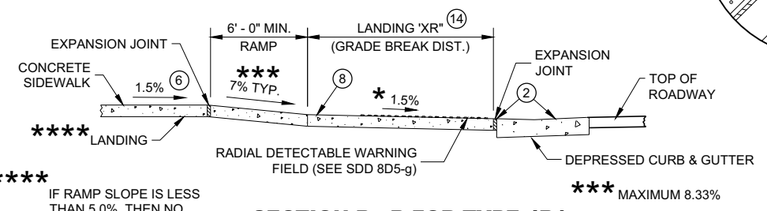
PLAN VIEW

CURB RAMP TYPE 4B1

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



DETAIL B



**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B - B FOR TYPE 4B1

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AD ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

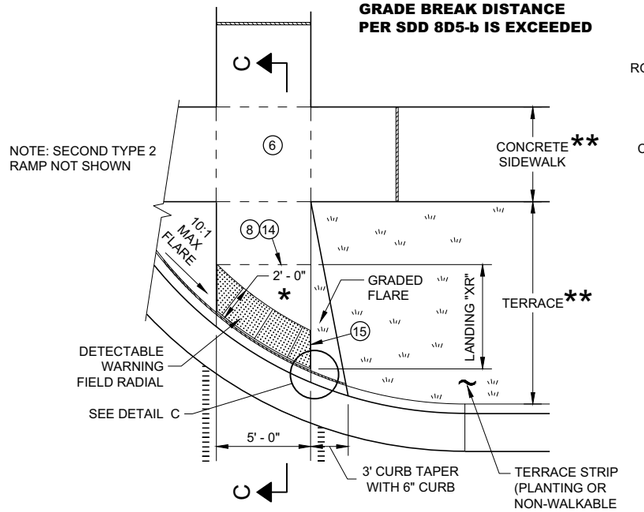
(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

(16) USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.

(17) A MAXIMUM 3 INCH CONCRETE BORDER WITH IS ALLOWABLE IN FROM OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-b IS EXCEEDED

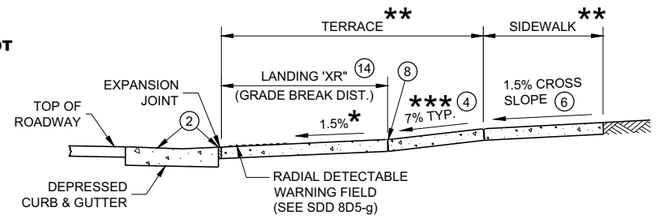


PLAN VIEW

CURB RAMP TYPE 2

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)

(ON LINE WITH SIDEWALK)

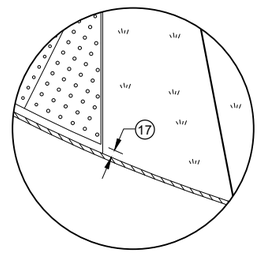


SECTION C - C FOR TYPE 2

* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** MAXIMUM 8.33%



DETAIL C

CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS

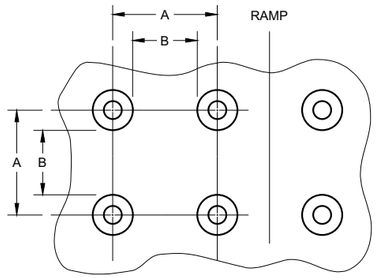
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D05 - 20f

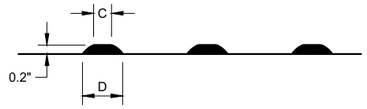
SDD 08D05 - 20f

	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.

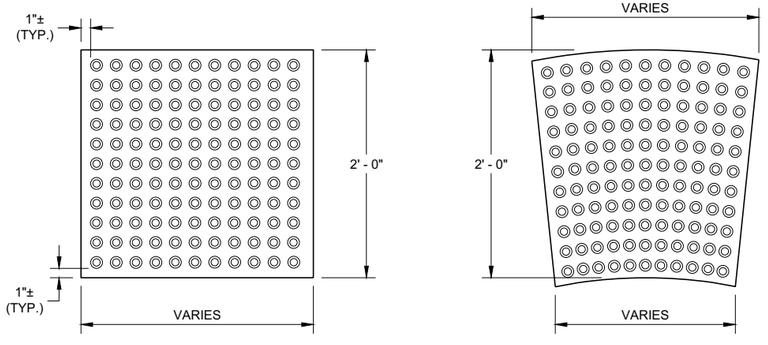


PLAN VIEW



ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



RECTANGULAR PLATES

RADIAL PLATES

PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

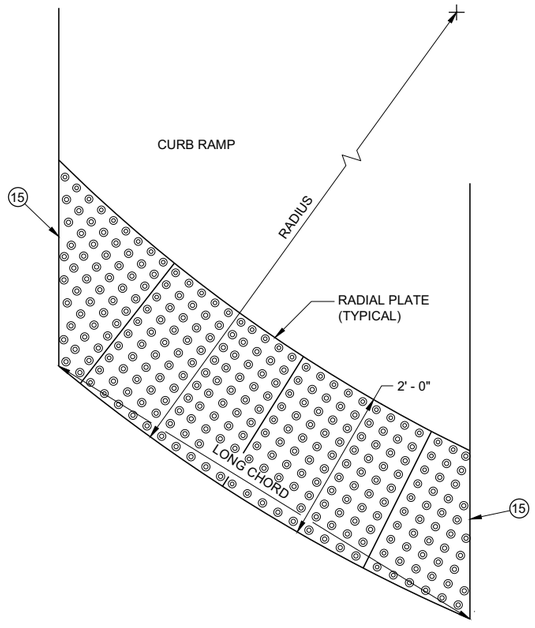
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

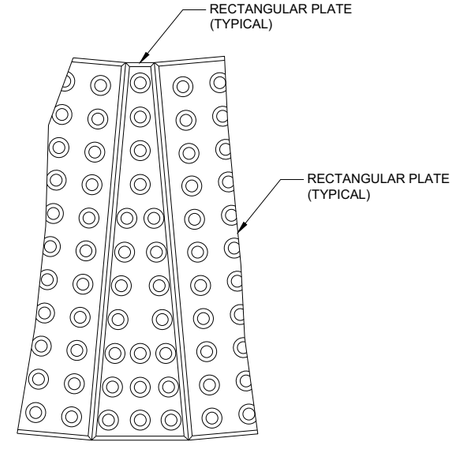
REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.



PLAN VIEW
RADIAL DETECTABLE WARNING FIELD ATTRIBUTES



PLAN VIEW
RADIAL WEDGE PLATE CONNECTION DETAIL

CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

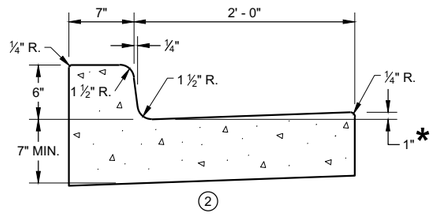
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

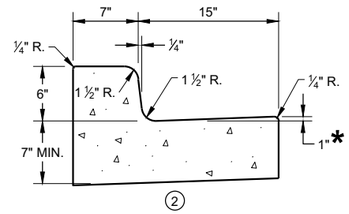
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SDD 08D05 - 20g

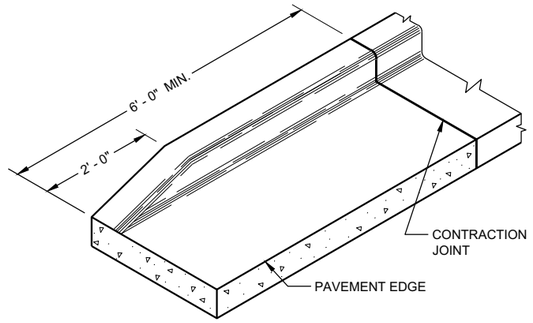


CONCRETE CURB AND GUTTER 31" ①

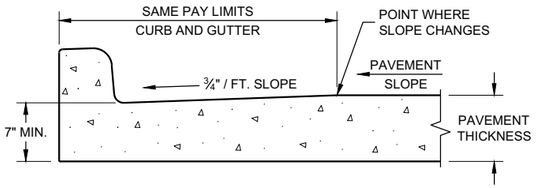
*TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



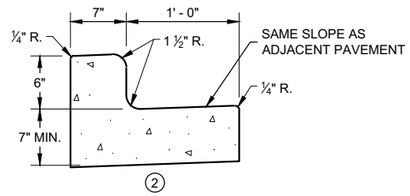
CONCRETE CURB AND GUTTER 22" ①



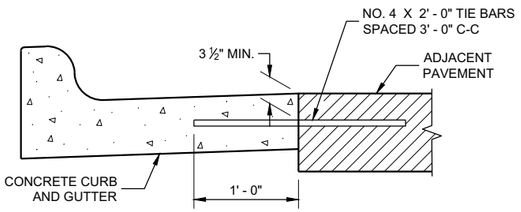
END SECTIONCURB AND GUTTER



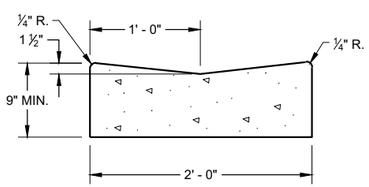
PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER



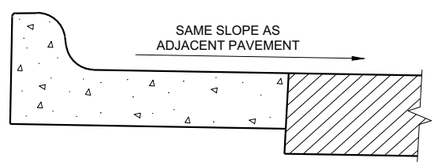
CONCRETE CURB AND GUTTER 19" ①



TYPICAL TIE BAR LOCATION ①



CONCRETE GUTTER 24" ①



HIGH SIDE SECTION ③

(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

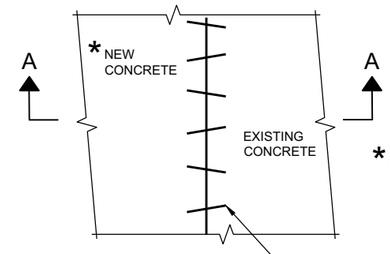
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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

① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUITED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".

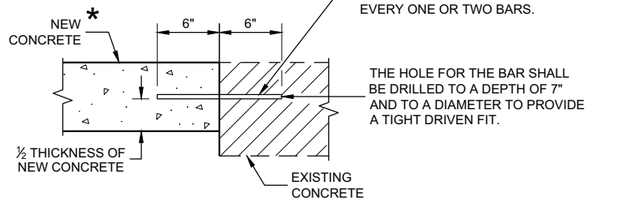
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MINIMUM GUTTER THICKNESS IS MAINTAINED.

③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLANS



PLAN VIEW

* EXISTING AND NEW CONCRETE MAY BE CURB AND GUTTER, SURFACE DRAINS, PAVEMENT OR OTHER CONCRETE STRUCTURE.



SECTION A - A

PAVEMENT TIES

CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES

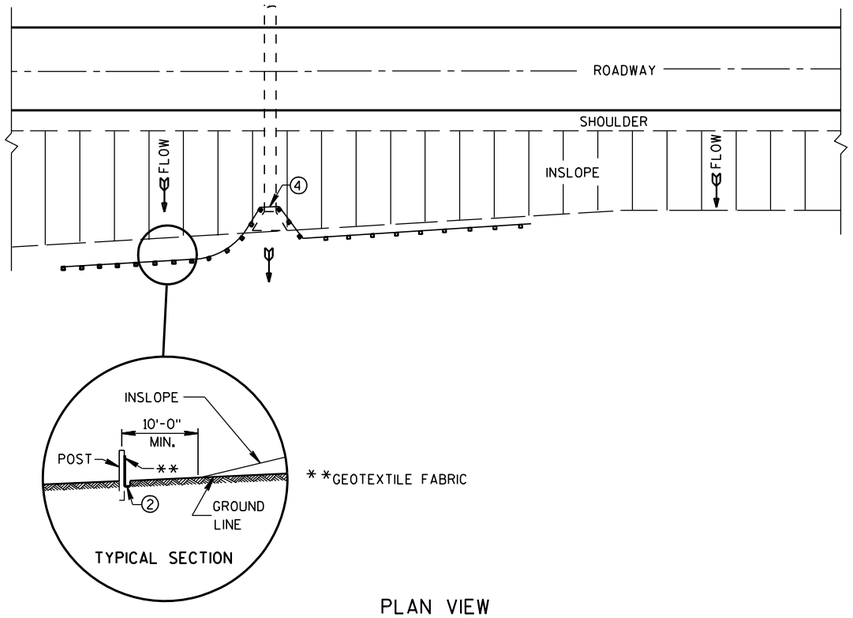
(For Optional use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

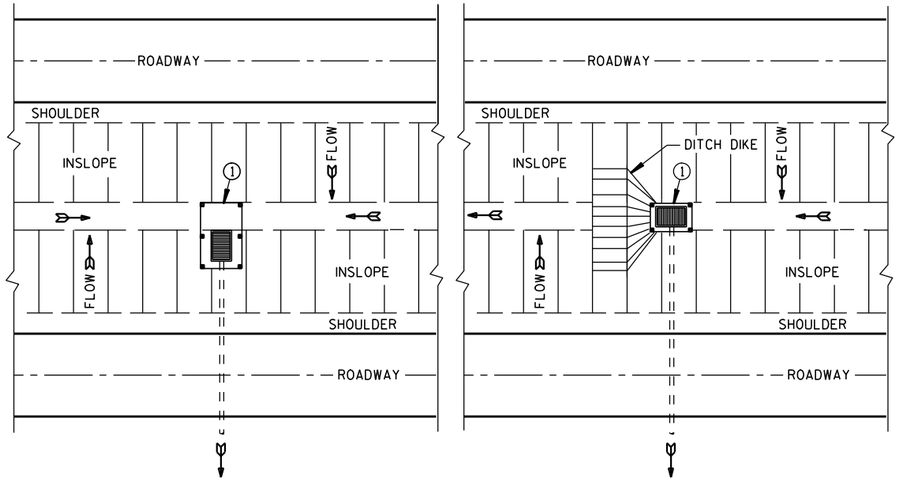
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SDD 08D16 - 11
SDD 08D16 - 11



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



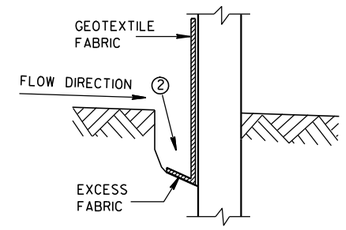
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

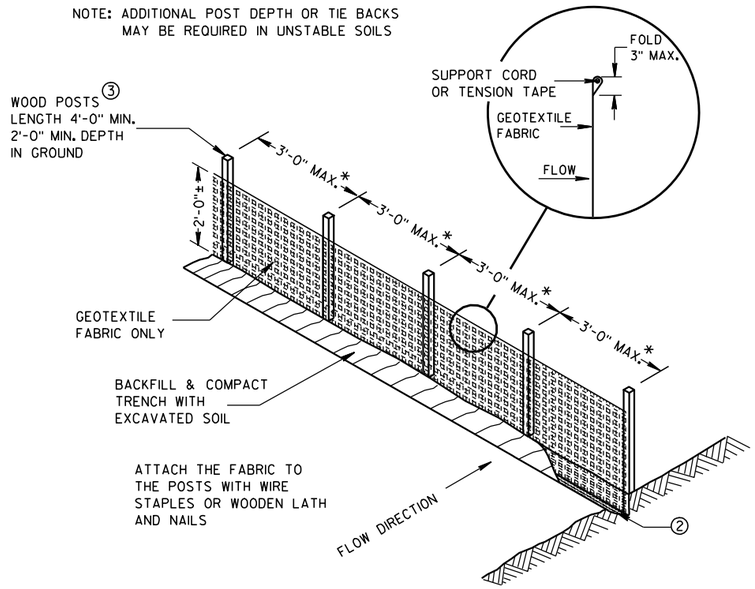
GENERAL NOTES

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

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

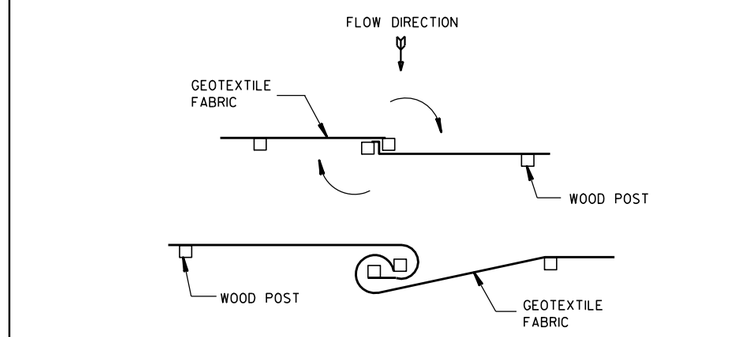


TRENCH DETAIL

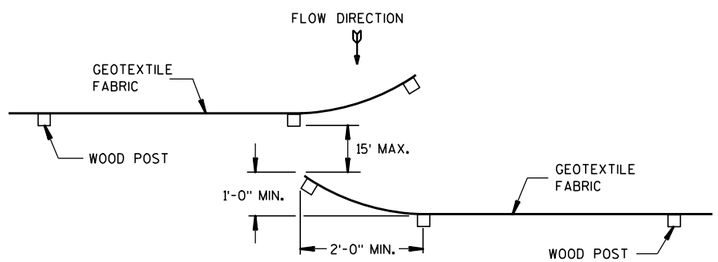


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

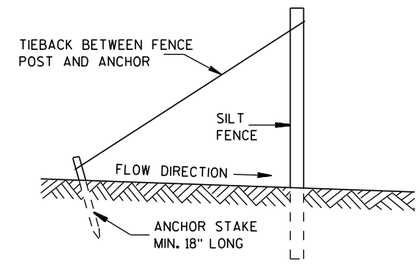


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

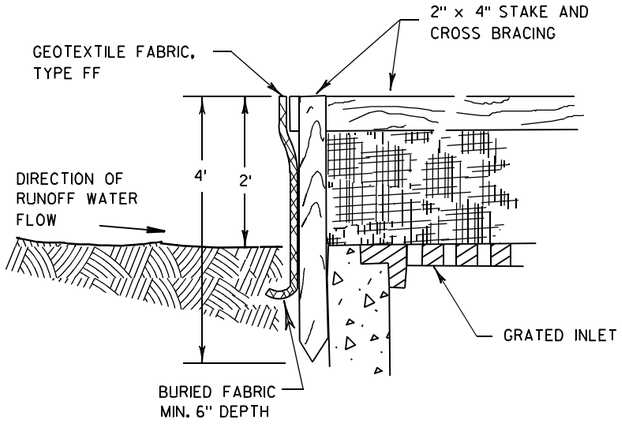
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

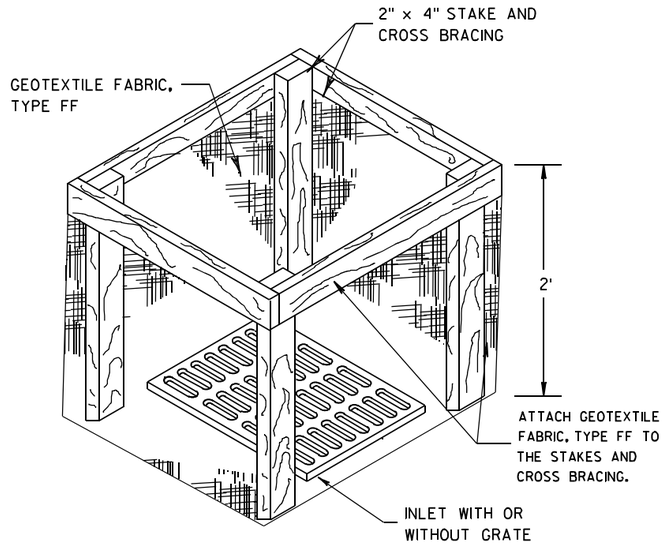
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S.D.D. 8 E 9-6

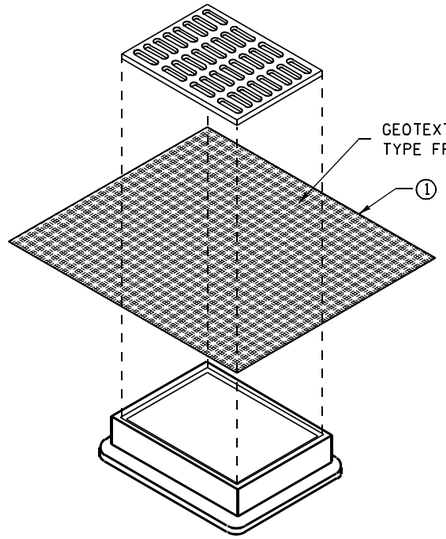
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S.D.D. 8 E 9-6



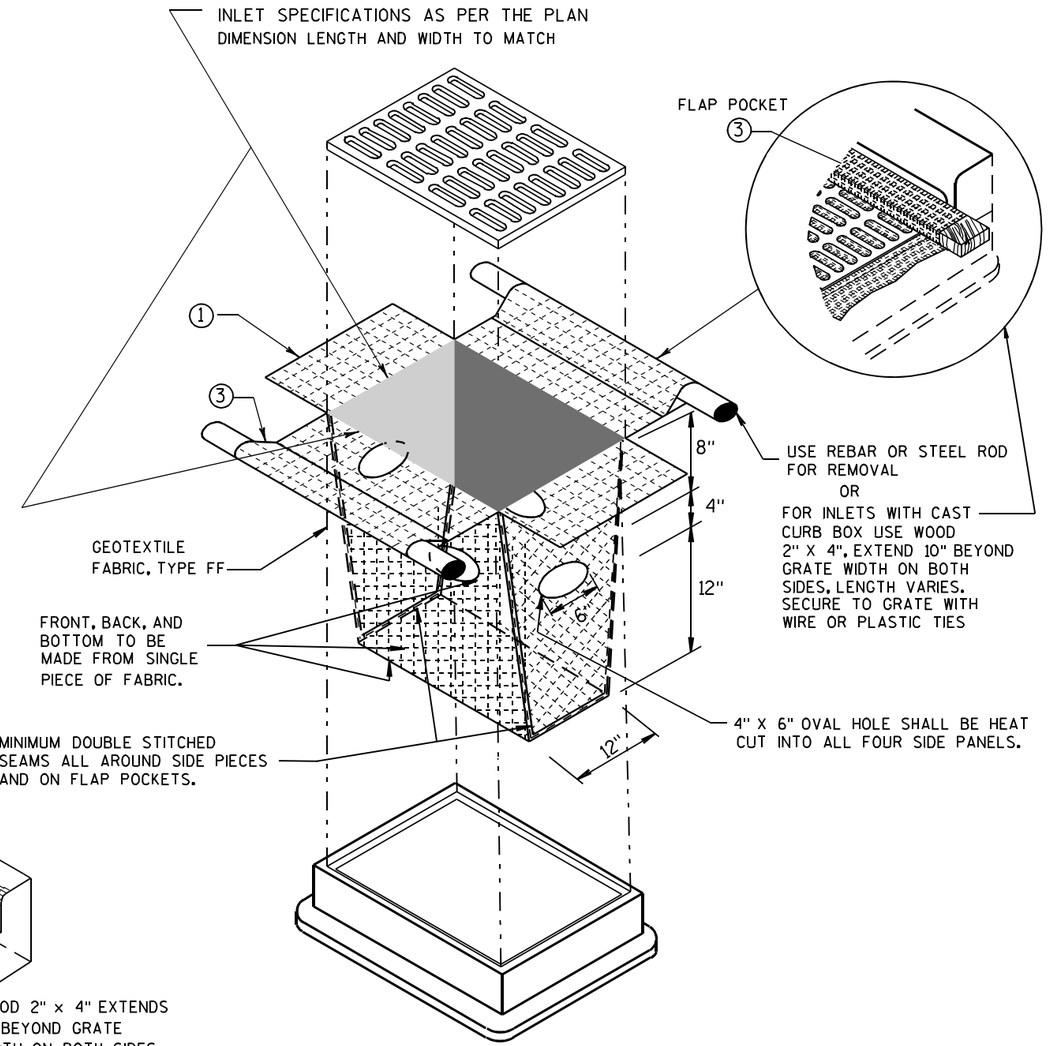


INLET PROTECTION, TYPE A



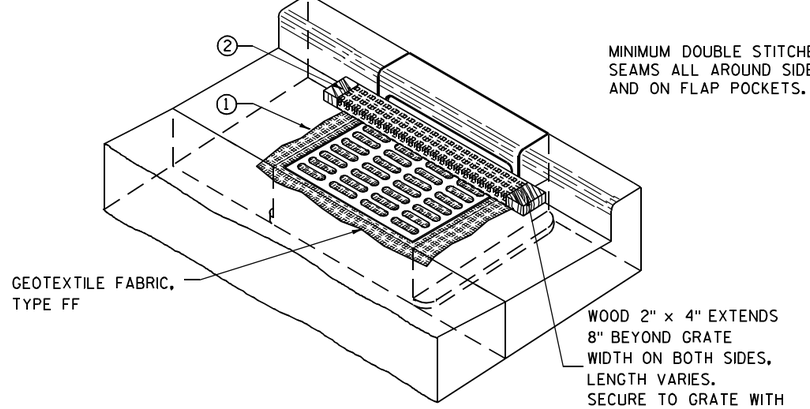
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

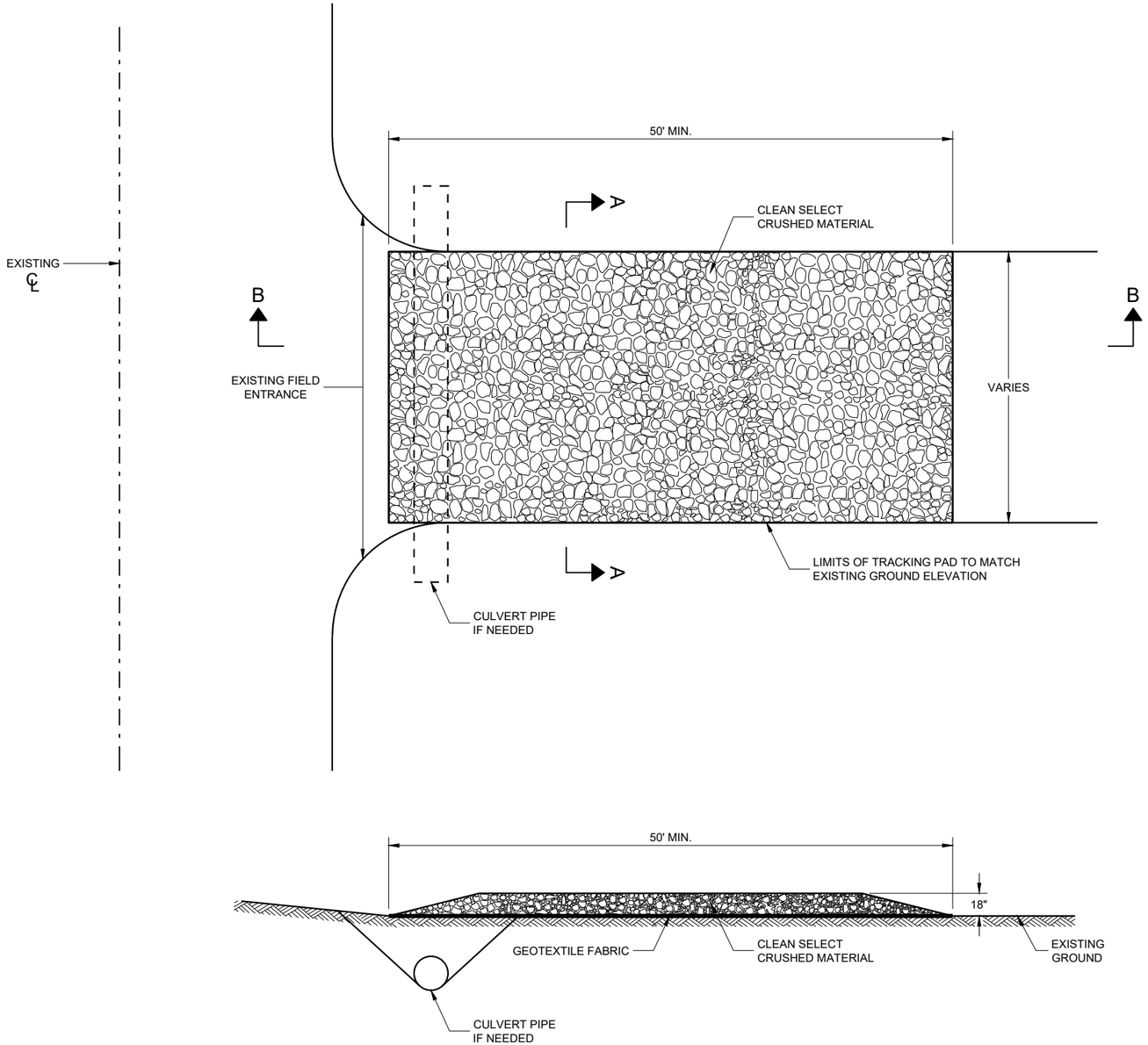
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

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

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



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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

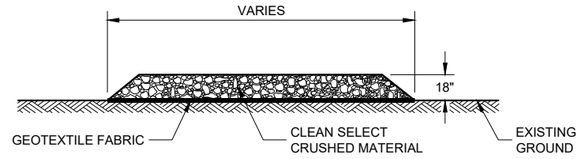
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A - A

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

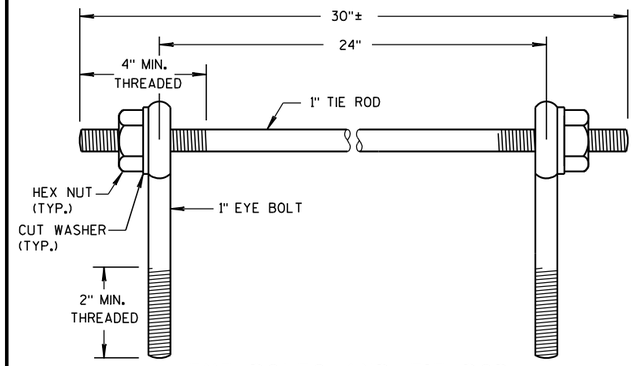
3/24/2011
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVE ENGINEER

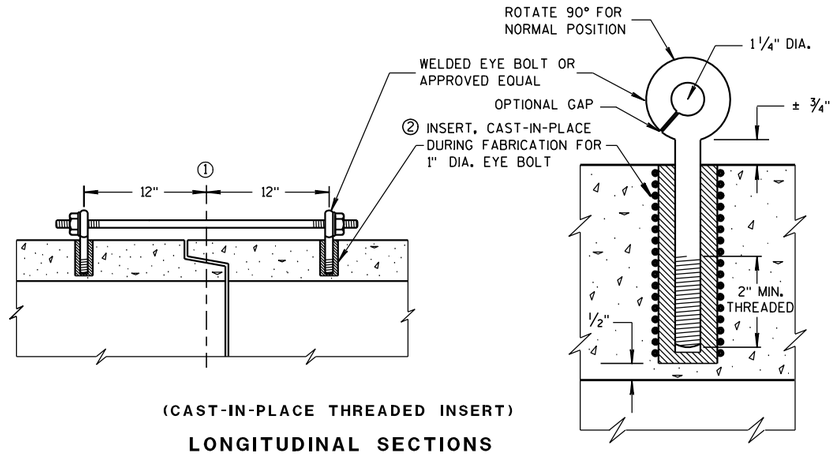
FHWA

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SDD 08E14 - 01



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.

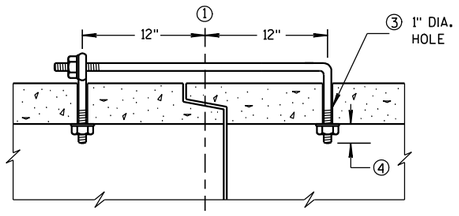
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

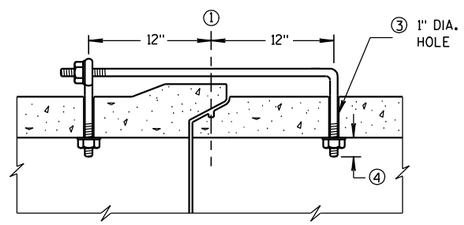
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

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)

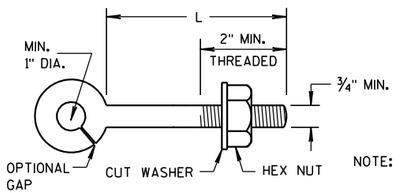


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

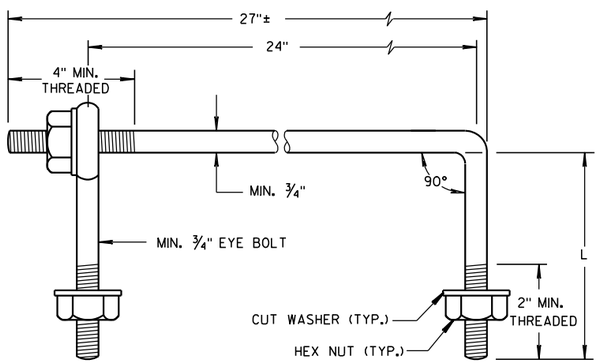
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



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

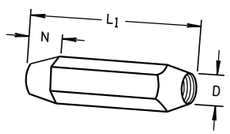
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

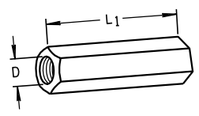
ADJUSTABLE TIE ROD TABLE

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



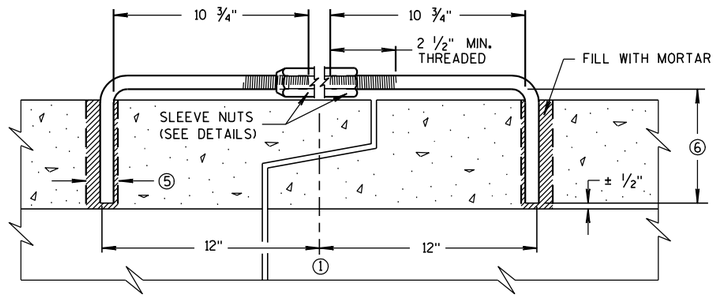
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PLAIN

RIGHT AND LEFT THREADS

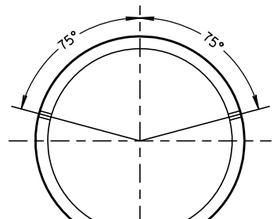
SLEEVE NUTS



LONGITUDINAL SECTION

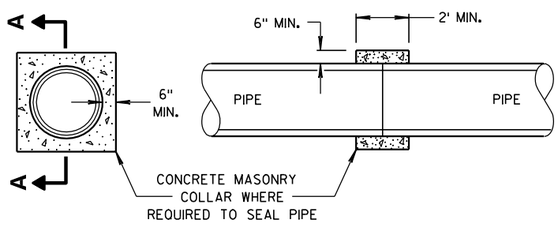
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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

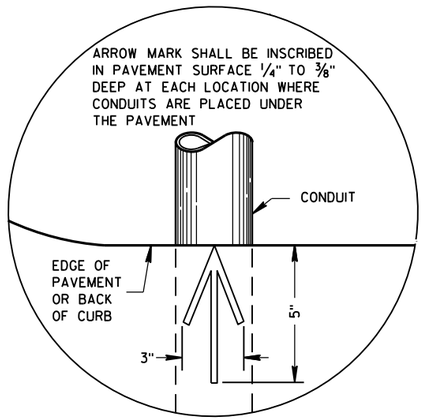
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 F 4-7

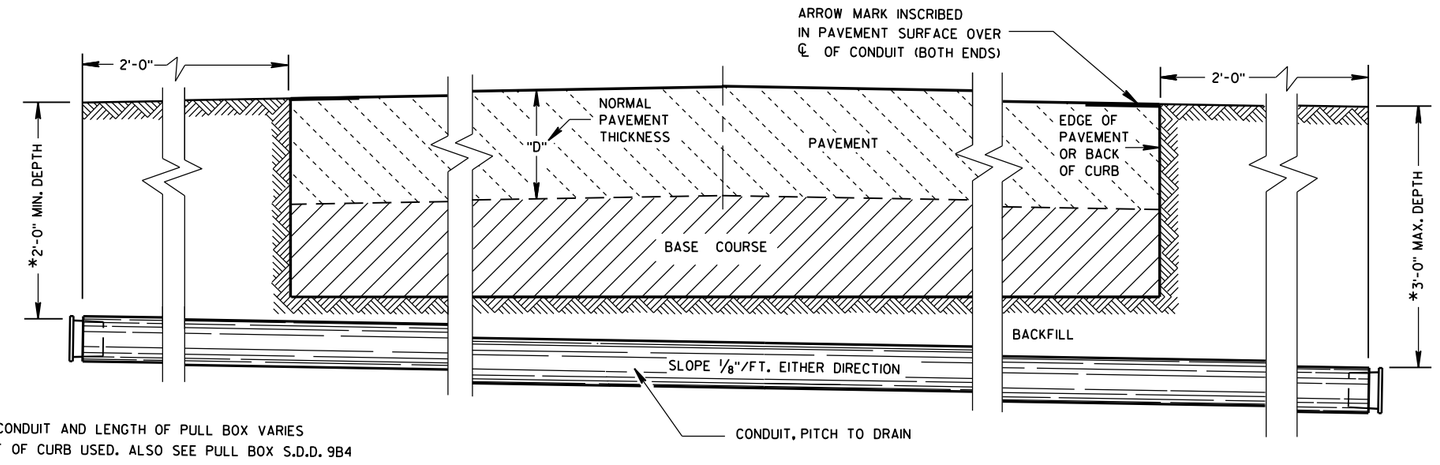
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S.D.D. 8 F 4-7



PLAN VIEW

ARROW MARK



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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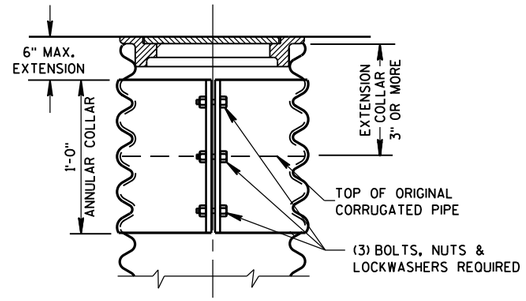
S.D.D. 9 B 2-10

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

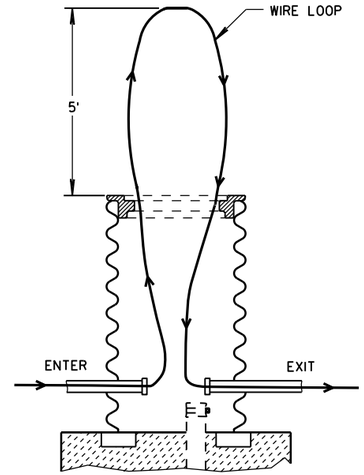
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	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.

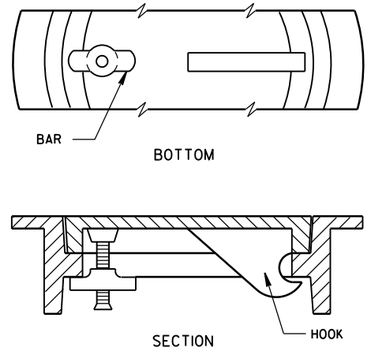
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

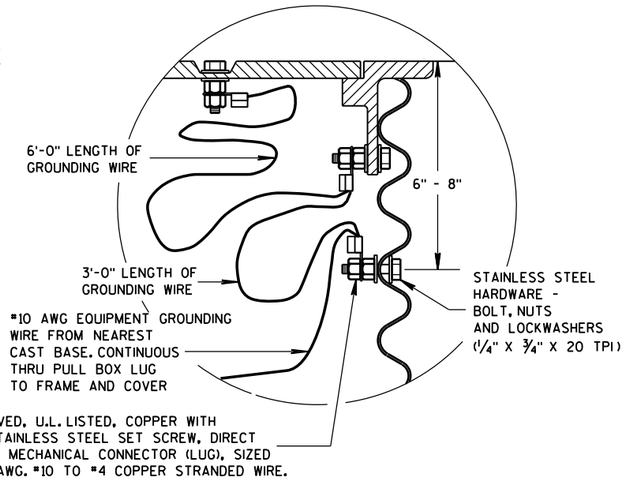


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

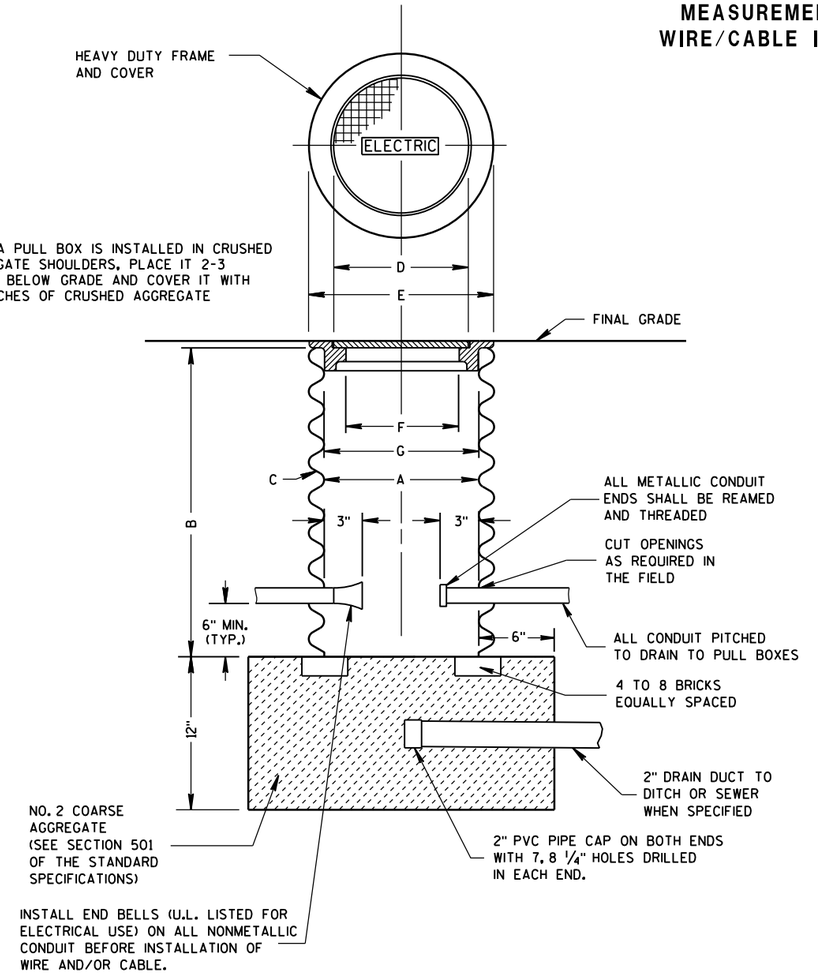


ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

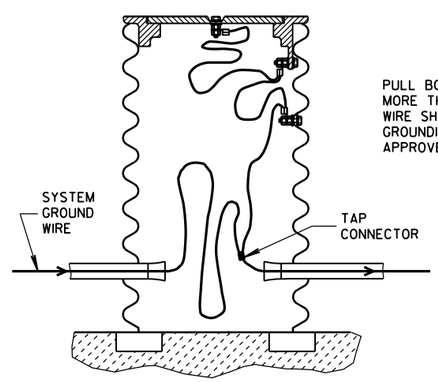
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

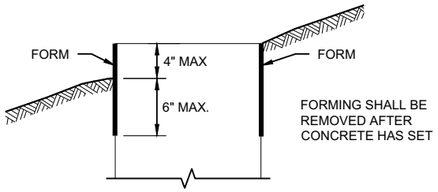
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE
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FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
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 DRAWINGSHALL 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 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 A THE ENTRANCE OF THE BASE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FRO FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6X 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 NON-METALLIC 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.

WHEN REQUIRED TO CONNECT NON-METALLIC 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, TYPE 5 AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER ALL BASE TYPES 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 OF THE STANDARD SPECIFICATIONS.

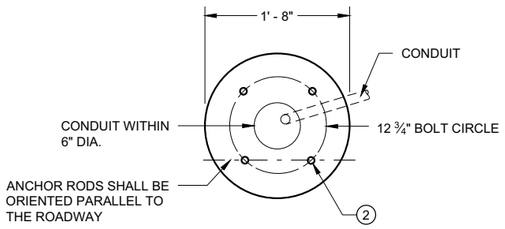
WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

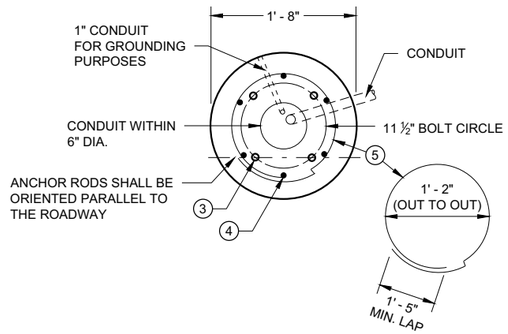
WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH"L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

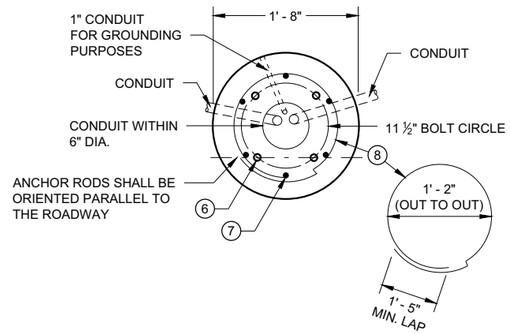
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

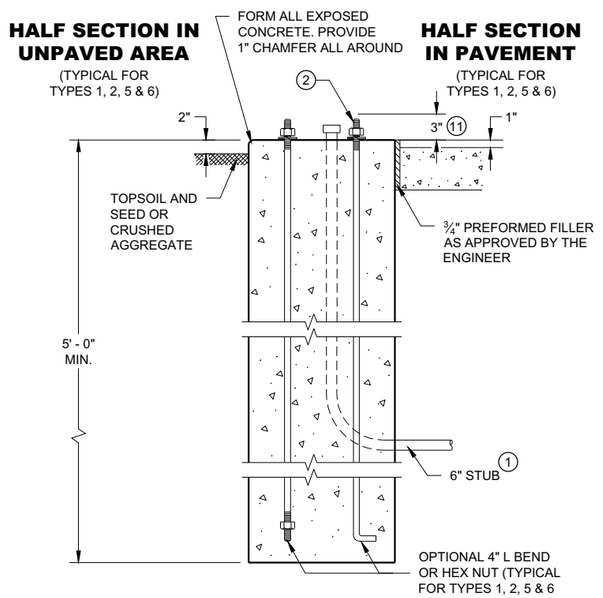
WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

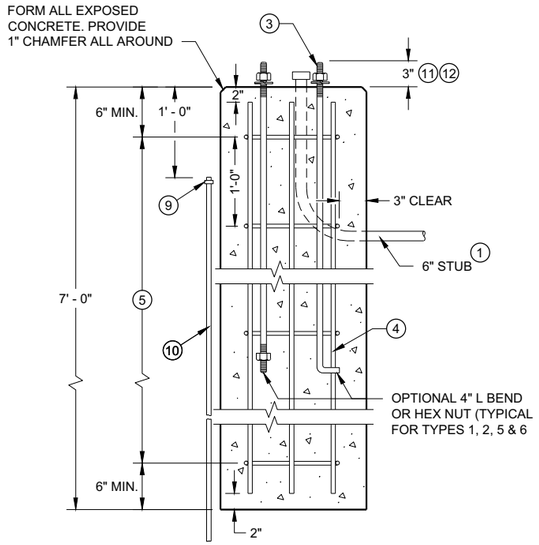




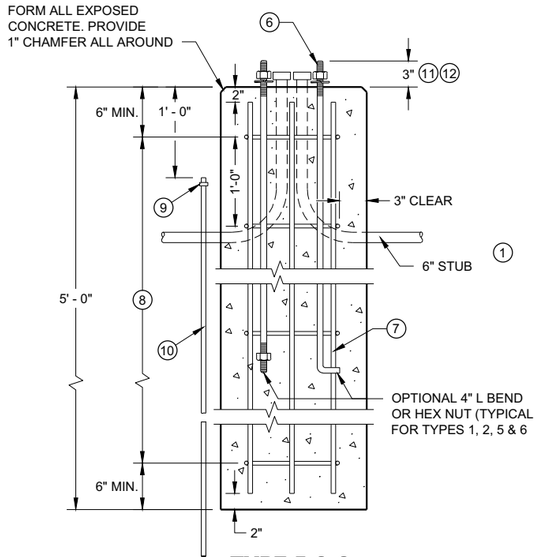




TYPE 1



TYPE 2



TYPE 5 & 6

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 OF 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 STELL REINFORCEMENT @ 1' - 0" C -C.

9 EXOTHERMIC CONNECTION TO EUIPMENT GROUNDING CONDUCTOR

10 ⅝" DIA. X 8' -0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED

11 ANY ANCHOR ROD PROJECTION SHORTER THAN 2 ¾" OR LONGER THAN 3 ¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

12 FOR NON - BREAKAWAY INSTALLATIONS, 4 ½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES

CONCRETE BASES TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

FHWA

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SDD 09C02 - 09

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 531.2.2 OF THE STANDARD SPECIFICATIONS.

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, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

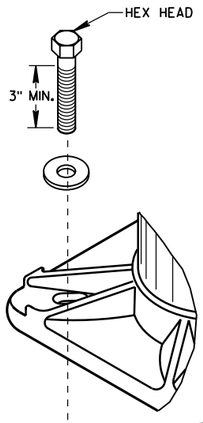
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

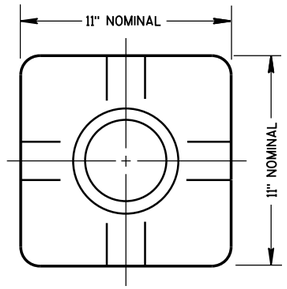
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

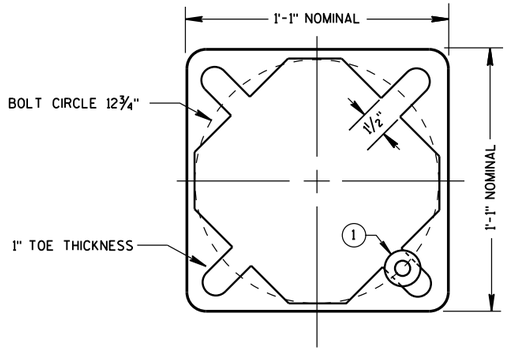
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

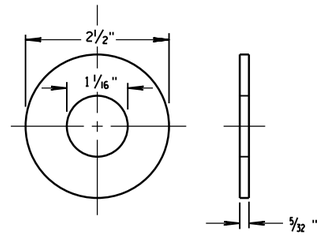




TOP VIEW
(PEDESTAL BASE)

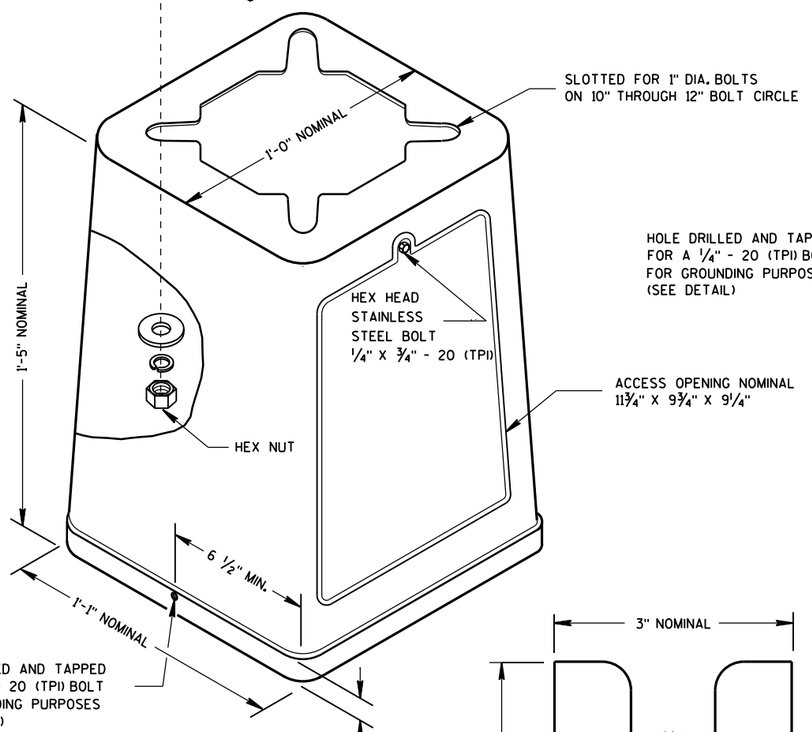


BOTTOM VIEW
(PEDESTAL BASE)

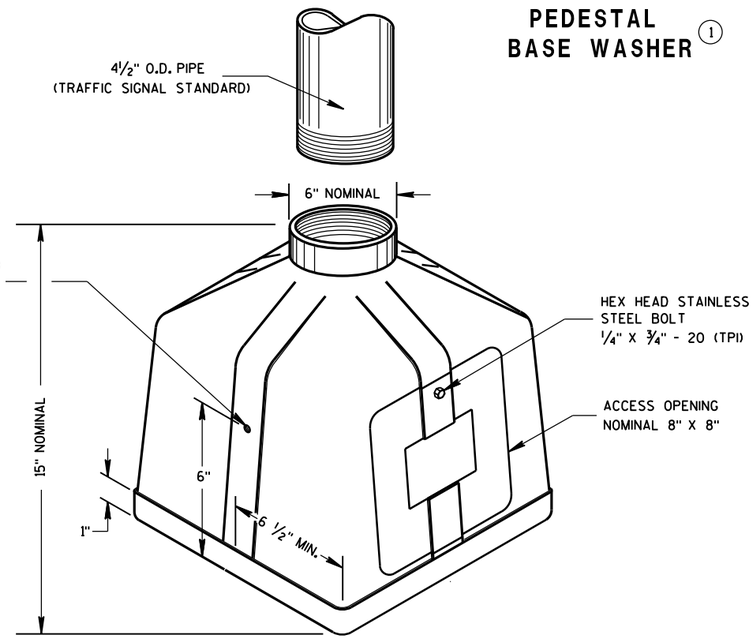


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

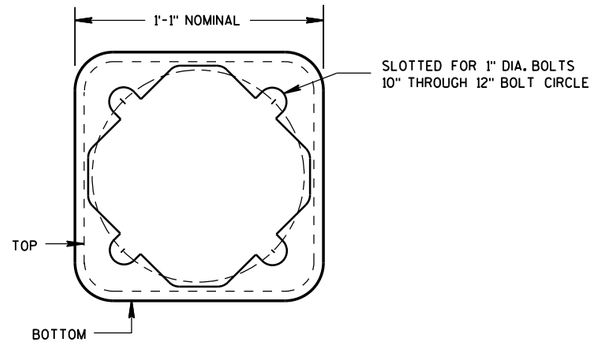


ISOMETRIC VIEW

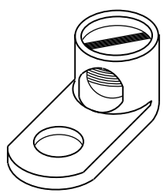


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

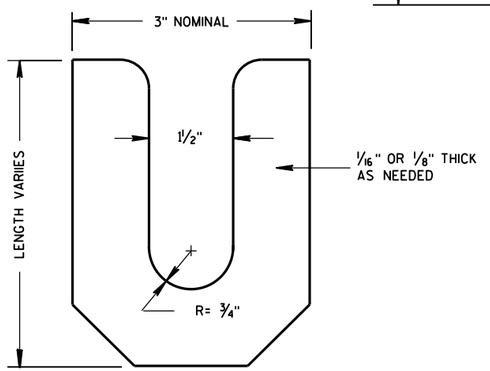


TYPICAL MECHANICAL CONNECTOR LUG

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
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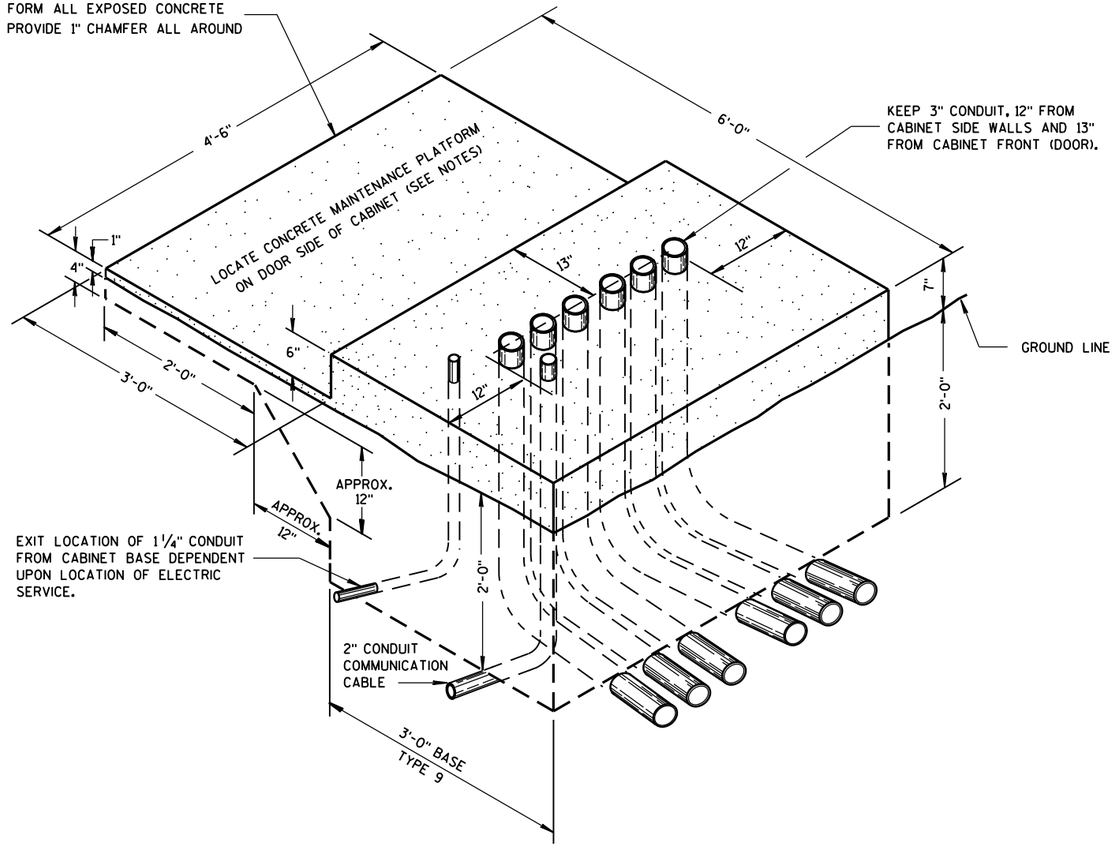
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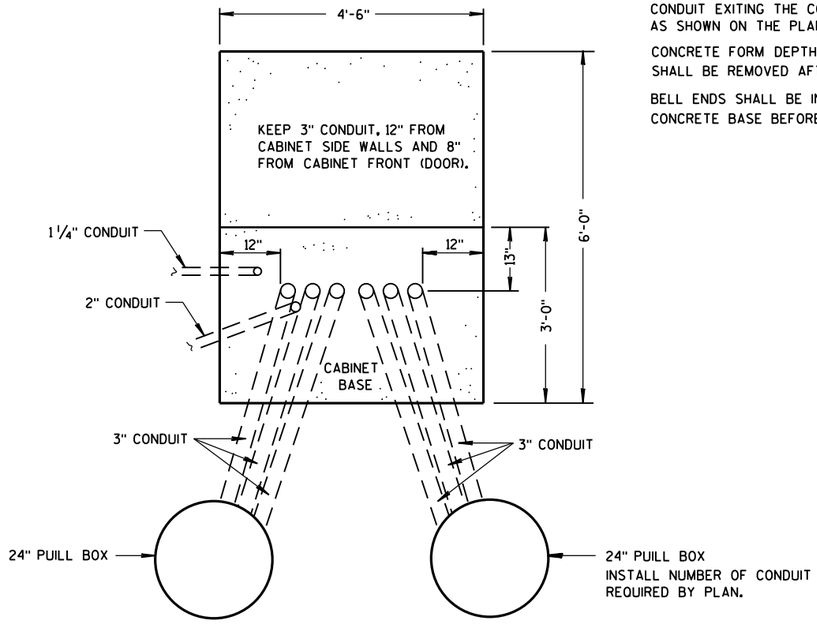
S.D.D. 9 C 3-4



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 WITH A PULLOUT STRENGTH OF 9,000 LBS. 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
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 C 6-7

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 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 4 INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL END INSTALLED. ALL CONDUIT SHALL BE SLOPED TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUIT 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.

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).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL 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.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

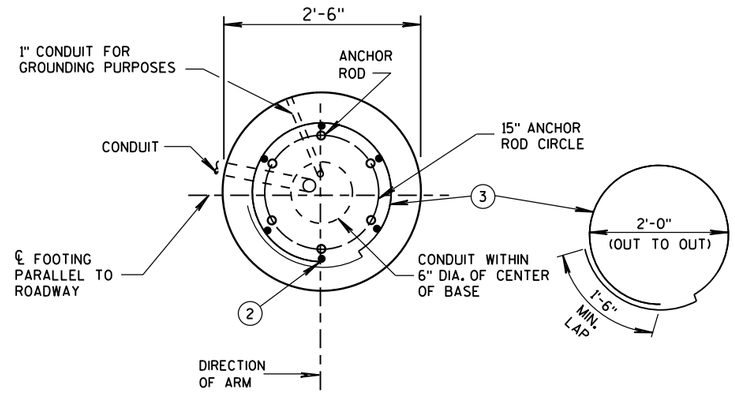
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

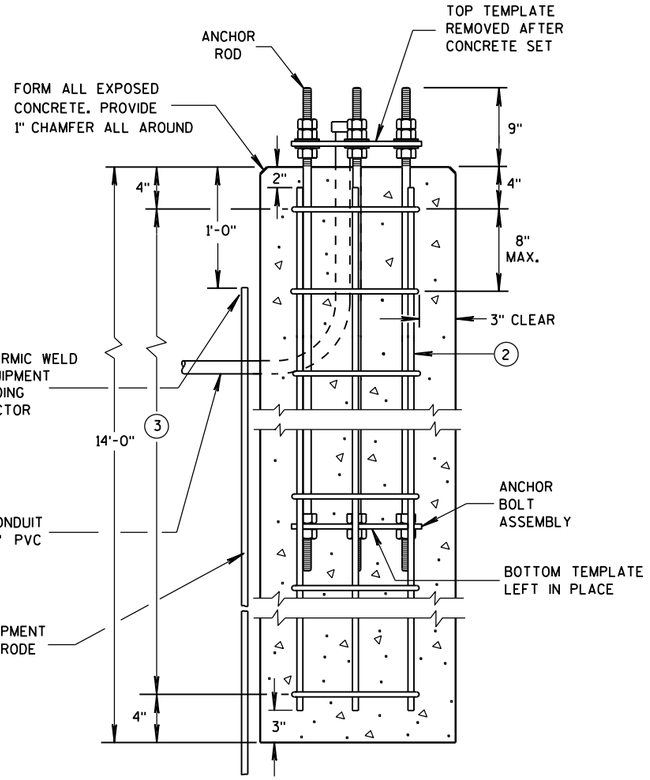
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES. (GREATER THAN 36 INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (6) NO. 6 X 13'-7" BAR STEEL REINFORCEMENT.

(3) (21) NO. 5 X 7'-10" BAR STEEL REINFORCEMENT @ 8" MAX. C-C.

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATION)	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.

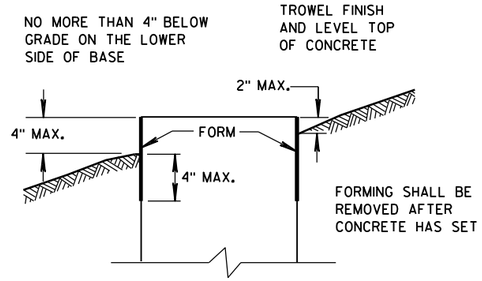




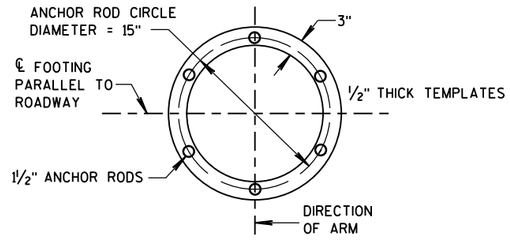
CONCRETE BASE TYPE 10

(FOR TYPE 9 & 10 & OVER HEIGHT (OH) POLES)

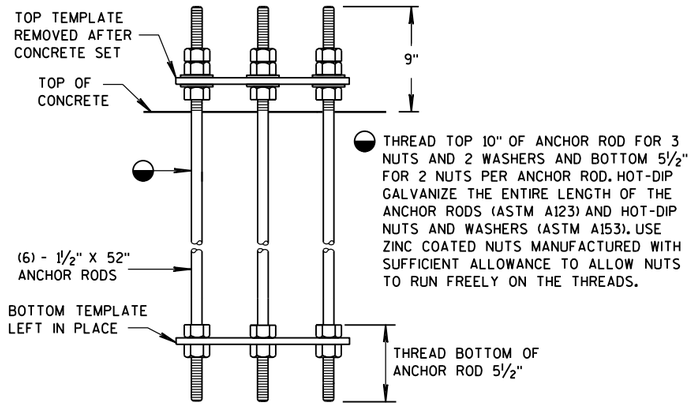
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



FORMING DETAIL



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 10 ANCHOR ASSEMBLY

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	2.5
LBS. OF HOOP BAR STEEL	172
LBS. OF VERTICAL BAR STEEL	122

CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2017 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

6

S.D.D. 9 C 11-10

6

S.D.D. 9 C 11-10

GENERAL NOTES

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

THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING. A STEEL CASING OR CORRUGATED METAL PIPE IS ALLOWED TO REMAIN. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BASE IN LAYERS OF ONE FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

ANY DAMAGE TO THE CONCRETE BASE AND ANCHOR RODS DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

THE REINFORCEMENT AND ANCHOR RODS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR RODS STICK OUT ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

FORM ALL EXPOSED CONCRETE CORNERS WITH 1" CHAMFER ALL AROUND. TOP OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 TIMES THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4 ½" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NON-METALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC 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 NON-METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

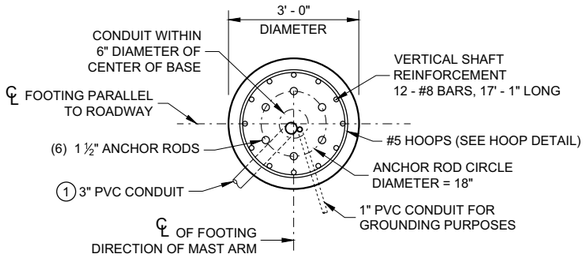
A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

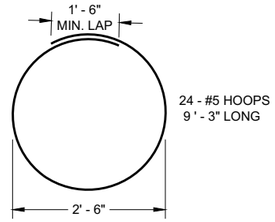
THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN A THE ENTRANCE OF THE BASE.

(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 (GREATER THAN 36 INCHES IF INSTALLED IN BREAKER RUN) EXCEPT WITH WRITTEN APPROVAL OF THE ENGINEER.

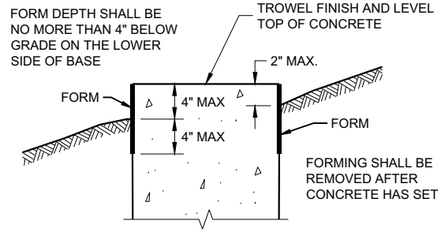
CONCRETE MASONRY.....fc = 3,500 p.s.i
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60.....fy = 60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATION).....fy = 55,000 p.s.i.
TEMPLATES, ASTM A709, GRADE 36.....fy = 36,000 p.s.i.



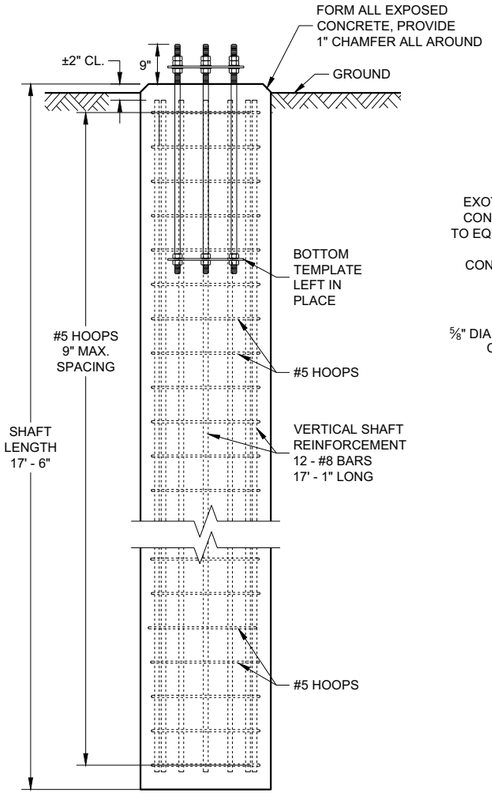
PLAN VIEW



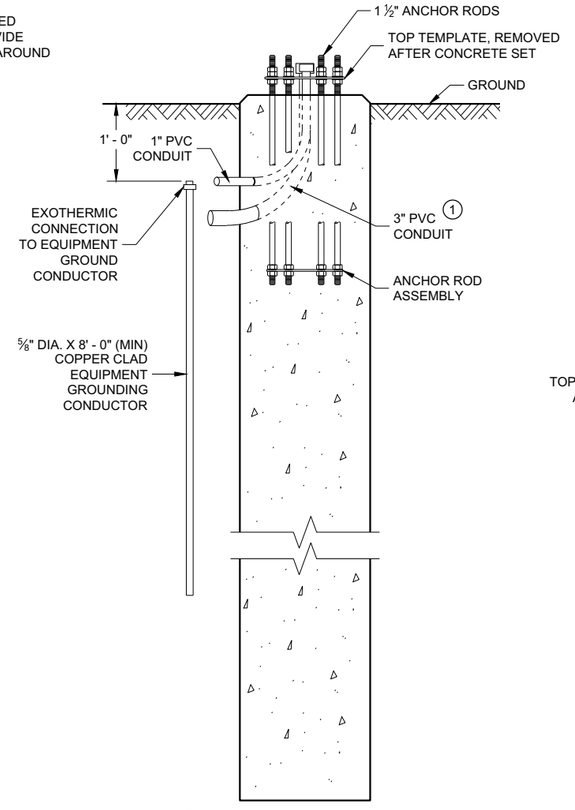
HOOP DETAIL



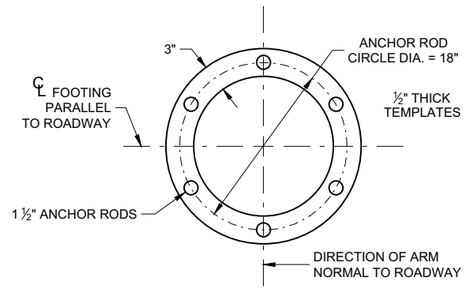
FORMING DETAIL



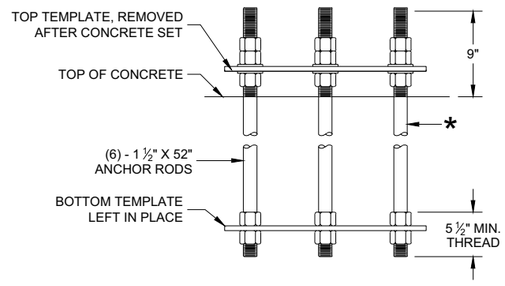
ELEVATION VIEW
(CONDUITS NOT SHOWN ON THIS VIEW FOR CLARITY)



SIDE VIEW
(HOOPS AND VERTICAL SHAFT REINFORCEMENT NOT SHOWN ON THIS VIEW FOR CLARITY)



TOP AND BOTTOM TEMPLATE



ANCHOR ROD ASSEMBLY DETAILS

* THREAD TOP 10" OF ANCHOR ROD FOR 3 NUTS AND 2 WASHERS AND BOTTOM 5 ½" FOR 2 NUTS PER ANCHOR ROD. HOT DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR ROD (ASTM A123) AND HOT DIP NUTS AND WASHERS (ASTM A153. USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

CONCRETE BASE, TYPE 10 SPECIAL
(FOR TYPE 9 SPECIAL AND TYPE 10 SPECIAL POLES)

CONCRETE = 4.6 CUBIC YARD
H.S. REINFORCEMENT = 779 LBS.

FOR USE WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.

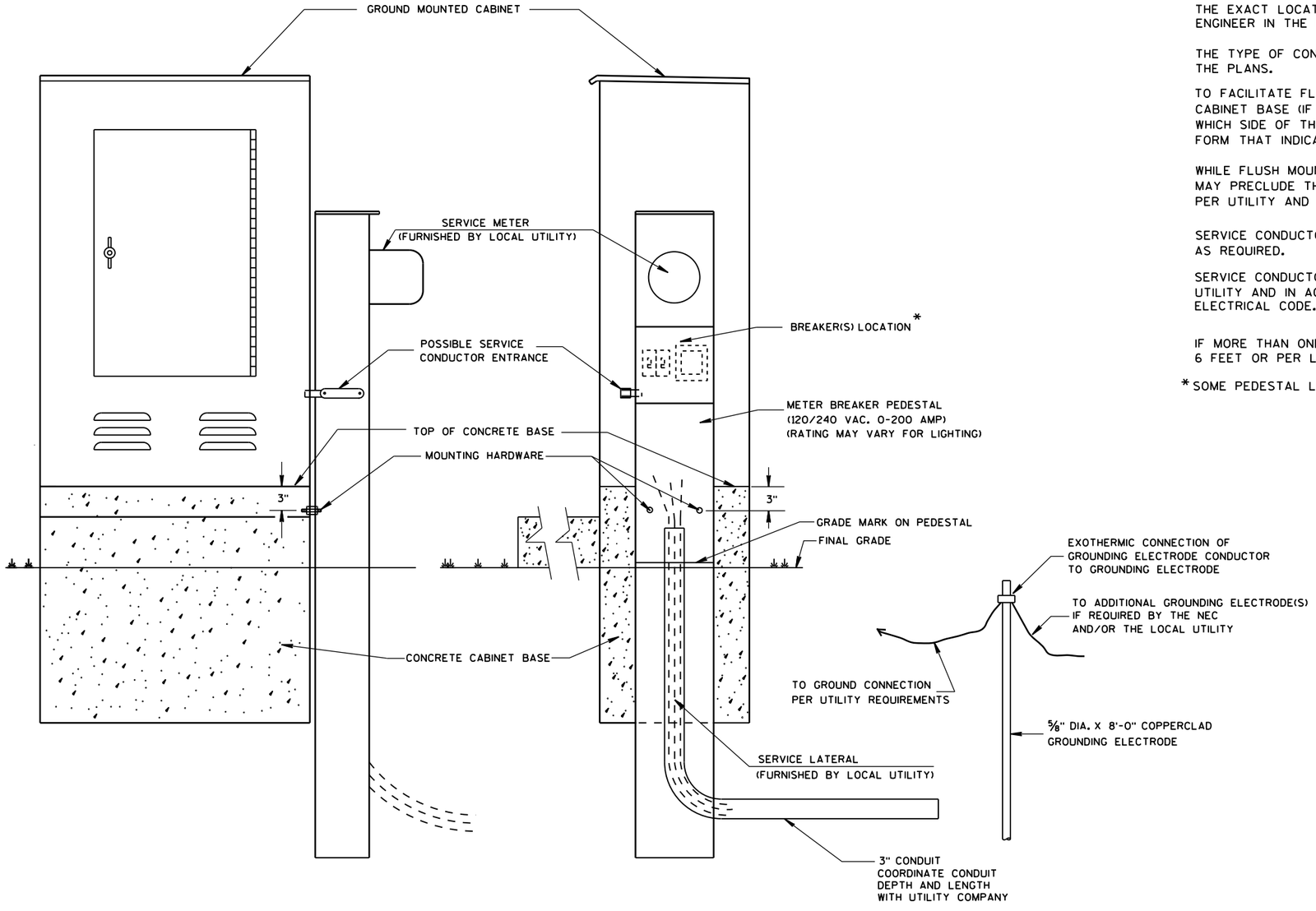
CONCRETE BASE TYPE 10 SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020 — DATE
/S/ Alex Crabtree — WIND LOADED STRUCTU PROGRAM LEADER
FHWA

SDD 09C15 - 01

SDD 09C15 - 01



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 1-5

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S.D.D. 9 D 1-5

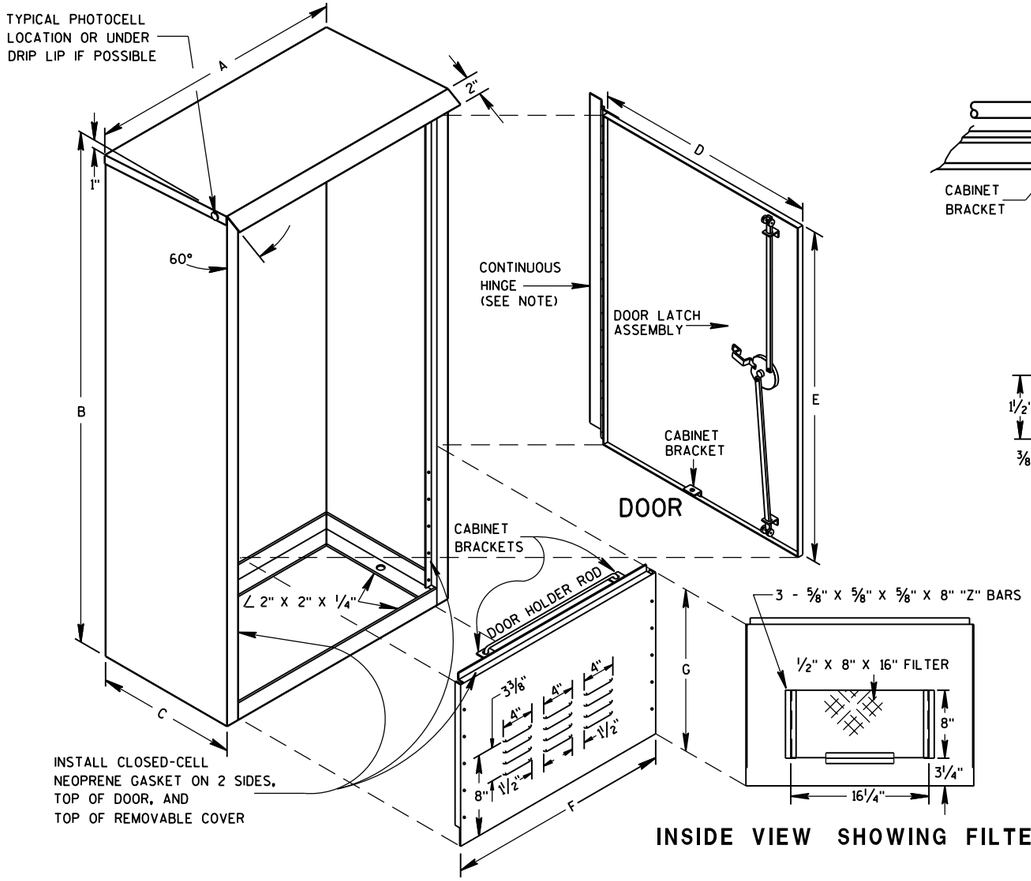
CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE

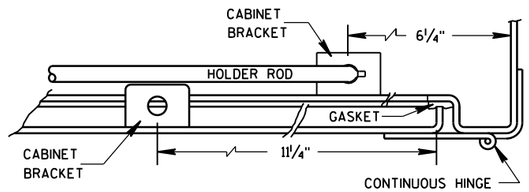
/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

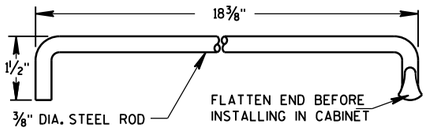


INSIDE VIEW SHOWING FILTER

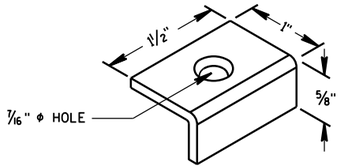
REMOVABLE COVER



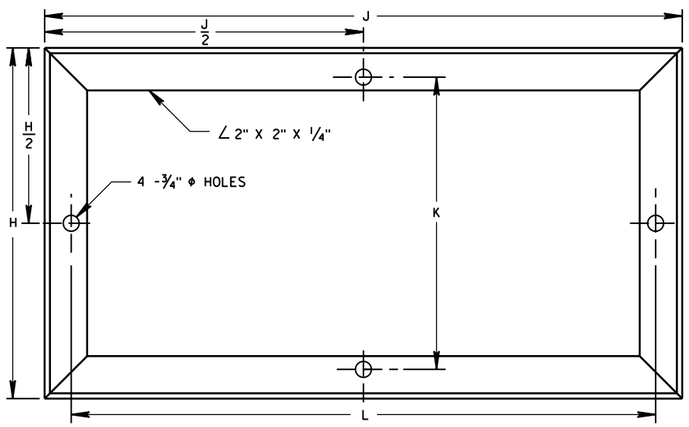
HINGE & DOOR HOLDER



HOLDER ROD



CABINET BRACKET



MOUNTING BASE

TABLE OF DIMENSIONS (INCHES)

MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2

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.

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

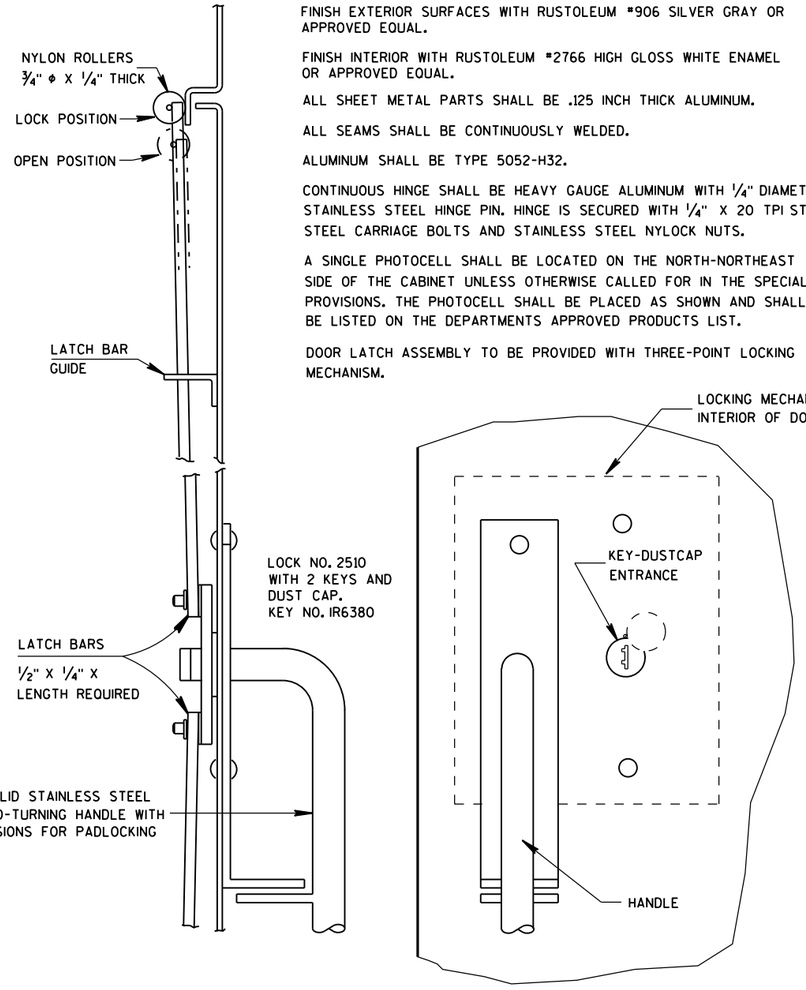
ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH 1/4" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST.

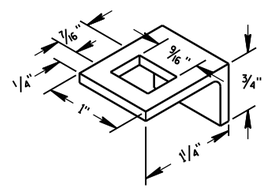
DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.



SIDE VIEW

FRONT VIEW

LATCH ASSEMBLY



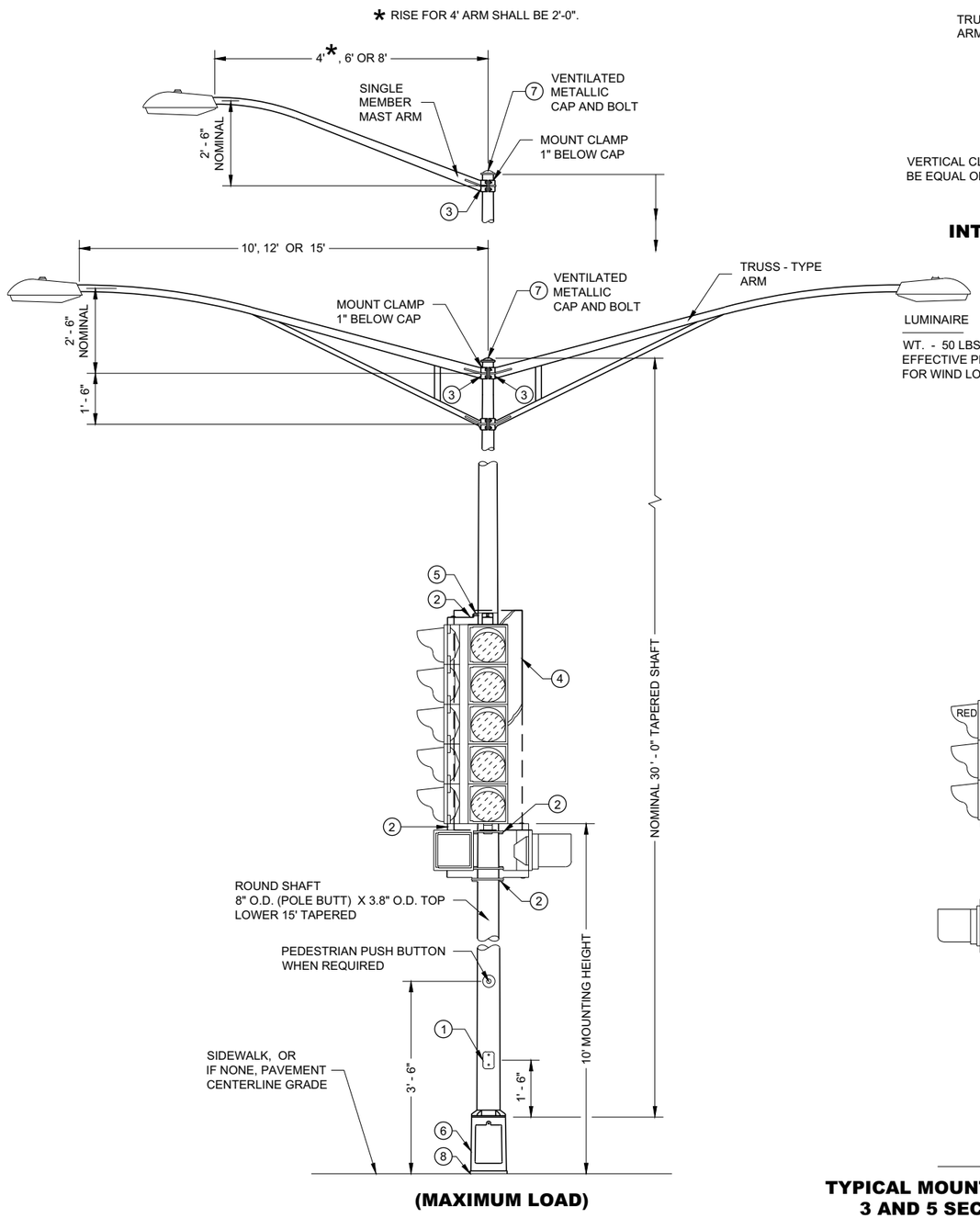
LATCH BAR GUIDE

SIGNAL CONTROL CABINET

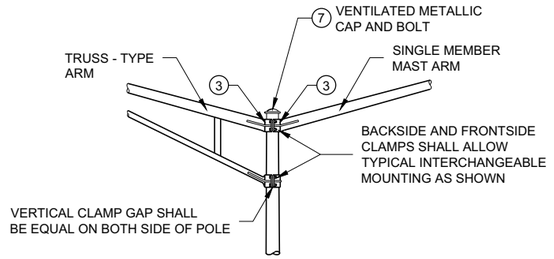
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

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S.D.D. 9 D 2-3



(MAXIMUM LOAD)



INTERCHANGEABLE MOUNTING DETAIL

GENERAL NOTES

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

ALL TYPE 4 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL WITH A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE / ROPE SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 ⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) ¼" X ¾" - 20 TPI , STAINLESS STEEL, HEX HEAD BOLTS.

(2) SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING.

(3) GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 ⅜" HOLE IN POLE SHAFT FOR WIRING.

(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

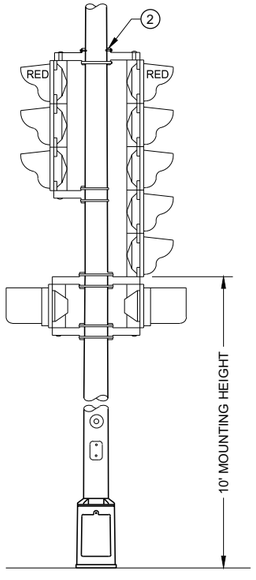
(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE ONE OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.

(6) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

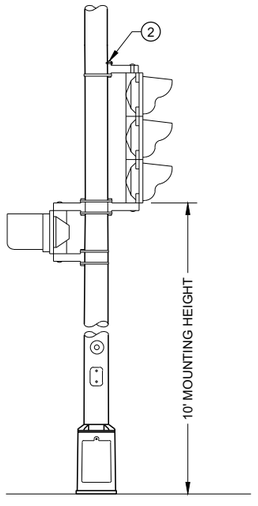
(7) FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(8) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.

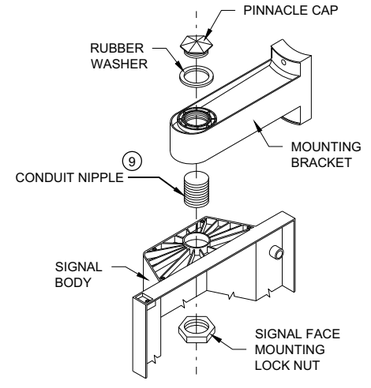
(9) USE 1 ½" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 ½" OPENING IN SIGNAL FACES AND BRACKET ENDS.



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE



SIGNAL FACE MOUNTING DETAIL
(BANDED)

TYPE 4 POLE MOUNTING CONFIGURATION

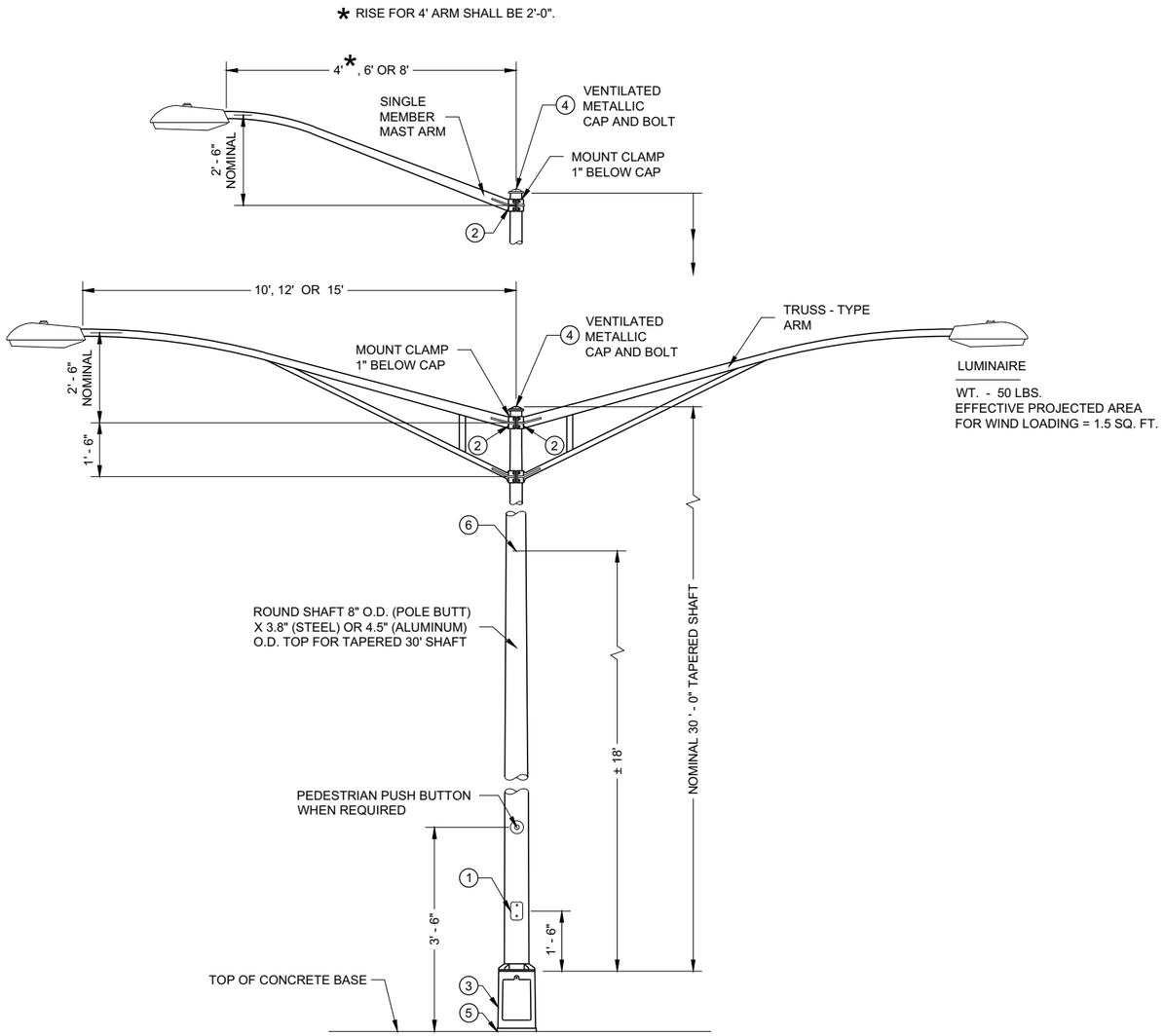
POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 09E01 - 15c

SDD 09E01 - 15c



TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY

GENERAL NOTES

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

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

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.

TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.1888".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (0.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 ⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) ¼" X ¾" - 20 TPI , STAINLESS STEEL, HEX HEAD BOLTS.

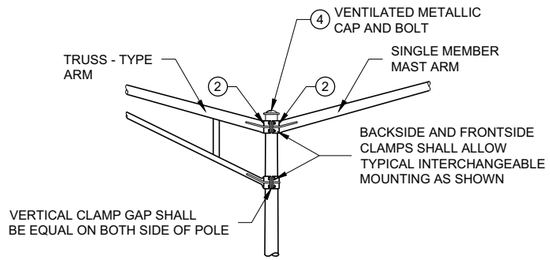
(2) GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 ⅜" HOLE IN POLE SHAFT FOR WIRING.

(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 POLE.

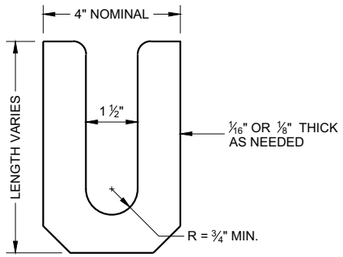
(6) INTERNAL DUMBBELL - TYPE VIBRATION DAMPER.



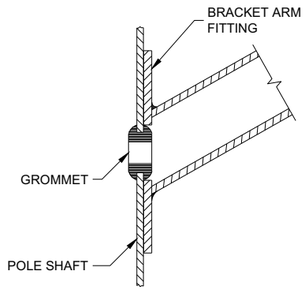
INTERCHANGEABLE MOUNTING DETAIL

POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)

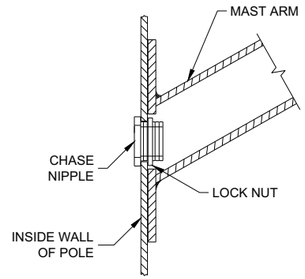
SDD 09E01 - 15d
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LEVELING SHIM (1)
SHALL BE ALUMINUM



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.

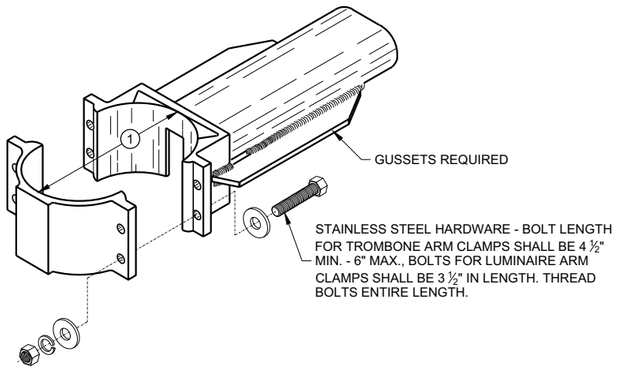
(1) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP. 6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(2) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

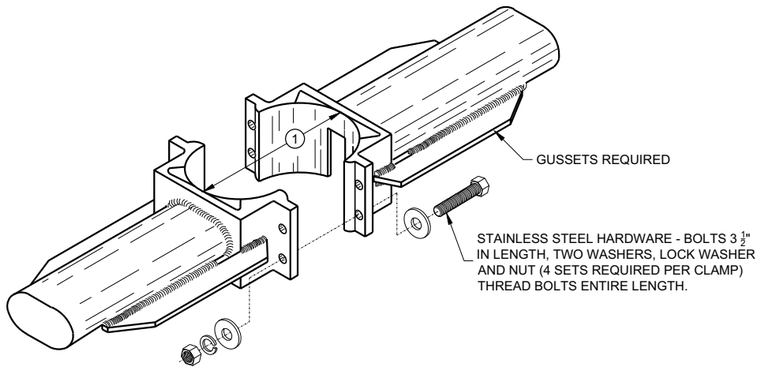
(3) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(4) 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.

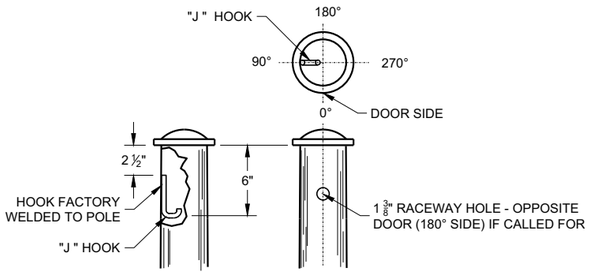
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



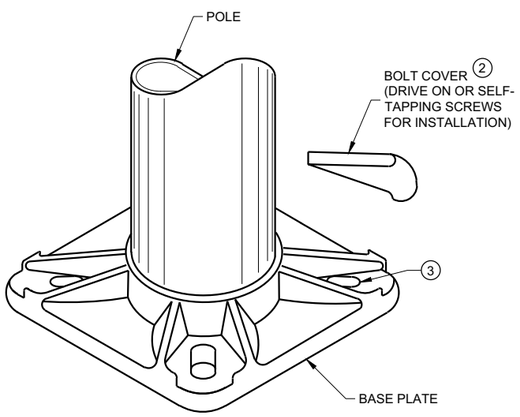
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



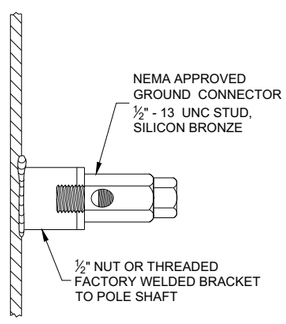
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

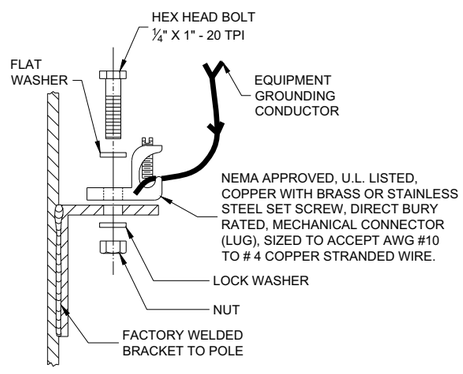


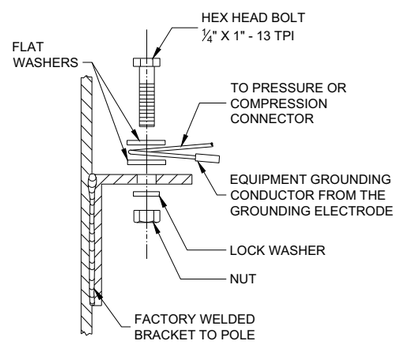
TYPICAL "J" HOOK LOCATION



BASE PLATE







TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

HARDWARE DETAILS FOR POLE MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI 198

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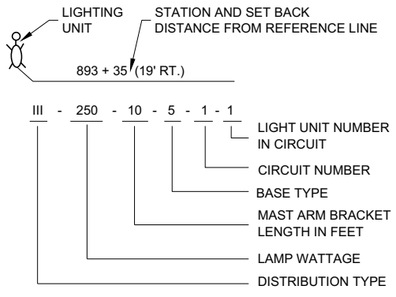
SDD 09A01 - 15g

GENERAL NOTES

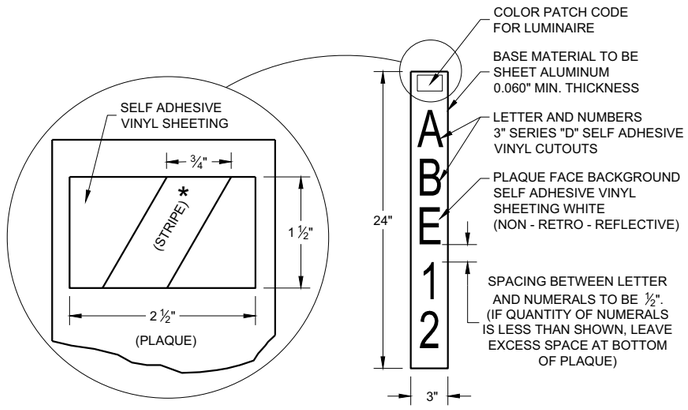
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND 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.



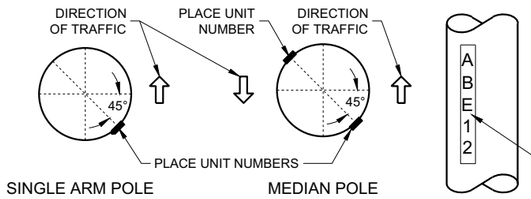
LIGHTING UNIT CODE
(TYPICAL)



COLOR PATCH CODE FOR LUMINAIRES

(HIGH PRESSURE SODIUM)	(MERCURY VAPOR)
1000 WATT - NO PATCH	400 WATT - NO PATCH
400 WATT - ORANGE	250 WATT - YELLOW
310 WATT - BLUE	
250 WATT - ORANGE W / WHITE STRIPE *	
200 WATT - RED	
150 WATT - GREEN	
100 WATT - BROWN	

IDENTIFICATION PLAQUE



NOTES

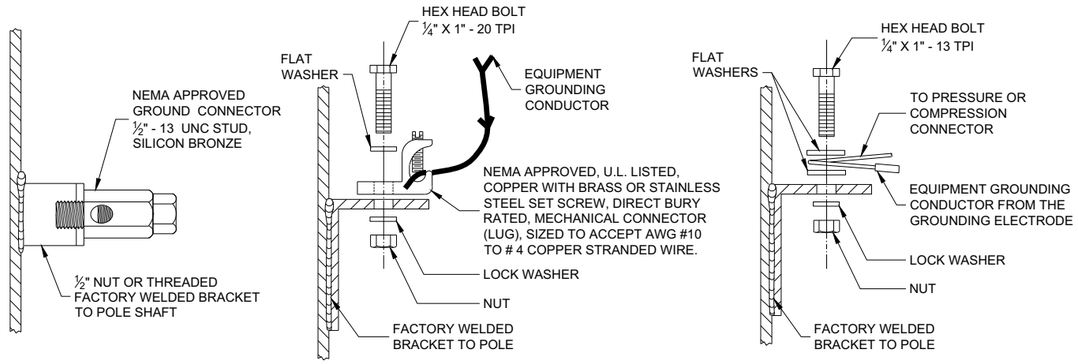
1) PLACE BOTTOM OF UNIT NUMBER PLAQUE 5'-0" ABOVE ELEVATION OF ADJACENT CURB OR SHOULDER.

2) UNIT NUMBER: ONE REQUIRED FOR SINGLE ARM POLES. TWO REQUIRED FOR MEDIAN MOUNT POLES.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE WITH 3 ALUMINUM POP RIVETS (ALUMINUM POLES) OR STAINLESS STEEL POP RIVETS (STEEL POLES).

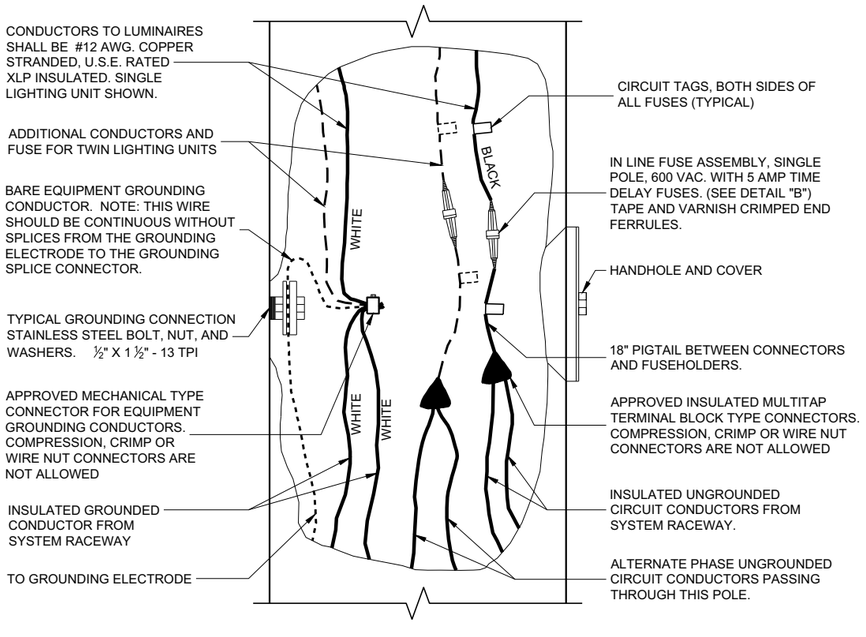
LIGHTING UNIT IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENT
(TYPICAL, ALL LIGHTING UNITS)

FURNISH PLAQUE WHEN CALLED FOR BY SPECIAL PROVISIONS

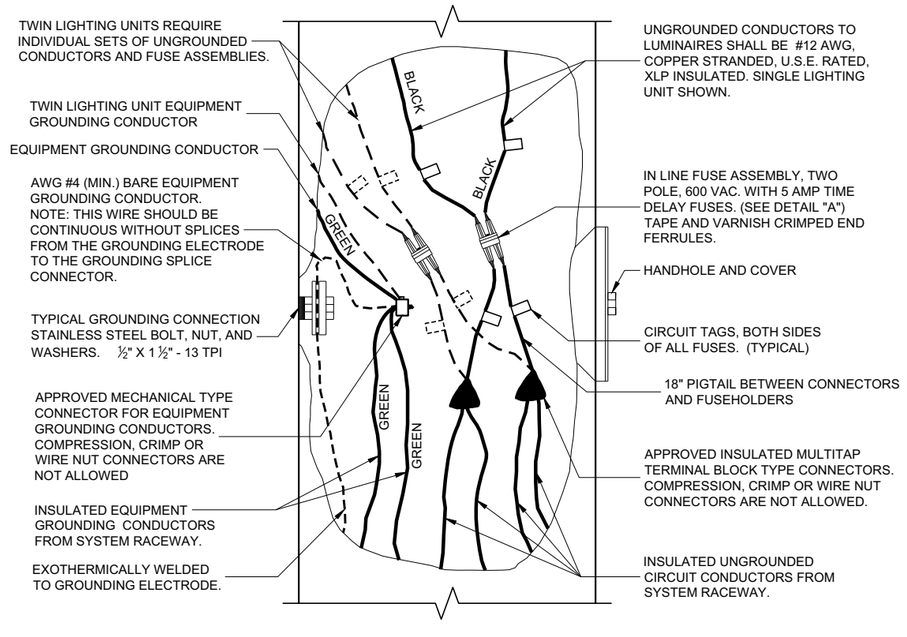


TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

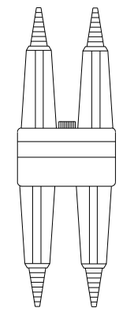
OLD EXISTING FREEWAY WIRING (SOME AREAS)



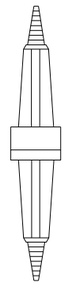
2 WIRE - 120, 240, OR 480 VAC TO GROUND



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR



DETAIL "A"
BREAKAWAY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



DETAIL "B"
BREAKAWAY SINGLE POLE WITH WATERPROOF INSULATING BOOT

FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI 199

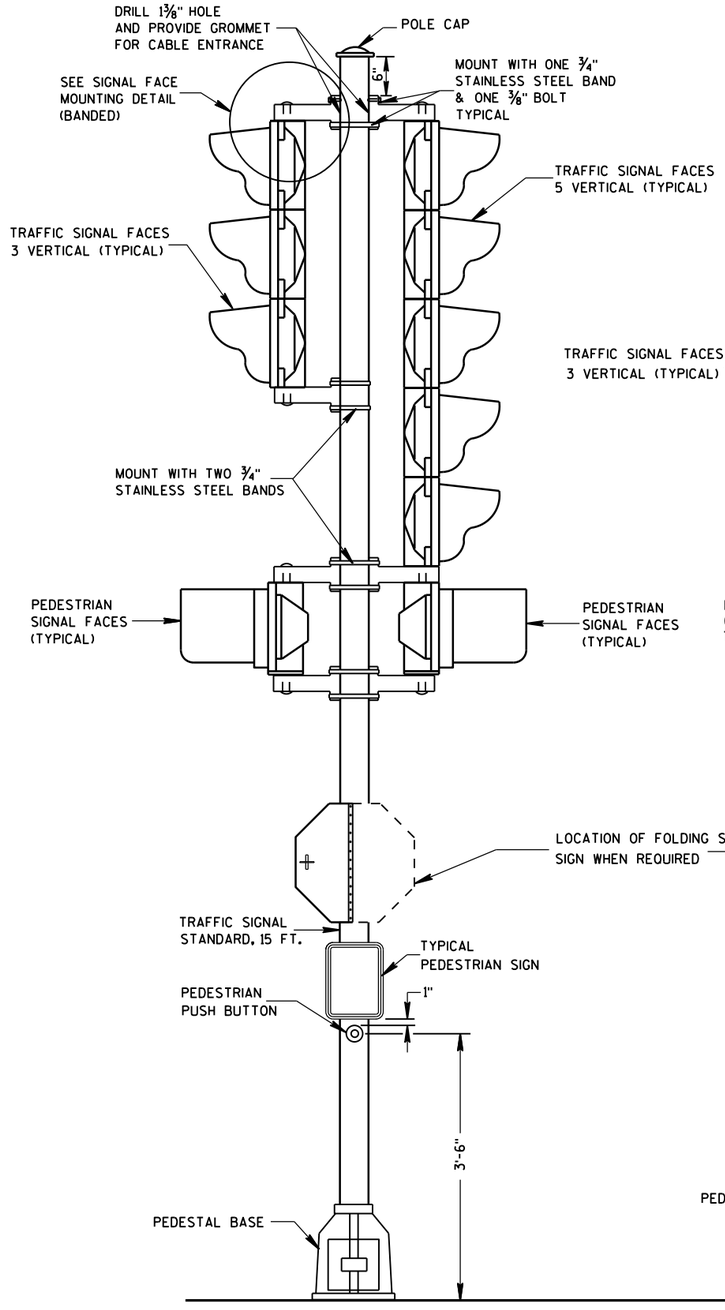
FHWA

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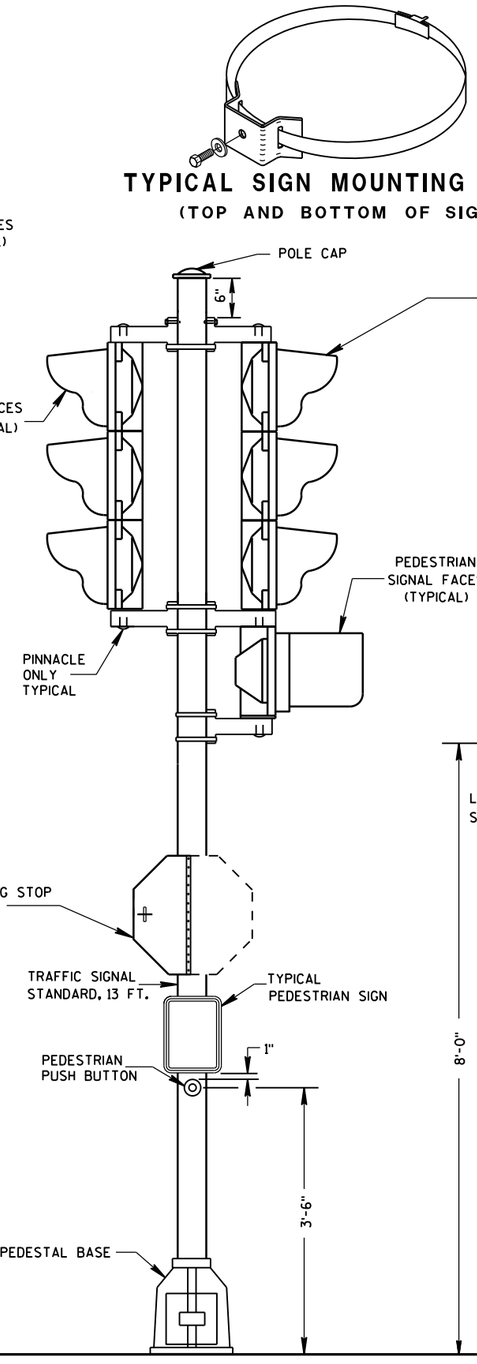
SDD 09E02 - 05

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SDD 09E02 - 05

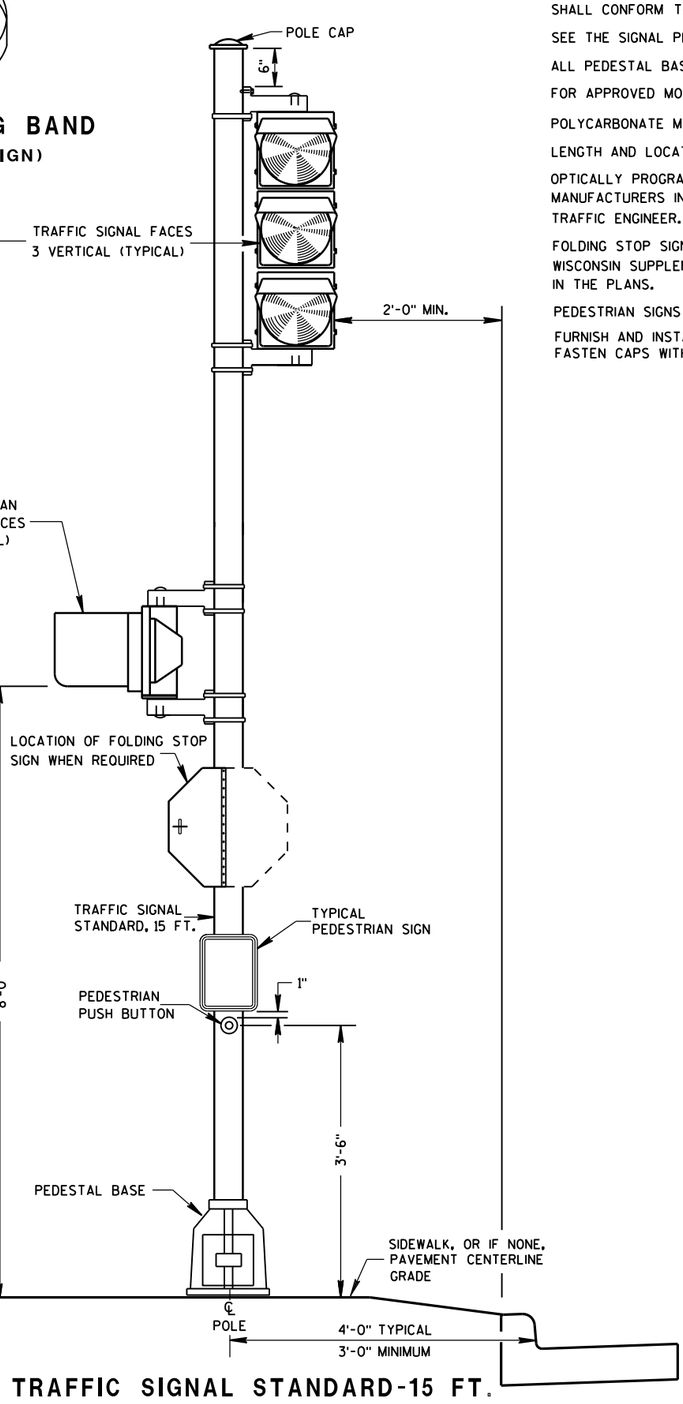


TRAFFIC SIGNAL STANDARD-15 FT.



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.

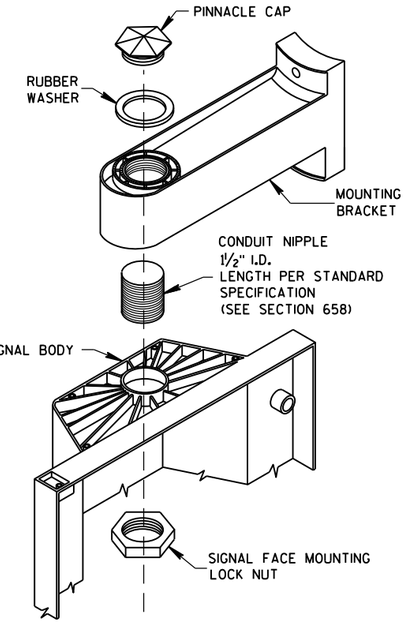
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

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.



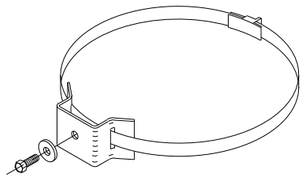
SIGNAL FACE MOUNTING DETAIL
(BANDED)

TRAFFIC SIGNAL STANDARD
POLY BRACKET MOUNTINGS
(TYPICAL) 13 FT. OR 15 FT.

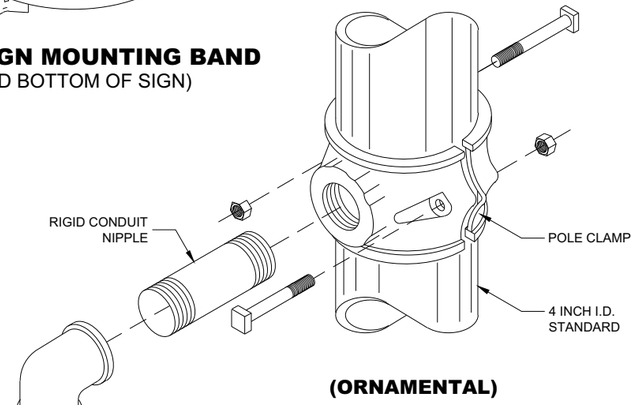
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/28/2013 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL 200
FHWA

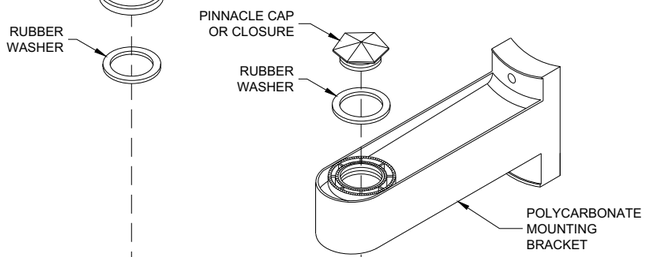
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S.D.D. 9 E 6-5



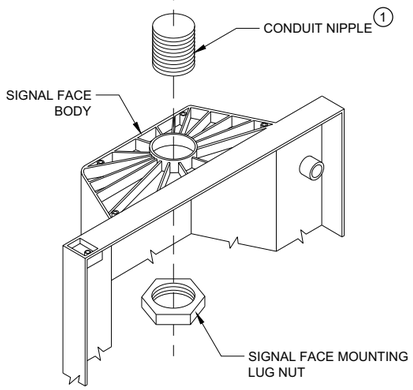
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



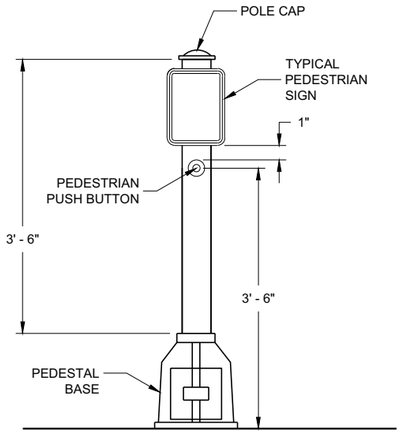
(ORNAMENTAL)



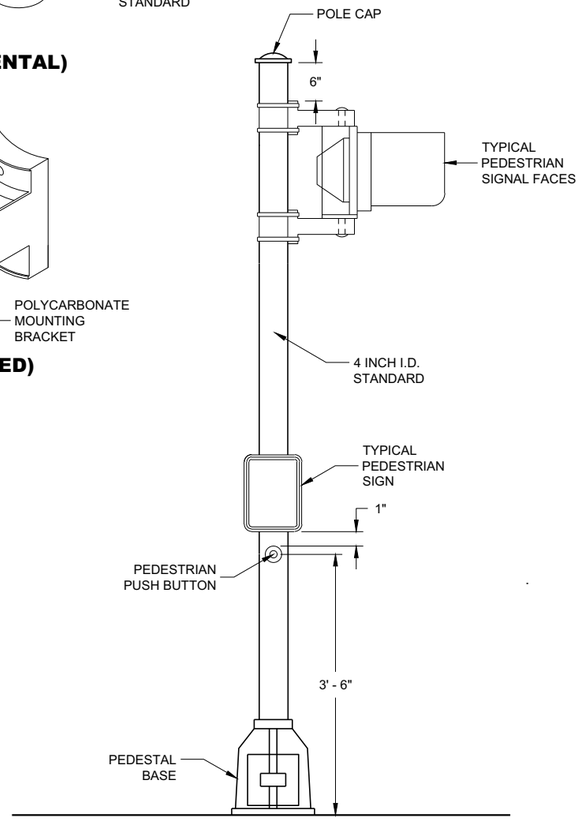
(BANDED)



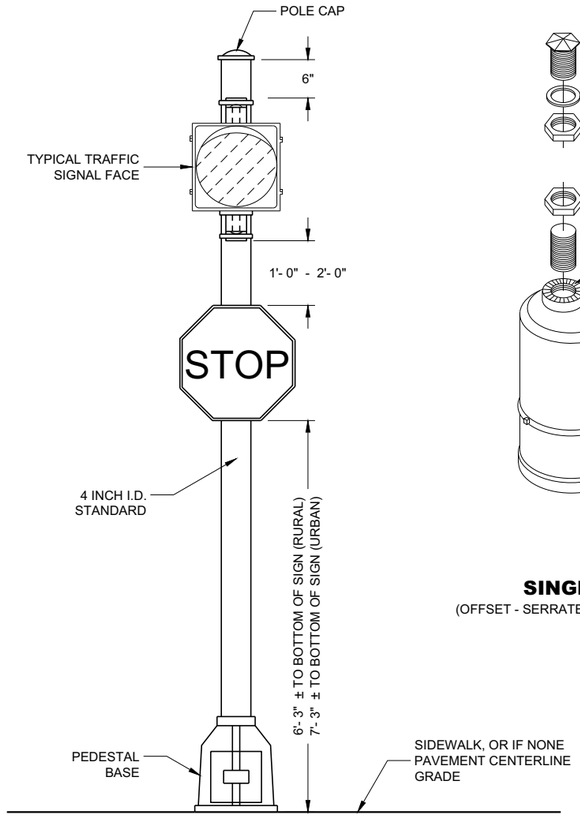
SIGNAL FACE MOUNTING DETAILS



PEDESTRIAN PUSH BUTTON TYPICAL MOUNTING



PEDESTRIAN FACE STANDARD - 10 FT.
(WALK - DON'T WALK)



STANDARD FLASHER
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED

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, UNLESS APPROVED BY THE ENGINEER IN THE FIELD.

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.

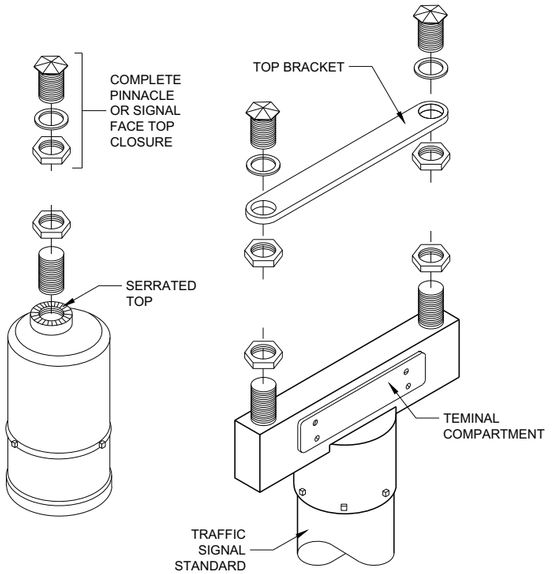
LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE REGION 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.

(1) USE 1 ½" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 ½" OPENING IN SIGNAL FACESAND BRACKET ENDS.



SINGLE
(OFFSET - SERRATED MOUNTING)

DOUBLE
(SERRATED MOUNTING)

SLIPFITTERS

TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

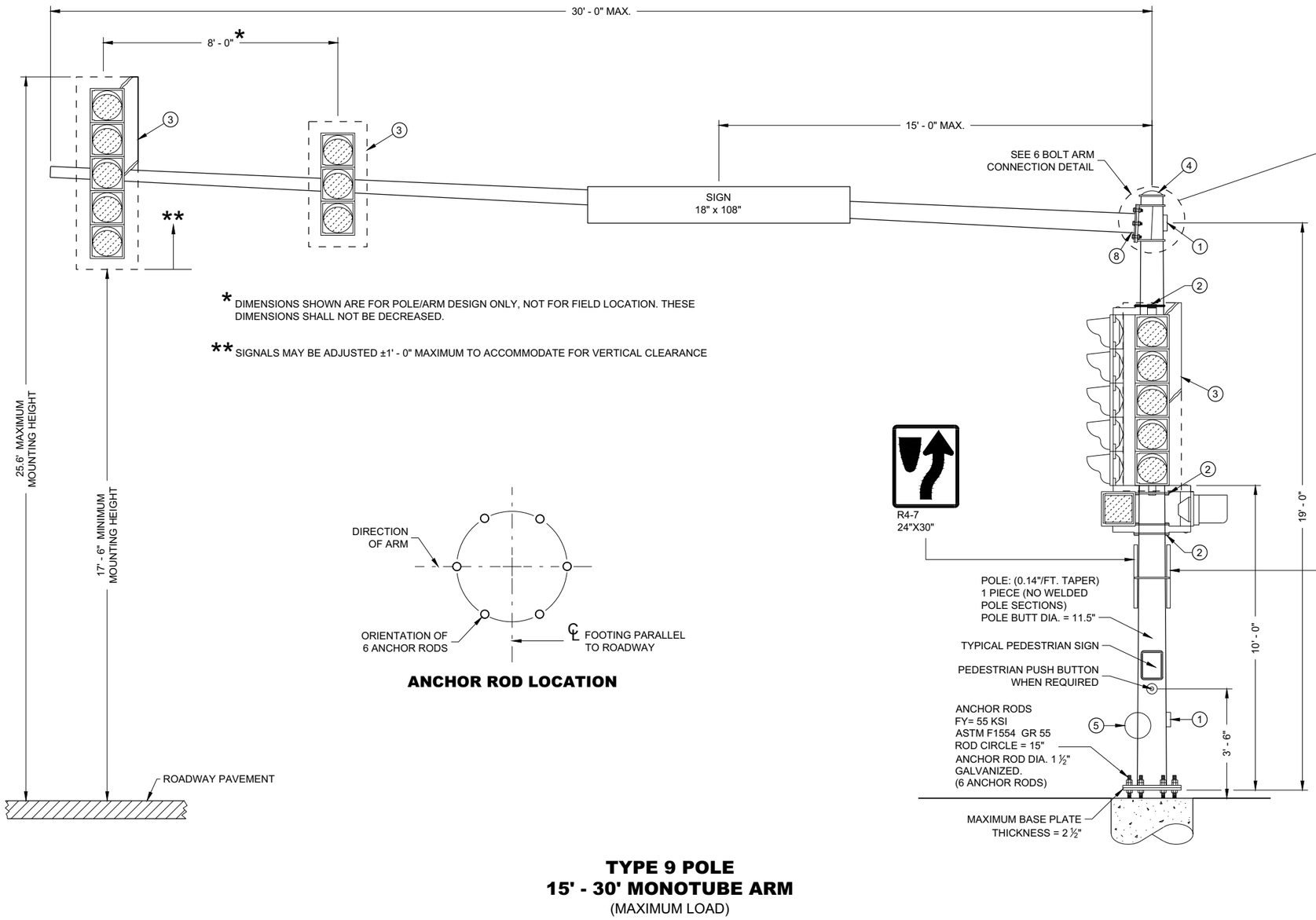
APPROVED
November 2018
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI 201

FHWA

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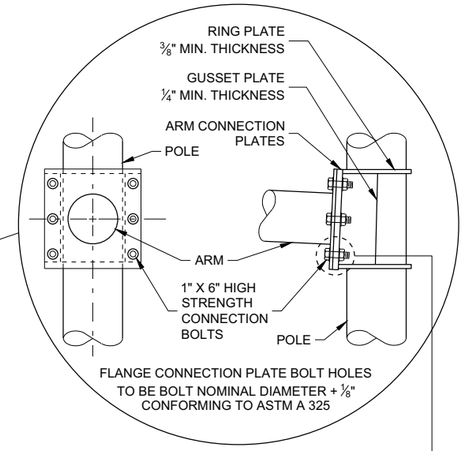
SDD 09E07 - 06



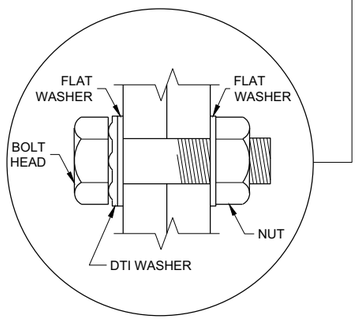
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ±1' - 0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE

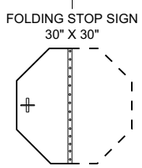
ANCHOR ROD LOCATION



6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL

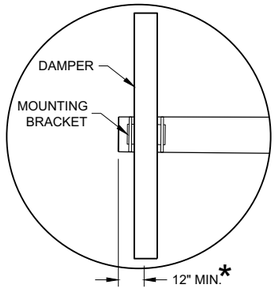


TYPE 9 POLE
15' - 30' MONOTUBE ARM
(MAXIMUM LOAD)

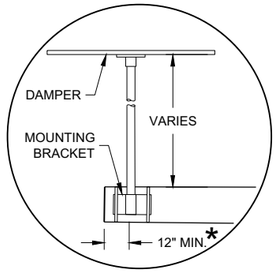
TYPE 9 POLE 15' - 30' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2020 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGI 202
FHWA	

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SDD 09E08 - 09a

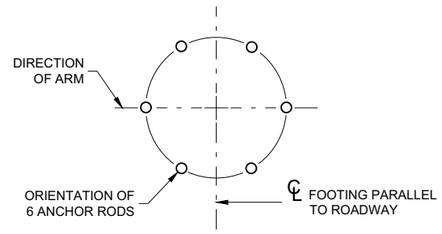


DUMBBELL VIBRATION DAMPER

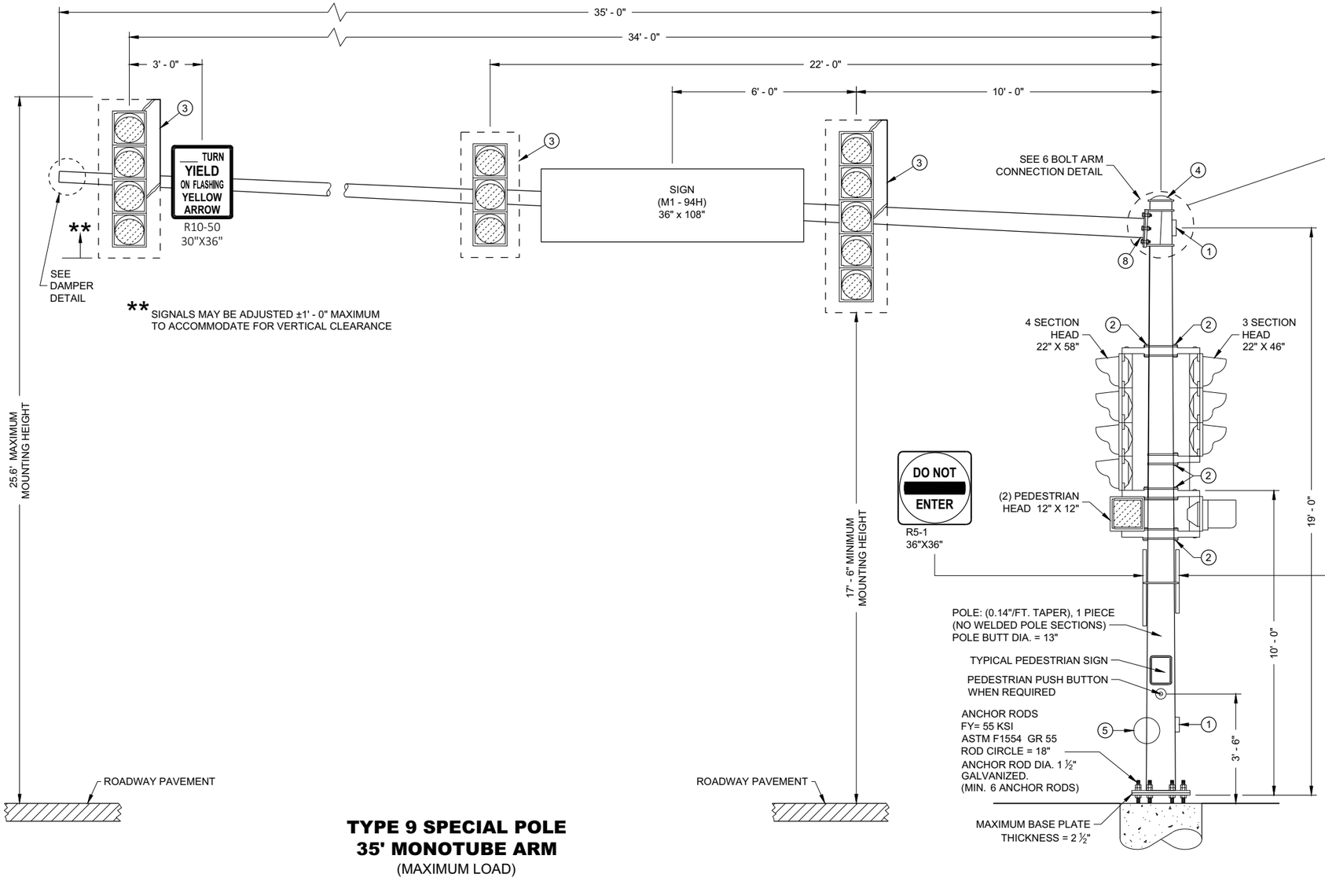


FLAT VIBRATION DAMPER

* MOUNT AS CLOSE TO END OF MAST ARM FOR MAXIMUM DAMPING PER MANUFACTURER'S RECOMMENDATIONS.

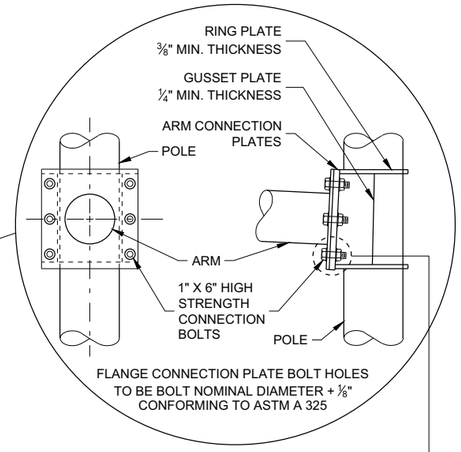


ANCHOR ROD LOCATION

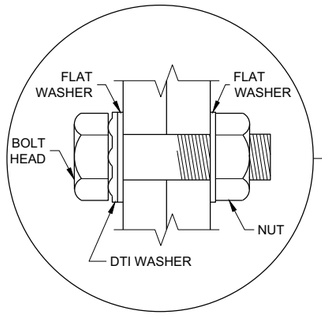


** SIGNALS MAY BE ADJUSTED ±1' - 0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE

TYPE 9 SPECIAL POLE
35' MONOTUBE ARM
(MAXIMUM LOAD)



6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL

TYPE 9 SPECIAL POLE
35' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI 203

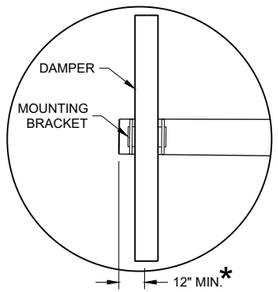
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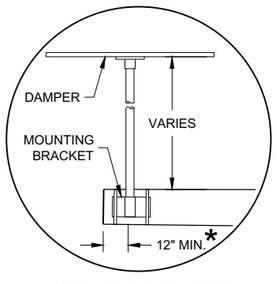
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SDD 09E08 - 09b

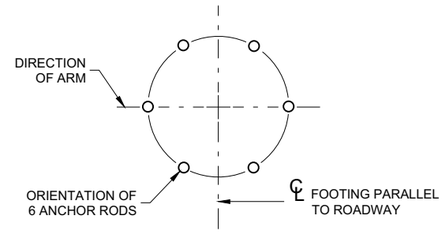


DUMBBELL VIBRATION DAMPER

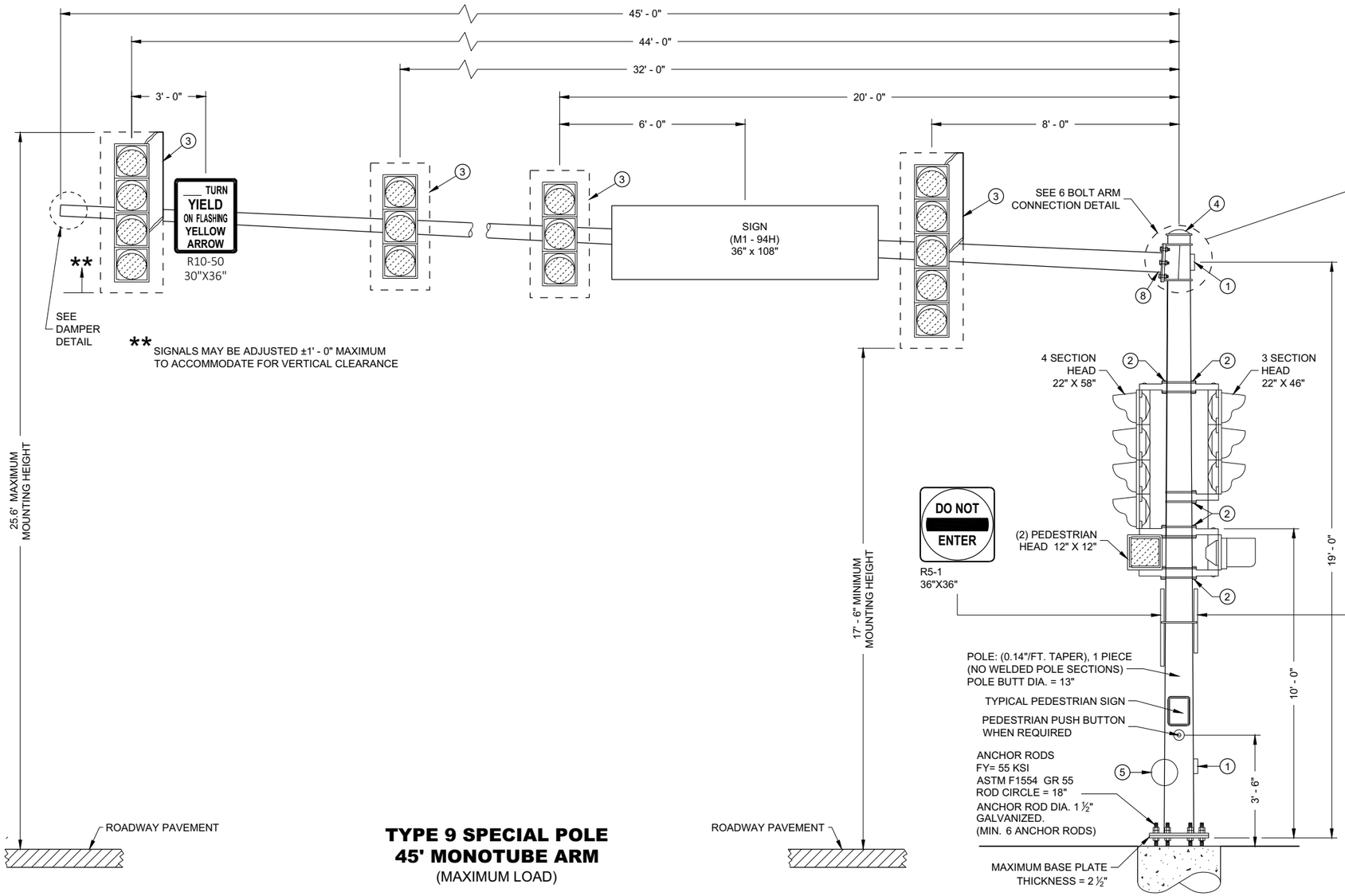


FLAT VIBRATION DAMPER

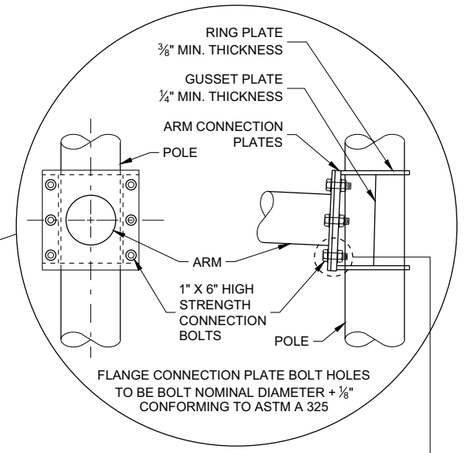
* MOUNT AS CLOSE TO END OF MAST ARM FOR MAXIMUM DAMPING PER MANUFACTURER'S RECOMMENDATIONS.



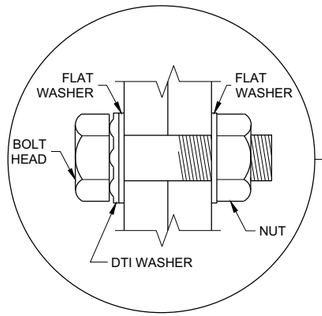
ANCHOR ROD LOCATION



TYPE 9 SPECIAL POLE 45' MONOTUBE ARM
(MAXIMUM LOAD)



6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL

TYPE 9 SPECIAL POLE 45' MONOTUBE ARM

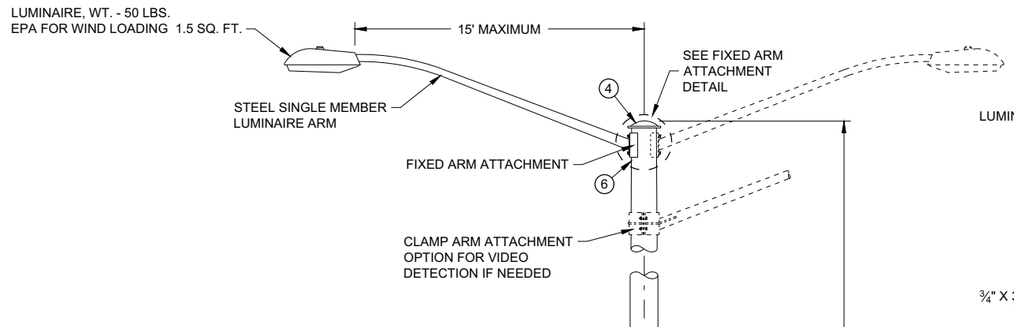
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

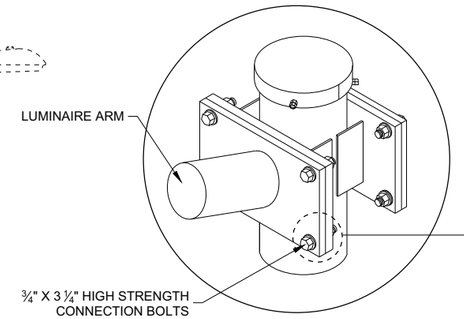
APPROVED
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/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI 204

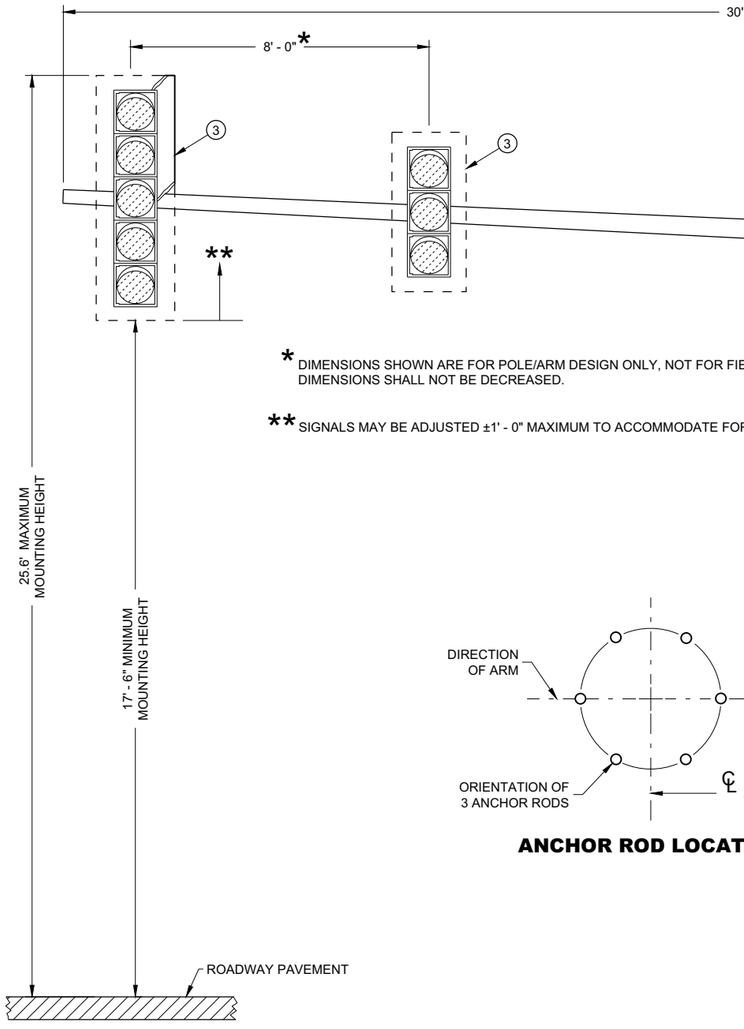
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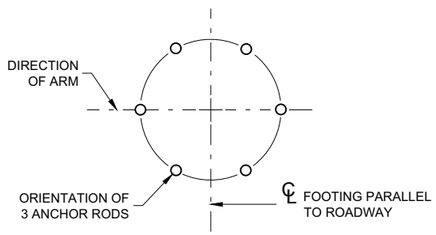


FIXED ARM ATTACHMENT DETAIL

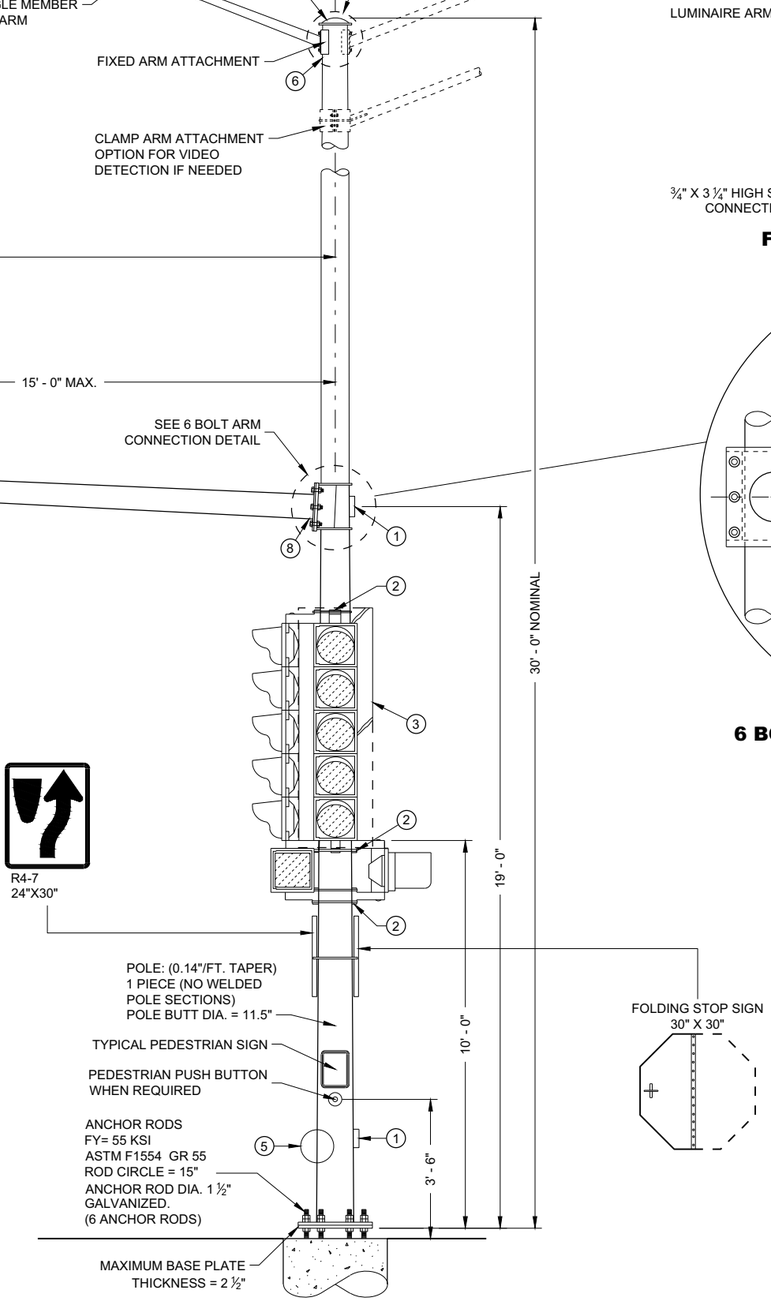


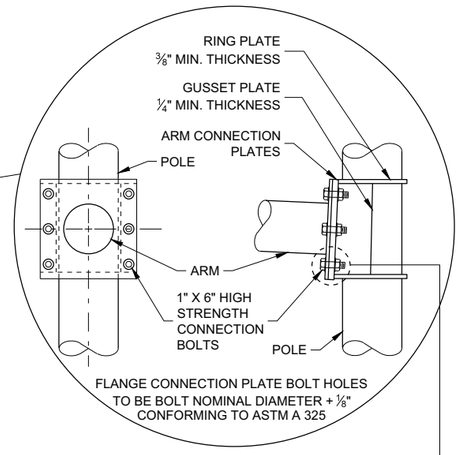
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** SIGNALS MAY BE ADJUSTED ±1' - 0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE

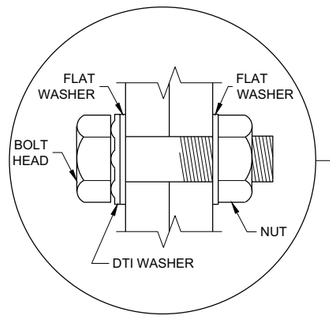


ANCHOR ROD LOCATION





6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL

TYPE 10 POLE
15' - 30' MONOTUBE ARM
(MAXIMUM LOAD)

TYPE 10 POLE
15' - 30 MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

FHWA

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SDD 09E08 - 09e

SDD 09E08 - 09e

GENERAL NOTES

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15 FOOT TO 30 FOOT.

POLE TYPES 9 SPECIAL AND 10 SPECIAL ARE FOR ARM LENGTHS 35 FOOT, 40 FOOT, AND 45 FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35 FOOT TO 55 FOOT.

MONOTUBE POLES AND ARMS SHALL BE GALVANIZED STEEL.

RING STIFFENED BUILT UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3% ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATION SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING INTERIM REVISIONS)" AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR THE LIGHTING STRUCTURES AS FOLLOWS:

CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.

CATEGORY II FATIGUE LOADS OF TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 SPECIAL AND TYPE 10 SPECIAL STRUCTURES. IN LIEU OF DESIGNING FOR GALLOPING, A VIBRATION DAMPER MITIGATION DEVICE IS REQUIRED TO BE SUPPLIED AND INSTALLED AT THE END OF THE MAST ARM.

CATEGORY II FATIGUE FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE12 AND TYPE 13 STRUCTURES.

115 MPH (700 YEAR MRI BASIC WIND SPEED).

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" STAINLESS STEEL BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR A S DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEAD AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

(1) DESIGN FOR MAXIMUM ALLOWABLE HAND HOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING (SEE SPECIFICATION SECTION 658).

(3) SECURELY MOUNT BACK PLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

(5) FACTORY WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HAND HOLD, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

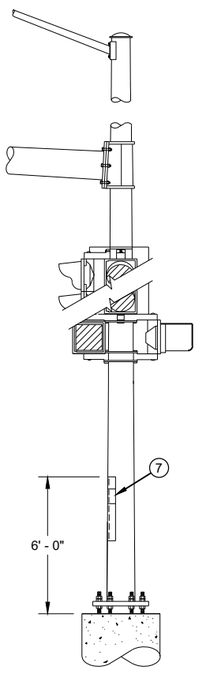
(6) FACTORY WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

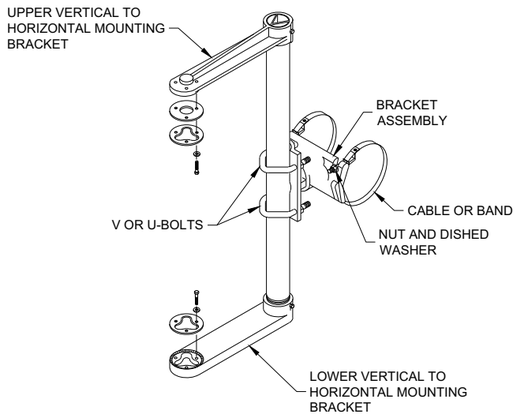
STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 6' - 0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

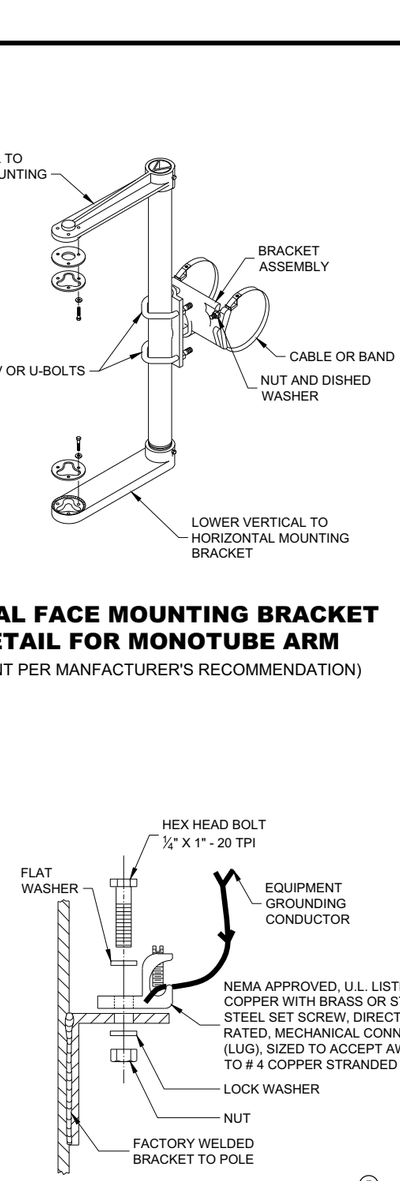


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



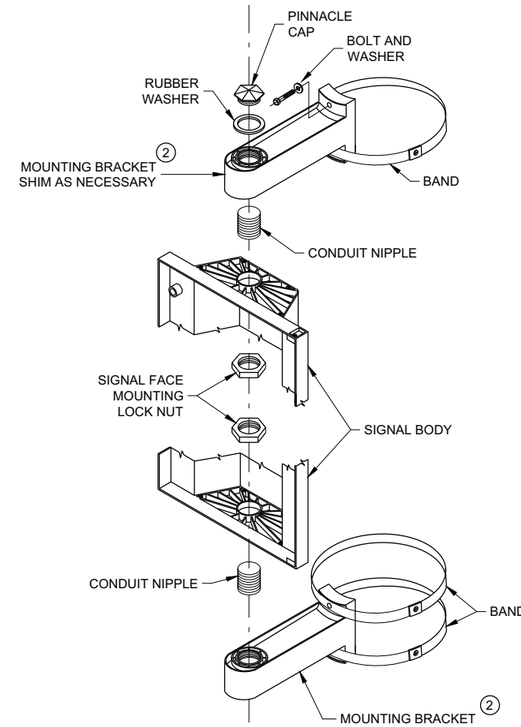
SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

(MOUNT PER MANFACTURER'S RECOMMENDATION)

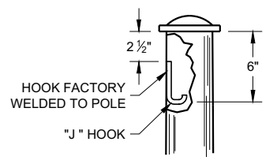


TYPICAL GROUNDING (5) CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



SIGNAL FACE VERTICAL MOUNTING DETAIL



TYPICAL "J" HOOK (6) WIRE SUPPORT

GENERAL NOTES AND HARDWARE FOR TYPES 9,10, 9/10 SPECIAL, 12 AND 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL ENGINEER

FHWA

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SDD 09E08 - 09k

GENERAL NOTES

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

OVER HEIGHT POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

OVER HEIGHT 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 AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING 2017 INTERIM REVISIONS) 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.

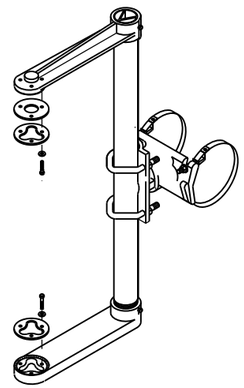
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

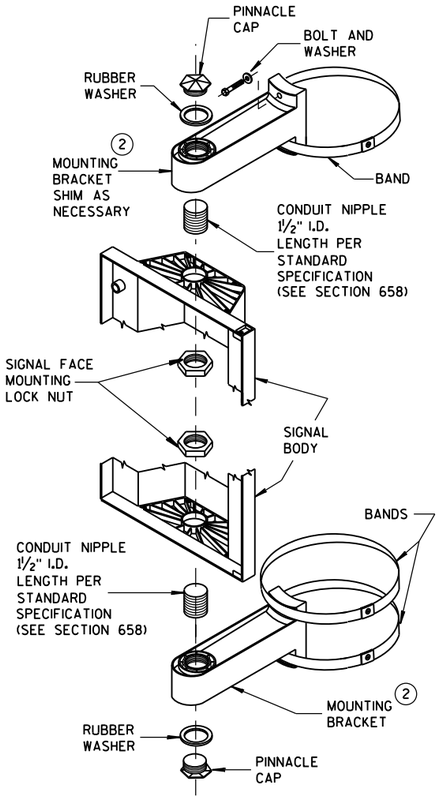
MOUNTING HEIGHT SHALL BE 6'-0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

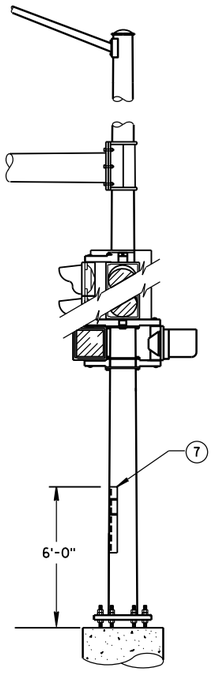


SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

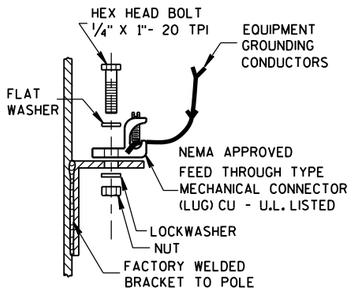
(MOUNT PER MANUFACTURER'S RECOMMENDATION)



SIGNAL FACE VERTICAL MOUNTING DETAIL

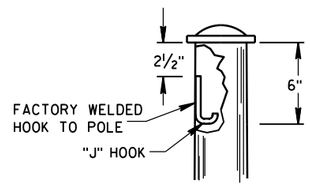


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



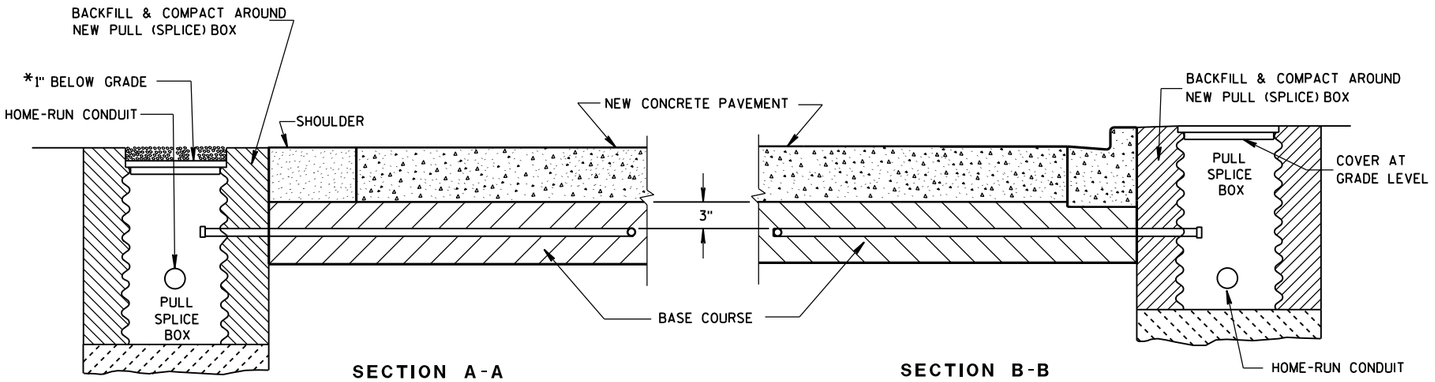
"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR OVER HEIGHT TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6
S.D.D. 9 E 12-1e



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 LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE 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.

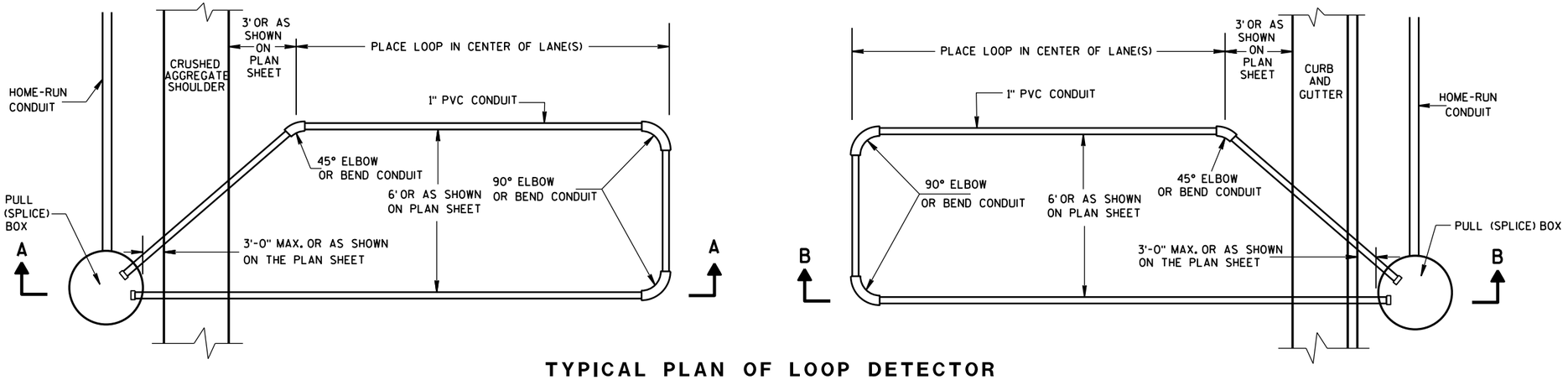
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

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

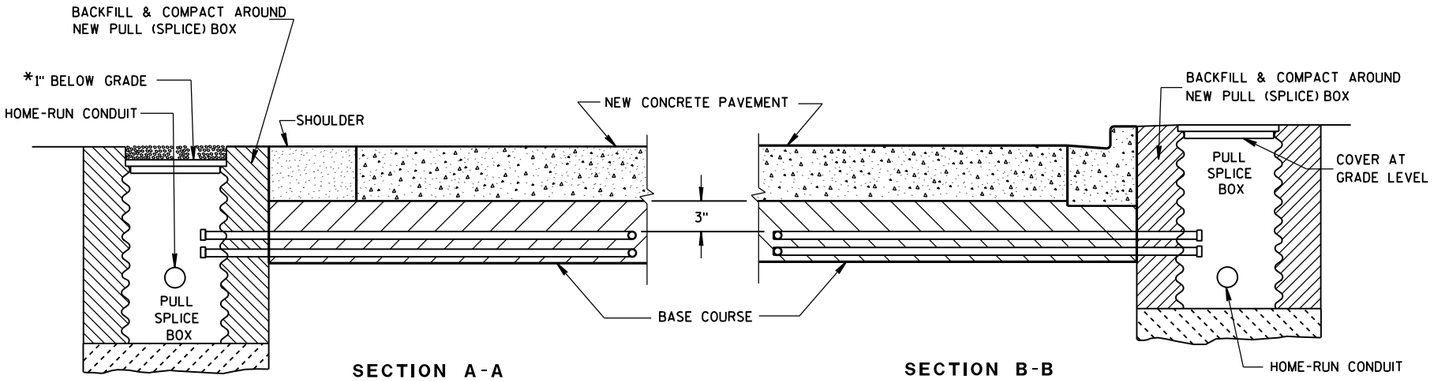
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Sept. 2014 — DATE
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6

S.D.D. 9 F 15-4a

6

S.D.D. 9 F 15-4a



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 LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE 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.

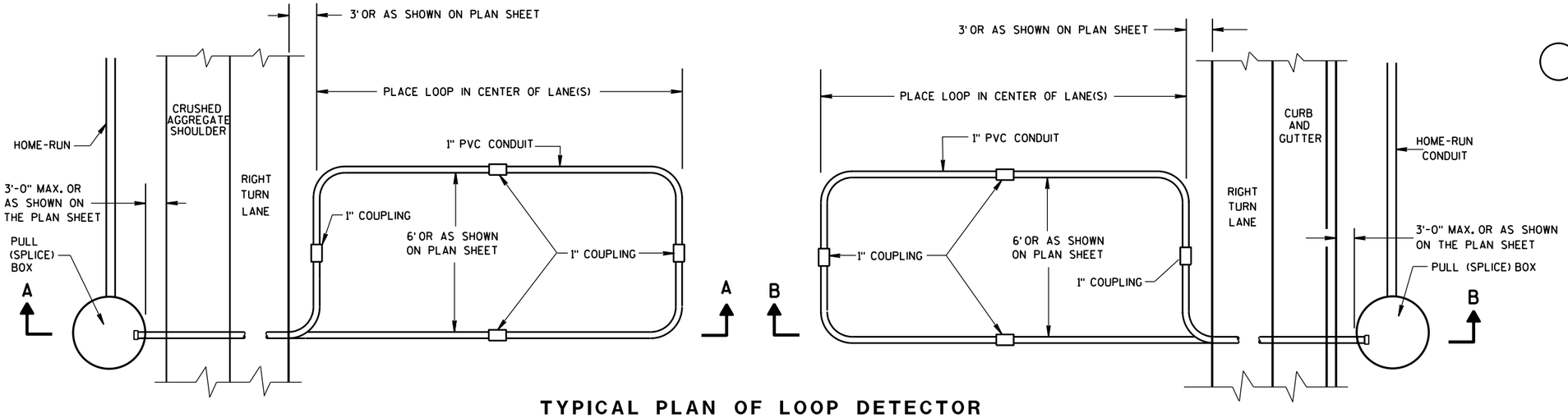
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

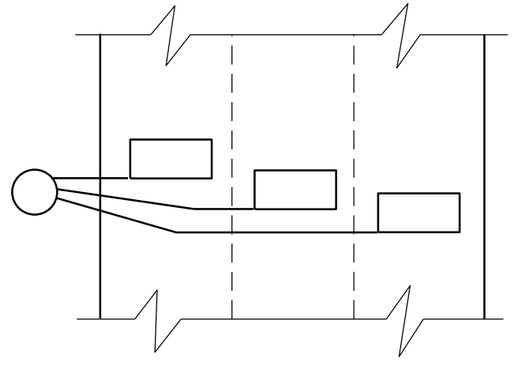
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

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.

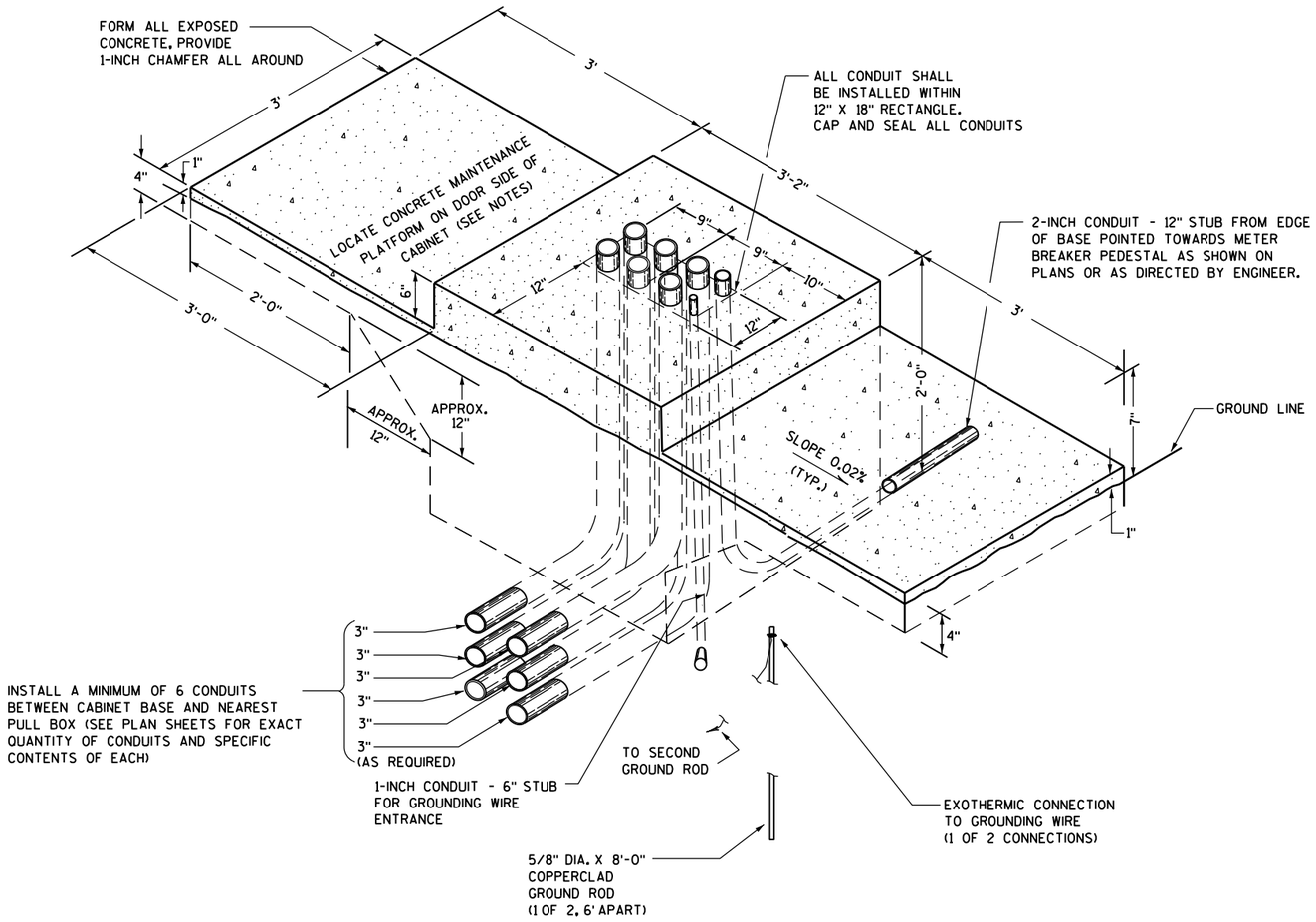


TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA	



BASE ITS CONTROLLER CABINET

GENERAL NOTES

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

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 3-INCHES.

DEPTH OF CONDUIT SHALL BE 24-INCHES MINIMUM AND 36-INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROLLER CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED AND LEVEL. PRIOR TO CABINET INSTALLATION. LEVELING OF TOP SURFACES AFTER CONCRETE BASE HAS CURED SHALL ONLY BE ACCOMPLISHED BY GRINDING.

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 PLACED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6-INCH MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

ALL METALLIC CONDUIT ENDS AT TOP OF CONCRETE BASES SHALL HAVE BUSHINGS IF WIRE IS INSTALLED.

ALL NONMETALLIC CONDUIT ENDS AT TOP OF CONCRETE BASES SHALL HAVE END BELLS IF WIRE IS INSTALLED.

ANCHOR THE CABINET WITH FOUR 1/2-INCH X 4-INCH MECHANICAL WEDGES OR EPOXY STAINLESS STEEL MASONRY ANCHORS WITH A MINIMUM PULLOUT STRENGTH OF 9000 POUNDS.

6

S.D.D. 9 H 1-1

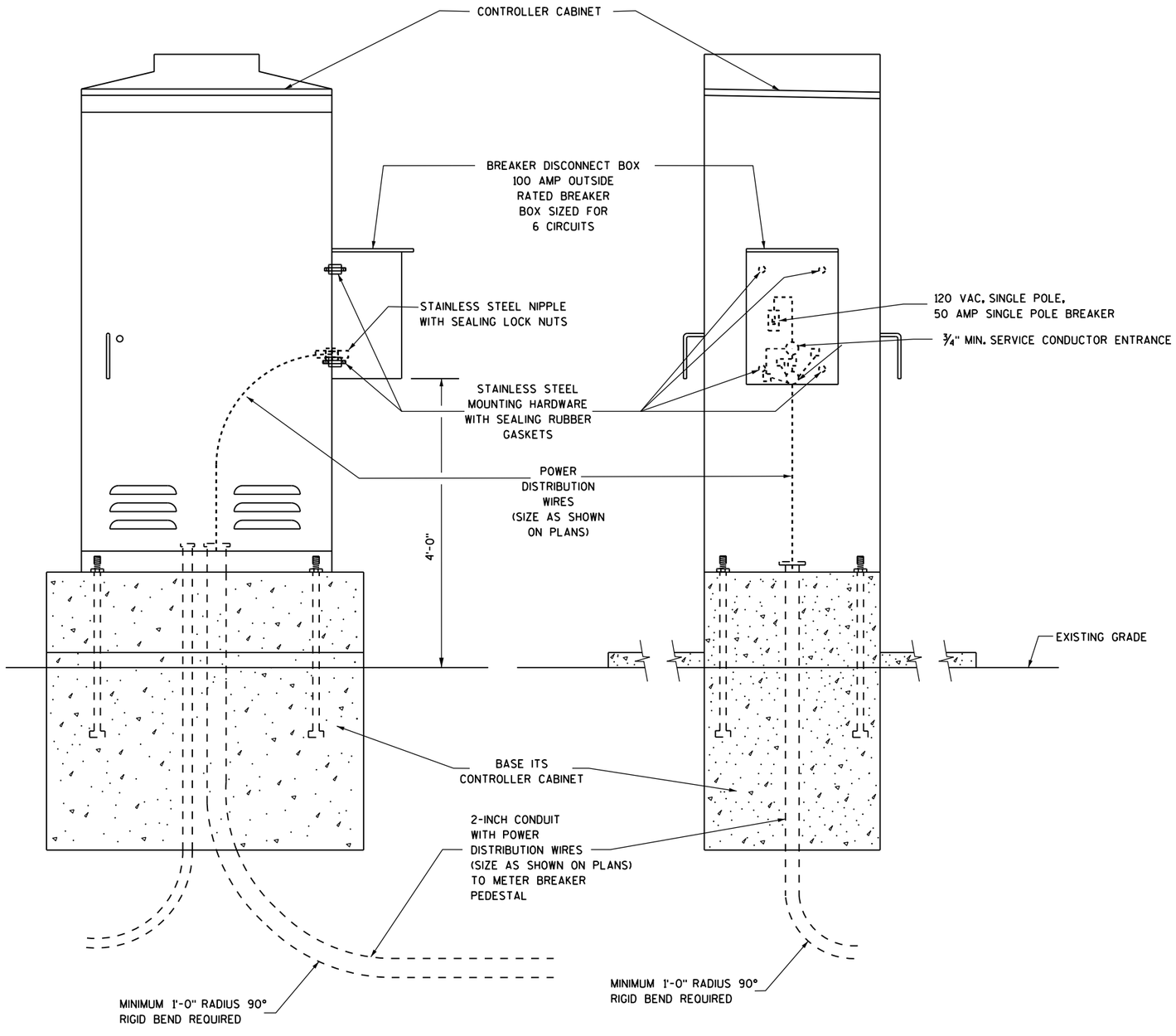
BASE ITS
CONTROLLER CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 H 1-1



CABINET BREAKER DISCONNECT BOX INSTALLATION

GENERAL NOTES

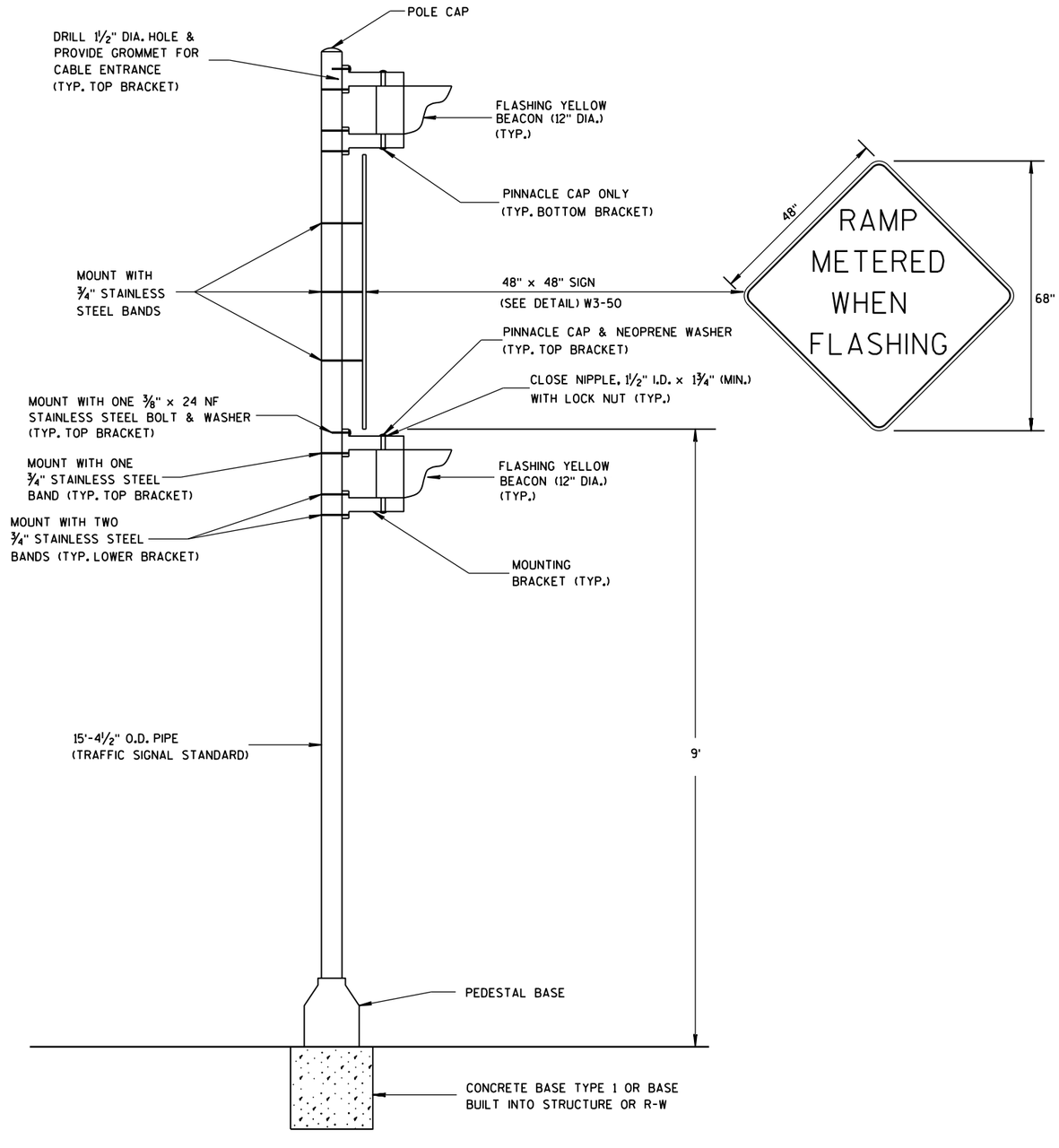
MINIMUM REQUIREMENT SHOWN. ADDITIONAL BREAKERS MAY BE REQUIRED.

UP TO THREE BREAKERS WILL BE CONSIDERED INCIDENTAL TO THE ITEM BREAKER DISCONNECT BOX.

CABINET BREAKER DISCONNECT BOX INSTALLATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE FHWA	/S/ Ahmet Demirbilek STATE ELECTRICAL

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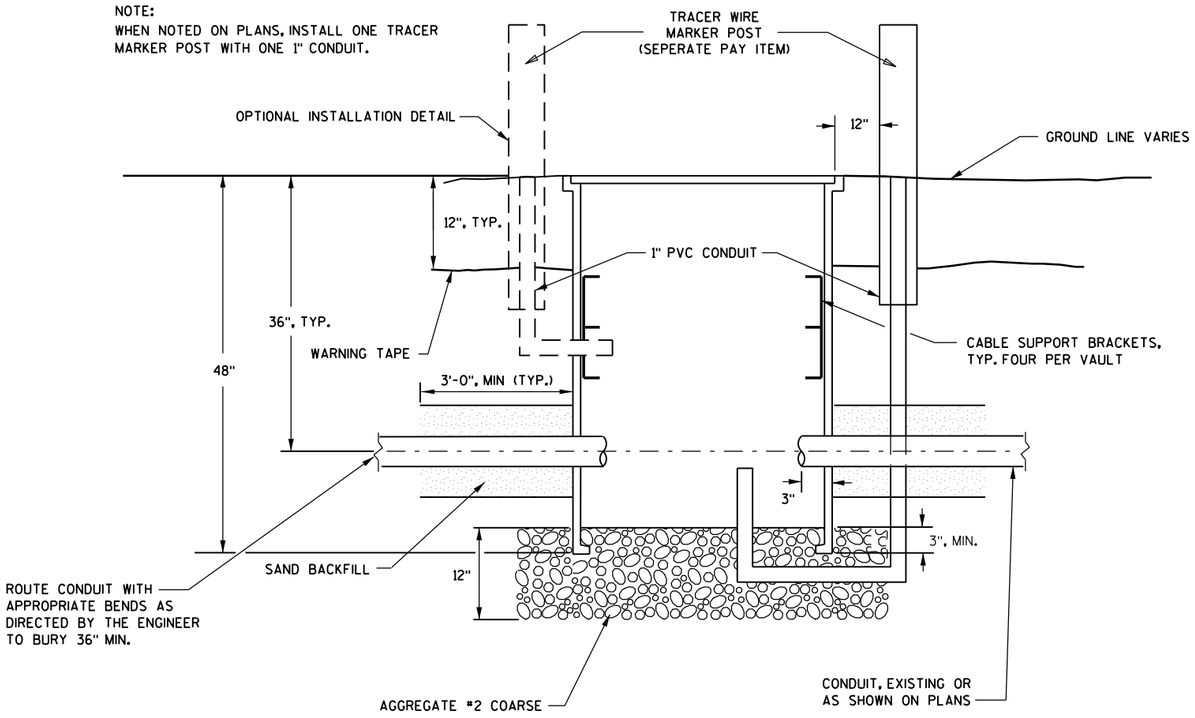
S.D.D. 9 H 5-1



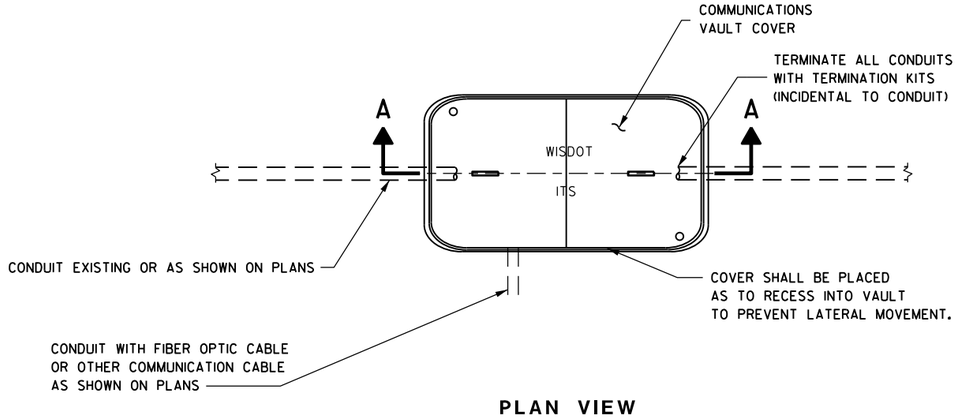
SIGNAL ASSEMBLY ADVANCE FLASHER TYPE 1

SIGNAL ASSEMBLY ADVANCE FLASHER TYPE 1	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
June, 2015 (DATE)	/S/ Ahmet Demirbilek (STATE ELECTRICAL)
FHWA	

6
S.D.D. 9 H 6-2



SECTION A-A



PLAN VIEW

COMMUNICATIONS VAULT TYPE 1

GENERAL NOTES

PROVIDE VAULT WITH OPEN BASE.

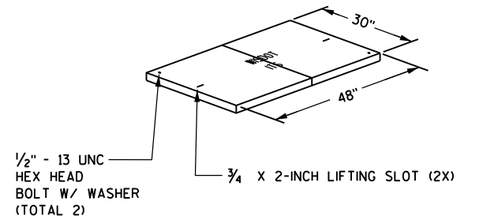
COVER SHALL HAVE A MINIMUM DESIGN LOAD OF 15,000 LBS AND SHALL LOCK.

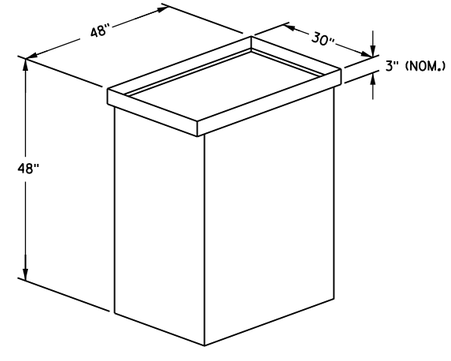
ALL OPENINGS IN STRUCTURE MUST BE MACHINED AT TIME OF FABRICATION, OR PUNCH DRIVEN AT TIME OF PLACEMENT.

VAULTS SHALL BE OF ONE-PIECE CONSTRUCTION. TWO-PIECE/STACKABLE VAULTS WILL NOT BE PERMITTED.

FIELD PLACEMENT OF COMMUNICATIONS VAULTS SHALL BE AS DIRECTED BY THE ENGINEER.

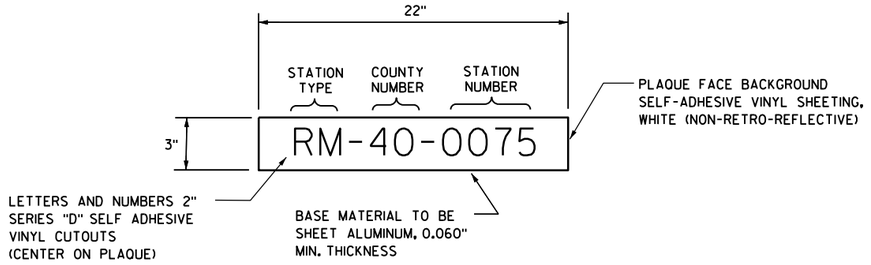
FIBER TRACER MARKER POSTS SHALL BE CONSTRUCTED WITH HIGH-IMPACT PLASTIC MATERIAL WHICH IS FADE RESISTANT AND UV STABLE. ALL HARDWARE SHALL BE STAINLESS STEEL AND CONTAIN A MINIMUM OF FIVE STANDARD TERMINALS.



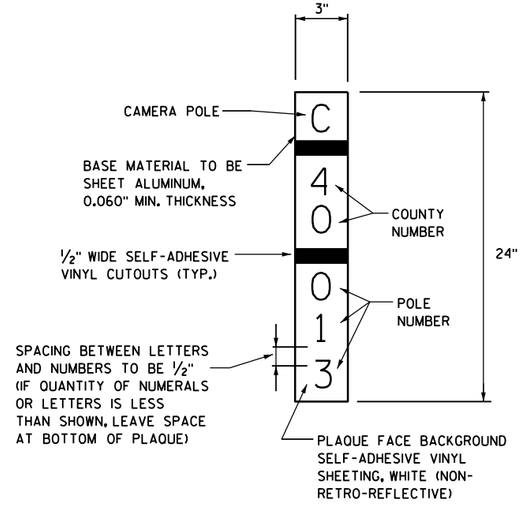


ISOMETRIC VIEW

COMMUNICATION VAULT TYPE 1
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED May, 2017 — DATE /S/Ahmet Demirbilek — STATE ELECTRICAL FHWA



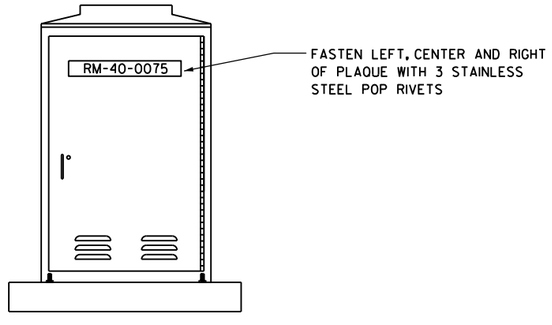
CONTROL CABINET IDENTIFICATION PLAQUE DETAIL



POLE IDENTIFICATION PLAQUE DETAIL

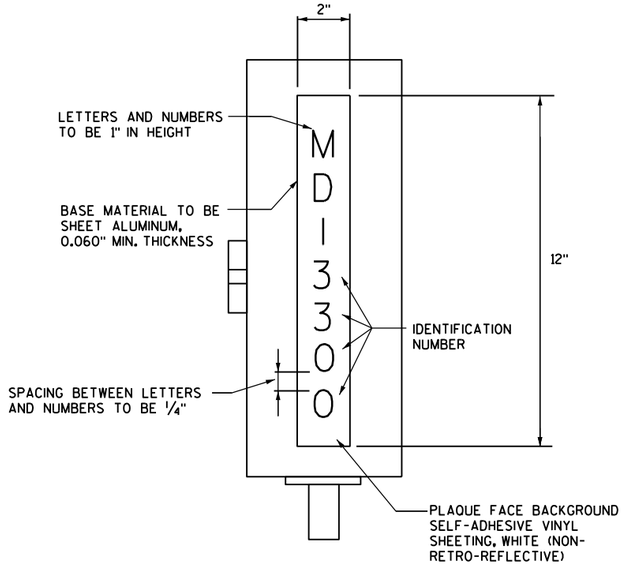
GENERAL NOTES

1. TWO PLAQUES PER CABINET REQUIRED ON CONTROL CABINET.
2. FASTEN ONE PLAQUE ON FRONT DOOR, UPPER HALF.
3. FASTEN ONE PLAQUE ON SIDE FACING LOCAL STREET. IF NO LOCAL STREET NEARBY, OR IF SUCH LOCATION COINCIDES WITH LOCATION OF PLAQUE IN NOTE (2), FASTEN PLAQUE ON REAR OF CABINET, UPPER HALF.
4. COUNTY NUMBER NOT REQUIRED ON RAMP METER CABINETS.



CONTROL CABINET IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS

(TYPICAL ALL CONTROL CABINETS)



MICROWAVE DETECTOR FIELD CABINET IDENTIFICATION PLAQUE DETAIL

LEGEND STATION TYPE

RM - RAMP METER
CCTV - CLOSED CIRCUIT TELEVISION
ATR - AUTOMATIC TRAFFIC RECORDER
SDS - SYSTEM DETECTOR STATION
MD - MICROWAVE DETECTOR

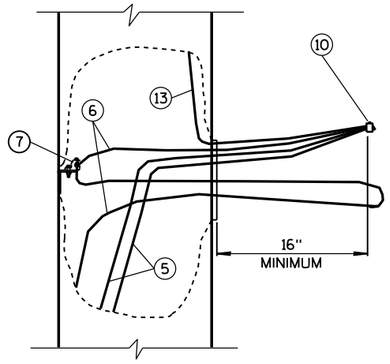
IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

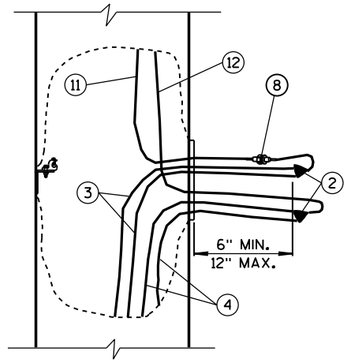
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S.D.D. 9 H 11-1

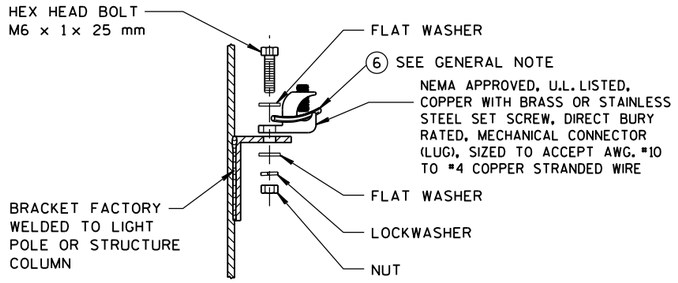


EQUIPMENT GROUNDING CONDUCTOR SLACK



UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

TYPICAL CONDUCTOR SLACK AT HANDHOLES



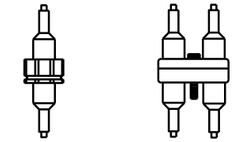
HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

KEY	CONDUCTOR	COLOR
3	UNGROUNDED LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUNDED POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS. WHERE THE PLANS DO NOT SHOW COLOR CODING, USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK AND RED FOR TWIN LUMINAIRE POLES.



1 POLE (1P) 2 POLE (2P)

FUSE ASSEMBLIES

GENERAL NOTES

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

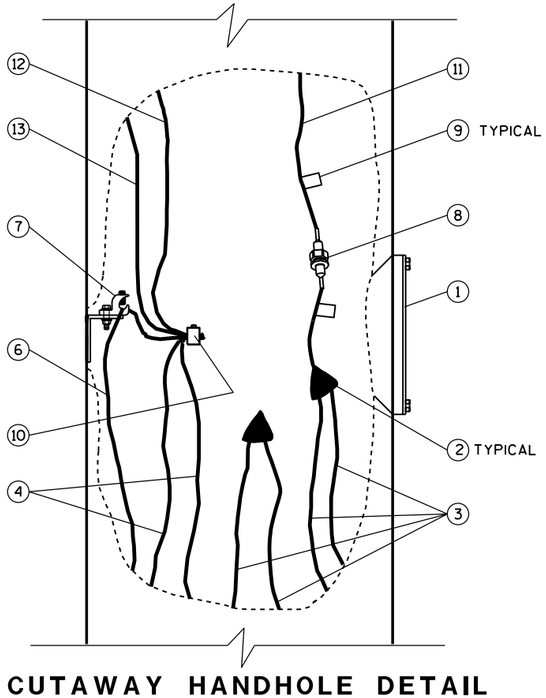
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

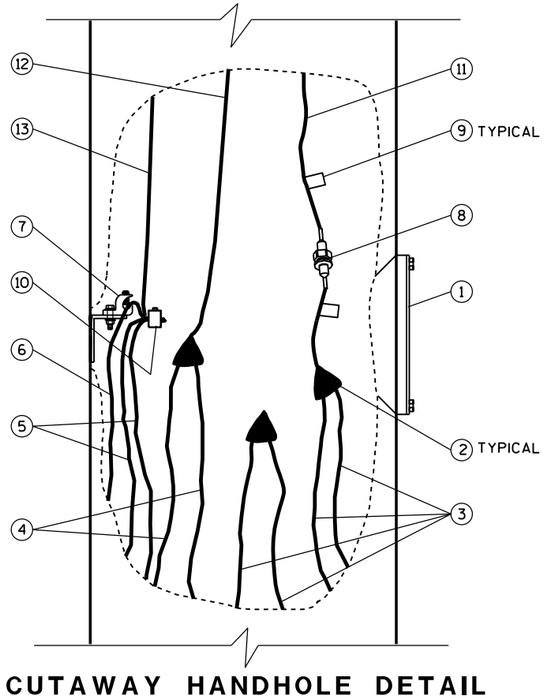
THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

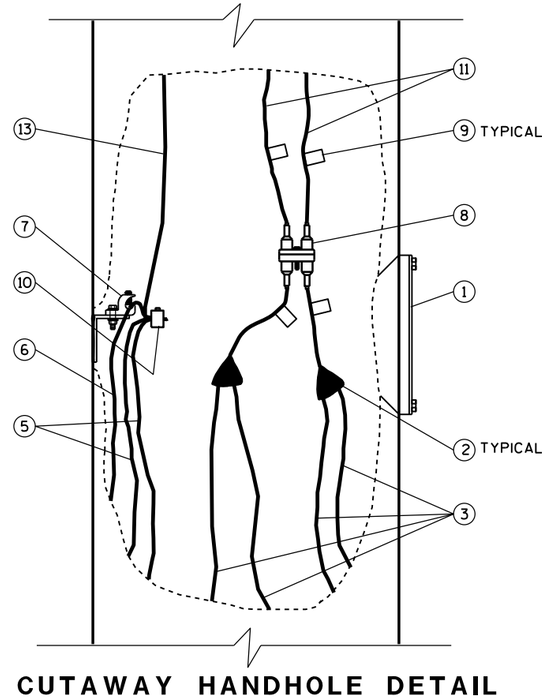
CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.



CUTAWAY HANDHOLE DETAIL
GROUNDED NEUTRAL SYSTEMS
1-Φ



CUTAWAY HANDHOLE DETAIL
ISOLATED NEUTRAL SYSTEMS
1-Φ SHOWN; 3-Φ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL
PHASE-TO-PHASE SYSTEMS
1-Φ SHOWN; 3-Φ DELTA SIMILAR
(SEE GENERAL NOTE)

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

1. HANDHOLE AND COVER
2. INSULATED SPLICE
3. UNGROUNDED LINE WIRE
4. GROUNDED LINE WIRE
5. SYSTEM GROUNDING LINE WIRE
6. GROUNDING ELECTRODE CONDUCTOR
7. HANDHOLE GROUNDING LUG
8. FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
9. CIRCUIT TAG (SEE GENERAL NOTE)
10. REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
11. UNGROUNDED POLE WIRE
12. GROUNDED POLE WIRE
13. EQUIPMENT GROUNDING POLE WIRE

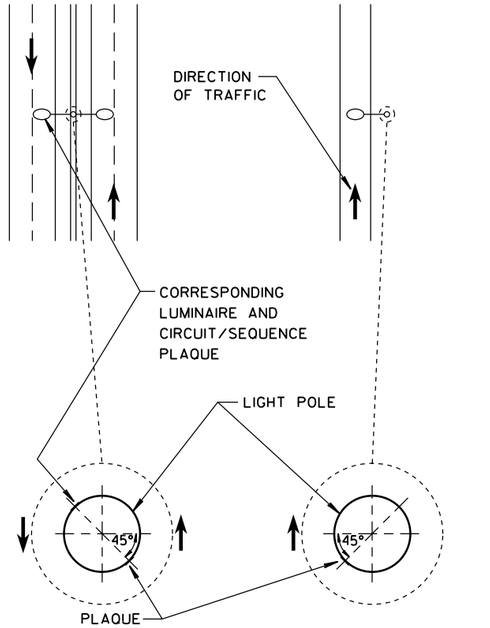
ELECTRICAL HANDHOLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 10 A 1-3



MEDIAN POLE SINGLE ARM POLE

LOCATION OF LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

WHERE SHOWN IN THE PLANS, REPLACEMENT PLAQUES WILL BE MEASURED AND PAID SEPARATELY.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETRORFLECTIVE

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

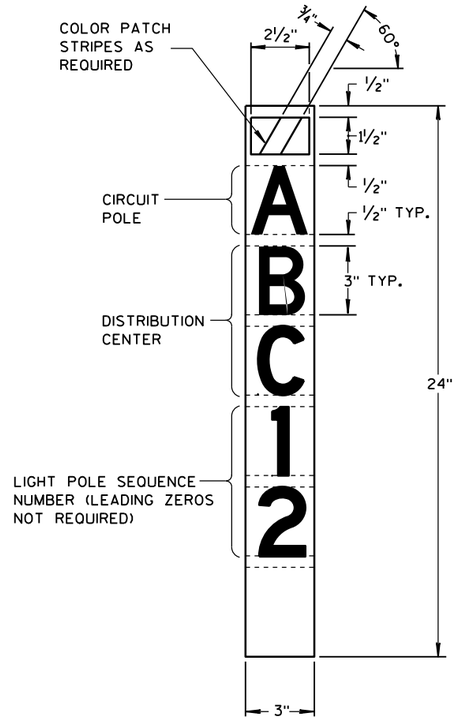
COLOR PATCHES - VARIOUS COLORS, SELF-ADHESIVE VINYL SHEETING

WITH THE APPROVAL OF THE ENGINEER, THE BASE MATERIAL MAY BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE SURFACE, IN CASES SUCH AS SMOOTH, CLEAN ALUMINUM POLES.

ALTERNATIVE COMPUTER-GENERATED SIGN LETTERING MAY BE ACCEPTED IF THE ENGINEER FINDS IT TO BE EQUIVALENT.

COLOR PATCH CODE FOR HPS AND LED LUMINAIRES

HPS	LED	COLOR PATCH CODE
1000 WATT		NO PATCH
400 WATT	CATEGORY D	ORANGE
310 WATT		BLUE
250 WATT	CATEGORY C	ORANGE WITH WHITE STRIPE
200 WATT		RED
150 WATT	CATEGORY B	GREEN
100 WATT	CATEGORY A	BROWN
70 WATT	CATEGORY UDL	BROWN WITH WHITE STRIPE



LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

IDENTIFICATION PLAQUES LIGHT POLES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

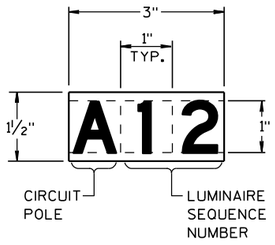
APPROVED
Feb. 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 10 A 2-3

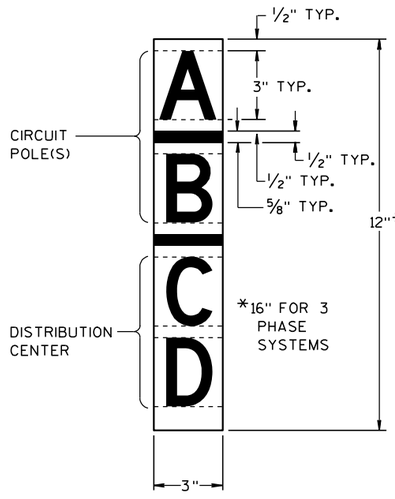
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S.D.D. 10 A 2-3



SEQUENCE DECAL

(MOUNT ON LUMINAIRE)



SIGN BRIDGE CIRCUIT PLAQUE

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

WHERE SHOWN IN THE PLANS, REPLACEMENT PLAQUES WILL BE MEASURED AND PAID SEPARATELY.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

WITH THE APPROVAL OF THE ENGINEER, THE BASE MATERIAL MAY BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE SURFACE, IN CASES SUCH AS SMOOTH, CLEAN ALUMINUM STRUCTURES.

ALTERNATIVE COMPUTER-GENERATED SIGN LETTERING MAY BE ACCEPTED IF THE ENGINEER FINDS IT TO BE EQUIVALENT.

ALL SIGN BRIDGE STRUCTURES MUST ALSO HAVE STRUCTURE ID PLAQUES AS SHOWN IN THE STRUCTURE DETAILS.

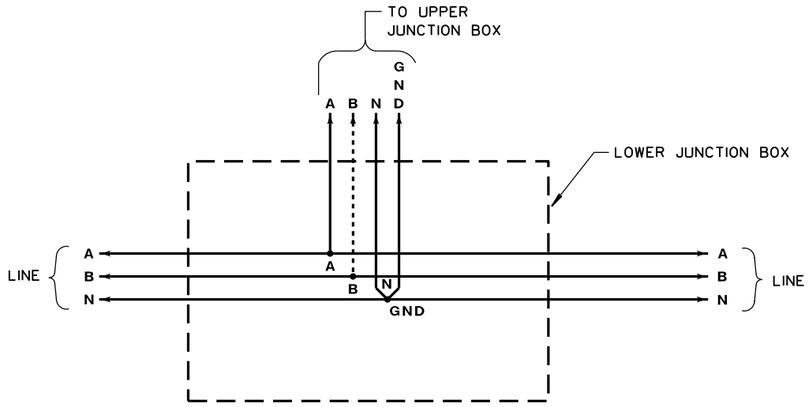
CIRCUIT PLAQUES SHALL BE MOUNTED IN THE STEM WHICH HAS THE ELECTRICAL CIRCUIT, FACING TRAFFIC.

CIRCUIT IDENTIFICATION PLAQUES SIGN BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

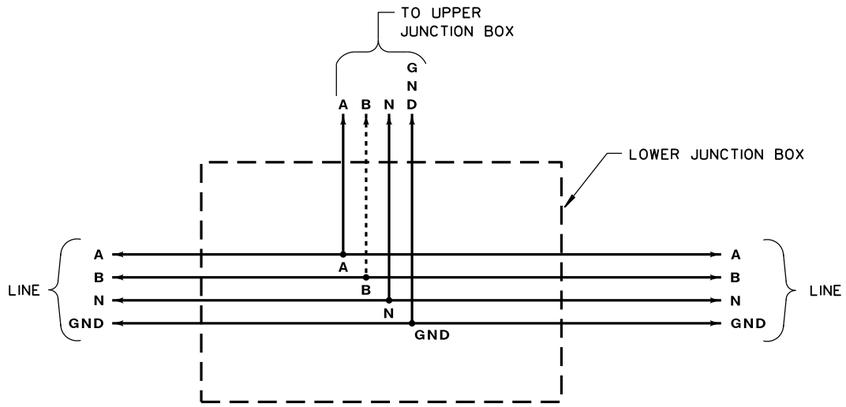
APPROVED
10/25/2010
DATE
/S/ John Corbin
STATE ELECTRICAL ENGI 217
HWYS
FHWA

6
S.D.D. 10 A 3-3



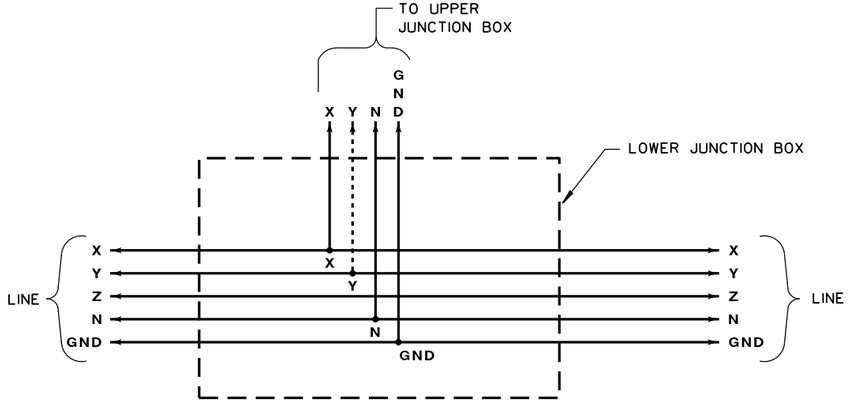
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

GROUNDED NEUTRAL SYSTEM
1-ϕ 240/480VAC OR 3 WIRE OR 480VAC 2 WIRE



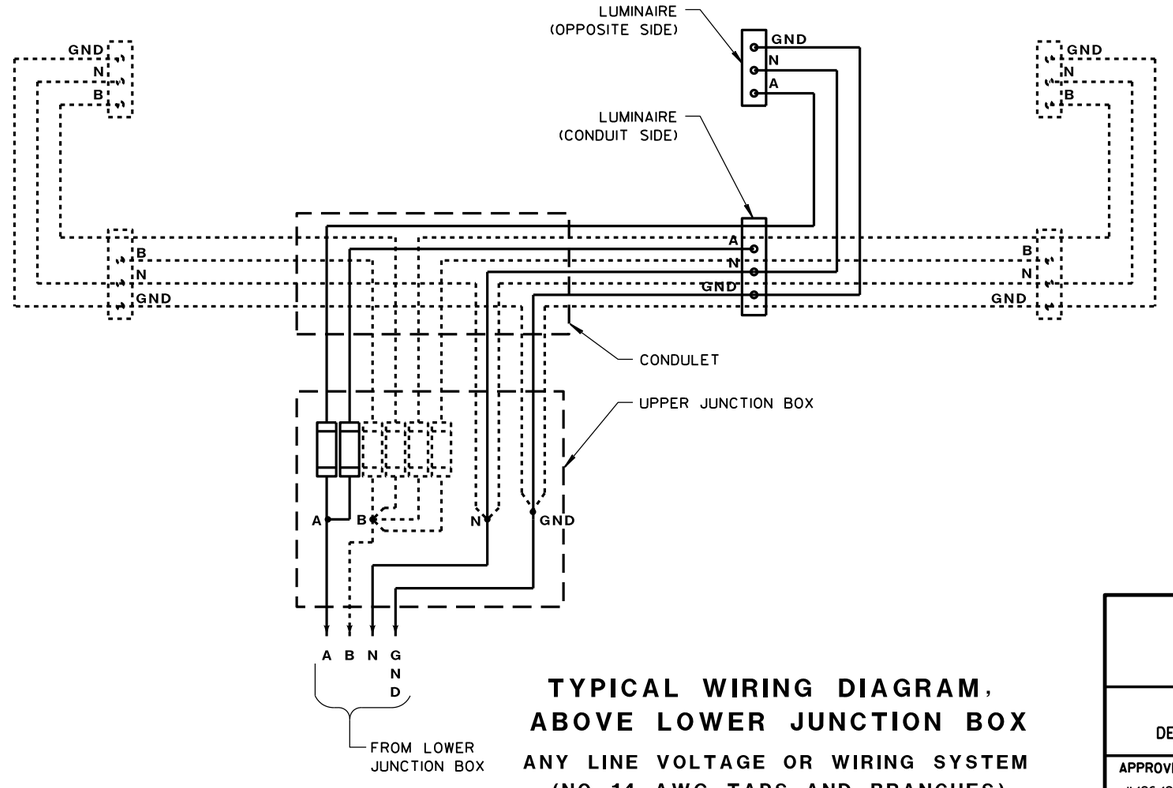
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

ISOLATED NEUTRAL SYSTEM
1-ϕ 120/240VAC OR 240/480VAC 3 WIRE



TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

ISOLATED NEUTRAL SYSTEM
3-ϕ 208Y/120VAC OR 480Y/277VAC 4 WIRE



TYPICAL WIRING DIAGRAM, ABOVE LOWER JUNCTION BOX

ANY LINE VOLTAGE OR WIRING SYSTEM
(NO. 14 AWG TAPS AND BRANCHES)

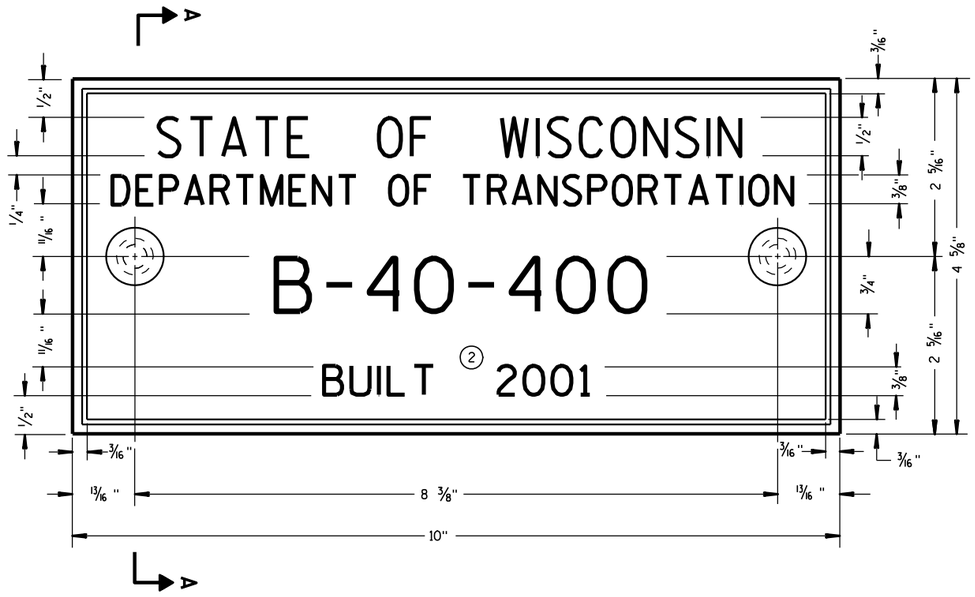
ELECTRICAL DETAILS
UNDERDECK LIGHTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

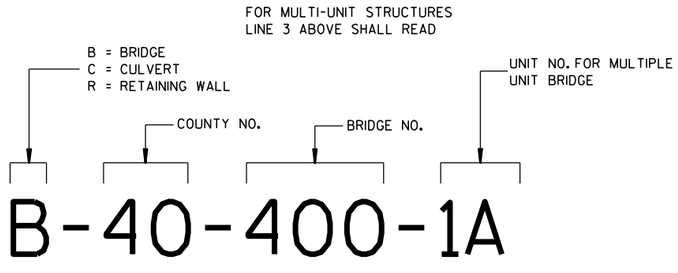
APPROVED
11/26/2013 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 10 A 15-4b



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

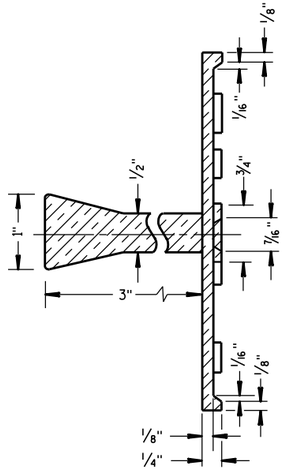
GENERAL NOTES

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

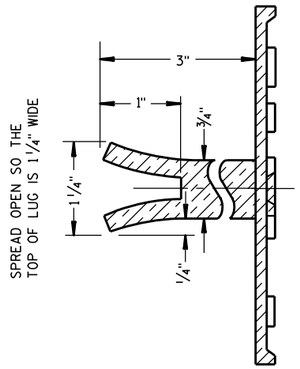
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

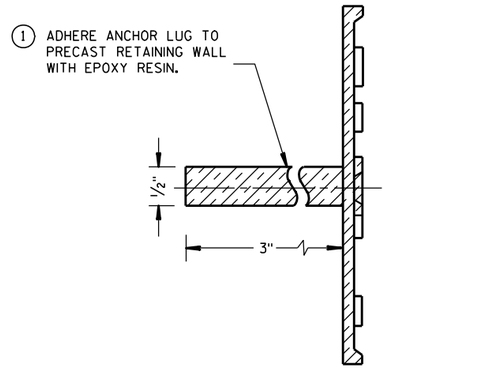
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

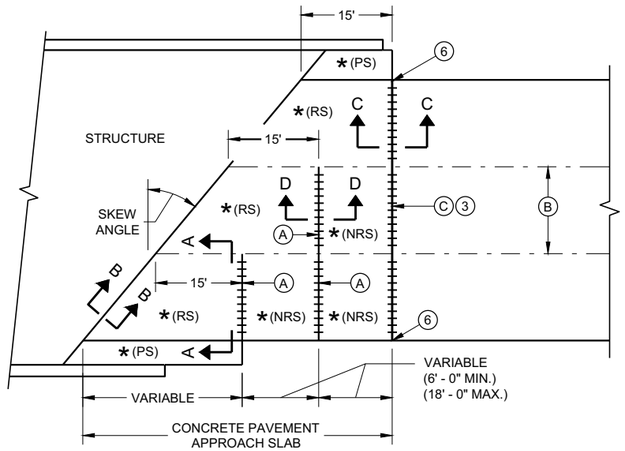
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

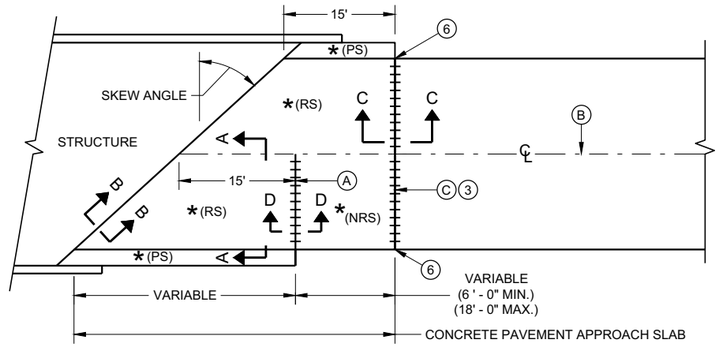
FHWA

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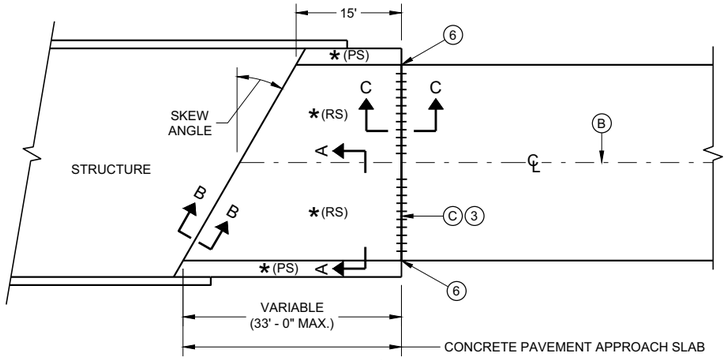
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

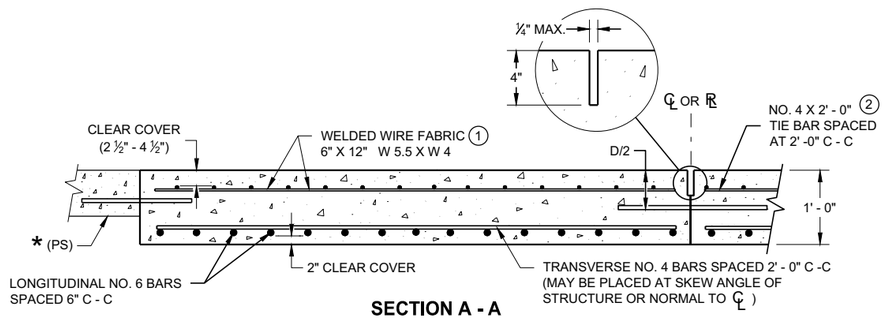
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

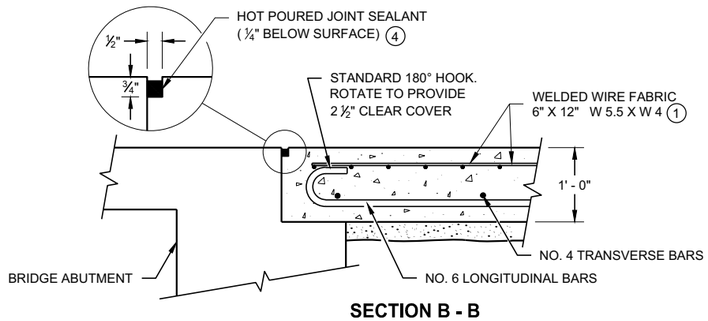
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

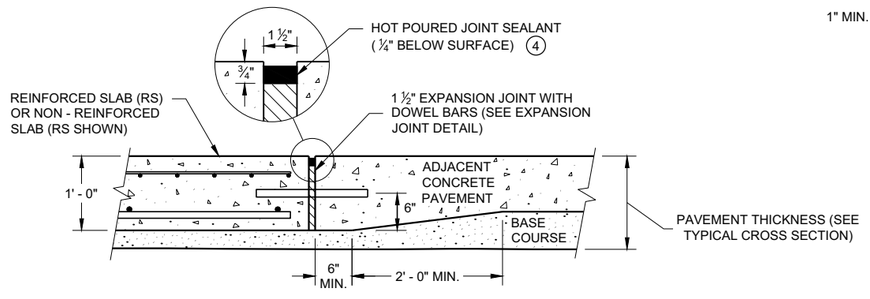
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

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

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

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

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

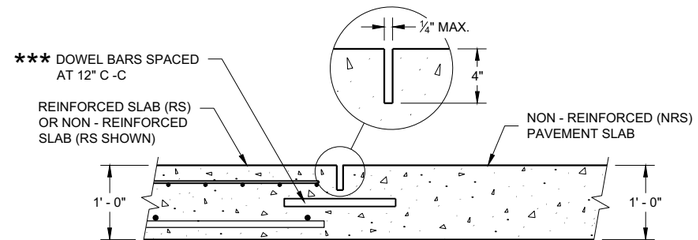
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

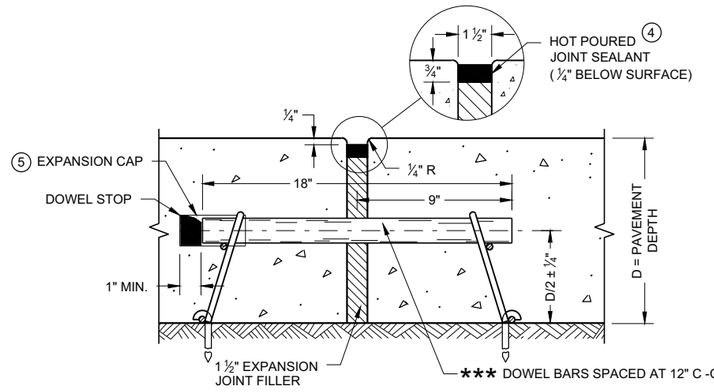
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .



SECTION D - D
CONTRACTION JOINT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

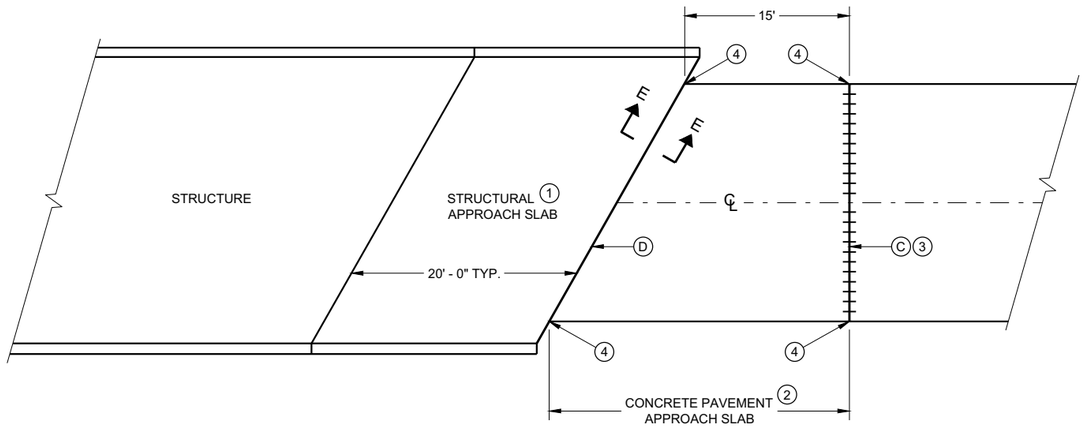
APPROVED
November 2018
DATE

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

FHWA

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SDD 13B02 - 09a



BRIDGE APPROACHES

GENERAL NOTES

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

(1) SEE BRIDGE PLAN.

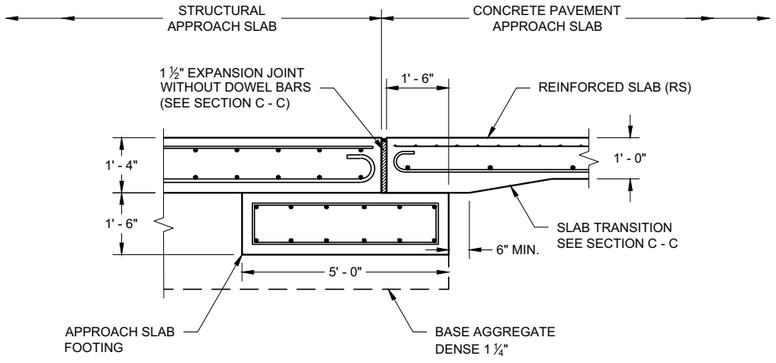
(2) CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS

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

(4) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞.

(D) 1 ½" EXPANSION JOINT (NO DOWELS)



SECTION E - E
FOOTING DETAIL
STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

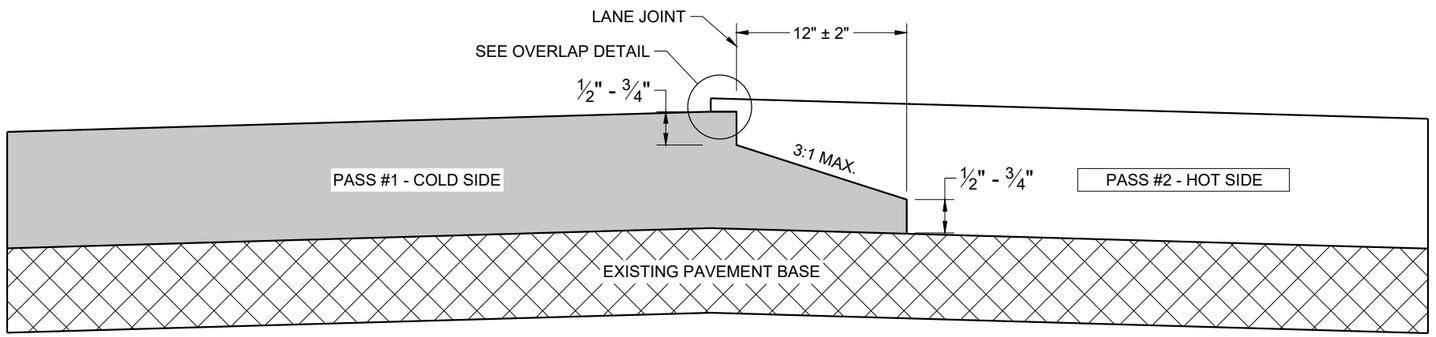
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

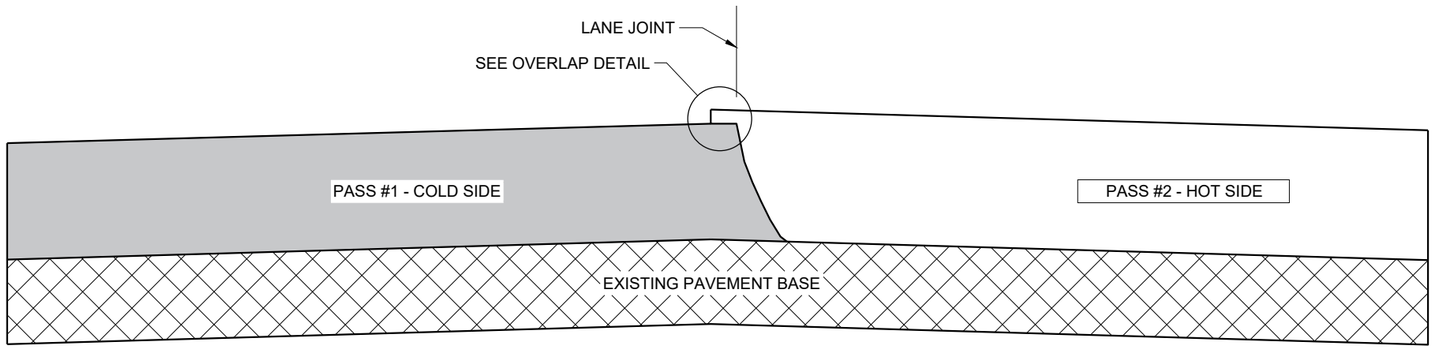
FHWA

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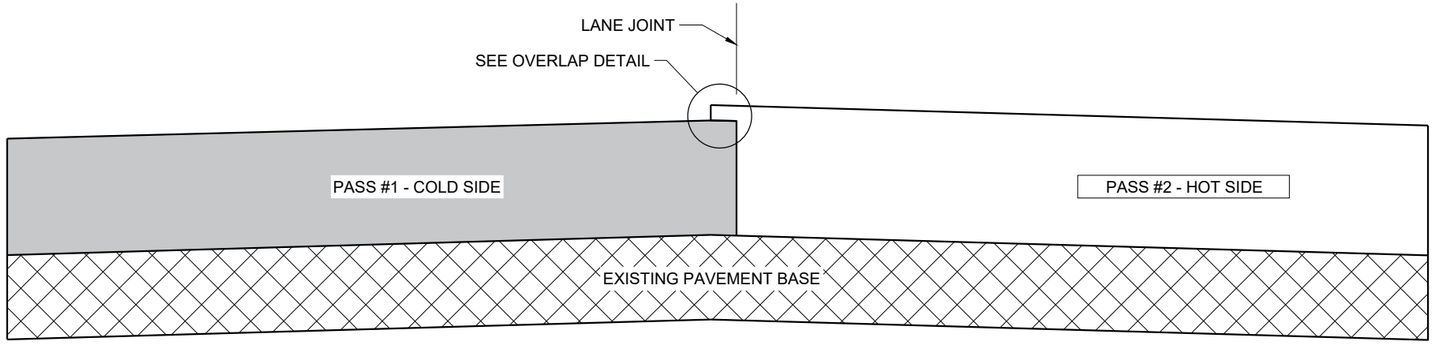
SDD 13B02 - 09b



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

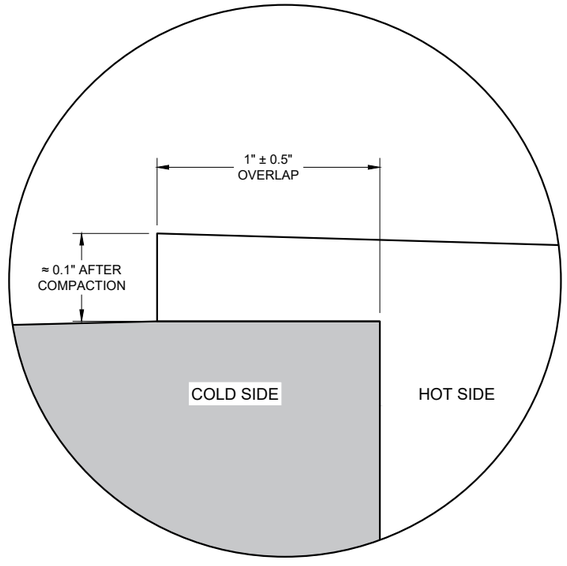
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

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SDD 13C19 - 03

SDD 13C19 - 03

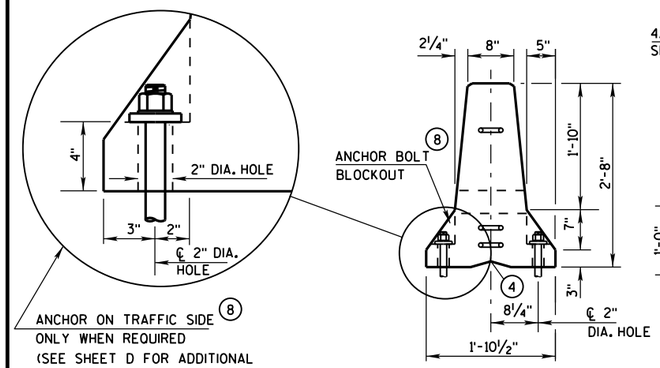
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

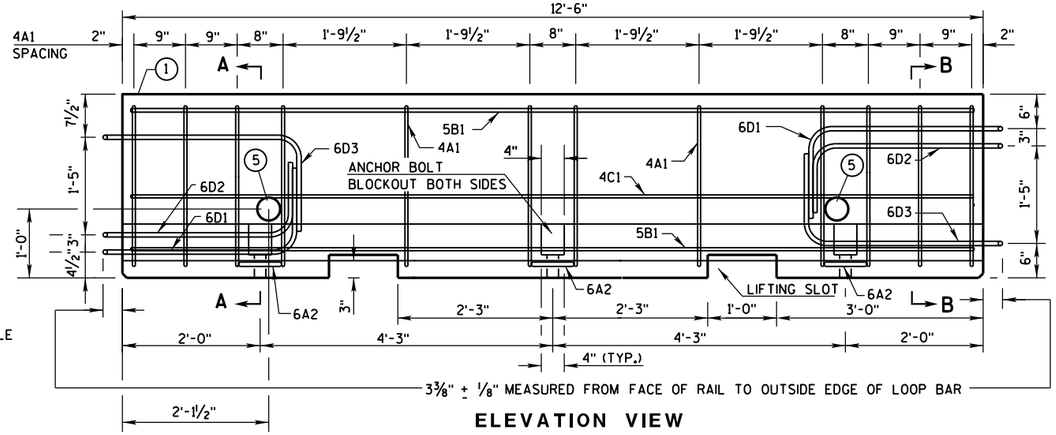
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

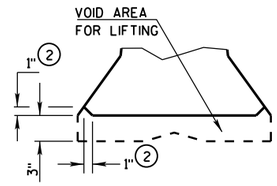
FHWA



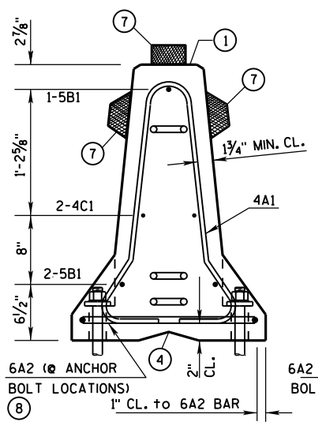
END VIEW



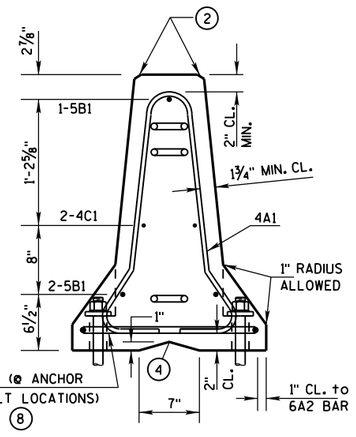
ELEVATION VIEW



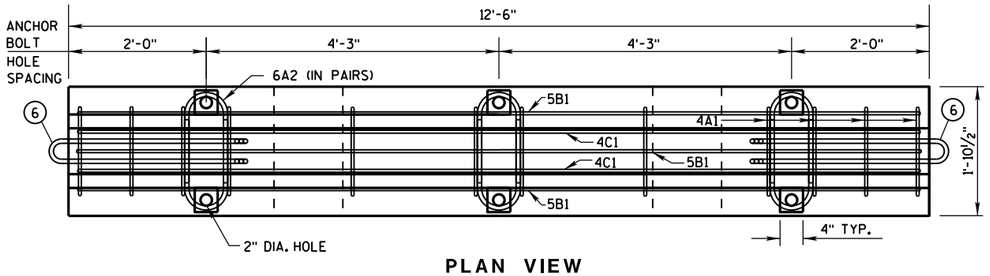
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

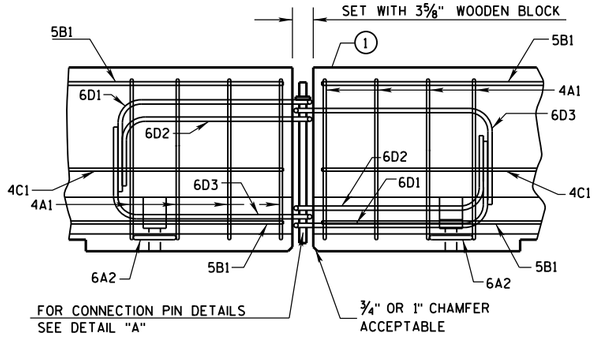


SECTION B-B
(STIRRUP PLACEMENT)

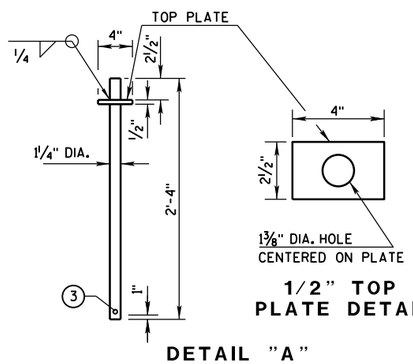


PLAN VIEW

DETAILS OF BARRIER SECTION

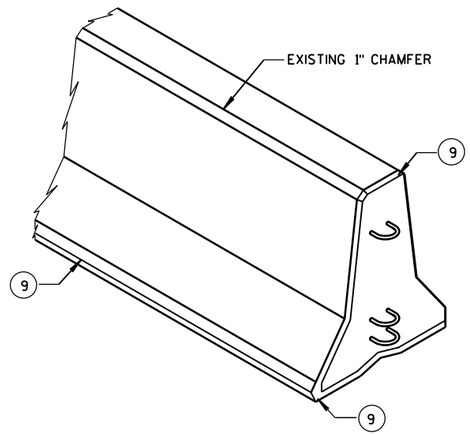


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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



GENERAL NOTES

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

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

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

(9) 1" CHAMFER OPTIONAL.

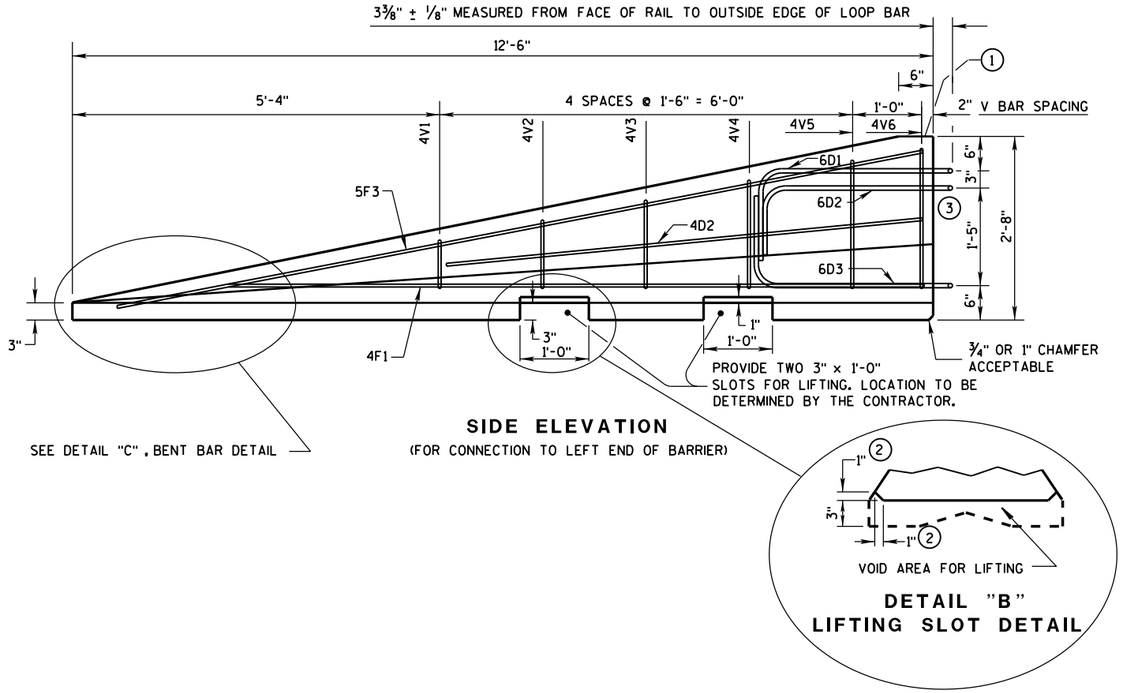
f'c = 4,000 psi

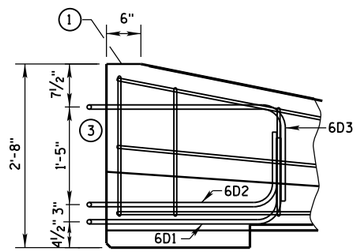
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

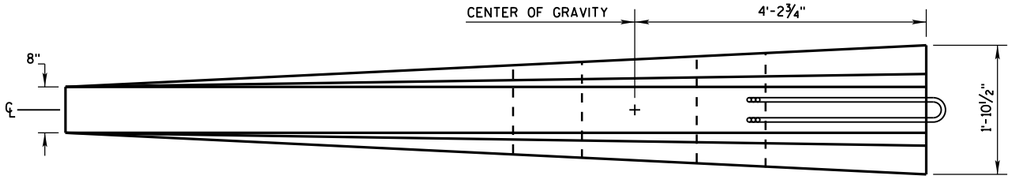
S.D.D. 14 B 7-15a

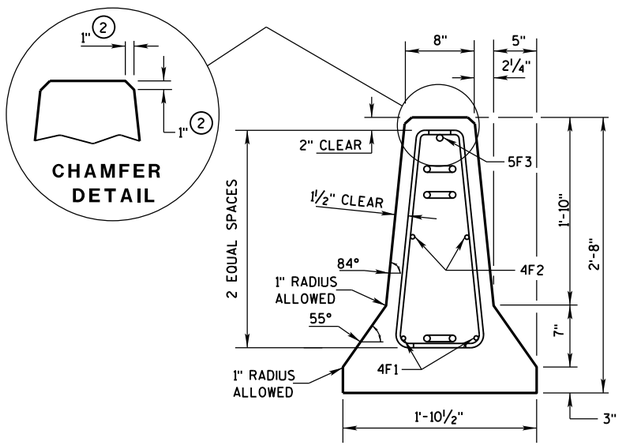


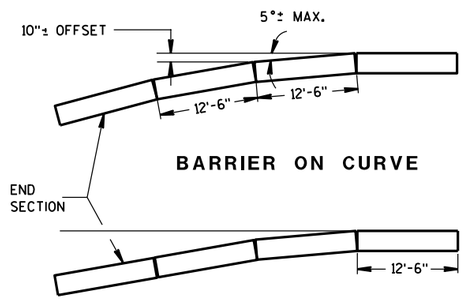


GENERAL NOTES

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.







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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

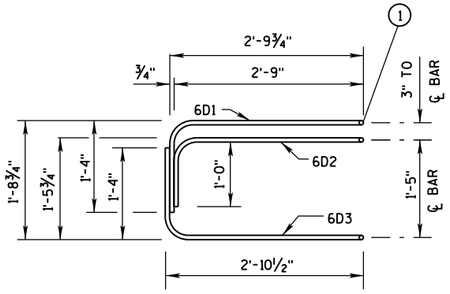
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S.D.D. 14 B 7-15b

BARRIER TAPER SECTION BILL OF MATERIALS

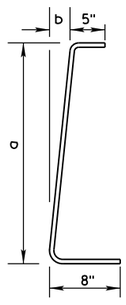
(PER 12'-6" BARRIER TAPER SECTION)

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



DETAIL "C"
BENT BAR DETAIL

ELEVATION
LOOP BAR ASSEMBLY



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

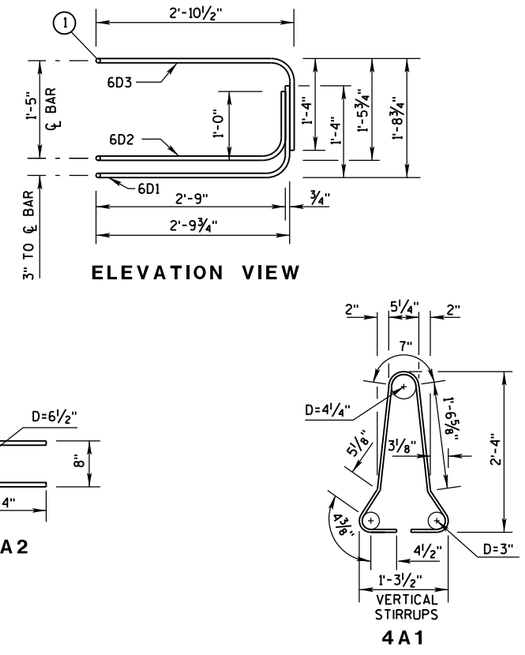
(PER 12'-6" BARRIER SECTION)

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

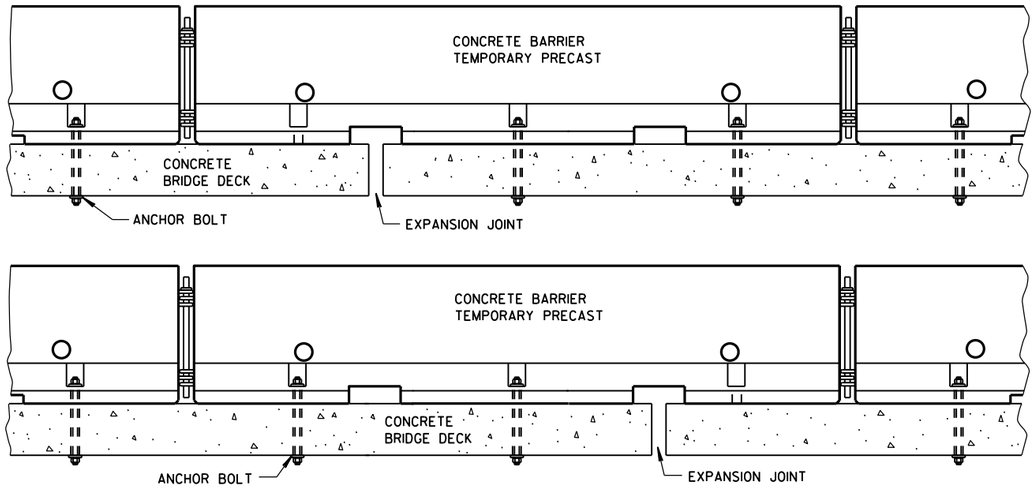
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

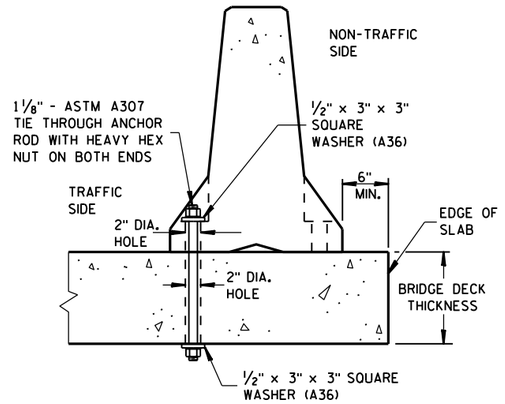
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S.D.D. 14 B 7-15c



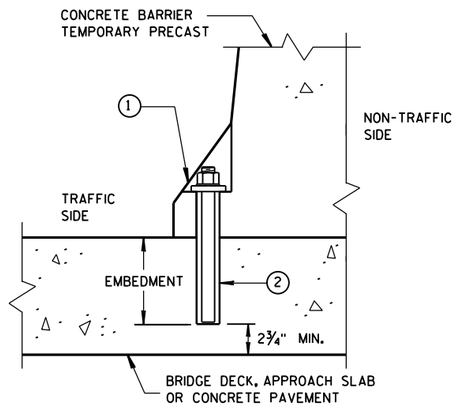
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



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

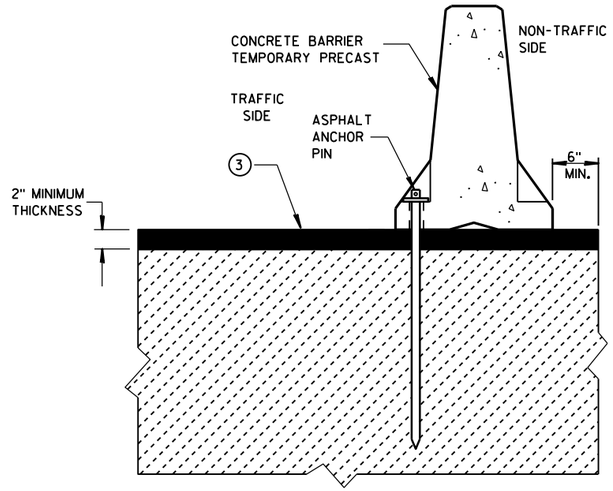
(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

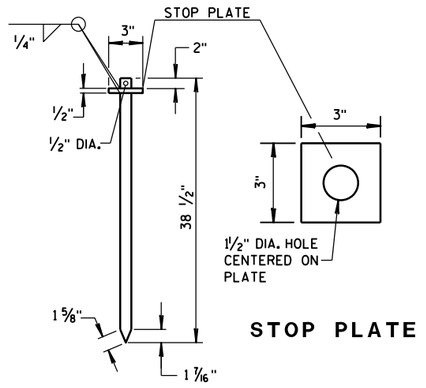
GENERAL NOTES

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

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

1. 1⅛" DIAMENTER A307 THREADED ROD. ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL. ASTM A563A HEAVY HEX NUT.
2. ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.
3. ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THAN DRIVE ASPHALT ANCHOR PIN.



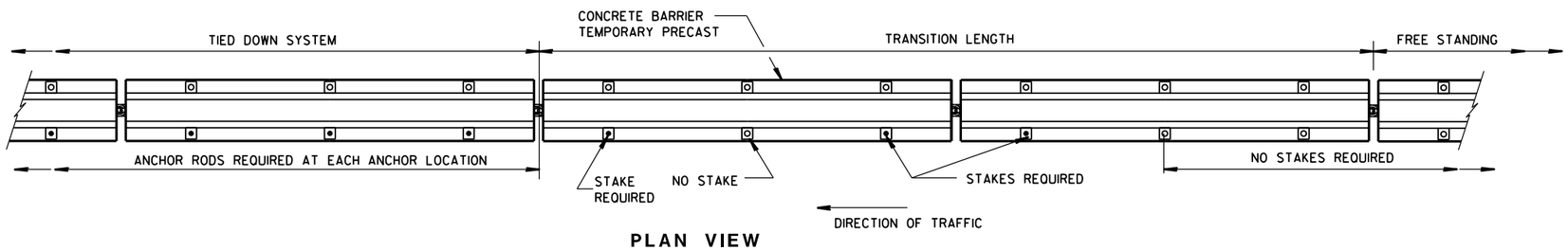


STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

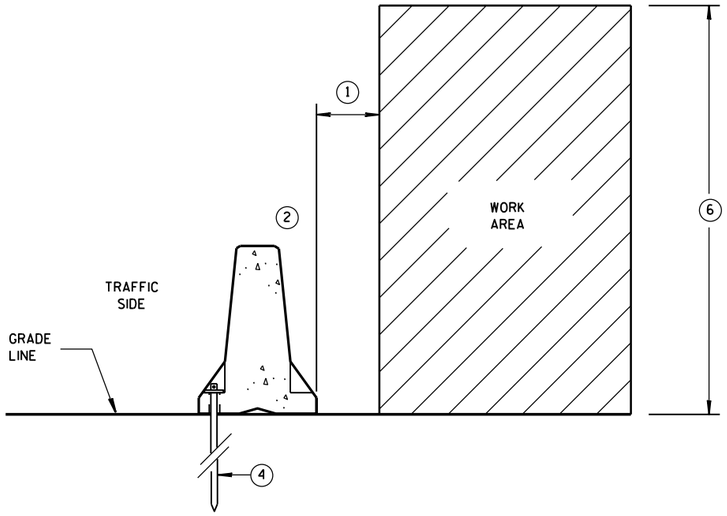
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

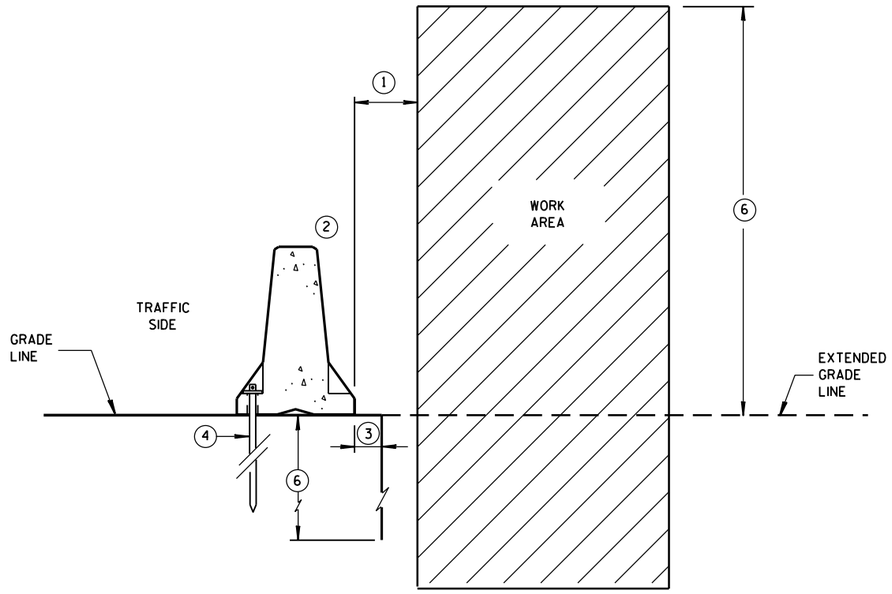
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

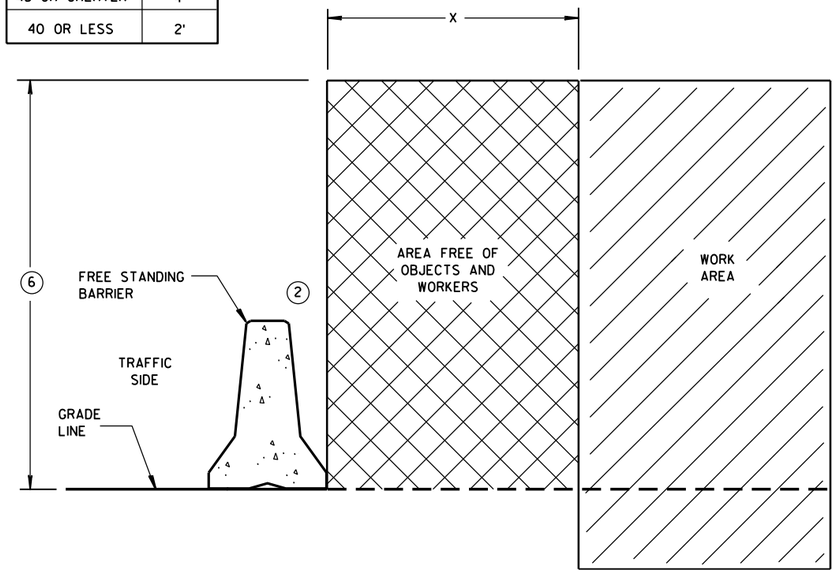


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

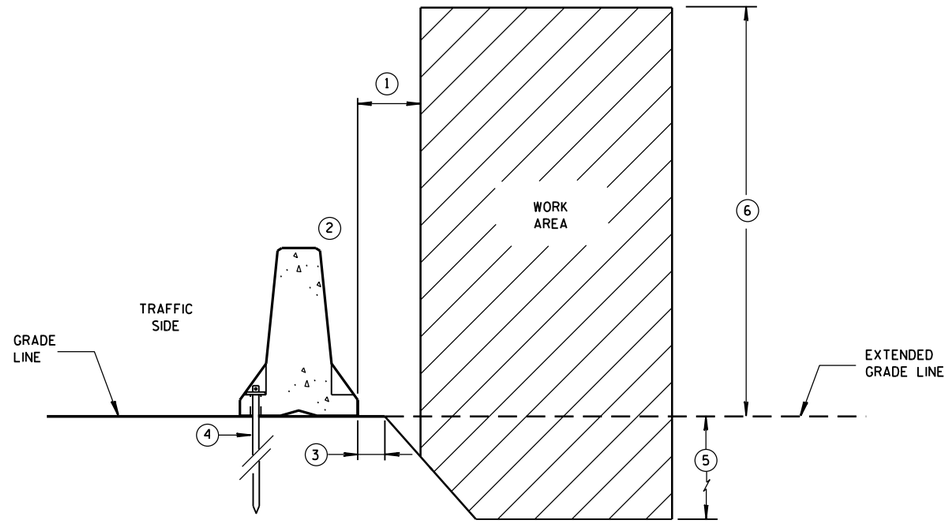
GENERAL NOTES

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

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



FREE STANDING BARRIER SPACE REQUIREMENTS



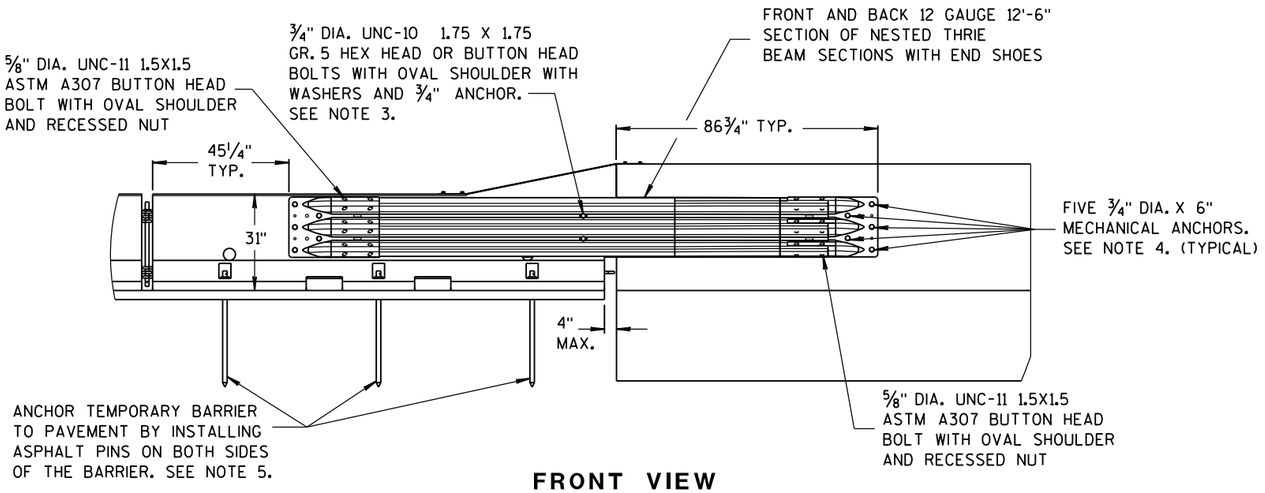
ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

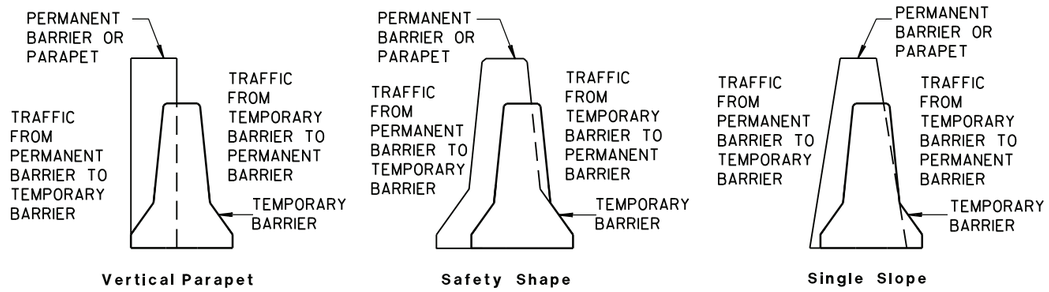
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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



FRONT VIEW

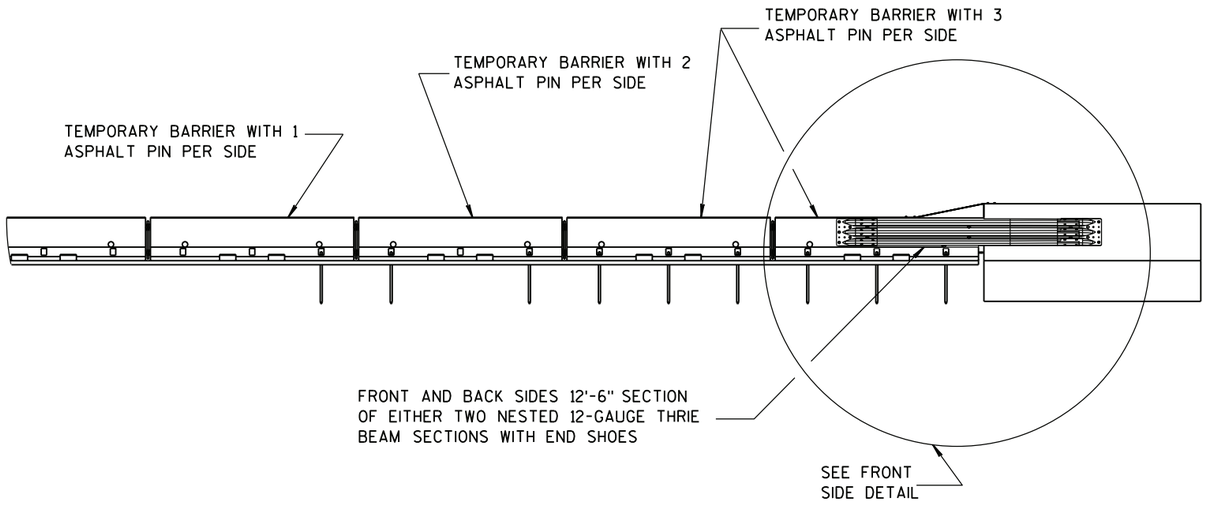


TEMPORARY BARRIER PLACEMENT FOR TRANSITION TO TIED DOWN SYSTEM

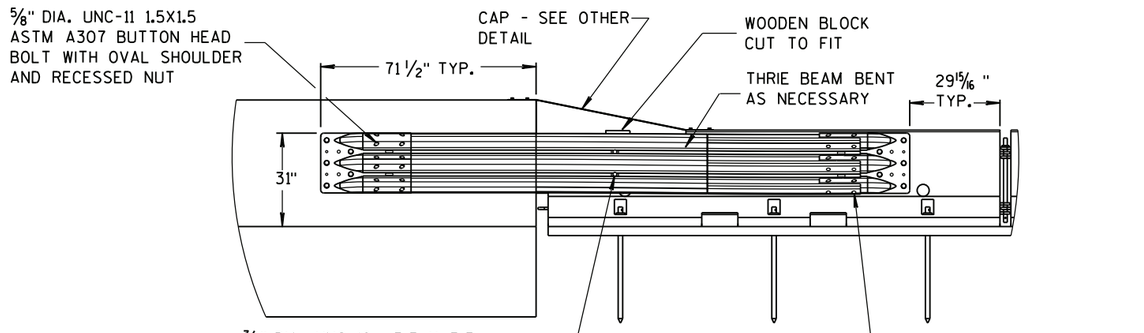
NOTES

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

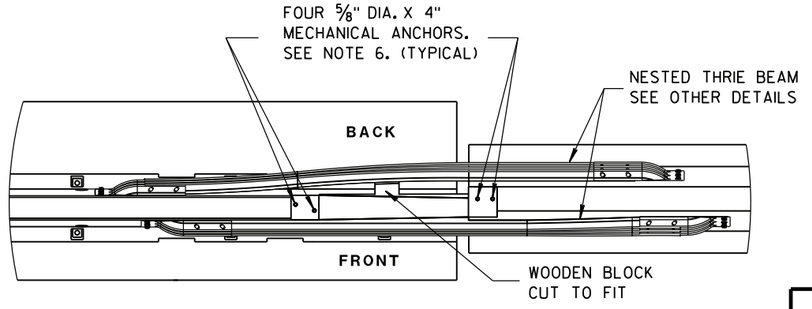
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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



FRONT VIEW



BACK VIEW



PLAN VIEW

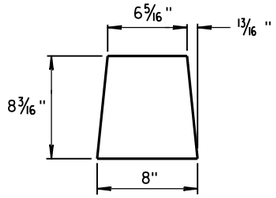
TRANSITION TO TIED DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

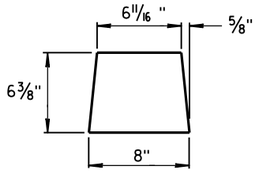
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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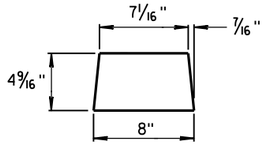
S.D.D. 14 B 7-15f



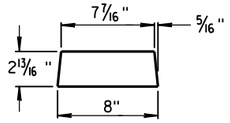
GUSSET 1



GUSSET 2

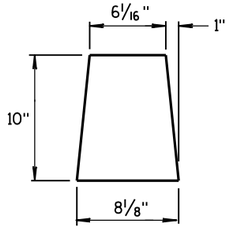


GUSSET 3

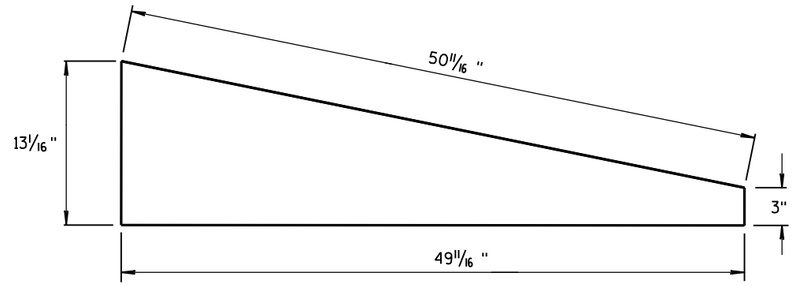


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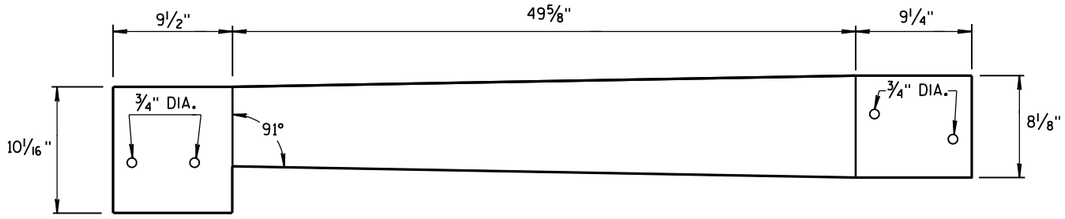
GUSSETS

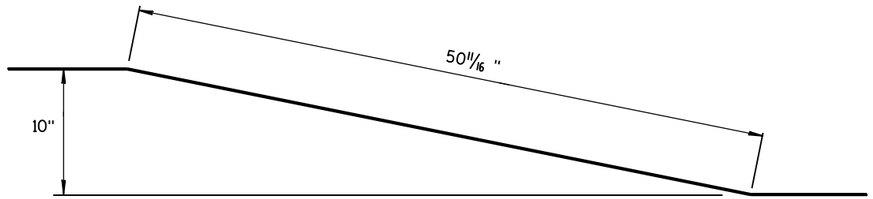


END PLATE



SIDE PLATE

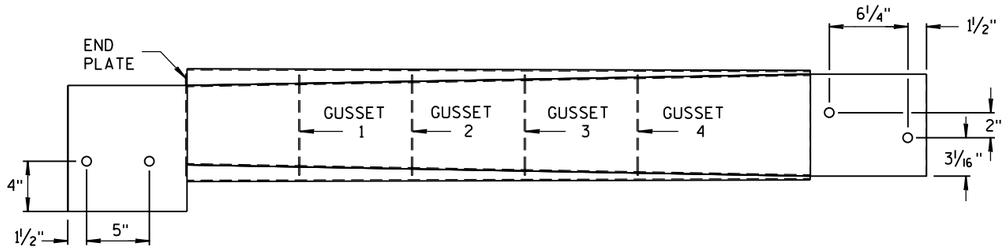


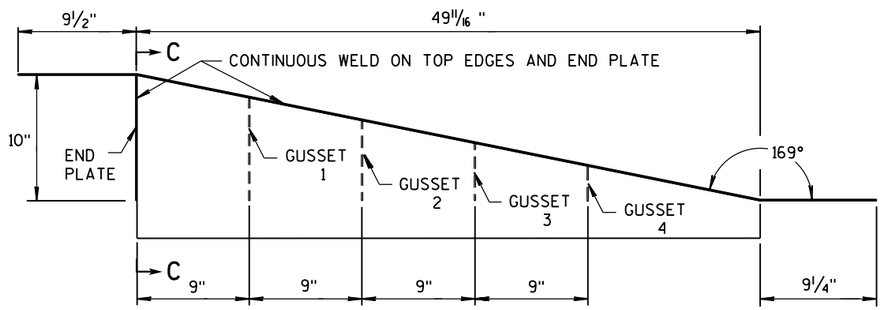


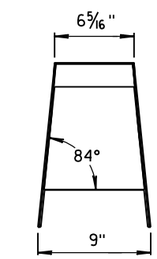
TOP PLATE

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.







SECTION C-C

NOTES

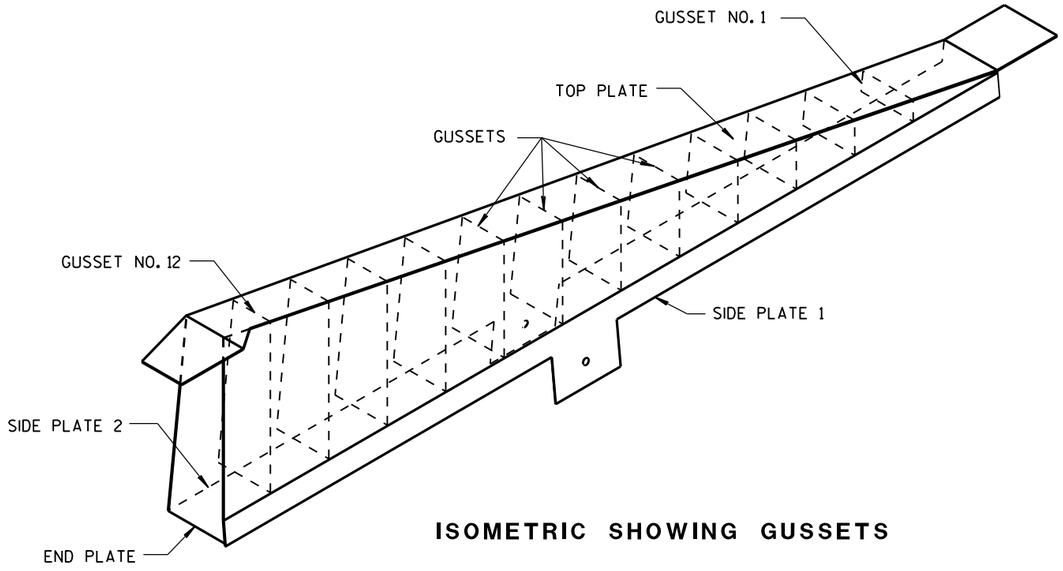
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

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

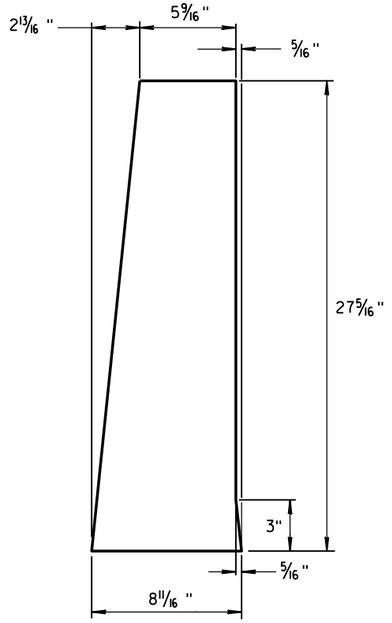
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-15g

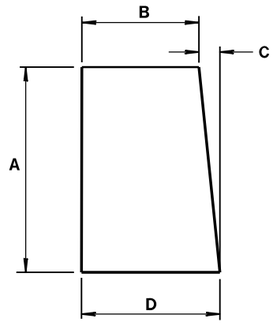


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



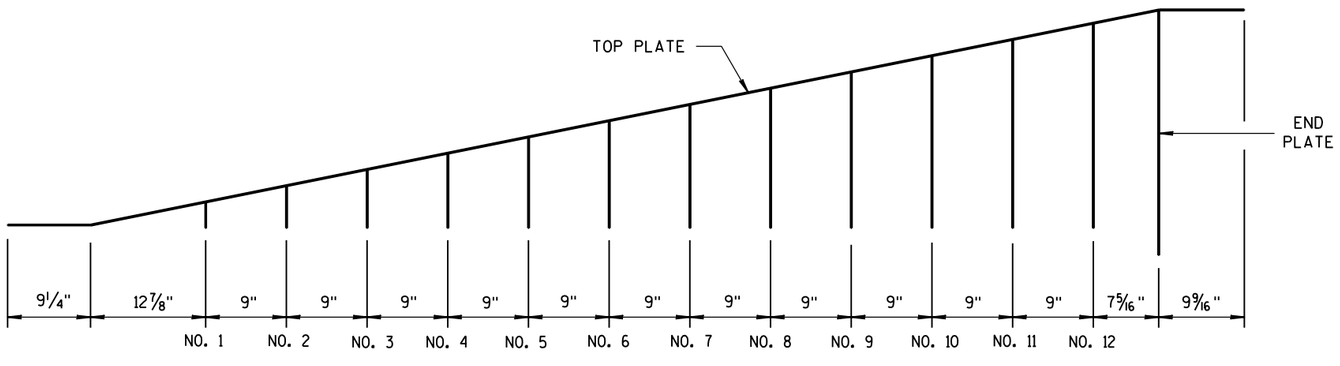
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



GUSSET LOCATION

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

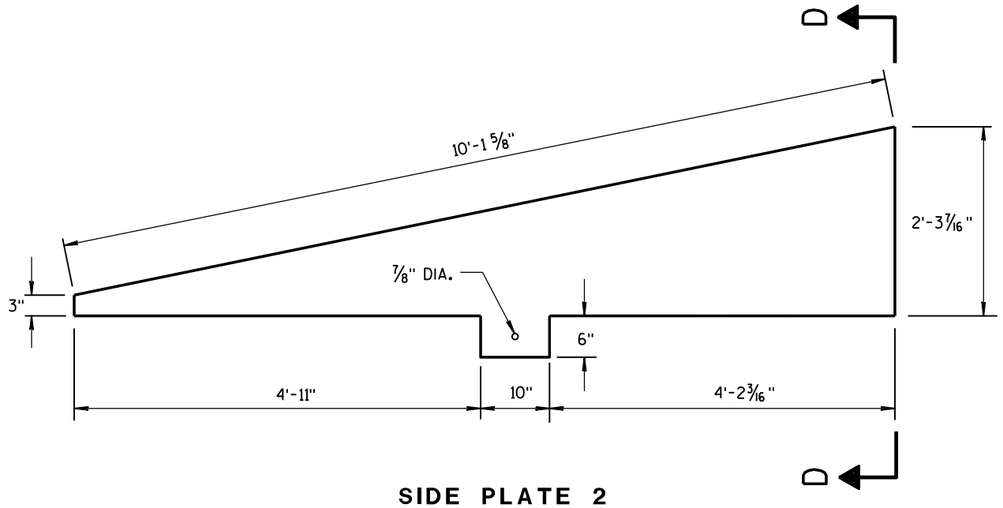
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

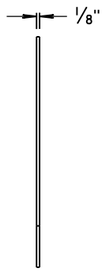
S.D.D. 14 B 7-15h

6

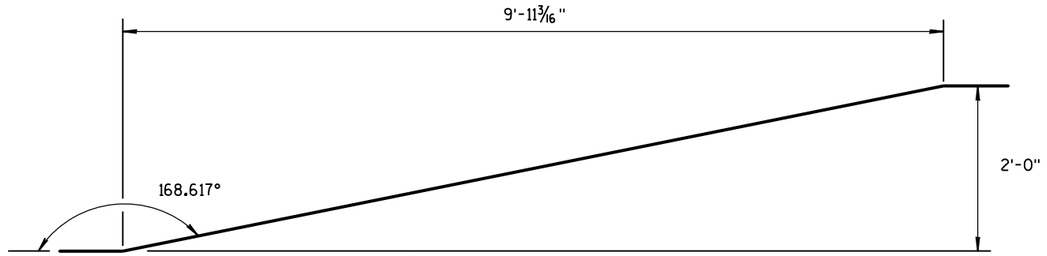
S.D.D. 14 B 7-15h



SIDE PLATE 2

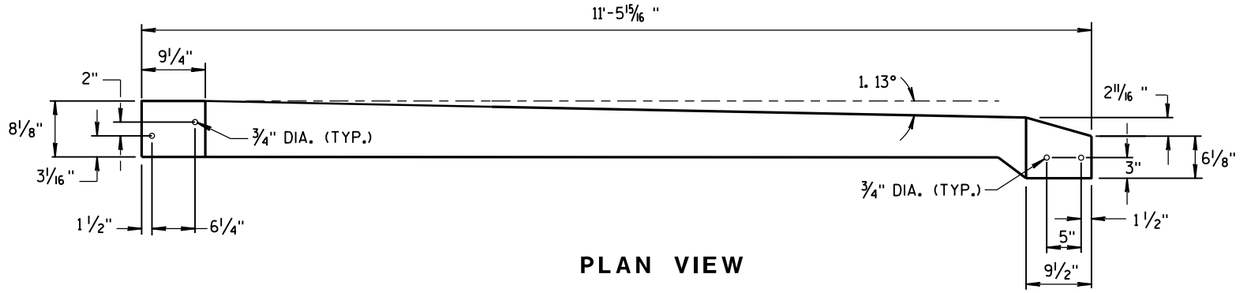


END VIEW



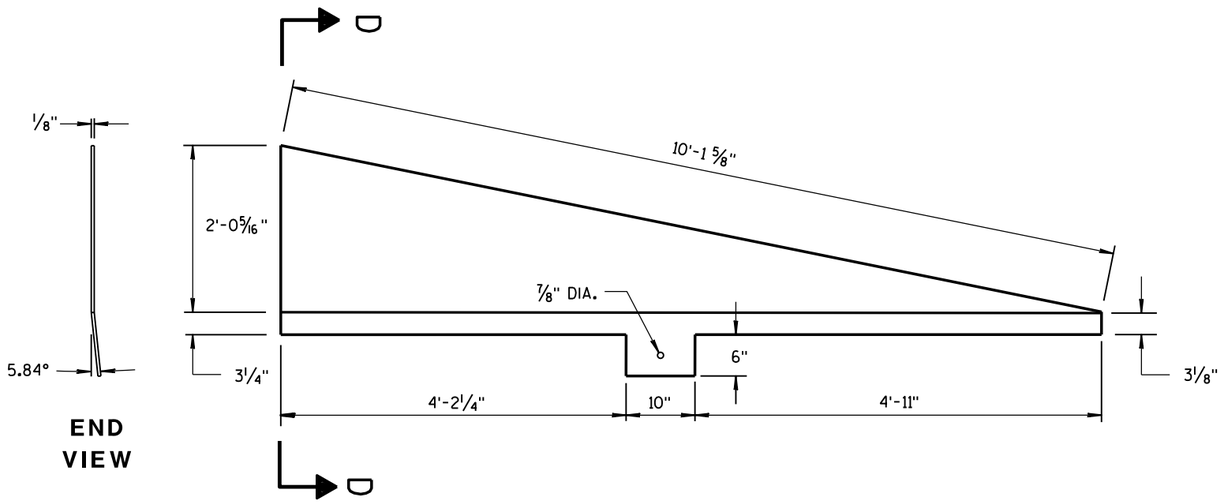
SIDE VIEW

TOP PLATE



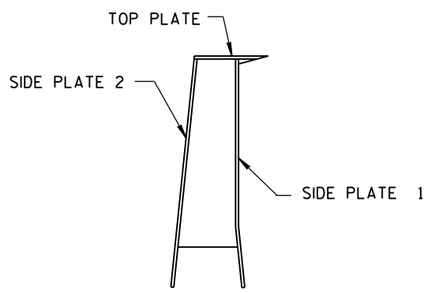
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV

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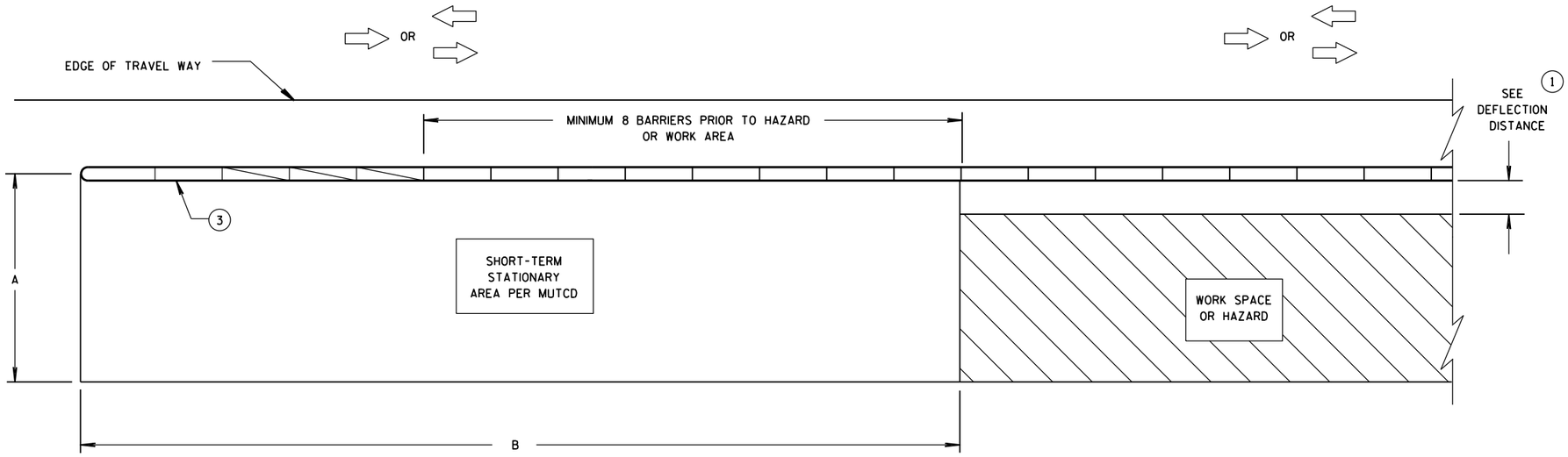
FHWA

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

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



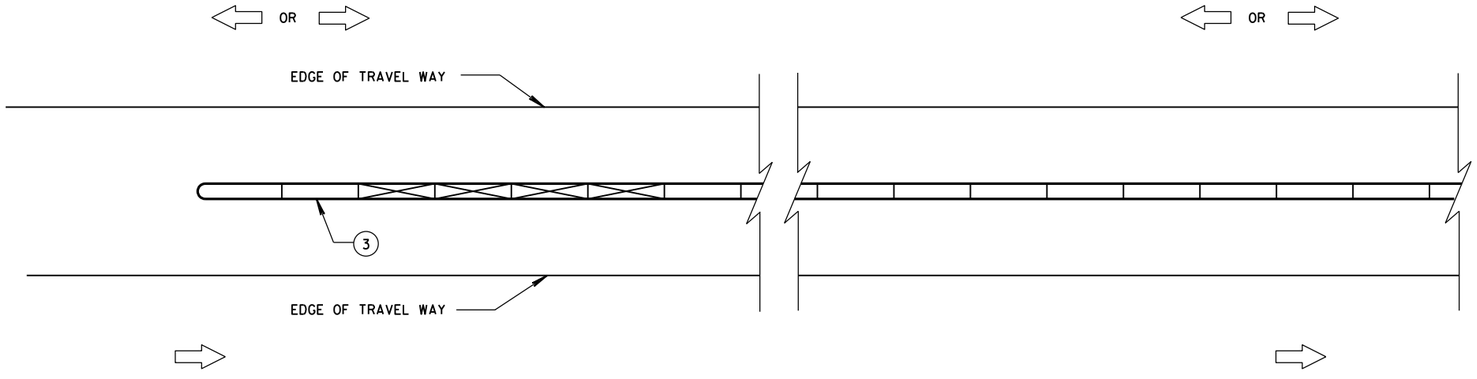
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

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

DIMENSION B TABLE (2)

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



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

LEGEND

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

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

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

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

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

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

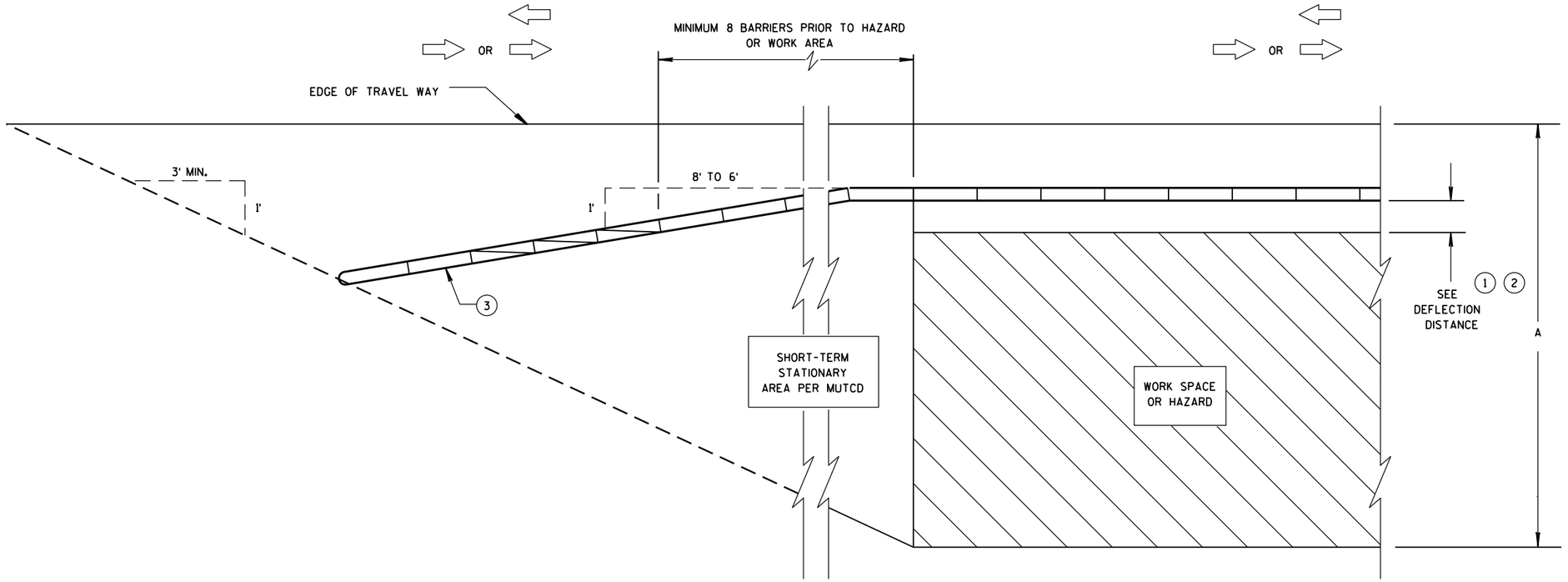
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

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

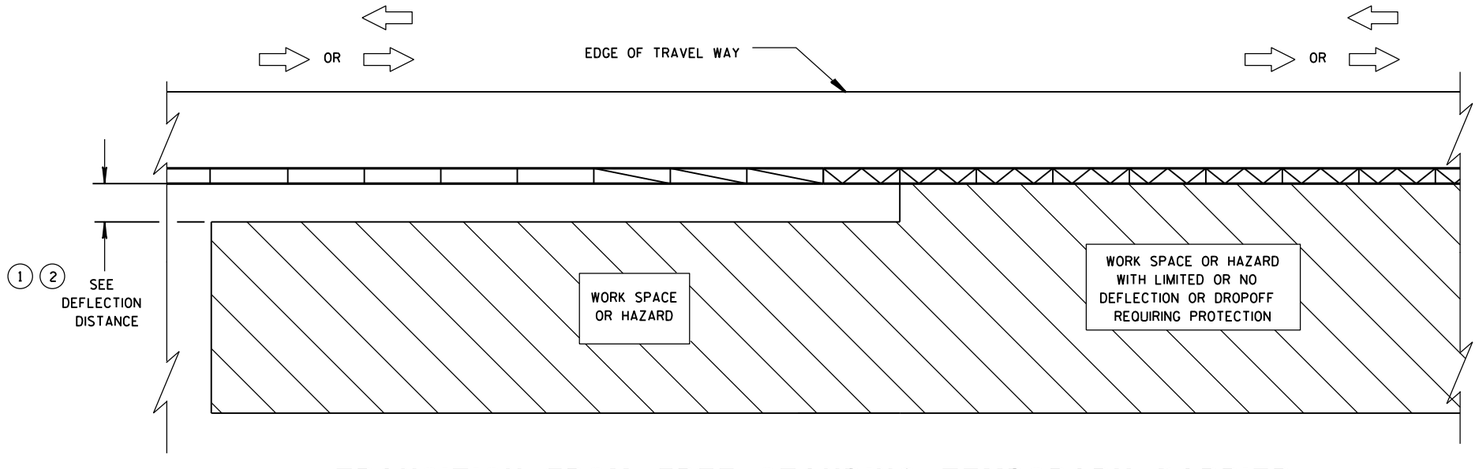
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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



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



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

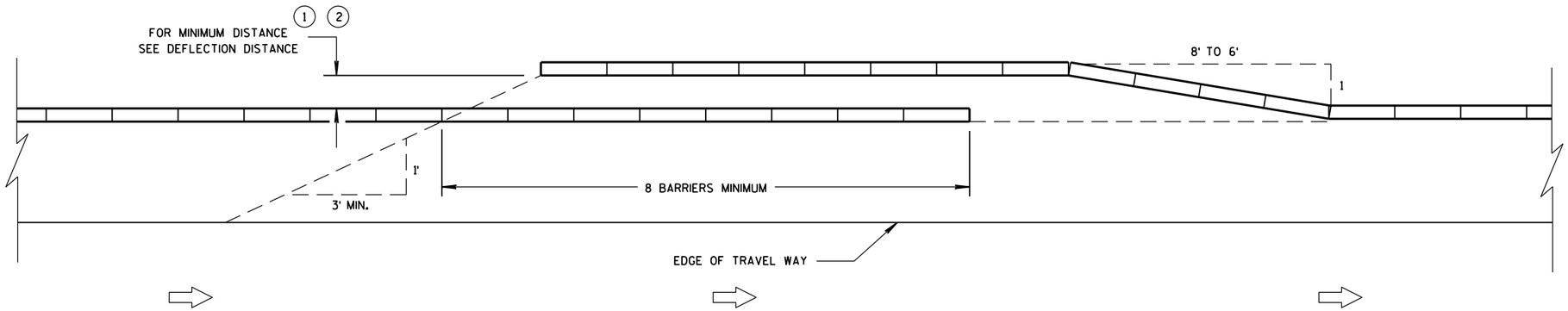
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

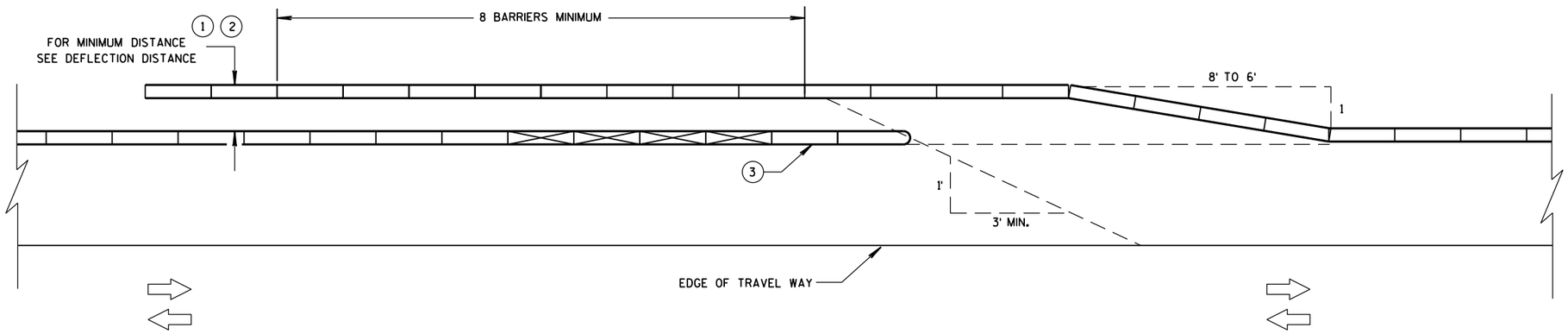
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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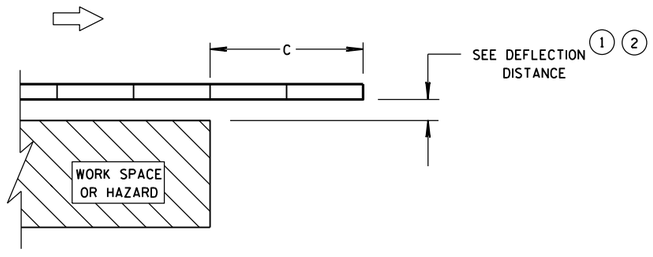
S.D.D. 14 B 8-2b



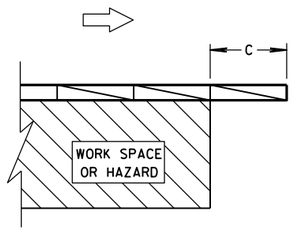
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

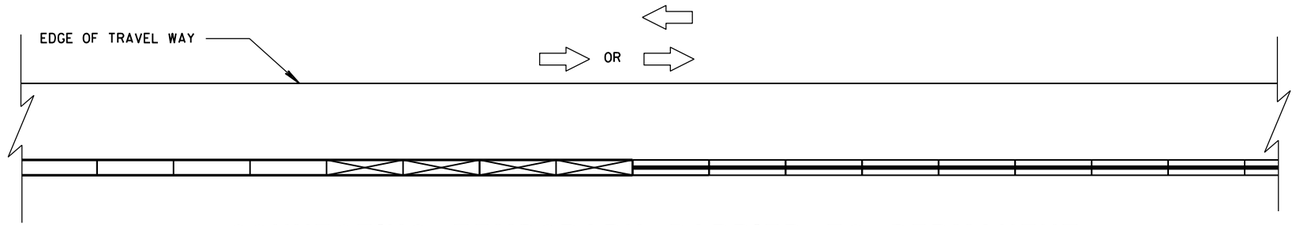
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

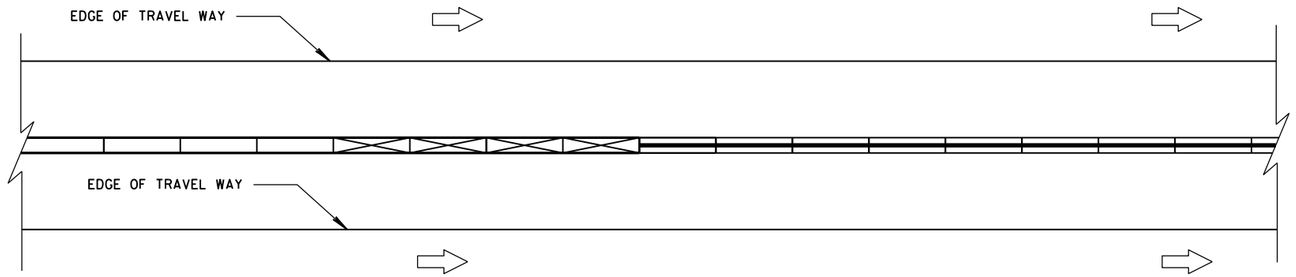
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



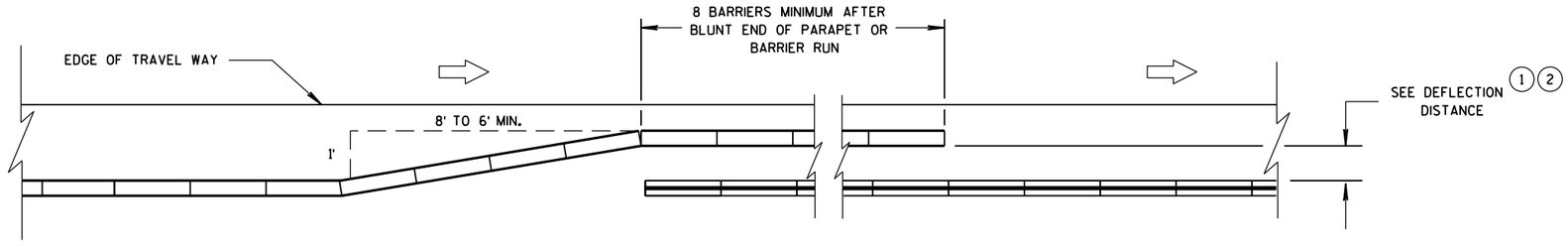
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



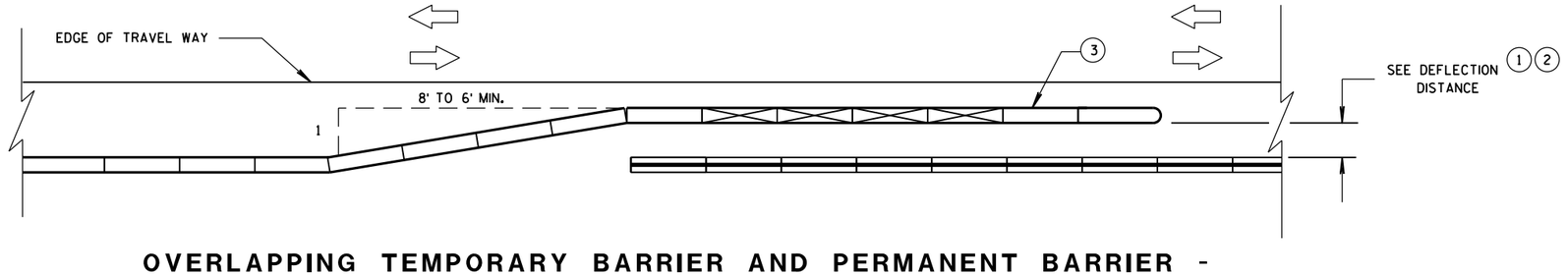
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

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



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

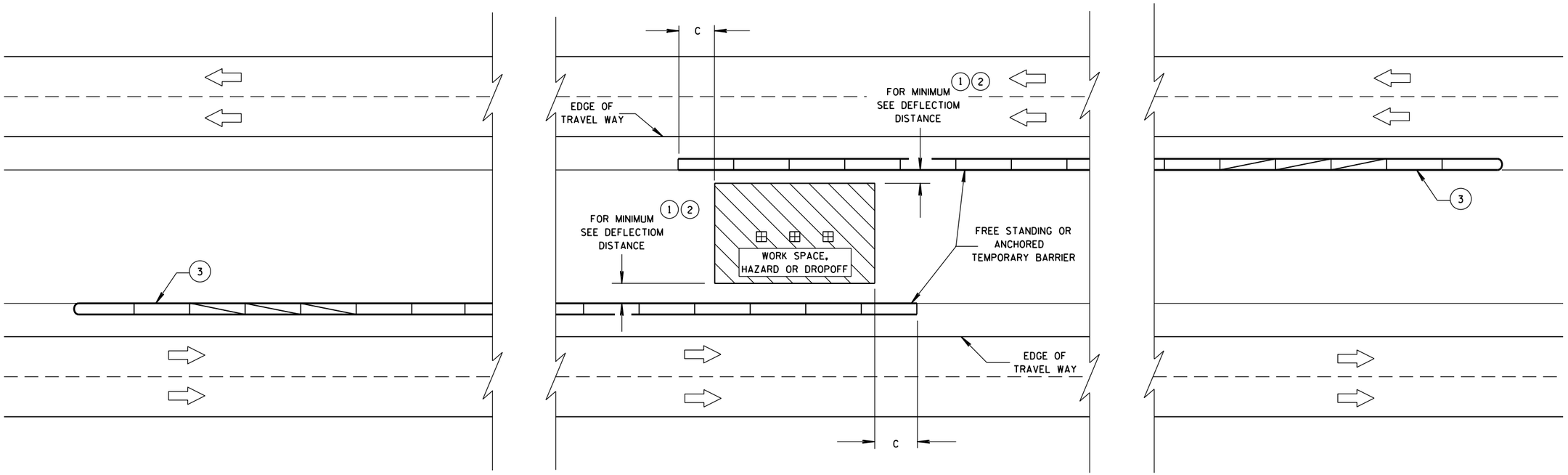
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

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



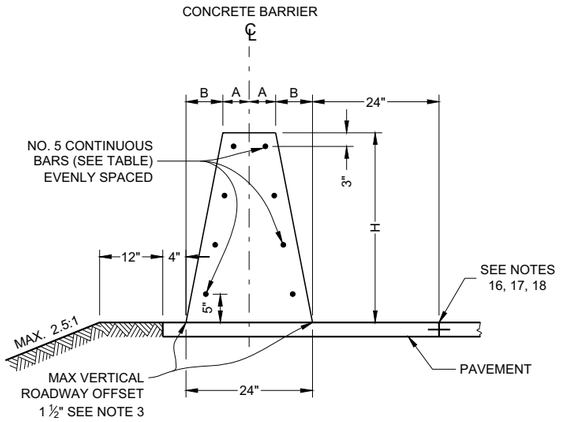
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

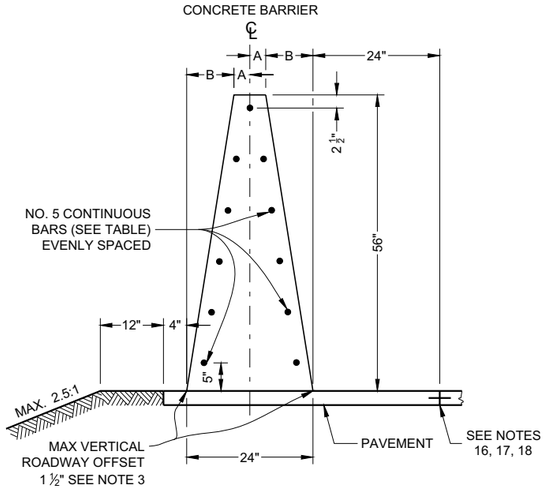
APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER
FHWA

6

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

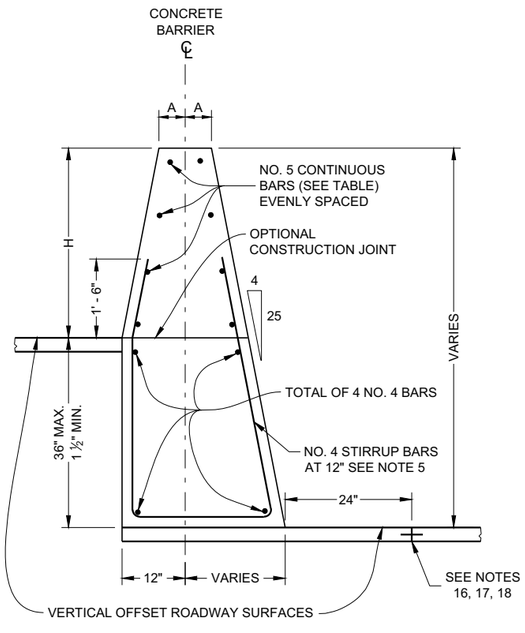


32 - INCH, 36 - INCH OR 42 - INCH SINGLE SLOPE CONCRETE BARRIER
(TYPE S32, TYPE S36, TYPE S42)

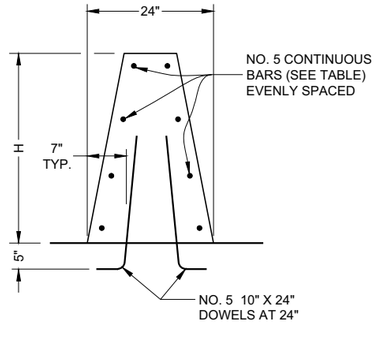


56 - INCH SINGLE SLOPE CONCRETE BARRIER
(TYPE S56)

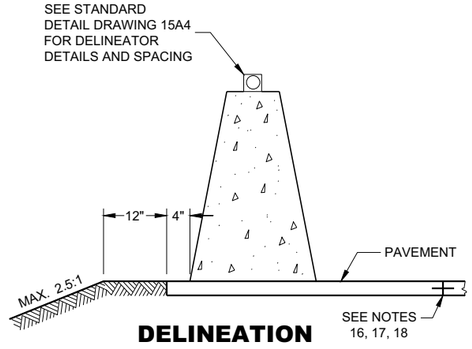
BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6 ¼	5 ¾	8
42	5 ¼	6 ¾	10
56	3	9	11



SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)
(BETWEEN ADJACENT ROADWAYS)



SINGLE SLOPE CONCRETE BARRIER ON BRIDGE
(NON OUTER PARAPET APPLICATION)



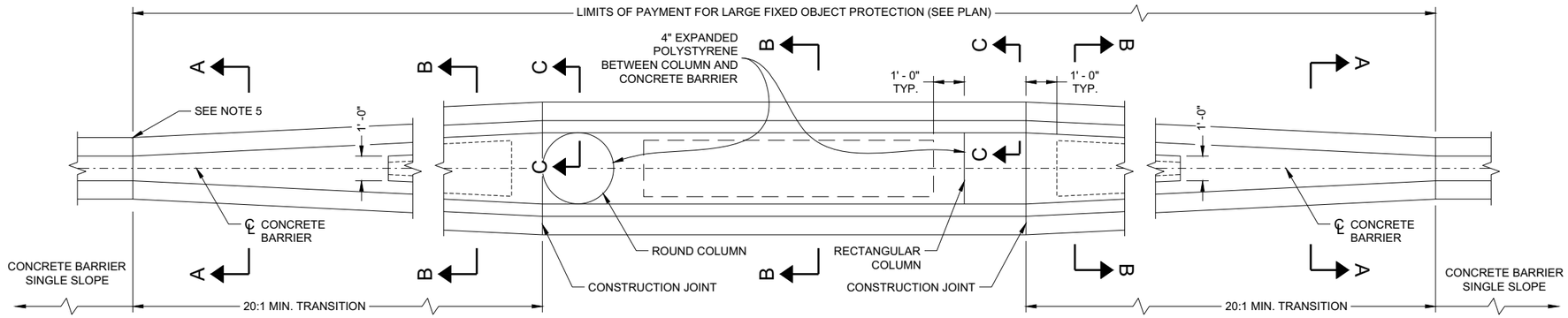
DELINEATION

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 AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OF ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAT 1", 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 TYPE S56 MONOLITHIC FOOTING OR DOWELED FOOTING 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 IS 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 CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
17. CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAN 10'.
18. SEE SDD 13C1 FOR DETAILS TYING BARRIER FOOTING TO ADJACENT CONCRETE.
19. PROVIDE A 1" DEEP, ," WIDE CONTRACTION JOINT IN BARRIER FOOTING AND BARRIER. JOINT IS TO MATCH ADJACENT CONCRETE JOINTS. IF ADJACENT TO ASPHALT, CONTRACTION JOINT IS REQUIRED EVERY 15'.

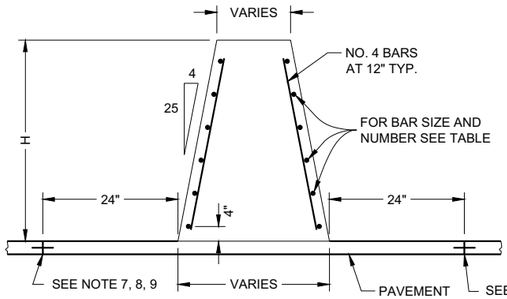
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CONCRETE BARRIER SINGLE SLOPE (CBSS)

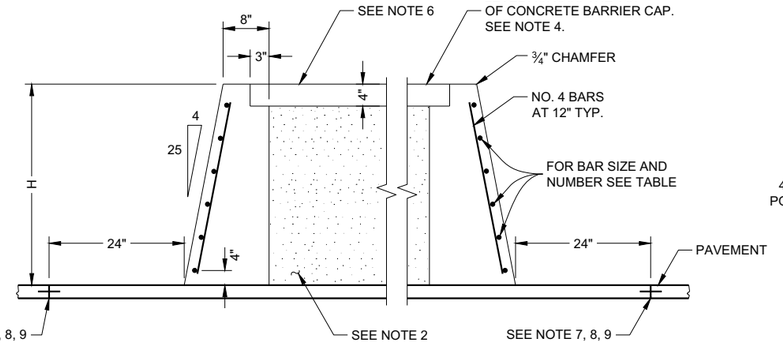


LARGE FIXED OBJECTS PROTECTION
(TYPE S32, TYPE S36, TYPE S42, TYPE S56)

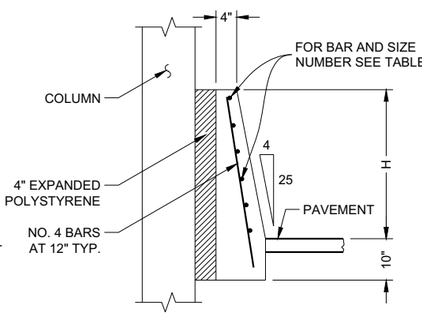
BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	6



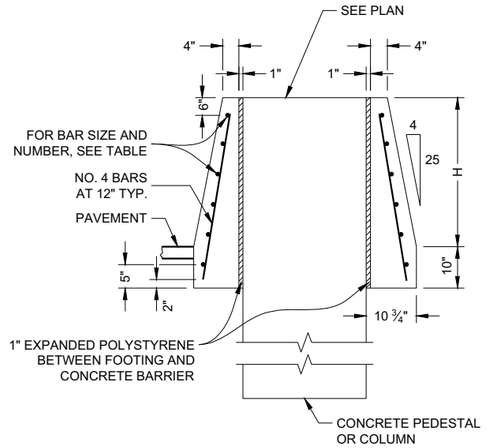
SECTION A - A



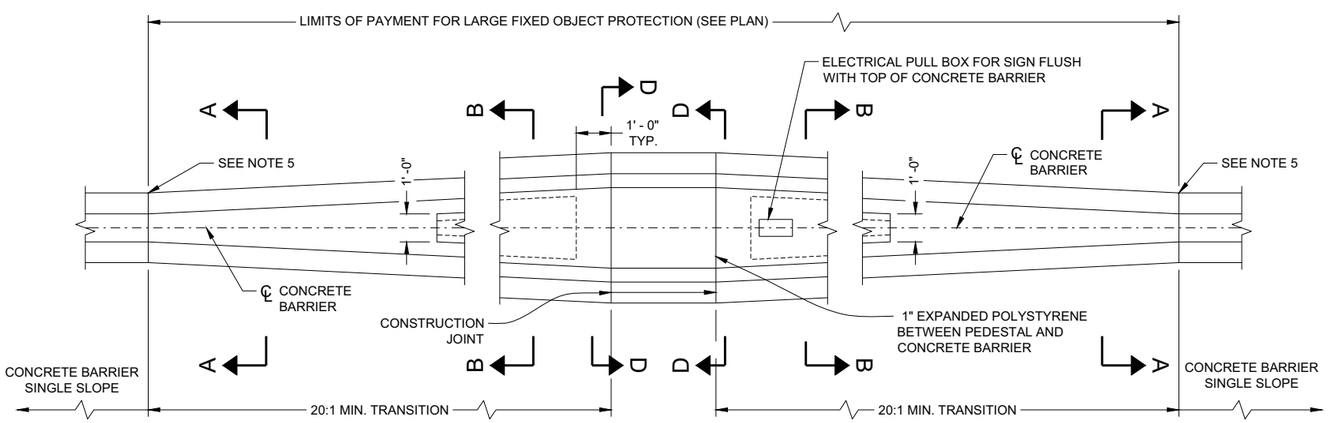
SECTION B - B



SECTION C - C



SECTION D - D



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 ONE DRAIN CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH FOUNDATION BACKFILL.
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. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.
7. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED ITH 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.
8. CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAN 10',
9. SEE SDD 13C1 FOR DETAILS TYING BARRIER FOOTING TO ADJACENT CONCRETE.

CONCRETE BARRIER SINGLE SLOPE (CBSS)

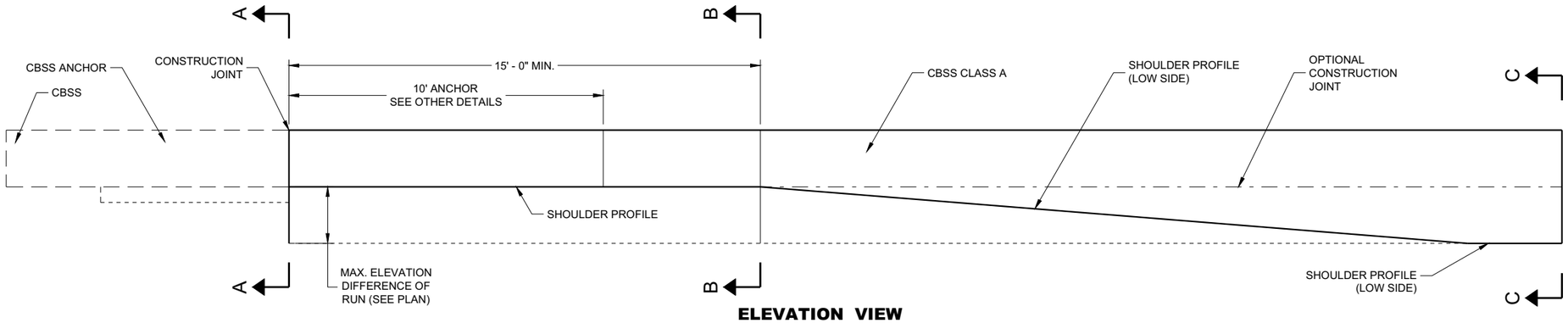
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B32 - 07b

SDD 14B32 - 07b

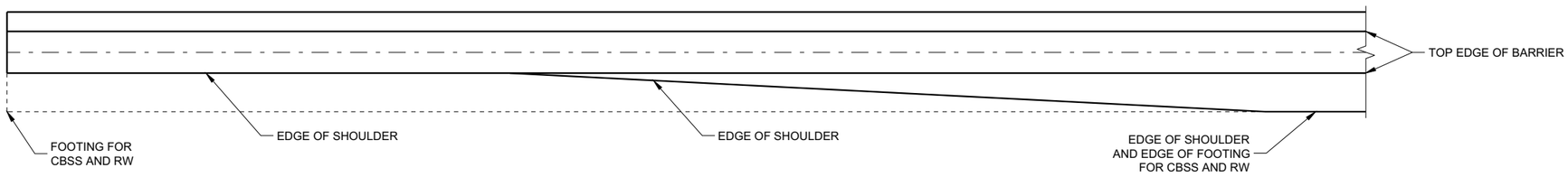
GENERAL NOTES

1. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. SEE SDD 13C18 FOR JOINT DEPTH AND WIDTH. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
2. CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAN 10',
3. SEE SDD 13C1 FOR DETAILS TYING BARRIER FOOTING TO ADJACENT CONCRETE.



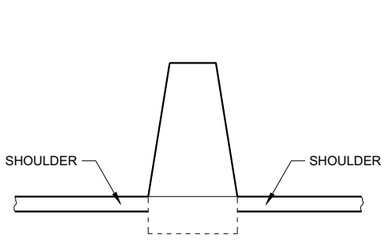
ELEVATION VIEW

TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

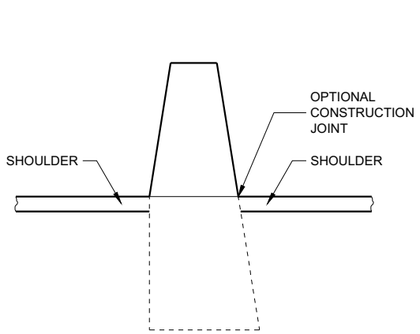


PLAN VIEW

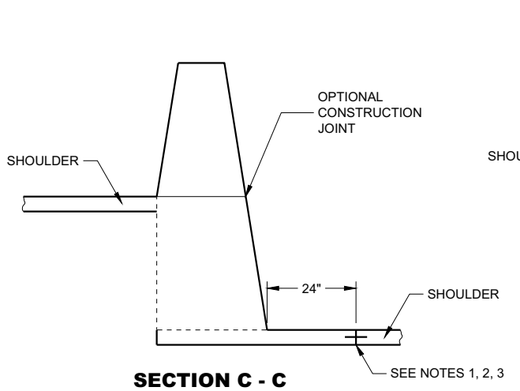
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



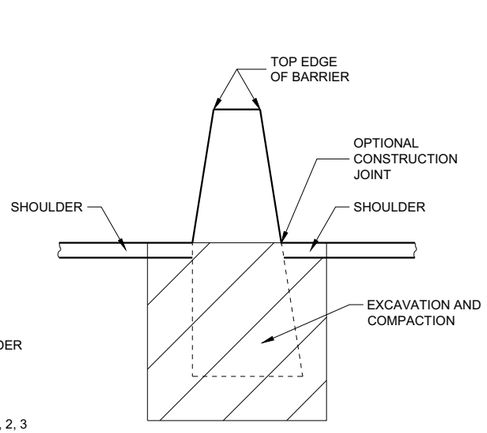
SECTION A - A



SECTION B - B



SECTION C - C

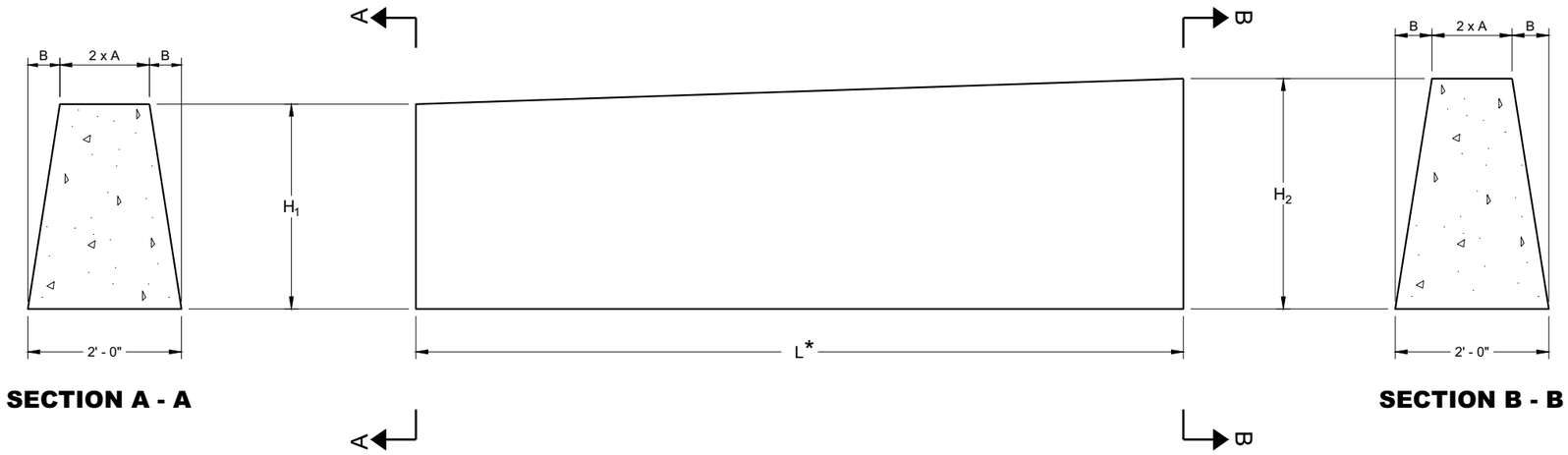


CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B32 - 07c

SDD 14B32 - 07c



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 ¼	5 ¾
42	5 ¼	6 ¾
56	3	9

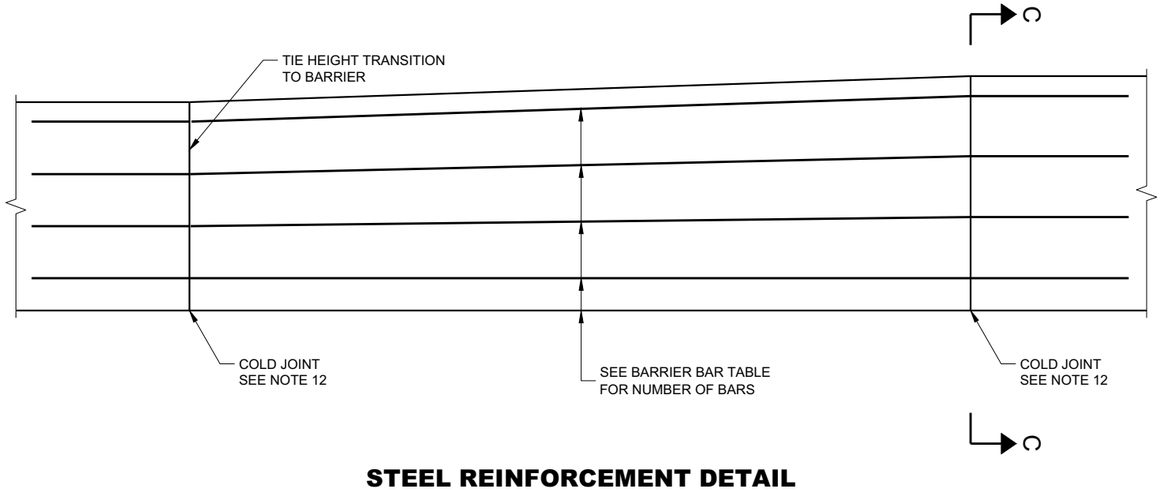
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

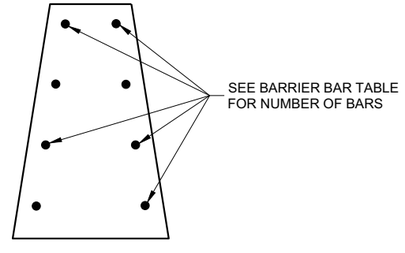
BARRIER BARS

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 (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

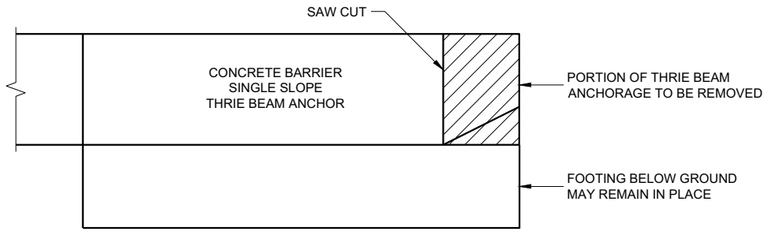
FHWA

6

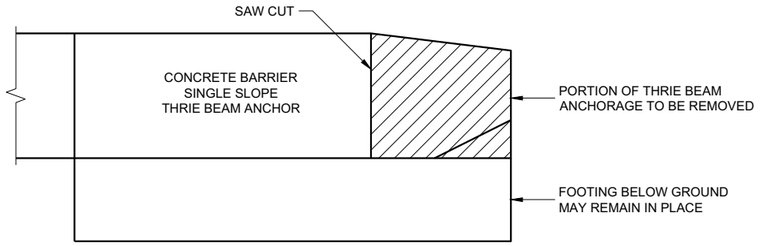
SDD 14B32 - 07d

6

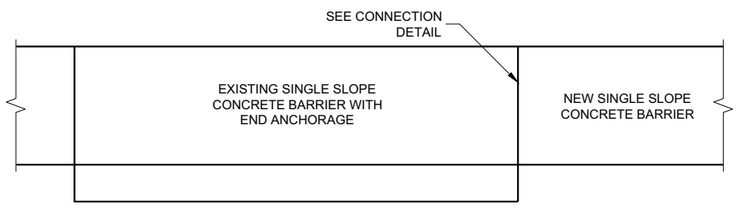
SDD 14B32 - 07d



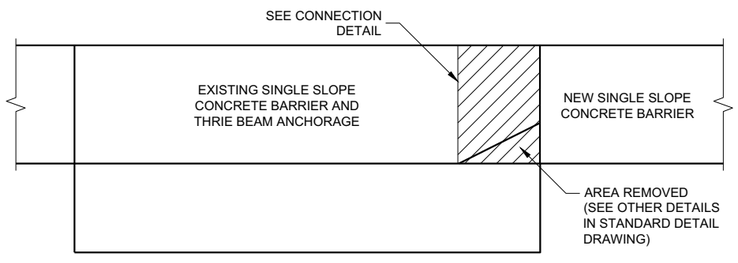
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



REMOVAL AREA OF CONCRETE THRIE BEAM
ANCHORAGE WITH HEIGHT GREATER THAN 32"



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR END ANCHORAGE



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR THRIE BEAM TERMINAL

GENERAL NOTES

1 THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).

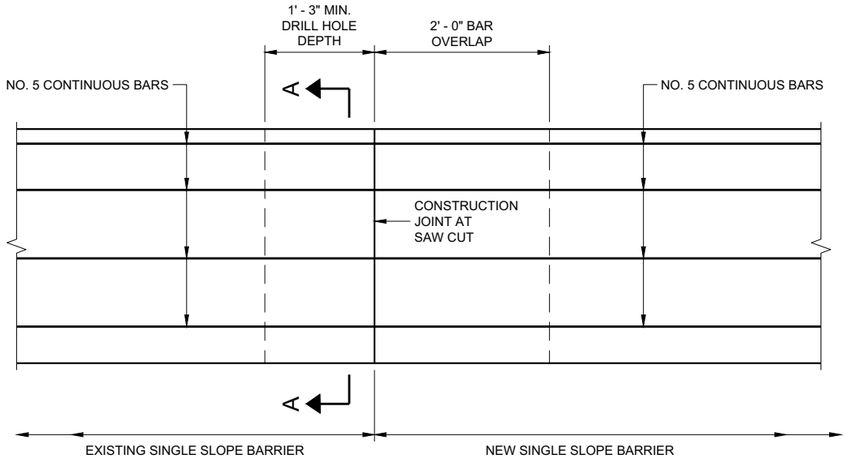
2. MINIMUM DEPTH OF DRILL HOLES IS 1' - 3".

3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE

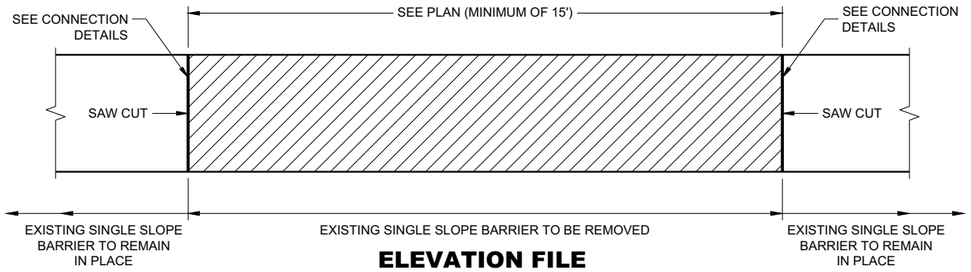
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.

5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIERS.

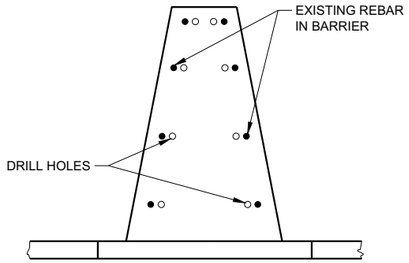
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.



CONNECTION OF EXISTING SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER



ELEVATION FILE
BARRIER REMOVAL AND REPLACEMENT



SECTION A-A

RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER

CONCRETE BARRIER
SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

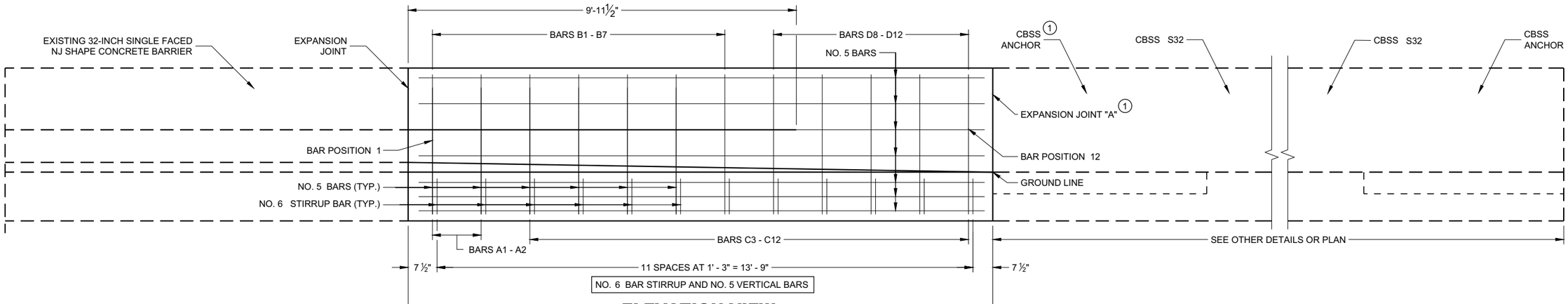
FHWA

6

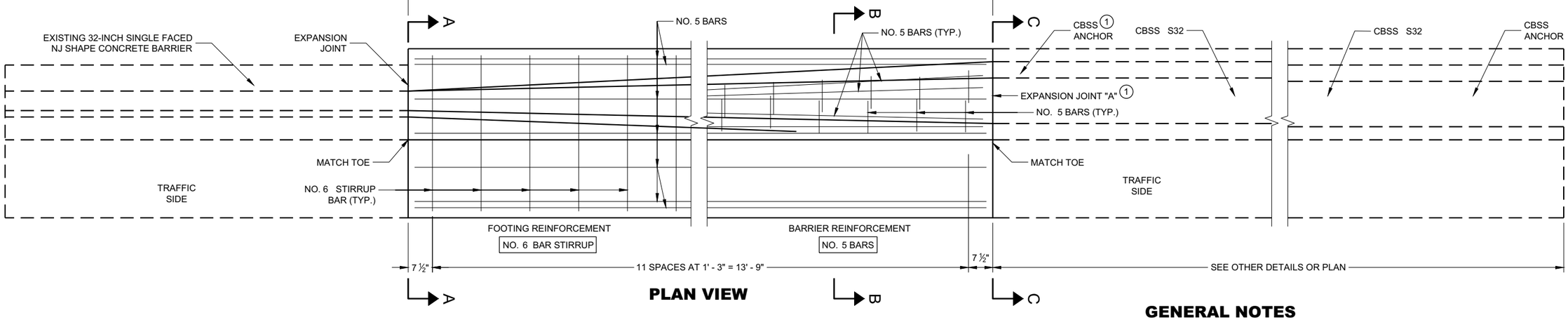
SDD 14B32 - 07e

6

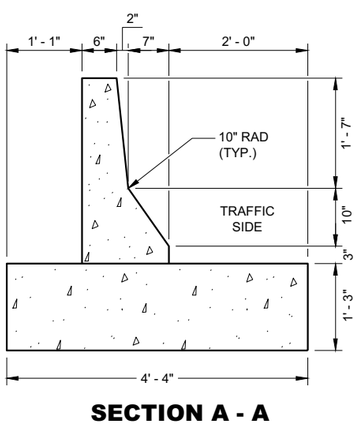
SDD 14B32 - 07e



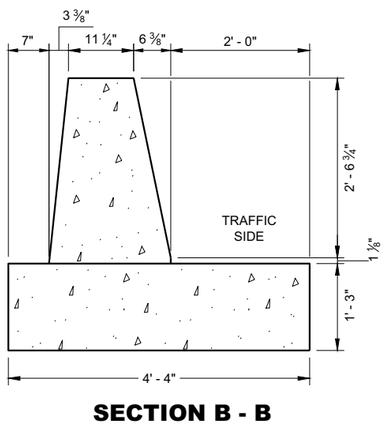
ELEVATION VIEW



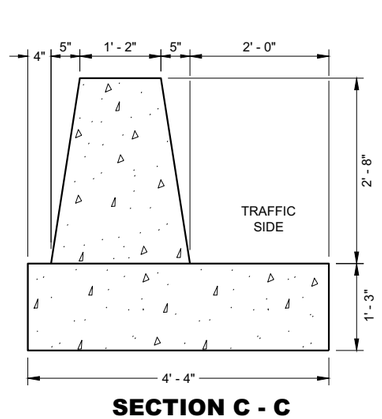
PLAN VIEW



SECTION A - A



SECTION B - B



SECTION C - C

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS OTHERWISE NOTED.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS SECTION 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.

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 IS NOT REQUIRED.

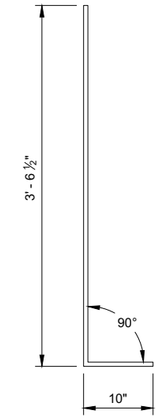
32 - INCH SINGLE FACED NJ SHAPE CONCRETE BARRER TO 32 - INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B35 - 02a

SDD 14B35 - 02a

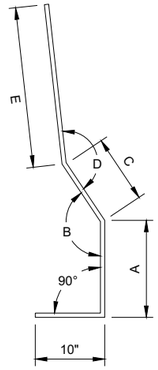
"A" BAR POSITIONS 1 - 2



"A" BAR BENDING DETAIL

"B" BAR CHART BAR POSITIONS 1 - 7

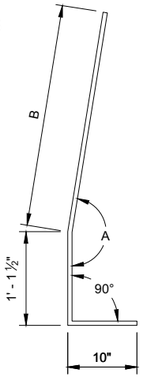
BAR	A	B	C	D	E
B1	1' - 2 ¼"	148°	1' - 1 ¼"	154°	1' - 5"
B2	1' - 2 ¼"	151°	1' - 1"	158°	1' - 5"
B3	1' - 2"	154°	1' - ¾"	161°	1' - 5 ¼"
B4	1' - 2"	157°	1' - ½"	164°	1' - 5 ¼"
B5	1' -1 ½"	159°	1' - ¼"	168°	1' - 5 ¼"
B6	1' -1 ½"	162°	1' - ¼"	173°	1' - 5 ¼"
B7	1' -1 ½"	165°	1' - ¼"	176°	1' - 5 ¼"



"B" BAR BENDING DETAIL

"C" BAR CHART BAR POSITIONS 3 - 12

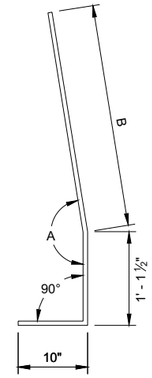
BAR	A
C3	178°
C4	178°
C5	177°
C6	176°
C7	174°
C8	174°
C9	174°
C10	173°
C11	173°
C12	172°



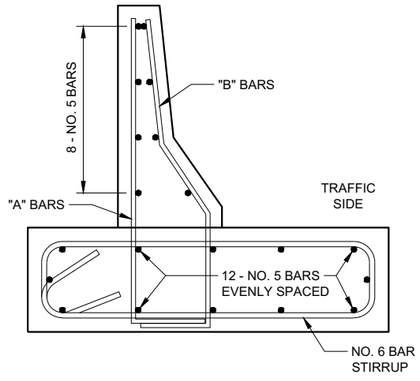
"C" BAR BENDING DETAIL

"D" BAR CHART BAR POSITIONS 8 - 12

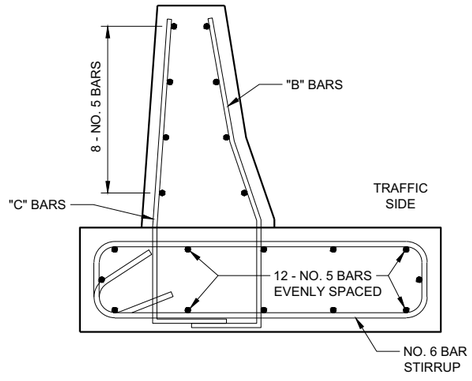
BAR	A
D8	169°
D9	170°
D10	170°
D11	171°
D12	171°



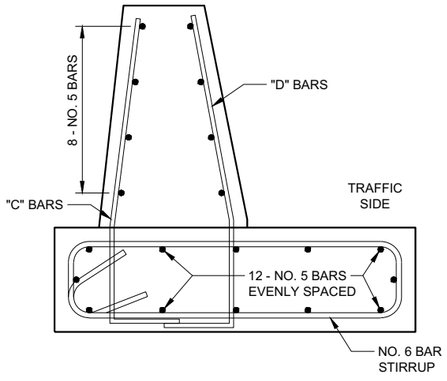
"D" BAR BENDING DETAIL



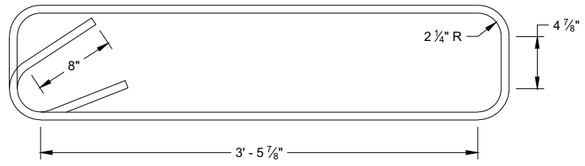
BAR DETAIL BAR POSITIONS 1 - 2



BAR DETAIL BAR POSITIONS 3 - 7



BAR DETAIL BAR POSITIONS 8 - 12



STIRRUP BAR BENDING DETAIL

32 - INCH SINGLE FACED NJ SHAPE CONCRETE BARRIER TO 32 - INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

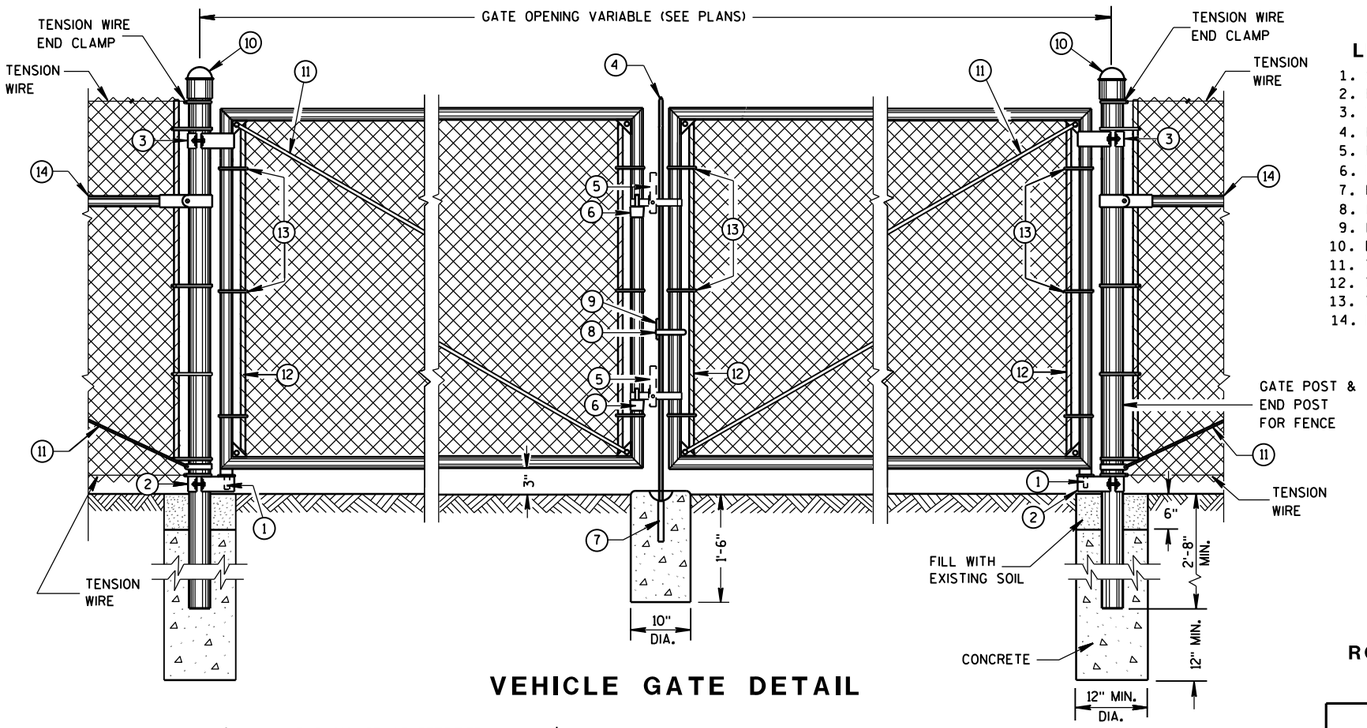
APPROVED
February 2020
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

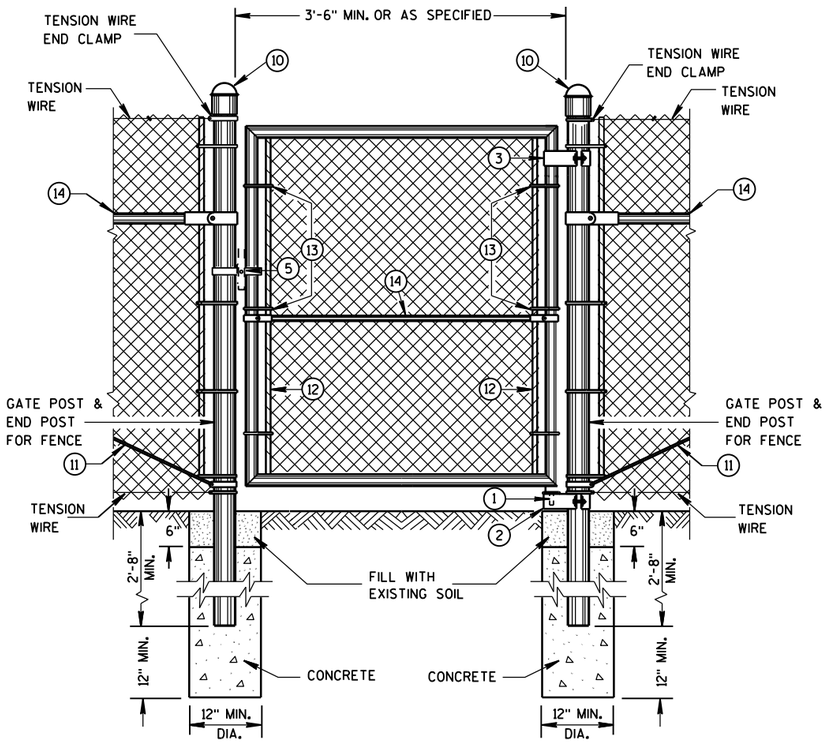
FHWA

6

SDD 14B35 - 02b
SDD 14B35 - 02b



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.

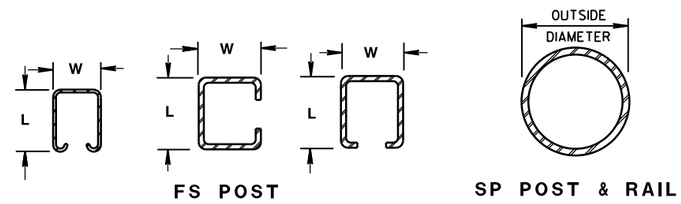
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

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.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.



FS POST — SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

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

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

ROLLED-FORMED STEEL FENCE POST (2.0 OZ./SQ. FT. COATING)

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

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

ROUND STEEL FENCE POST (1.8 OZ./SQ. FT. COATING)

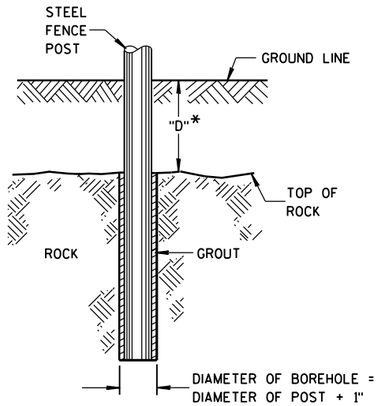
POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

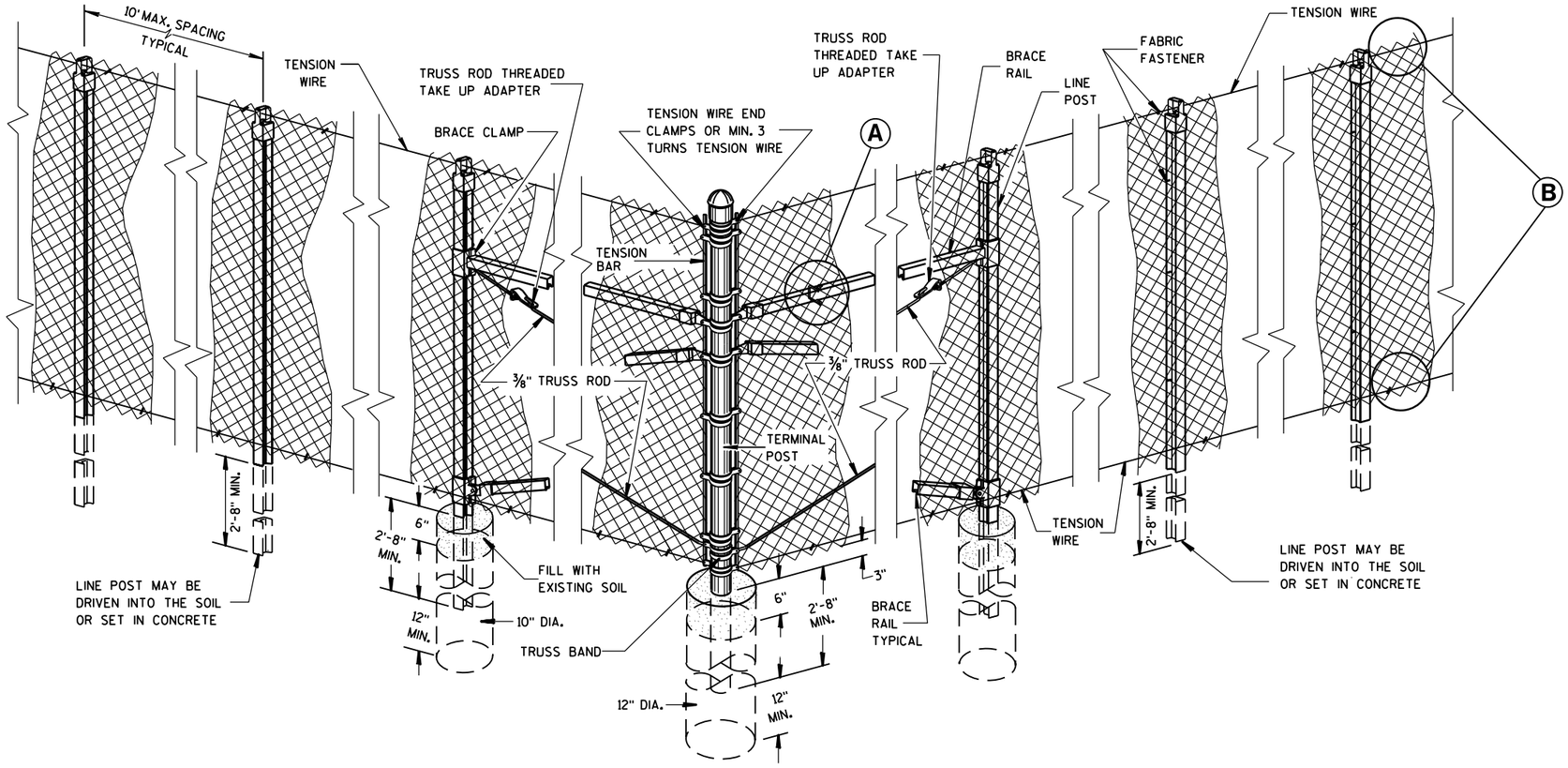
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S.D.D. 15 B 3-15a

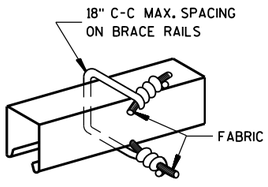


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



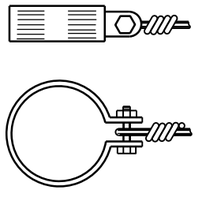
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



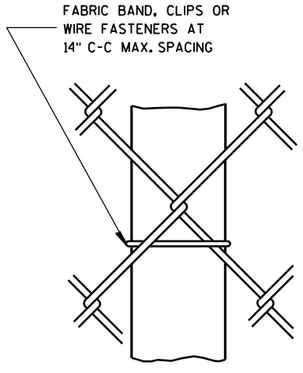
BRACE RAIL

FABRIC FASTENER

Ⓐ



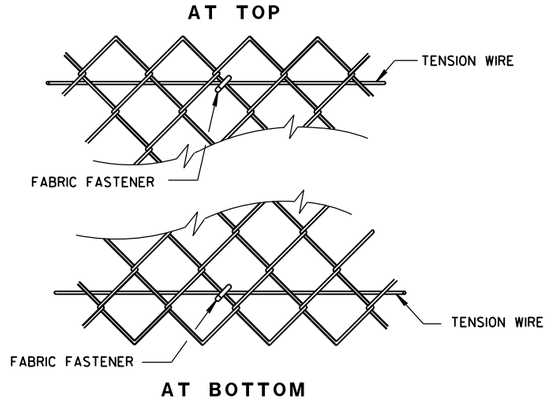
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

Ⓑ

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

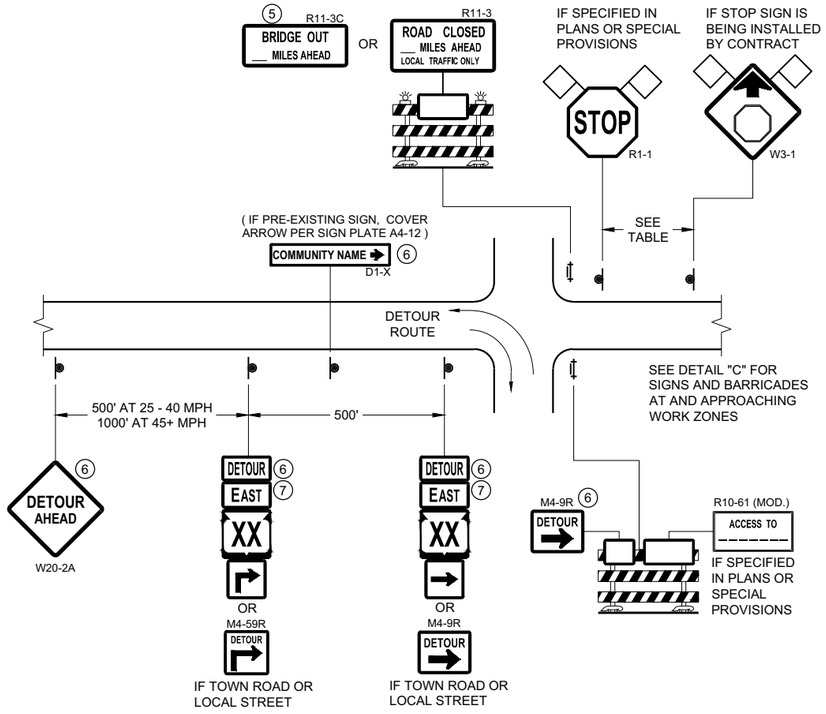
APPROVED
FEB. 2015 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 15 B 3-15b

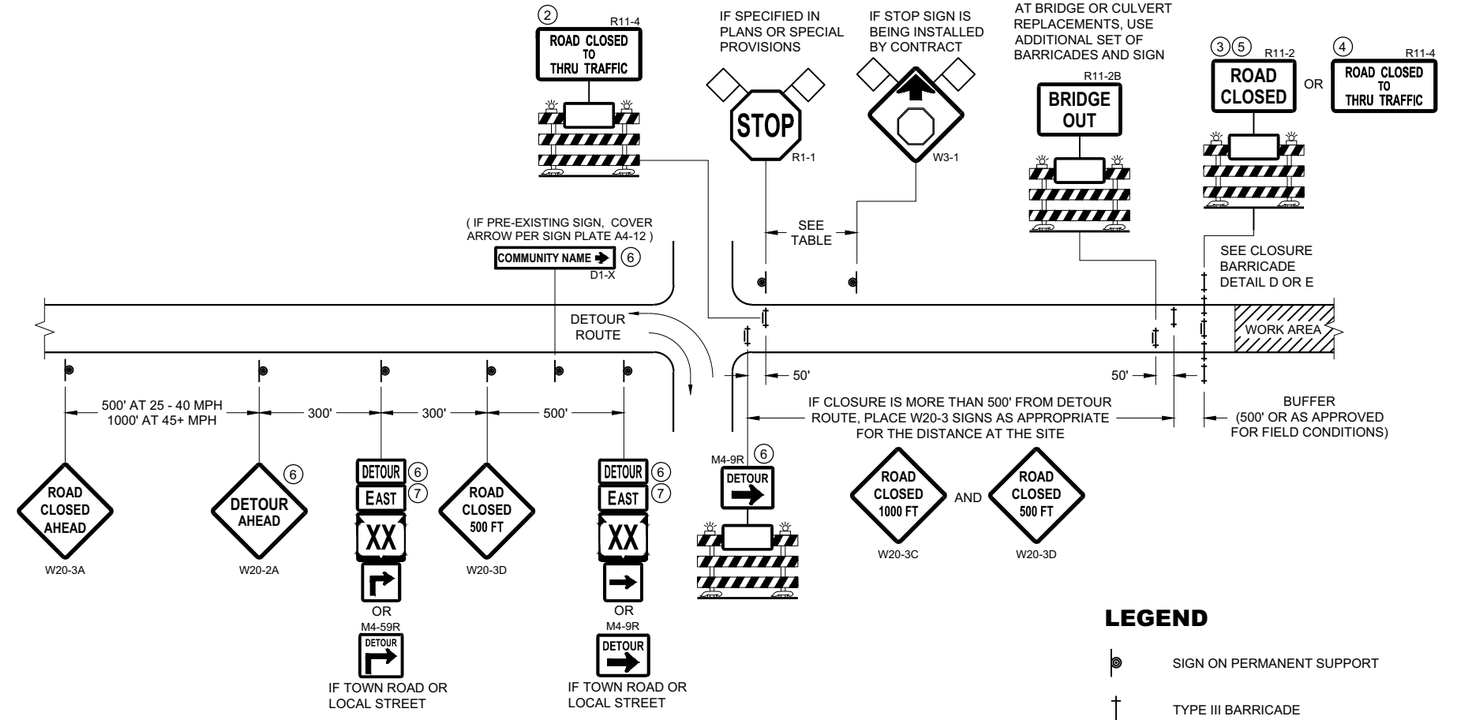
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S.D.D. 15 B 3-15b



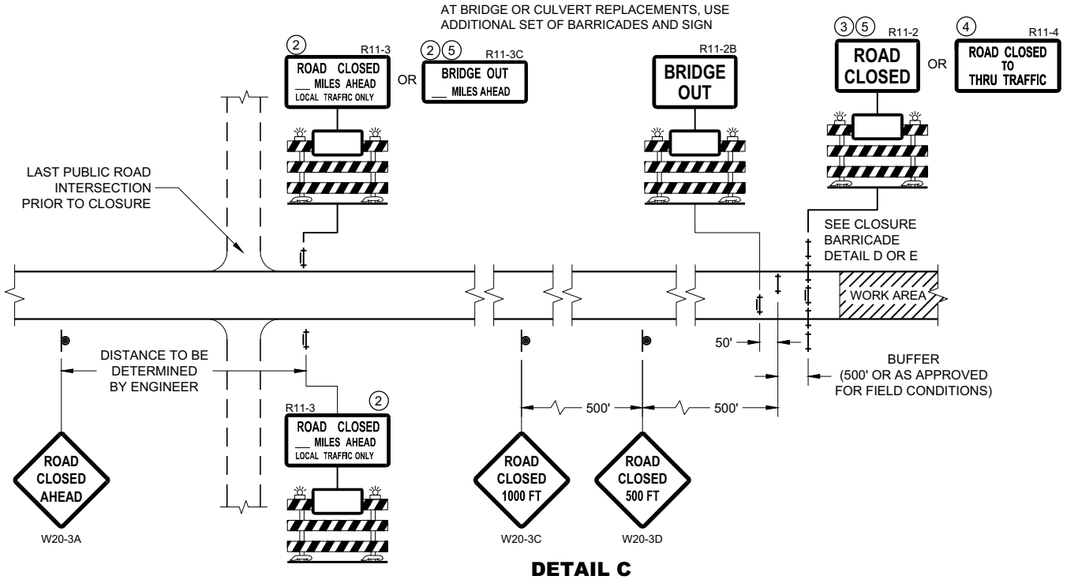
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ □ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ □ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

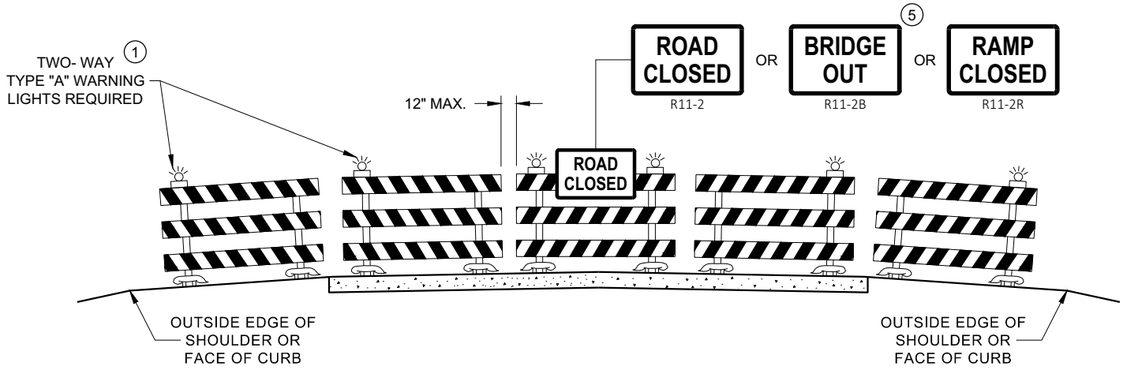
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

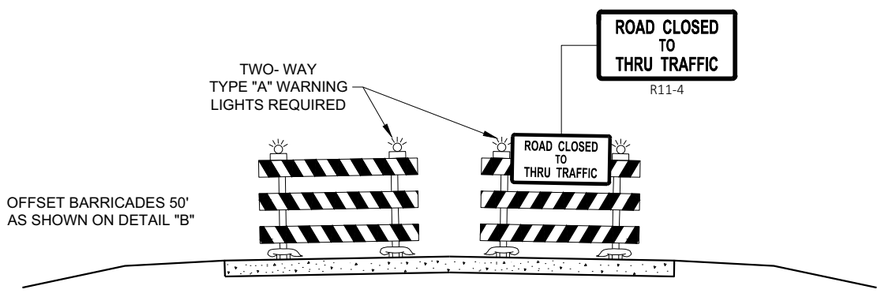
6

SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

SDD 15C02 - 08b

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

LEGEND

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

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

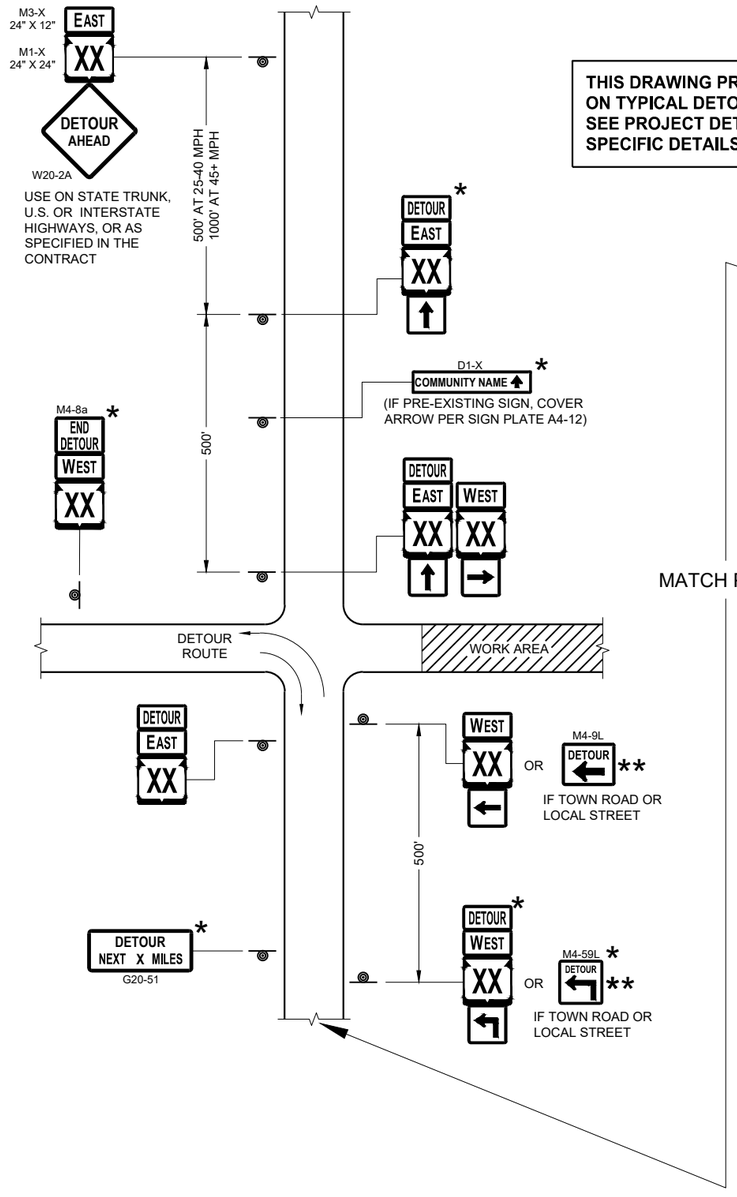
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

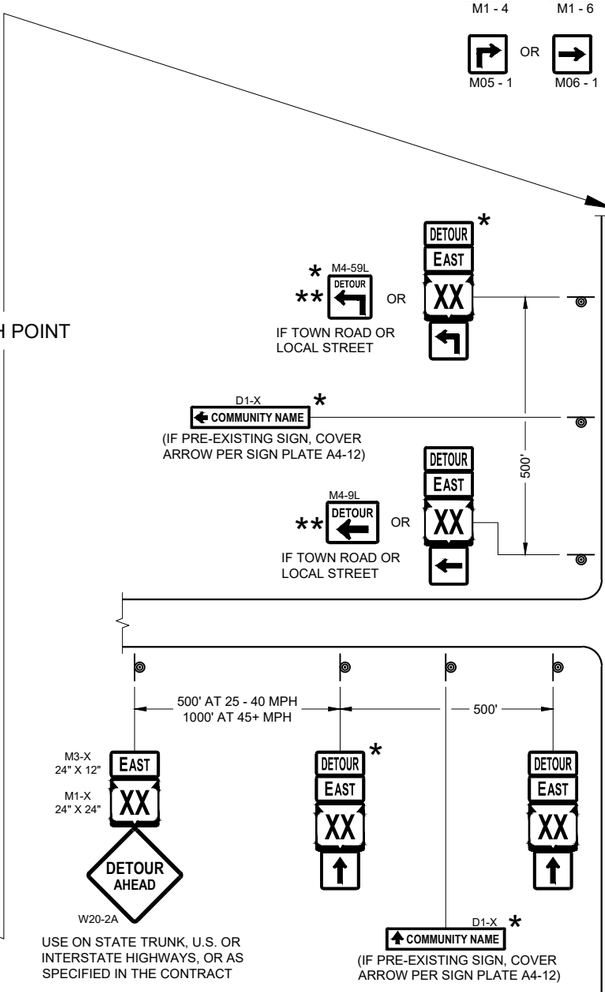
SIGN SIZES SHALL BE AS FOLLOWS:

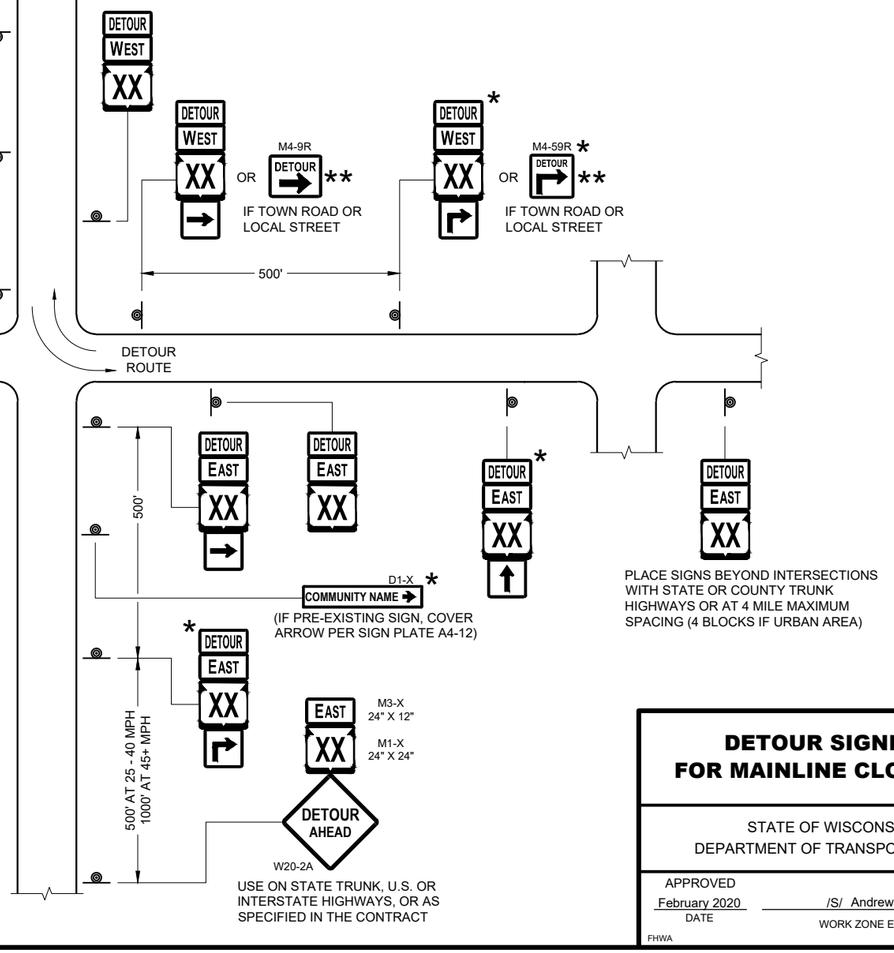
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

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

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







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

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

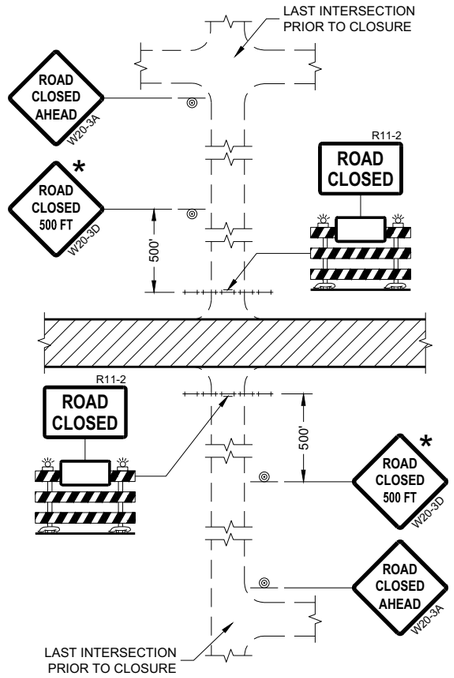
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

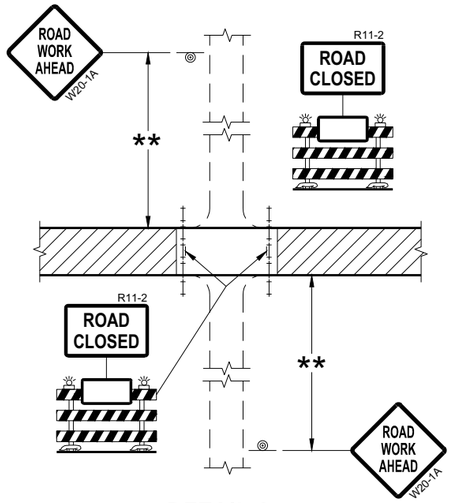
SDD 15C02 - 08c

SDD 15C02 - 08c

6



DETAIL 1
(NO ACCESS TO PROJECT)



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

GENERAL NOTES

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

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

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

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

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

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

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

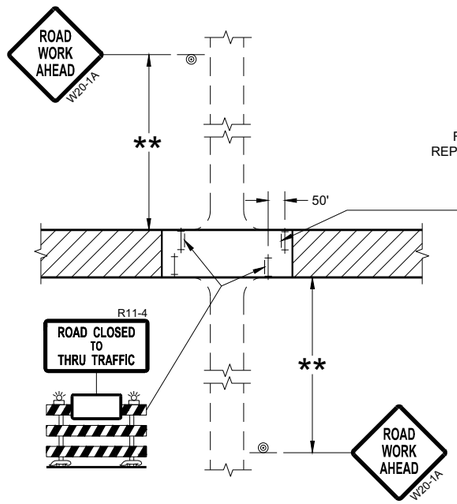
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

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

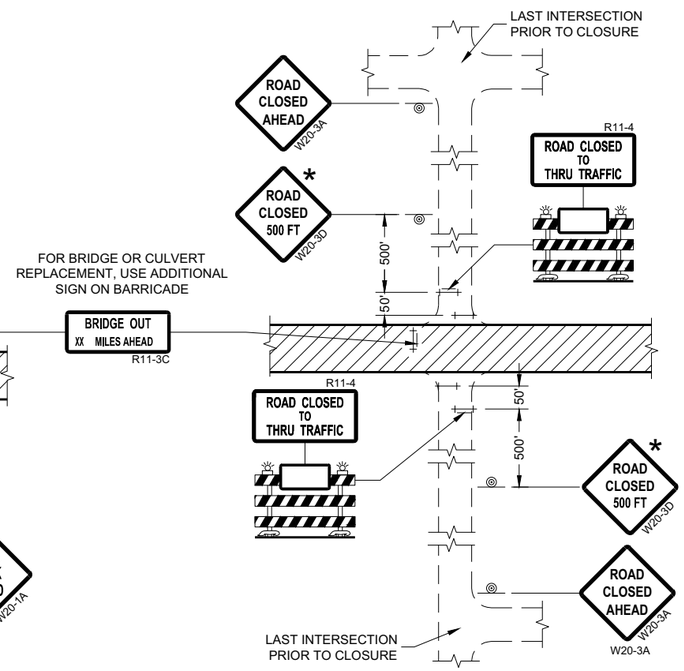
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

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

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



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



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

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

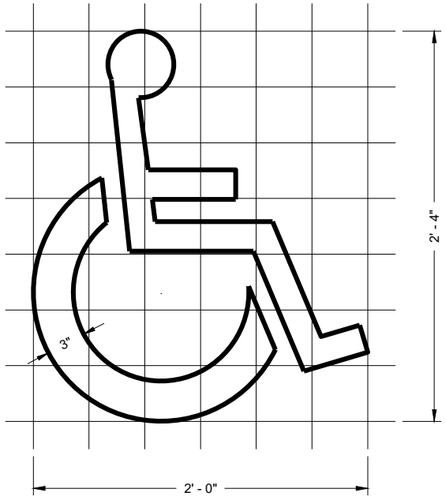
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SDD 15C03 - 05

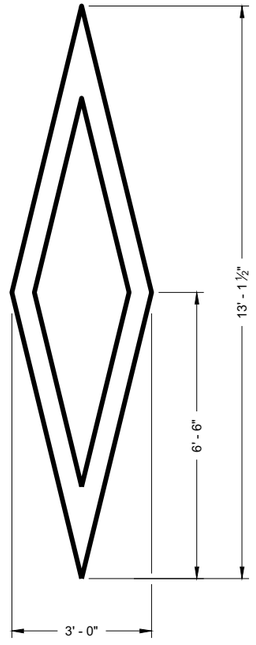
SDD 15C03 - 05

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.



HANDICAP SYMBOL



PREFERENTIAL LANE SYMBOL

6

6

SDD 15C07 - 15a

SDD 15C07 - 15a

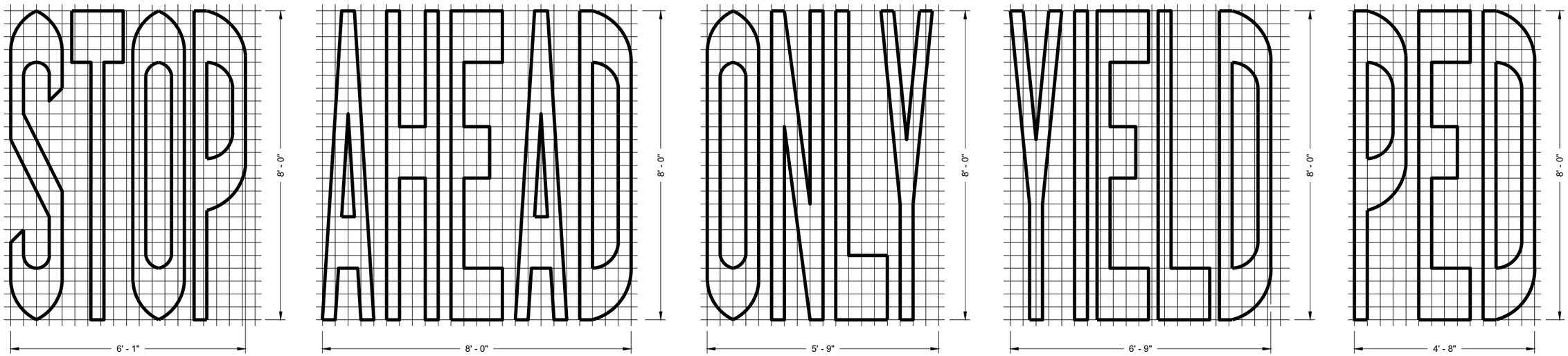
PAVEMENT MARKING SYMBOLS

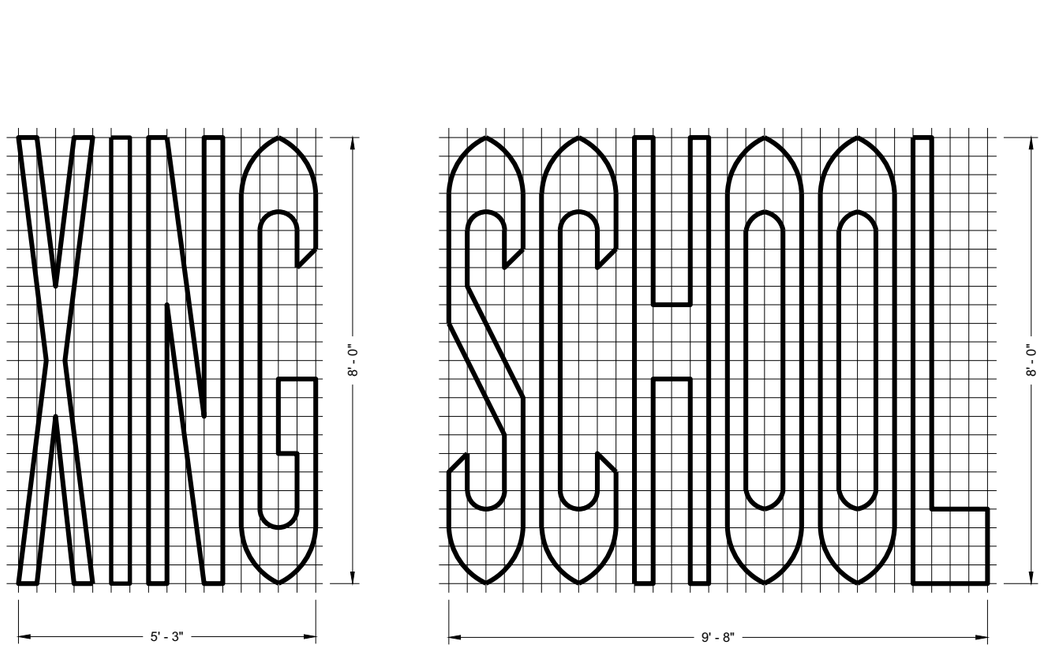
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

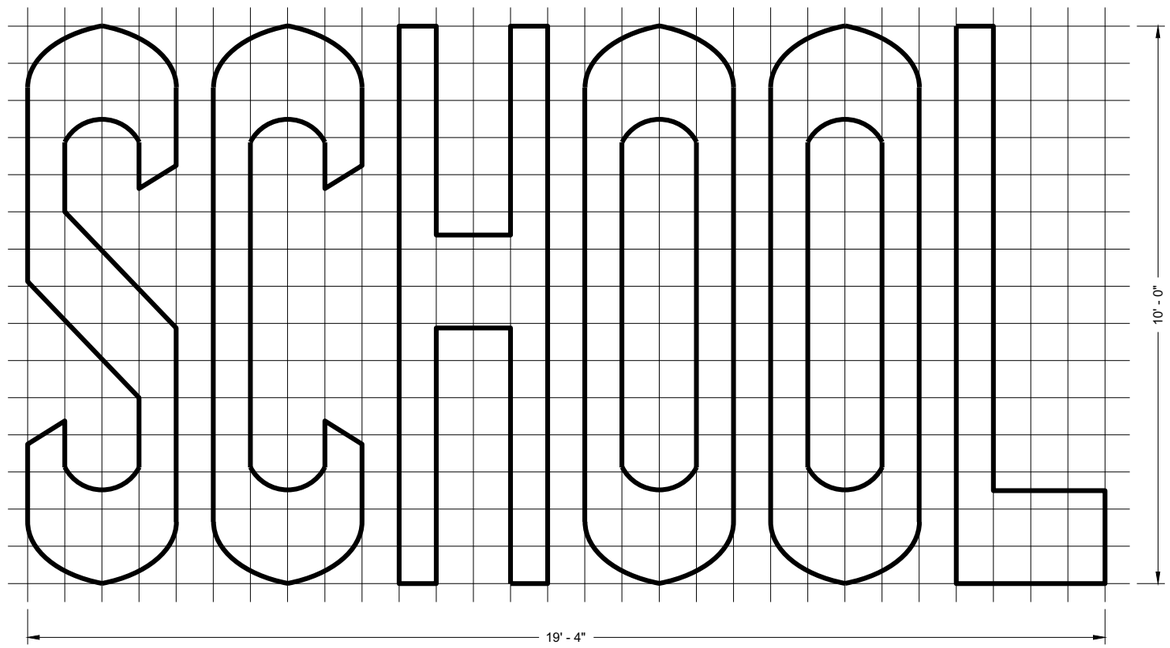
/S/ Matthew Rauch
STATE SIGNING AND MAR ENGINEER

FHWA





SINGLE LANE



TWO - LANE

GENERAL NOTES

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

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

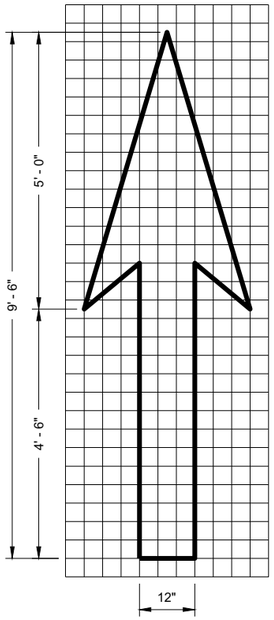
/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

FHWA

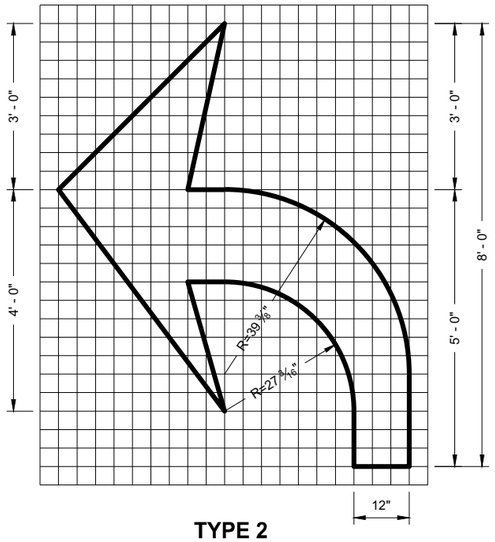
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SDD 15C07 - 15b

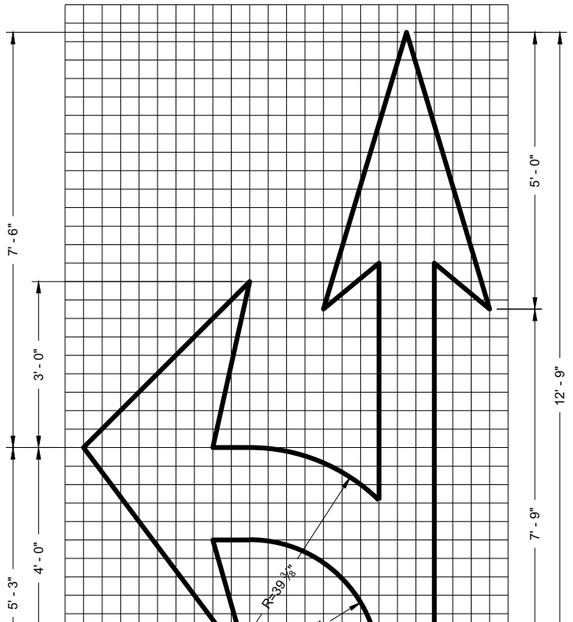
SDD 15C07 - 15b



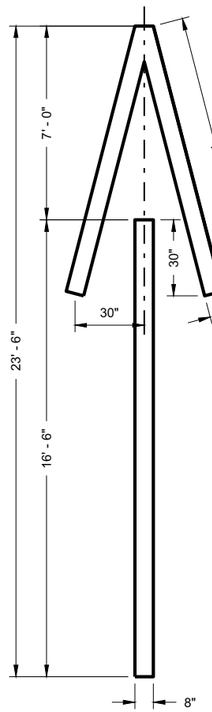
TYPE 1



TYPE 2



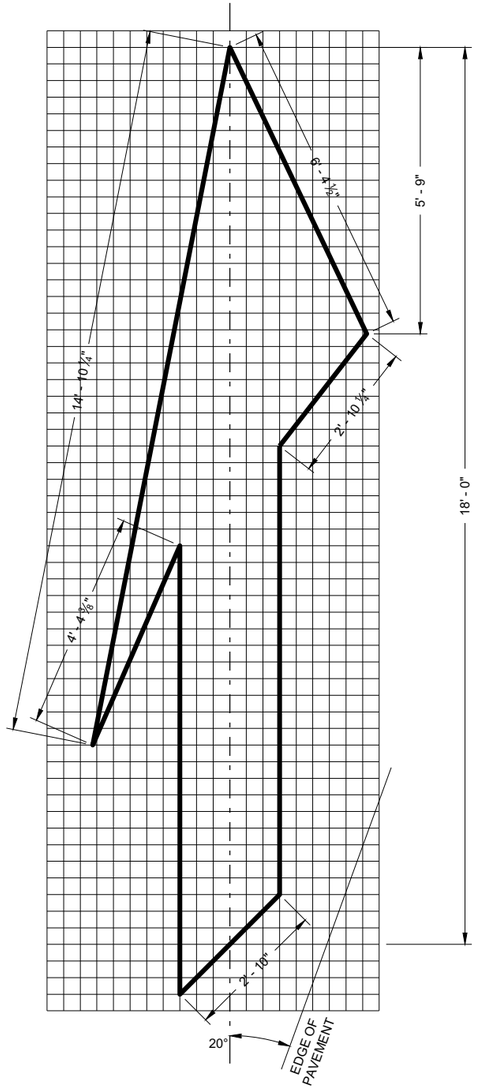
TYPE 3



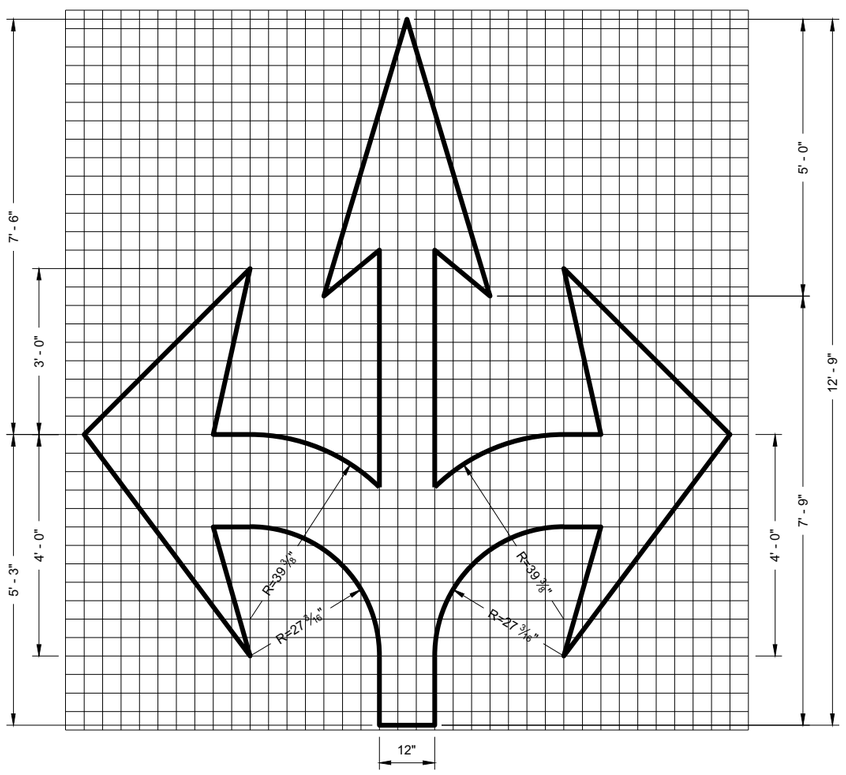
TYPE 4

GENERAL NOTES

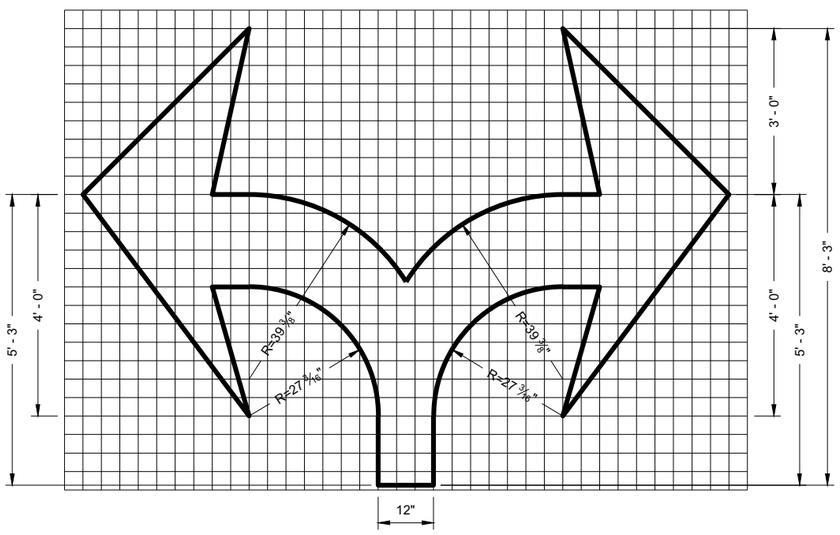
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MAF ENGINEER

FHWA

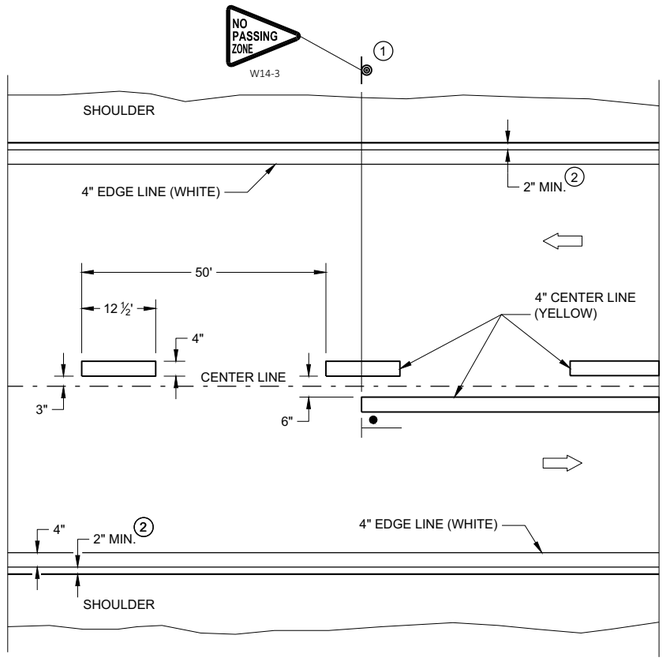
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6

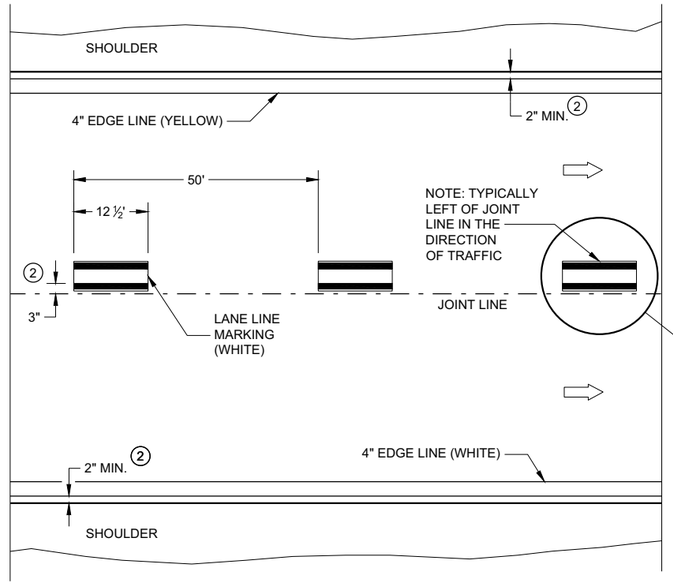
SDD 15C07 - 15c

6

SDD 15C07 - 15c

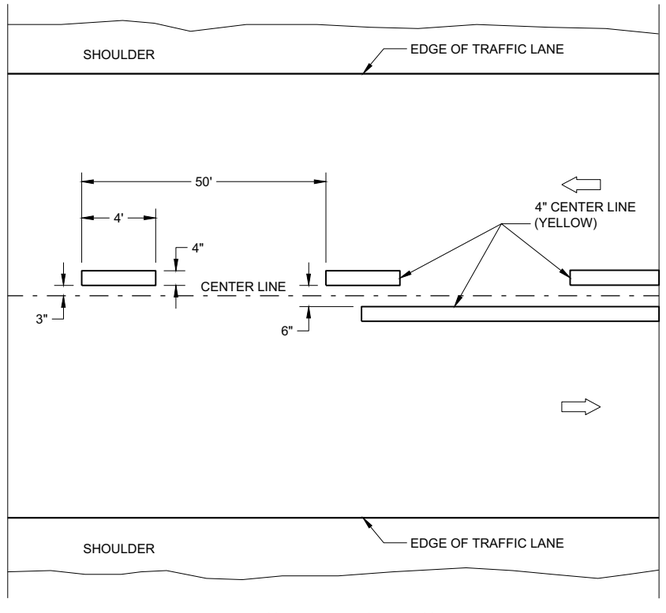


TWO WAY TRAFFIC

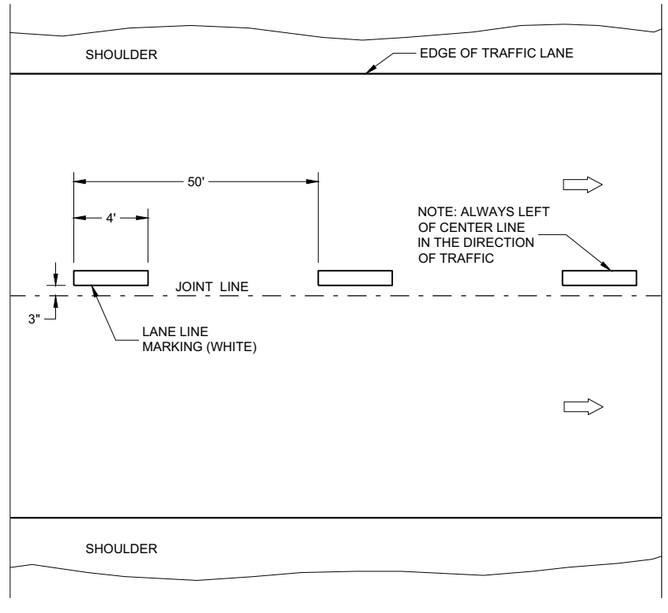


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

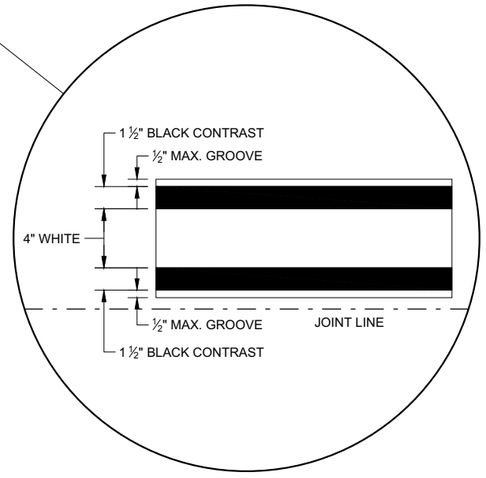
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

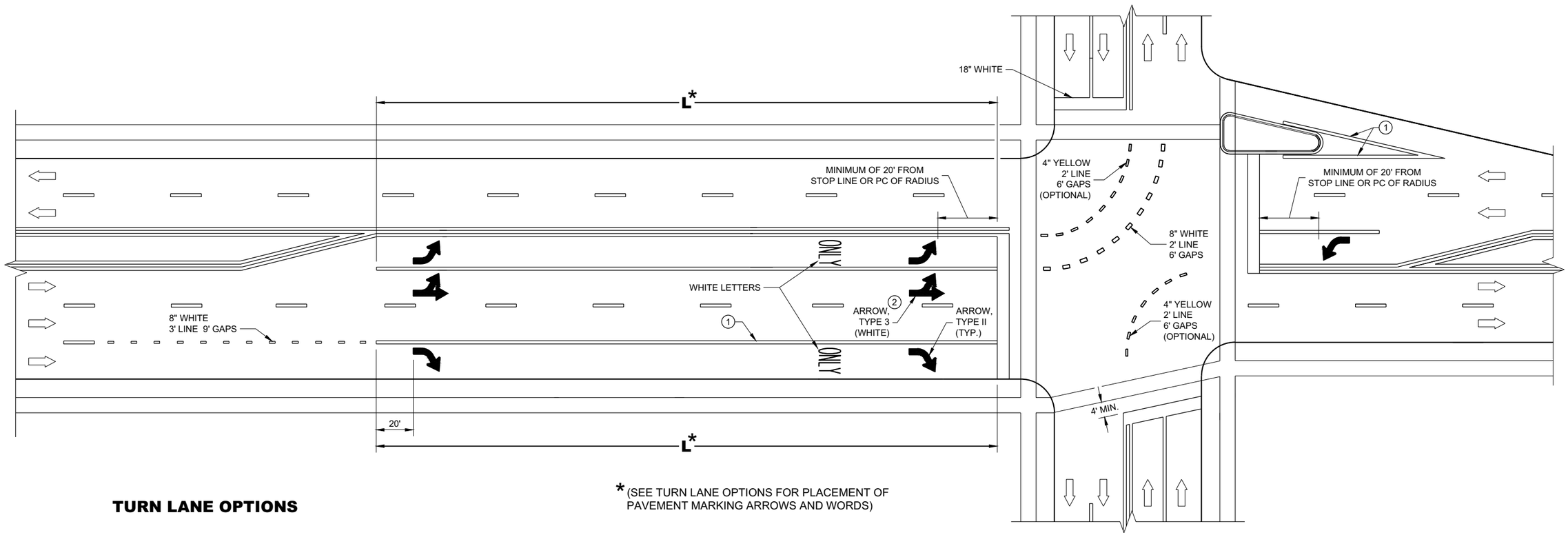
APPROVED
February 2020
DATE

/S/ Matthew Rauch
STATEWIDE SIGNING AND M ENGINEER

FHWA

SDD 15C08 - 20a

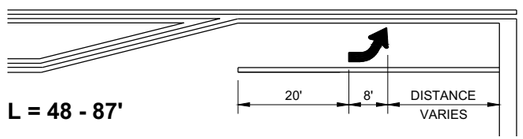
SDD 15C08 - 20a



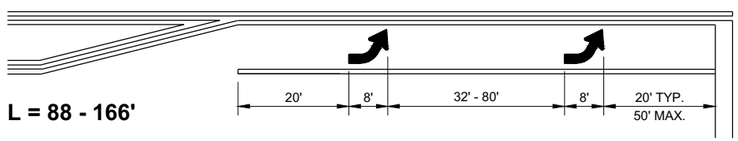
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

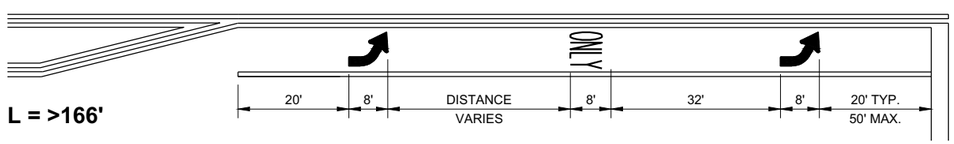
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

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

DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15C08 - 20c

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

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

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

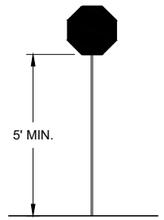
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



STOP/SLOW PADDLE ON SUPPORT STAFF

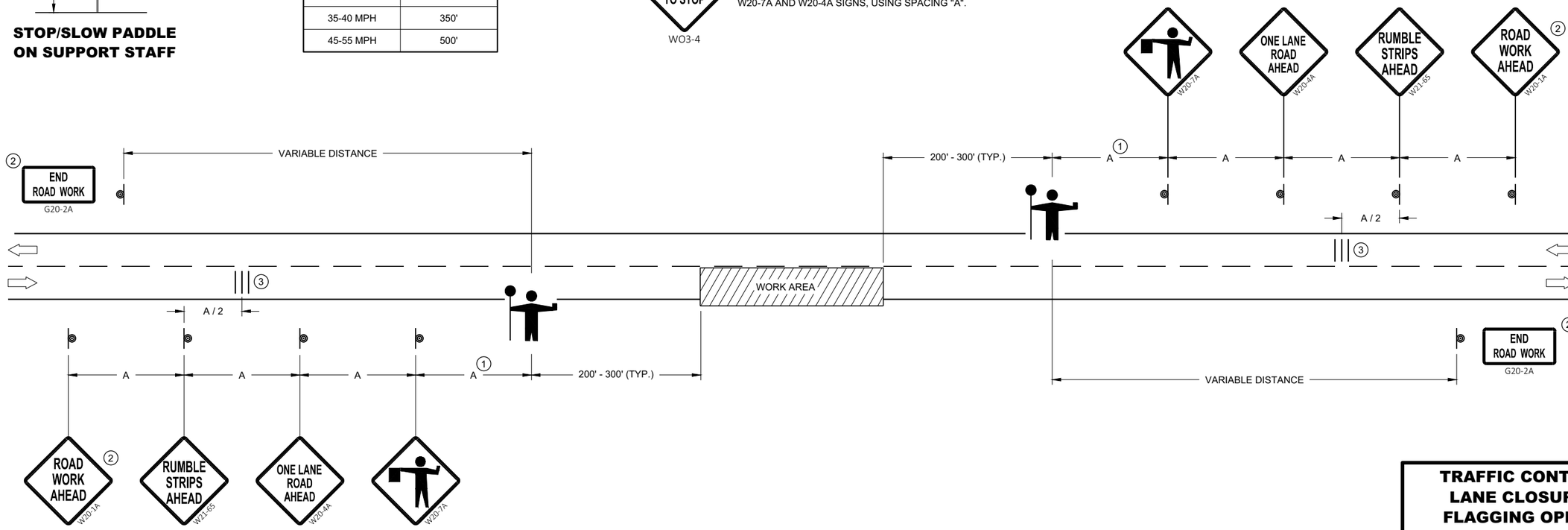
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

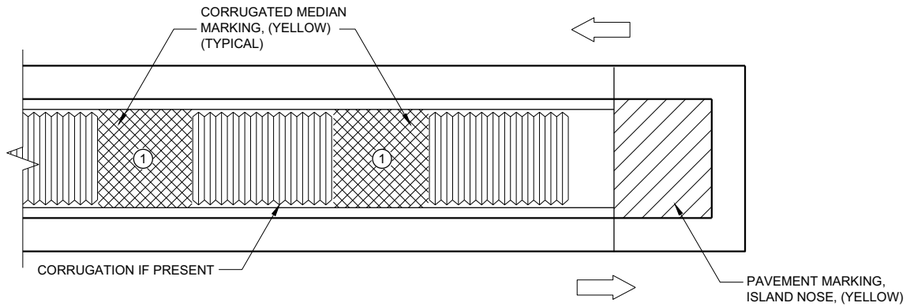
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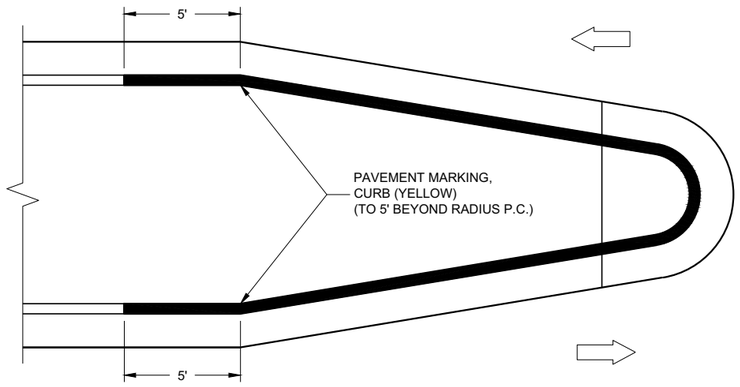
SDD 15C12 - 07

6

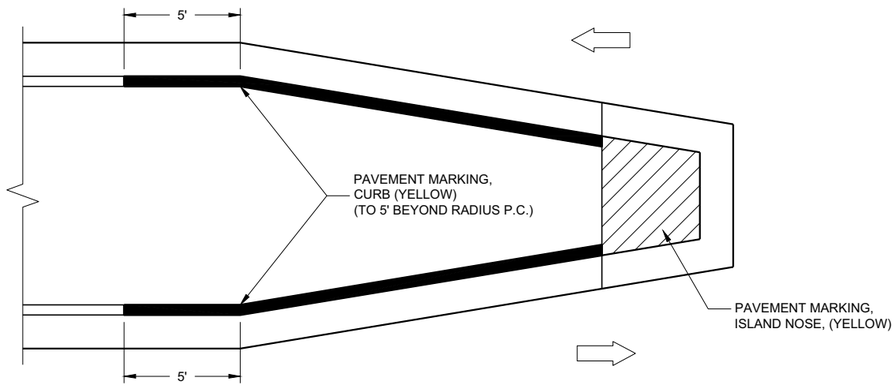
SDD 15C12 - 07



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

**PAVEMENT MARKINGS,
MEDIAN ISLAND NOSE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2021
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAR ENGINEER

FHWA

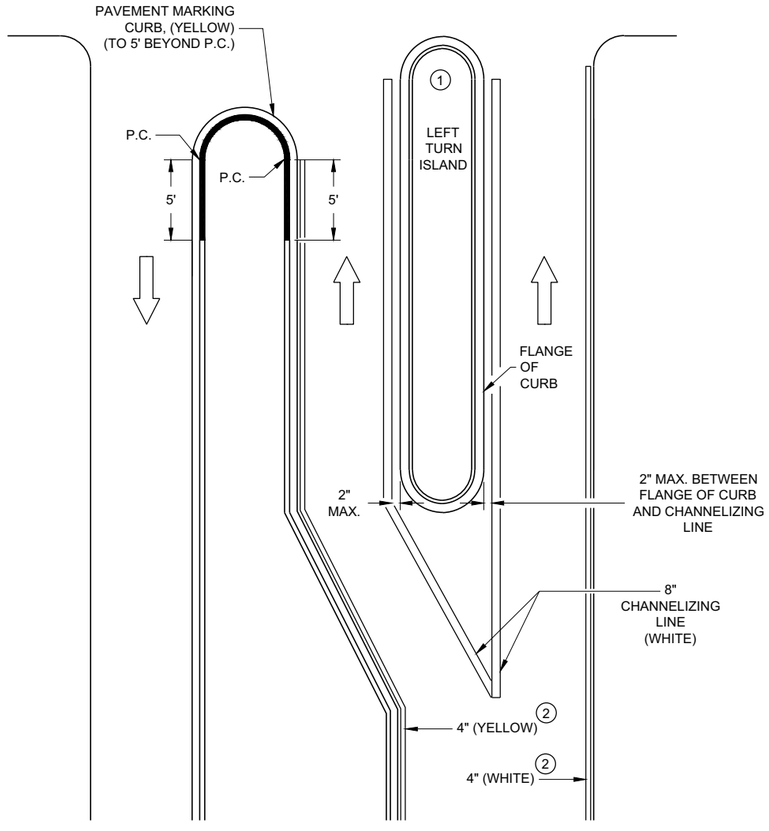
6

SDD 15C18 - 05b

6

SDD15C18 - 05b

REQUIREMENTS FOR EDGE LINES		
POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

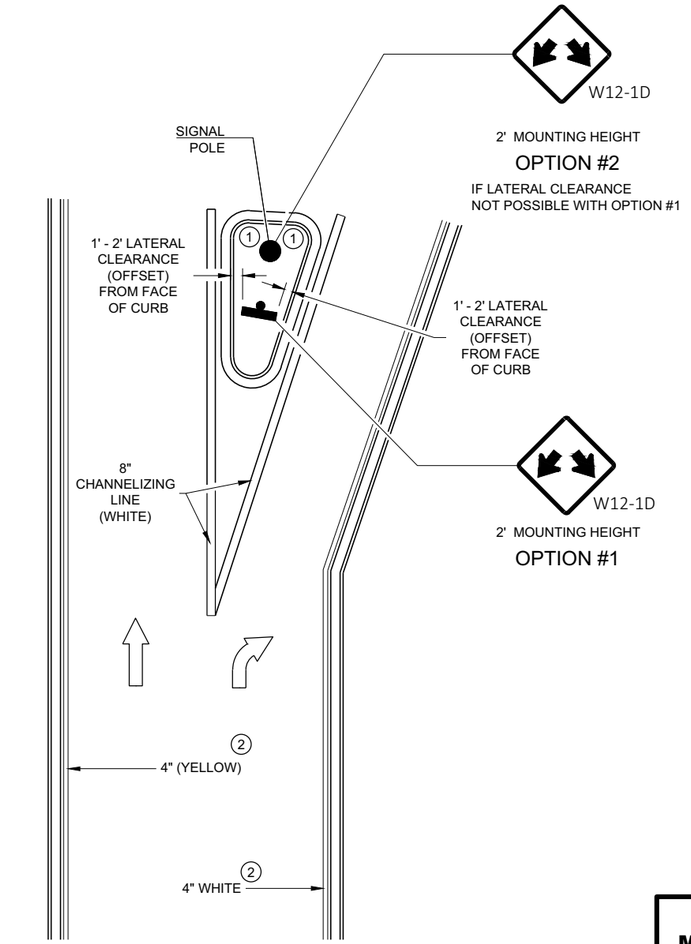
APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

(1) MARK CURB NOSES YELLOW.

(2) MARK ACCORDING TO TABLE.

DIRECTION OF TRAVEL



RIGHT TURN ISLAND

MEDIAN PAVEMENT MARKINGS, DOUBLE ARROW WARNING SIGN PLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2021
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAF ENGINEER

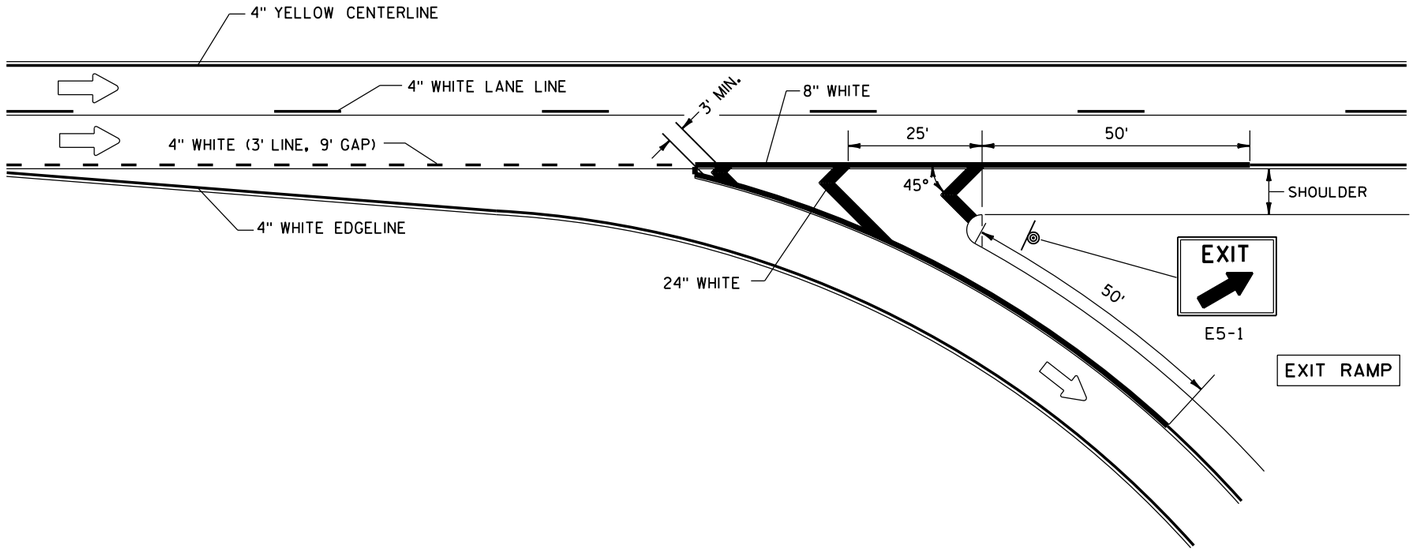
FHWA

6

SDD 15C18 - 05c

6

SDD15C18 - 05c



PAVEMENT MARKING FOR EXIT RAMP

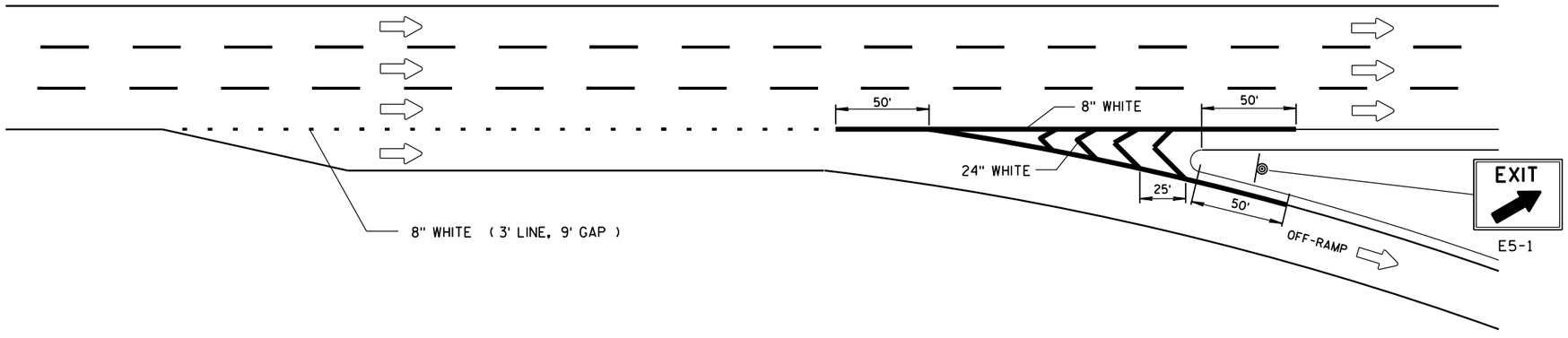
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

DIRECTION OF TRAVEL

SIGN ON PERMANENT SUPPORT



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

6

6

S.D.D. 15 C 31-3a

S.D.D. 15 C 31-3a

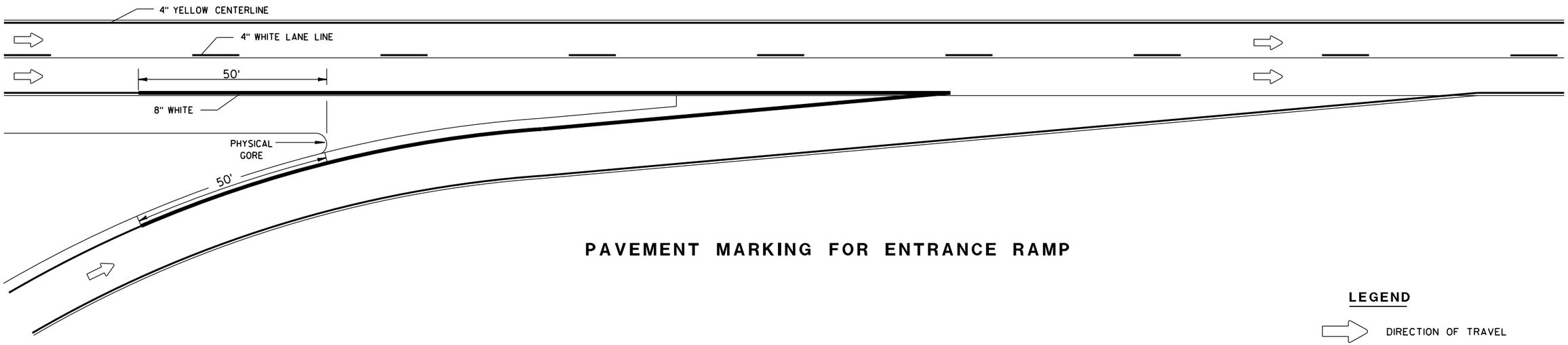
PAVEMENT MARKING (RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

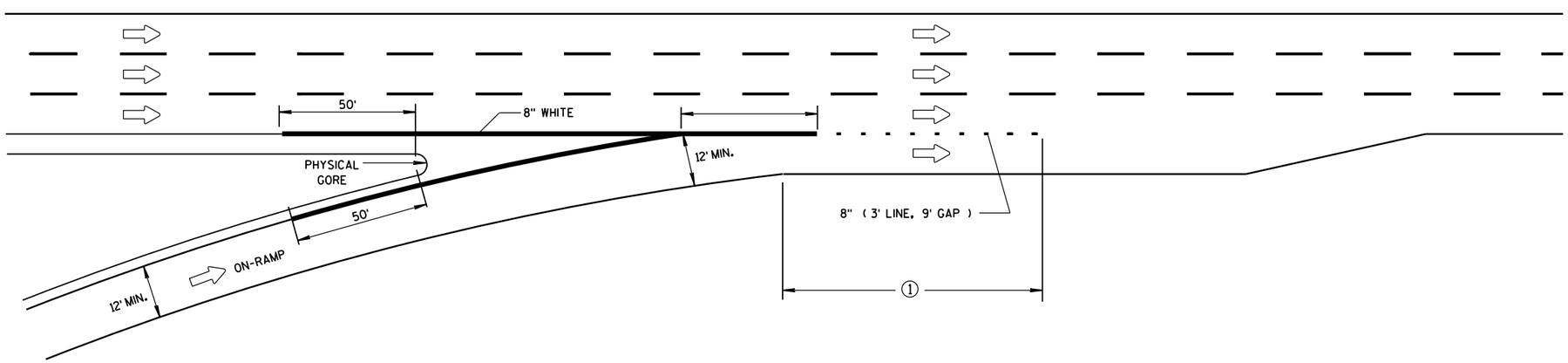
① ½ LENGTH OF FULL WIDTH ACCELERATION LANE.



PAVEMENT MARKING FOR ENTRANCE RAMP

LEGEND

DIRECTION OF TRAVEL



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP

PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2017
DATE

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

FHWA

6

S.D.D. 15 C 31-3c

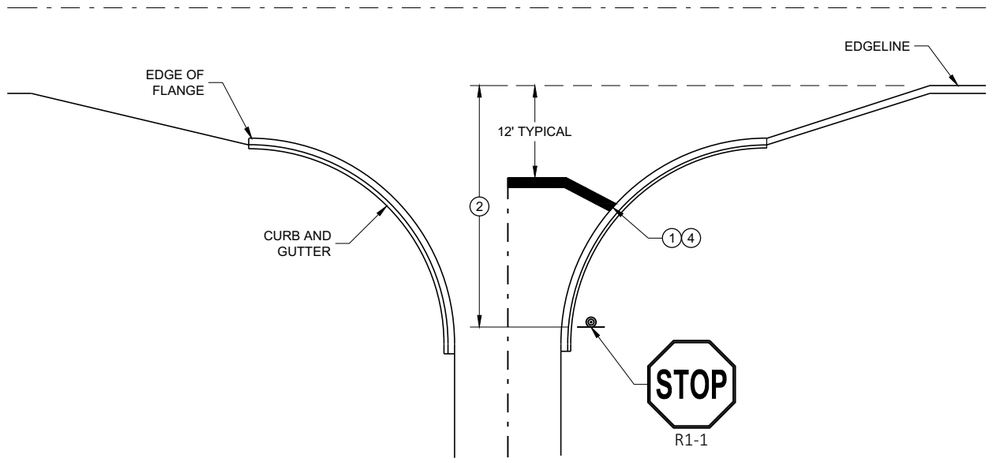
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S.D.D. 15 C 31-3c

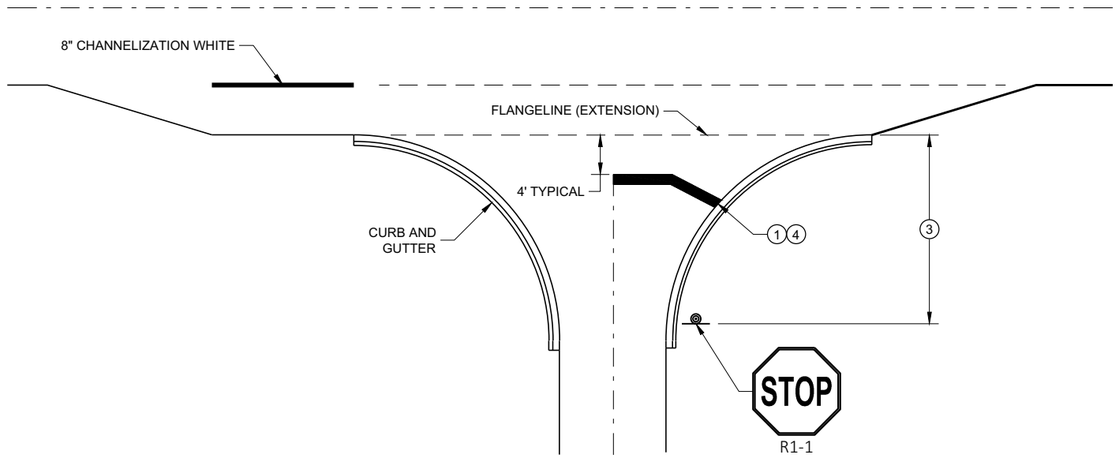
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

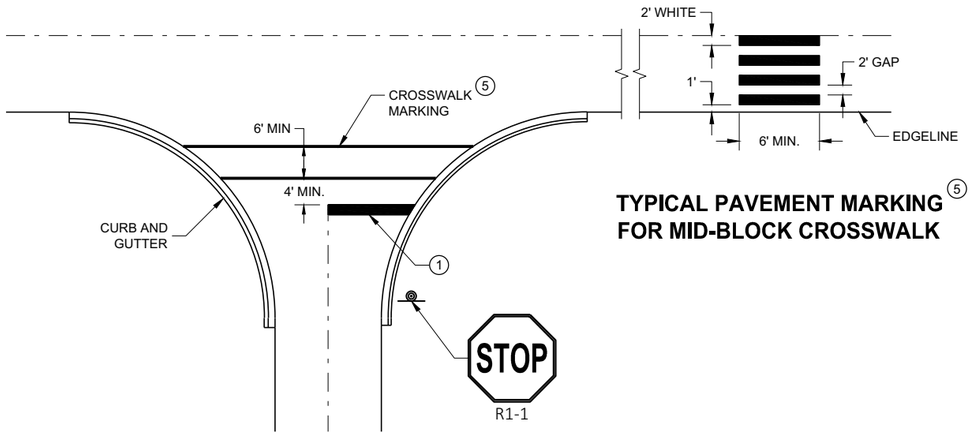
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

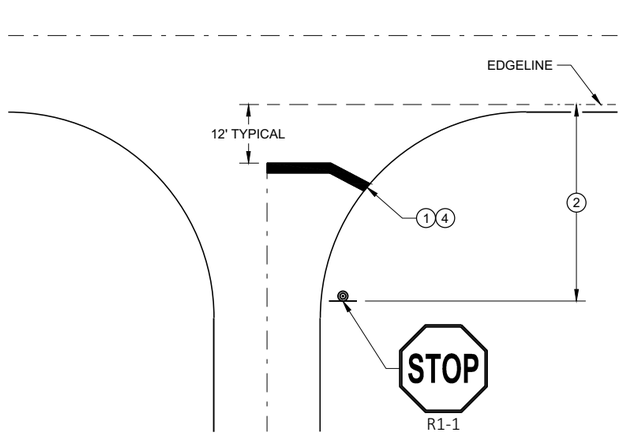


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING

TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

6
SDD 15C33 - 04

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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

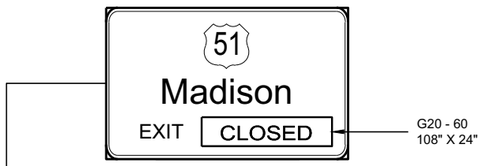
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

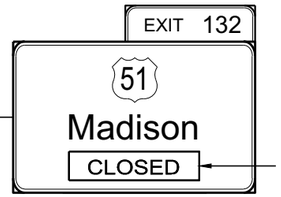
* W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



G20 - 60
108" X 24"

OR



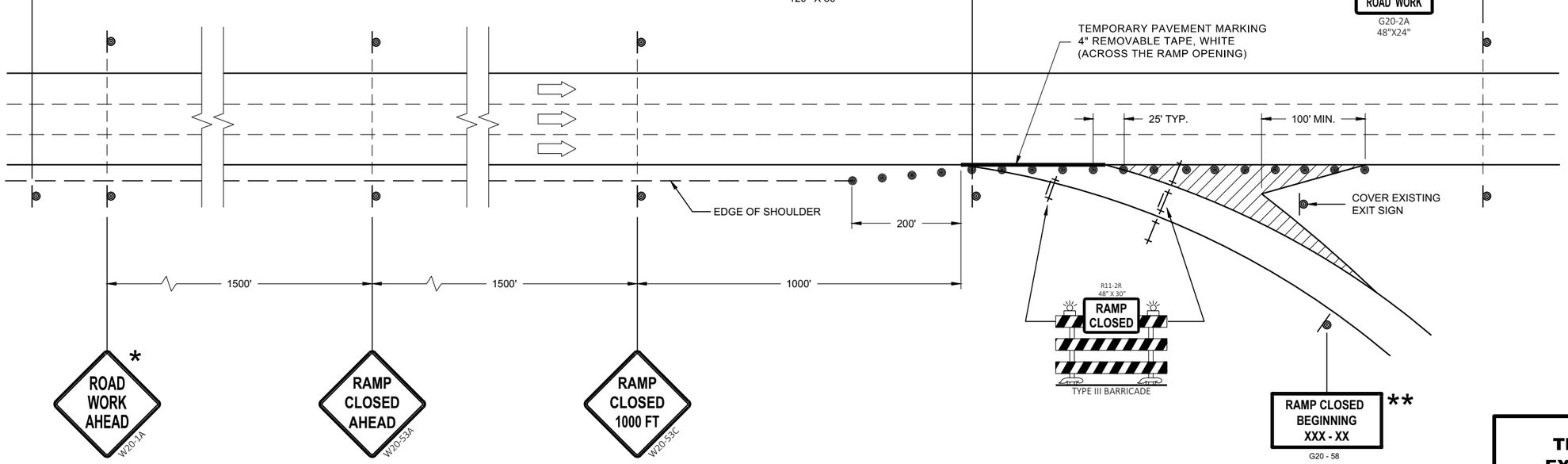
G20 - 60
108" X 24"

PLACE SIGN G20 - 60 OVER MILEAGE ON EXISTING E1 - 1A SIGN



COVER ARROW ON EXISTING E4 - 1 SIGN (COVERING SIGNS TYPE I)

G20 - 61
120 ' X 30"



OR

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Andrew Heidtke
ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 15D16 - 04

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LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

GENERAL NOTES

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45MPH, USE SDD 15D12.

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"X 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

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

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

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

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

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

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

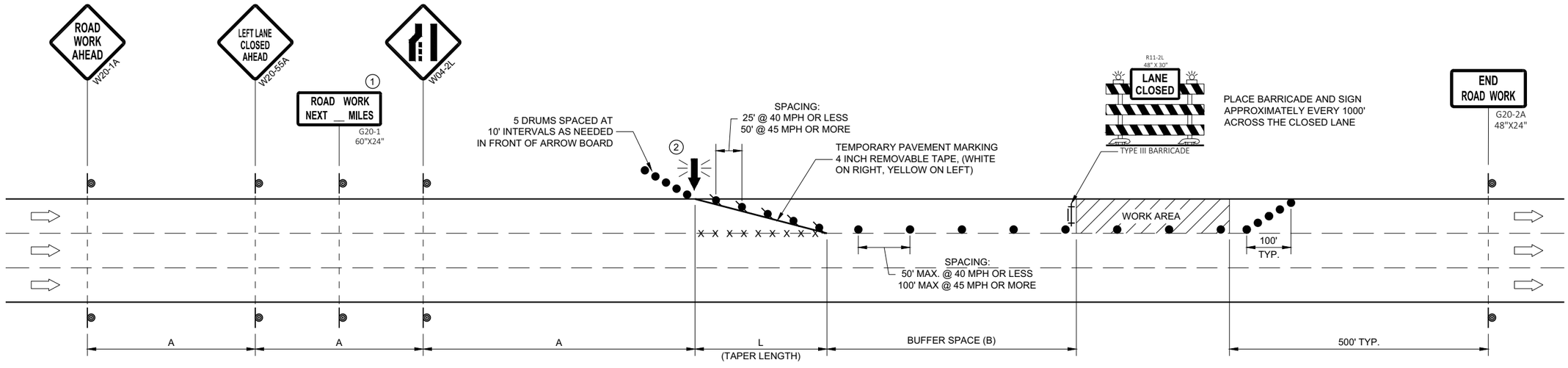
BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

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

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

(2) WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO PLACE THE ARROW BOARD AS SHOWN, PLACE THE ARROW BOARD AT THE END OF THE TAPER.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'

TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020 — DATE
/S/ Andrew Heidtke — STATEWIDE WORK ZONE T SAFETY ENGINEER
FHWA

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SDD15D20 - 05a

LEGEND

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

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

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

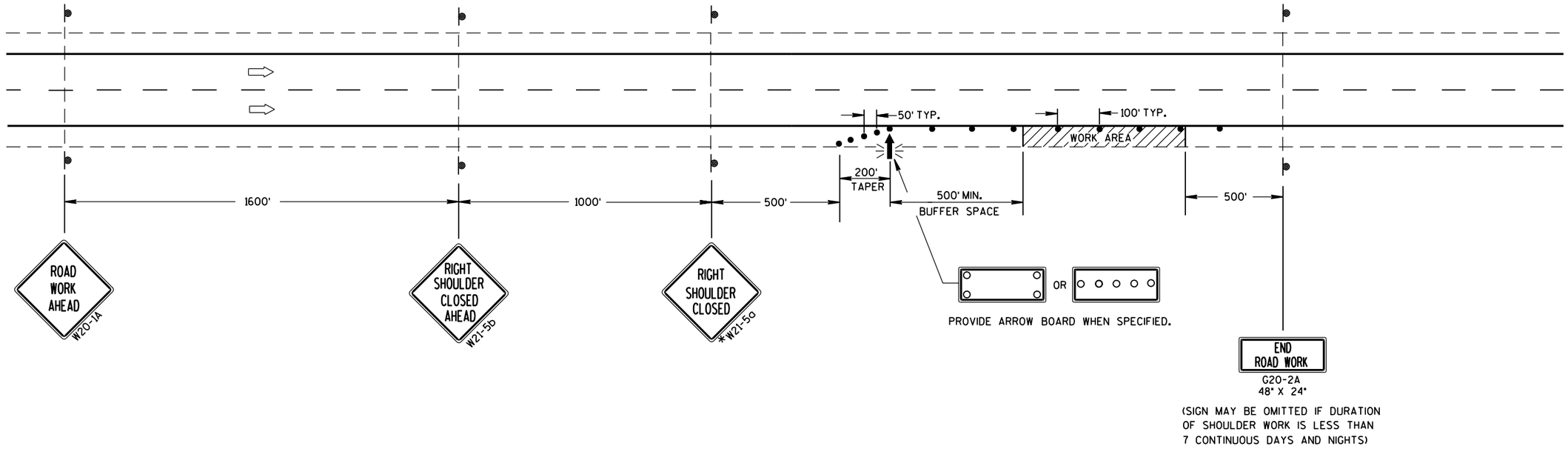
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

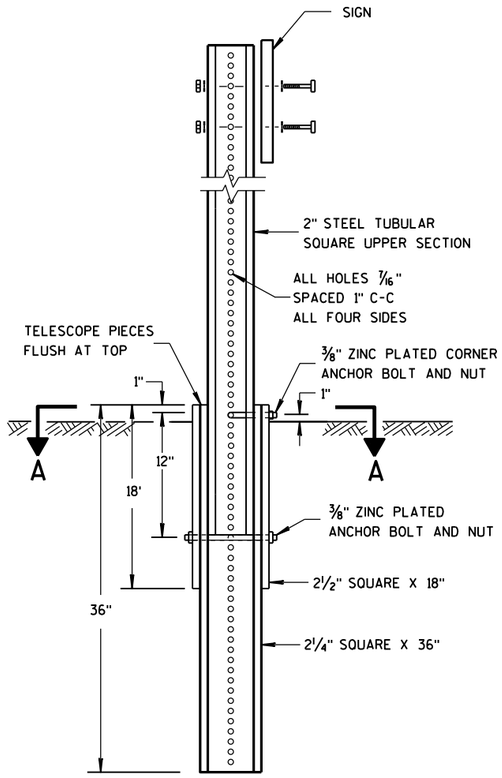
June 2016 — DATE

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

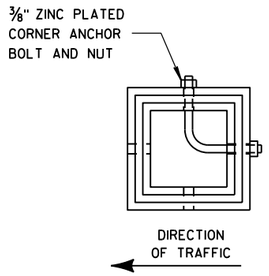
FHWA

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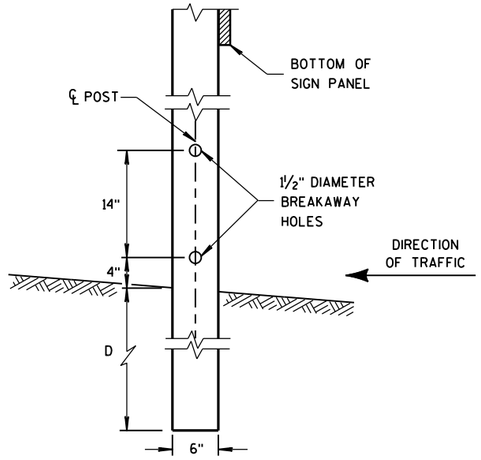
S.D.D. 15 D 27-3



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



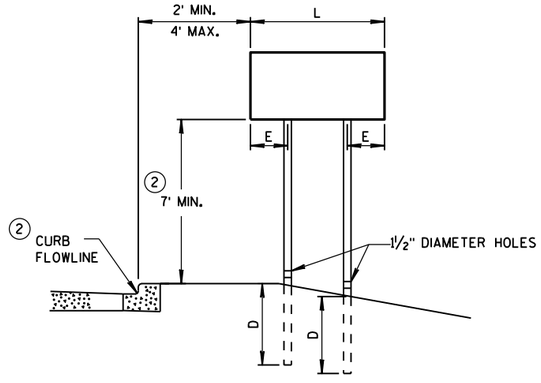
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

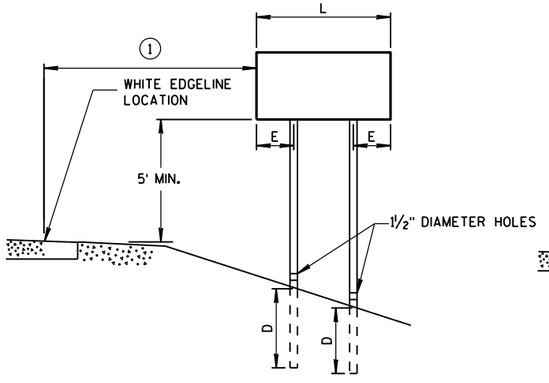
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

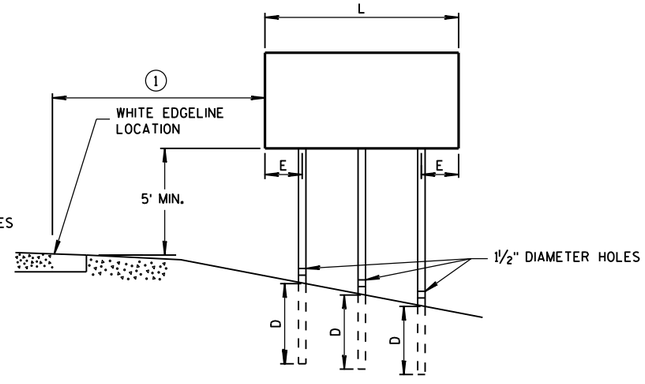
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

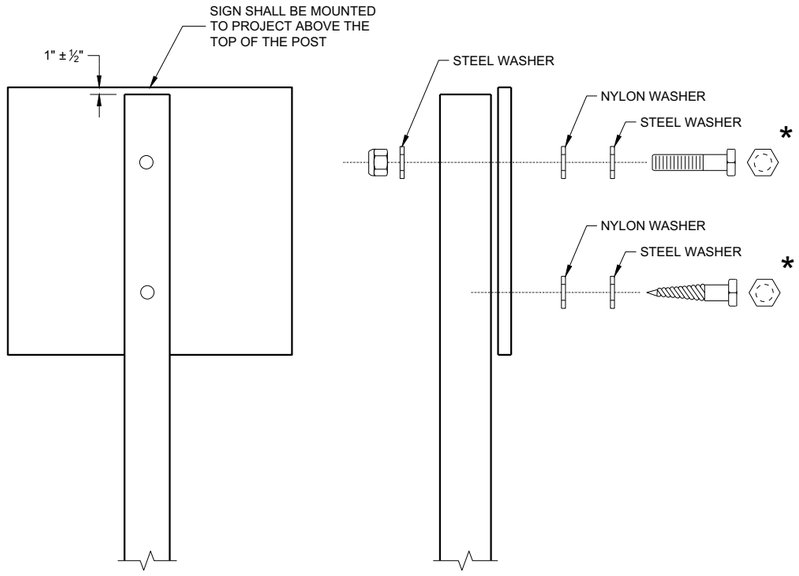
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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



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 POST (4" x 6")
LAG SCREWS - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH, GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 NYLON

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

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SDD 15D38 - 02b

SDD 15D38 - 02b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

CONCRETE BARRIER TEMPORARY PRECAST

TYPE "A" WARNING LIGHT (FLASHING)

WORK AREA

L, TAPER LENGTH (MPH)							
SPEED (MPH)	W, LATERAL OFFSET (FT)						
	10	11	12	13	14	15	16
45	450	495	540	585	630	675	720
50	500	550	600	650	700	750	800
55	550	605	660	715	770	825	880
60	600	660	720	780	840	900	960
65	650	715	780	845	910	975	1040
70	700	770	840	910	980	1050	1120



OR



LOCATED 3000 FEET BEYOND THE "ROAD WORK 1 MILE" (W20-1F) SIGN



R2-1
48"X60"

OR



R2-1
48"X60"

(BLACK AND WHITE) LOCATED 700 FEET BEYOND THE W03-5 SIGN

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 3 MILES.

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

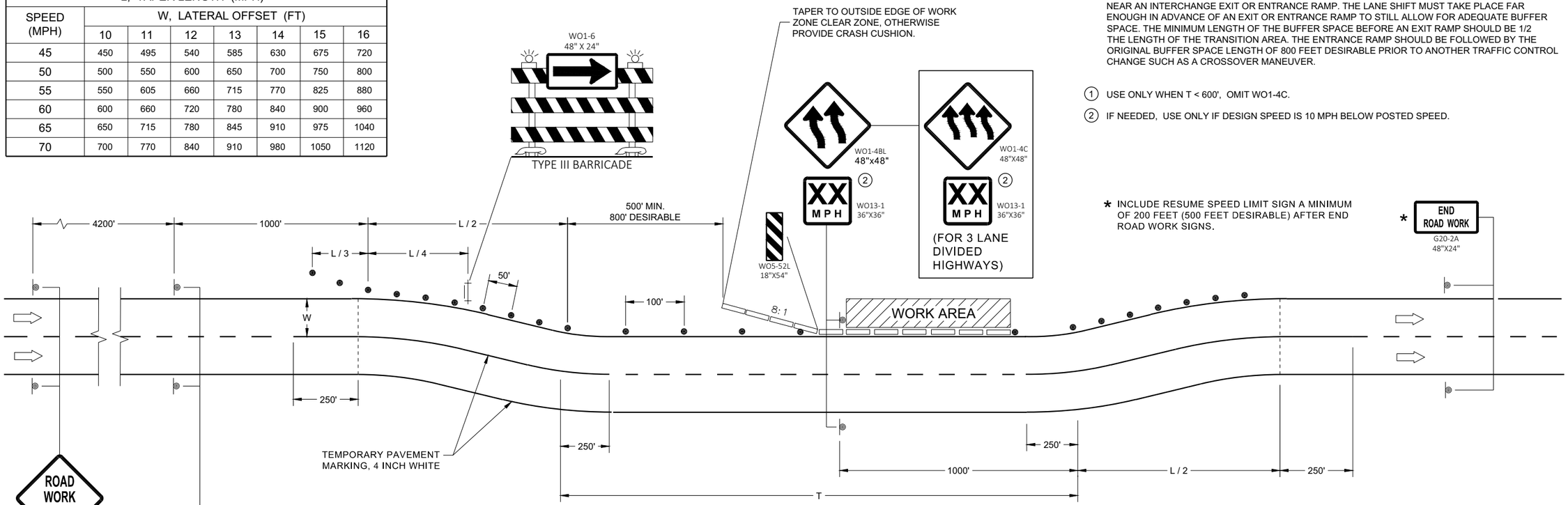
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

(1) USE ONLY WHEN T < 600', OMIT WO1-4C.

(2) IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.



MULTIPLE LANE SHIFT MULTILANE DIVIDED ROAD

TRAFFIC CONTROL
MULTIPLE LANE SHIFT
MULTILANE DIVIDED ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

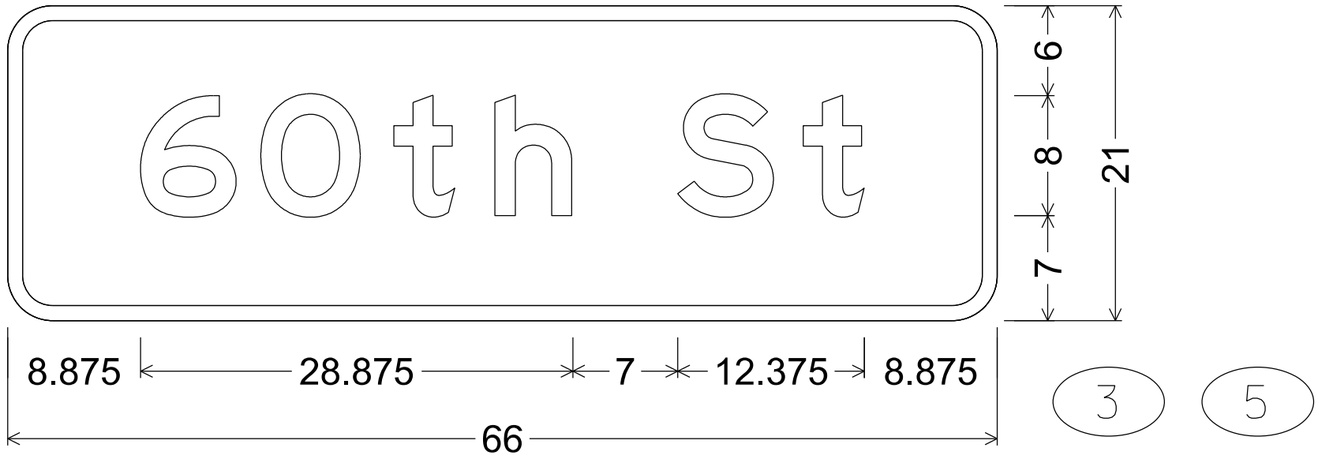
FHWA

SDD 15D41 - 01

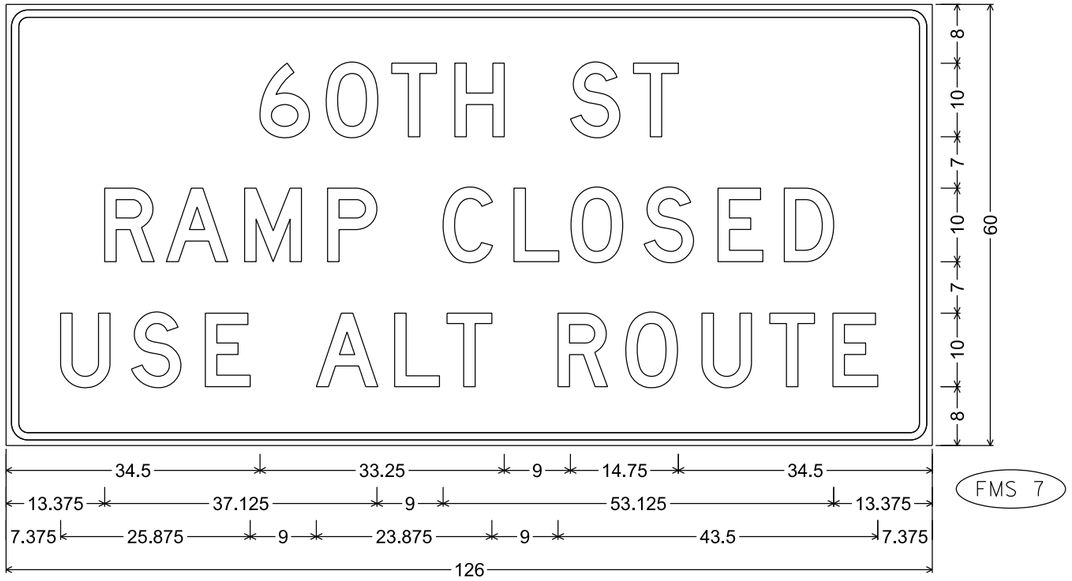
SDD 15D41 - 01

NOTES

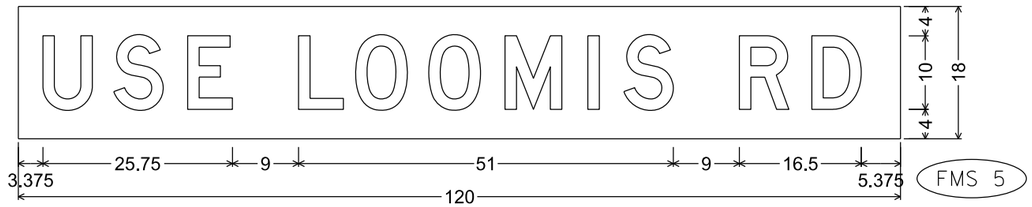
1. Sign is Type II - Type H Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E



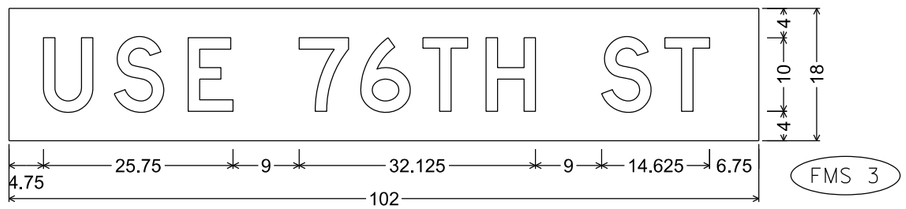
M1-94; 3.000" Radius, 1.000" Border



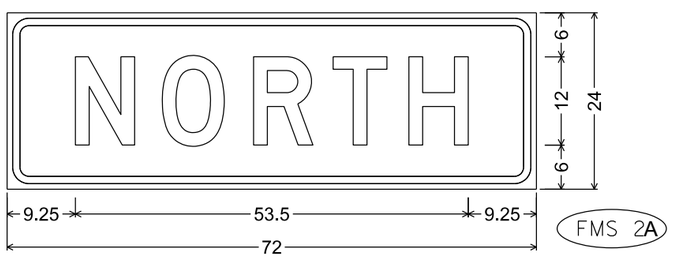
3.000" Radius, 1.000" Border, 0.750" Indent, Black on, Fluorescent orange;



No border



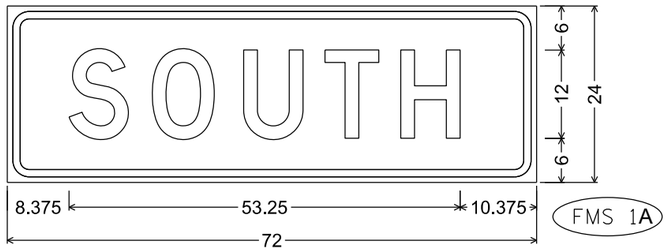
No border



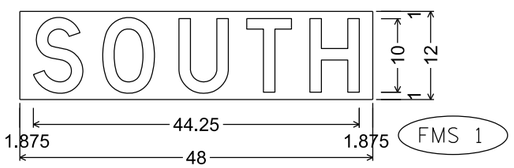
3.000" Radius, 1.000" Border, 0.750" Indent

NOTES

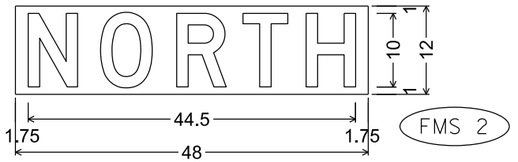
1. Fixed Message Signs are Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D except as noted



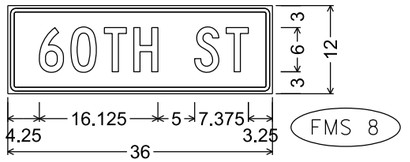
3.000" Radius, 1.000" Border, 0.750" Indent



No border



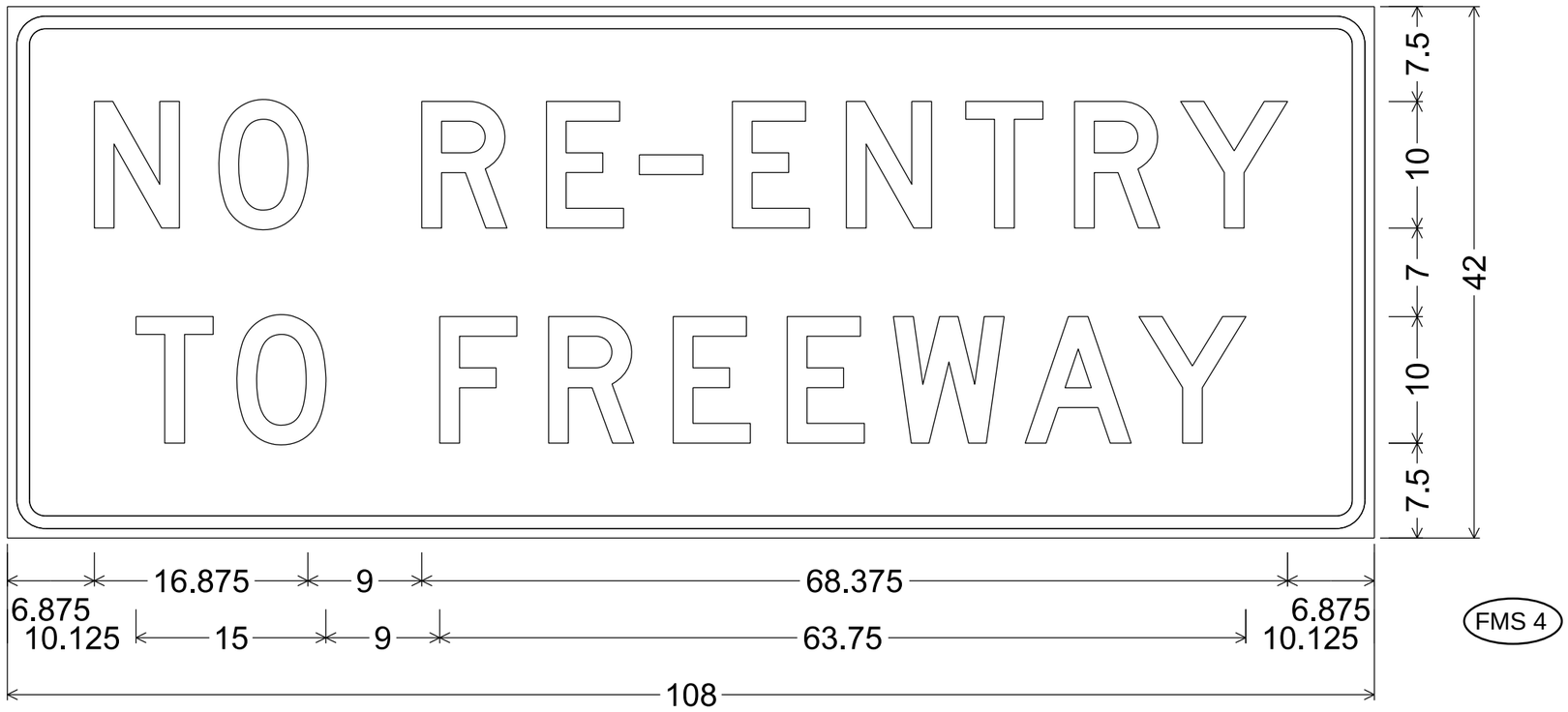
No border



1.125" Radius, 0.500" Border, 0.375" Indent
"60TH", C; "ST", C;

NOTES

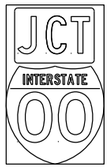
1. Fixed Message Sign - Type II Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D



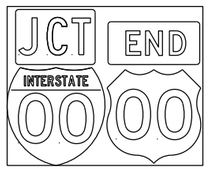
FMS 4

3.000" Radius, 1.000" Border, 0.750" Indent

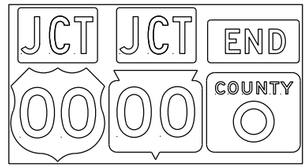
TYPICAL ASSEMBLIES



J1-1



J1-2



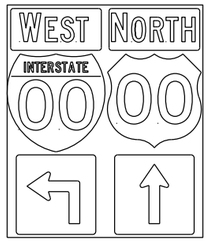
J1-3



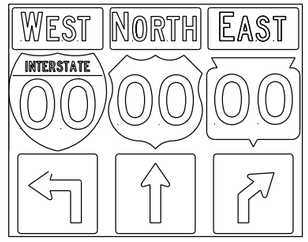
JR1-1



J2-1



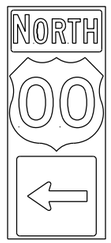
J2-2



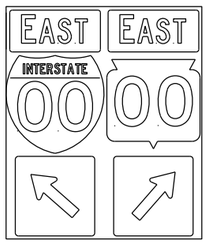
J2-3



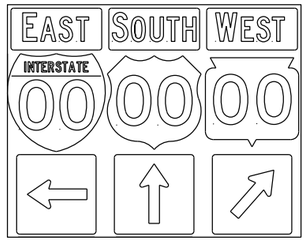
JV
(Typical Vertical J-Assembly
See Note 10 and 11)



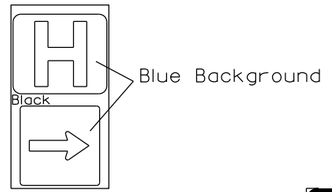
J3-1



J3-2



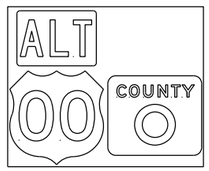
J3-3



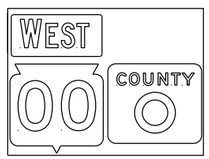
JH-1



J4-1



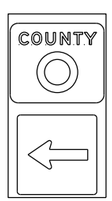
J4-2



J4-2



J12-1



J13-1



J32-1



J33-1



J22-1



J23-1



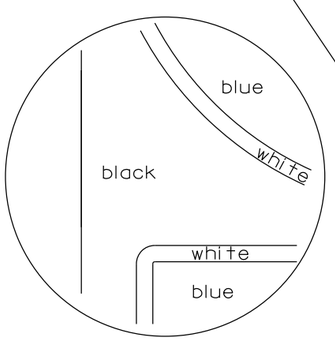
JR13-1

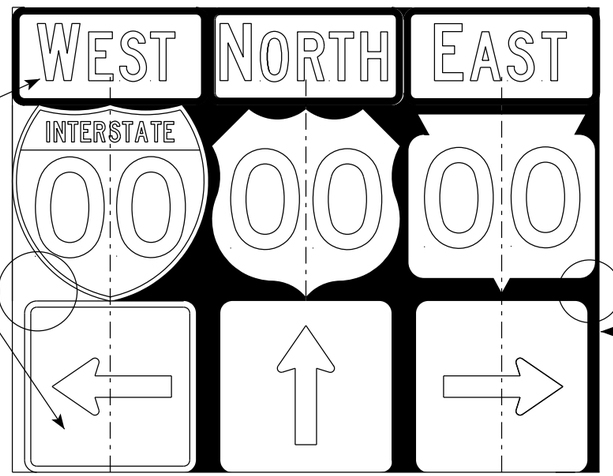


JR23-1



JR99-1





NOTES

1. Signs are Type II - Type H Reflective
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 3/18/21 PLATE NO. A2-1S.9

PROJECT NO:

SHEET NO: 270 E

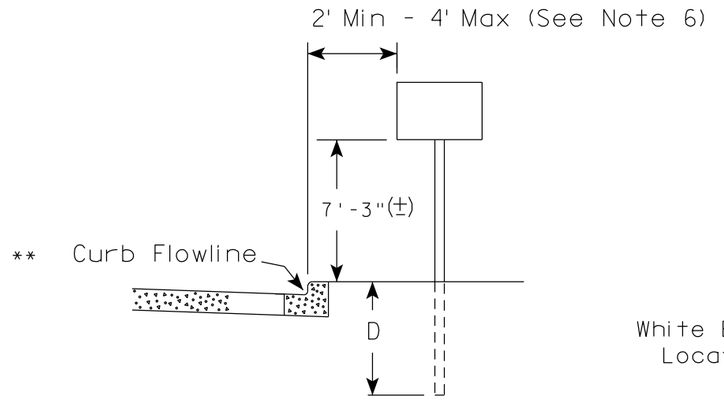
FILE NAME : C:\CAEfiles\Projects\tr_stdplate_A21S.dgn PLOT DATE : 18-MAR 2021 1:37 PLOT BY : mscj9h PLOT NAME :

WISDOT/CADDS SHEET 42

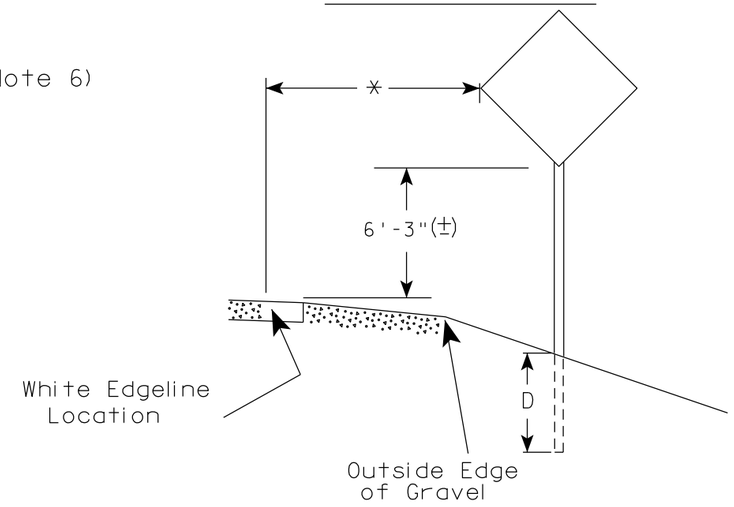
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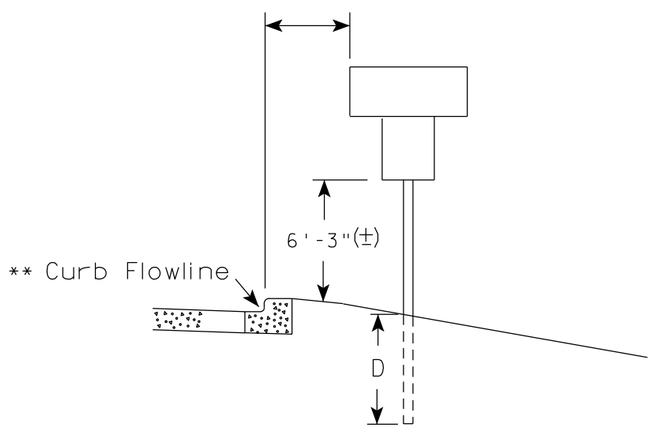
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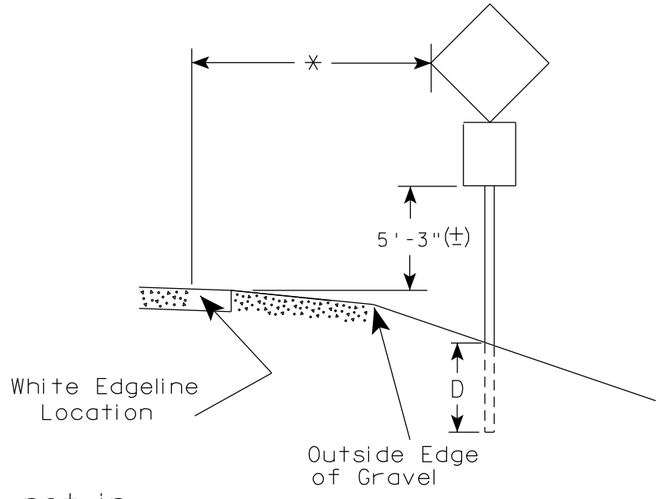
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.

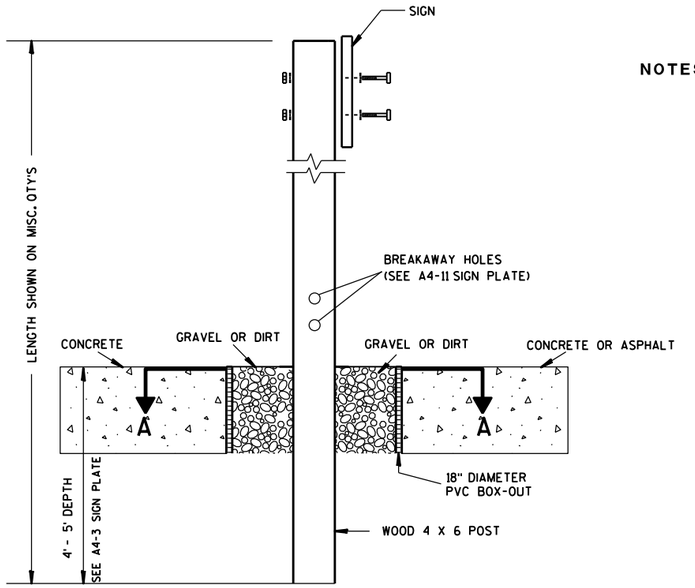
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

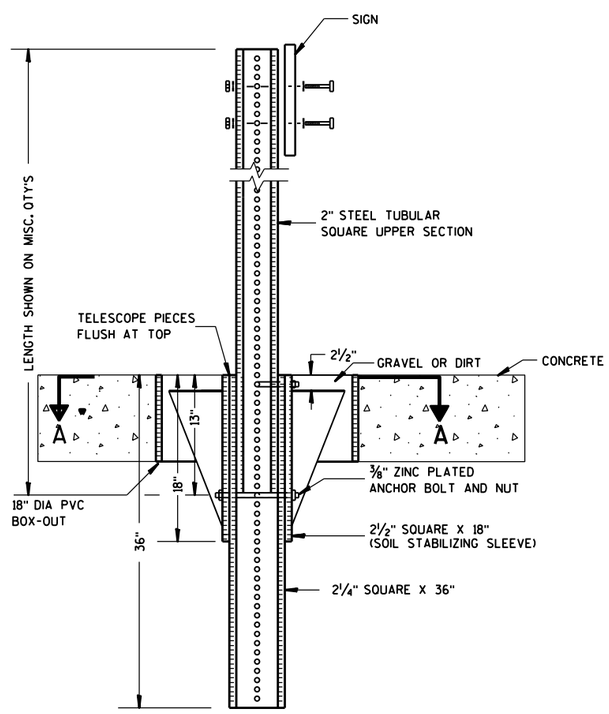
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 271	E



ELEVATION VIEW

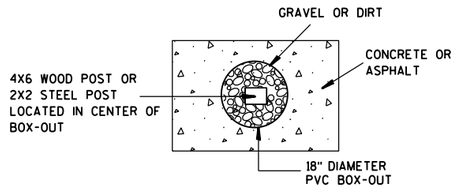
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

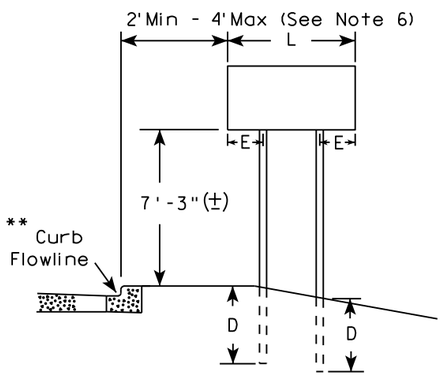
APPROVED Matthew R Rauch
for State Traffic Engineer

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

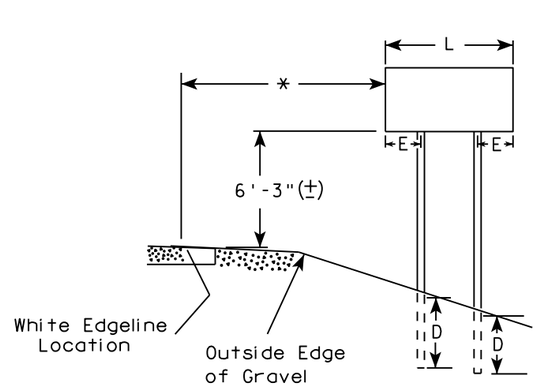
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

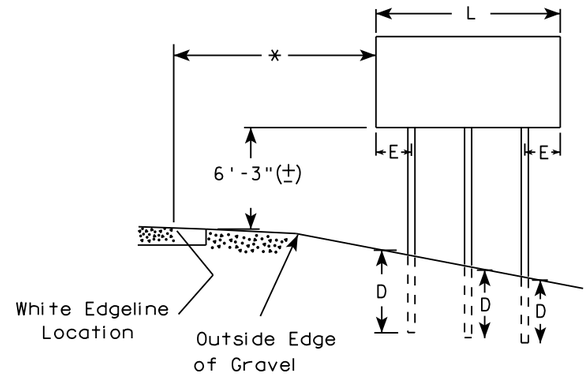
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

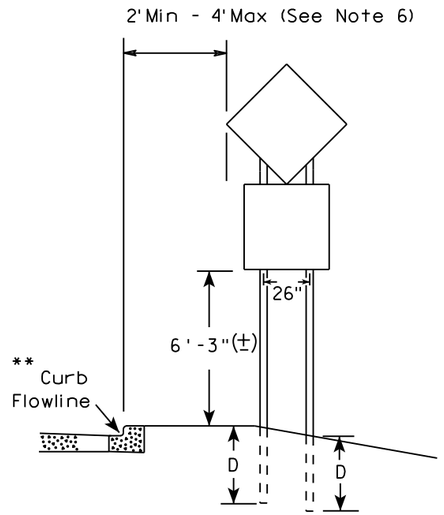
URBAN AREA



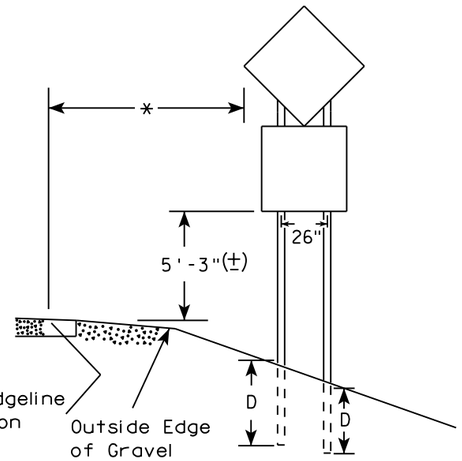
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

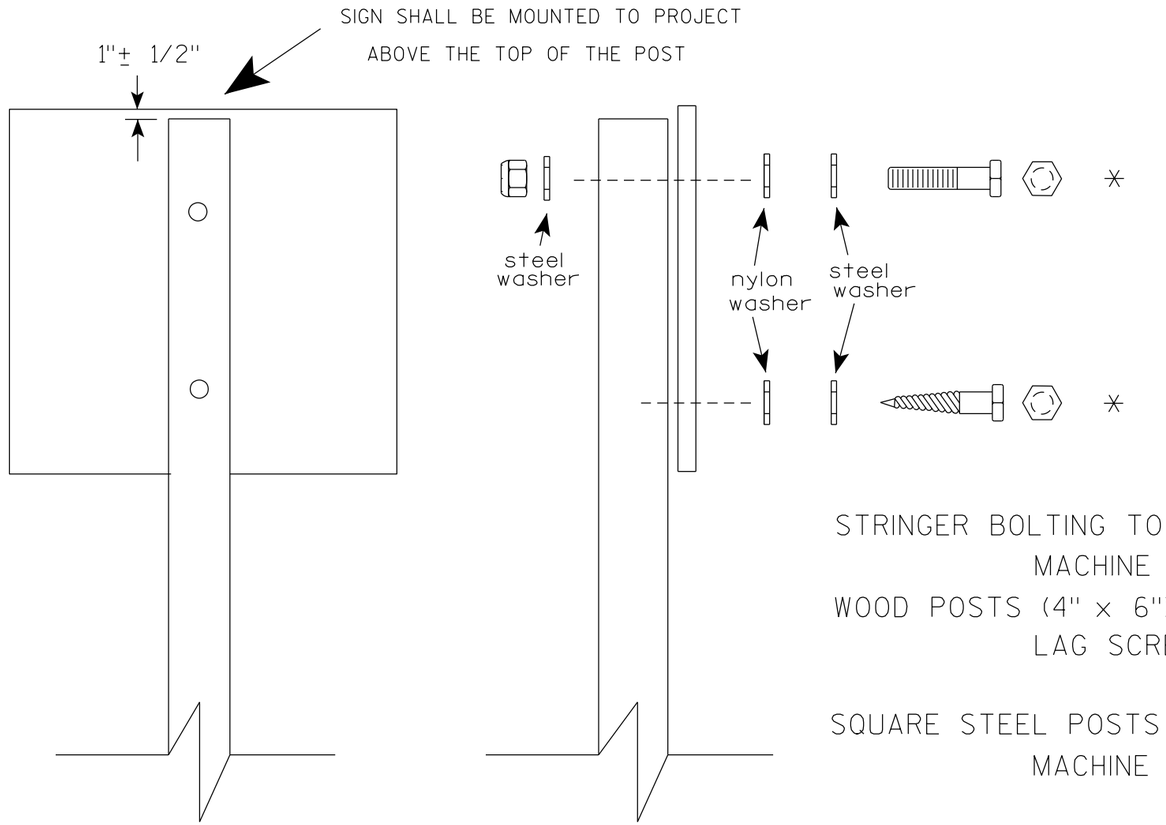
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 273	E



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

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

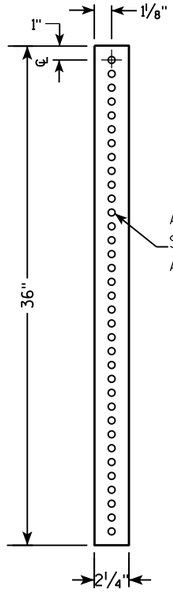
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

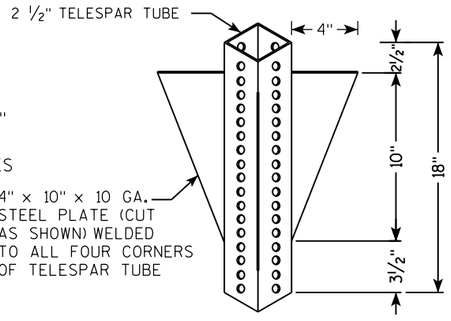
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

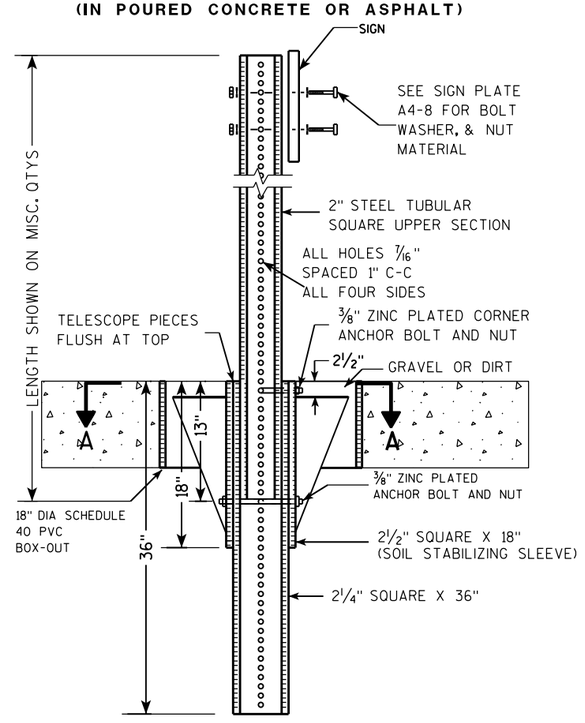
2 ¼ " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



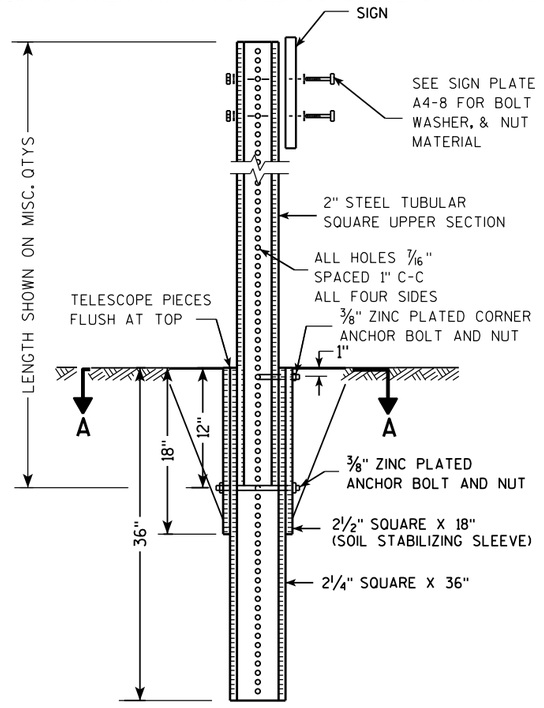
2 ½ " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

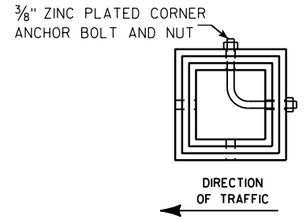


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

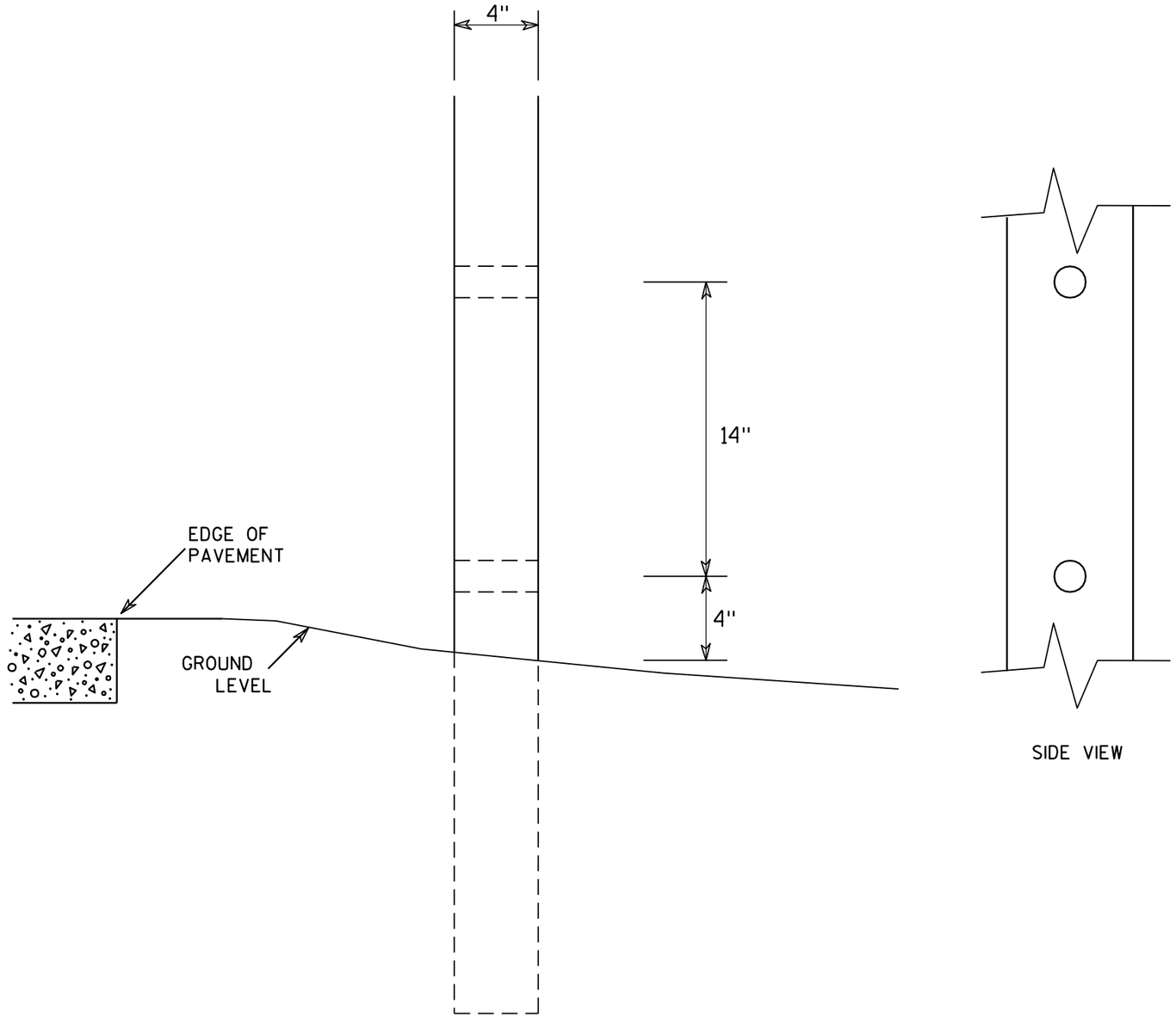
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 275 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

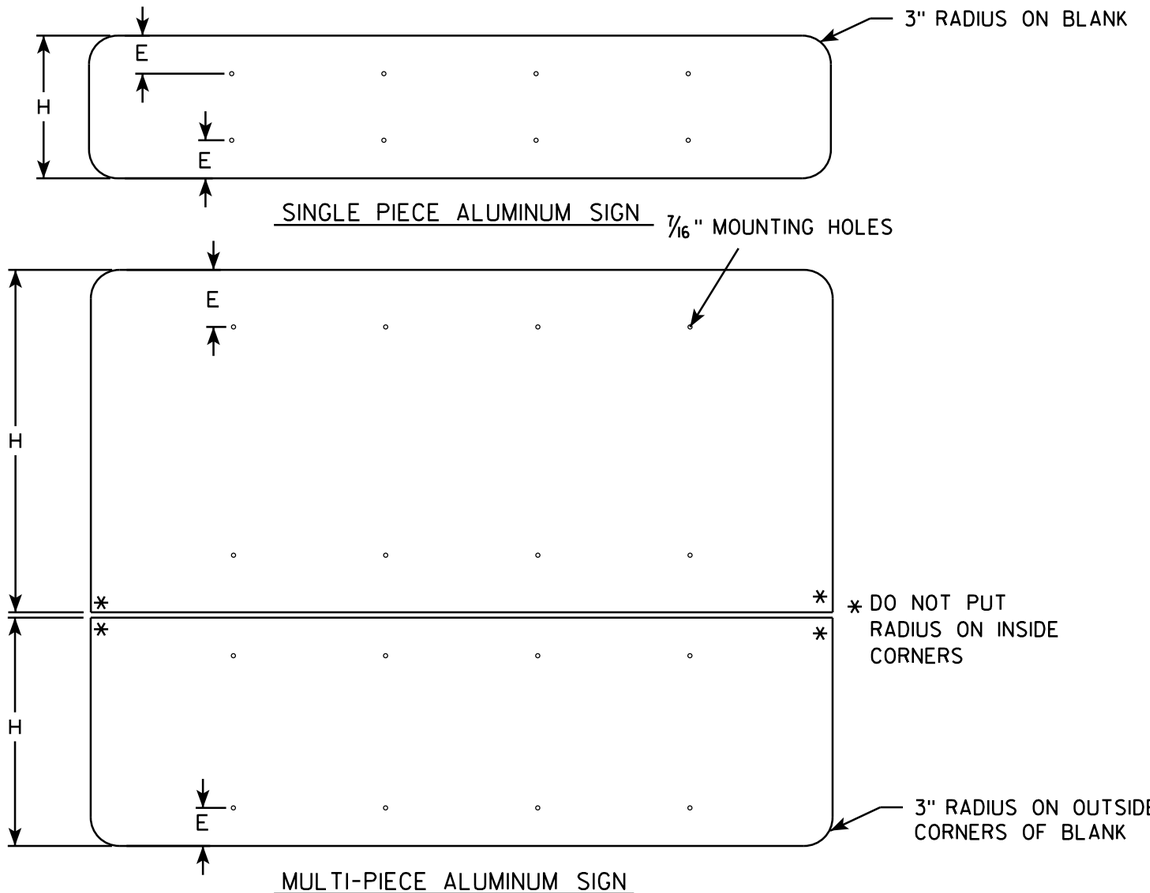
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

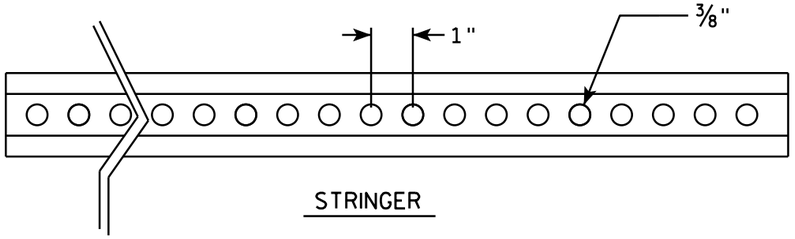
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 276	E



GENERAL NOTES

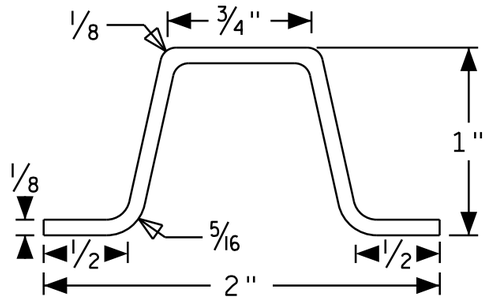
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16½" 33½" 50½" 67½"
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19½" 38½" 57½" 76½"
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22½" 43½" 64½" 85½"
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

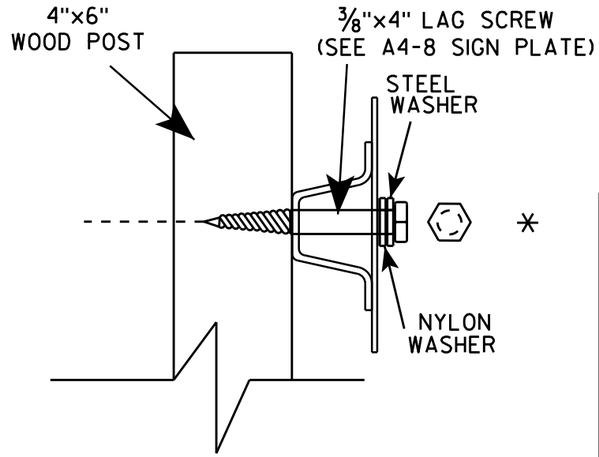


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

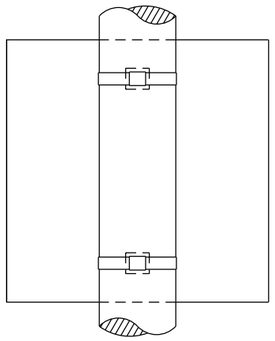
DATE 4/26/16 PLATE NO A4-18.1

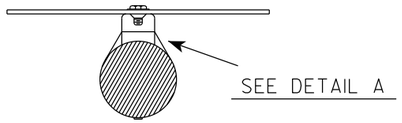
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

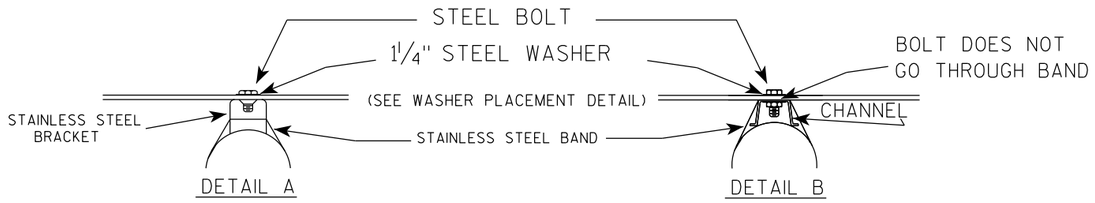
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A418.dgn PLOT DATE : 27-APR-2016 13:56 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 41.805205:1.000000 WISDOT/CADDS SHEET 42

BANDING

SINGLE SIGN



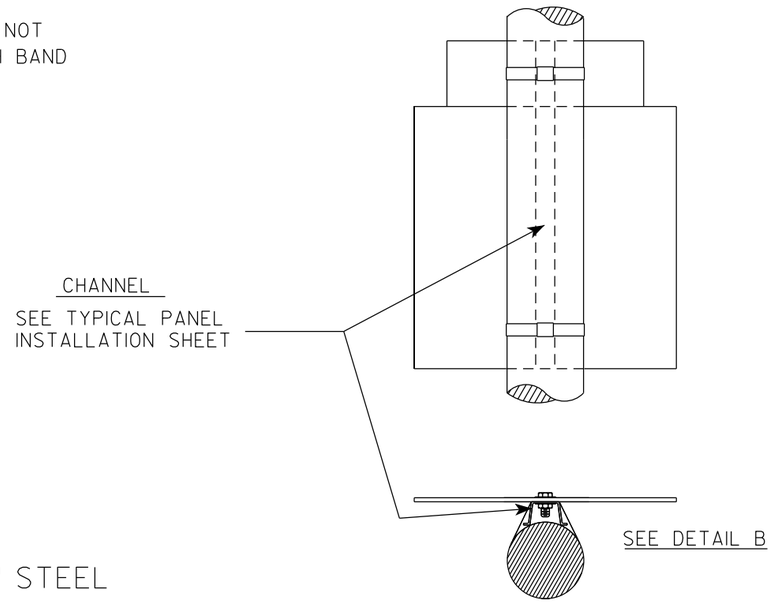




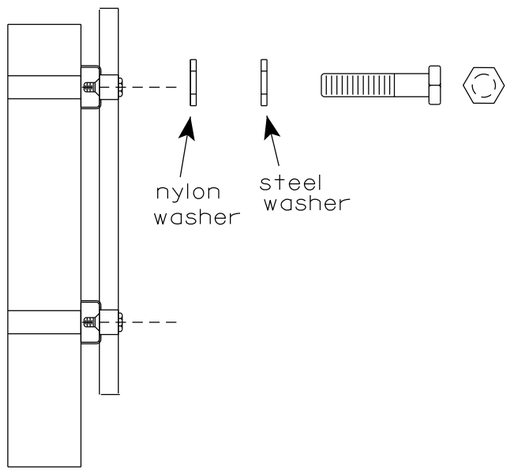
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

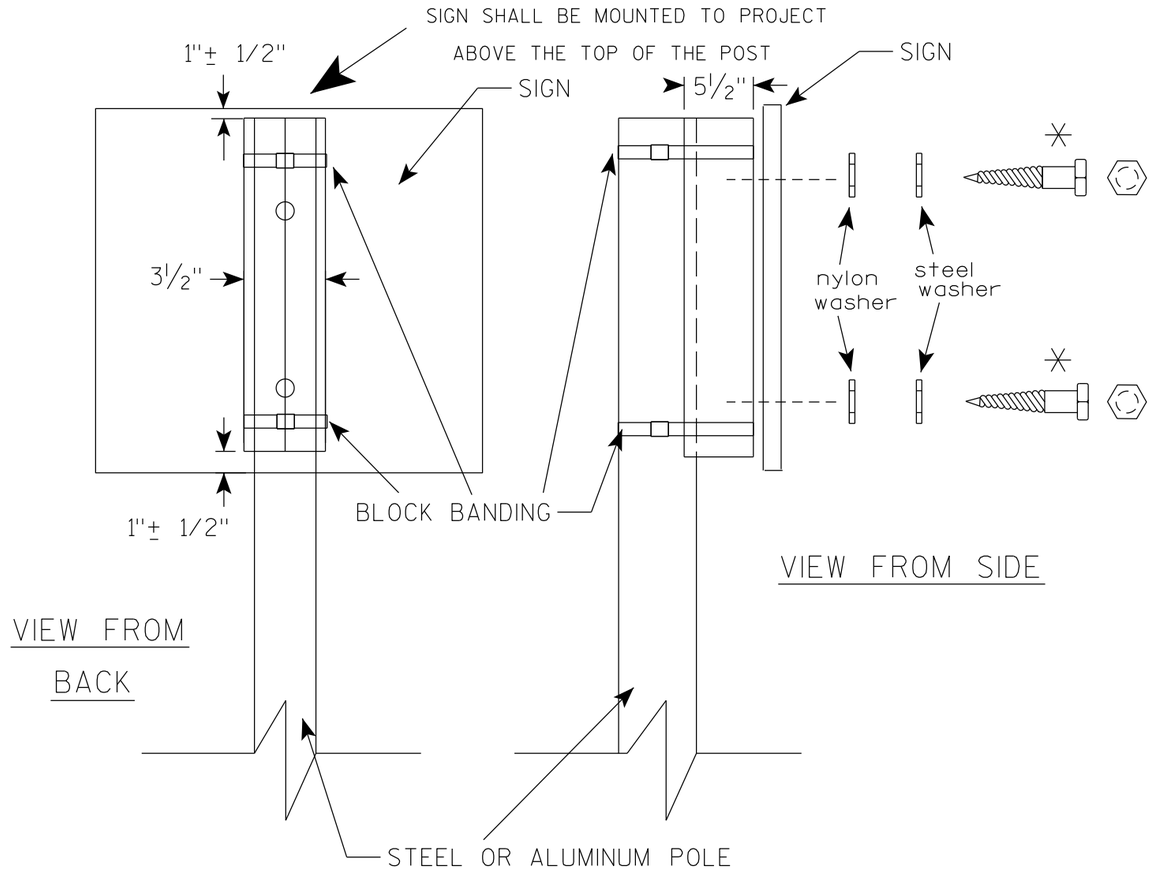
STANDARD SIGN
SIGN BANDING DETAILS

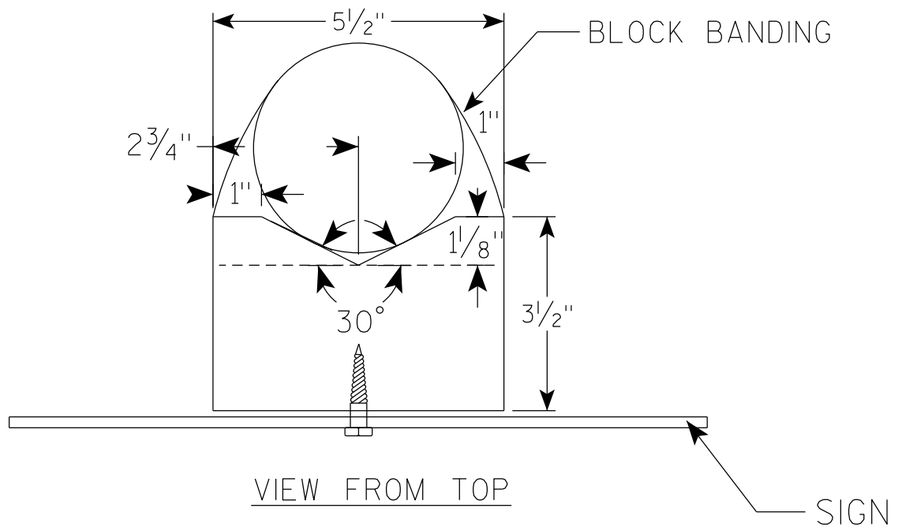
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 278	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
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

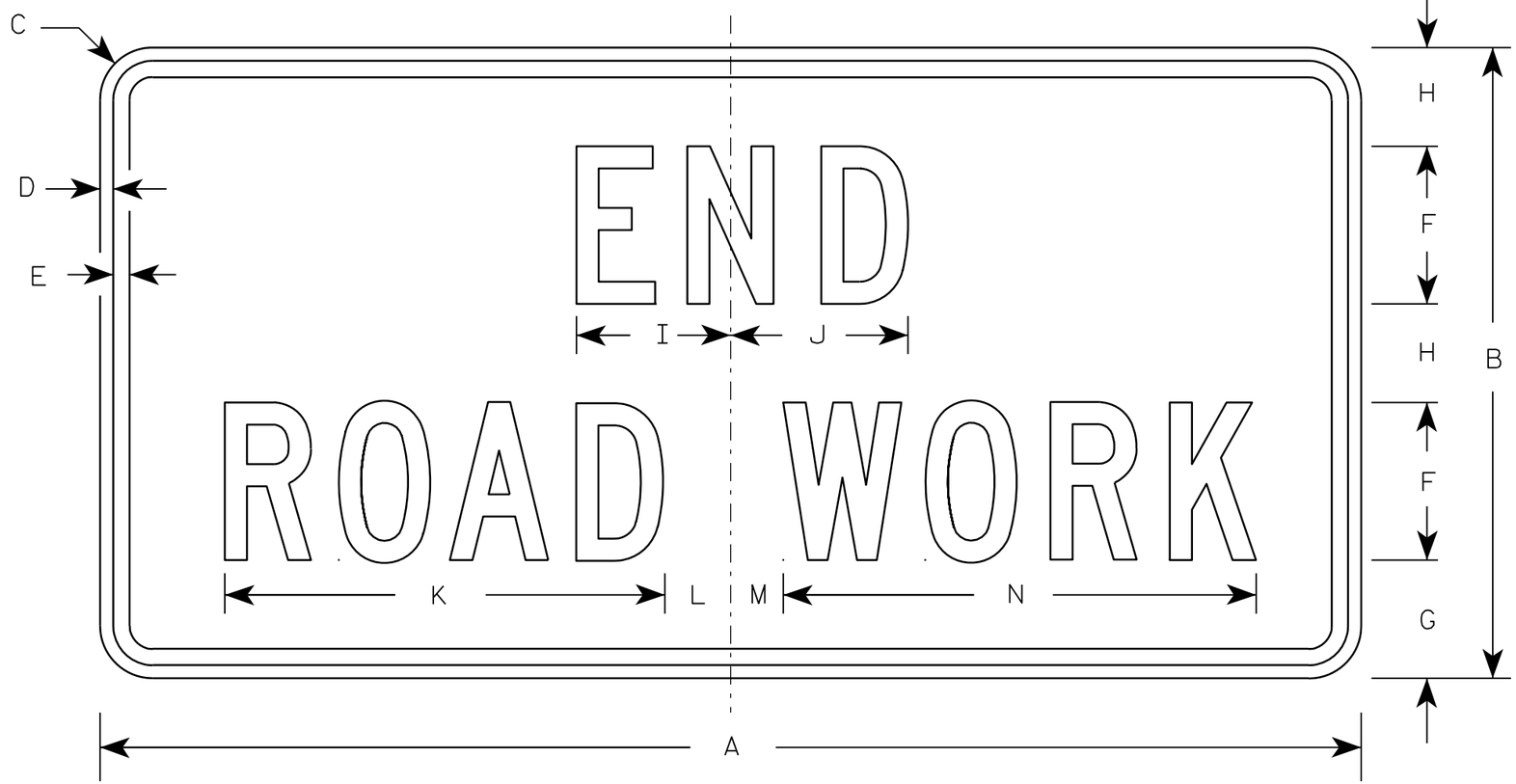
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:				SHEET NO: 279	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

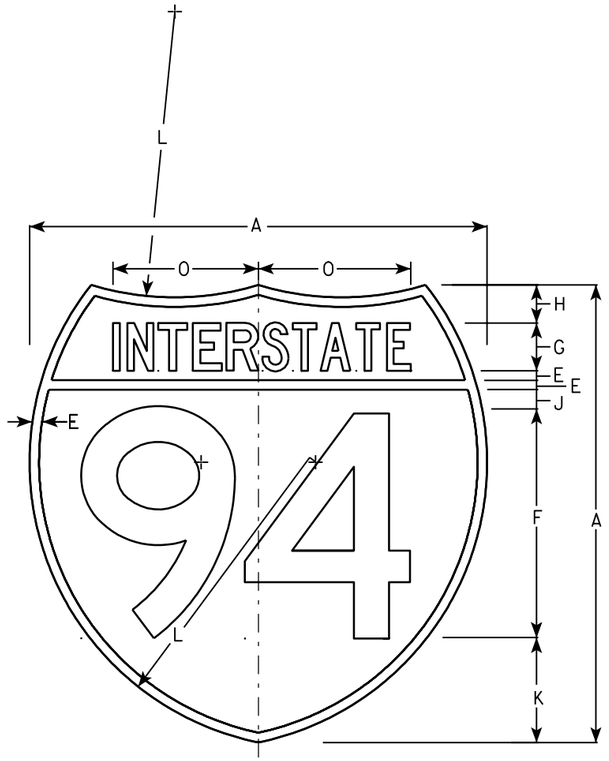
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

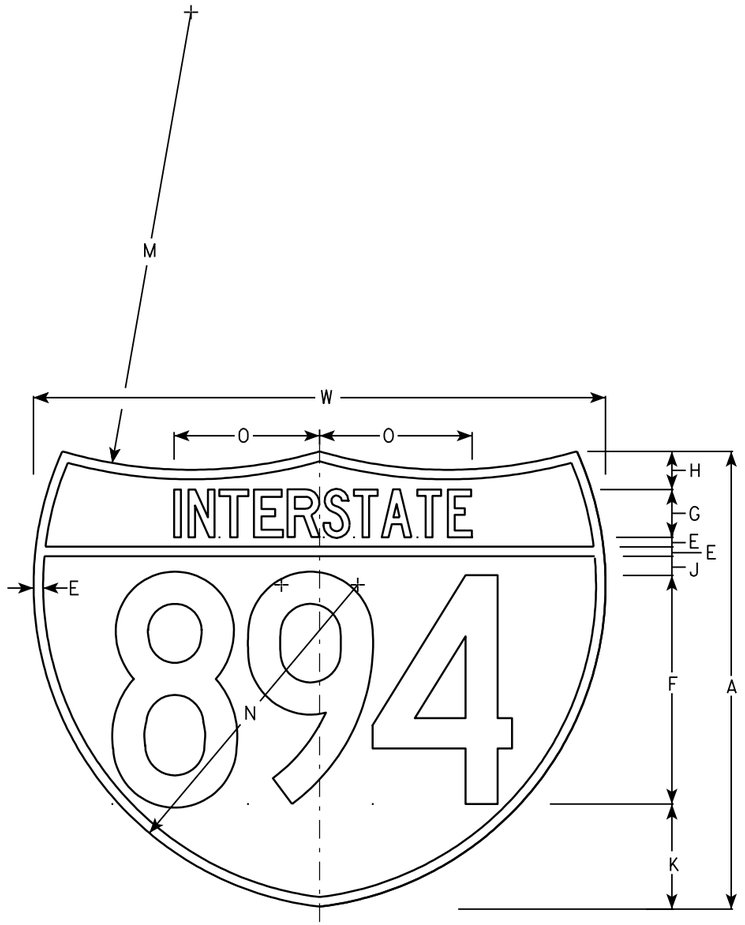
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 280	E



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

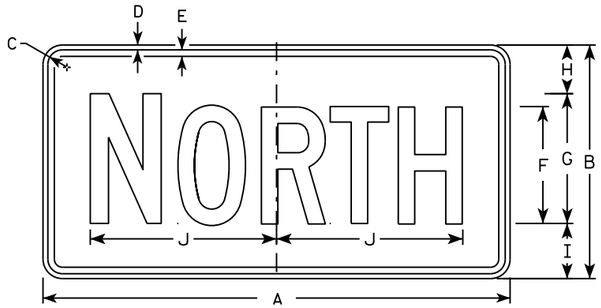
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

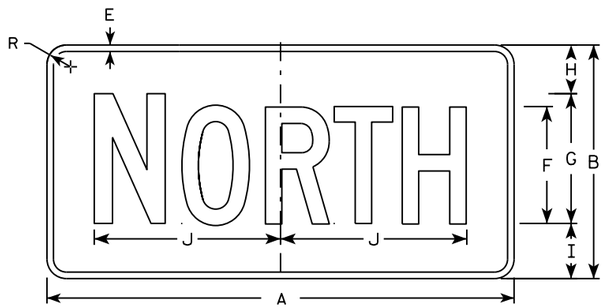
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 281	E



M3-1
MM3-1
MP3-1



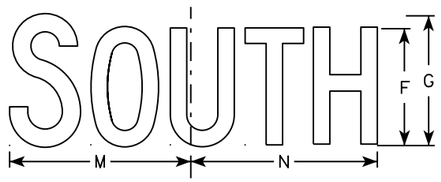
MB3-1
MK3-1
MN3-1



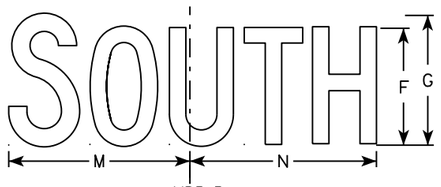
M3-2
MM3-2
MP3-2



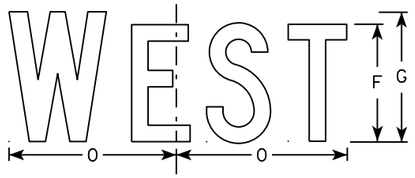
MB3-2
MK3-2
MN3-2



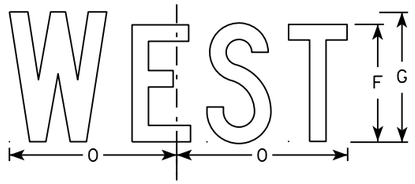
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

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

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

STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

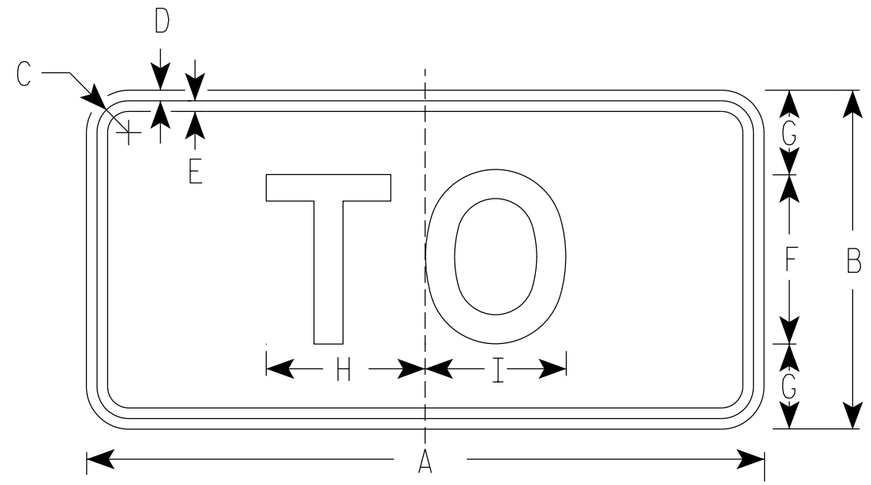
APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

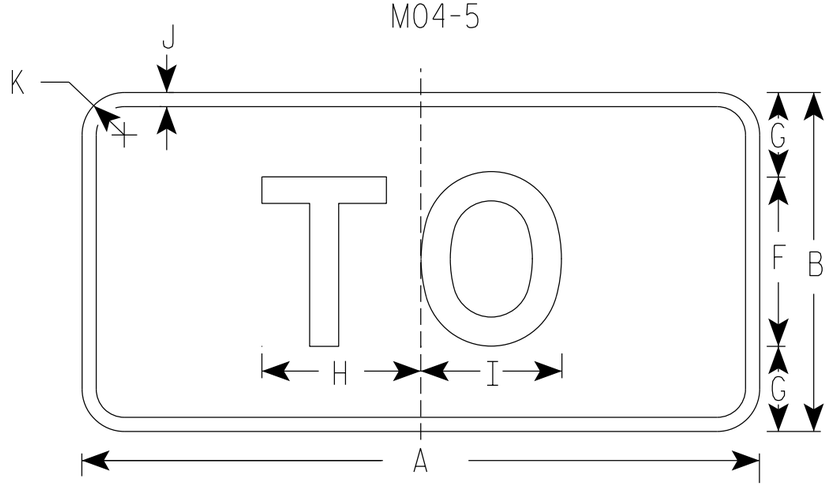
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

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

7



M4-5
MM4-5
MP4-5
MO4-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

   MO4-5 Background - Orange Type F Reflective
   Message - Black

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

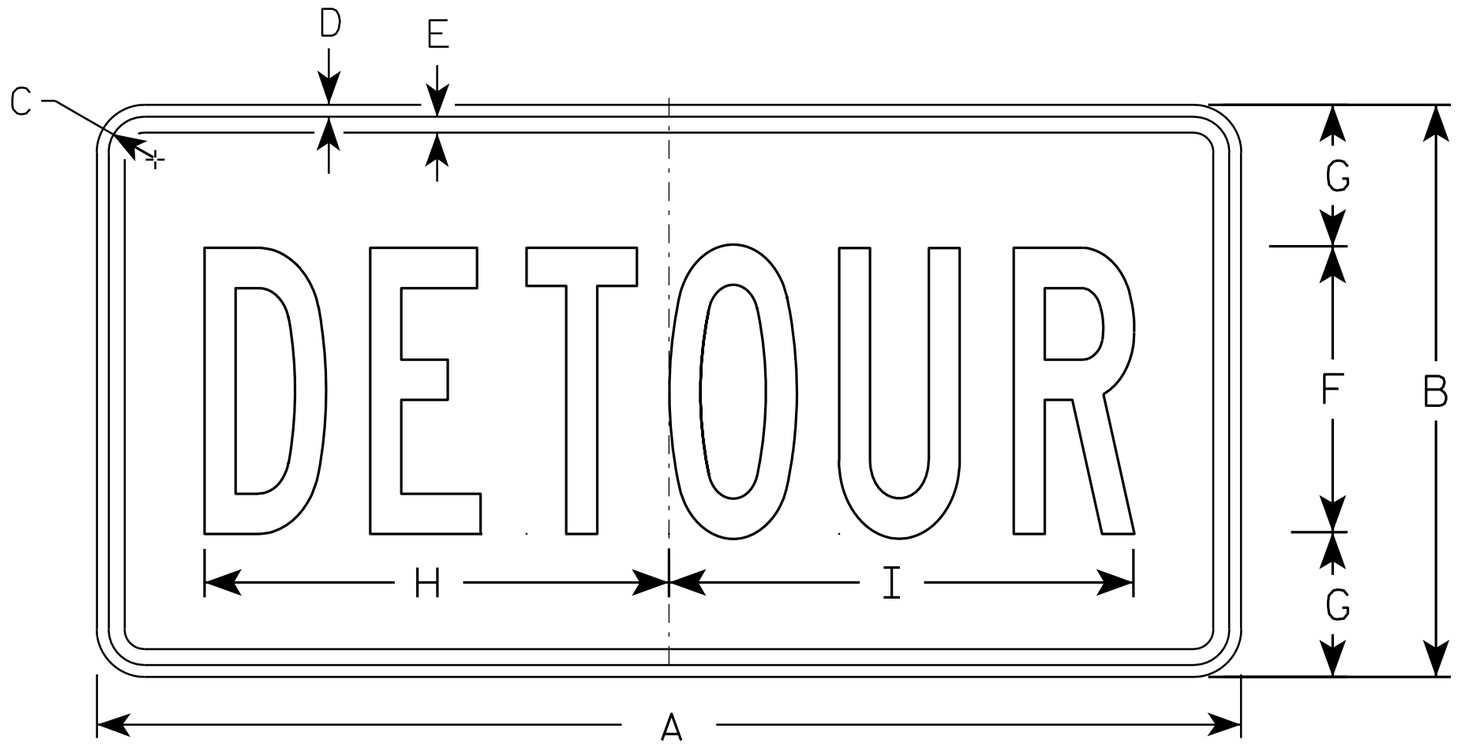
STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/7/19 PLATE NO. M4-5.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 283 | E



M4-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

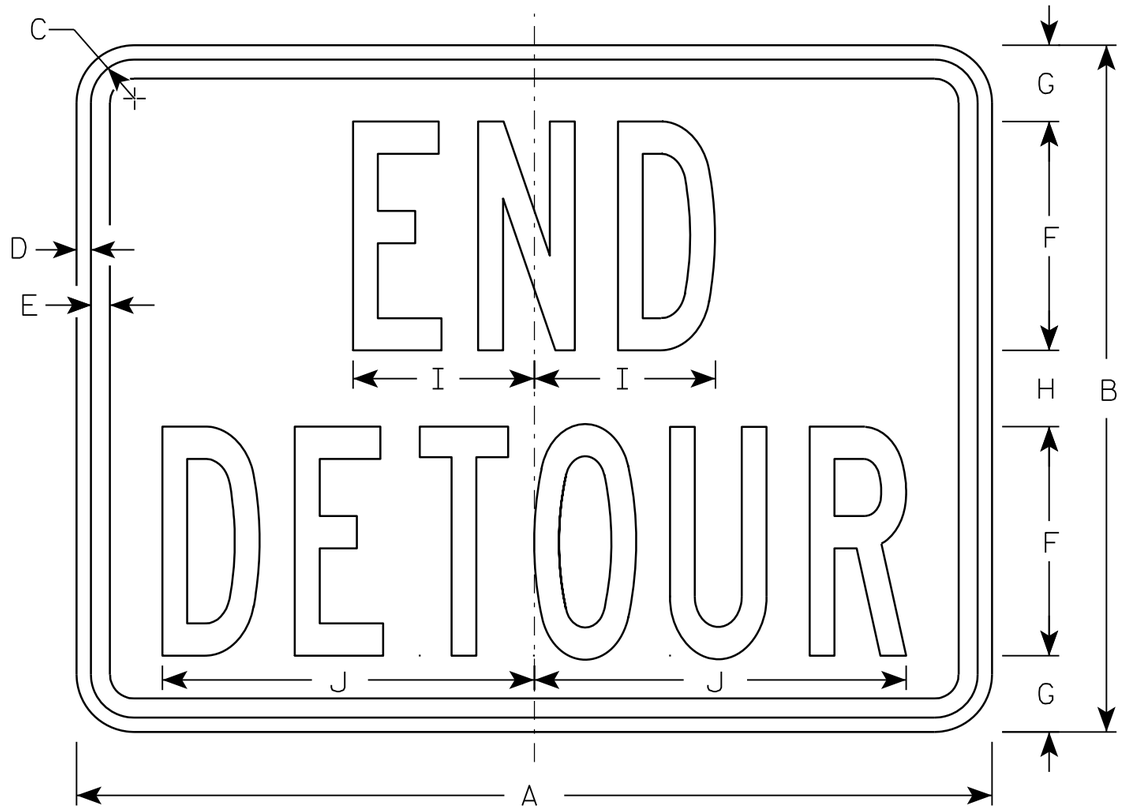
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 284	E



M4-8A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

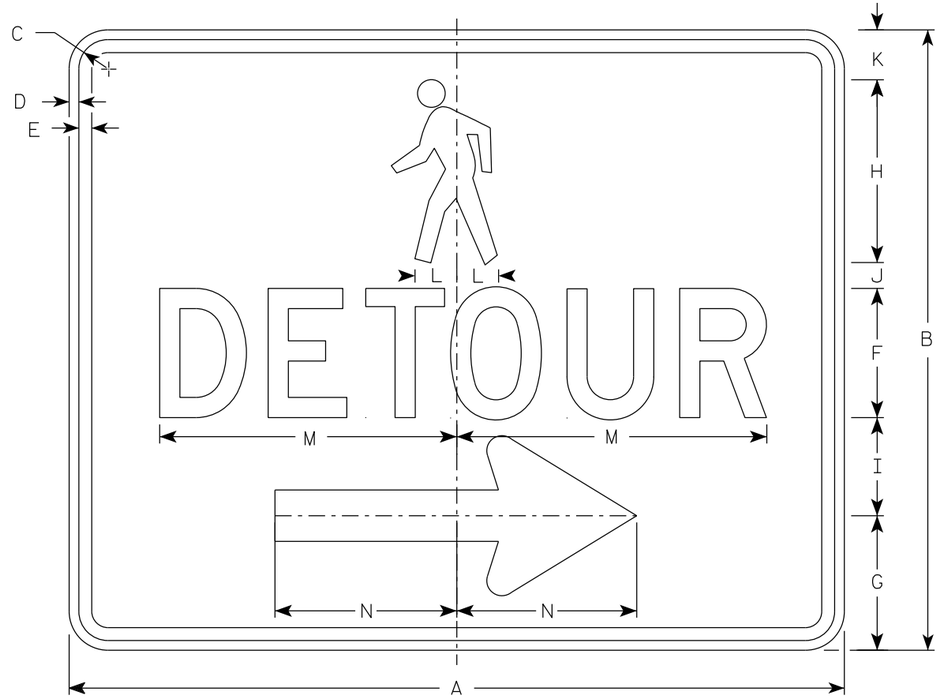
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

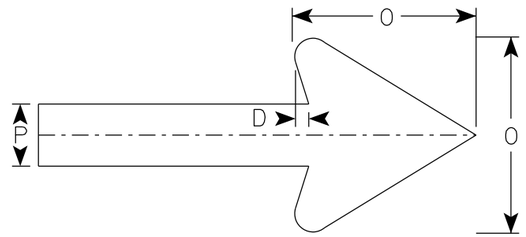
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 285	E



M4-9BR

NOTES

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



Arrow Detail

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

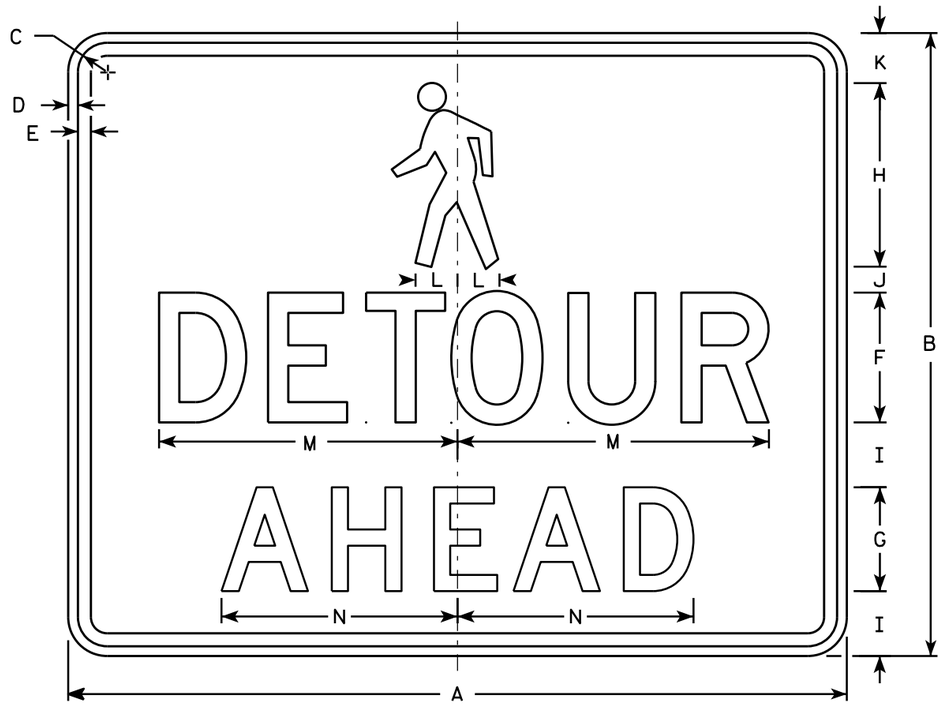
STANDARD SIGN
M4-9B L&R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 7/1/19 PLATE NO. M4-9B.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 286 | E



M4-9BA

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7 1/8	2 1/2	1	1 7/8	1 5/8	11 3/4	9 1/8													5.0
3																											
4																											
5																											

STANDARD SIGN
M4-9BA

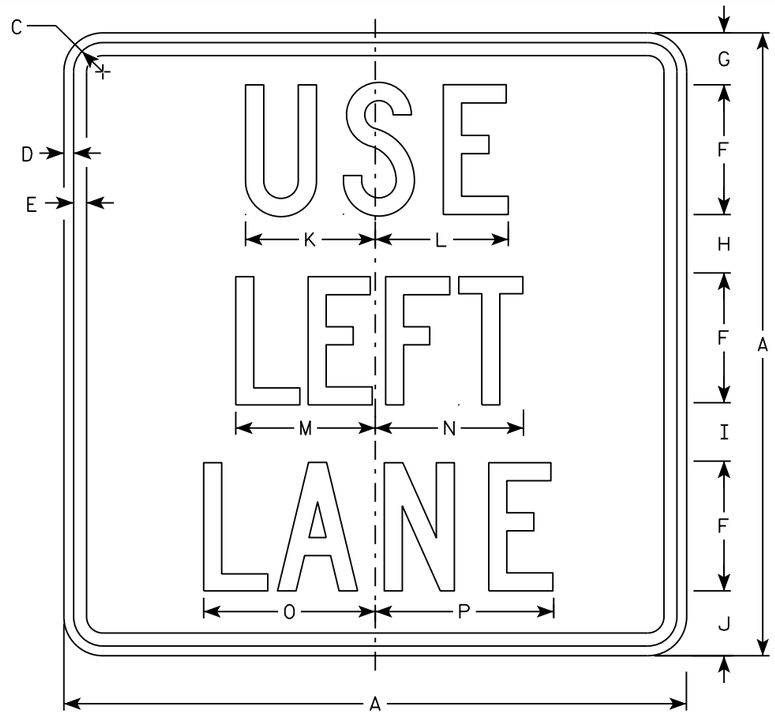
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/16 PLATE NO. M4-9BA.1

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

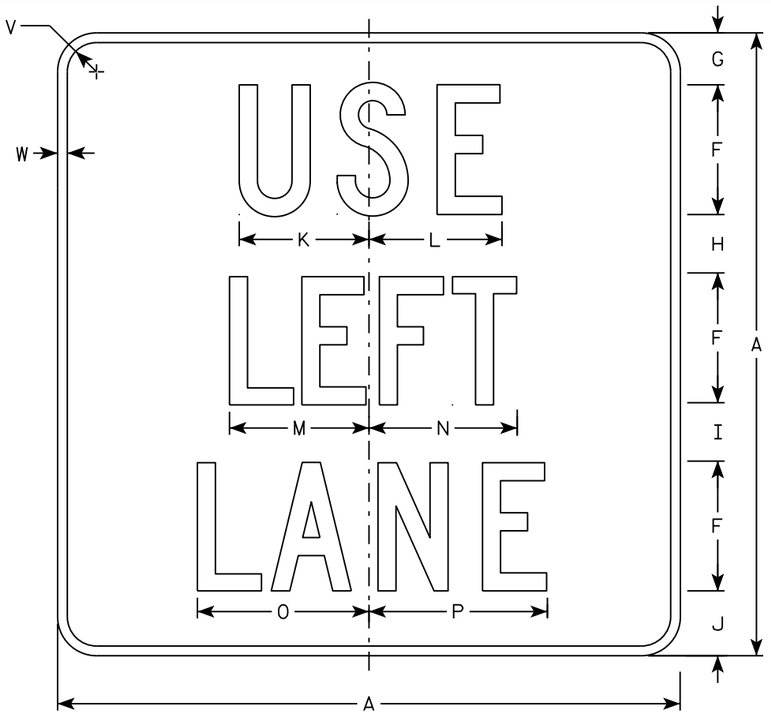
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M49BA.dgn PLOT DATE : 24-MAR-2016 14:57 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



M4-20L

A

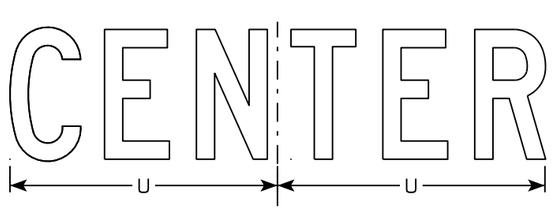
M4-20L
MM4-20L
M04-20L
MP4-20L



MB4-20L

A

MB4-20L
MK4-20L
MN4-20L
MR4-20L



M4-20C
MB4-20C
MK4-20C
MM4-20C
MN4-20C
M04-20C
MP4-20C
MR4-20C



M4-20R
MB4-20R
MK4-20R
MM4-20R
MN4-20R
M04-20R
MP4-20R
MR4-20R

NOTES

1. Sign is Type II - Type H except as Shown
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. M4-20 Background - White
   Message - Black
   MB4-20 Background - Blue
   Message - White
   MK4-20 Background - Green
   Message - White
   MM4-20 Background - White
   Message - Green
   MN4-20 Background - Brown
   Message - White
   M04-20 Background - Orange - Type F Reflective
   Message - Black
   MP4-20 Background - White
   Message - Blue
   MR4-20 Background - Brown
   Message - Yellow

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

STANDARD SIGN
M4-20

WISCONSIN DEPT OF TRANSPORTATION

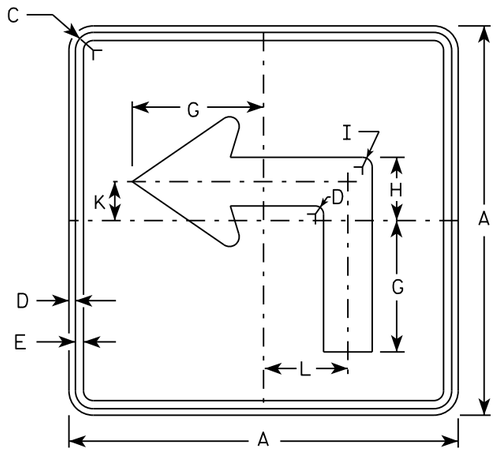
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 10/15/15 PLATE NO M4-20.5

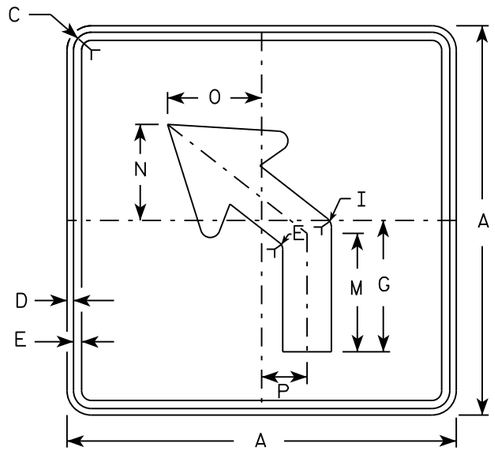
288

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

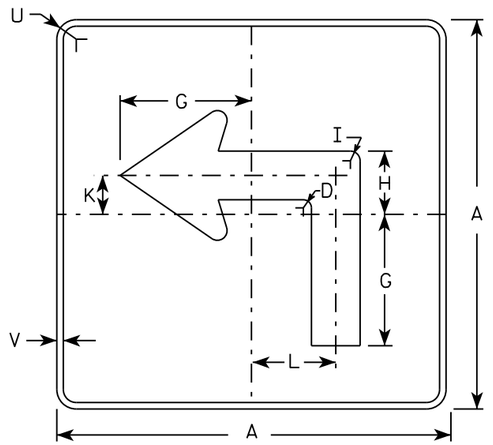
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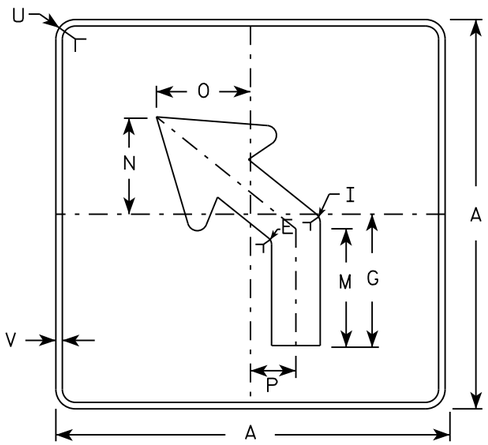
M5-1L
MM5-1L
MO5-1L
MP5-1L



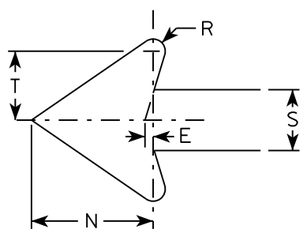
M5-2L
MM5-2L
MO5-2L
MP5-2L



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



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



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

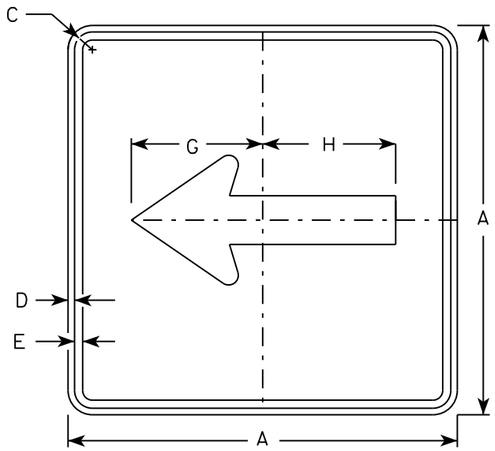
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

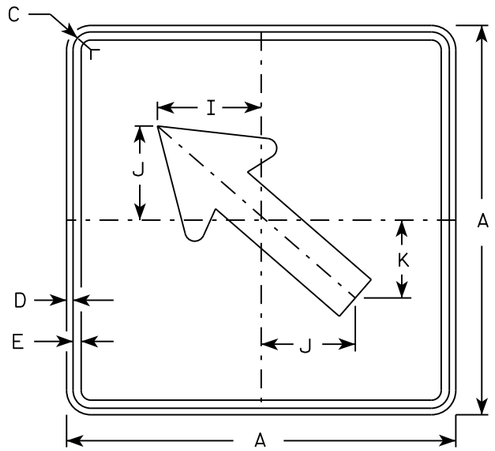
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



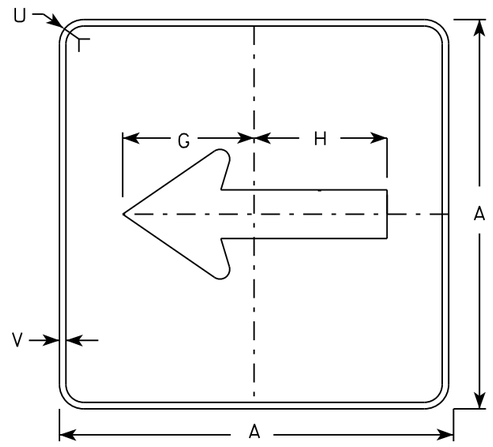
M6-1
MM6-1
MO6-1
MP6-1



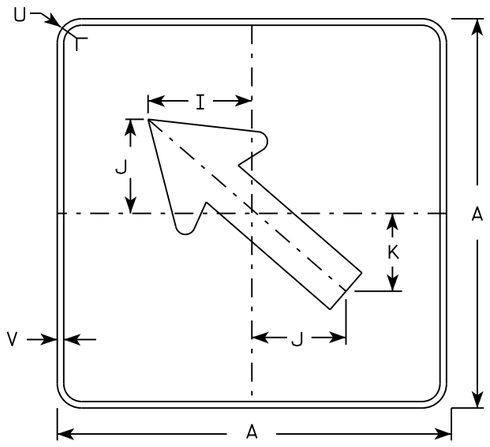
M6-2
MM6-2
MO6-2
MP6-2

NOTES

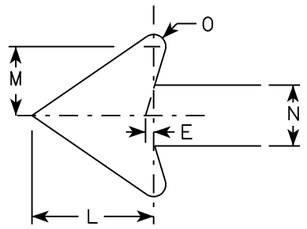
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



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



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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

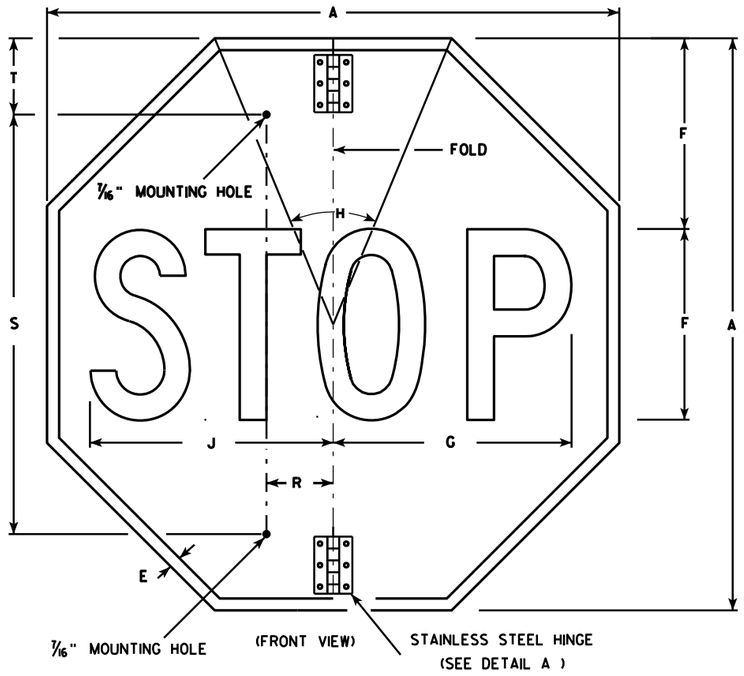
WISCONSIN DEPT OF TRANSPORTATION

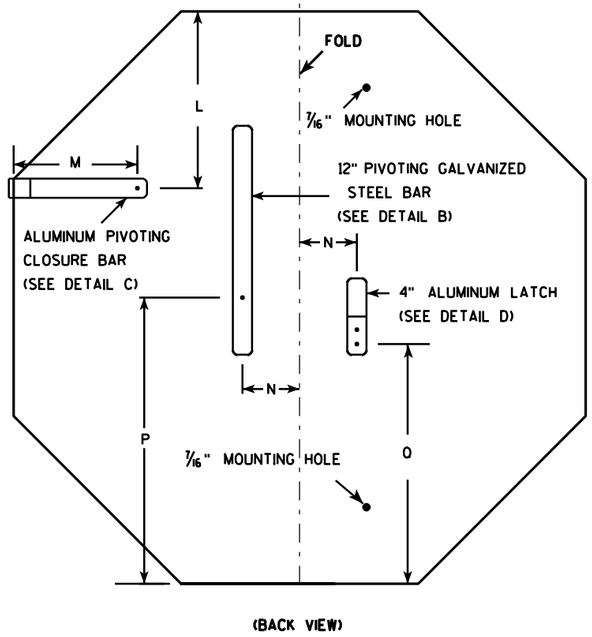
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 290 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

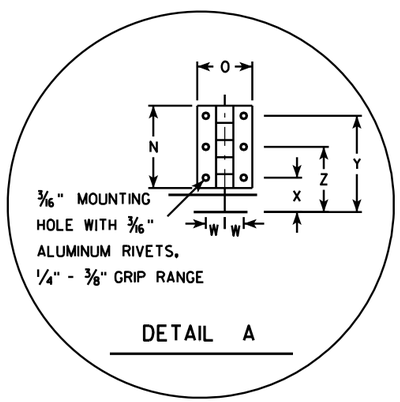
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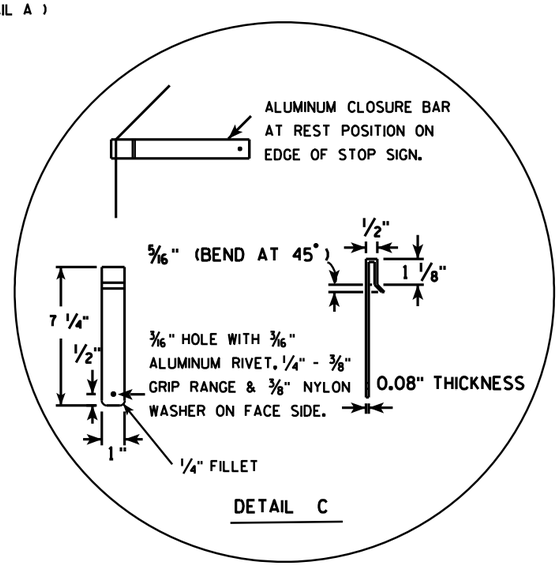


NOTES

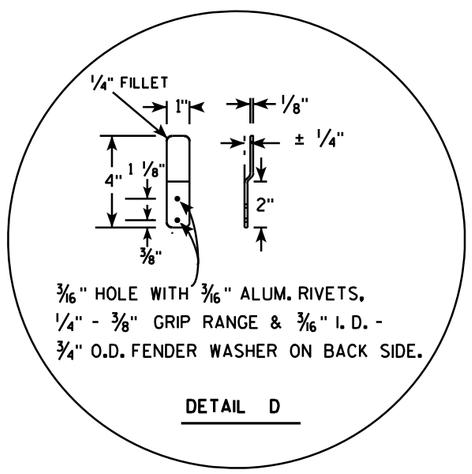
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



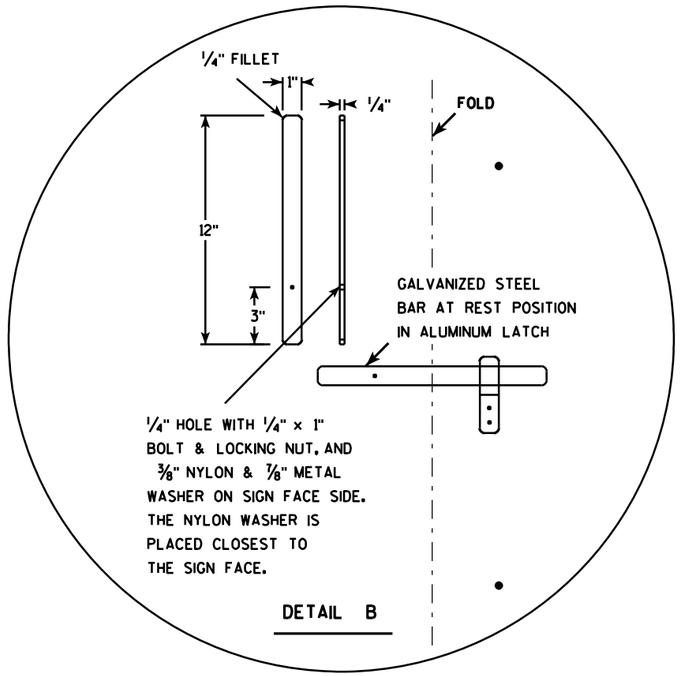
DETAIL A



DETAIL C



DETAIL D



DETAIL B

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

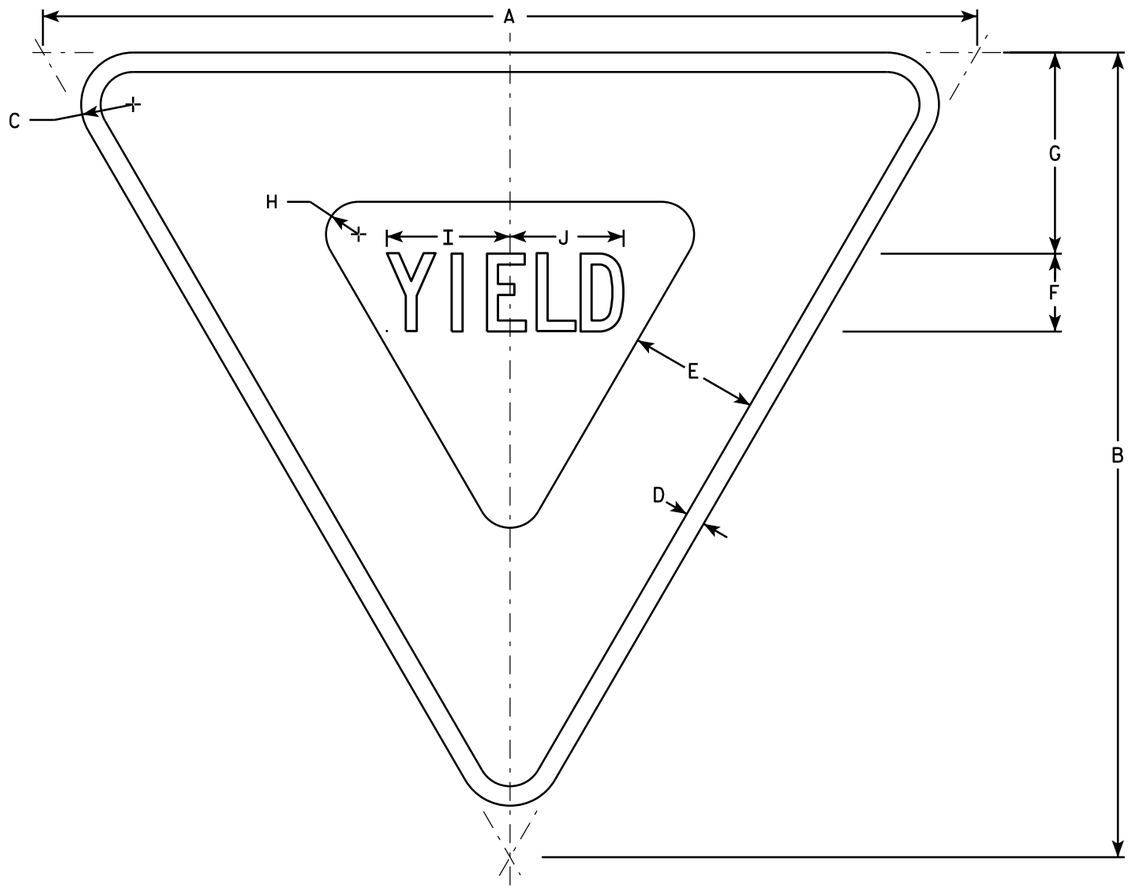
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 291	E

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																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

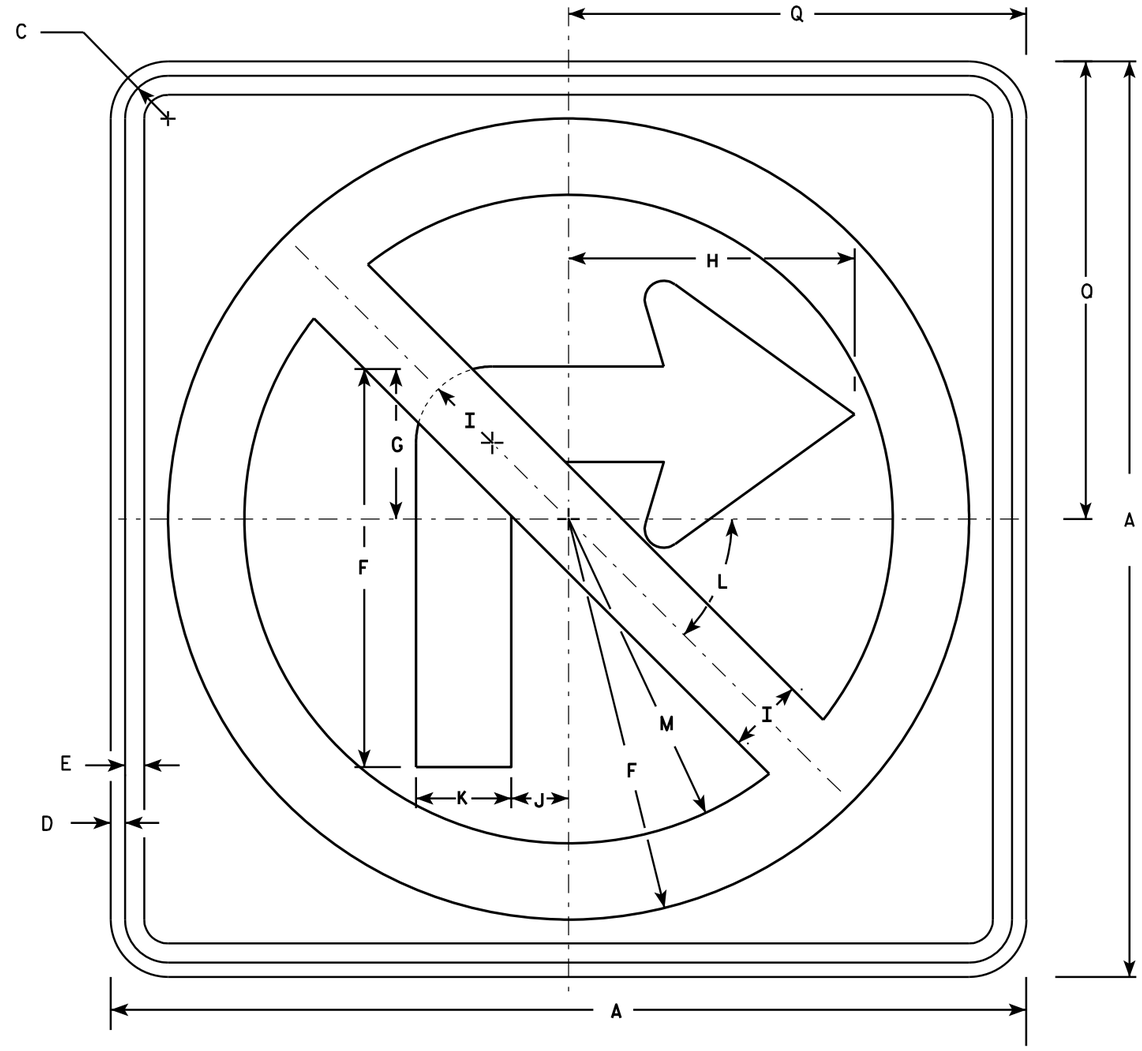
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

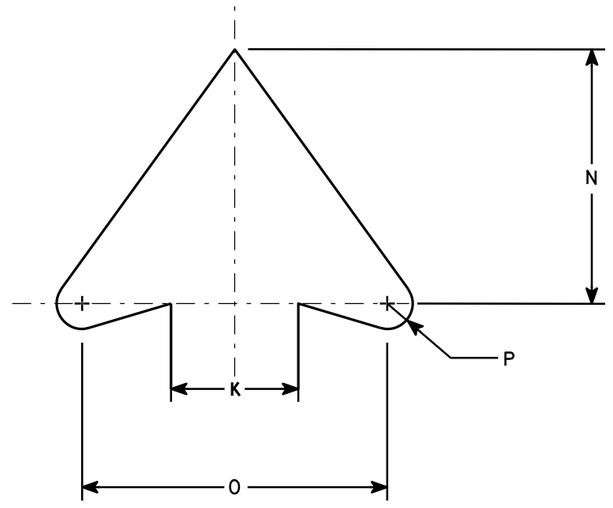
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



R3-1

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 - 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	12										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	12										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	18										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	18										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	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

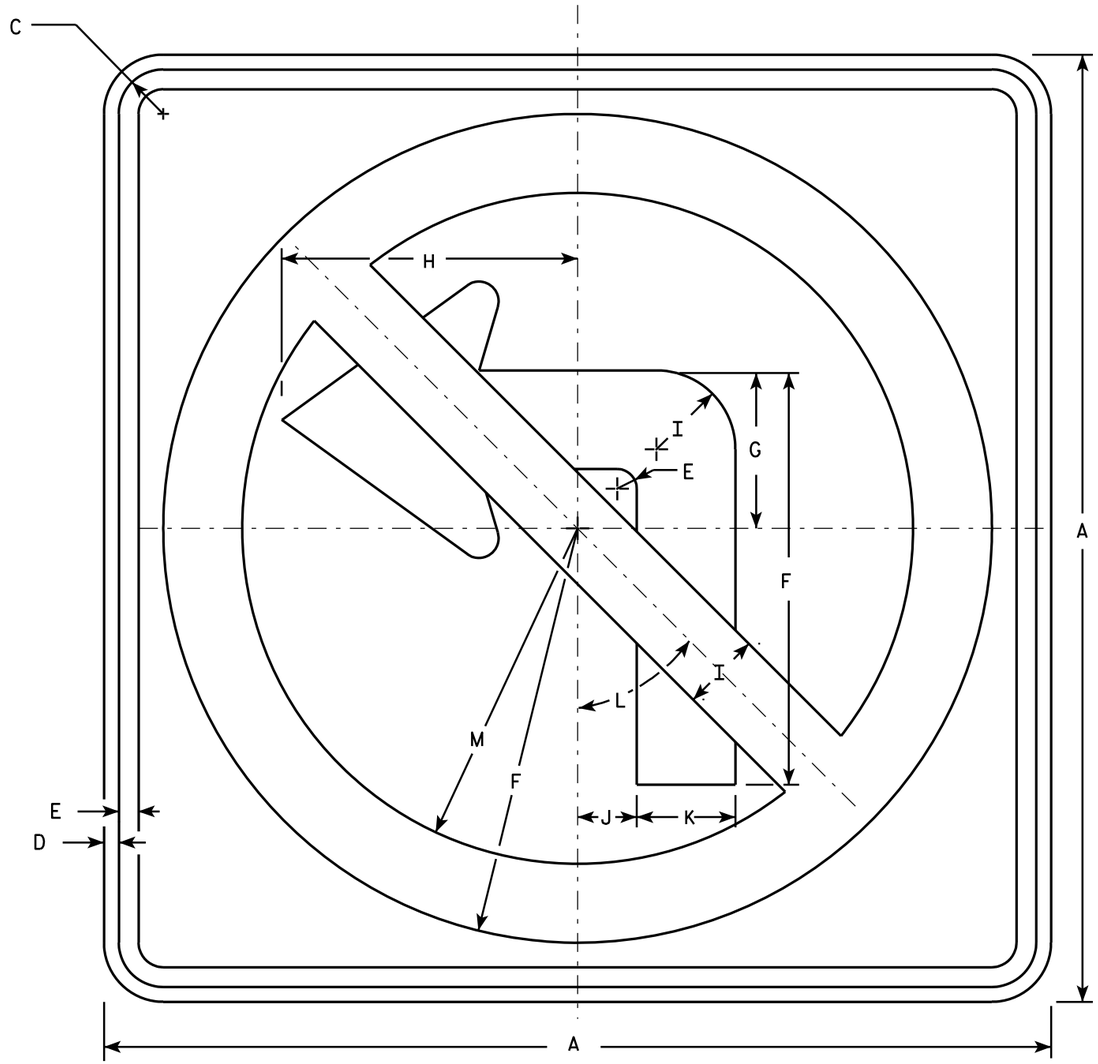
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

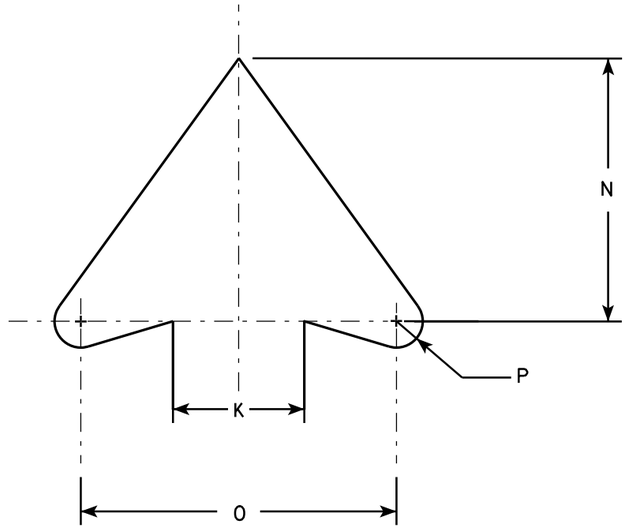
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 293 | E



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

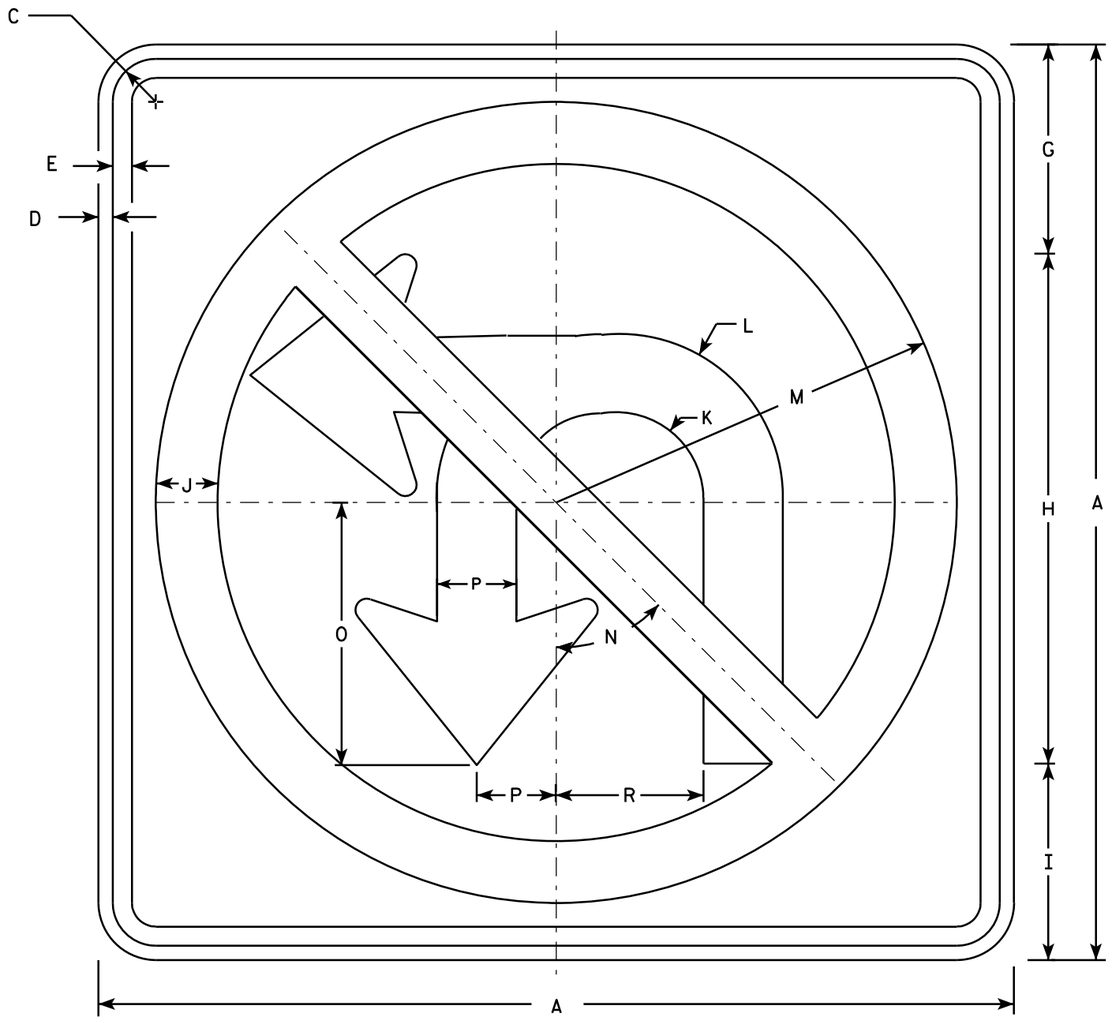
STANDARD SIGN
R3-2

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: 294	E



R3-18

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.

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		5 1/2	13 3/8	5 1/8	1 5/8	2 1/4	4 1/4	10 1/2	45°	6 7/8	2 1/8		3 7/8									4.0
2M	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45°	10 3/8	3 1/8		5 3/4									9.0
3	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45	10 3/8	3 1/8		5 3/4									9.0
4	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45	10 3/8	3 1/8		5 3/4									9.0
5	48		2 1/4	3/4	1		11	26 3/4	10 1/4	3 1/4	4 5/8	8 5/8	21	45°	13 3/4	4 1/8		7 3/4									16.0

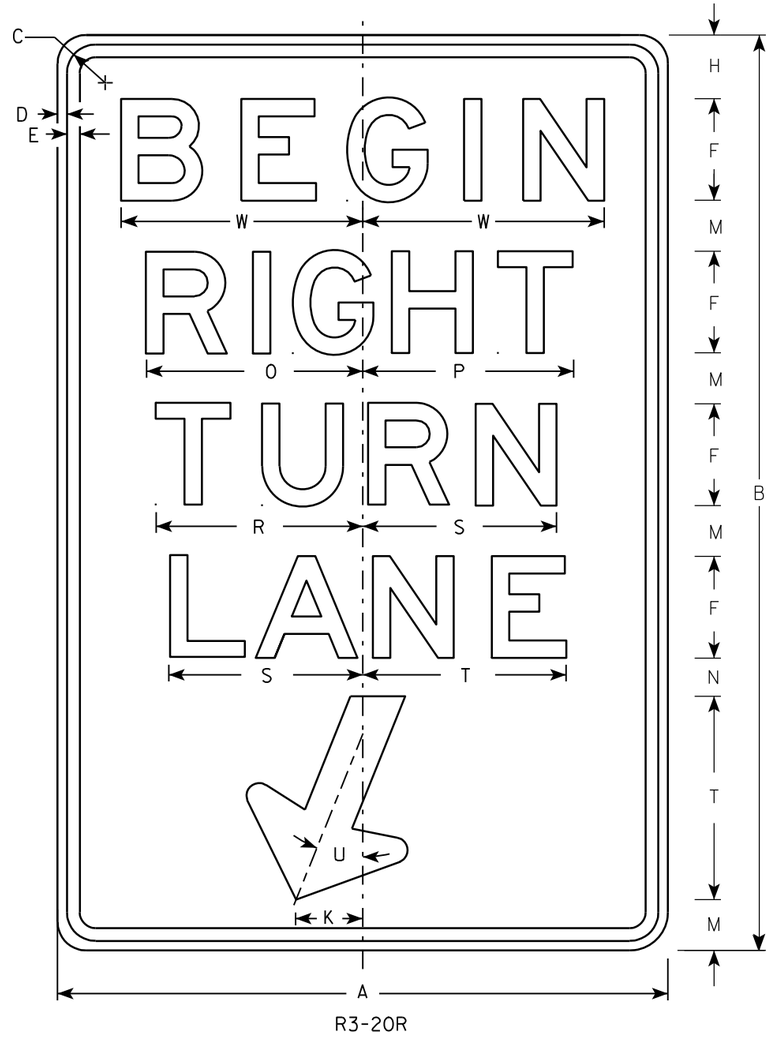
STANDARD SIGN
R3-18

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/21/10 PLATE NO. R3-18.2

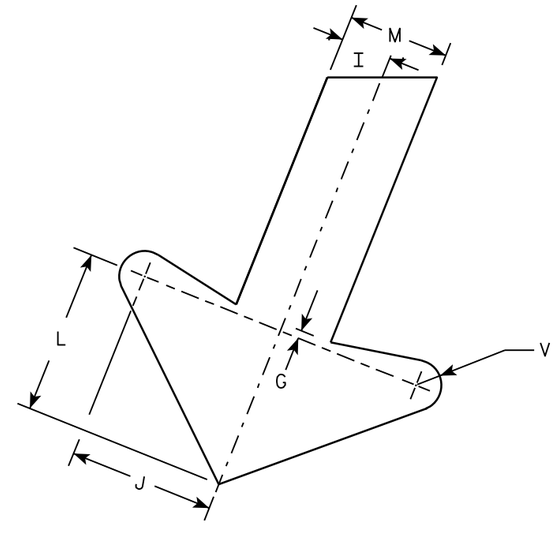
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 295	E



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

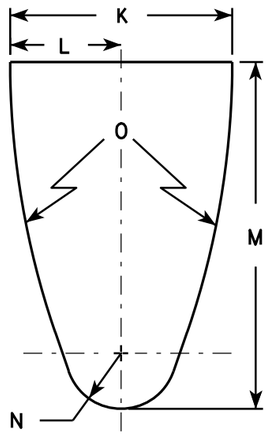
APPROVED Matthew R Rauch
for State Traffic Engineer

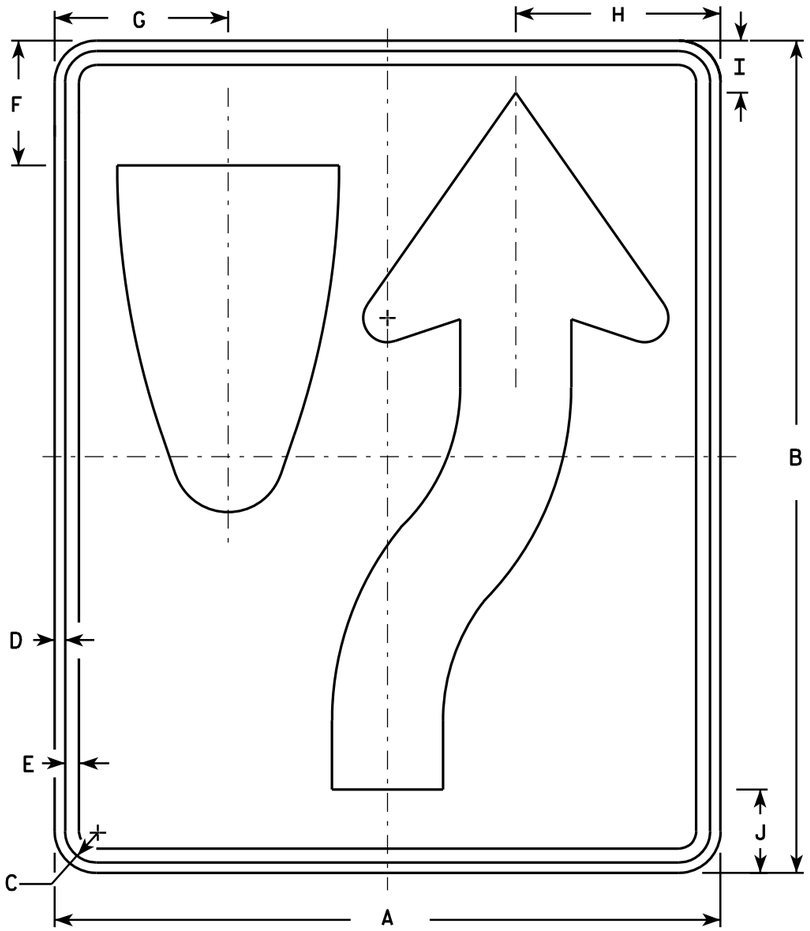
DATE 10/18/10 PLATE NO. R3-20R.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 296 | 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

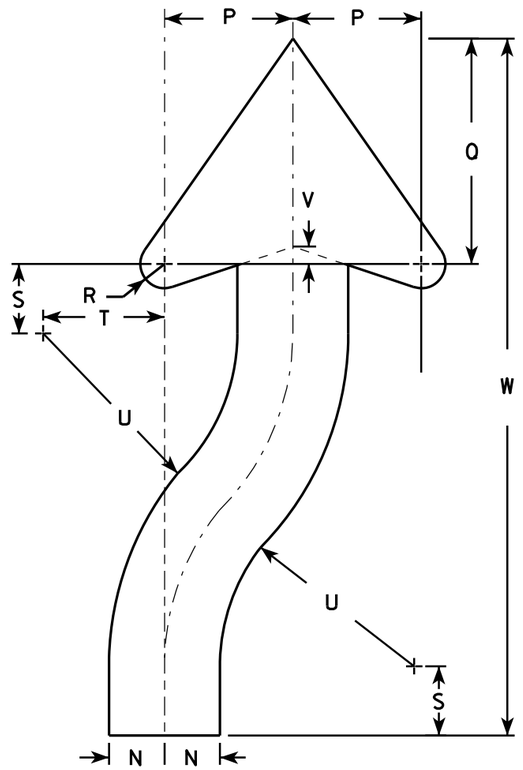




R4-7

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

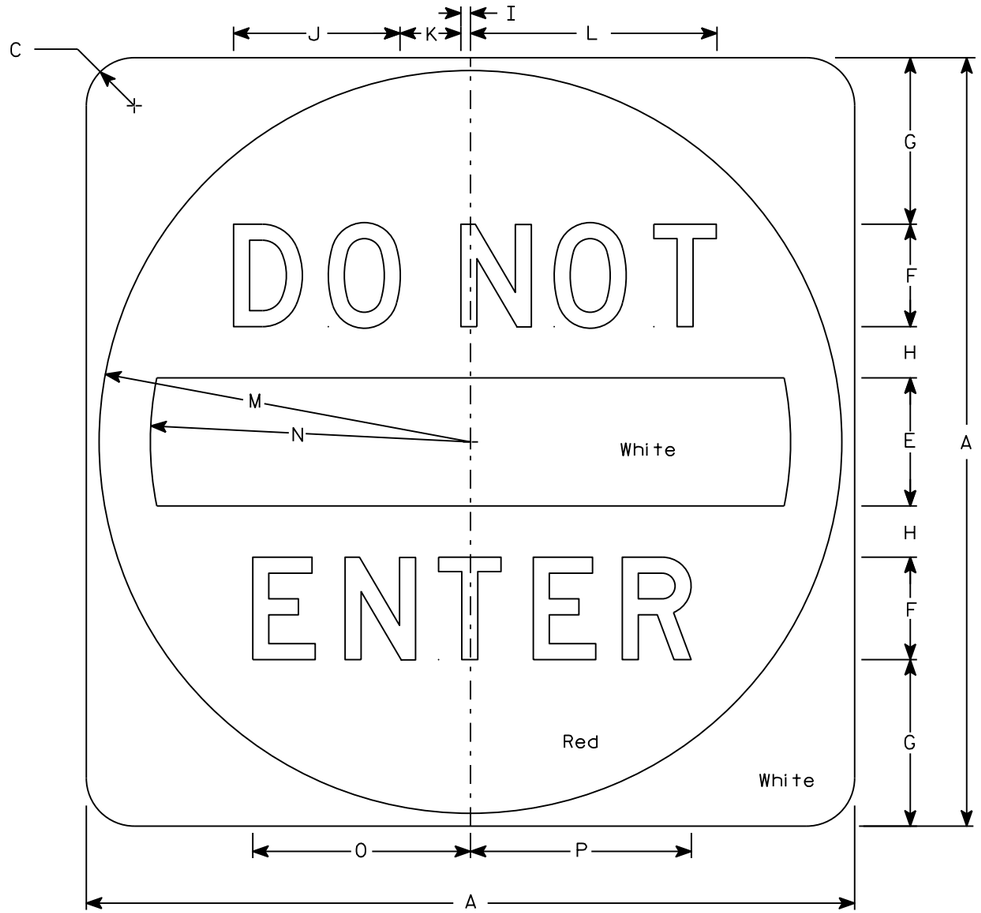
STANDARD SIGN
R4-7 & R4-8

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: 297	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See detail
   Message - White
3. Message Series - D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
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											6.25
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

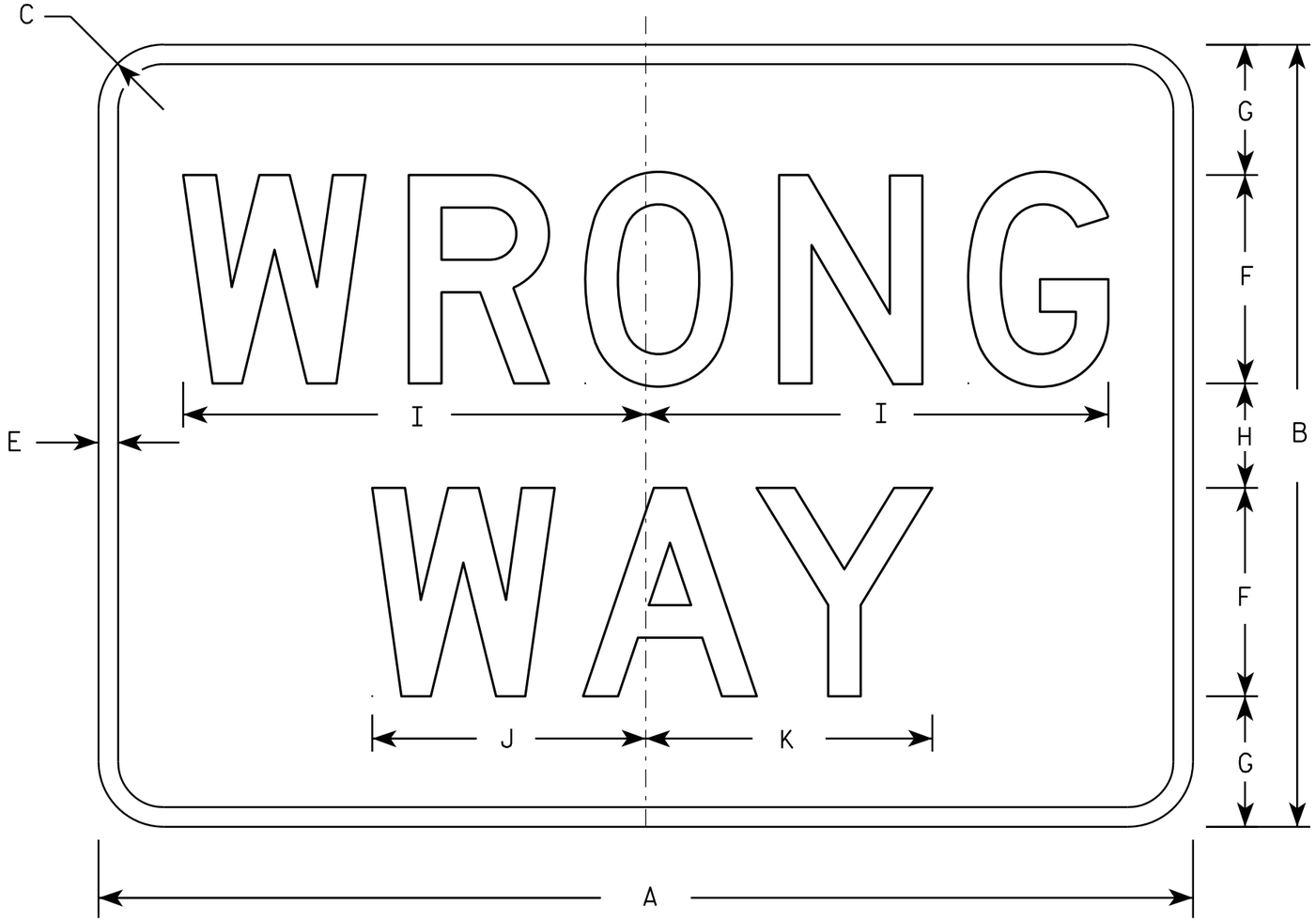
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/18 PLATE NO. R5-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 298 | E



R5-1A

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 - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

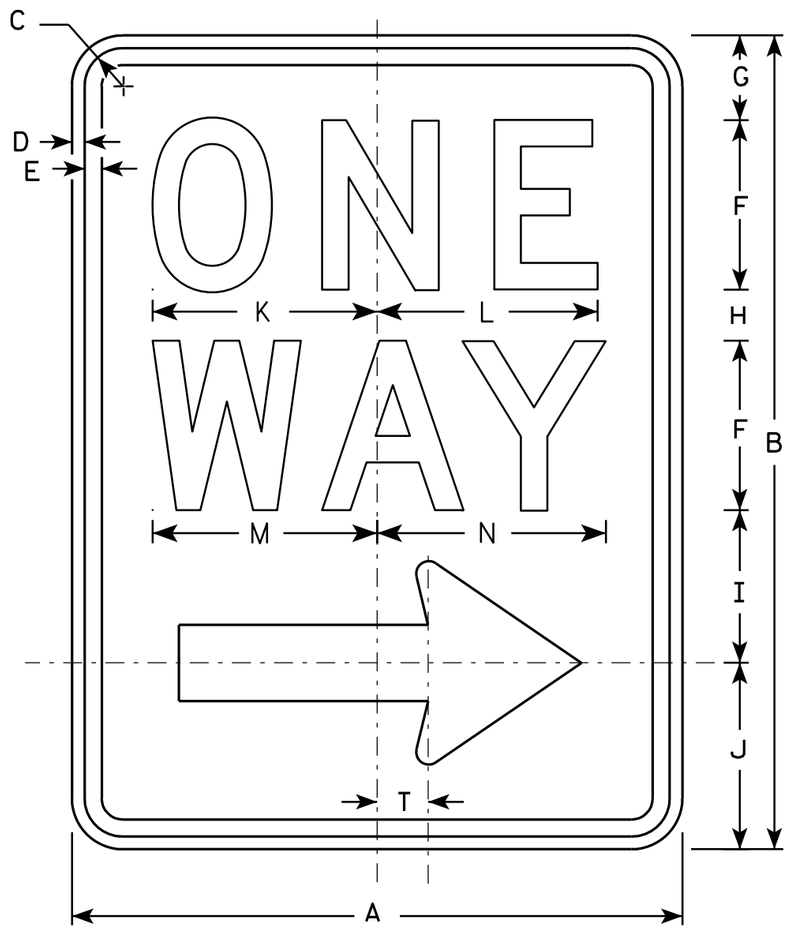
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

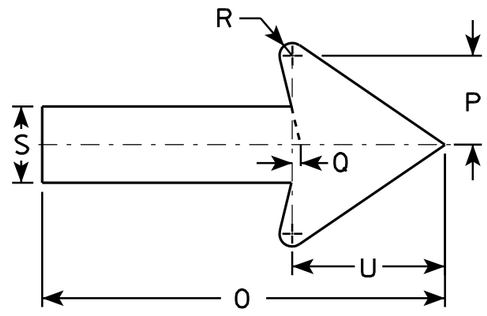
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 299	E



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	O	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																										

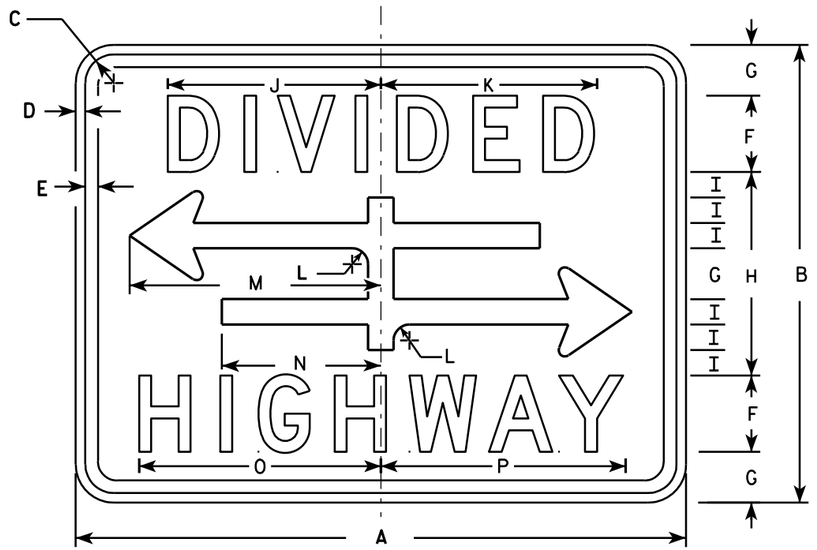
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

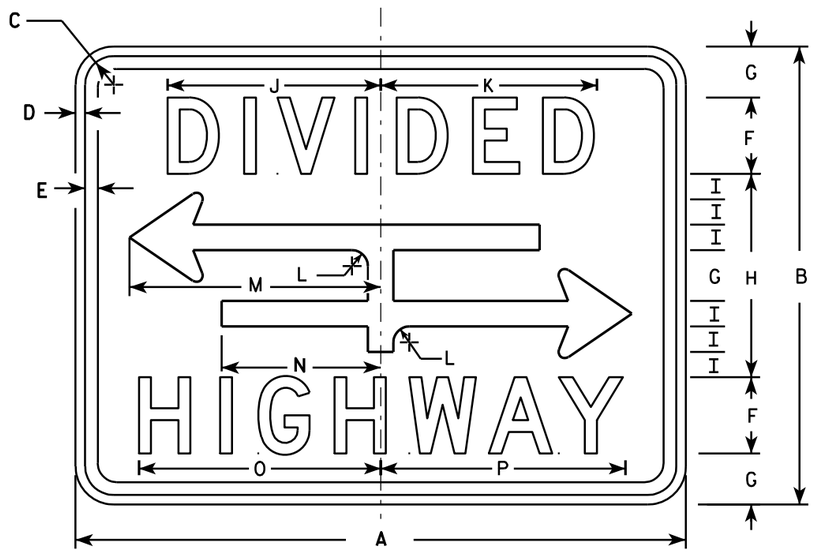
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 300	E



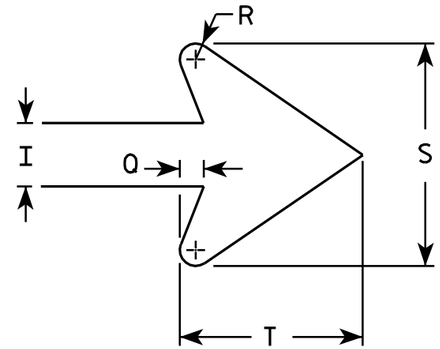
R6-3

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

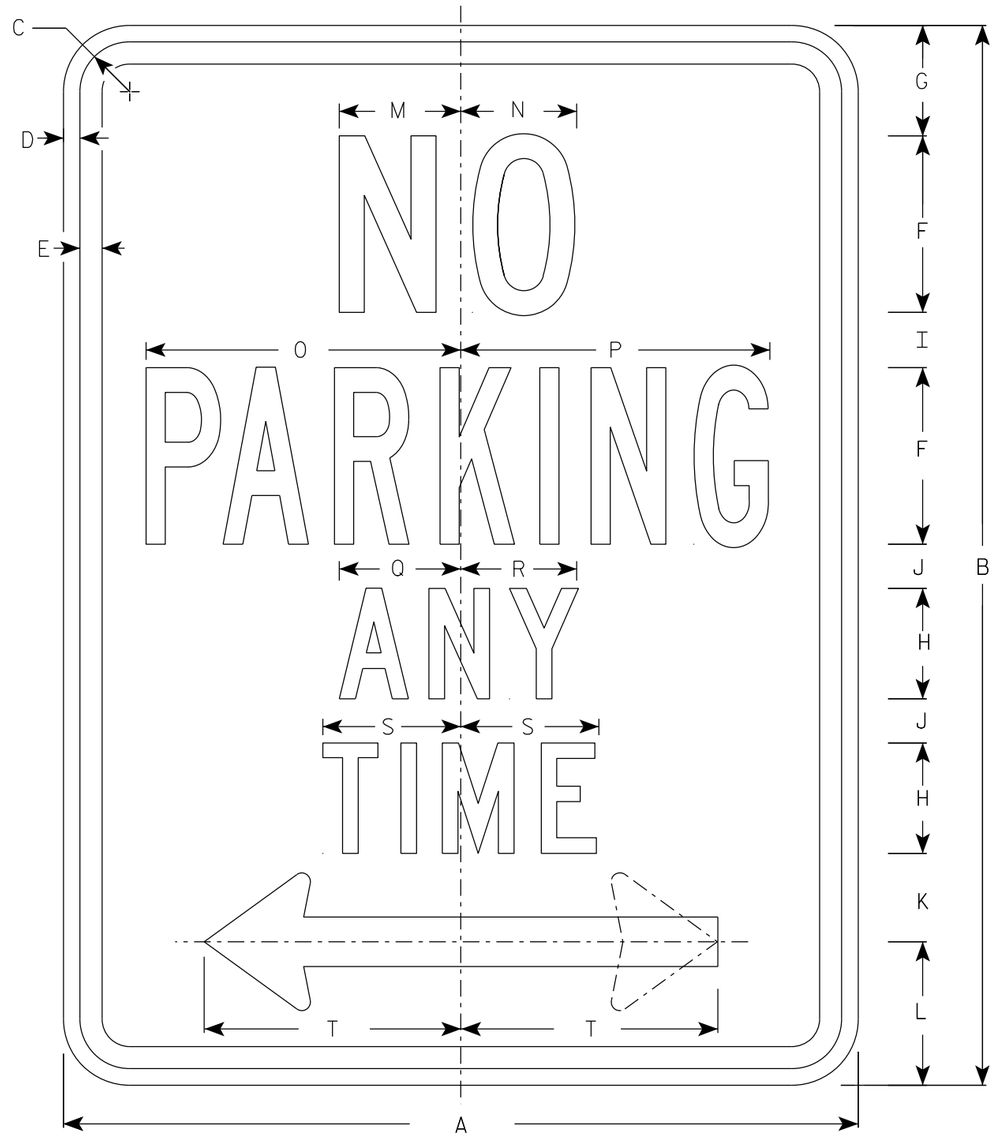
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

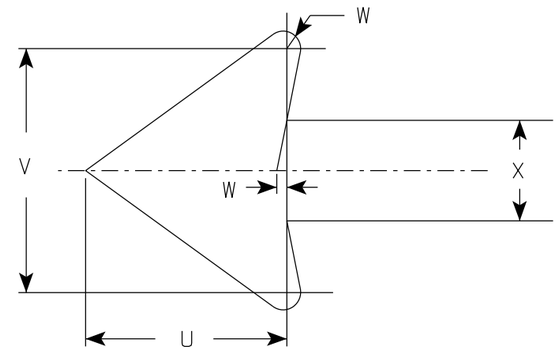
SHEET NO: 301 E



R7-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Lines 1, 3 and 4 are series C, line 2 is series B.
5. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



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	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

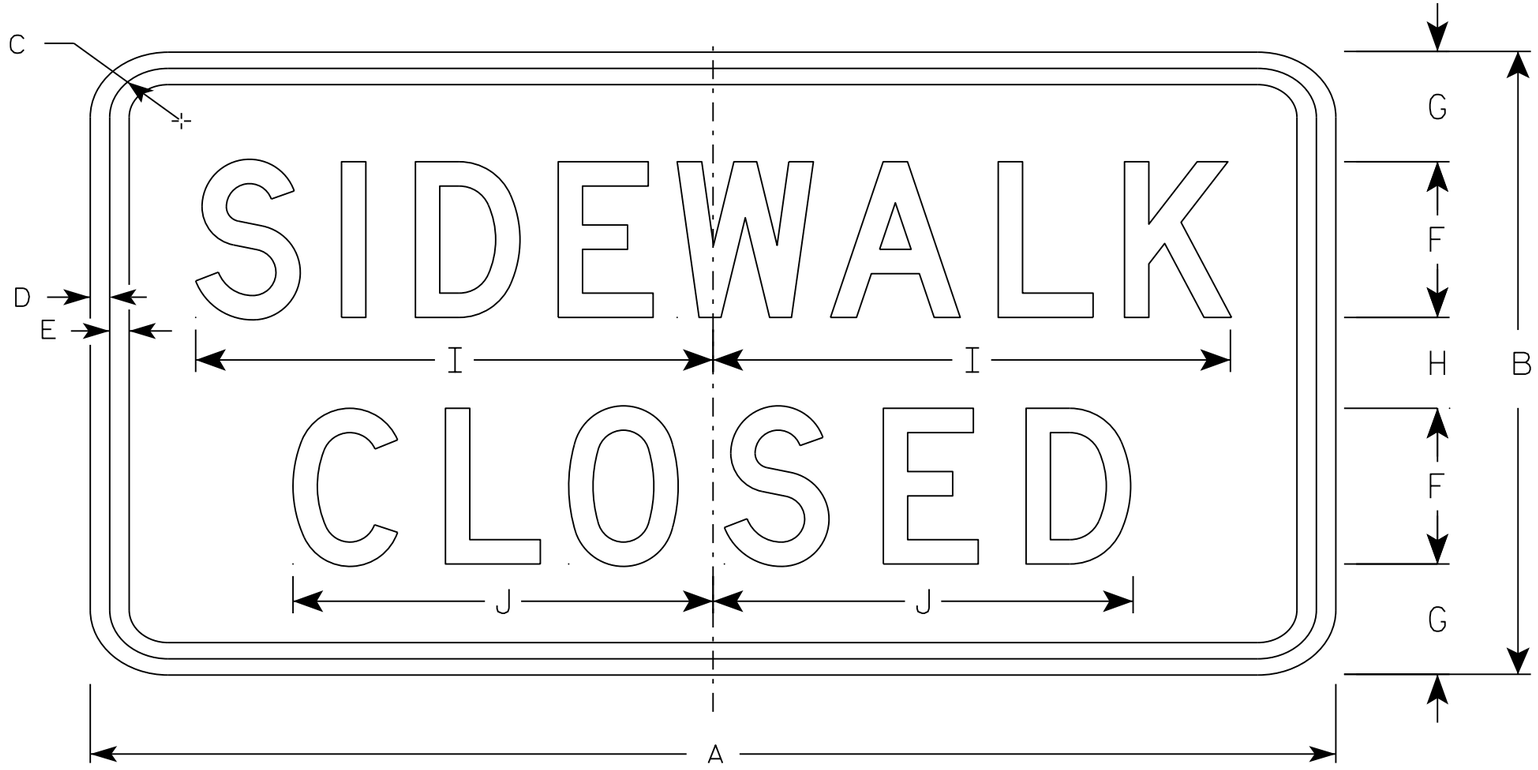
STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2021 PLATE NO. R7-1.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 302 E



R9-9

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. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

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	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4																											
5																											

STANDARD SIGN
R9-9

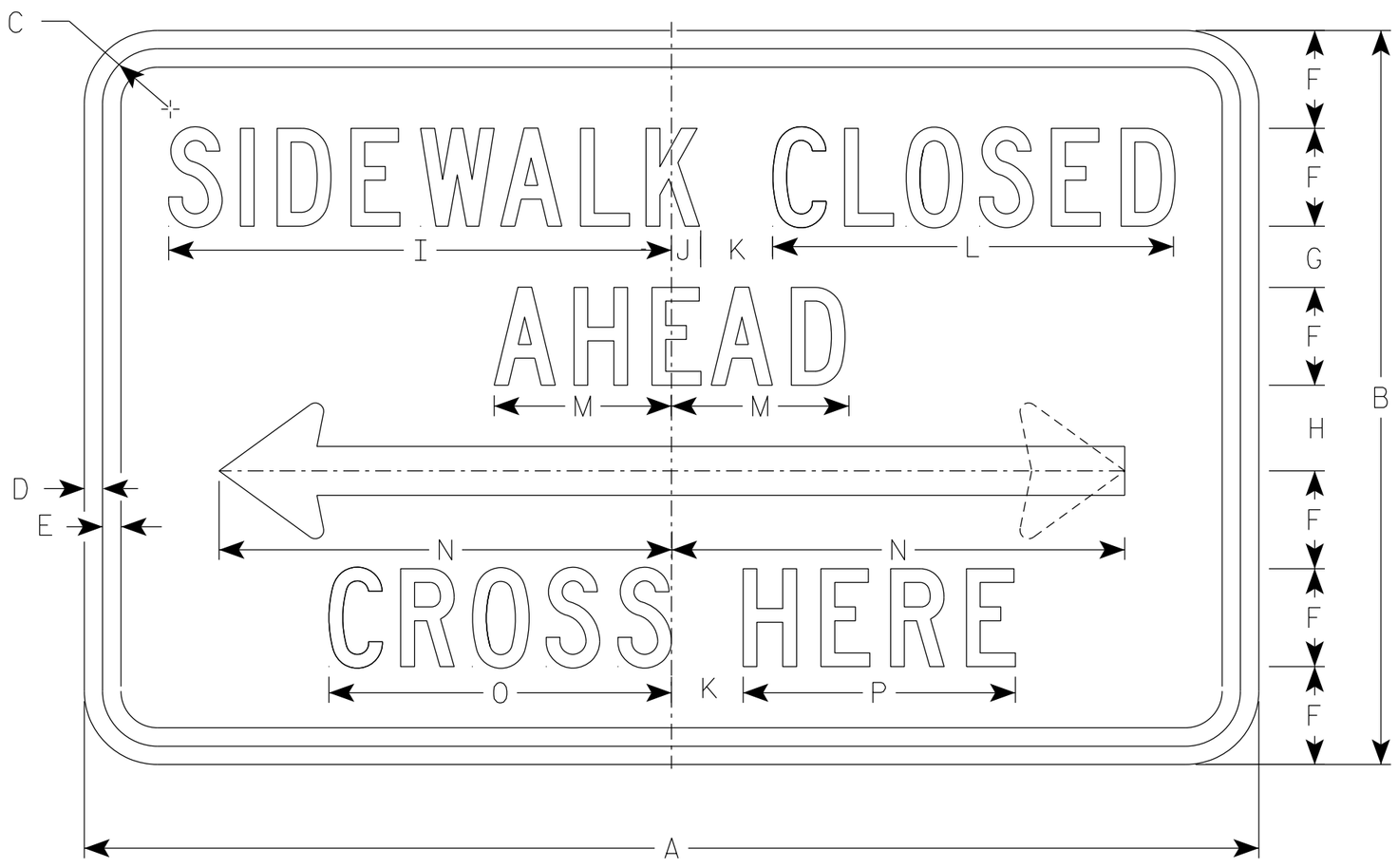
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

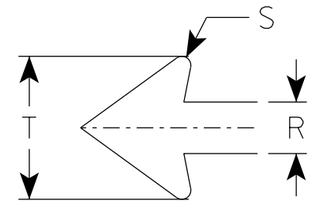
DATE 8/11/16 PLATE 303 R9-9.6

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R99.DGN PLOT DATE : 11-AUG-2016 11:33 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 2.918761:1.000000



R9-11



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C except Size 1 is 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. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.
6. R9-11 D (double arrow)
   R9-11 L (left arrow)
   R9-11 R (right arrow)

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	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
2M	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
3	30	15	1 1/8	3/8	1/2	2	1 1/2	1 1/2	13	3/4	2	10 1/4	4 5/8	12 3/8	8 7/8	6 7/8		1 1/4	1/4	3 5/8							3.125
4																											
5																											

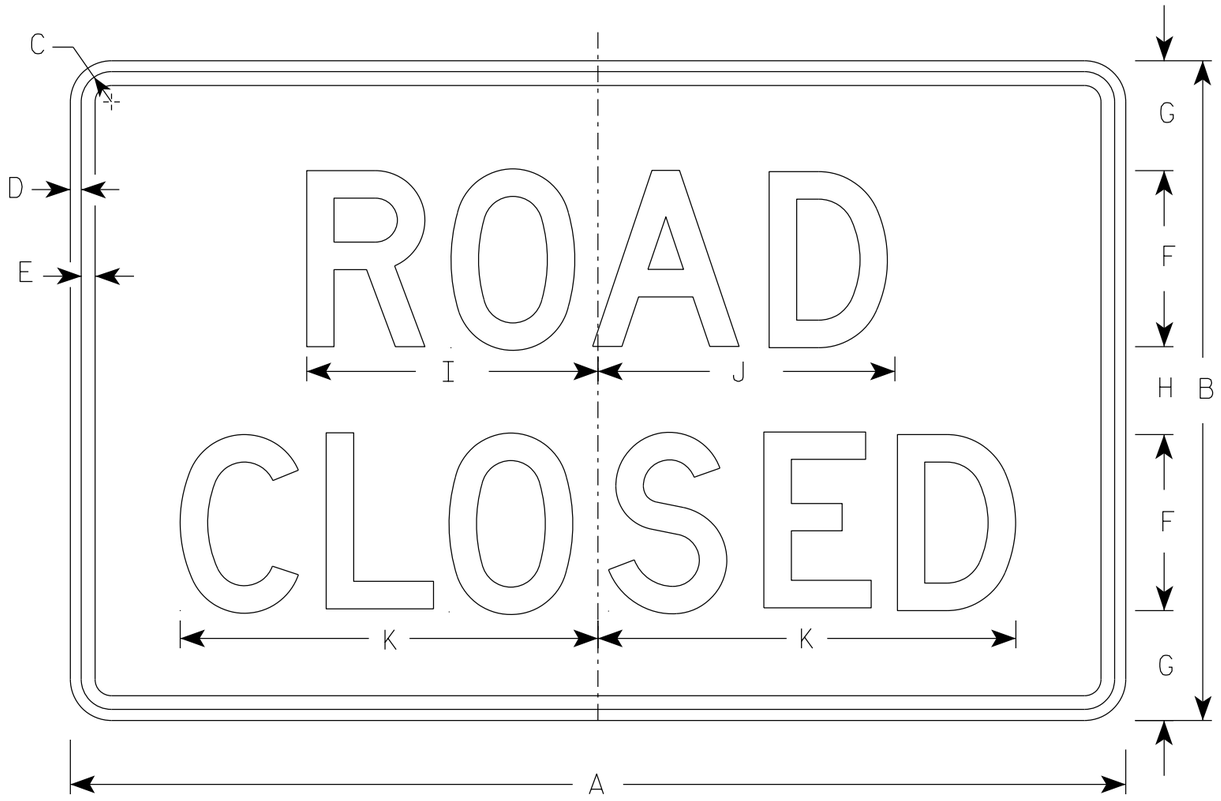
STANDARD SIGN
R9-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 3/30/2021 PLATE NO. R9-11.4

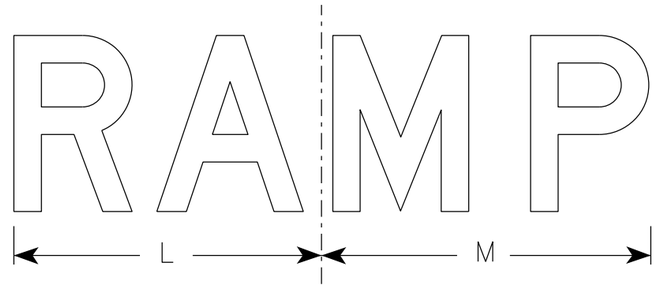
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 304 | E



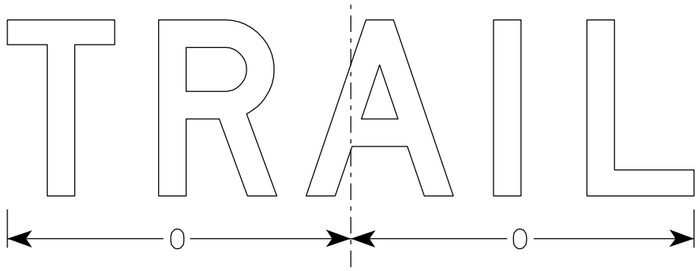
R11-2

NOTES

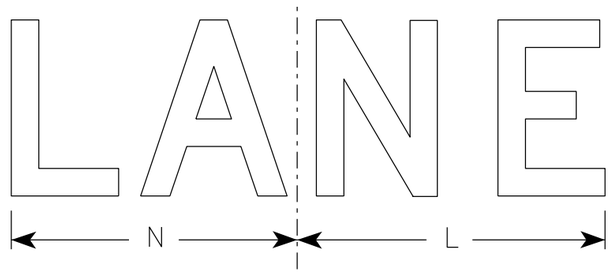
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the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



R11-2R



R11-2T



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

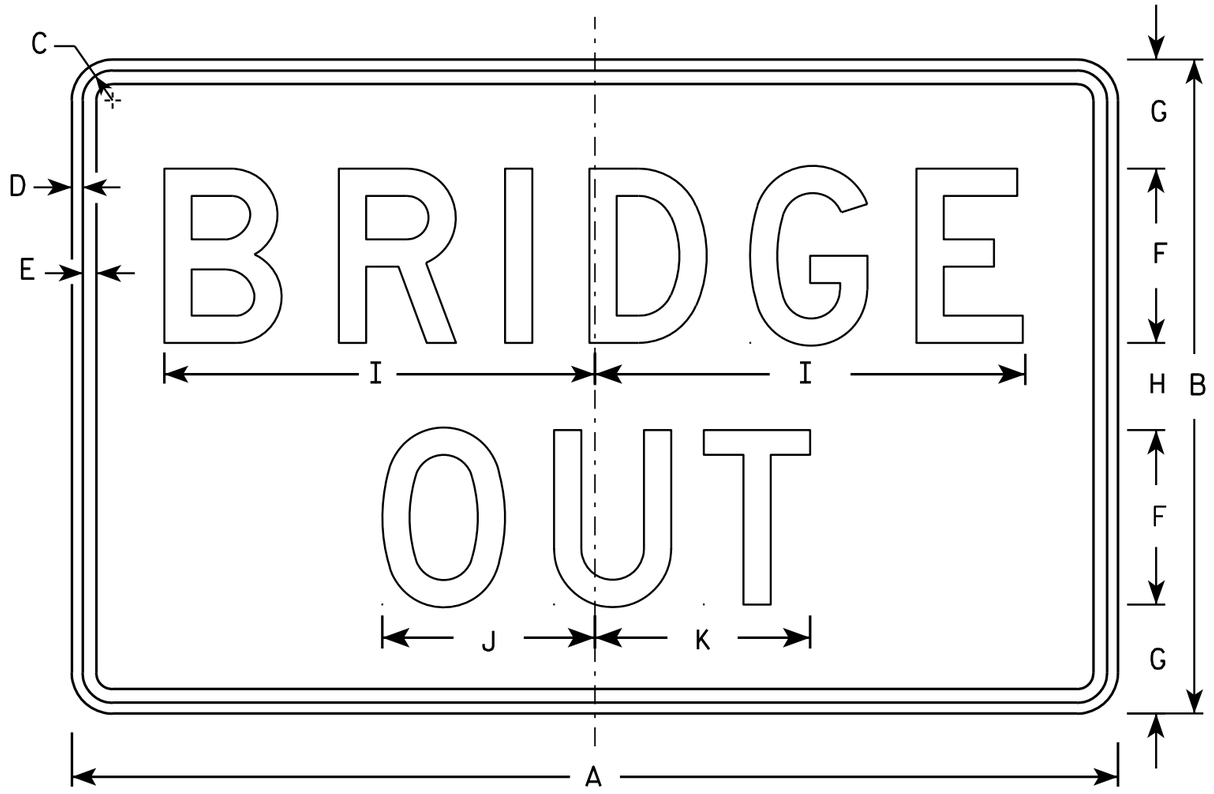
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 305	E



R11-2B

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.

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

STANDARD SIGN
R11-2B

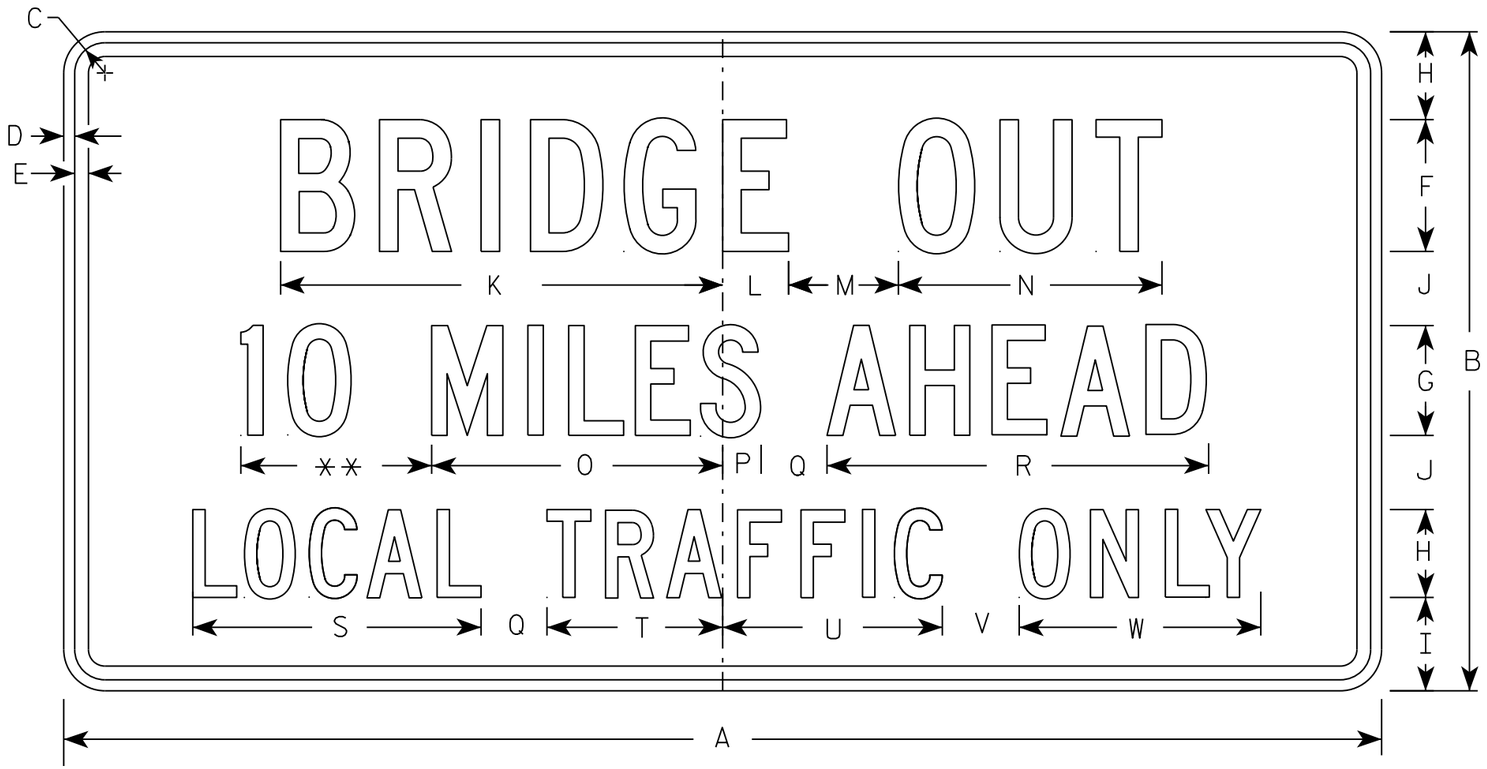
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

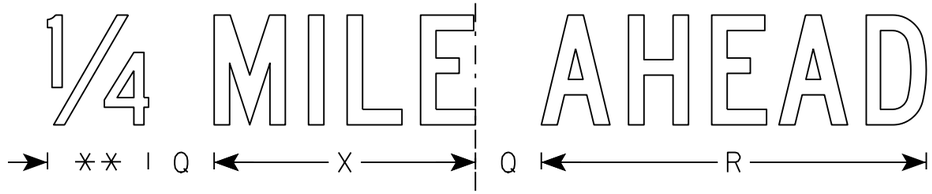
PROJECT NO:

SHEET NO: 306 E



R11-3B

** See Note 5



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

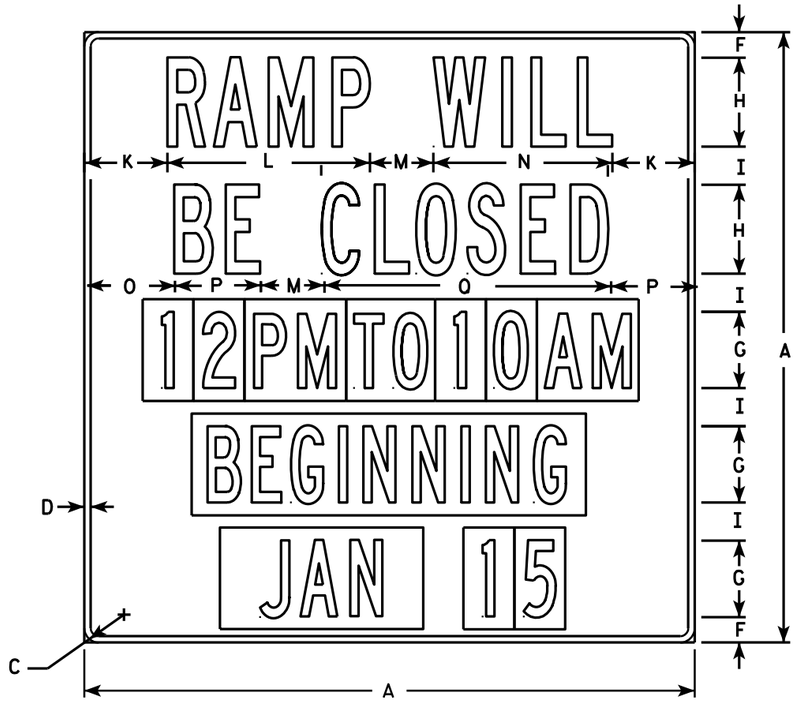
STANDARD SIGN
R11-3B

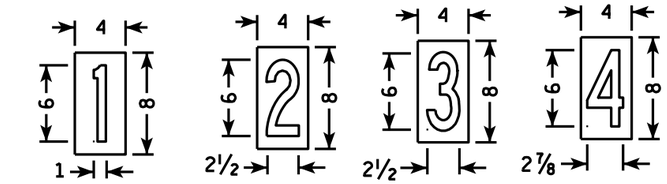
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

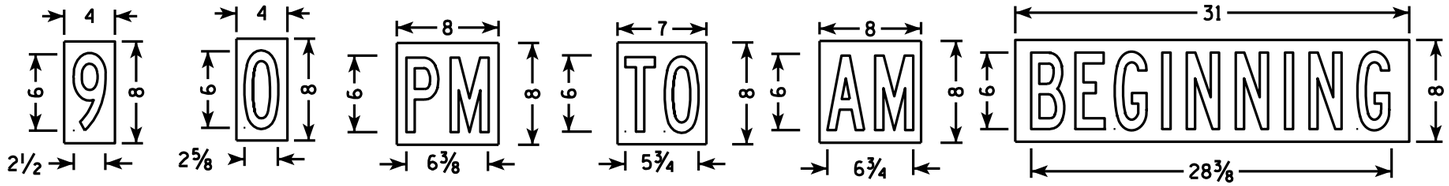
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 307 | E

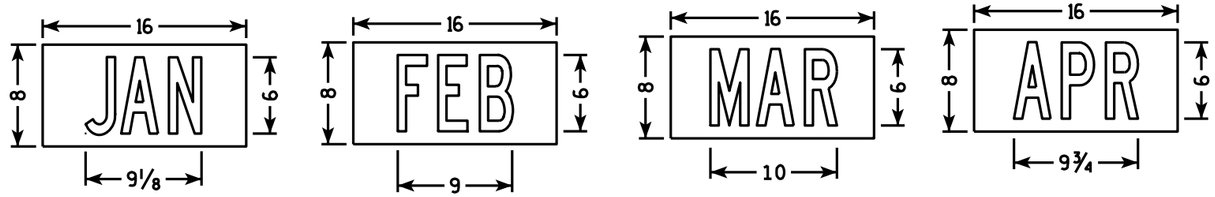


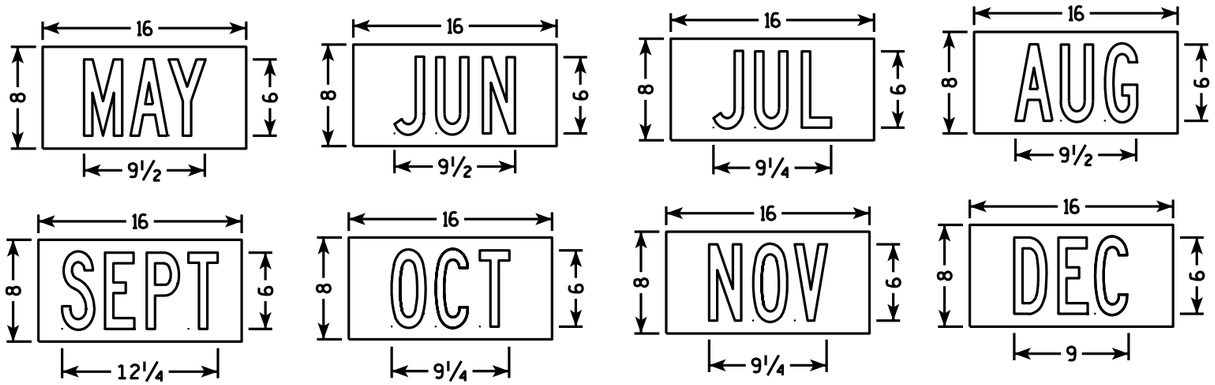


NOTES

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 - B
4. Message plaques consist of Type H Reflective sheeting with the appropriate non-reflective black message applied to .040 aluminum and screwed to the base sign.









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	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
2M	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
3																											
4																											
5																											

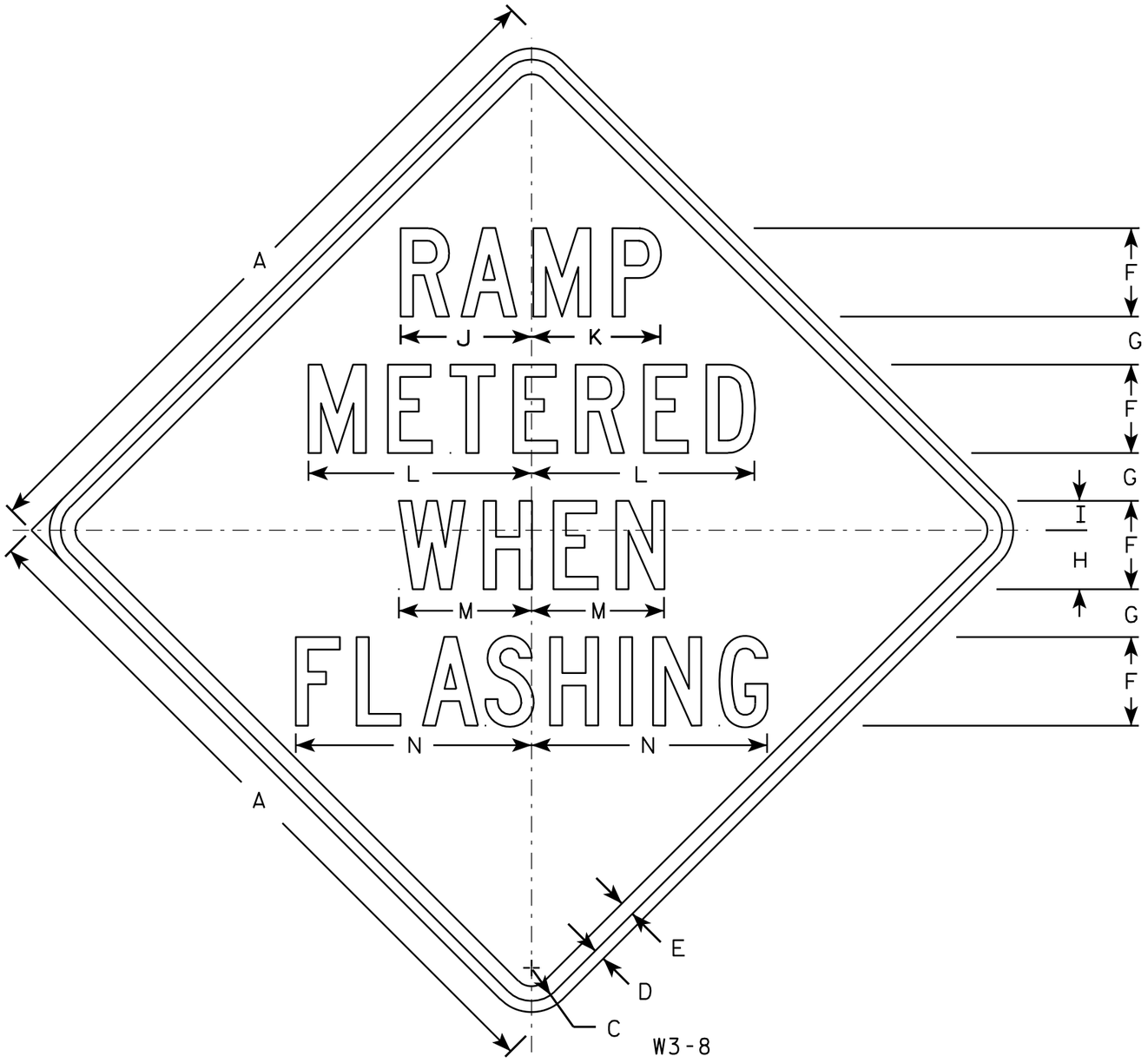
STANDARD SIGN
R11-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-51.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 308	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. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		2 1/4	3/4	1	6	3 3/4	4	2	8 7/8	8 3/4	15 1/8	9	16													16.0
2M	48		2 1/4	3/4	1	6	3 3/4	4	2	8 7/8	8 3/4	15 1/8	9	16													16.0
3	48		2 1/4	3/4	1	6	3 3/4	4	2	8 7/8	8 3/4	15 1/8	9	16													16.0
4	48		2 1/4	3/4	1	6	3 3/4	4	2	8 7/8	8 3/4	15 1/8	9	16													16.0
5	48		2 1/4	3/4	1	6	3 3/4	4	2	8 7/8	8 3/4	15 1/8	9	16													16.0

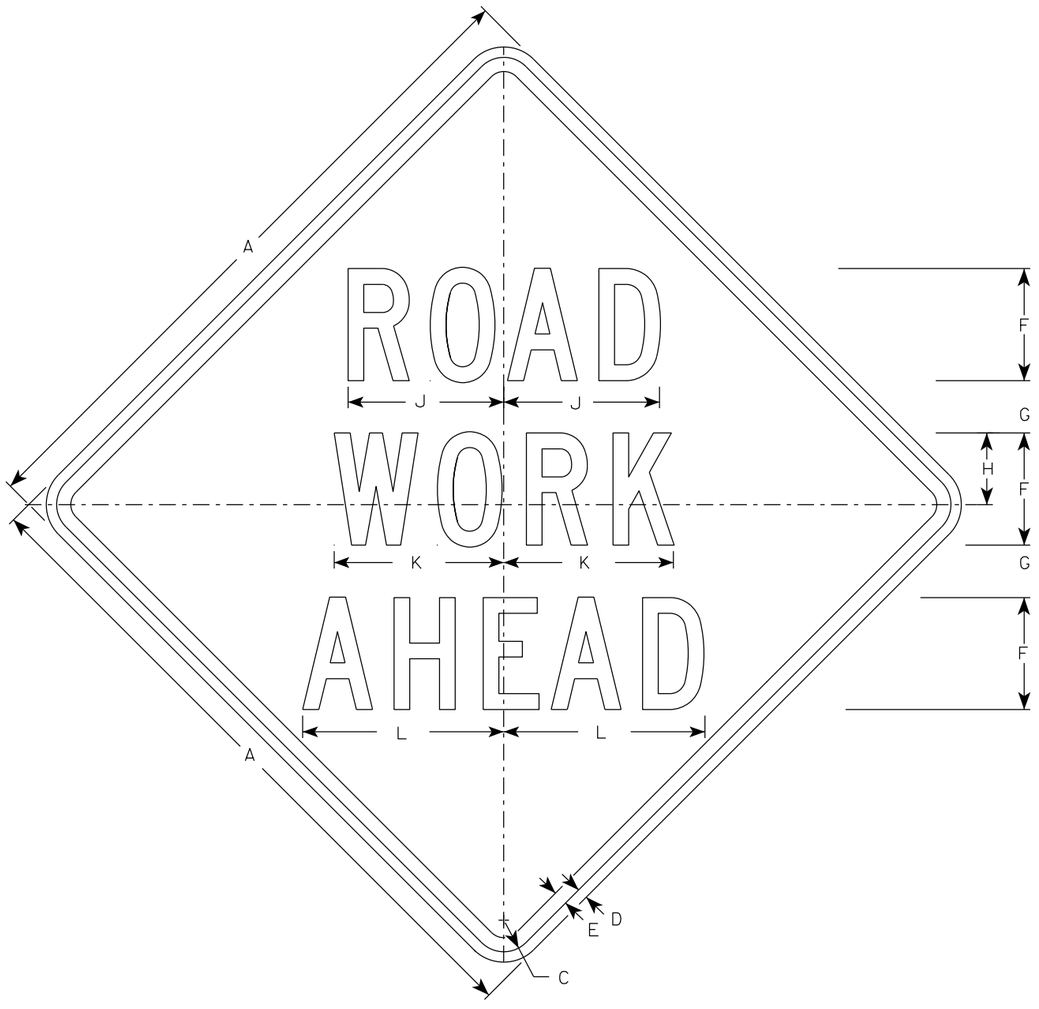
STANDARD SIGN
W3-8

WISCONSIN DEPT OF TRANSPORTATION

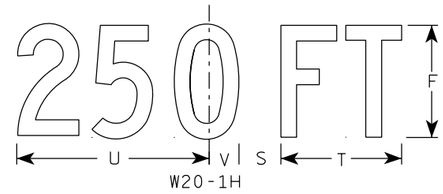
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W3-8.2

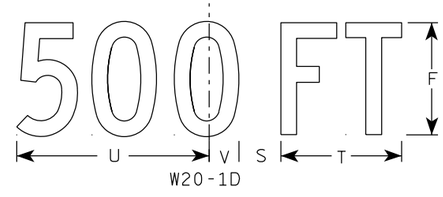
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 309	E



W20-1A



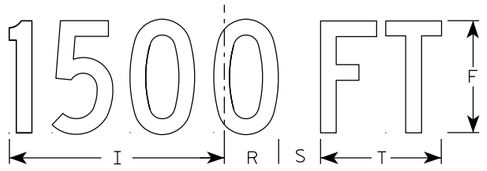
W20-1H



W20-1D



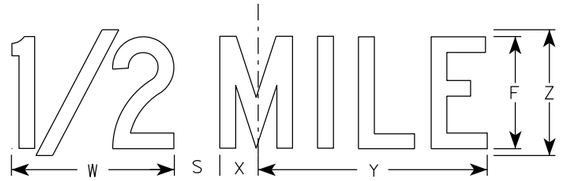
W20-1C



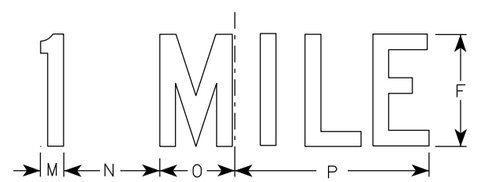
W20-1B

NOTES

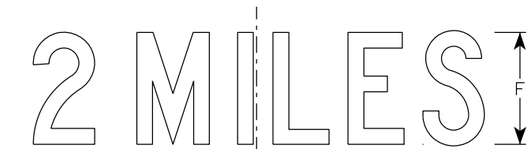
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



W20-1F



W20-1E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11

PROJECT NO:

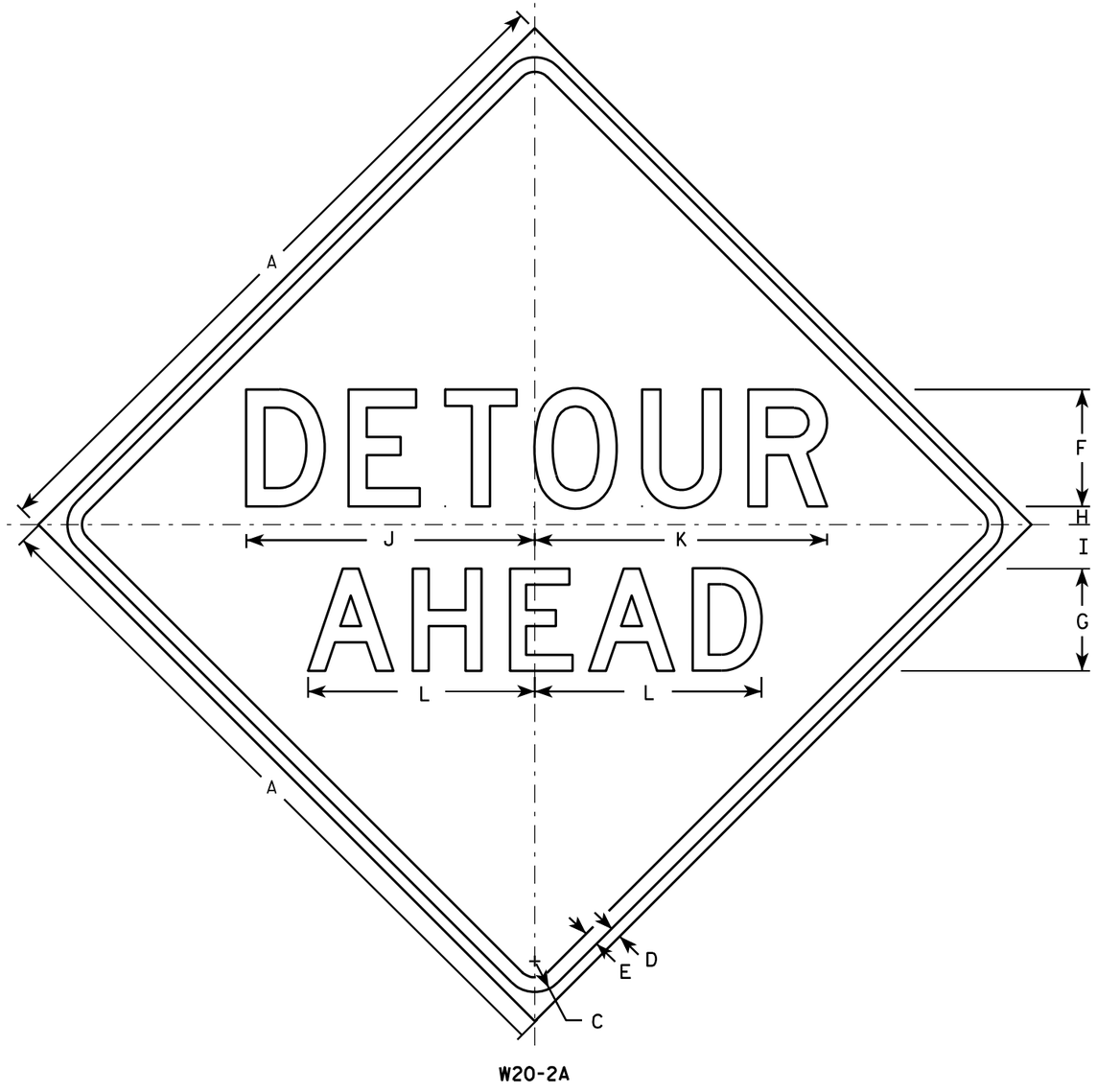
SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 25-MARCH-2020 PLOT BY : dotc4c

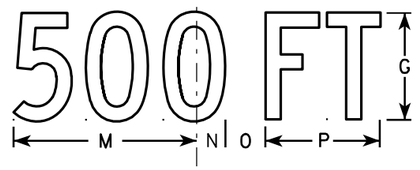
WISDOT/CADDS SHEET 42

7

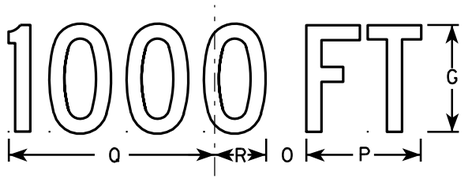
7



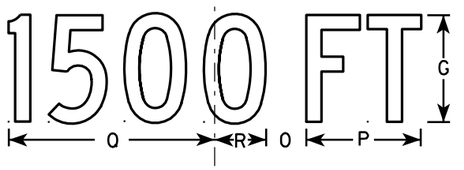
W20-2A



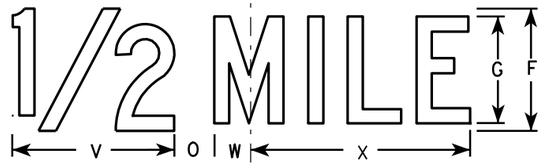
W20-2D



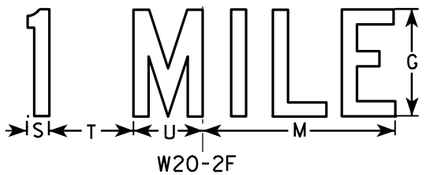
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

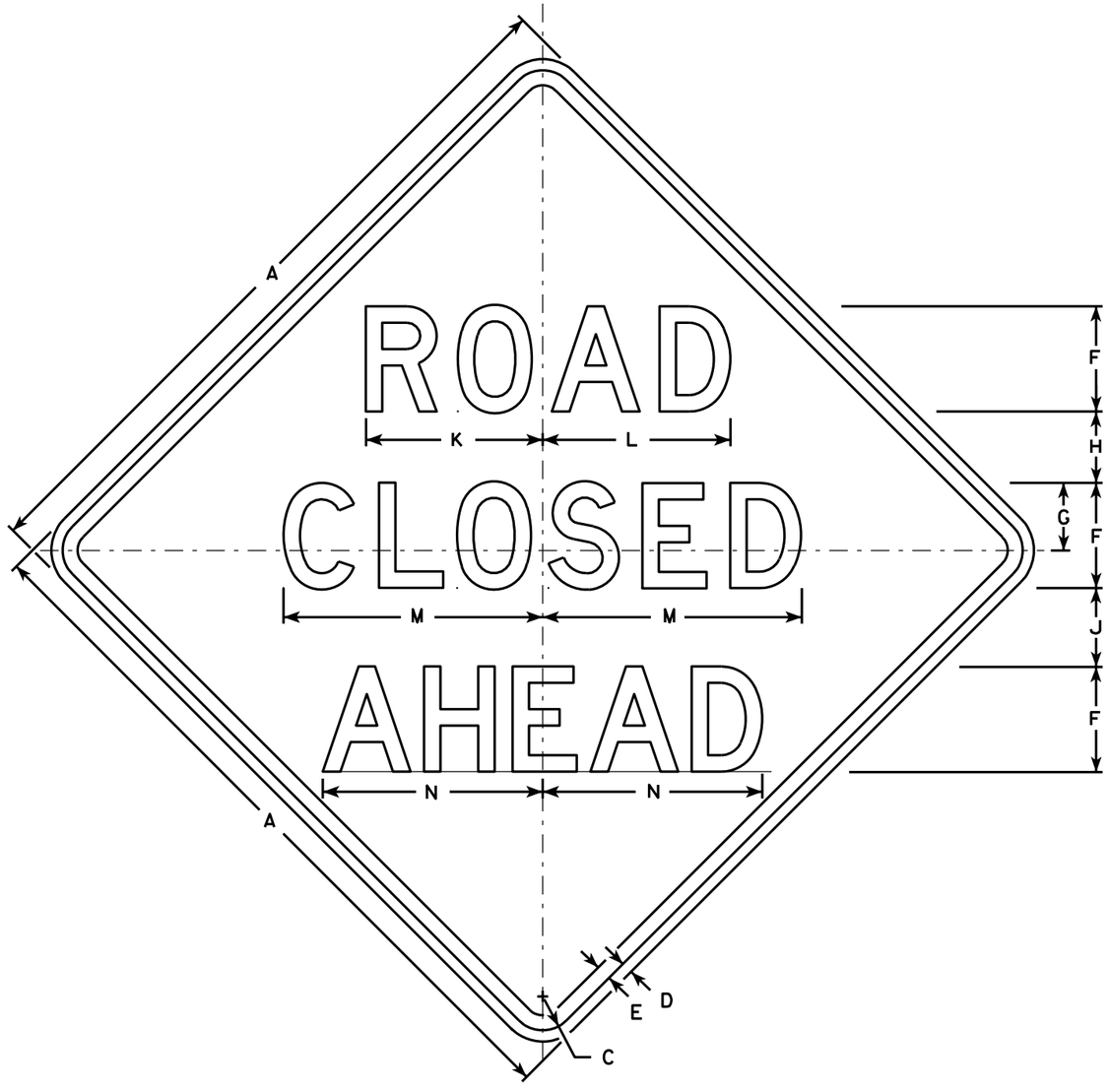
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

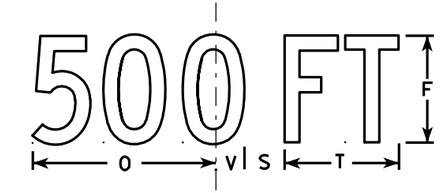
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 311 | E

7

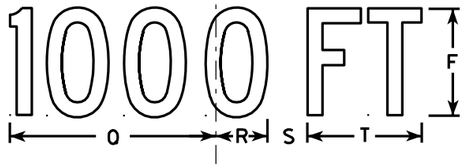
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W202.DGN PLOT DATE : 18-MAR-2011 10:00 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



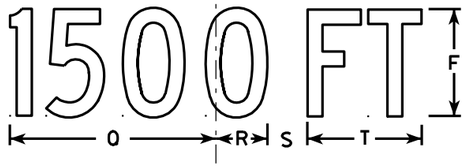
W20-3A



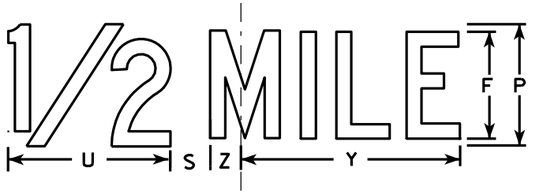
W20-3D



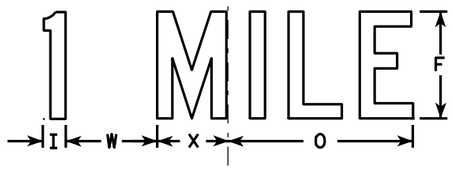
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

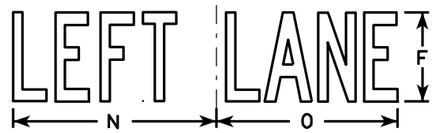
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

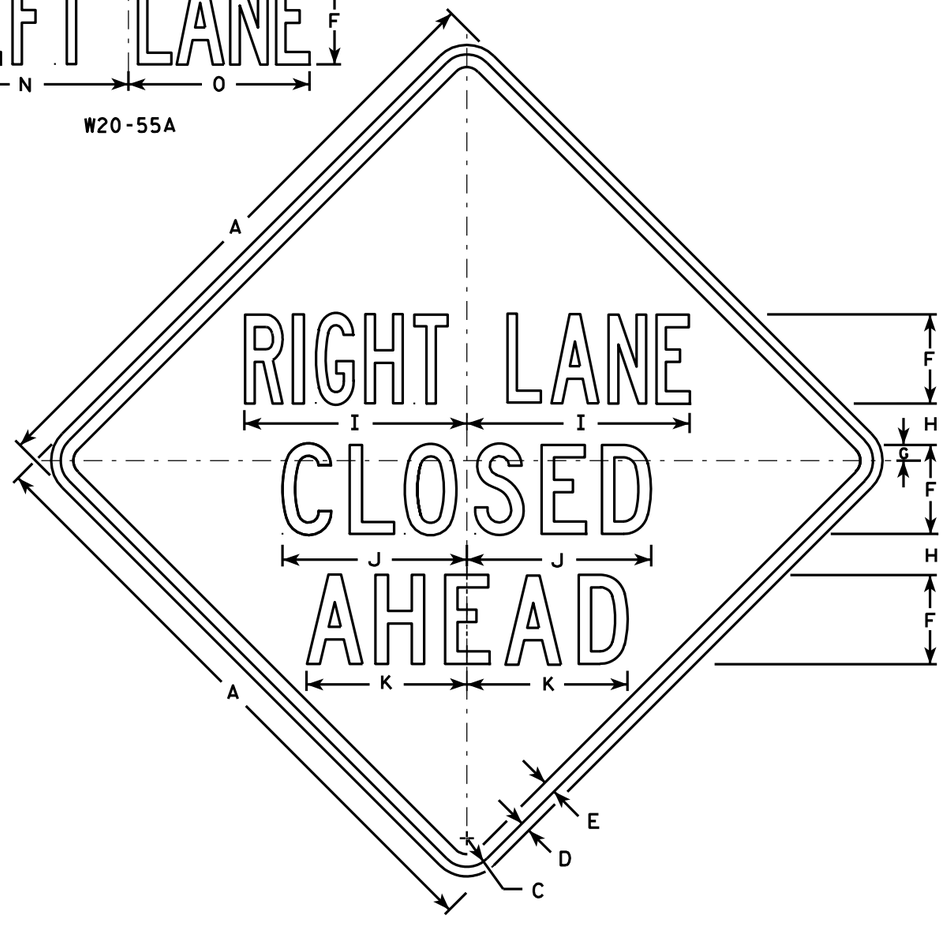
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 312 | E



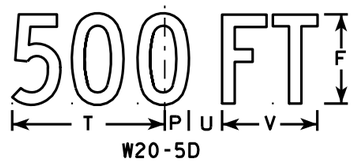
W20-56A



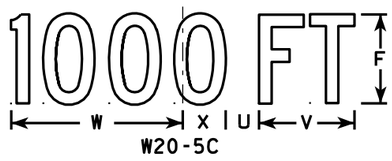
W20-55A



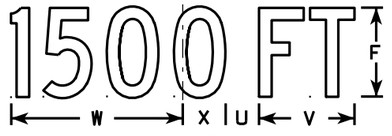
W20-5A



W20-5D



W20-5C



W20-5B



W20-5G



W20-5F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

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

WISCONSIN DEPT OF TRANSPORTATION

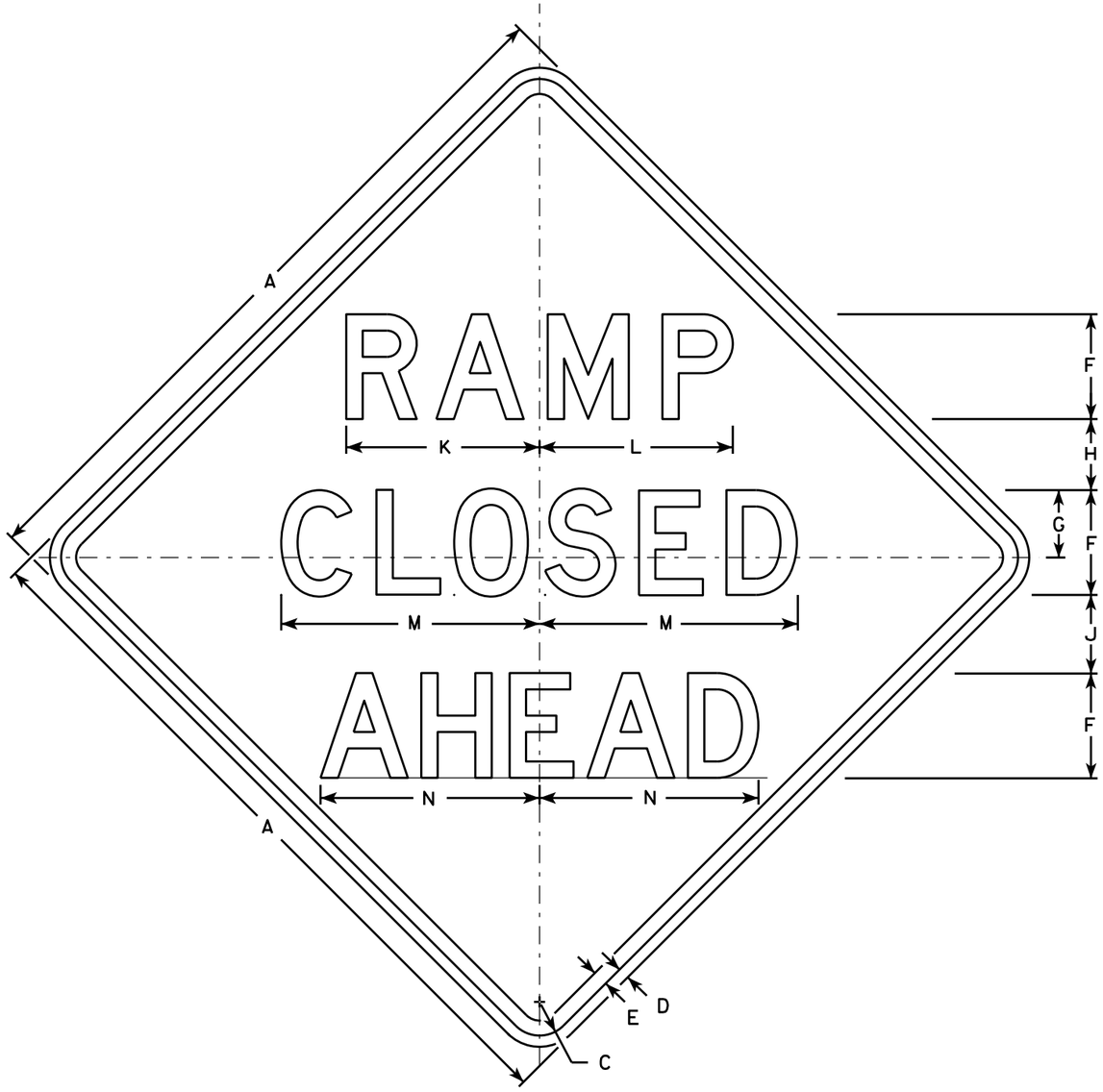
APPROVED Matthew R Rauch
for State Traffic Engineer

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

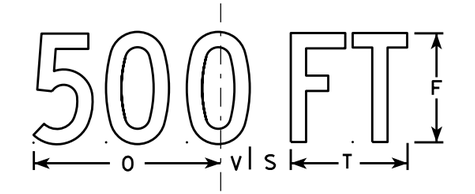
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 313	E

7

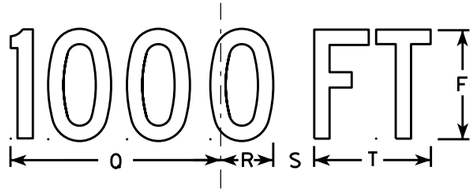
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



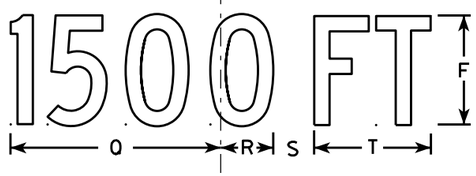
W20-53A



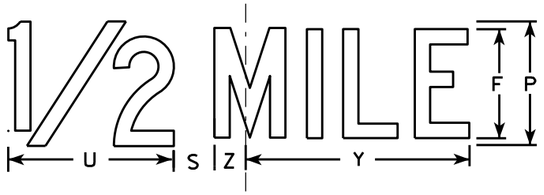
W20-53D



W20-53C



W20-53B



W20-53G



W20-53F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	9 1/4	9 1/4	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-53A,B,C,D,F,G

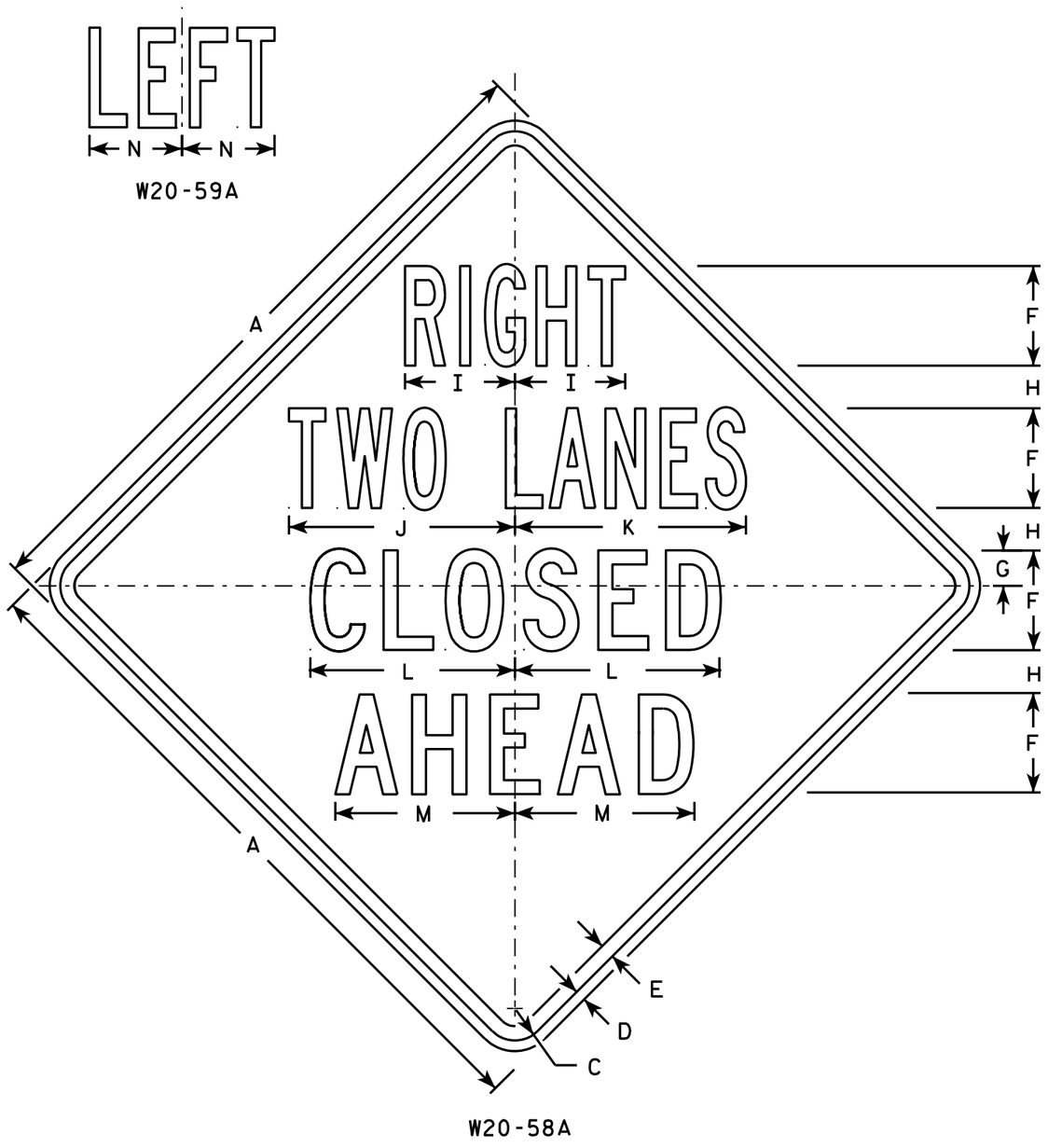
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

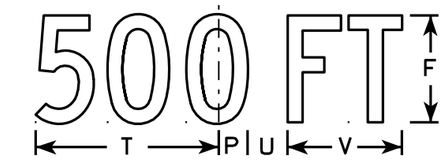
DATE 5/27/15 PLATE NO. W20-53.1

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

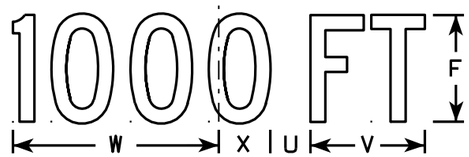
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W2053.DGN PLOT DATE : 27-MAY-2015 19:40 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.729210:1.000000
WISDOT/CADDS SHEET 42



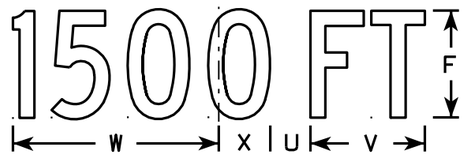
W20-58A



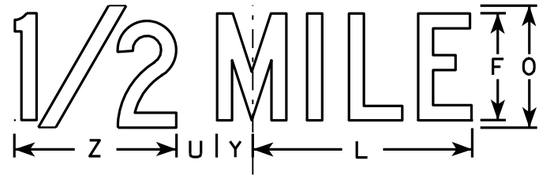
W20-58D



W20-58C



W20-58B



W20-58G



W20-58F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 & 2 Series B.
   Lines 3 & 4 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		1 5/8	5/8	3/4	5	1 7/8	2 1/4	5 7/8	11 7/8	12 1/8	10 3/4	9 1/2	4 7/8	6	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48		2 1/4	3/4	1	7	2 1/2	3	7 3/4	15 7/8	16 1/4	14 3/8	12 5/8	6 1/2	8	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		2 1/4	3/4	1	7	2 1/2	3	7 3/4	15 7/8	16 1/4	14 3/8	12 5/8	6 1/2	8	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		2 1/4	3/4	1	7	2 1/2	3	7 3/4	15 7/8	16 1/4	14 3/8	12 5/8	6 1/2	8	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		2 1/4	3/4	1	7	2 1/2	3	7 3/4	15 7/8	16 1/4	14 3/8	12 5/8	6 1/2	8	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		2 1/4	3/4	1	7	2 1/2	3	7 3/4	15 7/8	16 1/4	14 3/8	12 5/8	6 1/2	8	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

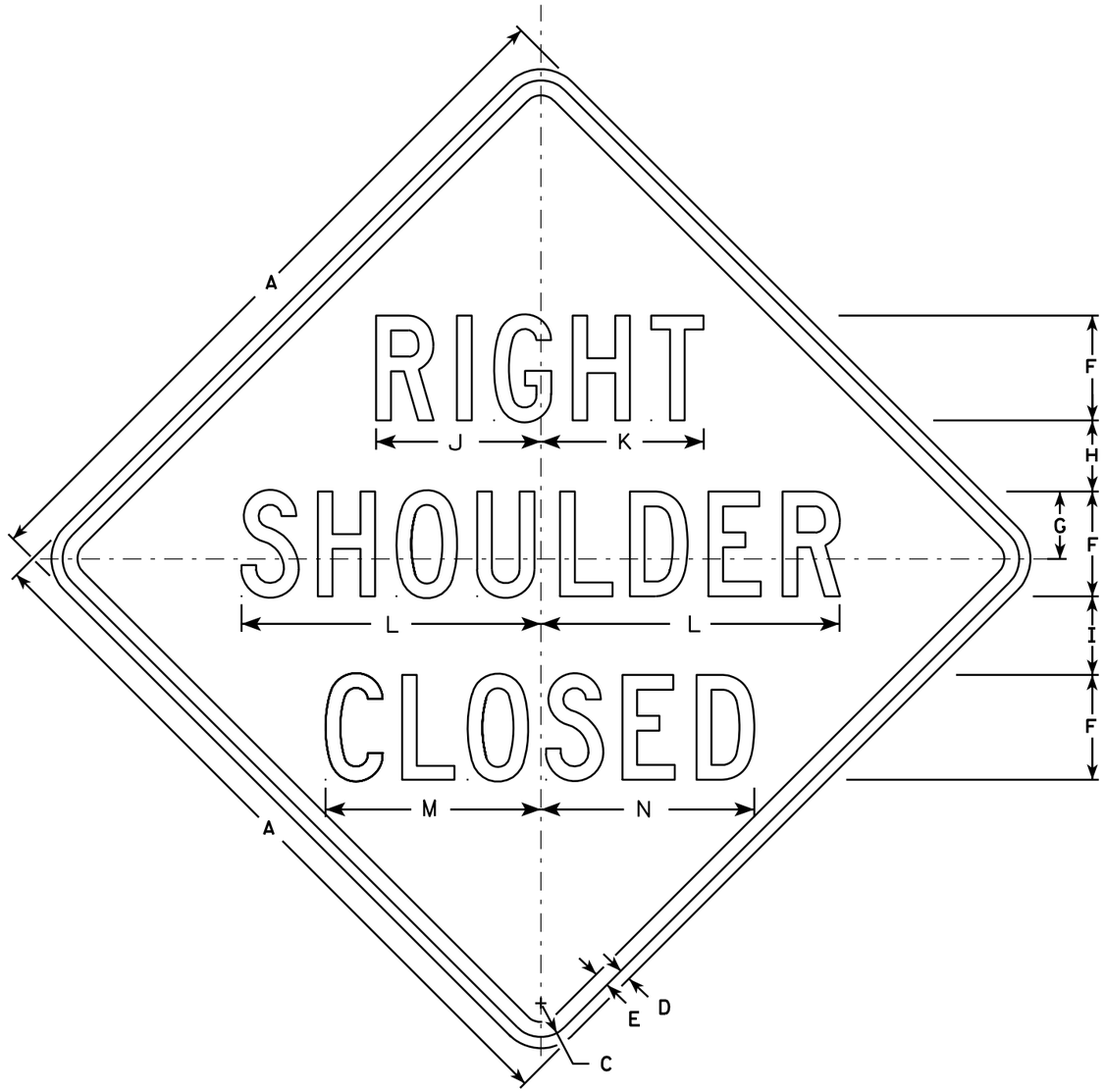
STANDARD SIGN
W20-58A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

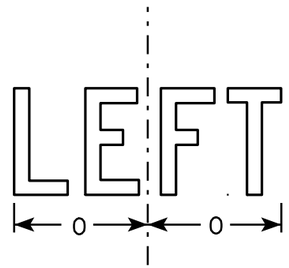
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-58.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 315	E



W21-5A



W21-5AL

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 - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	4	7 7/8	7 3/4	14 1/4	10 1/4	10 1/8	6 1/4												9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0

STANDARD SIGN
W21-5A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5A.3

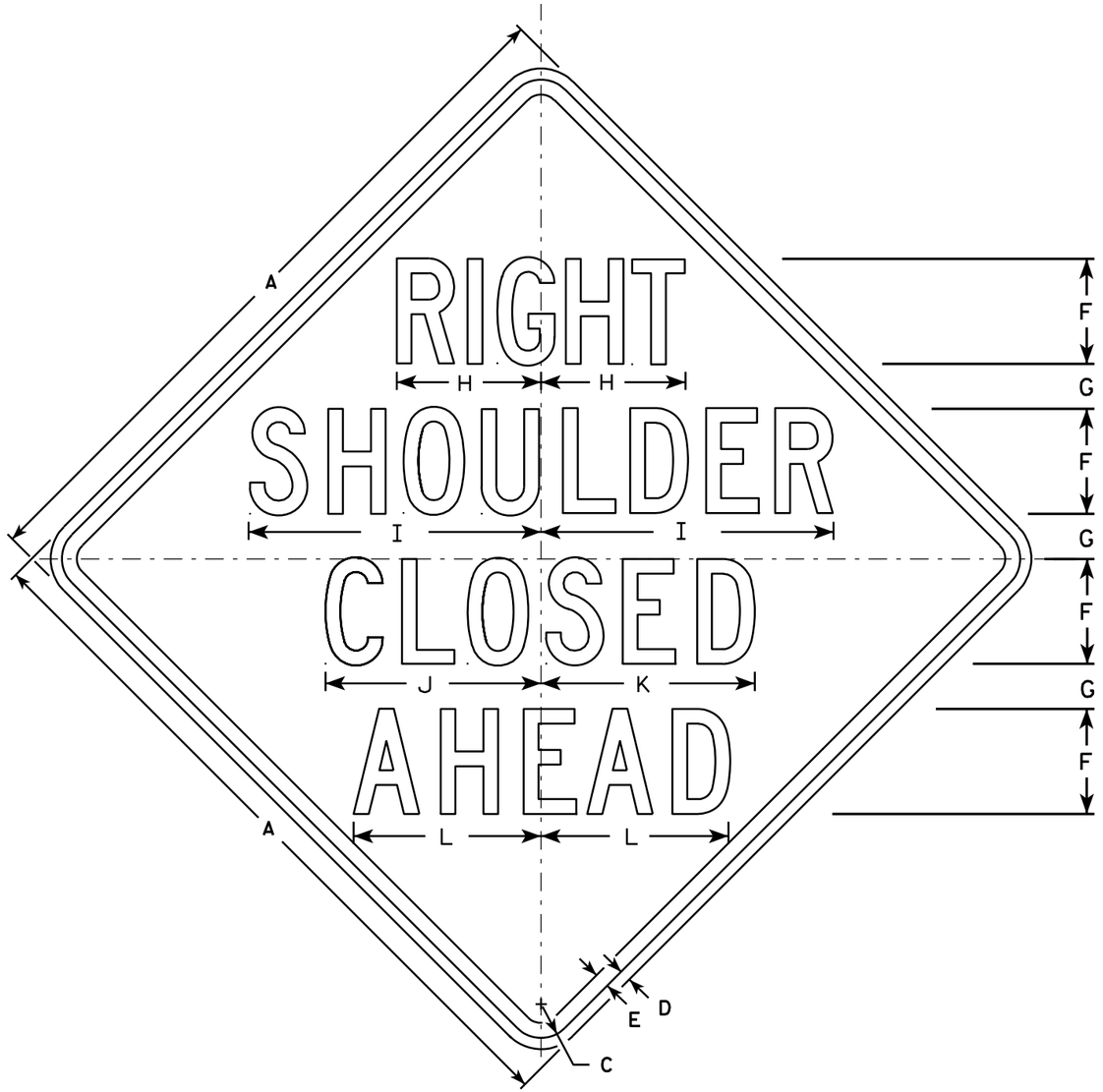
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 316 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W215A.DGN PLOT DATE : 21-MAR-2011 09:02 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000

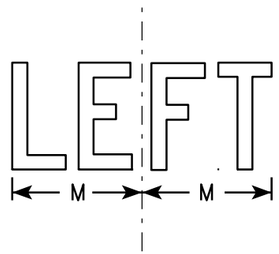
WISDOT/CADDS SHEET 42

7

7



W21-5B



W21-5BL

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 1/4	7 3/8	14 1/4	10 1/4	10 1/8	8 7/8	6 1/4														9.0
2S	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
2M	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
3	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
4	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
5	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0

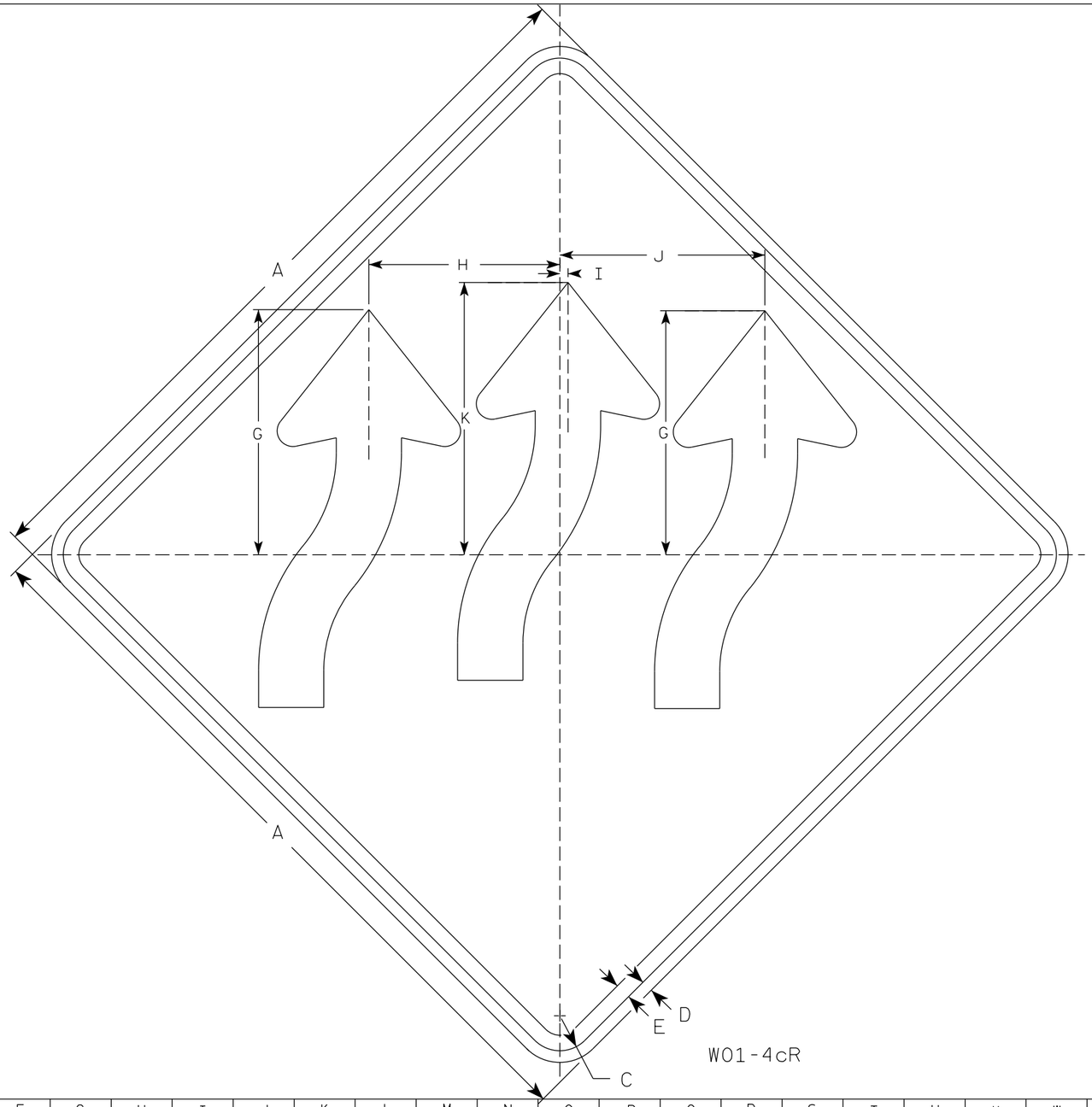
STANDARD SIGN
W21-5B

WISCONSIN DEPT OF TRANSPORTATION

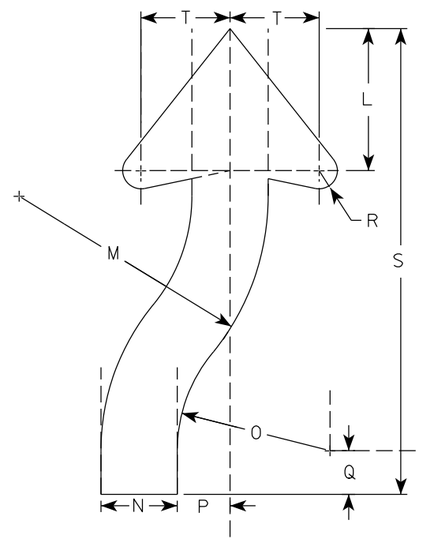
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5B.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 317	E



W01-4cR



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4cL is the same as W01-4cR except arrows are 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		11 3/4	9 1/4	3/8	9 7/8	13 1/8	5 7/8	10 1/4	3 1/8	6 1/4	2 1/4	1 7/8	3/4	19 1/4	3 3/4							9.0
2S	48		2 1/4	3/4	1		15 3/4	12 1/4	1/2	13 1/4	17 1/2	7 3/4	13 3/4	4 1/4	8 1/2	2 7/8	2 3/8	1	25 5/8	4 7/8							16.0
2M	48		2 1/4	3/4	1		15 3/4	12 1/4	1/2	13 1/4	17 1/2	7 3/4	13 3/4	4 1/4	8 1/2	2 7/8	2 3/8	1	25 5/8	4 7/8							16.0
3	48		2 1/4	3/4	1		15 3/4	12 1/4	1/2	13 1/4	17 1/2	7 3/4	13 3/4	4 1/4	8 1/2	2 7/8	2 3/8	1	25 5/8	4 7/8							16.0
4	48		2 1/4	3/4	1		15 3/4	12 1/4	1/2	13 1/4	17 1/2	7 3/4	13 3/4	4 1/4	8 1/2	2 7/8	2 3/8	1	25 5/8	4 7/8							16.0
5	48		2 1/4	3/4	1		15 3/4	12 1/4	1/2	13 1/4	17 1/2	7 3/4	13 3/4	4 1/4	8 1/2	2 7/8	2 3/8	1	25 5/8	4 7/8							16.0

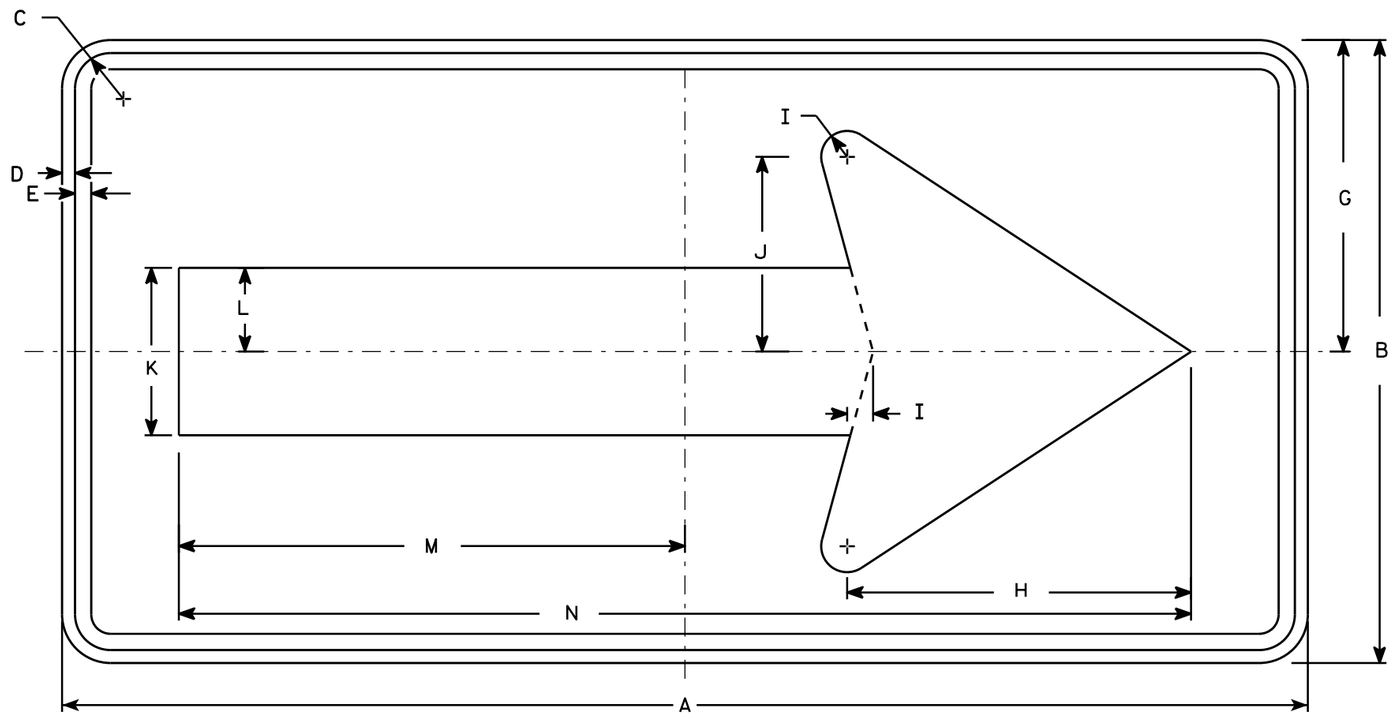
STANDARD SIGN
W01-4c

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/12/19 PLATE NO. W01-4c.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 318	E



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

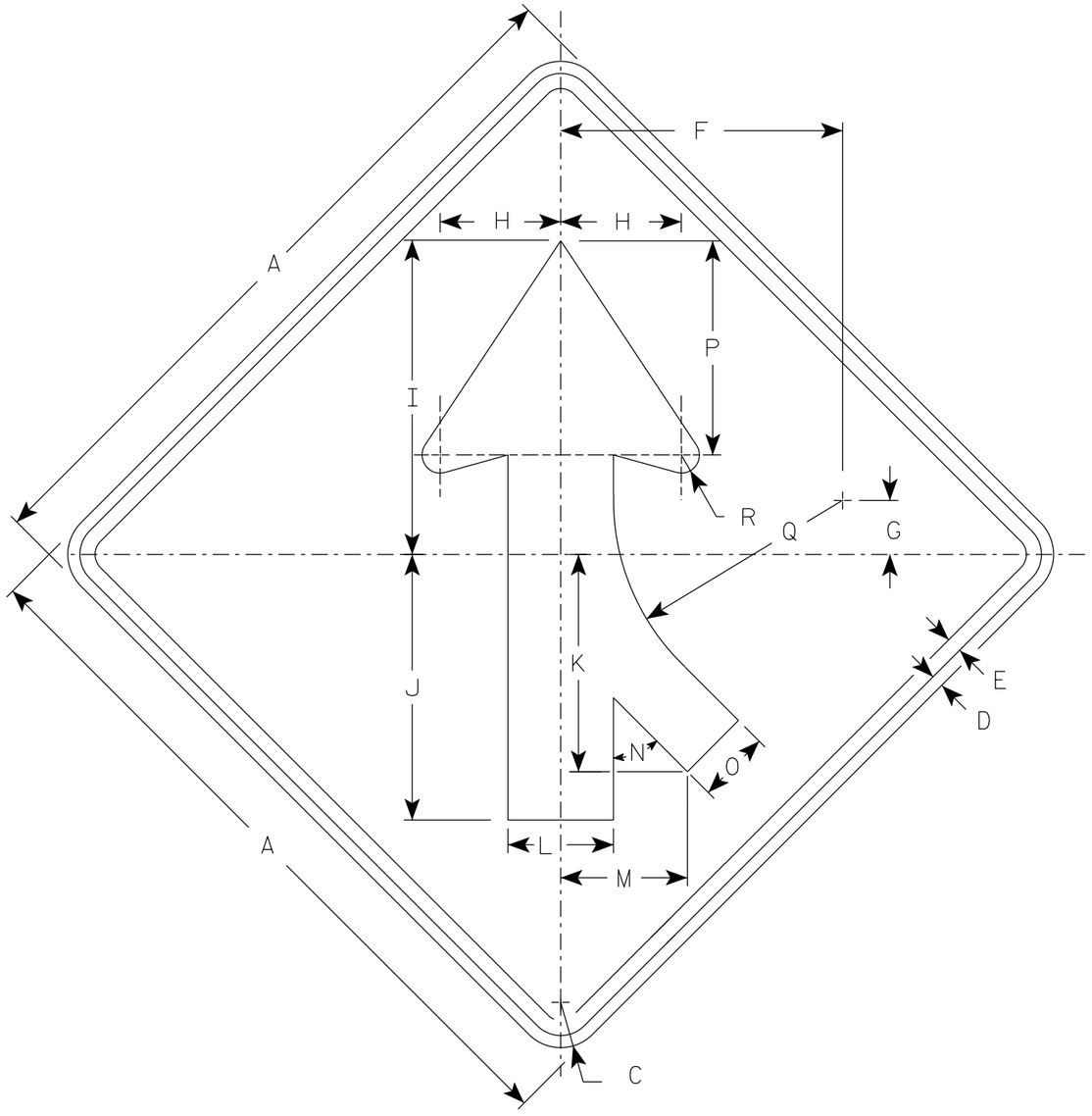
WISCONSIN DEPT OF TRANSPORTATION

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



W04-1R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-1L is the same as W04-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2S	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
2M	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
3	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

STANDARD SIGN
W04-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2021 PLATE NO. W04-1.2

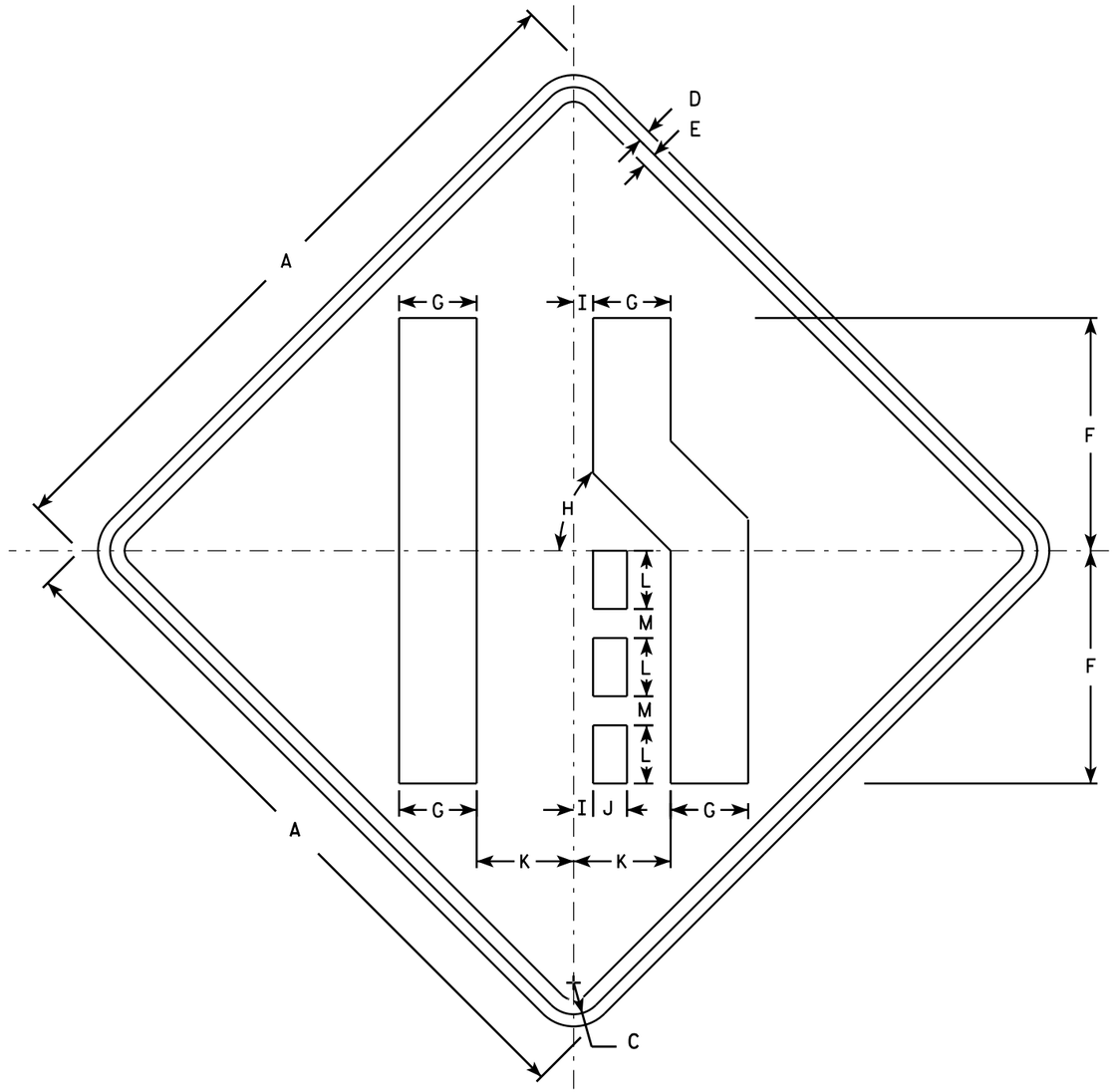
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W041.dgn PLOT DATE : 30-MAR 2021 8:25 PLOT BY : dotc4c PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

7

7



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

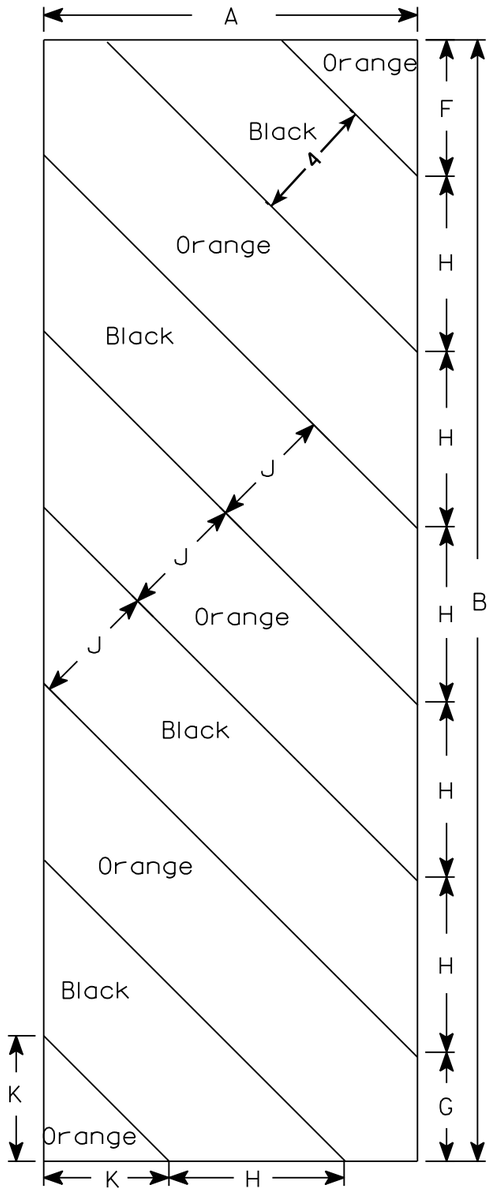
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

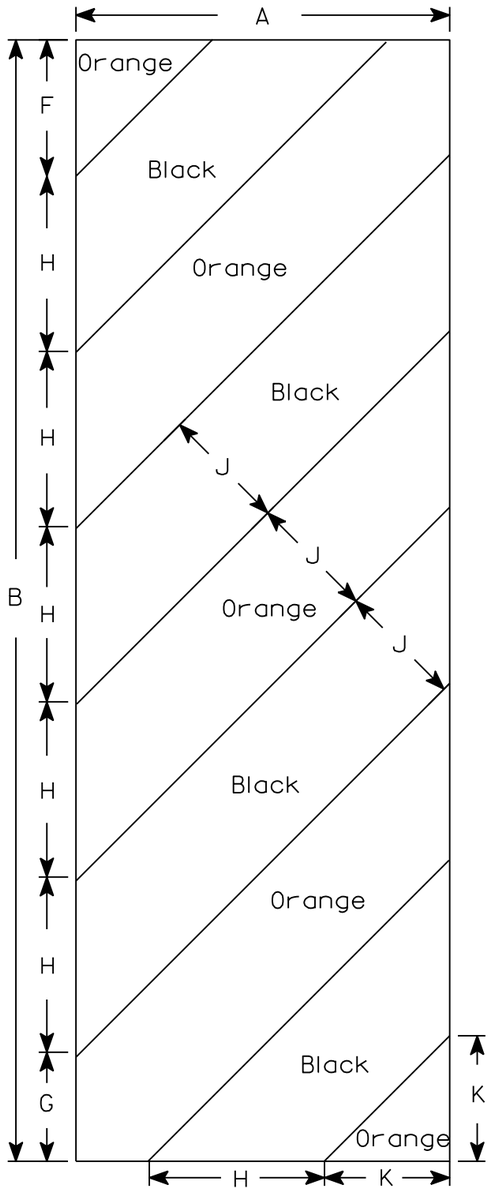
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 321 W04-2.1

PROJECT NO: | SHEET NO: E



W05-52L



W05-52R

NOTES

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

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

STANDARD SIGN

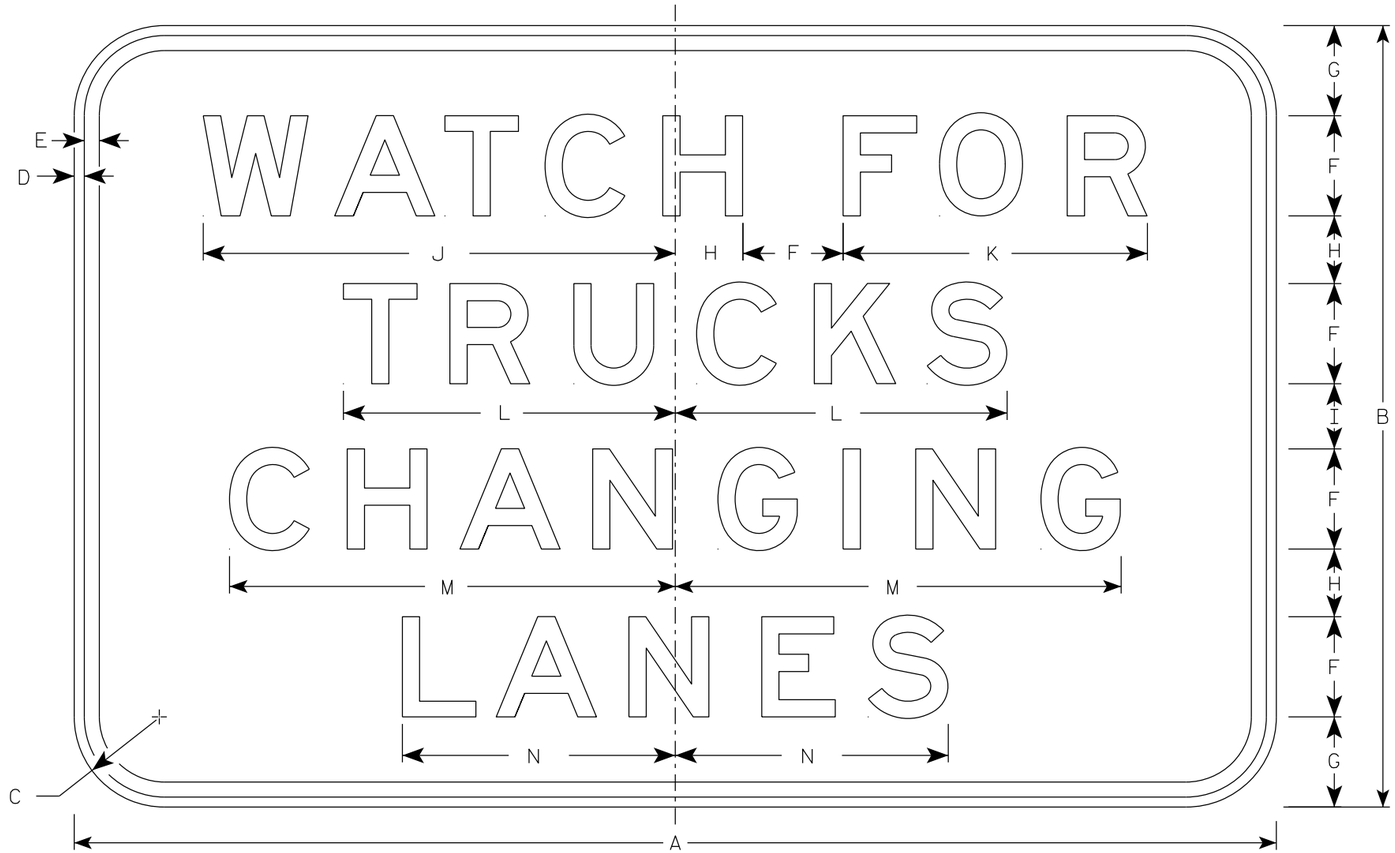
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE No. W05-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



WO7-61

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 border 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																											
2M																											
3																											
4																											
5	120	78	9	1	1 1/2	10	9	6 3/4	6 1/2	47 1/8	30 3/8	33 1/8	44 1/2	27 1/4													65.0

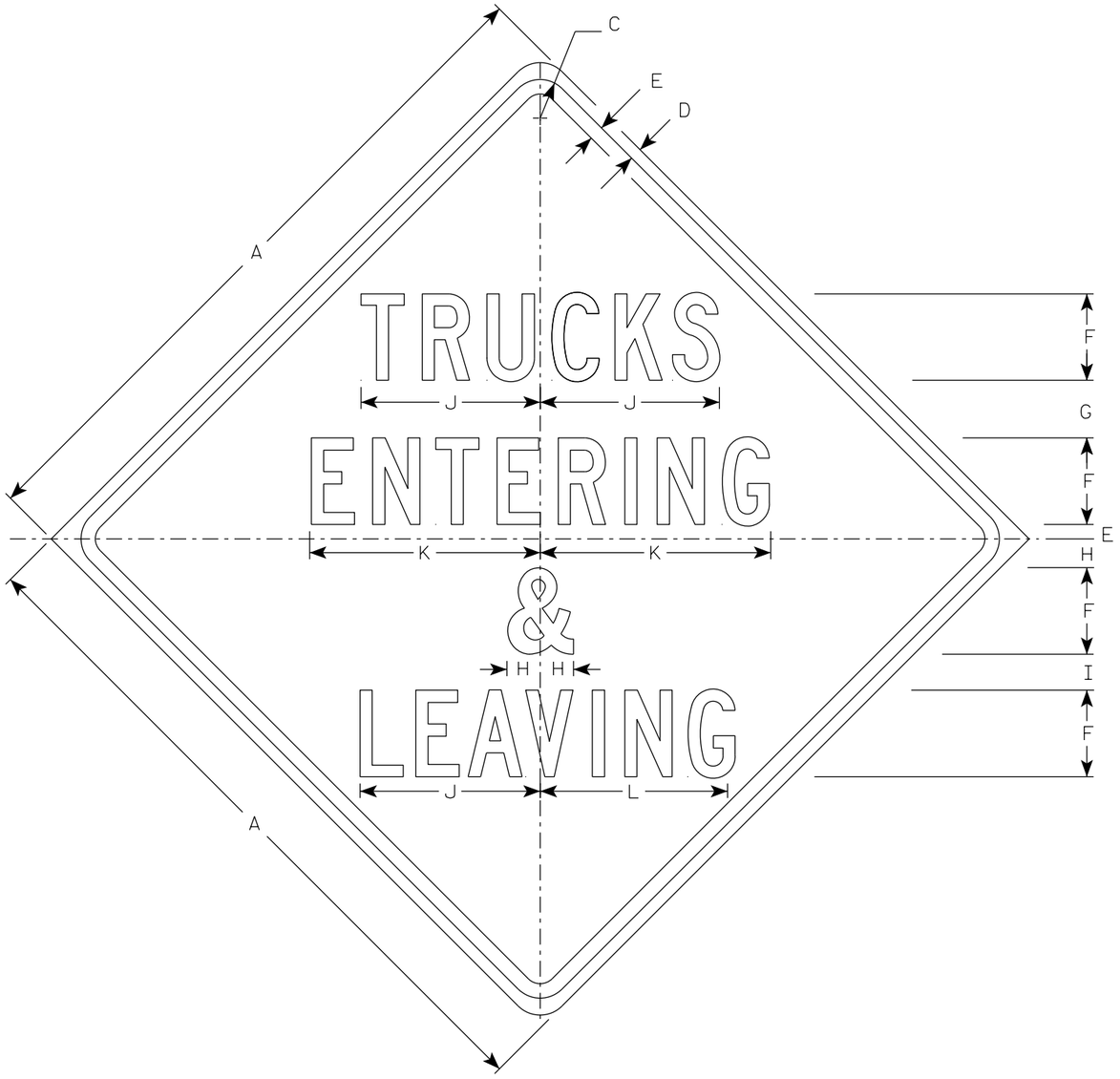
STANDARD SIGN
WO7-61

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/22/19 PLATE NO. WO7-61.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 323 | E



W08-6A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	4 1/2	3	1 1/2	1 7/8	9 3/8	12	9 3/4															9
2S	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16
2M	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16
3	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16
4	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16
5	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16

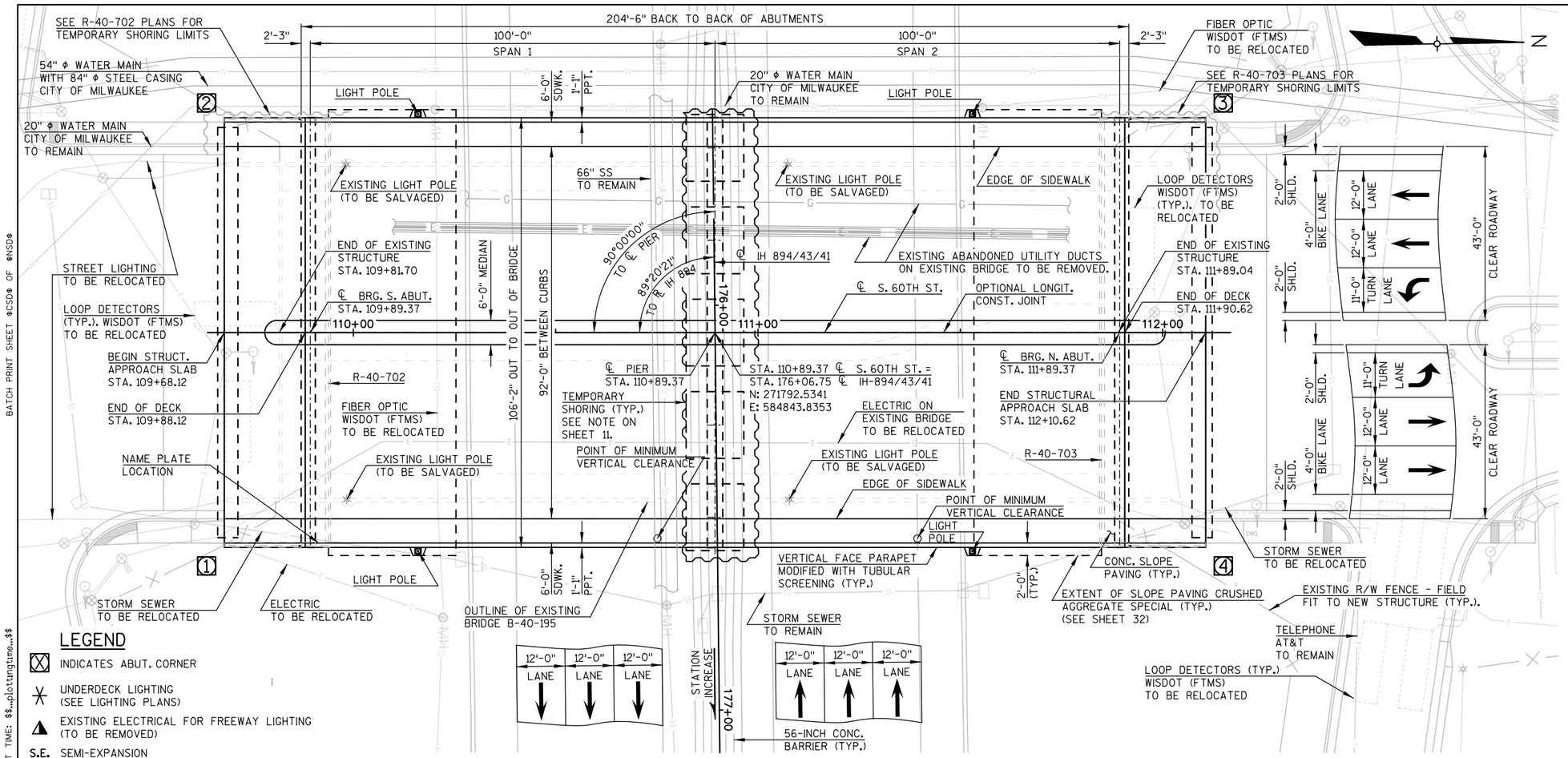
STANDARD SIGN
W08-6A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/15/2020 PLATE NO. W08-6A.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 324 E

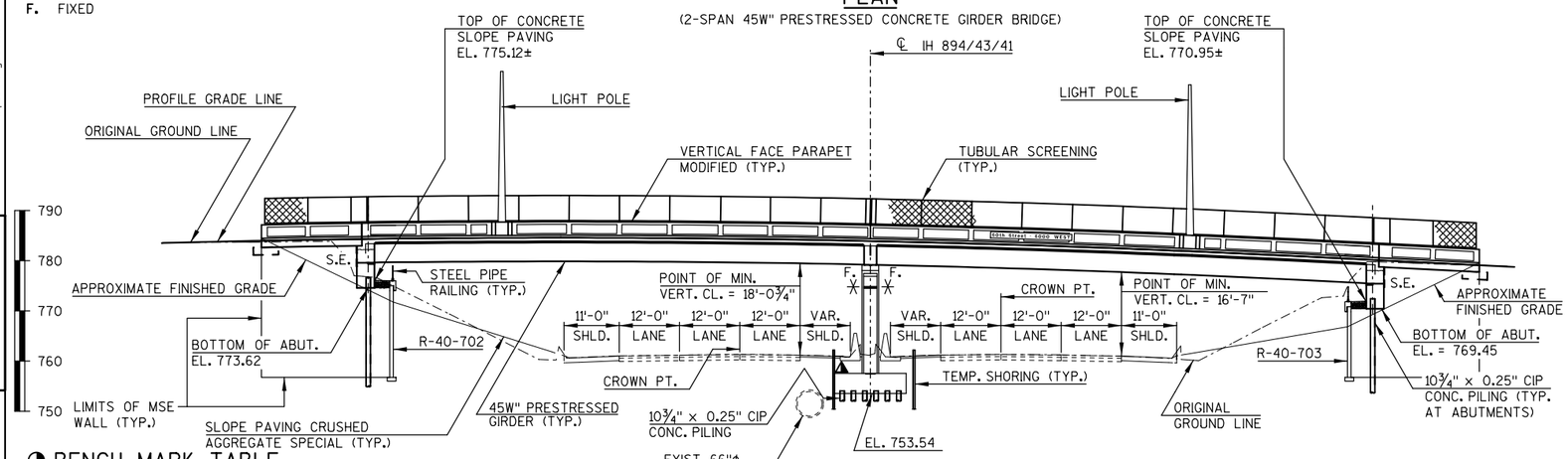


LEGEND

- ⊠ INDICATES ABUT. CORNER
- ✳ UNDERDECK LIGHTING (SEE LIGHTING PLANS)
- ⚠ EXISTING ELECTRICAL FOR FREEWAY LIGHTING (TO BE REMOVED)
- **S.E.** SEMI-EXPANSION
- **F.** FIXED

PLAN

(2-SPAN 45W" PRESTRESSED CONCRETE GIRDER BRIDGE)



ELEVATION

(LOOKING WEST)

BENCH MARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
CP 2	109+51.94 S. 60TH ST., 49.61' LT	BERNSTEN FENO W/ ALUMINUM CAP	780.552
CP 5	173+16.26 IH 894/43/41, 103.19' LT	BERNSTEN FENO W/ ALUMINUM CAP	767.860
CP 6	179+25.32 IH 894/43/41, 68.89' RT	BERNSTEN FENO W/ ALUMINUM CAP	762.120

DESIGN DATA

LIVE LOAD

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF= 1.17
OPERATING RATING FACTOR: RF= 1.66
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV) = 250 KIPS
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF.

MATERIAL PROPERTIES

CONCRETE MASONRY:
DECK, PARAPETS, DIAPHRAGMS, APPROACH SLABS & APPROACH SLAB FOOTINGS ____ f'c = 4,000 PSI
ALL OTHER ____ f'c = 3,500 PSI
45W-INCH PRESTRESSED GIRDERS ____ f'c = 8,500 PSI

PRESTRESSING STRANDS:
(0.6-INCH) ____ ULTIMATE TENSILE STRENGTH = 270,000 PSI
BAR STEEL REINFORCEMENT, GRADE 60 fy = 60,000 PSI
(INCLUDES STAINLESS STEEL BAR REINFORCEMENT)
STRUCTURAL CARBON STEEL
(ASTM A709 GRADE 36) ____ fy = 36,000 PSI

FOUNDATION DATA

ABUTMENTS SHALL BE SUPPORTED ON 10¾" DIA. x 0.25" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

THE PIER SHALL BE SUPPORTED ON 10¾" DIA. x 0.25" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

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

ESTIMATED PILE LENGTHS:
SOUTH ABUTMENT ____ 65 FEET
NORTH ABUTMENT ____ 65 FEET
PIER ____ 50 FEET

TRAFFIC DATA

S. 60TH STREET
A.D.T. = 22,000 (2021)
A.D.T. = 24,700 (2041)
R.D.S. = 35 MPH

IH 41/43/894
A.D.T. = 140,100 (2021)
A.D.T. = 148,800 (2041)
R.D.S. = 60 MPH

STRUCTURES DESIGN CONTACTS

SE REGION CONTACT - JOSH LEVEQUE (414) 750-1468
BUREAU OF STRUCTURES CONTACT - AARON BONK (608) 261-0261
CONSULTANT CONTACT - MICHAEL DELEMONT (414) 207-4157

WISCONSIN
MICHAEL J. ARNOLD
E-41717
NEW BERLIN, WI
PROFESSIONAL ENGINEER
10/29/2020

NO.	DATE	REVISION	BY

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 02/22/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STATE PROJECT NUMBER
1100-46-70

STRUCTURE B-40-1013

SOUTH 60TH STREET OVER IH-894/43/41

COUNTY MILWAUKEE
~~TOWN~~/CITY/~~VILLAGE~~ GREENFIELD

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	DNJ/CEB	PLANS CK'D.
CEB	MJA			MJA

GENERAL PLAN AND ELEVATION

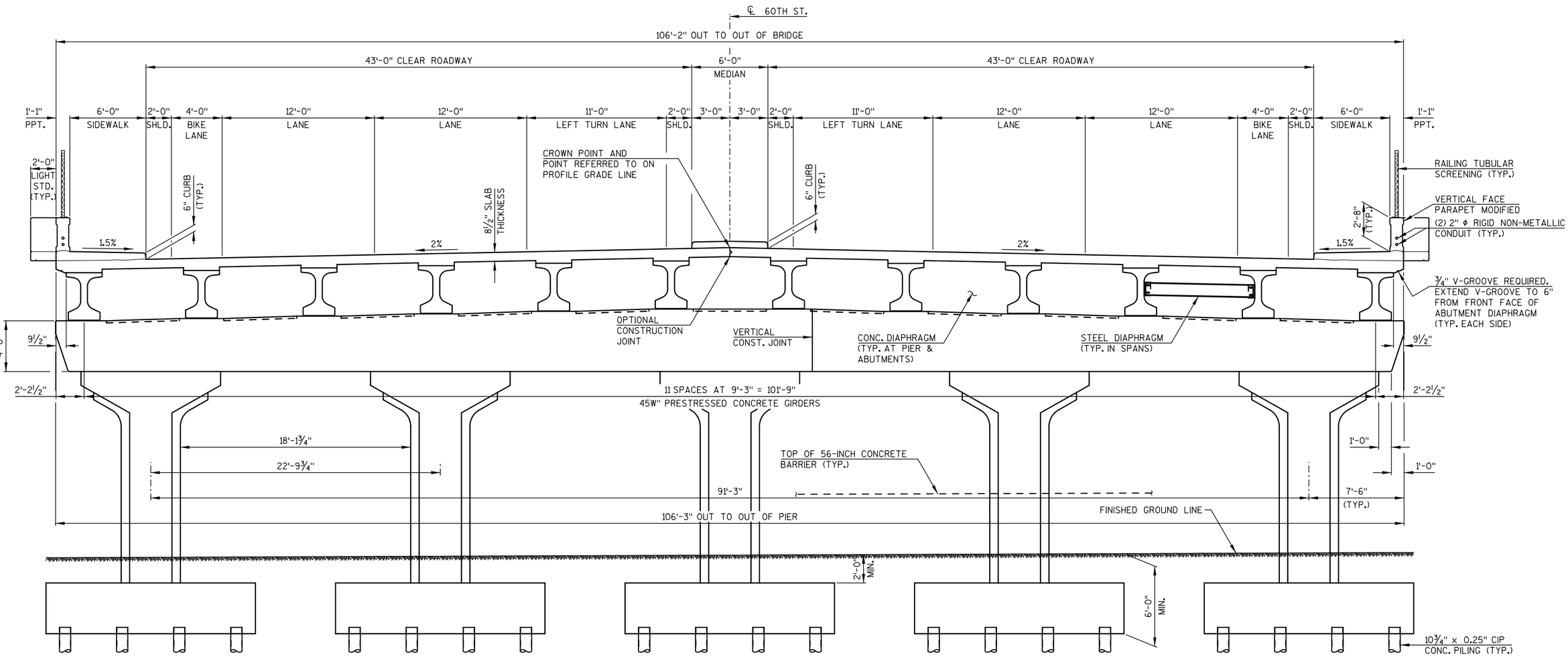
SHEET 1 OF 33
325

8

PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$
BATCH PRINT SHEET CSD OF NSD

BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

STATE PROJECT NUMBER
1100-46-70



CROSS SECTION THROUGH ROADWAY

LOOKING NORTH

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. CROSS SECTION
3. GENERAL NOTES AND QUANTITIES
4. EXISTING STRUCTURE REMOVAL PLAN
5. SUBSURFACE EXPLORATION
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT DETAILS
10. ALTERNATE CONSTRUCTION JOINT
11. PIER LAYOUT
12. PIER FOOTING DETAILS
13. PIER COLUMN DETAILS
14. PIER CAP DETAILS
15. 45W" PRESTRESSED GIRDER DETAILS 1
16. 45W" PRESTRESSED GIRDER DETAILS 2
17. FRAMING PLAN
18. INTERMEDIATE STEEL DIAPHRAGMS
19. SUPERSTRUCTURE PLAN
20. SUPERSTRUCTURE CROSS SECTION
21. SUPERSTRUCTURE DETAILS (1 OF 2)
22. SUPERSTRUCTURE DETAILS (2 OF 2)
23. SUPERSTRUCTURE BILL OF BARS
24. SOUTH STRUCTURAL APPROACH SLAB
25. SOUTH STRUCTURAL APPROACH SLAB DETAILS
26. NORTH STRUCTURAL APPROACH SLAB
27. NORTH STRUCTURAL APPROACH SLAB DETAILS
28. LIGHT SUPPORT DETAILS
29. CONDUIT DETAILS
30. VERTICAL FACE PARAPET MODIFIED
31. TUBULAR STEEL RAILING SCREENING
32. SLOPE PAVING CRUSHED AGGREGATE SPECIAL
33. AESTHETIC DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

DRAWN BY	CEB	PLANS CK'D.	MJA

CROSS SECTION

SHEET 2 OF 33
326

8

8

BATCH PRINT SHEET CSD OF NSD
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PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

STATE PROJECT NUMBER

1100-46-70

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEM	UNIT	SOUTH APPROACH	SOUTH ABUTMENT	PIER	NORTH ABUTMENT	NORTH APPROACH	SUPER.	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 109+81.70	LS	———	———	———	———	———	———	1
203.0210.S.400	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-40-0195	LS	———	———	———	———	———	———	1
203.0225.S.400	DEBRIS CONTAINMENT B-40-0195	LS	———	———	———	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-40-1013	LS	———	———	———	———	———	———	1
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	315	———	———	———	315	———	630
502.0100	CONCRETE MASONRY BRIDGES	CY	145	76	297	76	145	937	1,676
502.3200	PROTECTIVE SURFACE TREATMENT	SY	262	———	———	———	262	2,391	2,915
502.3210	PIGMENTED SURFACE SEALER	SY	17	———	———	———	17	172	206
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	———	———	———	———	———	2,409	2,409
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	———	6,020	9,620	6,020	———	———	21,660
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	18,100	———	35,040	———	18,100	212,890	284,130
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	———	———	———	———	———	3,540	3,540
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	———	12	24	12	———	———	48
506.4000	STEEL DIAPHRAGMS B-40-1013	EACH	———	———	———	———	———	44	44
511.1200	TEMPORARY SHORING B-40-1013	SF	———	———	1,890	———	———	———	1,890
513.4091	RAILING TUBULAR SCREENING	LF	40	———	———	———	40	404	484
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	———	39	———	39	———	———	78
531.8990	ANCHOR ASSEMBLIES POLES ON STRUCTURES	EACH	———	———	———	———	———	4	4
550.0600	PILE REDRIVING	EACH	———	5	18	5	———	———	28
550.2104	PILING CIP CONCRETE 10 3/4 X 0.25-INCH	LF	———	1,950	6,000	1,950	———	———	9,900
604.0400	SLOPE PAVING CONCRETE	SY	———	32	———	32	———	———	64
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	24	———	———	———	24	———	48
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	90	———	———	———	90	810	990
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	———	———	———	———	———	4	4
SPV.0180.400	SLOPE PAVING CRUSHED AGGREGATE SPECIAL	SY	———	423	———	423	———	———	846
	NON-BID ITEMS								
	FILLER	SIZE							1/2" & 3/4"
	NAME PLATE	EACH							1

ALL ITEMS ARE CATEGORY 2000

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED WITH 2" CLEAR CONCRETE COVER UNLESS OTHERWISE NOTED.

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

ALL COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MILWAUKEE COUNTY ZONE, NAD 83 (2007).

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 (2007)).

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-40-1013" SHALL BE THE EXISTING GROUND LINE.

AT ABUTMENTS, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE OR RETAINING WALL REINFORCED ZONE SHALL BE BACKFILLED AND PAID FOR IN THE CONSTRUCTION OF THE RETAINING WALLS R-40-702 AND R-40-703.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND SHEET 32.

ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE PIER SHALL BE BACKFILLED TO THE LOWER OF THE EXISTING GROUNDLINE OR THE BOTTOM OF ADJACENT PROPOSED PAVEMENT SECTION. BACKFILL WILL BE PAID AS PART OF BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-40-1013."

ABUTMENT CONSTRUCTION AND PILE DRIVING MUST BE COORDINATED WITH THE CONSTRUCTION OF RETAINING WALLS R-40-702 AND R-40-703.

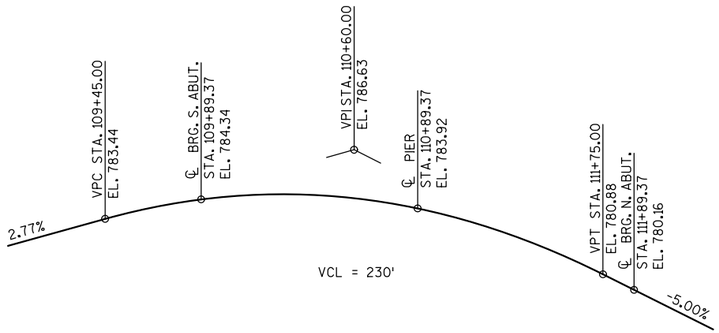
THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE 45W" PRESTRESSED GIRDER DETAILS SHEET.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE ENTIRE TOP OF DECK, SIDEWALK, MEDIAN, THE PAVING BLOCK AND STRUCTURAL APPROACH SLAB SURFACES. PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE FRONT FACE AND TOP OF PARAPETS AT THE EDGE OF DECK, INCLUDING PARAPETS ON THE STRUCTURAL APPROACH SLABS.

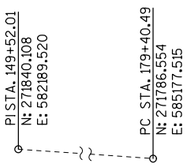
THE TUBULAR RAILING SCREENING SHALL BE GALVANIZED STEEL WITH A COLORED POLYMER-COATING ON THE OUTSIDE. THE COLOR OF THE POLYMER-COATING SHALL BE FEDERAL COLOR NO. 27038 (BLACK) IN ACCORDANCE WITH ASTM F934.

SALVAGE THE EXISTING LIGHT POLES PRIOR TO DEMOLITION OF THE EXISTING BRIDGE AND DELIVER THE SALVAGED POLES TO THE CITY OF GREENFIELD. INSTALL NEW LIGHT POLES AFTER THE BRIDGE DECK HAS BEEN CONSTRUCTED. SEE LIGHTING PLANS FOR ADDITIONAL INFORMATION.

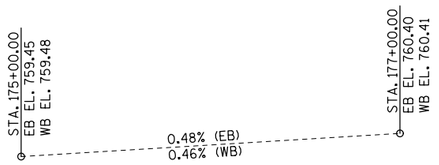
THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF THE UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE. UTILITIES LABELED AS PROPOSED MAY BE INSTALLED BY OTHERS PRIOR TO THIS CONTRACT.



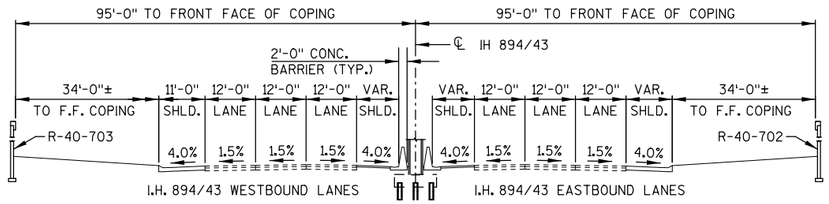
PROFILE GRADE LINE - S. 60TH STREET



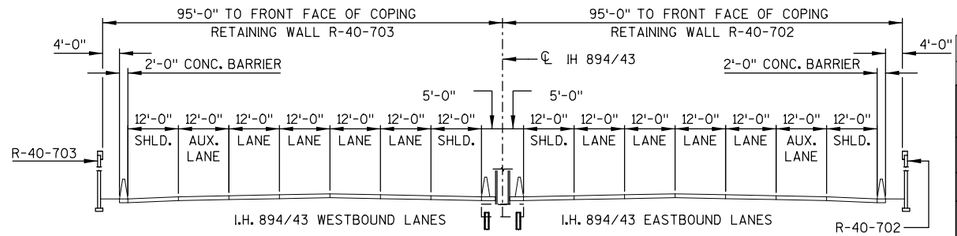
EXISTING HORIZONTAL ALIGNMENT - ℄ IH-894/43



EXISTING CROWN LINE - I-894/43



PROPOSED SECTION THRU I.H. 894 LOOKING EAST



CONCEPTUAL ULTIMATE TYPICAL SECTION THRU I.H.894 LOOKING EAST
(FOR REFERENCE ONLY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

DRAWN BY CEB | PLANS CK'D. MJA

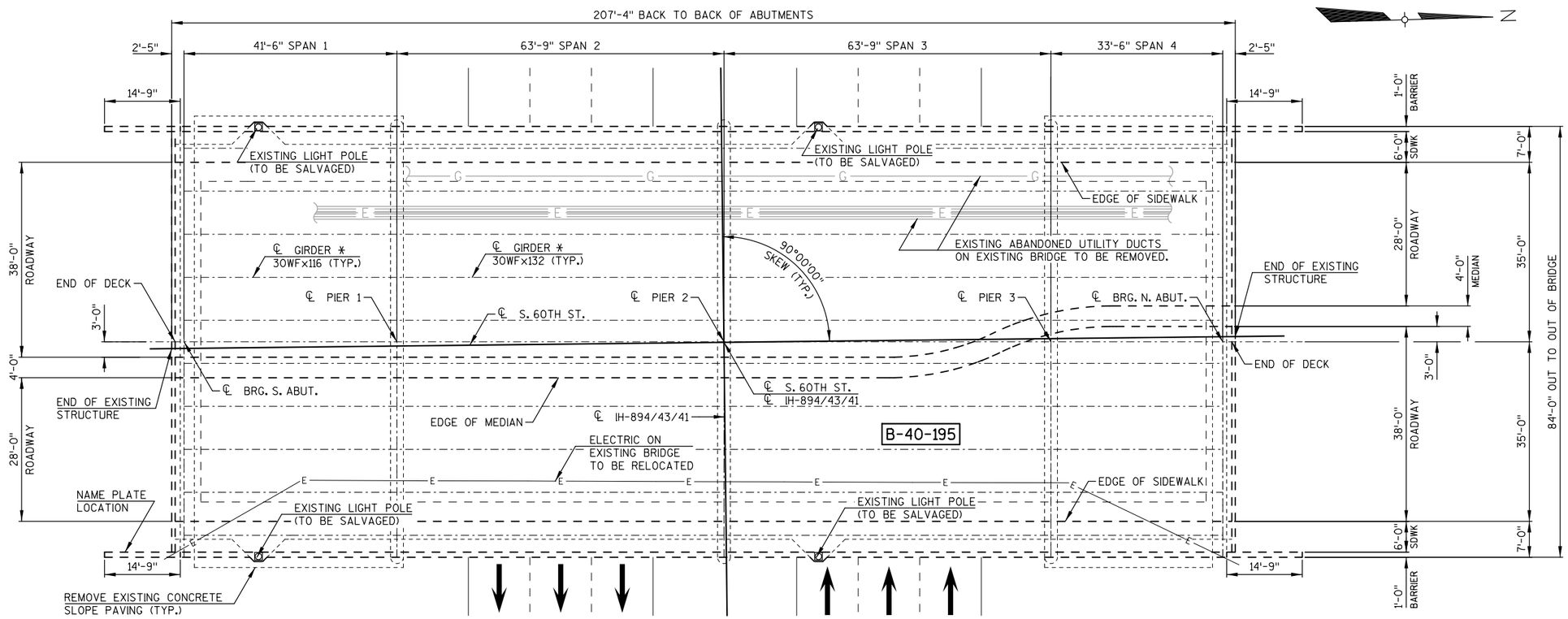
GENERAL NOTES AND QUANTITIES

SHEET 3 OF 33
327

8

8

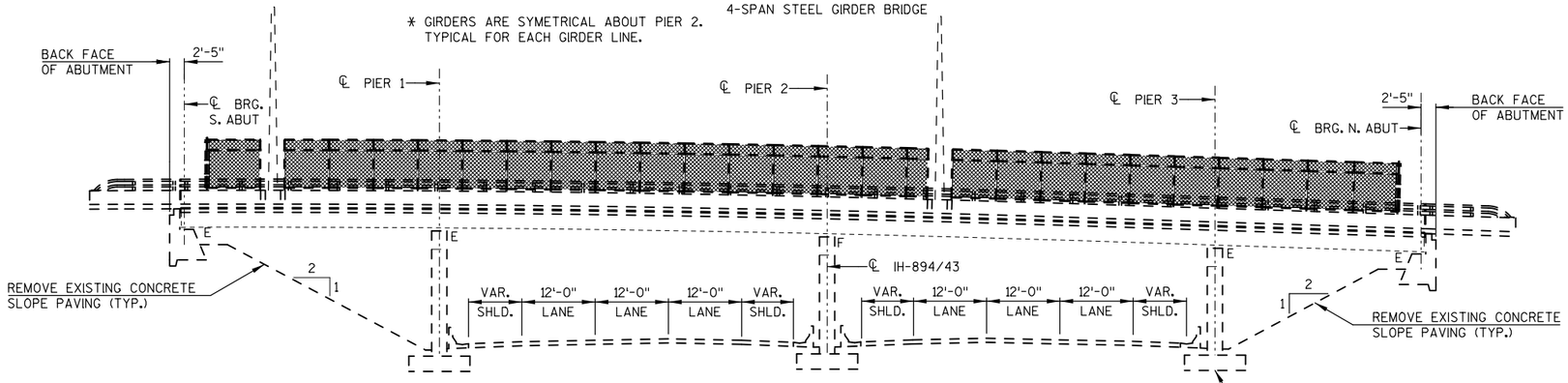
STATE PROJECT NUMBER
1100-46-70



PLAN B-40-195

4-SPAN STEEL GIRDER BRIDGE

* GIRDERS ARE SYMETRICAL ABOUT PIER 2.
TYPICAL FOR EACH GIRDER LINE.



ELEVATION

LOOKING WEST

NOTES

THE EXISTING S. 60TH ST. STRUCTURE B-40-0195 IS A 4-SPAN, ROLLED STEEL GIRDER BRIDGE, 207.3' LONG X 84'± WIDE.

COMPLETELY REMOVE THE ENTIRE EXISTING STRUCTURE B-40-0195 AND EXISTING CONCRETE SLOPE PAVING. PAYMENT FOR REMOVAL OF STRUCTURE B-40-0195 AND CONCRETE SLOPE PAVING IS INCLUDED UNDER BID ITEM "REMOVING OLD STRUCTURE STATION 109+81.70." THE STRUCTURE CARRIES EXISTING UNDERDECK UTILITIES THAT HAVE BEEN PREVIOUSLY ABANDONED AND ARE TO BE REMOVED.

ASBESTOS CONTAINING MATERIAL HAS BEEN IDENTIFIED ON THIS STRUCTURE, SEE SPECIAL PROVISIONS. PAYMENT FOR ABATEMENT OF ASBESTOS CONTAINING MATERIAL IS INCLUDED UNDER THE BID ITEM "ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-40-0195."

DEBRIS CONTAINMENT IS PAID FOR UNDER BID ITEM "DEBRIS CONTAINMENT B-40-0195."

SALVAGE THE EXISTING LIGHT POLES PRIOR TO DEMOLITION OF THE EXISTING BRIDGE AND DELIVER THE SALVAGED POLES TO THE CITY OF GREENFIELD DPW MUNICIPAL YARD.

EXISTING STRUCTURE PLANS FOR EXISTING B-40-0195 ARE AVAILABLE FOR REVIEW AT WISDOT SE REGION OFFICE, 141 NW BARSTOW STREET, WAUKESHA, WI, OR THROUGH THE WISDOT STRUCTURES WEBSITE H.S.I. APPLICATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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EXISTING STRUCTURE REMOVAL PLAN

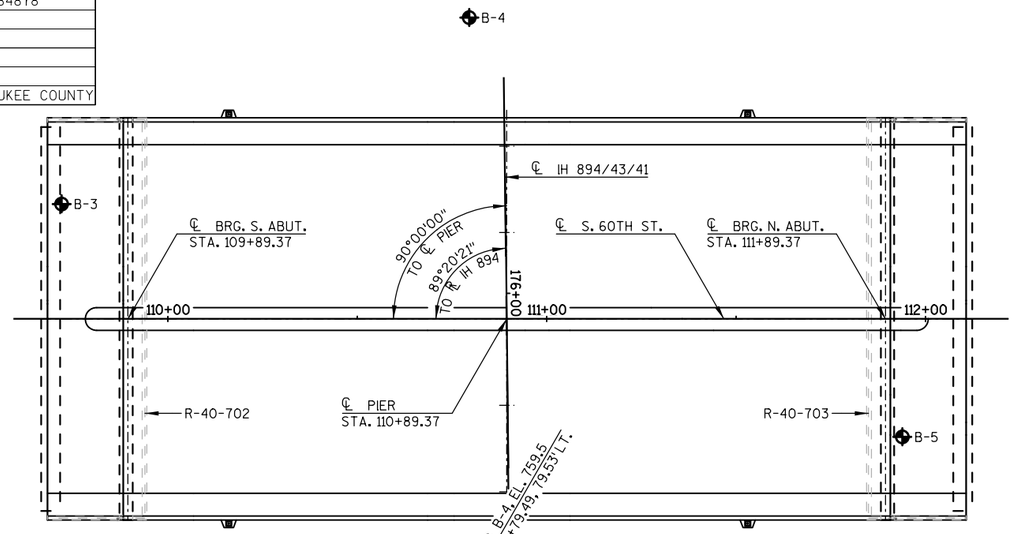
SHEET 4 OF 33
328

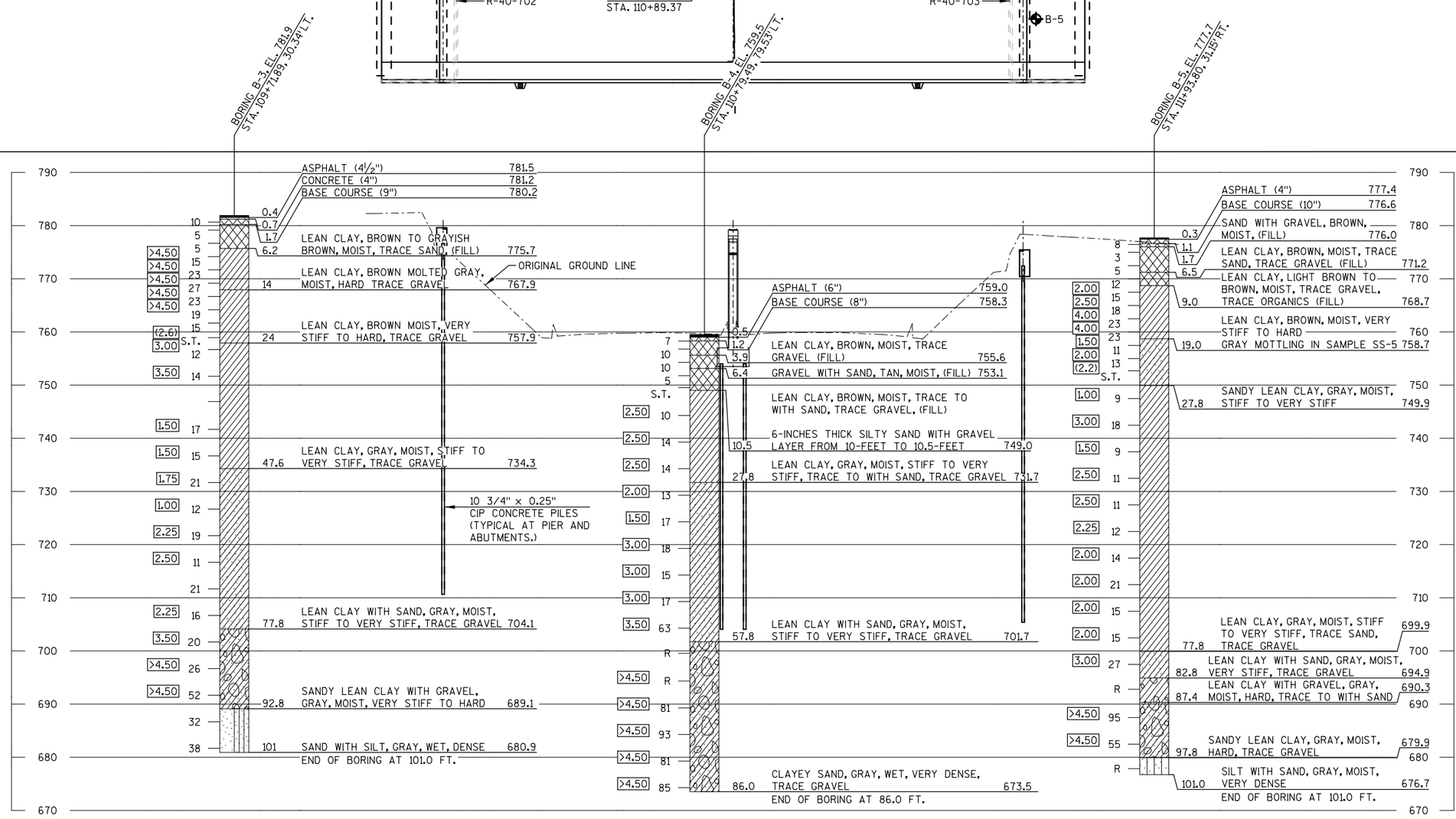
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BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-3	4/17/19	271676	584810
B-4	4/18/19	271785	584764
B-5	4/16/19	271896	584878

BORINGS COMPLETED BY: GESTRA
REPORT COMPLETED BY: GESTRA
ALL COORDINATES REFERENCED TO WCCS NAD 83(07) MILWAUKEE COUNTY





STATE PROJECT NUMBER

1100-46-70

MATERIAL SYMBOLS

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

LEGEND OF BORING

BORING #/EL.
STA./OFFSET
ST
(1) 0.25
(2) 17
F-C COBBLE OR BOULDER
WEATHERED LIMESTONE
CORE RUN #1 - 24'-29' REC=80%, RQD=72%

(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 B-40-1013

DRAWN BY CEB | PLANS CK'D. MJA

SUBSURFACE EXPLORATION

SHEET 5 OF 33
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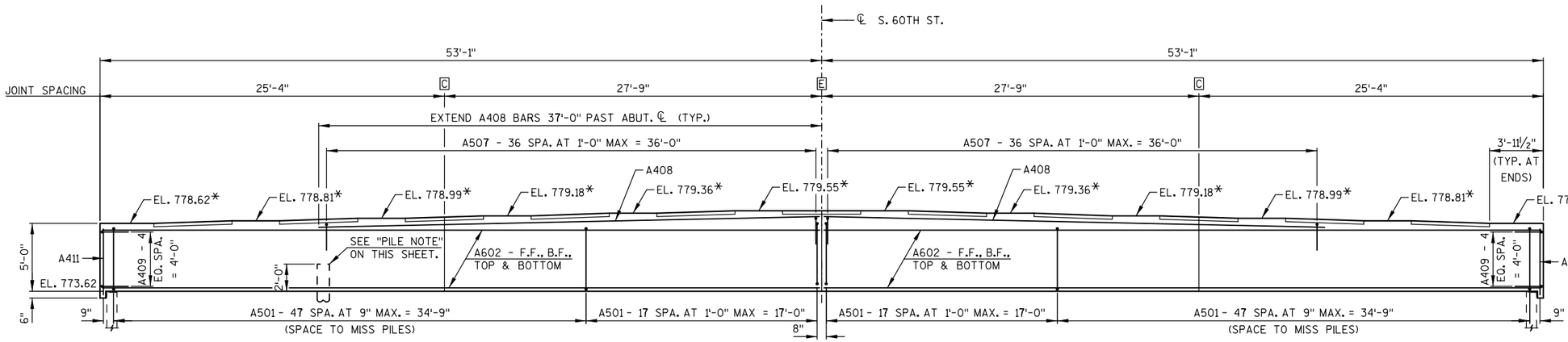
SCALE =

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BATCH PRINT SHEET CSD OF NSD
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PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

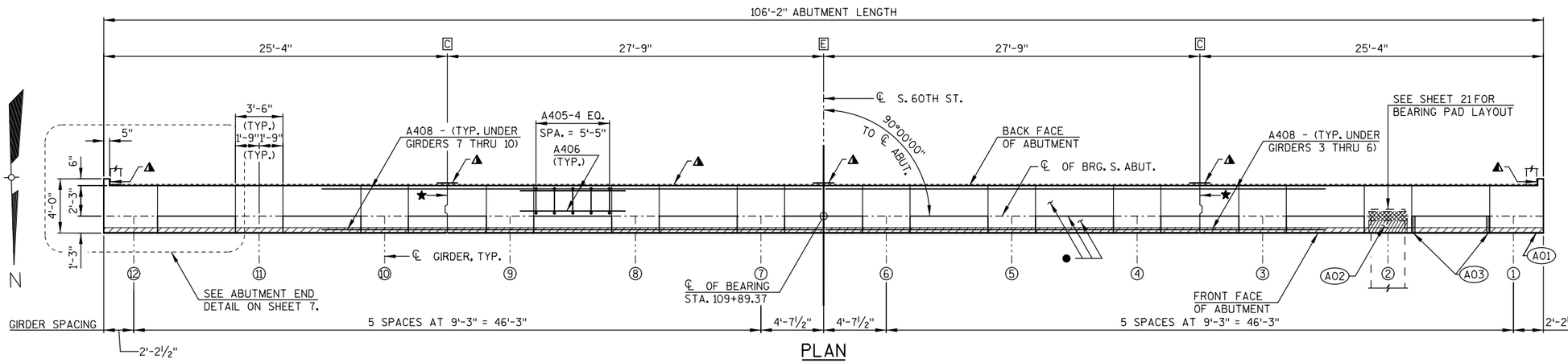
STATE PROJECT NUMBER

1100-46-70

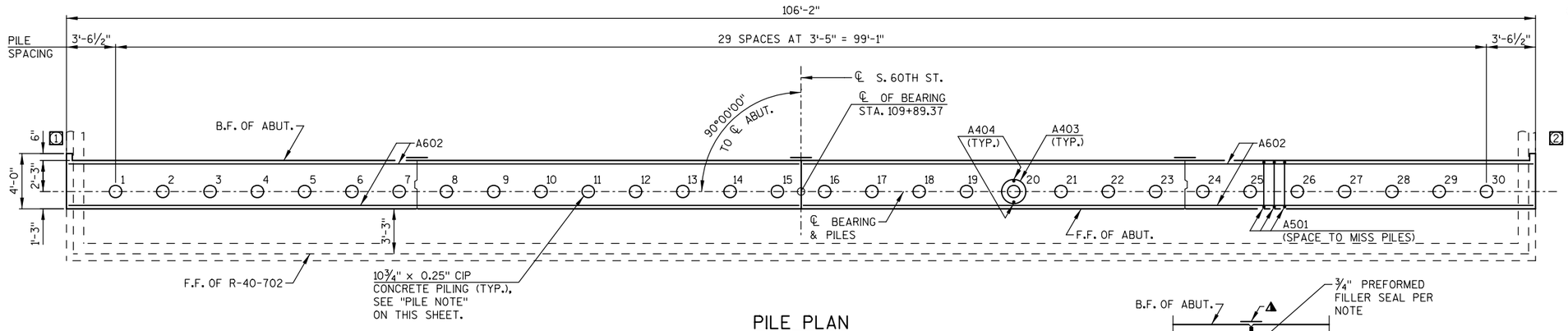


ELEVATION

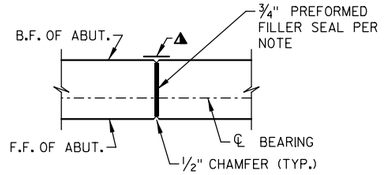
(LOOKING SOUTH)



PLAN



PILE PLAN



EXPANSION JOINT

(DO NOT RUN BAR STEEL THROUGH JOINT)

LEGEND

- E — EXPANSION JOINT
- C — CONTRACTION JOINT
- * — ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.
- ★ — VERTICAL CONSTRUCTION JOINT WITH KEYWAY FORMED BY BEVELED 2" x 8". SEE SHEET 10 FOR ALTERNATE CONSTRUCTION JOINT.
- ◭ — 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ◆ — SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ● — STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- (X) — INDICATES CORNER NUMBER
- (A01) — 4" x ½" PREFORMED JOINT FILLER. EXTEND BETWEEN EDGES OF DIAPHRAGM EXCEPT UNDER THE GIRDER (TYP.)
- (A02) — ½" PREFORMED JOINT FILLER UNDER GIRDER FLANGE IN FRONT OF BEARING PAD.
- (A03) — ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

PILE NOTE

ABUTMENTS TO BE SUPPORTED ON 10¾" x 0.25" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 65'LONG. FOR PILE SPLICE DETAILS, SEE SHEET 7.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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SOUTH ABUTMENT

SHEET 6 OF 33

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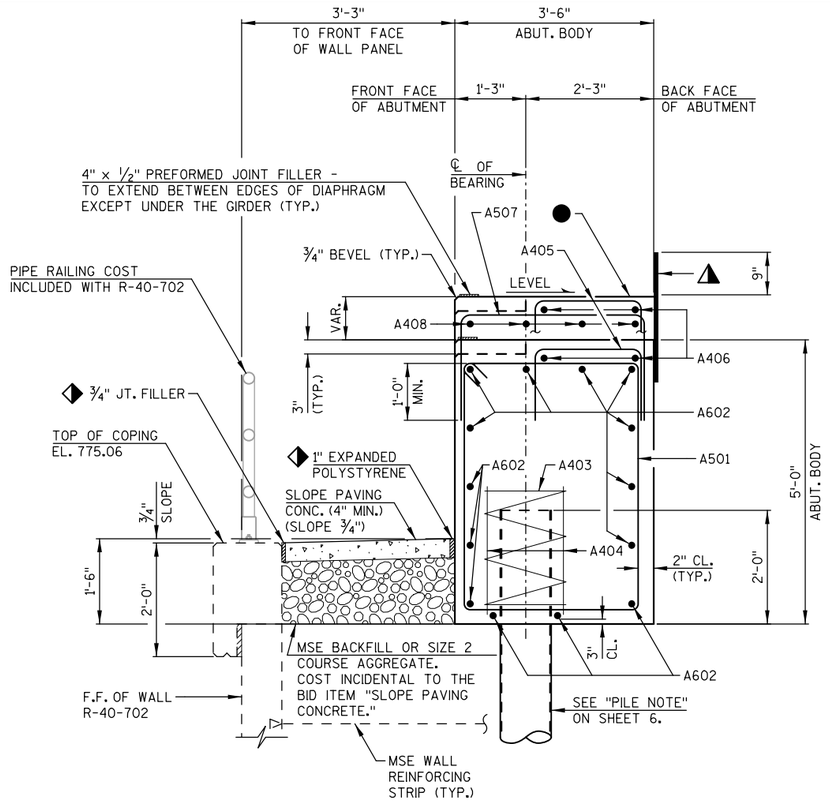
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BATCH PRINT SHEET CSD OF NSD
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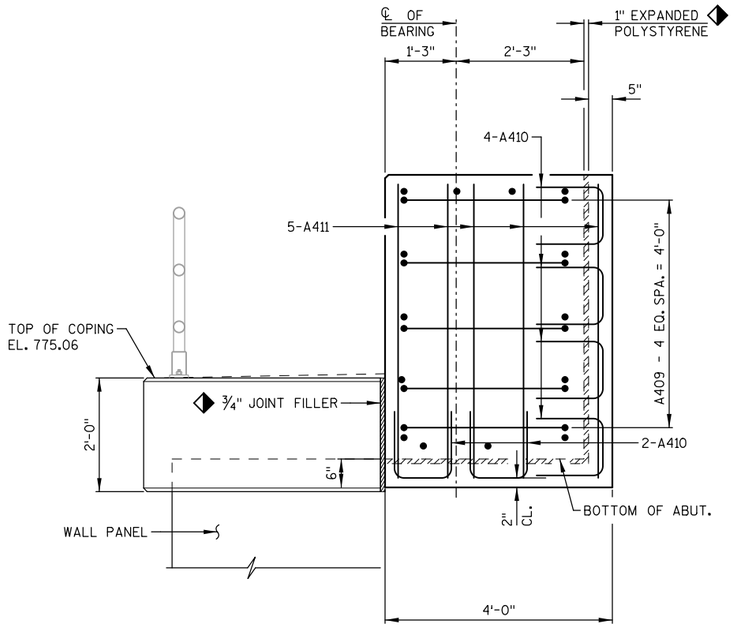
STATE PROJECT NUMBER

1100-46-70



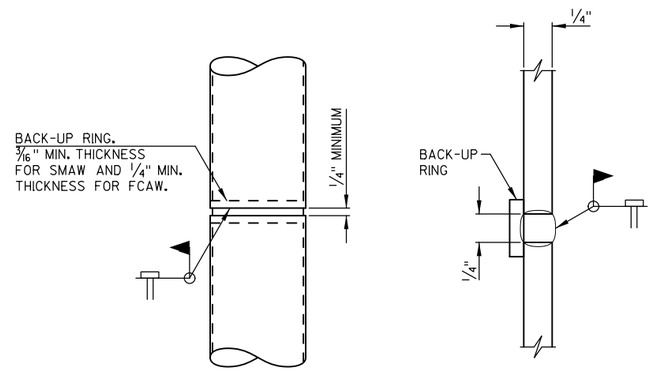
SECTION THRU ABUTMENT BODY

(LOOKING EAST)



PARTIAL ELEVATION ABUTMENT END

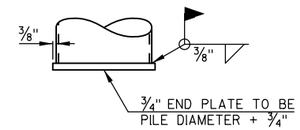
(WEST END SHOWN, EAST SIMILAR)



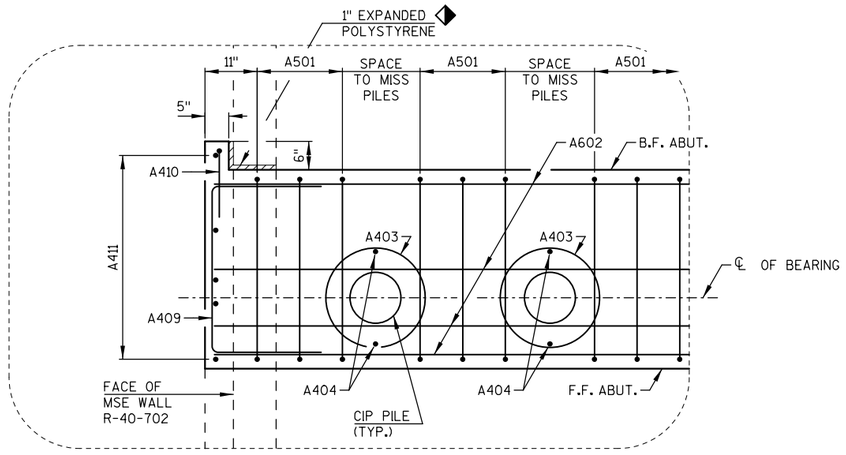
CAST-IN-PLACE 'PIPE PILE'

C.I.P. PILE WELD DETAIL

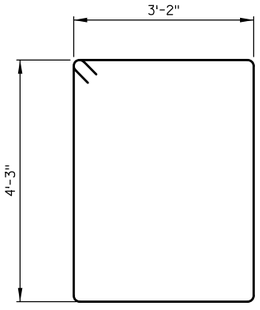
PILE DETAILS



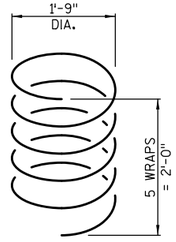
END PLATE DETAIL FOR CIP PILING



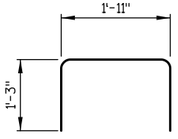
PARTIAL PLAN ABUTMENT END DETAILS



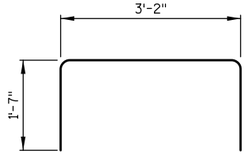
A501



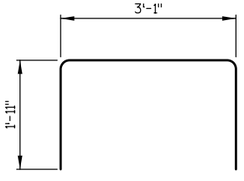
A403



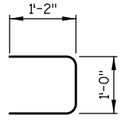
A405



A507



A409



A410

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D	LENGTH	BENT	LOCATION	
NON-COATED BARS				TOTAL WEIGHT = 6,020 LBS	
A501	130	15-6	X	ABUT. BODY - STIRRUPS	VERT.
A602	28	52-9		ABUT. BODY - F.F., B.F., TOP & BOTTOM	HORIZ.
A403	30	28-0	X	ABUT. BODY - PILES - SPIRAL - 1 PER PILE	HORIZ.
A404	60	2-3		ABUT. BODY - PILES	VERT.
A405	55	4-3	X	ABUT. BODY - BTWN. BEAM SEATS	VERT.
A406	22	7-9		ABUT. BODY - BTWN. BEAM SEATS	HORIZ.
A507	74	6-1	X	ABUT. BODY - HAUNCH	VERT.
A408	8	36-10		ABUT. BODY - HAUNCH	HORIZ.
A409	10	6-9	X	ABUT. BODY - U BAR - EACH END	HORIZ.
A410	12	3-2	X	ABUT. BODY - EACH END	VERT.
A411	10	5-2		ABUT. BODY - EACH END	VERT.

LEGEND

◆ ● ▲ FOR SYMBOL DESCRIPTIONS, SEE SHEET 6.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

DRAWN BY CEB | PLANS CK'D. MJA

SOUTH ABUTMENT DETAILS

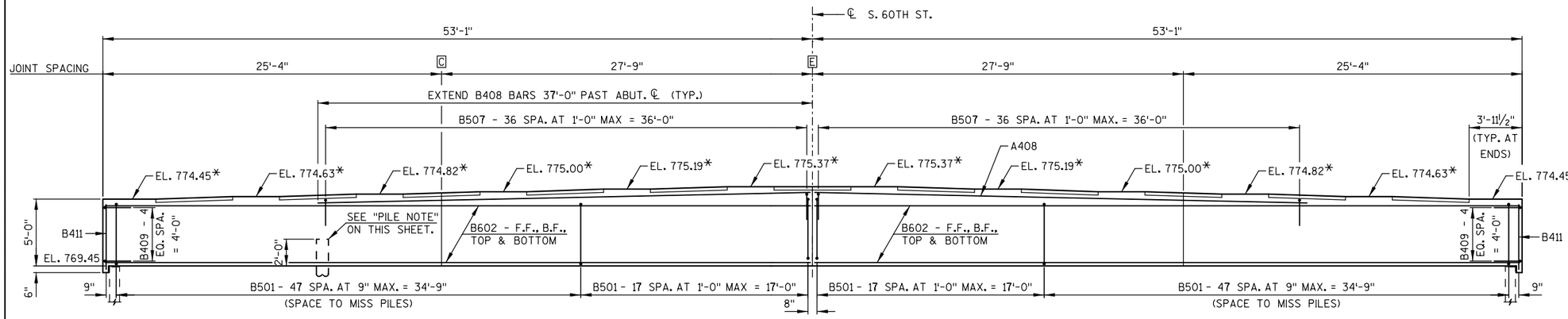
SHEET 7 OF 33
331

8

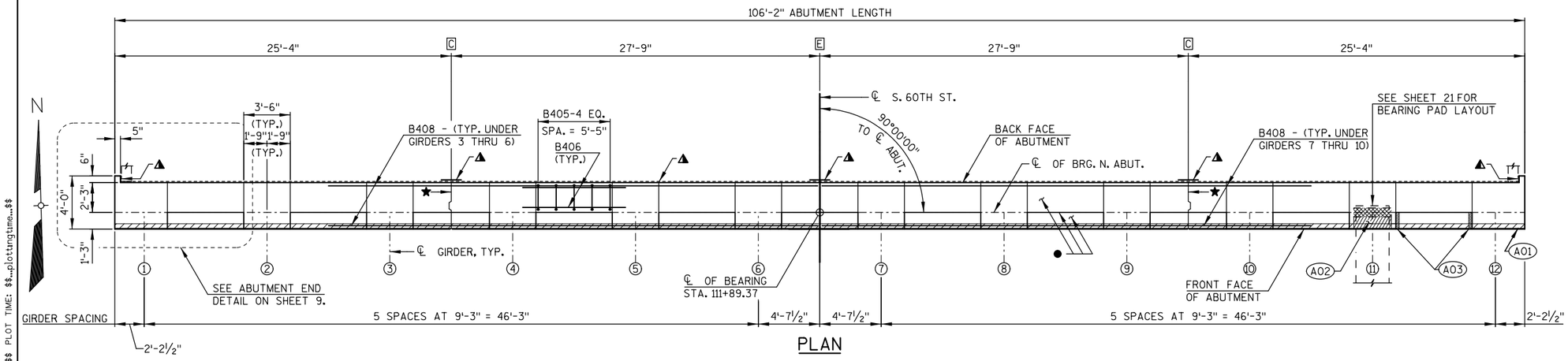
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STATE PROJECT NUMBER

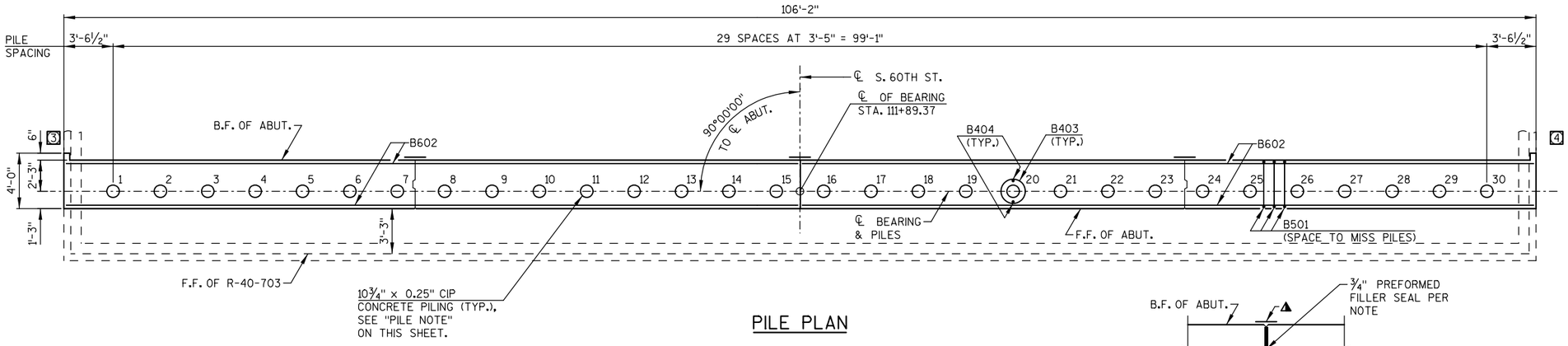
1100-46-70



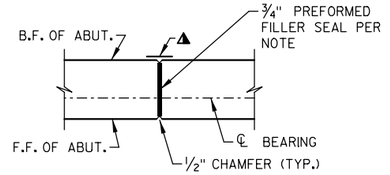
ELEVATION
(LOOKING NORTH)



PLAN



PILE PLAN



EXPANSION JOINT
(DO NOT RUN BAR STEEL THROUGH JOINT)

LEGEND

- [E] EXPANSION JOINT
- [C] CONTRACTION JOINT
- * ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.
- ★ VERTICAL CONSTRUCTION JOINT WITH KEYWAY FORMED BY BEVELED 2" x 8". SEE SHEET 10 FOR ALTERNATE CONSTRUCTION JOINT.
- ◭ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ◆ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).
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- (X) INDICATES CORNER NUMBER
- (A01) 4" x ½" PREFORMED JOINT FILLER. EXTEND BETWEEN EDGES OF DIAPHRAGM EXCEPT UNDER THE GIRDER (TYP.)
- (A02) ½" PREFORMED JOINT FILLER UNDER GIRDER FLANGE IN FRONT OF BEARING PAD.
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PILE NOTE

ABUTMENTS TO BE SUPPORTED ON 10¾" x 0.25" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 65 LONG. FOR PILE SPLICE DETAILS, SEE SHEET 9.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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NORTH ABUTMENT

SHEET 8 OF 33
332

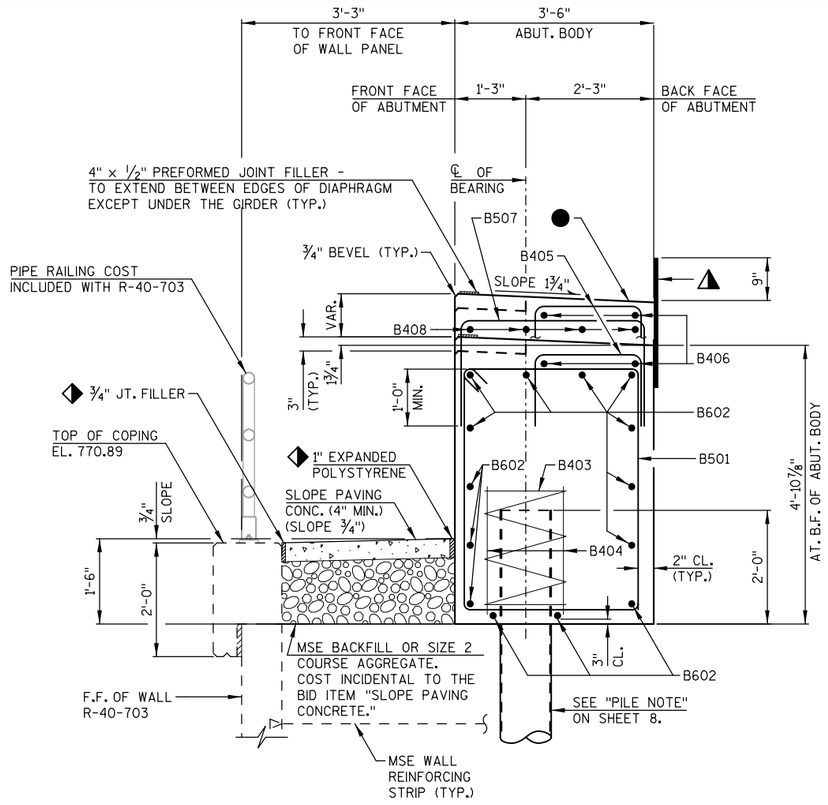
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BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
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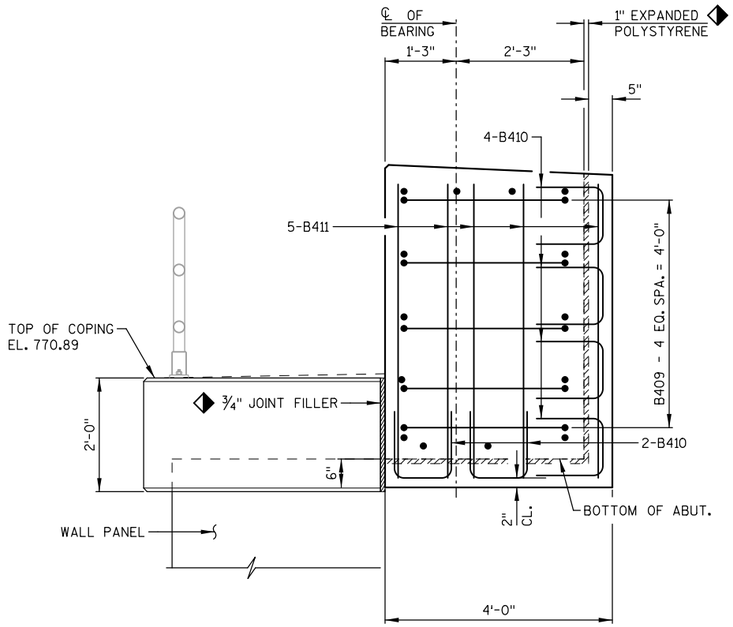
STATE PROJECT NUMBER

1100-46-70



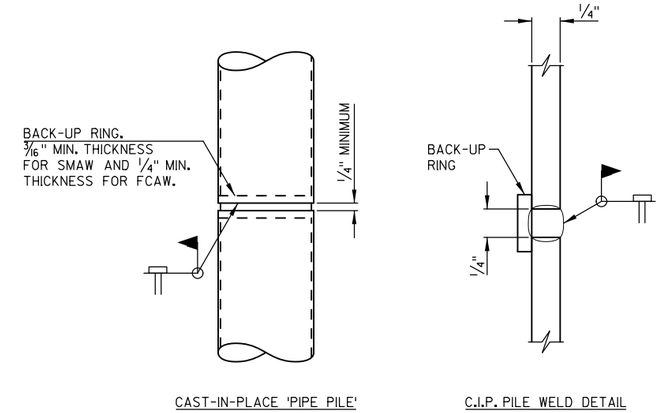
SECTION THRU ABUTMENT BODY

(LOOKING WEST)

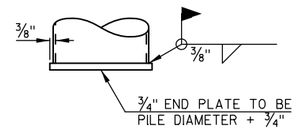


PARTIAL ELEVATION ABUTMENT END

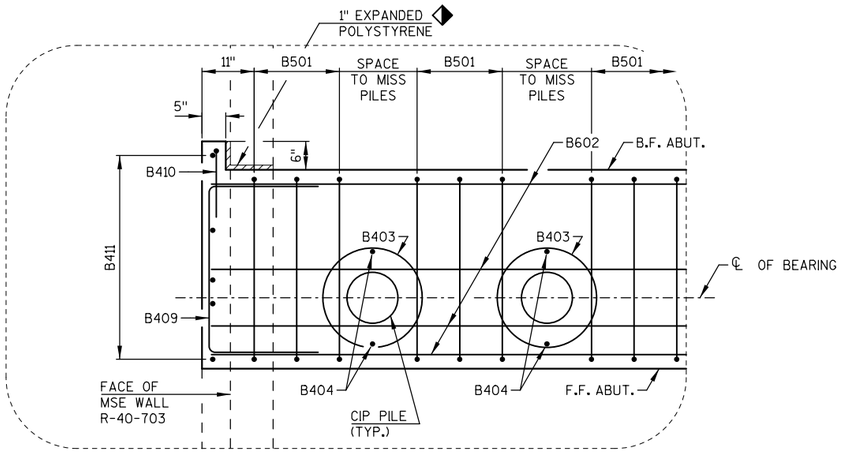
(EAST END SHOWN, WEST SIMILAR)



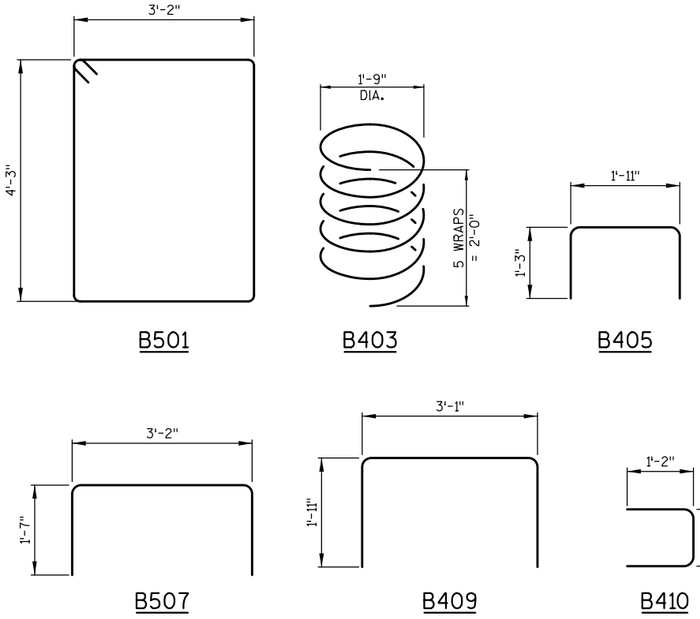
PILE DETAILS



END PLATE DETAIL FOR CIP PILING



PARTIAL PLAN ABUTMENT END DETAILS



BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D	LENGTH	BENT	LOCATION	
NON-COATED BARS				TOTAL WEIGHT = 6,020 LBS	
B501	130	15-6	X	ABUT. BODY - STIRRUPS	VERT.
B602	28	52-9		ABUT. BODY - F. F., B.F., TOP & BOTTOM	HORIZ.
B403	30	28-0	X	ABUT. BODY - PILES - SPIRAL - 1 PER PILE	HORIZ.
B404	60	2-3		ABUT. BODY - PILES	VERT.
B405	55	4-3	X	ABUT. BODY - BTWN. BEAM SEATS	VERT.
B406	22	7-9		ABUT. BODY - BTWN. BEAM SEATS	HORIZ.
B507	74	6-1	X	ABUT. BODY - HAUNCH	VERT.
B408	8	36-10		ABUT. BODY - HAUNCH	HORIZ.
B409	10	6-9	X	ABUT. BODY - U BAR - EACH END	HORIZ.
B410	12	3-2	X	ABUT. BODY - EACH END	VERT.
B411	10	5-1		ABUT. BODY - EACH END	VERT.

LEGEND

◆ ● ▲ FOR SYMBOL DESCRIPTIONS, SEE SHEET 8.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

DRAWN BY CEB | PLANS CK'D. MJA

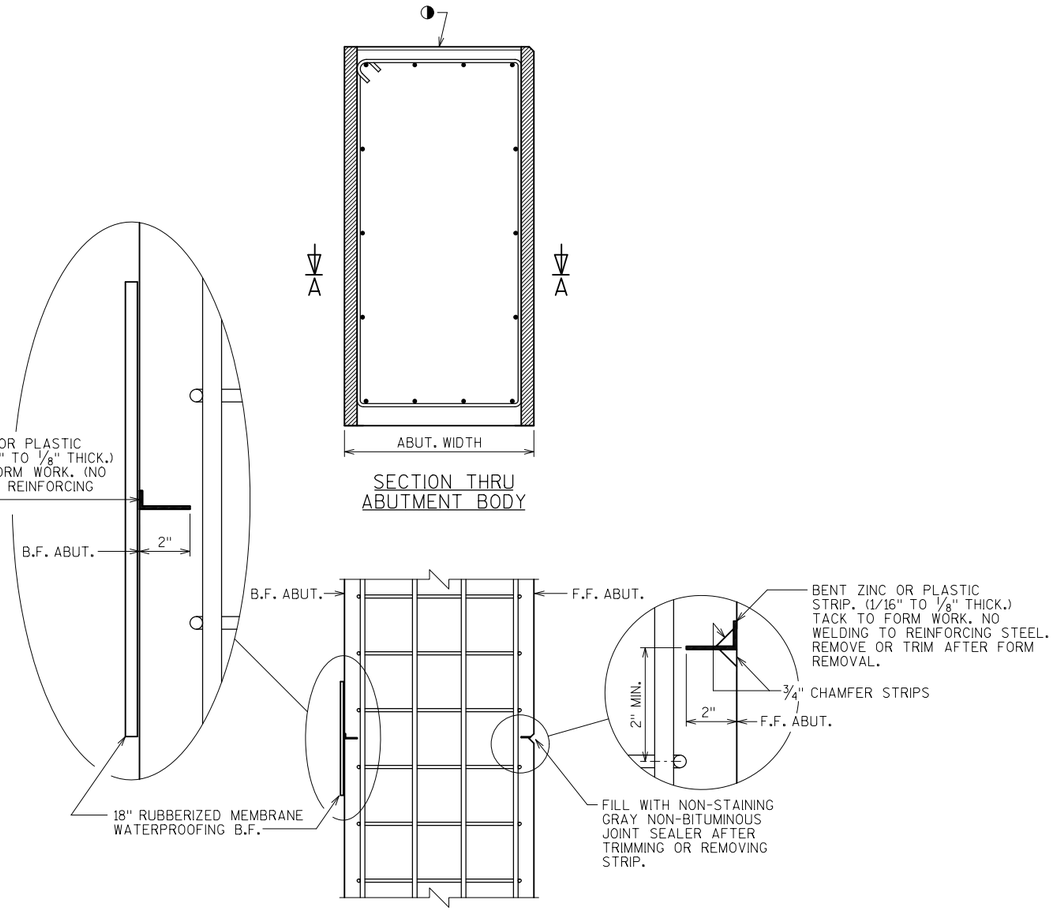
NORTH ABUTMENT DETAILS

SHEET 9 OF 33
333

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8

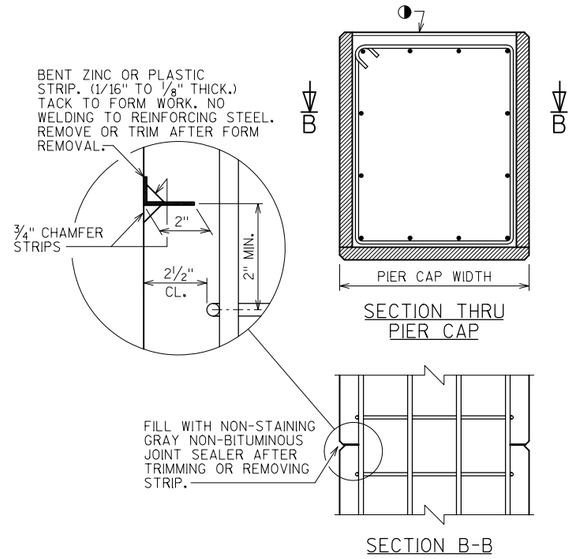
BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$



SECTION THRU ABUTMENT BODY

SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT



SECTION THRU PIER CAP

SECTION B-B

ALTERNATE CONSTRUCTION JOINT AT PIER CAP

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

SAW CUTTING JOINT IS NOT ALLOWED.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

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STRUCTURE B-40-1013

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ALTERNATE CONSTRUCTION JOINT

SHEET 10 OF 33
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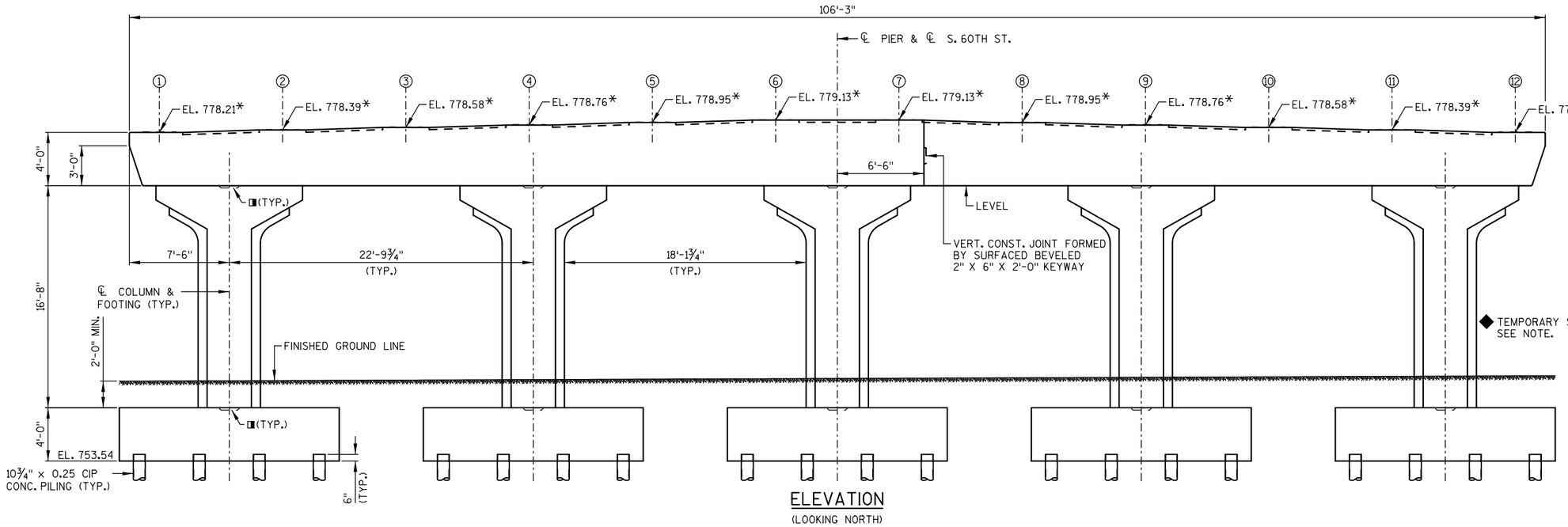
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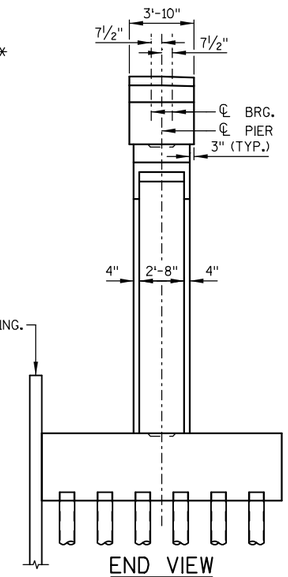
BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
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PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

STATE PROJECT NUMBER

1100-46-70

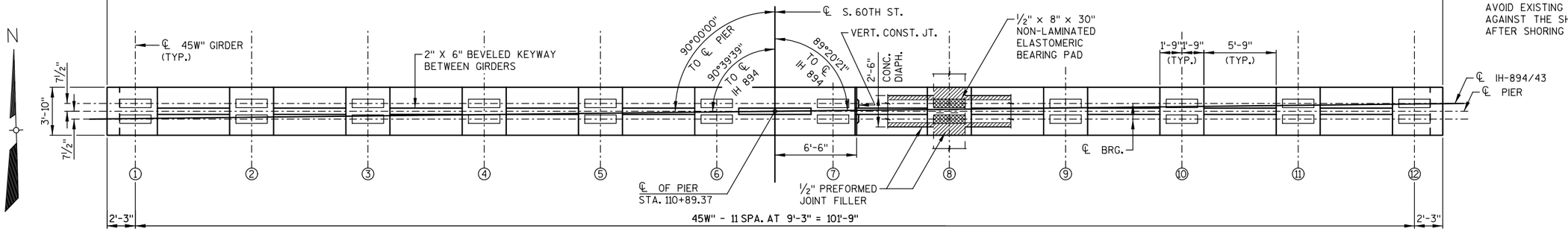


ELEVATION
(LOOKING NORTH)

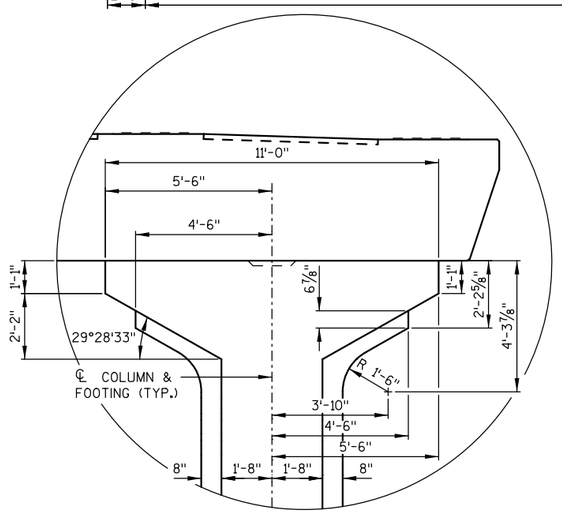


END VIEW
(LOOKING WEST)

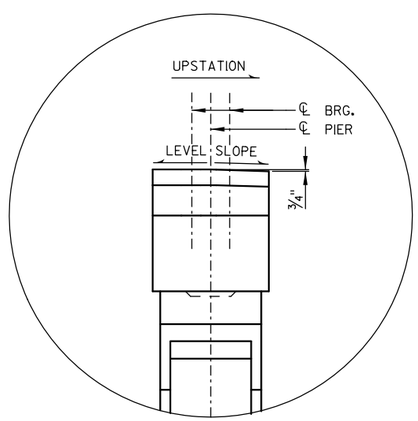
◆ NOTE: ALONG SOUTH EDGE OF FOOTING, TEMPORARY SHORING MAY BE USED AS THE FOOTING FORM TO AVOID EXISTING STORM SEWER. PLYWOOD FORMS AGAINST THE SHORING MAY BE LEFT IN PLACE AFTER SHORING REMOVAL.



PLAN



DETAIL 1



DETAIL 2

NOTES

FOR PIER FOOTING REINFORCING DETAILS, SEE SHEET 12.

FOR PIER COLUMN REINFORCING DETAILS, SEE SHEET 13.

FOR PIER CAP REINFORCING DETAILS, SEE SHEET 14.

LEGEND

◨ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4" X 1'-3" X 2'-0".

* ELEVATIONS ARE GIVEN AT THE TOP OF THE PIER CAP CONCRETE AT THE ℄ PIER.

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STRUCTURE B-40-1013

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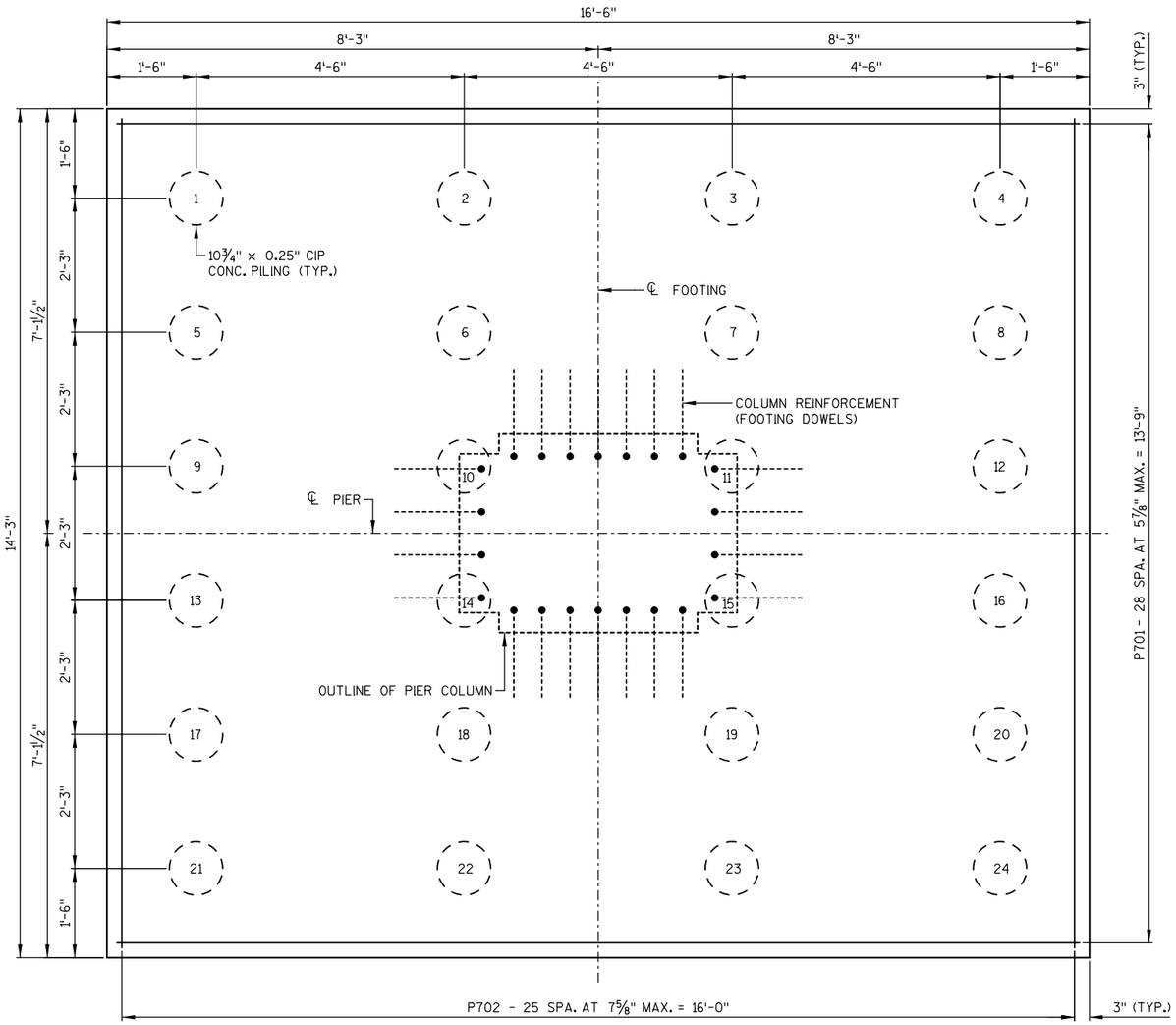
PIER LAYOUT

SHEET 11 OF 33
335

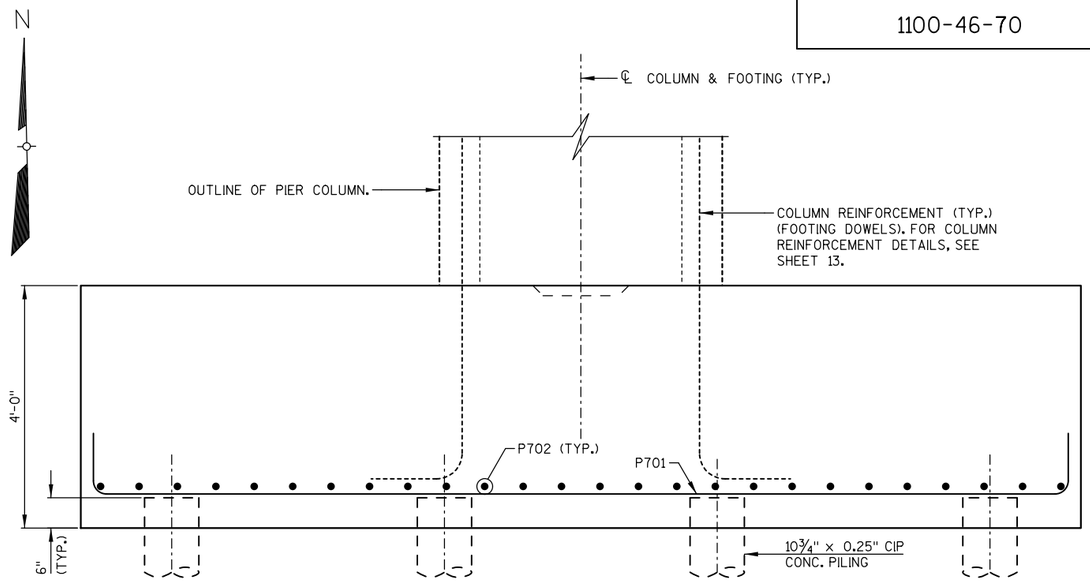
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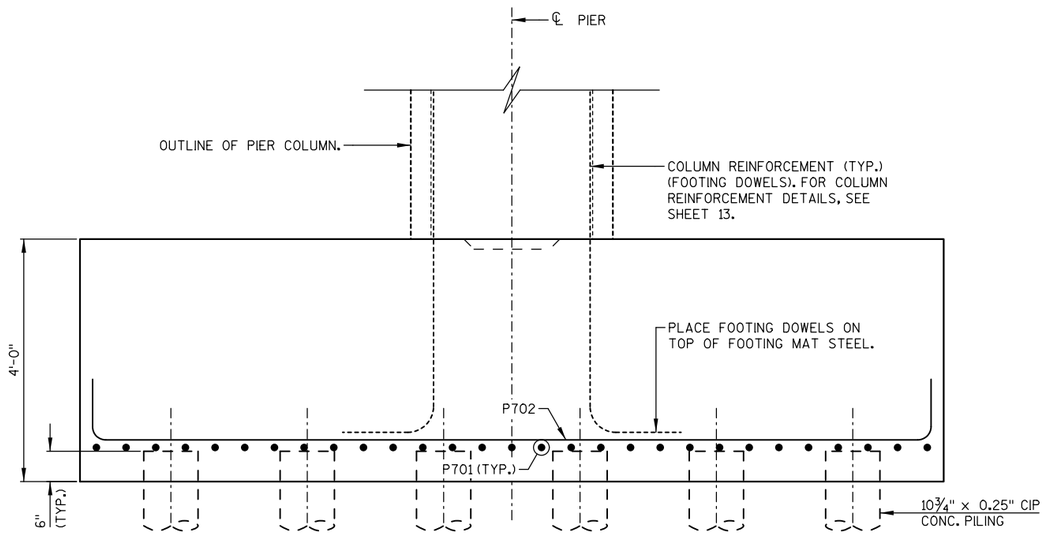
BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$



TYPICAL FOOTING PLAN



TYPICAL FOOTING FRONT ELEVATION



TYPICAL FOOTING SIDE ELEVATION

FOUNDATION NOTE

PIER SHALL BE SUPPORTED ON 10¾" DIA. X 0.25" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

ESTIMATED PILE LENGTH = 50 FT

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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PIER FOOTING DETAILS

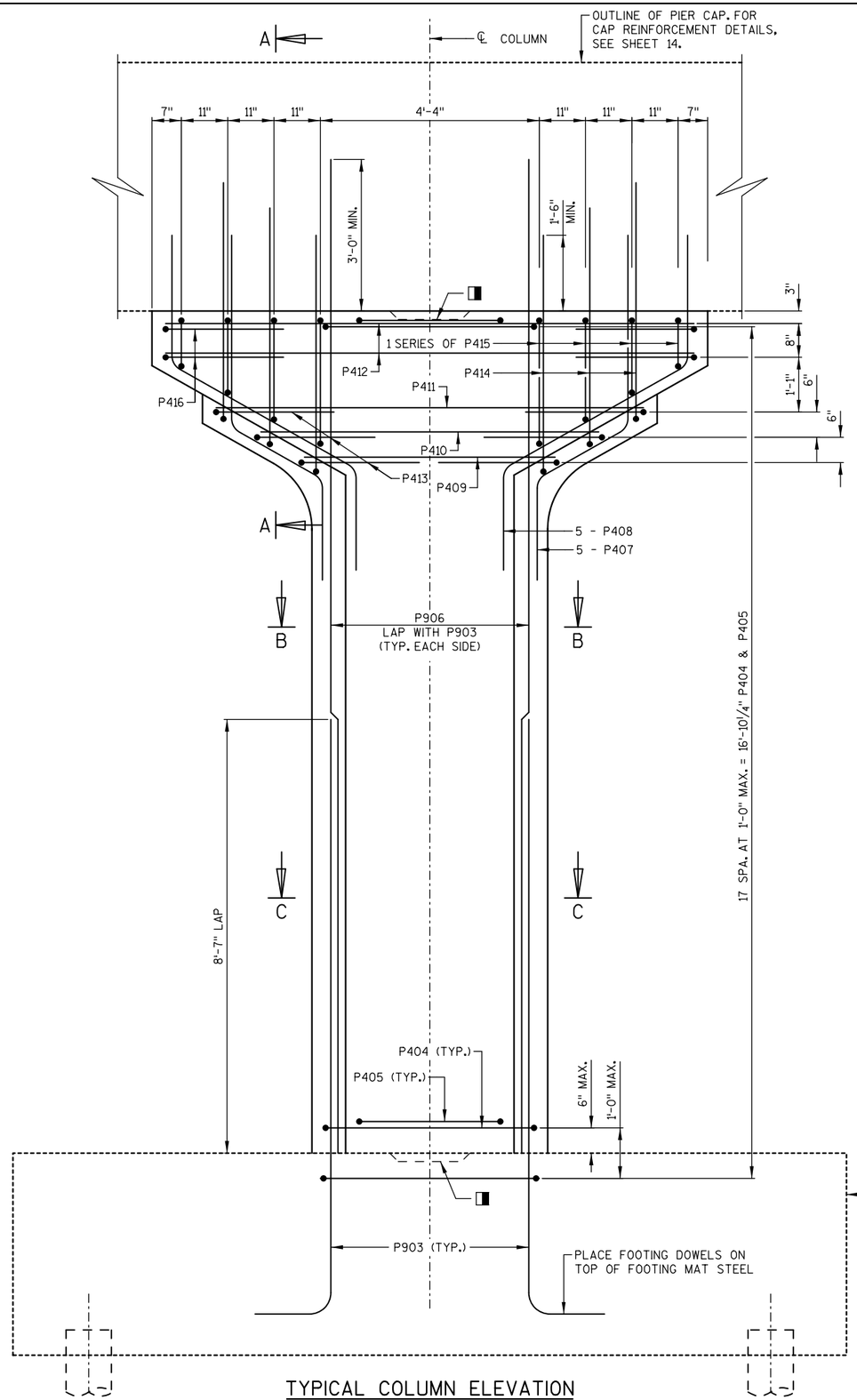
SHEET 12 OF 33
336

8

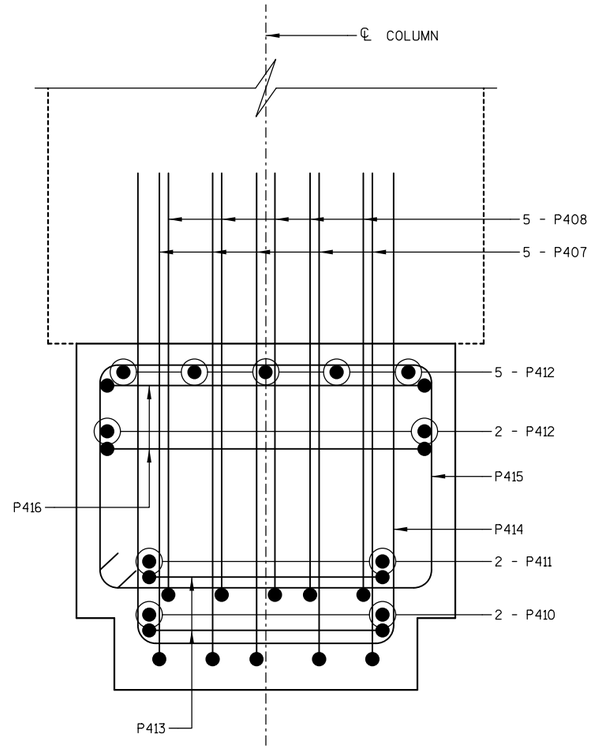
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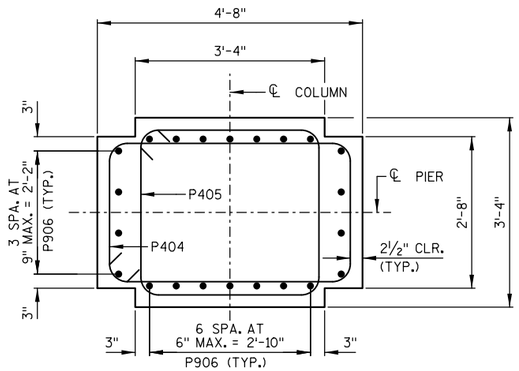


TYPICAL COLUMN ELEVATION

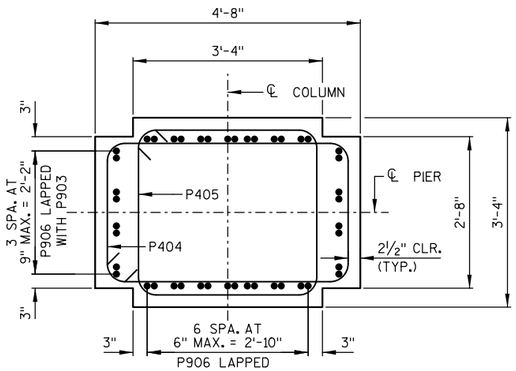


SECTION A-A

(NOT TO SCALE)



SECTION B-B



SECTION C-C

LEGEND

◨ FOR SYMBOL DESCRIPTIONS, SEE SHEET 11.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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PIER COLUMN DETAILS

SHEET 13 OF 33
337

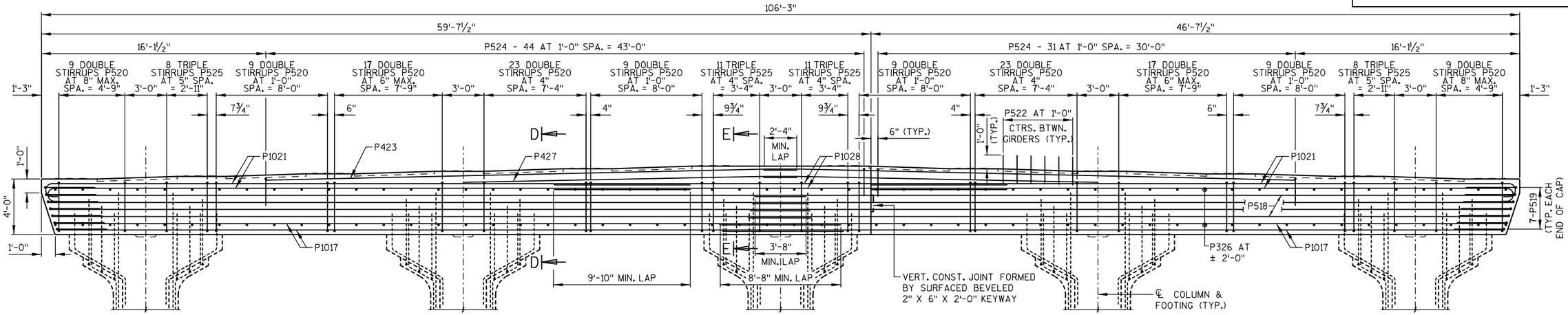
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PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$
BATCH PRINT SHEET CSD OF NSD

STATE PROJECT NUMBER

1100-46-70



PIER CAP ELEVATION

(LOOKING NORTH)

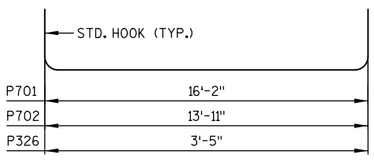
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
△ LENGTH SHOWN FOR BAR IS AN AVG. LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

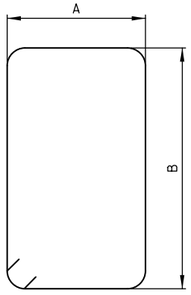
MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
NON-COATED BARS					TOTAL WEIGHT = 9,620 LBS
P701	145	18-2	X		PIER FOOTING - BOTTOM MAT HORIZ.
P702	130	15-11	X		PIER FOOTING - BOTTOM MAT HORIZ.
COATED BARS					TOTAL WEIGHT = 35,040 LBS
P903	110	13-4	X		COLUMN AND FOOTING VERT.
P404	90	13-6	X		COLUMN - BAR TIES HORIZ.
P405	90	12-2	X		COLUMN - BAR TIES HORIZ.
P906	110	19-8			COLUMN VERT.
P407	50	7-9	X		COLUMN CAP VERT.
P408	50	8-6	X		COLUMN CAP VERT.
P409	10	4-3			COLUMN CAP HORIZ.
P410	10	6-5			COLUMN CAP HORIZ.
P411	10	8-7			COLUMN CAP HORIZ.
P412	35	10-7			COLUMN CAP HORIZ.
P413	30	5-8	X		COLUMN CAP - ENDS HORIZ.
P414	30	9-7	X		COLUMN CAP VERT.
P415	40	9-9	X	△	COLUMN CAP VERT.
P416	20	6-4	X		COLUMN CAP - ENDS HORIZ.
P1017	24	56-1			PIER CAP - BOTTOM HORIZ.
P518	16	54-9			PIER CAP - SIDES HORIZ.
P519	14	10-8	X		PIER CAP - ENDS HORIZ.
P520	268	12-6	X		PIER CAP - STIRRUPS VERT.
P1021	24	47-10	X		PIER CAP - TOP HORIZ.
P522	66	2-0			PIER CAP - DOWELS B/W GIRDERS VERT.
P423	10	38-2			PIER CAP - TOP HORIZ.
P524	75	7-0	X		PIER CAP - TOP VERT.
P525	114	12-0	X		PIER CAP - STIRRUPS VERT.
P326	108	4-3	X		PIER CAP SUPPORT BARS HORIZ.
P427	4	24-0			PIER CAP - TOP HORIZ.
P1028	12	32-6			PIER CAP - TOP HORIZ.

BAR SERIES TABLE

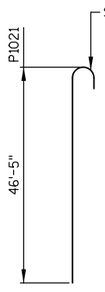
MARK	NO. REQ'D	LENGTH
P415	10 SERIES OF 4	8'-2" TO 11'-4"



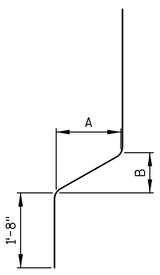
P701, P702, P326



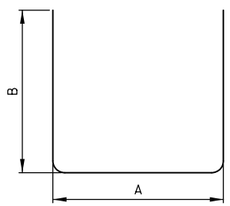
P404, P405, P415, P520, P525



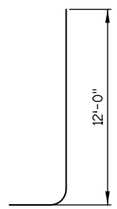
P1021



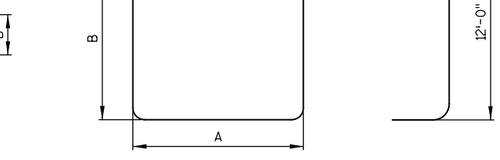
P407, P408



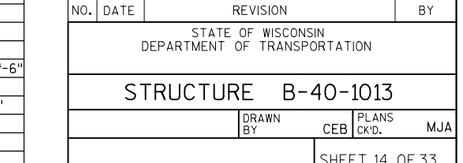
P413, P414, P416, P519, P524



P903



SECTION D-D



SECTION E-E

(SIMILAR TO SECTION D-D EXCEPT AS SHOWN)

TABLE OF DIMENSIONS

BAR MARK	DIM "A"	DIM "B"
P404	4'-3"	2'-3"
P405	2'-11"	2'-11"
P407	2'-4"	1'-3"
P408	3'-10"	2'-2"
P413	2'-2"	1'-10"
P414	2'-3"	3'-9"
P415	2'-11"	11" TO 2'-6"
P416	2'-10"	1'-10"
P519	3'-3"	3'-10"
P520	2'-4"	3'-7"
P524	3'-5"	1'-11"
P525	2'-1"	3'-7"

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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PIER CAP DETAILS

SHEET 14 OF 33
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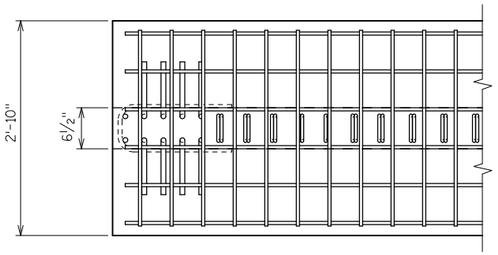
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PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$
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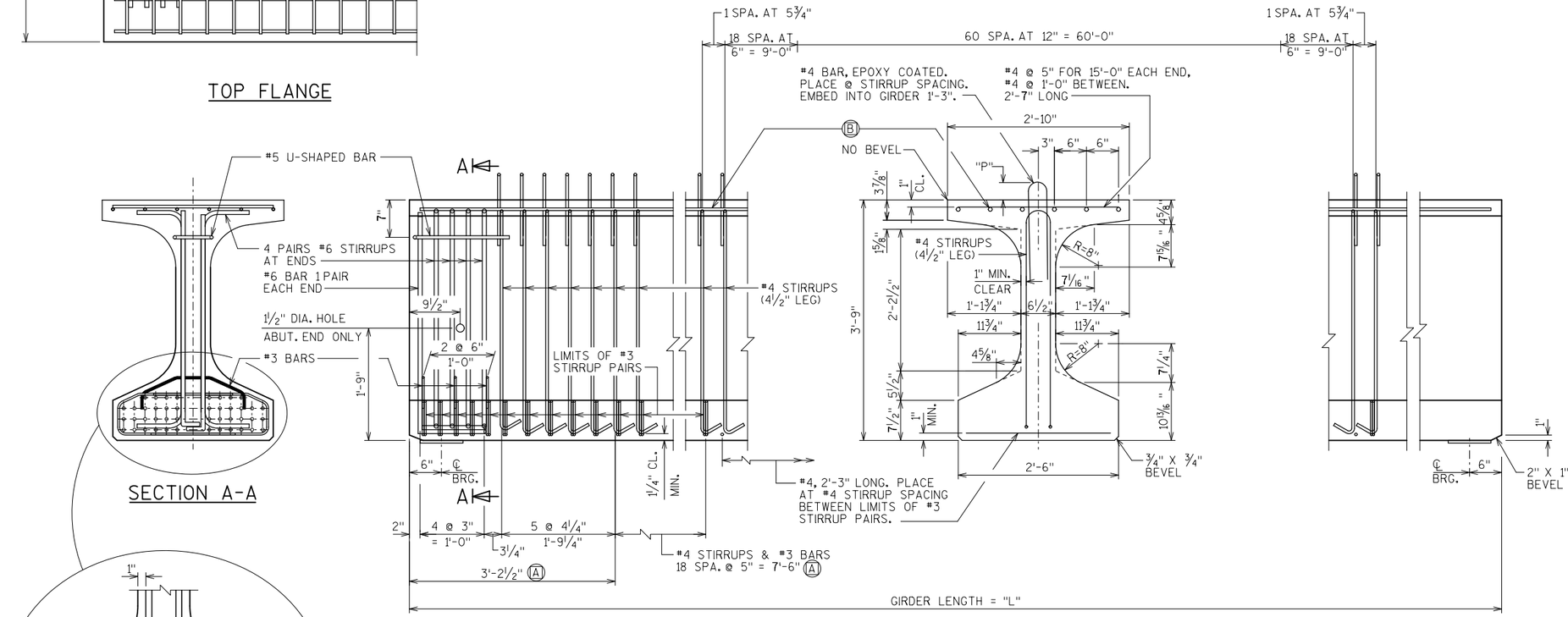
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STATE PROJECT NUMBER

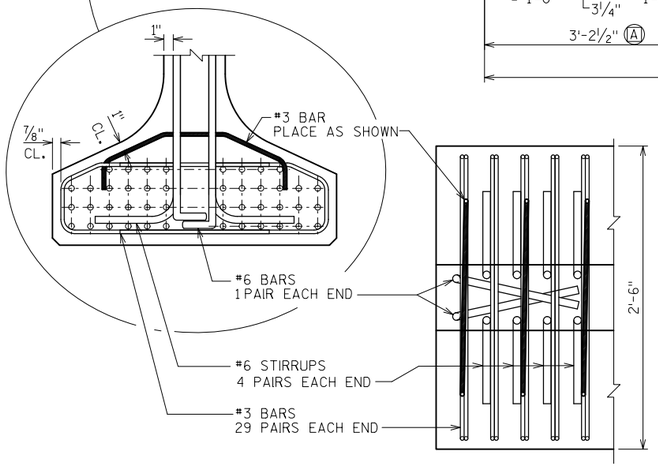
1100-46-70



TOP FLANGE



SECTION A-A



BOTTOM FLANGE

SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-8"

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

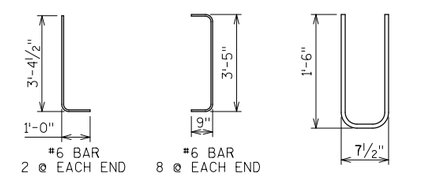
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

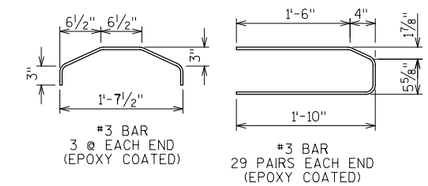
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON ACCEPTANCE OF THE STRUCTURES MAINTENANCE SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

PRESTRESSING STRANDS SHALL BE 0.6" DIA. -7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.





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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST 1/3 OF GIRDER	MID 1/3 OF GIRDER	END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	DRAPED PATTERN (IN.) "A"	"B" MIN.	"B" MAX.	"C"
1	1 & 12	100.375	0.8	1.6	2.2	2.5	2.6	2.4	2.0	1.4	0.7	8,500	7	10	7	0.6	34	6,800	40.00	13.75	16.75	5.0
1	2-11	100.375	0.8	1.6	2.2	2.6	2.7	2.6	2.2	1.6	0.8	8,500	7	10	7	0.6	34	6,800	40.00	13.75	16.75	5.0
2	1 & 12	100.375	0.7	1.4	2.0	2.4	2.6	2.5	2.2	1.6	0.8	8,500	7	10	7	0.6	34	6,800	40.00	13.75	16.75	5.0
2	2-11	100.375	0.8	1.6	2.2	2.6	2.7	2.6	2.2	1.6	0.8	8,500	7	10	7	0.6	34	6,800	40.00	13.75	16.75	5.0

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

DRAWN BY CEB | PLANS CK'D. MJA

45W" PRESTRESSED GIRDER DETAILS 1

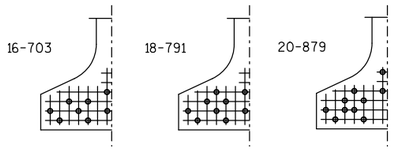
SHEET 15 OF 33
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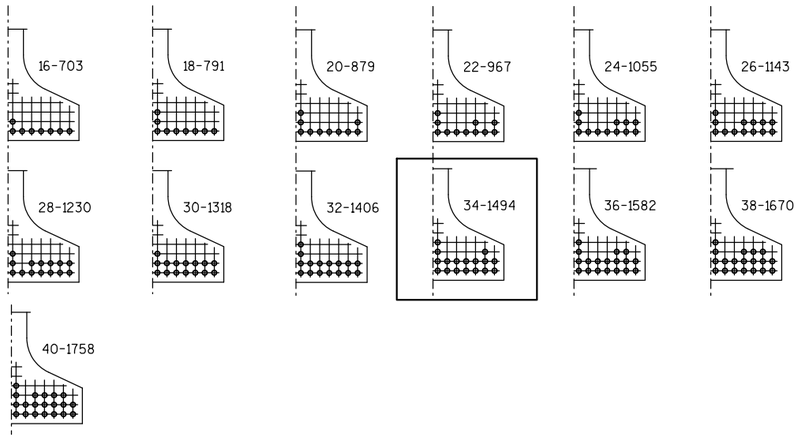
STATE PROJECT NUMBER
1100-46-70

BATCH PRINT SHEET CSD OF NSD
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PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$



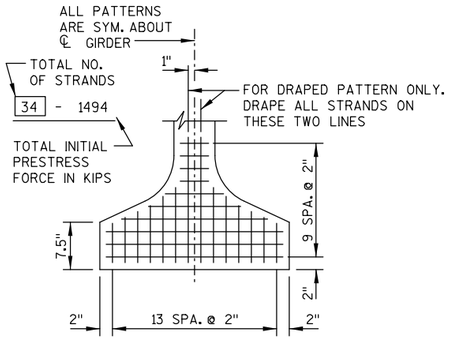
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"ϕ STRANDS

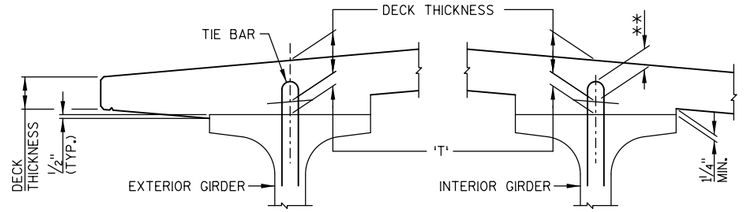


ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"ϕ STRANDS



TYP. STRAND PATTERN



DECK HAUNCH DETAIL

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

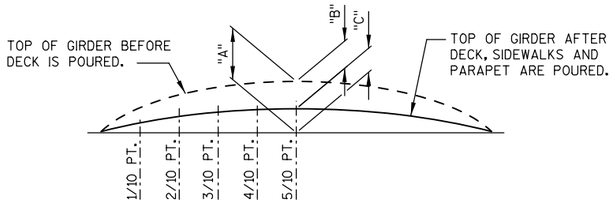
IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

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

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

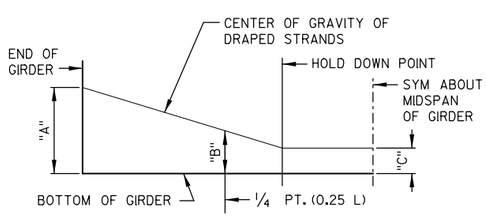
TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 5" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM

* "A" = PRESTRESS CAMBER
* "B" = DEAD LOAD DEFLECTION
* "C" = RESIDUAL CAMBER

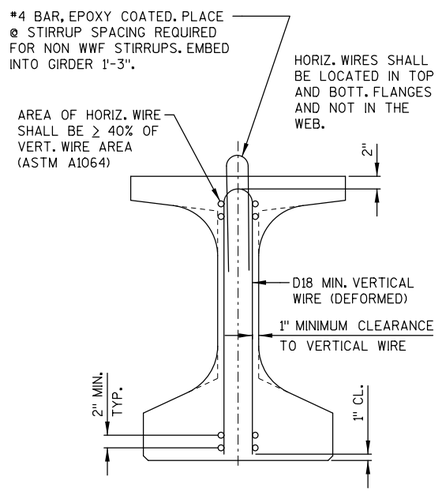


DRAPED STRAND PROFILE

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

SPAN	CAMBER (IN.) *
1	3.5"
2	3.5"

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



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS
ASTM A1064 (FY = 70 KSI)

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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45W" PRESTRESSED GIRDER DETAILS 2

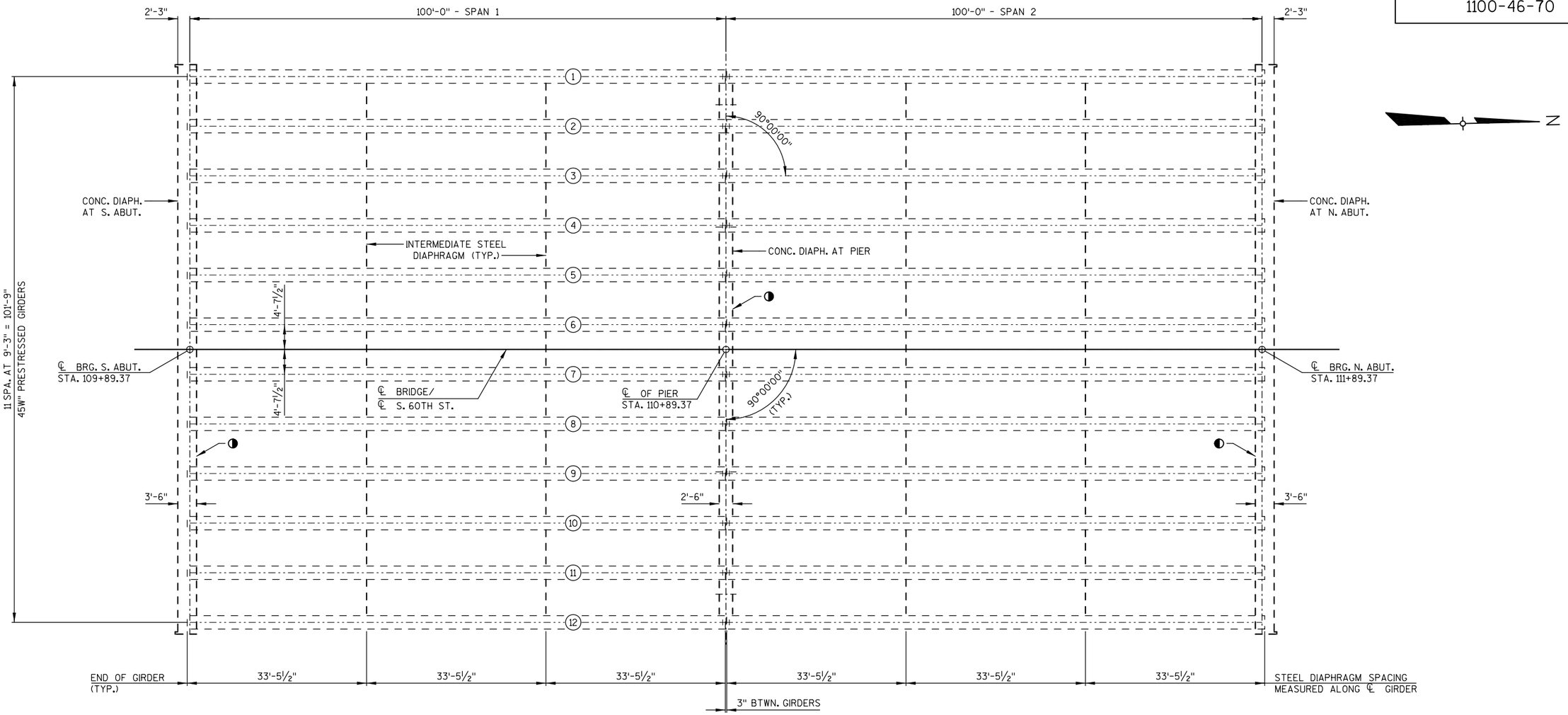
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PLAN

TOP OF DECK ELEVATIONS

LOCATIONS	CL BRG. S. ABUT.	0.1 SPAN	0.2 SPAN	0.3 SPAN	0.4 SPAN	0.5 SPAN	0.6 SPAN	0.7 SPAN	0.8 SPAN	0.9 SPAN	CL PIER	0.1 SPAN	0.2 SPAN	0.3 SPAN	0.4 SPAN	0.5 SPAN	0.6 SPAN	0.7 SPAN	0.8 SPAN	0.9 SPAN	CL BRG. N. ABUT.
*WEST EDGE OF DECK	783.28	783.39	783.46	783.51	783.51	783.49	783.43	783.34	783.21	783.05	782.86	782.63	782.37	782.08	781.75	781.38	780.99	780.56	780.09	779.60	779.10
GIRDER 1	783.32	783.43	783.51	783.55	783.56	783.53	783.48	783.38	783.26	783.10	782.90	782.68	782.41	782.12	781.79	781.43	781.03	780.60	780.14	779.64	779.14
WEST GUTTER LINE	783.42	783.53	783.60	783.65	783.66	783.63	783.57	783.48	783.35	783.19	783.00	782.77	782.51	782.22	781.89	781.53	781.13	780.70	780.23	779.74	779.24
GIRDER 2	783.50	783.62	783.69	783.73	783.74	783.72	783.66	783.57	783.44	783.28	783.09	782.86	782.60	782.30	781.98	781.61	781.22	780.79	780.32	779.83	779.33
GIRDER 3	783.69	783.80	783.88	783.92	783.93	783.90	783.85	783.75	783.63	783.47	783.27	783.05	782.78	782.49	782.16	781.80	781.40	780.97	780.51	780.01	779.51
GIRDER 4	783.87	783.99	784.06	784.10	784.11	784.09	784.03	783.94	783.81	783.65	783.46	783.23	782.97	782.67	782.35	781.98	781.59	781.16	780.69	780.20	779.70
GIRDER 5	784.06	784.17	784.25	784.29	784.30	784.27	784.22	784.12	784.00	783.84	783.64	783.42	783.15	782.86	782.53	782.17	781.77	781.34	780.88	780.38	779.88
GIRDER 6	784.24	784.36	784.43	784.47	784.48	784.46	784.40	784.31	784.18	784.02	783.83	783.60	783.34	783.04	782.72	782.35	781.96	781.53	781.06	780.57	780.07
PGL	784.34	784.45	784.52	784.57	784.58	784.55	784.49	784.40	784.27	784.11	783.92	783.69	783.43	783.14	782.81	782.45	782.05	781.62	781.15	780.66	780.16
GIRDER 7	784.24	784.36	784.43	784.47	784.48	784.46	784.40	784.31	784.18	784.02	783.83	783.60	783.34	783.04	782.72	782.35	781.96	781.53	781.06	780.57	780.07
GIRDER 8	784.06	784.17	784.25	784.29	784.30	784.27	784.22	784.12	784.00	783.84	783.64	783.42	783.15	782.86	782.53	782.17	781.77	781.34	780.88	780.38	779.88
GIRDER 9	783.87	783.99	784.06	784.10	784.11	784.09	784.03	783.94	783.81	783.65	783.46	783.23	782.97	782.67	782.35	781.98	781.59	781.16	780.69	780.20	779.70
GIRDER 10	783.69	783.80	783.88	783.92	783.93	783.90	783.85	783.75	783.63	783.47	783.27	783.05	782.78	782.49	782.16	781.80	781.40	780.97	780.51	780.01	779.51
GIRDER 11	783.50	783.62	783.69	783.73	783.74	783.72	783.66	783.57	783.44	783.28	783.09	782.86	782.60	782.30	781.98	781.61	781.22	780.79	780.32	779.83	779.33
EAST GUTTER LINE	783.42	783.53	783.60	783.65	783.66	783.63	783.57	783.48	783.35	783.19	783.00	782.77	782.51	782.22	781.89	781.53	781.13	780.70	780.23	779.74	779.24
GIRDER 12	783.32	783.43	783.51	783.55	783.56	783.53	783.48	783.38	783.26	783.10	782.90	782.68	782.41	782.12	781.79	781.43	781.03	780.60	780.14	779.64	779.14
*EAST EDGE OF DECK	783.28	783.39	783.46	783.51	783.51	783.49	783.43	783.34	783.21	783.05	782.86	782.63	782.37	782.08	781.75	781.38	780.99	780.56	780.09	779.60	779.10

LEGEND

◐ CONSTRUCTION JOINT AT CONCRETE DIAPHRAGM

* EDGE OF DECK ELEVATION GIVEN AS CONTINUATION OF 2% CROSS SLOPE TO EDGE OF DECK UNDER SIDEWALK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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FRAMING PLAN

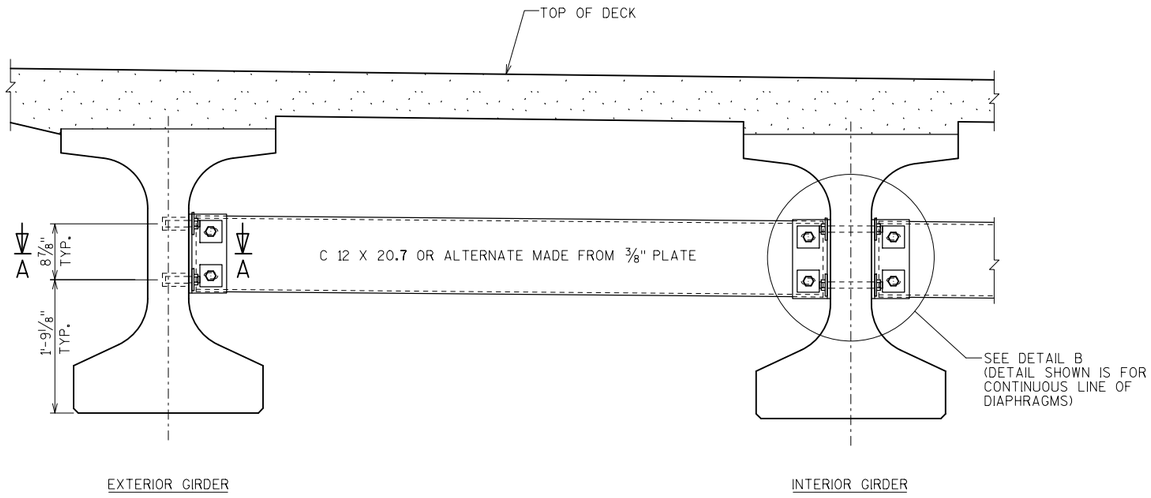
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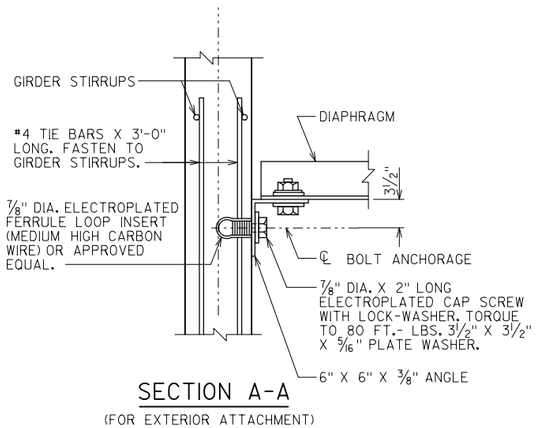
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BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

STATE PROJECT NUMBER
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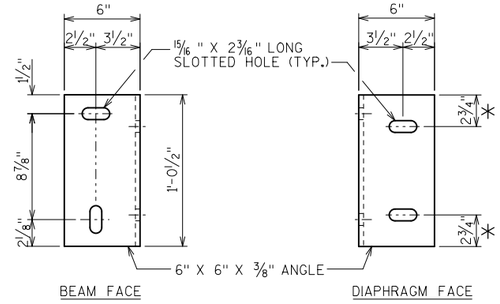


PART TRANSVERSE SECTION AT DIAPHRAGM



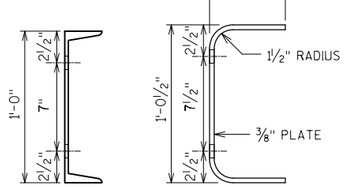
SECTION A-A

(FOR EXTERIOR ATTACHMENT)

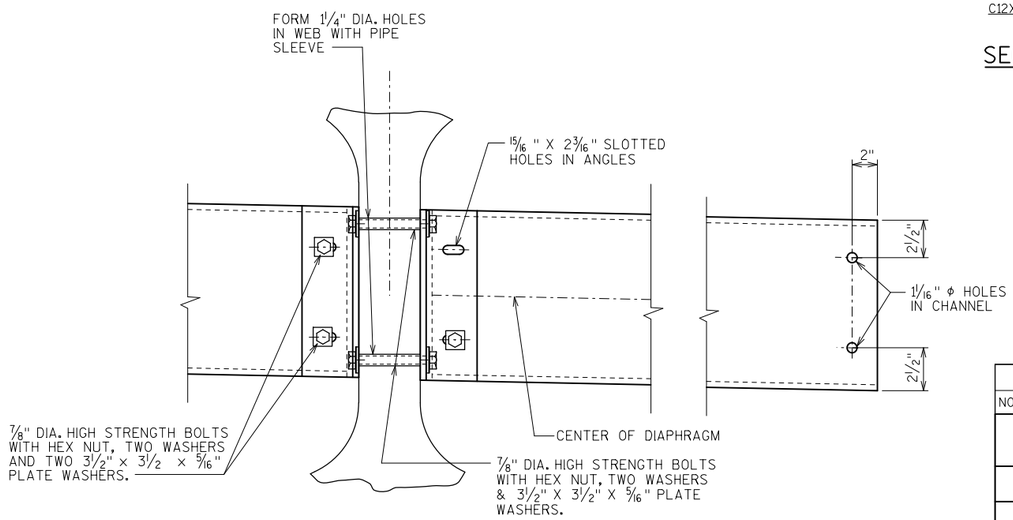


DIAPHRAGM SUPPORT

* 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU DIAPHRAGM



DETAIL B

8

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

DRAWN BY CEB | PLANS CK'D. MJA

INTERMEDIATE STEEL DIAPHRAGMS

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NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-40-1013," EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

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

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

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204'-6" BACK TO BACK OF ABUTMENTS

2'-3" | 100'-0" - SPAN 1 | 100'-0" - SPAN 2 | 2'-3"

TRANSVERSE DECK REINF. SPACING

303 SPA. AT 8" = 202'-0" - S502 & S533 - TOP

302 SPA. AT 8" = 201'-4" - S502 & S533 - BOTTOM

℄ OF BEARING SOUTH ABUT.

LIGHT STD. STA. 110+16.00 SEE SHEET 28 FOR DETAILS

1'-8" MIN. LAP

℄ OF PIER

LIGHT STD. STA. 111+53.00 SEE SHEET 28 FOR DETAILS

℄ OF BEARING NORTH ABUT.

EDGE OF DECK & PARAPET

N

1'-1"

S409 AT 9" | S506 | S407 AT 1'-6" CTRS. | S409 AT 9"

S408 AT 6" CTRS.

33'-0" | 25'-0"

S904

S403 | S403 | S403 | S403

1'-8" MIN. LAP

TOP MAT REINFORCEMENT

B.F. OF ABUTMENT

25'-0"

S533

1'-0" x 1'-4" PAVING NOTCH (TYP.)

222'-6"

144 SPA. AT 1'-6" = 216'-0" - S430

S404 | 6-S431 | S401 | 2'-7" MIN. LAP (TYP.) | S401 | S401 | S401 | S401 | S401 | S401 | 6-S431

6'-0"

110+00 | 111+00 | 112+00

S404

2'-7" MIN. LAP (TYP.)

COLD JT. IN MEDIAN

℄ BRIDGE/ ℄ S. 60TH ST.

4 EQ. SPA.

90°00'00" (TYP.)

104 SPA. AT 1'-0" = 104'-0" - SS901

STAINLESS STEEL REINFORCEMENT AT ABUTMENT PAVING NOTCH (TYP.)

106'-2" OUT TO OUT OF BRIDGE

S502

B.F. OF ABUTMENT

S401 | S401 | S401 | S401 | S401 | S401 | S401

1'-8" MIN. LAP

S401

BOTTOM MAT REINFORCEMENT

EDGE OF SIDEWALK

S408 AT 6" CTRS.

S511 - TYP. AT PARAPET LAP BARS MIN. 1'-9"

DEFLECTION JOINT

S409 AT 9" | S506 | S407 AT 1'-6" CTRS. | S409 AT 9"

1'-8" MIN. LAP

1'-1"

LIGHT STD. STA. 110+16.00 SEE SHEET 28 FOR DETAILS

EDGE OF DECK & PARAPET

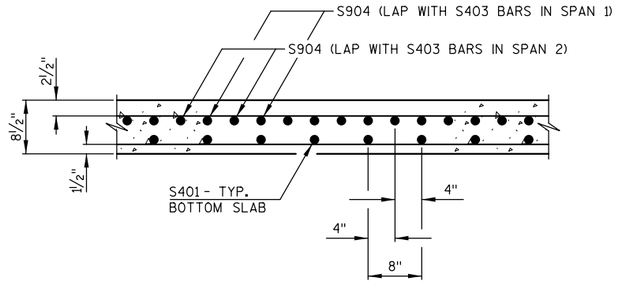
LIGHT STD. STA. 111+53.00 SEE SHEET 28 FOR DETAILS

TRANSVERSE SIDEWALK REINFORCEMENT SPACING

404 SPA. AT 6" = 202'-0" - S408, 606 SPA. AT 4" = 202'-0" - S506

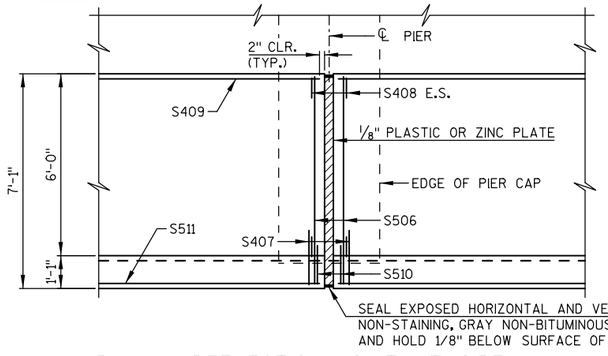
(TYPICAL AT EACH SIDEWALK)

PLAN



CROSS SECTION THRU SLAB - AT PIER

(LOOKING NORTH)



PLAN - DEFLECTION JOINT AT SIDEWALK

(NOT TO SCALE)

PLACE DEFLECTION JOINT IN SIDEWALK AND PARAPET CENTERED OVER PIER. SEE "PLAN - DEFLECTION JOINT AT SIDEWALK" DETAIL ON THIS SHEET AND SHEET 30 "VERTICAL FACE PARAPET MODIFIED" FOR DETAILS.

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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SUPERSTRUCTURE PLAN

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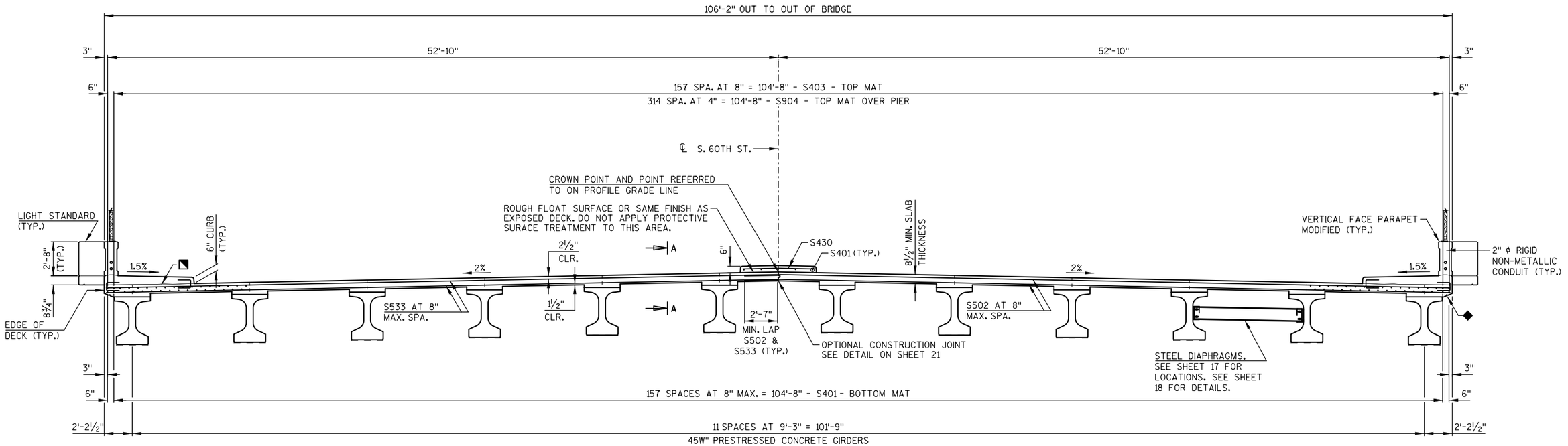
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BATCH PRINT SHEET CSD OF NSD
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PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

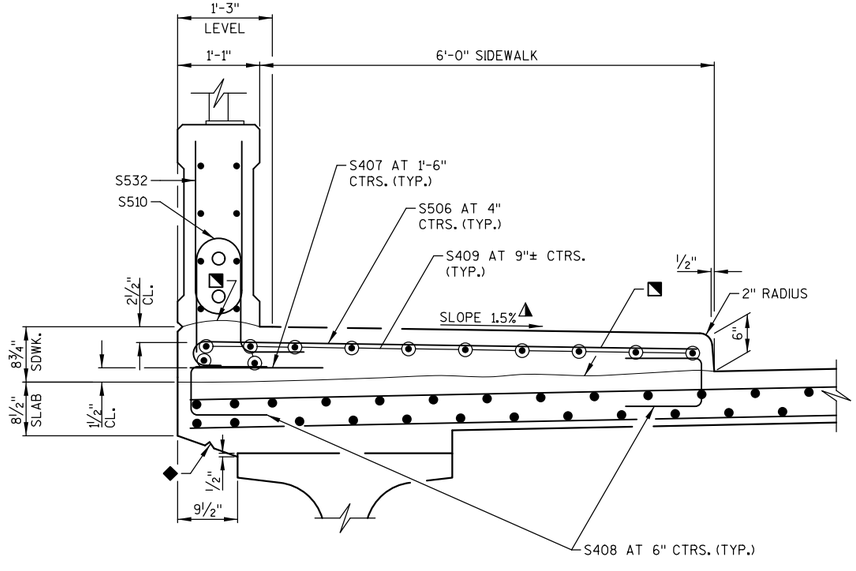
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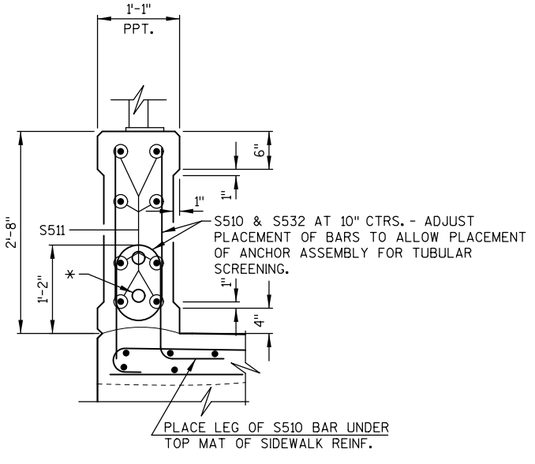


CROSS SECTION THRU ROADWAY

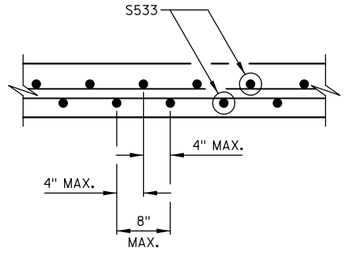
(LOOKING NORTH)



SIDEWALK DETAIL



SECTION THRU PARAPET ON BRIDGE



SECTION A-A

(TRANSVERSE BAR STAGGER DETAIL)

NOTES

EMBED S408 BARS INTO DECK PRIOR TO DECK POUR.

EMBED S510 BARS INTO SIDEWALK PRIOR TO POURING SIDEWALK.

LAP LONGITUDINAL NO. 5 BARS IN PARAPET 1'-9" MIN.

CLEAN ALL LOOSE MATERIAL ON THE DECK AT THE MEDIAN LOCATION PRIOR TO MEDIAN PLACEMENT USING HIGH PRESSURE WATER OR AIR, ENSURING ALL FREE-STANDING WATER IS REMOVED PRIOR TO MEDIAN PLACEMENT. NEAT CEMENT IS REQUIRED AS PER 509.3.9.2 OF THE STANDARD SPECIFICATIONS UNLESS THE MEDIAN IS POURED WITHIN 45 DAYS OF COMPLETING THE DECK POUR.

LEGEND

- ◥ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE X-SLOPE.
- ◆ ¾" V-GROOVE REQUIRED. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM (TYP. EACH SIDE)
- * 2 - 2" RIGID NONMETALLIC CONDUIT SCHEDULE 40
- ◭ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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SUPERSTRUCTURE CROSS SECTION

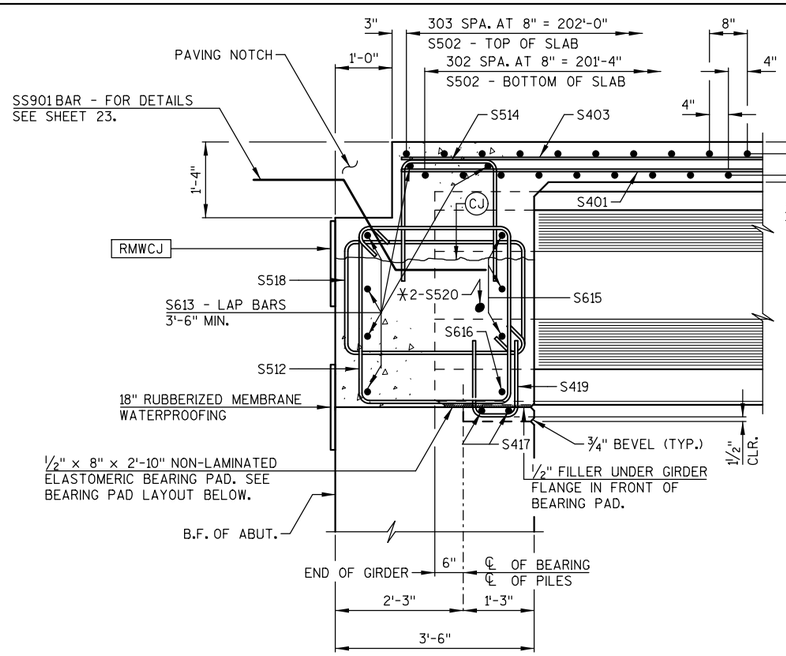
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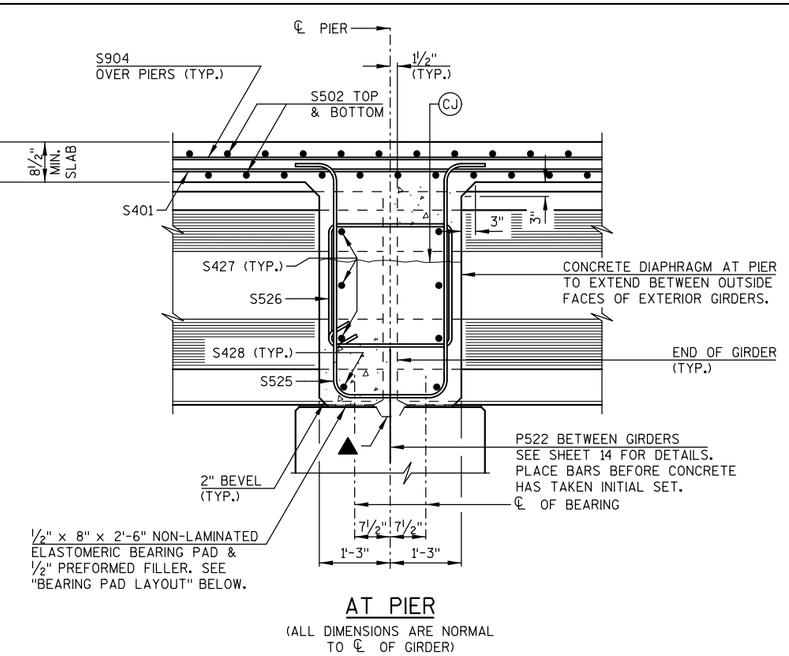
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AT ABUTMENT

(ALL DIMENSIONS ARE NORMAL TO ℄ OF GIRDER)



AT PIER

(ALL DIMENSIONS ARE NORMAL TO ℄ OF GIRDER)

PART LONGITUDINAL SECTION

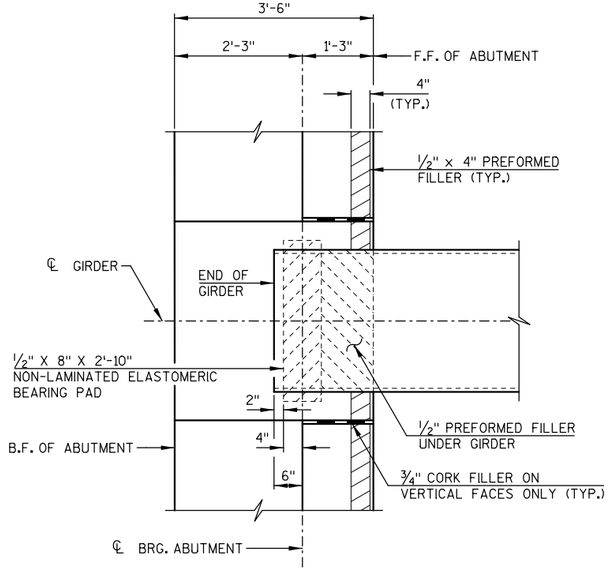
LEGEND

✳ 1½" DIA. HOLE IN WEB FOR S520 BARS. PLACE TWO S520 BARS SYMMETRICAL ABOUT THE ℄ OF EACH GIRDER.

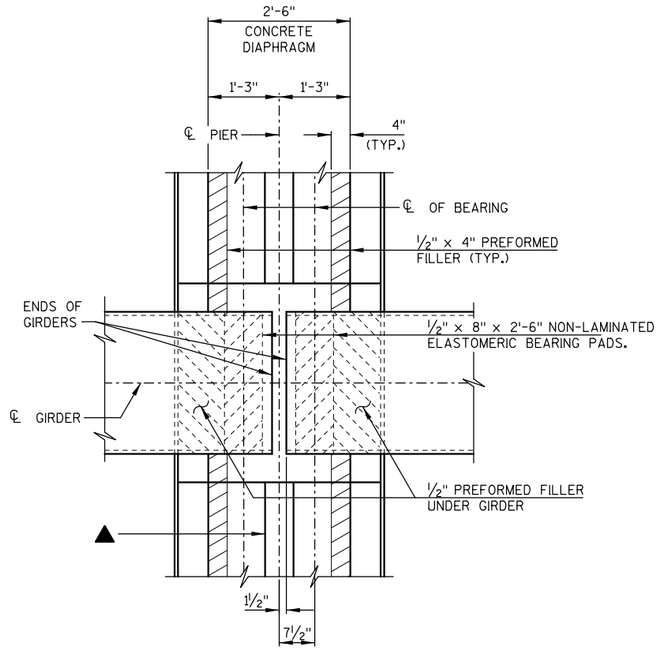
▲ KEYED CONSTRUCTION JOINT BETWEEN GIRDERS FORMED BY BEVELED 2" x 6".

Ⓒ OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

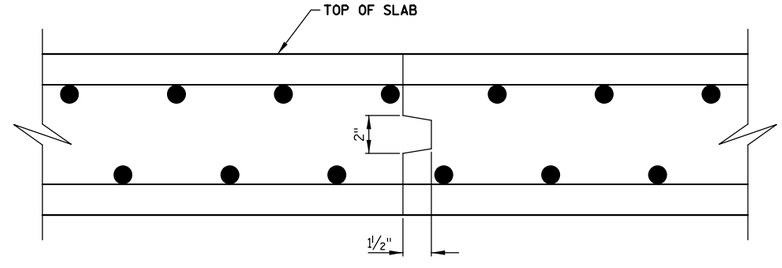
RMWCJ 18" RUBBERIZED MEMBRANE WATERPROOFING IF CONSTRUCTION JOINT IS USED. (COST INCLUDED WITH BID ITEM "CONCRETE MASONRY BRIDGES")



AT ABUTMENT



AT PIER



OPTIONAL LONGITUDINAL CONSTRUCTION JOINT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

DRAWN BY CEB | PLANS CK'D. MJA

SUPERSTRUCTURE DETAILS (1 OF 2)

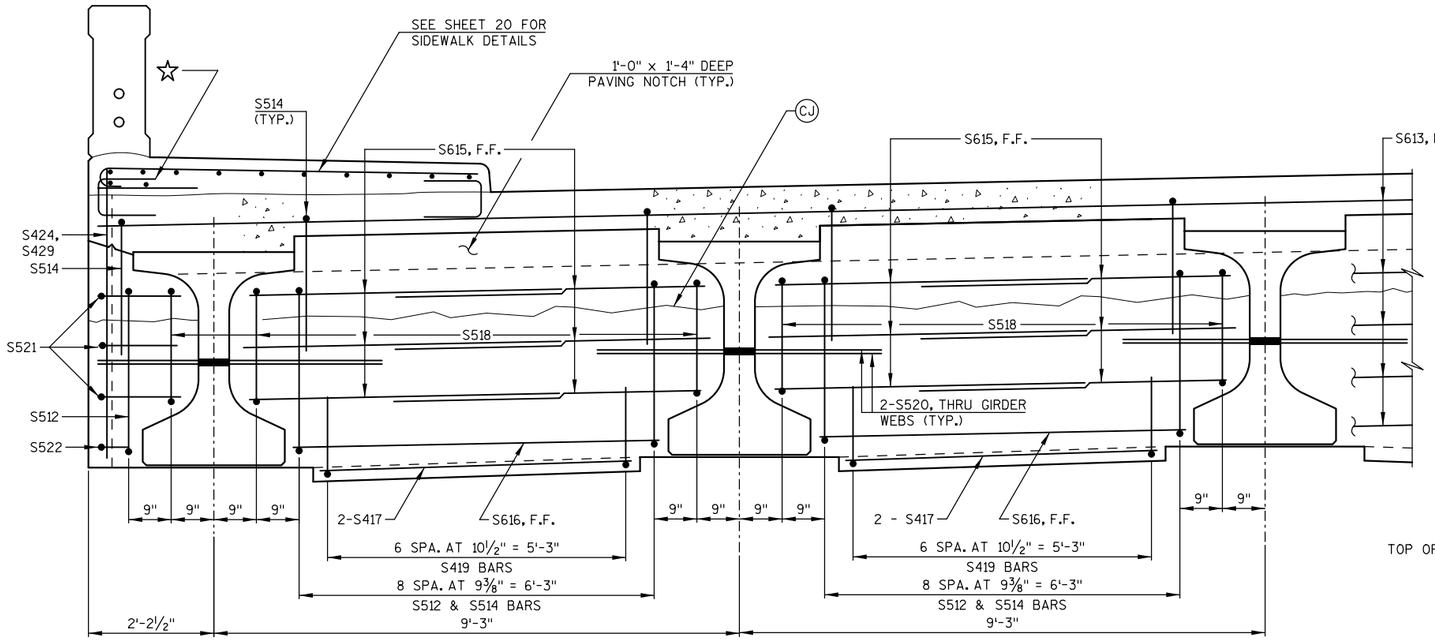
SHEET 21 OF 33

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8

8

STATE PROJECT NUMBER
1100-46-70



EXTERIOR GIRDER
(END OF DIAPHRAGM THRU G2)

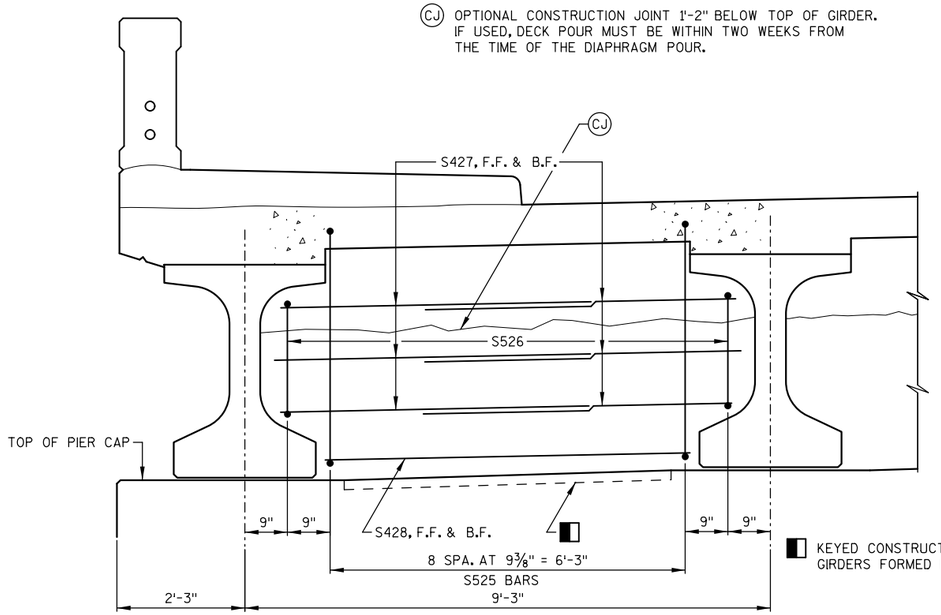
INTERIOR GIRDERS
(TYPICAL G2 THRU G11)

DIAPHRAGM AT ABUTMENT

(SOUTH ABUTMENT SHOWN - LOOKING SOUTH)
(NORTH ABUTMENT SIMILAR)

☆ TIE S408 BARS TO DIAPHRAGM REINFORCEMENT BEFORE DIAPHRAGM CONCRETE IS POURED (TYP.)

(CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN TWO WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.



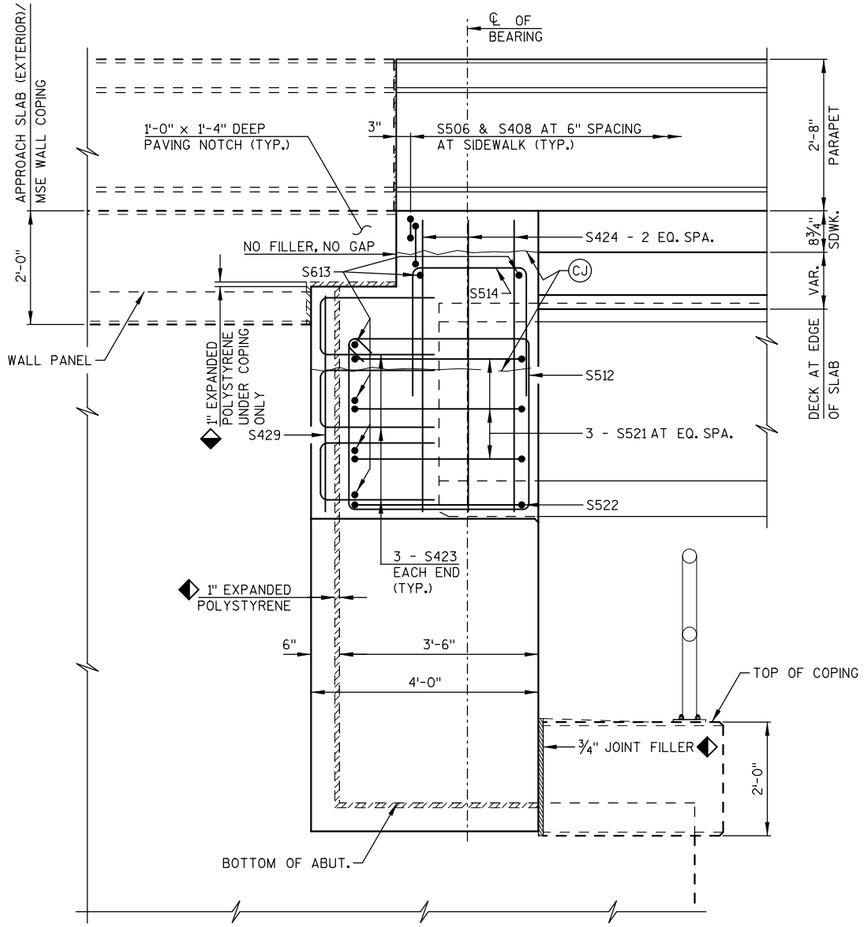
◧ KEYED CONSTRUCTION JOINT BETWEEN GIRDERS FORMED BY BEVELED 2" x 6".

EXTERIOR GIRDER

INTERIOR GIRDER

DIAPHRAGM AT PIER

(LOOKING NORTH - TYPICAL AT EACH BAY)



TYPICAL END VIEW AT ABUTMENT DIAPHRAGM

(EAST END SHOWN, WEST SIMILAR)

◆ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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SUPERSTRUCTURE DETAILS (2 OF 2)

SHEET 22 OF 33
346

STATE PROJECT NUMBER

1100-46-70

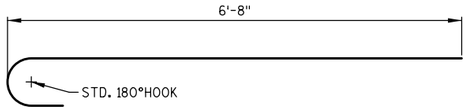
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

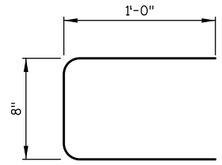
BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
STAINLESS STEEL BARS					TOTAL WEIGHT = 3,540 LBS	
SS901	208	5-0	X		CONC. ABUT. DIAPHRAGM TO APPROACH SLAB	VERT.
COATED BARS					TOTAL WEIGHT = 206,300 LBS	
S401	1155	30-4			DECK - BOTTOM & MEDIAN	LONGIT.
S502	607	55-3			DECK - TOP AND BOTTOM	TRANS.
S403	640	39-9			DECK - TOP	LONGIT.
S904	317	58-0			DECK - TOP OVER PIER	LONGIT.
S404	2	13-11	X		MEDIAN NOSE	HORIZ.
S506	1214	7-3	X		SIDEWALK - TOP	TRANS.
S407	272	1-9			SIDEWALK - BOTTOM	TRANS.
S408	1620	2-6	X		SIDEWALK - AT DECK JOINT	VERT.
S409	144	34-9			SIDEWALK - TOP AND BOTTOM	LONGIT.
S510	488	4-4	X		PARAPET - EACH SIDE	VERT.
S511	96	34-10			PARAPET - EACH SIDE	LONGIT.
S512	202	13-0	X		ABUT. - DIAPHRAGM - STIRRUP	VERT.
S613	24	54-8			ABUT. - DIAPHRAGM - TOP AND BACK FACE	HORIZ.
S514	202	6-3	X		ABUT. - DIAPHRAGM - TOP - BETWEEN GIRDERS	VERT.
S615	132	5-2			ABUT. - DIAPHRAGM - FRONT FACE	HORIZ.
S616	22	6-5			ABUT. - DIAPHRAGM - BOTTOM - FRONT FACE	HORIZ.
S417	44	5-5			ABUT. - DIAPHRAGM - BOTTOM - FRONT FACE	HORIZ.
S518	48	11-4	X		ABUT. - DIAPHRAGM - STIRRUP	VERT.
S419	154	3-5	X		ABUT. - DIAPHRAGM - BOTTOM - FRONT FACE	VERT.
S520	48	6-0			ABUT. - DIAPHRAGM - THRU GIRDER WEB	HORIZ.
S521	12	7-3	X		ABUT. - DIAPHRAGM - EACH END	HORIZ.
S522	4	3-11	X		ABUT. - DIAPHRAGM - EACH END - BOTTOM	HORIZ.
S423	12	4-5	X		ABUT. - DIAPHRAGM - EACH END	VERT.
S424	12	5-0			ABUT. - DIAPHRAGM - EACH END	VERT.
S525	99	11-8	X		PIER - DIAPHRAGM - STIRRUP	VERT.
S526	22	9-4	X		PIER - DIAPHRAGM - STIRRUP	VERT.
S427	132	4-9			PIER - DIAPHRAGM - EACH FACE	HORIZ.
S428	22	6-5			PIER - DIAPHRAGM - BOTTOM - EACH FACE	HORIZ.
S429	4	3-9			ABUT. - DIAPHRAGM - EACH END	VERT.
S430	145	5-8			MEDIAN	TRANS.
S431	12	8-8		△	MEDIAN	LONGIT.
S532	488	4-9	X		PARAPET - EACH SIDE	VERT.
S533	607	52-8			DECK - TOP AND BOTTOM	TRANS.

BAR SERIES

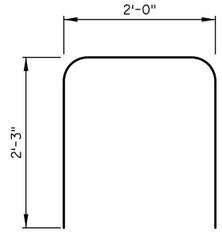
MARK	NO. REQ'D	LENGTH
S431	4 SETS OF 3	7'-7" TO 9'-8"



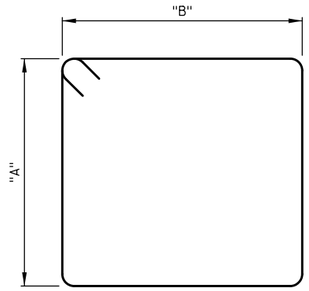
S506



S408

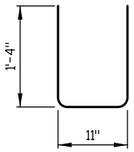


S514

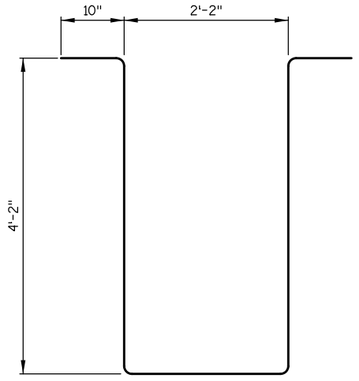


S512, S518, S526

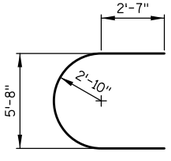
BAR MARK	DIM "A"	DIM "B"
S512	3'-0"	3'-2"
S518	2'-2"	3'-2"
S526	2'-2"	2'-2"



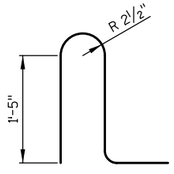
S419



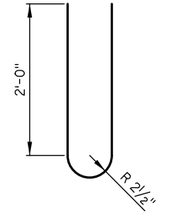
S525



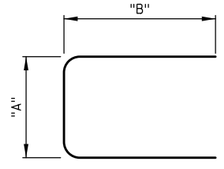
S404



S510

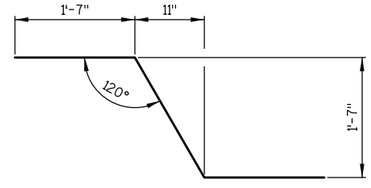


S532



S521, S522, S423

BAR MARK	DIM "A"	DIM "B"
S521	3'-0½"	2'-3"
S522	3'-0½"	7"
S423	7"	2'-0"



SS901

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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SUPERSTRUCTURE BILL OF BARS

SHEET 23 OF 33

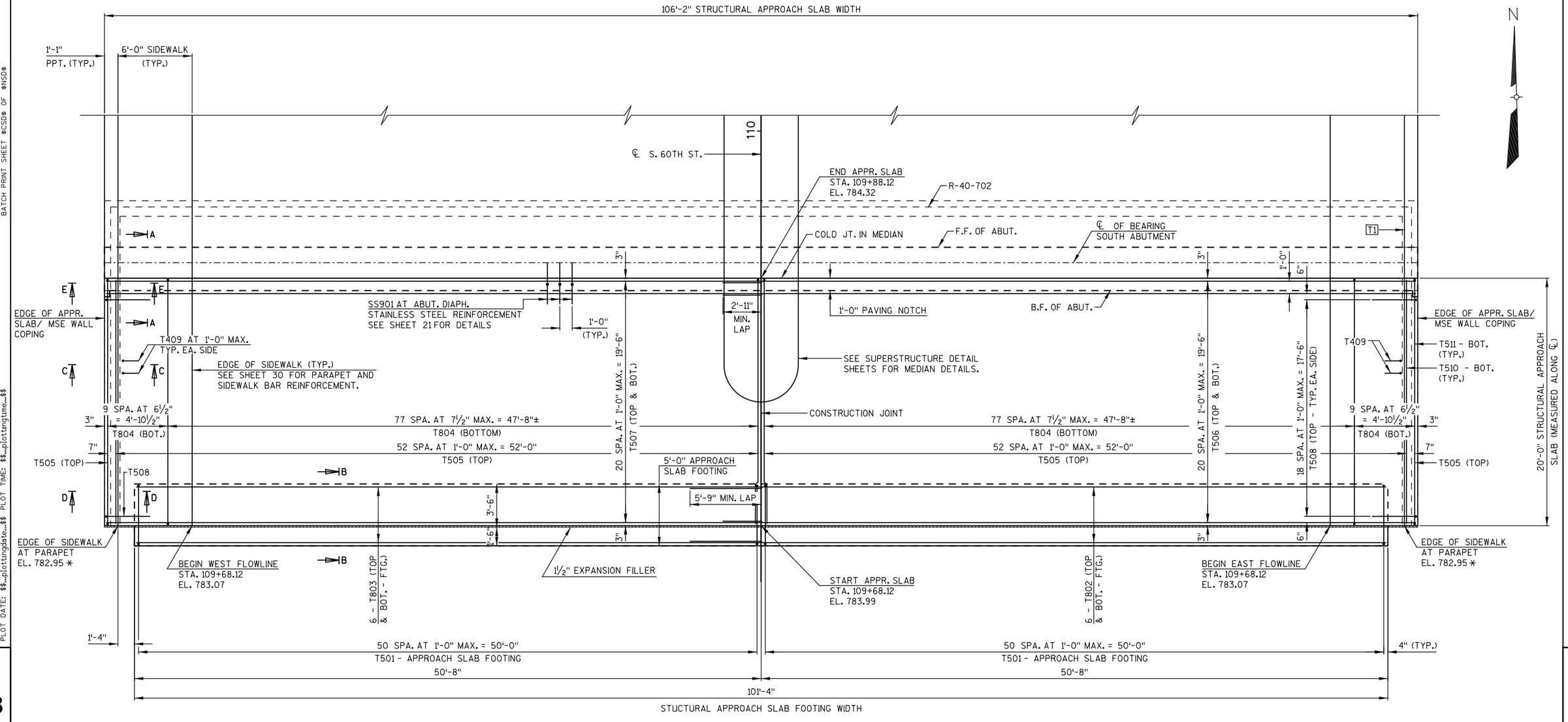
347

8

8

BATCH PRINT SHEET CSD OF NSD
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PEN TABLE: $$...pentable...$$
FILE NAME: $$....designfile....$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

STATE PROJECT NUMBER
1100-46-70



SOUTH STRUCTURAL APPROACH SLAB

NOTES

FOR SECTION VIEWS SEE SHEET 25.

LEGEND

T1 SEE SHEET "VERTICAL FACE PARAPET MODIFIED" FOR LOCATION OF NAME PLATE WITH RESPECT TO THE END OF THE PARAPET.

* ELEVATION GIVEN AS CONTINUATION OF 2% CROSS SLOPE TO EDGE OF SIDEWALK AT PARAPET UNDER SIDEWALK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

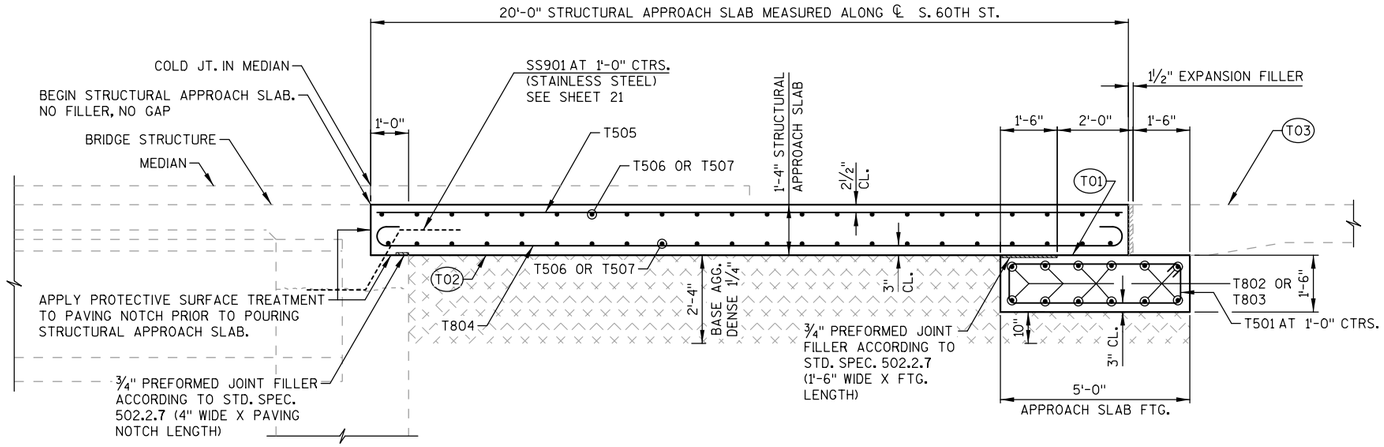
DRAWN BY CEB | PLANS CK'D. MJA

SOUTH STRUCTURAL APPROACH SLAB

SHEET 24 OF 33
348

8

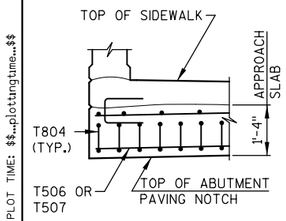
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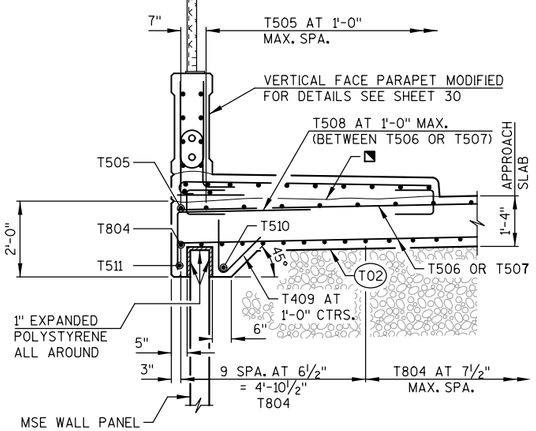
SECTION A-A

SECTION B-B

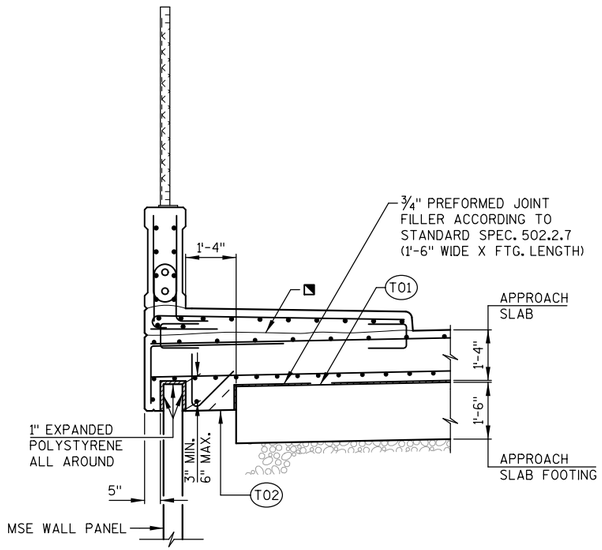
SECTION THRU STRUCTURAL APPROACH SLAB



SECTION E-E



SECTION C-C
(AT WALL R-40-702)

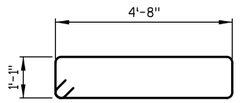


SECTION D-D
(AT WALL R-40-702)

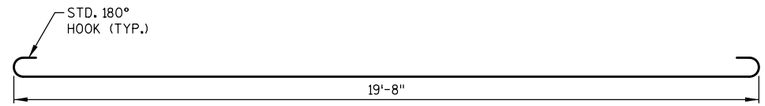
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

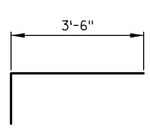
MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
COATED BARS					TOTAL WEIGHT = 18,100 LBS
T501	102	12-2	X		APPROACH SLAB - FOOTING - STIRRUPS VERT.
T802	12	56-3			APPROACH SLAB - FOOTING TRANS.
T803	12	50-6			APPROACH SLAB - FOOTING TRANS.
T804	174	21-6	X		APPROACH SLAB - BOTTOM LONGIT.
T505	108	19-8			APPROACH SLAB - TOP LONGIT.
T506	42	55-10			APPROACH SLAB - TOP & BOTTOM TRANS.
T507	42	52-11			APPROACH SLAB - TOP & BOTTOM TRANS.
T508	38	4-10	X		APPROACH SLAB - TOP - WALL TRANS.
T409	38	3-0	X		APPROACH SLAB - WALL VERT.
T510	2	18-8			APPROACH SLAB - BOTTOM - WALL LONGIT.
T511	2	18-2			APPROACH SLAB - BOTTOM - WALL LONGIT.



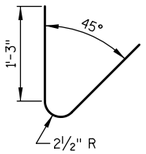
T501



T804



T508



T409

LEGEND

(T01) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.

(T02) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.

(T03) CONCRETE PAVEMENT APPROACH SLAB. SEE ROADWAY PLANS FOR DETAILS.

▙ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. MATCH APPROACH SLAB X-SLOPE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

DRAWN BY CEB | PLANS CK'D. MJA

SOUTH STRUCTURAL APPROACH SLAB DETAILS

SHEET 25 OF 33
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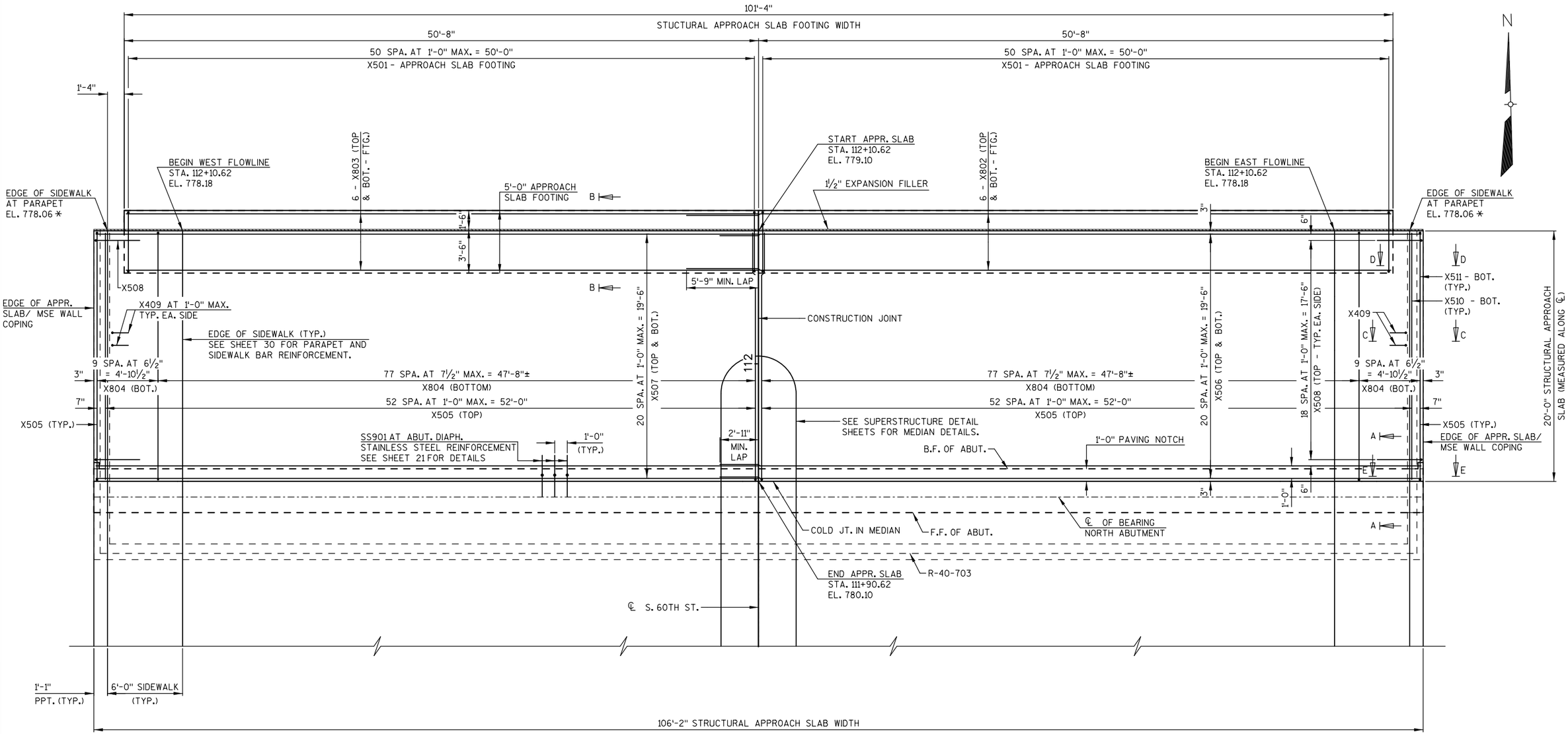
BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

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STATE PROJECT NUMBER
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BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$



NORTH STRUCTURAL APPROACH SLAB

NOTES

FOR SECTION VIEWS SEE SHEET 27.

LEGEND

* ELEVATION GIVEN AS CONTINUATION OF 2% CROSS SLOPE TO EDGE OF SIDEWALK AT PARAPET UNDER SIDEWALK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

DRAWN BY CEB | PLANS CK'D. MJA

NORTH STRUCTURAL APPROACH SLAB

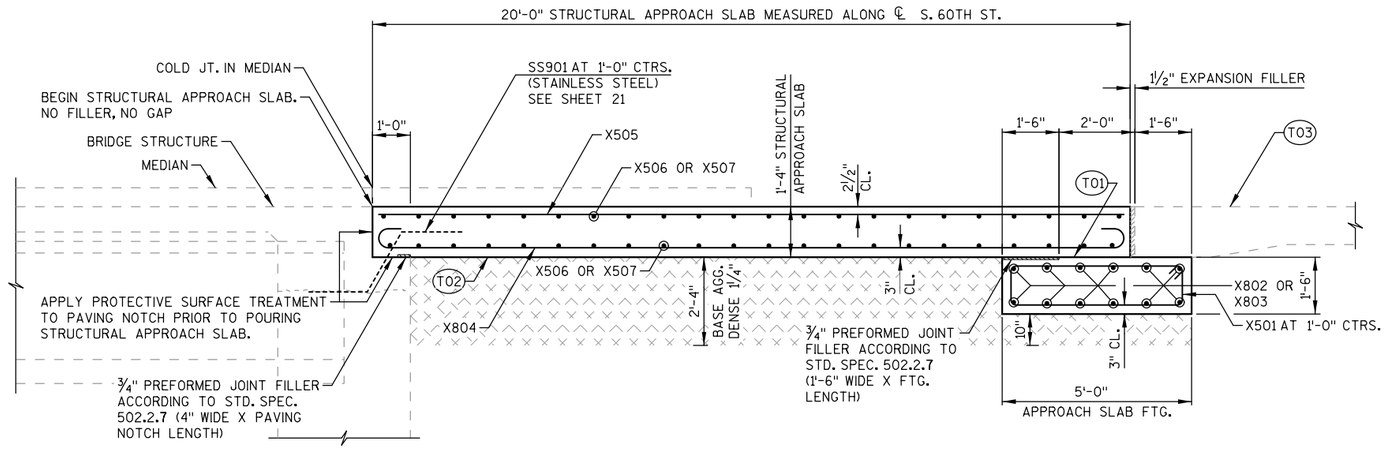
SHEET 26 OF 33
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STATE PROJECT NUMBER

1100-46-70



SECTION A-A

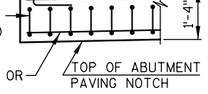
SECTION B-B

SECTION THRU STRUCTURAL APPROACH SLAB

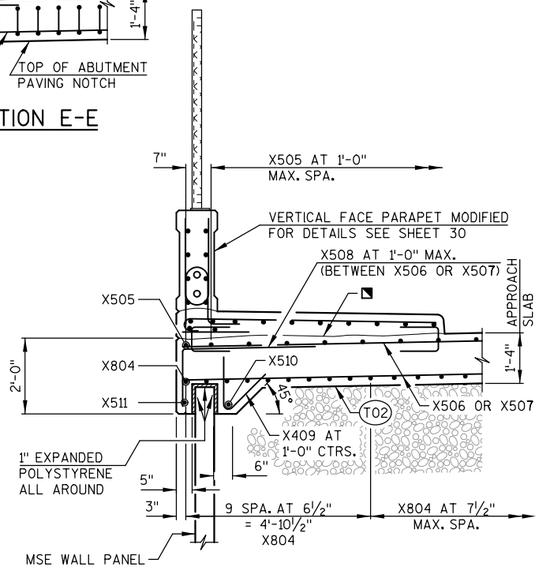
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

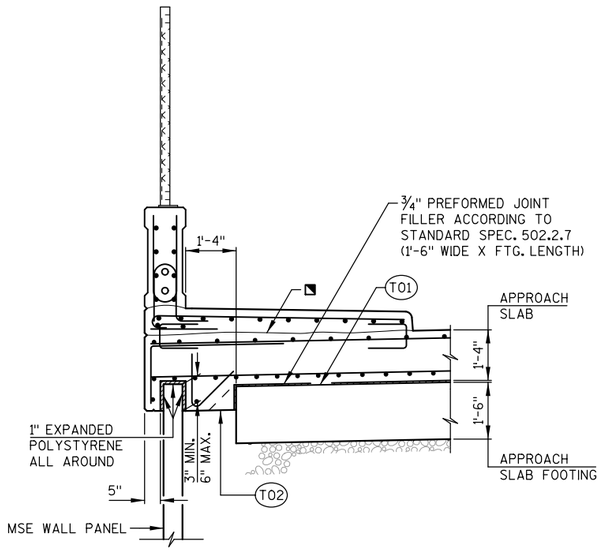
MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
COATED BARS					TOTAL WEIGHT = 18,100 LBS
X501	102	12-2	X		APPROACH SLAB - FOOTING - STIRRUPS VERT.
X802	12	56-3			APPROACH SLAB - FOOTING TRANS.
X803	12	50-6			APPROACH SLAB - FOOTING TRANS.
X804	174	21-6	X		APPROACH SLAB - BOTTOM LONGIT.
X505	108	19-8			APPROACH SLAB - TOP LONGIT.
X506	42	55-10			APPROACH SLAB - TOP & BOTTOM TRANS.
X507	42	52-11			APPROACH SLAB - TOP & BOTTOM TRANS.
X508	38	4-10	X		APPROACH SLAB - TOP - WALL TRANS.
X409	38	3-0	X		APPROACH SLAB - WALL VERT.
X510	2	18-8			APPROACH SLAB - BOTTOM - WALL LONGIT.
X511	2	18-2			APPROACH SLAB - BOTTOM - WALL LONGIT.



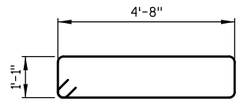
SECTION E-E



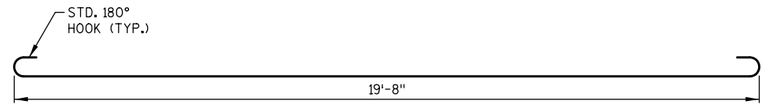
SECTION C-C
(AT WALL R-40-703)



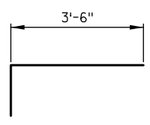
SECTION D-D
(AT WALL R-40-703)



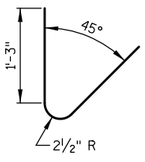
X501



X804



X508



X409

LEGEND

- (T01) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.
- (T02) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.
- (T03) CONCRETE PAVEMENT APPROACH SLAB. SEE ROADWAY PLANS FOR DETAILS.
- ◥ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. MATCH APPROACH SLAB X-SLOPE.

NO.	DATE	REVISION	BY

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STRUCTURE B-40-1013

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NORTH STRUCTURAL APPROACH SLAB DETAILS

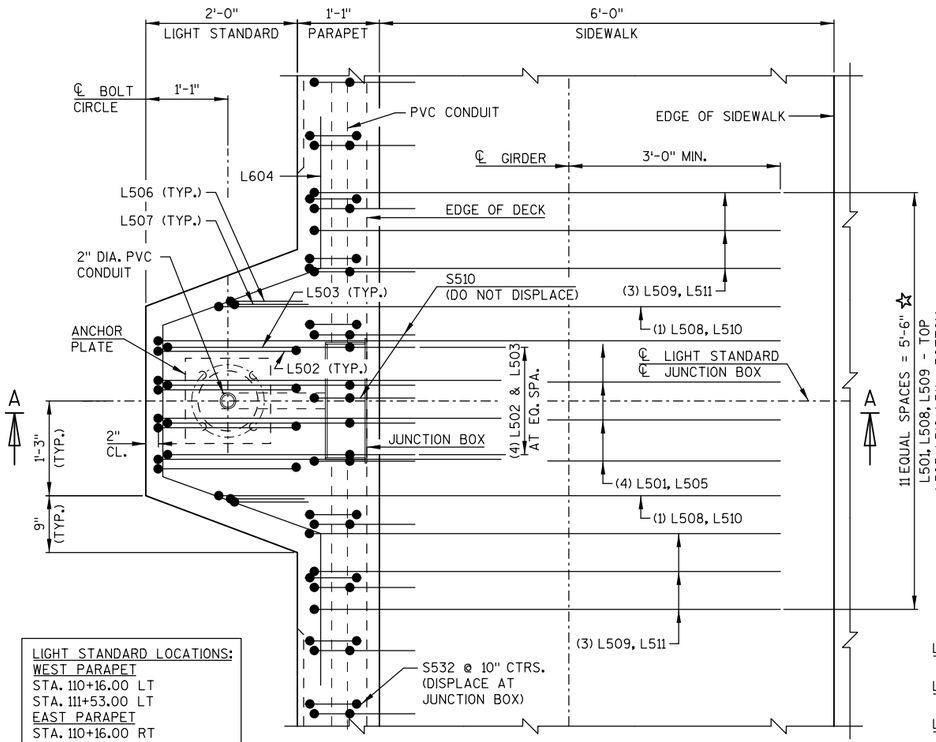
SHEET 27 OF 33
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PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$
BATCH PRINT SHEET CSD OF NSD

8

STATE PROJECT NUMBER
1100-46-70

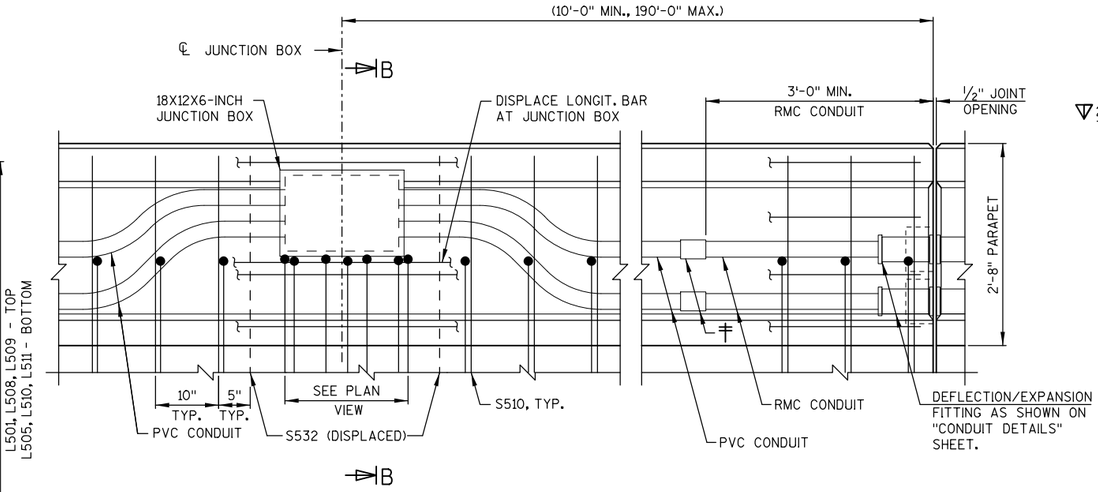
BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$



LIGHT STANDARD LOCATIONS:
WEST PARAPET
STA. 110+16.00 LT
STA. 111+53.00 LT
EAST PARAPET
STA. 110+16.00 RT
STA. 111+53.00 RT

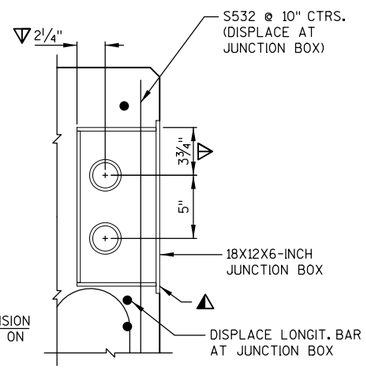
PLAN AT LIGHT STANDARD

(SIDEWALK STEEL NOT SHOWN FOR CLARITY)

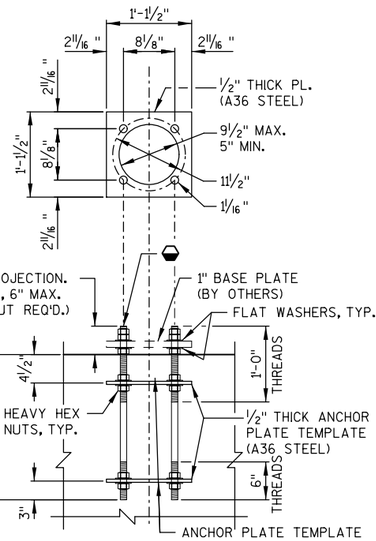


INSIDE ELEVATION AT JUNCTION BOX AT SEMI-EXP. JOINT

(DECK & SIDEWALK STEEL NOT SHOWN FOR CLARITY)

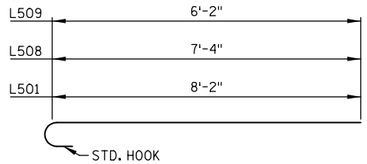


SECTION B-B

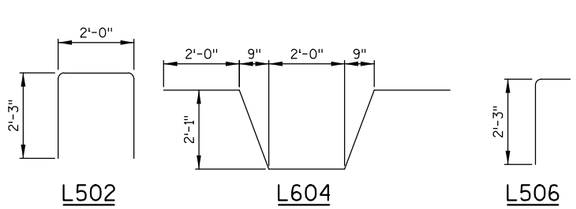


ANCHORAGE DETAIL

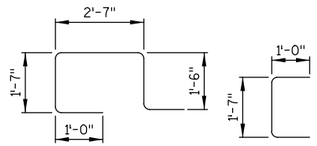
SINGLE ASSEMBLY SHOWN
(4) - RODS REQUIRED PER ASSEMBLY



L501, L508, L509



L502 L604 L506



L503 L507

LEGEND

◐ CONSTRUCTION JOINT, STRIKE OFF AS SHOWN.

◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.

▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.

╪ NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).

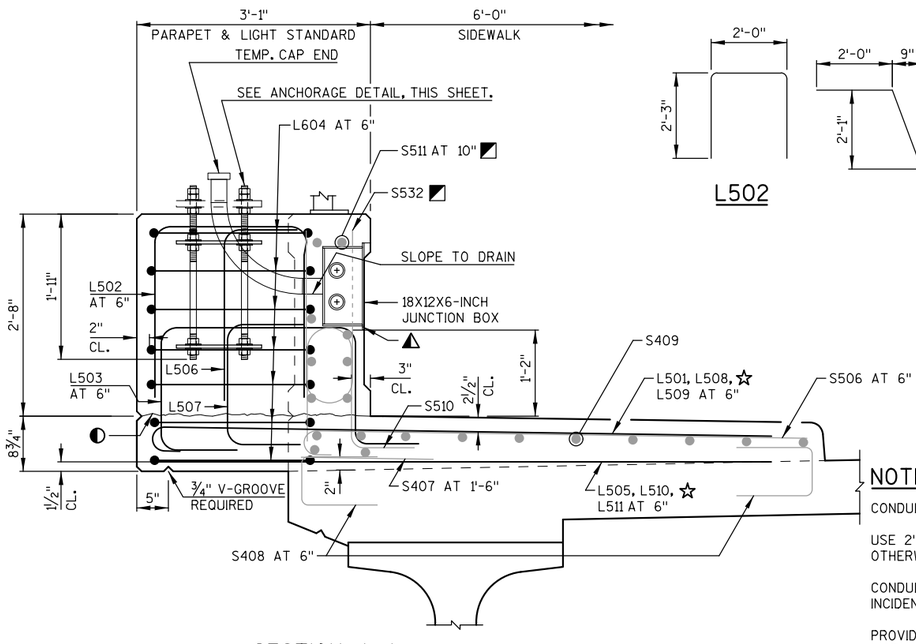
PVC = POLYVINYL CHLORIDE (RIGID NONMETALLIC) CONDUIT

RMC = RIGID METALLIC CONDUIT

☆ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN THE SIDEWALK.

⬭ 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.

◩ DISPLACE AT JUNCTION BOX.



SECTION A-A

(DECK STEEL NOT SHOWN FOR CLARITY)

NOTES

CONDUIT SHALL BE EMBEDDED 2" CLEAR.

USE 2" DIA. RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE.

CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS INCIDENTAL TO CONDUIT WORK.

PROVIDE JUNCTION BOXES FROM THE APPROVED PRODUCTS LIST.

SEE "CONDUIT DETAILS" SHEET FOR ADDITIONAL INFORMATION.

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D	LENGTH	BENT	LOCATION	
COATED BARS				TOTAL WEIGHT = 1,430 LBS	
L501	16	8-9	X	LIGHT STD. - SIDEWALK - TOP	TRANS.
L502	16	6-3	X	LIGHT STD. - PARAPET	VERT.
L503	16	7-0	X	LIGHT STD. - PARAPET	VERT.
L604	28	10-0	X	LIGHT STD. - PARAPET	HORIZ.
L505	16	8-2		LIGHT STD. - SIDEWALK - BOTTOM	TRANS.
L506	8	3-2	X	LIGHT STD. - PARAPET	VERT.
L507	8	3-4	X	LIGHT STD. - PARAPET	VERT.
L508	8	7-11	X	LIGHT STD. - SIDEWALK - TOP	TRANS.
L509	24	6-9	X	LIGHT STD. - SIDEWALK - TOP	TRANS.
L510	8	7-4		LIGHT STD. - SIDEWALK - BOTTOM	TRANS.
L511	24	6-2		LIGHT STD. - SIDEWALK - BOTTOM	TRANS.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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LIGHT SUPPORT DETAILS

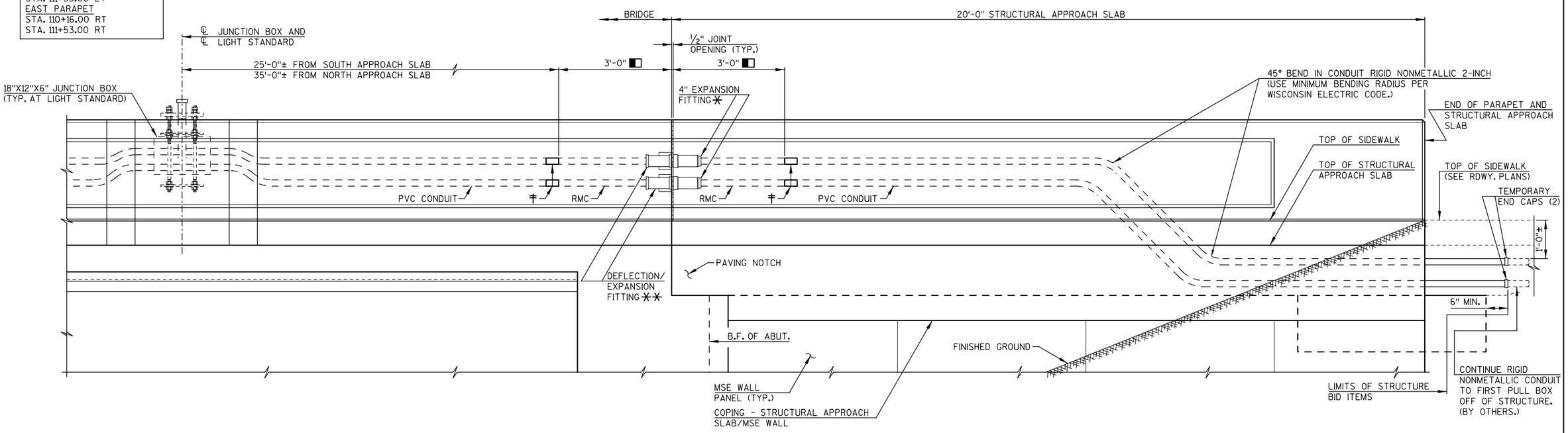
SHEET 28 OF 33
352

8

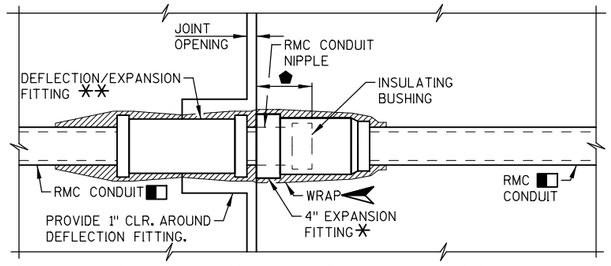
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BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

LIGHT STANDARD LOCATIONS:
WEST PARAPET
STA. 110+16.00 LT
STA. 111+53.00 LT
EAST PARAPET
STA. 110+16.00 RT
STA. 111+53.00 RT



OUTSIDE ELEVATION OF PARAPET AT MSE WALL



DEFLECTION/EXPANSION AND 4" EXPANSION FITTING

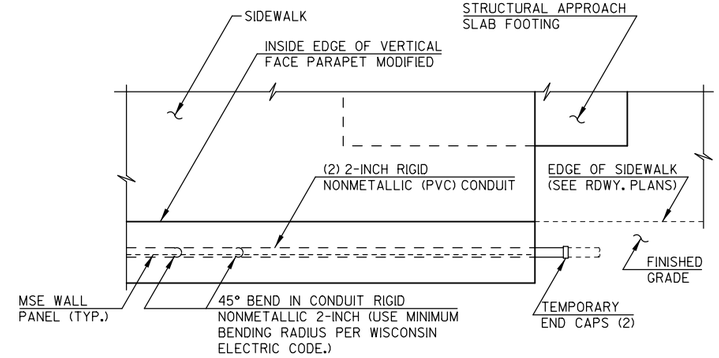
THIS DETAIL ACCOMMODATES A MAXIMUM OF 4" TOTAL MOVEMENT AND UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION. BOND JUMPER NOT SHOWN FOR CLARITY

LEGEND

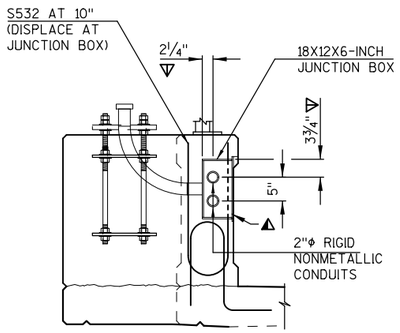
- ■ USE 2" DIA. RIGID METALLIC (RMC) CONDUIT AT FITTINGS. PROVIDE RMC FOR 3'-0" MIN. ON EACH SIDE OF JOINT OPENINGS UNLESS NOTED OTHERWISE.
- ‡ NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).
- ◀ SPONGE RUBBER WRAP TO BE AASHTO M153, TYPE 1 OR EQUIVALENT - ¼" MINIMUM THICKNESS. PROVIDE WRAP FOR THE ENTIRE LENGTH OF THE FITTING OR AS SHOWN. SPONGE RUBBER WRAP INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".
- ⬟ POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT IN EACH DIRECTION. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.
- ✳ EXPANSION FITTING REQUIREMENTS:
  - 4" TOTAL MOVEMENT WITH BONDING JUMPER
- ✳✳ DEFLECTION/EXPANSION FITTING REQUIREMENTS:
  - UP TO ¾" CONDUIT CONTRACTION OR EXPANSION AND UP TO 30° OF ANGULAR MISALIGNMENT IN ANY DIRECTION WITH BONDING JUMPER
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.

PVC = POLYVINYL CHLORIDE (RIGID NONMETALLIC) CONDUIT

RMC = RIGID METALLIC CONDUIT



PLAN OF PARAPET AT MSE WALL



SECTION THRU PARAPET ON BRIDGE

NOTES

CONDUIT SHALL BE EMBEDDED 2" CLEAR.

USE 2" DIA. RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE.

CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS INCIDENTAL TO CONDUIT WORK.

CONDUIT BENDS SHALL CONFORM TO THE NATIONAL ELECTRIC CODE.

RAILING TUBULAR SCREENING AND AESTHETIC DETAILS NOT SHOWN FOR CLARITY.

TERMINATE CONDUIT AT 24"X36" PULL BOX. REFER TO ROADWAY PLANS FOR LOCATION AND DETAILS.

PULL BOX QUANTITIES ARE NOT INCORPORATED INTO THE STRUCTURE "TOTAL ESTIMATED QUANTITIES".

VERIFY PULL BOX LOCATION BEFORE DETERMINING FINAL LENGTH OF RIGID NONMETALLIC CONDUIT EXTENDING OUTSIDE THE STRUCTURE LIMIT.

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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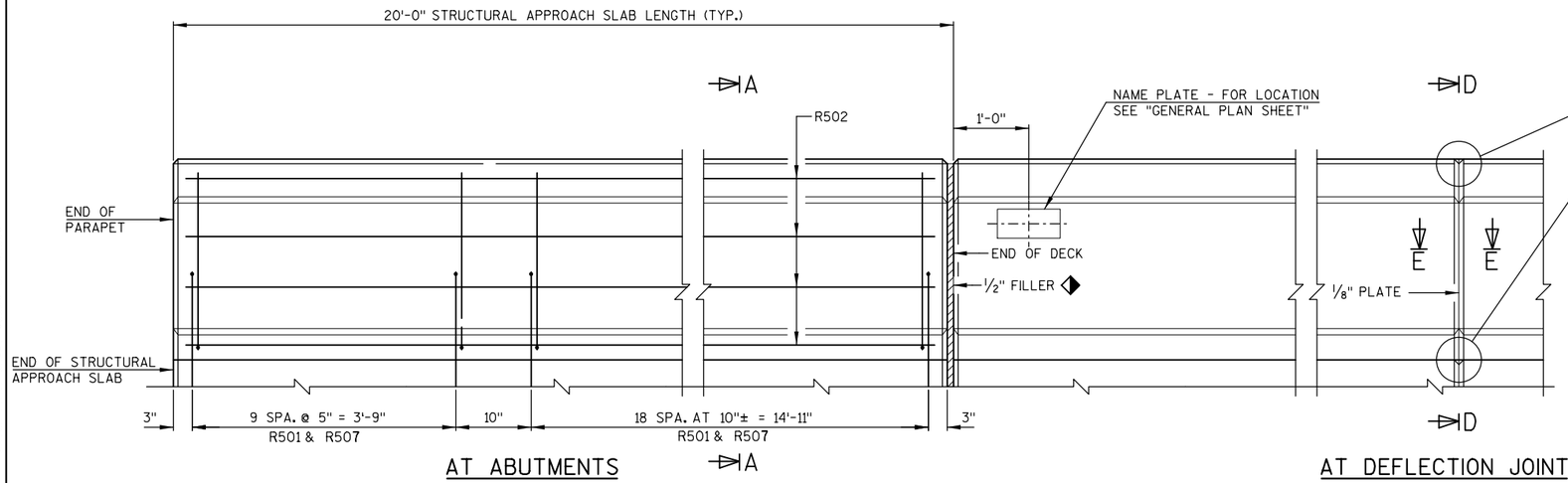
CONDUIT DETAILS

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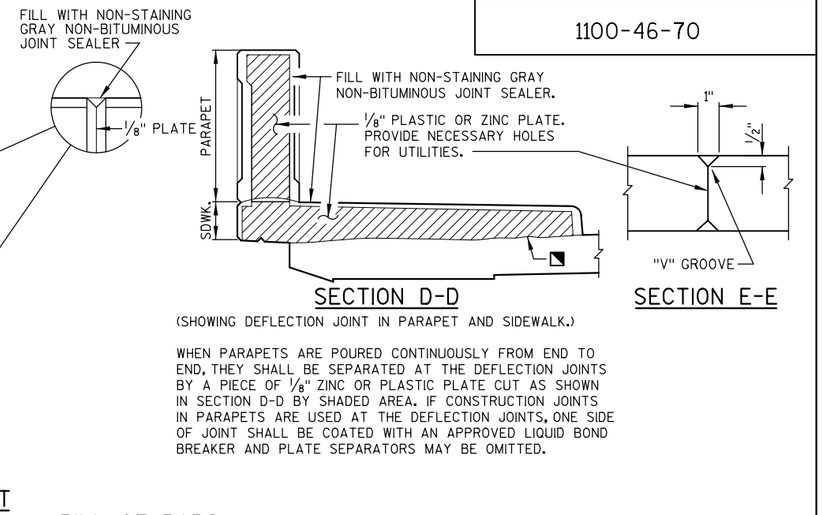
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8

BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$



AT ABUTMENTS



AT DEFLECTION JOINT
(AT ℄ PIER)

SECTION D-D

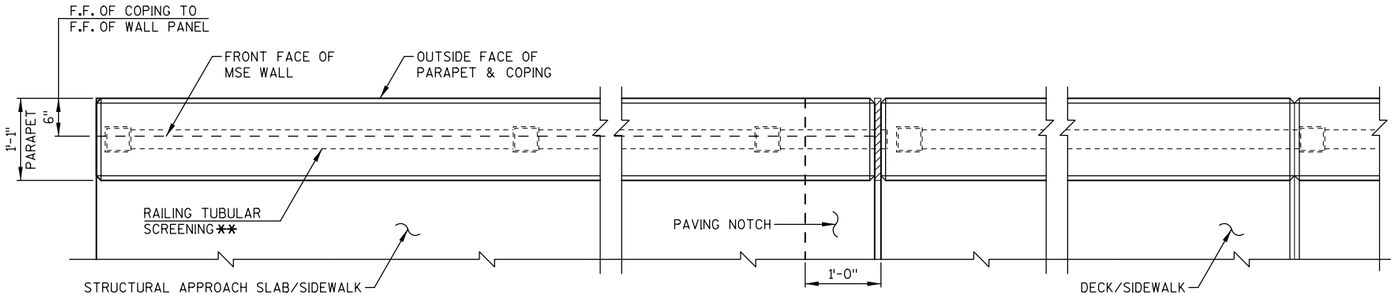
SECTION E-E

(SHOWING DEFLECTION JOINT IN PARAPET AND SIDEWALK.)

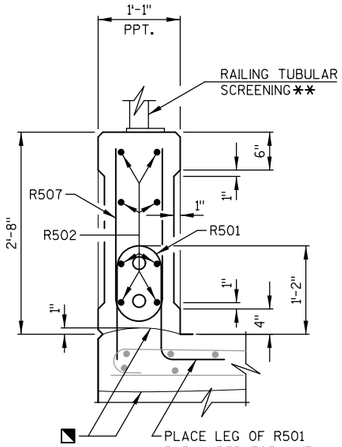
WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION D-D BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.

INSIDE ELEVATION OF PARAPET

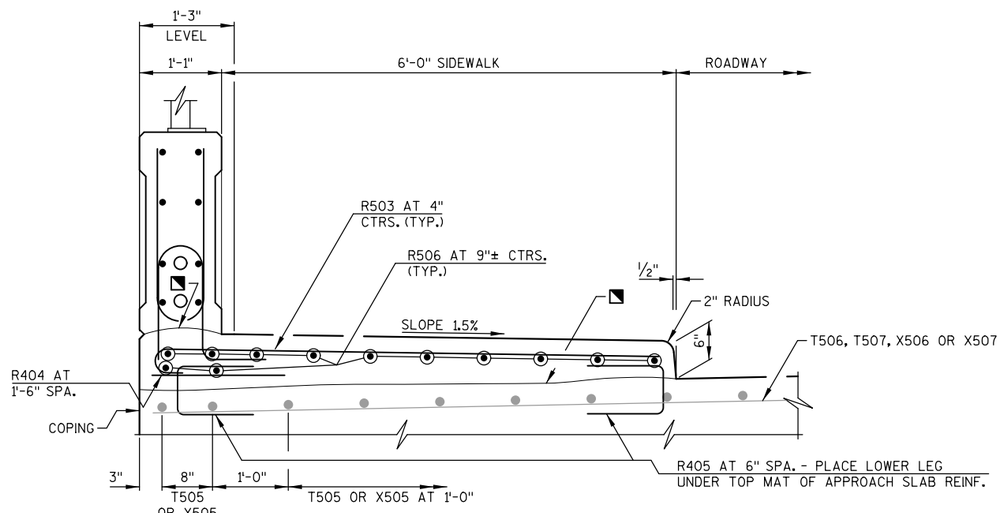
RAILING OMITTED FOR CLARITY. SEE SHEET 33 FOR RAILING ANCHORAGE SPACING.



PLAN OF PARAPET



AT PARAPET



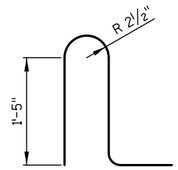
AT SIDEWALK

SECTION A-A

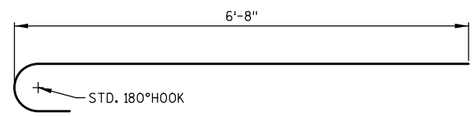
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

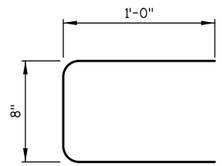
MARK	NO. REQ'D	LENGTH	BENT	LOCATION	
COATED BARS					TOTAL WEIGHT = 5,160 LBS
R501	116	4-4	X	PARAPET - STIRRUP	VERT.
R502	32	19-8		PARAPET	HORIZ.
R503	240	7-3	X	SIDEWALK - TOP	TRANS.
R404	56	1-9		SIDEWALK - BOTTOM	TRANS.
R405	320	2-6	X	SIDEWALK - AT DECK JOINT	VERT.
R506	48	19-8		SIDEWALK - TOP AND BOTTOM	LONGIT.
R507	116	4-9	X	PARAPET - STIRRUP	VERT.



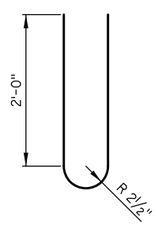
R501



R503



R405



R507

NOTES

SEE SHEET 31 FOR TUBULAR RAILING SCREENING DETAILS.
SEE SHEET 33 FOR TUBULAR RAILING POST SPACING.

LEGEND

- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ** ADJUST LOCATIONS OF BARS TO ALLOW PLACEMENT OF ANCHOR ASSEMBLY FOR RAILING TUBULAR SCREENING POSTS.
- * OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT, LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

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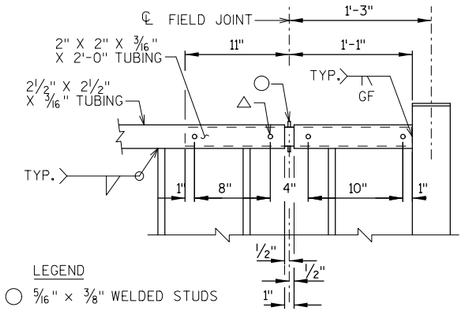
VERTICAL FACE PARAPET MODIFIED

SHEET 30 OF 33
354

8

8

BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

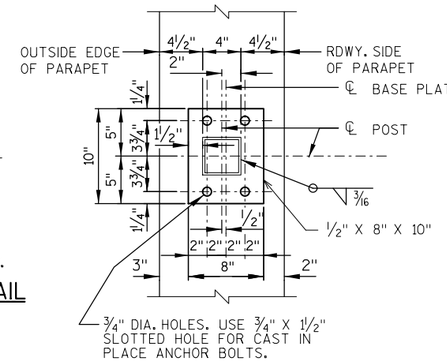


LEGEND

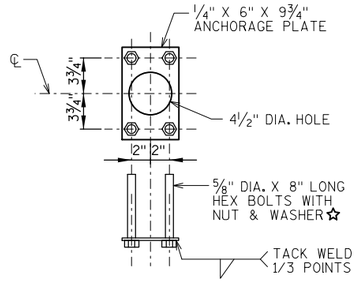
○ 5/16" × 3/8" WELDED STUDS

△ WELD BEAD ON EACH SIDE OF TUBE. GRIND BEADS SO THAT SLEEVE FITS FREELY INSIDE THE 2½" × 2½" TUBE.

RAILING EXPANSION JOINT DETAIL



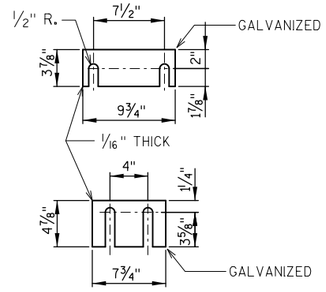
BASE PLATE



ANCHORAGE DETAIL

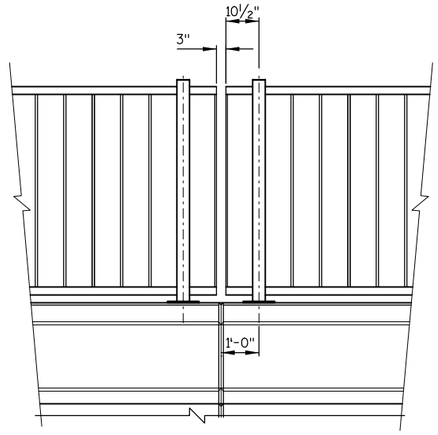
☆ALTERNATIVE ANCHORAGE: ADHESIVE ANCHORS ⅝-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS.

NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



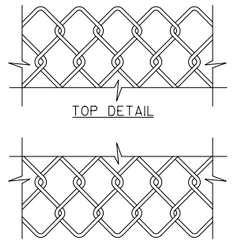
SHIM PLATE DETAILS

TWO SHIMS OF EACH SIZE REQUIRED PER POST



RAILING ELEVATION AT DEFLECTION JOINT

(AT ℄ PIER)



FENCE FABRIC

(TOP AND BOTTOM KNUCKLE SELVAGE)

NOTES

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B. PLATES, ANGLES, BARS AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36. FENCE FABRIC SHALL CONFORM TO ASTM F668, CLASS 2B.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET POSTS NORMAL TO GRADE.

ALL POST SPACINGS ARE TAKEN HORIZONTAL ALONG CENTERLINE OF RAILING AT BASE OF POST.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED. ☆

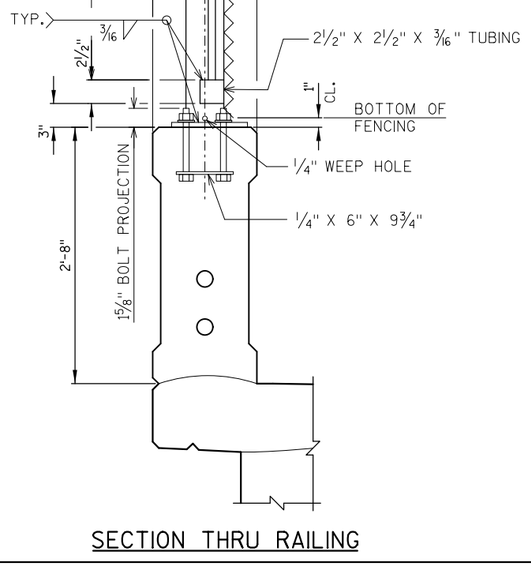
THE BID ITEM SHALL BE "RAILING TUBULAR SCREENING" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE NOT MORE THAN 3 POSTS.

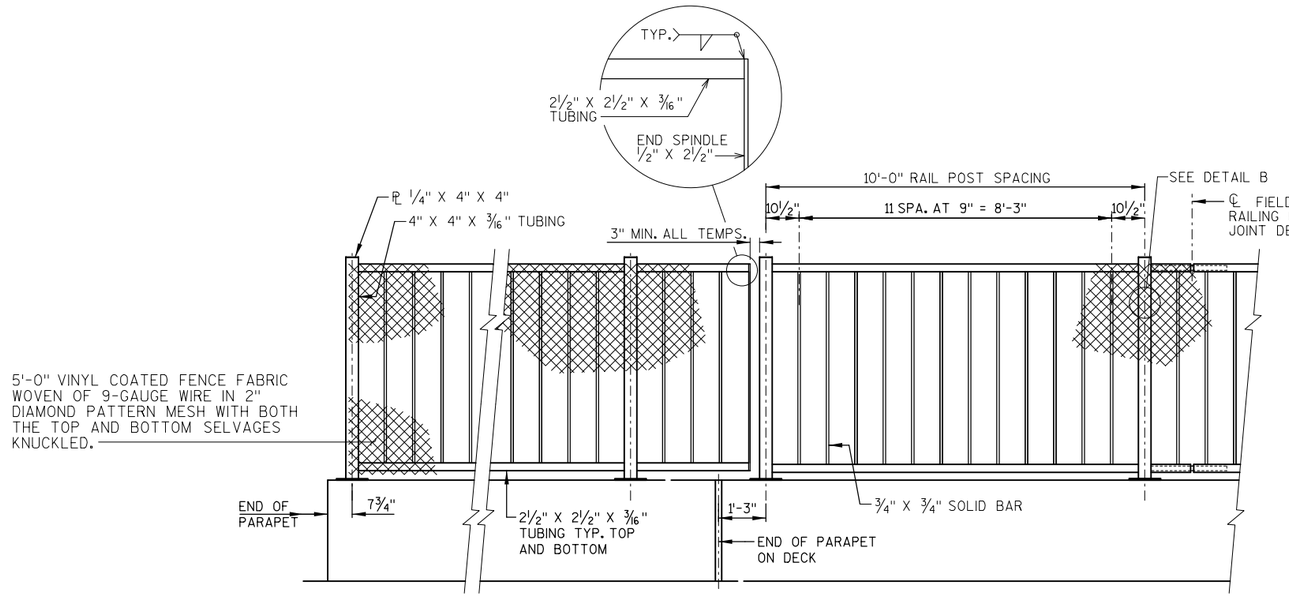
VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

ALL RAILING MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 27038, BLACK.
FENCE FABRIC AND TIES TO BE VINYL-COATED. COLOR SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

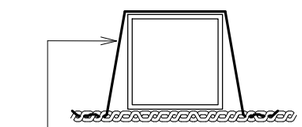
THE END OF THE FABRIC SHALL BE ATTACHED TO THE POST BY MEANS OF A TENSION BAR THREADED THROUGH THE END LOOPS OF THE FABRIC AND SECURED TO THE POST WITH CLAMPS & BOLT. THE FABRIC SHALL BE STRETCHED TO REMOVE ALL SLACK.



SECTION THRU RAILING

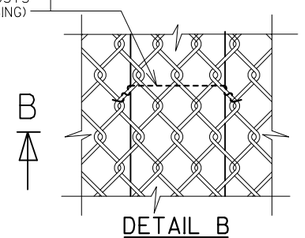


INSIDE ELEVATION OF RAILING



SECTION B-B

FABRIC TIE @ 1'-0" MAX. SPA. (TYP. RAIL POSTS & HORIZ. TUBING)



DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

DRAWN BY CEB | PLANS CK'D. MJA

TUBULAR STEEL RAILING SCREENING

SHEET 31 OF 33
355

STATE PROJECT NUMBER
1100-46-70

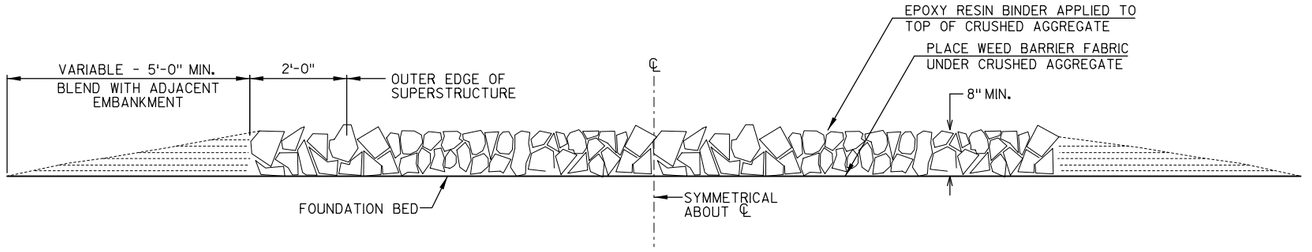
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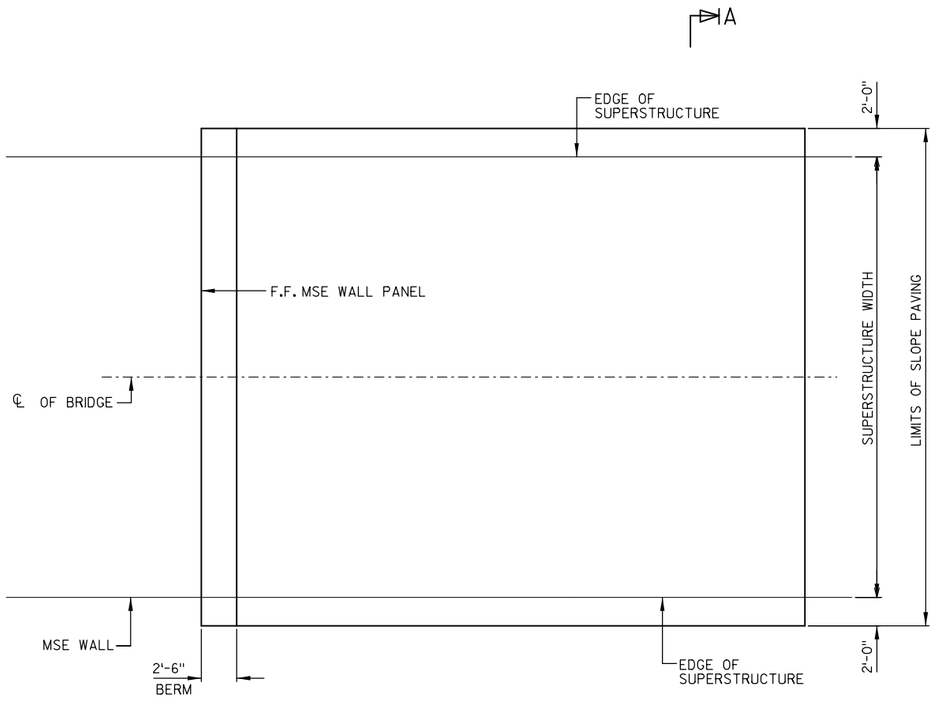
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PEN TABLE: $$...pentable...$$
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PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

STATE PROJECT NUMBER

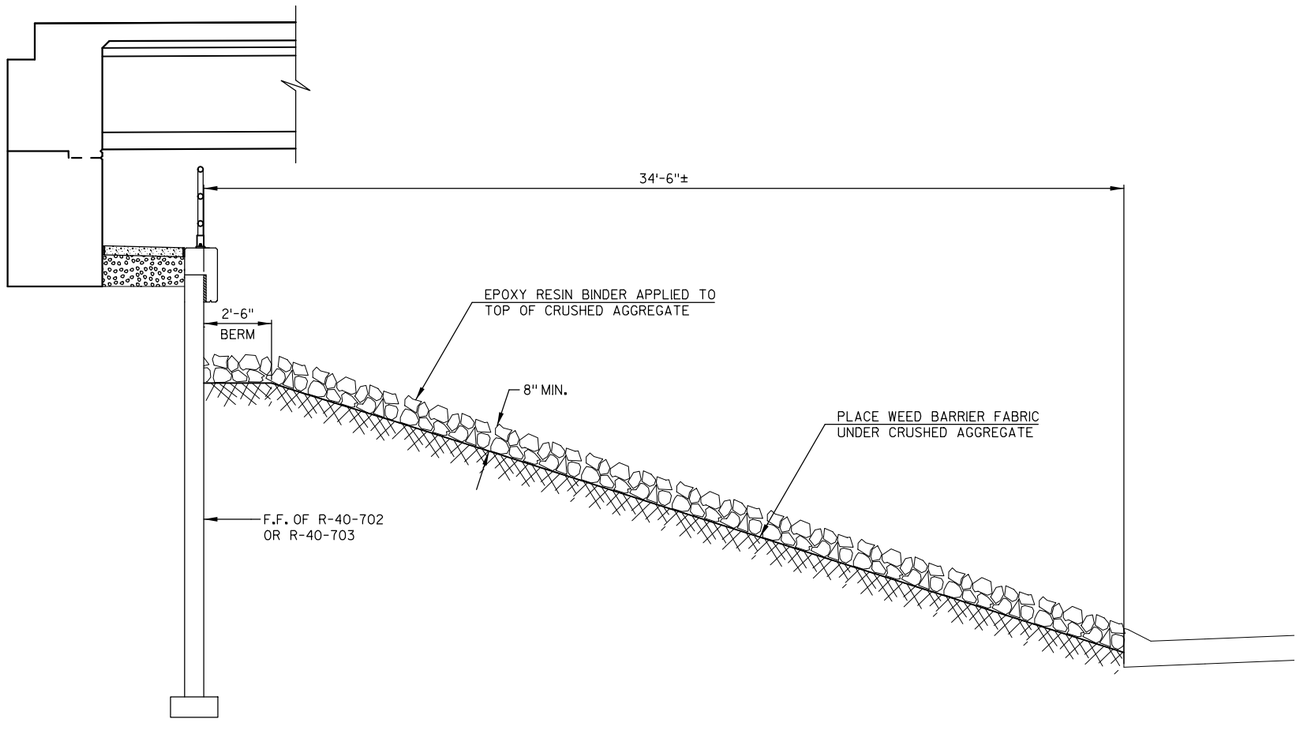
1100-46-70



SECTION A-A



PLAN



TYPICAL SECTION

NOTES

BID ITEM SHALL BE "SLOPE PAVING CRUSHED AGGREGATE SPECIAL."

COST FOR WEED BARRIER INCLUDED WITH BID ITEM FOR "SLOPE PAVING CRUSHED AGGREGATE SPECIAL".

WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

DRAWN BY CEB | PLANS CK'D. MJA

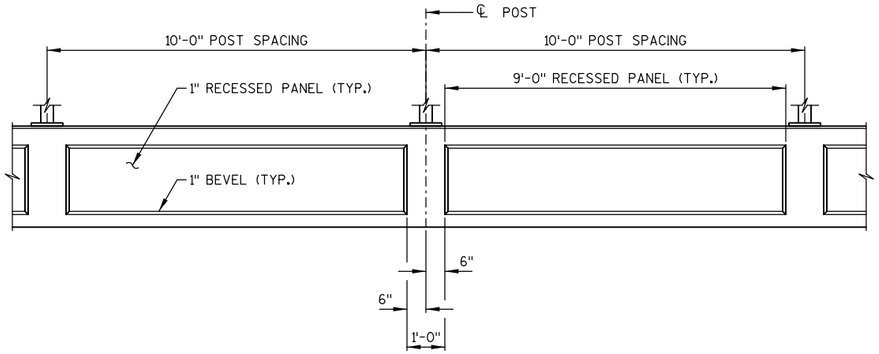
SLOPE PAVING CRUSHED AGGREGATE SPECIAL

SHEET 32 OF 33
356

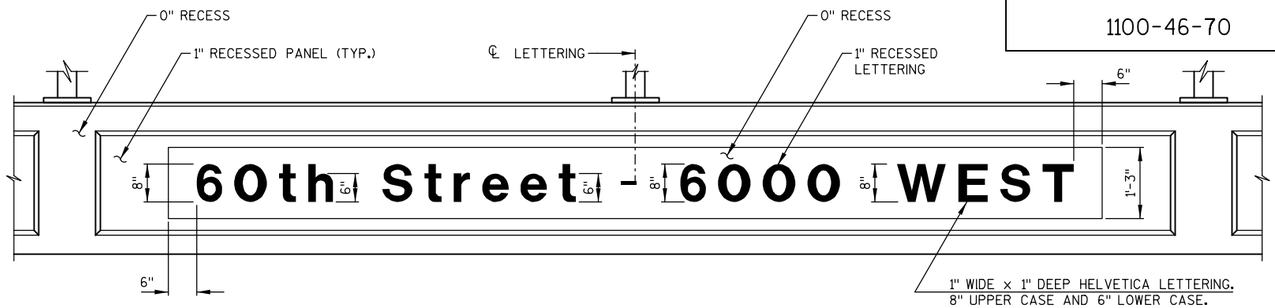
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STATE PROJECT NUMBER
1100-46-70

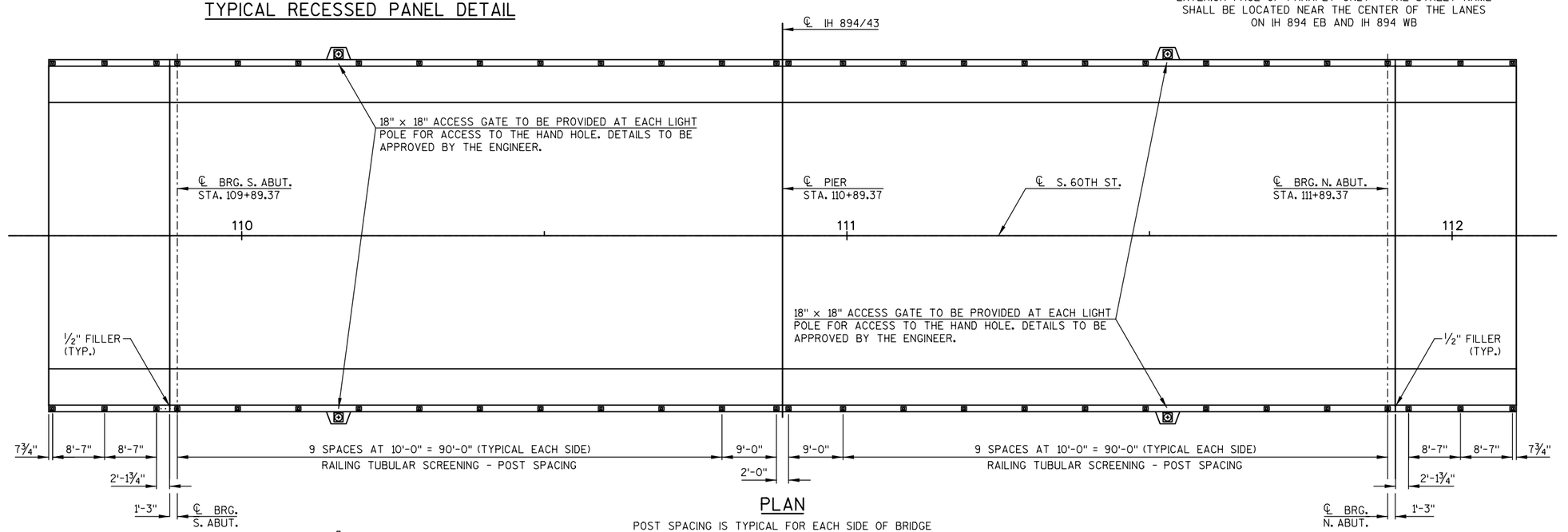


TYPICAL RECESSED PANEL DETAIL



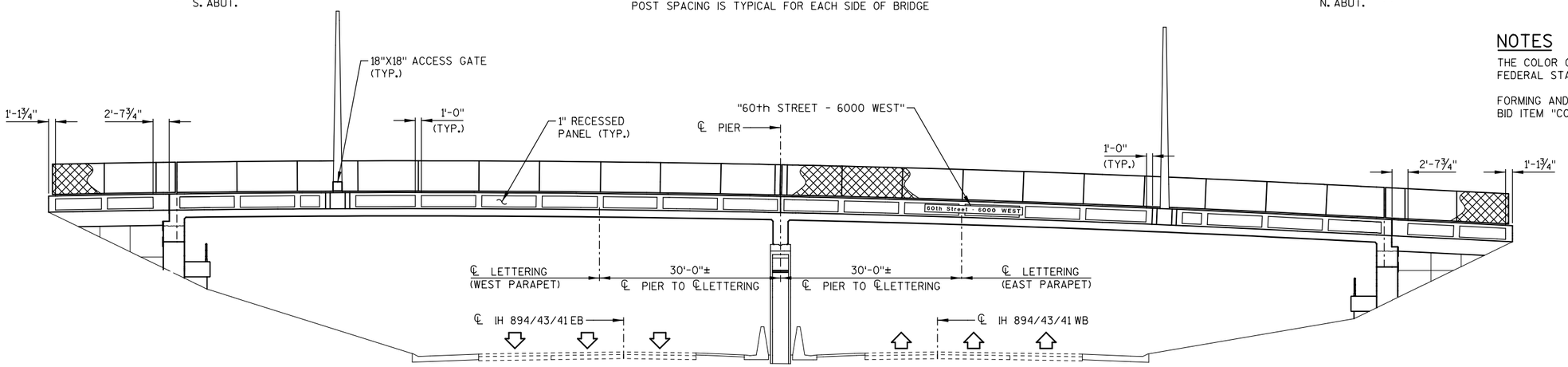
INDENTED TEXT

EXTERIOR FACE OF PARAPET ONLY - THE STREET NAME SHALL BE LOCATED NEAR THE CENTER OF THE LANES ON IH 894 EB AND IH 894 WB



PLAN

POST SPACING IS TYPICAL FOR EACH SIDE OF BRIDGE



ELEVATION - LOOKING WEST

NORMAL TO IH 894/43/41

NOTES

THE COLOR OF THE CONCRETE LETTERING SHALL MATCH THE FEDERAL STANDARD COLOR NO. 37038 (BLACK).

FORMING AND STAINING OF THE LETTERING IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES."

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1013

DRAWN BY CEB | PLANS CK'D. MJA

AESTHETICS DETAILS

SHEET 33 OF 33
357

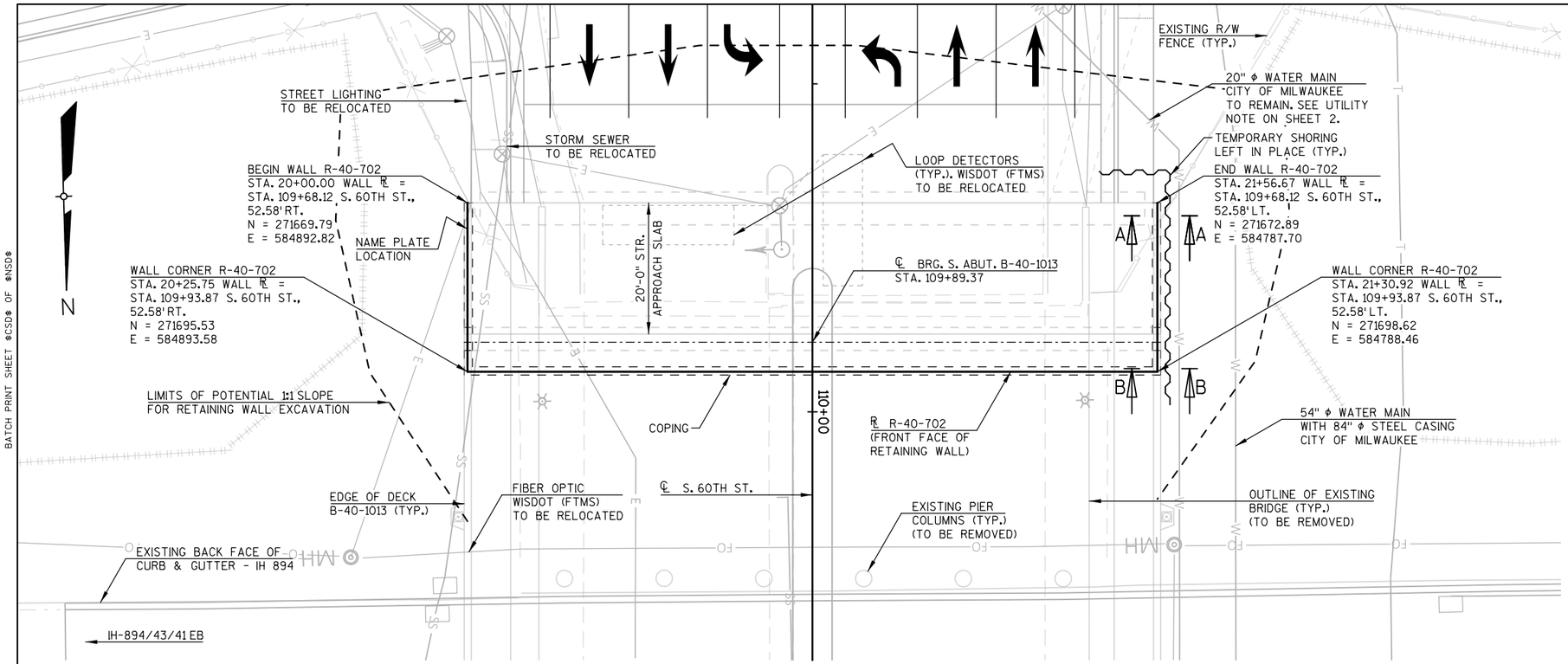
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BATCH PRINT SHEET CSD OF NSD
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PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
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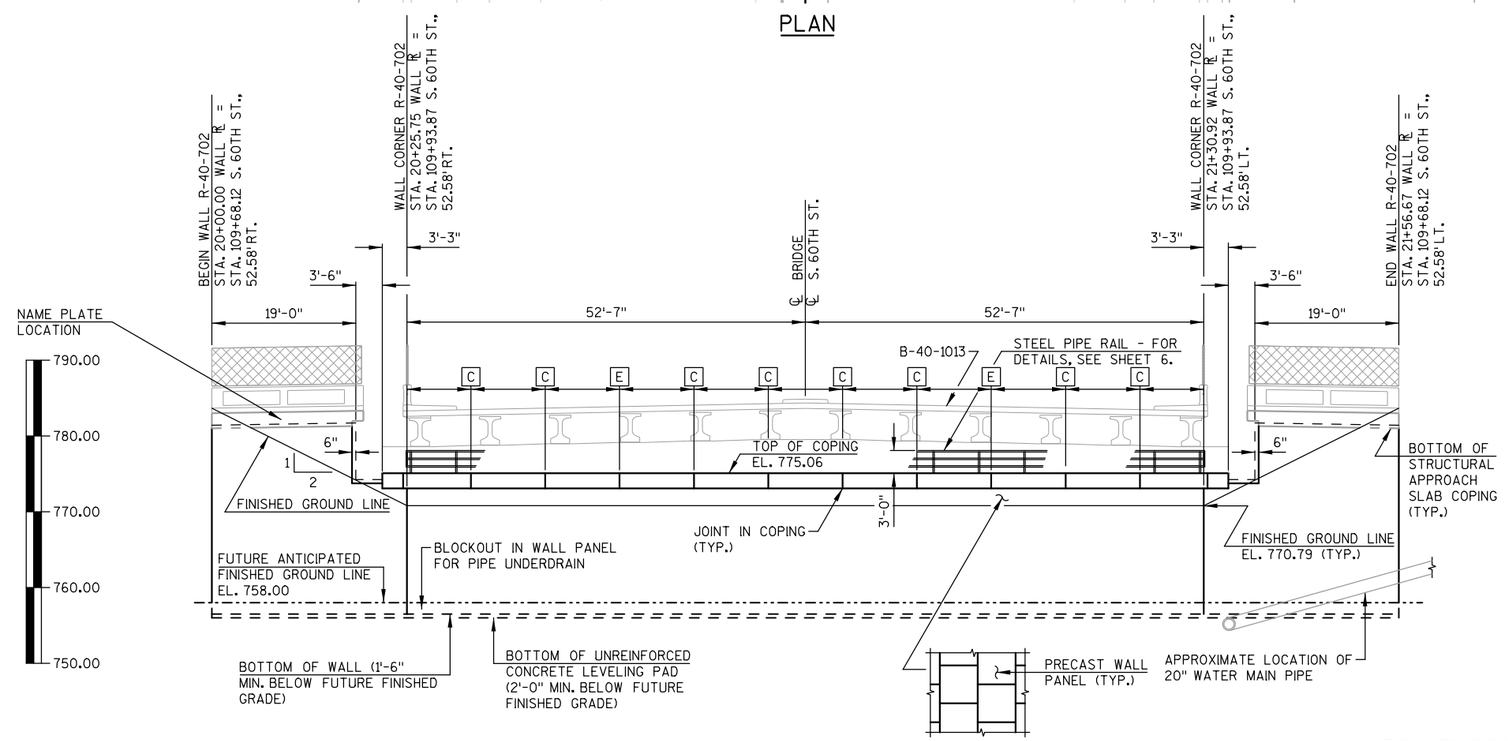
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STATE PROJECT NUMBER
1100-46-70



PLAN



ELEVATION

(UNFOLDED ELEVATION LOOKING SOUTH AT FRONT FACE OF WALL)

DESIGN DATA

LIVE LOAD
LIVE LOAD SURCHARGE (ROADWAY) _____ 240 PSF

MATERIAL PROPERTIES
CONCRETE MASONRY RETAINING WALL:
(INCLUDES CONCRETE FOR COPING AND LEVELING PAD) ___ f'c = 3,500 PSI
PRECAST CONCRETE WALL PANELS _____ f'c = 4,000 PSI
BAR STEEL REINFORCEMENT, GRADE 60 _____ fy = 60,000 PSI

FOUNDATION DATA - FACTORED BEARING RESISTANCE
MSE WALL - REFER TO "WALL EXTERNAL AND OVERALL STABILITY EVALUATION" TABLE ON SHEET 2.

DO NOT OPERATE HEAVY EQUIPMENT OR STOCKPILE MATERIALS IN CLOSE PROXIMITY TO THE WALL.

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. GENERAL NOTES AND QUANTITES
3. ALIGNMENT, PROFILE AND TYPICAL SECTION
4. WALL DETAILS 1
5. WALL DETAILS 2
6. PIPE RAILING DETAILS
7. SUBSURFACE EXPLORATION

NOTE

SEE SHEET 2 FOR SECTIONS A-A AND B-B.

LEGEND

- [E] EXPANSION JOINT
- [C] CONTRACTION JOINT
- DIRECTION OF TRAFFIC

BENCH MARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
CP 2	109+51.94 S. 60TH ST., 49.61'LT	BERNSTEN FENO W/ ALUMINUM CAP	780.552
CP 5	173+16.26 IH 894/43/41, 103.19'LT	BERNSTEN FENO W/ ALUMINUM CAP	767.860
CP 6	179+25.32 IH 894/43/41, 68.89'RT	BERNSTEN FENO W/ ALUMINUM CAP	762.120

STRUCTURES DESIGN CONTACTS

SE REGION CONTACT - JOSH LEVEQUE (414) 750-1468
BUREAU OF STRUCTURES CONTACT - AARON BONK (608) 261-0261
CONSULTANT CONTACT - MICHAEL DELEMONT (414) 207-4157

WISCONSIN
MICHAEL J. ARNOLD
E-41717
NEW BERLIN, WI
PROFESSIONAL ENGINEER
01/22/2021

NO.	DATE	REVISION	BY

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ SDR 03/25/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-40-702

RETAINING WALL AT 60TH STREET S. ABUT.

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	GREENFIELD

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	CEB	DESIGN CK'D.	MJA	DRAWN BY	DNJ/CEB	PLANS CK'D.	MJA

GENERAL PLAN AND ELEVATION

SHEET 1 OF 7
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8

8

BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

STATE PROJECT NUMBER

1100-46-70

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

B.F. = BACK FACE
F.F. = FRONT FACE

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

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

ALL BAR STEEL IN CAST IN PLACE CONCRETE SHALL BE EPOXY COATED.

THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-702" IS BASED ON WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO A CONSTANT DEPTH 1.5' BELOW FUTURE FINISHED GROUND.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL, AND MSE WALL REINFORCEMENT 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 CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-702".

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 MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

WALL STATIONS ARE ALONG THE ℄ FOR R-40-702, WHICH IS LOCATED AT THE FRONT FACE OF THE WALL.

PROVIDE A RUBBED SURFACE TREATMENT IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

THE RETAINING WALL DESIGN SHALL USE THE FUTURE ANTICIPATED FINISHED GROUND LINE ELEVATION TO DETERMINE THE MAXIMUM WALL HEIGHTS.

THE DESIGN OF THE WALL IN FRONT OF THE ABUTMENT SHALL INCLUDE THE HORIZONTAL EARTH LOADS AND 240 PSF LIVE LOAD SURCHARGE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

DESIGN THE RETAINING WALL TO PROVIDE FOR A FINISHED GROUND SLOPE BEHIND THE WALL AS SHOWN IN THE ROADWAY CROSS SECTIONS.

COORDINATE THE CONSTRUCTION OF R-40-702 WITH THE CONSTRUCTION OF THE BRIDGE ABUTMENT AND PILING OF STRUCTURE B-40-1013.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE CONCRETE COPING IN FRONT OF THE ABUTMENT AND THE LEVELING PAD, INCLUDING REINFORCEMENT, IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-702".

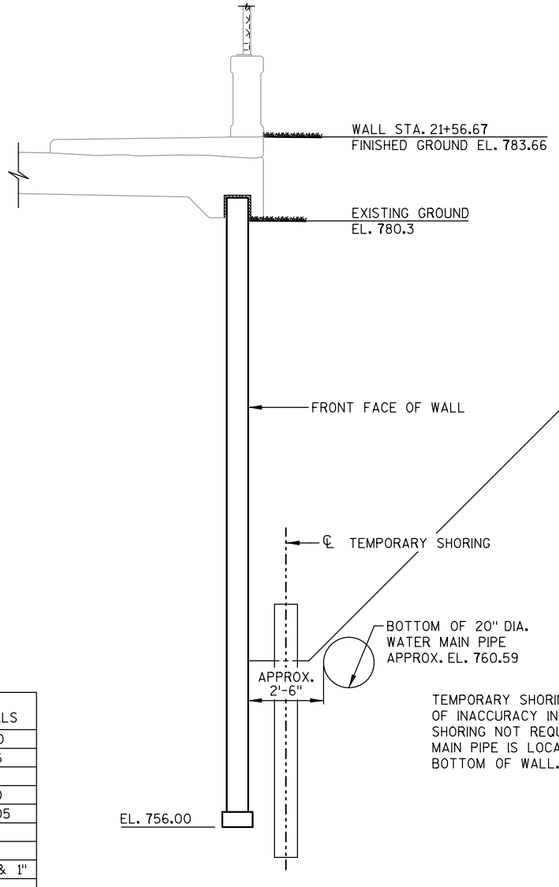
THE COST OF THE APPROACH SLAB, COPING AT THE APPROACH SLAB AND PARAPET ARE INCLUDED WITH B-40-1013.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

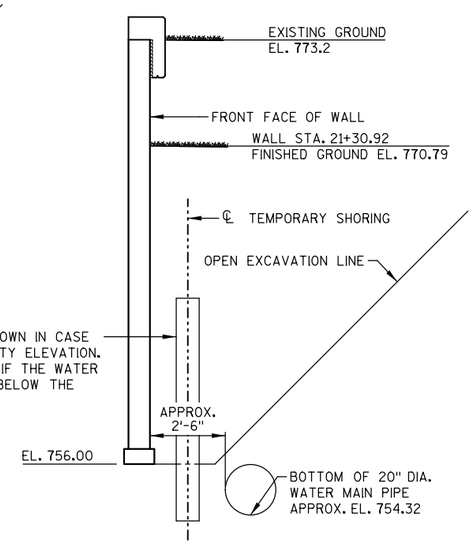
THE SUBSURFACE CONDITIONS AT THE BASE OF THE WALL SHALL BE REVIEWED BY THE SOUTHEAST REGION SOILS ENGINEER TO DETERMINE IF THE MATERIALS HAVE ADEQUATE STRENGTH TO SUPPORT THE MSE WALL. THE GEOTECHNICAL REPORT IS AVAILABLE UPON REQUEST FROM WISDOT'S SE REGION OFFICE.

GEOMETRY TABLE

WALL STATION	ROADWAY STATION	OFFSET SIDE	OFFSET TO R/L OF WALL	TOP OF WALL EL	FINISHED GROUND EL	FUTURE FINISHED GROUND
20+00.00	109+68.12	RIGHT	52.58	782.99	783.66	758.00
20+19.00	109+87.12	RIGHT (COPING)	52.58	783.31	774.16	758.00
20+19.00	109+87.12	B.F. ABUT. (RIGHT)	52.58	773.62	774.16	758.00
20+22.50	109+90.62	F.F. ABUT. (RIGHT)	52.58	773.62	772.41	758.00
20+22.50	109+90.62	F.F. ABUT. (RIGHT)	52.58	775.12	772.41	758.00
20+25.75	109+93.87	CORNER (RIGHT)	52.58	775.06	770.79	758.00
20+50.00	109+93.87	COPING (RIGHT)	28.33	775.06	770.79	758.00
20+75.00	109+93.87	COPING (RIGHT)	3.33	775.06	770.79	758.00
21+00.00	109+93.87	COPING (LEFT)	21.67	775.06	770.79	758.00
21+30.92	109+93.87	CORNER (LEFT)	52.58	775.06	770.79	758.00
21+34.17	109+90.62	F.F. ABUT. (LEFT)	52.58	775.12	772.41	758.00
21+34.17	109+90.62	F.F. ABUT. (LEFT)	52.58	773.62	772.41	758.00
21+37.67	109+87.12	B.F. ABUT. (LEFT)	52.58	773.62	774.16	758.00
21+37.67	109+87.12	LEFT (COPING)	52.58	783.31	774.16	758.00
21+50.00	109+74.79	LEFT	52.58	783.12	780.33	758.00
21+56.67	109+68.12	LEFT	52.58	782.99	783.66	758.00



SECTION A-A



SECTION B-B

SEE GENERAL PLAN ON SHEET 1 FOR SECTION A-A AND B-B LOCATIONS

SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTION	UNIT WEIGHT (PCF)	DRAINED FRICTION ANGLE (DEGREES)	UNDRAINED COHESION (PSF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	120	30	0
FILL BEHIND THE REINFORCING ZONE	120	30	0
BORING B-3, STA 109+71.89			
EL. 763.0 TO EL. 700.0 - LEAN CLAY, HARD	135	28	4,000
EL. 700.0 TO EL. 689.1 - LEAN CLAY, VERY STIFF	130	27	2,000
EL. 689.1 TO EL. <680.9 - LEAN CLAY, HARD	135	28	4,500
EL. <680.9 - DENSE SILT WITH SAND	125	35	0

WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS	EVALUATED LOCATIONS	
WALL HEIGHT (FT.)*	26.58	18.43
EXPOSED WALL HEIGHT (FT.)	25.08	16.93
◪ MIN. LENGTH OF REINFORCEMENT (FT.)	21	23
WALL STATION	20+00.00 TO 20+25.75 & 21+37.67 TO 21+56.67	20+25.75 TO 21+37.67
BORING USED	B-3	B-3
CAPACITY TO DEMAND RATIO (CDR)		
SLIDING (CDR > 1.0)	1.06	1.12
ECCENTRICITY (CDR > 1.0)	1.36	1.64
⬢ OVERALL STABILITY (CDR > 1.0)	1.16	1.00
BEARING RESISTANCE (CDR > 1.0)	1.08	1.01
ULTIMATE BEARING RESISTANCE (PSF)	11,200	11,200

* INCLUDES 1'-6" EMBEDMENT DEPTH

LEGEND

◪ THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISIONS OR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS.

⬢ THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED ON OVERALL STABILITY PERFORMED BY THE WALL DESIGNER. COMPOUND STABILITY IS THE CONTRACTOR'S RESPONSIBILITY.

UTILITY NOTE

THE TWO EXISTING WATER MAIN PIPES BURIED IN CLOSE PROXIMITY TO THE BRIDGE AND WALL CONSTRUCTION WILL REMAIN IN PLACE AND MUST BE MAINTAINED DURING CONSTRUCTION. EXCAVATE FOR BRIDGE AND WALL CONSTRUCTION TO AVOID DAMAGE TO THE PIPES. AFTER EXPOSING THE PIPES TO CONFIRM THEIR LOCATION, INSTALL TEMPORARY SHORING AS NECESSARY TO COMPLETE THE EXCAVATION. USE ONLY NON-VIBRATORY METHODS OF SHORING INSTALLATION. CUT OFF TEMPORARY SHORING A MINIMUM OF TWO FEET BELOW FINISHED GROUND LINE, AND LEAVE THE REMAINING TEMPORARY SHORING IN PLACE. THE COST OF ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO PREVENT DAMAGE TO THESE EXISTING PIPES DURING CONSTRUCTION IS CONSIDERED INCIDENTAL TO THE BID ITEM FOR TEMPORARY SHORING LEFT IN PLACE.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEM	UNIT	TOTALS
511.2200.400	TEMPORARY SHORING LEFT IN PLACE R-40-702	SF	240
513.2001	RAILING PIPE	LF	106
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	160
SPV.0165.400	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-702	SF	3,205
	NON-BID ITEMS		
	FILLER	SIZE	3/4" & 1"
	NAME PLATE	EACH	1
	EXPANDED POLYSTYRENE	SIZE	1"

ALL ITEMS ARE CATEGORY 3000

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-702

DRAWN BY CEB | PLANS CK'D. MJA

GENERAL NOTES AND QUANTITIES

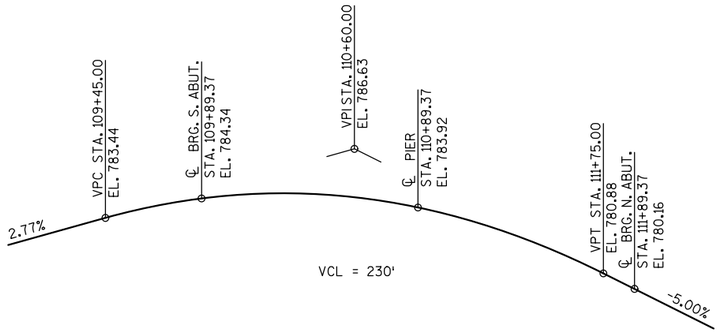
SHEET 2 OF 7
359

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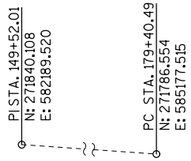
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PEN TABLE: $$...pentable...$$
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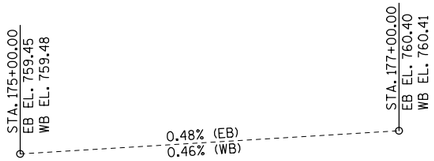
STATE PROJECT NUMBER
1100-46-70



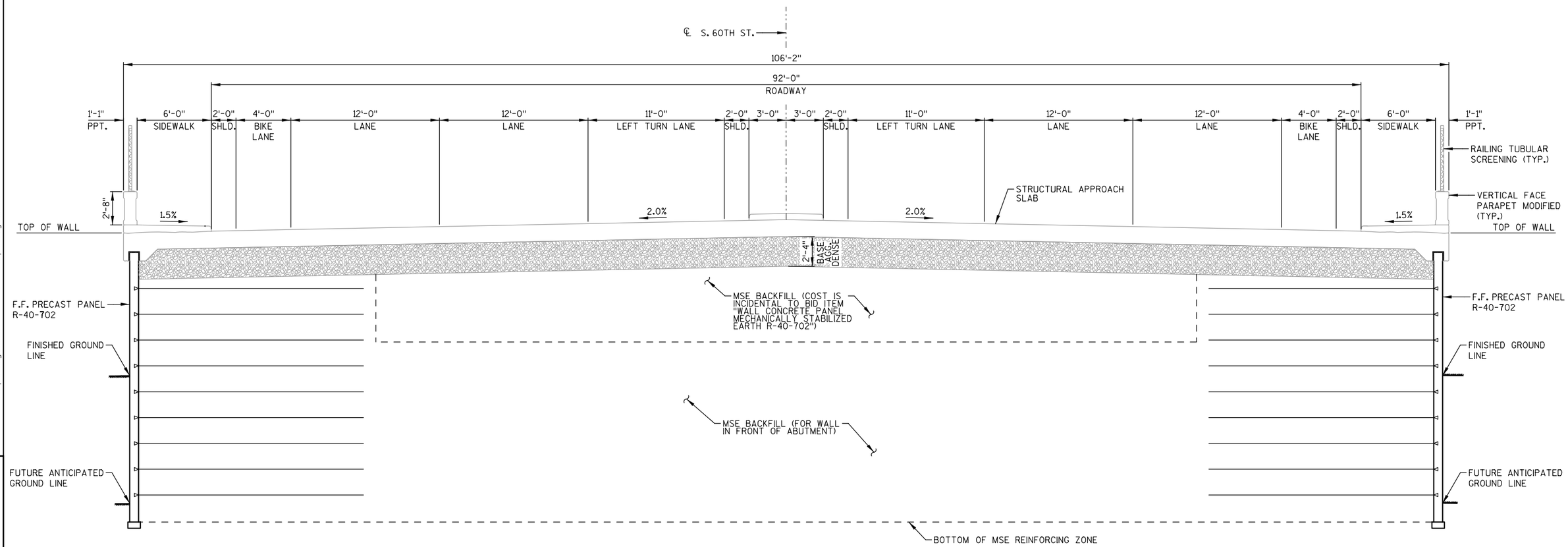
PROFILE GRADE LINE - S. 60TH STREET



EXISTING HORIZONTAL ALIGNMENT - ℄ IH-894/43



EXISTING CROWN LINE - I-894/43



TYPICAL SECTION THRU APPROACH SLAB

(LOOKING UPSTATION)

NOTE

THE STRUCTURAL APPROACH SLAB, BASE AGG. DENSE 1¼" UNDER THE APPROACH SLAB, PARAPETS, COPING AND TUBULAR RAILING ARE INCLUDED WITH STRUCTURE B-40-1013.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-702

DRAWN BY	CEB	PLANS CK'D.	MJA

ALIGNMENT, PROFILE AND TYPICAL SECTION

SHEET 3 OF 7
360

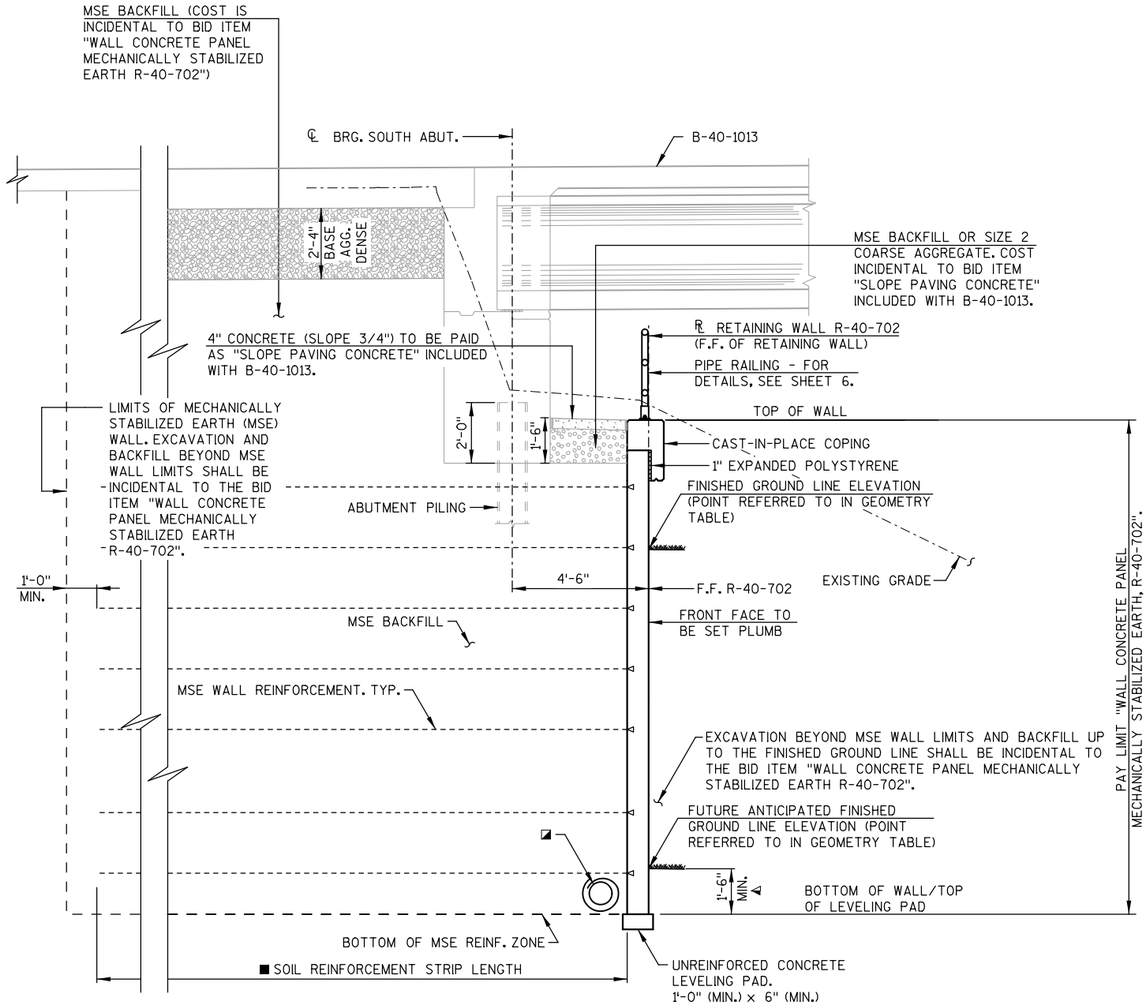
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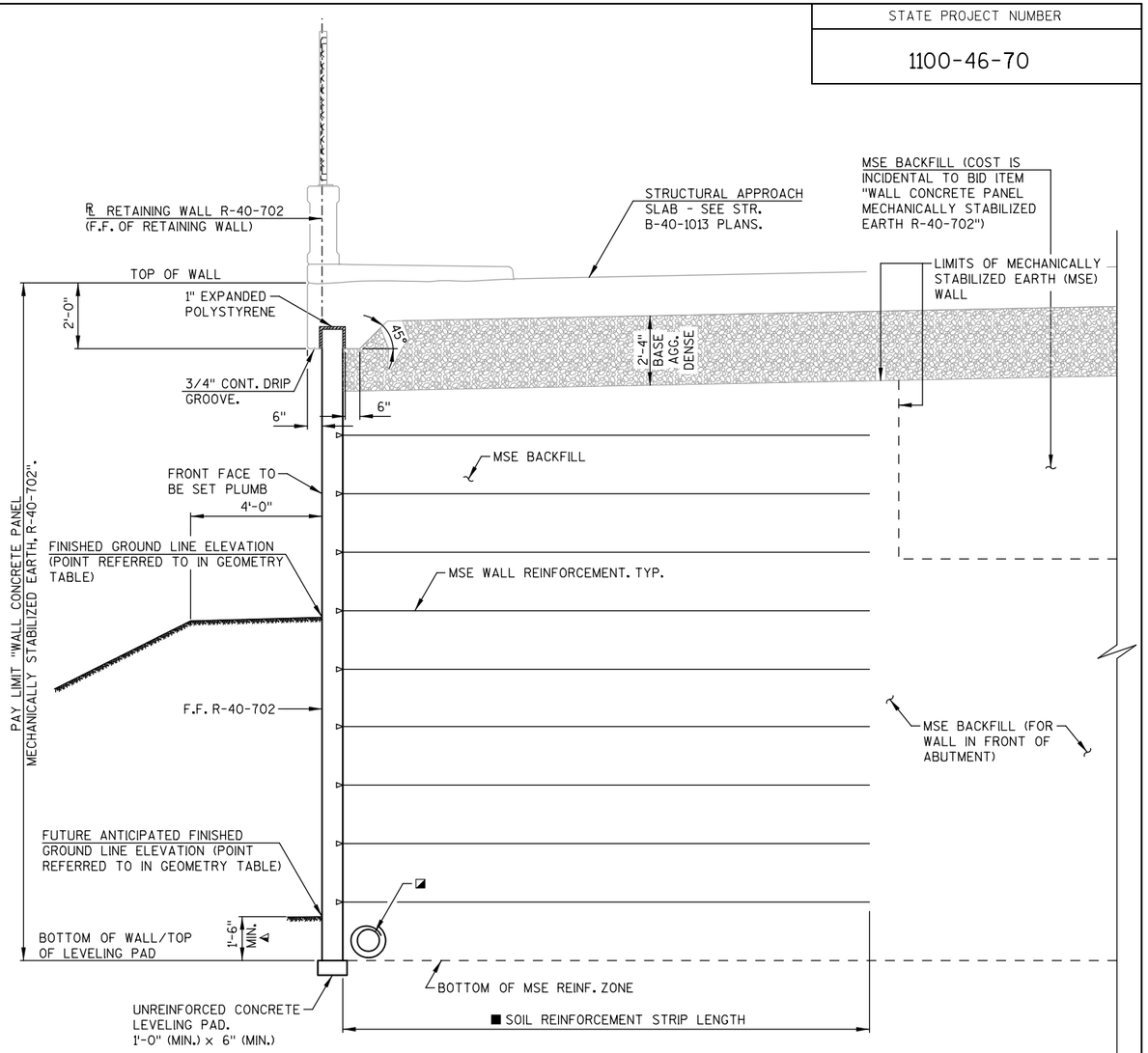
STATE PROJECT NUMBER

1100-46-70



TYPICAL WALL SECTION THRU WALL AT ABUTMENT

(MSE WALL WITH CONCRETE PANEL FACING)



TYPICAL SECTION THRU WALL

(LOOKING NORTH AT WEST SIDE OF S. 60TH ST., EAST SIDE SIMILAR)

LEGEND

◪ PIPE UNDERDRAIN WRAPPED (6-INCH). CONNECT TO UNPERFORATED UNDERDRAIN THROUGH WALL PANEL. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.

◭ MINIMUM EMBEDMENT BASED ON SITE SPECIFIC PARAMETERS (1'-6" MIN. FOR ALL WALLS ON LEVEL GROUND). FIELD EMBEDMENTS SHALL MEET OR EXCEED THE MINIMUM EMBEDMENT. FIELD EMBEDMENTS BELOW MINIMUM EMBEDMENT SHALL NOT BE INCLUDED IN THE PAY LIMITS.

■ SEE "WALL EXTERNAL & OVERALL STABILITY EVALUATION" ON SHEET 2 FOR MINIMUM SOIL REINFORCEMENT LENGTH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-702

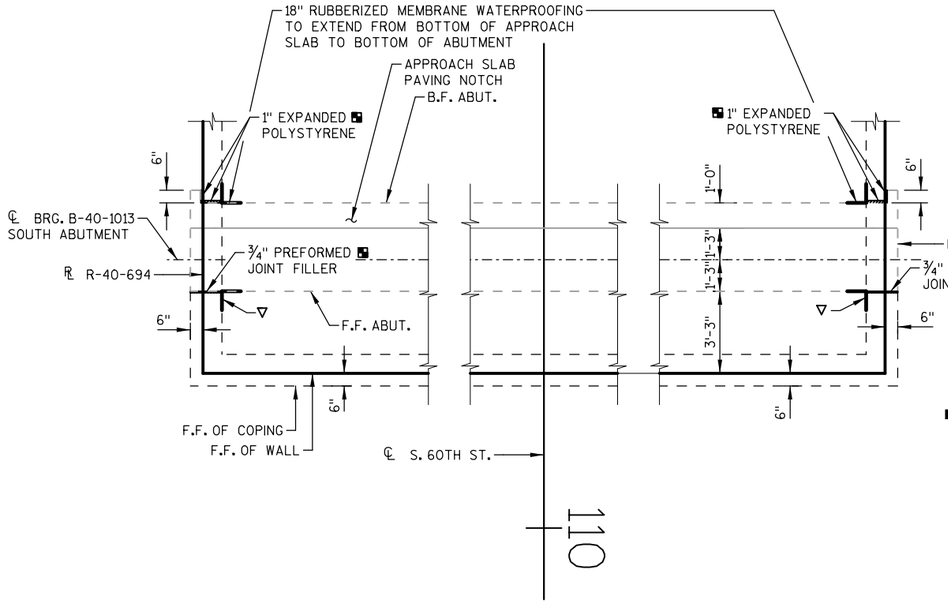
DRAWN BY CEB | PLANS CK'D. MJA

WALL DETAILS 1

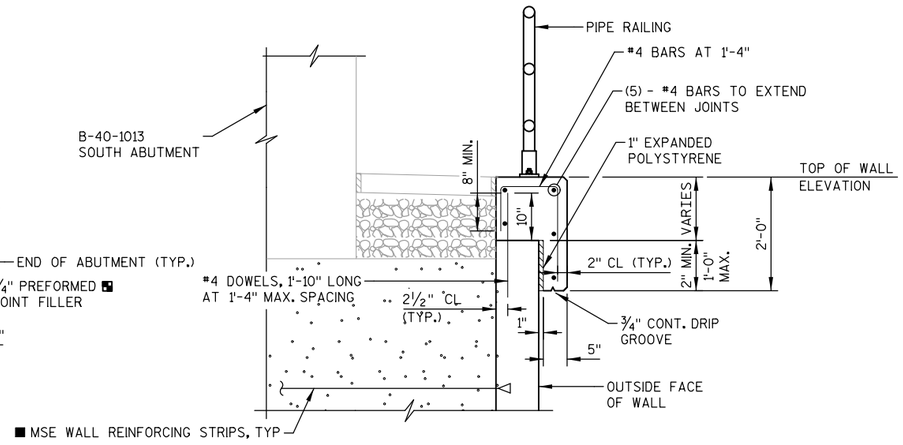
SHEET 4 OF 7
361

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STATE PROJECT NUMBER
1100-46-70



COPING PLAN AT ABUTMENT



COPING DETAIL AT FRONT FACE OF ABUTMENT

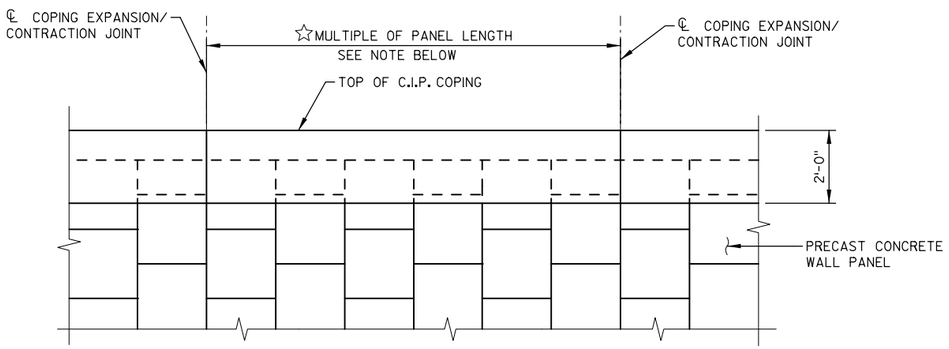
WALL STA 20+22.50 THRU WALL STA 21+34.17

LEGEND

■ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

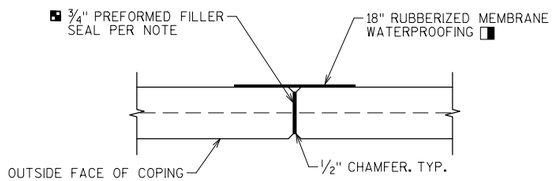
▽ 18" RUBBERIZED MEMBRANE WATERPROOFING TO BE PLACED ON THESE SURFACES AT EACH JOINT.

■ FOR SYMBOL DESCRIPTION, SEE SHEET 4.



☆ ALL JOINTS SHALL BE LOCATED AS SHOWN ON WALL ELEVATIONS AND MUST COINCIDE WITH PANEL JOINT ON FRONT FACE.

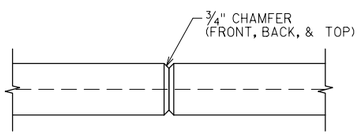
C.I.P. COPING PARTIAL ELEVATION



COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 50'

◨ MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 12'

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-702

DRAWN BY CEB | PLANS CK'D. AJC

WALL DETAILS 2

SHEET 5 OF 7
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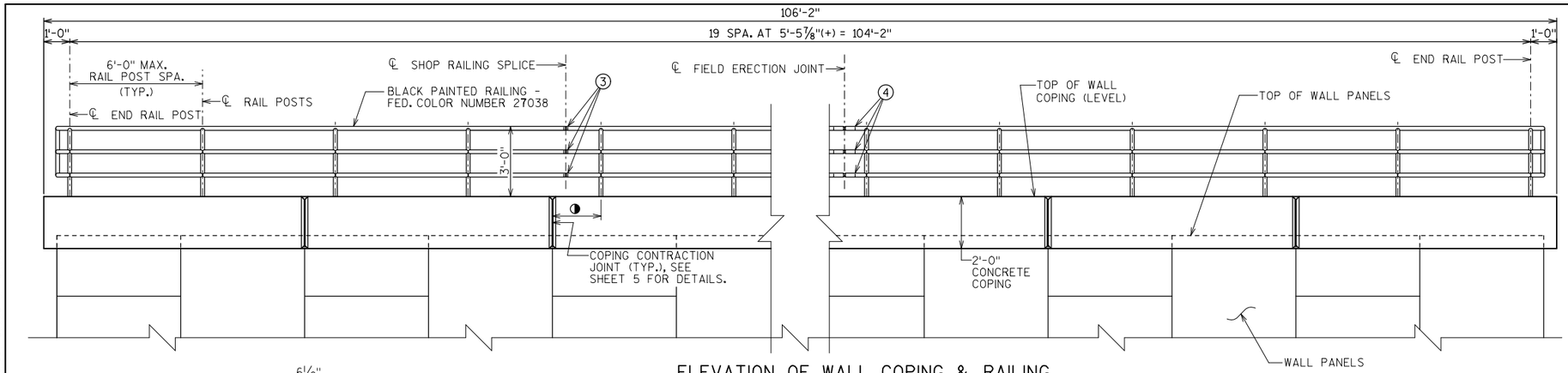
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BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
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STATE PROJECT NUMBER

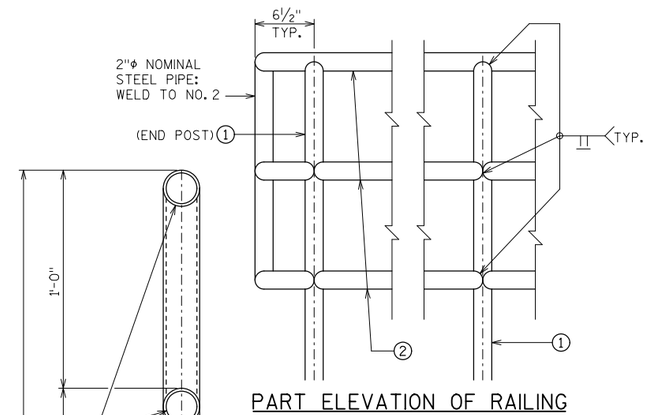
1100-46-70



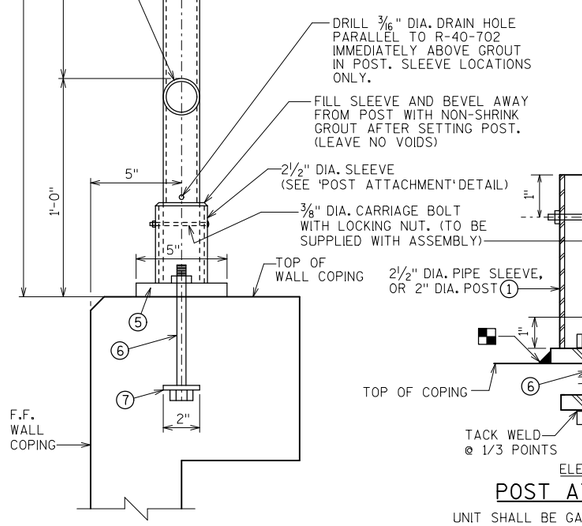
ELEVATION OF WALL COPING & RAILING

LOOKING SOUTH AT F.F. WALL

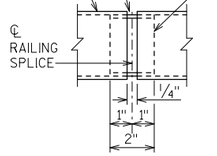
◐ 1'-0" MIN. DISTANCE REQUIRED BETWEEN THE ℄ OF COPING EXPANSION AND CONTRACTION JOINTS AND THE ℄ OF RAIL POSTS



PART ELEVATION OF RAILING

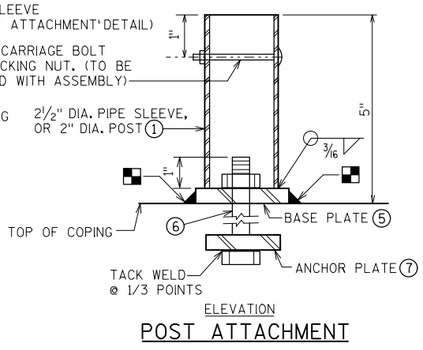


SECTION THRU RAILING



SHOP RAILING SPLICE DETAIL

(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)

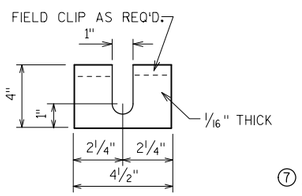


ELEVATION

POST ATTACHMENT

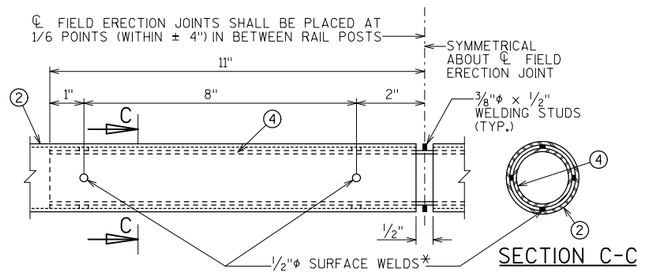
UNIT SHALL BE GALV. AFTER FABRICATION

NOTE:
IN LIEU OF USING THE 2 1/2"ϕ SLEEVE, THE 2"ϕ RAIL POST MAY BE WELDED TO THE BASE PLATE.



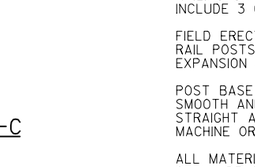
POST SHIM DETAILS

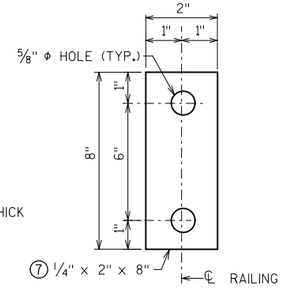
SHIMS REQUIRED ONLY WHEN POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST.



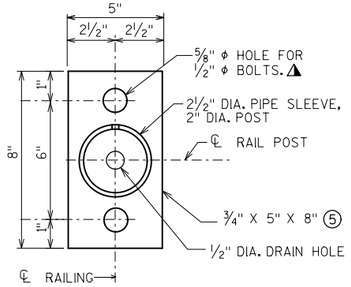
◪ FIELD ERECTION JOINT DETAIL

*MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.





ANCHOR PLATE



BASE PLATE

LEGEND

① 2"ϕ NOMINAL STEEL PIPE FOR POSTS: CUT BOTTOM OF POST TO MATCH TOP OF CONCRETE. POSTS ARE TO BE SET VERTICAL.

② 2"ϕ NOMINAL STEEL PIPE FOR RAILS: WELD TO NO. 1

③ 1 1/2"ϕ PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 2 1/16".

④ 1 1/2"ϕ PIPE SLEEVE x 1'-10" LONG FOR NO. 2. PROVIDE 1/2"ϕ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE 3/8"ϕ x 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.

⑤ PLATE 3/4" x 5" x 8", WITH 5/8"ϕ HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1. OR PIPE SLEEVE AS SHOWN.

⑥ 1/2"ϕ x 6 7/8" LONG HEX BOLTS (GALVANIZED) WITH NUT AND WASHER. 2 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 5. CHAMFER TOP OF BOLTS BEFORE THREADING. 1/2" CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR 1/2" BOLTS. ANCHOR PLATE NOT REQUIRED WHEN CONCRETE MASONRY ANCHORS ARE USED. SEE NOTE ☆

☆ 1/2" DIA. CONCRETE MASONRY ANCHOR, 6" MIN. EMBEDMENT (EPOXY ANCHORED) INTO CONCRETE AND MINIMUM PULLOUT CAPACITY OF 10 KIPS. ANCHOR, WASHER AND NUT SHALL BE GALVANIZED.

⑦ 1/4" x 2" x 8" FLAT BAR, WITH 5/8"ϕ HOLES FOR ANCHOR BOLTS NO. 6.

GENERAL NOTES

BID ITEM SHALL BE "RAILING PIPE", WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS. AFTER GALVANIZING, PAINT ALL SURFACES OF RAILING BLACK (FEDERAL COLOR NUMBER 27038).

DRILL DRAIN HOLES PRIOR TO GALVANIZING.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.

ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.

PLACE ALL NUTS ON OUTSIDE OF POSTS.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING.

◪ CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-702

DRAWN BY CEB | PLANS CK'D. AJC

PIPE RAILING DETAILS

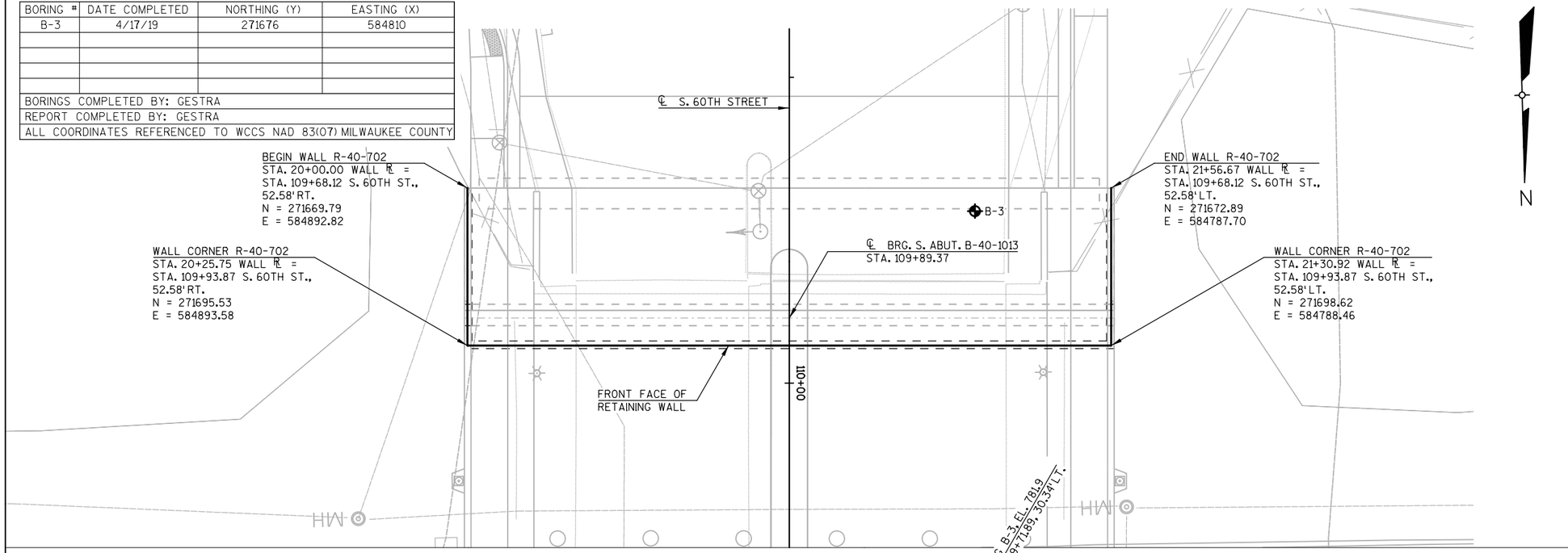
SHEET 6 OF 7
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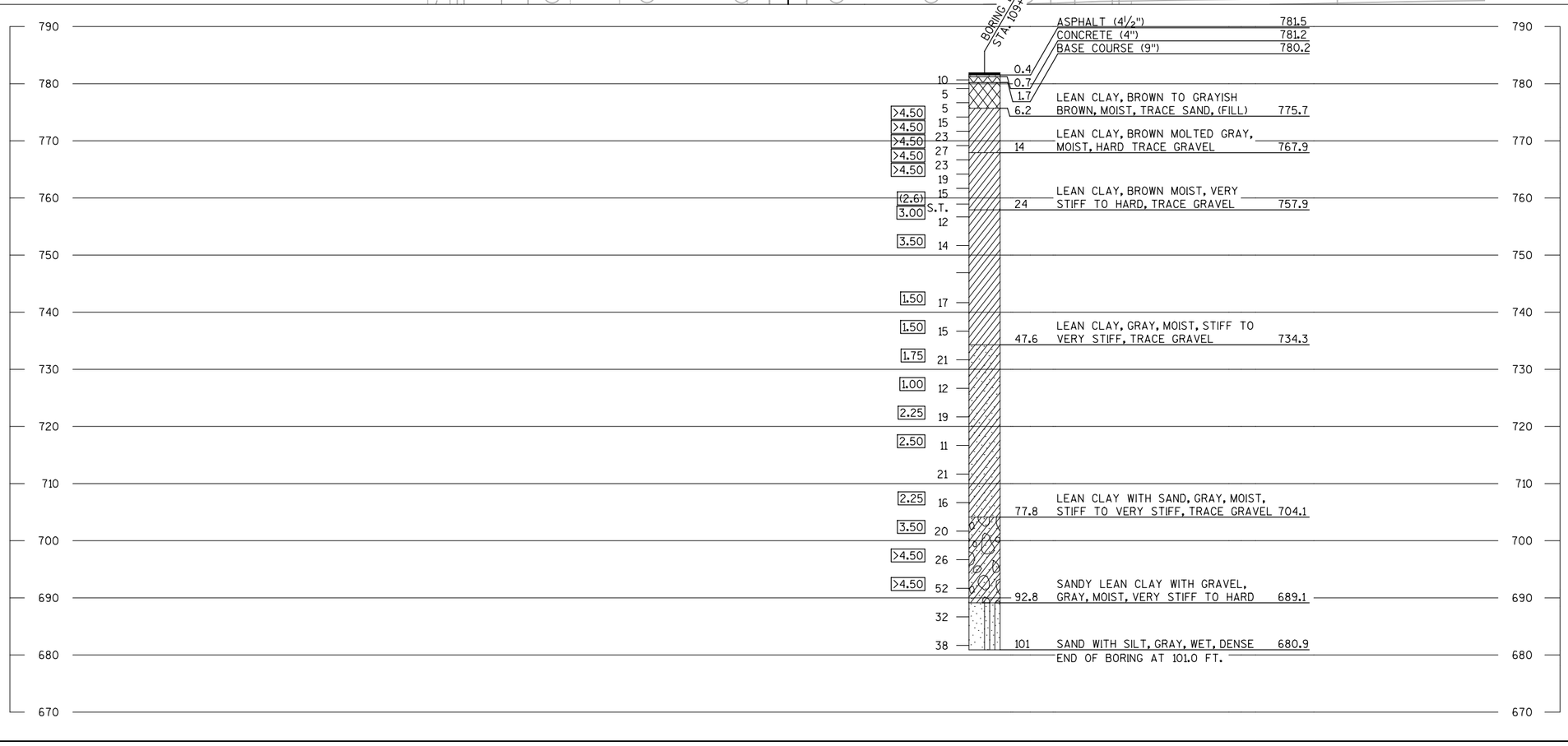
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BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-3	4/17/19	271676	584810

BORINGS COMPLETED BY: GESTRA
REPORT COMPLETED BY: GESTRA
ALL COORDINATES REFERENCED TO WCCS NAD 83(07) MILWAUKEE COUNTY





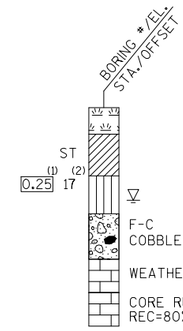
STATE PROJECT NUMBER

1100-46-70

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-40-702

DRAWN BY CEB | PLANS CK'D. AJC

SUBSURFACE EXPLORATION

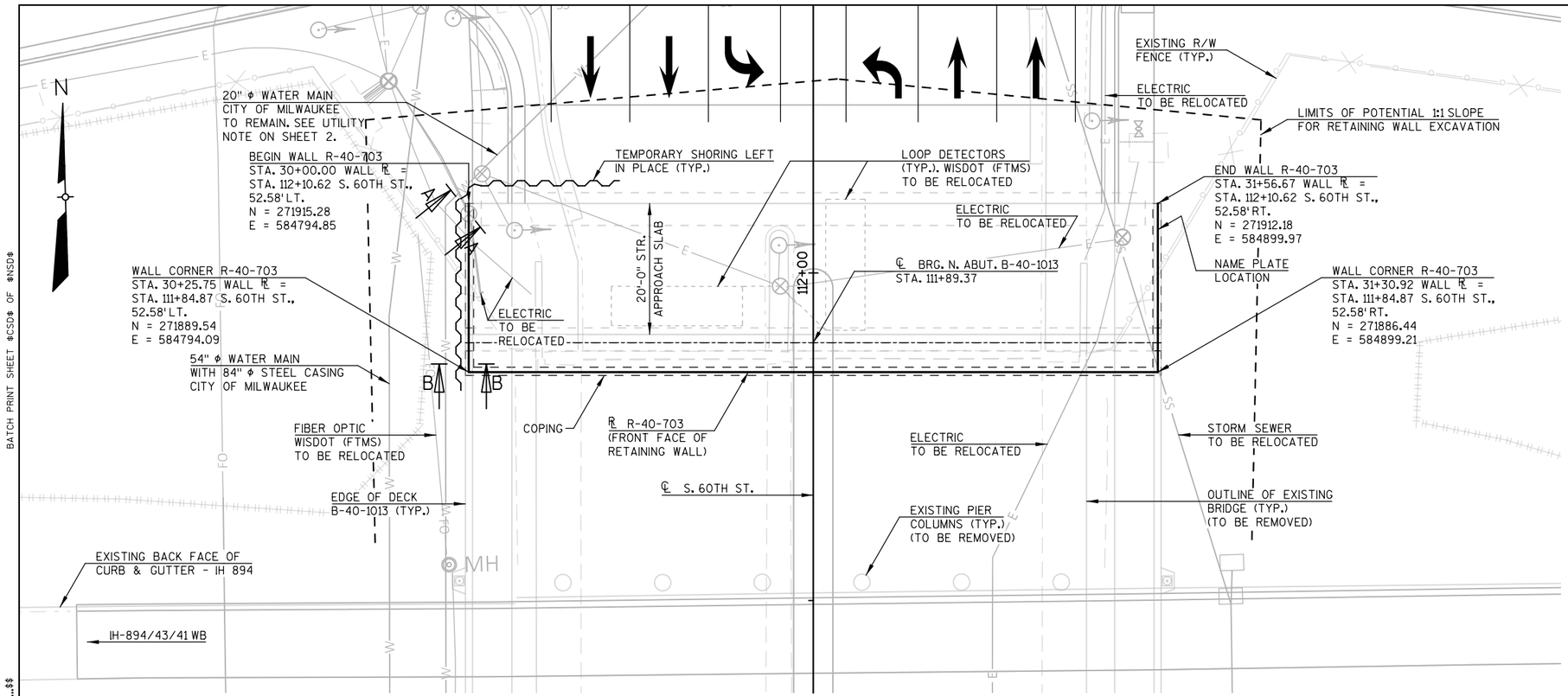
SHEET 7 OF 7
364

SCALE =

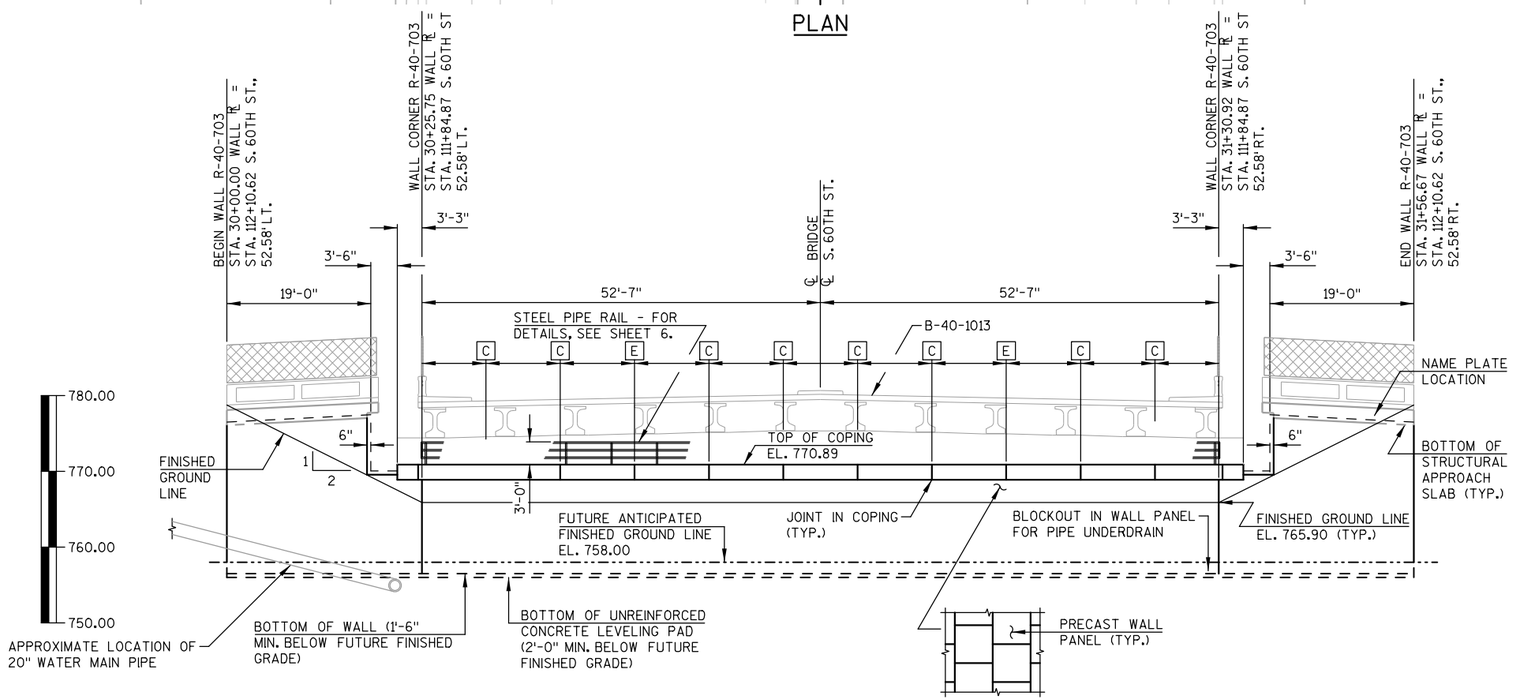
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BATCH PRINT SHEET #CSD# OF #NSD#
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$



PLAN



ELEVATION

(UNFOLDED ELEVATION LOOKING NORTH AT FRONT FACE OF WALL)

STATE PROJECT NUMBER

1100-46-70

DESIGN DATA

LIVE LOAD
LIVE LOAD SURCHARGE (ROADWAY) _____ 240 PSF

MATERIAL PROPERTIES
CONCRETE MASONRY RETAINING WALL:
(INCLUDES CONCRETE FOR COPING AND LEVELING PAD) ___ f'c = 3,500 PSI
PRECAST CONCRETE WALL PANELS _____ f'c = 4,000 PSI
BAR STEEL REINFORCEMENT, GRADE 60 _____ fy = 60,000 PSI

FOUNDATION DATA - FACTORED BEARING RESISTANCE
MSE WALL - REFER TO "WALL EXTERNAL AND OVERALL STABILITY EVALUATION" TABLE ON SHEET 2.

DO NOT OPERATE HEAVY EQUIPMENT OR STOCKPILE MATERIALS IN CLOSE PROXIMITY TO THE WALL.

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. GENERAL NOTES AND QUANTITES
3. ALIGNMENT, PROFILE AND TYPICAL SECTION
4. WALL DETAILS 1
5. WALL DETAILS 2
6. PIPE RAILING DETAILS
7. SUBSURFACE EXPLORATION

NOTE

SEE SHEET 2 FOR SECTIONS A-A AND B-B.

LEGEND

[E] EXPANSION JOINT
[C] CONTRACTION JOINT
DIRECTION OF TRAFFIC

BENCH MARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
CP 2	109+51.94 S. 60TH ST., 49.61'LT	BERNSTEN FENO W/ ALUMINUM CAP	780.552
CP 5	173+16.26 IH 894/43/41, 103.19'LT	BERNSTEN FENO W/ ALUMINUM CAP	767.860
CP 6	179+25.32 IH 894/43/41, 68.89'RT	BERNSTEN FENO W/ ALUMINUM CAP	762.120

WISCONSIN
MICHAEL J. ARNOLD
E-41717
NEW BERLIN, WI
PROFESSIONAL ENGINEER
10/30/2020

STRUCTURES DESIGN CONTACTS

SE REGION CONTACT - JOSH LEVEQUE (414) 750-1468
BUREAU OF STRUCTURES CONTACT - AARON BONK (608) 261-0261
CONSULTANT CONTACT - MICHAEL DELEMONT (414) 207-4157

NO.	DATE	REVISION	BY

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ SDR 03/25/21
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-40-703

RETAINING WALL AT 60TH STREET N. ABUT.

COUNTY MILWAUKEE | ~~TOWN~~/CITY/~~VILLAGE~~ GREENFIELD

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	CEB	DESIGN CK'D.	MJA	DRAWN BY	DNJ/CEB	PLANS CK'D.	MJA

GENERAL PLAN AND ELEVATION

SHEET 1 OF 7
365

8

8

BATCH PRINT SHEET CSD OF NSD
PRINTER DRIVER: $$...printerdriver...$$
PEN TABLE: $$...pentable...$$
FILE NAME: $$...designfile...$$
PLOT DATE: $$...plottingdate...$$ PLOT TIME: $$...plottingtime...$$

STATE PROJECT NUMBER

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GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

B.F. = BACK FACE
F.F. = FRONT FACE

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

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

ALL BAR STEEL IN CAST IN PLACE CONCRETE SHALL BE EPOXY COATED.

THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-703" IS BASED ON WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO A CONSTANT DEPTH 1.5' BELOW FUTURE FINISHED GROUND.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL, AND MSE WALL REINFORCEMENT 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 CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-703".

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 MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

WALL STATIONS ARE ALONG THE ℄ FOR R-40-703, WHICH IS LOCATED AT THE FRONT FACE OF THE WALL.

PROVIDE A RUBBED SURFACE TREATMENT IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

THE RETAINING WALL DESIGN SHALL USE THE FUTURE ANTICIPATED FINISHED GROUND LINE ELEVATION TO DETERMINE THE MAXIMUM WALL HEIGHTS.

THE DESIGN OF THE WALL IN FRONT OF THE ABUTMENT SHALL INCLUDE THE HORIZONTAL EARTH LOADS AND 240 PSF LIVE LOAD SURCHARGE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

DESIGN THE RETAINING WALL TO PROVIDE FOR A FINISHED GROUND SLOPE BEHIND THE WALL AS SHOWN IN THE ROADWAY CROSS SECTIONS.

COORDINATE THE CONSTRUCTION OF R-40-703 WITH THE CONSTRUCTION OF THE BRIDGE ABUTMENT AND PILING OF STRUCTURE B-40-1013.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE CONCRETE COPING IN FRONT OF THE ABUTMENT AND THE LEVELING PAD, INCLUDING REINFORCEMENT, IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-703".

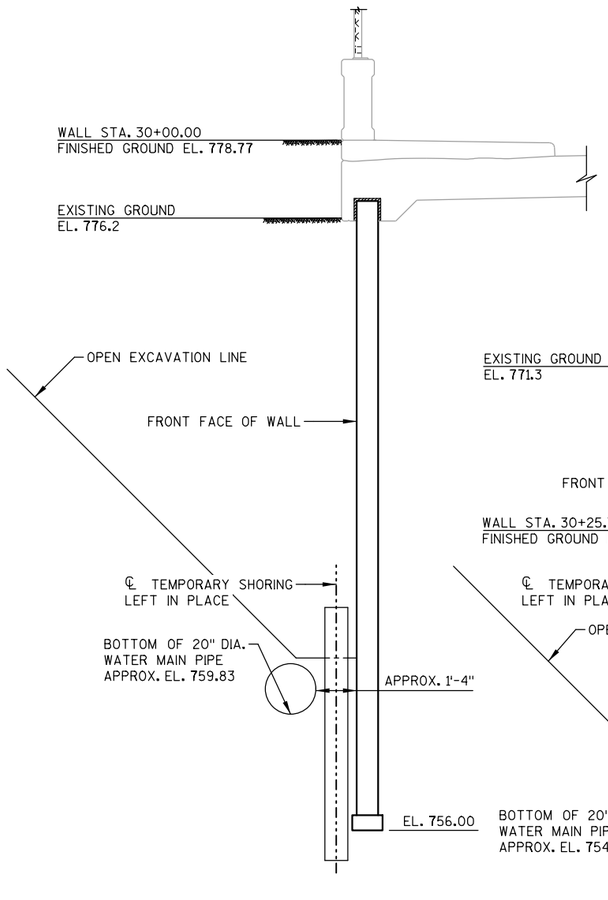
THE COST OF THE APPROACH SLAB, COPING AT THE APPROACH SLAB AND PARAPET ARE INCLUDED WITH B-40-1013.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

THE SUBSURFACE CONDITIONS AT THE BASE OF THE WALL SHALL BE REVIEWED BY THE SOUTHEAST REGION SOILS ENGINEER TO DETERMINE IF THE MATERIALS HAVE ADEQUATE STRENGTH TO SUPPORT THE MSE WALL. THE GEOTECHNICAL REPORT IS AVAILABLE UPON REQUEST FROM WISDOT'S SE REGION OFFICE.

GEOMETRY TABLE

WALL STATION	ROADWAY STATION	OFFSET SIDE	OFFSET TO R/L OF WALL	TOP OF WALL EL	FINISHED GROUND EL	FUTURE FINISHED GROUND
30+00.00	112+10.62	LEFT	52.58	778.10	778.77	758.00
30+19.00	111+91.62	LEFT (COPING)	52.58	779.05	769.27	758.00
30+19.00	111+91.62	B.F. ABUT. (LEFT)	52.58	769.45	769.27	758.00
30+22.50	111+88.12	F.F. ABUT. (LEFT)	52.58	769.45	767.52	758.00
30+22.50	111+88.12	F.F. ABUT. (LEFT)	52.58	770.95	767.52	758.00
30+25.75	111+84.87	CORNER (LEFT)	52.58	770.89	765.90	758.00
30+50.00	111+84.87	COPING (LEFT)	28.33	770.89	765.90	758.00
30+75.00	111+84.87	COPING (LEFT)	3.33	770.89	765.90	758.00
31+00.00	111+84.87	COPING (RIGHT)	21.67	770.89	765.90	758.00
31+30.92	111+84.87	CORNER (RIGHT)	52.58	770.89	765.90	758.00
31+34.17	111+88.12	F.F. ABUT. (RIGHT)	52.58	770.95	767.52	758.00
31+34.17	111+88.12	F.F. ABUT. (RIGHT)	52.58	769.45	767.52	758.00
31+37.67	111+91.62	B.F. ABUT. (RIGHT)	52.58	769.45	769.27	758.00
31+37.67	111+91.62	RIGHT (COPING)	52.58	779.05	769.27	758.00
31+50.00	112+03.95	RIGHT	52.58	778.43	775.43	758.00
31+56.67	112+10.62	RIGHT	52.58	778.10	778.77	758.00



SECTION A-A

SECTION B-B

SEE GENERAL PLAN ON SHEET 1 FOR SECTION A-A AND B-B LOCATIONS

SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTION	UNIT WEIGHT (PCF)	DRAINED FRICTION ANGLE (DEGREES)	UNDRAINED COHESION (PSF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	120	30	0
FILL BEHIND THE REINFORCING ZONE	120	30	0
BORING B-5, STA 111+93.80			
EL. 758.7 TO EL. 699.9 - LEAN CLAY, VERY STIFF	130	28	3,000
EL. 699.9 TO EL. 694.9 - LEAN CLAY, VERY STIFF	130	27	2,000
EL. 694.9 TO EL. 679.9 - LEAN CLAY, VERY STIFF	130	28	3,000
EL. 679.9 TO EL. 676.7 - LEAN CLAY, HARD	135	28	4,500
EL. <676.7 - DENSE SILT WITH SAND	120	35	0

WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS	EVALUATED LOCATIONS	
WALL HEIGHT (FT.)*	22.01	14.63
EXPOSED WALL HEIGHT (FT.)	20.51	13.13
MIN. LENGTH OF REINFORCEMENT (FT.)	17	22
WALL STATION	30+00.00 TO 30+25.75 & 31+37.67 TO 31+56.67	30+25.75 TO 31+37.67
BORING USED	B-5	B-5
CAPACITY TO DEMAND RATIO (CDR)		
SLIDING (CDR > 1.0)	1.06	1.18
ECCENTRICITY (CDR > 1.0)	1.23	2.04
OVERALL STABILITY (CDR > 1.0)	1.10	1.00
BEARING RESISTANCE (CDR > 1.0)	1.20	1.26
ULTIMATE BEARING RESISTANCE (PSF)	11,200	11,200

* INCLUDES 1'-6" EMBEDMENT DEPTH

LEGEND

THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISIONS OR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS.

THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED ON OVERALL STABILITY PERFORMED BY THE WALL DESIGNER. COMPOUND STABILITY IS THE CONTRACTOR'S RESPONSIBILITY.

UTILITY NOTE

THE TWO EXISTING WATER MAIN PIPES BURIED IN CLOSE PROXIMITY TO THE BRIDGE AND WALL CONSTRUCTION WILL REMAIN IN PLACE AND MUST BE MAINTAINED DURING CONSTRUCTION. EXCAVATE FOR BRIDGE AND WALL CONSTRUCTION TO AVOID DAMAGE TO THE PIPES. AFTER EXPOSING THE PIPES TO CONFIRM THEIR LOCATION, INSTALL TEMPORARY SHORING AS NECESSARY TO COMPLETE THE EXCAVATION. USE ONLY NON-VIBRATORY METHODS OF SHORING INSTALLATION. CUT OFF TEMPORARY SHORING A MINIMUM OF TWO FEET BELOW FINISHED GROUND LINE, AND LEAVE THE REMAINING TEMPORARY SHORING IN PLACE. THE COST OF ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO PREVENT DAMAGE TO THESE EXISTING PIPES DURING CONSTRUCTION IS CONSIDERED INCIDENTAL TO THE BID ITEM FOR TEMPORARY SHORING LEFT IN PLACE.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEM	UNIT	TOTALS
511.2200.401	TEMPORARY SHORING LEFT IN PLACE R-40-703	SF	200
513.2001	RAILING PIPE	LF	106
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	4
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	160
SPV.0165.401	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-703	SF	2,540
	NON-BID ITEMS		
	FILLER	SIZE	3/4" & 1"
	NAME PLATE	EACH	1
	EXPANDED POLYSTYRENE	SIZE	1"

ALL ITEMS ARE CATEGORY 3010

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-703

DRAWN BY CEB | PLANS CK'D. MJA

GENERAL NOTES AND QUANTITIES

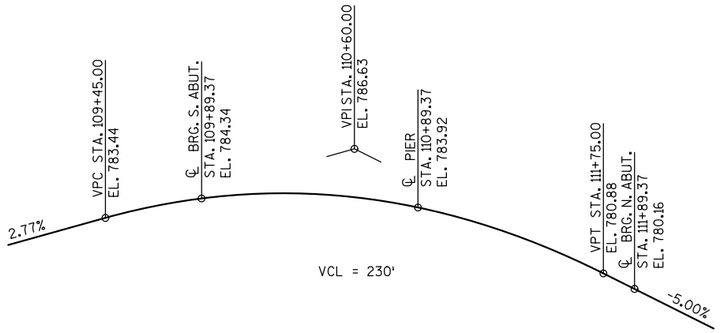
SHEET 2 OF 7
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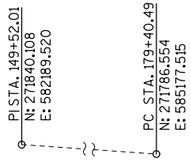
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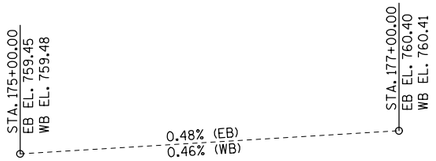
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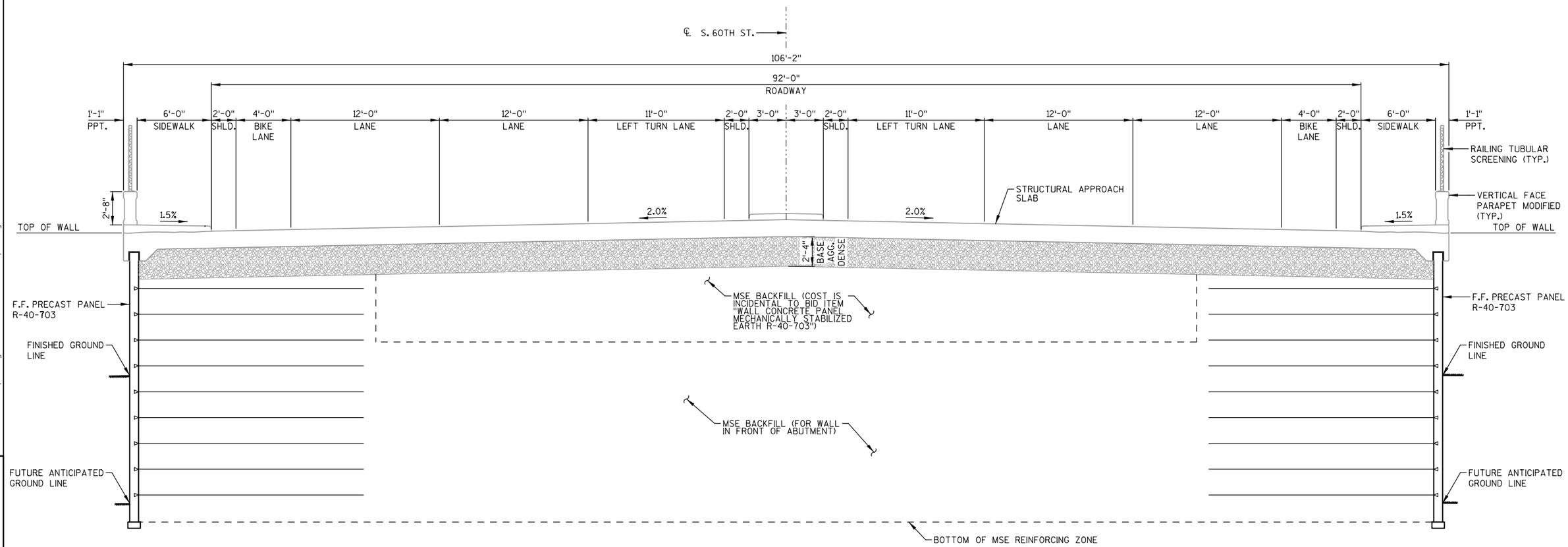
PROFILE GRADE LINE - S. 60TH STREET



EXISTING HORIZONTAL ALIGNMENT - ℄ IH-894/43



EXISTING CROWN LINE - I-894/43



TYPICAL SECTION THRU APPROACH SLAB

(LOOKING DOWNSTATION)

NOTE

THE STRUCTURAL APPROACH SLAB, BASE AGG. DENSE 1¼" UNDER THE APPROACH SLAB, PARAPETS, COPING AND TUBULAR RAILING ARE INCLUDED WITH STRUCTURE B-40-1013.

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STRUCTURE R-40-703

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ALIGNMENT, PROFILE AND TYPICAL SECTION

SHEET 3 OF 7
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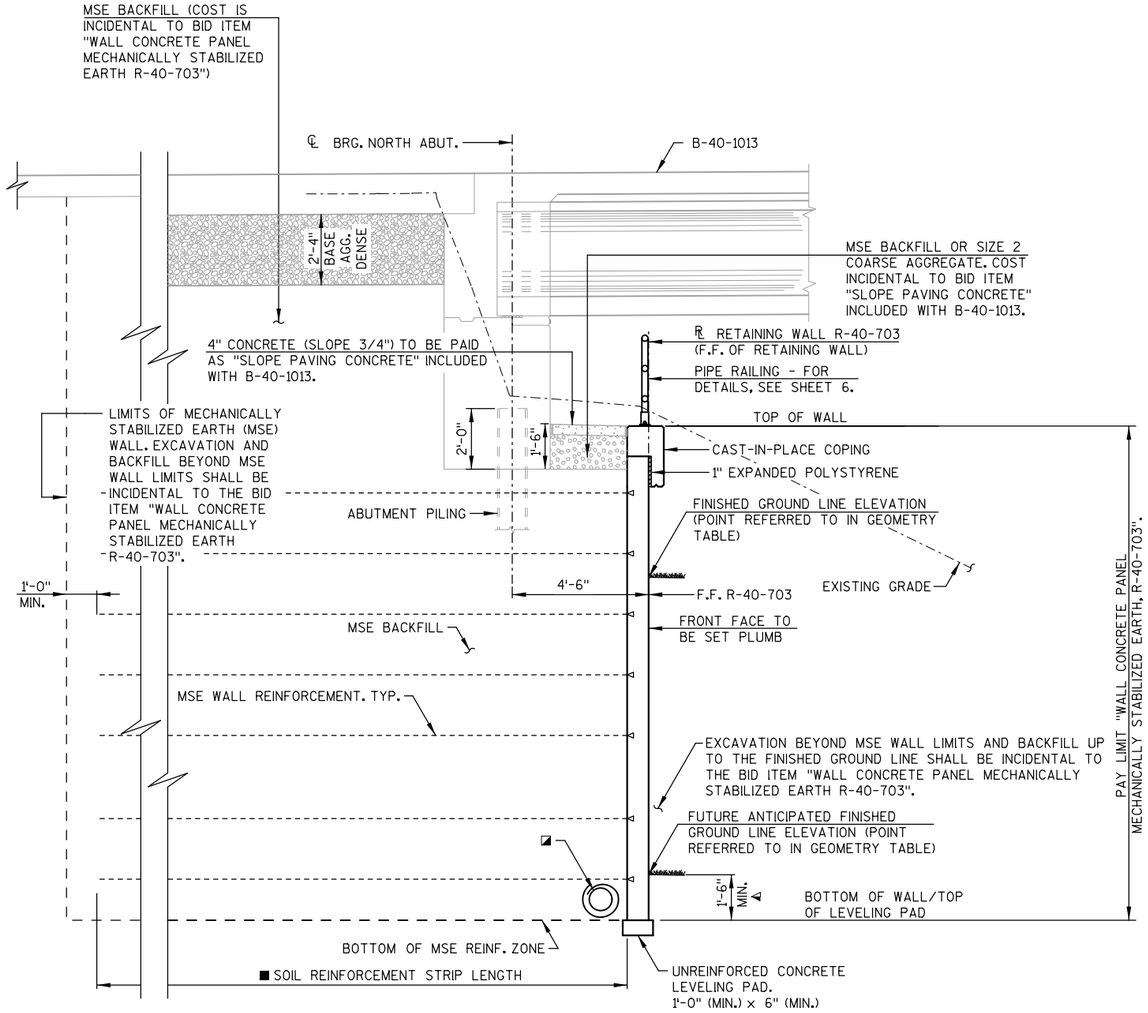
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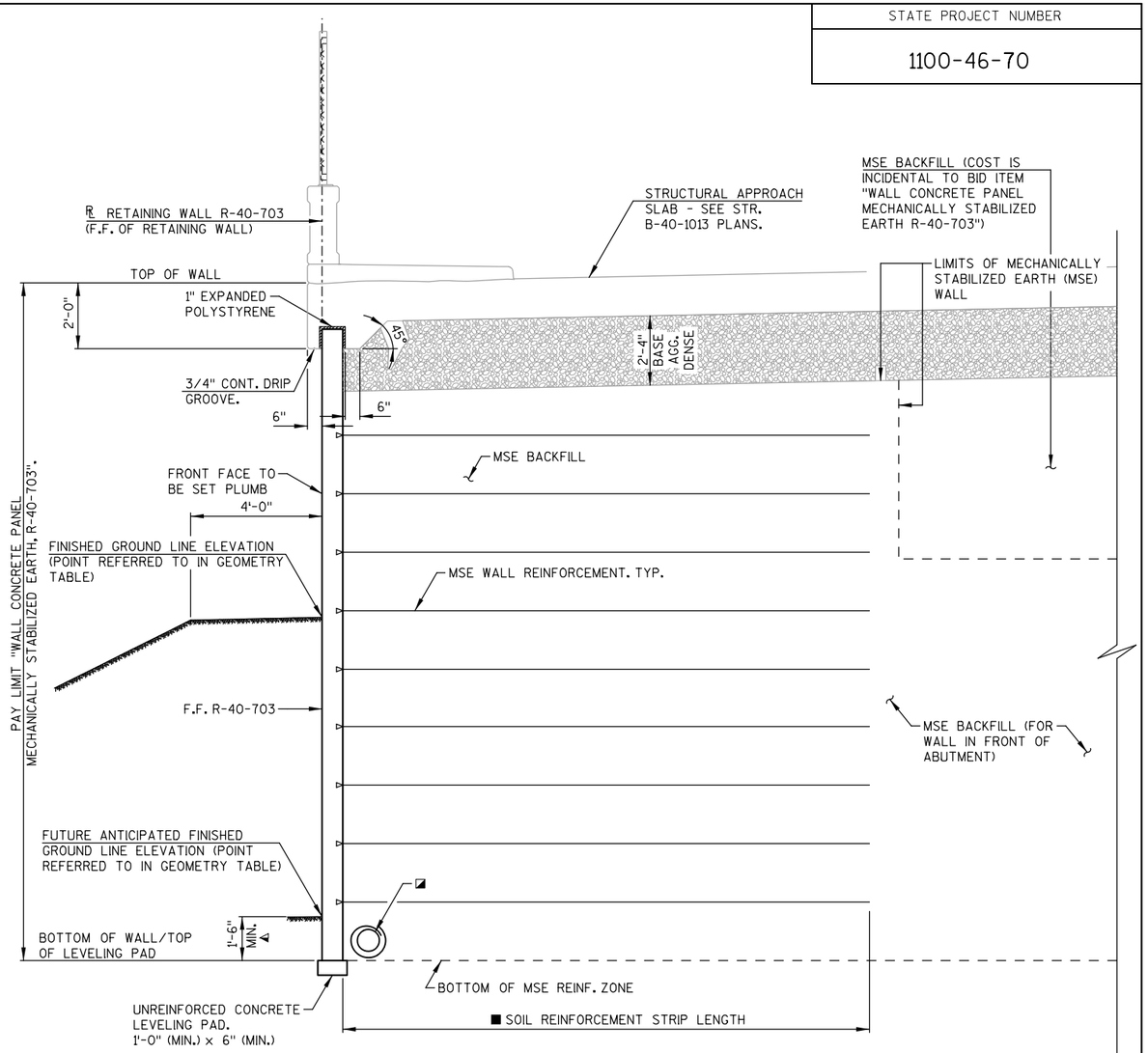
STATE PROJECT NUMBER

1100-46-70



TYPICAL WALL SECTION THRU WALL AT ABUTMENT

(MSE WALL WITH CONCRETE PANEL FACING)



TYPICAL SECTION THRU WALL

(LOOKING SOUTH AT EAST SIDE OF S. 60TH ST., WEST SIDE SIMILAR)

LEGEND

◪ PIPE UNDERDRAIN WRAPPED (6-INCH). CONNECT TO UNPERFORATED UNDERDRAIN THROUGH WALL PANEL. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.

◭ MINIMUM EMBEDMENT BASED ON SITE SPECIFIC PARAMETERS (1'-6" MIN. FOR ALL WALLS ON LEVEL GROUND). FIELD EMBEDMENTS SHALL MEET OR EXCEED THE MINIMUM EMBEDMENT. FIELD EMBEDMENTS BELOW MINIMUM EMBEDMENT SHALL NOT BE INCLUDED IN THE PAY LIMITS.

■ SEE "WALL EXTERNAL & OVERALL STABILITY EVALUATION" ON SHEET 2 FOR MINIMUM SOIL REINFORCEMENT LENGTH.

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-703

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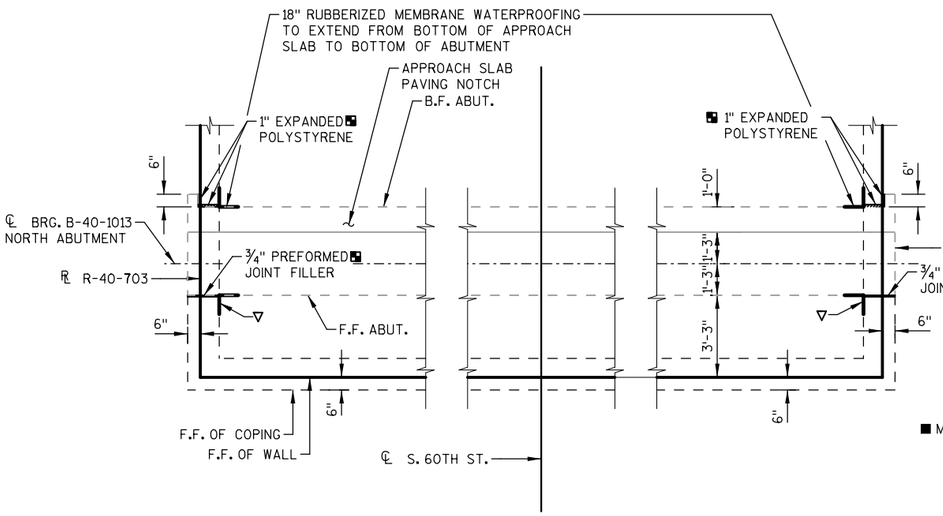
WALL DETAILS 1

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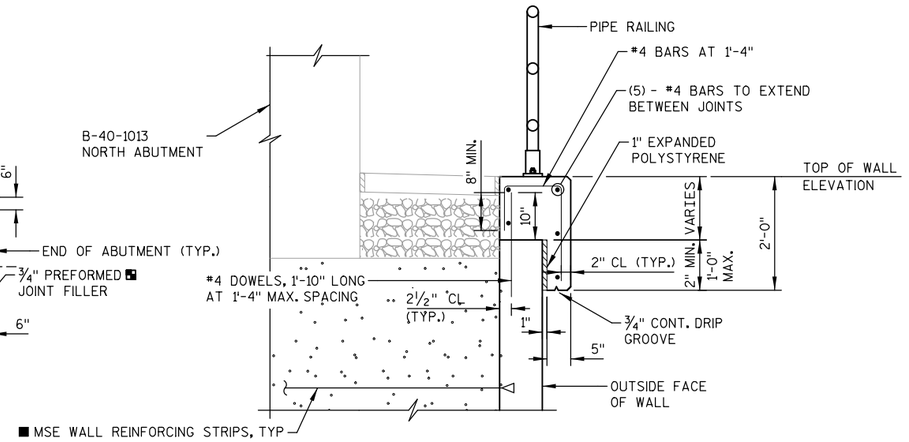
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COPING PLAN AT ABUTMENT



COPING DETAIL AT FRONT FACE OF ABUTMENT

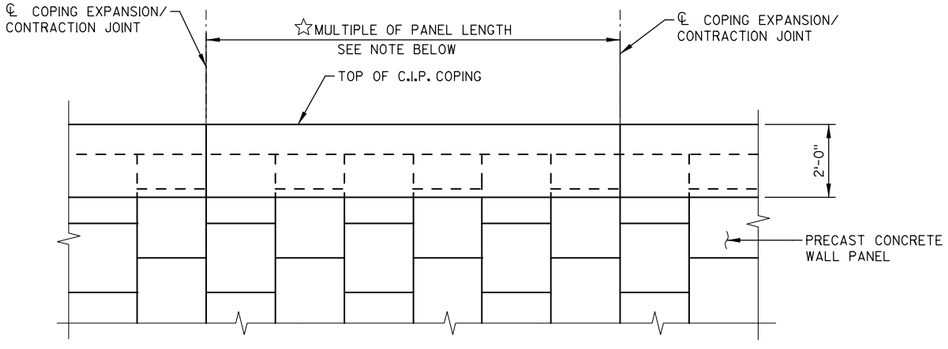
WALL STA 30+22.50 THRU WALL STA 31+34.17

LEGEND

■ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

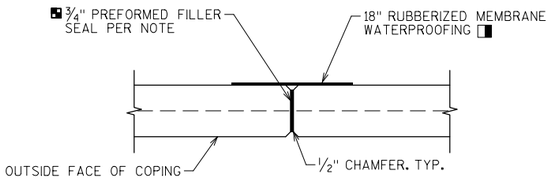
▽ 18" RUBBERIZED MEMBRANE WATERPROOFING TO BE PLACED ON THESE SURFACES AT EACH JOINT.

■ FOR SYMBOL DESCRIPTION, SEE SHEET 4.



☆ ALL JOINTS SHALL BE LOCATED AS SHOWN ON WALL ELEVATIONS AND MUST COINCIDE WITH PANEL JOINT ON FRONT FACE.

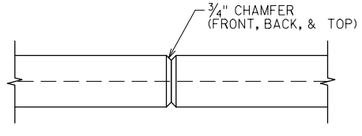
C.I.P. COPING PARTIAL ELEVATION



COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 50'

◨ MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 12'

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-703

DRAWN BY CEB | PLANS CK'D. AJC

WALL DETAILS 2

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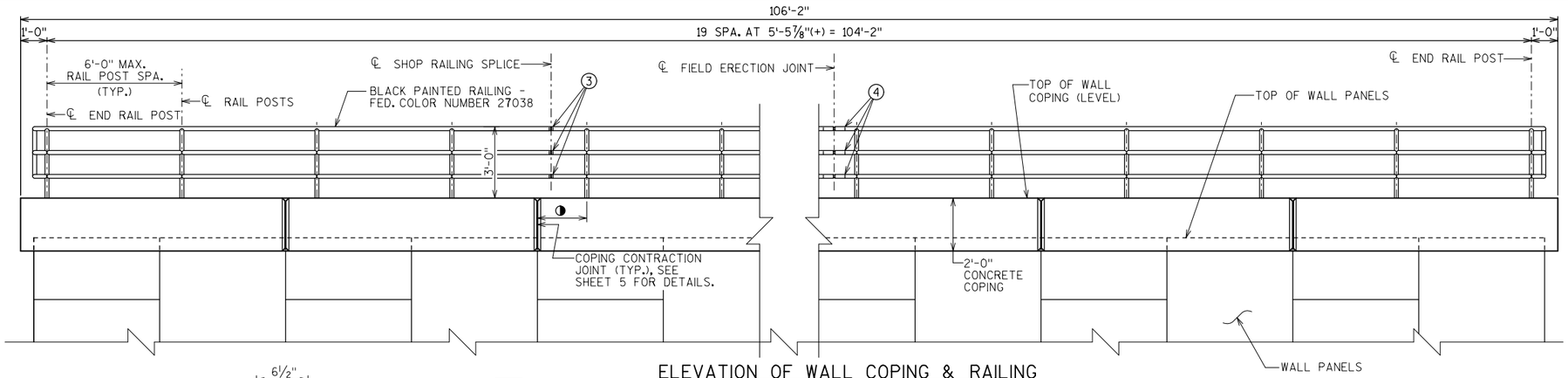
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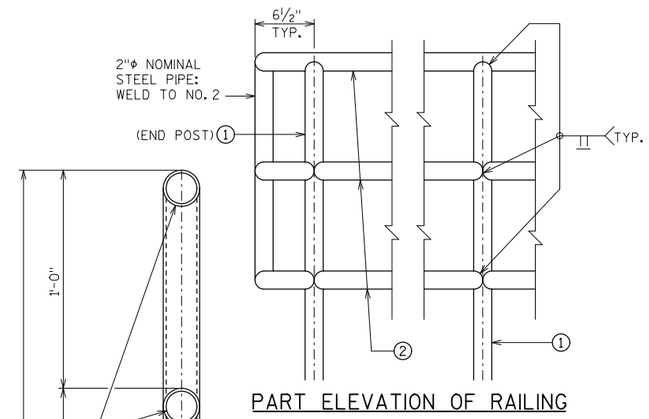
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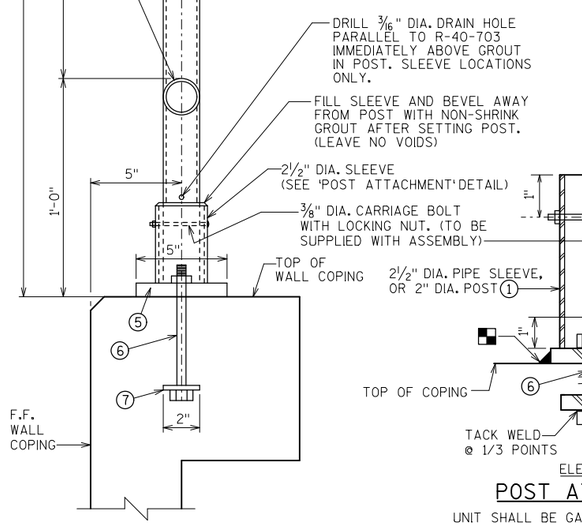
ELEVATION OF WALL COPING & RAILING

LOOKING NORTH AT F.F. WALL

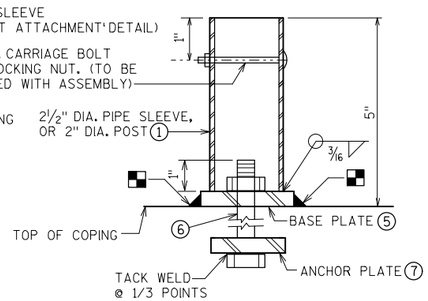
◐ 1'-0" MIN. DISTANCE REQUIRED BETWEEN THE ℄ OF COPING EXPANSION AND CONTRACTION JOINTS AND THE ℄ OF RAIL POSTS



PART ELEVATION OF RAILING



SECTION THRU RAILING

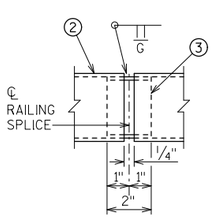


ELEVATION

POST ATTACHMENT

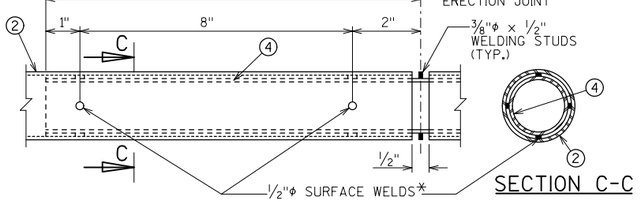
UNIT SHALL BE GALV. AFTER FABRICATION

NOTE:
IN LIEU OF USING THE 2½"ϕ SLEEVE, THE 2"ϕ RAIL POST MAY BE WELDED TO THE BASE PLATE.



SHOP RAILING SPLICE DETAIL

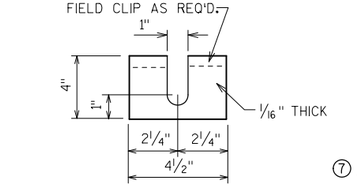
(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



SECTION C-C

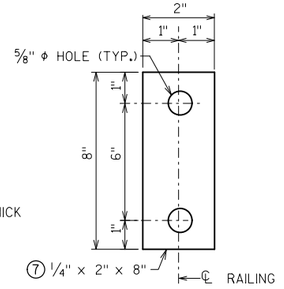
◪ FIELD ERECTION JOINT DETAIL

*MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

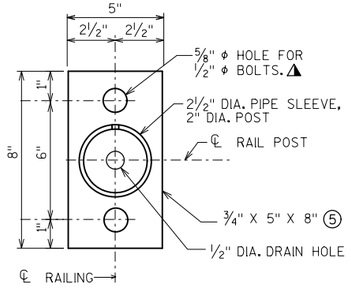


POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST.



ANCHOR PLATE



BASE PLATE

LEGEND

① 2"ϕ NOMINAL STEEL PIPE FOR POSTS: CUT BOTTOM OF POST TO MATCH TOP OF CONCRETE. POSTS ARE TO BE SET VERTICAL.

② 2"ϕ NOMINAL STEEL PIPE FOR RAILS: WELD TO NO. 1

③ 1½"ϕ PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 2 1/16".

④ 1½"ϕ PIPE SLEEVE x 1'-10" LONG FOR NO. 2. PROVIDE ½"ϕ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE ⅜"ϕ x ½" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.

⑤ PLATE ¾" x 5" x 8", WITH ⅝"ϕ HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1. OR PIPE SLEEVE AS SHOWN.

⑥ ½"ϕ x 6⅞" LONG HEX BOLTS (GALVANIZED) WITH NUT AND WASHER. 2 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 5. CHAMFER TOP OF BOLTS BEFORE THREADING. ½" CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR ½" BOLTS. ANCHOR PLATE NOT REQUIRED WHEN CONCRETE MANSONRY ANCHORS ARE USED. SEE NOTE ☆

☆ ½" DIA. CONCRETE MASONRY ANCHOR, 6" MIN. EMBEDMENT (EPOXY ANCHORED) INTO CONCRETE AND MINIMUM PULLOUT CAPACITY OF 10 KIPS. ANCHOR, WASHER AND NUT SHALL BE GALVANIZED.

⑦ ¼" x 2" x 8" FLAT BAR, WITH ⅝"ϕ HOLES FOR ANCHOR BOLTS NO. 6.

GENERAL NOTES

BID ITEM SHALL BE "RAILING PIPE", WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS. AFTER GALVANIZING, PAINT ALL SURFACES OF RAILING BLACK (FEDERAL COLOR NUMBER 27038).

DRILL DRAIN HOLES PRIOR TO GALVANIZING.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.

ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.

PLACE ALL NUTS ON OUTSIDE OF POSTS.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING.

◪ CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-703

DRAWN BY CEB | PLANS CK'D. AJC

PIPE RAILING DETAILS

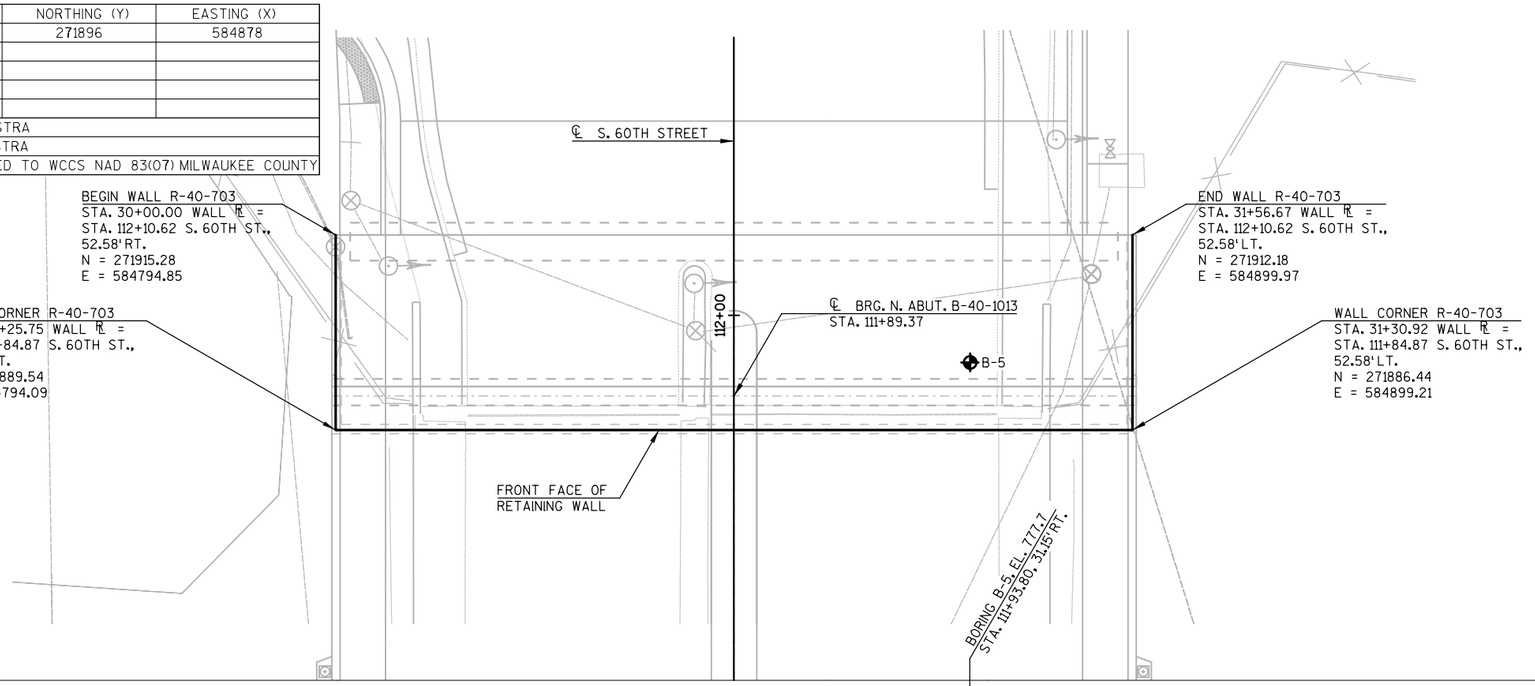
SHEET 6 OF 7
370

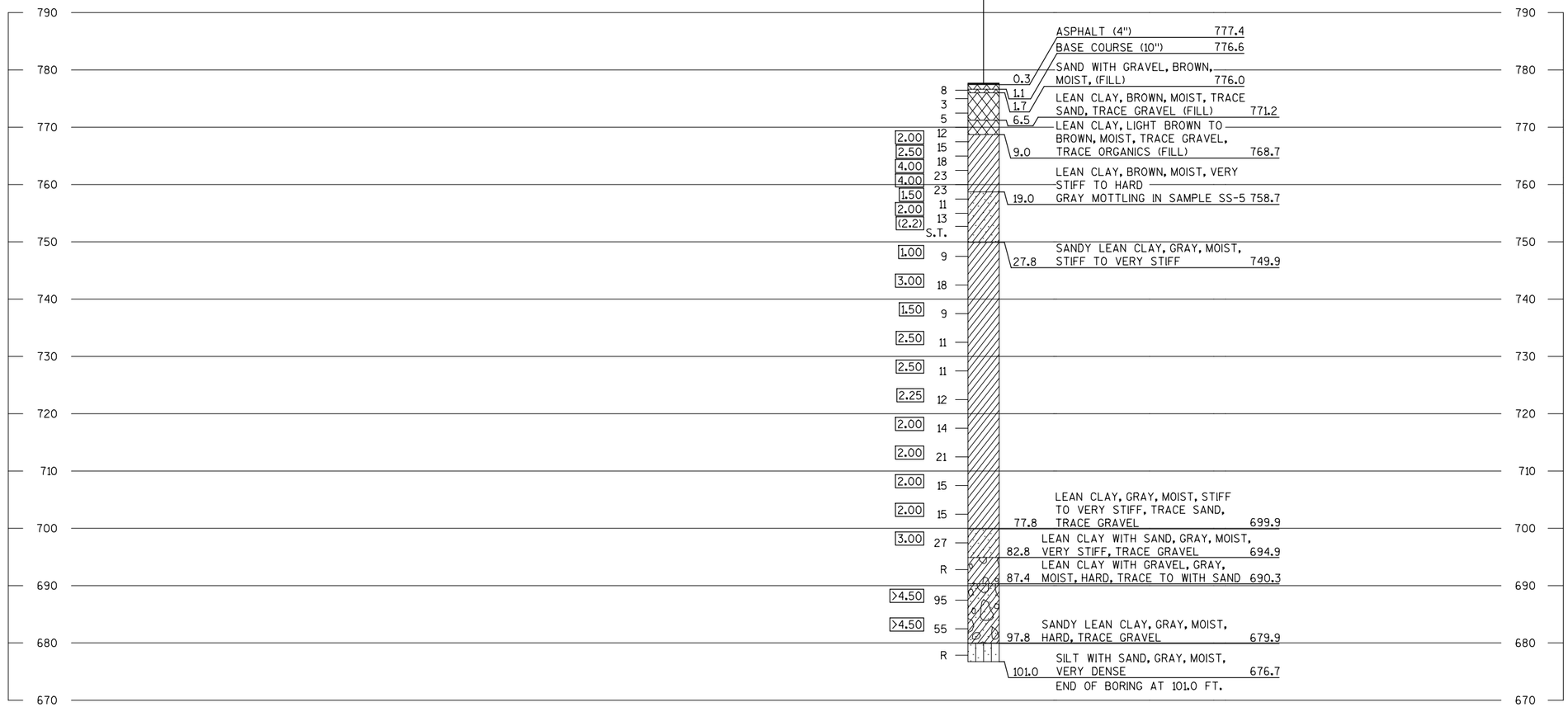
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8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-5	4/16/19	271896	584878

BORINGS COMPLETED BY: GESTRA
REPORT COMPLETED BY: GESTRA
ALL COORDINATES REFERENCED TO WCCS NAD 83(07) MILWAUKEE COUNTY





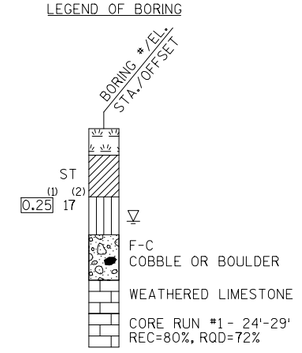
STATE PROJECT NUMBER

1100-46-70

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-40-703

DRAWN BY CEB | PLANS CK'D. AJC

SUBSURFACE EXPLORATION

SHEET 7 OF 7
371

SCALE =

60TH STREET - SOUTH OF B-40-1013

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut Note 1	Incremental Vol (CY) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 8
107+97		122.33	0.16	0	0	0	0	0
107+98	1	122.57	0.21	6	0	6	0	6
108+00	2	123.67	0.22	9	0	15	0	15
108+03	3	125.27	0.2	12	0	27	0	27
108+15	13	245.47	0.1	88	0	115	0	115
108+37	21	244.73	1.27	193	1	308	1	307
108+50	13	237.08	2.66	118	1	426	2	424
108+55	5	238.44	2.05	48	0	475	3	472
108+57	2	239.85	1.60	15	0	489	3	486
108+75	18	274.66	2.89	170	1	659	5	655
108+83	8	293.03	2.9	79	1	738	6	733
109+00	18	315.69	0	197	1	936	7	929
109+27	27	216.02	1.41	270	1	1,205	8	1,198
109+49	21	155.97	16.5	148	7	1,353	17	1,337
109+50	1	153.67	18.82	7	1	1,360	18	1,342
109+68	18	118.67	150.28	91	57	1,451	88	1,363
				1,451	71			

NOTES:
(1) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) UNEXPANDED FILL VOLUME
(8) THE MASS ORDINATE + OR - QTY CALCULATED BETWEEN STATIONS. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL.

RAMP A

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut Note 1	Incremental Vol (CY) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 8
10+67'A'		69.91	4.24	0	0	0	0	0
10+85'A'	18	60.15	3.3	44	3	44	3	41
11+00'A'	15	63.55	4.47	34	2	78	6	72
11+50'A'	50	79.81	1.33	133	5	210	13	198
11+70'A'	20	85.44	0.04	61	1	272	13	258
				272	11			

RAMP B

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut Note 1	Incremental Vol (CY) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 8
10+91'B'		91.13	0.29	0	0	0	0	0
11+00'B'	9	89.83	0.39	30	0	30	0	29
11+41'B'	41	82.49	0.73	131	1	160	1	159
11+50'B'	9	81.81	1.18	27	0	188	2	186
11+74'B'	24	100.6	3.80	82	2	270	4	266
				270	4			

NOTES:
(1) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) UNEXPANDED FILL VOLUME
(8) THE MASS ORDINATE + OR - QTY CALCULATED BETWEEN STATIONS. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL.

60TH STREET - NORTH OF B-40-1013

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut Note 1	Incremental Vol (CY) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 8
112+11		156.88	59.19	0	0	0	0	0
112+26	15	181.74	20.09	94	22	94	28	67
112+39	14	189.03	19.14	93	10	188	40	148
112+50	11	217.43	0	81	4	269	45	224
112+85	35	218.28	10.85	282	7	551	53	497
113+00	15	192.09	6.88	114	5	665	60	605
113+04	4	190.70	5.55	31	1	696	61	635
113+05	1	190.46	5.72	4	0	700	61	639
113+09	4	188.79	8.86	25	1	726	62	663
113+22	14	189.64	17.33	96	7	822	71	751
113+25	3	190.53	15.35	19	2	841	73	768
113+38	13	198.68	5.49	90	5	931	79	852
113+50	13	207.54	2.56	94	2	1,025	81	944
113+62	12	215.41	0.71	97	1	1,122	82	1,040
113+65	3	217.1	0.49	21	0	1,143	82	1,061
				1,143	66			

NOTES:
(1) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) UNEXPANDED FILL VOLUME
(8) THE MASS ORDINATE + OR - QTY CALCULATED BETWEEN STATIONS. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL.

RAMP C

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut Note 1	Incremental Vol (CY) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 8
10+00'C'		83.44	0.01	0	0	0	0	0
10+50'C'	50	75.66	0.23	147	0	147	0	147
11+00'C'	50	53.39	4.3	119	4	267	6	261
11+34'C'	34	35.36	8.81	56	8	323	16	307
11+50'C'	16	32.49	10.12	20	6	343	23	320
11+69'C'	19	42.82	12.16	27	8	369	33	337
				369	26			

RAMP D

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut Note 1	Incremental Vol (CY) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 8
10+57'D'		62.96	7.38	0	0	0	0	0
10+62'D'	4	61.08	3.18	10	1	10	1	9
10+75'D'	14	56.99	8.89	30	3	40	5	35
10+81'D'	6	58.29	4.43	13	1	52	7	46
11+00'D'	19	62.81	3.99	42	3	94	10	84
11+50'D'	50	77.15	2.63	130	6	224	18	206
12+00'D'	50	91.86	0.37	156	3	380	21	359
				380	17			

NOTES:
(1) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) UNEXPANDED FILL VOLUME
(8) THE MASS ORDINATE + OR - QTY CALCULATED BETWEEN STATIONS. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL.

IH 41/43/894 - INSIDE SHOULDERS

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut Note 1	Incremental Vol (CY) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 8
174+53		39.51	0.00	0	0	0	0	0
174+81	28	37.51	0.00	40	0	40	0	40
174+95	14	38.89	0.00	20	0	60	0	60
175+00	5	39.3	0.00	7	0	67	0	67
175+50	50	40.68	0.00	74	0	141	0	141
175+53	3	40.84	0.00	5	0	146	0	146
175+55	2	40.91	0.00	3	0	149	0	149
176+00	45	40.98	0.00	68	0	217	0	217
176+07	7	40.78	0.00	10	0	227	0	227
176+50	43	39.59	0.00	64	0	291	0	291
176+58	8	38.73	0.00	12	0	303	0	303
176+60	2	38.11	0.00	3	0	306	0	306
177+00	40	38.98	0.00	56	0	363	0	363
177+20	20	39.7	0.00	29	0	392	0	392
177+50	30	38.98	0.00	44	0	436	0	436
177+60	10	38	0.00	14	0	450	0	450
				450	0			

NOTES:
(1) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) UNEXPANDED FILL VOLUME
(8) THE MASS ORDINATE + OR - QTY CALCULATED BETWEEN STATIONS. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL.

IH 41/43/894 - EB OUTSIDE SHOULDER

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut Note 1	Incremental Vol (CY) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 8
172+38		18.23	0.00	0	0	0	0	0
172+50	12	18.54	0.00	8	0	8	0	8
173+00	50	18.99	0.00	35	0	43	0	43
173+50	50	18.88	0.00	35	0	78	0	78
174+00	50	17.35	2.39	34	2	111	3	109
174+50	50	19.41	4.32	34	6	145	11	135
174+53	3	19.44	4.43	2	0	148	11	136
174+81	28	19.85	6.95	20	6	168	19	149
174+95	14	19.84	4.95	10	3	178	22	156
175+00	5	19.65	5.35	4	1	182	24	158
175+50	50	40.80	53.00	56	54	238	91	147
175+53	3	51.00	41.01	5	5	243	98	145
176+58		55.64	31.04	0	0	243	98	145
176+60	2	51.32	34.99	4	3	247	101	146
177+00	40	18.28	1.33	51	27	298	134	164
177+20	20	18.02	1.03	13	1	312	136	176
				312	108			

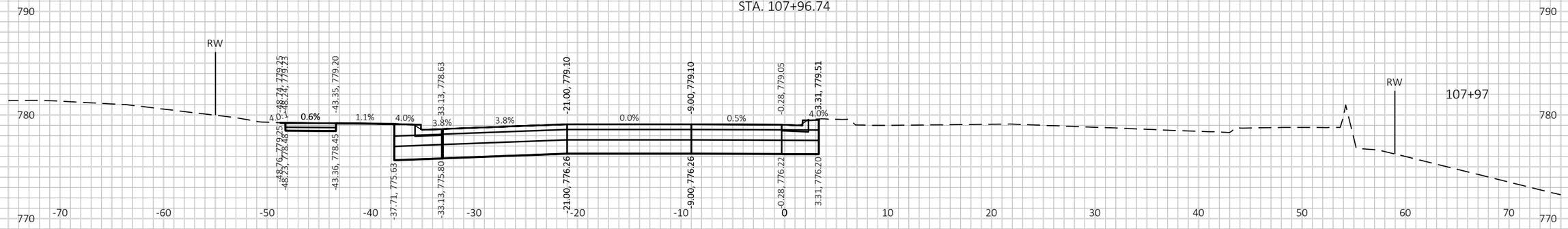
NOTES:
(1) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) UNEXPANDED FILL VOLUME
(8) THE MASS ORDINATE + OR - QTY CALCULATED BETWEEN STATIONS. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL.

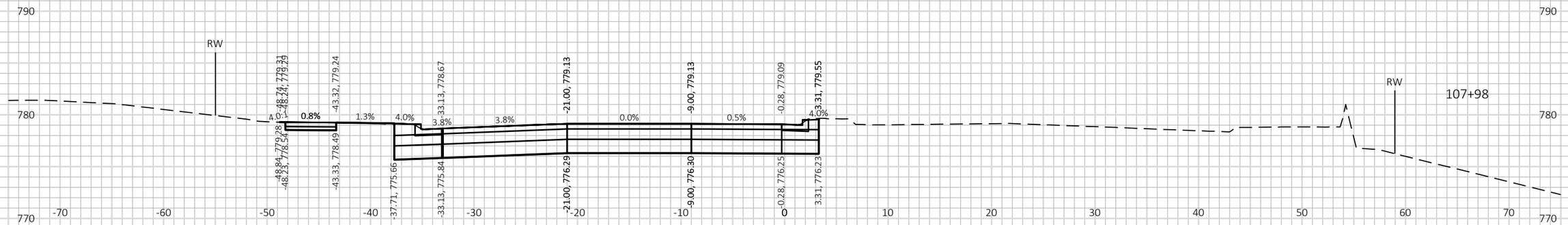
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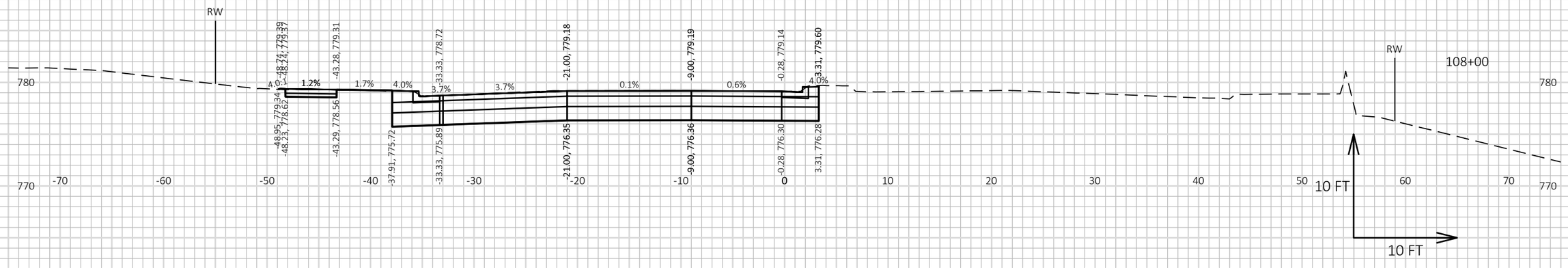
STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut Note 1	Incremental Vol (CY) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Fill 1.25	Mass Ordinate Note 8
174+95		18.59	3.47	0	0	0	0	0
175+00	5	18.93	2.98	3	1	3	1	3
175+50	50	139.10	16.68	146	18	150	24	126
175+53	3	168.20	12.57	17	2	167	26	142
175+55	2	186.36	9.70	14	1	182	27	155
176+60		185.61	9.68	0	0	182	27	155
177+00	40	26.64	6.65	156	12	337	42	296
177+20	20	18.75	4.33	17	4	354	47	307
177+50	30	17.84	6.86	20	6	374	55	320
177+60	10	17.80	7.45	7	3	381	58	323
178+00	40	20.22	7.89	28	11	409	72	337
178+50	50	18.28	0.00	36	7	445	81	364
179+00	50	18.82	0.00	34	0	479	81	398
179+25	25	18.70	0.00	17	0	497	81	415
179+40	15	18.53	0.00	11	0	507	81	426
179+50	10	18.42	0.00	7	0	514	81	433
179+69	19	18.34	0.00	13	0	527	81	446
				527	65			

NOTES:
(1) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) UNEXPANDED FILL VOLUME
(8) THE MASS ORDINATE + OR - QTY CALCULATED BETWEEN STATIONS. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL.

BEGIN PROJECT
MATCH EXISTING
STA. 107+96.74







9

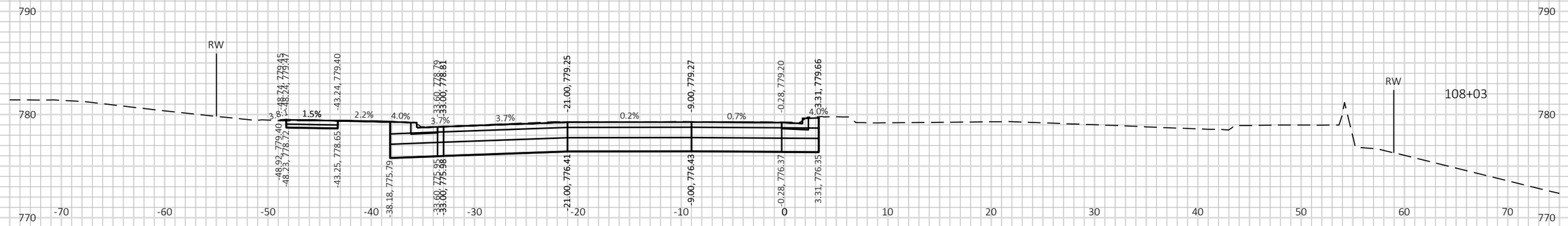
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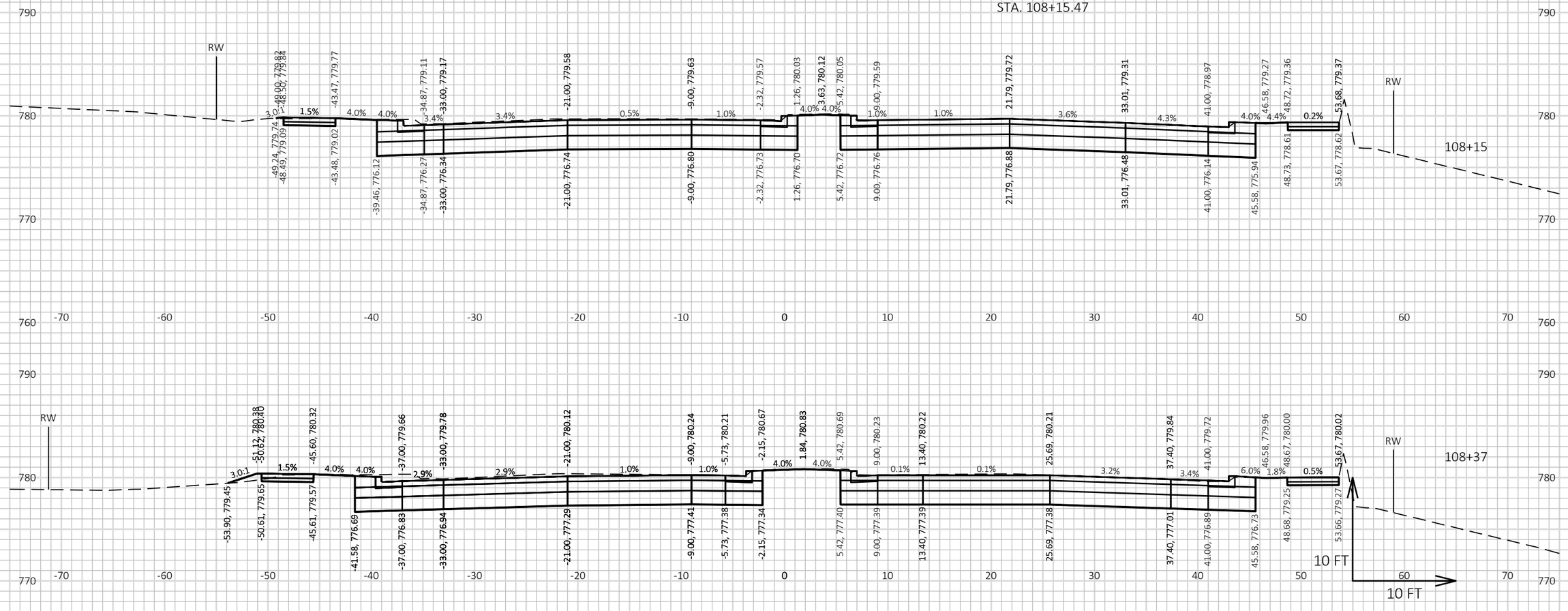
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LAYOUT NAME - South-01

PLOT DATE : 1/29/2021 10:26 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



BEGIN CONSTRUCTION - NB 60TH STREET
MATCH EXISTING
STA. 108+15.47



9

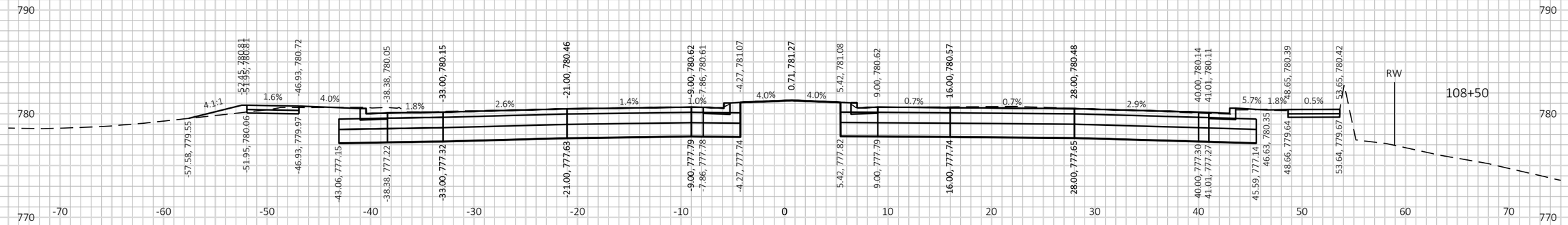
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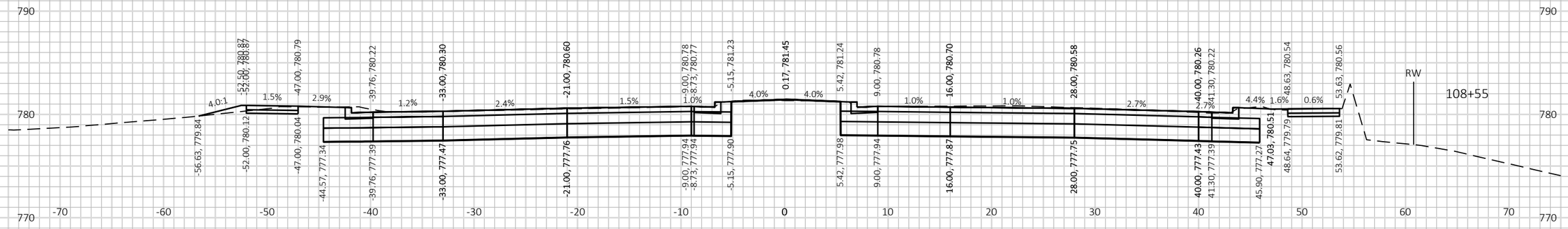
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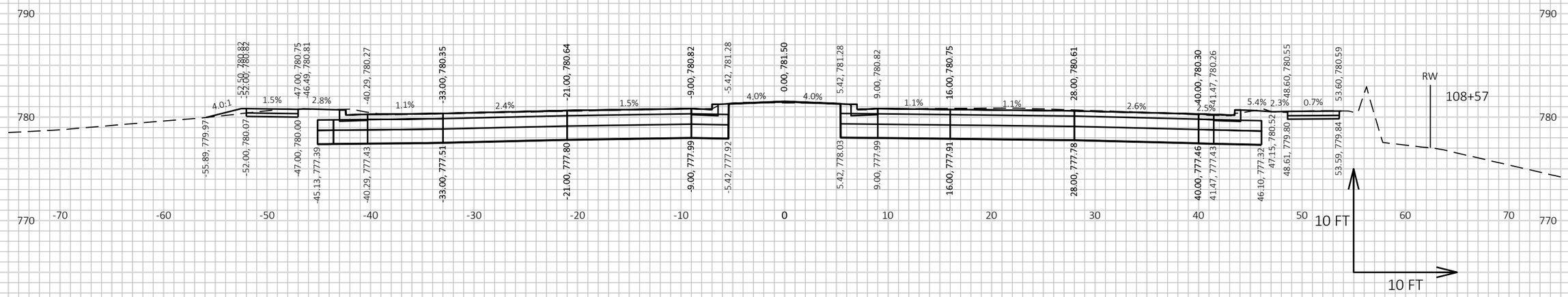
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LAYOUT NAME - South-02

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WISDOT/CADDS SHEET 49







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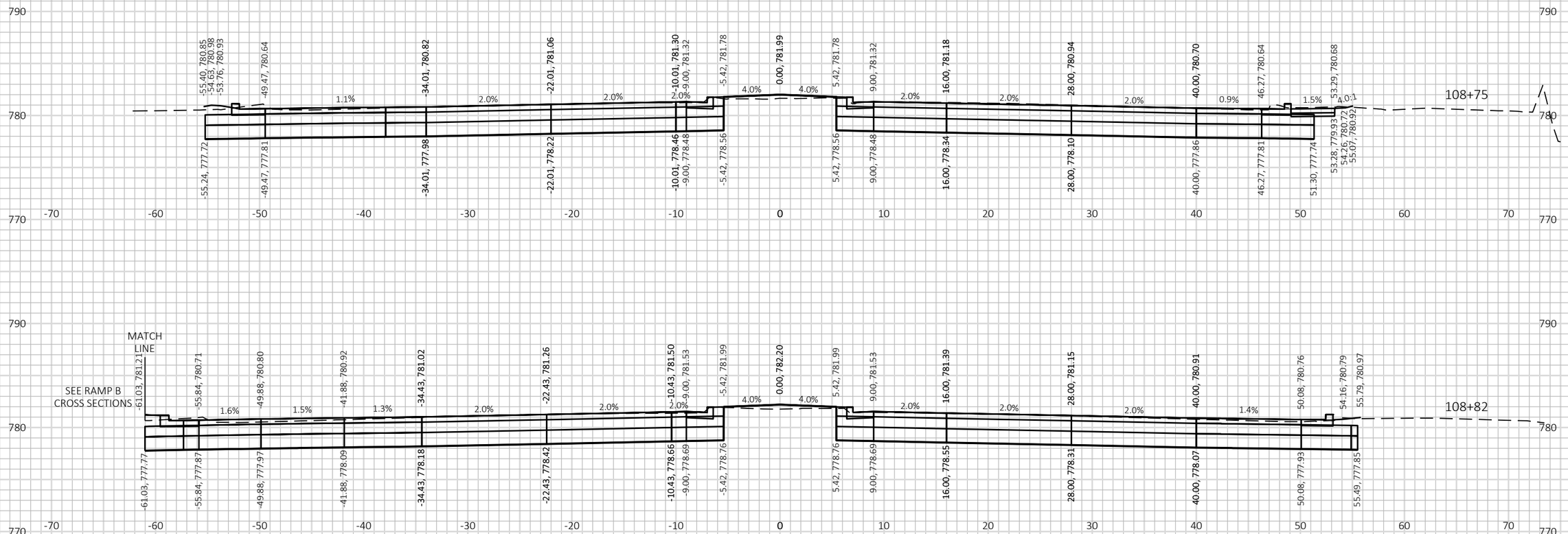
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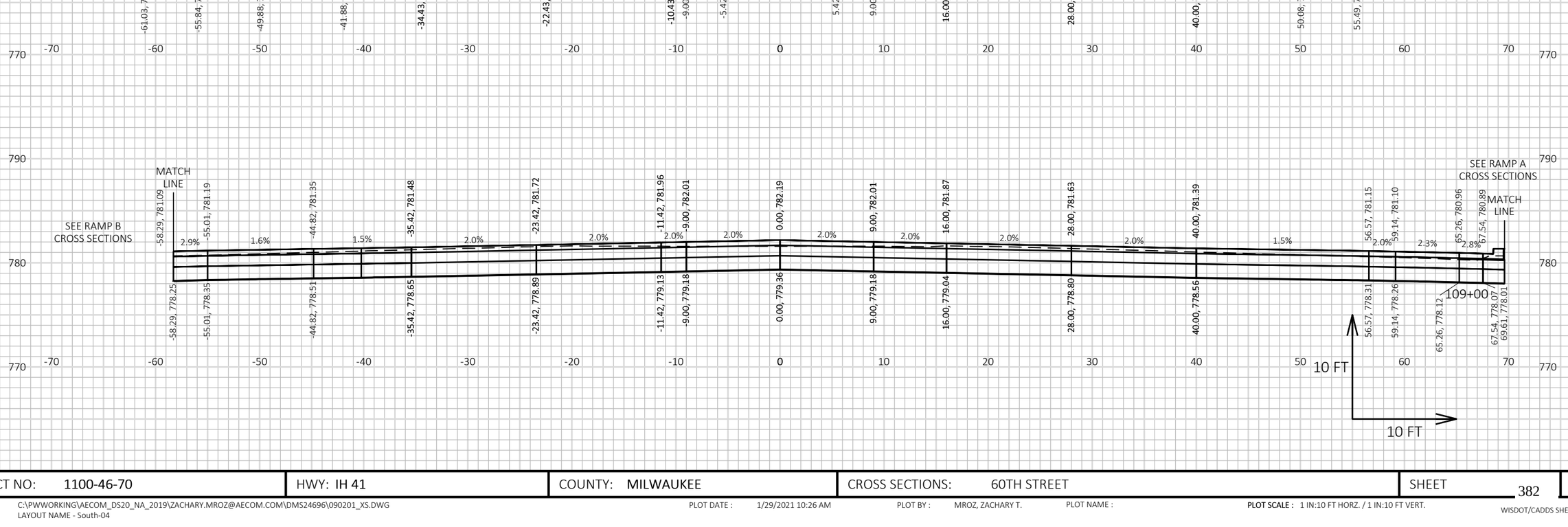
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LAYOUT NAME - South-03

PLOT DATE : 1/29/2021 10:26 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





9

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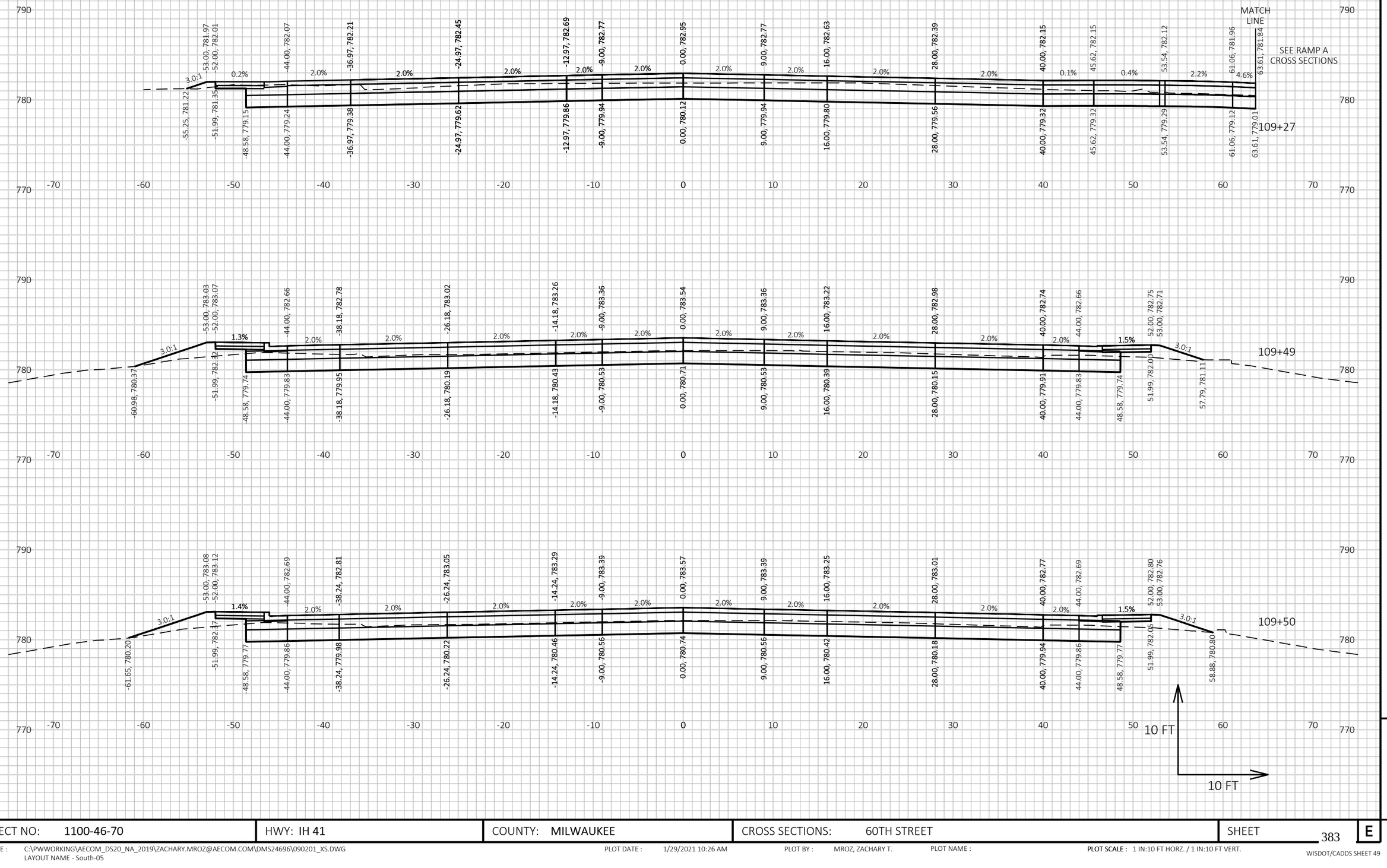
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LAYOUT NAME - South-04

PLOT DATE : 1/29/2021 10:26 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

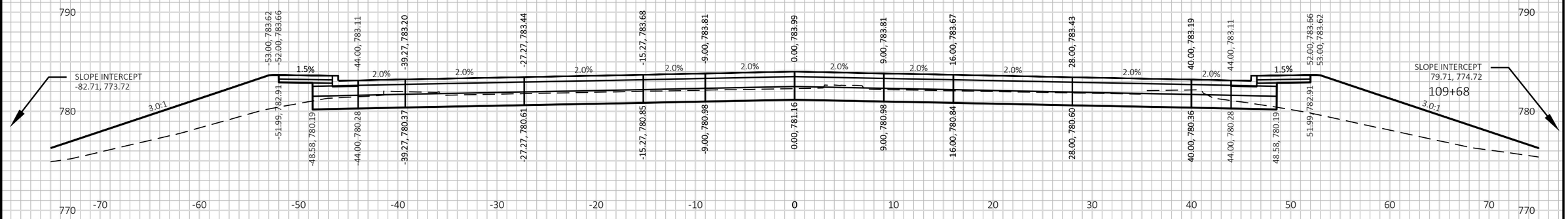


PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: 60TH STREET	SHEET 383	E

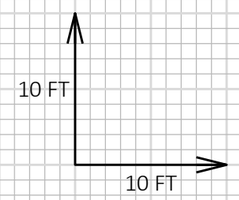
FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - South-05

PLOT DATE : 1/29/2021 10:26 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



BEGIN STRUCTURAL APPROACH SLAB B-40-1013
STA. 109+68.12



9

9

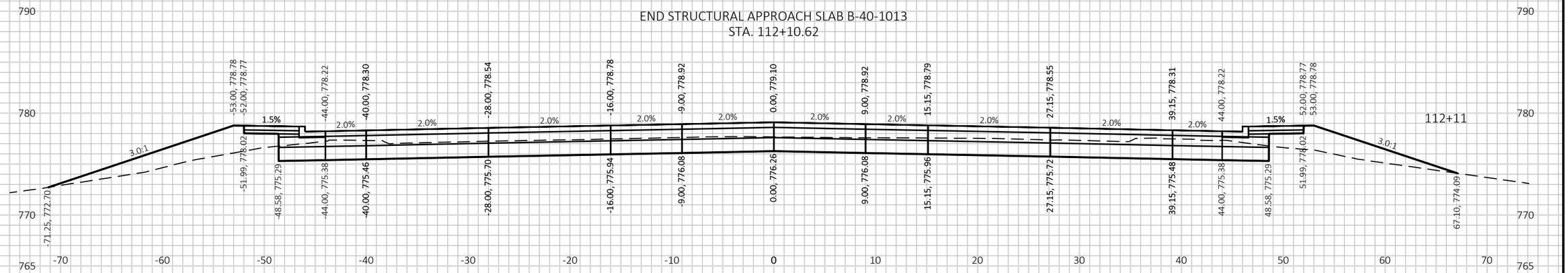
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: 60TH STREET	SHEET 384	E

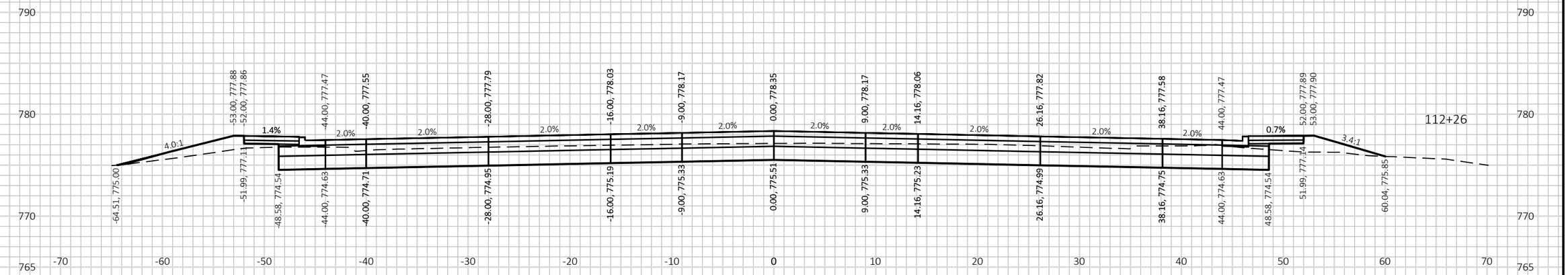
FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - South-06

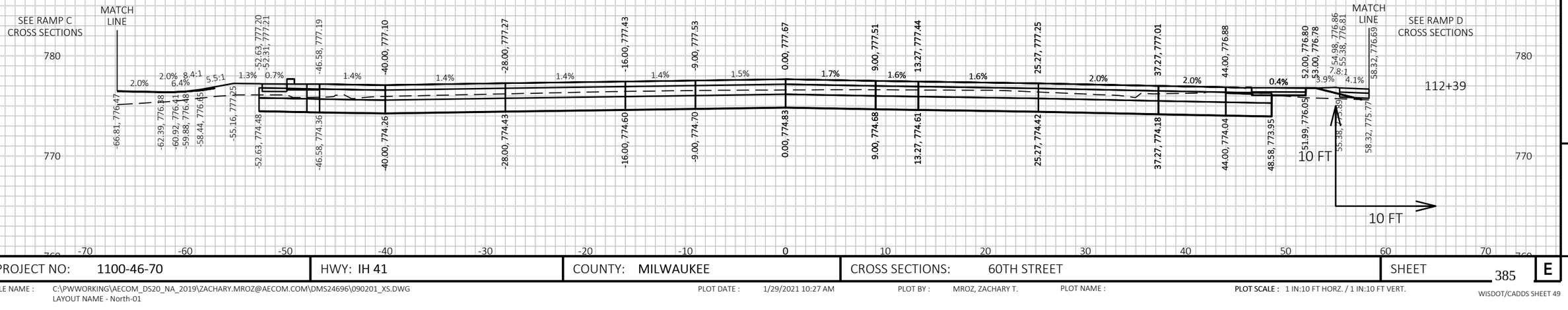
PLOT DATE : 1/29/2021 10:26 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END STRUCTURAL APPROACH SLAB B-40-1013
STA. 112+10.62



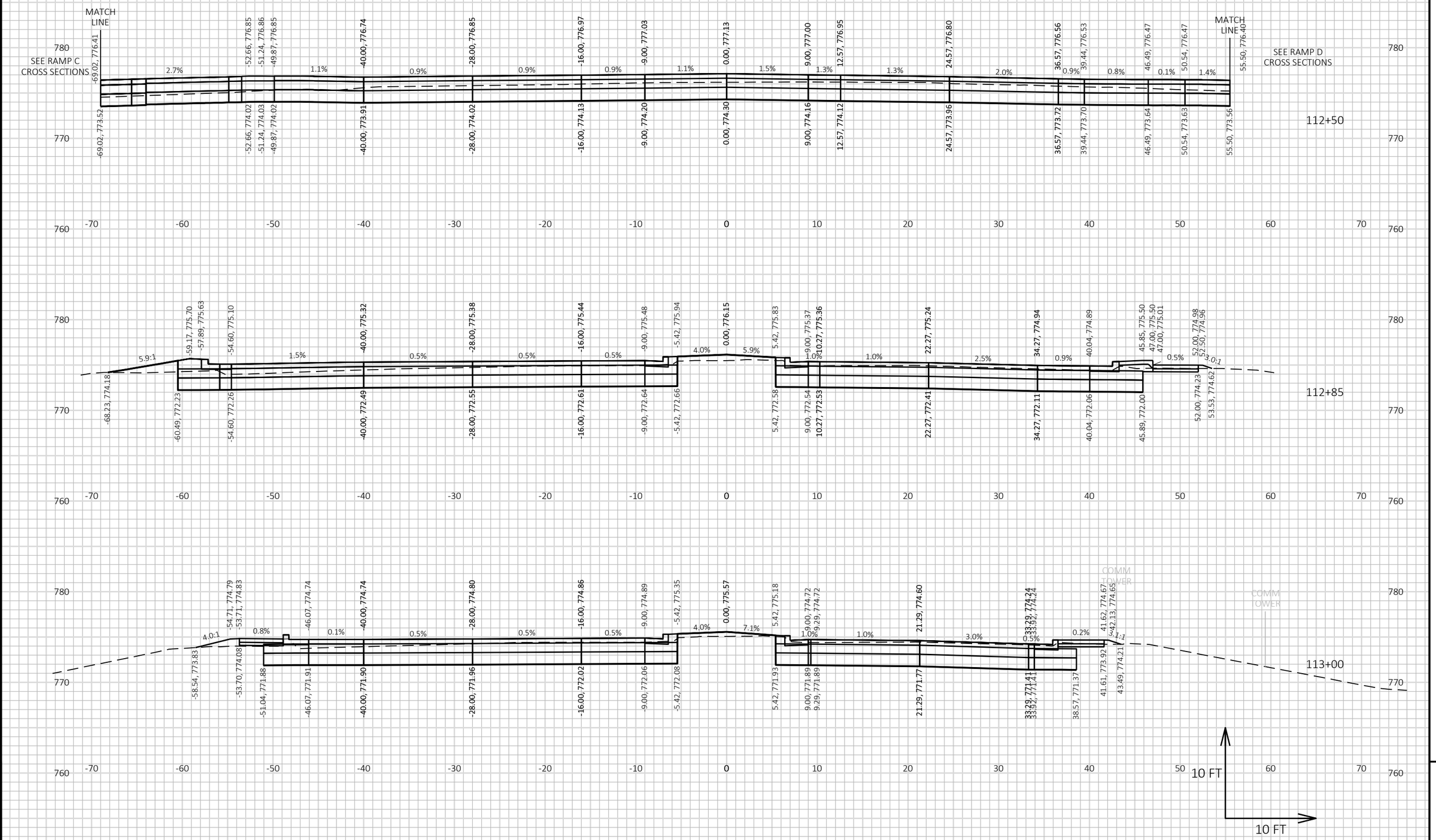




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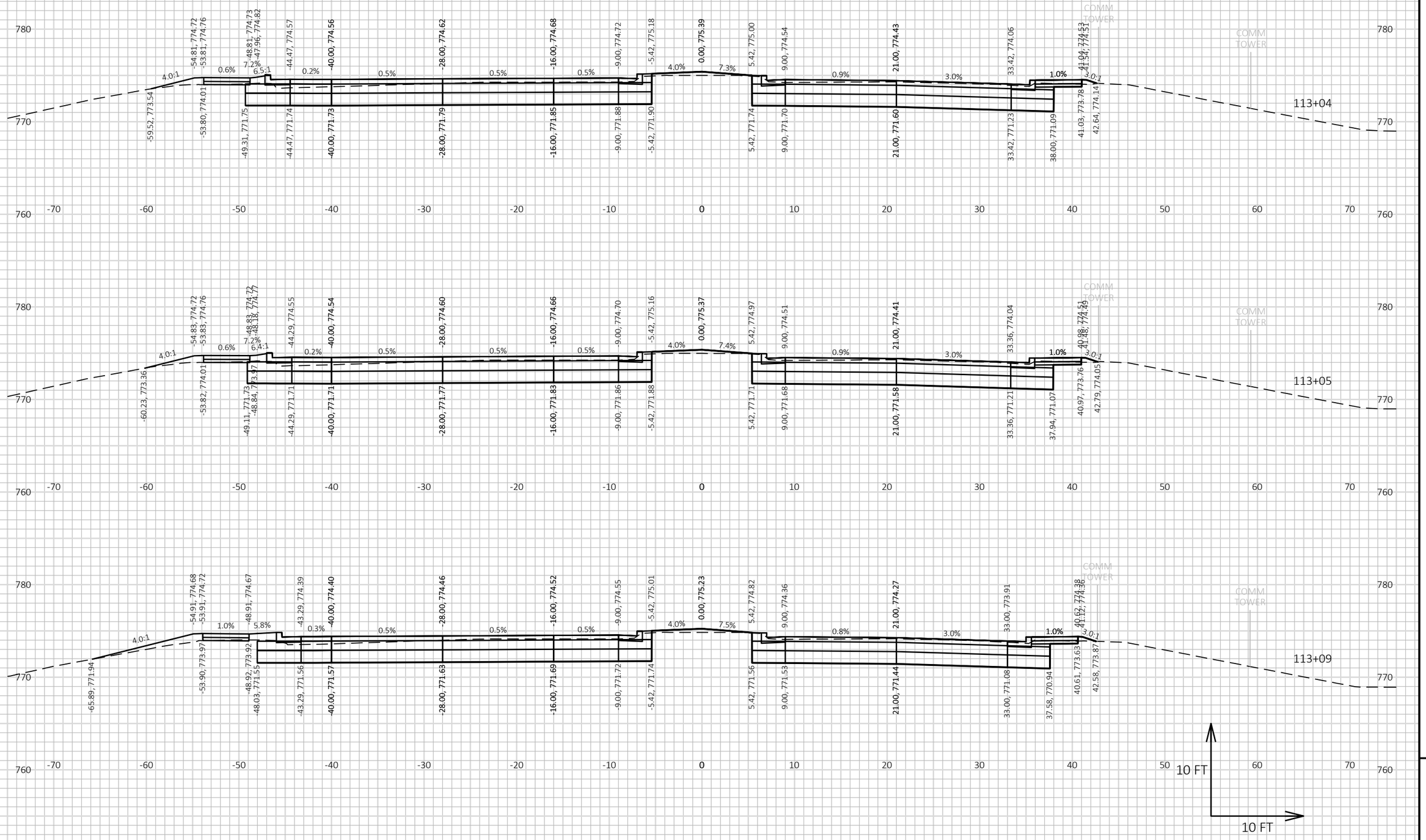
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PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: 60TH STREET	SHEET 385	E



PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: 60TH STREET	SHEET 386	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - North-02
PLOT DATE : 1/30/2021 4:14 PM
PLOT BY : MROZ, ZACHARY T.
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



9

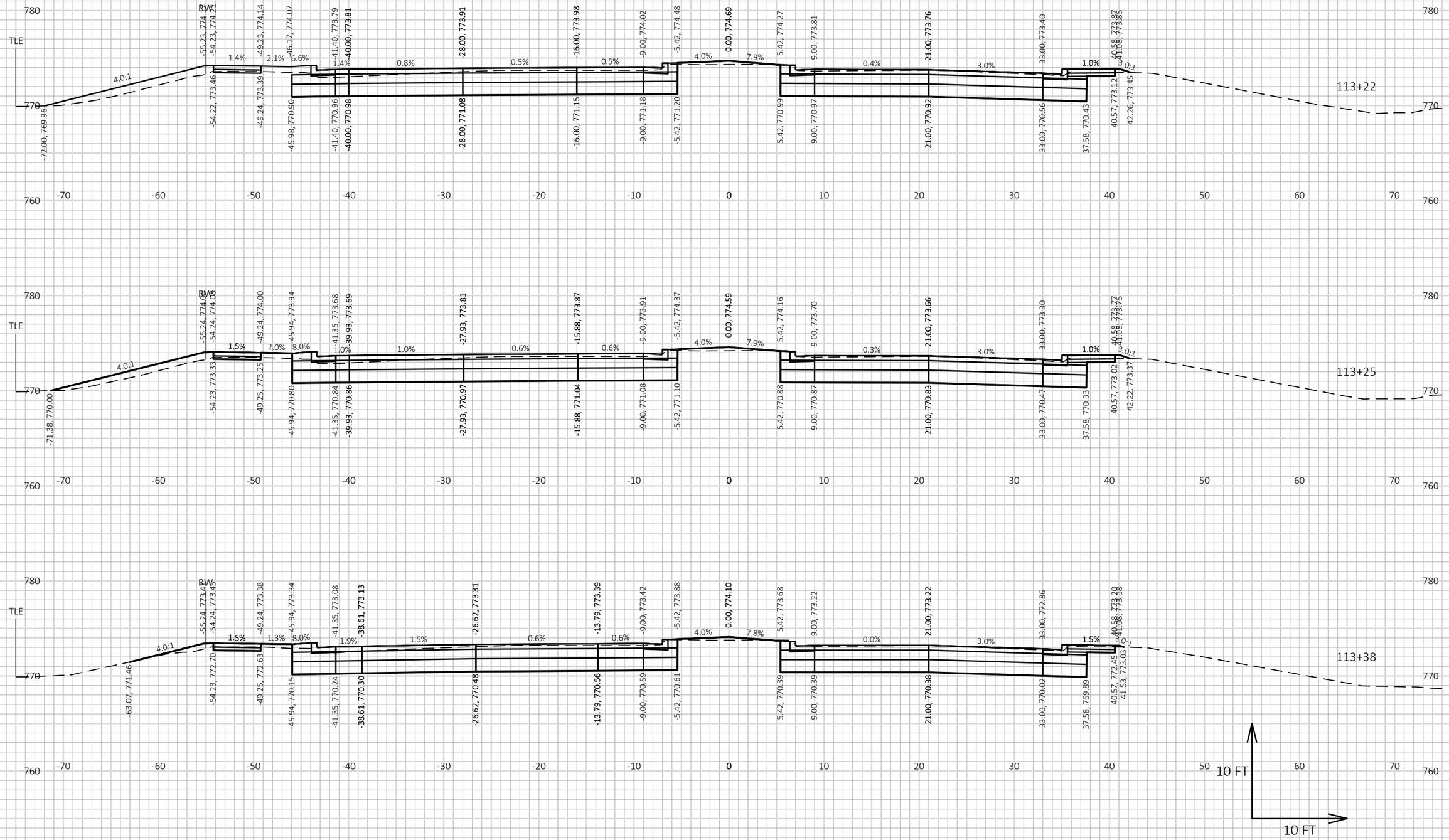
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PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: 60TH STREET	SHEET 387	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - North-03

PLOT DATE : 1/29/2021 10:27 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

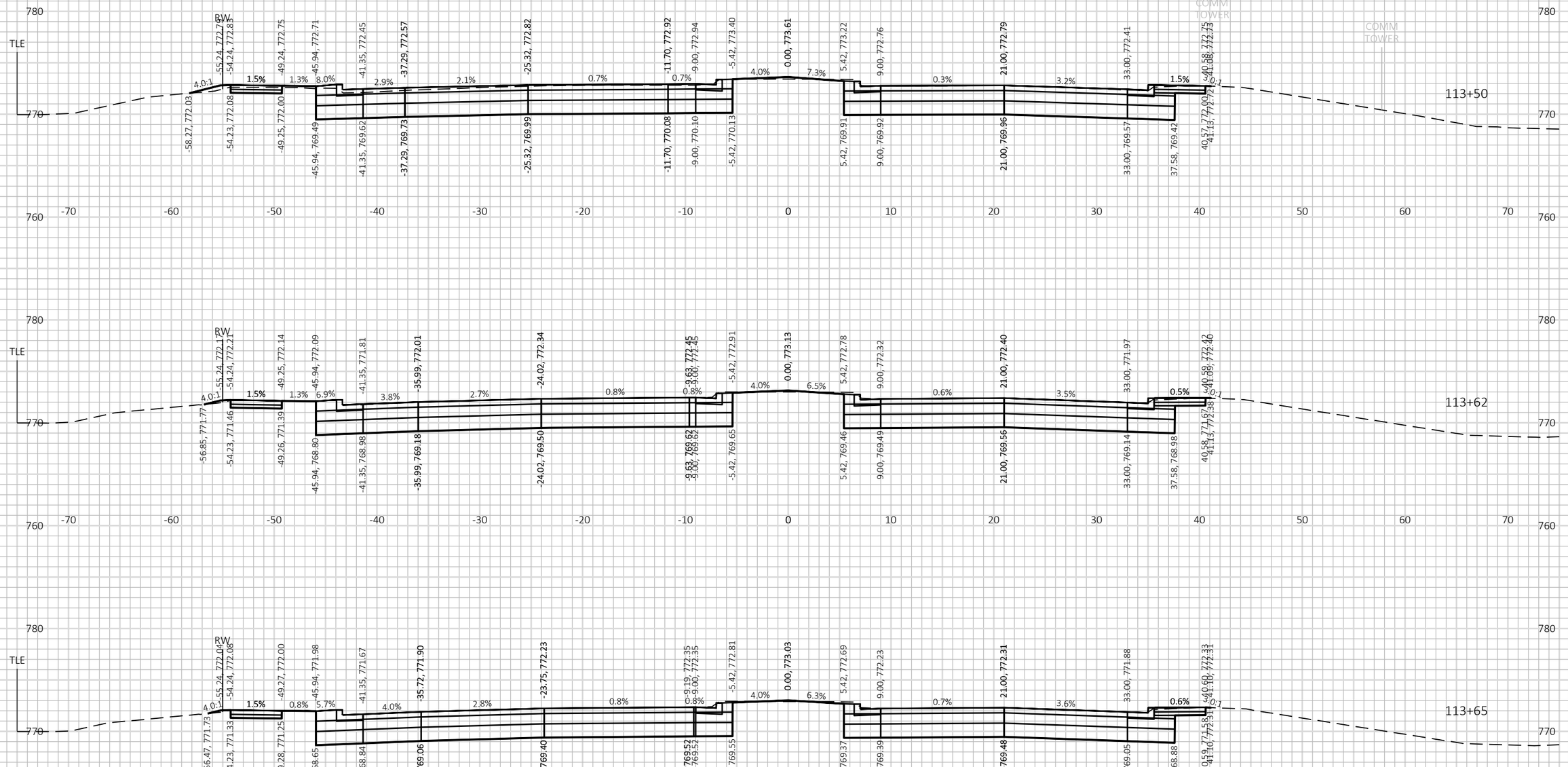
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: 60TH STREET	SHEET 388	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - North-04

PLOT DATE : 1/29/2021 10:27 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



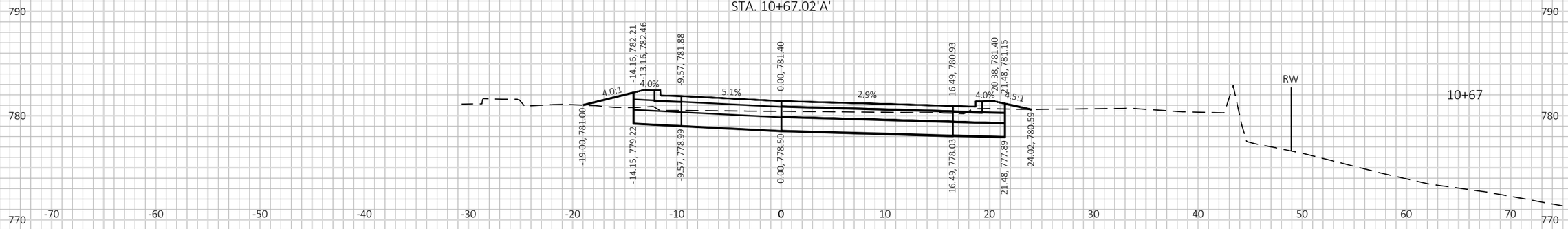
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: 60TH STREET	SHEET 389	E

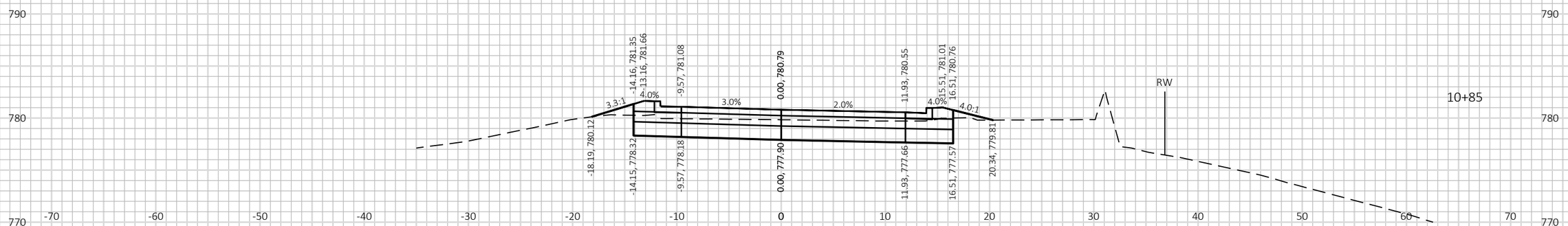
FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - North-05

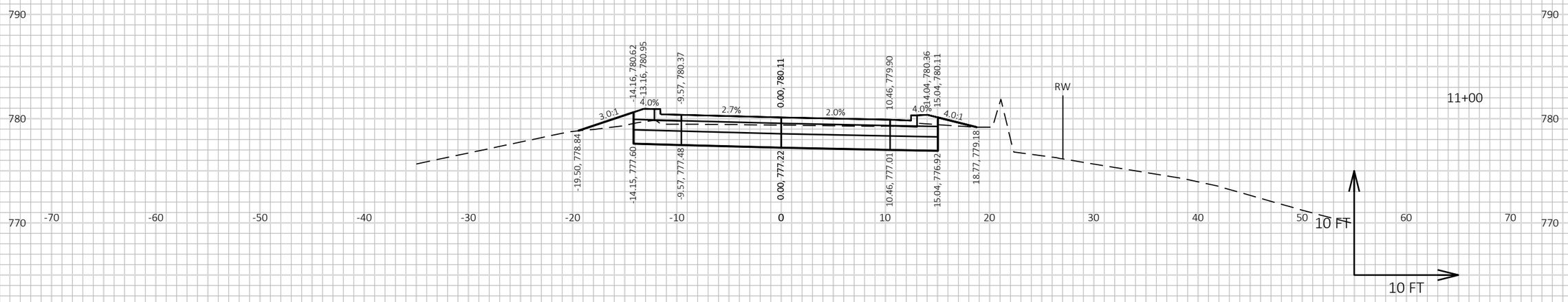
PLOT DATE : 1/29/2021 10:27 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

BEGIN CONSTRUCTION
MATCH 60TH STREET NB
STA. 10+67.02'A'







9

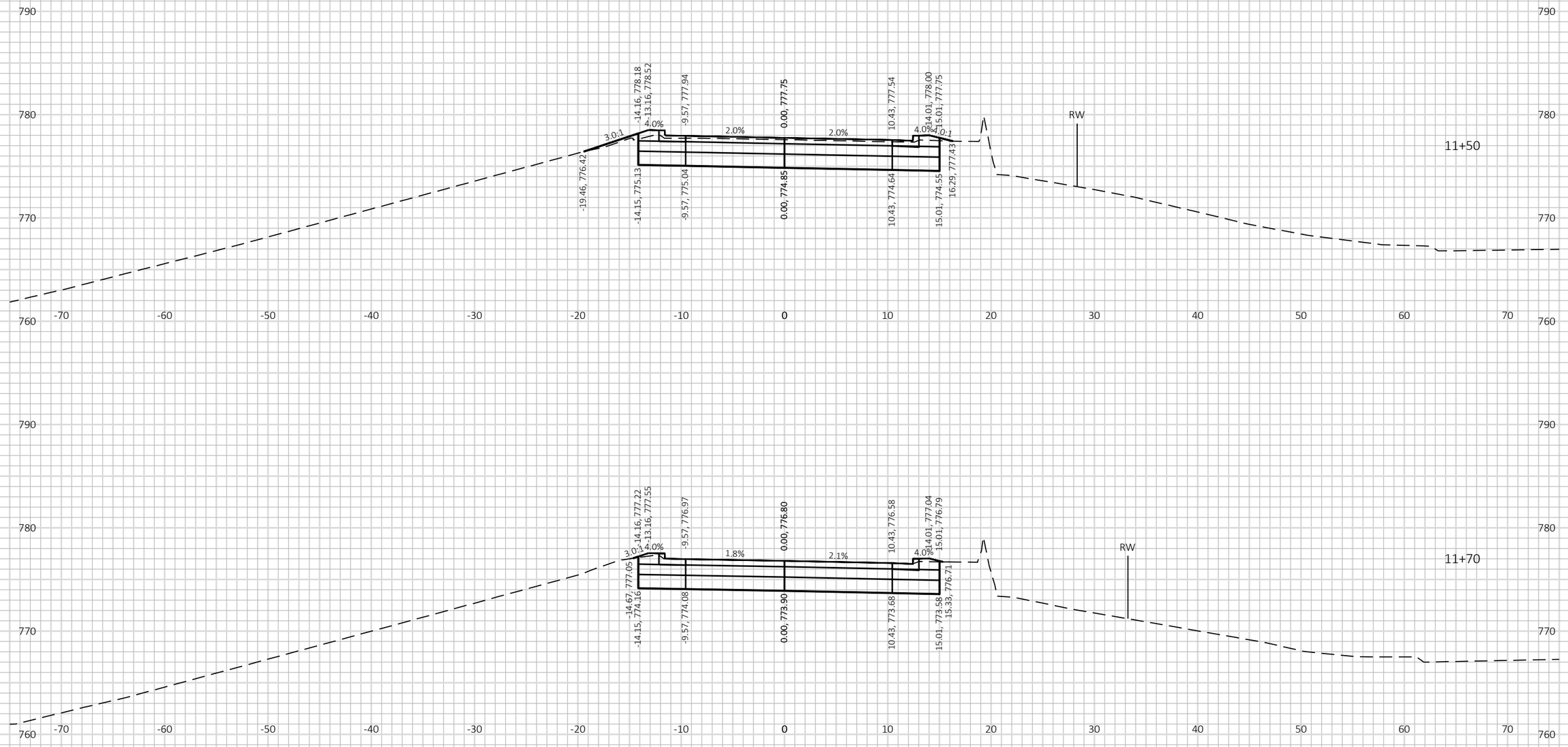
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PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP A	SHEET 390	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - A-01

PLOT DATE : 1/29/2021 10:27 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



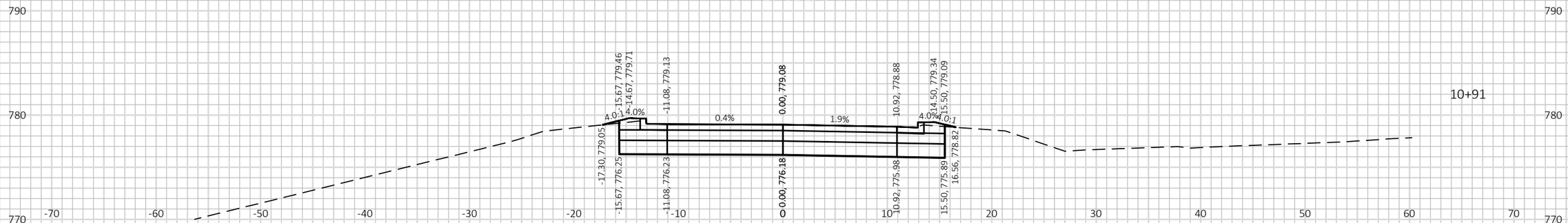
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP A	SHEET 391	E

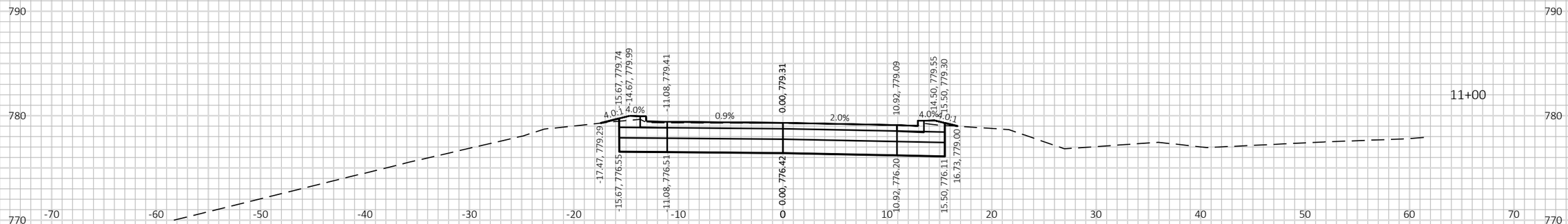
FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - A-02

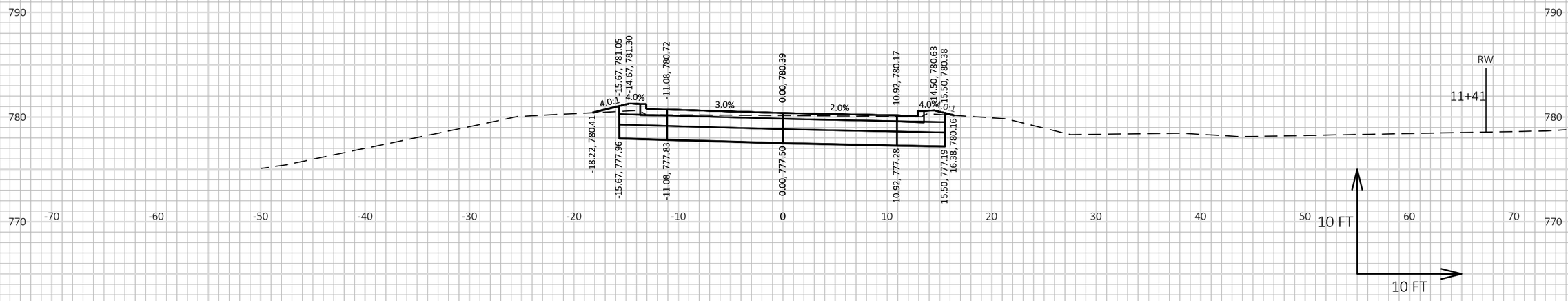
PLOT DATE : 1/29/2021 10:27 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

BEGIN CONSTRUCTION
MATCH EXISTING
STA. 10+91.19'B'







9

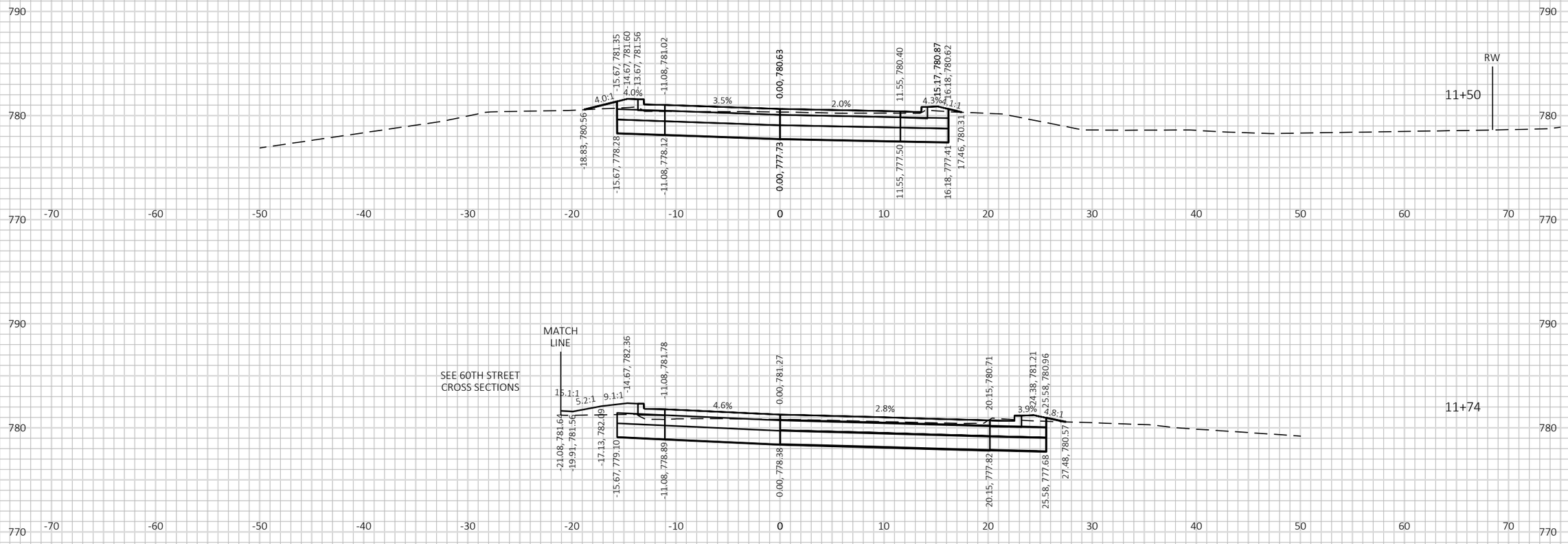
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PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP B	SHEET 392	E

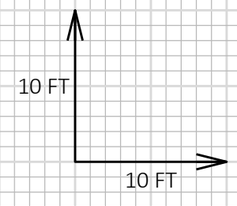
FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - B-01

PLOT DATE : 1/29/2021 10:27 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



END CONSTRUCTION
MATCH 60TH STREET SB
STA. 11+74.41'B'



9 9

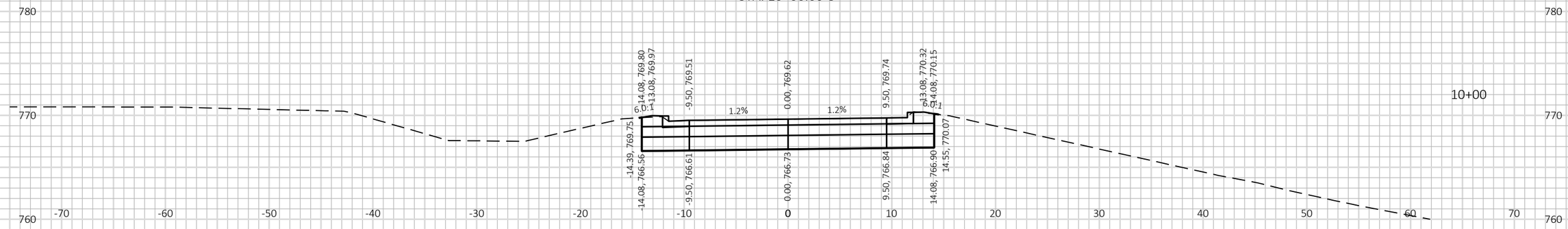
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP B	SHEET 393	E

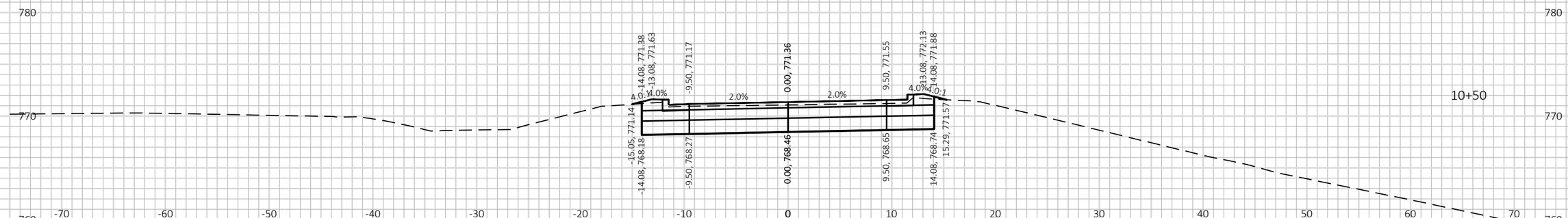
FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - B-02

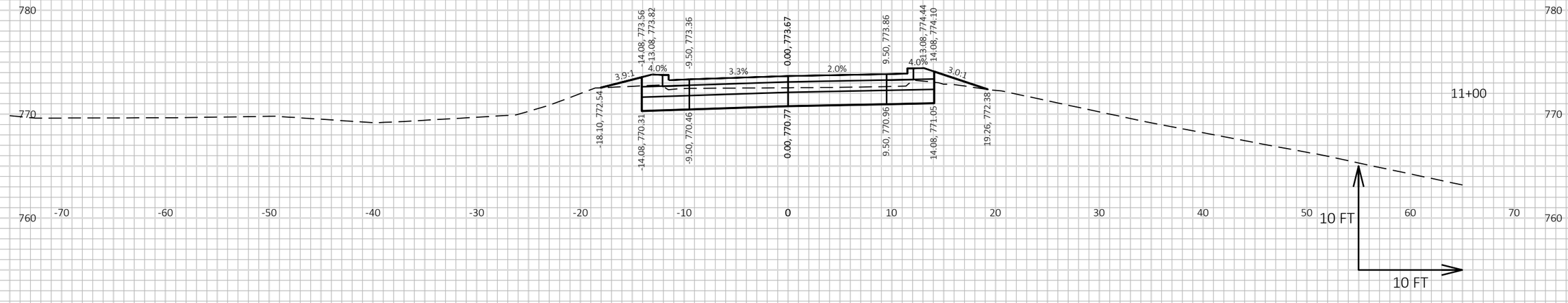
PLOT DATE : 1/29/2021 10:27 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

BEGIN CONSTRUCTION
MATCH EXISTING
STA. 10+00.00'C'







9

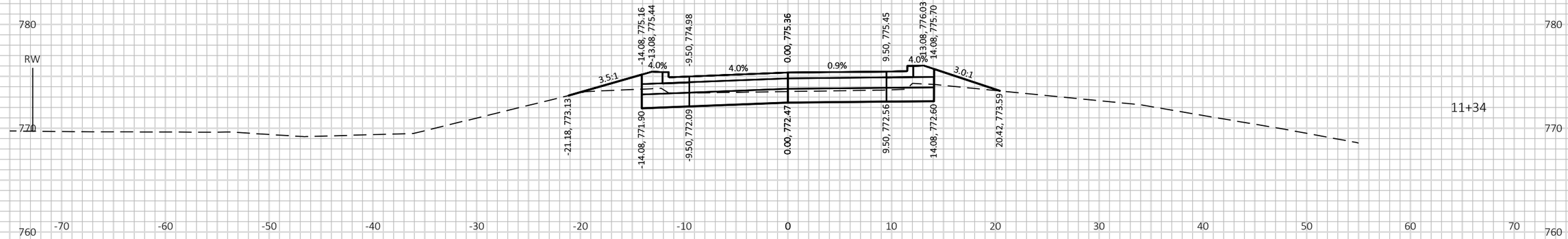
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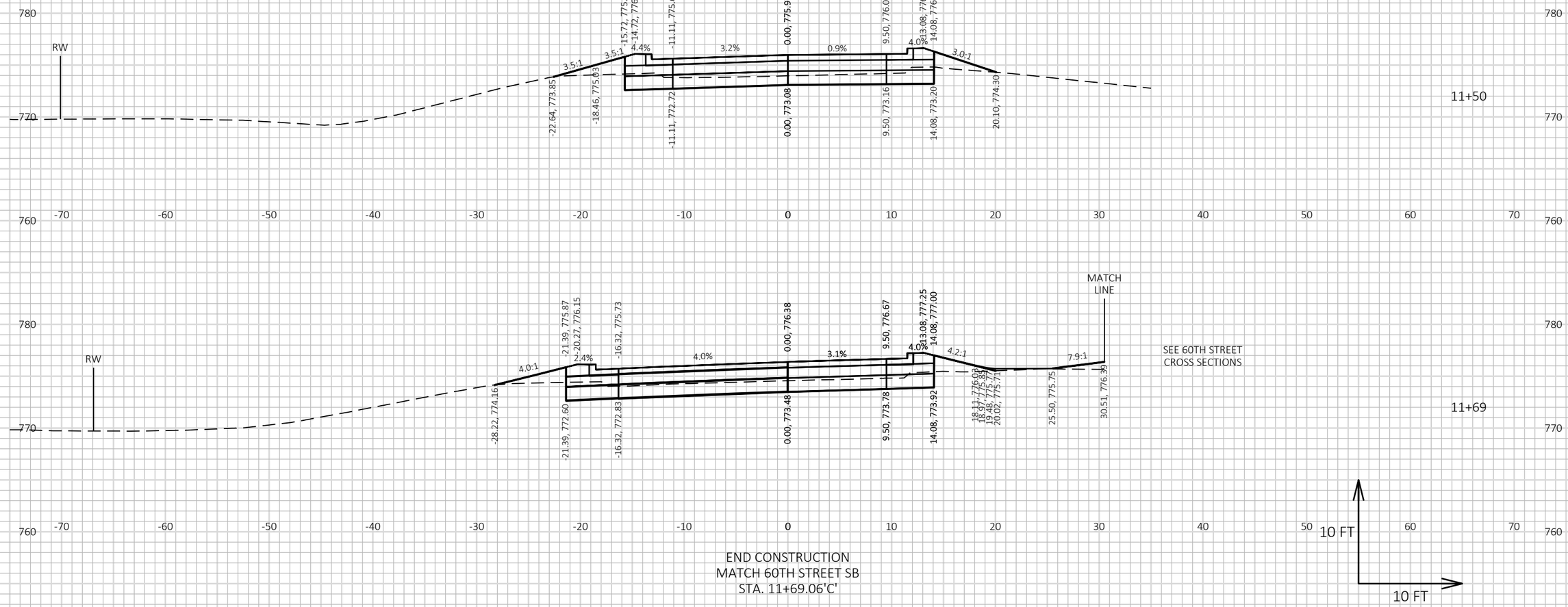
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C	SHEET 394	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - C-01

PLOT DATE : 1/29/2021 10:27 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





END CONSTRUCTION
MATCH 60TH STREET SB
STA. 11+69.06'C'

9

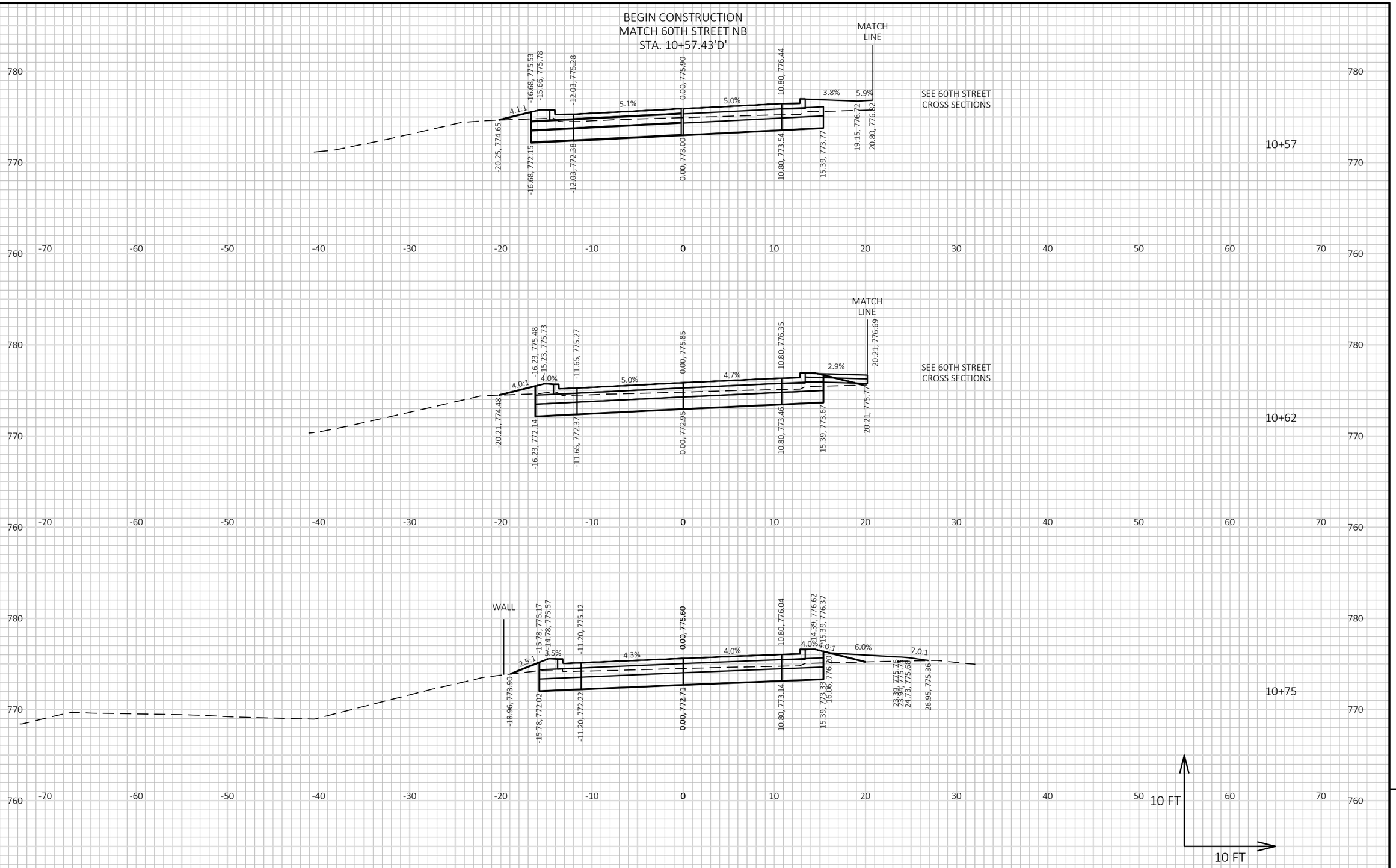
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PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C	SHEET 395	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - C-02

PLOT DATE : 1/29/2021 10:27 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

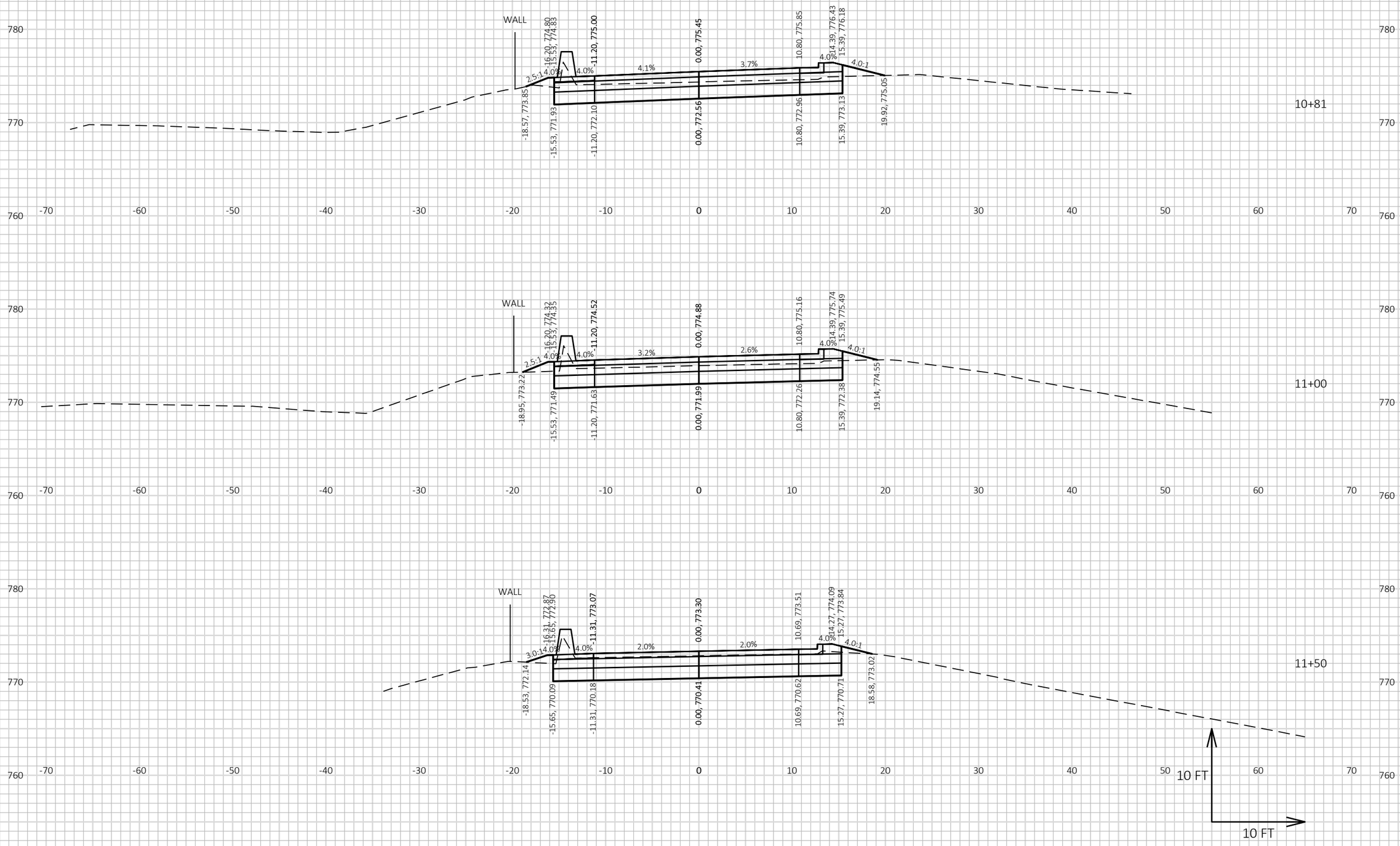


PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP D	SHEET 396	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - D-01

PLOT DATE : 1/29/2021 10:27 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

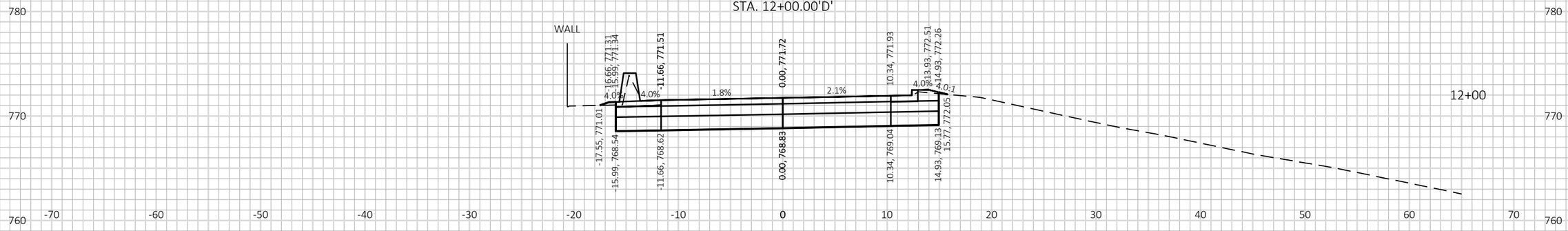
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP D	SHEET 397	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - D-02

PLOT DATE : 1/29/2021 10:28 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END CONSTRUCTION
MATCH EXISTING
STA. 12+00.00'D'



10 FT
10 FT

9 9

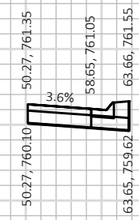
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP D	SHEET 398	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090201_XS.DWG
LAYOUT NAME - D-03

PLOT DATE : 1/29/2021 10:28 AM PLOT BY : MROZ, ZACHARY T. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

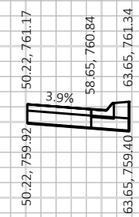
WISDOT/CADDS SHEET 49

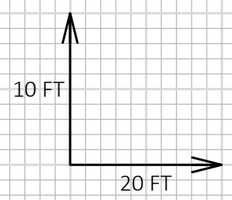
BEGIN CONSTRUCTION - OUTSIDE SHOULDER
IH 41 SB / IH 43 NB / IH 894 EB
MATCH EXISTING
STA. 172+38.33



172+38

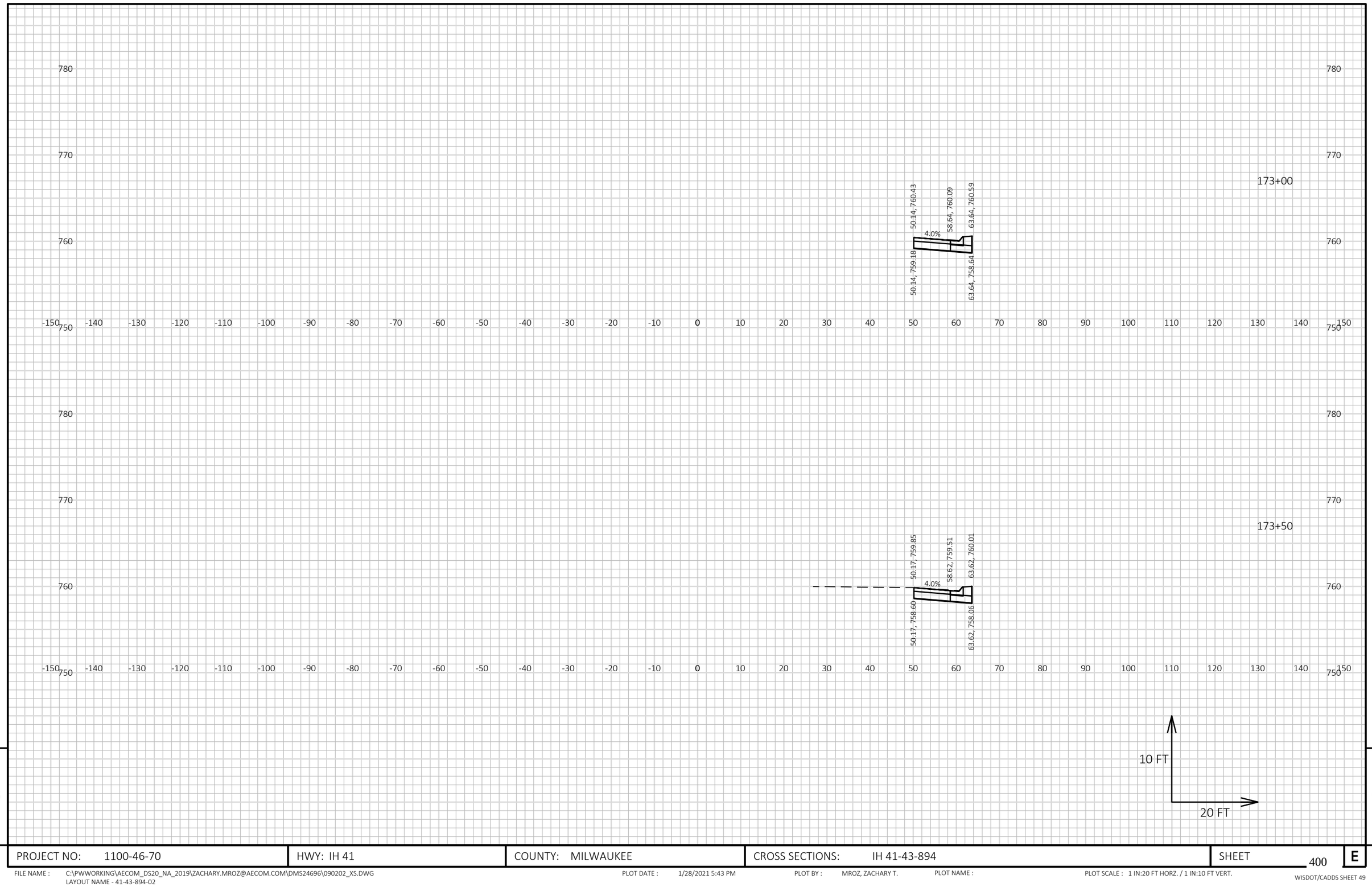
172+50





PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 399	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-01
PLOT DATE : 1/28/2021 5:42 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



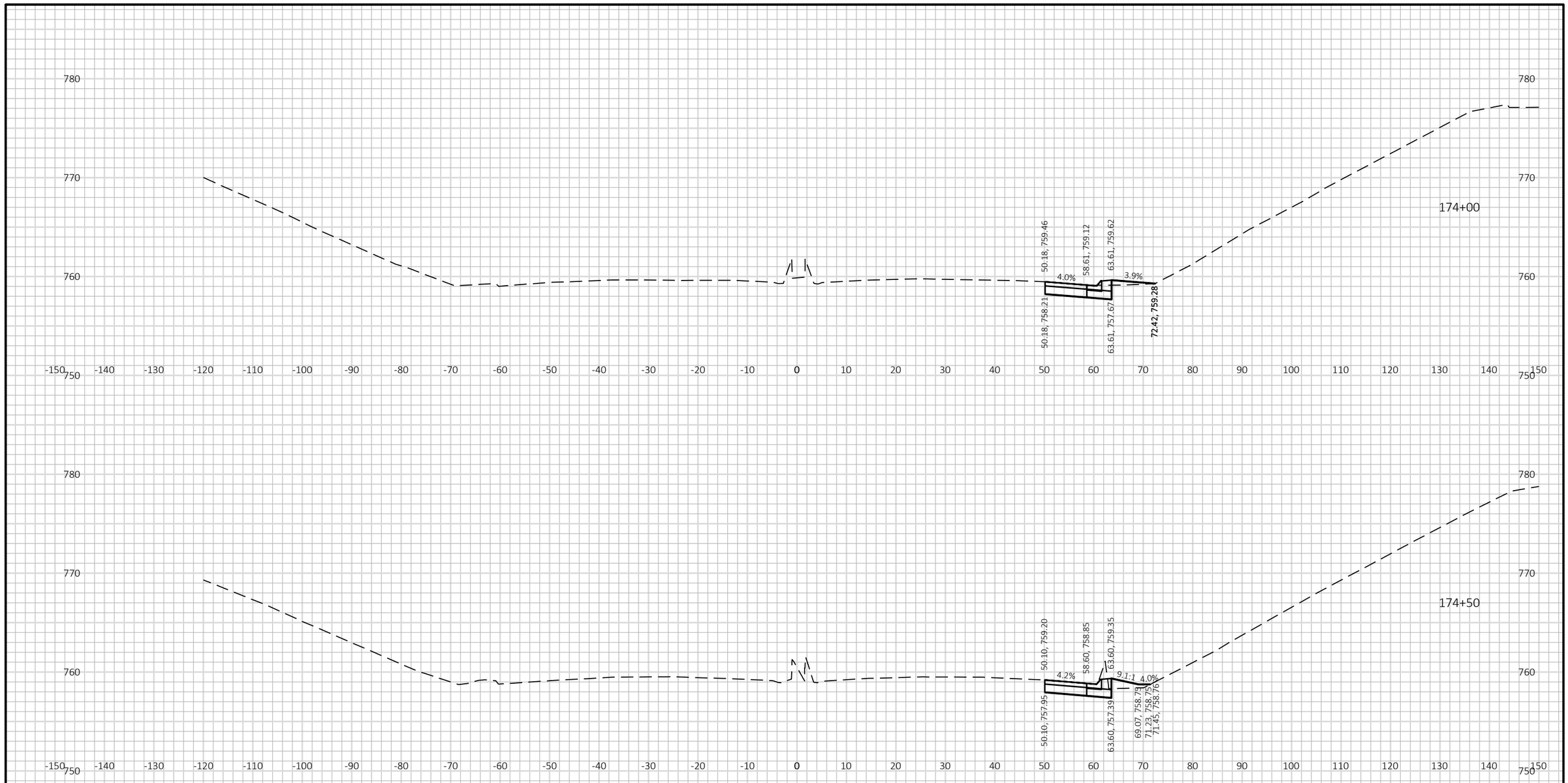
9

9

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 400	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-02

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.



9

9

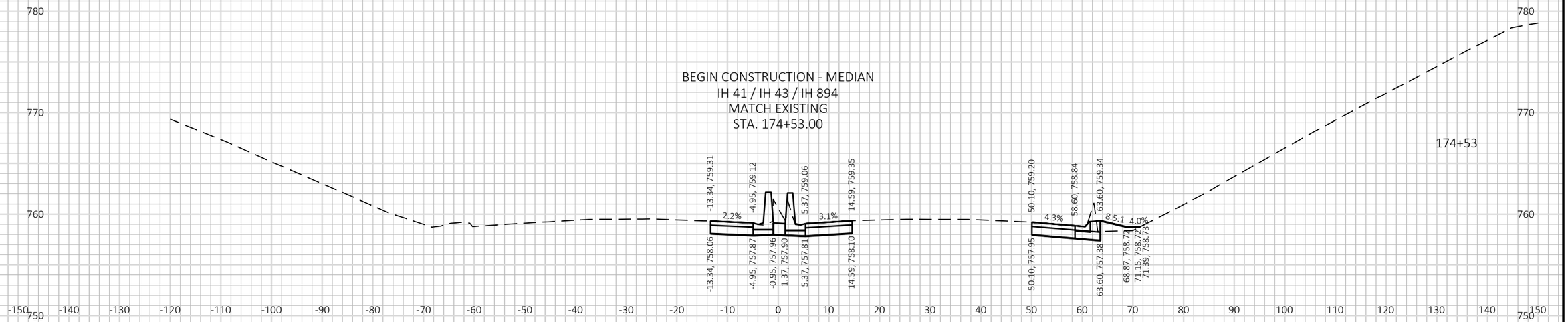
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 401	E

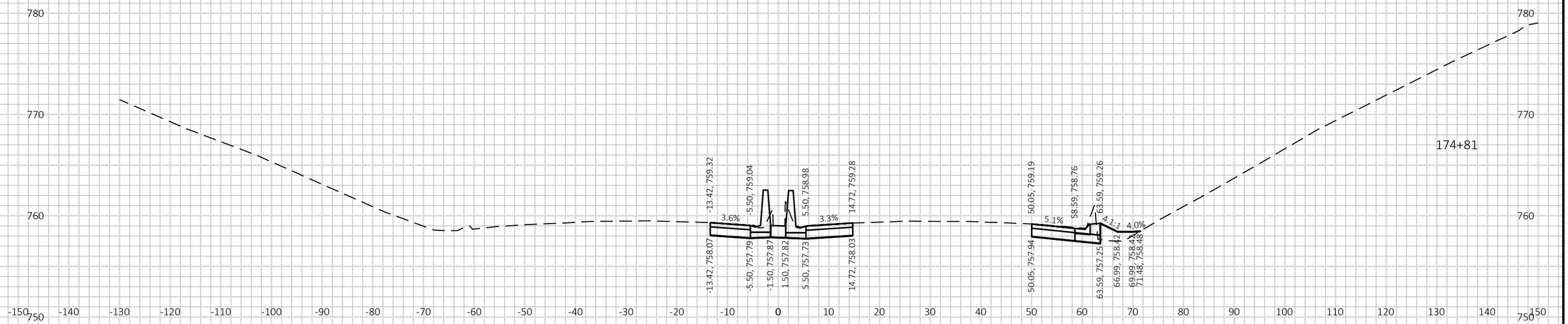
FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-03

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

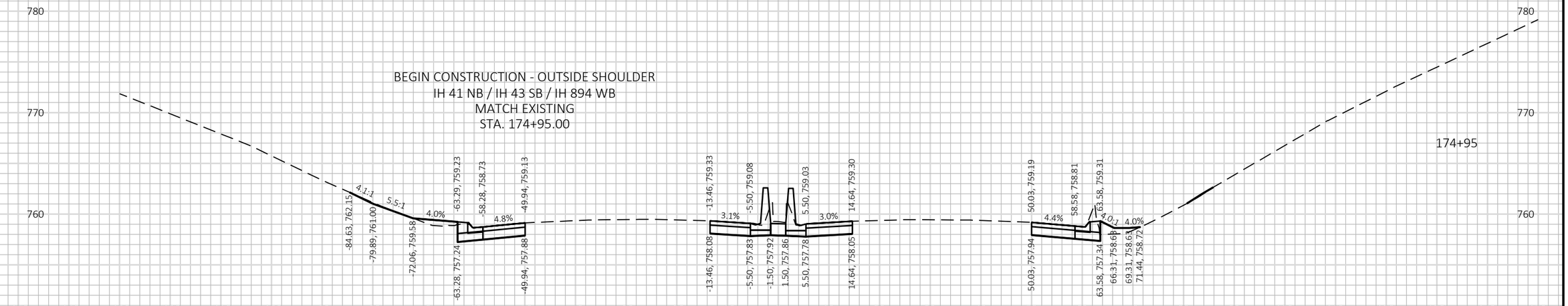
BEGIN CONSTRUCTION - MEDIAN
IH 41 / IH 43 / IH 894
MATCH EXISTING
STA. 174+53.00

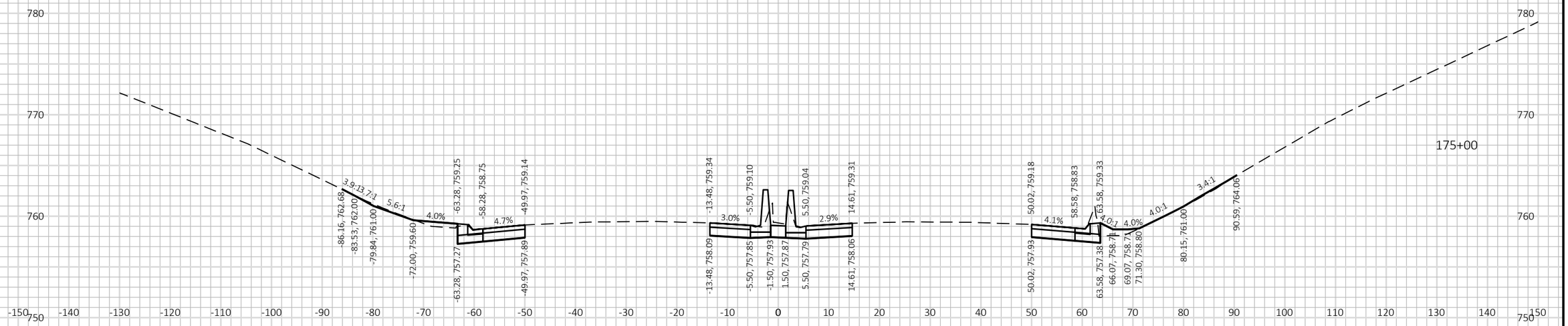


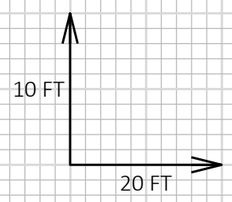


PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 402 E

BEGIN CONSTRUCTION - OUTSIDE SHOULDER
IH 41 NB / IH 43 SB / IH 894 WB
MATCH EXISTING
STA. 174+95.00







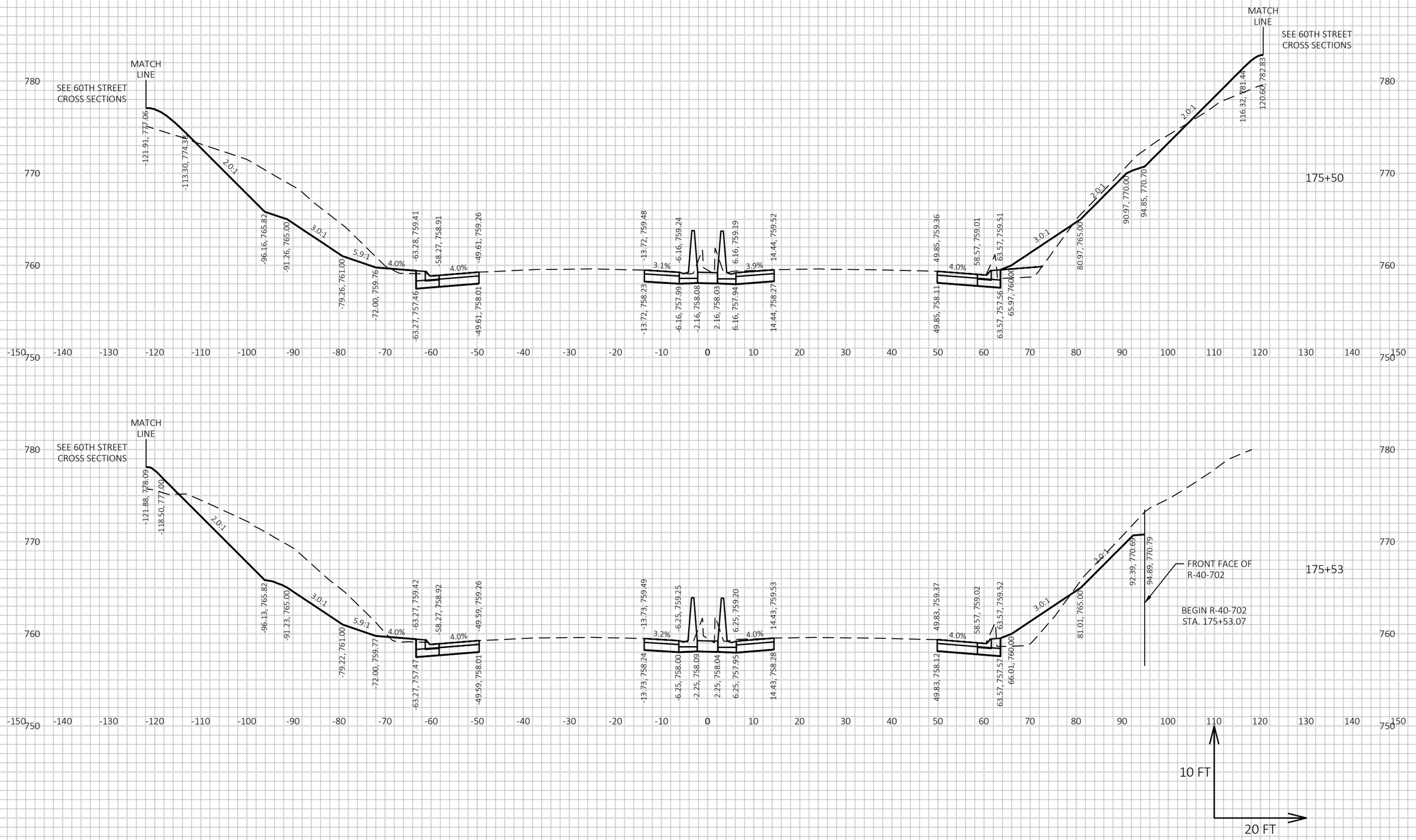
9 9

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 403	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-05

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

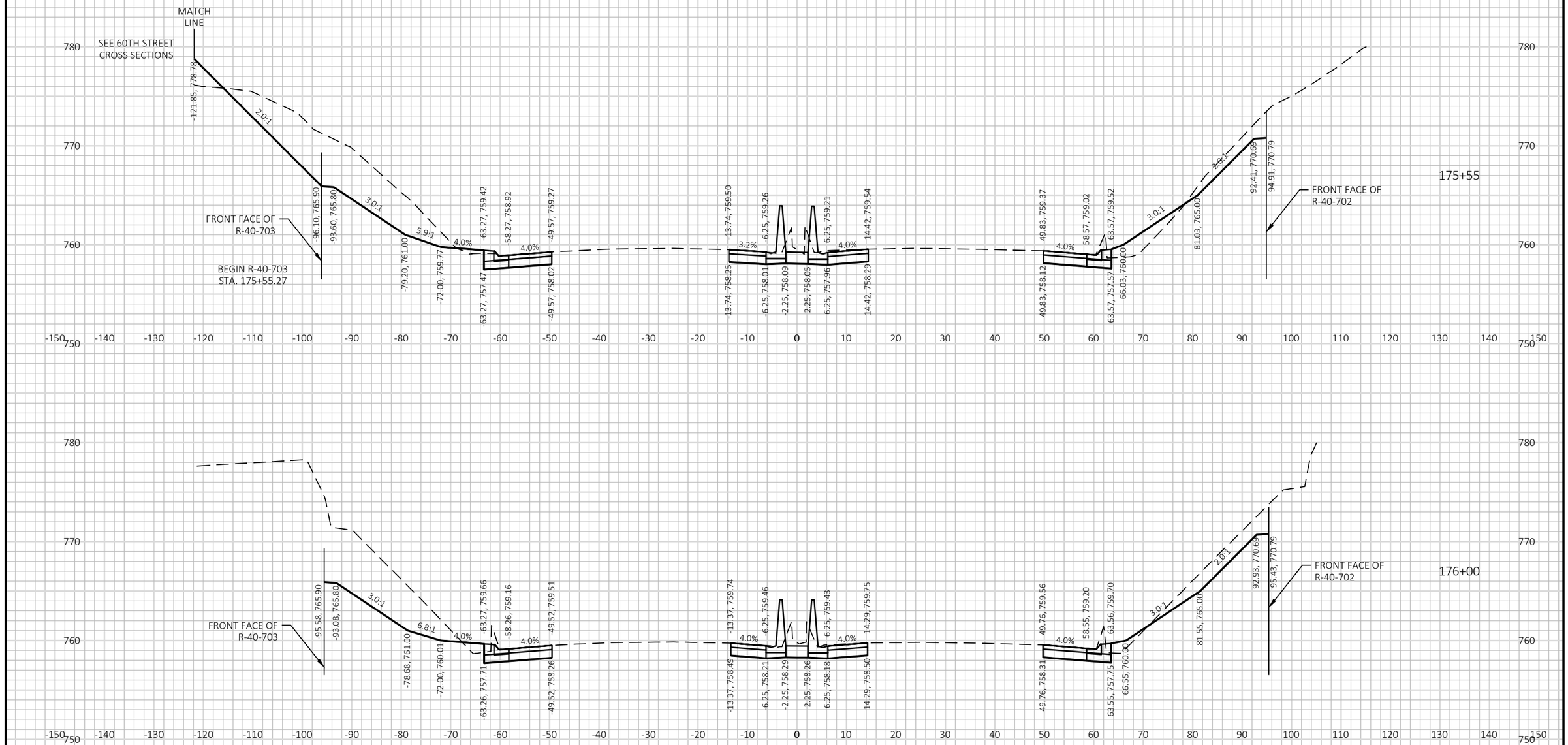
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PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 404	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-06

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

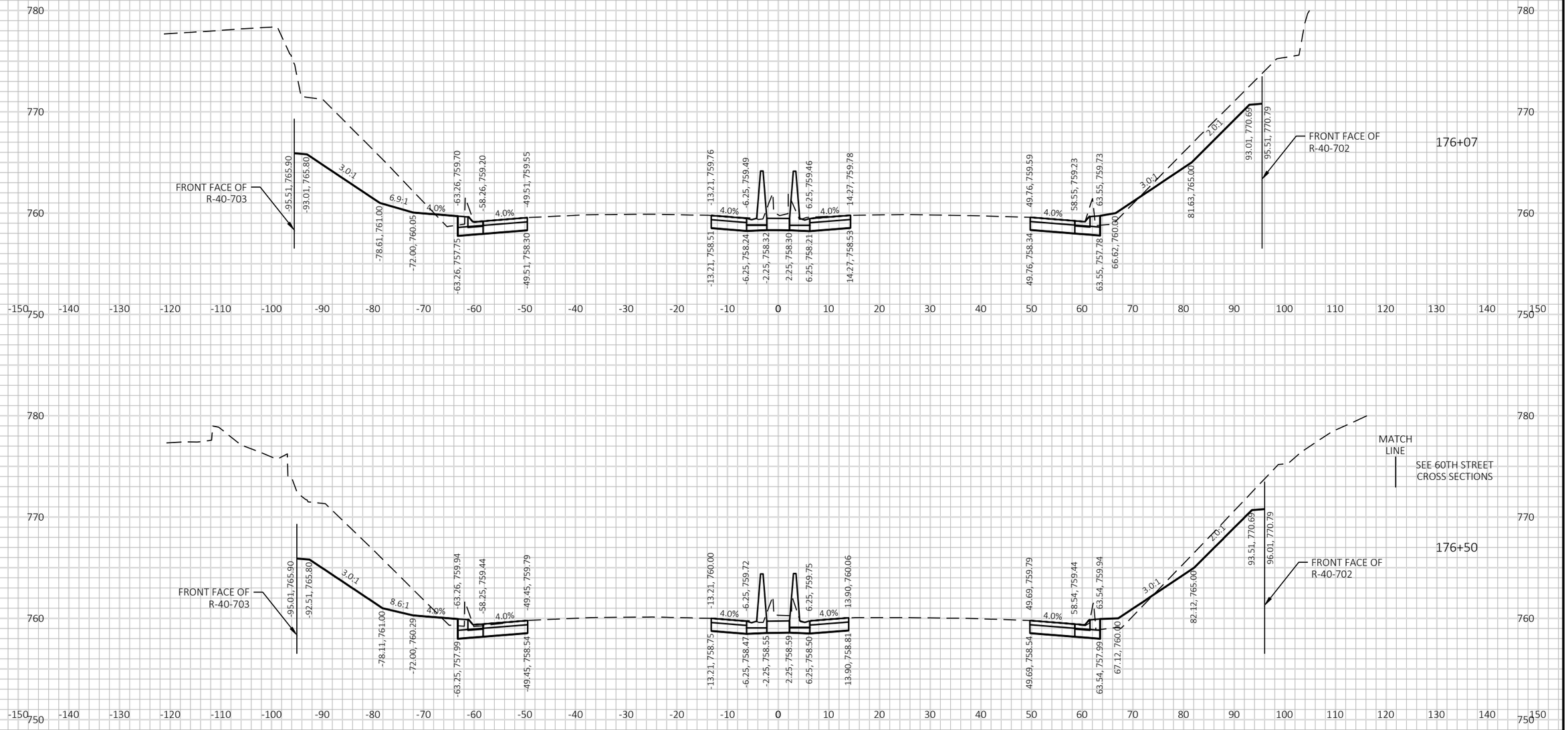
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PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 405	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-07

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

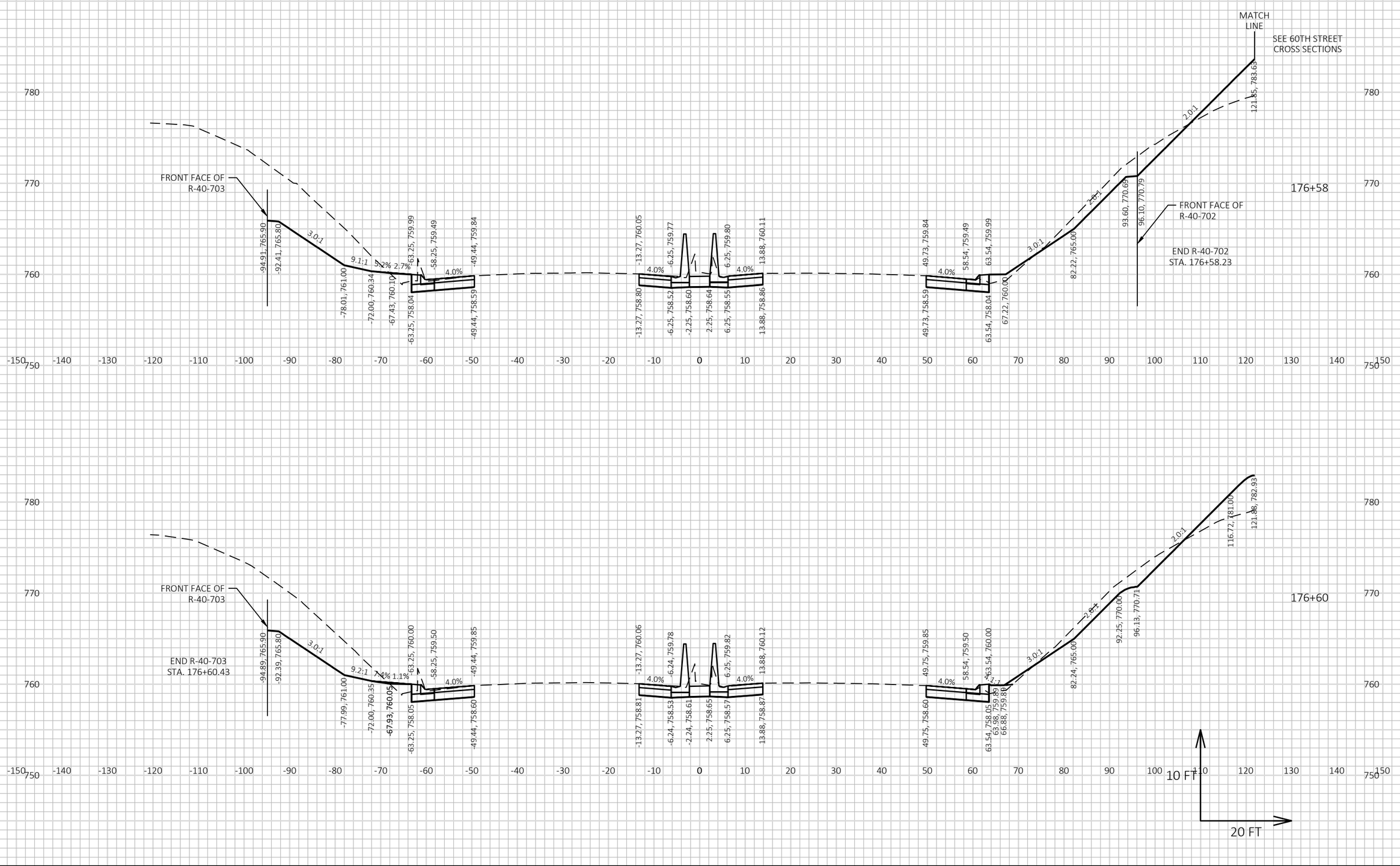
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PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 406	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-08

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

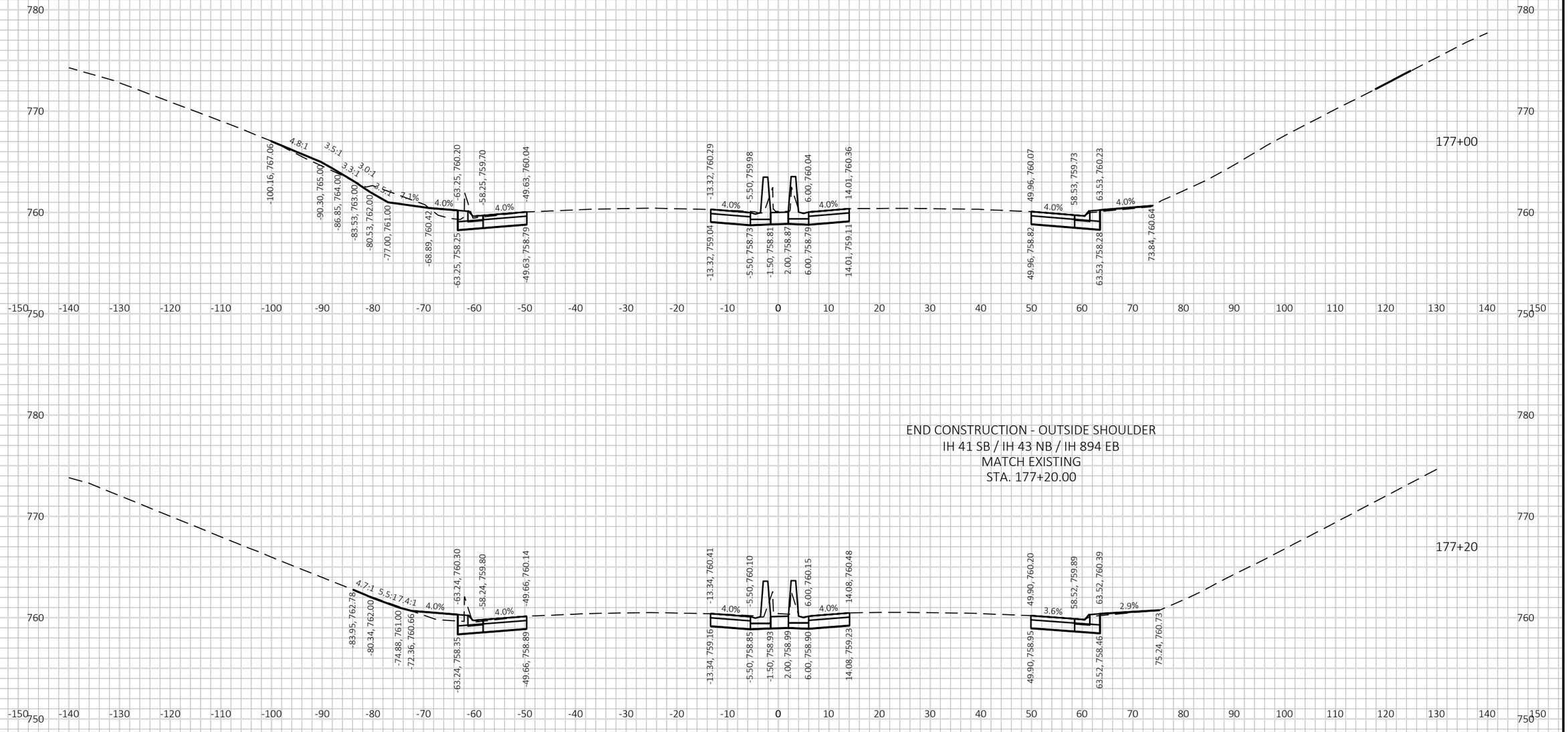


PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 407 E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-09

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

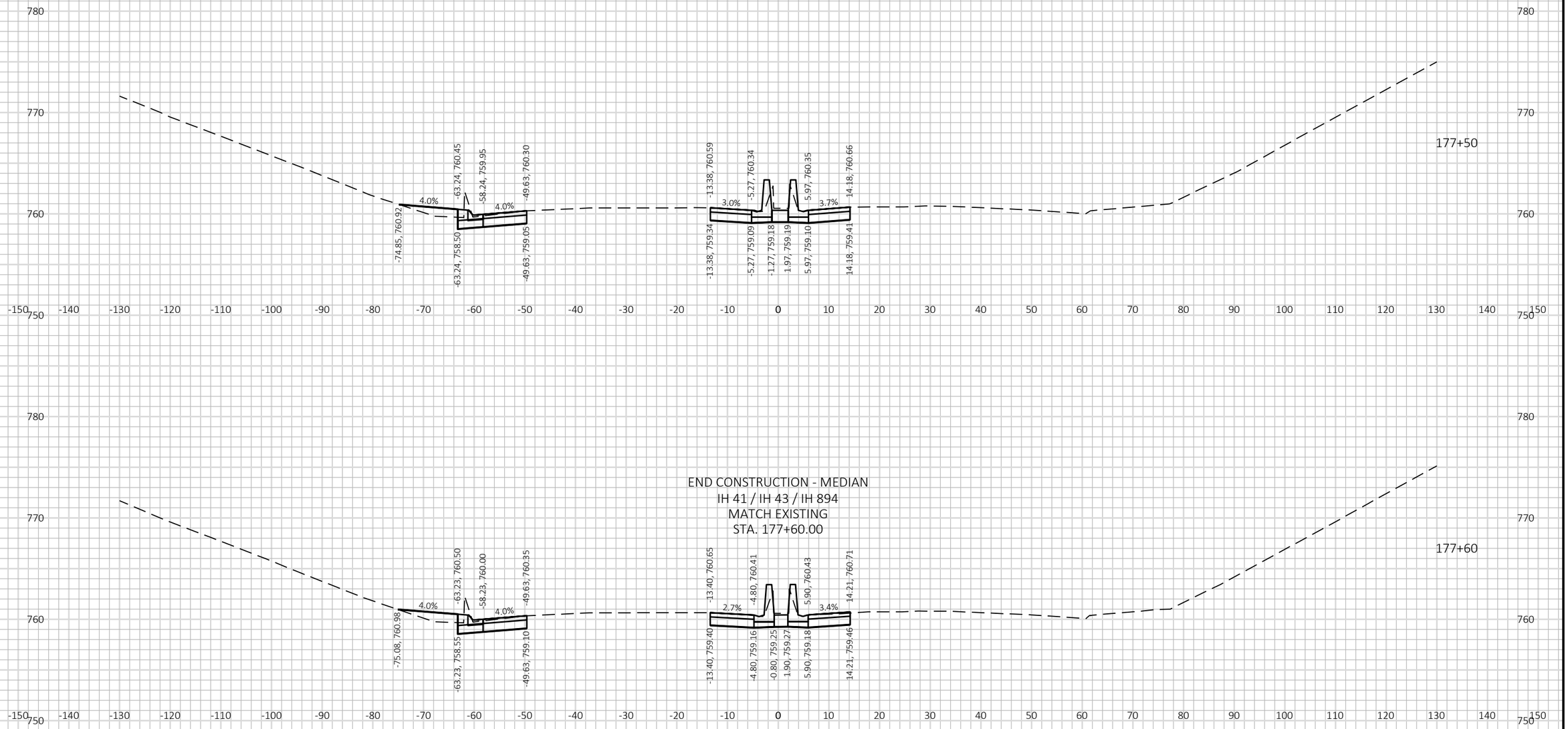


PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 408	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-10

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

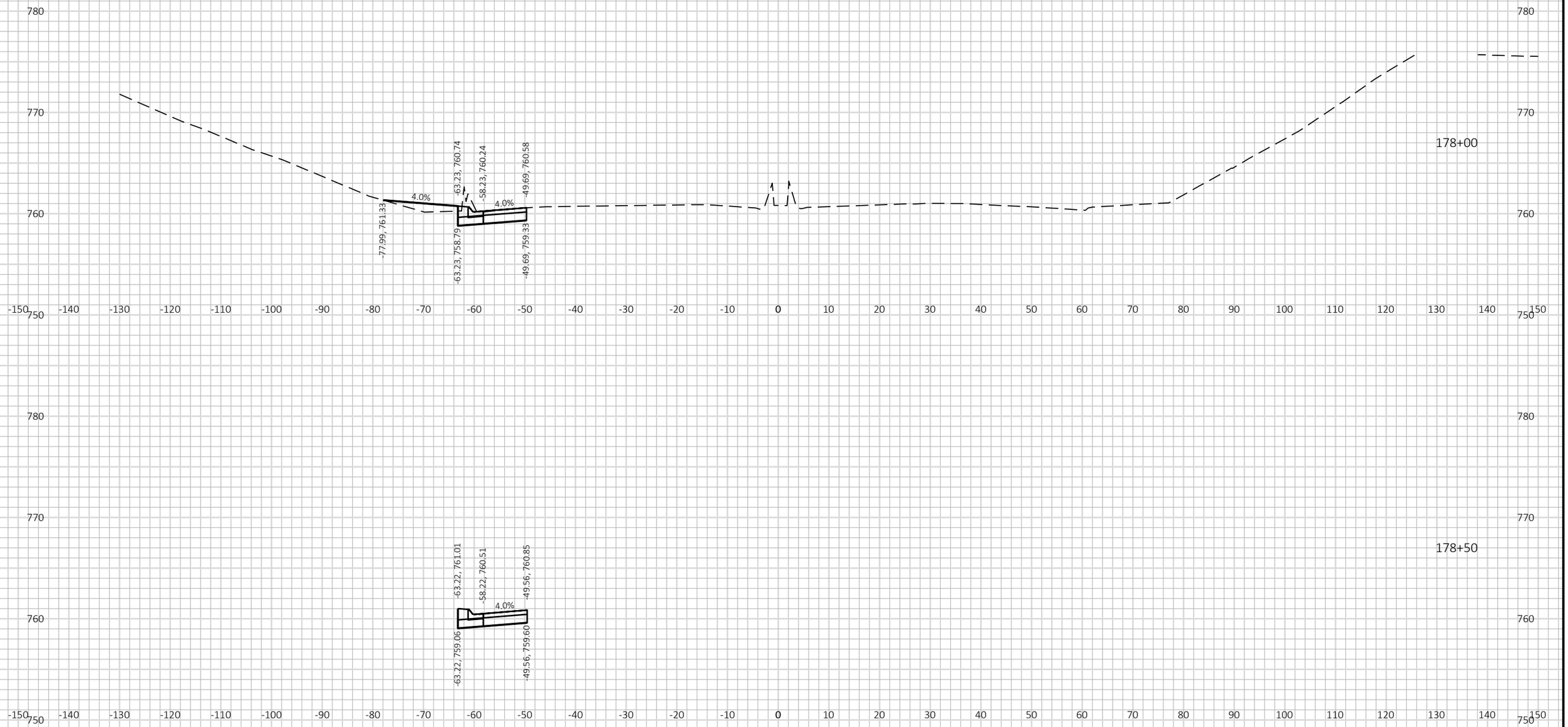
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PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 409	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-11

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

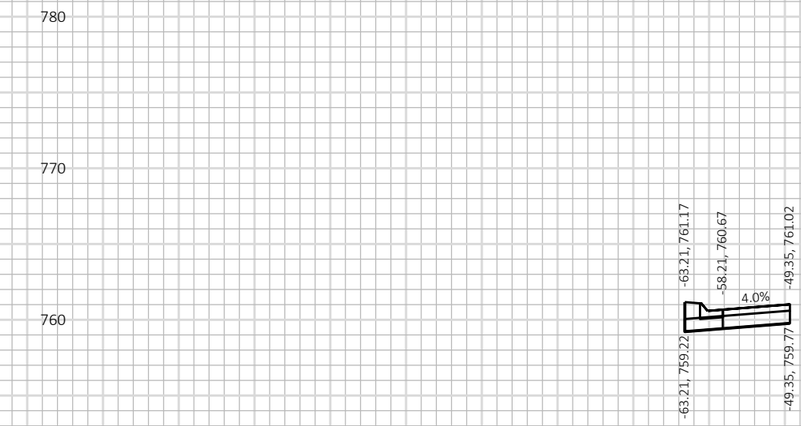
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PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 410	E

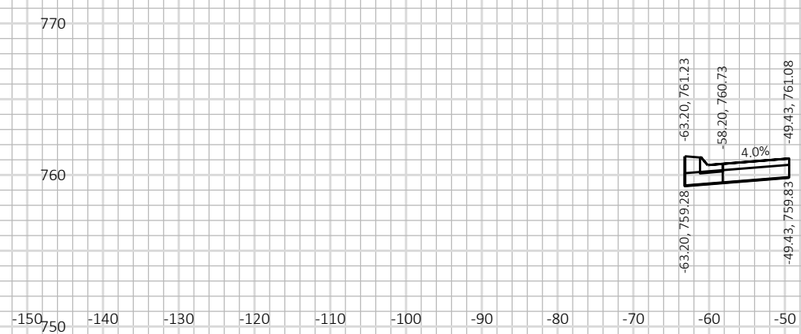
FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-12

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



179+00



179+25

10 FT

20 FT

9

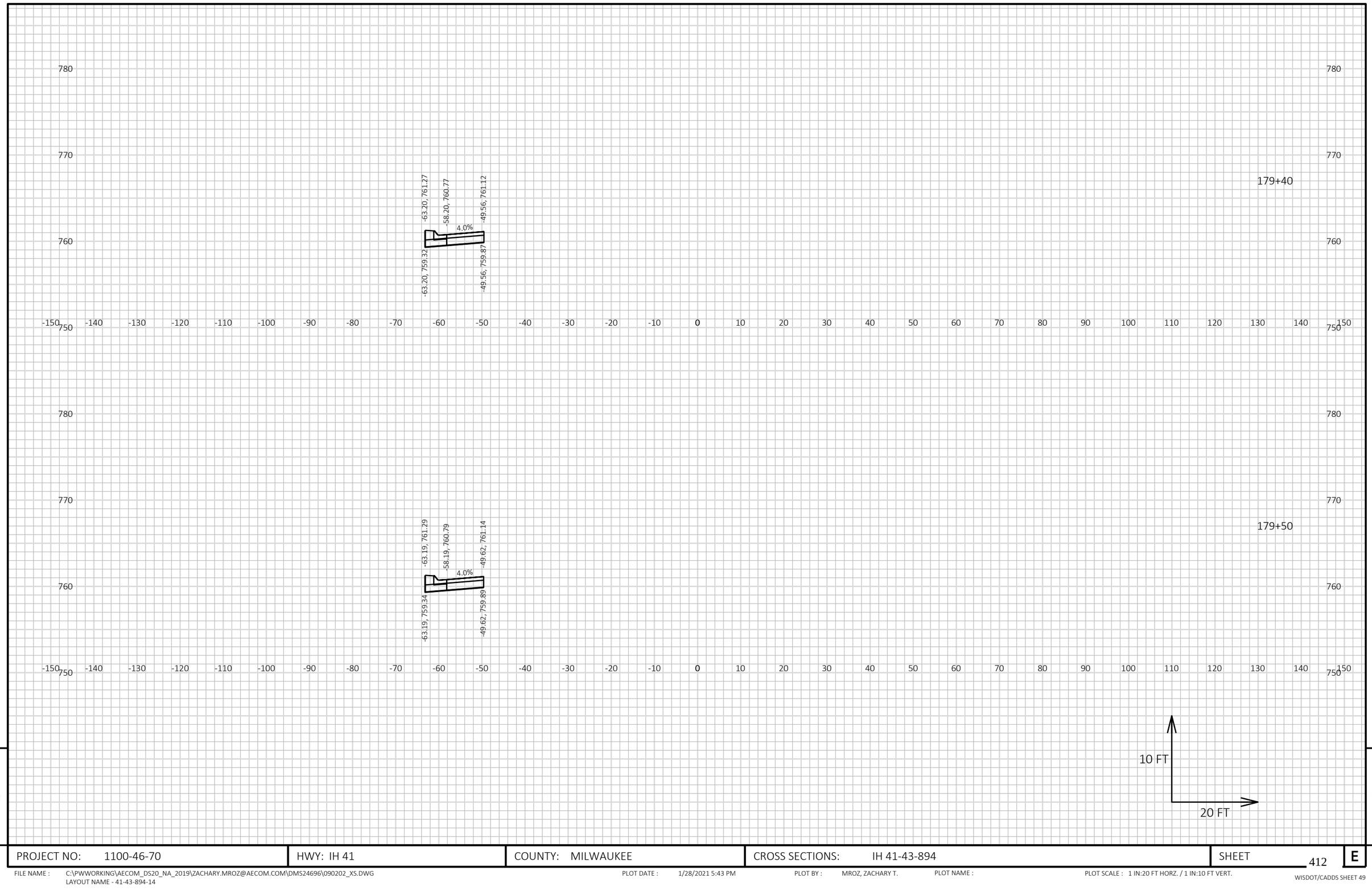
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PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 411	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-13

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

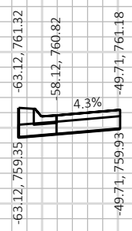
PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 412	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-14

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END CONSTRUCTION - OUTSIDE SHOULDER
IH 41 NB / IH 43 SB / IH 894 WB
MATCH EXISTING
STA. 179+69.48



179+69

780
770
760
750

-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

10 FT
20 FT

9

PROJECT NO: 1100-46-70	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: IH 41-43-894	SHEET 413	E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\ZACHARY.MROZ@AECOM.COM\DMS24696\090202_XS.DWG
LAYOUT NAME - 41-43-894-15

PLOT DATE : 1/28/2021 5:43 PM PLOT BY : MROZ, ZACHARY T. PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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