wke Feb 13, 2024

PROJECT ID: 2967-17-71

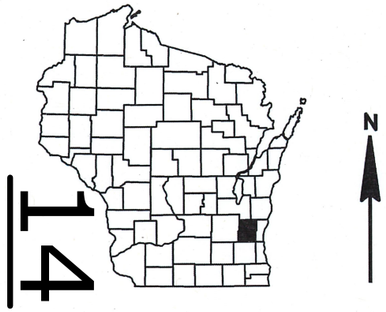
WITH: NA

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 = 290



N

DESIGN DESIGNATION 2967-17-01

STH 181

A.A.D.T.	2020	=	26300
A.A.D.T.	2040	=	28900
D.H.V.		=	12.3
D.D.		=	59/41
T.		=	6.2%
DESIGN SPEED		=	45MPH
ESALS		=	

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'E8')
- 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

C MILWAUKEE N 76TH ST

BRIDGE OVER UPC RR B-40-380/1

STH 181

MILWAUKEE COUNTY

STATE PROJECT NUMBER
2967-17-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2967-17-71	WISC 2024226	1

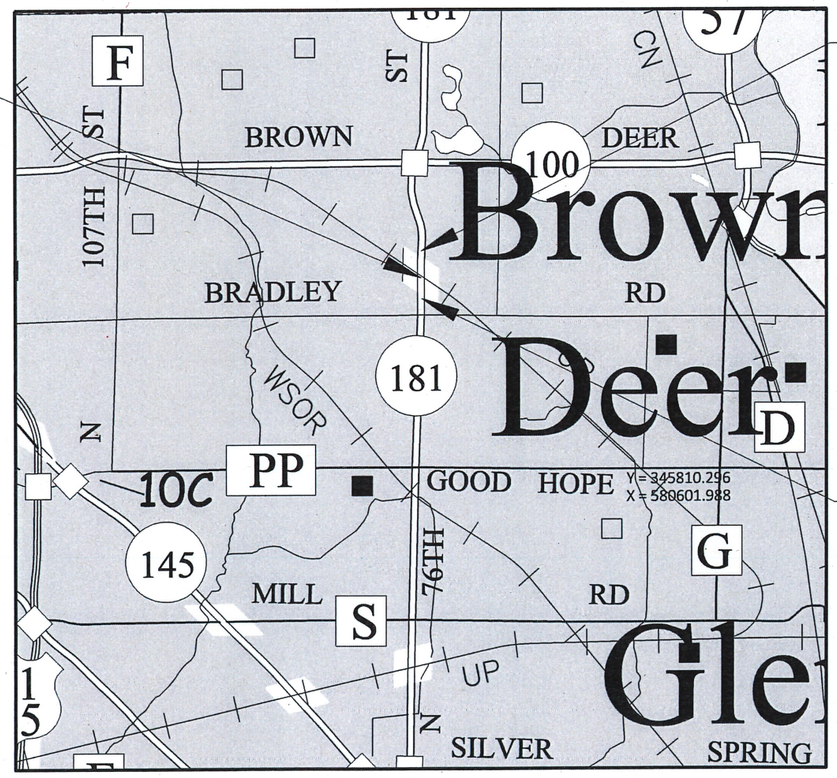
R-20-E

STRUCTURES
B-40-380 & B-40-381

END PROJECT
STA 201+00.00

BEGIN PROJECT
STA 187+15.00

T-8-N



LAYOUT

SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = 0.262 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MILWAUKEE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ORIGINAL PLANS PREPARED BY

benesch

1300 West Canal Street, Suite 150
Milwaukee, Wisconsin 53233
414-308-1310 Job No. 20239.00

WISCONSIN PROFESSIONAL ENGINEER
BENJAMIN J. WEIGAND
E-39495
RACINE, WI

DATE: 11-27-23 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SIGMA
Designer	BENESCH
Project Manager	MARTIN VILLACA
Regional Examiner	SE REGION
Regional Supervisor	JOSH LEVEQUE

APPROVED FOR THE DEPARTMENT

DATE: 11-27-23 Martin B Villaca (Signature)

E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\010101_TI.DWG

PLOT DATE : 11/27/2023 12:54 PM PLOT BY : WEIGAND, BEN PLOT NAME :

UTILITY CONTACTS

AT&T LOCAL NETWORK - COMMUNICATIONS LINE
TIMOTHY LAPOINTE
1301 FANNIN STREET
HOUSTON, TX 77002
PHONE: 281-352-3631
EMAIL: TL0695@ATT.COM

AT&T WISCONSIN - COMMUNICATIONS LINE
JAY BULANEK
435 S 95TH STREET
MILWAUKEE, WI 53214
PHONE: 414-491-2855
EMAIL: JB5175@ATT.COM

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

CITY OF MILWAUKEE - CUC
KAREN ROGNEY
841 N BROADWAY
MILWAUKEE, WI 53202
PHONE: 414-286-3243
EMAIL: KROGNE@MILWAUKEE.GOV

CITY OF MILWAUKEE - SEWER
BRIAN HEARD
841 N BROADWAY
MILWAUKEE, WI 53202
PHONE: 414-286-2470
EMAIL: ZYOUSU@MILWAUKEE.GOV

CITY OF MILWAUKEE - STREET LIGHTING
NEAL KARWEIK
1540 WEST CANAL STREET
MILWAUKEE, WI 53233
PHONE: 414-708-4245
EMAIL: NKARWE@MILWAUKEE.GOV

CITY OF MILWAUKEE - WATER
DAVE GOLDAPP
841 N BROADWAY, ROOM 409
MILWAUKEE, WI 53202
PHONE: 414-708-2695
EMAIL: DAVE.GOLDAPP@MILWAUKEE.GOV

LEVEL 3 COMMUNICATIONS LLC - COMMUNICATION LINE
BRAHIM GADDOUR - LUMEN
3235 INTERTECH DR, SUITE 600
BROOKFIELD, WI 53045
PHONE: 414-704-1026
EMAIL: BRAHIM.GADDOUR@LUMEN.COM

PAETEC COMMUNICATIONS, LLC - COMMUNICATION LINE
ERIC BECKER
314 N DANZ AVE
GREEN BAY, WI 54302-3526
PHONE: 920-461-9825
EMAIL: ERIC.BECKER@WINDSTREAM.COM

SPECTRUM - COMMUNICATION LINE
BEAU ABUYA
1320 N DR MARTIN LUTHER KING JR DR
MILWAUKEE, WI 53212
PHONE: 414-758-9241
EMAIL: BEAU.ABUYA@CHARTER.COM

SPRINT COMMUNICATIONS CO LP - COMMUNICATIONS LINE
DAN HILLIARD
849 EARL ST
SAINT PAUL, MN 55106
PHONE: 612-217-3526
EMAIL: DAN.J.HILLIARD@SPRINT.COM

VERIZON BUSINESS - COMMUNICATION LINE
RJ CICATELLO JR.
15725 WEST RYERSON ROAD
NEW BERLIN, WI 53151
PHONE: 262-232-1323
EMAIL: RANDY.CICATELLO@VERIZON.COM

WE ENERGIES - ELECTRICITY
TODD WIEDOFF
W140 N9100 LILY ROAD
MENOMONEE FALLS, WI 53051
PHONE: 414-840-8106
EMAIL: TODD.WIEDOFF@WE-ENERGIES.COM

WE ENERGIES - GAS/PETROLEUM
JACOB HULBERT
500 S 116TH STREET
WEST ALLIS, WI 53214
PHONE: 414-651-1577
EMAIL: JACOB.HULBERT@WE-ENERGIES.COM

WINDSTREAM KDL, INC - COMMUNICATION LINE
ERIC BECKER
314 N DANZ AVE
GREEN BAY, WI 54302-3526
PHONE: 920-461-9825
EMAIL: ERIC.BECKER@WINDSTREAM.COM

WINDSTREAM NTI, INC - COMMUNICATION LINE
LORI KETTER
314 N DANZ AVE
GREEN BAY, WI 54302-3526
PHONE: 920-410-6902
EMAIL: LORI.KETTER@WINDSTREAM.COM

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

OTHER AGENCIES

WISDOT
MARTIN VILLACA
141 NW BARSTOW ST
WAUKESHA, WI 53188
PHONE: 262-5486456
EMAIL: MARTIN.VILLACA@DOT.WI.GOV

DNR - SOUTHEAST REGION
RYAN PAPPAS
1027 W SAINT PAUL AVE
MILWAUKEE, WI 53233
PHONE: 414-750-7495
EMAIL: RYAN.PAPPAS@WISCONSIN.GOV

DESIGN - BENESCH
AMANDA ZACHARIAS
1300 W CANAL ST, SUITE 150
MILWAUKEE, WI 53233
PHONE: 414-308-1310
EMAIL: AZACHARIAS@BENESCH.COM

MILWAUKEE COUNTY TRANSIT SYSTEM
1942 N. 17TH ST.
MILWAUKEE, WI 53205

MELANIE FLYNN
LEAD & COORDINATOR OF STREET SUPERVISION (ROUTES)
PHONE: (414) 343-1764
MFLYNN@MCTS.ORG

ANDY TILLMAN
TRANSIT PLANNER (STOPS/SHELTERS)
PHONE: (414) 343-1728
ATILLMAN@MCTS.ORG

DAVID LOCHER
TRANSPORTATION SPECIALIST (Detour/Special Events)
PHONE: (414) 343-1727
DLOCHER@MCTS.ORG

WISCONSIN DEPARTMENT OF TRANSPORTATION - WISCONSIN SIGNAL
JARRETT GATES
141 NW BARSTOW STREET
WAUKESHA, WI 53188
PHONE: 262-548-5894
EMAIL: JARRETT.GATES@DOT.WI.GOV

GENERAL NOTES

1. NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
2. UNLESS NOTED ON THE PLAN ALL STATION, OFFSETS AND ELEVATIONS ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD.
3. DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE FINISHED WITH SEED, FERTILIZER AND EROSION MAT URBAN CLASS 1 TYPE B.
4. EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
5. TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. NO WORK MAY BEGIN UNTIL PROPER TRAFFIC CONTROL DEVICES ARE PLACED AND APPROVED BY THE ENGINEER.
6. A SAWED JOINT IS REQUIRED WHERE NEW PAVEMENT MEETS EXISTING PAVEMENT.
7. THE LOCATIONS OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
8. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPALITY OR PUBLIC AGENCY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
9. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DEEMS THE MEASURE NO LONGER NECESSARY.

PAVEMENT LOCATION	TOTAL PAVEMENT THICKNESS	LAYER	TYPE
STH 181 RECONSTRUCT	6 1/2 ''	1 3/4" UPPER 2" LOWER 2 3/4" LOWER	4 HT 58-28 H
STH 181 OVERLAY	1 3/4 " - 3 3/4 "	1 3/4" UPPER 0-2" LOWER	4 HT 58-28 H

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANCE (PERCENT)			SLOPE RANCE (PERCENT)			SLOPE RANCE (PERCENT)			SLOPE RANCE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	0.08 0.22	0.16 0.30	0.22 0.38	0.12 0.26	0.20 0.34	0.27 0.44	0.15 0.30	0.24 0.37	0.33 0.50	0.19 0.34	0.28 0.41	0.38 0.56
MEDIAN STRIP TURF	0.19 0.24	0.20 0.26	0.24 0.30	0.19 0.25	0.22 0.28	0.26 0.33	0.20 0.26	0.23 0.30	0.30 0.37	0.20 0.27	0.25 0.32	0.30 0.40
SIDE SLOPE TURF	0.25 0.34	0.27 0.36	0.25 0.32	0.30		0.27 0.34			0.28 0.36			0.30 0.38
PAVEMENT:												
ASPHALT	0.70 - 0.95											
CONCRETE	0.80 - 0.95											
BRICK	0.70 -0.80											
DRIVES, WALKS	0.75 - 0.85											
ROOFS	0.75 - 0.95											
GRAVEL ROADS, SHOULDERS	0.40 - 0.60											

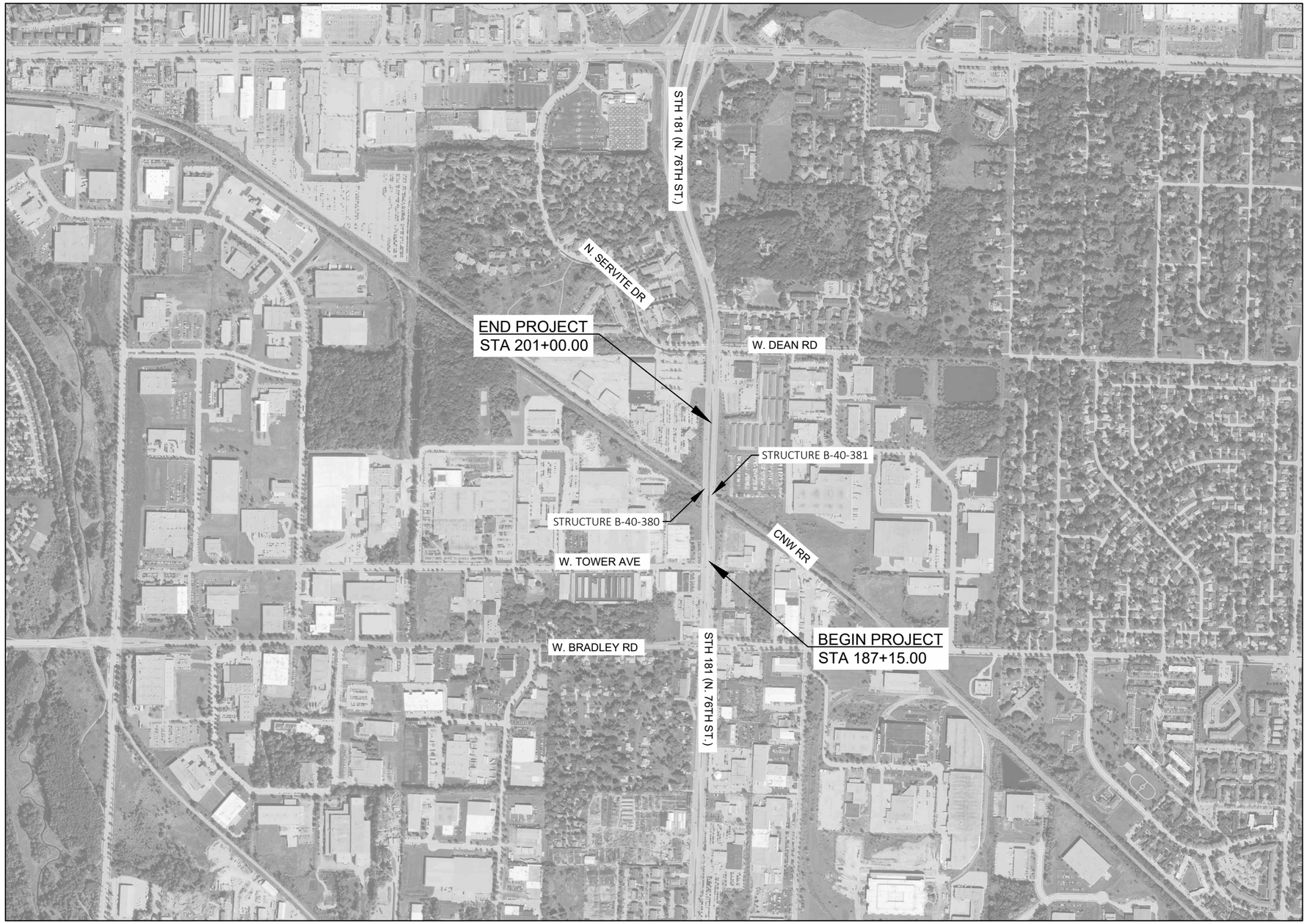
TOTAL PROJECT AREA = 1.50 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.90 ACRES

ORDER OF SECTION 2 SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL DETAILS
TEMPORARY PAVING DETAILS
PAVING DETAILS
EROSION CONTROL AND RESTORATION
CITY OF MILWAUKEE UNDERGROUND CONDUIT
PERMANENT SIGNING
STREET LIGHTING
SIGNAL INTERCONNECT
PAVEMENT MARKING
TRAFFIC CONTROL DETAILS
TRAFFIC CONTROL LAYOUT
ALIGNMENT PLAN

2

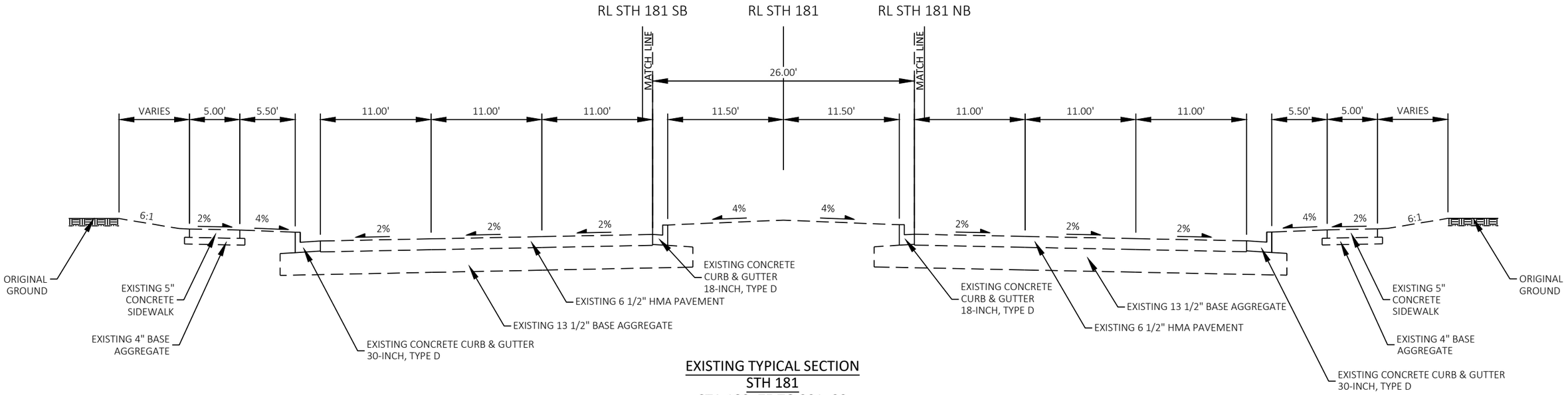
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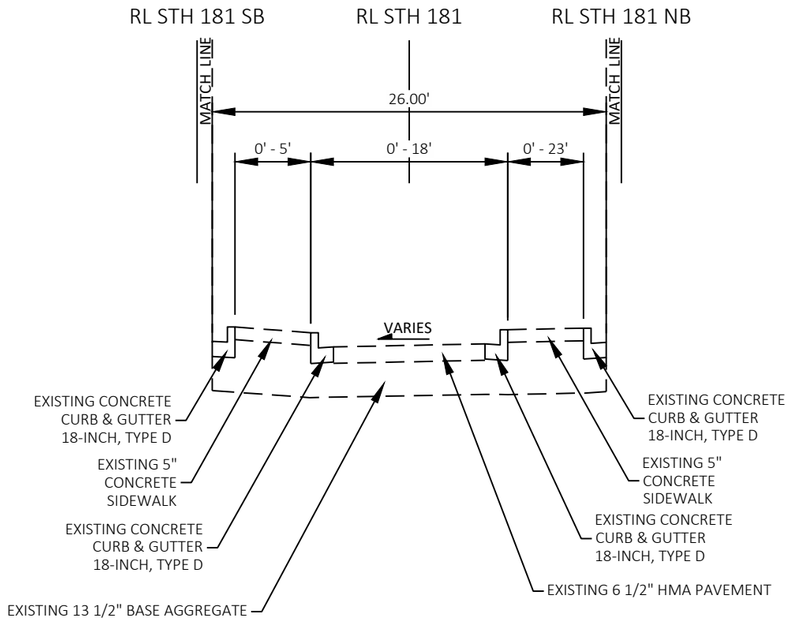
PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\020201_PO.DWG
LAYOUT NAME - 01

PLOT DATE : 10/4/2023 10:08 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:1000 FT

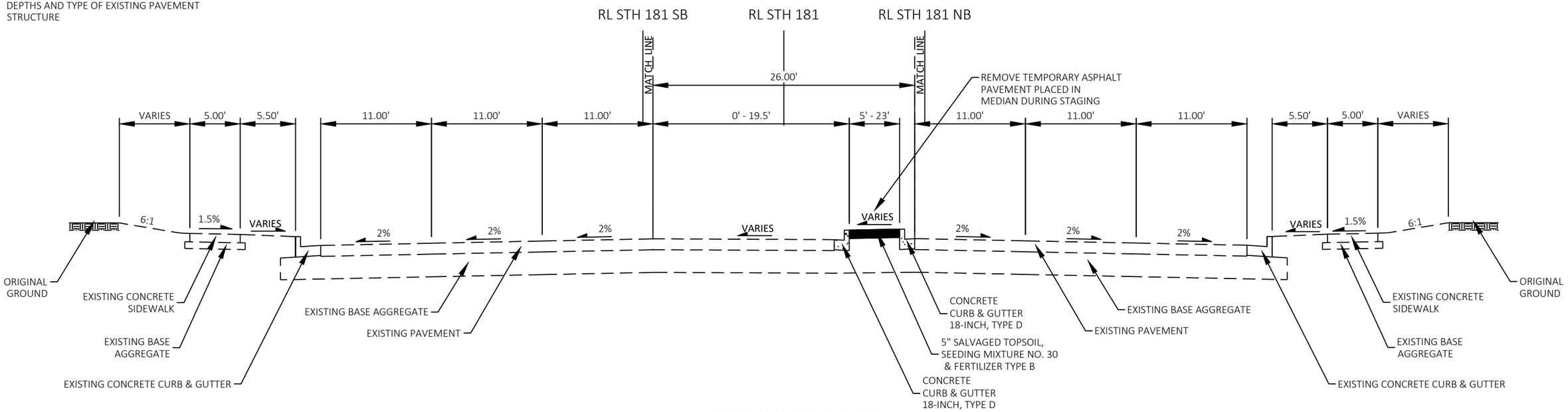


EXISTING TYPICAL SECTION
STH 181
STA 189+75 TO 201+00

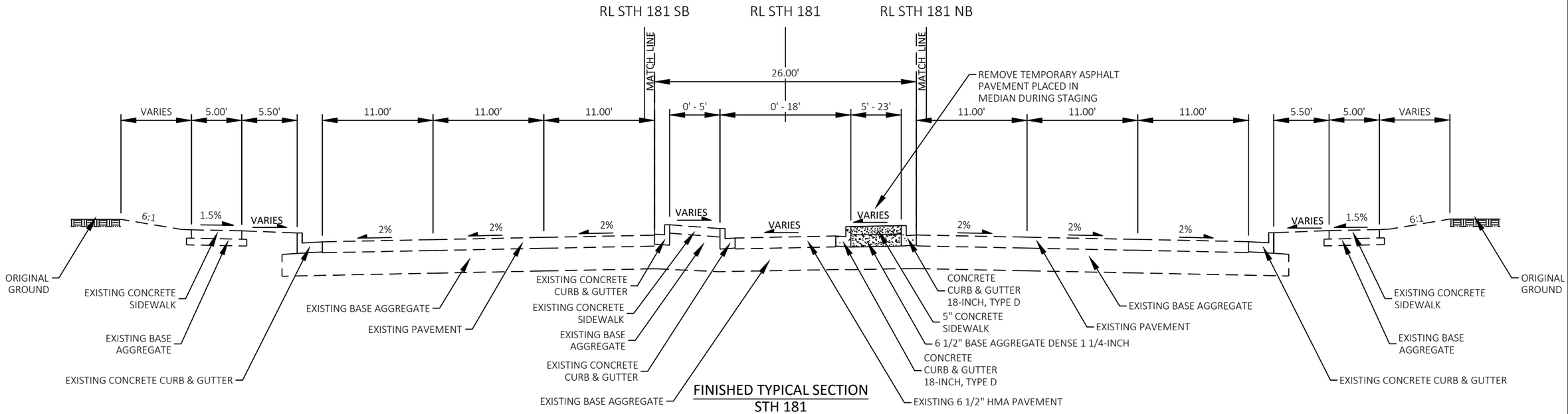


EXISTING TYPICAL SECTION
STH 181
(SB LT TURN LANE AT W TOWER AVE)
STA 187+15 TO 189+75

NOTE: SEE EXISTING TYPICAL SECTIONS FOR DEPTHS AND TYPE OF EXISTING PAVEMENT STRUCTURE



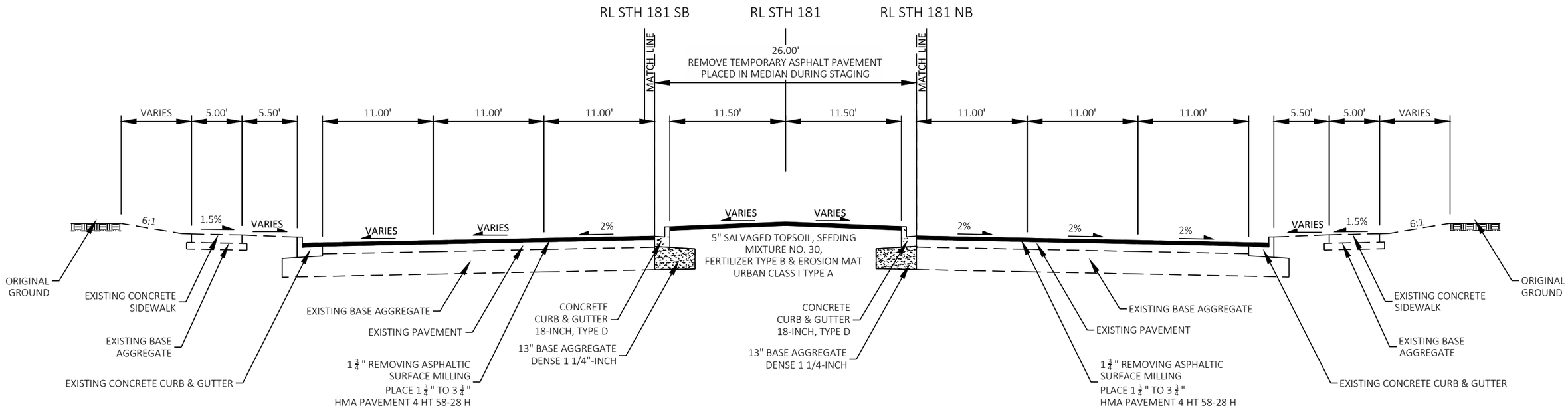
FINISHED TYPICAL SECTION
STH 181
(SB LT TURN LANE AT W TOWER AVE)
STA 188+00 TO 189+75.00



FINISHED TYPICAL SECTION
STH 181
(SB LT TURN LANE AT W TOWER AVE)
STA 187+15 TO 188+00

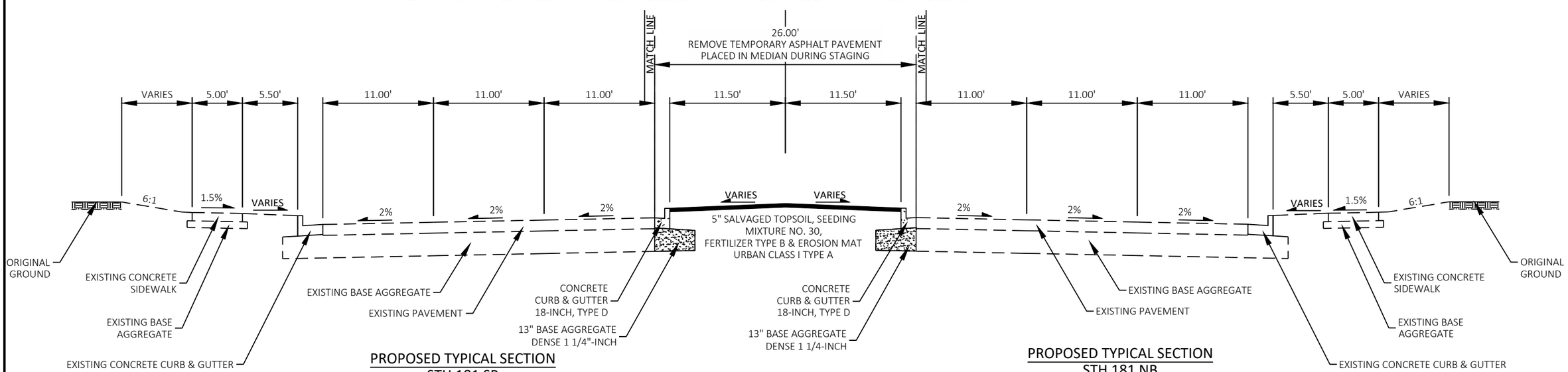
PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PROPOSED TYPICAL SECTIONS - STH 181	SHEET 5	E

NOTE: SEE EXISTING TYPICAL SECTIONS FOR DEPTHS AND TYPE OF EXISTING PAVEMENT STRUCTURE



PROPOSED TYPICAL SECTION
STH 181 SB
STA 190+33.20 TO 191+47.36
STA 194+60.73 TO 195+62.75

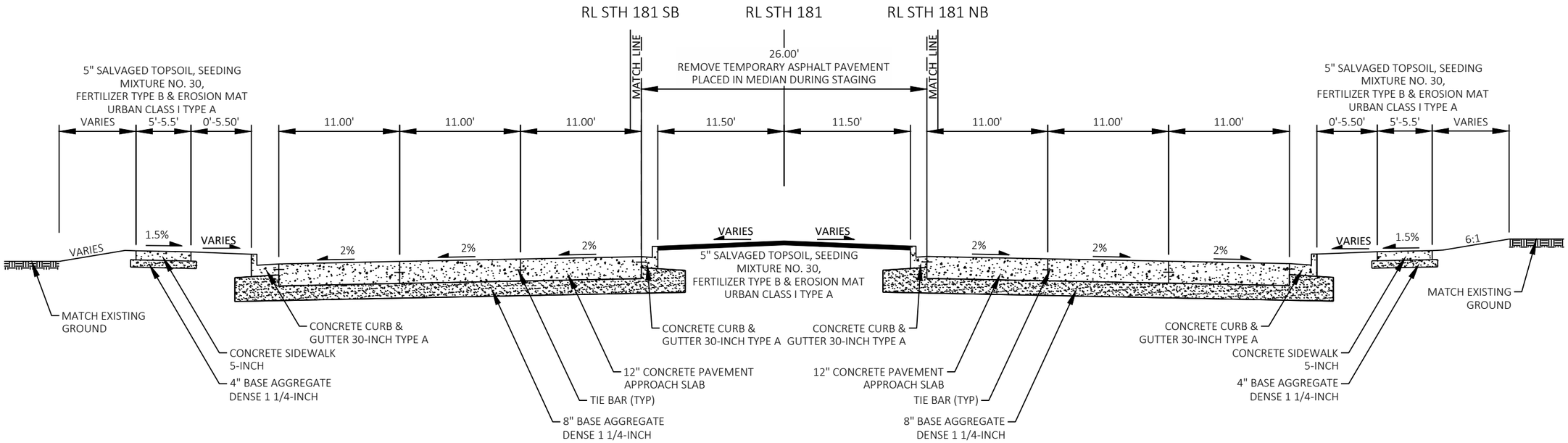
PROPOSED TYPICAL SECTION
STH 181 NB
STA 190+33.20 TO 191+08.68
STA 194+21.72 TO 195+61.25



PROPOSED TYPICAL SECTION
STH 181 SB
STA 189+75.00 TO 190+33.20
STA 195+62.75 TO 201+00.00

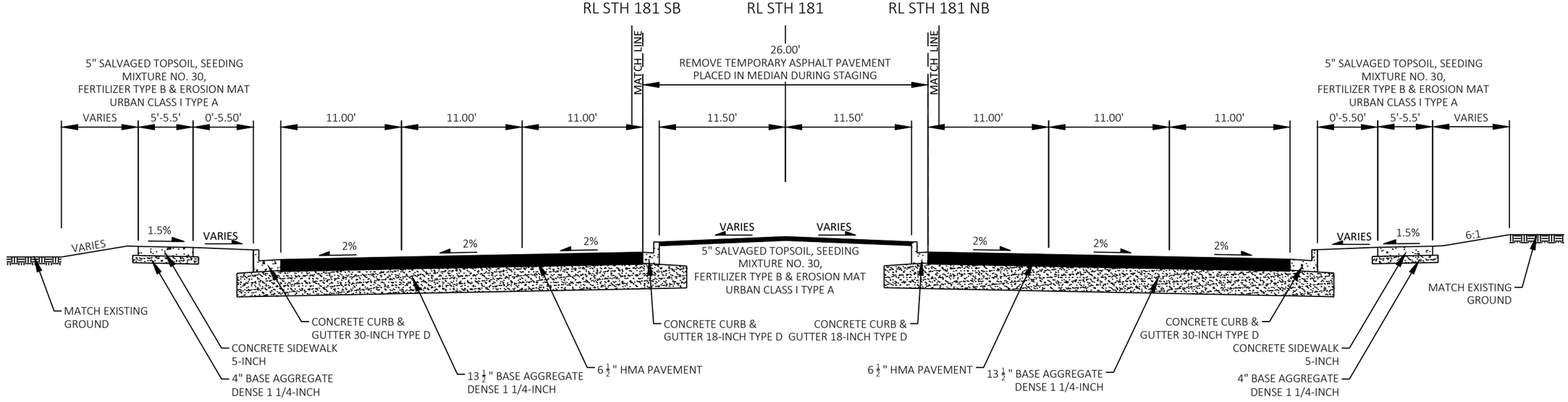
PROPOSED TYPICAL SECTION
STH 181 NB
STA 189+75.00 TO 190+33.20
STA 195+61.25 TO 201+00.00

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PROPOSED TYPICAL SECTIONS - STH 181	SHEET 6	E



PROPOSED TYPICAL SECTION
STH 181 SB
STA 191+97.36 TO 192+15.15
STA 193+72.15 TO 194+10.73

PROPOSED TYPICAL SECTION
STH 181 NB
STA 191+58.70 TO 191+96.65
STA 193+53.65 TO 193+71.72

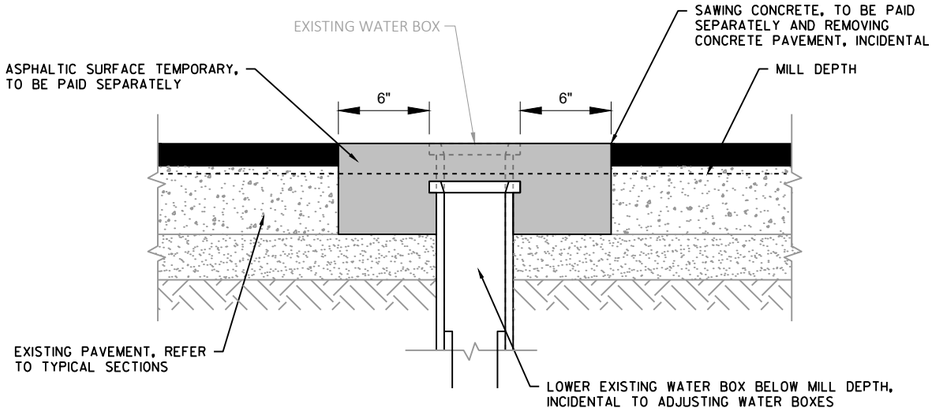


PROPOSED TYPICAL SECTION
STH 181 SB
STA 191+47.36 TO 191+97.36
STA 194+10.73 TO 194+60.73

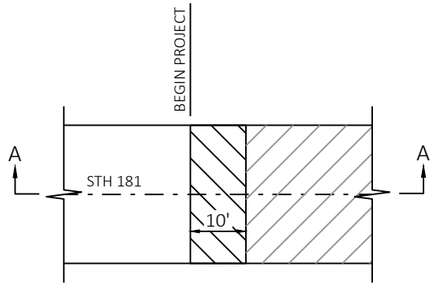
PROPOSED TYPICAL SECTION
STH 181 NB
STA 191+08.68 TO 191+58.70
STA 193+71.72 TO 194+21.72

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PROPOSED TYPICAL SECTIONS - STH 181	SHEET 7	E

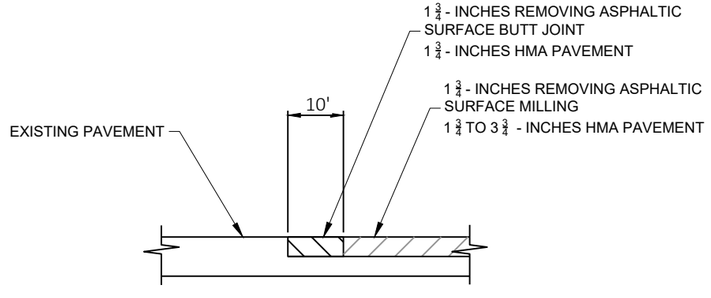
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PRIOR TO MILLING

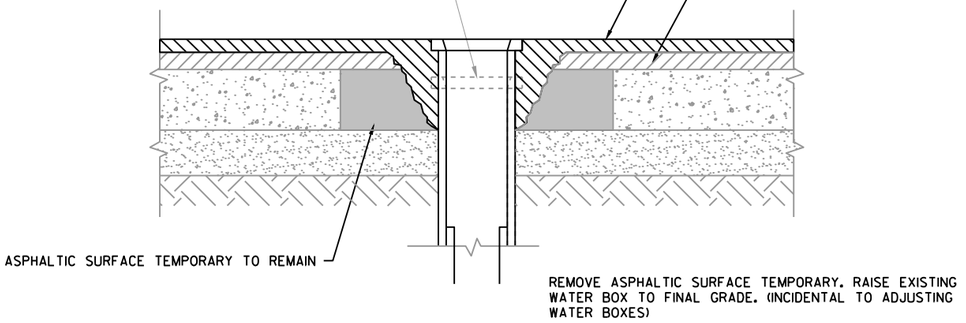


TYPICAL MAINLINE DETAIL



SECTION A-A

BUTT JOINT DETAIL



PRIOR TO PAVING UPPER LAYER

ADJUSTING CITY OF MILWAUKEE WATER BOXES

2

2

MATCH LINE 189+75

N

EVERSTREAM

EXISTING BUS STOP

W. TOWER AVE

LEVEL 3

REMOVING CONCRETE CURB & GUTTER

WE ENERGIES

CITY OF MILWAUKEE

BEGIN PROJECT
STA 187+15.00

SB STH 181 (N. 76TH ST)

RL STH 181

184+00

185+00

186+00

187+00

188+00

189+00

NB STH 181 (N. 76TH ST)

5'

ATT

CITY OF MILWAUKEE

WISDOT

CITY OF MILWAUKEE

EXISTING BUS STOP

REMOVE EXISTING TURF MEDIAN
SEE TEMPORARY PAVEMENT DETAILS - 181
FOR MORE INFORMATION

ADJUST ATT MANHOLE COVER
BY OTHERS

SPECTRUM

REMOVING CONCRETE SIDEWALK

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	REMOVAL PLAN DETAILS - STH 181	SHEET 9	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - 01

PLOT DATE : 10/23/2023 1:41 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

MATCH LINE 195+75

MATCH LINE 189+75

N

LEVEL 3

EVERSTREAM

REMOVE EXISTING GUARDRAIL

REMOVING CURB AND GUTTER

ADJUST WATER VALVE

REMOVING CONCRETE SIDEWALK

WE ENERGIES

WE ENERGIES ATT LOCAL SPECTRUM

ATC

CITY OF MILWAUKEE

REMOVE EXISTING TURF MEDIAN SEE TEMPORARY PAVEMENT DETAILS - 181 FOR MORE INFORMATION

REMOVE EXISTING GUARDRAIL

REMOVING CURB AND GUTTER

REMOVING CONCRETE SIDEWALK

ADJUST WATER VALVE

B-40-380

SPECTRUM

CITY OF MILWAUKEE

SB STH 181 (N. 76TH ST)

RL STH 181

100+00

191+00

192+00

193+00

194+00

195+00

CITY OF MILWAUKEE

NB STH 181 (N. 76TH ST)

ATT

WISDOT

CITY OF MILWAUKEE

B-40-381

WE ENERGIES

WISDOT

NB STH 181 (N. 76TH ST)

REMOVE EXISTING TURF MEDIAN SEE TEMPORARY PAVEMENT DETAILS - 181 FOR MORE INFORMATION

REMOVE EXISTING GUARDRAIL

REMOVING CURB AND GUTTER

REMOVING CONCRETE SIDEWALK

WINDSTREAM

WE ENERGIES ATT LOCAL SPECTRUM

ATC

CNW RR

SPRINT

WE ENERGIES SPECTRUM ATT LOCAL

REMOVING CONCRETE SIDEWALK

REMOVING CURB AND GUTTER

UNCOVER AND ADJUST BURIED WATER VALVE

ADJUST WATER VALVE

REMOVE EXISTING GUARDRAIL

REMOVING CURB AND GUTTER

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	REMOVAL PLAN DETAILS - STH 181	SHEET 10	E

2

N

REMOVING CURB AND GUTTER

REMOVE EXISTING TURF MEDIAN
SEE TEMPORARY PAVEMENT DETAILS - 181
FOR MORE INFORMATION

EVERSTREAM

END PROJECT
STA 201+00.00

SPECTRUM

RL STH 181

SB STH 181 (N. 76TH ST)

CITY OF MILWAUKEE

WISDOT

196+00 197+00 198+00 199+00 200+00 201+00

26'

NB STH 181 (N. 76TH ST)

ATT

WE ENERGIES

WE ENERGIES
SPECTRUM
ATT LOCAL

MATCH LINE 195+75

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	REMOVAL PLAN DETAILS - STH 181	SHEET 11	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - 03

PLOT DATE : 10/23/2023 1:41 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

MATCH LINE 189+75

N

W. TOWER AVE

EVERSTREAM

WISDOT

EXISTING BUS STOP

SALVAGED INLET COVERS, PLACE TEMPORARY INLET COVERS TYPE S BEFORE TEMPORARY PAVEMENT IS INSTALLED. REPLACE SALVAGED INLET COVERS AFTER CROSSOVERS AND MEDIAN PAVEMENT ARE REMOVED.

LEVEL 3

CONCRETE CURB & GUTTER 18-INCH TYPE D

WE ENERGIES

CITY OF MILWAUKEE

SB STH 181 (N. 76TH ST)

RL STH 181

BEGIN PROJECT
STA 187+15.00

WE ENERGIES

184+00 185+00 186+00 187+00 188+00 189+00

NB STH 181 (N. 76TH ST)

5'

ATT

CITY OF MILWAUKEE

WISDOT

CITY OF MILWAUKEE

STA 188+00.00 TO STA 191+87.65
RL STH 181
SALVAGED TOPSOIL, SEED, FERTILIZER & EROSION MAT

SPECTRUM

EXISTING BUS STOP

ADJUST ATT MANHOLE COVER BY OTHERS

5" CONCRETE SIDEWALK
STA 187+15.00 TO
STA 188+00.00

TEMPORARY PAVEMENT AREA FOR USE DURING STAGING:
5" ASPHALTIC SURFACE TEMPORARY, OVER 10" BASE AGGREGATE DENSE 1 1/4-INCH (SEE TRAFFIC CONTROL PLANS FOR DETAILS)

REMOVE TEMPORARY PAVEMENT AREA AFTER CONSTRUCTION IS COMPLETE AND REPLACE CONCRETE CURB & GUTTER 18-INCH TYPE D AND MEDIAN TO EXISTING CONDITIONS

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TEMPORARY PAVEMENT DETAIL - STH 181	SHEET 12	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\021202_PD.DWG
LAYOUT NAME - 01
PLOT DATE : 10/23/2023 1:48 PM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

N

MATCH LINE 195+75

WE ENERGIES
ATT LOCAL
SPECTRUM

CITY OF MILWAUKEE

LEVEL 3

EVERSTREAM

WE ENERGIES

ATC

CONCRETE CURB & GUTTER
18-INCH TYPE D

B-40-380

CONCRETE CURB & GUTTER
18-INCH TYPE D

WE ENERGIES

ADJUST WATER VALVE

SPECTRUM

CITY OF MILWAUKEE

ADJUST WATER VALVE

SB STH 181 (N. 76TH ST)

RL STH 181

SB STH 181 (N. 76TH ST)

100+00

191+00

192+00

193+00

194+00

195+00

26'

CITY OF MILWAUKEE

NB STH 181 (N. 76TH ST)

ATT

WISDOT

CITY OF MILWAUKEE

WE ENERGIES

NB STH 181 (N. 76TH ST)

WISDOT

ADJUST WATER VALVE

ADJUST WATER VALVE

UNCOVER AND ADJUST
BURIED WATER VALVE

STA 188+00.00 TO STA 191+87.65
RL STH 181
SALVAGED TOPSOIL, SEED,
FERTILIZER & EROSION MAT

STA 193+87.77 TO STA 201+00.00
RL STH 181
SALVAGED TOPSOIL, SEED,
FERTILIZER & EROSION MAT

WE ENERGIES
ATT LOCAL
SPECTRUM

ATC

B-40-381

SPRINT

WINDSTREAM

CNW RR

WE ENERGIES
SPECTRUM
ATT LOCAL

TEMPORARY PAVEMENT AREA FOR USE DURING STAGING:
5" ASPHALTIC SURFACE TEMPORARY, OVER 10" BASE
AGGREGATE DENSE 1 1/4-INCH (SEE TRAFFIC CONTROL PLANS
FOR DETAILS)

REMOVE TEMPORARY PAVEMENT AREA AFTER
CONSTRUCTION IS COMPLETE AND REPLACE CONCRETE CURB
& GUTTER 18-INCH TYPE D AND MEDIAN TO EXISTING
CONDITIONS

MATCH LINE 189+75

2

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TEMPORARY PAVEMENT DETAIL - STH 181	SHEET 13	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\021202_PD.DWG
LAYOUT NAME - 02

PLOT DATE : 10/23/2023 1:48 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

CONCRETE CURB & GUTTER
18-INCH TYPE D

EVERSTREAM

END PROJECT
STA 201+00.00

SPECTRUM

CITY OF MILWAUKEE

SB STH 181 (N. 76TH ST)

RL STH 181

WISDOT

196+00

197+00

198+00

199+00

200+00

201+00

26'

NB STH 181 (N. 76TH ST)

ATT

WE ENERGIES

SALVAGED INLET COVERS,
PLACE TEMPORARY INLET COVERS
TYPE S BEFORE TEMPORARY
PAVEMENT IS INSTALLED.
REPLACE SALVAGED INLET COVERS AFTER
CROSSOVERS AND MEDIAN PAVEMENT ARE
REMOVED.

STA 193+87.77 TO STA 201+00.00
RL STH 181
SALVAGED TOPSOIL, SEED,
FERTILIZER & EROSION MAT

SALVAGED INLET COVERS,
PLACE TEMPORARY INLET COVERS
TYPE S BEFORE TEMPORARY
PAVEMENT IS INSTALLED.
REPLACE SALVAGED INLET COVERS AFTER
CROSSOVERS AND MEDIAN PAVEMENT ARE
REMOVED.

WE ENERGIES
SPECTRUM
ATT LOCAL

MATCH LINE 195+75

TEMPORARY PAVEMENT AREA FOR USE DURING STAGING:
5" ASPHALTIC SURFACE TEMPORARY, OVER 10" BASE
AGGREGATE DENSE 1 1/4-INCH (SEE TRAFFIC CONTROL PLANS
FOR DETAILS)

REMOVE TEMPORARY PAVEMENT AREA AFTER
CONSTRUCTION IS COMPLETE AND REPLACE CONCRETE CURB
& GUTTER 18-INCH TYPE D AND MEDIAN TO EXISTING
CONDITIONS

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TEMPORARY PAVEMENT DETAIL - STH 181	SHEET 14	E

2

MATCH LINE 189+75

2

N

W. TOWER AVE

EVERSTREAM

WISDOT

EXISTING BUS STOP

CONCRETE CURB & GUTTER
18-INCH TYPE D

LEVEL 3

SPECTRUM

WE ENERGIES

CITY OF MILWAUKEE

BEGIN PROJECT
STA 187+15.00

SB STH 181 (N. 76TH ST)

RL STH 181

WE ENERGIES

184+00 185+00 186+00 187+00 188+00 189+00

NB STH 181 (N. 76TH ST)

5'

ATT

CITY OF MILWAUKEE

WISDOT

CITY OF MILWAUKEE

EXISTING BUS STOP

5" CONCRETE
SIDEWALK
STA 187+15.00 TO
STA 188+00.00

STA 188+00.00 TO STA 191+87.65
RL STH 181
RESTORED MEDIAN

LEGEND

- CONCRETE PAVEMENT APPROACH SLAB
- 6½" HMA PAVEMENT 4 HT 58-28 H ON 13½" BASE AGGREGATE DENSE 1 1/4-INCH
- CONCRETE SIDEWALK 5-INCH
- RESTORED MEDIAN AT LOCATION OF TEMPORARY PAVEMENT USED IN STAGING (SEE EROSION CONTROL AND TYPICALS)

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PAVING DETAILS - STH 181	SHEET 15	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\021203_PD.DWG
LAYOUT NAME - 01

PLOT DATE : 10/23/2023 1:52 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- CONCRETE PAVEMENT APPROACH SLAB
- 6 1/2" HMA PAVEMENT 4 HT 58-28 H ON 13 1/2" BASE AGGREGATE DENSE 1 1/4-INCH
- CONCRETE SIDEWALK 5-INCH
- RESTORED MEDIAN AT LOCATION OF TEMPORARY PAVEMENT USED IN STAGING (SEE EROSION CONTROL AND TYPICALS)

N

MATCH LINE 195+75

REMOVE EXISTING GUARDRAIL
PLACE MGS THRIE BEAM TRANSITION,
MGS GUARDRAIL 3, AND MGS
GUARDRAIL TERMINAL EAT

STA 194+10.69
13.0' LT
END CONCRETE CURB &
GUTTER 4-INCH SLOPED
SLOPED TYPE TBTT

STA 194+72.03
13.0' LT
BEGIN DRIVEWAY CURB

STA 194+19.04
13.0' LT
END CONCRETE CURB &
GUTTER 4-INCH SLOPED
SLOPED TYPE TBT

STA 195+34.53
13.0' RT
END DRIVEWAY CURB

WE ENERGIES
ATT LOCAL
SPECTRUM

CITY OF MILWAUKEE

LEVEL 3

CONCRETE CURB & GUTTER
30-INCH TYPE D

WE ENERGIES

ATC

CONCRETE CURB & GUTTER
30-INCH TYPE D

REMOVE EXISTING GUARDRAIL
PLACE MGS THRIE BEAM TRANSITION,
MGS GUARDRAIL 3, AND MGS
GUARDRAIL TERMINAL EAT

EVERSTREAM

ADJUST WATER VALVE

5'

5.5'

SI

5.4996'

ADJUST WATER
VALVE

POST 9
+25.22
54.0' LT

POST 1
+75.22
56.0' LT

WE ENERGIES

CONCRETE CURB & GUTTER
18-INCH TYPE D

B-40-380

CITY OF MILWAUKEE

POST 5
+50.22
55.0' LT

SB STH 181 (N. 76TH ST)

CITY OF
MILWAUKEE

33'

SPECTRUM

POST 9
+34.11
10.5' LT

33'

SB STH 181 (N. 76TH ST)

RL STH 181

POST 1
+84.11
8.5' LT

WISDOT

ATT

190+00

191+00

192+00

193+00

194+00

195+00

26'

CITY OF MILWAUKEE

POST 5
+59.11
9.5' LT

WISDOT

NB STH 181 (N. 76TH ST)

POST 1
+93.73
56.0' RT

POST 9
+43.73
54.0' RT

POST 1
+85.61
8.5' RT

POST 5
+10.61
9.5' RT

33'

POST 9
+35.61
10.5' RT

B-40-381

WE ENERGIES

33'

NB STH 181 (N. 76TH ST)

STA 190+97.37
13.0' RT
END DRIVEWAY CURB

STA 191+50.37
13.0' RT
BEGIN CONCRETE CURB &
GUTTER 4-INCH SLOPED
SLOPED TYPE TBT

STA 191+58.68
13.0' RT
BEGIN CONCRETE CURB &
GUTTER 4-INCH SLOPED
SLOPED TYPE TBTT

5.5027'

5.4821'

SI

5.5281'

5'

CONCRETE CURB & GUTTER
18-INCH TYPE D

POST 5
+18.73
55.0' RT

STA 190+34.87
13.0' RT
BEGIN DRIVEWAY CURB

SI

ADJUST WATER
VALVE

CONCRETE CURB & GUTTER
30-INCH TYPE D

CONCRETE CURB & GUTTER
30-INCH TYPE D

UNCOVER AND ADJUST
BURIED WATER VALVE

ADJUST WATER VALVE

REMOVE EXISTING GUARDRAIL
PLACE MGS THRIE BEAM TRANSITION,
MGS GUARDRAIL 3, AND MGS
GUARDRAIL TERMINAL EAT

REMOVE EXISTING GUARDRAIL
PLACE MGS THRIE BEAM TRANSITION,
MGS GUARDRAIL 3, AND MGS
GUARDRAIL TERMINAL EAT

ATC

SPRINT

WE ENERGIES
ATT LOCAL
SPECTRUM

WINDSTREAM

CNW RR

WE ENERGIES
SPECTRUM
ATT LOCAL

MATCH LINE 189+75

2

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PAVING DETAILS - STH 181	SHEET 16	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\021203_PD.DWG
LAYOUT NAME - 02

PLOT DATE : 10/23/2023 1:52 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

SI

CONCRETE CURB & GUTTER
18-INCH TYPE D

EVERSTREAM

END PROJECT
STA 201+00.00

SPECTRUM

RL STH 181

SB STH 181 (N. 76TH ST)

CITY OF MILWAUKEE

WISDOT

196+00 197+00 198+00 199+00 200+00 201+00

26'

NB STH 181 (N. 76TH ST)

ATT

WE ENERGIES

STA 193+87.77 TO STA 201+00.00
RL STH 181
RESTORED MEDIAN

WE ENERGIES
SPECTRUM
ATT LOCAL

MATCH LINE 195+75

LEGEND

- CONCRETE PAVEMENT APPROACH SLAB
- 6 1/2" HMA PAVEMENT 4 HT 58-28 H ON 13 1/2" BASE AGGREGATE DENSE 1 1/4-INCH
- CONCRETE SIDEWALK 5-INCH
- RESTORED MEDIAN AT LOCATION OF TEMPORARY PAVEMENT USED IN STAGING (SEE EROSION CONTROL AND TYPICALS)

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PAVING DETAILS - STH 181	SHEET 17	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\021203_PD.DWG
LAYOUT NAME - 03

PLOT DATE : 10/23/2023 1:52 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

BEGIN PROJECT
STA 187+15.00

187+00

188+00

RL STH 181

SB STH 181 (N. 76TH ST)

NB STH 181 (N. 76TH ST)

D

LEGEND

- EROSION MAT URBAN CLASS I TYPE B, SEEDING MIXTURE NO. 30 & FERTILIZER TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- A B C — INLET PROTECTION TYPE
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	EROSION CONTROL & RESTORATION	SHEET 18	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 04

PLOT DATE : 10/4/2023 10:37 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

LEGEND

- EROSION MAT URBAN CLASS I TYPE B, SEEDING MIXTURE NO. 30 & FERTILIZER TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- A B C — INLET PROTECTION TYPE
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW

N

SB STH 181 (N. 76TH ST)

RL STH 181

NB STH 181 (N. 76TH ST)

190+00

191+00

192

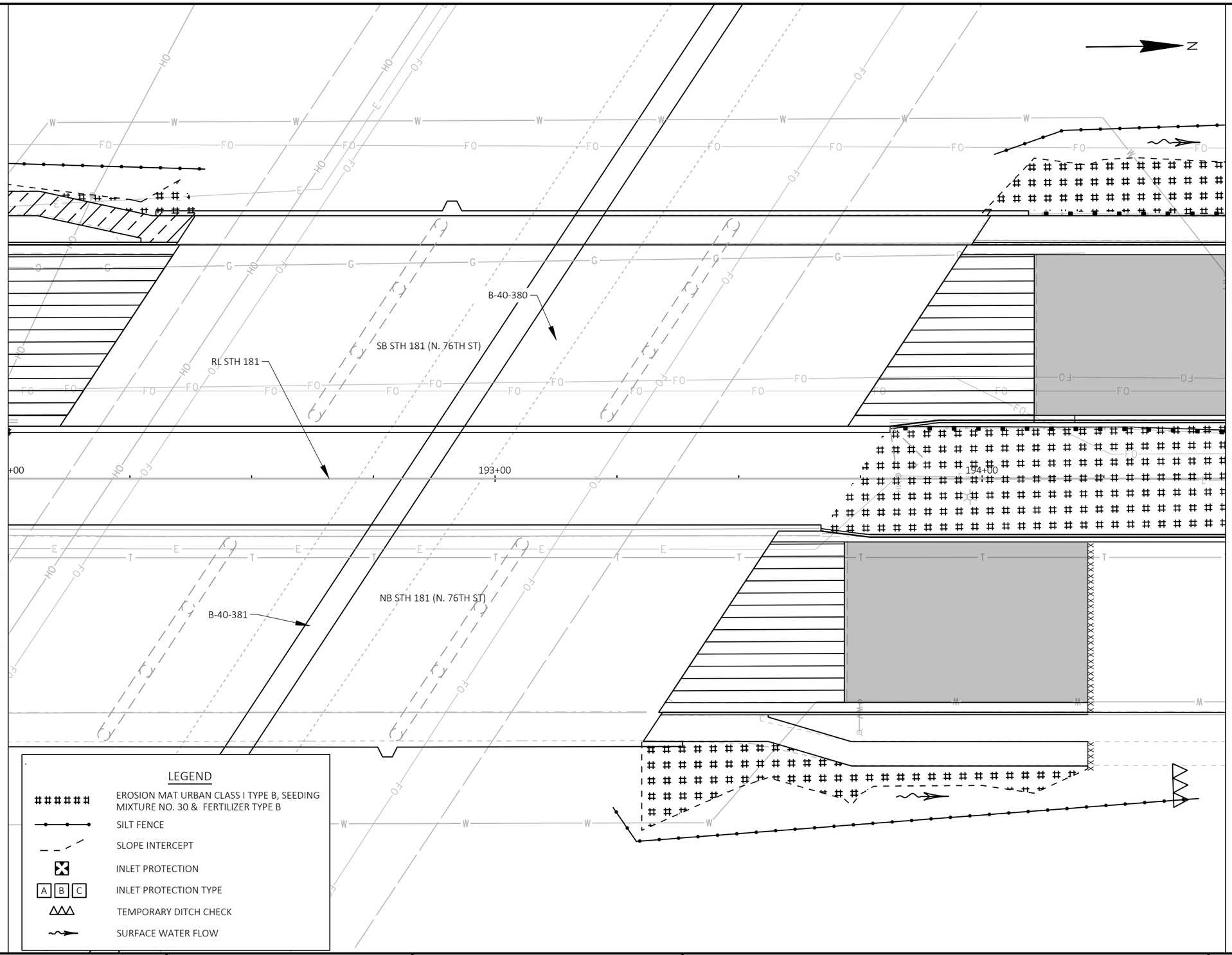
PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	EROSION CONTROL & RESTORATION	SHEET 19	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 05

PLOT DATE : 10/4/2023 10:37 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2



PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	EROSION CONTROL & RESTORATION	SHEET 20	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 06

PLOT DATE : 10/4/2023 10:37 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

N

SB STH 181 (N. 76TH ST)

RL STH 181

195+00

196+00

NB STH 181 (N. 76TH ST)

D

D

D

LEGEND

EROSION MAT URBAN CLASS I TYPE B, SEEDING MIXTURE NO. 30 & FERTILIZER TYPE B

SILT FENCE

SLOPE INTERCEPT

INLET PROTECTION

A B C INLET PROTECTION TYPE

TEMPORARY DITCH CHECK

SURFACE WATER FLOW

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	EROSION CONTROL & RESTORATION	SHEET 21	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 07

PLOT DATE : 10/4/2023 10:37 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

N

SB STH 181 (N. 76TH ST)

RL STH 181

198+00

199+00

NB STH 181 (N. 76TH ST)

LEGEND

- EROSION MAT URBAN CLASS I TYPE B, SEEDING MIXTURE NO. 30 & FERTILIZER TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- A B C — INLET PROTECTION TYPE
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	EROSION CONTROL & RESTORATION	SHEET 22	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 08

PLOT DATE : 10/4/2023 10:37 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

N

END PROJECT
STA 201+00.00

SB STH 181 (N. 76TH ST)

RL STH 181

200+00

201+00

202+00

D

NB STH 181 (N. 76TH ST)

LEGEND

- EROSION MAT URBAN CLASS I TYPE B, SEEDING MIXTURE NO. 30 & FERTILIZER TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- A B C — INLET PROTECTION TYPE
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW

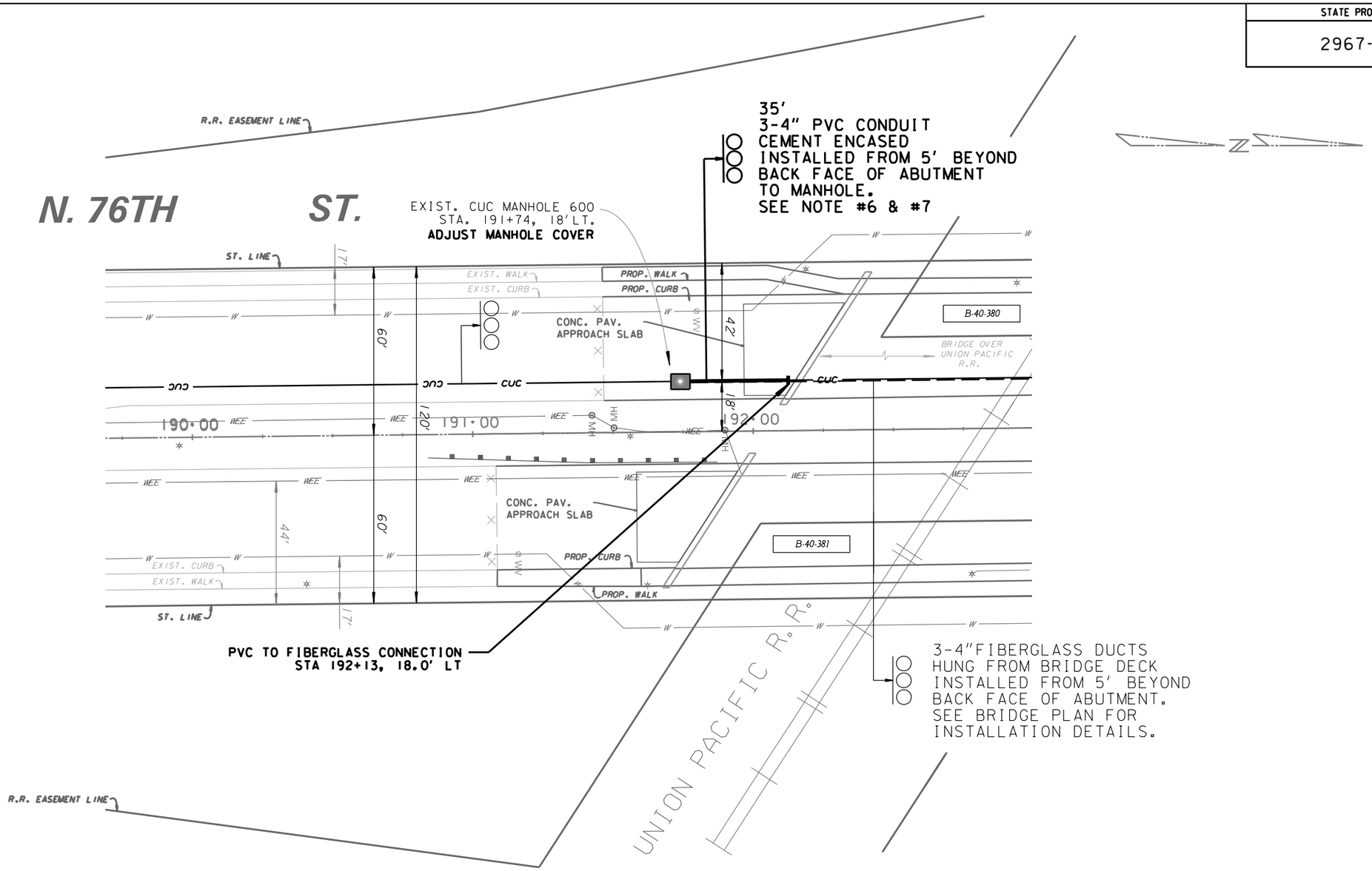
PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	EROSION CONTROL & RESTORATION	SHEET 23	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 09

PLOT DATE : 10/4/2023 10:37 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:20 FT

STATE PROJECT NUMBER
2967--17-70

2



NOTES:

1) CONSTRUCTION STAKING FOR THE CITY UNDERGROUND CONDUIT (CUC) FACILITIES IS TO BE INCLUDED IN AND PAID FOR UNDER THE BID ITEM 650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS
2) THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
3) THE LOCATION OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
4) DIMENSIONS SHOWN ARE TO CENTER OF MANHOLE, DUCT PACKAGE OR UTILITY.
5) MAINTAIN A STANDARD DEPTH OF 39-INCHES BETWEEN FINISHED GRADE AND TOP OF CONDUIT.
6) REMOVE ABANDONED CONDUIT FROM MANHOLE WALL AND INSTALL THE PROPOSED CONDUIT INTO THE MANHOLE AT THE SAME LOCATION.
7) REMOVE ABANDONED CONDUIT AS NEEDED FOR PROPOSED INSTALLATION.

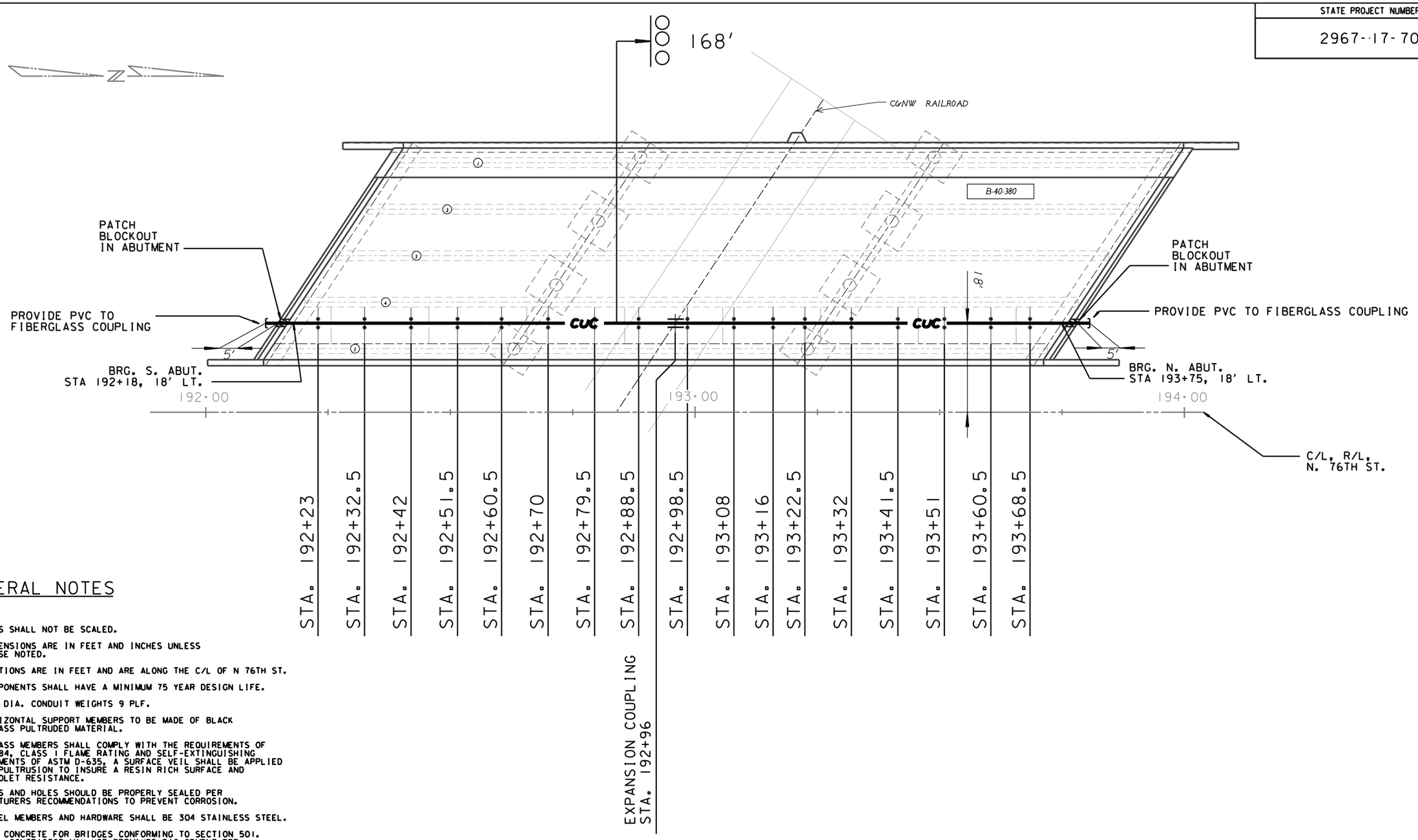
LEGEND

— CUC —	PROPOSED 4-INCH CEMENT ENCASED NONMETALLIC CONDUIT & 4-INCH BLACK FIBER GLASS CONDUIT, NUMBER OF RUNS AS NOTED.
●	PROPOSED CUC MANHOLE
⬡	EXISTING CUC MANHOLE
—— cuc ——	EXISTING CONDUIT
— — — —	ABANDONED CONDUIT

SHEET 1 OF 8

STATE PROJECT NO.: 2967-17-70	HWY: S.T.H. 181	COUNTY: MILWAUKEE	CITY UNDERGROUND CONDUIT BRIDGE APPROACH(CUC)	SCALE FEET 0' 40'	SHEET 24	E

STATE PROJECT NUMBER
2967--17-70



GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

ALL STATIONS ARE IN FEET AND ARE ALONG THE C/L OF N 76TH ST.

ALL COMPONENTS SHALL HAVE A MINIMUM 75 YEAR DESIGN LIFE.

EACH 4" DIA. CONDUIT WEIGHTS 9 PLF.

ALL HORIZONTAL SUPPORT MEMBERS TO BE MADE OF BLACK FIBERGLASS PULTRUDED MATERIAL.

FIBERGLASS MEMBERS SHALL COMPLY WITH THE REQUIREMENTS OF ASTM E-84, CLASS 1 FLAME RATING AND SELF-EXTINGUISHING REQUIREMENTS OF ASTM D-635, A SURFACE VEIL SHALL BE APPLIED DURING PULTRUSION TO INSURE A RESIN RICH SURFACE AND ULTRAVIOLET RESISTANCE.

ALL CUTS AND HOLES SHOULD BE PROPERLY SEALED PER MANUFACTURERS RECOMMENDATIONS TO PREVENT CORROSION.

ALL STEEL MEMBERS AND HARDWARE SHALL BE 304 STAINLESS STEEL.

FURNISH CONCRETE FOR BRIDGES CONFORMING TO SECTION 501. GRADE E. CONTRACTOR MAY USE PREMIXED BAG CEMENT PER ENGINEER'S APPROVAL.

SPACE HANGERS A MAXIMUM 10'-0". LOCATE CONDUIT HANGERS BETWEEN GIRDERS 4 & 5. SEE BRIDGE PLANS.

ALL FIBERGLASS JOINTS SHALL BE EPOXIED PER MANUFACTURER'S SPECIFICATIONS.

EXTEND CONDUIT 5'-0" FROM BACK FACE OF ABUTMENT. PROVIDE FIBERGLASS TO PVC COUPLING.

FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.

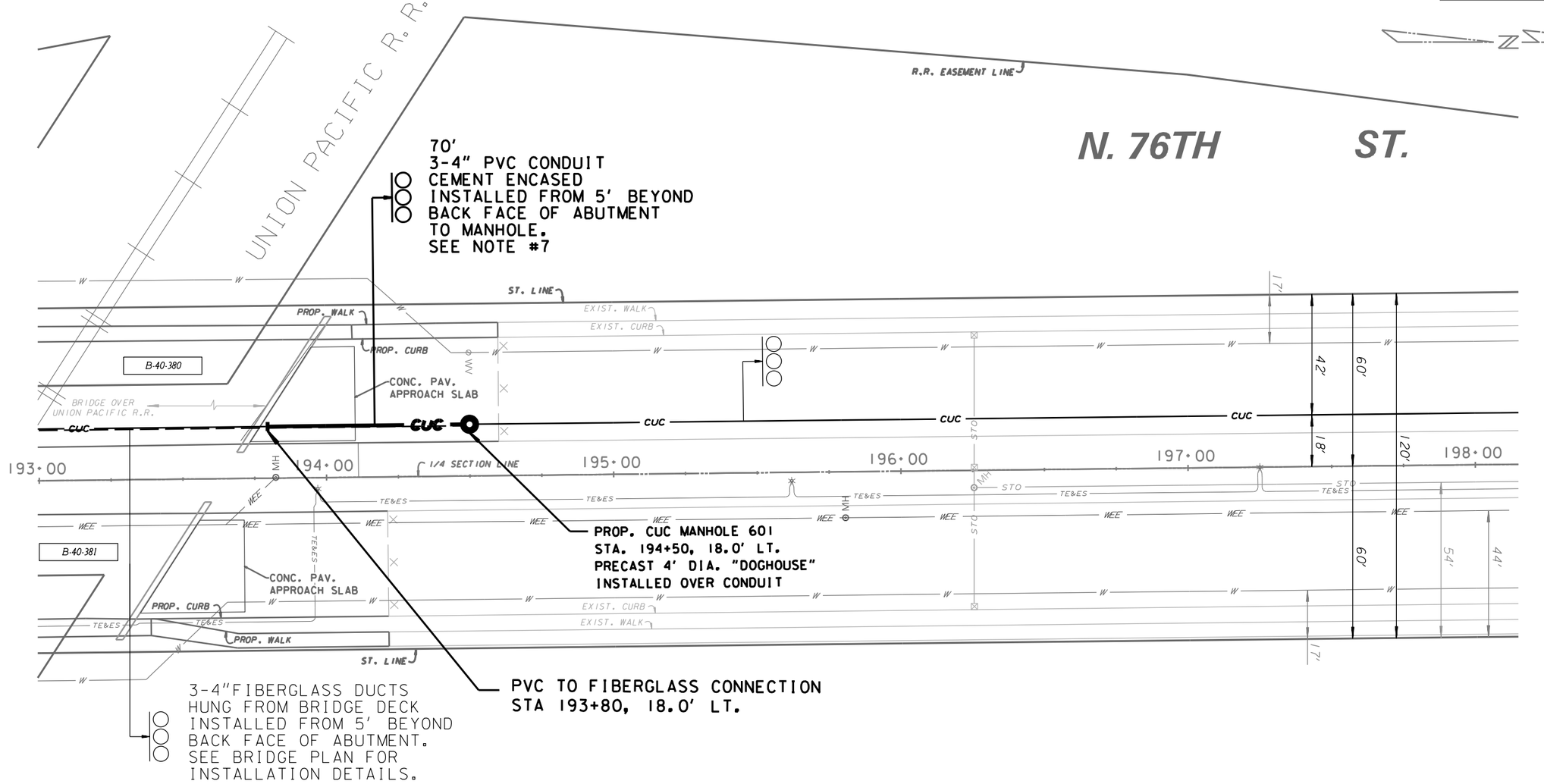
INSTALL EXPANSION JOINT PER LOCATION SHOWN ON BRIDGE PLAN.

1 - 3 DUCT CITY COMMUNICATIONS PACKAGE - 168' - 5' BEYOND ABUTMENT TO 5' BEYOND ABUTMENT

SHEET 2 OF 8

STATE PROJECT NO.: 2967-17-70	HWY: S.T.H. 181	COUNTY: MILWAUKEE	CITY UNDERGROUND CONDUIT BRIDGE INSTALLATION (CUC)	SCALE FEET NTS	SHEET 25	E

STATE PROJECT NUMBER
2967--17-70



NOTES:

1) CONSTRUCTION STAKING FOR THE CITY UNDERGROUND CONDUIT (CUC) FACILITIES IS TO BE INCLUDED IN AND PAID FOR UNDER THE BID ITEM 650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS
2) THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
3) THE LOCATION OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
4) DIMENSIONS SHOWN ARE TO CENTER OF MANHOLE, DUCT PACKAGE OR UTILITY.
5) MAINTAIN A STANDARD DEPTH OF 39-INCHES BETWEEN FINISHED GRADE AND TOP OF CONDUIT.
6) REMOVE ABANDONED CONDUIT FROM MANHOLE WALL AND INSTALL THE PROPOSED CONDUIT INTO THE MANHOLE AT THE SAME LOCATION.
7) REMOVE ABANDONED CONDUIT AS NEEDED FOR PROPOSED INSTALLATION.

LEGEND

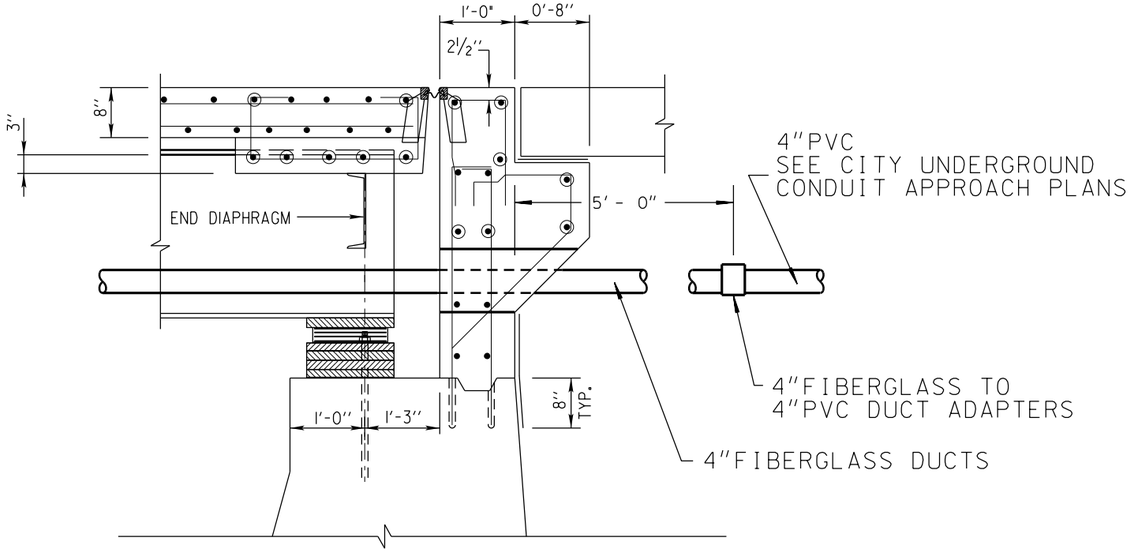
— CUC —	PROPOSED 4-INCH CEMENT ENCASED NONMETALLIC CONDUIT & 4-INCH BLACK FIBER GLASS CONDUIT, NUMBER OF RUNS AS NOTED.
●	PROPOSED CUC MANHOLE
⊙	EXISTING CUC MANHOLE
—— CUC ——	EXISTING CONDUIT
— — — —	ABANDONED CONDUIT

SHEET 3 OF 8

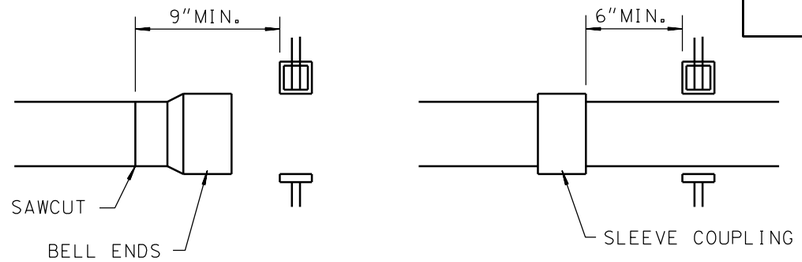
STATE PROJECT NO.: 2967-17-70	HWY: S.T.H. 181	COUNTY: MILWAUKEE	CITY UNDERGROUND CONDUIT BRIDGE APPROACH(CUC)	SCALE FEET 0' 40'	SHEET 26	E

STATE PROJECT NUMBER
2967--17-70

2

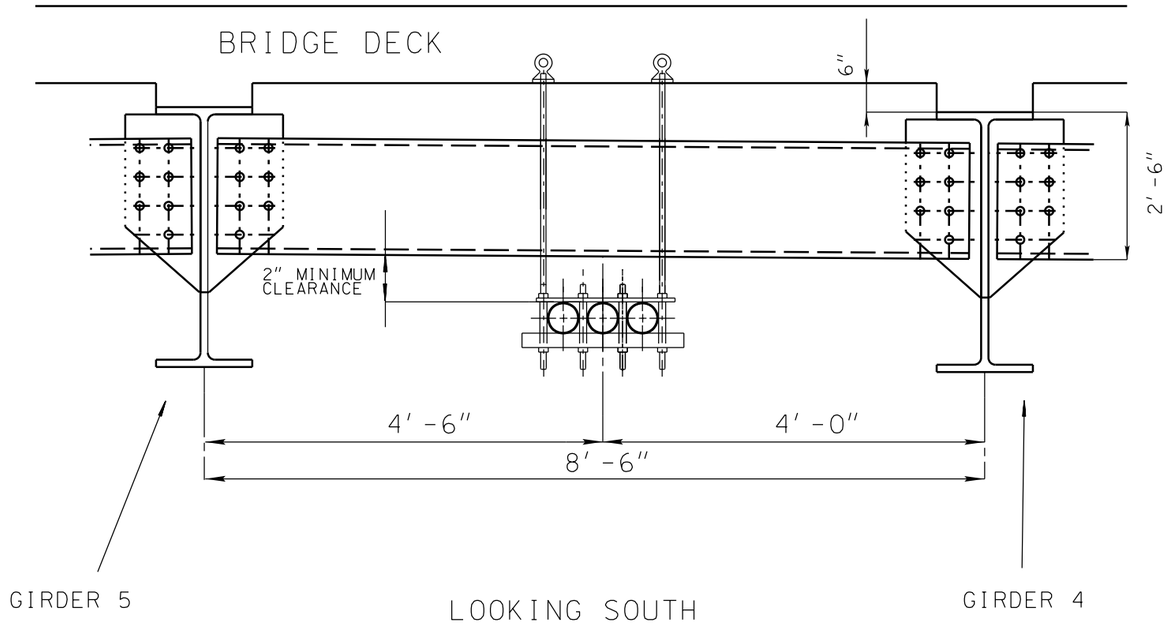


ABUTMENT DETAIL

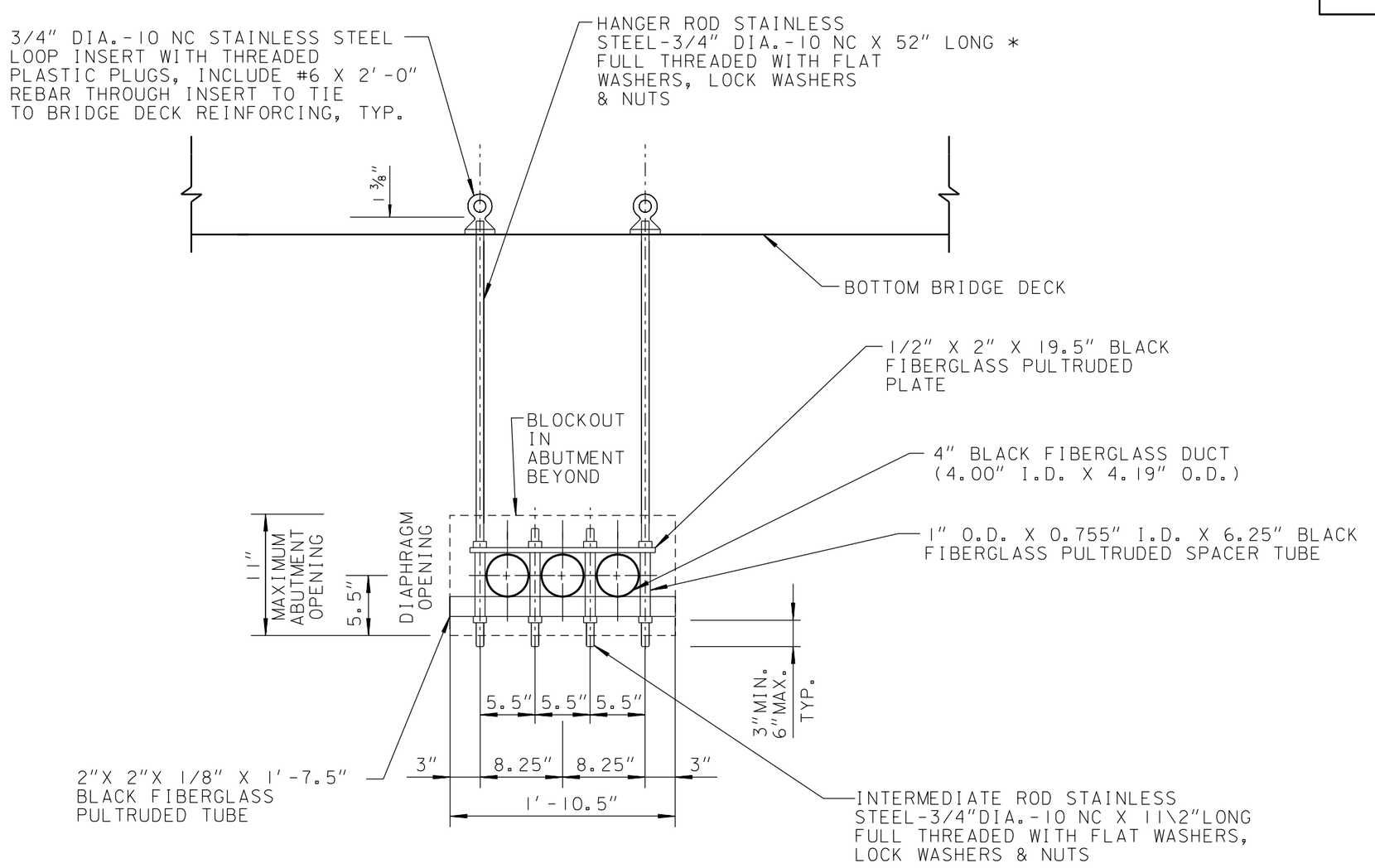


CLEARANCES FOR SLEEVE COUPLINGS AND BELL ENDS

NOTES:
A BELLED END OR COUPLING SHOULD BE NO CLOSER THAN 6" ON EITHER SIDE OF A SUPPORT AS SHOWN ABOVE. A TAPE MEASURE CAN BE USED TO PREDETERMINE THESE LOCATIONS AND THE CONDUIT CAN BE SAW CUT TO THE PROPER LENGTH BEFORE IT IS THREADED THROUGH THE HANGERS AS SHOWN ABOVE.



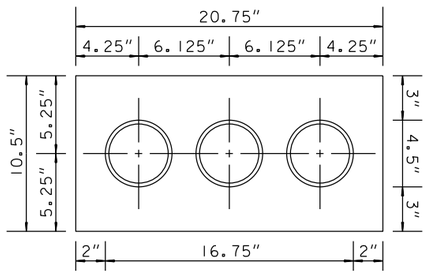
3-DUCT CITY COMMUNICATION HANGER PACKAGE THROUGH INTERMEDIATE DIAPHRAM DETAIL



TYPICAL 3 DUCT CITY COMMUNICATION HANGER PACKAGE

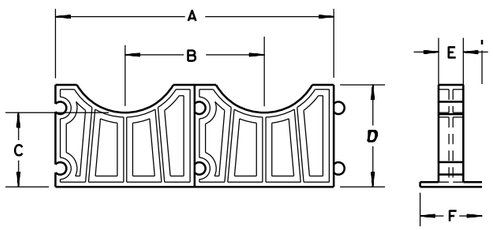
* THE CONTRACTOR SHALL FIELD VERIFY HANGER LENGTHS IN ORDER TO AVOID CONFLICTS WITH DIAPHRAM CROSSING.

2

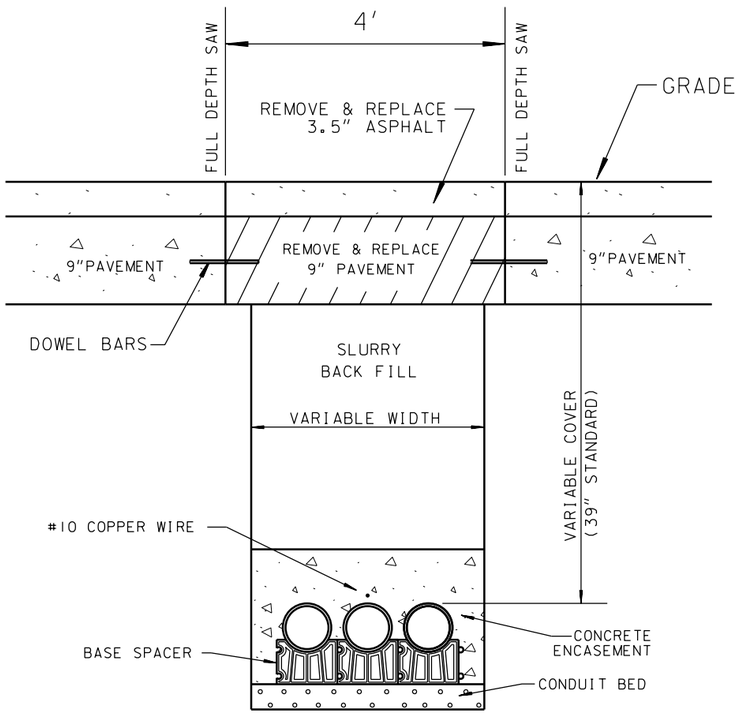


3-DUCT CROSS SECTION VIEW
N.T.S.

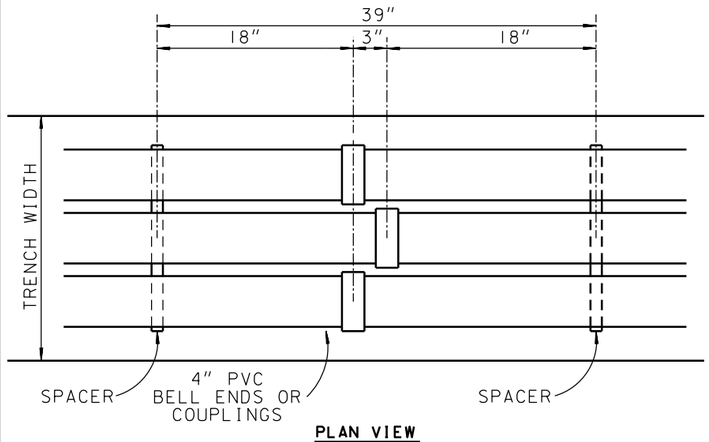
COND.	3"	4"
A	10 1/4"	12 1/4"
B	5.13"	6.13"
C	3"	3"
D	4 3/4"	5.31"
E	1"	1"
F	3"	3"



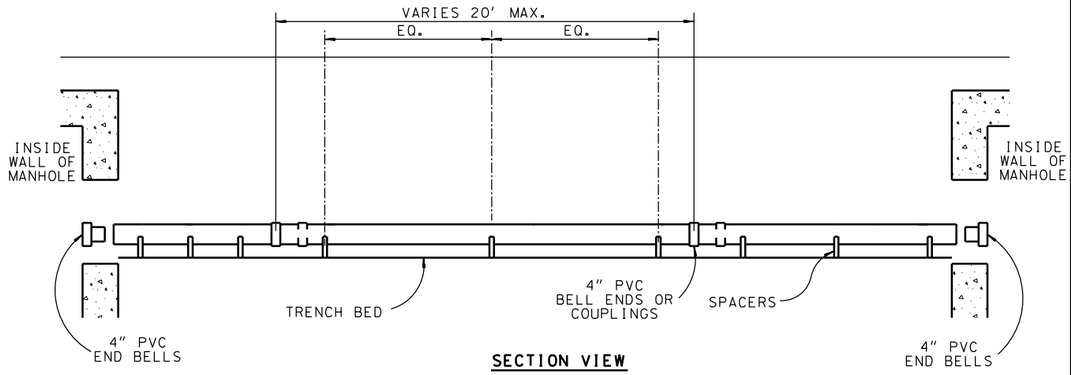
BASE SPACER DETAIL
N.T.S.



TRENCH AND 3-DUCT CROSS-SECTION VIEW
N.T.S.



PLAN VIEW
N.T.S.



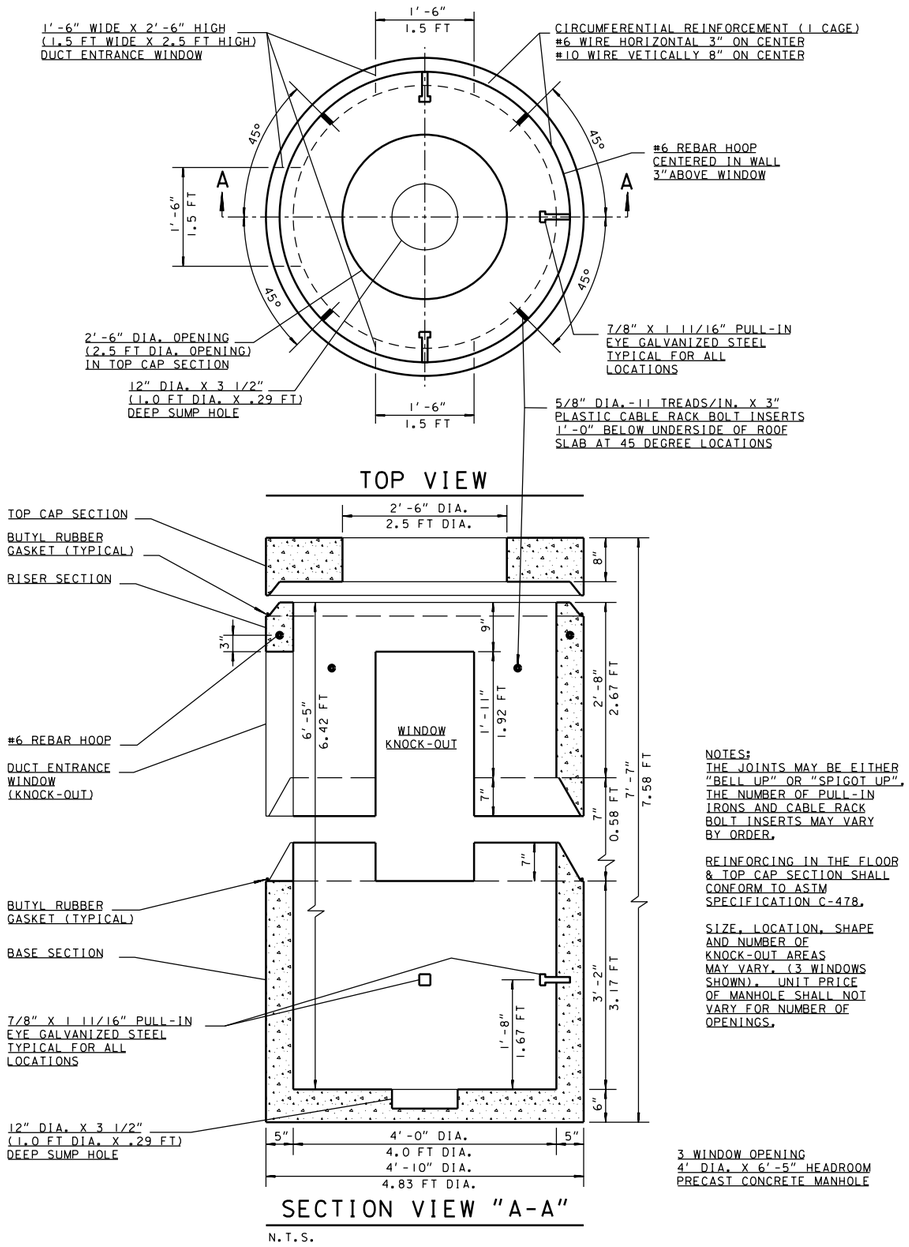
SECTION VIEW
N.T.S.

DUCT INSTALLATION DETAIL
N.T.S.

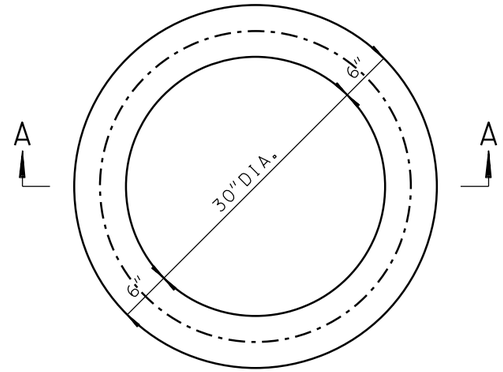
SHEET 6 OF 8

FILE NAME : W:\ugd\Conduit Work Files\uconduit\2022\n76th St Bridge N of Tower\Design\CUC Design B-40-380
PLOT DATE : 12 /07 /2022
PLOT BY : Hazem Ramadan
PLOT NAME :
PLOT SCALE : 40
WISDOT/CADDS SHEET

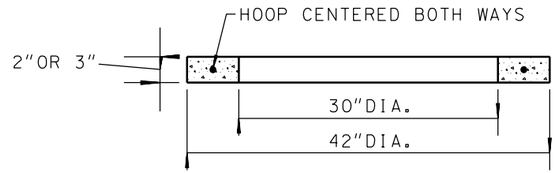
STATE PROJECT NUMBER
1360 - 17 - 70



4' DIAMETER "DOGHOUSE" TYPE CUC MANHOLE



PLAN



SECTION A-A

THE ADJUSTING RING SHALL BE 2" OR 3" IN HEIGHT.

THE CIRCUMFERENTIAL STEEL SHALL BE CENTERED WITHIN THE RING.

AREA OF CIRCUMFERENTIAL STEEL = 0.07 SQ. INCH PER VERTICAL FOOT WITH A MINIMUM OF .024 SQ. INCH IN ANY ONE RING.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE CORE SHALL BE 4000 P.S.I.

CONCRETE ADJUSTING RING

ADJUSTING CUC MANHOLES

N.T.S.

FILE NAME : W:\ugd\Conduit Work Files\uconduit\2021\76TH STREET BRIDGE\Design\CO-B-40-255_LAYOUT_1
PLOT DATE : 12 /07 /2022
PLOT BY : Hazem Ramadan
PLOT NAME :
PLOT SCALE : 40
WISDOT/CADDS SHEET

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
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

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	COUNTIES	PHONE #
JENNY BUCKETT	MILWAUKEE, KENOSHA, WASHINGTON, OZAUKEE	414-750-2427
CHUCK SALDIVAR	RACINE, 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.

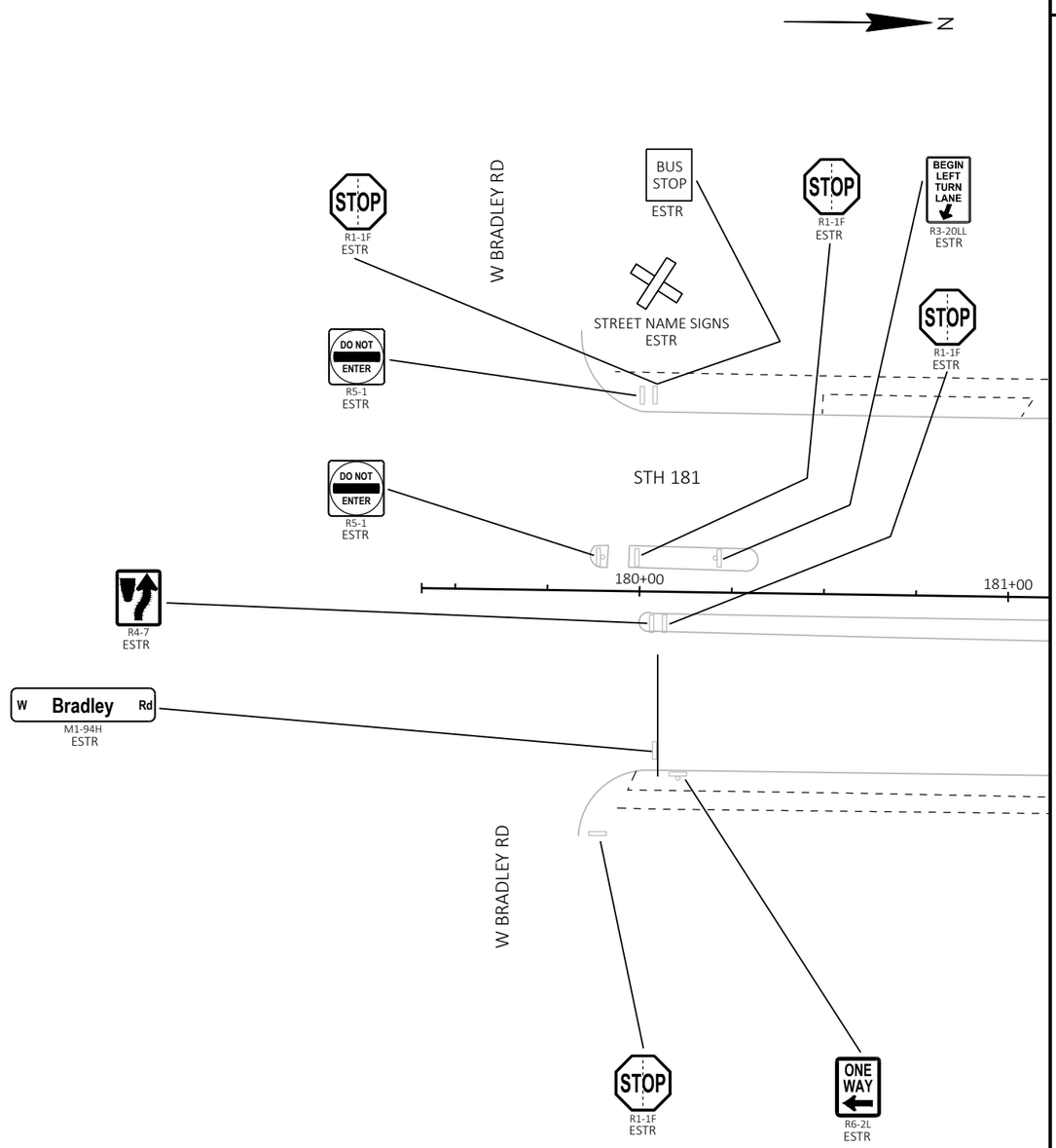
WHEN AN EXISTING STOP SIGN SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED, THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD 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.

BOX OUT OR CORING OF CONCRETE SIGN POSTS IS INCIDENTAL TO THE POST



SHEET 1 OF 6

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PERMANENT SIGNING PLAN	SHEET 31	E

FILE NAME : N:\PDS\C3D\CAD\29671700\SIGN\71\023201_PS_20.DWG
LAYOUT NAME - 023201_PS

PLOT DATE : 7/12/2022 11:25 AM PLOT BY : ASHENFELTER, DANIEL PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

N

181+00 182+00 183+00 184+00 185+00 186+00 187+00

STH 181

STH 181

W TOWER AVE

R7-1D ESTR

R3-55L ESTR

R1-1F ESTR

R6-2L ESTR

M1-94H ESTR

R1-1F ESTR

STREET NAME SIGNS ESTR

BUS STOP CITY SIGN MOVE BY CITY

R1-1F REMOVE

R1-1F (2M)

4

SPEED LIMIT 40 R2-1 ESTR

SPEED LIMIT 40 R2-1 ESTR

R7-1D ESTR

R3-55L ESTR

R4-7 ESTR

BUS STOP CITY SIGN ESTR

R1-1F ESTR

R1-1F REMOVE

R1-1F (2M)

3

M1-94H ESTR

DO NOT ENTER REMOVE

1 DO NOT ENTER R5-1 (2M)

STREET NAME SIGNS ESTR

ONE WAY REMOVE

2 ONE WAY R6-2L (2M)

SHEET 2 OF 6

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PERMANENT SIGNING PLAN	SHEET 32	E

FILE NAME : N:\PDS\C3D\CAD\29671700\SIGN\71\023201_PS_20.DWG
LAYOUT NAME - 023202_PS

PLOT DATE : 7/12/2022 11:25 AM PLOT BY : ASHENFELTER, DANIEL PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

CANTILEVER SIGN BRIDGE

XXX DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN

W TOWER AVE

N

8 LEFT TURN LANE REMOVE

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

NO PARKING ANY TIME R7-1D ESTR

10 LEFT TURN LANE REMOVE

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

REMOVE REMOVE

12 W3-3 (2M)

13 W3-3 (2M)

NO PARKING ANY TIME REMOVE

15 NO PARKING ANY TIME R7-1D (2M)

STH 181

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

STH 181

CNW RR

5 REMOVE R4-7 (2M)

6 STOP REMOVE STOP R1-1F (2M)

SPEED LIMIT 40 R2-1 ESTR

7 SPEED LIMIT 40 REMOVE SPEED LIMIT 40 R2-1 (2M)

NO PARKING ANY TIME REMOVE 14 NO PARKING ANY TIME R7-1D (2M)

SHEET 3 OF 6

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PERMANENT SIGNING PLAN	SHEET 33	E

FILE NAME : N:\PDS\C3D\CAD\29671700\SIGN\71\023201_PS_20.DWG
LAYOUT NAME - 023203_PS

PLOT DATE : 7/12/2022 11:25 AM PLOT BY : ASHENFELTER, DANIEL PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

CANTILEVER SIGN BRIDGE

XXX DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN

N

CNW RR

STH 181

NO PARKING ANY TIME

REMOVE

16

NO PARKING ANY TIME

R7-1D (2M)

2+00 193+00 194+00 195+00 196+00 197+00 198+00

STH 181

67 STRAIGHT AHEAD

CITY OWNED SIGN MOVE BY CITY

NO PARKING ANY TIME

REMOVE

17

NO PARKING ANY TIME

R7-1D (2M)

SHEET 4 OF 6

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PERMANENT SIGNING PLAN	SHEET 34	E

FILE NAME : N:\PDS\C3D\CAD\29671700\SIGN\71\023201_PS_20.DWG
LAYOUT NAME - 023204_PS

PLOT DATE : 7/12/2022 11:25 AM PLOT BY : ASHENFELTER, DANIEL PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

CANTILEVER SIGN BRIDGE

(XXX) DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN

N

NO PARKING ANY TIME
R7-1D
ESTR

BEGIN LEFT TURN LANE
R3-20L
ESTR

R3-2
ESTR

STH 181

198+00

199+00

200+00

201+00

202+00

203+00

204+00

STH 181

SPEED LIMIT 40
REMOVE

18

SPEED LIMIT 40
R2-1
(2M)

SPEED LIMIT 40
R2-1
ESTR

W3-3
ESTR

REMOVE

19

W3-3
(2M)

SPEED LIMIT 40
R2-1
ESTR

SPEED LIMIT 40
R2-1
ESTR

SHEET 5 OF 6

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PERMANENT SIGNING PLAN	SHEET 35	E

FILE NAME : N:\PDS\C3D\CAD\29671700\SIGN\71\023201_PS_20.DWG
LAYOUT NAME - 023205_PS

PLOT DATE : 7/12/2022 11:25 AM PLOT BY : ASHENFELTER, DANIEL PLOT NAME : PLOT SCALE : 1 IN:40 FT

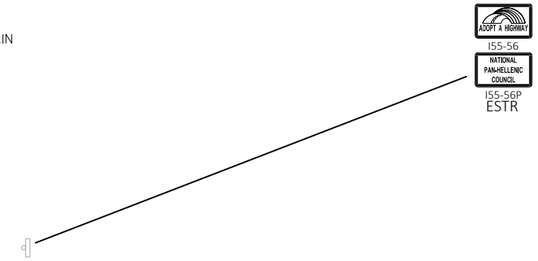
WISDOT/CADDS SHEET 42

2

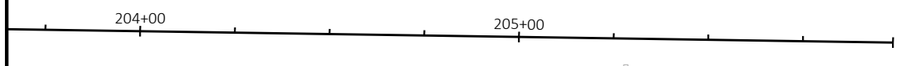
LEGEND

- 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
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

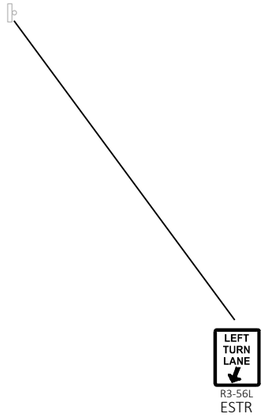
N



STH 181



STH 181



SHEET 6 OF 6

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PERMANENT SIGNING PLAN	SHEET 36	E

FILE NAME : N:\PDS\C3D\CAD\29671700\SIGN\71\023201_PS_20.DWG
LAYOUT NAME - 023206_PS

PLOT DATE : 7/12/2022 11:25 AM PLOT BY : ASHENFELTER, DANIEL PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

#7619
A26-6,2LED3,PED,B

3#6/1#8LTP, CIR.T23NW-A
CABLE IN SERVICE

3#6/1#8LTP, CIR.T23NW-A
CABLE NOT IN SERVICE

3#2/1#8LTP, CIR.T23NW-A
CABLE IN SERVICE

W. TOWER AVE.

3#6AL CIR.T23NW-A
CABLE NOT IN SERVICE

44-0
3"

2.5"PVC CONDUIT
TO REMAIN & WIL BE RE-USED

2.5"PVC

WISDOT
LIGHT POLE

3#6/1#8LTP, CIR.T23NW-A
CABLE NOT IN SERVICE

#8150
654.0105 CONCRETE BASES TYPE 5 (WISDOT) STA.188+30.6; 7.3'RT
657.0255 TRANSFORMER BASE BREAKAWAY WITH 11 1/2-INCH BOLT CIRCLE
SPV.0060.321 POLES TYPE 30-AL-BD
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED

SPV.0090.322
ELECTRICAL CABLE IN DUCT TYPE 4#6/1#8 XLPE
LEAVE 3 FT. COIL IN PULL BOX

EXISTING 3 FT. COIL IN PULL BOX
LEFT BY CITY OF MILW.

EXISTING 2.5"PVC CONDUIT
TO REMAIN & BE RE-USED

SPV.0090.322
ELECTRICAL CABLE IN DUCT TYPE 4#6/1#8 XLPE
CIR.T23NW-A

652.0230
CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 1/2-INCH
EXTEND CONDUIT CROSSING TO CONNECT / STUB UP INTO
PULL BOX

SPV.0090.321
ELECTRICAL CABLE IN DUCT TYPE 4#8/1#8 XLPE

652.0235
CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH
CONNECTING PULL BOX TO CONCRETE LIGHT BASE

#8150
654.0105 CONCRETE BASES TYPE 5 (WISDOT) STA.189+95.2'; T/L
657.0255 TRANSFORMER BASE BREAKAWAY WITH 11 1/2-INCH BOLT CIRCLE
SPV.0060.321 POLES TYPE 30-AL-BD
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED

SPV.0090.321
ELECTRICAL CABLE IN DUCT TYPE 4#6/1#8 XLPE
CIR.T23NW-A

N. 76th ST.

185+00 186+00 187+00 188+00 189+00 190+00 191+00

WISDOT LIGHT POLE

WISDOT LIGHT POLE

652.0615
CONDUIT SPECIAL 3-INCH

655.0305
CABLE TYPE UF 2-12 AWG GROUNDED INSTALLED IN CONDUIT

SPV.0060.302
PULL BOXES 13-INCH x 24-INCH x 24-INCH
STA.188+60.4'; 2.8'RT
SPV.0060.343
WATER TIGHT SPLICES AND CONNECTIONS
IN PULL BOX
112 | 142 | 145

WHEN PULLING CONDUCTORS THROUGH PULL
BOX LEAVE 3' SLACK COIL FOR EACH
CIRCUIT CONDUCTOR RUN

652.0615
CONDUIT SPECIAL 3-INCH
100

SPV.0060.302
PULL BOXES 13-INCH x 24-INCH x 24-INCH
STA.189+95.2'; 49.9'RT
SPV.0060.343
WATER TIGHT SPLICES AND CONNECTIONS
IN PULL BOX
112 | 142 | 145

652.0615
CONDUIT SPECIAL 3-INCH
ANGLE POINT STA.190+17.8'; 2.7'RT OF T/L

652.0615
CONDUIT SPECIAL 3-INCH
2.7'RT OF T/L

SPV.0090.321
ELECTRICAL CABLE IN DUCT TYPE 4#8/1#8 XLPE
CIR.T23NW-A

LEGEND

- EXISTING CITY OF MILW. POLE WITH LIGHT
- EXISTING WISDOT POLE WITH LIGHT
- PROPOSED LIGHT POLE WITH BRACKET ARM AND LUMINAIRE. INSTALLED BY CONTRACTOR (SEE NOTE)
- PROPOSED TRANSFORMER BREAK AWAY BASE INSTALLED BY CONTRACTOR (SEE NOTE)
- PROPOSED CONCRETE LIGHT POLE BASE INSTALLED BY CONTRACTOR (SEE NOTE)
- EXISTING PULL BOX - (SEE NOTE)
- PROPOSED PULL BOX INSTALLED BY CONTRACTOR (SEE NOTE)
- PR. MULTI-PORT CONDUCTOR WATERPROOF SUBMERSIBLE SPLICE (IN PULL BOX)
- ELECTRICAL JUNCTION BOX - INSTALLED BY BRIDGE CONTRACTOR (CHECK BRIDGE PLAN FOR SIZE)
- EXISTING UNDERGROUND SECONDARY CABLE - (SEE NOTE)
- EXISTING UNDERGROUND CONDUIT - (SEE NOTE)
- PROPOSED UNDERGROUND SECONDARY CABLE INSTALLED BY CONTRACTOR IN CONDUIT - (SEE NOTE)
- PROPOSED PVC CONDUIT - INSTALLED BY CONTRACTOR (SCHEDULE & SIZE NOTED ON PLAN)
- PROPOSED PVC CONDUIT - INSTALL BY BRIDGE CONTRACTOR (CHECK BRIDGE PLAN FOR SIZE)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- (R) (B) - RED HOT WIRE / BLACK HOT WIRE - STREET LIGHT TERMINATION

SCALE, FEET 0 40

SHEET 1OF 3

PROJECT NO. 2967-17-70	STH 181, STH 175	COUNTY: MILWAUKEE	STREET LIGHTING - PERM. SL FACILITIES BY CONTRACTOR	SHEET 37	E

2

N

SPV.0090.321
ELECTRICAL CABLE IN DUCT TYPE 4#8/1#8 XLPE
CIR.T23NW-A

112
SPV.0060.302.
PULL BOXES 13-INCH x 24-INCH x 24-INCH
STA.191+41.3'; 2.7'RT

142 | 145
SPV.0060.343
WATER TIGHT SPLICES AND CONNECTIONS
IN PULL BOX

652.0235
CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH

#8174
654.0105 CONCRETE BASES TYPE 5 (WISDOT) STA.191+56.3'; T/L
657.0255 TRANSFORMER BASE BREAKAWAY WITH 11 1/2-INCH BOLT CIRCLE
SPV.0060.321 POLES TYPE 30-AL-BD
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED

SPV.0060.302.
PULL BOXES 13-INCH x 24-INCH x 24-INCH
STA.191+68.7'; 51'LT

112

652.0225
CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH

100

655.0305
CABLE TYPE UF 2-12 AWG GROUNDED INSTALLED IN CONDUIT
CIR.T23NW-A

CONNECT WITH BRIDGE CONDUIT

652.0225
CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH
INSTALLED BY BRIDGE CONTRACTOR

#8201
-657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE
SPV.0060.321 POLES TYPE 30-AL-BD
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED

UNION PACIFIC RAILROAD

652.0225
CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH
INSTALLED BY BRIDGE CONTRACTOR

#8216
654.0105 CONCRETE BASES TYPE 5 (WISDOT) STA.193+97'; T/L
657.0255 TRANSFORMER BASE BREAKAWAY WITH 11 1/2-INCH BOLT CIRCLE
SPV.0060.321 POLES TYPE 30-AL-BD
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED

CONNECT WITH BRIDGE GONDUIT

652.0225
CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH

112

SPV.0060.302.
PULL BOXES
13-INCH x 24-INCH x 24-INCH
STA.194+22.1'; 1'E

SPV.0060.302.
PULL BOXES 13-INCH x 24-INCH x 24-INCH
STA.194+21.7'; 51'LT

142 | 145
SPV.0060.343
WATER TIGHT SPLICES AND CONNECTIONS
IN PULL BOX

SPV.0090.321
ELECTRICAL CABLE IN DUCT TYPE 4#8/1#8 XLPE
CIR.T37NW-D

#8238
654.0105 CONCRETE BASES TYPE 5 (WISDOT) STA.195+62.6'; T/L
657.0255 TRANSFORMER BASE BREAKAWAY WITH 11 1/2-INCH BOLT CIRCLE
SPV.0060.321 POLES TYPE 30-AL-BD
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED

652.0235
CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH
CONNECTING PULL BOX TO CONCRETE LIGHT BASE

SPV.0090.321
ELECTRICAL CABLE IN DUCT TYPE 4#8/1#8 XLPE
CIR.T37NW-D

BRIDGE LIGHT BLISTER

WHEN PULLING CONDUCTORS THROUGH PULL BOX LEAVE 3' SLACK COIL FOR EACH CIRCUIT CONDUCTOR RUN

652.0235
CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH

BRIDGE JUNCTION BOX
INSTALLED BY BRIDGE CONTRACTOR

652.0235
CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH

N. 76th ST.

191+00

192+00

SPV.0060.302.
PULL BOXES
13-INCH x 24-INCH x 24-INCH
STA.191+70'; 6.75'LT

112

193+00

194+00

195+00

196+00

652.0235
CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH
90 DEGREE ELBOW 4' MINIMUM RADIUS
ANGLE POINT STA.191+67.8'; 2.5' RT OF T/L

652.0235
CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH

652.0615
CONDUIT SPECIAL 3-INCH
45 DEGREE ELBOW 4' MINIMUM RADIUS
ANGLE POINT STA.194+30"; 9.5' RT OF T/L

BRIDGE LIGHT BLISTER

BRIDGE JUNCTION BOX
INSTALLED BY BRIDGE CONTRACTOR

WHEN PULLING CONDUCTORS THROUGH PULL BOX LEAVE 3' SLACK COIL FOR EACH CIRCUIT CONDUCTOR RUN

652.0615
CONDUIT SPECIAL 3-INCH
2.7' RT OF T/L

WHEN PULLING CONDUCTORS THROUGH PULL BOX LEAVE 3' SLACK COIL FOR EACH CIRCUIT CONDUCTOR RUN

SPV.0060.302.
PULL BOXES 13-INCH x 24-INCH x 24-INCH
STA.191.41.3'; 50.7'RT

112

652.0225
CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH

100

CONNECT WITH BRIDGE CONDUIT

652.0225
CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH
INSTALLED BY BRIDGE CONTRACTOR

652.0235
CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH

UNION PACIFIC RAILROAD

#8188
-657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE
SPV.0060.321 POLES TYPE 30-AL-BD
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED

652.0225
CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH
INSTALLED BY BRIDGE CONTRACTOR

CONNECT WITH BRIDGE CONDUIT

655.0305
CABLE TYPE UF 2-12 AWG GROUNDED INSTALLED IN CONDUIT
CIR.T37NW-D

652.0225
CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH

100

SPV.0060.302.
PULL BOXES 13-INCH x 24-INCH x 24-INCH
STA.194+16.7'; 51'RT

112

WHEN PULLING CONDUCTORS THROUGH PULL BOX LEAVE 3' SLACK COIL FOR EACH CIRCUIT CONDUCTOR RUN

100
652.0615
CONDUIT SPECIAL 3-INCH

112
SPV.0060.302.
PULL BOXES
13-INCH x 24-INCH x 24-INCH
STA.195+62.6'; 9'RT

SPV.0060.343
WATER TIGHT SPLICES AND CONNECTIONS
IN PULL BOX

142 | 145

WHEN PULLING CONDUCTORS THROUGH PULL BOX LEAVE 3' SLACK COIL FOR EACH CIRCUIT CONDUCTOR RUN

652.0615
CONDUIT SPECIAL 3-INCH

100

SCALE, FEET 0 40

LEGEND

- EXISTING CITY OF MILW. POLE WITH LIGHT
- EXISTING WISDOT POLE WITH LIGHT
- PROPOSED LIGHT POLE WITH BRACKET ARM AND LUMINAIRE. INSTALLED BY CONTRACTOR (SEE NOTE)
- PROPOSED TRANSFORMER BREAK AWAY BASE INSTALLED BY CONTRACTOR (SEE NOTE)
- PROPOSED CONCRETE LIGHT POLE BASE INSTALLED BY CONTRACTOR (SEE NOTE)
- EXISTING PULL BOX - (SEE NOTE)
- PROPOSED PULL BOX INSTALLED BY CONTRACTOR (SEE NOTE)
- PR. MULTI-PORT CONDUCTOR WATERPROOF SUBMERSIBLE SPLICE (IN PULL BOX)
- ELECTRICAL JUNCTION BOX - INSTALLED BY BRIDGE CONTRACTOR (CHECK BRIDGE PLAN FOR SIZE)
- EXISTING UNDERGROUND SECONDARY CABLE - (SEE NOTE)
- EXISTING UNDERGROUND CONDUIT - (SEE NOTE)
- PROPOSED UNDERGROUND SECONDARY CABLE INSTALLED BY CONTRACTOR IN CONDUIT - (SEE NOTE)
- PROPOSED PVC CONDUIT - INSTALLED BY CONTRACTOR (SCHEDULE & SIZE NOTED ON PLAN)
- PROPOSED PVC CONDUIT - INSTALL BY BRIDGE CONTRACTOR (CHECK BRIDGE PLAN FOR SIZE)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- (R) (B) - RED HOT WIRE / BLACK HOT WIRE - STREET LIGHT TERMINATION

SHEET 2 OF 3

PROJECT NO. 2967-17-70	STH 181, STH 175	COUNTY: MILWAUKEE	STREET LIGHTING - PERM. SL FACILITIES BY CONTRACTOR	SHEET 38	E

2

N

SPV.0090.321
ELECTRICAL CABLE IN DUCT TYPE 4#8/1#8 XLPE
CIR.T37NW-D

#8260
654.0105 CONCRETE BASES TYPE 5 (WISDOT) STA.197+31.2'; T/L
657.0255 TRANSFORMER BASE BREAKAWAY WITH 11 1/2-INCH BOLT CIRC.SPV.0060.321
SPV.0060.321 POLES TYPE 30-AL-BD
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED

652.0235
CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH
CONNECTING PULL BOX TO CONCRETE LIGHT BASE

SPV.0090.322
ELECTRICAL CABLE IN DUCT TYPE 4#6/1#8 XLPE
CIR.T37NW-D

652.0235
CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH
CONNECTING PULL BOX TO CONCRETE LIGHT BASE

#8280
654.0105 CONCRETE BASES TYPE 5 (WISDOT) STA.198+98.8'; T/L
657.0255 TRANSFORMER BASE BREAKAWAY WITH 11 1/2-INCH BOLT CIRCLE
SPV.0060.321 POLES TYPE 30-AL-BD
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED

SPV.0090.322
ELECTRICAL CABLE IN DUCT TYPE 4#6/1#8 XLPE
CIR.T37NW-D

WHEN PULLING CONDUCTORS THROUGH PULL
BOX LEAVE 3' SLACK COIL FOR EACH
CIRCUIT CONDUCTOR RUN

652.0235
CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH
CONNECTING PULL BOX TO CONCRETE LIGHT BASE

#8314
654.0105 CONCRETE BASES TYPE 5 (WISDOT) STA.200+63.4'; T/L
657.0255 TRANSFORMER BASE BREAKAWAY WITH 11 1/2-INCH BOLT CIRCLE
SPV.0060.321 POLES TYPE 30-AL-BD
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.345 LUMINAIRE ARMS SINGLE MEMBER 6FT. - SPECIAL
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED
SPV.0060.371 INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED

CONNECT WITH EXISTING CONDUIT

EXISTING 2.5" PVC CONDUIT TO BE REUSED

SPV.0090.322
ELECTRICAL CABLE IN DUCT TYPE 4#6/1#8 XLPE
CIR.T37NW-D

SPV.0090.322
ELECTRICAL CABLE TYPE 4#6/1#8 XLPE
LEAVE 10 FT. COIL IN PULL BOX

#8336
31FT.D6',AL.,2-3LED2,PED

EXISTING
PEDESTAL

197+00 198+00 199+00 200+00 201+00 202+00

160-0
2.5"PVC

2.5"PVC

N. 76th ST.

652.0615
CONDUIT SPECIAL 3-INCH
100

SPV.0060.302
PULL BOXES 13-INCH x 24-INCH x 24-INCH
STA.197+31.2'; 9RT
SPV.0060.343
WATER TIGHT SPLICES AND CONNECTIONS
IN PULL BOX
112 142 145

WHEN PULLING CONDUCTORS THROUGH PULL
BOX LEAVE 3' SLACK COIL FOR EACH
CIRCUIT CONDUCTOR RUN

652.0615
CONDUIT SPECIAL 3-INCH
100

SPV.0060.302
PULL BOXES 13-INCH x 24-INCH x 24-INCH
STA.198+98.8'; 9RT
SPV.0060.343
WATER TIGHT SPLICES AND CONNECTIONS
IN PULL BOX
112 142 145

WHEN PULLING CONDUCTORS THROUGH PULL
BOX LEAVE 3' SLACK COIL FOR EACH
CIRCUIT CONDUCTOR RUN

652.0615
CONDUIT SPECIAL 3-INCH
100

SPV.0060.302
PULL BOXES 13-INCH x 24-INCH x 24-INCH
STA.200+63.4'; 3RT
SPV.0060.343
WATER TIGHT SPLICES AND CONNECTIONS
IN PULL BOX
112 142 145

652.0230
CONDUIT RIGID NONMETALLIC
SCHEDULE 40 2 1/2-INCH
100

3#6/1#8LTP,
CIR.T37NW-D
CONDUIT &
CABLE IN SERVICE

SCALE, FEET 0 40

LEGEND

- EXISTING CITY OF MILW. POLE WITH LIGHT
- EXISTING WISDOT POLE WITH LIGHT
- PROPOSED LIGHT POLE WITH BRACKET ARM AND LUMINAIRE. INSTALLED BY CONTRACTOR (SEE NOTE)
- PROPOSED TRANSFORMER BREAK AWAY BASE INSTALLED BY CONTRACTOR (SEE NOTE)
- PROPOSED CONCRETE LIGHT POLE BASE INSTALLED BY CONTRACTOR (SEE NOTE)
- EXISTING PULL BOX - (SEE NOTE)
- PROPOSED PULL BOX INSTALLED BY CONTRACTOR (SEE NOTE)
- PR. MULTI-PORT CONDUCTOR WATERPROOF SUBMERSIBLE SPLICE (IN PULL BOX)
- ELECTRICAL JUNCTION BOX - INSTALLED BY BRIDGE CONTRACTOR (CHECK BRIDGE PLAN FOR SIZE)
- EXISTING UNDERGROUND SECONDARY CABLE - (SEE NOTE)
- EXISTING UNDERGROUND CONDUIT - (SEE NOTE)
- PROPOSED UNDERGROUND SECONDARY CABLE INSTALLED BY CONTRACTOR IN CONDUIT - (SEE NOTE)
- PROPOSED PVC CONDUIT - INSTALLED BY CONTRACTOR (SCHEDULE & SIZE NOTED ON PLAN)
- PROPOSED PVC CONDUIT - INSTALL BY BRIDGE CONTRACTOR (CHECK BRIDGE PLAN FOR SIZE)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- (R) (B) - RED HOT WIRE / BLACK HOT WIRE - STREET LIGHT TERMINATION

SHEET 3 OF 3

PROJECT NO. 2967-17-70	STH 181, STH 175	COUNTY: MILWAUKEE	STREET LIGHTING - PERM. SL FACILITIES BY CONTRACTOR	SHEET 39	E

STREET LIGHTING GENERAL NOTES:

PRIOR TO CONSTRUCTION, THE LOCATION OF UNDERGROUND UTILITIES SHALL BE DETERMINED IN THE FIELD BY CONTACTING "DIGGERS HOTLINE."

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 THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

STREET LIGHTING SHALL BE INSTALLED IN COMPLIANCE WITH WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTIONS 652 TO 657 AND 659 EXCEPT:

ALL CHANGES OR ANY DEVIATIONS FROM PLANS MUST BE APPROVED BY STREET LIGHTING ENGINEERING.

1 DETAILS OF CONSTRUCTION MATERIALS AND WORKMANSHIP NOT SHOWN ON THESE DRAWINGS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

2 THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INCLUDING REPAIRS, REPLACEMENT OR RELOCATION ETC. OF STREET LIGHTING FACILITIES IF THE CONTRACTOR DOES ANY DEVIATION FROM THE STREET LIGHTING DESIGN WITHOUT THE STREET LIGHTING ENGINEERS SIGNED APPROVAL.

3 LOCATIONS OF THE HDPE AND NONMETALLIC PVC CONDUITS ARE IDENTIFIED IN THE PLANS WHERE THEY ARE REQUIRED. HOWEVER, INSTALLATION MAY REQUIRE INTEGRATION WITH EXISTING FIELD CONDITIONS. UNDER THE APPROVAL OF THE CITY OF MILWAUKEE DPW STREET LIGHTING, 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 LOCATION IN RED TO ILLUSTRATE AS BUILT CONDITIONS.

4 CONDUIT INSTALLED BEHIND CURB AND UNDER DRIVEWAYS SHALL BE INSTALLED AT A DISTANCE OF MINIMUM OF 6 INCHES AWAY FROM THE BACK OF CURB TO THE CENTER LINE OF CONDUIT, AND MINIMUM 24 INCHES DOWN MEASURED FROM THE TOP OF CURB OR FINISHED GRADE TO THE TOP OF CONDUIT.

5 DEPTH OF CONDUIT INSTALLED BELOW STREETS, HIGHWAYS, AND ALLEYS SHALL BE 24-INCHES MINIMUM AND 36-INCHES MAXIMUM. (MEASURED FROM FINISHED FLANGE LINE) IF THE CONTRACTOR DOES ANY DEVIATION FROM THE STREET LIGHTING DESIGN WITHOUT THE STREET LIGHTING ENGINEERS SIGNED APPROVAL.

6 CONDUIT LATERALS SHALL BE TRENCHED UNDER PAVEMENT BEFORE PAVEMENT CONSTRUCTION.

7 WHEN THERE IS MORE THAN ONE CONDUIT TO BE INSTALLED, PLACE ALL CONDUITS IN THE SAME TRENCH, OR BORE MULTIPLE CONDUITS TOGETHER AT THE SAME TIME.

8 CONDUIT INSTALLATION THAT REQUIRE TRENCHING SHALL NOT BE BACKFILLED PRIOR TO INSPECTION ON THE CONDUIT.

9 ANY EXCEPTION TO THE MINIMUM OR MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE STREET LIGHTING ENGINEER.

10 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.

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

12 PRIOR TO CONDUIT ACCEPTANCE, ALL OPEN CONDUIT ENDS, AND UN-TERMINATED CONDUITS SHALL BE THOROUGHLY CLEANED AND BE CAPPED IMMEDIATELY AFTER INSTALLATION WITH THE APPROPRIATE CAST PLASTIC CAP WHICH FITS SNUGGLY ON THE CONDUIT, BUT EASILY REMOVED. DUCT TAPE OR ANY OTHER CAPPING METHOD IS NOT ACCEPTABLE.

13 ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. APPROVED LABEL FIRMLY ATTACHED.

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

15 CONDUIT RUNS SHALL BE THE SAME SIZE CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX-TO-PULL BOX OR JUNCTION BOX OR PULL BOX TO CONCRETE BASE, OR BASE-TO-BASE ETC.).

16 UNLESS THE CONDUIT IS DESIGNED AND SHOWN WITH BENDS ON THE PLANS, ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO CONCRETE BASE, AND PULL BOX TO ENCLOSURE. OTHERWISE IT MUST BE APPROVED BY THE STREET LIGHTING ENGINEER.

STREET LIGHTING GENERAL NOTES:

17 MINIMUM CONDUIT CLEARANCES FOR CONDUIT CROSSINGS AND PULL BOXES FROM THE FOLLOWING:
FIRE HYDRANTS: 6-FT TREE TRUNKS: 10-FT END OF DRIVEWAY FLARES: 6-FT
UNLESS NOTED OTHERWISE, OR APPROVED BY THE STREET LIGHTING ENGINEER.

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

19 TYPICAL RECTANGULAR PULL BOXES / VAULTS SHOULD BE INSTALLED AS SHOWN ON PLANS, BUT WHEN IT IS NOT POSSIBLE, A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS AND FIRE HYDRANTS SHOULD BE USED, OTHERWISE APPROVED BY THE STREET LIGHTING ENGINEER.

20 TYPICAL CONDUIT INSTALLATION FROM THE PULL BOX TO A DIRECT BURIED STREET LIGHT POLE IS AS FOLLOWS: USE A NYLON LIQUIDTIGHT CONNECTOR (UL APPROVED) TO CONNECT THE 1 1/2-INCH LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT LFNC-B (UL APPROVED) TO THE PULL BOX AND CONNECT TO STREET LIGHT POLE BY STUBBING UP A MINIMUM OF 6 INCHES OF THE LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT (LFNC-B) INTO THE CABLE SLOT.

21 ALL CONDUITS AND JUNCTION BOXES EMBEDDED IN STRUCTURE SHALL BE PAID UNDER STRUCTURE PAY ITEMS. CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF EMBEDDED CONDUITS.

22 AT EVERY BRIDGE JOINT, EXPANSION/DEFLECTION FITTINGS MUST BE USED TO PREVENT DAMAGE TO CONDUIT AND LIGHTING CIRCUITS. THIS ITEM IS INCIDENTAL TO THE CONDUIT BID ITEM, AND SHALL BE PAID UNDER STRUCTURE PAY ITEMS.

23 THE SUPPORT CHANNELS FOR INSTALLATION OF CONDUITS, LUMINAIRES, JUNCTION BOXES AND ENCLOSURES SHALL BE STAINLESS STEEL UNISTRUT P1000 SERIES OR APPROVED EQUAL, CHANNELS SHALL BE SLOTTED OR PERFORATED.

24 ALL HDPE OR NONMETALLIC PVC CONDUITS THAT CONNECT TO PULL BOXES REQUIRE A PVC END BELL CONNECTOR INSIDE THE PULL BOX

25 PROVIDE REMOVABLE SEALANT SUCH AS DUCT SEAL IN THE CONDUITS AT THE CABINETS, PULL BOXES AND JUNCTION BOXES TO AVOID CONDENSATION CAUSED BY AIRFLOW THROUGH THE CONDUITS DUE TO TEMPERATURE DIFFERENCE. THIS WORK SHALL BE INCIDENTAL TO ASSOCIATED CONDUIT PAY ITEM.

26 PROVIDE 3 INCH PVC SCHEDULE 40 CONDUIT ELBOWS IN ALL GROUND MOUNTED CONCRETE LIGHT BASES FOR CABLE IN DUCT TYPE INSTALLATION. THIS WORK IS INCIDENTAL TO CONCRETE BASES PAY ITEMS.

27 AT EACH SIGNAL STANDARD BASE PROVIDE 2 INCH PVC SCHEDULE 40 CONDUIT FROM PULL BOX TO SIGNAL STANDARD BASE. INSTALLATION OF PULL BOX AND CONDUIT ARE INCIDENTAL TO SIGNAL STANDARD BASE INSTALLATION WORK.

28 CONDUCTOR COLORS: 240/480, 1 PHASE - BLACK (HOT) /WHITE (NEUTRAL) // RED (HOT) /GRAY (NEUTRAL) / GREEN (GROUND)

29 INSTALL COMMON GROUND CONDUCTOR IN CONDUIT WHERE MULTIPLE BRANCH CIRCUITS CONDUCTORS ARE INSTALLED IN SAME CONDUIT AND SPLICE THE GROUND CONDUCTOR WITH TAP CONNECTOR IN PULLBOX.

30 PROVIDE MINIMUM WIRES / CONDUCTOR(S) SLACK AS NOTED BELOW:
PULL BOXES: SEE DETAIL 142
- CONNECTED WIRES TO LIGHT POLE IN PULL BOX MUST BE EXTENDED MINIMUM 3 FT. BEYOND TOP OF PULL BOX
- UNCONNECTED WIRES THAT BY PASS THROUGH PULL BOX MUST HAVE A MINIMUM OF 6 FT. SLACK COIL LEFT INSIDE PULL BOX

EMBEDDED JUNCTION BOXES IN PARAPIT WALL :
- CONNECTED WIRES IN JUNCTION BOX EXTEND MINIMUM 2 FT. BEYOND TOP OF JUNCTION BOX
- UNCONNECTED WIRES IN JUNCTION BOX LEAVE MINIMUM OF 4 FT. SLACK COIL IN JUNCTION BOX

DISTRIBUTION CENTER/LOAD CENTER: EXTEND 10-FT.
BREAK AWAY TRANSFORMER BASE: EXTEND 2-FT.

31 UNDERGROUND WIRE & CONDUIT SHOWN ON PLANS TO BE ABANDONED IN PLACE UNLESS DIRECTED BY THE ENGINEER. CONTRACTOR MAY CHOOSE TO REMOVE CONDUCTOR AT THEIR OWN EXPENSE.

32 LIGHT POLES INSTALLED BEHIND THE CURB NEED TO BE SET 30 INCHES BACK FROM FACE OF CURB TO CENTER OF POLE, SO TO MEET THE MINIMUM DISTANCE OF 24 INCHES FROM THE CURB FACE TO THE CURB SIDE FACE OF THE POLE.

33 ON ALL NEW STREET LIGHT POLES A PLAQUE WITH THE POLE NUMBER AS SHOWN ON THE PLANS SHALL BE AFFIXED ONTO THE POLE SHAFT AS PART OF POLE INSTALLATION.

SHEET 10F 9

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS
STREET LIGHTING SECTION

REVISION BY: dkozel REVISION DATE: 12-DEC-2022 09:08
APPROVED REVISION BY: R.BERTRAN APPROVED REVISION DATE: DEC.12-2022

STREET LIGHTING GENERAL NOTES:

34 ALL WIRE CONNECTIONS REQUIRE ANTI-OXIDANT TO BE APPLIED TO THE CONNECTIONS

35 ALL HARDWARE NUT AND BOLT CONNECTIONS REQUIRE ANTI SEIZE TO BE APPLIED TO THEM

36 COORDINATE NEW CONDUIT CONNECTIONS WITH EXISTING CONDUIT, DUCT PACKAGES, AND PULL BOXES/ VAULTS/ MANHOLES WITH CITY OF MILWAUKEE STREET LIGHTING. THE CITY REQUIRES THREE WORKING DAYS ADVANCED NOTICE. CONTACT ELECTRICAL SUPERVISOR
STREET LIGHTING - NEAL KARWEIK (OFFICE 414-286-5943 (CELL) 414-708-4245
STREET LIGHTING - WILLIE COTTON (OFFICE) 414-286-5997 (CELL) 414-708-1629
STREET LIGHTING - DISPATCHER @ 414-286-5944
TRAFFIC SIGNALS - RUDY GUTIERREZ (OFFICE) 414-286-5941 (CELL) 414-708-5148
TRAFFIC SIGNALS - DISPATCHER @ 414-286-3687

37 IMMEDIATELY AFTER THE CONTRACTOR HAS COMPLETED ALL THE ELECTRICAL PULL BOXES / VAULTS, CONDUIT AND CONDUIT CONNECTIONS, AND JUST BEFORE ELECTRICAL WORK IS COVERED UP WITH CONCRETE, SOIL, OR ETC. THE CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SHOP SUPERVISORS FOR FINAL INSPECTION AND APPROVAL OF ALL WORK.
STREET LIGHTING - NEAL KARWEIK (OFFICE) 414-286-5943 (CELL) 414-708-4245
STREET LIGHTING - WILLIE COTTON (OFFICE) 414-286-5997 (CELL) 414-708-1629
STREET LIGHTING - STEVEN RHODA (OFFICE) 414-286-5942 (CELL) 414-708-4251
STREET LIGHTING - DISPATCHER @ 414-286-5944
TRAFFIC SIGNALS - RUDY GUTIERREZ (OFFICE) 414-286-5941 (CELL) 414-708-5148
TRAFFIC SIGNALS - DISPATCHER @ 414-286-3687

38 CONTRACTOR SHALL SUPPLY AS-BUILT DRAWINGS FOR ALL WORK BEING DONE DETAILING THE FINAL PLACEMENT OF CONDUIT, CABLING, EQUIPMENT, AND GEOMETRIC MODIFICATIONS UNDER THE CONTRACT. PROVIDE (.PDF FORMAT) COPY CONFORMING TO CMM 1-65.14, OR RECORD ALL CHANGES IN RED INK ONLY ON THE AS-LET (DESIGN) PAPER DRAWINGS. THE CITY OF MILWAUKEE DPW ENGINEER WILL REJECT AS-BUILTS WITH INCOMPLETE OR INCORRECT CONTENT OR NOT CONFORMING TO CMM STANDARDS.

39 CONTRACTOR TO DELIVER THE FOLLOWING REMOVED STREET LIGHTING MATERIALS:
-ALUMINUM AND WOOD POLES
-LUMINAIRE BRACKET ARMS
-LUMINAIRES
-BREAKAWAY TRANSFORMER PEDESTALS
-WIRING PEDESTALS (GREEN IN COLOR)
TO CITY OF MILWAUKEE STREET LIGHTING YARD AT 1540 W. CANAL ST.
CALL RICO LOPEZ AT 414-286-5983 (CANAL OFFICE) OR 414-286-6123 (DPW FIELD OFFICE) OR DISPATCHER AT 414-286-5944
THREE (3) WORKING DAYS BEFORE TO COORDINATE DELIVERY OF MATERIALS

40 CONTRACTOR WILL BE RESPONSIBLE FOR THE DISPOSAL OF CONCRETE POLES, CONCRETE BASES, AND WIRING.

41 CONTRACTOR SHALL DISPOSE OF REMOVED EXISTING LAMPS IN ACCORDANCE WITH THE SPECIAL PROVISIONS., UNLESS NOTED OTHERWISE.

42 ONLY WHEN THE CITY OF MILWAUKEE IS FURNISHING MATERIALS FOR A PROJECT THE CONTRACTOR IS RESPONSIBLE TO CONTACT THE STREET LIGHTING SHOP YARD CONTACT PERSON FOUR (4) WORKING DAYS BEFORE, AND WILL NEED TO PROVIDE THE EXACT QUANTITY OF MATERIALS NEEDED. THE ADVANCE NOTICE WILL ALLOW THE SHOP TO GATHER THE REQUEST ITEMS FOR THE CONTRACTOR TO PICK UP AND SIGN FOR TAKING POSSESSION OF THE MATERIALS.

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE MATERIALS THAT THEY TAKE POSSESSION OF AND FOR THE ANY RETURNING OF ANY UNUSED MATERIALS BACK TO THE SHOP IN GOOD CONDITION. IF ANY MATERIALS COME BACK DAMAGED OR BROKEN THE CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING THE BROKEN OR DAMAGED ITEMS.

STREET LIGHTING SHOP YARD CONTACT PERSON:
NEAL KARWEIK 414-286-5943 (OFFICE) 414-708-4245 (CELL)
ALL THE MATERIALS MUST BE EITHER PICKED OR DROPPED OFF ALL AT ONE TIME.
THE STREET LIGHTING SHOP YARD HOURS FOR PICKING UP MATERIALS IS FROM 8AM TO 2PM: MONDAY THROUGH FRIDAY.

CONTRACTOR MUST BE OUT OF THE SHOP YARD BY 2PM NO LATER.

STREET LIGHTING GENERAL NOTES:

AS-BUILT GUIDELINES:

PROVIDE AS-BUILT DRAWINGS DETAILING THE FINAL PLACEMENT OF CONDUIT, CABLING, EQUIPMENT, AND GEOMETRIC MODIFICATIONS UNDER THE CONTRACT. PROVIDE PDF COPY CONFORMING TO CMM 1-65.14, OR RECORD ALL CHANGES IN RED INK ONLY ON THE AS-LET (DESIGN) PAPER DRAWINGS. THE ENGINEER WILL REJECT AS-BUILTS WITH INCOMPLETE OR INCORRECT CONTENT OR NOT CONFORMING TO CMM STANDARDS.

UPON PROJECT COMPLETION, FOLLOW THE WISDOT REQUIREMENTS PER CMM 165.12 AS-BUILT PLANS, THE PROJECT ENGINEER AND/OR ELECTRICAL CONTRACTOR SHALL SUBMIT AN ELECTRONIC AS-BUILT PLAN. ANY CHANGES FROM THE AS-LET PLAN THAT WERE BUILT INTO THE PROJECT SHOULD BE RECORDED IN RED USING ADOBE ACROBAT PROFESSIONAL OR EQUIVALENT SOFTWARE. DO NOT SCAN FIELD NOTES TO CREATE THE DIGITAL AS-BUILT PLAN.

IF THERE IS A STRUCTURE DRAWING, INCLUDE ALL STRUCTURES DRAWING SHEETS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSERT ANY ADDENDUM OR REPLACEMENT DRAWING SHEETS. TO DO THIS, RENUMBER THEM SIMILARLY TO THE ORIGINAL DRAWING SHEET.
FOR EXAMPLE:
REVISED SHEET 5 WOULD REPLACE SHEET 5. HOWEVER, ALL THE ORIGINAL SHEETS SHALL REMAIN IN THE AS-BUILT. IF THE SHEET HAS BEEN REPLACED CROSS IT OUT WITH AN X AND INDICATE THE NUMBER OF ITS REPLACEMENT SHEET. IF ADDITIONAL SHEETS WERE ADDED, INSERT THEM IN THE ORIGINAL LOCATION AND LABEL THEM WITH THE PREVIOUS SHEET NUMBER FOLLOWED BY AN "A", "B", "C", ETC.

NOTE THE SHEET CHANGES ON THE TITLE SHEET UNDER THE ORDER OF SHEETS.

THE TITLE SHEET OF THE AS-BUILT DRAWING SHOULD INCLUDE THE FOLLOWING INFORMATION:
AS-BUILT DRAWING
SUPERVISOR:
PROJECT MANAGER:
CONTRACTOR LEADER:
CONTRACTOR COMAPNY:
WORK STARTED:
WORK COMPLETED:

LINE OUT OR CROSS OUT ALL CHANGED INFORMATION AND WRITE-IN THE CORRECTED INFORMATION ABOVE THE ORIGINAL OR CLOSE TO IT WHEREVER POSSIBLE. USE BLANK SPACES ON THE DRAWING SO NOTES ARE NOT SUPERIMPOSED. DRAWINGS WITH EXCESSIVE DETAIL MAY REQUIRE AN ALTERNATE APPROACH. NUMBERED CHANGES OR ADDITIONS MAY BE SHOWN ON SUPPLEMENTAL NON-DRAWING SHEETS.

- LOCATE AND CLEARLY LABEL ALL CONDUIT RUNS, FITTINGS, SPLICE VAULTS, PULL BOXES, METER PEDESTALS, CONCRETE BASES, TRANSFORMERS, POLES AND OTHER APPURTENANCES IN TWO DIRECTIONS. SWING TIES SHOULD BE MADE FROM THE OBJECTS THAT ARE PERMANENT IN NATURE AND VISIBLE ON THE FINISHED SURFACE.
- STREET NAMES SHALL BE ON ALL SHEETS.
- SHOW ALL SIZES AND MATERIAL TYPES OF PIPES AND CONDUITS, IF CHANGED OR MODIFIED FROM ORIGINAL DESIGN.
- ALL HORIZONTAL DISTANCES SHALL BE SHOWN TO THE NEAREST TENTH OF A FOOT (I.E., 205.3').
  ALL VERTICAL DISTANCES SHALL BE TO THE NEAREST INCH (I.E., 24")
- SHOW LOCATION AND ELEVATIONS ON CONDUIT AND FITTINGS WHERE CHANGES OR DEFLECTIONS IN DIRECTION OCCUR.
- SPECIAL DETAIL DRAWINGS MAY BE REQUIRED WHERE INSTALLATIONS ARE NOT SHOWN ON APPROVED CONSTRUCTION DRAWINGS FOR WHATEVER REASON OR WHERE REQUIRED FOR CLARITY.
- TYPICAL SERVICE INSTALLATION DETAILS WITH DEVIATIONS FROM ORIGINAL PLANS OR STANDARD DETAILS SHALL BE NOTED ON AS-BUILT DRAWINGS.
- NO ARBITRARY MARK-UPS WILL BE PERMITTED.

IF THERE ARE NO CORRECTIONS OR ADDITIONS TO THE AS-LET PLAN(S) PUT "NO CHANGE" ON THE SHEET WITH ALL OTHER REQUIRED AS-BUILT INFORMATION.

BY MAIL SEND TO:
CITY OF MILWAUKEE
INFRASTRUCTURE SERVICES DIVISION
TRANSPORTATION SECTION - CONSTRUCTION
CHIEF CONSTRUCTION ENGINEER
TONY KOTECKI
841 NORTH BROADWAY, ROOM 701
MILWAUKEE, WISCONSIN 53202

BY EMAIL SEND TO:
CITY OF MILWAUKEE
INFRASTRUCTURE SERVICES DIVISION
TRANSPORTATION SECTION - CONSTRUCTION
CHIEF CONSTRUCTION ENGINEER
TONY KOTECKI
AKOTEC@MILWAUKEE.GOV

SHEET 2 OF 9

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS
STREET LIGHTING SECTION
REVISION BY: dkozel REVISION DATE: 20-AUG-2023 06:56
APPROVED REVISION BY: R.BERTRAN APPROVED REVISION DATE: AUG-20-2023

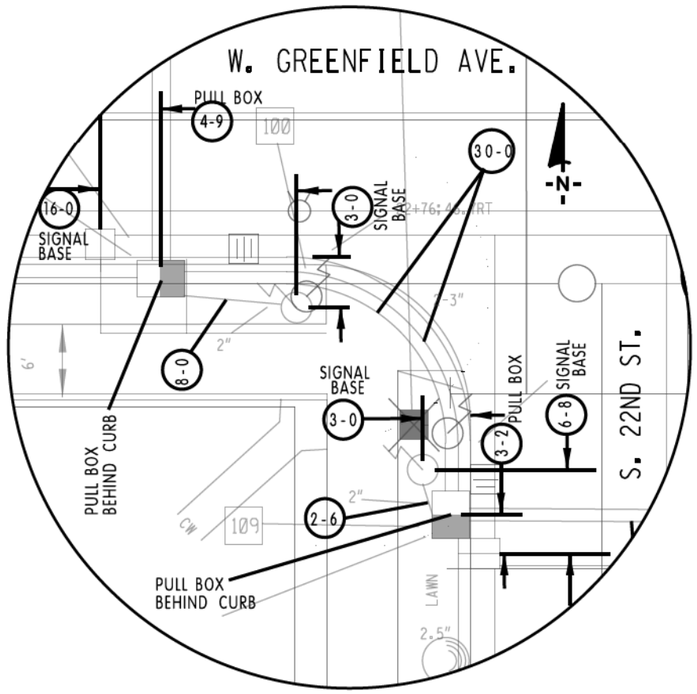
PROJECT NO. 2967-17-70	STH 181, STH 175	COUNTY: MILWAUKEE	STREET LIGHTING - DETAILS	SHEET 41	E

USE RED INK TO DO AS-BUILTS

RECORD RETENTION GUIDELINES:

- CONTRACTOR TO LOCATE AND CLEARLY DIMENSION ALL OF THERE NEWLY INSTALLED CONDUIT RUNS, FITTINGS, SPLICE VAULTS, PULL BOXES, METER PEDESTALS, CONCRETE BASES, TRANSFORMERS, POLES AND OTHER APPURTENANCES IN TWO (2) DIRECTIONS. SWING TIES SHOULD BE MADE FROM OBJECTS THAT ARE PERMANENT IN NATURE AND VISIBLE ON THE FINISHED SURFACE.
- STREET NAMES SHALL BE ON ALL SHEETS.
- SHOW ALL SIZES AND MATERIAL TYPES OF PIPES AND CONDUITS, IF CHANGED OR MODIFIED FROM ORGINAL DESIGN.
- ALL HORIZONTAL DISTANCES SHALL BE SHOWN TO THE NEAREST TENTH OF A FOOT (I.E., 205.3'). ALL VERTICAL DISTANCES SHALL BE SHOWN TO THE NEAREST INCH (I.E. 24").
- SHOW LOCATION AND ELEVATIONS OF PIPES AND FITTINGS WHERE CHANGES OR DEFLECTIONS IN DIRECTION OCCUR.
- SPECIAL DETAIL DRAWINGS WILL BE SUPPLIED WHERE REQUIRED FOR CLARITY.
- DEVIATIONS FROM ORIGINAL PLANS OR STANDARD DETAILS SHALL BE NOTED ON AS-BUILT DRAWINGS.
- IF THERE ARE NO CORRECTIONS OR ADDITIONS TO THE AS-LET PLAN(S) PUT "NO CHANGE" ON THE SHEET.

SUPERVISOR: _____
PROJECT MANAGER: _____
CONTRACTOR LEADER: _____
CONTRACTOR COMPANY: _____
WORK STARTED: _____
WORK COMPLETED: _____



FIELD RECORD EXAMPLE DETAIL NOT TO SCALE

TYPICAL DIMENSIONING OF CONDUIT, PULL BOXES, AND CONCRETE BASES

MEASURING GUIDE LINES

IF CONDUIT IS NOT PLACED DIRECTLY BEHIND THE CURB IN THE ISLANDS & SIDE TERRACE AREAS, A MEASURED DISTANCE FROM THE FACE OF CURB TO THE CONDUIT WILL NEED TO BE PROVIDED.

PROVIDE A MEASURED DISTANCE OF UNINTERRUPTED CONDUIT RUNS

USE PERMANENT OBJECTS LIKE HYDRANTS, CATCH BASINS, OR EVEN CURB FACE LINES EXTENED TO MEASURE OFF WHEN LOCATING CONDUIT, PULL BOXES AND CONCRETE BASES.

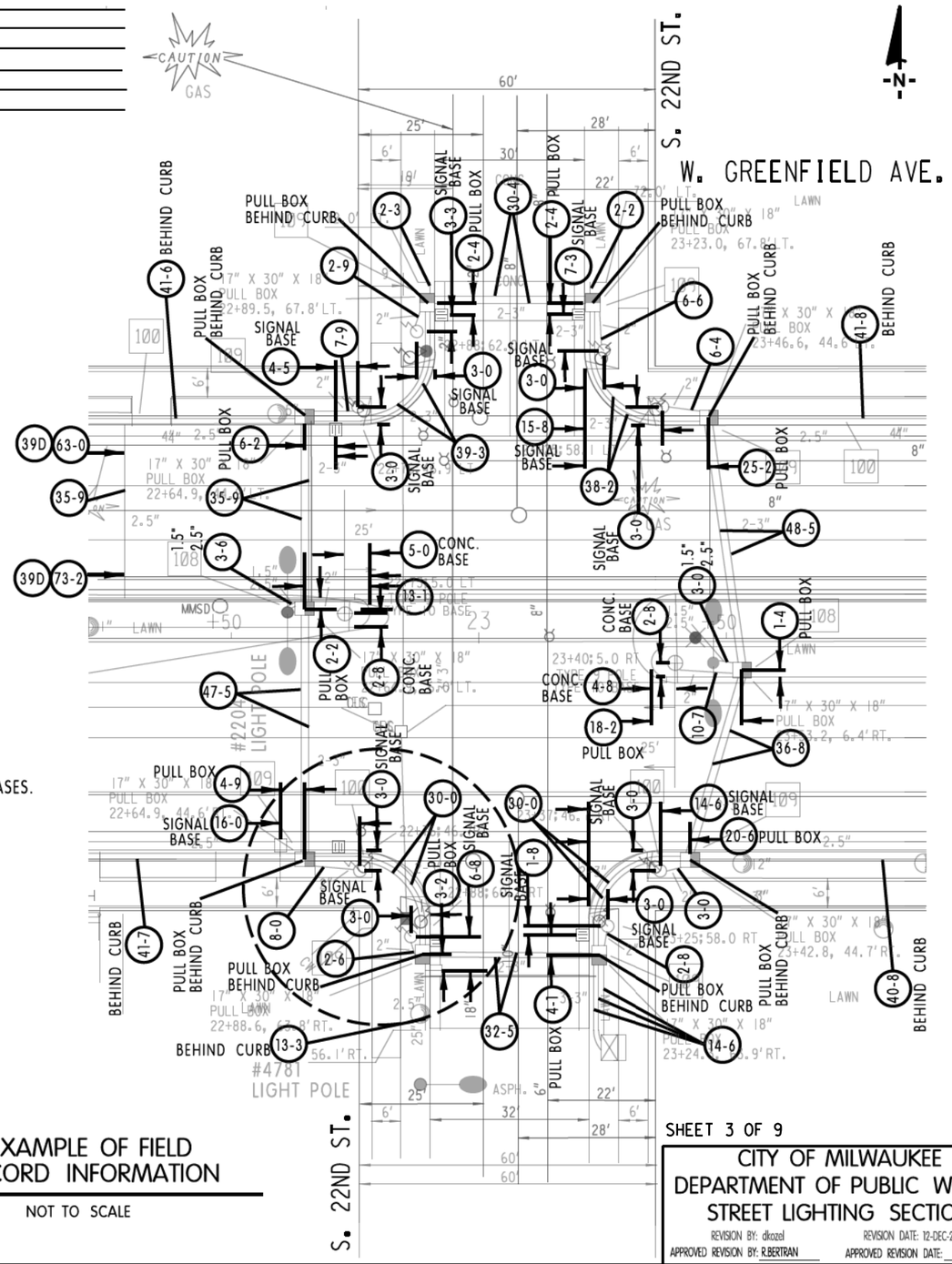
MEASURE TO OR FROM THE CENTERS OF OBJECTS FOR DISTANCE TAKING.

(39D) MEANS = CONDUIT IS 39" DEEP

(48-5) MEANS = LENGTH OF CONDUIT IS 48.5 FT. LONG (MEASURED TO NEAREST TENTH OF A FOOT)

OR

(25-6) MEANS = DISTANCE OF 25.6 FT. BETWEEN PERMANENT OBJECT OR CURB FACE TO CONDUIT, PULL BOX, AND CONCRETE BASE (MEASURED TO NEAREST TENTH OF A FOOT)



EXAMPLE OF FIELD RECORD INFORMATION

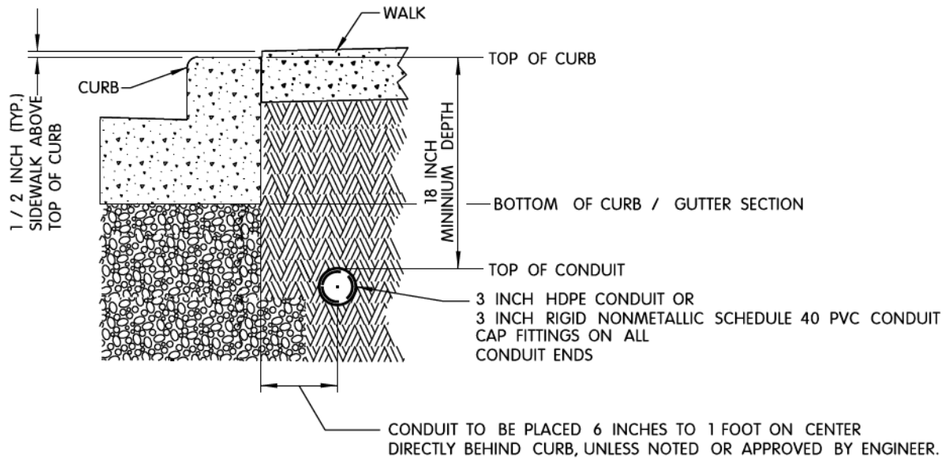
NOT TO SCALE

SHEET 3 OF 9

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS
STREET LIGHTING SECTION
REVISION BY: dkozel REVISION DATE: 12-DEC-2022 09:26
APPROVED REVISION BY: R.BERTRAN APPROVED REVISION DATE: DEC.12-2022

PROJECT NO. 2967-17-70	STH 181, STH 175	COUNTY: MILWAUKEE	STREET LIGHTING - DETAILS	SHEET 42	E

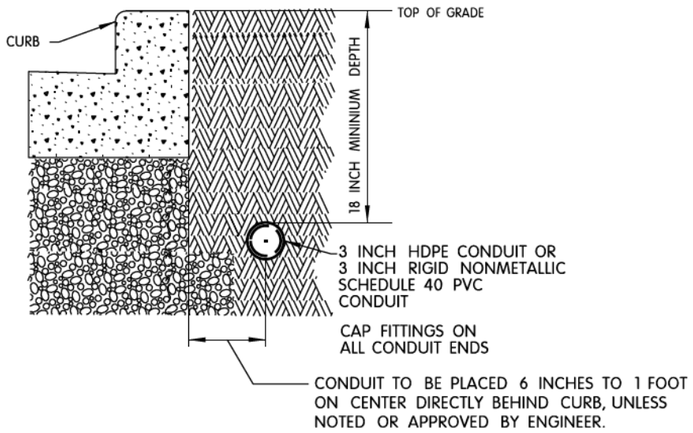
NOTE: 1.) KEEP AREA BEHIND CURB FREE OF DEBRIS AND CONCRETE OVERPOUR.



100 DETAIL "A" NOT TO SCALE

TYPICAL CONDUIT INSTALLATION
BEHIND CURB UNDER WALK

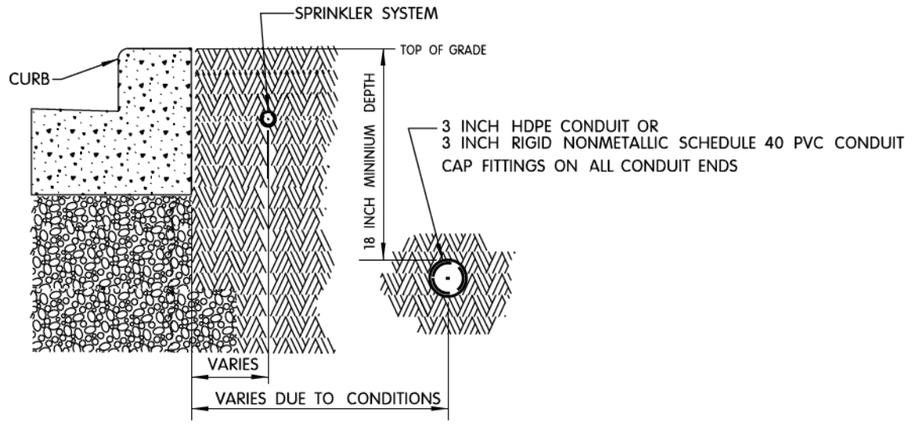
NOTE: 1.) KEEP AREA BEHIND CURB FREE OF DEBRIS AND CONCRETE OVERPOUR.



100 DETAIL "B" NOT TO SCALE

TYPICAL CONDUIT INSTALLATION
BEHIND CURB IN GRASS AREA

NOTE: 1.) KEEP AREA BEHIND CURB FREE OF DEBRIS AND CONCRETE OVERPOUR.



100 DETAIL "C" NOT TO SCALE

TYPICAL CONDUIT INSTALLATION WITH
OTHER UTILITIES BEHIND CURB

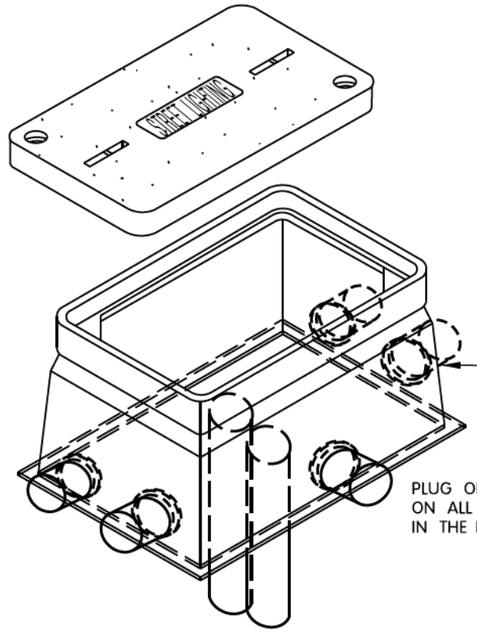
ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES. CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

SHEET 4 OF 9

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS
STREET LIGHTING SECTION

REVISION BY: dkozel REVISION DATE: 12-DEC-2022 09:38
APPROVED REVISION BY: R.BERTRAN APPROVED REVISION DATE: DEC.12-2022

PROJECT NO. 2967-17-70	STH 181, STH 175	COUNTY: MILWAUKEE	STREET LIGHTING - DETAILS	SHEET 43	E

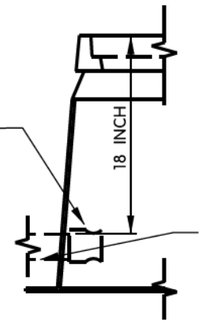


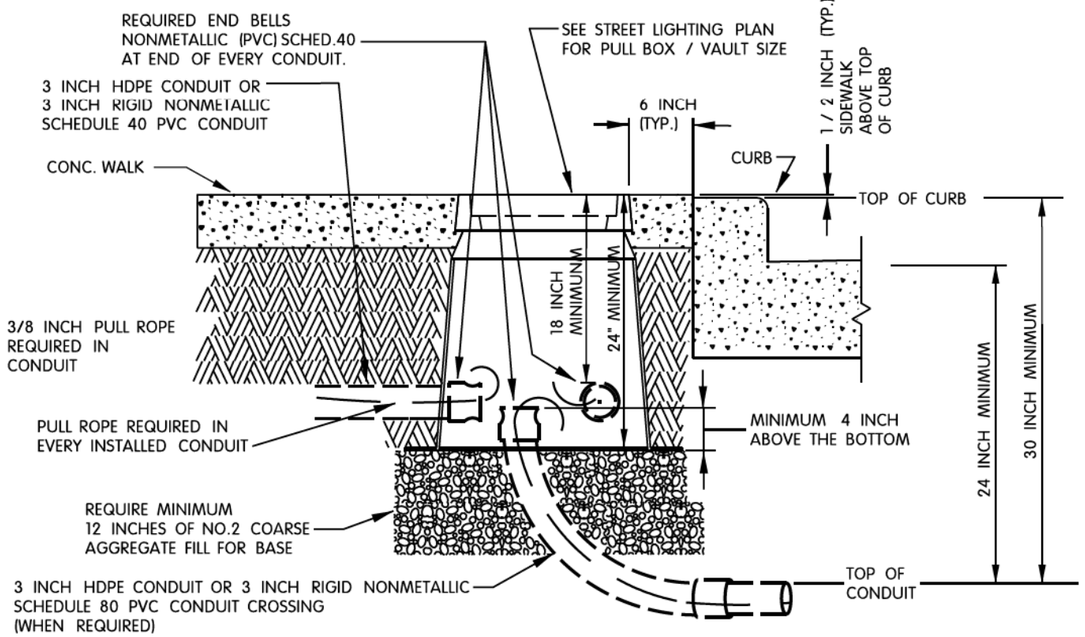
HEAVY DUTY COVER
W/ STREETLIGHTING LOGO
& W / 2 PENTA BOLTS
COLOR: GRAY
TIER 15 RATING (MINIMUM)

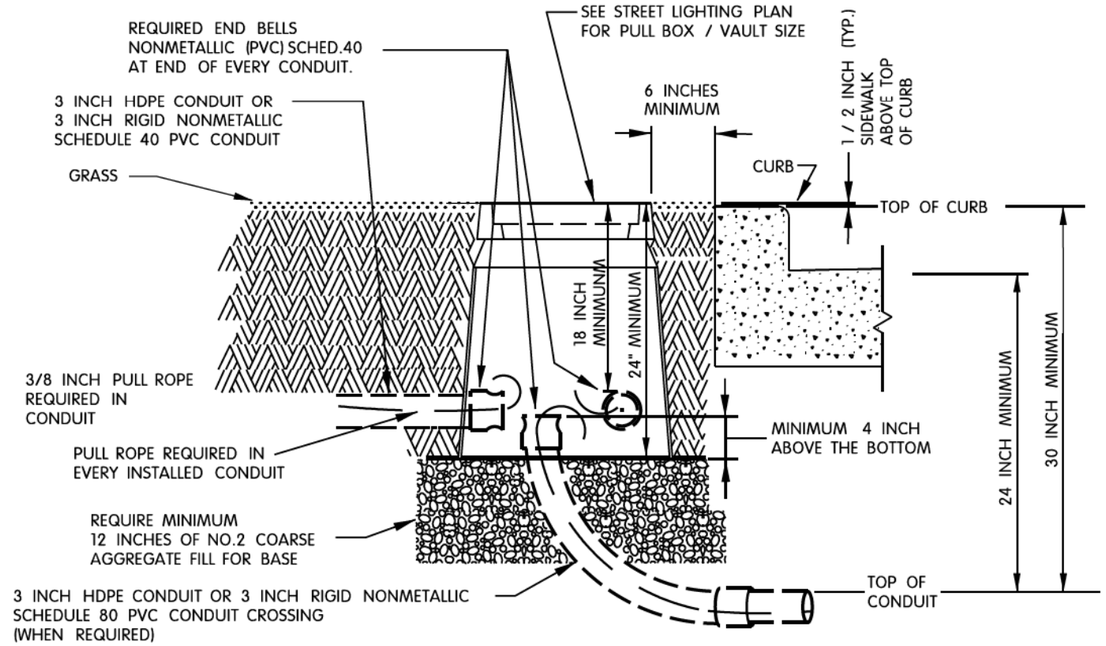
PULL BOX / VAULT
FLARED WALL
BOX W / NO BASE
COLOR: GRAY
TIER 15 RATING (MINIMUM)
(VARIOUS SIZES)

REQUIRED END BELLS
NONMETALLIC (PVC) SCHED.40
AT END OF EVERY CONDUIT.

PLUG OR CAP FITTINGS
ON ALL UNUSED CONDUITS
IN THE ENCLOSURE







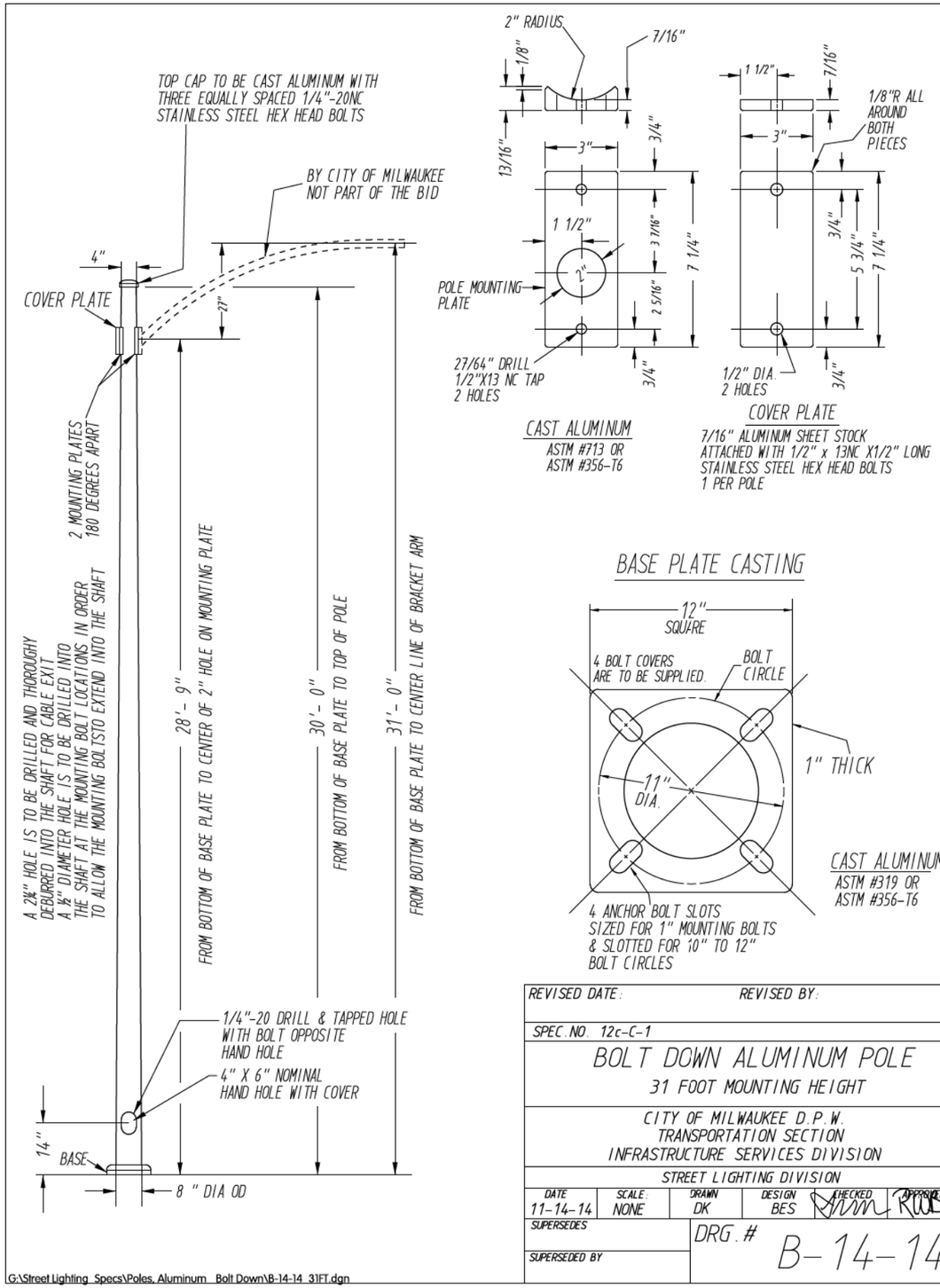
112 DETAIL — NOT TO SCALE

TYPICAL PULL BOX / VAULT INSTALLATION
IN EITHER PAVEMENT OR GRASS AREAS

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES. CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

SHEET 5 OF 9

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS
STREET LIGHTING SECTION
REVISION BY: dkozel — REVISION DATE: 12-DEC-2022 09:42
APPROVED REVISION BY: R.BERTRAN — APPROVED REVISION DATE: DEC.12-2022



REVISED DATE:	REVISED BY:
SPEC. NO. 12c-C-1	

BOLT DOWN ALUMINUM POLE

31 FOOT MOUNTING HEIGHT

CITY OF MILWAUKEE D.P.W.
TRANSPORTATION SECTION
INFRASTRUCTURE SERVICES DIVISION

STREET LIGHTING DIVISION

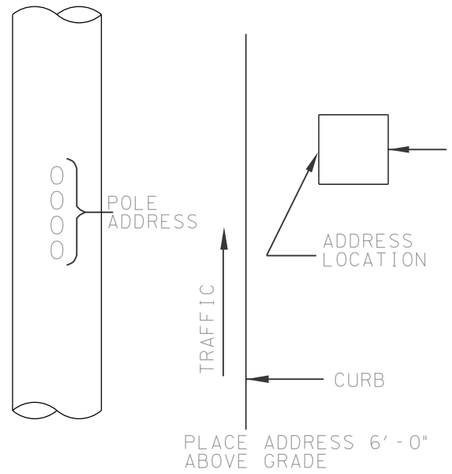
DATE	SCALE:	DRAWN	DESIGN	CHECKED	APPROVED
11-14-14	NONE	DK	BES		

SUPERSEDES

SUPERSEDED BY

DRG. # B-14-14

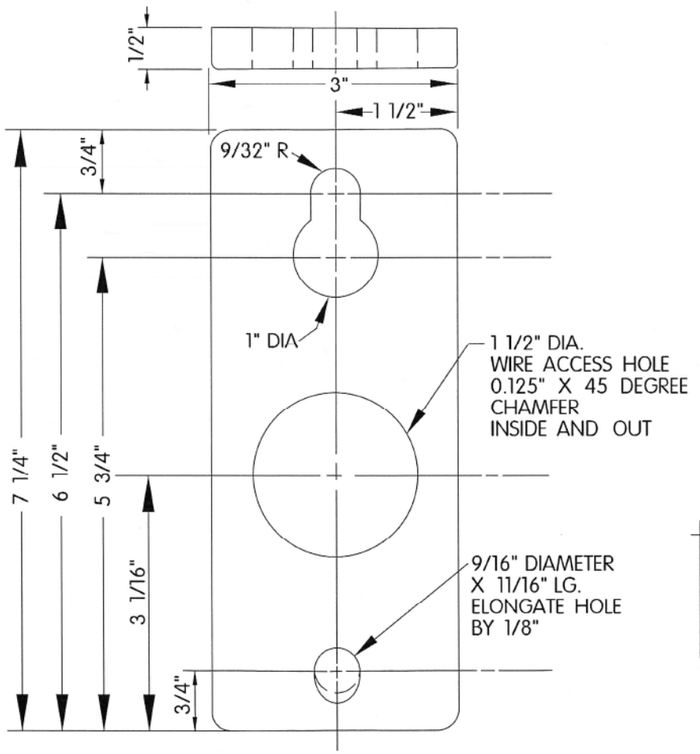
G:\Street Lighting Specs\Poles, Aluminum Bolt Down\B-14-14 31FT.dgn



CONTRACTOR FURNISHED AND INSTALLED

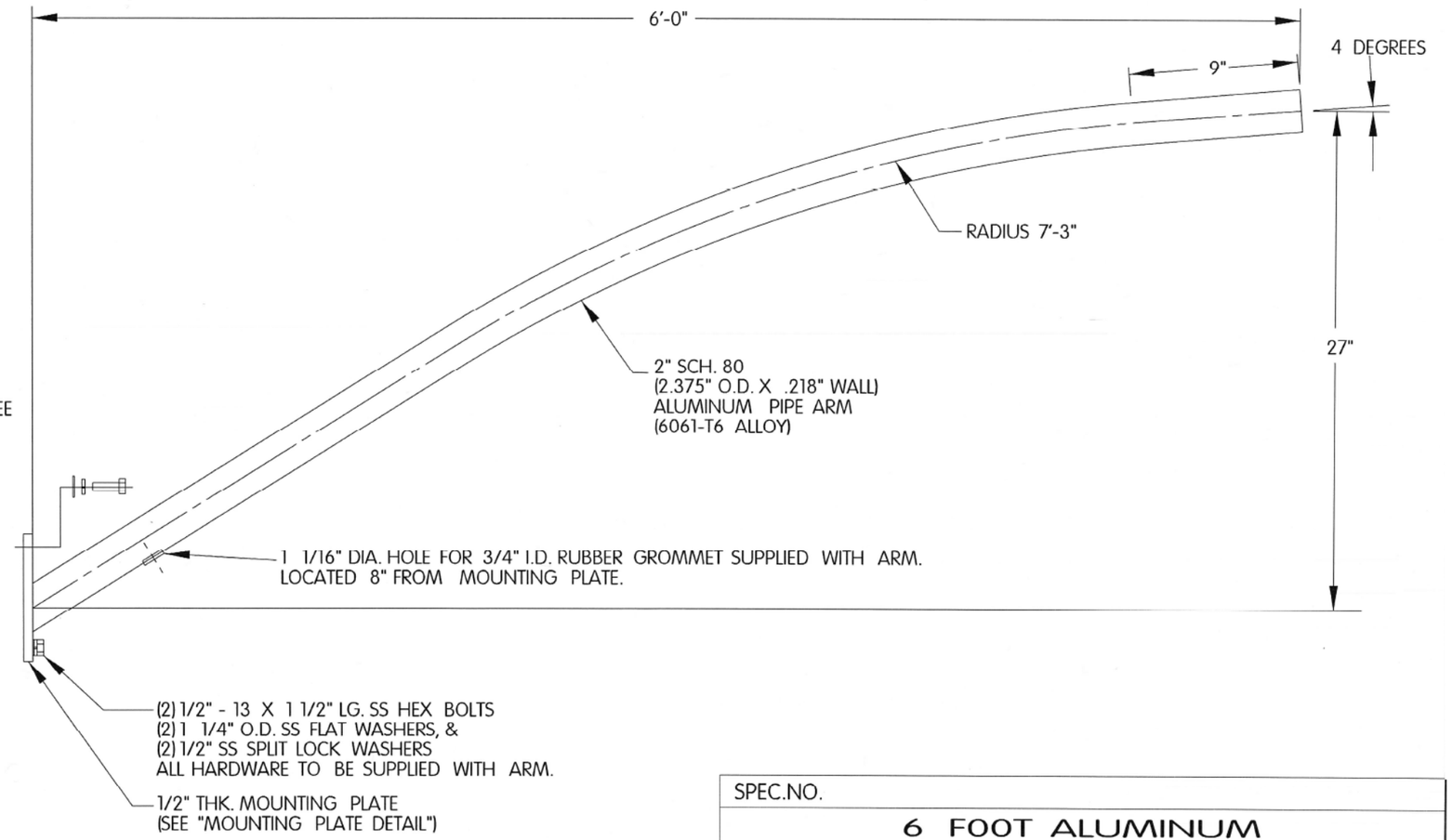
SHEET 6 OF 9

2



MOUNTING PLATE DETAIL "ES #436"
1/2" THK. ALUMINUM
(6061-T6 ALLOY)

NOTE:
1" I.D. RUBBER GROMMET PROVIDED
FOR USE IN POLE SHAFT



SPEC.NO.

6 FOOT ALUMINUM UPSWEEP BRACKET

6'-0" X 27" X 2.4 SGL PIPE 3" X 7.25" PLMT
MATERIAL: ALUMINUM ALLOY, FINISH: SATIN

CITY OF MILWAUKEE D.P.W.
TRANSPORTATION SECTION
INFRASTRUCTURE SERVICES DIVISION

STREET LIGHTING DIVISION

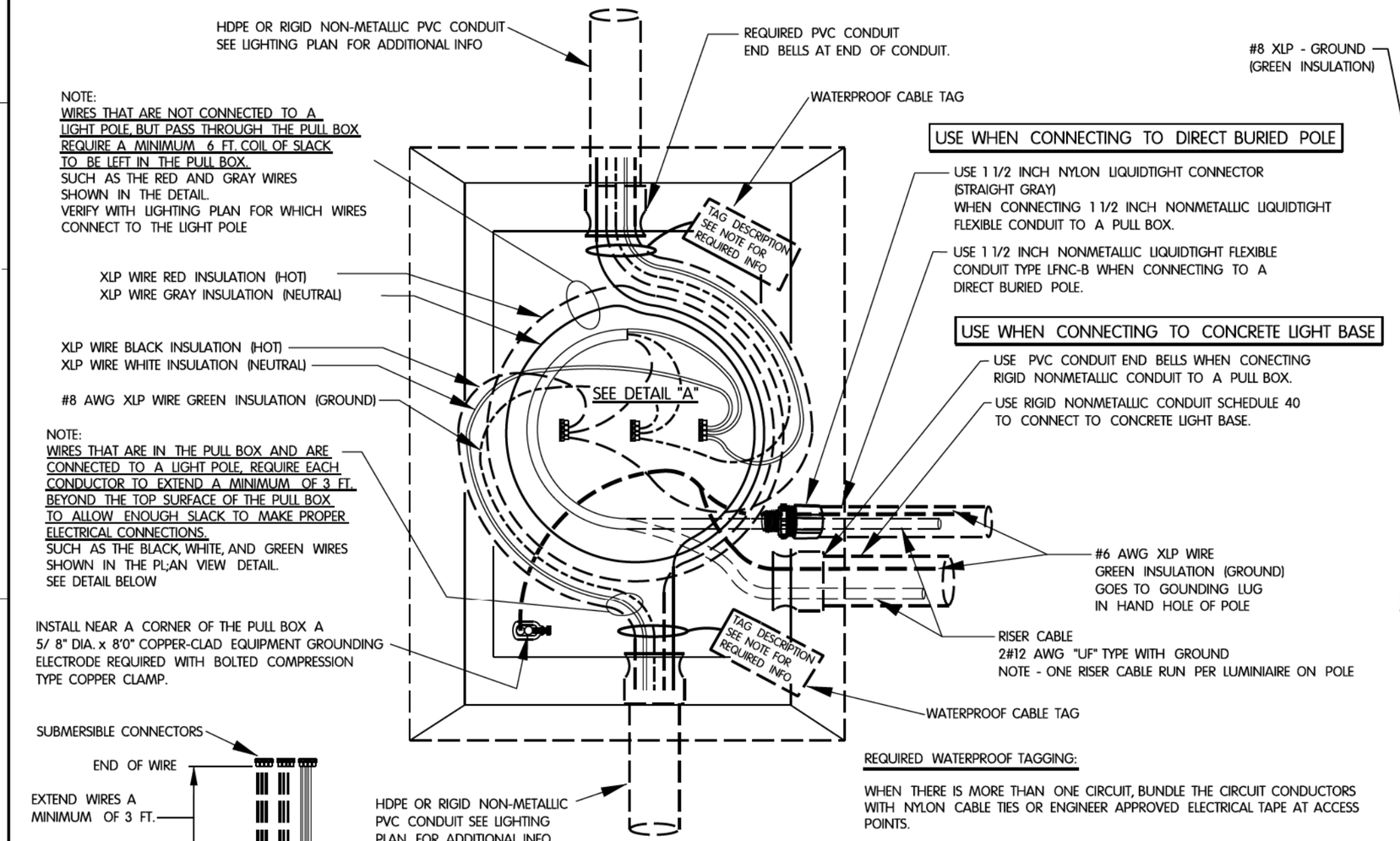
DATE	SCALE:	DRAWN	DESIGN	CHECKED	APPROVED
8/1/2022	NONE	DK			RMB

SUPERSEDES C-80-2

SUPERSEDED BY

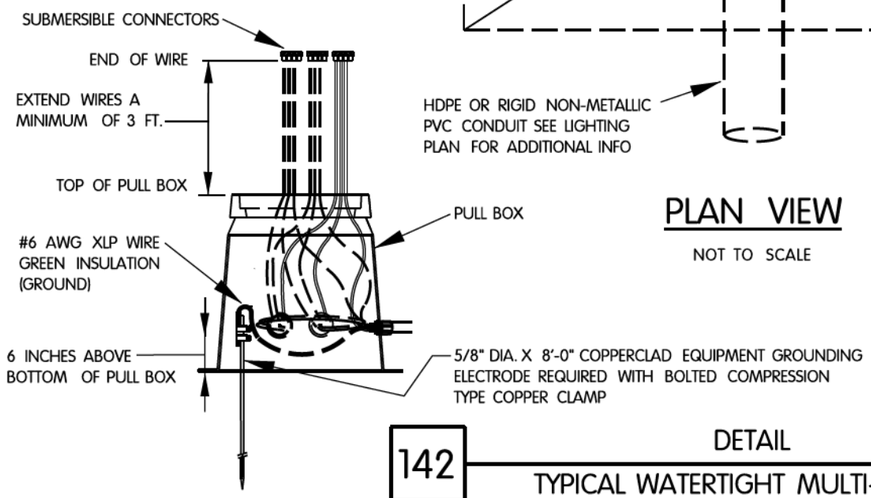
DRG.# C-87-76

SHEET 7 OF 9



PLAN VIEW

NOT TO SCALE



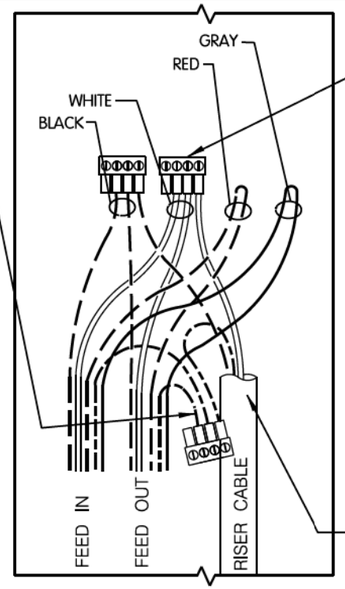
REQUIRED WATERPROOF TAGGING:

WHEN THERE IS MORE THAN ONE CIRCUIT, BUNDLE THE CIRCUIT CONDUCTORS WITH NYLON CABLE TIES OR ENGINEER APPROVED ELECTRICAL TAPE AT ACCESS POINTS.

AT EACH PULL BOX, IDENTIFY THE LINE SIDE OF EACH CIRCUIT WITH AN ATTACHED TAG USING A FADE-RESISTANT WATERPROOF BLACK MARKER PEN AND PROVIDE THE FOLLOWING INFO:

CIRCUIT ID: (CIR.WD-E)
LINE SIDE COMING FROM UNIT STREET LIGHT UNIT IS ON: (STREET NAME)
SIDE OF STREET LIGHT UNIT IS ON: (N,S,E,OR W)
NUMBER OF STREET LIGHTING UNITS FROM NEAREST CROSSING STREET: (1,2,3,4,5)
DIRECTION FROM THE NEAREST CROSSING STREET: (N,S,E,OR W)
NAME OF THE NEAREST CROSSING STREET: (STREET NAME)

EXAMPLE OF TAG INFO:
CIR.WD-E,
LINE SIDE FROM: W. CANAL ST. / N. / 1 / W. /OF POTAWATOMI CIR.



DETAIL "A"

CONNECTIONS WITHIN PULL BOX
NOT TO SCALE

NOTES:

WHEN WIRING A LUMINAIRE EITHER
BLACK (HOT) WITH WHITE (NEUTRAL) GO TOGETHER
OR
RED (HOT) WITH GRAY (NEUTRAL) GO TOGETHER

ALL WIRE CONNECTIONS REQUIRE ANTI-OXIDANT TO BE APPLIED TO THE CONNECTIONS

ALL HARDWARE NUT AND BOLT CONNECTIONS REQUIRE ANTI SEIZE TO BE APPLIED TO THEM

PULL ROPE SHALL BE INSTALLED IN ALL NEW CONDUITS.

CONTRACTOR SHALL SUPPLY AS-BUILT DRAWINGS (.PDF FORMAT) FOR ALL THE WORK BEING DONE.

PROVIDE MINIMUM WIRE SLACK FOR PULL BOXES: 3-FT
ONE WAY IN OR OUT

PROVIDE REMOVABLE SEALANT SUCH AS DUCT SEAL IN THE CONDUITS AT THE CABINETS, PULL BOXES AND JUNCTION BOXES TO AVOID CONDENSATION CAUSED BY AIRFLOW THROUGH THE CONDUITS DUE TO TEMPERATURE DIFFERENCE. THIS WORK SHALL BE INCIDENTAL TO ASSOCIATED CONDUIT PAY ITEM.

IMMEDIATELY AFTER THE CONTRACTOR HAS COMPLETED ALL THE ELECTRICAL PULL BOXES / VAULTS, CONDUIT AND CONDUIT CONNECTIONS, AND JUST BEFORE ELECTRICAL WORK IS COVERED UP WITH CONRETE, SOIL, OR ETC. THE CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SHOP MANAGERS FOR FINAL INSPECTION AND APPROVAL OF ALL WORK. THESE NAMES AND NUMBERS CAN BE FOUND ON THE STREET LIGHTING GENERAL NOTES SHEET

142

DETAIL

TYPICAL WATERTIGHT MULTI-PORT CONNECTIONS

SPLICING CONDUCTORS WITHIN THE PULL BOX

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES. CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

SHEET 8 OF 9

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS
STREET LIGHTING SECTION
REVISION BY: dkozel REVISION DATE: 3-MAR-2023 15:12
APPROVED REVISION BY: R.BERTRAN APPROVED REVISION DATE: MAR.03-2023

GENERAL NOTES

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

USE THIS DETAIL 142 IN CONJUNCTION WITH THIS DETAIL FOR ELECTRICAL WIRING.

USE EITHER THE POLARIS EDGE (ISPB2) OR MORRIS PRODUCT SUBMERSIBLE INSULATED CONNECTOR OR ELSE AN EQUAL CONNECTOR THAT IS 3 or 4 PORT PRE-INSULATED, THAT IS DESIGNED FOR USE IN BELOW GRADE BOXES, DIRECT BURIAL, AND SUBMERSIBLE. THE CONDUCTORS RANGE FROM #2/0 - #14 RATED FOR 600 VOLTS DUAL RATED FOR CU. or AL.

USE A WATERPROOF IN-LINE FUSE HOLDER ASSEMBLY THAT NEEDS TO BE 600 VOLT RATED, AND UP TO 30 AMPS, 1-POLE BREAKAWAY, WITH COPPER SET SCREW TERMINALS FOR LOAD, AND WIRE SIZE RANGE #12 TO #8 AWG.
PROVIDE A FAST ACTING 5 AMP 250 VOLT FUSES, FROM THE RECOMMENDED FUSE LIST FROM THE IN-LINE FUSE HOLDER MANUFACTURER.

USE WATERPROOF AND TEAR RESISTANT CABLE TAGS/LABELS AT EACH PULL BOX, TO IDENTIFY THE LINE SIDE OF EACH CIRCUIT USING A FADE-RESISANT WATERPROOF BLACK MARKER PEN AND PROVIDE THE FOLLOWING INFO:

CIRCUIT ID: (CIR.WD-E)
LINE SIDE COMING FROM UNTIL STREET LIGHT UNIT IS ON: (STREET NAME)
SIDE OF STREET LIGHT UNIT IS ON: (N,S,E,or W)
NUMBER OF STREET LIGHTING UNITS FROM NEAREST CROSSING STREET: (1,2,3,4,5)
DIRECTION FROM THE NEAREST CROSSING STREET: (N,S,E,or W)
NAME OF THE NEAREST CROSSING STREET: (STREET NAME)

EXAMPLE OF TAG INFO:

CIR.WD-E,
LINE SIDE FROM: W. CANAL ST. / N. / 1 / W. /OF POTAWATOMI CIR.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

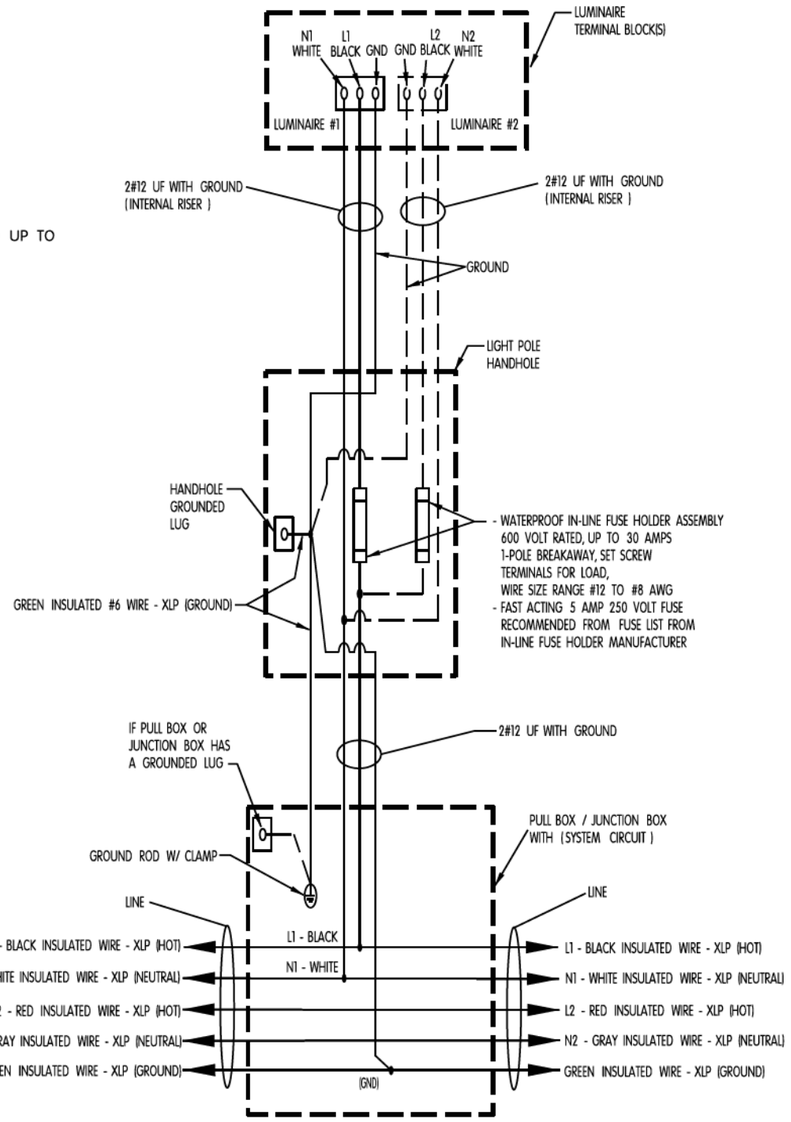
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

USE 2#12UF WITH GROUND FROM THE PULL BOX / JUNCTION BOX TO THE POLE HANDHOLE

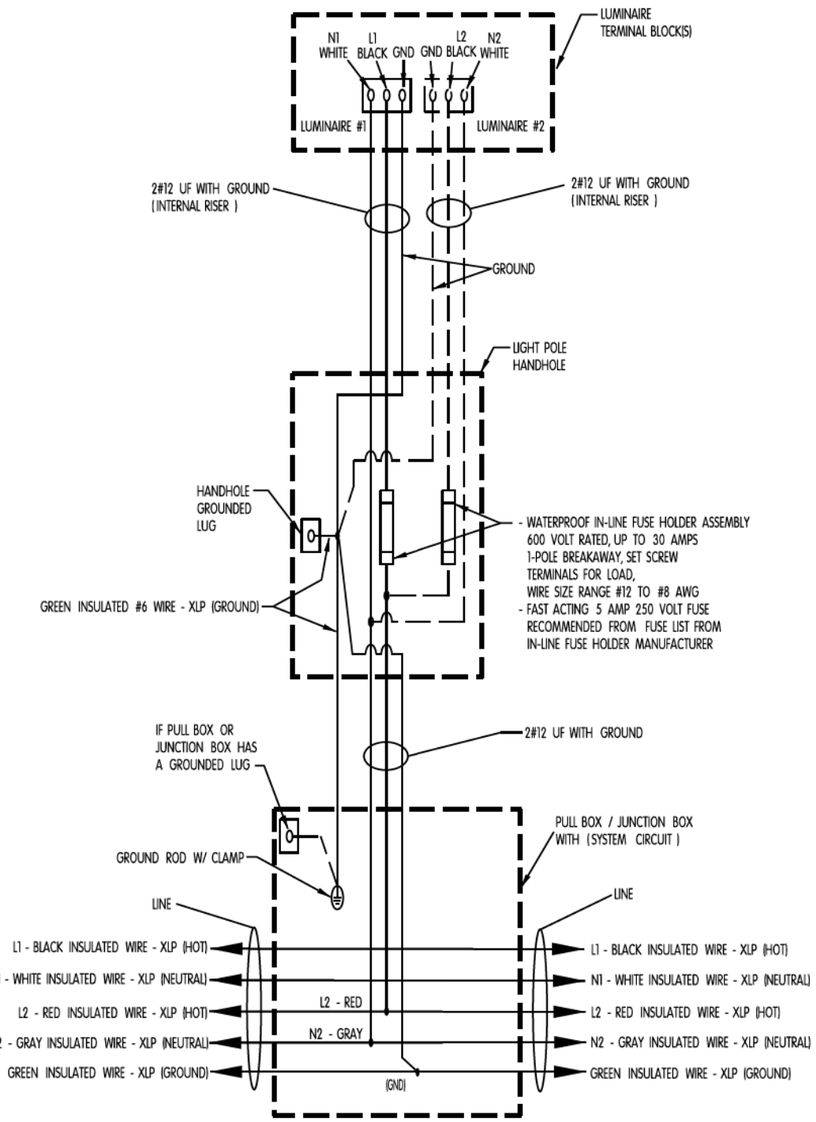
THE INTENT OF THE PULL BOX / JUNCTION BOX SPLICES AS SHOWN IN THIS DETAIL IS FOR LIGHTING SYSTEMS WITH HEAVY LINE WIRE TOO LARGE TO PULL THROUGH THE CONDUIT INTO THE POLE HANDHOLE, DUE TO CONDUIT FILL REQUIREMENTS OF N.E.C. AND / OR THE STIFF NESS OF THE WIRE COMPARED TO THE NUMBER OF BENDS IN THE CONDUIT.

LEGEND

BLACK & RED	UNGROUNDED SYSTEM CIRCUIT CONDUCTORS (L1 & L2)
WHITE & GRAY (N)	GROUNDED SYSTEM CIRCUIT CONDUCTORS (N1 & N2)
GREEN (GND)	EQUIPMENT GROUNDING CONDUCTOR
	HANDHOLE GROUNDED LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	TERMINAL
	SPLICE
	CONDUCTOR
	GROUND ROD



TYPICAL WIRING DIAGRAM - FOR BLACK (L1) AND WHITE (N1)
TWO SEPARATE NEUTRALS SYSTEM
240 / 480VAC 4 WIRE



TYPICAL WIRING DIAGRAM - FOR RED (L2) AND GRAY (N2)
TWO SEPARATE NEUTRALS SYSTEM
240 / 480VAC 4 WIRE

145 ELECTRICAL DETAILS STRUCTURE MOUNT
LIGHT POLES SEPARATED NEUTRALS SYSTEM — NOT TO SCALE

SHEET 9 OF 9

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS
STREET LIGHTING SECTION
REVISION BY: dkozel — REVISION DATE: 4-JUL-2023 09:01
APPROVED REVISION BY: E.K. LEE — APPROVED REVISION DATE: MAR.14-2023

PROJECT NO. 2967-17-70	STH 181, STH 175	COUNTY: MILWAUKEE	STREET LIGHTING - DETAILS	SHEET 48	E

FILE NAME : W:\bes_WisDot\2023\(2967-17-70) STH 175 & STH 181\SL Conduit & Cable\SL Conduit & Cable Master.dgn
PLOT DATE : 23-OCT-2023 09:42 PLOT BY : dkozel PLOT NAME : PLOT SCALE : 1:40
WISDOT/CADDS SHEET 42

CONTRACTOR MUST WORK IN CONJUNCTION WITH THE TEMPORARY STREET LIGHTING OVERHEAD FACILITIES AND TEMPORARY POLES. CONTRACTOR IS RESPONSIBLE TO TAKE ALL NECESSARY ACTION TO ENSURE THE CONSTRUCTION PROCESS IS NOT IMPEDED BY TEMPORARY FACILITIES. LATERAL AND VERTICAL CONSTRAINTS MUST BE IDENTIFIED IN WRITING TO THE CITY'S UTILITY COORDINATOR TWO WEEKS PRIOR TO THE SCHEDULED CONSTRUCTION START DATE IN ORDER TO OBTAIN THE DESIGNER'S APPROVAL FOR OVERHEAD FACILITIES ADJUSTMENT. AFTER THE CONSTRUCTION START DATE, CONTRACTOR IS RESPONSIBLE FOR ANY NECESSARY SERVICE FEE FOR TEMPORARY FACILITY ADJUSTMENT AND ASSUME FULL RESPONSIBILITY FOR ANY PROJECT DELAY.

N

#7619
A26-6,2S3,PED,B
CITY OF MILWAUKEE
TO INSTALL SECONDARY RISER

3#6/1#8LTP, CIR.T23NW-A
CABLE IN SERVICE

3#6/1#8LTP, CIR.T23NW-A
CABLE NOT IN SERVICE

3#2/1#8LTP, CIR.T23NW-A
CABLE IN SERVICE

PROPOSED - 3#6AL, CIR.T23NW-A
INSTALLED BY CITY OF MILW.

W. TOWER AVE.

3#6AL, CIR.T23NW-A
CABLE NOT IN SERVICE

44-0
3"

2.5"PVC CONDUIT
TO REMAIN & BE RE-USED

PROPOSED - 3#6AL, CIR.T23NW-A
INSTALLED BY CITY OF MILW.

#8117
PROPOSED - 35' WOOD POLE
8-0 U.B.,3LED2,R
86'N. OF N. CURB LINE EXTENDED
STA.187+45.3:52.5LT.
INSTALLED BY CITY OF MILW.

3#6/1#8LTP, CIR.T23NW-A
CABLE NOT IN SERVICE

PROPOSED - 3#6AL, CIR.T23NW-A
INSTALLED BY CITY OF MILW.

2.5"PVC CONDUIT
TO REMAIN & BE RE-USED

PROPOSED - 13"X24"X24" PULL BOX
CONNECT TO EX. CONDUIT AND CROSSING
INSTALLED BY CITY OF MILW.

CITY OF MILW. TO PULL BACK CABLE AND
LEAVE 3 FT. COIL IN PROPOSED PULL BOX

CITY OF MILWAUKEE
TO REMOVE 3#6/1#8LTP
CABLE FROM CONDUIT

#8137
PROPOSED - 35' WOOD POLE
8-0 U.B.,3LED2,B
57'S. OF CATCH BASIN
STA.189+00':52.5LT.
INSTALLED BY CITY OF MILW.

PROPOSED - 3#6AL, CIR.T23NW-A
INSTALLED BY CITY OF MILW.

3#8/1#8LTP, CIR.T23NW-A
ABANDON IN PLACE - CONDUIT & CABLE

PROPOSED - 3#6AL, CIR.T23NW-A
INSTALLED BY CITY OF MILW.

#8157
PROPOSED - 35' WOOD POLE
8-0 U.B.,3LED2,R
90'N. OF CATCH BASIN
STA.190+40.3:52.5LT.
INSTALLED BY CITY OF MILW.

3#8/1#8LTP, CIR.T23NW-A
ABANDON IN PLACE - CONDUIT & CABLE

#7603
PROPOSED - 35' WOOD POLE
38'W. OF W. CURB LINE EXTENDED
STA.186+06':86.8LT.
INSTALLED BY CITY OF MILW.

2.5"PVC

WISDOT
LIGHT POLE

PROPOSED - 3#6AL, CIR.T23NW-A
INSTALLED BY CITY OF MILW.

WISDOT
LIGHT POLE

WISDOT
LIGHT POLE

2.5"PVC

2.5"PVC

2.5"PVC

2.5"PVC

2.5"PVC

2.5"PVC

185+00

186+00

187+00

188+00

189+00

190+00

191+00

N. 76th ST.

#8116
PROPOSED - 35' WOOD POLE
8-0 U.B.,3LED2,B
8'S. OF HYDRANT
STA.187+41.3':52.5RT.
INSTALLED BY CITY OF MILW.

PROPOSED - 3#6AL, CIR.T23NW-A
INSTALLED BY CITY OF MILW.

#8130
REMOVE - 31FT. D6', AL. 2-3LED2, PED
REMOVAL BY CITY OF MILW.

3#8/1#8LTP, CIR.T23NW-A
ABANDON IN PLACE - CONDUIT & CABLE

#8138
PROPOSED - 35' WOOD POLE
8-0 U.B.,3LED2,B
54'S. OF CATCH BASIN
STA.188+96.2':52.5RT.
INSTALLED BY CITY OF MILW.

PROPOSED - 3#6AL, CIR.T23NW-A
INSTALLED BY CITY OF MILW.

#8150
REMOVE - 31FT. D6', AL. 2-3LED2, PED
REMOVAL BY CITY OF MILW.

PROPOSED - 3#6AL, CIR.T23NW-A
INSTALLED BY CITY OF MILW.

#8156
PROPOSED - 35' WOOD POLE
8-0 U.B.,3LED2,B
90'N. OF CATCH BASIN
STA.190+40.3':52.5RT.
INSTALLED BY CITY OF MILW.

LEGEND

- EXISTING POLE - (SEE NOTE)
- EXISTING CITY OF MILW. POLE WITH LIGHT
- EXISTING WISDOT POLE WITH LIGHT
- PROPOSED OR REMOVAL OF POLE - (SEE NOTE) WORK REMOVED BY CITY OF MILW.
- PROPOSED OF POLE W/LIGHT - (SEE NOTE) WORK BY CITY OF MILW.
- UNDERGROUND SECONDARY CABLE - (SEE NOTE)
- UNDERGROUND CONDUIT - (SEE NOTE)
- PROPOSED TEMPORARY OVERHEAD SECONDARY CABLE. - INSTALLED BY CITY OF MILW.
- REMOVAL OF POLE W/LIGHT - (SEE NOTE) WORK BY CITY OF MILW.

SCALE, FEET 0 40

PROJECT NO. 2967-17-70	STH 181, STH 175	COUNTY: MILWAUKEE	STREET LIGHTING - PROPOSED OVERHEAD PLAN	SHEET 49	E

CONTRACTOR MUST WORK IN CONJUNCTION WITH THE TEMPORARY STREET LIGHTING OVERHEAD FACILITIES AND TEMPORARY POLES. CONTRACTOR IS RESPONSIBLE TO TAKE ALL NECESSARY ACTION TO ENSURE THE CONSTRUCTION PROCESS IS NOT IMPEDED BY TEMPORARY FACILITIES. LATERAL AND VERTICAL CONSTRAINTS MUST BE IDENTIFIED IN WRITING TO THE CITY'S UTILITY COORDINATOR TWO WEEKS PRIOR TO THE SCHEDULED CONSTRUCTION START DATE IN ORDER TO OBTAIN THE DESIGNER'S APPROVAL FOR OVERHEAD FACILITIES ADJUSTMENT. AFTER THE CONSTRUCTION START DATE, CONTRACTOR IS RESPONSIBLE FOR ANY NECESSARY SERVICE FEE FOR TEMPORARY FACILITY ADJUSTMENT AND ASSUME FULL RESPONSIBILITY FOR ANY PROJECT DELAY.

LEGEND

- - EXISTING POLE - (SEE NOTE)
- - EXISTING CITY OF MILW. POLE WITH LIGHT
- - EXISTING WISDOT POLE WITH LIGHT
- - PROPOSED OR REMOVAL OF POLE - (SEE NOTE) WORK REMOVED BY CITY OF MILW.
- - PROPOSED OF POLE W/LIGHT - (SEE NOTE) WORK BY CITY OF MILW.
- - UNDERGROUND SECONDARY CABLE - (SEE NOTE)
- - UNDERGROUND CONDUIT - (SEE NOTE)
- - PROPOSED TEMPORARY OVERHEAD SECONDARY CABLE. - INSTALLED BY CITY OF MILW.
- - REMOVAL OF POLE W/LIGHT - (SEE NOTE) WORK BY CITY OF MILW.

N

#8174
REMOVE - 31FT.D6',AL.,2-3LED2,PED
REMOVAL BY CITY OF MILW.

2.5"PVC CONDUIT
TO REMAIN & BE RE-USED

3#8/1#8LTP, CIR.T23NW-A
ABANDON IN PLACE - CONDUIT & CABLE

#8201
REMOVE - 26FT.S6',AL.,3LED2,B
REMOVAL BY CITY OF MILW.

UNION PACIFIC RAILROAD

N. 76th ST.

#8216
REMOVE - 31FT.D6',AL.,2-3LED2,PED
REMOVAL BY CITY OF MILW.

2.5"PVC CONDUIT
TO REMAIN & BE RE-USED

2.5"PVC

#8237
PROPOSED - 35'WOOD POLE
6-0 U.B.,3LED2,B
78'S OF CATCH BASIN
STA.195+46.7,50.4LT.
INSTALLED BY CITY OF MILW.

PROPOSED - 3#6AL, CIR.T37NW-D
INSTALLED BY CITY OF MILW.

3#8/1#8LTP, CIR.T37NW-D
ABANDON IN PLACE - CONDUIT & CABLE

PROPOSED - 3#6AL, CIR.T37NW-D
INSTALLED BY CITY OF MILW.

191+00 192+00 193+00 194+00 195+00 196+00

2.5"PVC CONDUIT
TO REMAIN & BE RE-USED

#8188
REMOVE - 26FT.S6',AL.,3LED2,R
REMOVAL BY CITY OF MILW.

3#8/1#8LTP, CIR.T37NW-D
ABANDON IN PLACE - CONDUIT & CABLE

2.5"PVC CONDUIT
TO REMAIN & BE RE-USED

3#8/1#8LTP, CIR.T37NW-D
ABANDON IN PLACE - CONDUIT & CABLE

#8236
PROPOSED - 35'WOOD POLE
6-0 U.B.,3LED2,R
77'S. OF CATCH BASIN
STA.195+47.3,50.4RT.
INSTALLED BY CITY OF MILW.

#8238
REMOVE - 31FT.D6',AL.,2-3LED2,PED
REMOVAL BY CITY OF MILW.

PROPOSED - 3#6AL, CIR.T37NW-D
INSTALLED BY CITY OF MILW.

3#8/1#8LTP, CIR.T37NW-D
ABANDON IN PLACE - CONDUIT & CABLE

PROPOSED - 3#6AL, CIR.T37NW-D
INSTALLED BY CITY OF MILW.

SCALE, FEET 0 40

PROJECT NO. 2967-17-70	STH 181, STH 175	COUNTY: MILWAUKEE	STREET LIGHTING - PROPOSED OVERHEAD PLAN	SHEET 50	E

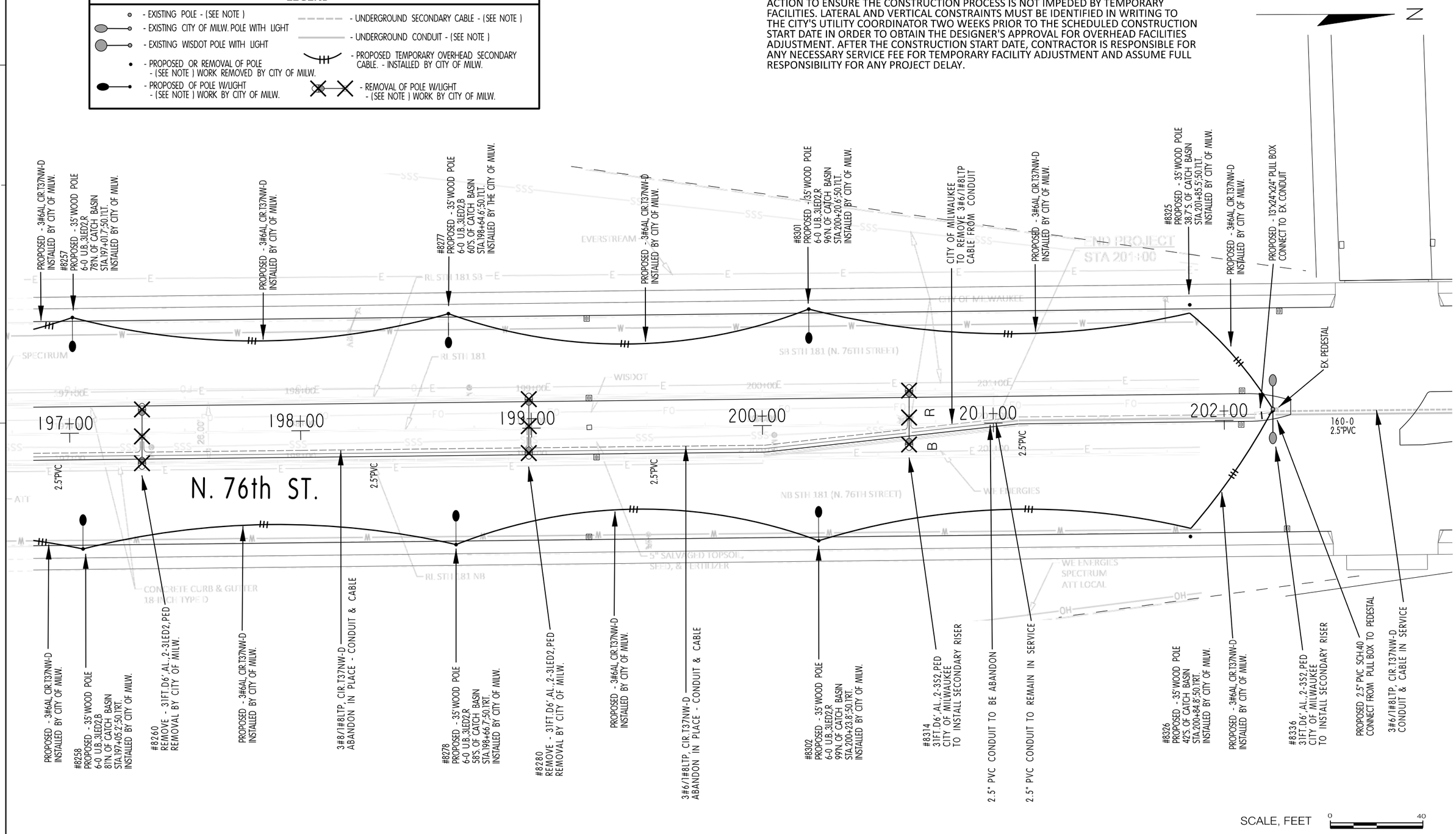
FILE NAME : W:\bes_WisDot\2023\(2967-17-70) STH 175 & STH 181\SL Overhead\SL Overhead Master.dgn PLOT DATE : 27-JUL-2022 08:49 PLOT BY : dkozel PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

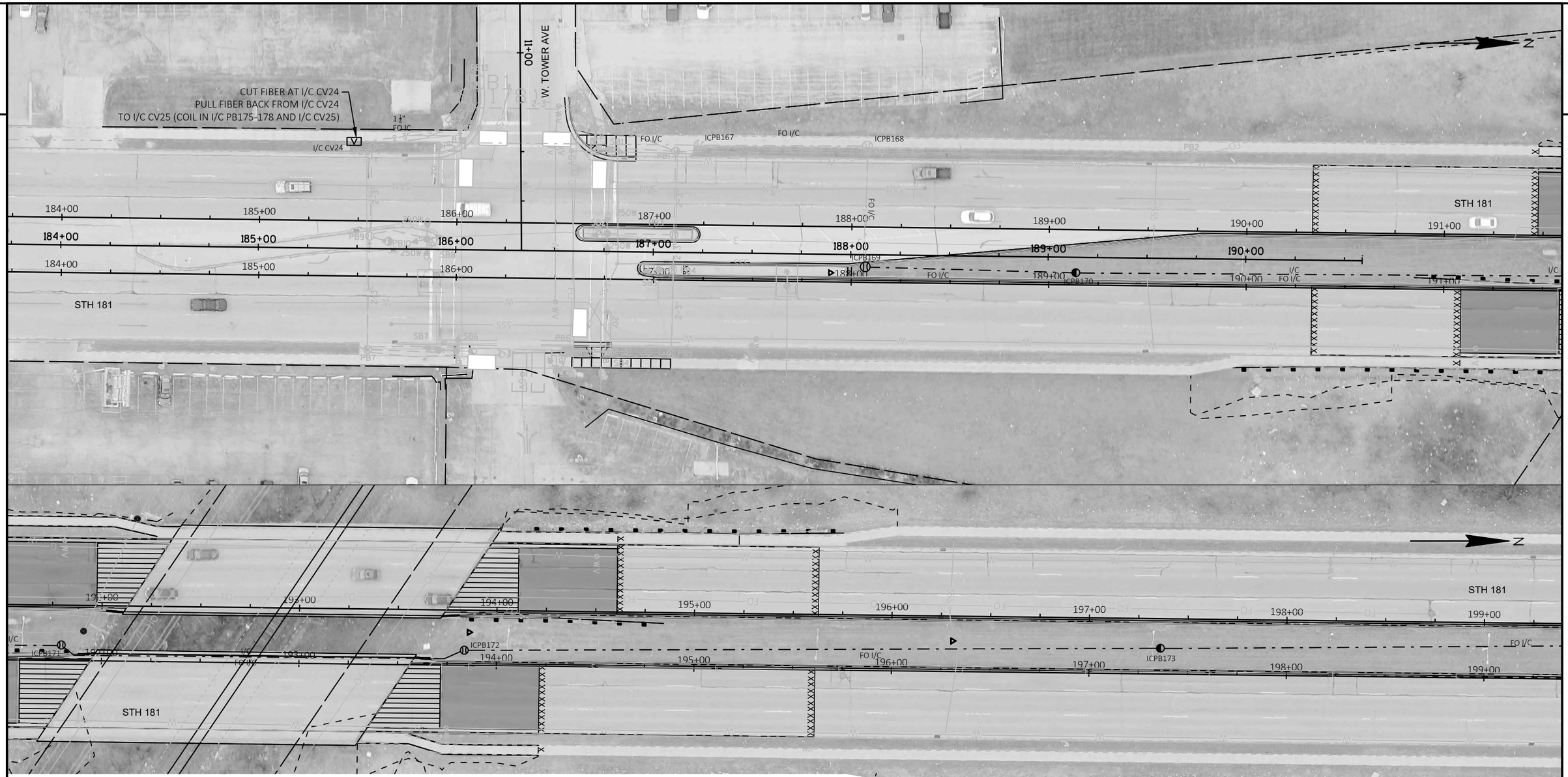
LEGEND

- EXISTING POLE - (SEE NOTE)
- EXISTING CITY OF MILW. POLE WITH LIGHT
- EXISTING WISDOT POLE WITH LIGHT
- PROPOSED OR REMOVAL OF POLE - (SEE NOTE) WORK REMOVED BY CITY OF MILW.
- PROPOSED OF POLE W/LIGHT - (SEE NOTE) WORK BY CITY OF MILW.
- UNDERGROUND SECONDARY CABLE - (SEE NOTE)
- UNDERGROUND CONDUIT - (SEE NOTE)
- PROPOSED TEMPORARY OVERHEAD SECONDARY CABLE. - INSTALLED BY CITY OF MILW.
- REMOVAL OF POLE W/LIGHT - (SEE NOTE) WORK BY CITY OF MILW.

CONTRACTOR MUST WORK IN CONJUNCTION WITH THE TEMPORARY STREET LIGHTING OVERHEAD FACILITIES AND TEMPORARY POLES. CONTRACTOR IS RESPONSIBLE TO TAKE ALL NECESSARY ACTION TO ENSURE THE CONSTRUCTION PROCESS IS NOT IMPEDED BY TEMPORARY FACILITIES. LATERAL AND VERTICAL CONSTRAINTS MUST BE IDENTIFIED IN WRITING TO THE CITY'S UTILITY COORDINATOR TWO WEEKS PRIOR TO THE SCHEDULED CONSTRUCTION START DATE IN ORDER TO OBTAIN THE DESIGNER'S APPROVAL FOR OVERHEAD FACILITIES ADJUSTMENT. AFTER THE CONSTRUCTION START DATE, CONTRACTOR IS RESPONSIBLE FOR ANY NECESSARY SERVICE FEE FOR TEMPORARY FACILITY ADJUSTMENT AND ASSUME FULL RESPONSIBILITY FOR ANY PROJECT DELAY.



PROJECT NO. 2967-17-70	STH 181, STH 175	COUNTY: MILWAUKEE	STREET LIGHTING - PROPOSED OVERHEAD PLAN	SHEET 51	E



CONSTRUCTION NOTES:

1. BEFORE CUTTING THE FIBER, CONTRACTOR SHALL CONTACT REGIONAL ELECTRICAL FIELD UNIT AT LEAST FIVE WORKING DAYS AT 414-266-1170.
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. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. GRAYSAHDE REPRESENTS EXISTING.
   BOLD REPRESENTS ITEMS TO BE REMOVED.

LEGEND

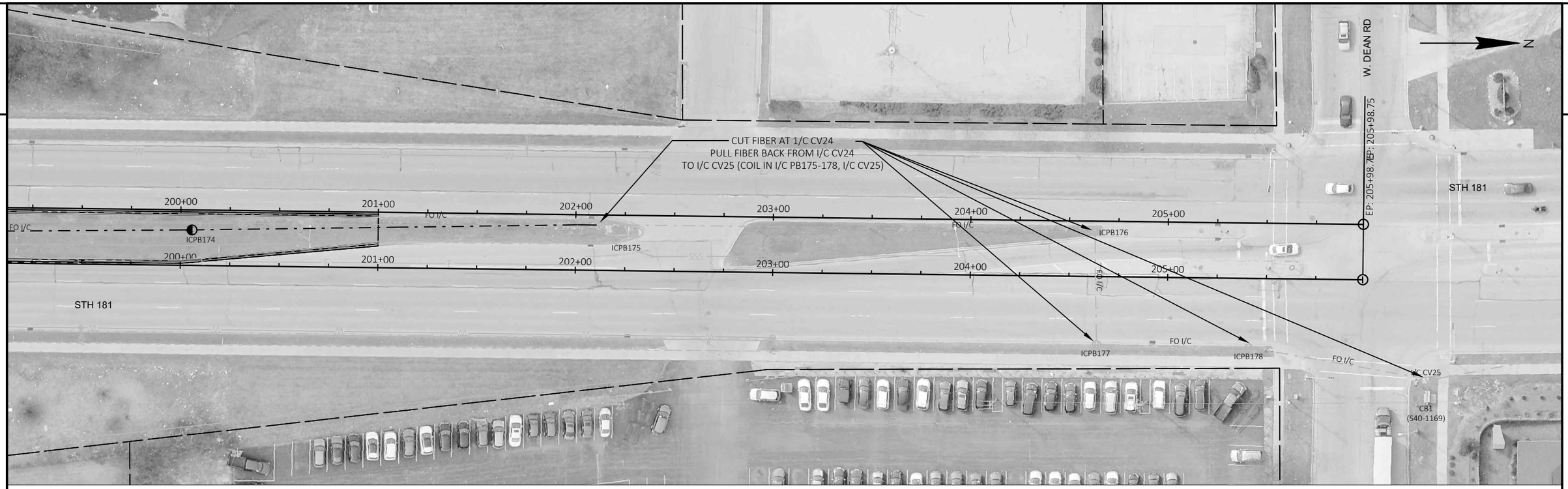
- CONTROL CABINET
- CONDUIT HDPE 1-DUCT 2-INCH UNLESS OTHERWISE NOTED
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- COMMUNICATIONS VAULT

SIGNAL INTERCONNECT PLAN
STH 181 (N. 76TH STREET)
CITY OF MILWAUKEE
COUNTY MILWAUKEE

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC SIGNAL INTERCONNECT REMOVAL PLAN	SHEET 52	E

FILE NAME : N:\PDS\C3D\CAD\29671700\SIG\INTERCONNECT\024101_IC_RM.DWG
LAYOUT NAME - 01
PLOT DATE : 7/29/2022 7:11 AM
PLOT BY : WAGNER, SCOTT H
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42



LEGEND

- CONTROL CABINET
- CONDUIT HDPE 1-DUCT 2-INCH UNLESS OTHERWISE NOTED
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- COMMUNICATIONS VAULT

SIGNAL INTERCONNECT PLAN
STH 181 (N. 76TH STREET)
CITY OF MILWAUKEE
COUNTY MILWAUKEE

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

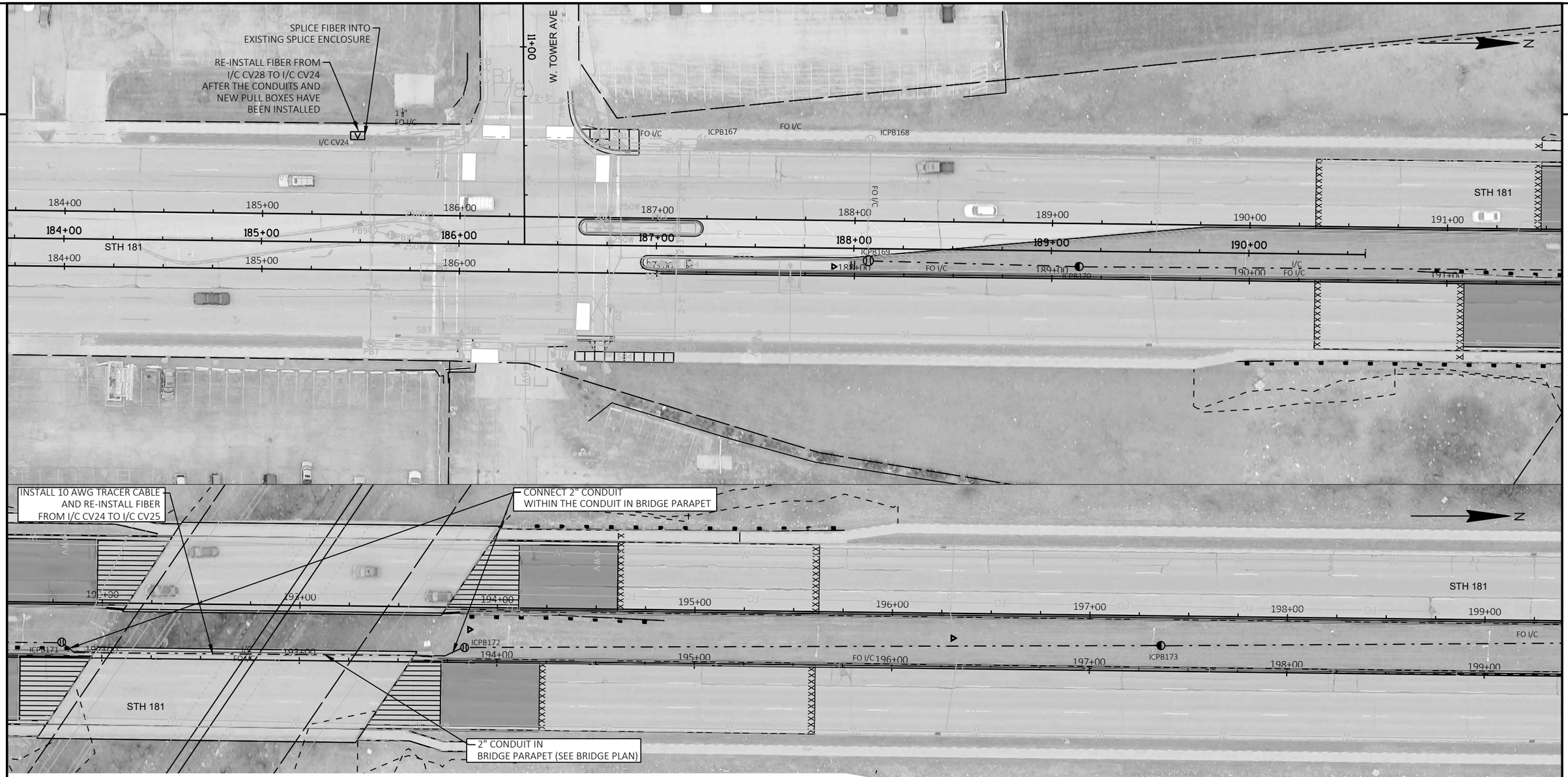
PAGE 2 OF 2

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC SIGNAL INTERCONNECT REMOVAL PLAN	SHEET 53	E

FILE NAME : N:\PDS\C3D\CAD\29671700\SIG\INTERCONNECT\024101_IC_RM.DWG
LAYOUT NAME - 02

PLOT DATE : 7/29/2022 7:11 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42



CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING INTERCONNECT CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
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. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. LEAVE 100-FEET OF FIBER OPTIC INTERCONNECT CABLE COILED IN EACH INTERCONNECT VAULT. LEAVE 30-FEET OF FIBER OPTIC CABLE IN EACH INTERCONNECT PULL BOX.
5. INSTALL 10 AWG TRACER CABLE IN INTERCONNECT CONDUIT.
6. SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS OF FIBER OPTIC WARNING TAPE.
7. MAINLINE SPLICES SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD.
8. HDPE INTERCONNECT CONDUIT SHALL BE INSTALLED AS SHOWN ON THE MISCELLANEOUS QUANTITIES TABLES.

LEGEND

- CONTROL CABINET
- CONDUIT HDPE 2-DUCT 2-INCH UNLESS OTHERWISE NOTED
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- COMMUNICATIONS VAULT

SIGNAL INTERCONNECT PLAN
STH 181 (N. 76TH STREET)
CITY OF MILWAUKEE
COUNTY MILWAUKEE

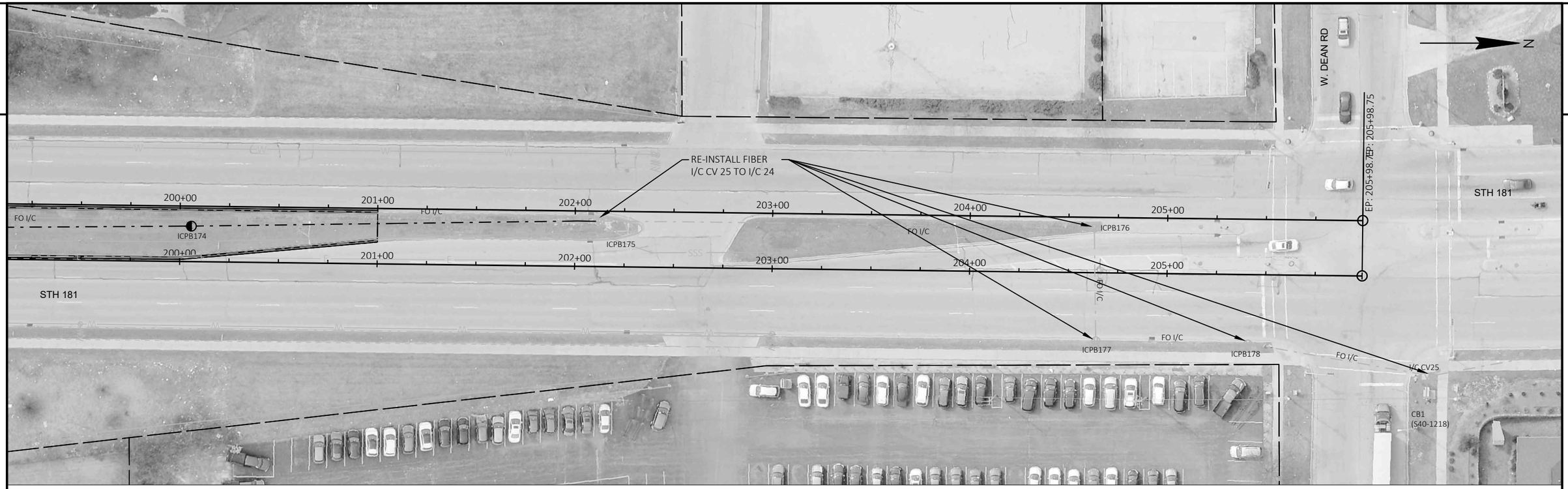
REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 1 OF 2

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 54	E

FILE NAME : N:\PDS\C3D\CAD\29671700\SIG\INTERCONNECT\024001_IC.DWG
LAYOUT NAME - 01
PLOT DATE : 10/26/2023 1:27 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : ############

WISDOT/CADDS SHEET 42



SIGNAL INTERCONNECT PLAN
STH 181 (N. 76TH STREET)
CITY OF MILWAUKEE
COUNTY MILWAUKEE

REGION CONTACT: P. VIRK
DESIGNED BY: S. WAGNER
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET 55	E

FILE NAME : N:\PDS\C3D\CAD\29671700\SIG\INTERCONNECT\024001_IC.DWG
LAYOUT NAME - 02

PLOT DATE : 10/26/2023 1:28 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

2

MATCH LINE 190+50

N

TOWER AVE

BEGIN PROJECT
STA 187+15.00

MARKING STOP LINE
EPOXY 18-INCH

MARKING CROSSWALK EPOXY
TRANSVERSE LINE 6-INCH

MARKING LINE GROOVED WET REF EPOXY 6-INCH
(37.5' GAP, 12.5' LINE WHITE)

MARKING LINE GROOVED WET
REF EPOXY 10-INCH

SB STH 181 (N. 76TH ST)

RL STH 181

185+00

186+00

187+00

188+00

189+00

190+00

NB STH 181 (N. 76TH ST)

MARKING DIAGONAL EPOXY 12-INCH

STA 186+60 BEGIN REMOVAL OF ALL PAVEMENT MARKINGS USING
MARKING REMOVAL LINE WATER BLASTING 4-INCH (LANE LINE SKIPS)
MARKING REMOVAL LINE WATER BLASTING 8-INCH (CHANNELIZING LINES)
MARKING REMOVAL LINE WATER BLASTING WIDE (CROSS WALKS & STOP BARS)

MARKING LINE GROOVED WET
REF EPOXY 6-INCH
(37.5' GAP, 12.5' LINE WHITE)

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 56	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 04

PLOT DATE : 10/4/2023 10:43 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

MATCH LINE 196+50

2

MARKING LINE GROOVED WET REF EPOXY 6-INCH
(37.5' GAP, 12.5' LINE WHITE)

B-40-380

RL STH 181

SB STH 181 (N. 76TH ST)

191+00 192+00 193+00 194+00 195+00 196+00

NB STH 181 (N. 76TH ST)

B-40-381

MARKING LINE GROOVED WET
REF EPOXY 6-INCH
(37.5' GAP, 12.5' LINE WHITE)

MATCH LINE 190+50

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 57	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 05

PLOT DATE : 10/4/2023 10:43 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

N

MATCH LINE 202+50

MARKING LINE GROOVED WET REF EPOXY 6-INCH
(37.5' GAP, 12.5' LINE WHITE)

END PROJECT
STA 201+00.00

SB STH 181 (N. 76TH ST)

RL STH 181

197+00 198+00 199+00 200+00 201+00 202+00

NB STH 181 (N. 76TH ST)

MARKING LINE GROOVED WET
REF EPOXY 6-INCH
(37.5' GAP, 12.5' LINE WHITE)

MARKING LINE GROOVED
WET REF EPOXY 10-INCH

MATCH LINE 196+50

2

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 58	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 06

PLOT DATE : 10/4/2023 10:43 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

MARKING LINE GROOVED WET REF EPOXY 6-INCH
(37.5' GAP, 12.5' LINE WHITE)

MARKING CROSSWALK EPOXY
TRANSVERSE LINE 6-INCH

EP: 205+98.75

MARKING LINE GROOVED WET
REF EPOXY 10-INCH

203+00 204+00 205+00

MARKING LINE GROOVED WET
REF EPOXY 6-INCH
(37.5' GAP, 12.5' LINE WHITE)

MARKING DIAGONAL EPOXY 12-INCH

MARKING STOP LINE
EPOXY 18-INCH

STA 205+75 END REMOVAL OF ALL PAVEMENT MARKINGS USING
MARKING REMOVAL LINE WATER BLASTING 4-INCH (LANE LINE SKIPS)
MARKING REMOVAL LINE WATER BLASTING 8-INCH (CHANNELIZING LINES)
MARKING REMOVAL LINE WATER BLASTING WIDE (CROSS WALKS & STOP

MATCH LINE 202+50

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PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 59	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 07

PLOT DATE : 10/4/2023 10:43 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

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 FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
2. CONFLICTING TRAFFIC SIGNS SHALL BE REMOVED OR COVERED AS DIRECTED BY THE ENGINEER.
3. ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.
4. ALL TRAFFIC CONTROL DRUMS ALONG STH 181 ARE SPACED AT 25 FEET AND FLEXIBLE TUBULAR MARKERS ARE SPACED AT 15 FEET, UNLESS OTHERWISE NOTED.
5. REMOVE CONFLICTING PAVEMENT MARKING ON STH 181 BY UTILIZING REMOVAL LINE GROOVED PERMANENT TAPE FOR EXISTING TAPE OR BY MARKING REMOVAL LINE WATER BLASTING FOR EXISTING EPOXY.
6. NO TRAFFIC CONTROL SIGNS OR DEVICES TO BE PLACED WITHIN 50 FEET OF THE RAILROAD RIGHT-OF-WAY
7. PLACE PRE-CONSTRUCTION MESSAGE SIGN 7 DAYS PRIOR TO STAGE 1.

TRAFFIC CONTROL DEVICE LEGEND

- TYPE II BARRICADE WITH ATTACHED SIGN
- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN WITH TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- WORK AREA
- PEDESTRIAN DETOUR ROUTE
- HMA PAVEMENT FROM PREVIOUS STAGE

TEMPORARY MARKING LEGEND STH 181 STREET

1. TEMPORARY MARKING LINE PAINT 6-INCH WHITE
2. TEMPORARY MARKING LINE PAINT 10-INCH WHITE
3. TEMPORARY MARKING LINE PAINT 6-INCH YELLOW

PRE-CONSTRUCTION MESSAGING

STH 181
PLACE SIGN G20-57B 7 DAYS PRIOR TO STAGE 1 TO NOTIFY TRAFFIC OF UPCOMING ROAD WORK.
HWY 181
BRIDGE WORK
BEGINS XXX-XX

TRAFFIC CONTROL STAGING OVERVIEW

STH 181

STAGE 1:
TRAFFIC: INSIDE LANE CLOSURES
CONSTRUCTION: INSTALL CROSSOVERS

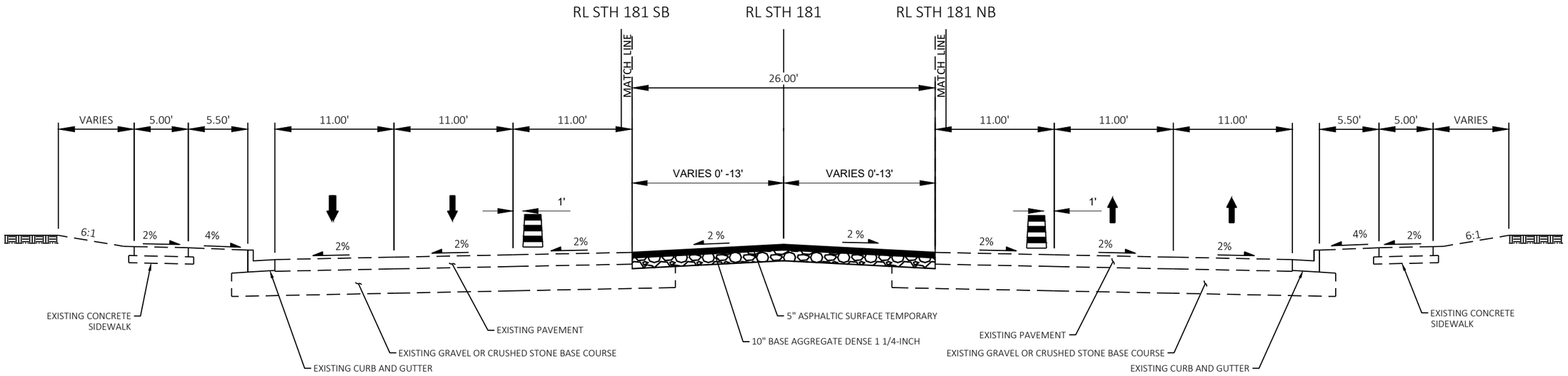
STAGE 2:
TRAFFIC: CROSSOVER SB STH 181 TRAFFIC AS SHOWN ON PLANS
CONSTRUCTION: WORK ON B-40-380

STAGE 3:
TRAFFIC: CROSSOVER NB STH 181 TRAFFIC AS SHOWN ON PLANS
CONSTRUCTION: WORK ON B-40-381

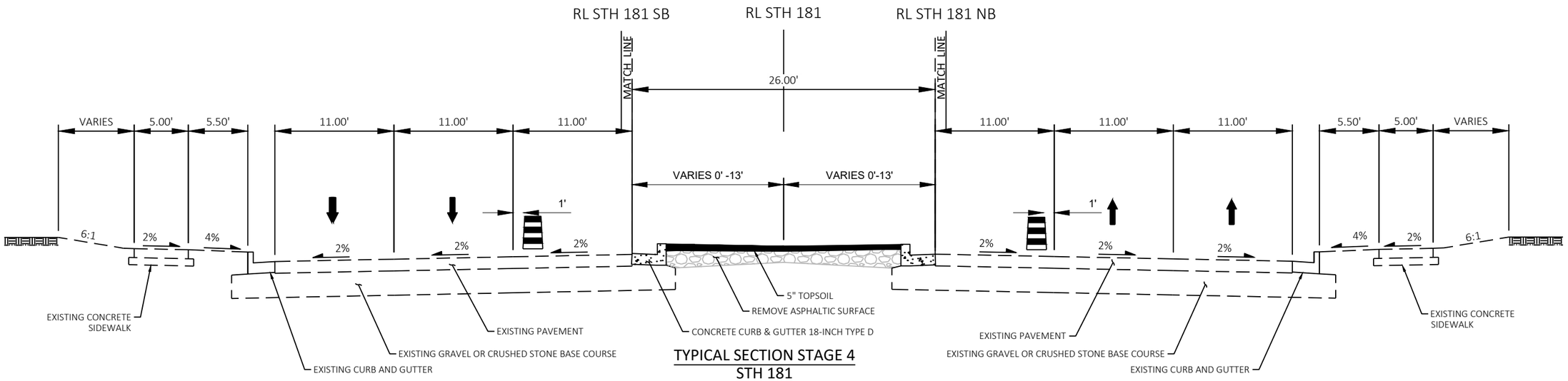
STAGE 4:
TRAFFIC: INSIDE LANE CLOSURES - SAME AS STAGE 1
CONSTRUCTION: REMOVE CROSSOVERS

2

2



TYPICAL SECTION STAGE 1
STH 181
CROSSOVERS

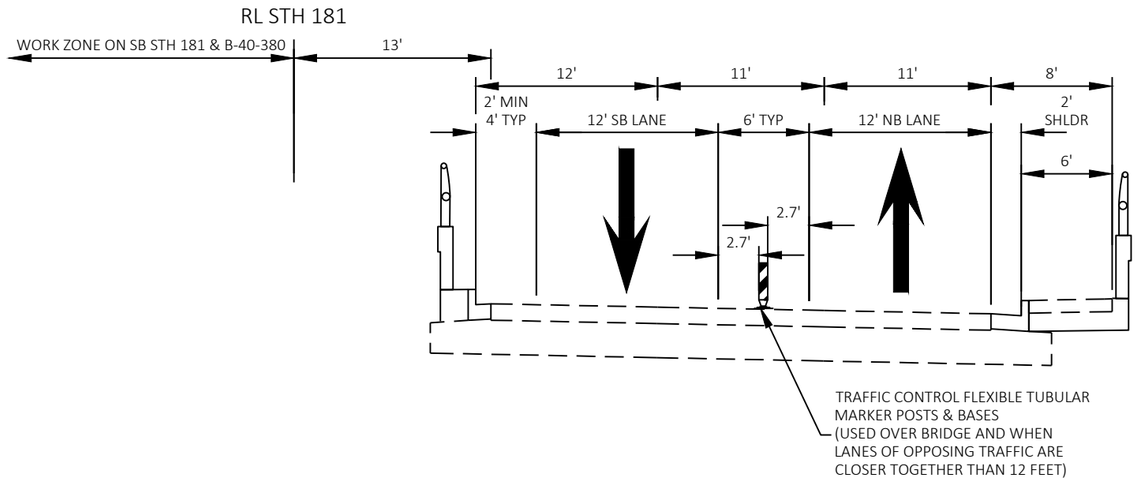


TYPICAL SECTION STAGE 4
STH 181
CROSSOVERS

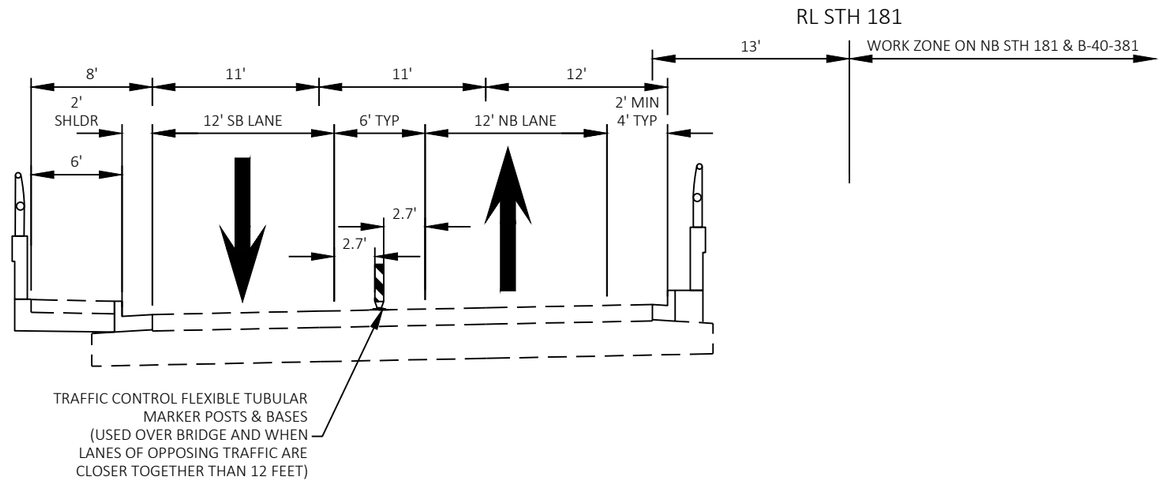
PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 TYPICAL SECTIONS	SHEET 61	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025001_TC.DWG
LAYOUT NAME - 02
PLOT DATE : 10/4/2023 11:51 AM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



TYPICAL SECTION STAGE 2
STH 181
IN CROSSOVER OVER STRUCTURE B-40-381



TYPICAL SECTION STAGE 3
STH 181
IN CROSSOVER OVER STRUCTURE B-40-380

NOTES:
- REMOVAL OF TEMPORARY MEDIAN PAVEMENT IN STAGE 4, FOLLOW THE SAME TRAFFIC CONTROL DETAIL.

2

2

N

W LOLITA AVE

W TOWER AVE

W BRADLEY RD

SB STH 181 (S. 76TH ST)

NB STH 181 (S. 76TH ST)

350'

350'

350'

BP: 179+40.91

180

182

184

186

END ROAD WORK
G20-2A
48"X24"

R11-2
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

RIGHT TURN ONLY
R3-53R
24"X30"

ROAD WORK AHEAD
W20-1A

BEGIN LEFT TURN LANE
R3-20L
24"X36"

ROAD WORK AHEAD
W20-1A

LEFT LANE CLOSED AHEAD
W20-5A

W04-2L

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

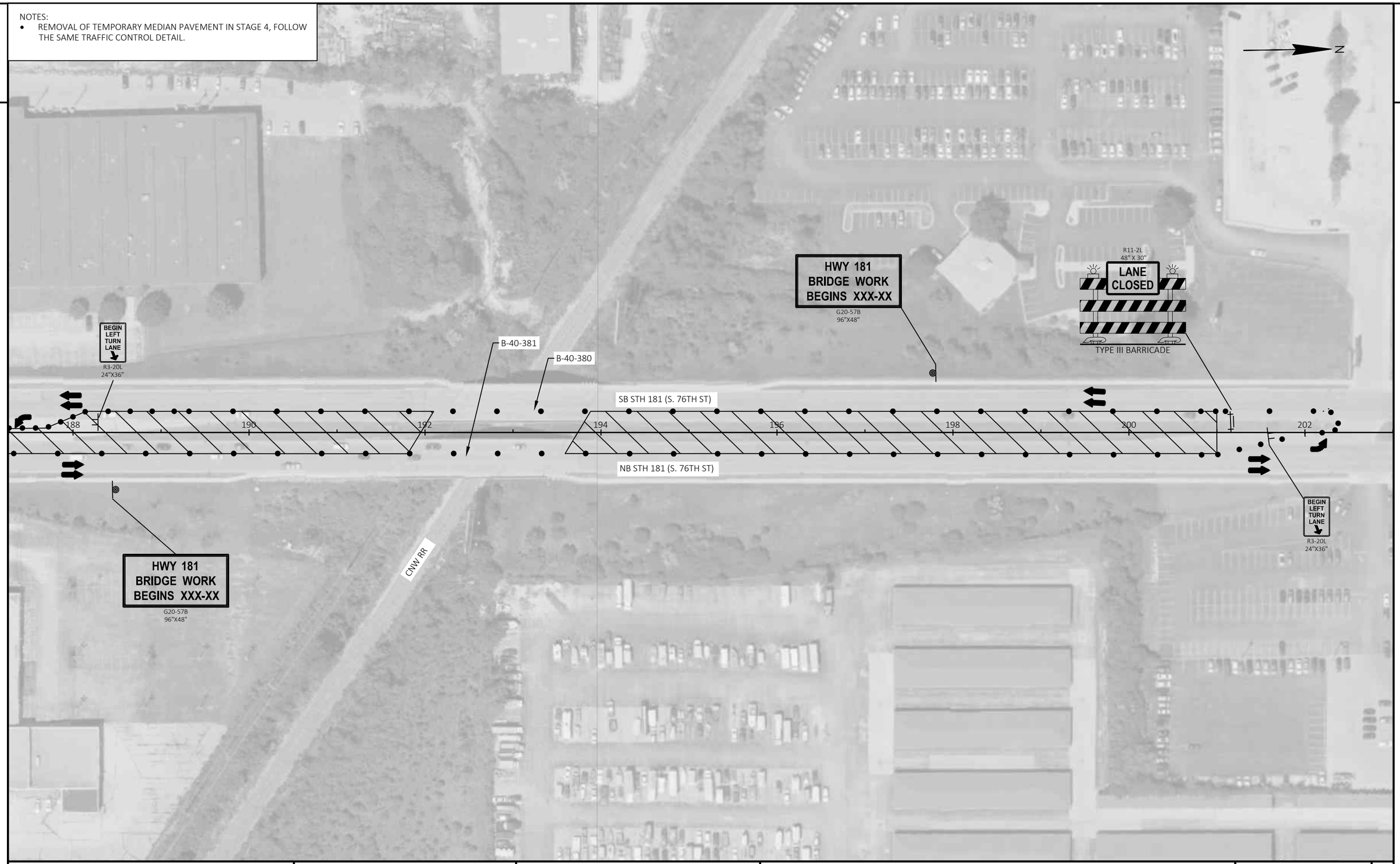
PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 1	SHEET 63	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025006_TC.DWG
LAYOUT NAME - 01

PLOT DATE : 10/4/2023 12:00 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

NOTES:

- REMOVAL OF TEMPORARY MEDIAN PAVEMENT IN STAGE 4, FOLLOW THE SAME TRAFFIC CONTROL DETAIL.



PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 1	SHEET 64	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025006_TC.DWG
LAYOUT NAME - 02

PLOT DATE : 10/4/2023 12:00 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

NOTES:

- REMOVAL OF TEMPORARY MEDIAN PAVEMENT IN STAGE 4, FOLLOW THE SAME TRAFFIC CONTROL DETAIL.

2

2

N

BEGIN LEFT TURN LANE
R3-20L
24"X36"

ROAD WORK AHEAD
W20-1A

EP: 205+98.75

204

BEGIN LEFT TURN LANE
R3-20L
24"X36"

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

SB STH 181 (S. 76TH ST)

NB STH 181 (S. 76TH ST)

N 76TH PL

W DEAN RD

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 1	SHEET 65	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025006_TC.DWG
LAYOUT NAME - 03

PLOT DATE : 10/4/2023 12:00 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

NOTES:

- REMOVAL OF TEMPORARY MEDIAN PAVEMENT IN STAGE 4, FOLLOW THE SAME TRAFFIC CONTROL DETAIL.

2

2

N

2022 M

W BROWN DEER RD

SB STH 181 (S. 76TH ST)

NB STH 181 (S. 76TH ST)

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

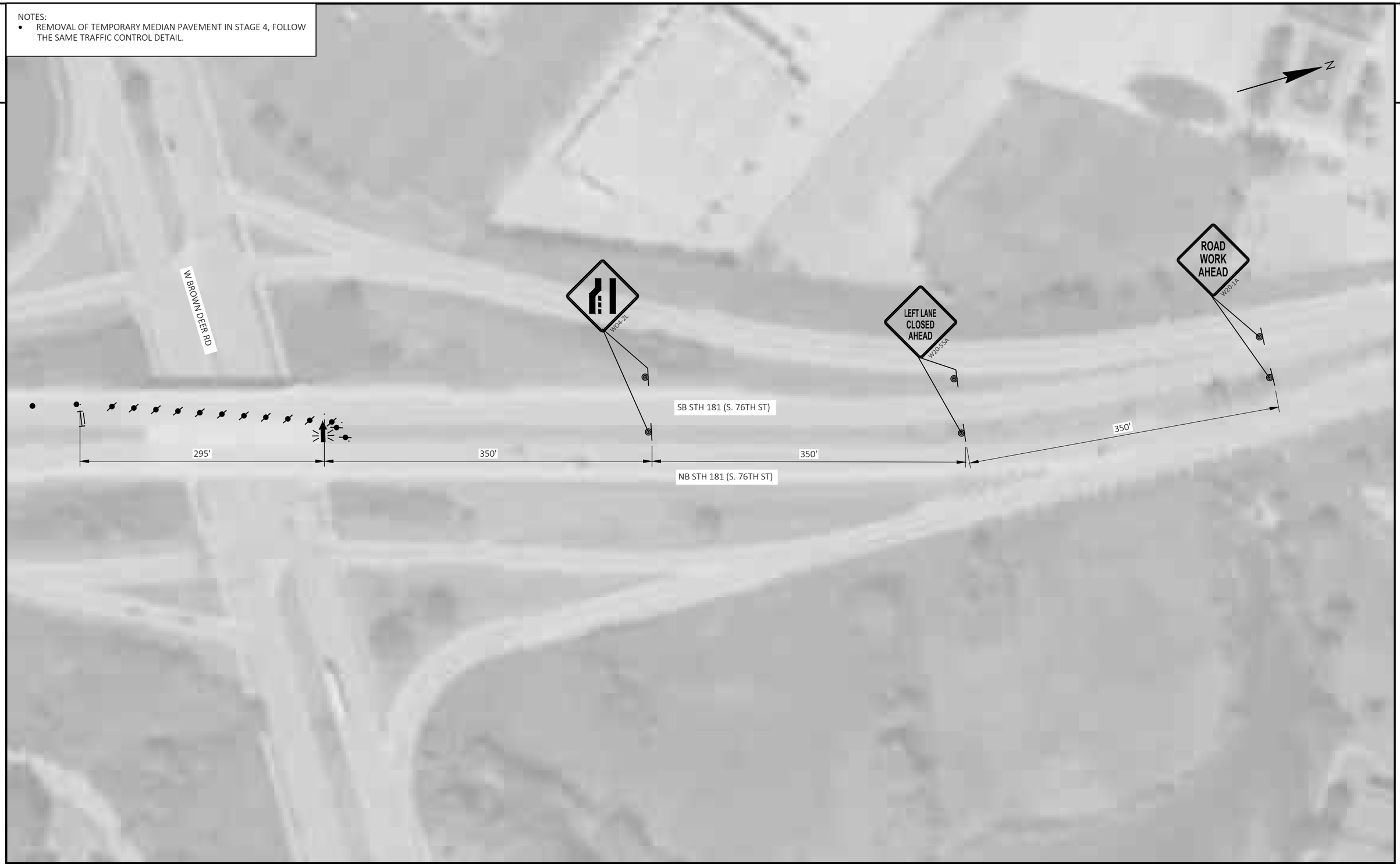
PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 1	SHEET 66	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025006_TC.DWG
LAYOUT NAME - 04

PLOT DATE : 10/4/2023 12:00 I STH 181 (N 76TH ST) ' : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

NOTES:
- REMOVAL OF TEMPORARY MEDIAN PAVEMENT IN STAGE 4, FOLLOW THE SAME TRAFFIC CONTROL DETAIL.

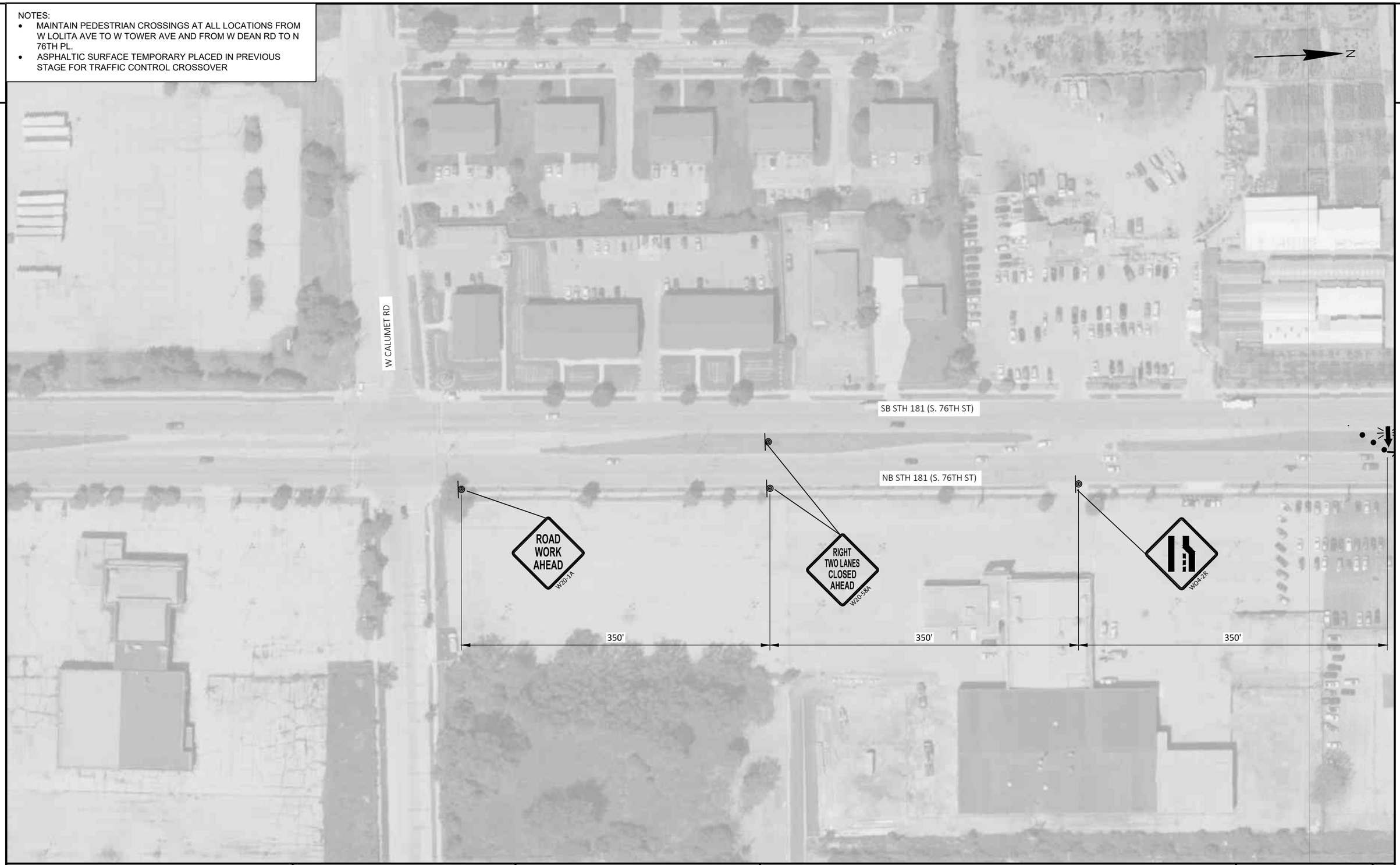


PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 1	SHEET 67	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025006_TC.DWG
LAYOUT NAME - 05
PLOT DATE : 10/4/2023 12:00 PM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

NOTES:

- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER



PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 2 LAYOUT	SHEET 68	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - 6

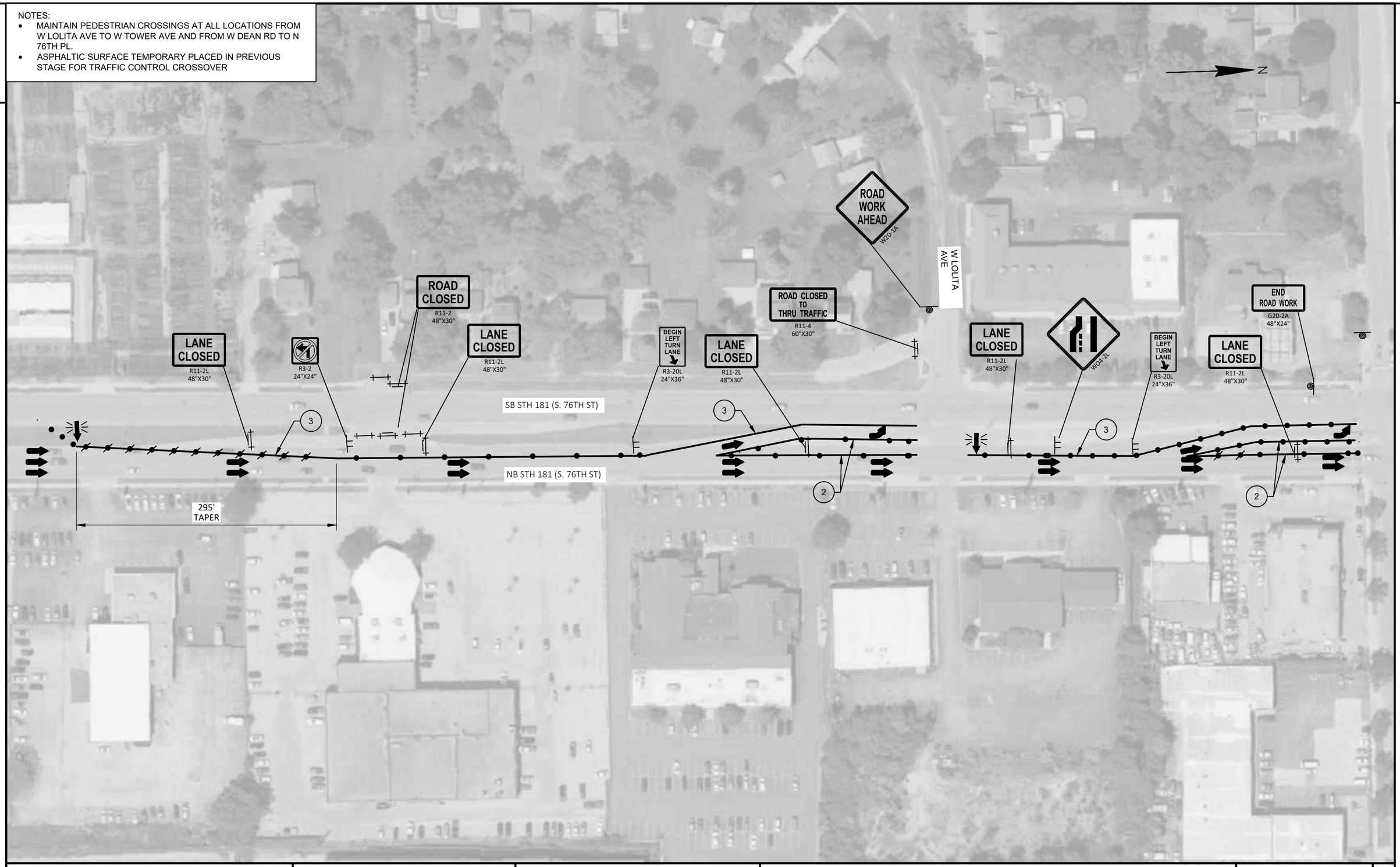
PLOT DATE : 10/4/2023 11:52 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

NOTES:

- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER



PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 2 LAYOUT	SHEET 69	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - 7

PLOT DATE : 10/4/2023 11:52 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

NOTES:

- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER

2

2

N

W TOWER AVE

ROAD WORK AHEAD W20-1A

END ROAD WORK G20-2A 48"X24"

LANE CLOSED R11-2L 48"X30"

BEGIN LEFT TURN LANE R3-20L 24"X36"

RIGHT TURN ONLY R3-53R 24"X30"

ROAD CLOSED R11-2 48"X30"

LANE CLOSED R11-2L 48"X30"

ROAD WORK AHEAD W20-1A

DETOUR M4-9BR 30"X24"

R9-9 30" X 18" SIDEWALK CLOSED

TYPE II BARRICADE

TEMPORARY CONCRETE BARRIER SLOPED END

TEMPORARY CONCRETE BARRIER TAPER RATE 6.5:1

24'

180 182 184 186 188 190 192

SB STH 181 (S. 76TH ST)

NB STH 181 (S. 76TH ST)

295' TAPER

DETOUR M4-9BL 30"X24"

R11-2L 48" X 30" LANE CLOSED

TYPE III BARRICADE

ROAD WORK AHEAD W20-1A

W BRADLEY RD

CNW RR

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 2 LAYOUT	SHEET 70	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - 8

PLOT DATE : 10/4/2023 11:52 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

NOTES:

- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER

2

2

N

TEMPORARY CONCRETE BARRIER
TAPER RATE 6.5:1

TEMPORARY CONCRETE BARRIER
SLOPED END

WO5-52R
12"X36"

SB STH 181 (S. 76TH ST)

NB STH 181 (S. 76TH ST)

24'

194 196 198 200 202 204

R9-9
30" X 18"
SIDEWALK CLOSED
TYPE II BARRICADE

LANE CLOSED
R11-2L
48"X30"

RIGHT TURN ONLY
R3-53R
24"X30"

ROAD CLOSED
R11-2
48"X30"

LANE CLOSED
R11-2L
48"X30"

R9-9
30" X 18"
SIDEWALK CLOSED
TYPE II BARRICADE

DETOUR
M4-9BL
30"X24"

ROAD WORK AHEAD
W20-1A

LANE CLOSED
R11-2L
48"X30"

BEGIN RIGHT TURN LANE
R3-20R
24"X36"

RIGHT TURN ONLY
R3-53R
24"X30"

DETOUR
M4-9BR
30"X24"

LANE CLOSED
R11-2L
48"X30"

ROAD WORK AHEAD
W20-1A

W DEAN RD

1 2 3

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 2 LAYOUT	SHEET 71	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - 9

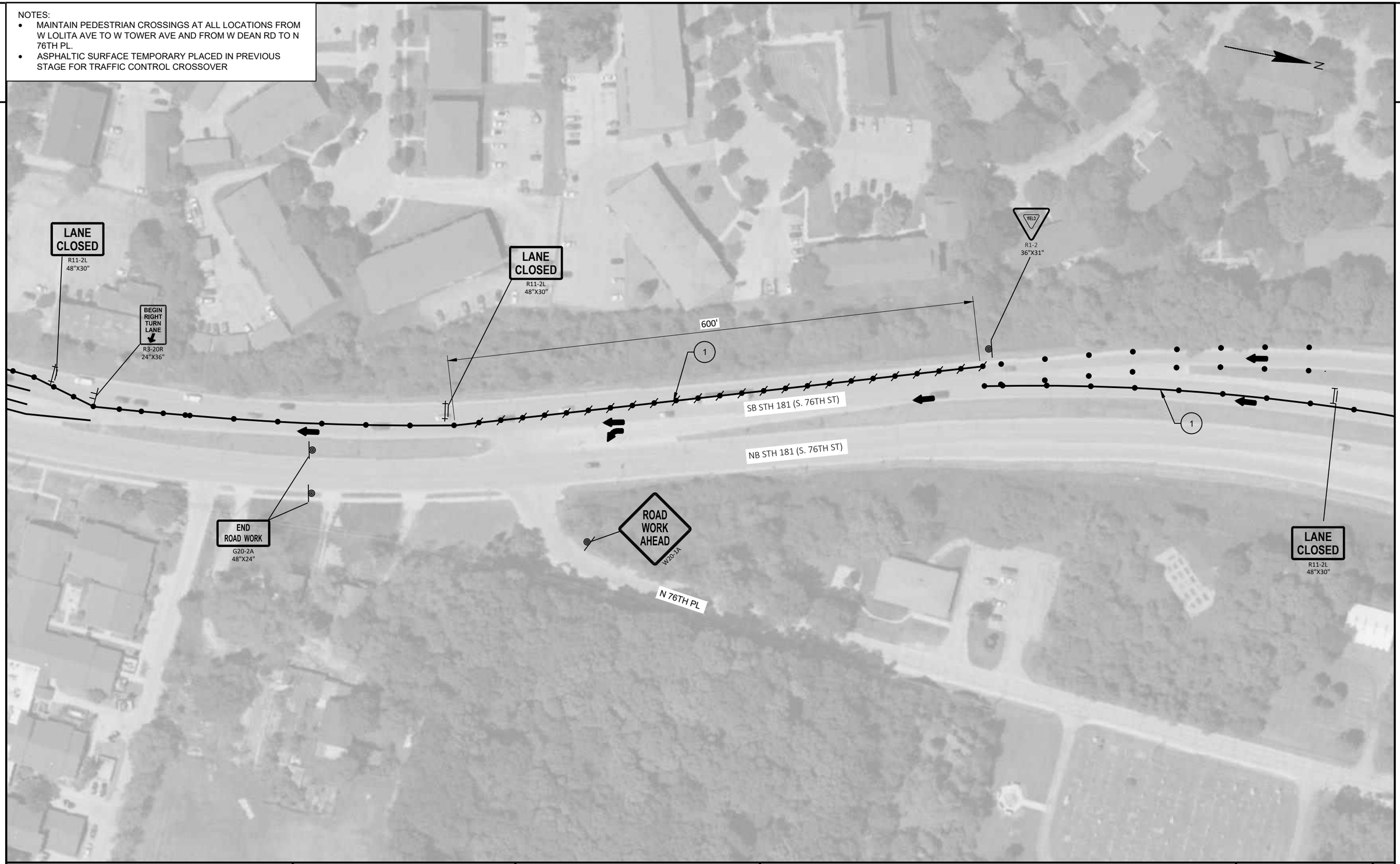
PLOT DATE : 10/4/2023 11:52 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

NOTES:

- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER



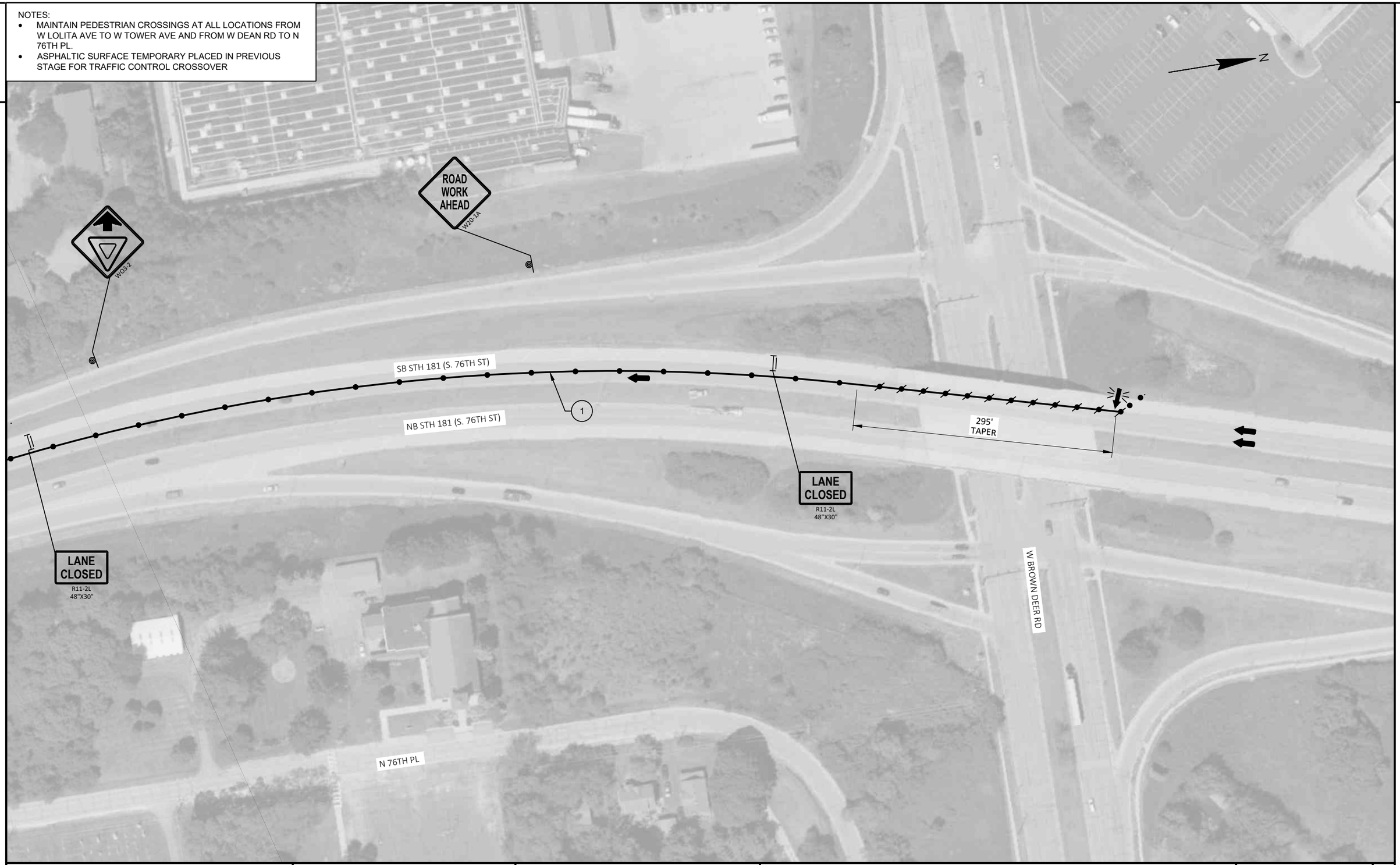
2

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 2 LAYOUT	SHEET 72	E

2

NOTES:

- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER



PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 2 LAYOUT	SHEET 73	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - 11

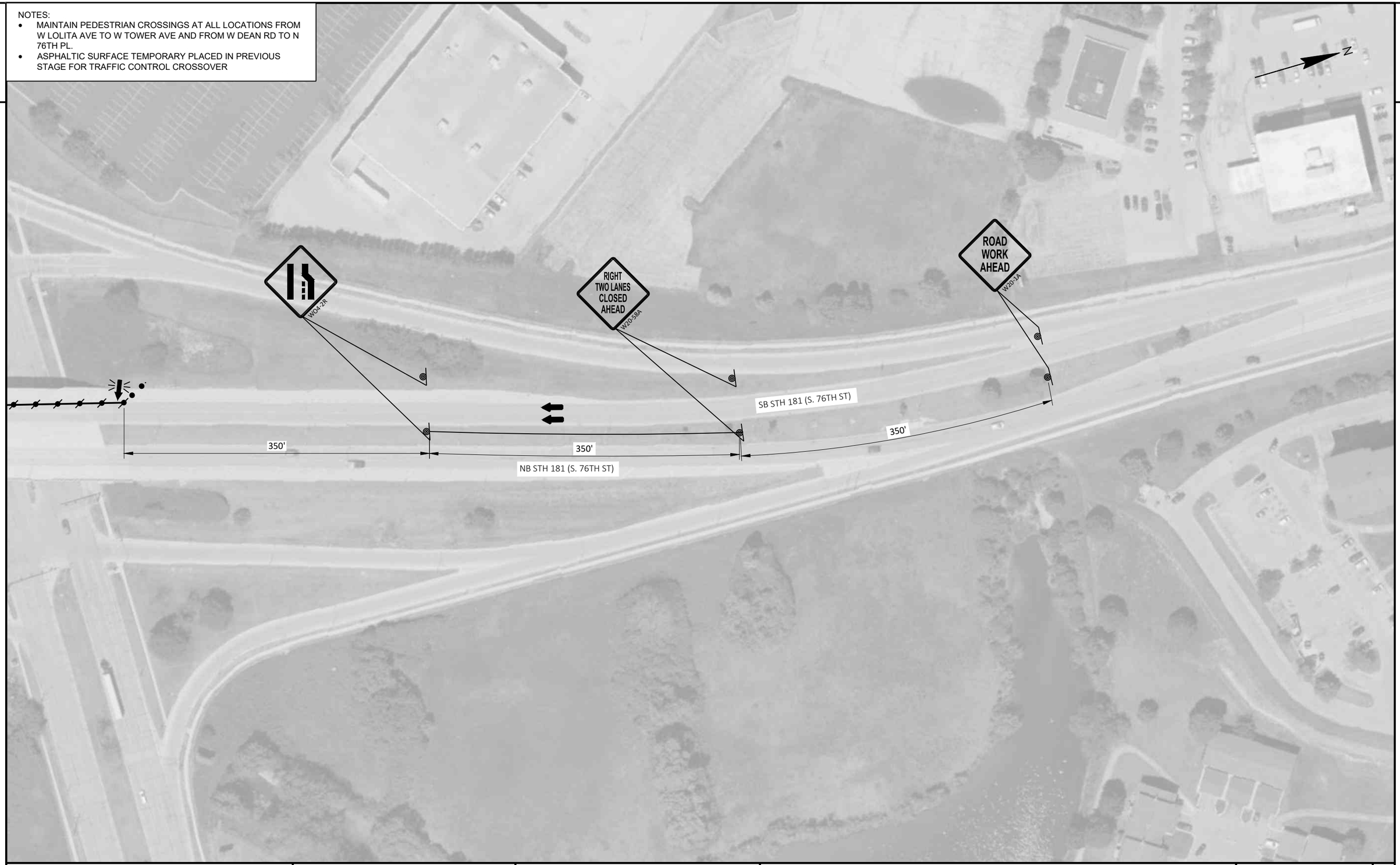
PLOT DATE : 10/4/2023 11:52 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

NOTES:

- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER



2

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 2 LAYOUT	SHEET 74	E

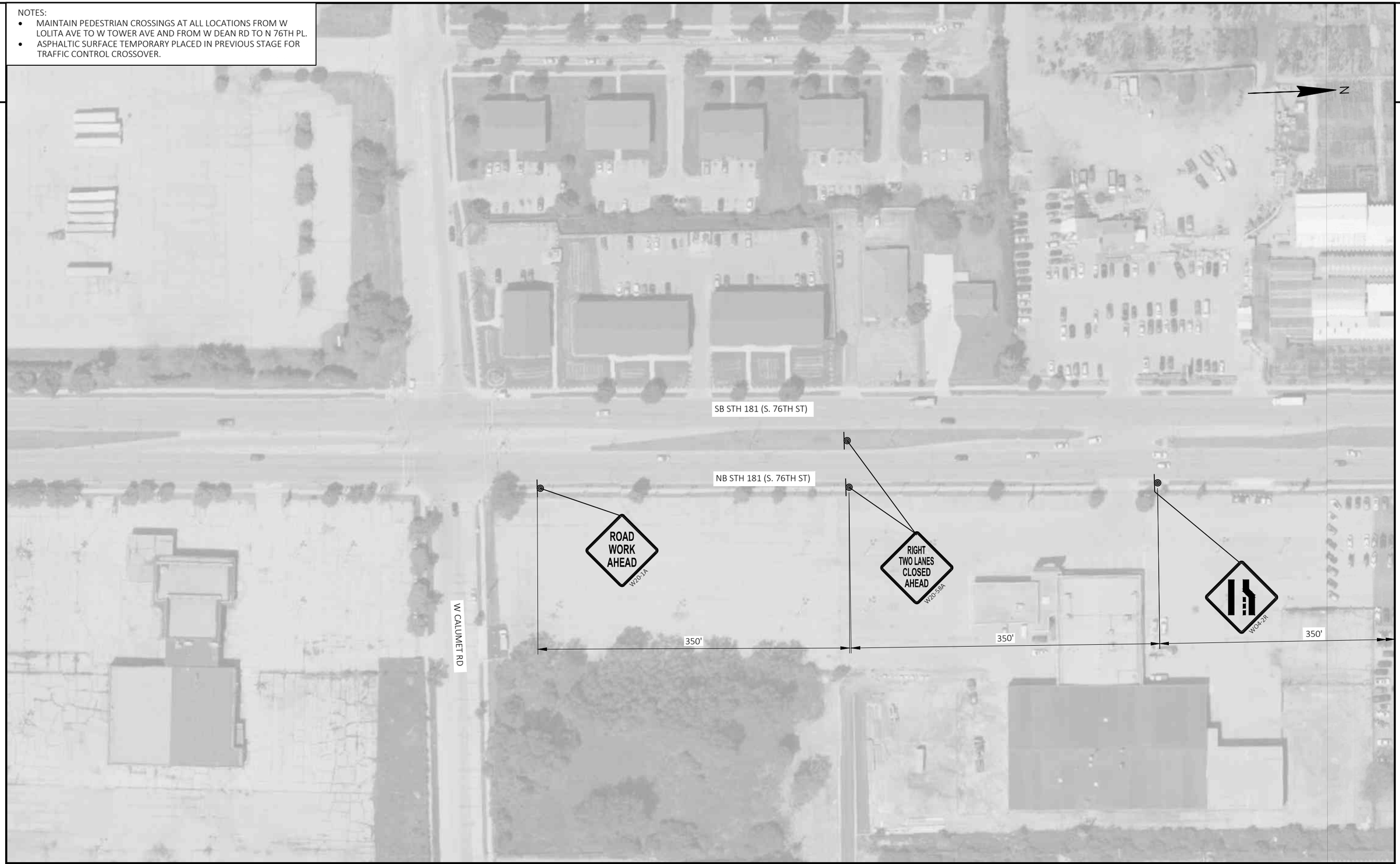
FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - 12

PLOT DATE : 10/4/2023 11:52 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

NOTES:

- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER.



PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 3 LAYOUT	SHEET 75	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025003_TC.DWG
LAYOUT NAME - 01

PLOT DATE : 10/4/2023 11:51 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

NOTES:
- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER.

2

N

ROAD WORK AHEAD
W20-1A

W LOLITA AVE

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

LANE CLOSED
R11-2L
48"X30"

W04-2R

LANE CLOSED
R11-2L
48"X30"

LANE CLOSED
R11-2L
48"X30"

SB STH 181 (S. 76TH ST)

NB STH 181 (S. 76TH ST)

1

MAINTAIN PARKING LOT ACCESS

MAINTAIN PARKING LOT ACCESS

MAINTAIN PARKING LOT ACCESS

LANE CLOSED
R11-2L
48"X30"

MAINTAIN PARKING LOT ACCESS

CLOSE PARKING LOT ACCESS

MAINTAIN PARKING LOT ACCESS

350'

295' TAPER

295.1576' TAPER

W BRADLEY RD

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 3 LAYOUT	SHEET 76	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025003_TC.DWG
LAYOUT NAME - 02

PLOT DATE : 10/4/2023 11:51 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

NOTES:
- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER.

2

2

N

W TOWER AVE

ROAD WORK AHEAD
W20-1A

LANE CLOSED
R11-2L
48"X30"

RIGHT TURN ONLY
R3-53R
24"X30"

ROAD CLOSED
R11-2
48"X30"

LANE CLOSED
R11-2L
48"X30"

DETOUR
M4-9BR
30"X24"

WO5-52L
12"X36"

SB STH 181 (S. 76TH ST)

NB STH 181 (S. 76TH ST)

180 182 184 186 188 190 192 194

24"

MAINTAIN PARKING LOT ACCESS

CLOSE PARKING LOT ACCESS

MAINTAIN PARKING LOT ACCESS

LANE CLOSED
R11-2L
48"X30"

RIGHT TURN ONLY
R3-53R
24"X30"

LANE CLOSED
R11-2L
48"X30"

R9-9
30" X 18"
SIDEWALK CLOSED

TYPE II BARRICADE

DETOUR
M4-9BL
30"X24"

TEMPORARY CONCRETE BARRIER
TAPER RATE 6.5:1

TEMPORARY CONCRETE BARRIER
SLOPED END

CNW RR

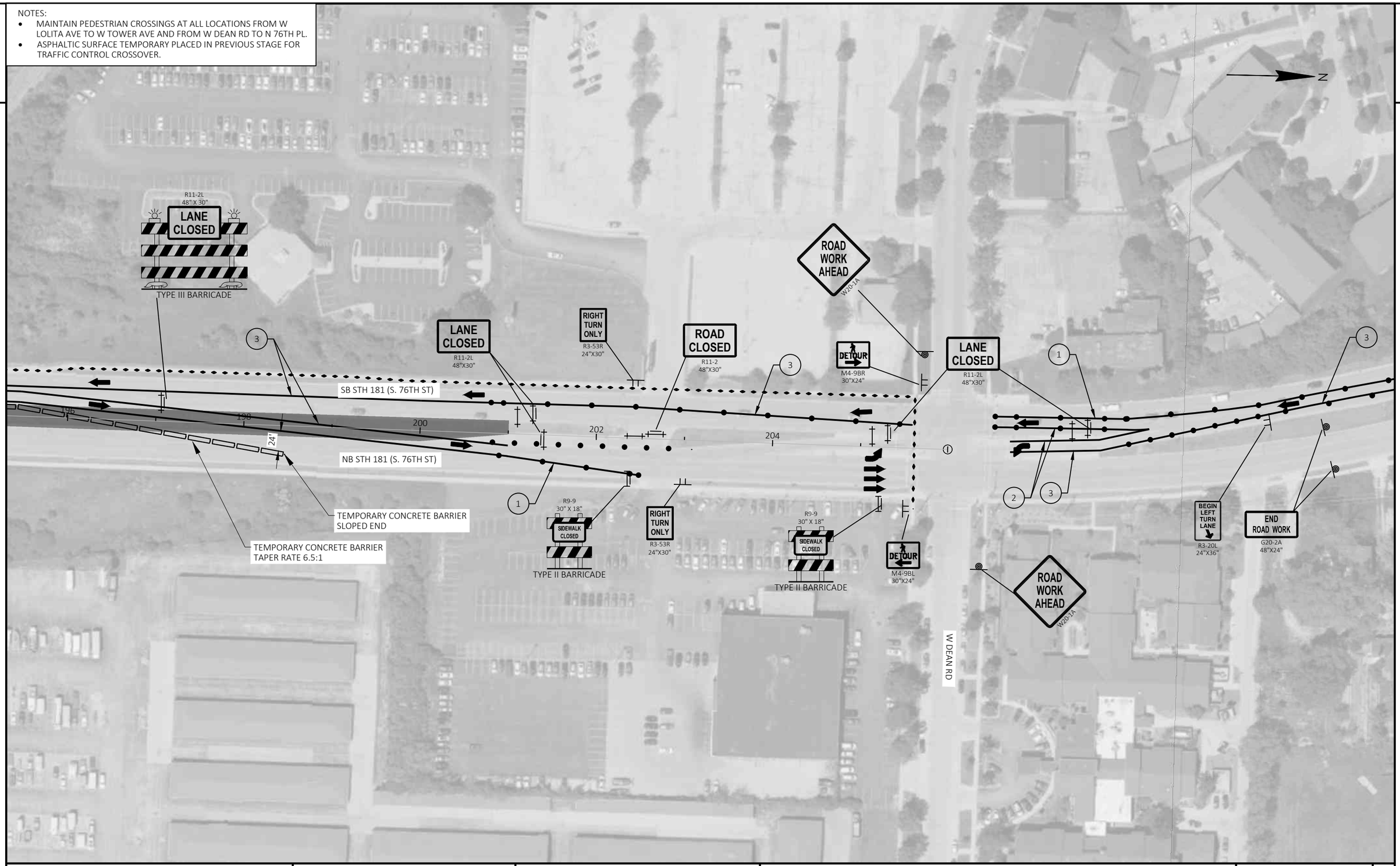
PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 3 LAYOUT	SHEET 77	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025003_TC.DWG
LAYOUT NAME - 03

PLOT DATE : 10/4/2023 11:51 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

NOTES:

- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER.



PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 3 LAYOUT	SHEET 78	E

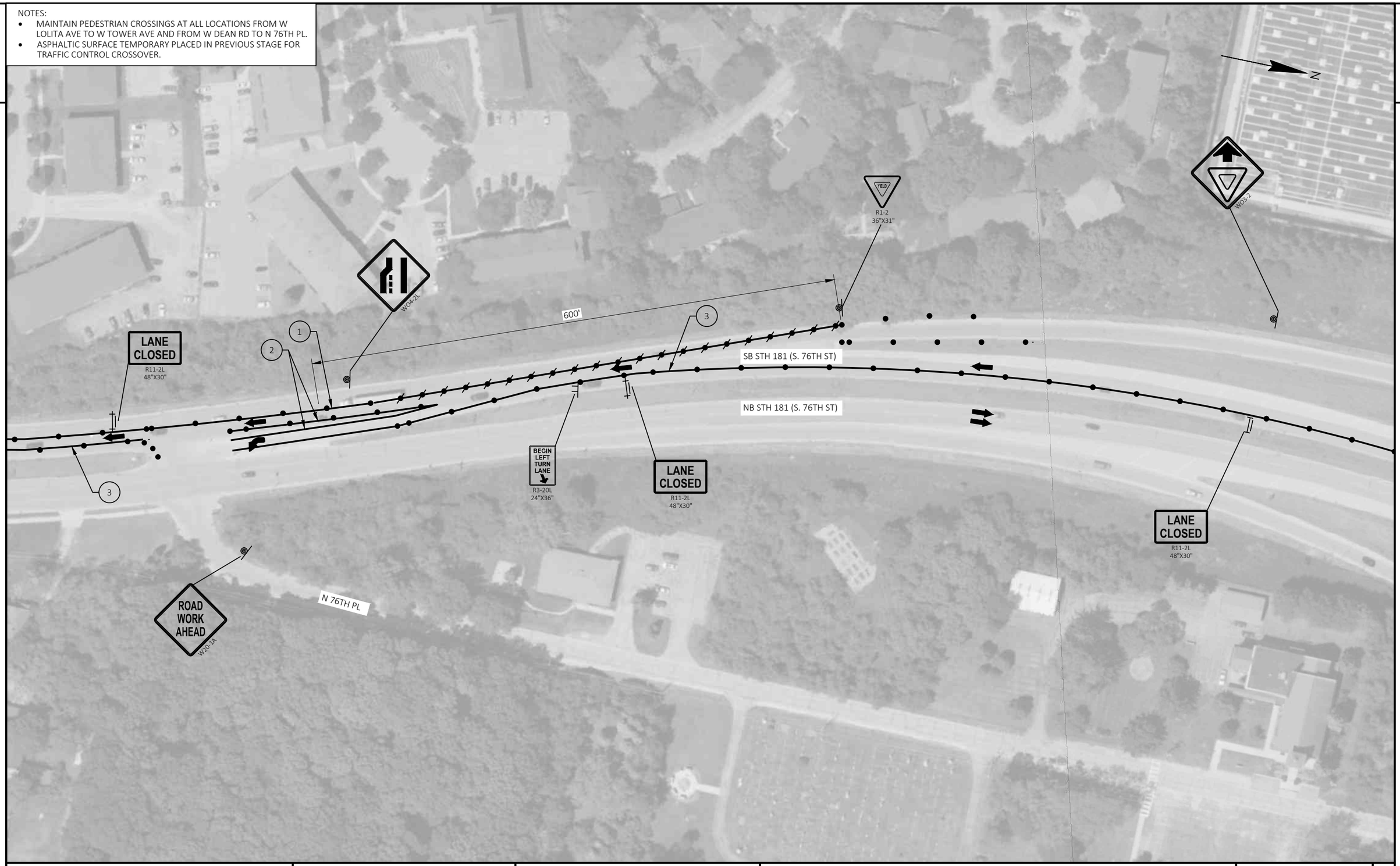
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LAYOUT NAME - 04

PLOT DATE : 10/4/2023 11:51 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

NOTES:
- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER.

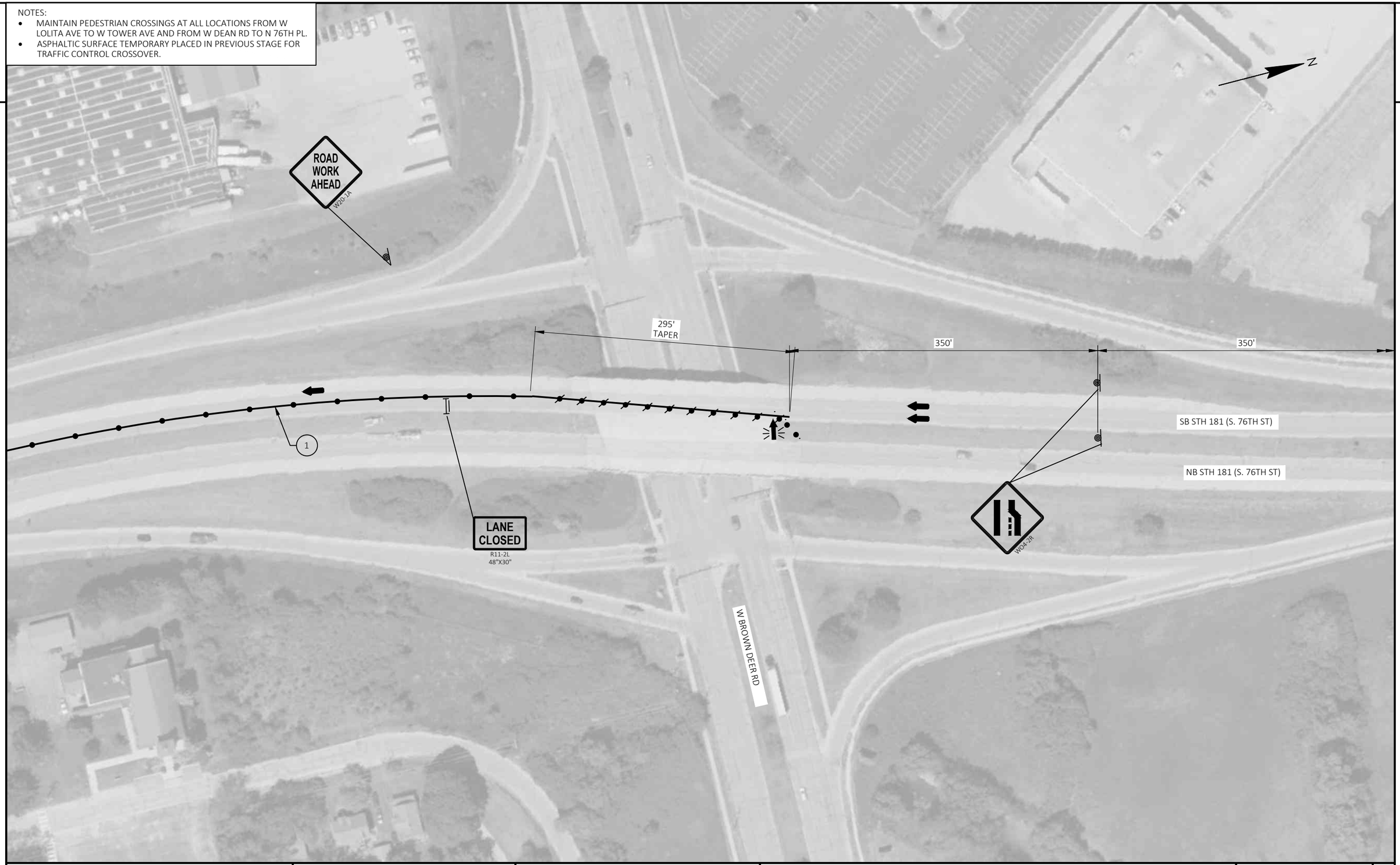


PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 3 LAYOUT	SHEET 79	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025003_TC.DWG
LAYOUT NAME - 05
PLOT DATE : 10/4/2023 11:52 AM
PLOT BY : WATT, TIMOTHY
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

NOTES:

- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER.



PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 3 LAYOUT	SHEET 80	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025003_TC.DWG
LAYOUT NAME - 06

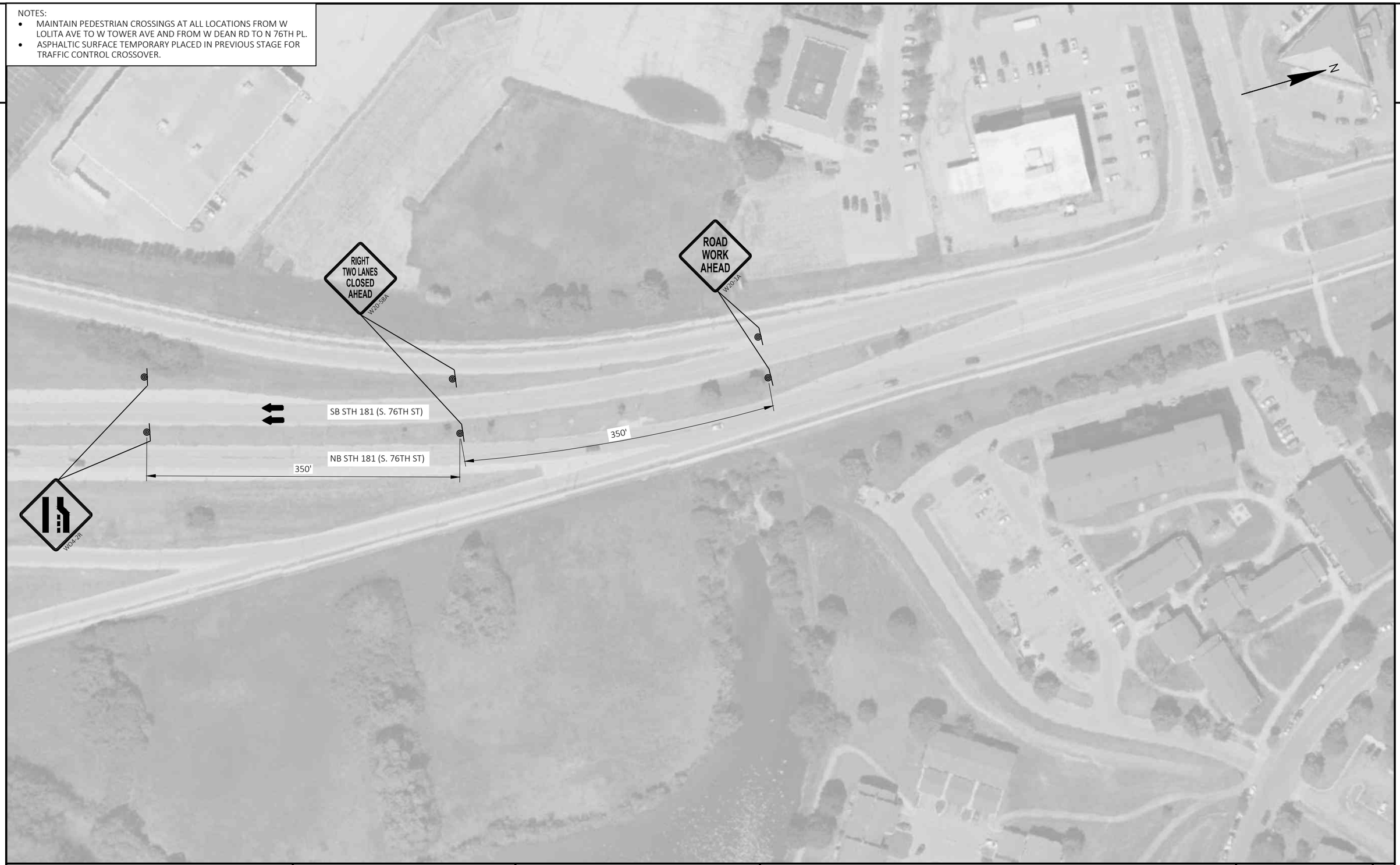
PLOT DATE : 10/4/2023 11:52 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

NOTES:

- MAINTAIN PEDESTRIAN CROSSINGS AT ALL LOCATIONS FROM W LOLITA AVE TO W TOWER AVE AND FROM W DEAN RD TO N 76TH PL.
- ASPHALTIC SURFACE TEMPORARY PLACED IN PREVIOUS STAGE FOR TRAFFIC CONTROL CROSSOVER.



2

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STH 181 STAGE 3 LAYOUT	SHEET 81	E

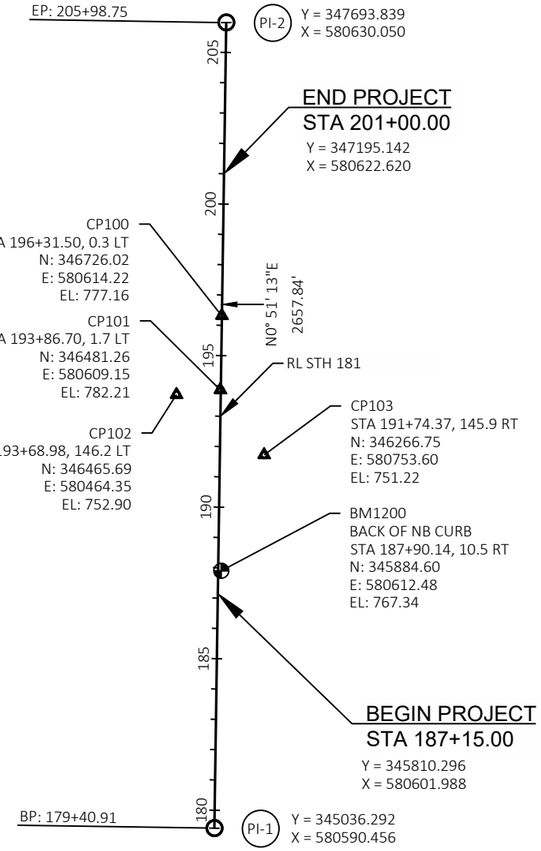
FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\025003_TC.DWG
LAYOUT NAME - 07

PLOT DATE : 10/4/2023 11:53 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

N


EP: 205+98.75
PI-2
Y = 347693.839
X = 580630.050
205
END PROJECT
STA 201+00.00
Y = 347195.142
X = 580622.620
200
CP100
STA 196+31.50, 0.3 LT
N: 346726.02
E: 580614.22
EL: 777.16
N0° 51' 13"E
2657.84'
CP101
STA 193+86.70, 1.7 LT
N: 346481.26
E: 580609.15
EL: 782.21
195
RL STH 181
CP103
STA 191+74.37, 145.9 RT
N: 346266.75
E: 580753.60
EL: 751.22
CP102
STA 193+68.98, 146.2 LT
N: 346465.69
E: 580464.35
EL: 752.90
190
BM1200
BACK OF NB CURB
STA 187+90.14, 10.5 RT
N: 345884.60
E: 580612.48
EL: 767.34
185
BEGIN PROJECT
STA 187+15.00
Y = 345810.296
X = 580601.988
180
BP: 179+40.91
PI-1
Y = 345036.292
X = 580590.456

Estimate Of Quantities

2967-17-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0211.S	Abatement of Asbestos Containing Material (structure) 001. B-40-380	EACH	1.000	1.000
0004	203.0211.S	Abatement of Asbestos Containing Material (structure) 002. B-40-381	EACH	1.000	1.000
0006	203.0220	Removing Structure (structure) 001. B-40-380	EACH	1.000	1.000
0008	203.0220	Removing Structure (structure) 002. B-40-381	EACH	1.000	1.000
0010	203.0330	Debris Containment (structure) 001. B-40-380	EACH	1.000	1.000
0012	203.0330	Debris Containment (structure) 002. B-40-381	EACH	1.000	1.000
0014	204.0115	Removing Asphaltic Surface Butt Joints	SY	156.000	156.000
0016	204.0120	Removing Asphaltic Surface Milling	SY	1,678.000	1,678.000
0018	204.0150	Removing Curb & Gutter	LF	2,752.000	2,752.000
0020	204.0155	Removing Concrete Sidewalk	SY	230.000	230.000
0022	204.0165	Removing Guardrail	LF	480.000	480.000
0024	205.0100	Excavation Common	CY	2,400.000	2,400.000
0026	206.1001	Excavation for Structures Bridges (structure) 001. B-40-380	EACH	1.000	1.000
0028	206.1001	Excavation for Structures Bridges (structure) 002. B-40-381	EACH	1.000	1.000
0030	208.0100	Borrow	CY	108.000	108.000
0032	210.1100	Backfill Structure Type A	CY	260.000	260.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,421.000	1,421.000
0036	415.0410	Concrete Pavement Approach Slab	SY	382.000	382.000
0038	455.0600	Tack Coat	TON	309.000	309.000
0040	460.2000	Incentive Density HMA Pavement	DOL	350.000	350.000
0042	460.7424	HMA Pavement 4 HT 58-28 H	TON	543.000	543.000
0044	465.0125	Asphaltic Surface Temporary	TON	767.000	767.000
0046	502.0100	Concrete Masonry Bridges	CY	950.000	950.000
0048	502.3101	Expansion Device	LF	104.000	104.000
0050	502.3200	Protective Surface Treatment	SY	1,600.000	1,600.000
0052	502.3210	Pigmented Surface Sealer	SY	300.000	300.000
0054	502.4205	Adhesive Anchors No. 5 Bar	EACH	368.000	368.000
0056	502.4206	Adhesive Anchors No. 6 Bar	EACH	440.000	440.000
0058	505.0400	Bar Steel Reinforcement HS Structures	LB	11,920.000	11,920.000
0060	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	136,360.000	136,360.000
0062	509.1500	Concrete Surface Repair	SF	200.000	200.000
0064	511.1200	Temporary Shoring (structure) 001. B-40-380	SF	750.000	750.000
0066	511.1200	Temporary Shoring (structure) 002. B-40-381	SF	750.000	750.000
0068	516.0500	Rubberized Membrane Waterproofing	SY	24.000	24.000
0070	517.0901.S	Preparation and Coating of Top Flanges (structure) 001. B-40-380	EACH	1.000	1.000
0072	517.0901.S	Preparation and Coating of Top Flanges (structure) 002. B-40-381	EACH	1.000	1.000
0074	517.3001.S	Structure Overcoating Cleaning and Priming (structure) 001. B-40-380	EACH	1.000	1.000
0076	517.3001.S	Structure Overcoating Cleaning and Priming (structure) 002. B-40-381	EACH	1.000	1.000
0078	517.4001.S	Containment and Collection of Waste Materials (structure) 001. B-40-380	EACH	1.000	1.000
0080	517.4001.S	Containment and Collection of Waste Materials (structure) 002. B-40-381	EACH	1.000	1.000
0082	517.6001.S	Portable Decontamination Facility	EACH	2.000	2.000
0084	531.8990	Anchor Assemblies Poles on Structures	EACH	2.000	2.000
0086	601.0407	Concrete Curb & Gutter 18-Inch Type D	LF	2,358.000	2,358.000
0088	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	305.000	305.000
0090	602.0410	Concrete Sidewalk 5-Inch	SF	2,044.000	2,044.000
0092	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,516.000	1,516.000
0094	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,516.000	1,516.000
0096	604.0500	Slope Paving Crushed Aggregate	SY	880.000	880.000
0098	611.0651	Inlet Covers Type S	EACH	6.000	6.000
0100	611.9710	Salvaged Inlet Covers	EACH	6.000	6.000

2967-17-71

Line	Item	Item Description	Unit	Total	Qty
0102	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	190.000	190.000
0104	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	8.000	8.000
0106	614.2300	MGS Guardrail 3	LF	175.000	175.000
0108	614.2500	MGS Thrie Beam Transition	LF	158.000	158.000
0110	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0112	618.0100	Maintenance and Repair of Haul Roads (project) 001. 2967-17-71	EACH	1.000	1.000
0114	619.1000	Mobilization	EACH	1.000	1.000
0116	624.0100	Water	MGAL	29.900	29.900
0118	625.0500	Salvaged Topsoil	SY	3,206.000	3,206.000
0120	628.1504	Silt Fence	LF	976.000	976.000
0122	628.1520	Silt Fence Maintenance	LF	976.000	976.000
0124	628.2008	Erosion Mat Urban Class I Type B	SY	3,206.000	3,206.000
0126	628.7020	Inlet Protection Type D	EACH	20.000	20.000
0128	628.7504	Temporary Ditch Checks	LF	70.000	70.000
0130	629.0210	Fertilizer Type B	CWT	1.900	1.900
0132	630.0130	Seeding Mixture No. 30	LB	88.000	88.000
0134	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	13.000	13.000
0136	637.2210	Signs Type II Reflective H	SF	71.000	71.000
0138	637.2215	Signs Type II Reflective H Folding	SF	22.380	22.380
0140	637.2230	Signs Type II Reflective F	SF	27.000	27.000
0142	638.2602	Removing Signs Type II	EACH	17.000	17.000
0144	638.3000	Removing Small Sign Supports	EACH	11.000	11.000
0146	642.5001	Field Office Type B	EACH	1.000	1.000
0148	643.0300	Traffic Control Drums	DAY	50,000.000	50,000.000
0150	643.0410	Traffic Control Barricades Type II	DAY	440.000	440.000
0152	643.0420	Traffic Control Barricades Type III	DAY	5,000.000	5,000.000
0154	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	33.000	33.000
0156	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	33.000	33.000
0158	643.0705	Traffic Control Warning Lights Type A	DAY	6,400.000	6,400.000
0160	643.0715	Traffic Control Warning Lights Type C	DAY	17,800.000	17,800.000
0162	643.0800	Traffic Control Arrow Boards	DAY	540.000	540.000
0164	643.0900	Traffic Control Signs	DAY	10,000.000	10,000.000
0166	643.3165	Temporary Marking Line Paint 6-Inch	LF	21,200.000	21,200.000
0168	643.3265	Temporary Marking Line Paint 10-Inch	LF	2,800.000	2,800.000
0170	643.5000	Traffic Control	EACH	1.000	1.000
0172	645.0111	Geotextile Type DF Schedule A	SY	140.000	140.000
0174	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	1,876.000	1,876.000
0176	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	648.000	648.000
0178	646.6120	Marking Stop Line Epoxy 18-Inch	LF	86.000	86.000
0180	646.7120	Marking Diagonal Epoxy 12-Inch	LF	76.000	76.000
0182	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	334.000	334.000
0184	646.9010	Marking Removal Line Water Blasting 4-Inch	LF	1,350.000	1,350.000
0186	646.9110	Marking Removal Line Water Blasting 8-Inch	LF	648.000	648.000
0188	646.9210	Marking Removal Line Water Blasting Wide	LF	496.000	496.000
0190	650.4500	Construction Staking Subgrade	LF	323.000	323.000
0192	650.5000	Construction Staking Base	LF	323.000	323.000
0194	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	2,752.000	2,752.000
0196	650.6501	Construction Staking Structure Layout (structure) 001. B-40-380	EACH	1.000	1.000
0198	650.6501	Construction Staking Structure Layout (structure) 002. B-40-381	EACH	1.000	1.000
0200	650.7000	Construction Staking Concrete Pavement	LF	104.000	104.000

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Line	Item	Item Description	Unit	Total	Qty
0202	650.8501	Construction Staking Electrical Installations (project) 001. 2967-17-71	EACH	1.000	1.000
0204	650.9911	Construction Staking Supplemental Control (project) 001. 2967-17-71	EACH	1.000	1.000
0206	650.9920	Construction Staking Slope Stakes	LF	586.000	586.000
0208	652.0125	Conduit Rigid Metallic 2-Inch	LF	48.000	48.000
0210	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	850.000	850.000
0212	652.0230	Conduit Rigid Nonmetallic Schedule 40 2 1/2-Inch	LF	45.000	45.000
0214	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	340.000	340.000
0216	652.0615	Conduit Special 3-Inch	LF	975.000	975.000
0218	653.0135	Pull Boxes Steel 24x36-Inch	EACH	3.000	3.000
0220	653.0140	Pull Boxes Steel 24x42-Inch	EACH	3.000	3.000
0222	653.0222	Junction Boxes 18x12x6-Inch	EACH	2.000	2.000
0224	653.0905	Removing Pull Boxes	EACH	6.000	6.000
0226	654.0105	Concrete Bases Type 5	EACH	8.000	8.000
0228	655.0305	Cable Type UF 2-12 AWG Grounded	LF	625.000	625.000
0230	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	1,397.000	1,397.000
0232	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	10.000	10.000
0234	670.0101	Field System Integrator	EACH	1.000	1.000
0236	670.0201	ITS Documentation	EACH	1.000	1.000
0238	671.0122	Conduit HDPE 2-Duct 2-Inch	LF	1,209.000	1,209.000
0240	674.0300	Remove Cable	LF	1,397.000	1,397.000
0242	674.0400	Reinstall Cable	LF	1,397.000	1,397.000
0244	678.0300	Fiber Optic Splice	EACH	36.000	36.000
0246	678.0501	Communication System Testing	EACH	1.000	1.000
0248	690.0150	Sawing Asphalt	LF	282.000	282.000
0250	690.0250	Sawing Concrete	LF	20.000	20.000
0252	715.0502	Incentive Strength Concrete Structures	DOL	5,700.000	5,700.000
0254	801.0117	Railroad Flagging Reimbursement	DOL	43,700.000	43,700.000
0256	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 001. 192+85	EACH	1.000	1.000
0258	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,000.000	1,000.000
0260	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	2,500.000	2,500.000
0262	SPV.0060	Special 001. Bearing Maintenance B-40-380	EACH	10.000	10.000
0264	SPV.0060	Special 002. Bearing Maintenance B-40-381	EACH	10.000	10.000
0266	SPV.0060	Special 200. Adjusting Water Boxes	EACH	4.000	4.000
0268	SPV.0060	Special 302. Pull Boxes 13-inch x 24-inch x 24-inch	EACH	13.000	13.000
0270	SPV.0060	Special 321. Poles Type 30-AL-BD	EACH	10.000	10.000
0272	SPV.0060	Special 343. Water Tight Splices and Connections	EACH	8.000	8.000
0274	SPV.0060	Special 345. Luminaire Arms Single Member 6-ft. (Special)	EACH	18.000	18.000
0276	SPV.0060	Special 371. Installing City Furnished Luminaire Utility LED	EACH	18.000	18.000
0278	SPV.0060	Special 400. Adjusting CUC Manhole Cover	EACH	1.000	1.000
0280	SPV.0060	Special 401. Underdeck Utility Structure B-40-380, City of MKE Communications Conduit	EACH	1.000	1.000
0282	SPV.0060	Special 411. 4' Diameter "Doghouse" Manhole Type CUC, Installed over Conduit	EACH	1.000	1.000
0284	SPV.0060	Special 425. Installing Conduit Into Existing Manhole	EACH	1.000	1.000
0286	SPV.0060	Special 426. Sawing Concrete-Encased Duct Package	EACH	1.000	1.000
0288	SPV.0090	Special 001. Concrete Curb & Gutter 4-Inch Sloped 18-Inch Type TBT	LF	16.000	16.000
0290	SPV.0090	Special 002. Concrete Curb & Gutter 4-Inch Sloped 18-Inch Type TBTT	LF	73.000	73.000
0292	SPV.0090	Special 003. Fence Chain Link Polymer Coated 8-ft	LF	364.000	364.000
0294	SPV.0090	Special 321. Electrical Cable in Duct Type 4#8/1#8 XLP	LF	645.000	645.000
0296	SPV.0090	Special 322. Electrical Cable in Duct Type 4#6/1#8 XLP	LF	570.000	570.000
0298	SPV.0090	Special 404. 3-Duct Conduit, Cement Encased, 4-inch Rigid Nonmetallic Conduit DB-60	LF	105.000	105.000

2967-17-71

Line	Item	Item Description	Unit	Total	Qty
0300	SPV.0165	Special 001. Temporary Shoring Railroad B-40-380	SF	500.000	500.000
0302	SPV.0165	Special 002. Temporary Shoring Railroad B-40-381	SF	500.000	500.000

STH 181 - 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 (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.20	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW	COMMENT
DIVISION 1												
STAGE 1 - CROSSOVER SOUTH	187+14.99/192+05.98	STH 181	469	0	469	0	0	0	0	469	0	
STAGE 1 - CROSSOVER NORTH	193+71.72/201+00.00	STH 181	944	0	944	0	0	0	0	944	0	
DIVISION 1 SUBTOTAL			1,413	0	1,413	0	0	0	0	1,413	0	
DIVISION 2												
STAGE 2 - SB OVERLAY SOUTH	190+33.20/191+47.36	STH 181	9	0	9	0	4	5	-5	9	5	
STAGE 2 - SB RECONSTRUCT SOUTH	191+47.36/192+35.33	STH 181	189	0	189	0	0	0	0	189	0	
DIVISION 2 SUBTOTAL			198	0	198	0	4	5	-5	198	5	
DIVISION 3												
STAGE 2 - SB OVERLAY NORTH	194+60.73/196+00.00	STH 181	4	0	4	0	19	23	-23	4	23	
STAGE 2 - SB RECONSTRUCT NORTH	193+75.00/194+60.73	STH 181	178	0	178	0	12	14	-14	178	14	
DIVISION 3 SUBTOTAL			182	0	182	0	31	37	-37	182	37	
DIVISION 4												
STAGE 3 - NB OVERLAY SOUTH	189+72.54/191+08.68	STH 181	8	0	8	0	20	24	-24	8	24	
STAGE 3 - NB RECONSTRUCT SOUTH	191+08.68/191+95.64	STH 181	155	0	155	0	5	6	-6	155	6	
DIVISION 4 SUBTOTAL			163	0	163	0	25	30	-30	163	30	
DIVISION 5												
STAGE 3 - NB OVERLAY NORTH	194+21.72/195+61.25	STH 181	6	0	6	0	3	4	-4	6	4	
STAGE 3 - NB RECONSTRUCT NORTH	193+30.10/194+21.72	STH 181	186	0	186	0	3	4	-4	186	4	
DIVISION 5 SUBTOTAL			192	0	192	0	6	7	-7	192	7	
DIVISION 6												
STAGE 4 - MEDIAN RESTORATION SOUTH	187+14.99/192+05.98	STH 181	92	0	92	0	5	6	-6	92	6	
STAGE 4 - MEDIAN RESTORATION NORTH	193+71.72/201+00.00	STH 181	160	0	160	0	19	23	-23	160	23	
DIVISION 6 SUBTOTAL			252	0	252	0	24	29	-29	252	29	
GRAND TOTAL		STH 181	2,400	0	2,400	0	90	108	-108	2,400	108	
TOTAL COMMON EXC			2,400									

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. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL.

(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL

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

(13) EXPANDED FILL FACTOR = 1.20

EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR

(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

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

REMOVALS

CATEGORY	STATION	TO	STATION	LOCATION	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	204.0165 REMOVING GUARDRAIL LF
0010	189+75	-	191+09	NB overlay	39	294	436	50	-
0010	191+09	-	191+59	NB recon	-	-	72	-	-
0010	191+59	-	191+97	NB approach slab	-	-	36	38	240
0010	193+54	-	193+72	NB approach slab	-	-	830	52	-
0010	193+72	-	194+22	NB recon	-	-	-	-	-
0010	194+22	-	195+61	NB overlay	39	543	-	-	-
0010	190+33	-	191+47	SB overlay	39	444	-	-	-
0010	191+47	-	191+97	SB recon	-	-	88	-	-
0010	191+97	-	192+15	SB approach	-	-	498	52	-
0010	193+72	-	194+11	SB approach	-	-	784	38	240
0010	194+11	-	194+61	SB recon	-	-	8	-	-
0010	194+61	-	195+63	SB overlay	39	397		-	-
				TOTAL 0010	156	1,678	2,752	230	480

BASE

CATEGORY	STATION	TO	STATION	LOCATION	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
0010	189+75	-	191+97	NB median curb	97	2.0
0010	191+09	-	191+59	NB recon	147	3.0
0010	191+59	-	191+97	NB approach slab	45	0.9
0010	193+54	-	193+72	NB approach slab	49	1.0
0010	193+72	-	194+22	NB recon	147	3.0
0010	193+54	-	201+00	NB median curb	150	3.0
0010	189+75	-	192+15	SB median curb	100	2.0
0010	191+47		191+97	SB recon	147	3.0
0010	191+97		192+15	SB approach	45	0.9
0010	193+72	-	194+11	SB approach	49	1.0
0010	194+11	-	194+61	SB recon	147	3.0
0010	193+72	-	201+00	SB median curb	147	3.0
0010				Sidewalk	51	1.1
0010				Undistributed	100	3.0
				TOTAL 0010	1,421	29.9

3

PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	455.0600 TACK COAT TON	460.7424 HMA PAVEMENT 4 HT 58-28 H TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON
0010	190+33	-	191+09	nb overlay	36	47	-
0010	191+09	-	191+59	nb reconstruct	26	69	-
0010	194+22	-	195+61	nb overlay	66	86	-
0010	193+72	-	194+22	nb reconstruct	26	69	-
0010	190+33	-	191+47	sb overlay	55	71	-
0010	191+47	-	191+97	sb reconstruct	26	69	-
0010	194+11	-	194+61	sb reconstruct	26	69	-
0010	194+61	-	195+63	sb overlay	48	63	-
0010	187+15	-	191+75	Median	-	-	251
0010	193+75	-	201+00	Median	-	-	516
				TOTAL 0010	309	543	767

CONCRETE

CATEGORY	STATION	TO	STATION	LOCATION	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	601.0407 CONCRETE CURB & GUTTER 18-INCH TYPE D LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	602.0410 CONCRETE SIDEWALK 5-INCH SF	SPV.0090.001 CONCRETE CURB & GUTTER 4-INCH SLOPED 18-INCH TYPE TBT LF	SPV.0090.002 CONCRETE CURB & GUTTER 4-INCH SLOPED 18-INCH TYPE TBTT LF
0010	189+75	-	190+33	NB	-	436	-	443	-	-
0010	191+09	-	191+59	NB	-	-	64	-	8	-
0010	191+59	-	191+97	NB	95	-	-	338	-	36
0010	193+54	-	193+72	NB	96	742	88	463	-	-
0010	191+47	-	191+97	SB	-	-	88	-	-	-
0010	191+97	-	192+15	SB	95	498	-	462	-	-
0010	193+72	-	194+11	SB	96	682	65	338	-	37
0010	194+11	-	194+61	SB	-	-	-	-	8	-
				TOTAL 0010	382	2,358	305	2,044	16	73

3

CONCRETE BARRIER

CATEGORY	STATION	TO	STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF
0010	189+00	-	192+00	Stage 1	280	280
0010	193+75	-	198+50	Stage 1	476	476
0010	189+00	-	192+00	Stage 2	281	281
0010	193+75	-	198+50	Stage 2	479	479
				TOTAL 0010	1,516	1,516

INLETS

CATEGORY	STATION	LOCATION	611.0651 INLET COVERS TYPE S EACH	611.9710 SALVAGED INLET COVERS EACH
0010	189+50	LT & RT	2	2
0010	196+25	LT & RT	2	2
0010	199+25	LT & RT	2	2
		TOTAL 0010	6	6

RESTORATION

CATEGORY	STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB
0010	187+15		201+00	NB RT	306	306	0.2	9
0010	187+15	-	201+00	Median Crossover	2,630	2,630	1.5	71
0010	187+15	-	201+00	SB LT	270	270	0.2	8
				TOTAL 0010	3,206	3,206	1.9	88

EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7020 INLET PROTECTION TYPE D EACH	628.7504 TEMPORARY DITCH CHECKS LF
0010	187+15	-	201+00	NB	649	649	5	40
0010	187+15	-	201+00	Median crossover	-	-	10	-
0010	187+15	-	201+00	SB	327	327	5	30
				TOTAL 0010	976	976	20	70

3

GUARDRAIL

CATEGORY	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	SB North Side Outside	75.0	39.5	1
0010	SB North Side Median	12.5	39.5	1
0010	NB South Side Outside	75.0	39.5	1
0010	NB South Side Median	12.5	39.5	1
	TOTAL 0010	175.0	158.0	4

TEMPORARY PAVEMENT MARKING

CATEGORY	LOCATION	643.3265 TEMPORARY MARKING LINE PAINT 10-INCH LF	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH LF
0010	Stage 1	-	-
0010	Stage 2	1,600	9,850
0010	Stage 3	1,080	11,070
0010	Stage 4	-	-
0010	UNDISTRIBUTED	120	280
	TOTAL 0010	2,800	21,200

PAVEMENT MARKING

CATEGORY	STATION	TO	STATION	LOCATION	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.7120 MARKING DIAGONAL EPOXY 12-INCH LF	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF	646.9010 MARKING REMOVAL LINE WATER BLASTING 4-INCH LF	646.9110 MARKING REMOVAL LINE WATER BLASTING 8-INCH LF	646.9210 MARKING REMOVAL LINE WATER BLASTING WIDE LF	646.4040 MARKING LINE GROOVED WET REF EPOXY 10-INCH LF	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH LF
0010	186+60	-	205+75	NB	42	33	160	675	348	235	348	938
0010	186+60	-	205+75	SB	44	43	174	675	300	261	300	938
0010		-										
				TOTAL 0010	86	76	334	1,350	648	496	648	1,876

SAWING

CATEGORY	STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
0010	190+33	NB	35	-
0010	191+09	NB	36	5
0010	194+22	NB	36	5
0010	195+61	NB	35	-
0010	190+33	SB	35	-
0010	191+47	SB	36	5
0010	194+61	SB	36	5
0010	195+63	SB	35	-
		TOTAL 0010	282	20

ADJUSTING WATER BOXES

CATEGORY	LOCATION	SPV.0060.200 ADJUSTING WATER BOXES EACH
0050	NB	2
0050	SB	2
	TOTAL 0040	4

TRAFFIC CONTROL

CATEGORY	LOCATION	ASSUMED DURATION CALENDARY DAYS	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0410 TRAFFIC CONTROL BARRICADES TYPE II DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS DAY
0010	Stage 1	14	2,632	-	126	-	-	196	420	28	434
0010	Stage 2	70	20,440	210	1,960	14	14	2,800	8,120	210	4,270
0010	Stage 3	70	20,440	210	2,450	14	14	2,800	8,120	210	4,270
0010	Stage 4	26	4,888	-	234	-	-	364	780	52	780
0010	UNDISTRIBUTED		1,600	20	230	5	5	240	360	40	246
	TOTAL 0010		50,000	440	5,000	33	33	6,400	17,800	540	10,000

STAKING

CATEGORY	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	650.9911.001 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (001. 2967-17-71) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	Projectwide	323	323	2,752	104	1	586
	TOTAL 0000	323	323	2,752	104	1	586

3

3

CONDUIT

FROM	TO		655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	671.0122 CONDUIT HDPE 3-DUCT 2-INCH L.F.
I/C PB169	I/C PB175		1397	
I/C PB169	I/C PB170			107
I/C PB170	I/C PB171			265
I/C PB171	BRIDGE CONDUIT			9
BRIDGE CONDUIT	I/C PB172			11
I/C PB172	I/C PB173			352
I/C PB173	I/C PB174			270
I/C PB174	I/C PB 175			195
		TOTAL	1397	1209

REMOVE PULL BOXES

PULL BOX NO.		653.0905 REMOVING PULL BOXES EACH
I/C PB169		1
I/C PB170		1
I/C PB171		1
I/C PB172		1
I/C PB173		1
I/C PB174		1
	TOTAL	6

PULL BOXES

PULL BOX NO.	LOCATION^		653.0135 PULL BOXES STEEL 24X36-INCH EACH	653.0140 PULL BOXES STEEL 24X42-INCH EACH
I/C PB169	188+07.4, 6.1' RT			1
I/C PB170	189+14.1, 7.9' RT		1	
I/C PB171	191+78.7, 20.4' RT			1
I/C PB172	193+83.9, 20.1' RT			1
I/C PB173	197+36.1, 15.0' RT		1	
I/C PB174	200+05.7, 10.1' RT		1	
		TOTAL	3	3

^ FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIEL

FIELD SYSTEM INTEGRATOR

LOCATION		670.0101 FIELD SYSTEM INTEGRATOR EACH	670.0201 ITS DOCUMENTATION EACH	678.0501 COMMUNICATION SYSTEM TESTING EACH
PROJECT ID 2967-17-71		1	1	1
	TOTAL	1	1	1

REMOVE CABLE AND WIRE

FROM	TO		674.0300 REMOVE CABLE L.F.
I/C CV25	I/C CV24		1397
		TOTAL	1397

RE-INSTALL CABLE AND WIRE

FROM	TO		674.0400 REINSTALL CABLE L.F.
I/C CV24	I/C CV25		1397
		TOTAL	1397

FIBER OPTIC SPLICE

LOCATION		678.0300 FIBER OPTIC SPLICE EACH
I/C CV25		36
	TOTAL	36

STATE PROJECT NUMBER

2967--17-70

3

3

CITY UNDERGROUND CONDUIT

MISCELLANEOUS QUANTITIES

LOCATION			SPV.0060.400 ADJUSTING CUC MANHOLE COVER EACH	SPV.0060.425 INSTALLING CONDUIT INTO EXISTING MANHOLE EACH	SPV.0060.411 4' DIAMETER "DOGHOUSE" MANHOLE TYPE CUC, INSTALLED OVER CONDUIT EACH	SPV.0060.426 SAWING CONCRETE-ENCASED DUCT PACKAGE EACH	SPV.0090.404 3-DUCT CONDUIT, CEMENT ENCASED, 4-INCH RIGID NONMETALLIC CONDUIT DB-60 LF	SPV.0060.401 UNDERDECK UTILITY STRUCTURE B-40-380 CITY OF MKE COMMUNICATIONS CONDUIT EACH
MANHOLE 600	-	STA 191+74.00, 18.0' LT	1	1				
MANHOLE 600	TO	5' SOUTH OF ABUTMENT					35	
5' SOUTH OF ABUTMENT	-	STA 192+13.00, 18.0' LT						
5' SOUTH OF ABUTMENT	TO	5' NORTH OF ABUTMENT						1
5' NORTH OF ABUTMENT	-	STA 193+80.00, 18.0' LT						
5' NORTH OF ABUTMENT	TO	MANHOLE 601					70	
MANHOLE 601		STA 194+50.00, 18.0' LT			1	1		
TOTAL			1	1	1	1	105	1

ALL ITEMS CATEGORY 0040

SHEET 8 OF 8

STATE PROJECT NO.: 2967-17-70	HWY: S.T.H. 181	COUNTY: MILWAUKEE	CITY UNDERGROUND CONDUIT MISC. QUAN. (CUC)	SCALE FEET NTS	SHEET 94	E

FILE NAME : W:\ugd\Conduit Work Files\uconduit\2022\n76th St Bridge N of Tower\Design\CUC Design B-40-380 PLOT DATE : 12 /07 /2022 PLOT BY : Hazem Ramadan PLOT NAME : PLOT SCALE : 40

WISDOT/CADDS SHEET

ESTIMATE OF QUANTITIES ; STREET LIGHTING
MILWAUKEE COUNTY

	Std.Bid Item No.	Description	Unit	Quantity
-	650.8501	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS	EACH	1
-	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	170
-	652.0230	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 1/2-INCH	LF	45
-	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	340
-	652.0615	CONDUIT SPECIAL 3-INCH	LF	975
-	654.0105	CONCRETE BASES TYPE 5	EACH	8
-	655.0305	CABLE TYPE UF 2-12 AWG GROUNDED	LF	625
-	657.0255	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	EACH	10
-	SPV.0060.302	PULL BOXES 13-INCH x 24-INCH x 24-INCH	EACH	13
-	SPV.0060.321	POLES TYPE 30-AL-BD	EACH	10
-	SPV.0060.343	WATER TIGHT SPLICES AND CONNECTIONS	EACH	8
-	SPV.0060.345	LUMINAIRE ARMS SINGLE MEMBER 6-Ft. - SPECIAL	EACH	18
-	SPV.0060.371	INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED	EACH	18
		Total Number of Luminaire Utility LED (3LED2)		
-	SPV.0090.321	ELECTRICAL CABLE IN DUCT TYPE 4#8/1#8 XLP	LF	645
-	SPV.0090.322	ELECTRICAL CABLE IN DUCT TYPE 4#6/1#8 XLP	LF	570

(THESE QUANTITIES DO NOT INCLUDE THE MATERIALS IN BOTH BRIDGES)
SUCH AS: CONDUIT, JUNCTION BOXES, AND LIGHT POLE ANCHORAGE

ALL ITEMS CATEGORY 0040

TYPE II PERMANENT SIGNING -

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]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1	R5-1 (2M)		36	X	36	9.000			1				SHEET 2 OF 6; MOUNT ON SIGNAL POLE
2	R6-2L (2M)		30	X	36	7.500			1				MOUNT ON SIGNAL POLE
3	R1-1F (2M)		36	X	36			7.460	1			1	MOUNT ON SIGNAL POLE
4	R1-1F (2M)		36	X	36			7.460	1				MOUNT ON SIGNAL POLE
5	R6-2L (2M)		30	X	36	7.500			1				SHEET 3 OF 6; MOUNT ON SIGNAL POLE
6	R1-1F (2M)		36	X	36			7.460	1			5	MOUNT ON SIGNAL POLE
7	R2-1 (2M)	SPEED LIMIT 40	30	X	36	7.500			1	1	1		
8	R3-56L								1	1			
9	R3-20LL (2M)		24	X	36	6.000					1		
10	R3-55L								1	1			
11	R3-20L (2M)		24	X	36	6.000					1		
12	W3-3 (2M)		36	X	36		9.000		1	1	1		
13	W3-3 (2M)		36	X	36		9.000		1	1	1		
14	R7-1D (2M)		24	X	30	5.000			1	1	1		
15	R7-1D (2M)		24	X	30	5.000			1	1	1		
16	R7-1D (2M)		24	X	30	5.000			1	1	1		SHEET 4 OF 6
17	R7-1D (2M)		24	X	30	5.000			1	1	1		
18	R2-1 (2M)	SPEED LIMIT 40	30	X	36	7.500			1	1	1		SHEET 5 OF 6
19	W3-3 (2M)		36	X	36		9.000		1	1	1		
		UNDISTRIBUTED									2		
TOTALS						71.000	27.000	22.380	17	11	13		

SHEET 1 OF 1

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES – PERMANENT SIGNING	SHEET:	E

LEGEND

CONCRETE PAVEMENT APPROACH SLAB

6 1/2 " HMA PAVEMENT 4 HT 58-28 H ON 13 1/2 " BASE AGGREGATE DENSE 1 1/4-INCH

CONCRETE SIDEWALK 5-INCH

SB STH 181 (N. 76TH STREET)

NB STH 181 (N. 76TH STREET)

W. TOWER AVE.

WINDSTREAM

EVERSTREAM

WISDOT

WISDOT SIGNALS

RL STH 181 SB

RL STH 181

RL STH 181 NB

LEVEL 3

WE ENERGIES

CONCRETE CURB & GUTTER 18-INCH TYPE D

CITY OF MILWAUKEE

SPECTRUM

ATT

CONCRETE SIDEWALK 5-INCH

BEGIN PROJECT
STA 187+15

8.00'

26.00'

MATCH LINE 189+75

N

184+00 185+00 186+00 187+00 188+00 189+00

EXISTING PROFILE

EXISTING GRADE

764.22 765.24 766.00 767.12 769.00 770.93 772.97 774.08

780 775 770 765 760 755 750

183 184 185 186 187 188 189 189

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PLAN AND PROFILE: STH 181 SOUTHBOUND	SHEET 97	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 01

PLOT DATE : 10/4/2023 11:41 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

LEGEND

- CONCRETE PAVEMENT APPROACH SLAB
- 6½" HMA PAVEMENT 4 HT 58-28 H ON 13½" BASE AGGREGATE DENSE 1 1/4-INCH
- CONCRETE SIDEWALK 5-INCH

N

MATCH LINE 189+75

MATCH LINE 195+75

5

5

WE ENERGIES ATT LOCAL SPECTRUM

CONCRETE CURB & GUTTER 30-INCH TYPE D

SLOPE INTERCEPT (TYP)

CONCRETE PAVEMENT APPROACH SLAB

CITY OF MILWAUKEE

CNW RR

STA 191+47.36 SAW CUT & BEGIN RECONSTRUCT

CONCRETE CURB & GUTTER 30-INCH TYPE D

ATC

CONCRETE SIDEWALK 5-INCH

EVERSTREAM

LEVEL 3

CONCRETE CURB & GUTTER 18-INCH TYPE D

STRUCTURE B-40-380

CONCRETE PAVEMENT APPROACH SLAB

RL STH 181 SB

CONCRETE SIDEWALK 5-INCH

SLOPE INTERCEPT (TYP)

CONCRETE CURB & GUTTER 18-INCH TYPE D

5.50'

5.00'

5.50'

STA 190+33.20 SAW CUT & BEGIN OVERLAY WEDGE

WE ENERGIES

SB STH 181 (N. 76TH STREET)

35.00'

33.00'

SPECTRUM

CITY OF MILWAUKEE

33.00'

STA 194+60.73 SAW CUT & END RECONSTRUCT

35.00'

190+00 191+00 192+00 193+00 194+00 195+00

26.00'

26.00'

CITY OF MILWAUKEE

ATT

WISDOT

NB STH 181 (N. 76TH STREET)

CITY OF MILWAUKEE

WE ENERGIES

SPRINT

RL STH 181

WISDOT

STA 195+62.75 SAW CUT & END OVERLAY WEDGE

WINDSTREAM

RL STH 181 NB

STRUCTURE B-40-381

BEGIN CONSTRUCTION
STA 190+33.20 SB STH 181
MATCH EXISTING
SAW CUT REQ'D

STA 190+33.20
EL 776.26

STA 190+68.76
EL 777.55

VPC STA 191+07.50
VPC EL 778.68

VPI STA 193+30.00
VPI EL 785.18

END CONSTRUCTION
STA 195+62.75 SB STH 181
MATCH EXISTING
SAW CUT REQ'D

VPT STA 195+52.50
VPT EL 778.83

STA 195+62.75
EL 778.54

3.62%

2.92%

-2.85%

EXISTING PROFILE
SOUTHBOUND STH 181
PROPOSED PROFILE

VCL = 445.00

K = 77.08

EXISTING GRADE

PROPOSED GRADE

795 790 785 780 775 770 765

774.08	775.03	776.89	776.87	778.30	778.46	779.50	779.81	780.63	780.83	781.36	781.53	781.47	781.90	781.61	781.95	781.39	781.67	780.84	781.07	779.83	780.15	778.82	778.90	778.10

189 190 191 192 193 194 195 195

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PLAN AND PROFILE: STH 181 SOUTHBOUND	SHEET 98	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 02

PLOT DATE : 10/4/2023 11:41 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

LEGEND

CONCRETE PAVEMENT APPROACH SLAB

6 1/2" HMA PAVEMENT 4 HT 58-28 H ON 13 1/2" BASE AGGREGATE DENSE 1 1/4-INCH

CONCRETE SIDEWALK 5-INCH

N

EVERSTREAM

END PROJECT
STA 201+00

CITY OF MILWAUKEE

RL STH 181 SB

SLOPE INTERCEPT
(TYP)

SPECTRUM

RL STH 181

SB STH 181 (N. 76TH STREET)

WISDOT

196+00 197+00 198+00 199+00 200+00 201+00

26.00'

ATT

NB STH 181 (N. 76TH STREET)

WE ENERGIES

MATCH LINE 195+75

CONCRETE CURB & GUTTER
18-INCH TYPE D

RL STH 181 NB

WE ENERGIES
SPECTRUM
ATT LOCAL

5

5

780
775
770
765
760
755
750

EXISTING PROFILE

EXISTING GRADE

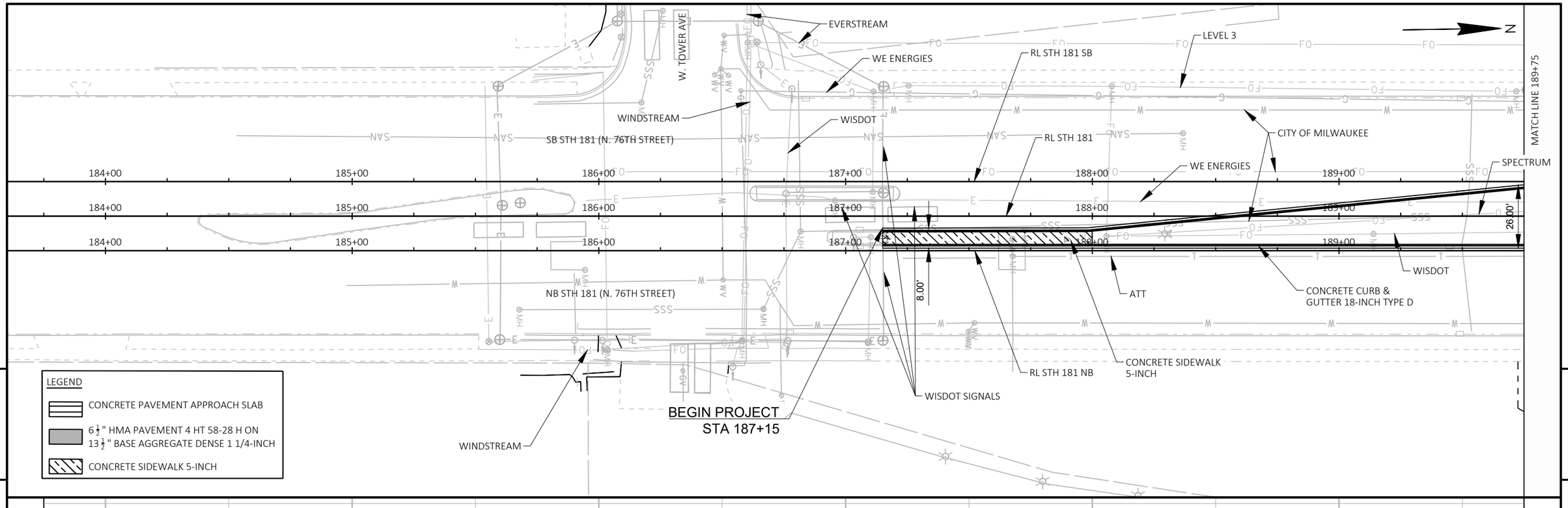
778.10 777.21 775.45 773.55 771.62 769.66 767.64 765.57 763.56 761.60 759.59 757.54 755.60 754.65

195 196 197 198 199 200 201 201

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PLAN AND PROFILE: STH 181 SOUTHBOUND	SHEET 99	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 03

PLOT DATE : 10/4/2023 11:41 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT



PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PLAN AND PROFILE: STH 181 - NORTHBOUND	SHEET 100	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\050102_PP.DWG
LAYOUT NAME - 01

PLOT DATE : 10/4/2023 10:54 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

LEGEND

- CONCRETE PAVEMENT APPROACH SLAB
- 6½" HMA PAVEMENT 4 HT 58-28 H ON 13½" BASE AGGREGATE DENSE 1 1/4-INCH
- CONCRETE SIDEWALK 5-INCH

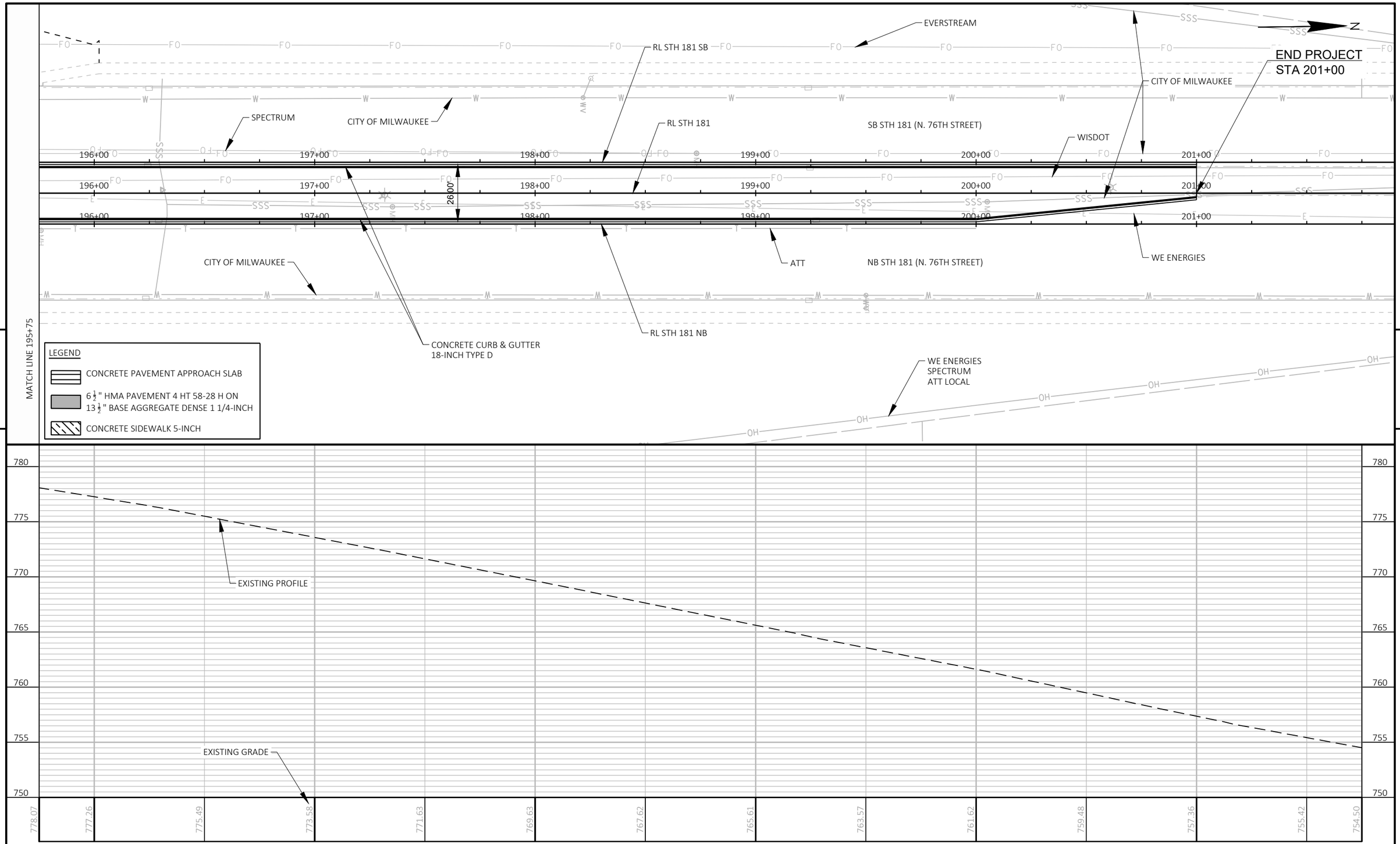
LEVEL 3
EVERSTREAM
CITY OF MILWAUKEE
WE ENERGIES
ATT LOCAL
SPECTRUM
ATC
CNW RR
STRUCTURE B-40-380
RL STH 181 SB
RL STH 181
N
STA 191+08.68
SAW CUT &
BEGIN RECONSTRUCT
SPECTRUM
WE ENERGIES
CITY OF MILWAUKEE
SB STH 181 (N. 76TH STREET)
STA 195+61.25
SAW CUT &
END OVERLAY
WEDGE
MATCH LINE 195+75
190+00
191+00
192+00
193+00
194+00
195+00
26.00'
CITY OF MILWAUKEE
WISDOT
ATT
NB STH 181 (N. 76TH STREET)
35.00'
33.00'
5.50'
5.00'
SPRINT
WE ENERGIES
WINDSTREAM
MATCH LINE 189+75
5
CONCRETE PAVEMENT
APPROACH SLAB
CONCRETE CURB &
GUTTER 18-INCH
TYPE D
CONCRETE CURB &
GUTTER 30-INCH
TYPE D
CONCRETE
SIDEWALK 5-INCH
STRUCTURE B-40-381
SLOPE INTERCEPT
(TYP)
STA 190+33.20
SAW CUT &
BEGIN OVERLAY
WEDGE
RL STH 181 NB
STA 194+21.72
SAW CUT &
END RECONSTRUCT
795
790
785
780
775
770
765
BEGIN CONSTRUCTION
STA 190+33.20
MATCH EXISTING
SAW CUT REQ'D
STA 190+33.20
EL 775.98
VPC STA 190+52.50
VPC EL 776.73
VPI STA 192+75.00
VPI EL 785.35
VPT STA 194+97.50
VPT EL 780.14
END CONSTRUCTION
STA 195+61.25
MATCH EXISTING
SAW CUT REQ'D
STA 195+32.94
EL 779.30
STA 195+61.25
EL 778.52
3.88%
-2.34%
-2.77%
EXISTING PROFILE
NORTHBOUND STH 181
PROPOSED PROFILE
VCL = 445.00
K = 71.55
EXISTING GRADE
PROPOSED GRADE

773.76	774.72	776.61	776.63	778.12	778.41	779.61	779.84	780.65	780.92	781.19	781.66	781.56	782.04	781.64	782.07	781.47	781.76	780.98	781.09	779.88	780.08	778.78	778.83	778.07

189 190 191 192 193 194 195 195

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PLAN AND PROFILE: STH 181 - NORTHBOUND	SHEET 101	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\050102_PP.DWG
LAYOUT NAME - 02
PLOT DATE : 10/4/2023 10:54 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT



PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	PLAN AND PROFILE: STH 181 - NORTHBOUND	SHEET 102	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\050102_PP.DWG
LAYOUT NAME - 03

PLOT DATE : 10/4/2023 10:54 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

Standard Detail Drawing List

08A05-20C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-10	CONDUIT
09B04-12	PULL BOX
09C02-09	CONCRETE BASES, TYPES 1, 2, 5, & 6
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGITUDINAL JOINTS
14B07-16A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16J	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16K	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16L	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16M	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16N	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-23C	PAVEMENT MARKING (TURN LANES)
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C11-10A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D11-09	TRAFFIC CONTROL, SINGLE LANE CROSSOVER
15D12-11A	TRAFFIC CONTROL, LANE CLOSURE
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D23-07A	TRAFFIC CONTROL, INTERSECTION WITHIN TWO LANE CLOSURE
15D23-07B	TRAFFIC CONTROL, INTERSECTION WITHIN TWO LANE CLOSURE
15D30-09A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09D	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09E	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09G	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09H	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6

Standard Detail Drawing List

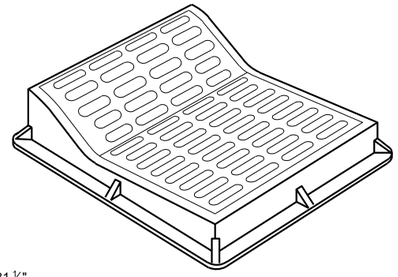
15D30-09I	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09J	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09K	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09L	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D40-05A	TRAFFIC CONTROL, FULL LANE SHIFT NON-FREEWAY OR MULTILANE DIVIDED 45 MPH AND UNDER
15D40-05C	TRAFFIC CONTROL, PARTIAL LANE SHIFT NON-FREEWAY/EXPRESSWAY OR MULTILANE DIVIDED 45 MPH AND UNDER

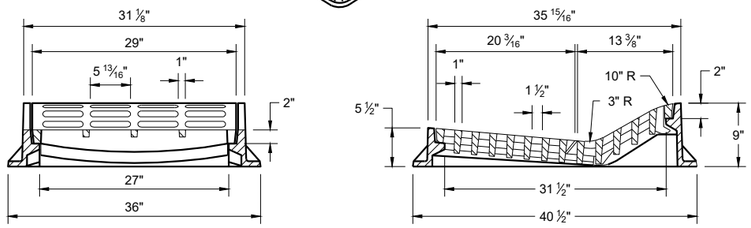
6

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.

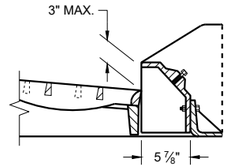
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.





TYPE "F"

USE WITH TYPES "A" AND "D" CONCRETE CURB AND GUTTER, 36"

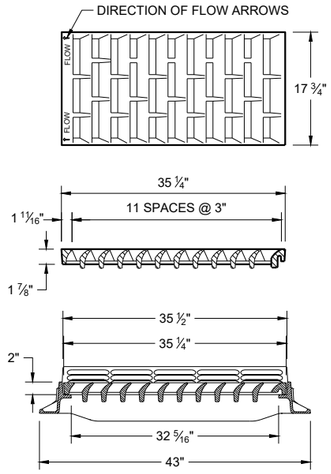


ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

USE WITH TYPES "G" AND "J" CONCRETE CURB AND GUTTER, 30 INCH
NOTED AS TYP "HM-GJ" ON DRAINAGE TABLE

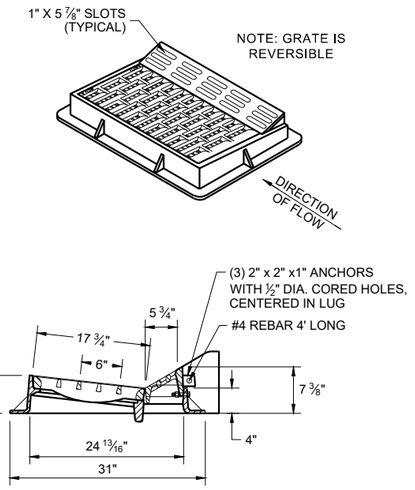
NOTE:
SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.



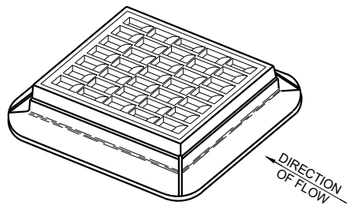
TYPE "HM"

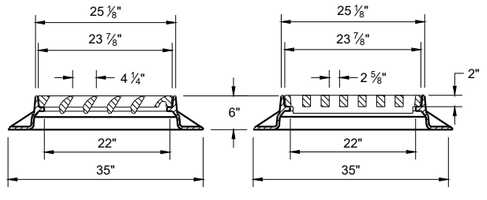
USE WITH TYPES "A" AND "D" CONCRETE CURB AND GUTTER, 36"



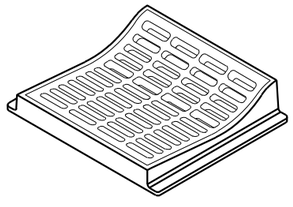
NOTE:
SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

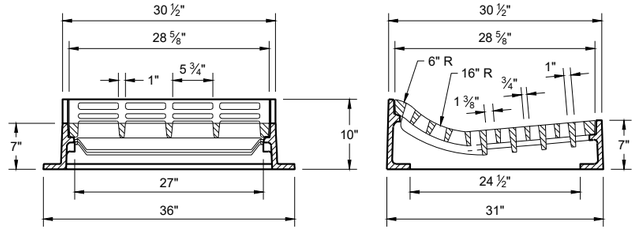
NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.





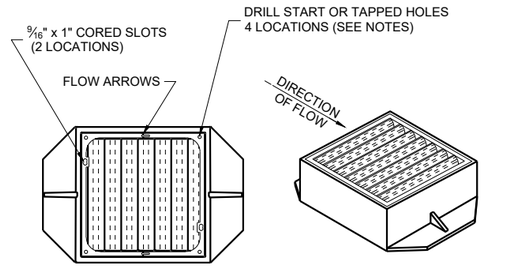
TYPE "S"

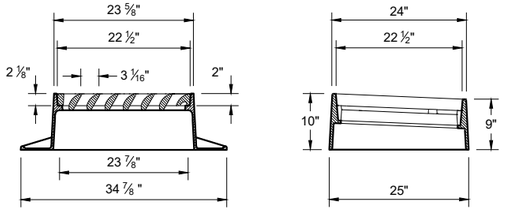




TYPE "T"

USE WITH TYPES "R" AND "T" CONCRETE CURB AND GUTTER, 36"

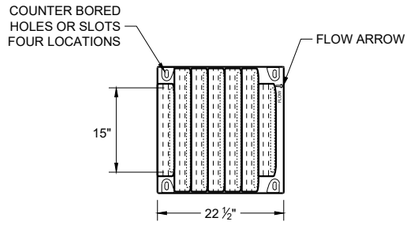




TYPE "V"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A
3/8" DIA. X 1/16" DRILL START IN 4 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



BOLT DOWN GRATE FOR TYPE "V" COVER

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER NOTED AS TYPE "V-B" ON DRAINAGE TABLE

TAP 1/2" -13 HOLES IN FOUR LOCATIONS IN FRAME TO BOLT GRATE
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A

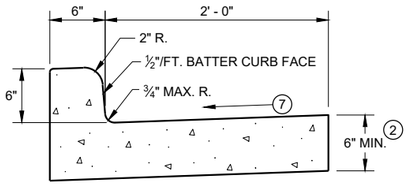
GRATE - CAST DUCTILE IRON ASTM A536, 55+KSI YIELD
BOLTS - 1/2" -13 STAINLESS STEEL BOLTS WITH WASHERS
TORQUE BOLTS TO MANUFACTURER SPECIFICATION DO NOT OVERTIGHTEN.

INLET COVERS TYPES F, HM, HM-S, S, T, V, HM-GJ AND HM-GJ-S

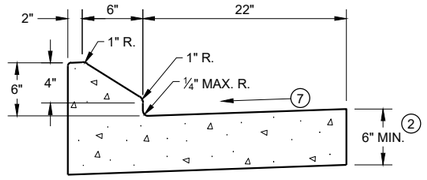
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

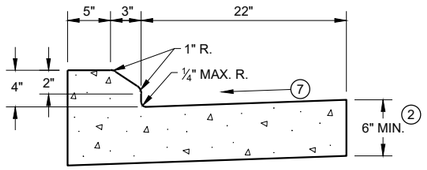
FHWA



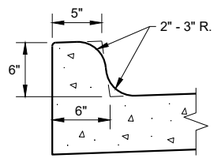
TYPES A (1) & D



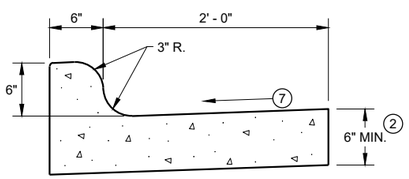
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

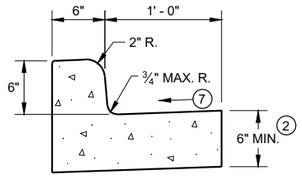


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



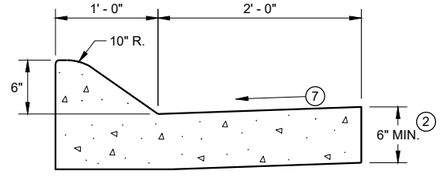
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

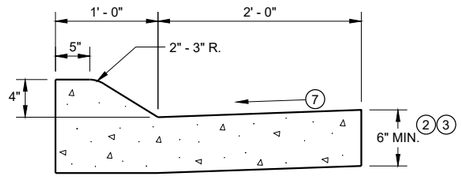


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

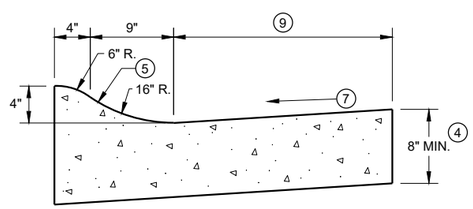


6" SLOPED CURB TYPES A (1) & D



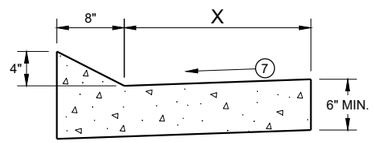
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

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

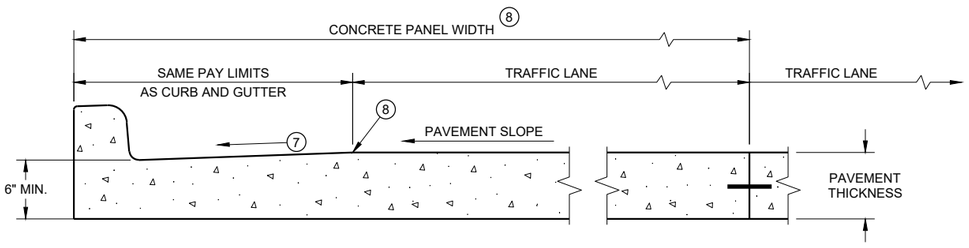


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

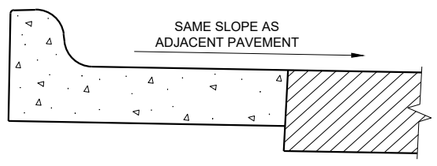
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

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

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

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

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

(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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

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

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

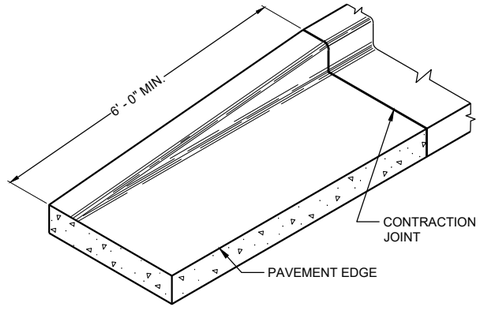
(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

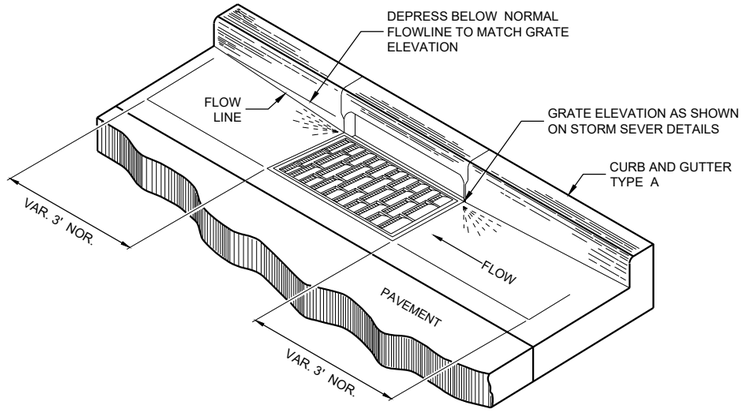
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D01 - 23a



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.

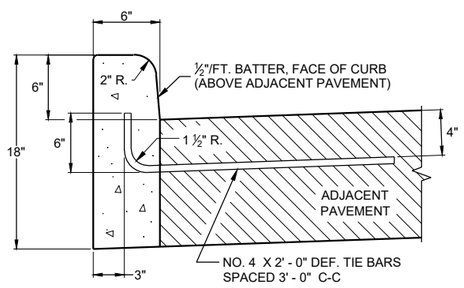
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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

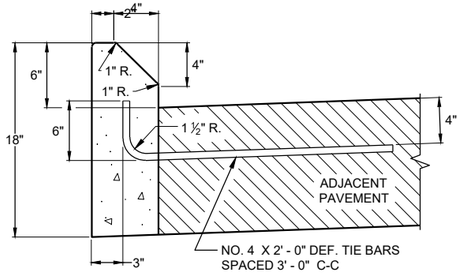
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

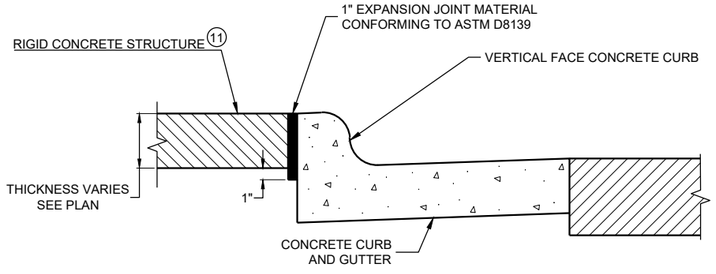


TYPES A (1) & D

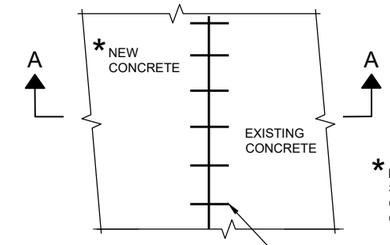


TYPES G (1) & J

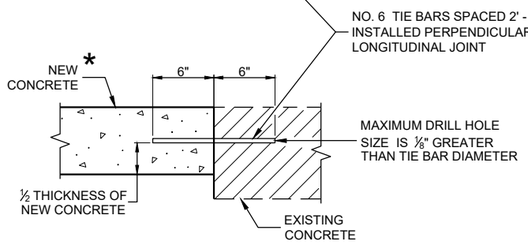
CONCRETE CURB



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)

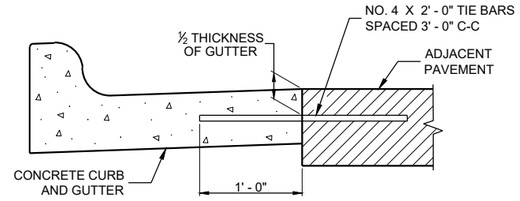


PLAN VIEW

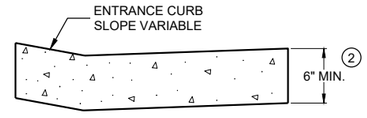


SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (10)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

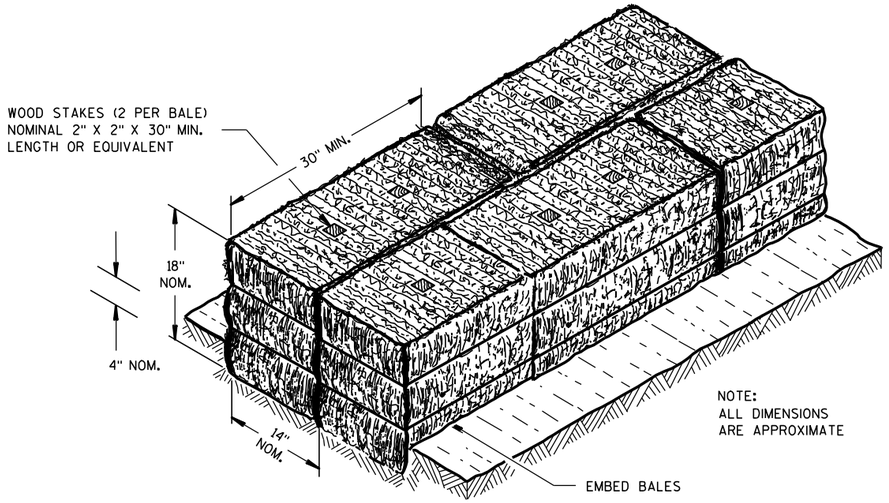
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER

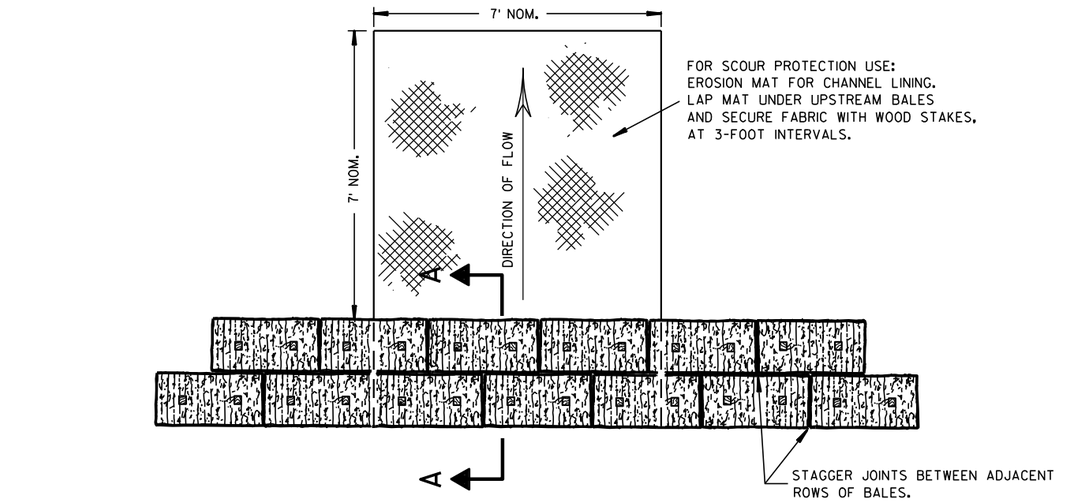
FHWA

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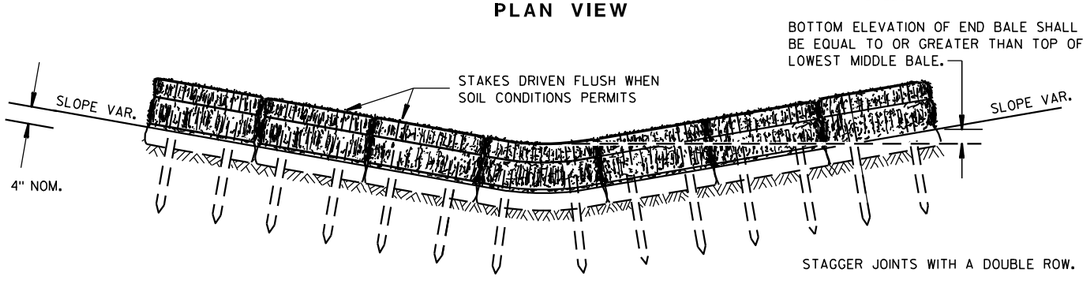
SDD08D01 - 23b



SECTION A-A



PLAN VIEW



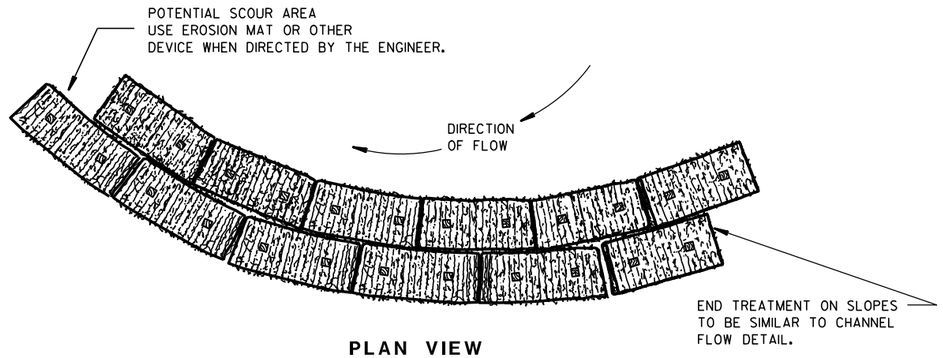
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

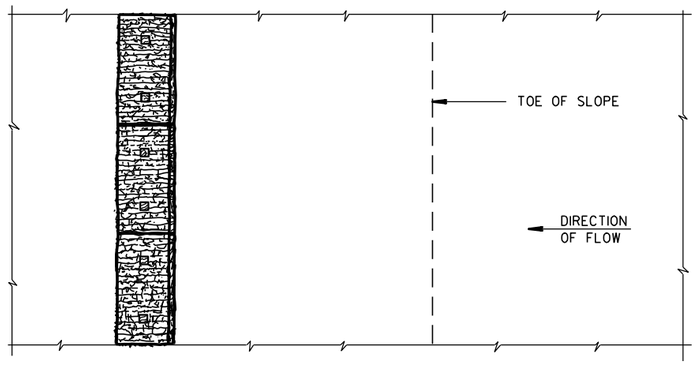
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

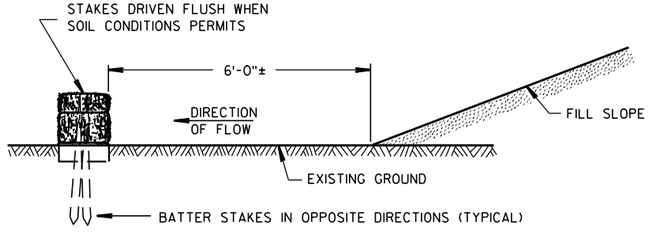


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

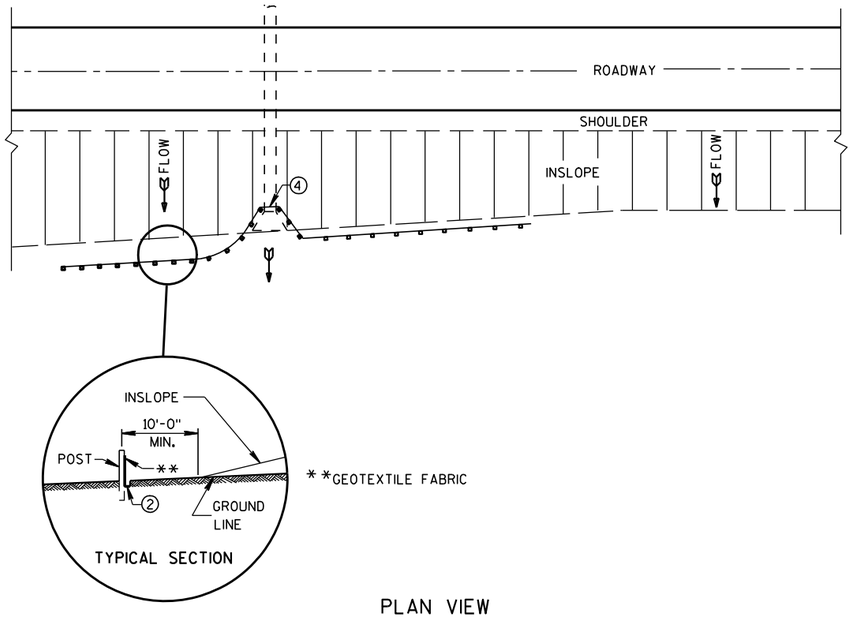
FHWA

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S.D.D. 8 E 8-3

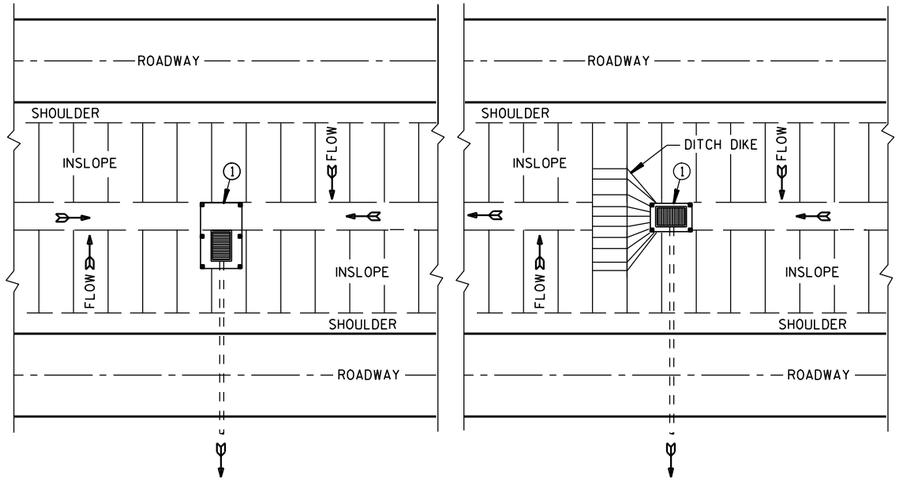
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

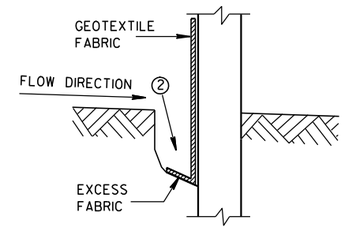
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

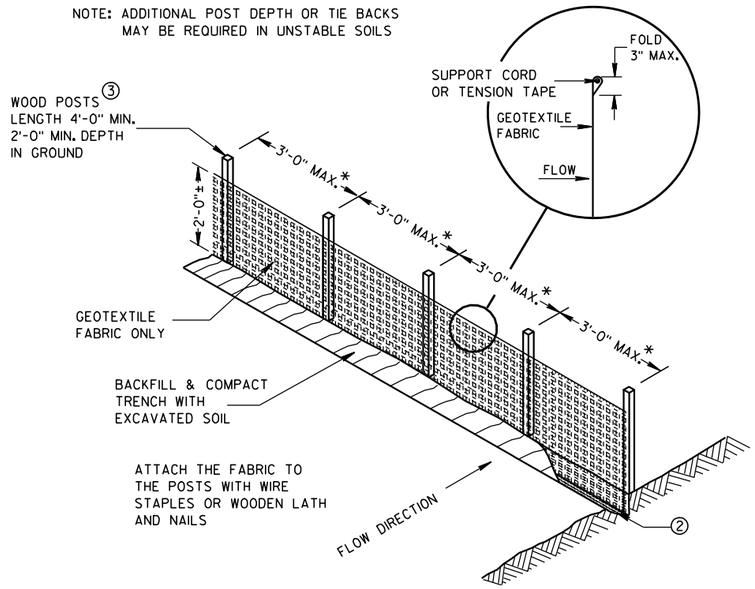
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

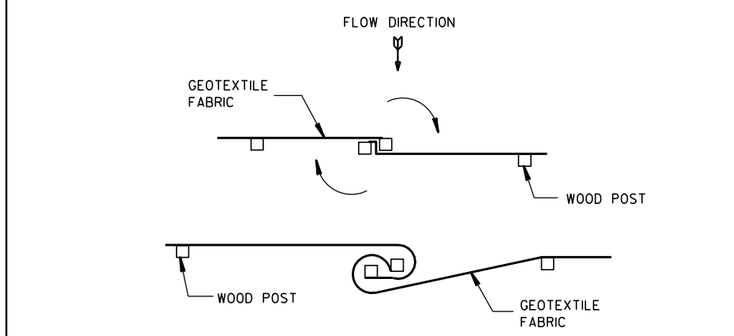
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



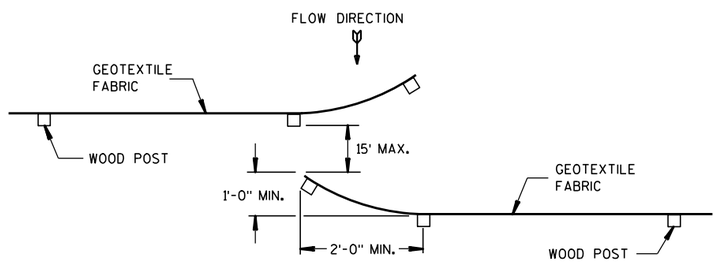
TRENCH DETAIL



SILT FENCE

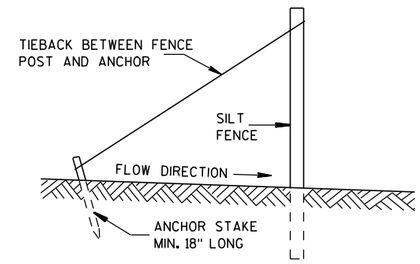


TWIST METHOD



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

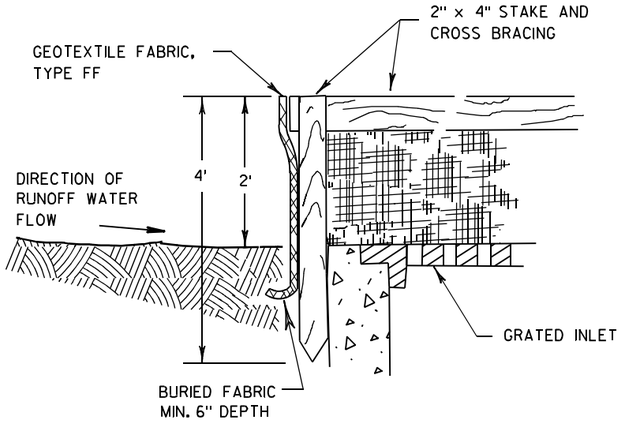
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

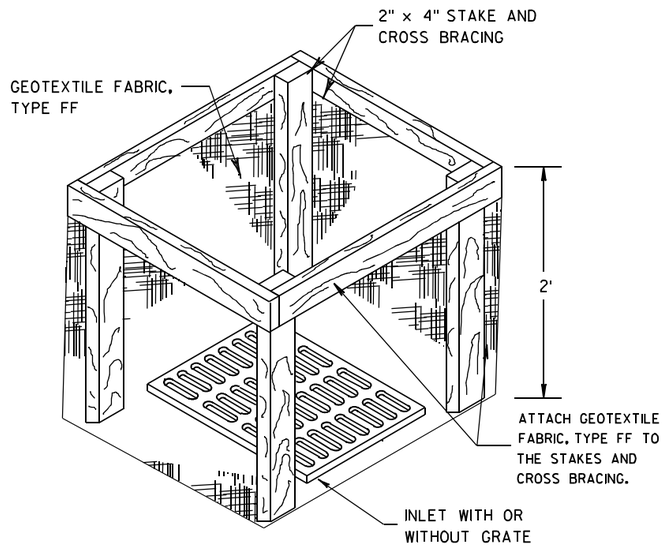
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S.D.D. 8 E 9-6

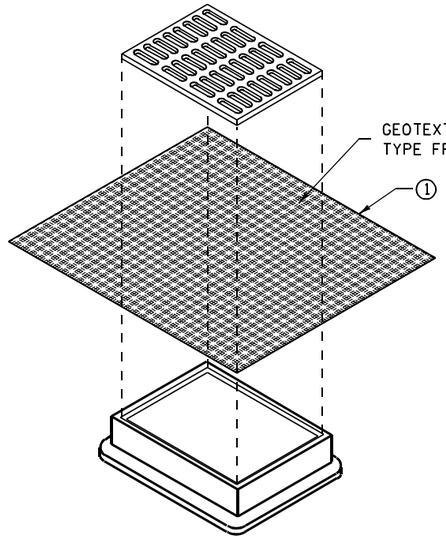
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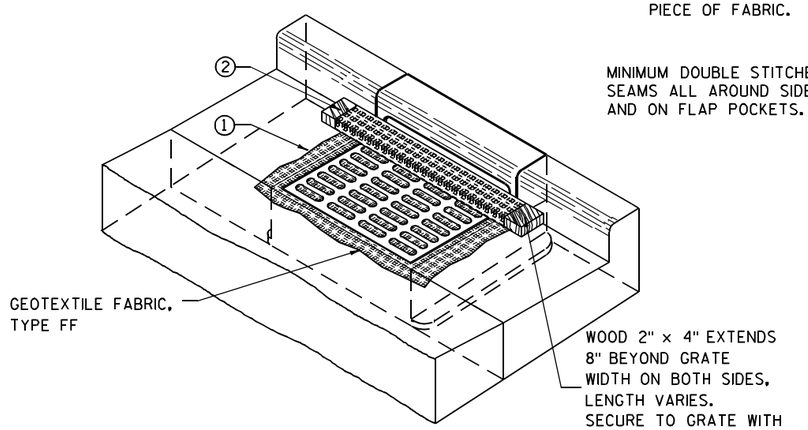


INLET PROTECTION, TYPE A

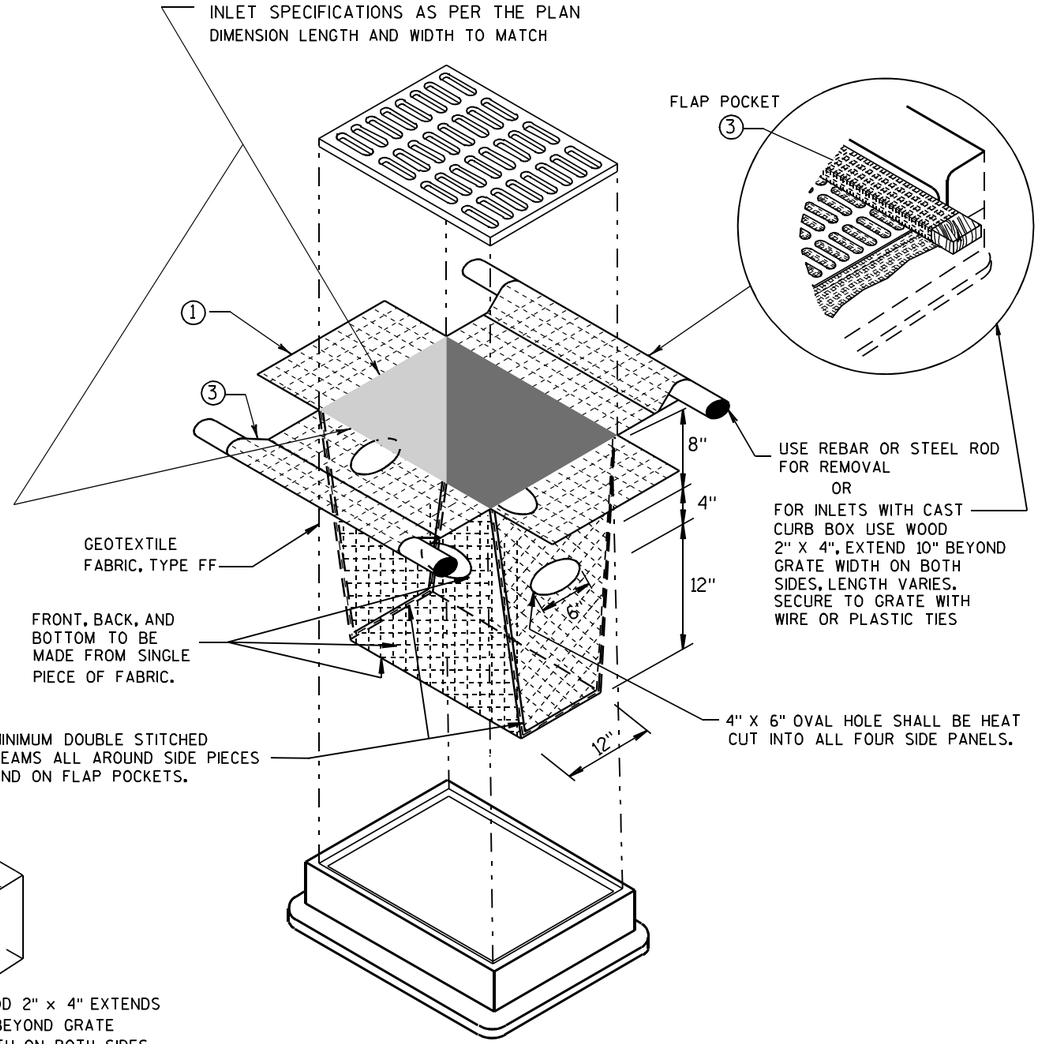


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

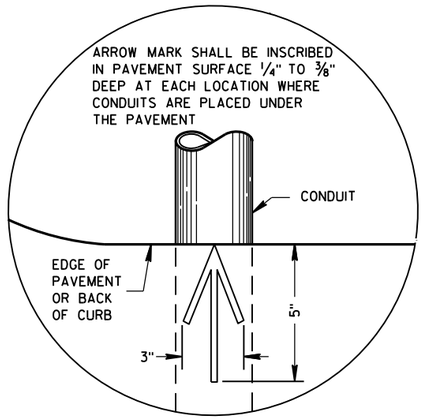
APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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S.D.D. 8 E 10-2

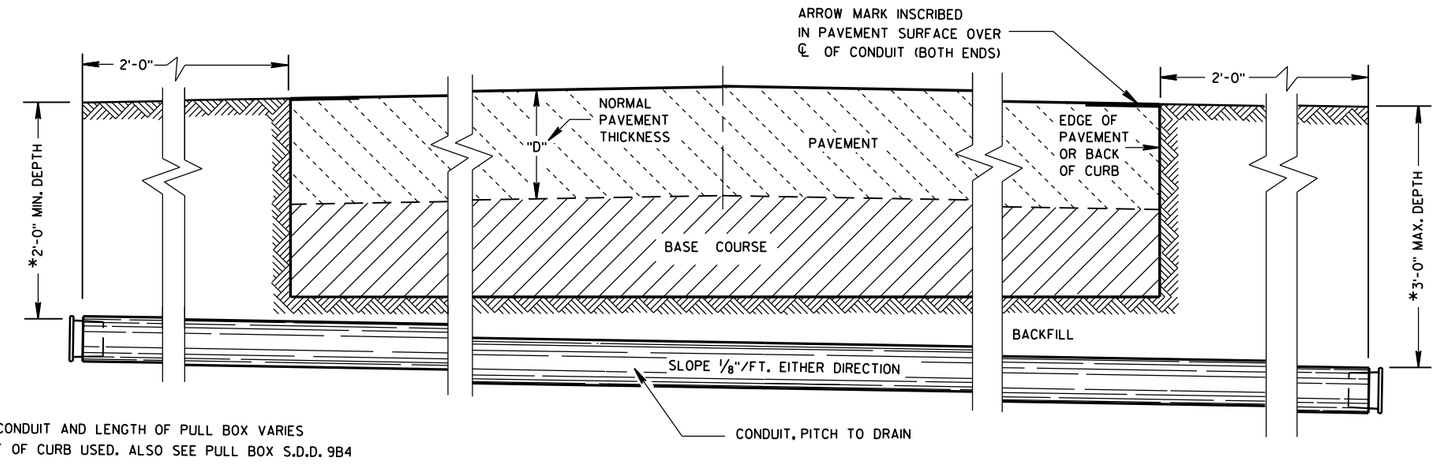
6

S.D.D. 8 E 10-2



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.

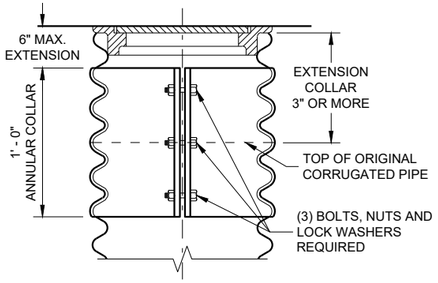
CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

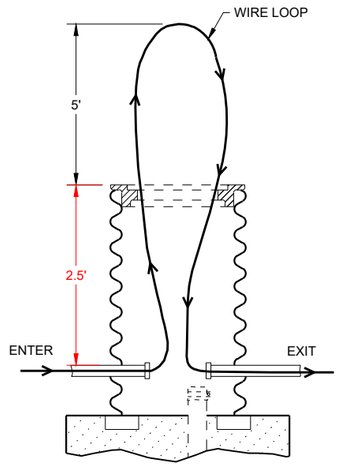
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March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
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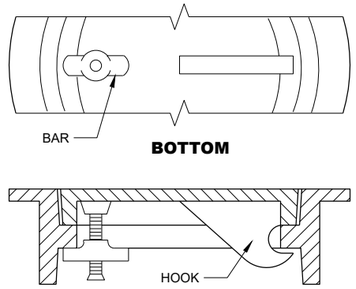
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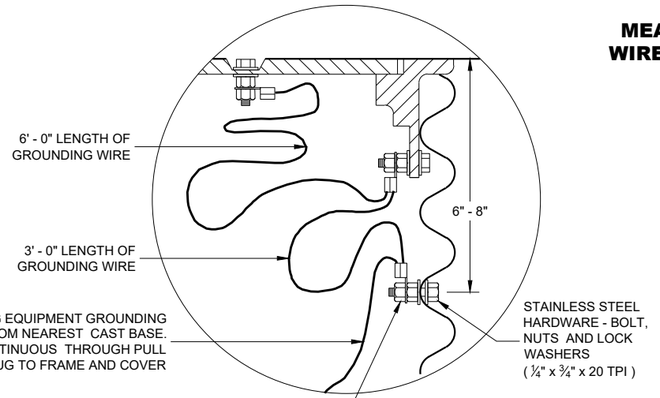
CORRUGATED PIPE EXTENDER



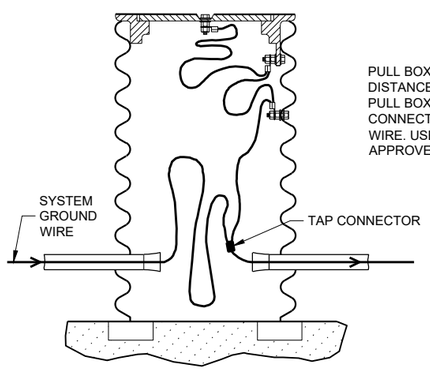
MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



ALTERNATE COVER (LOCKING)
TIGHTENING BAR TYPE

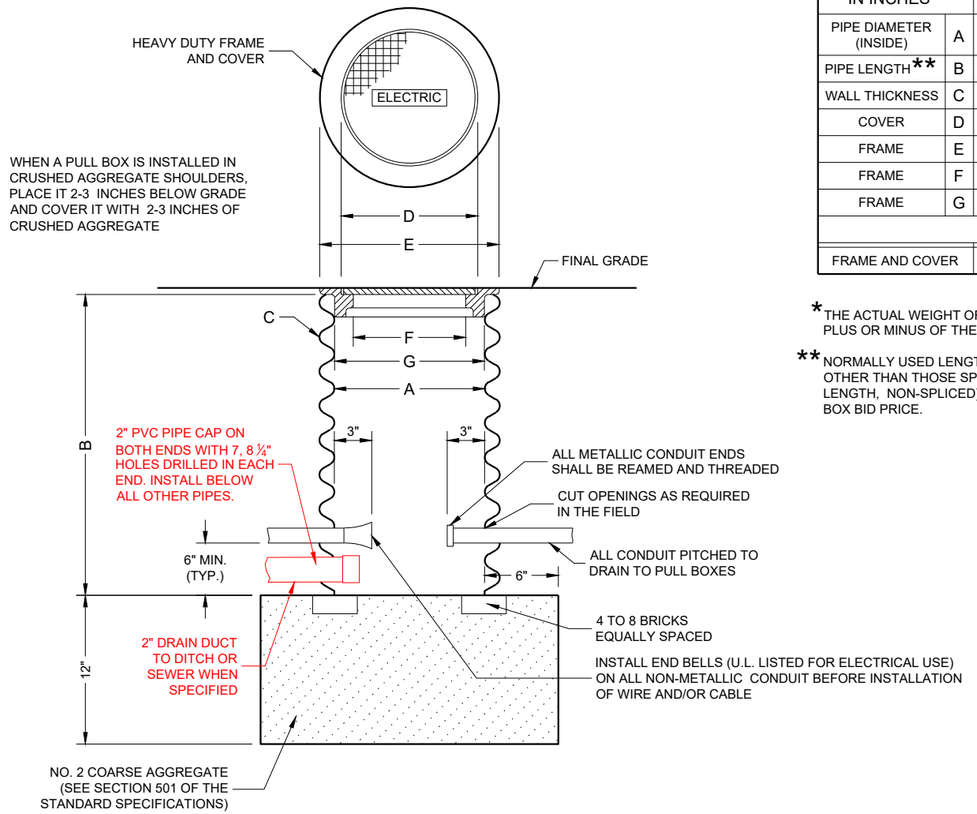


EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN ¼".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH**	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 ¼	10 ¼	10 ¼	16 ¼	16 ¼	16 ¼	22 ¼	22 ¼	22 ¼
FRAME	E	14 ½	14 ½	14 ½	20 ½	20 ½	20 ½	26 ½	26 ½	26 ½
FRAME	F	8 ½	8 ½	8 ½	14 ½	14 ½	14 ½	20 ½	20 ½	20 ½
FRAME	G	11 ½	11 ½	11 ½	17 ½	17 ½	17 ½	23 ½	23 ½	23 ½
WEIGHT IN POUNDS*										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

*THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

**NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

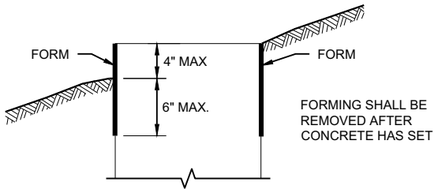
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May 2022
DATE

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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.

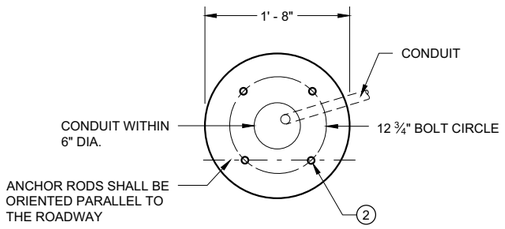
WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

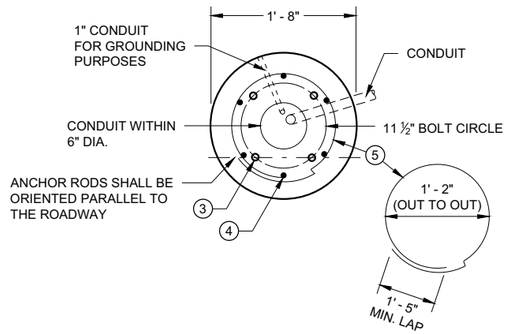
WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH"L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

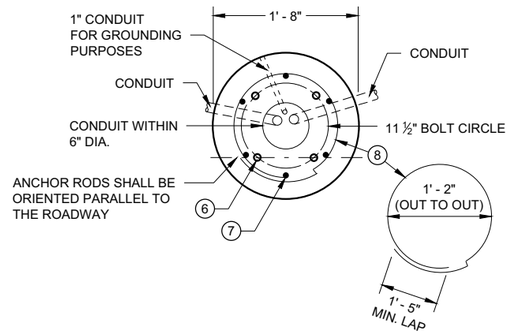
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

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).







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

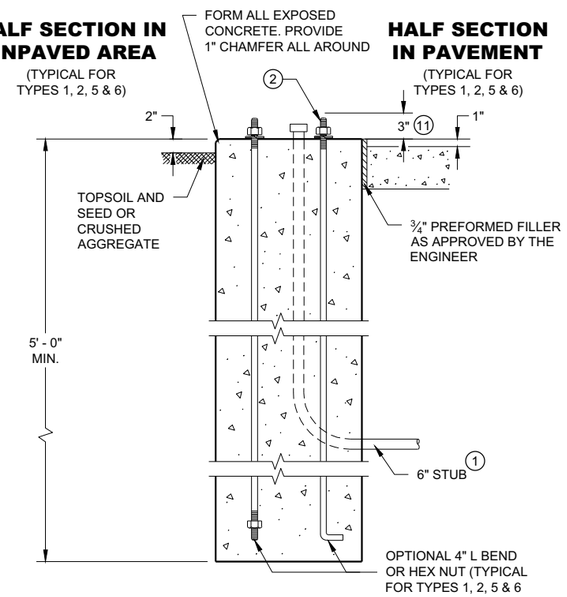
10 ⅝" DIA. X 8' -0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED

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.

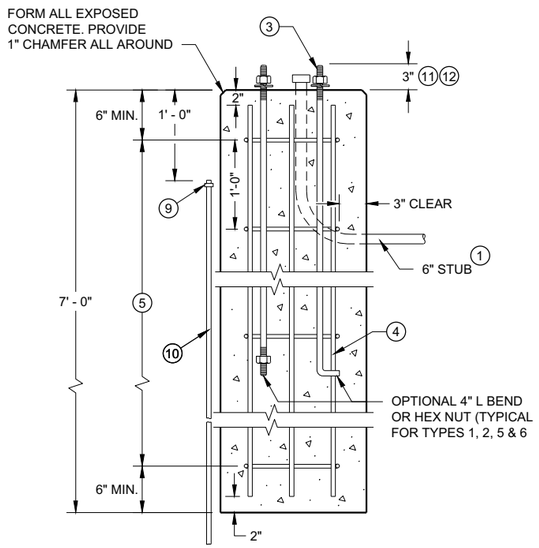
12 FOR NON - BREAKAWAY INSTALLATIONS, 4 ½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5 & 6)

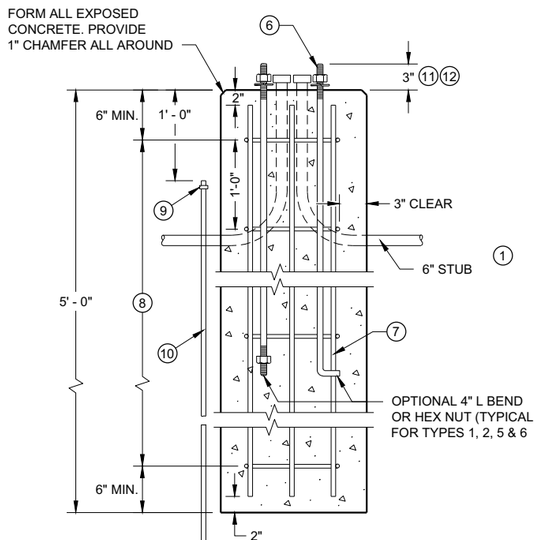
HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5 & 6)



TYPE 1



TYPE 2



TYPE 5 & 6

CONCRETE BASES

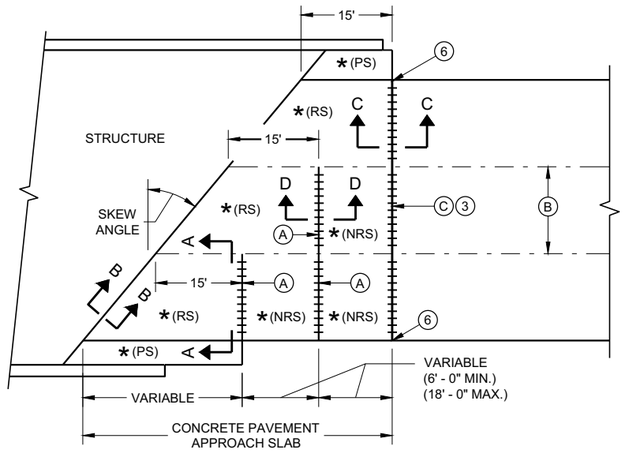
CONCRETE BASES
TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

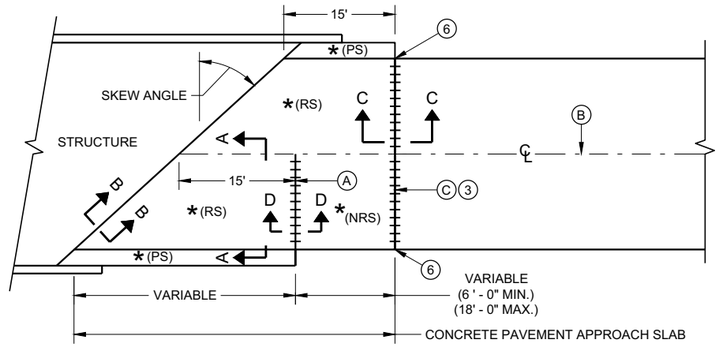
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/S/ Ahmet Demirbilek
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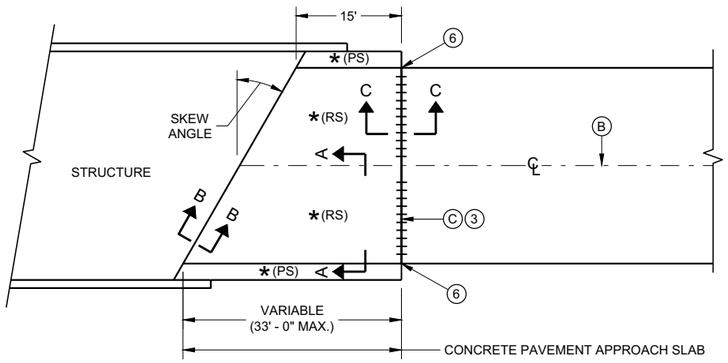
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SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

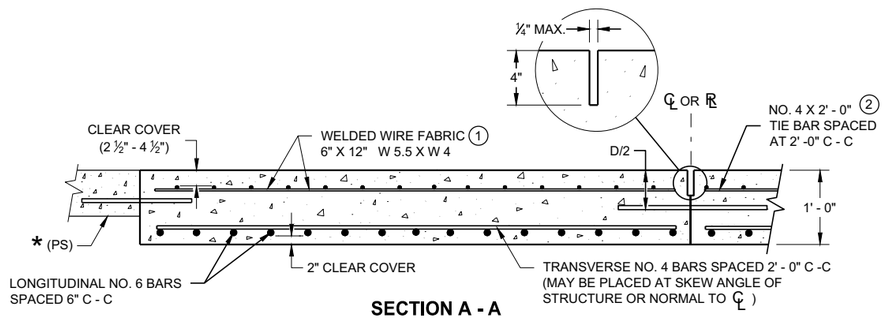
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

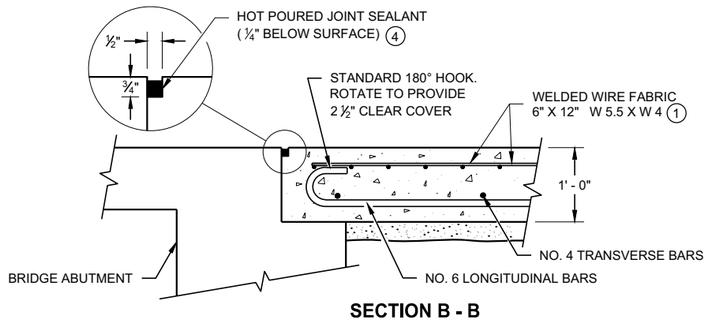
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

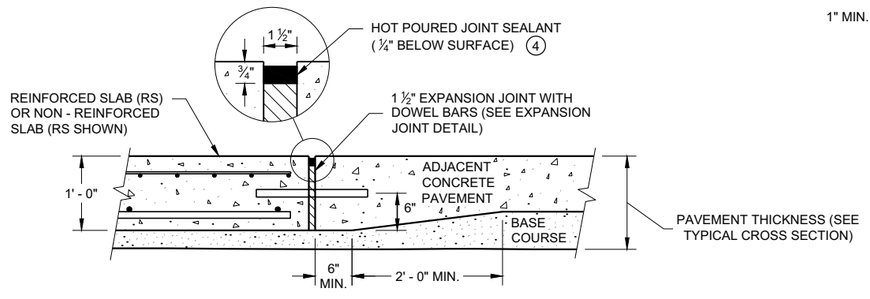
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



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.

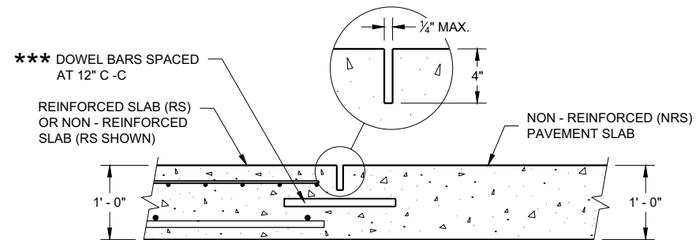
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

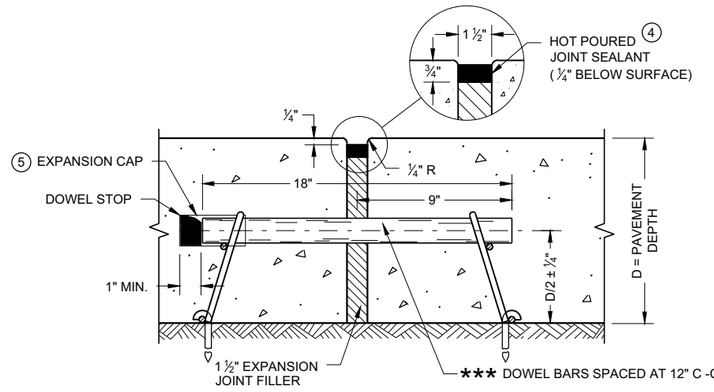
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(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

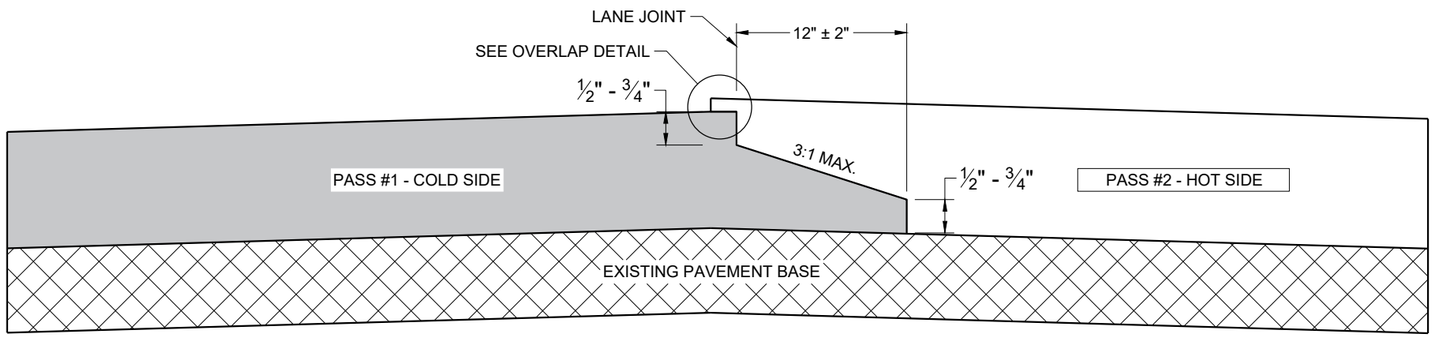
APPROVED
November 2018
DATE

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

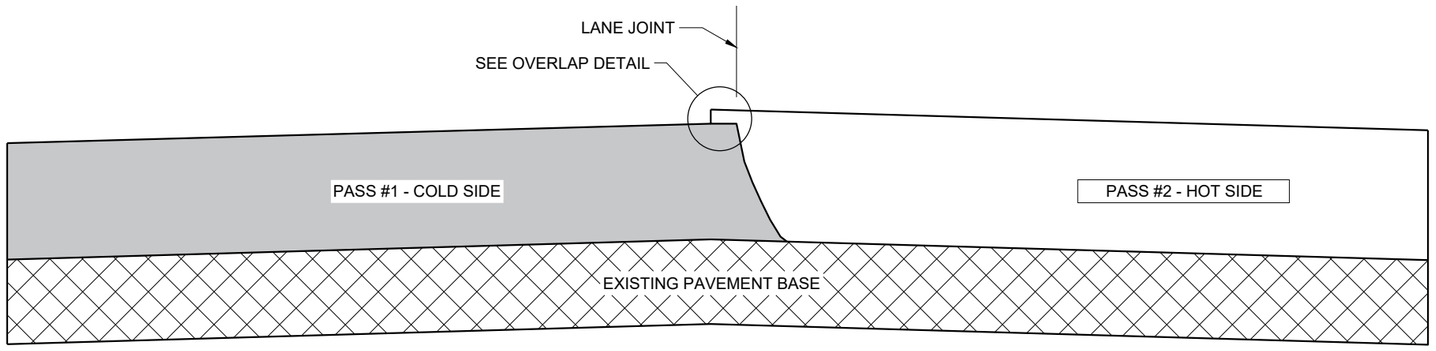
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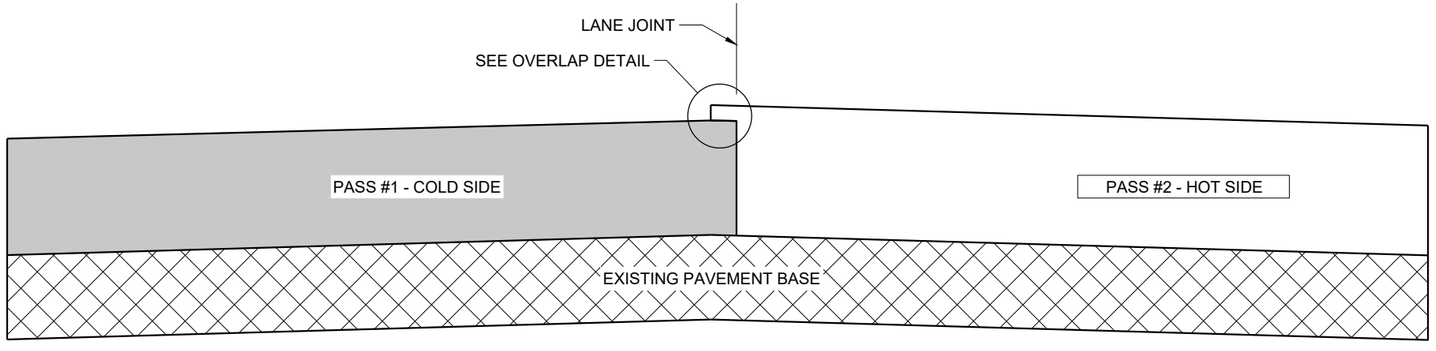
SDD 13B02 - 09a



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

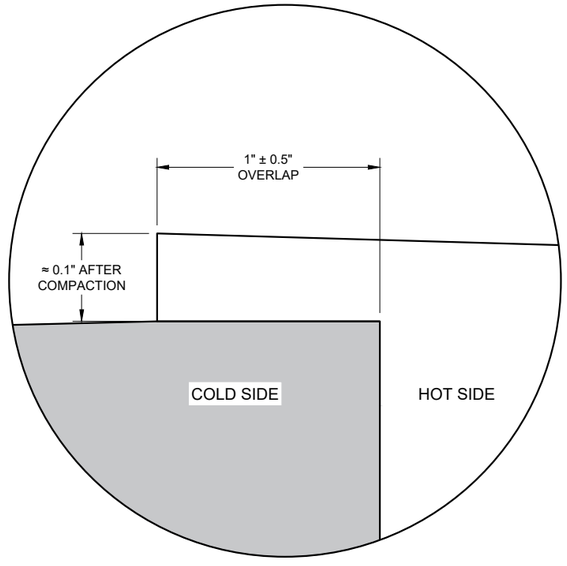
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

HMA LONGITUDINAL JOINTS

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DEPARTMENT OF TRANSPORTATION

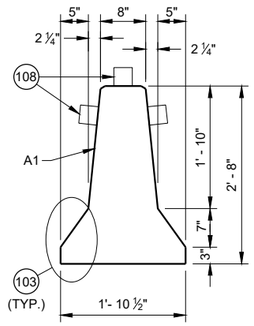
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

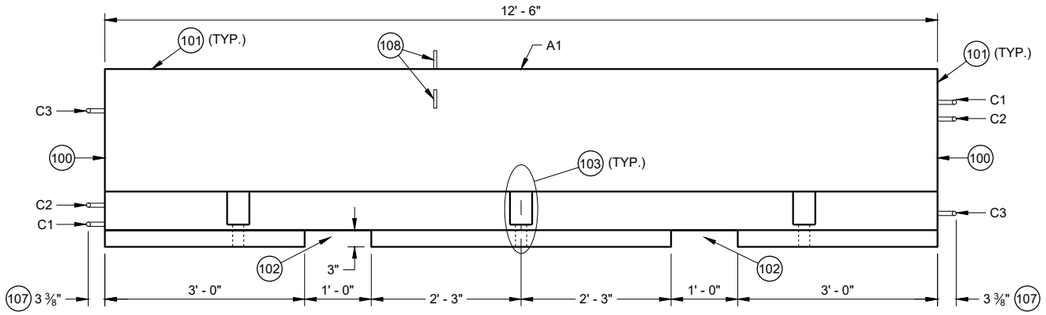
FHWA

6

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CROSS SECTION



PROFILE VIEW

GENERAL NOTES

PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

(100) PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:
- A. TYPE OF BARRIER: WI-CBTP
- B. MANUFACTURER
- C. DATE OF MANUFACTURE (MONTH AND YEAR)

(101) 1" OPTIONAL CHAMFER

(102) SEE LIFTING SLOT DETAIL

(103) SEE ANCHOR BLOCK DETAIL

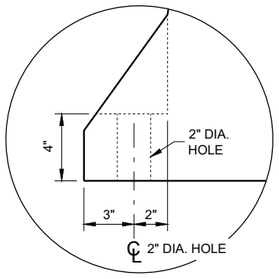
(104) 1 ¾" MIN. CLEAR COVER

(105) 2" MIN. CLEAR COVER

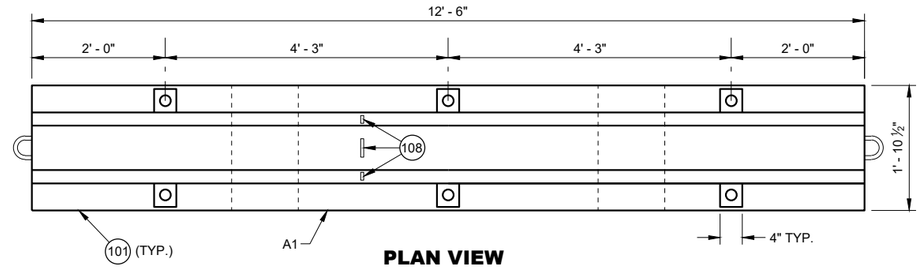
(106) 1" MIN. CLEAR COVER

(107) ± ⅛" MEASURED FROM FACE OF CONCRETE BARRIER TO OUTSIDE OF LOOP BAR (TYP.)

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

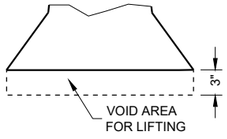


ANCHOR BLOCK DETAIL

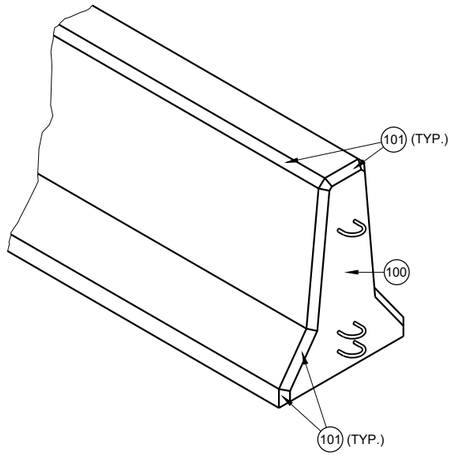


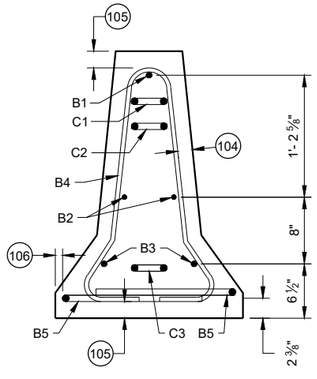
PLAN VIEW

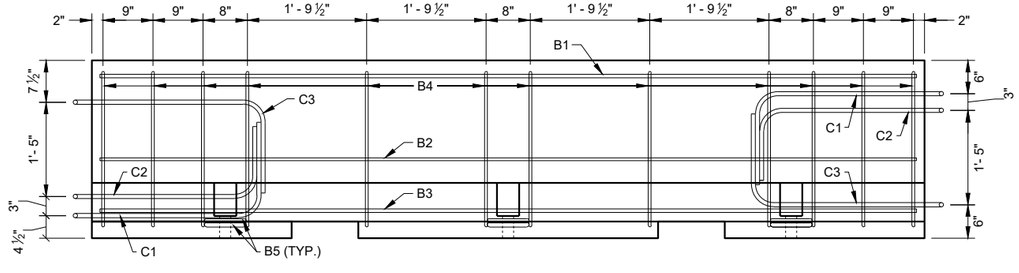
TEMPORARY BARRIER



LIFTING SLOT DETAIL (TYP.)







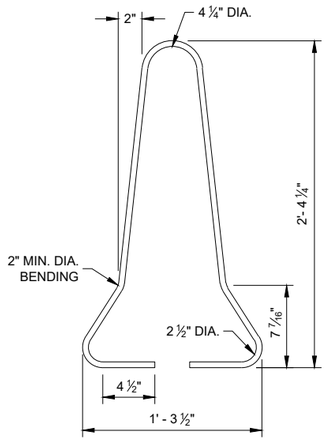
PROFILE VIEW

TEMPORARY BARRIER REINFORCEMENT

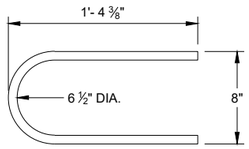
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

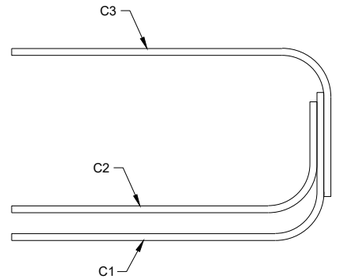
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SDD 14B07-16a



B4 BAR DETAIL

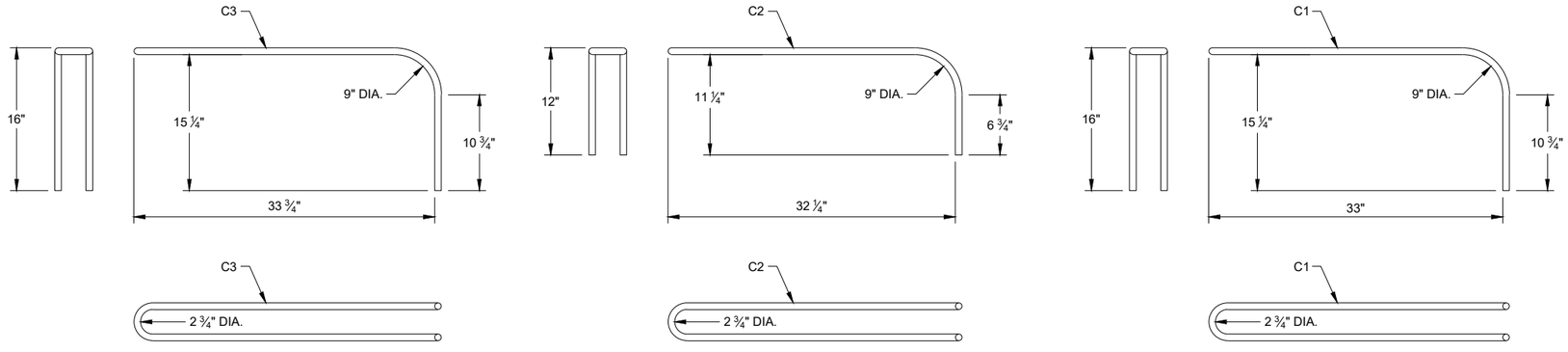


B5 BAR DETAIL



PROFILE VIEW

LOOP BAR ASSEMBLY



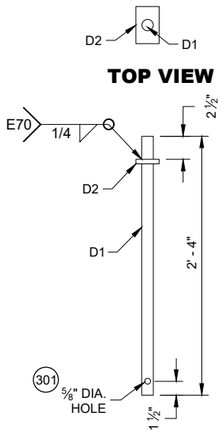
C BAR DETAILS

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

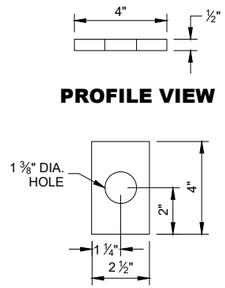
SDD 14B07-16b



TOP VIEW

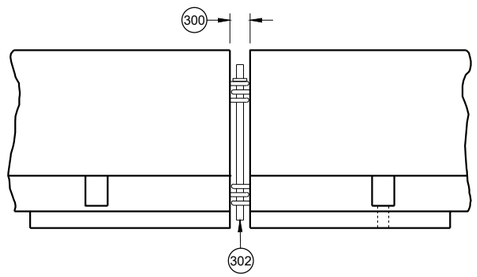
PROFILE VIEW

CONNECTOR PIN ASSEMBLY



PROFILE VIEW

TOP VIEW D2



CONNECTING TEMPORARY BARRIER SECTIONS

GENERAL NOTES

300 SET WITH 3 ⅝" WOOD BLOCK.

301 HOLE IS OPTIONAL.

302 CONNECTOR PIN ASSEMBLY.

303 CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.

304 CONCRETE DECK.

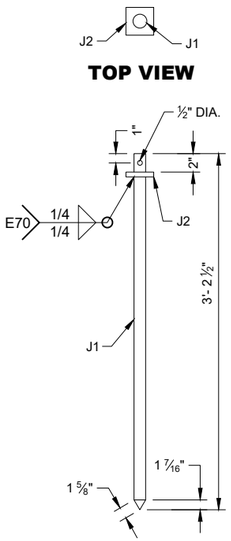
305 DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.

306 MINIMUM OF 2" OF ASPHALT.

307 ASPHALT ANCHOR PIN ASSEMBLY

308 IF DRILLING A PILOT HOLE, THE MAX, DIA. OF THE HOLE IS 3/4"

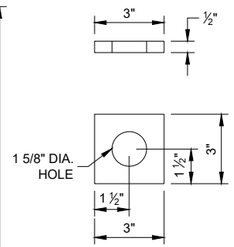
309 WHEN THERE IS ASPHALT OVERLAYING CONCRETE PAVEMENT, A 1 5/8" DIA. PILOT HOLE CAN BE DRILLED INTO THE OVERLAY AND CONCRETE. IF NEEDED DRILL A 3/4" PILOT HOLE IN BASE COURSE.



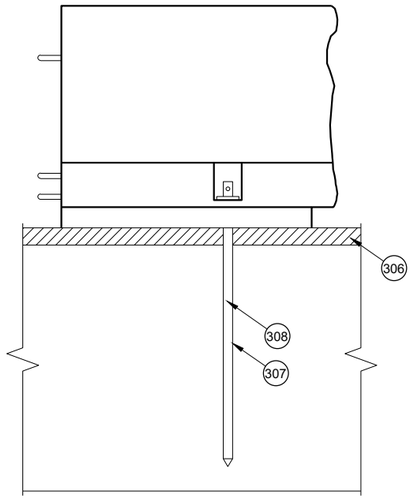
TOP VIEW

PROFILE VIEW

ASPHALT ANCHOR PIN ASSEMBLY

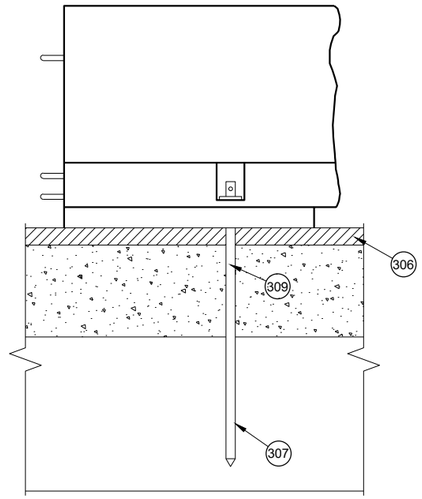


TOP VIEW J2



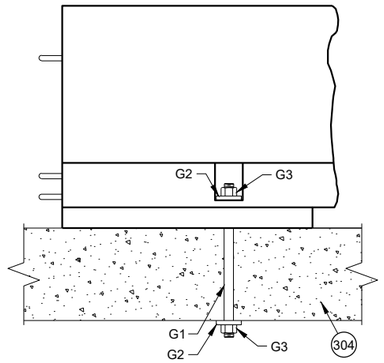
SIDE VIEW

ASPHALT ANCHOR INSTALLATION THROUGH ASPHALT PAVEMENT



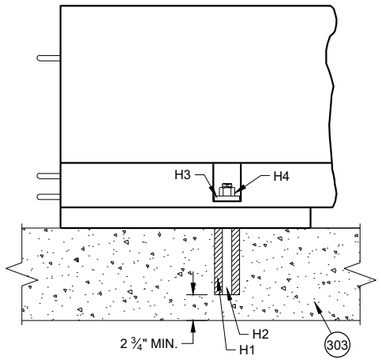
SIDE VIEW

ASPHALT ANCHOR INSTALLATION THROUGH ASPHALT OVERLAY ON TOP OF CONCRETE PAVEMENT



SIDE VIEW

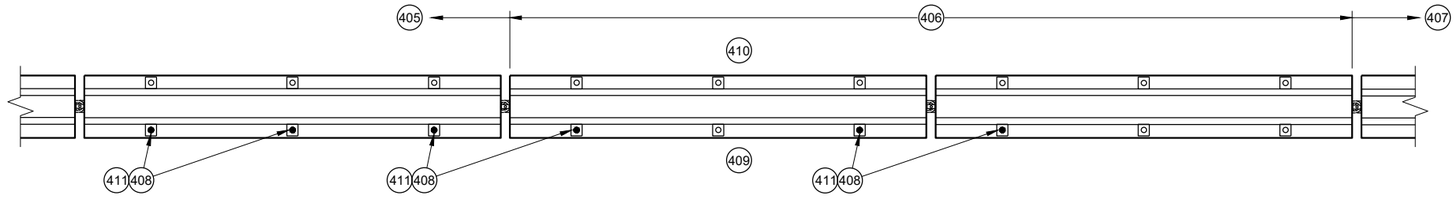
THROUGH BOLT ANCHOR INSTALLATION (305)



SIDE VIEW

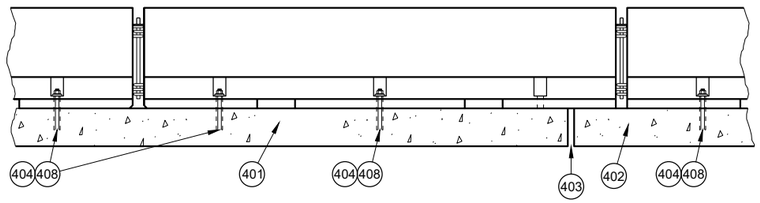
ADHESIVE ANCHOR INSTALLATION (305)

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"



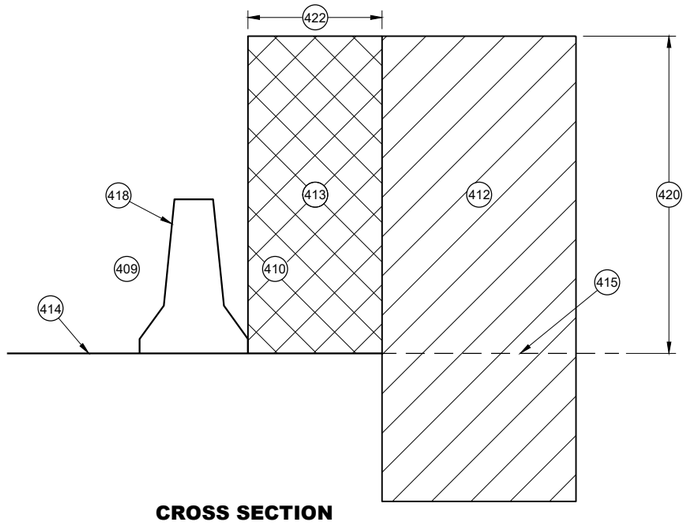
PLAN VIEW

TRANSITION FROM FREE STANDING TO ANCHORED BARRIER



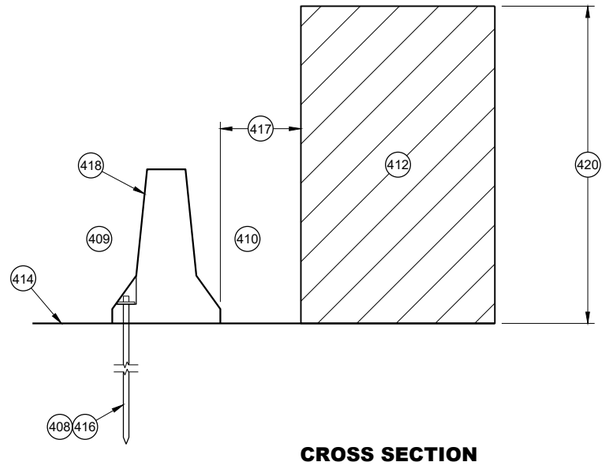
PROFILE VIEW

ANCHORED BARRIER NEAR EXPANSION JOINT (400)



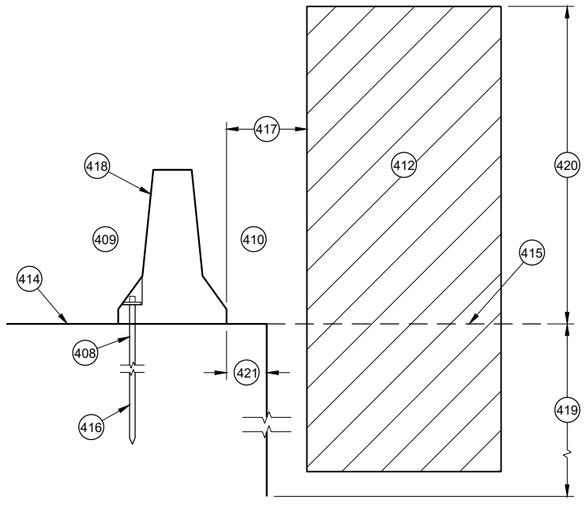
CROSS SECTION

FREE STANDING BARRIER



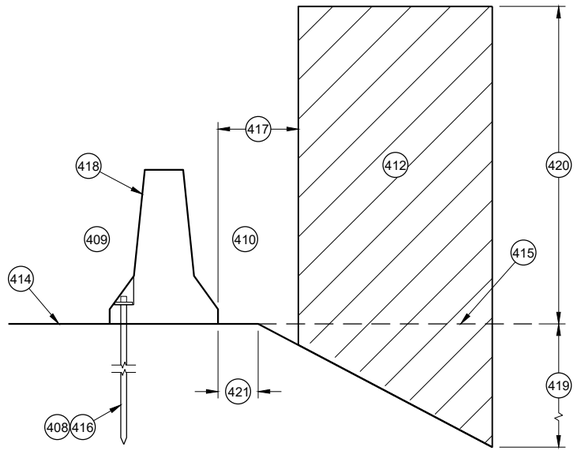
CROSS SECTION

ANCHORED BARRIER FOR OBJECTS ABOVE THE GRADE LINE AND NEAR THE BARRIER



CROSS SECTION

ANCHORED BARRIER NEAR VERTICAL DROP OFF



CROSS SECTION

ANCHORED BARRIER NEAR A SLOPE

GENERAL NOTES

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

(401) CONCRETE DECK

(402) CONCRETE DECK OR APPROACH SLAB.

(403) EXPANSION JOINT

(404) ADHESIVE ANCHOR SHOWN. SEE ANCHOR DETAILS.

(405) ANCHORED TEMPORARY BARRIER

(406) TRANSITION FROM ANCHORED TEMPORARY BARRIER TO FREE STANDING

(407) FREE STANDING BARRIER

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

(409) TRAFFIC SIDE

(410) NON-TRAFFIC SIDE

(411) ANCHOR LOCATION. SEE ANCHORING DETAILS.

(412) WORK AREA

(413) AREA FREE OF OBJECTS AND WORKERS

(414) GRADE LINE

(415) EXTENDED GRADE LINE

(416) ANCHORED TEMPORARY BARRIER. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR AN ASPHALT ANCHOR ROD DETAILS FOR MORE INFORMATION. ASPHALT ANCHOR ROD SHOWN.

(417) WHEN OBJECTS EXTEND ABOVE THE GRADE. A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT.

(418) OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR ALLOWED TO LEAN AGAINST THE BARRIER WITHOUT WRITTEN PERMISSION OF THE PROJECT ENGINEER.

(419) DEPTHS OF 3 FEET OR MORE.

(420) Y = 6.5'

(421) OFFSET FROM BACK OF BARRIER EDGE:

CONCRETE PAVEMENT	0.5'
ASPHALT	0.5'

(422) POSTED SPEED (MPH):

45 OR GREATER	4.0'
40 OR LOWER	2.0'

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
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GENERAL NOTES

(500) EXISTING RIGID BARRIERS (VARIES)

(501) TEMPORARY BARRIER

(502) SEE OTHER DETAIL ON HOW TO ANCHOR TEMPORARY BARRIER (BARRIER ASPHALT ANCHOR SHOWN).

(503) ANCHORS ARE REQUIRED ON BOTH SIDE OF THE TEMPORARY BARRIER.

(504) NESTED RAILS ARE REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

(505) TRAFFIC TRAVELS FROM PERMANENT BARRIER TO TEMPORARY BARRIER.

(506) TRAFFIC TRAVELS FROM TEMPORARY BARRIER TO PERMANENT BARRIER.

(507) VERTICAL BARRIER

(508) SAFETY SHAPE BARRIER

(509) SINGLE SLOPE BARRIER

(510) CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF RIGID BARRIER.

(511) BENT THRIE BEAM TO FIT.

(512) THRIE BEAM PIECES ARE OFFSET 15 ¼" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.

(513) TWO (2) P1, P2 AND P3 ARE REQUIRED

(514) FIVE (5) N1, N2 AND N3 ARE REQUIRED

(515) TWO (2) R1, R2 AND R3 ARE REQUIRED

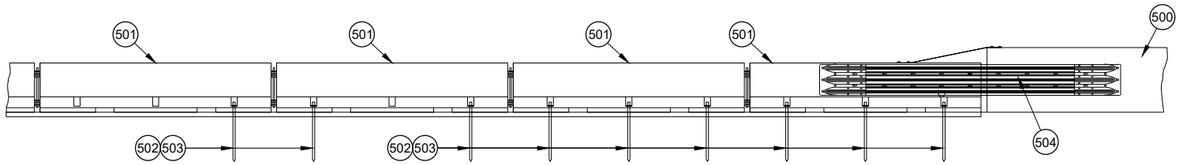
(516) CUT WOOD BLOCK TO FIT.

(517) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.

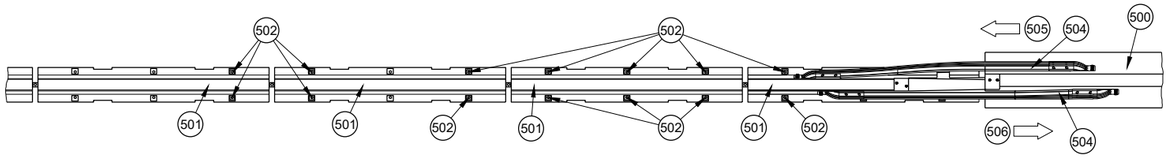
(518) CAP ASSEMBLY

(519) 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.

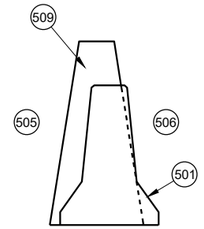
(520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



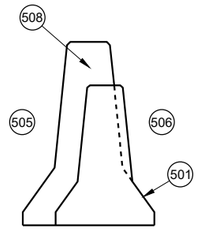
PROFILE VIEW



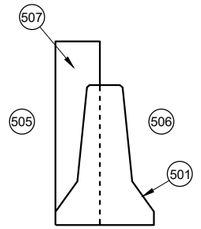
PLAN VIEW



CROSS SECTION TEMPORARY BARRIER PLACEMENT SINGLE SLOPE

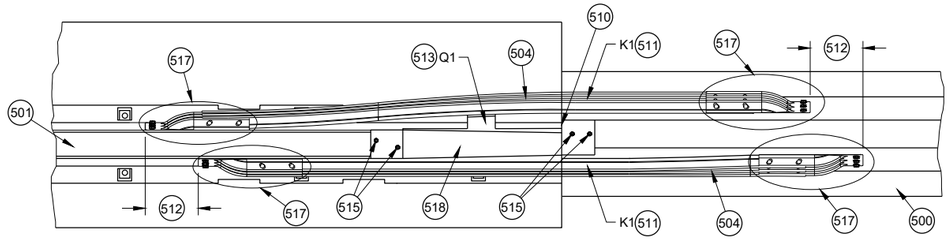


CROSS SECTION TEMPORARY BARRIER PLACEMENT SAFETY SHAPE

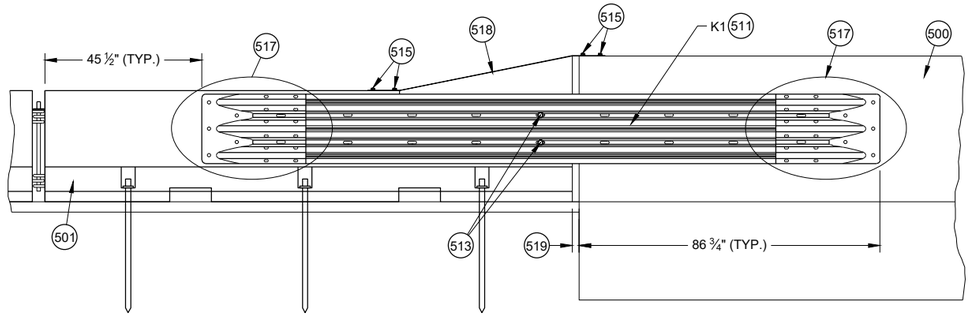


CROSS SECTION TEMPORARY BARRIER PLACEMENT VERTICAL

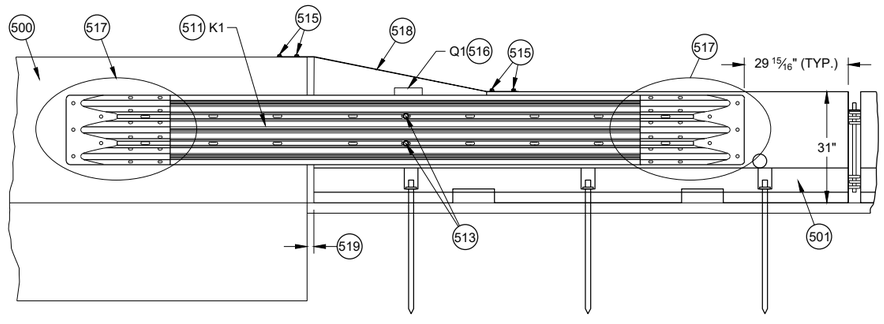
PLAN VIEW
TRANSITION TO RIGID BARRIER



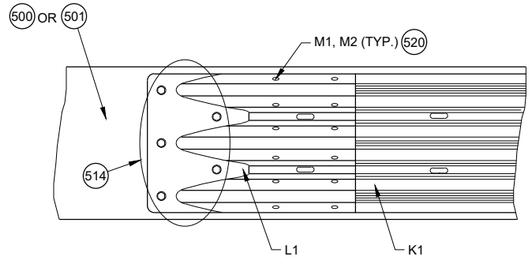
PLAN DETAIL VIEW
TRANSITION TO RIGID BARRIER



FRONT DETAIL VIEW
TRANSITION TO RIGID BARRIER



BACK DETAIL VIEW
TRANSITION TO RIGID BARRIER



(517) DETAIL PLAN VIEW
THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

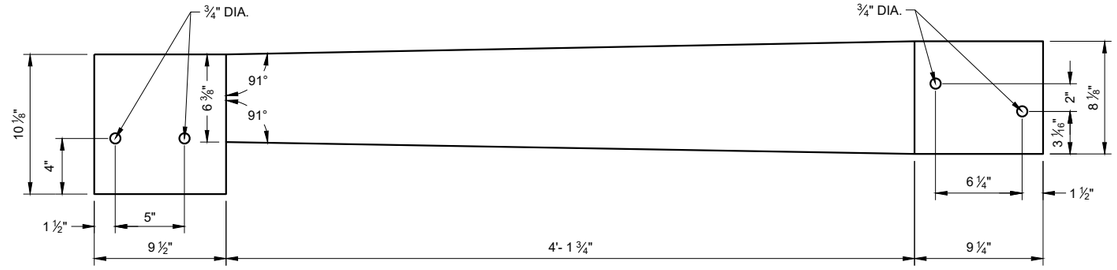
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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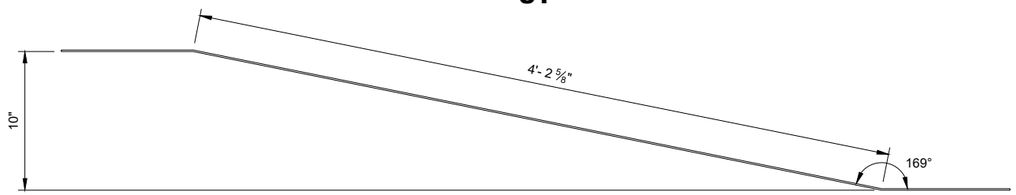
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SDD 14B07-16e



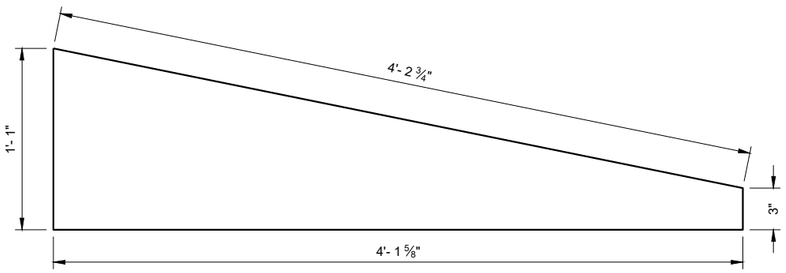
TOP VIEW

S1



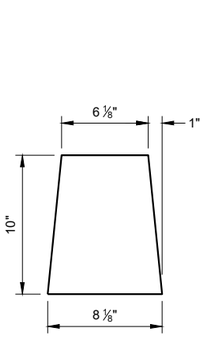
ELEVATION VIEW

S1

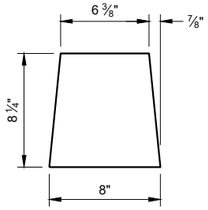


SIDE VIEW

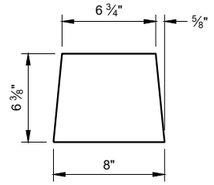
S3



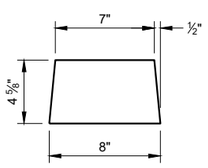
S2



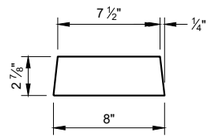
S4



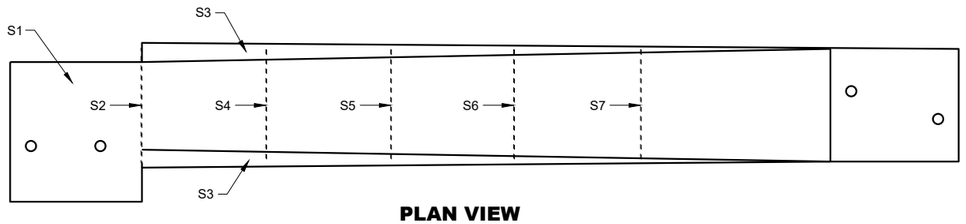
S5



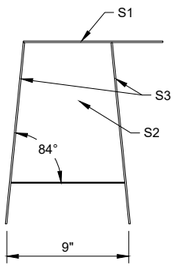
S6



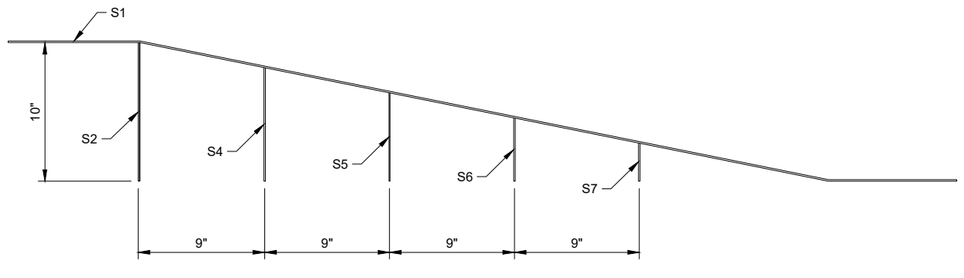
S7



PLAN VIEW



BACK VIEW



SIDE VIEW (600)

42" TOP CAP ASSEMBLY

GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

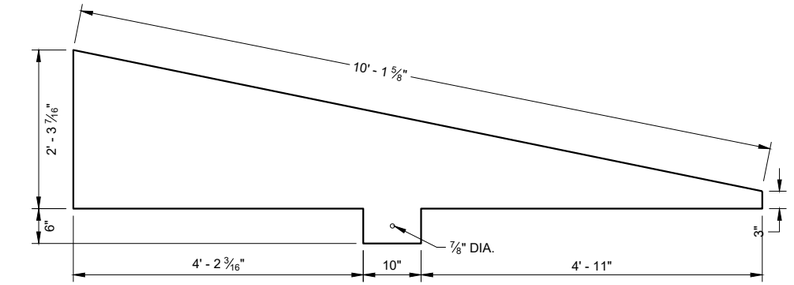
(600) SIDE PLATES (S3) NOT SHOWN FOR CLARITY.

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

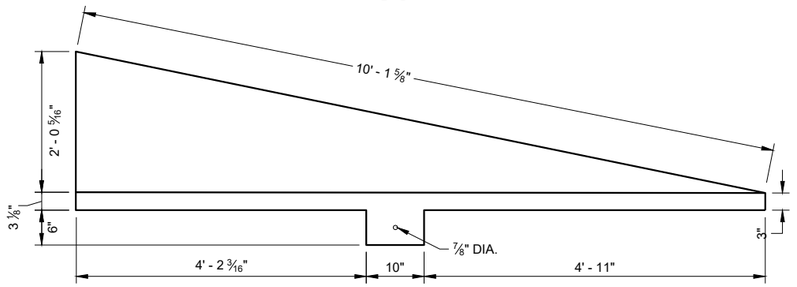
SDD 14B07-16f



SIDE VIEW
T4



END VIEW



SIDE VIEW
T3

END VIEW

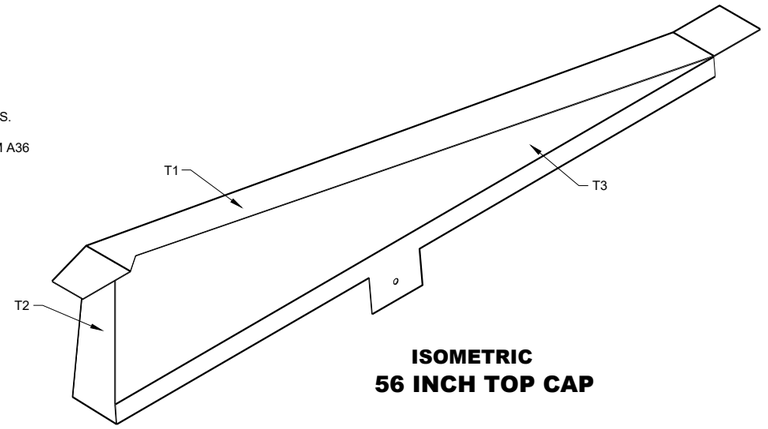
GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES

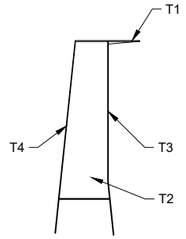
STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

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

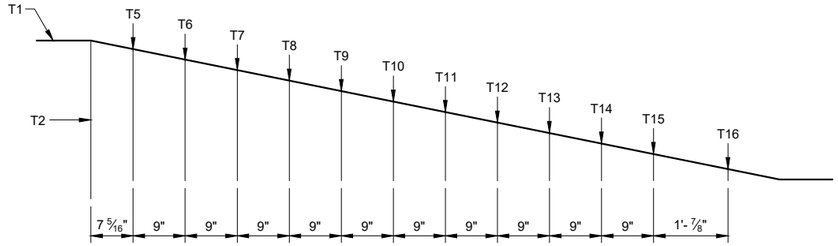
(700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.



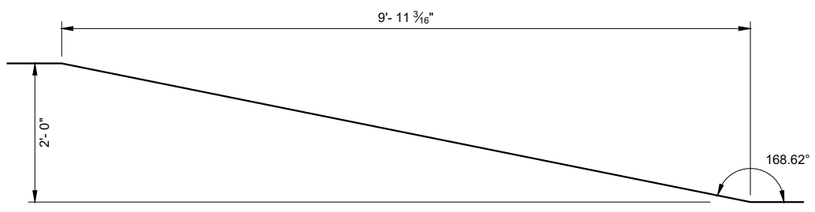
ISOMETRIC
56 INCH TOP CAP



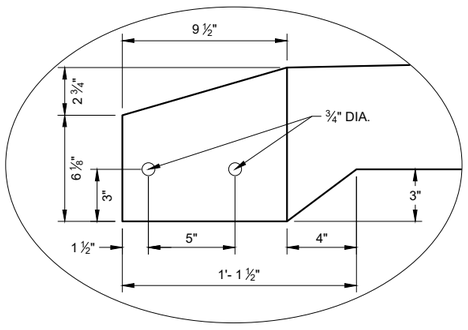
END VIEW
56 INCH TOP CAP



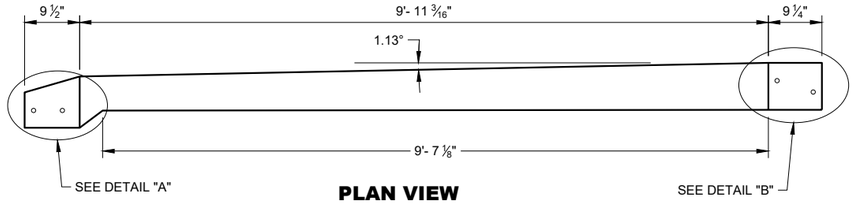
SIDE VIEW (700)
56 INCH TOP CAP



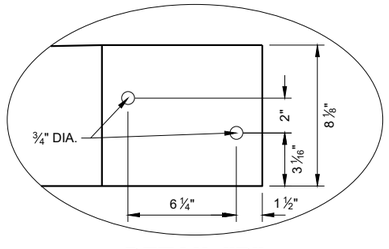
SIDE VIEW
TOP PLATE T1



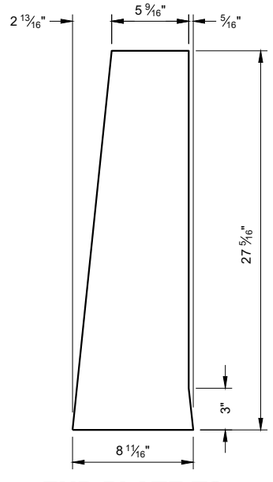
DETAIL "A"



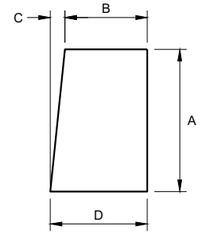
PLAN VIEW
TOP PLATE T1



DETAIL "B"



END PLATE T2



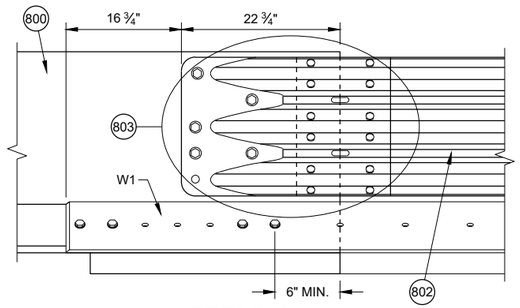
GUSSET PLATES
T5 - T16

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
T5	22 13/16"	5 1/16"	2 5/16"	8 1/16"
T6	21"	5 7/8"	2 3/16"	8 1/16"
T7	19 3/16"	6 1/16"	1 15/16"	8 1/16"
T8	17 3/8"	6 1/4"	1 13/16"	8 1/16"
T9	15 5/16"	6 7/16"	1 9/16"	8 1/16"
T10	13 3/4"	6 5/8"	1 7/16"	8 1/16"
T11	11 15/16"	6 13/16"	1 1/4"	8 1/16"
T12	10 1/8"	7"	1 1/16"	8 1/16"
T13	8 5/16"	7 3/16"	7/8"	8 1/16"
T14	6 1/2"	7 3/8"	1 1/16"	8 1/16"
T15	4 11/16"	7 9/16"	1/2"	8"
T16	2 7/8"	7 3/4"	1/4"	8"

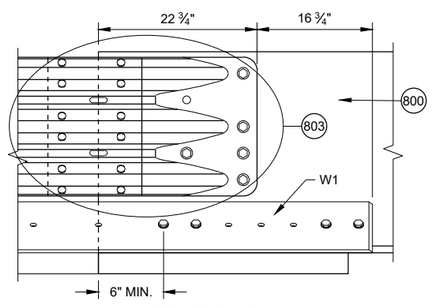
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

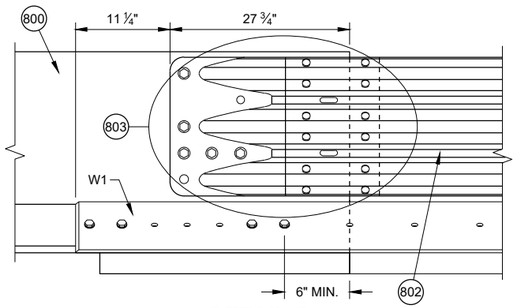
6
SDD 14B07-16g



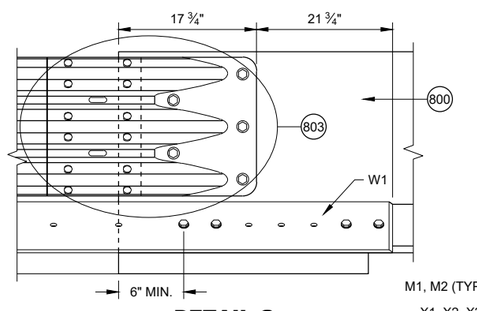
DETAIL D



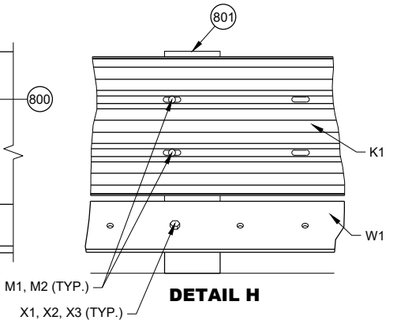
DETAIL E



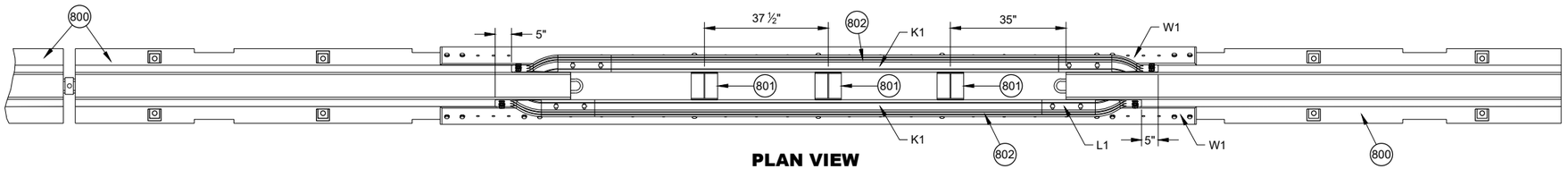
DETAIL F



DETAIL G



DETAIL H



PLAN VIEW

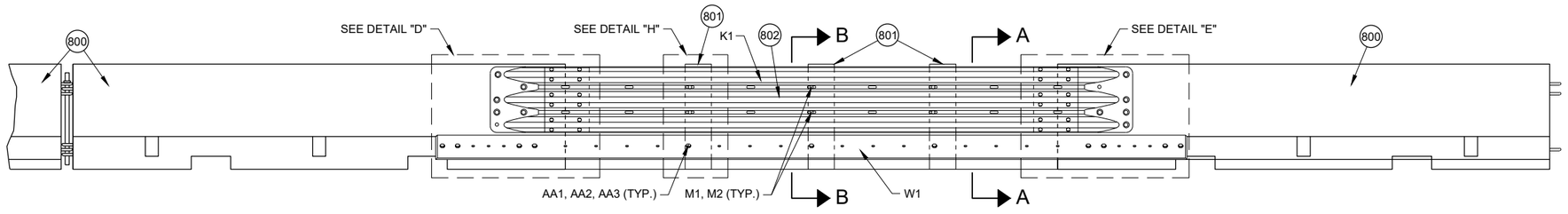
GENERAL NOTES

(800) FREE STANDING TEMPORARY BARRIER

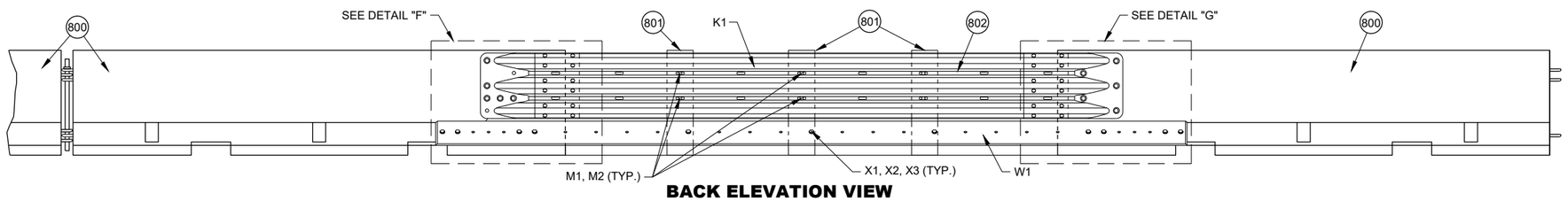
(801) GAP STIFFENER ASSEMBLY

(802) THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.

(803) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL



FRONT ELEVATION VIEW



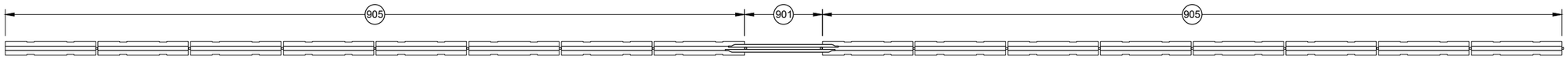
BACK ELEVATION VIEW

PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER

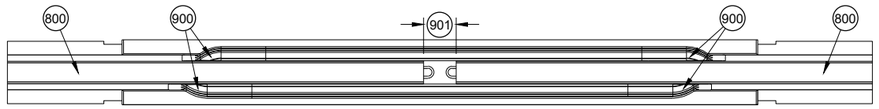
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B07-16h



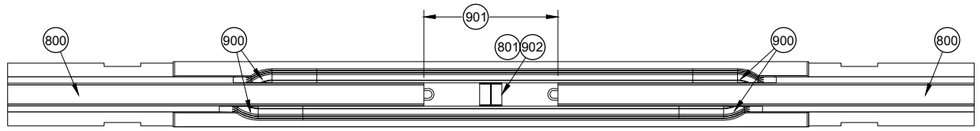
PLAN VIEW
GAP WITHIN SPACING



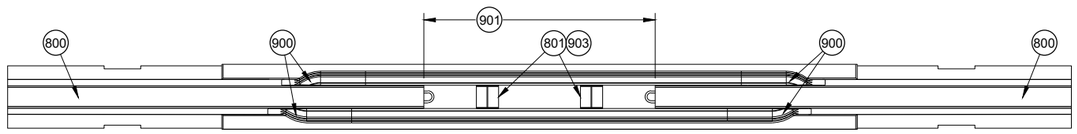
PLAN VIEW
TEMPORARY BARRIER GAP OVER 4" TO 1' MAX. (904)

GENERAL NOTES

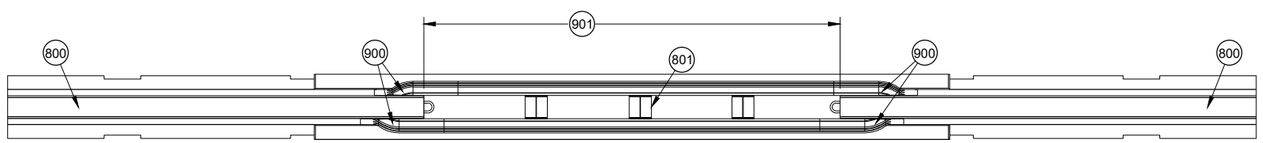
(900) SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
(901) TEMPORARY BARRIER GAP
(902) GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
(903) GAP STIFFENER ASSEMBLY IS OFFSET 18 ¾" FROM CENTER
(904) MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
(905) MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS



PLAN VIEW
TEMPORARY BARRIER GAP OVER 1' TO 4' MAX. (904)



PLAN VIEW
TEMPORARY BARRIER GAP OVER 4' TO 7' MAX. (904)



PLAN VIEW
TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX. (904)

6

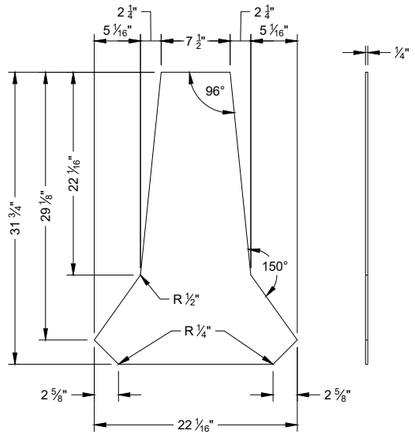
SDD 14B07-16i

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

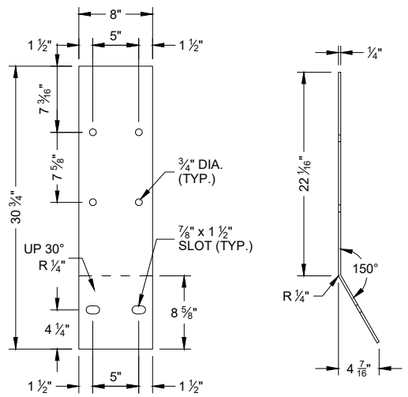
6

SDD 14B07-16i



PROFILE VIEW SIDE VIEW

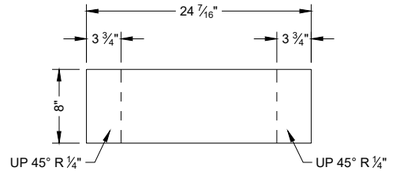
STIFFENER ASSEMBLY CENTER PANEL U1



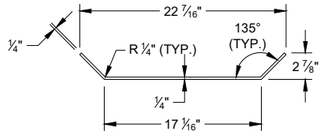
FLAT PATTERN

SIDE VIEW

STIFFENER ASSEMBLY SIDE PANEL U2

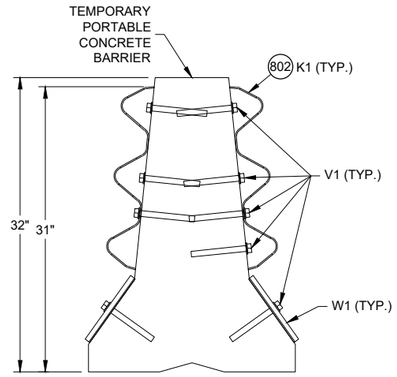


FLAT PATTERN

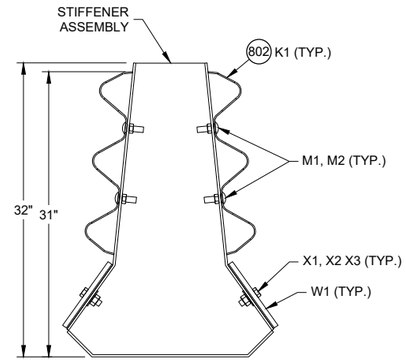


PROFILE VIEW

STIFFENER ASSEMBLY BOTTOM PANEL U3

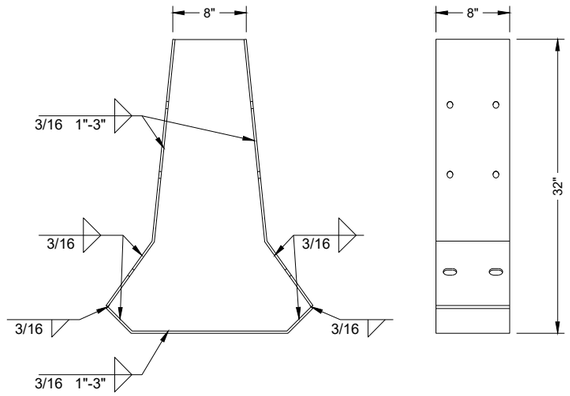


SECTION A - A



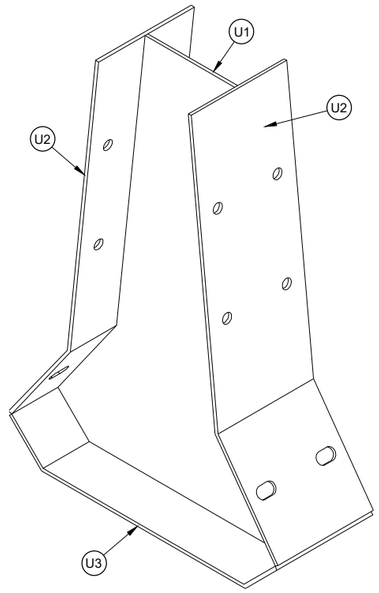
SECTION B - B

PLAN VIEW



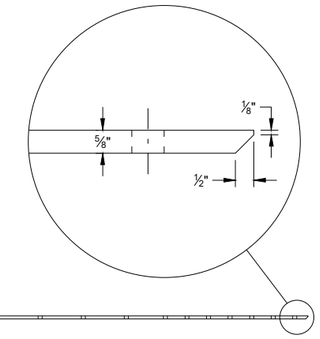
PROFILE VIEW

SIDE VIEW

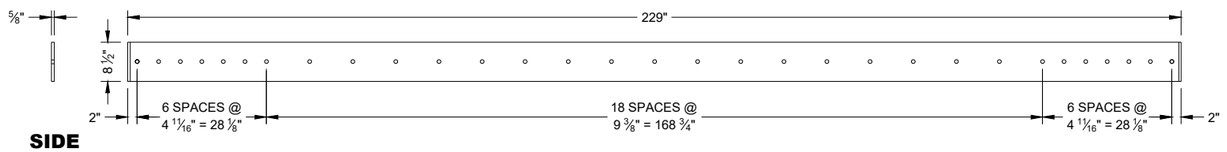


ISOMETRIC

GAP STIFFENER ASSEMBLY



PLAN VIEW



SIDE VIEW

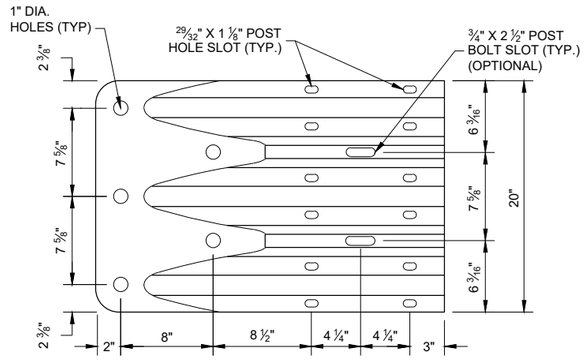
ELEVATION VIEW

W1 TOE PLATE

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

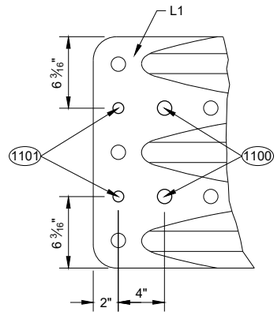
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B07-16j



ELEVATION VIEW

THRIE BEAM TERMINAL CONNECTOR



ELEVATION VIEW

ADDITIONAL THRIE BEAM (1102) TERMINAL CONNECTOR HOLE DETAIL

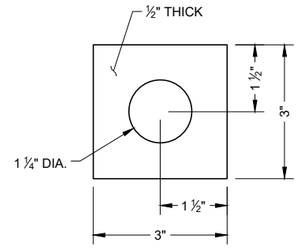


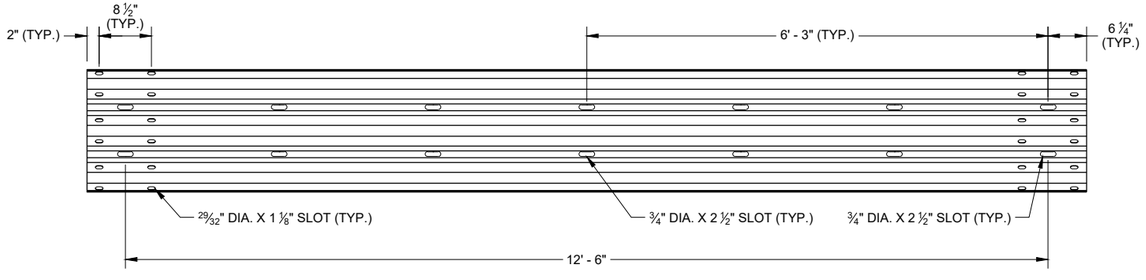
PLATE WASHER DETAIL G2, H3

GENERAL NOTES

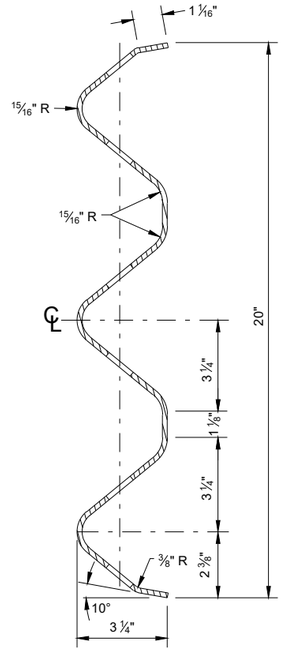
(1100) 1" DIA. HOLE

(1101) 3/4" DIA. HOLE

(1102) PROVIDE HOLES IN THRIE BEAM TERMINAL CONNECTOR TO LIMIT STEEL REINFORCEMENT OR LOOP BAR CONFLICT. CONTRACTOR MAY FIELD DRILL ADDITIONAL HOLE OR PROVIDE THRIE BEAM TERMINAL CONNECTOR WITH ADDITIONAL HOLES FROM SUPPLIER.



SLOTTED THRIE BEAM RAIL K1



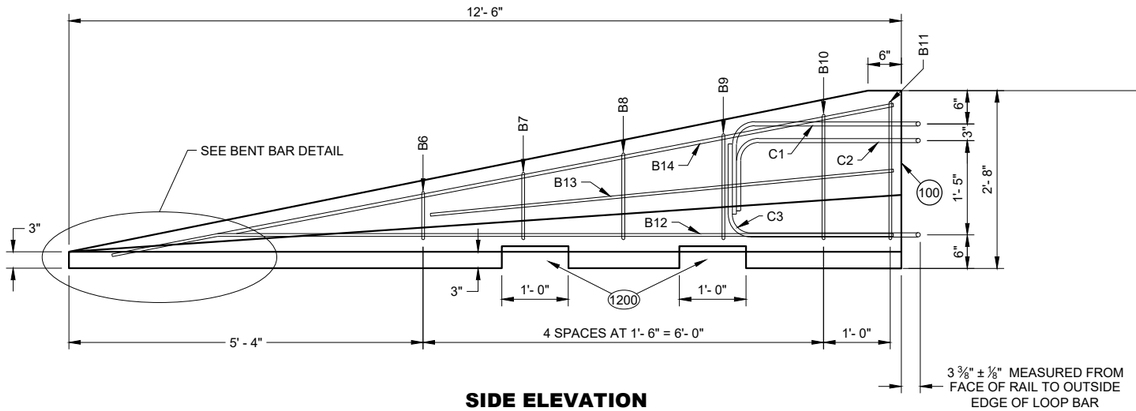
SECTION THROUGH BEAM K1

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

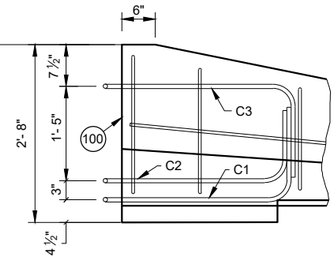
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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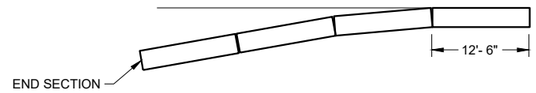
SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



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

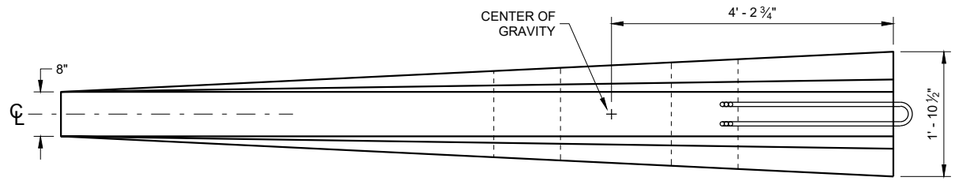
GENERAL NOTES

(1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.

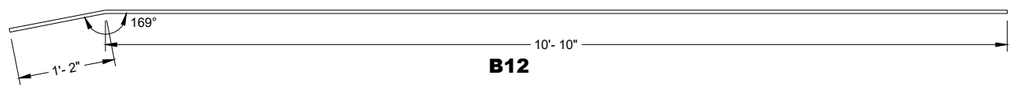


FLARE AT BARRIER END

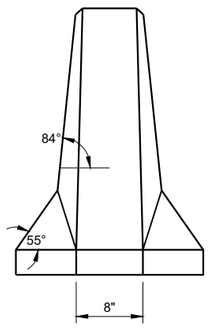
POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1



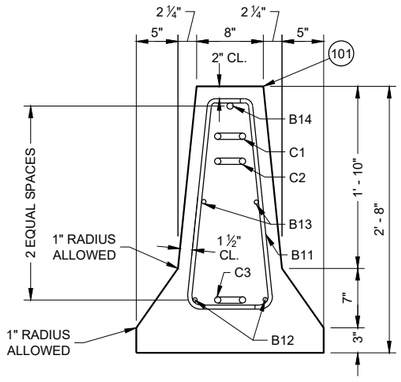
PLAN VIEW



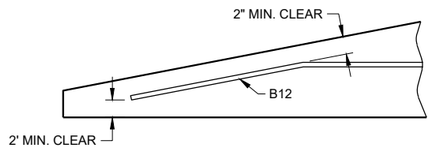
B12



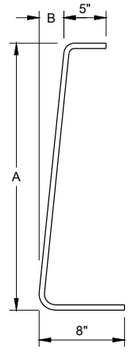
FRONT ELEVATION



END SECTION



BENT BAR DETAIL



BAR	A	B
B6	10"	1"
B7	1'- 1"	1 ¼"
B8	1'- 5"	1 ⅝"
B9	1'- 8"	1 ⅞"
B10	2'- 0 ½"	2 ⅜"
B11	2'- 3"	2 ¾"

B BARS
2 OF EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B07-16I

BILL OF MATERIALS - CONCRETE BARRIER PRECAST

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	PRECAST TEMPORARY BARRIER - CONCRETE	MIN. = f'c 5000 PSI	
B1	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B2	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-2"
B3	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B4	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 6'-0"
B5	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#6 REBAR, LENGTH 2'-11"
B6	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 1'-11"
B7	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-2"
B8	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-6"
B9	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-9"
B10	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-2"
B11	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-4"
B12	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-0"
B13	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 7'-9"
B14	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 11'-9"
C1	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C2	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C3	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
D1	CONNECTION PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ¼" DIA.
D2	CONNECTION PIN - TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G1	BOLT THROUGH ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A OR SAE J429 GRADE 2 UNC	1 ⅛" DIA.
G2	BOLT THROUGH ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G3	BOLT THROUGH ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
H1	ADHESIVE ANCHOR - ADHESIVE	ICC-ES-AC308 5 ¼" EMBEDMENT WITH A MIN. BOND STRENGTH OF 1,650 PSI. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
H2	ADHESIVE ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A / SAE J429 GRADE 2 UNC	1 ⅛" DIA.
H3	ADHESIVE ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
H4	ADHESIVE ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
J1	ASPHALT ANCHOR PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
J2	ASPHALT ANCHOR PIN - STOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
K1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE
L1	THRIE BEAM RAIL - TERMINAL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
M1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	⅝" DIA.
M2	SPLICE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
N1	THRIE BEAM RAIL TERMINAL - MECHANICAL ANCHOR	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA. LENGTH 6"
N2	THRIE BEAM RAIL TERMINAL - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
N3	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
P1	THRIE BEAM RAIL CONNECTION 1-BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA.
P2	THRIE BEAM RAIL CONNECTION 1-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
P3	THRIE BEAM RAIL CONNETION 1- MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
Q1	BLOCK WOOD	SEE STANDARD SPEC. 614	
R1	CAP - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	⅝" DIA.
R2	CAP- BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
R3	CAP - BOLT - MECHANICAL ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	12 GAUGE
S1	CAP 42-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S2	CAP 42-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S3	CAP 42-INCH SIDE PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S4	CAP 42-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S5	CAP 42-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S6	CAP 42-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S7	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B07-16m

BILL OF MATERIALS - CONCRETE BARRIER PRECAST

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
T1	CAP 56-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T2	CAP 56-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T3	CAP 56-INCH SIDE PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T4	CAP 56-INCH SIDE PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T5	CAP 56-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T6	CAP 56-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T7	CAP 56-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T8	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T9	CAP 42-INCH GUSSET 5	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T10	CAP 42-INCH GUSSET 6	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T11	CAP 42-INCH GUSSET 7	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T12	CAP 42-INCH GUSSET 8	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T13	CAP 42-INCH GUSSET 9	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T14	CAP 42-INCH GUSSET 10	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T15	CAP 42-INCH GUSSET 11	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T16	CAP 42-INCH GUSSET 12	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
U1	GAP STIFFENER	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U2	GAP STIFFENER - CONNECTOR PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U3	GAP STIFFENER - CONNECTOR PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
V1	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 24.0 KIPS AND ULTIMATE SHEAR LOAD 21.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	¾" DIA.
V2	GAP STIFFENER - BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C O R MECHANICAL GALVANIZE TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
W1	TOE PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
X1	TOE PLATE - CONNECTION BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC HEAVY HEX HEAD OR AASTHO M180 HEAD, ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED. PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	¾" DIA.
X2	TOE PLATE - CONNECTION BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 (HARDEN WASHER ONLY)	
X3	TOE PLATE - CONNECTION BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

SDD 14B07-16n

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

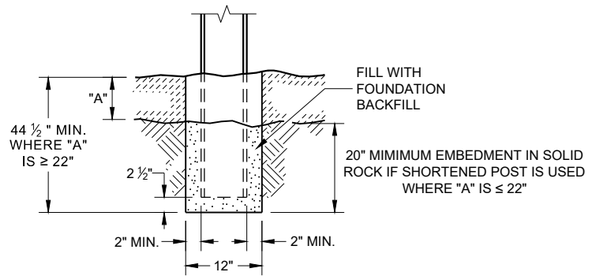
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

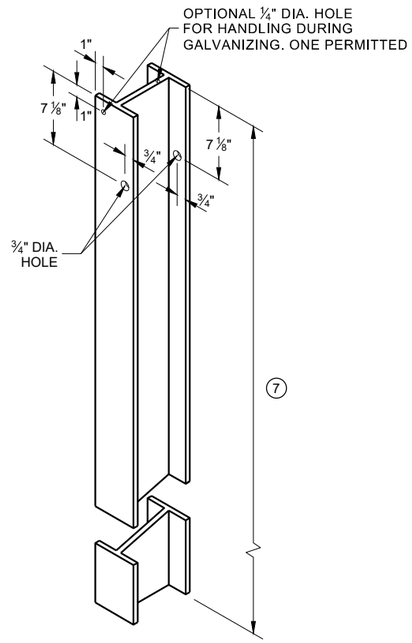
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

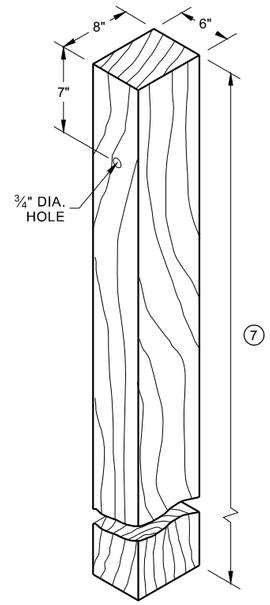
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



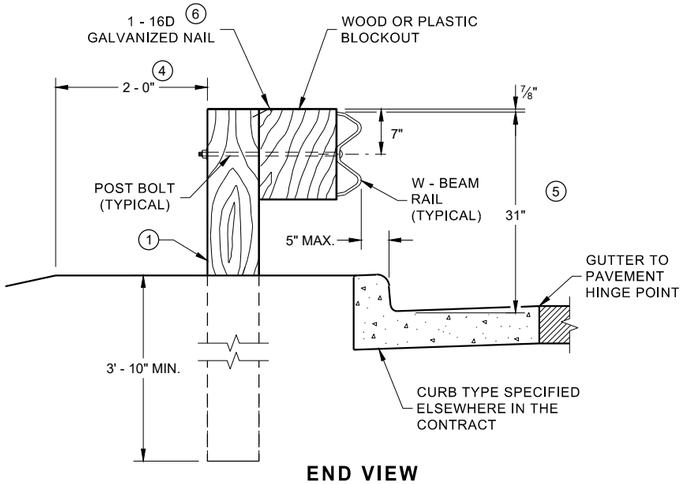
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



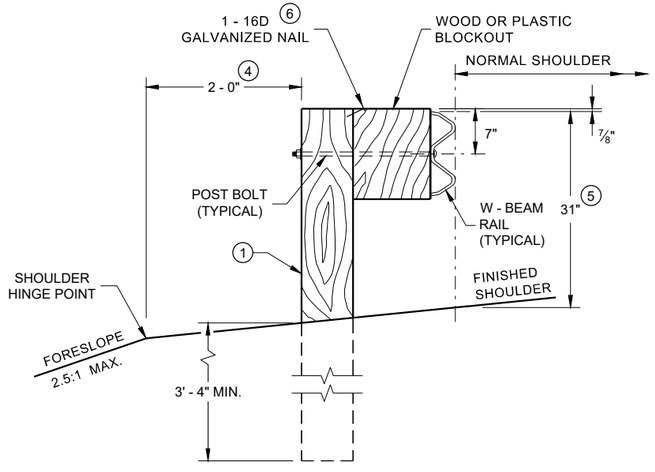
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



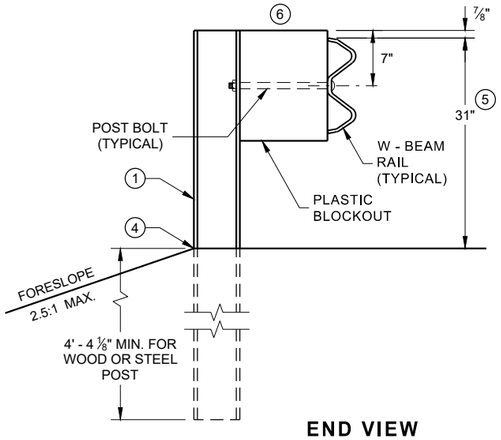
WOOD POST (6" X 8") NOMINAL (1)



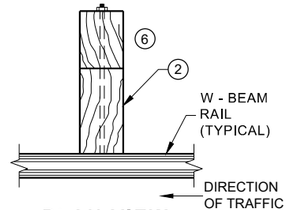
END VIEW
LOCATED ALONG A CURBED ROADWAY



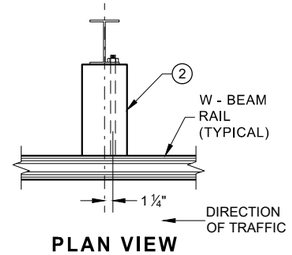
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



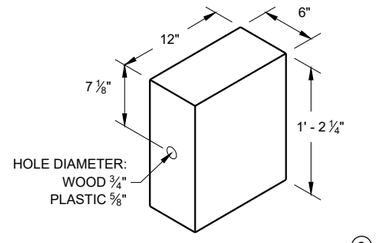
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

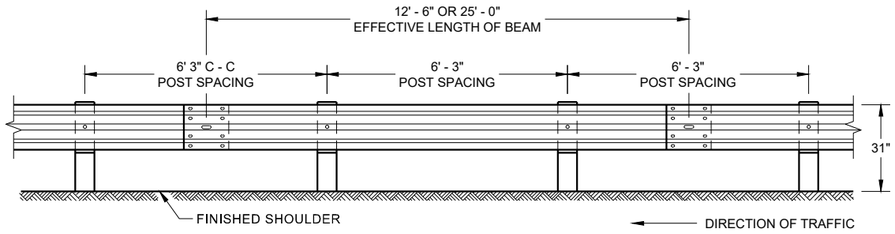
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

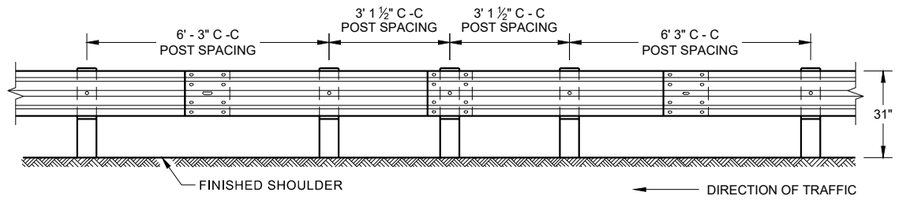
SDD 14B42 - 07a

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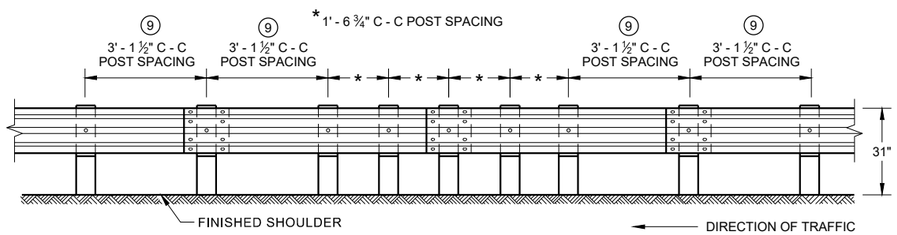
SDD 14B42 - 07a



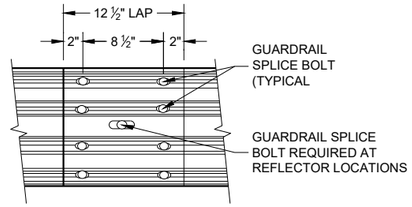
FRONT VIEW
POST SPACING STANDARD INSTALLATION



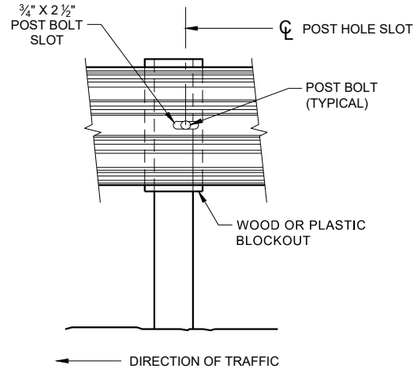
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



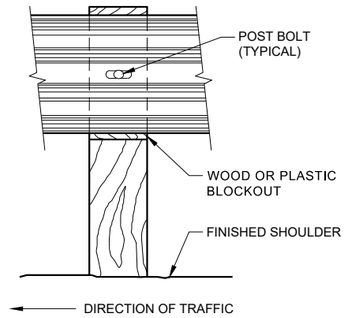
FRONT VIEW
QUARTER POST SPACING (QS)



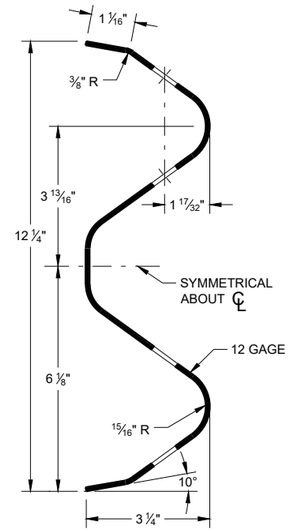
FRONT VIEW
MID-SPAN BEAM SPLICE



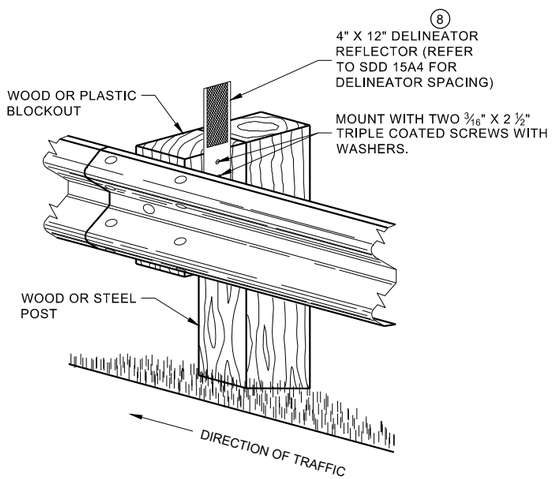
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

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

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

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

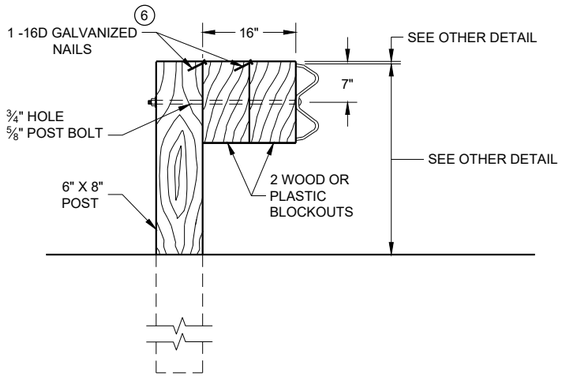
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

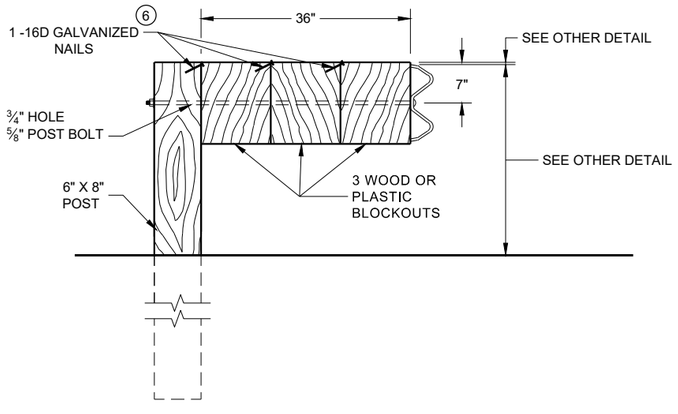
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SDD 14B42 - 07b



DETAIL FOR 16" BLOCKOUT DEPTH

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



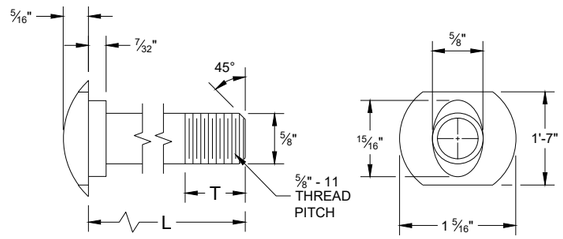
DETAIL FOR 36" BLOCKOUT DEPTH

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

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

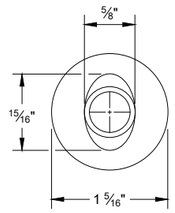
NOTE:

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

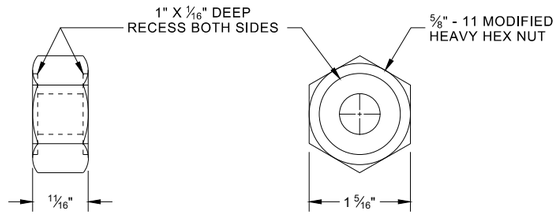


POST BOLT TABLE

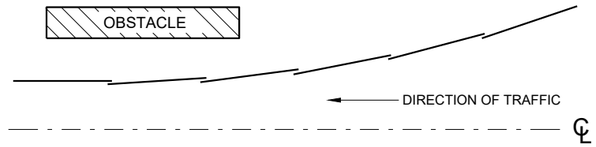
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



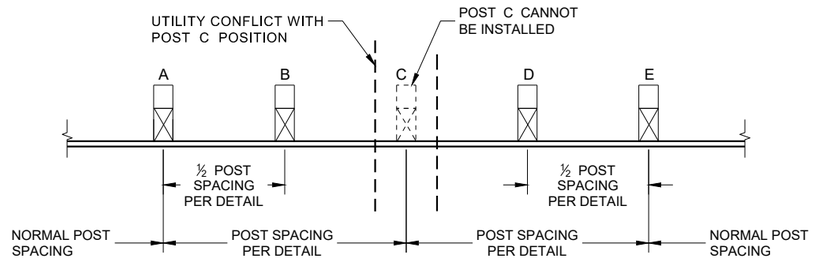
ALTERNATE BOLT HEAD



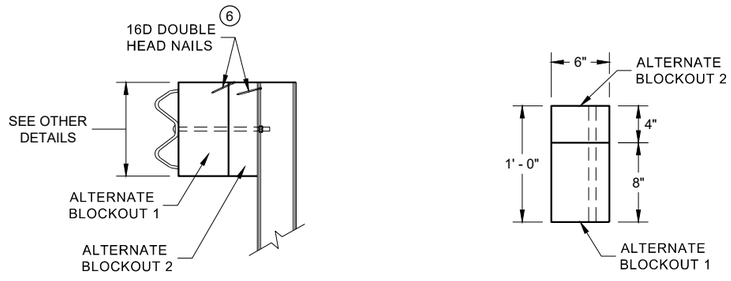
POST BOLT, SPLICE BOLT AND RECESS NUT



PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



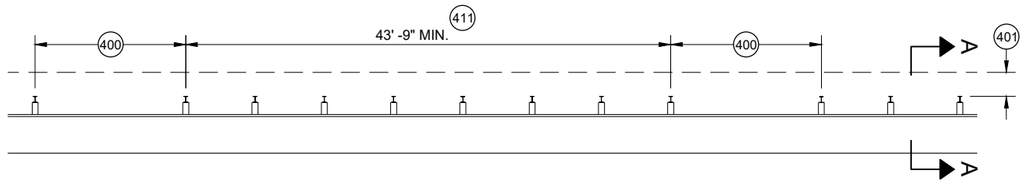
SIDE VIEW

PLAN VIEW

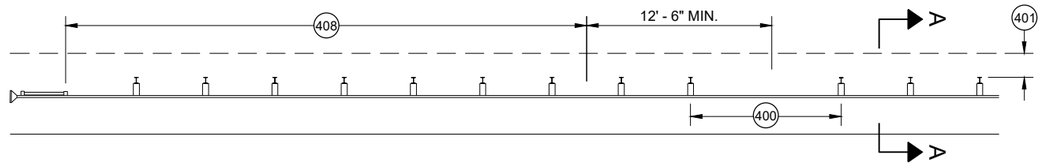
ALTERNATE WOOD BLOCKOUT DETAIL

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

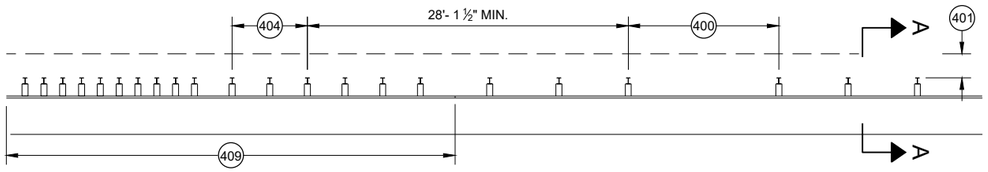
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



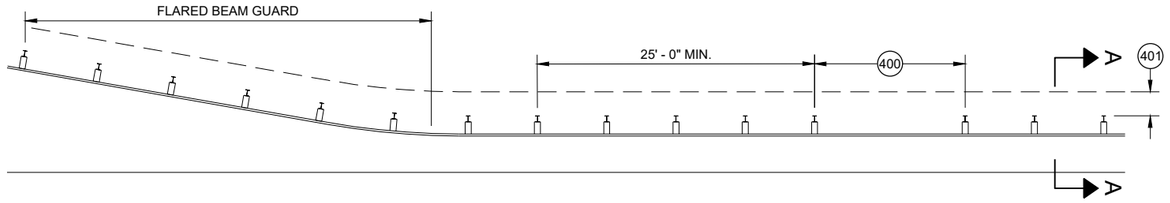
MISSING POST IN MGS GUARDRAIL



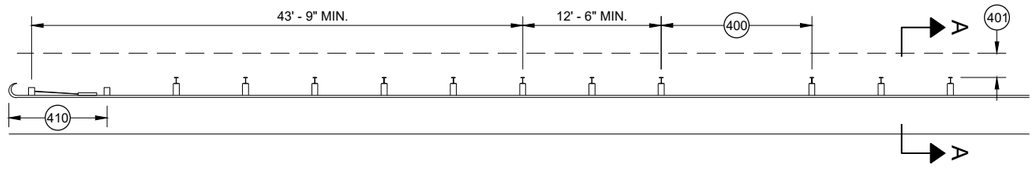
MISSING POST IN MGS GUARDRAIL NEAR EAT



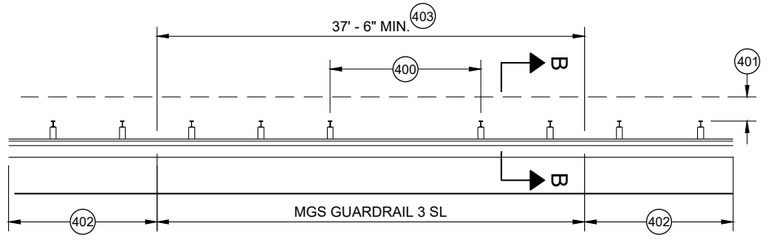
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

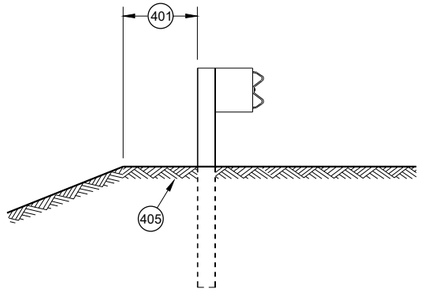


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

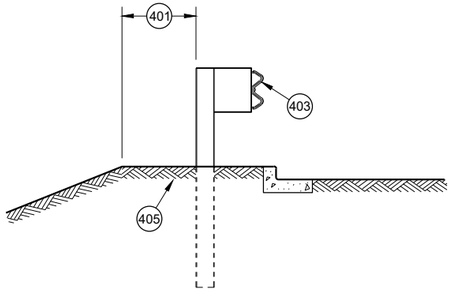


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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SDD 14B42 - 07d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

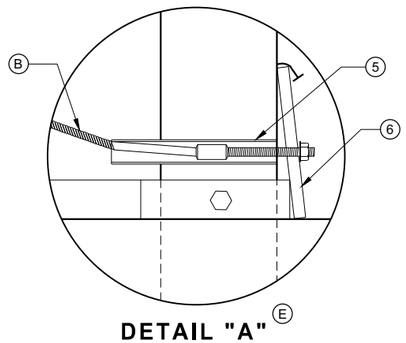
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

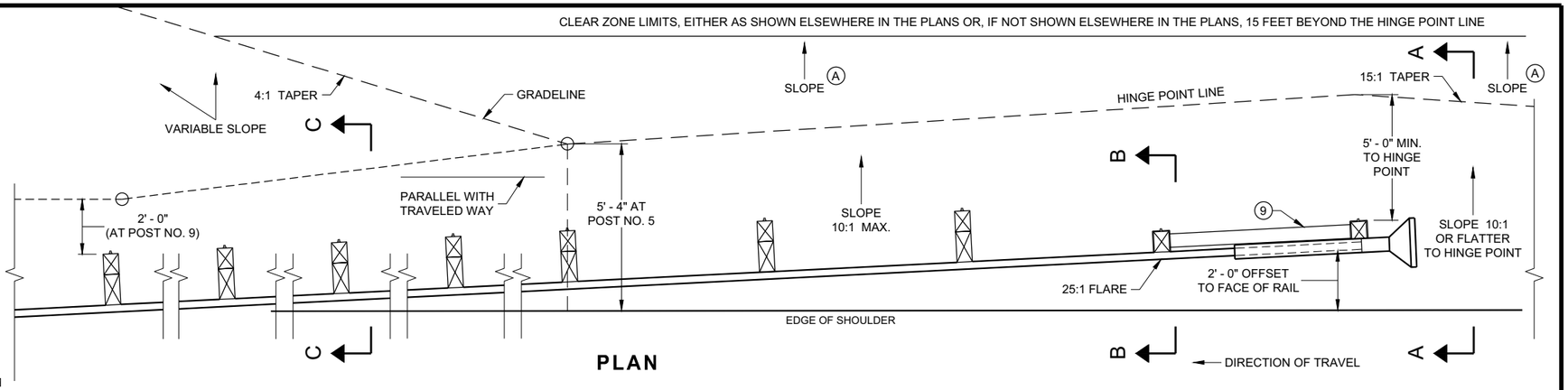
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

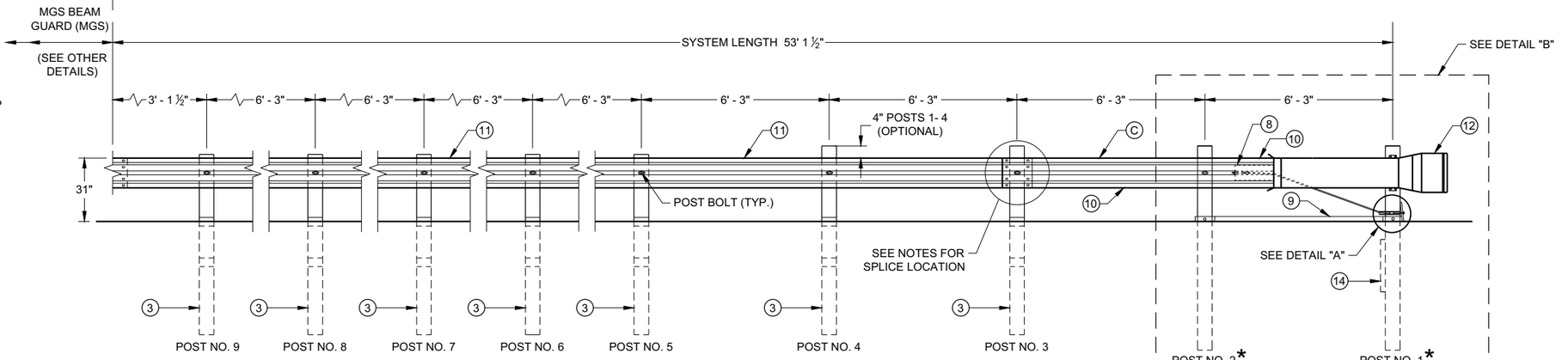
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



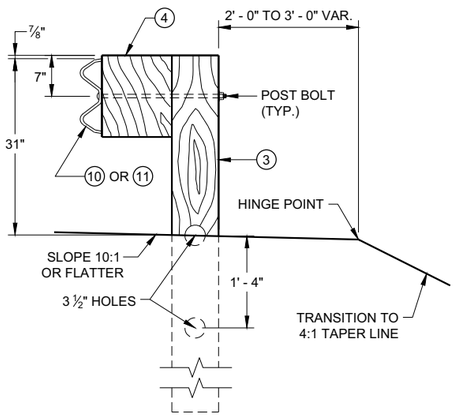
DETAIL "A" (E)



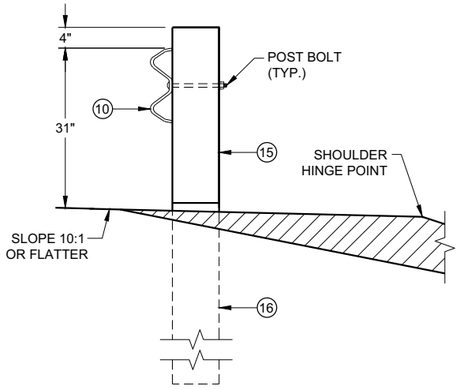
PLAN



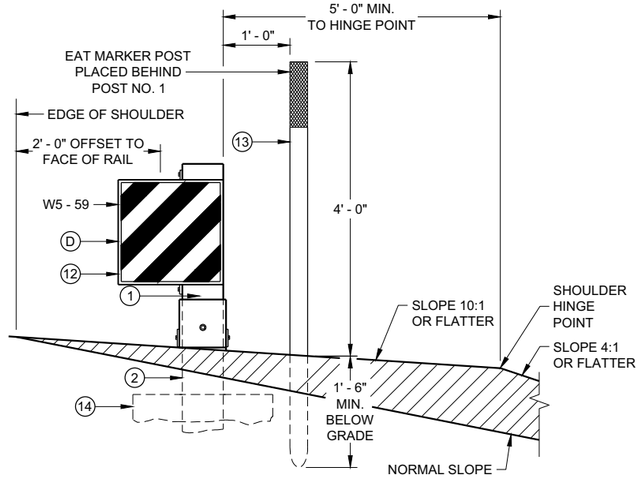
ELEVATION



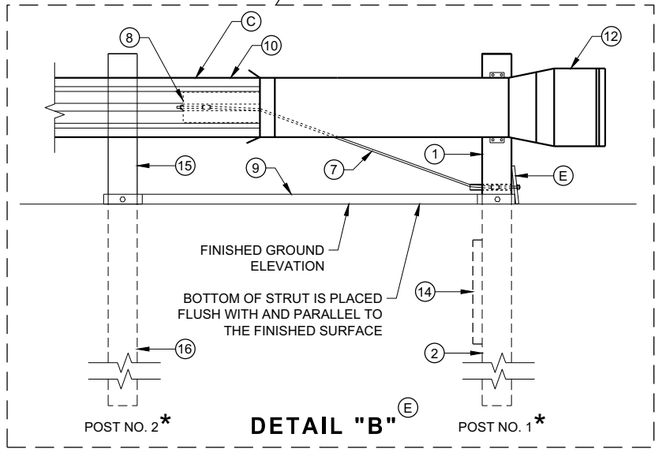
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



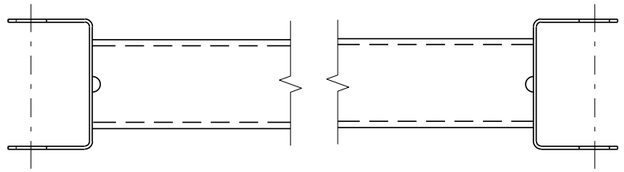
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

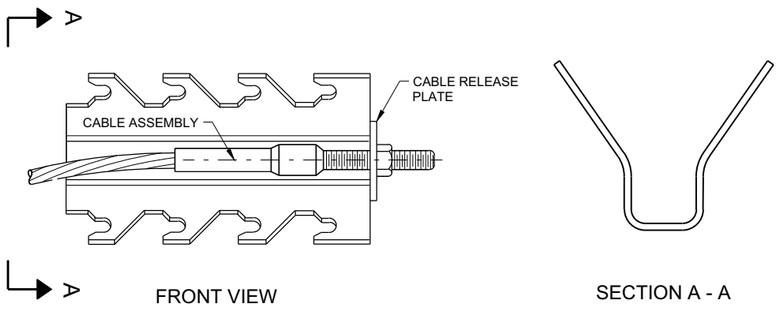
SDD 14B44 - 04a



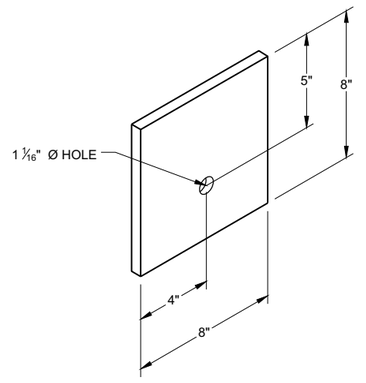
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

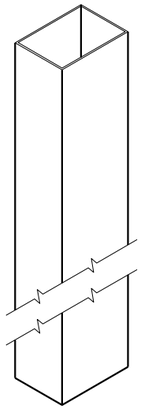
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SDD 14B44 - 04b

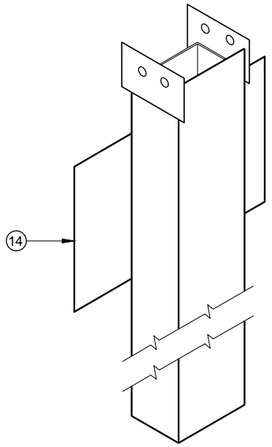
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

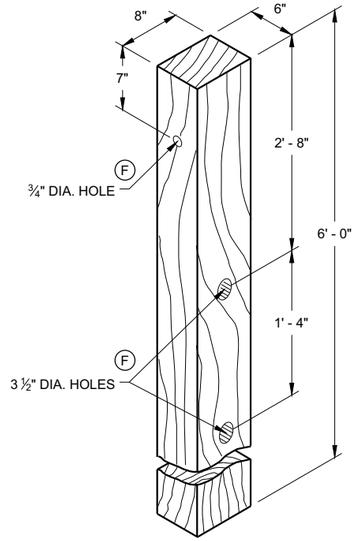
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



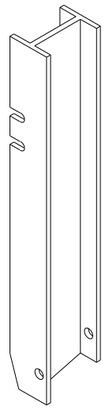
UPPER POST NO. 1 (1) (E)



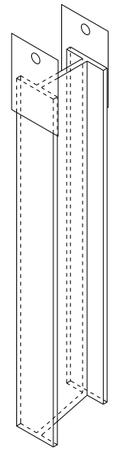
LOWER POST NO. 1 (2) (E)



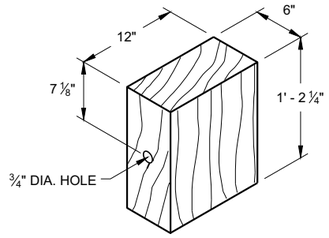
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



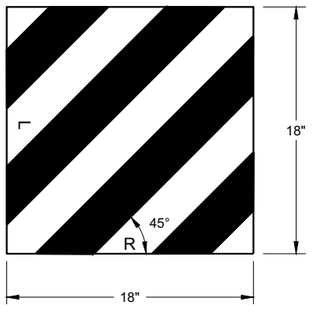
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

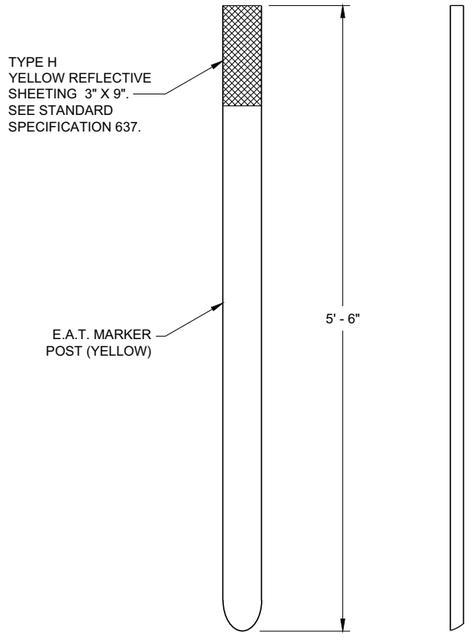


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



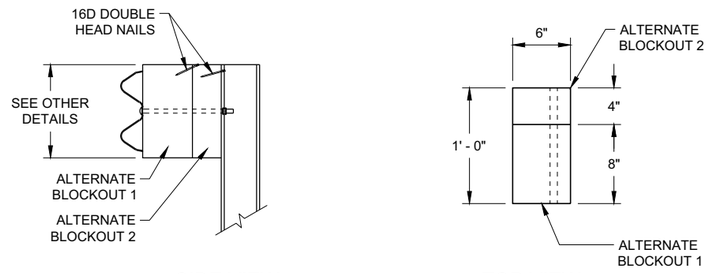
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

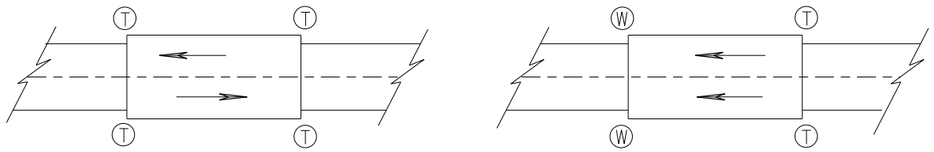
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

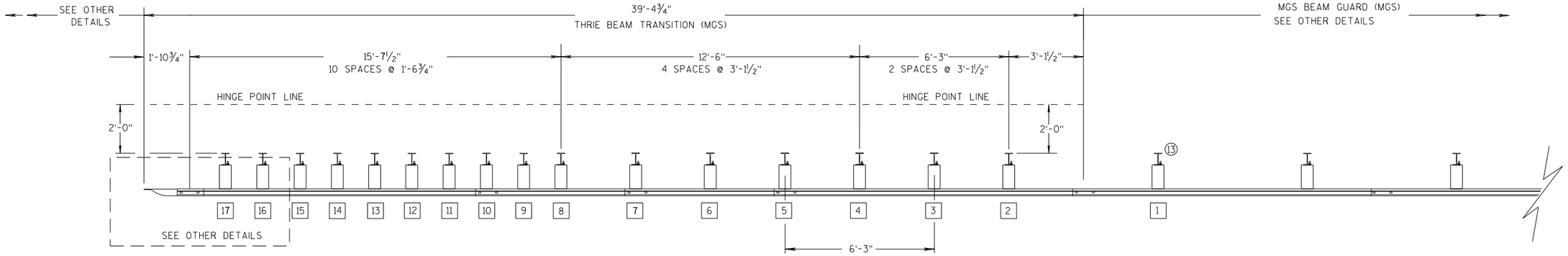
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

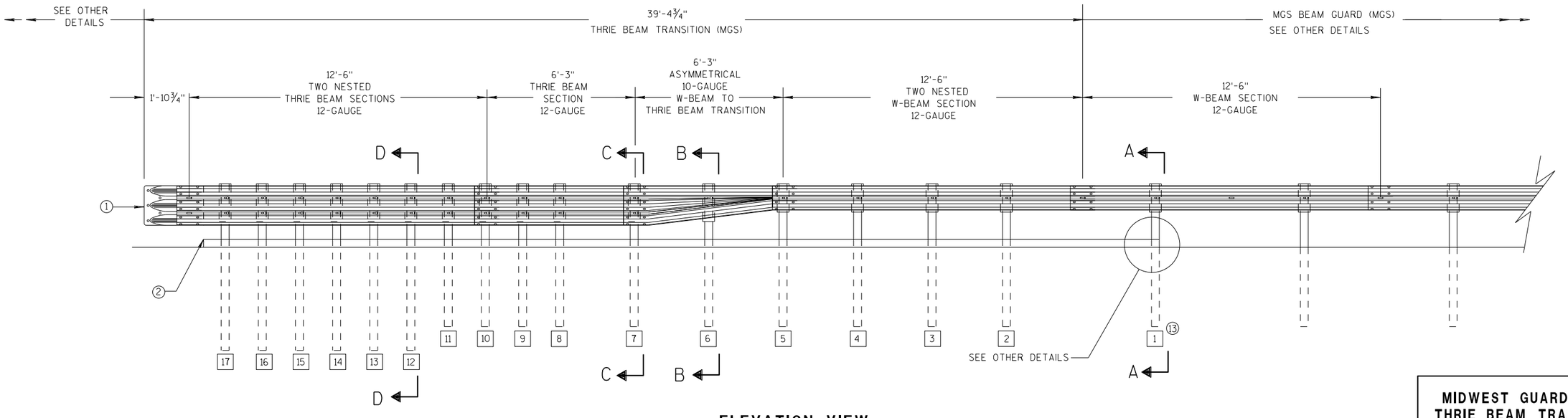
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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

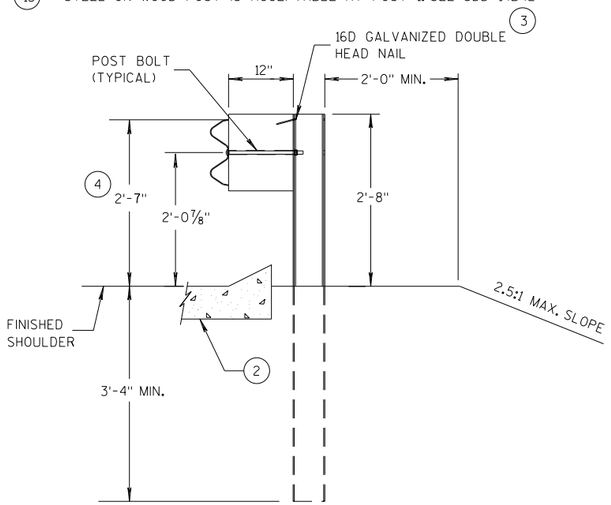
GENERAL NOTES

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

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

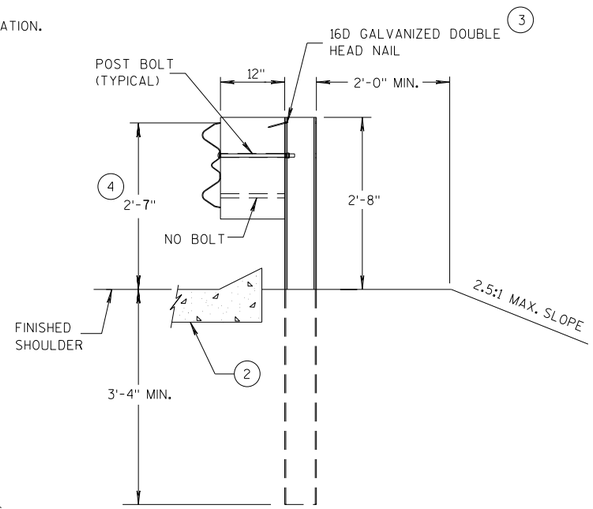
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



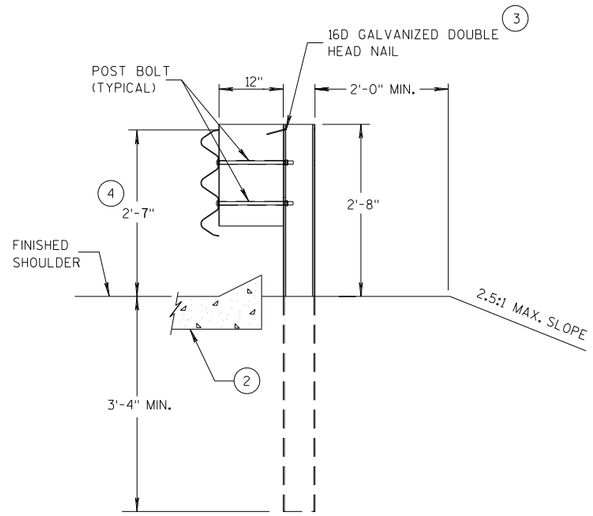
SECTION A-A (13)

POSTS 1-5



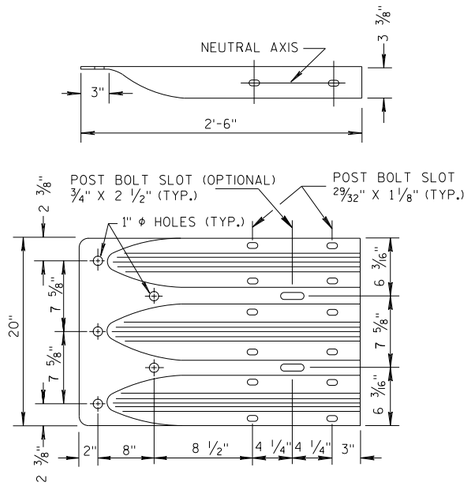
SECTION B-B

POST 6

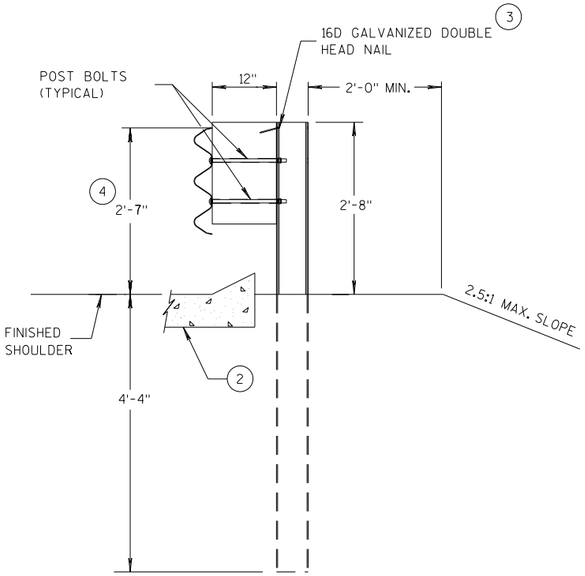


SECTION C-C

POSTS 7-11

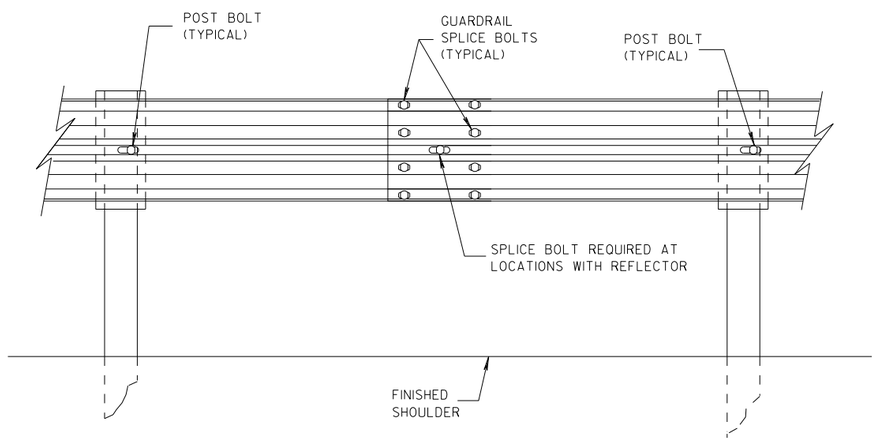


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

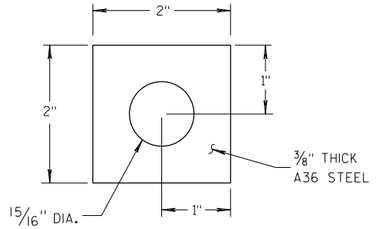
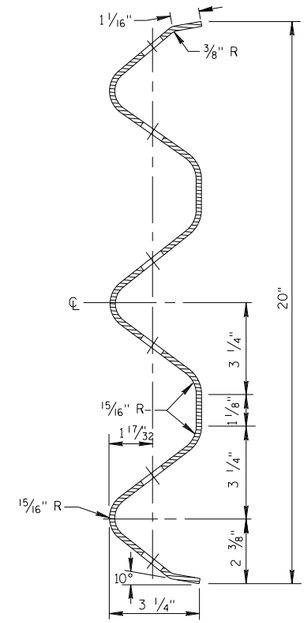


PLATE WASHER DETAIL



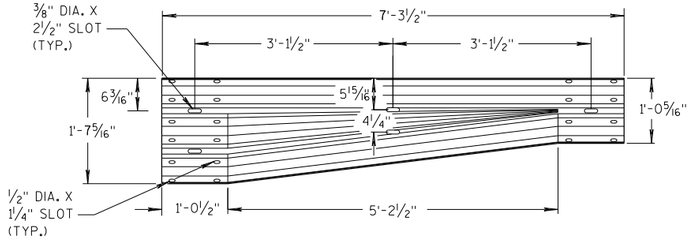
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

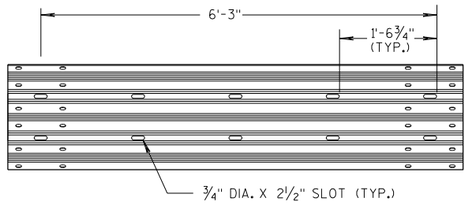
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

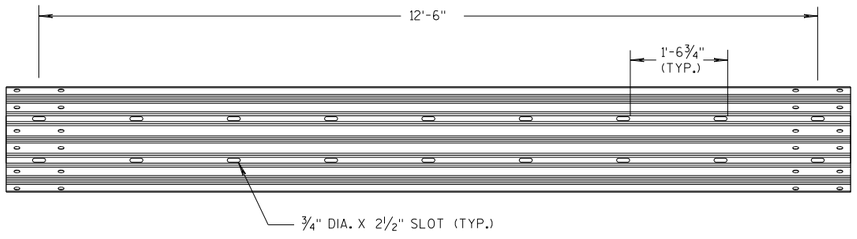
S.D.D. 14 B 45-5b



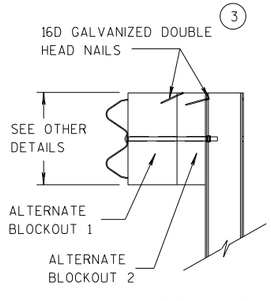
W-BEAM TO THRIE BEAM TRANSITION SECTION



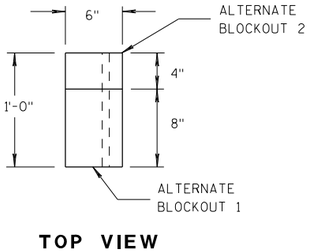
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

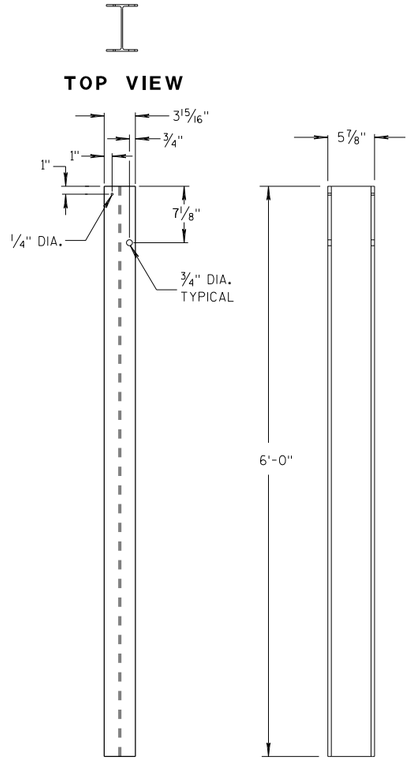


SIDE VIEW



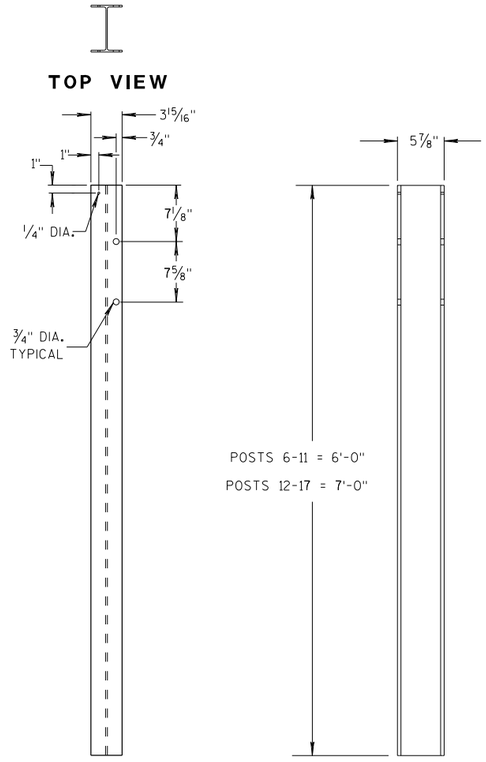
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



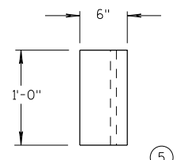
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

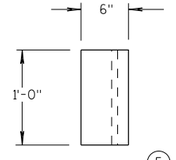


FRONT VIEW SIDE VIEW

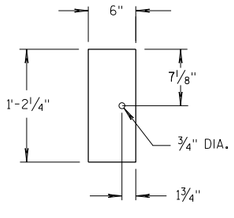
STEEL POSTS 6-17



TOP VIEW (5)

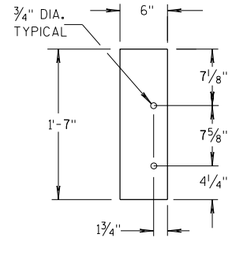


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

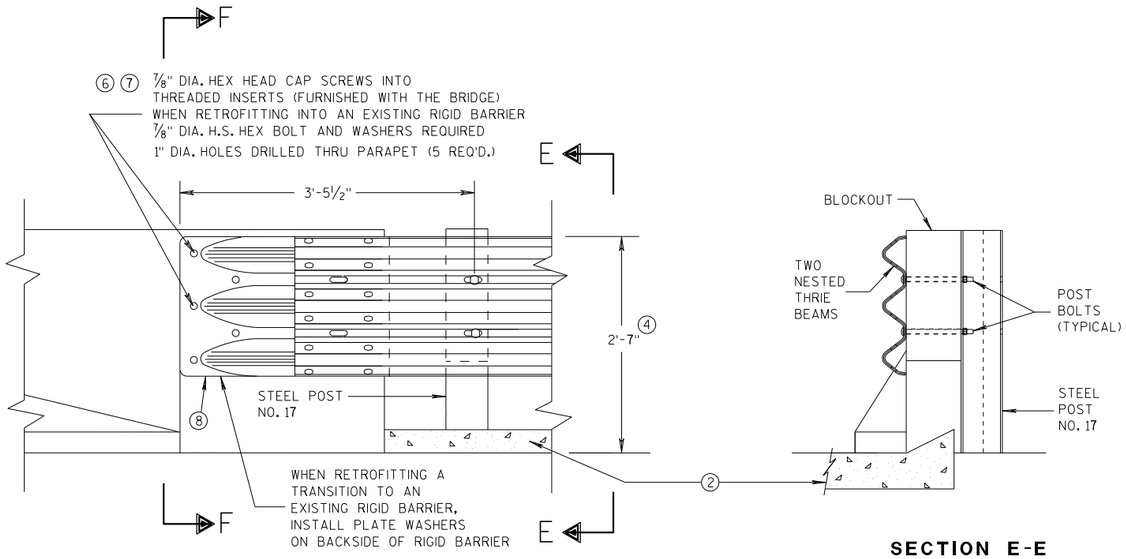
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

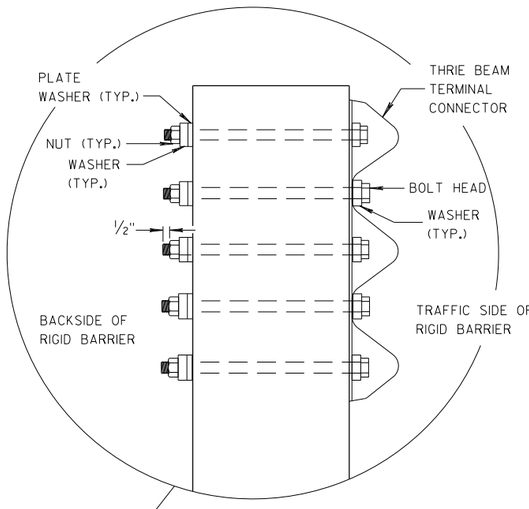
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

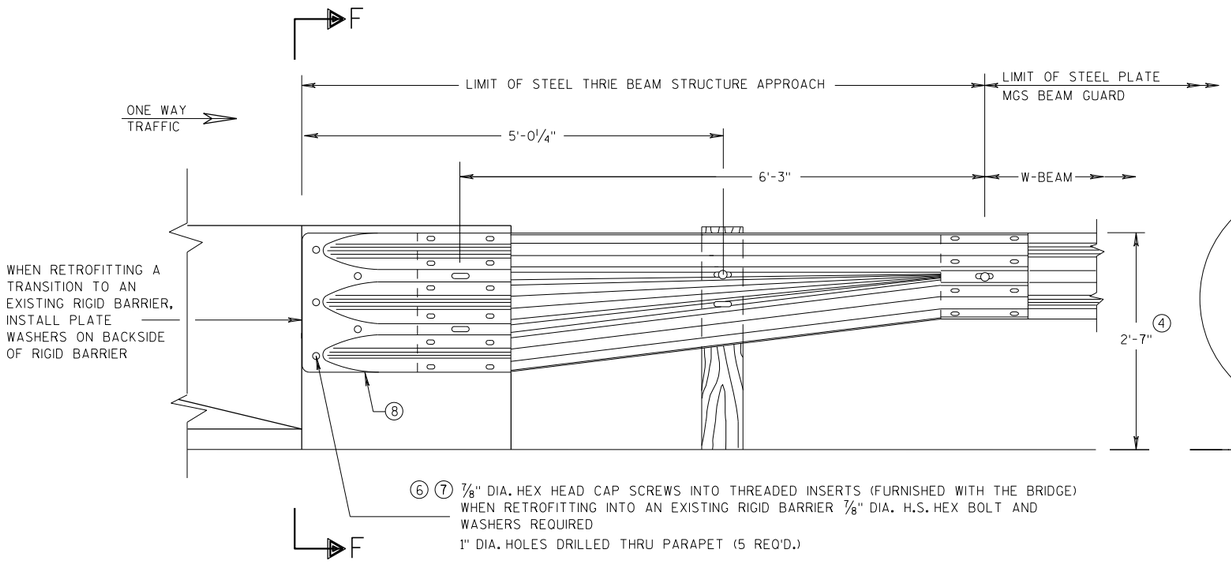
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

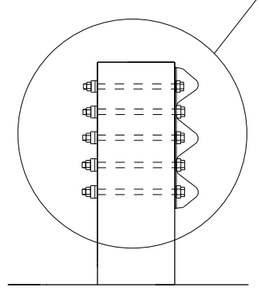
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

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

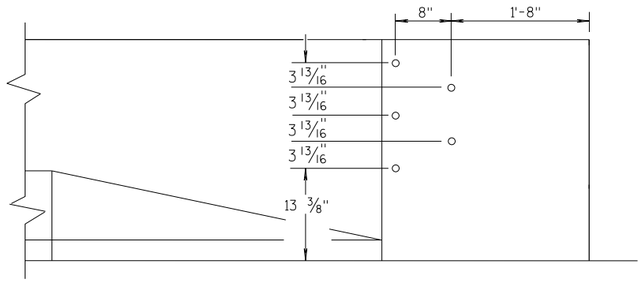




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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

6

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

GENERAL NOTES

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

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

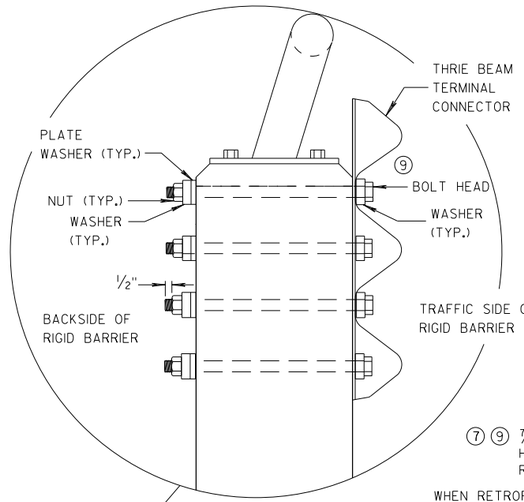
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

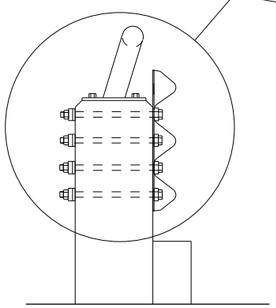
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

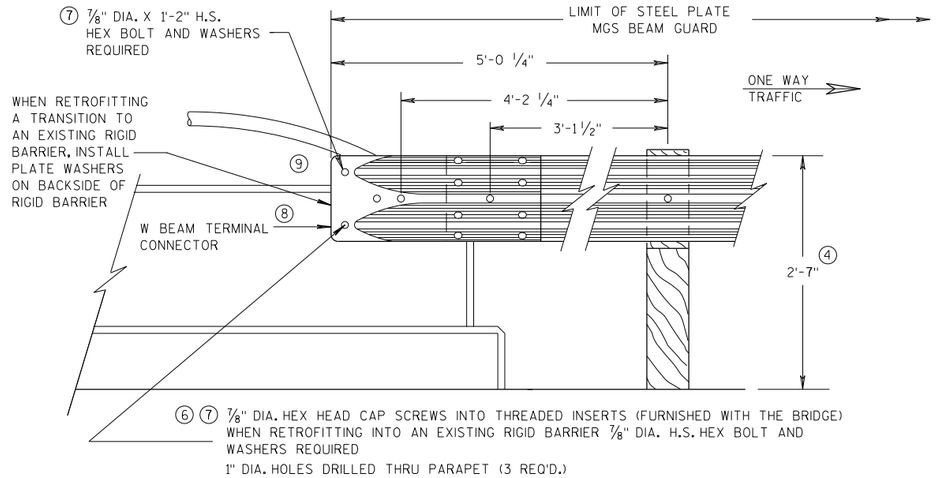
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

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





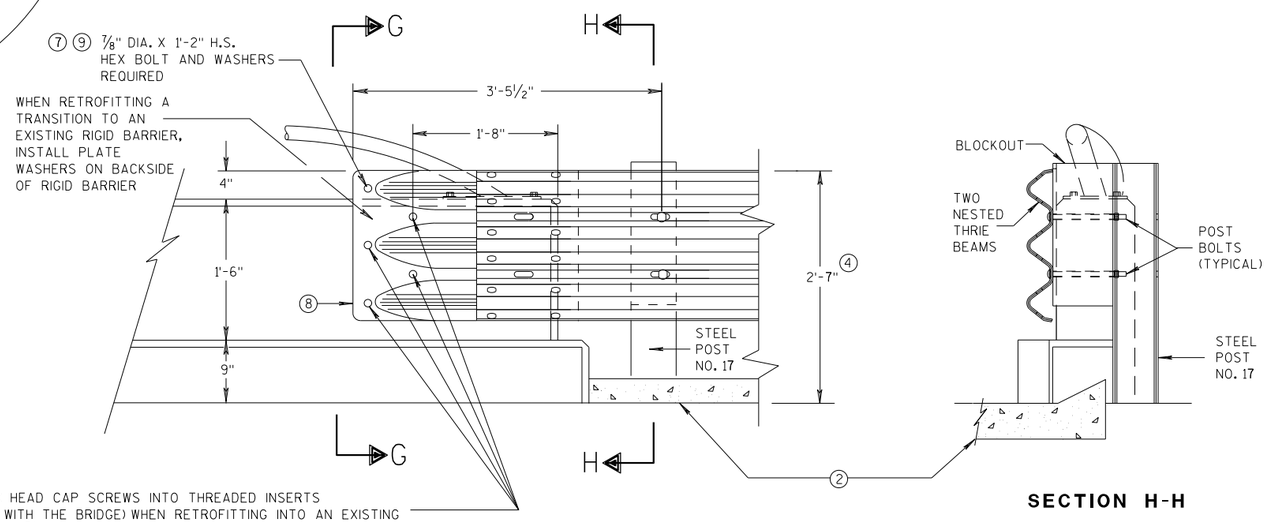
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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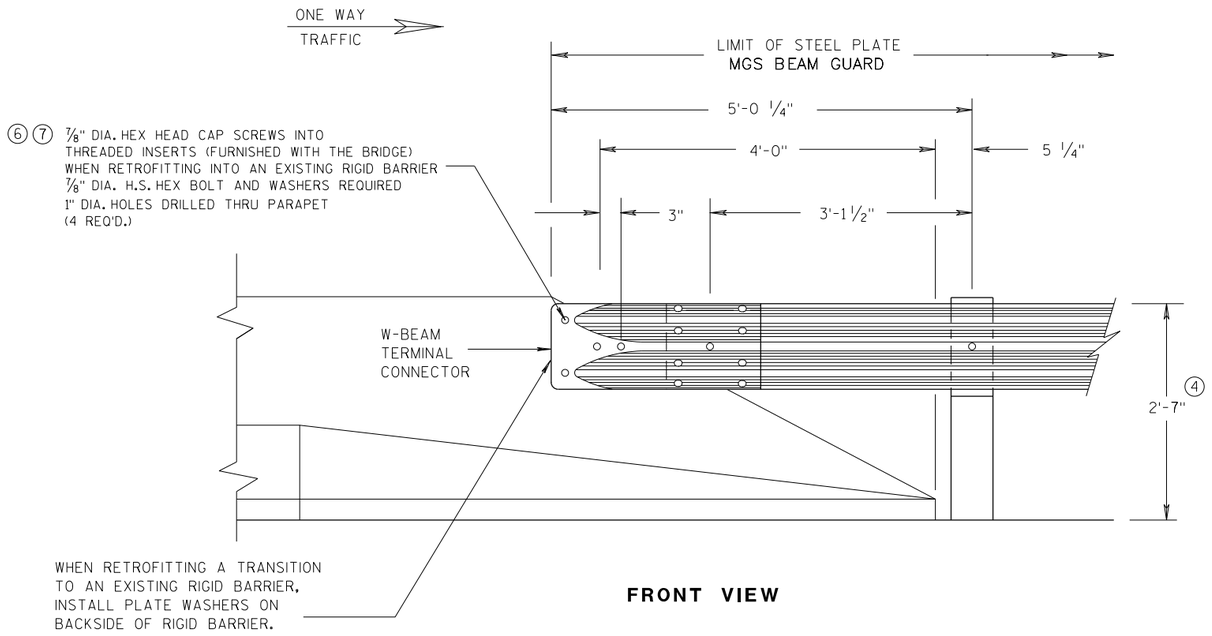
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVI NT

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

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



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

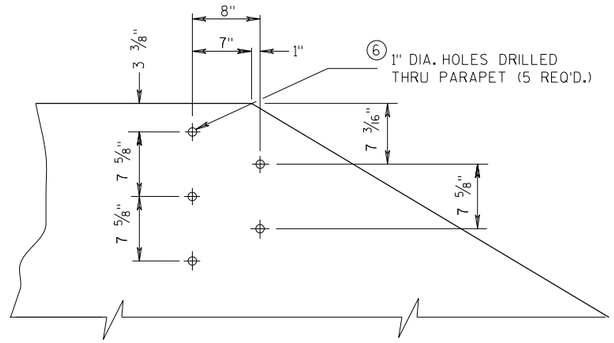
GENERAL NOTES

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

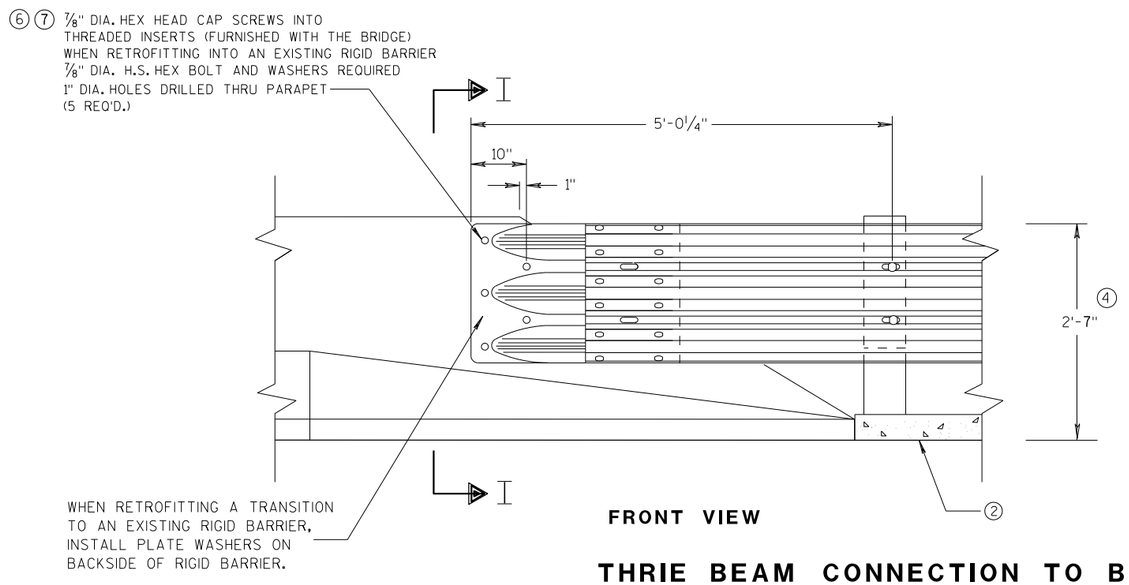
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

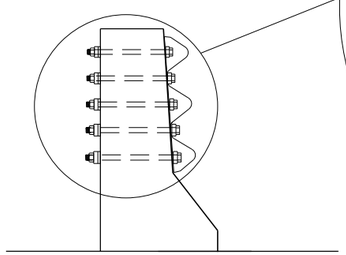
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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



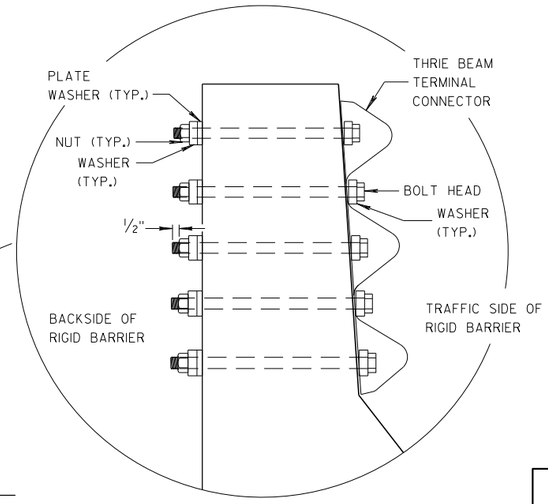
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

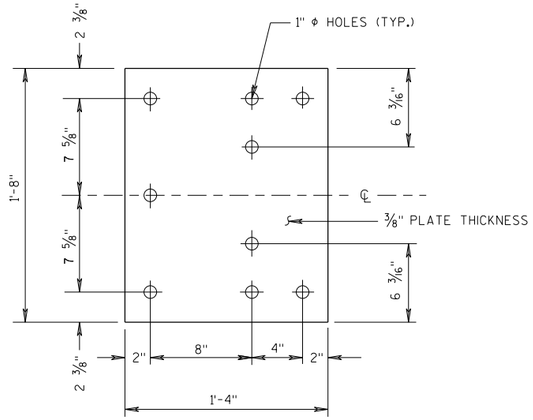
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FHWA

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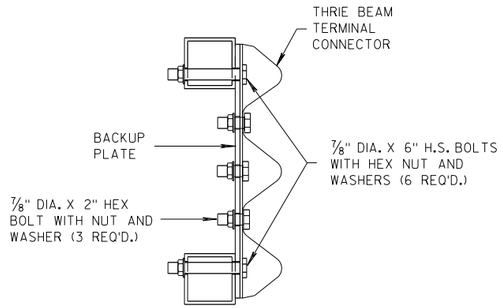
S.D.D. 14 B 45-5f

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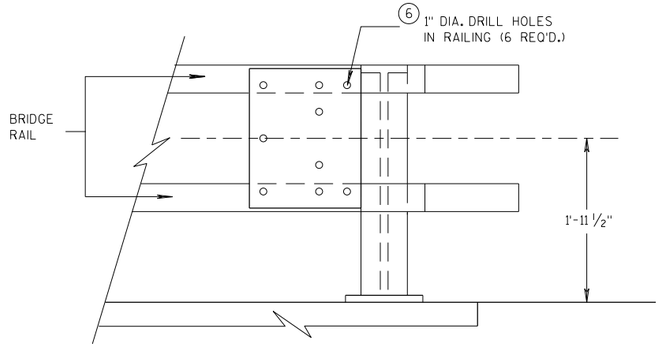
S.D.D. 14 B 45-5f



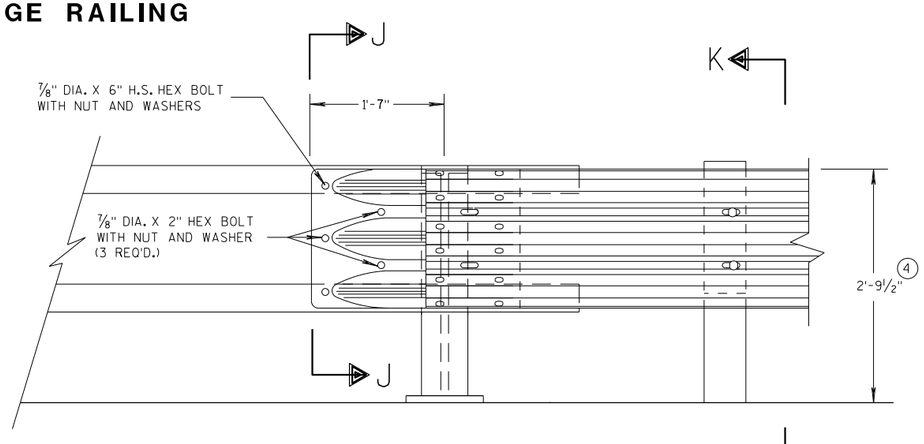
BACK-UP PLATE DETAIL



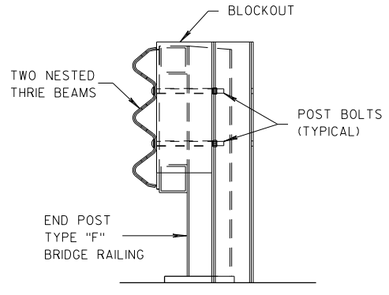
SECTION J-J



BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW



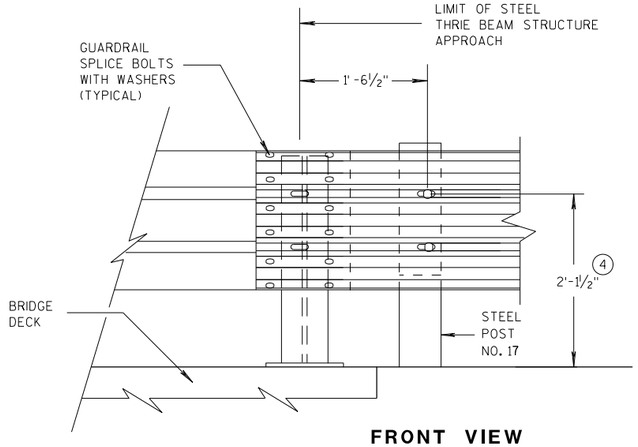
SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

GENERAL NOTES

④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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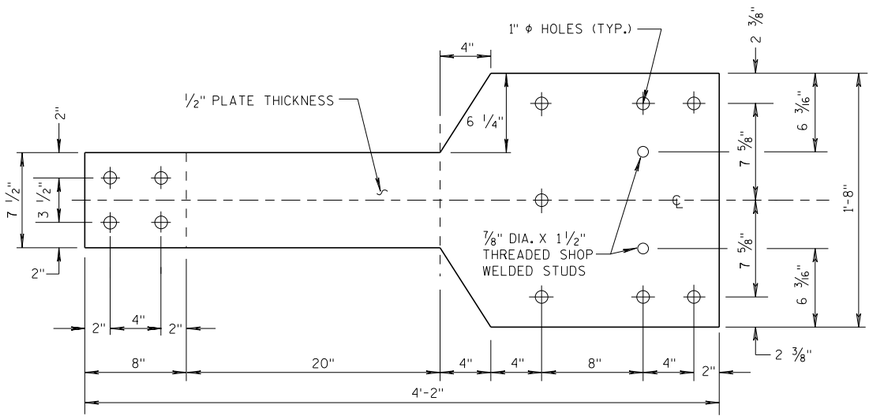
S.D.D. 14 B 45-5g

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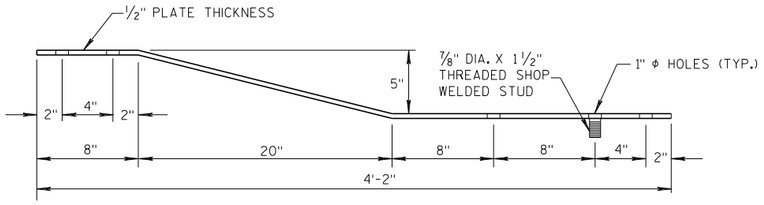
S.D.D. 14 B 45-5g

GENERAL NOTES

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

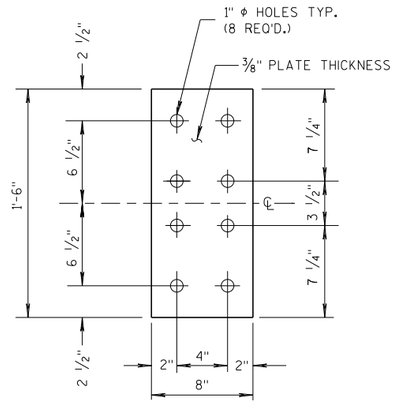


FRONT VIEW



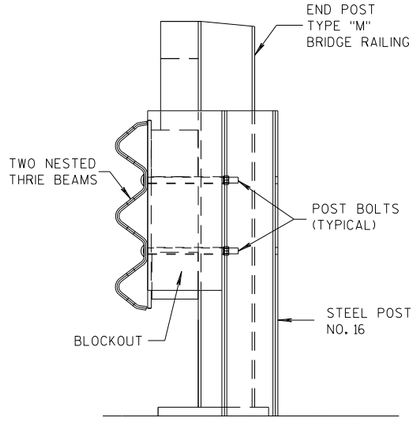
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

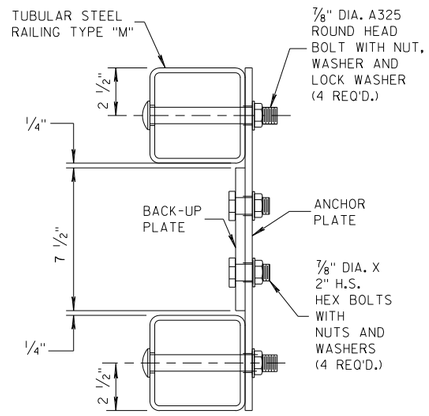


FRONT VIEW

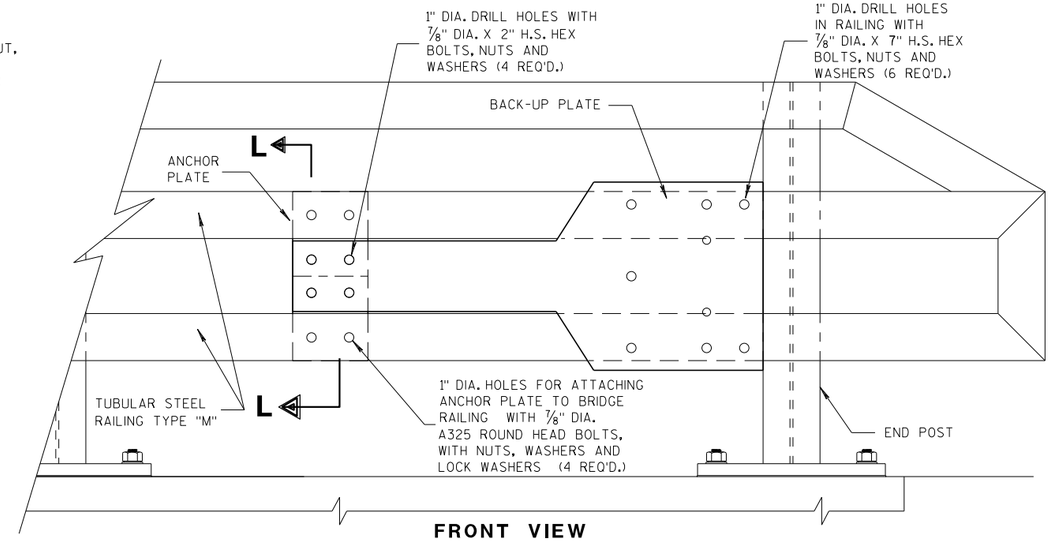
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

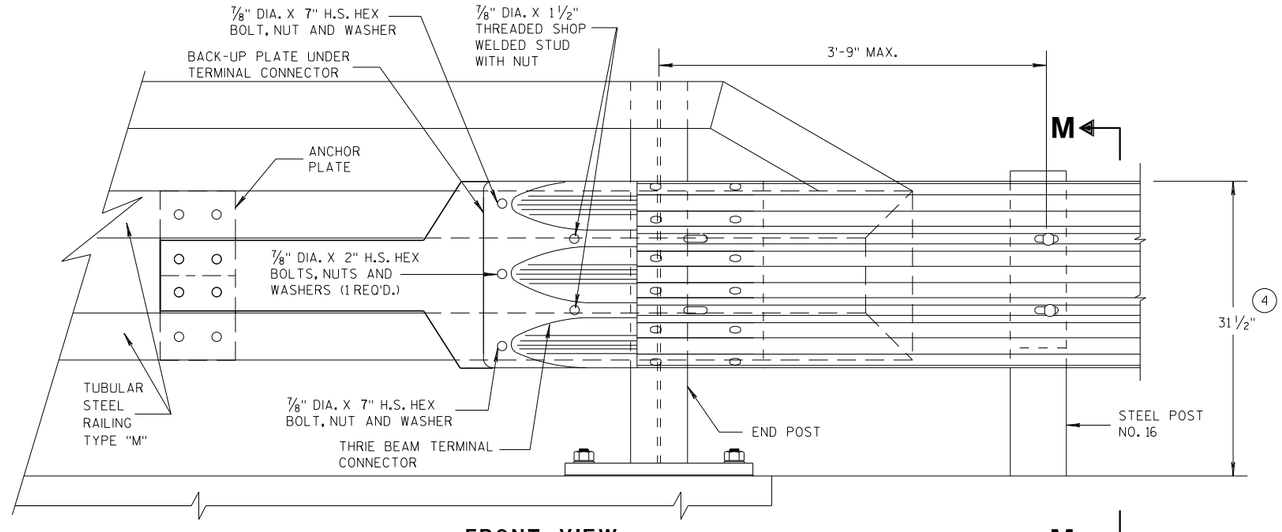


SECTION L-L

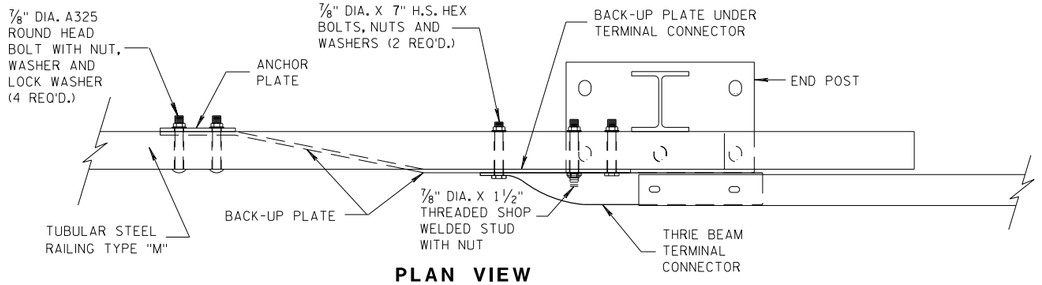


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
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GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

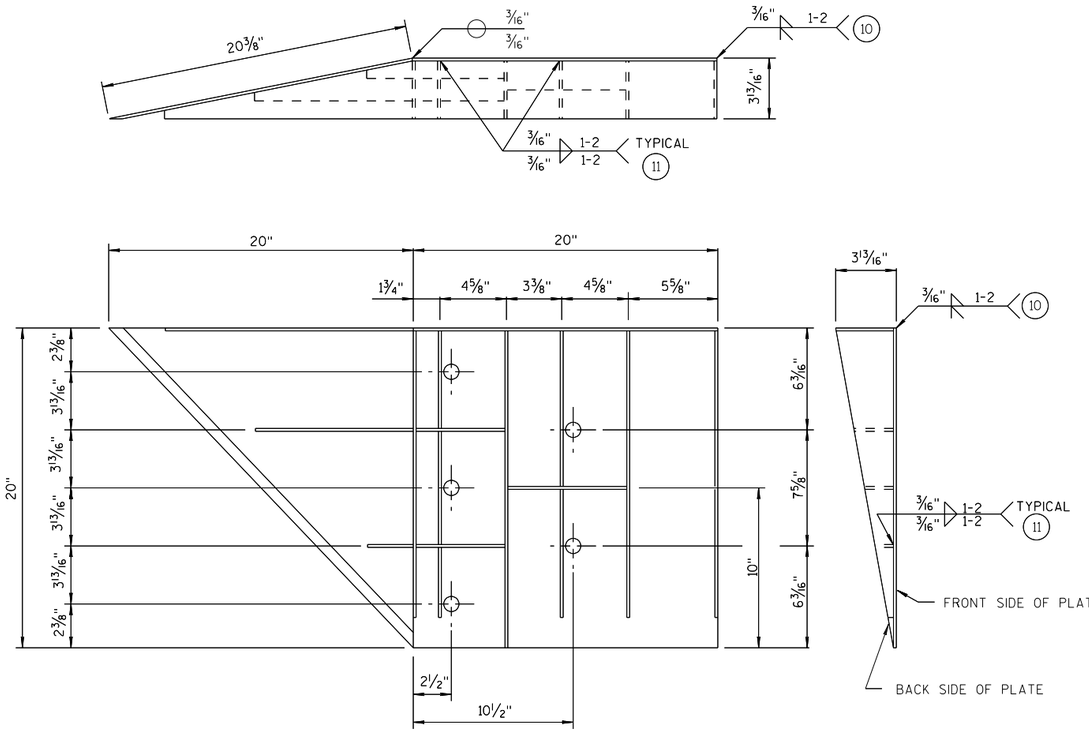
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

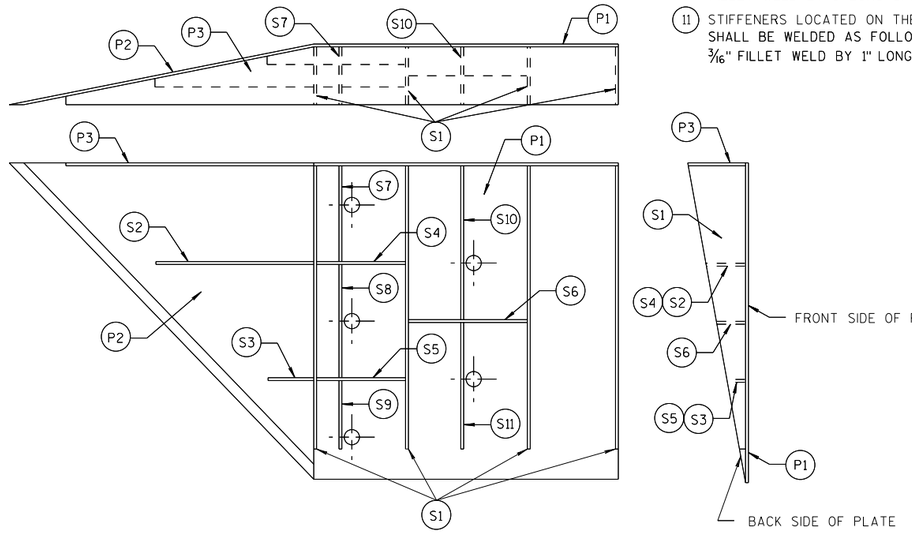


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

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

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

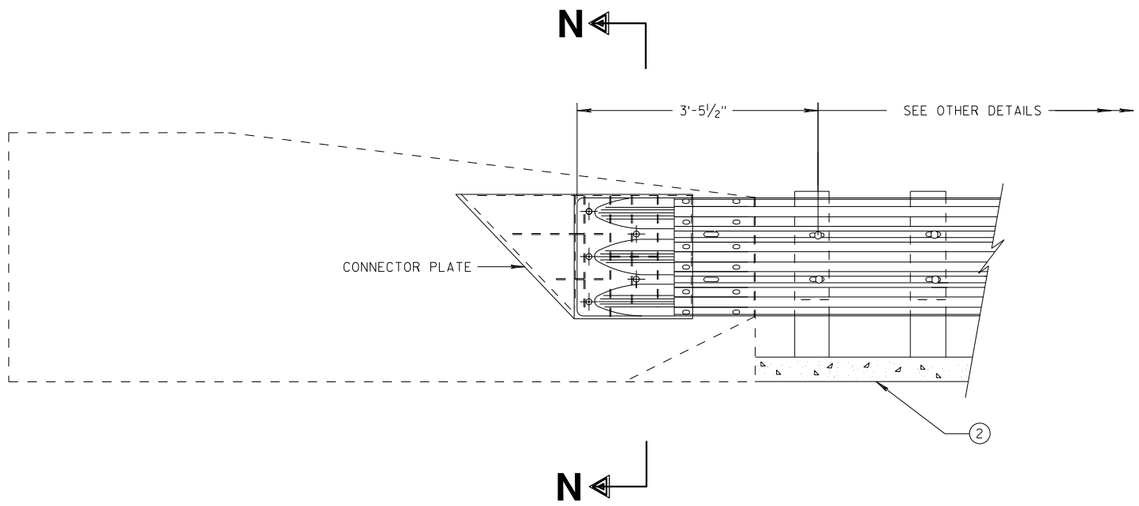
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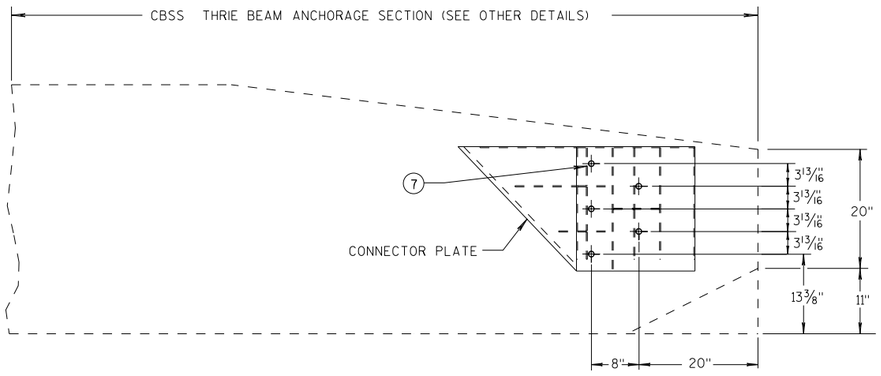
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THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



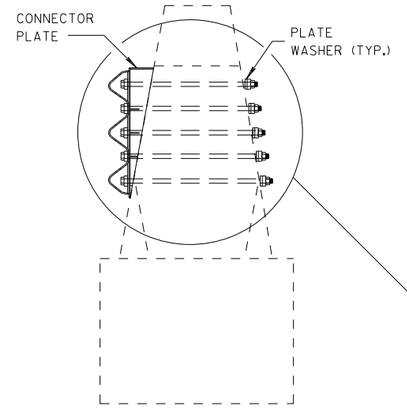
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

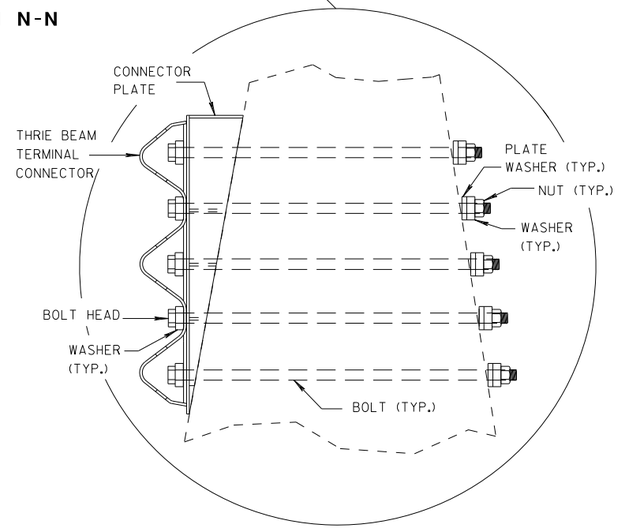
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

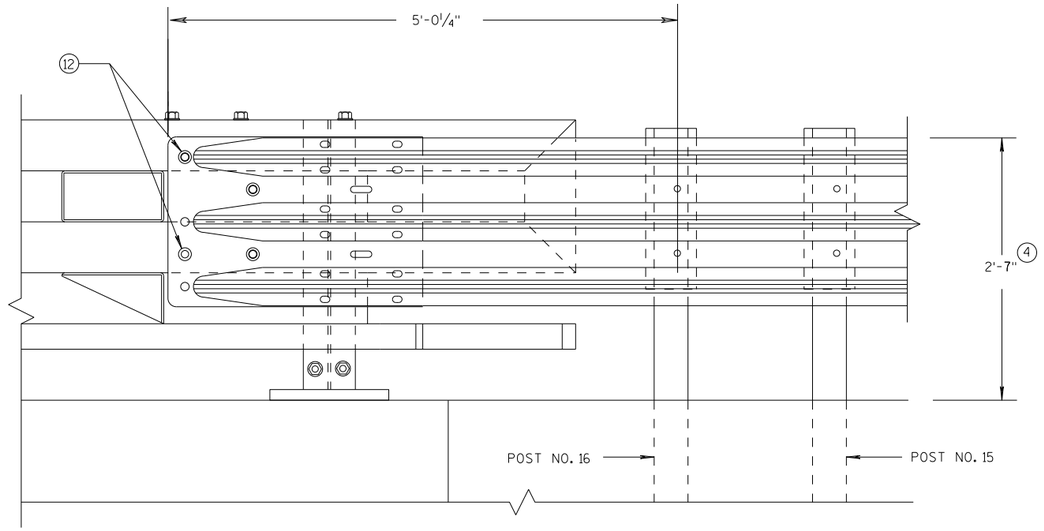
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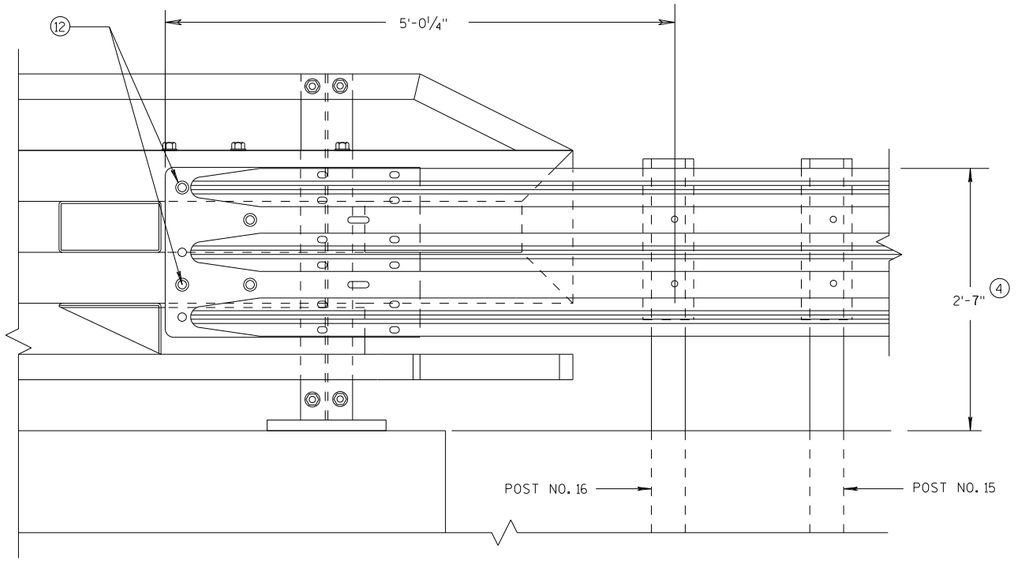
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ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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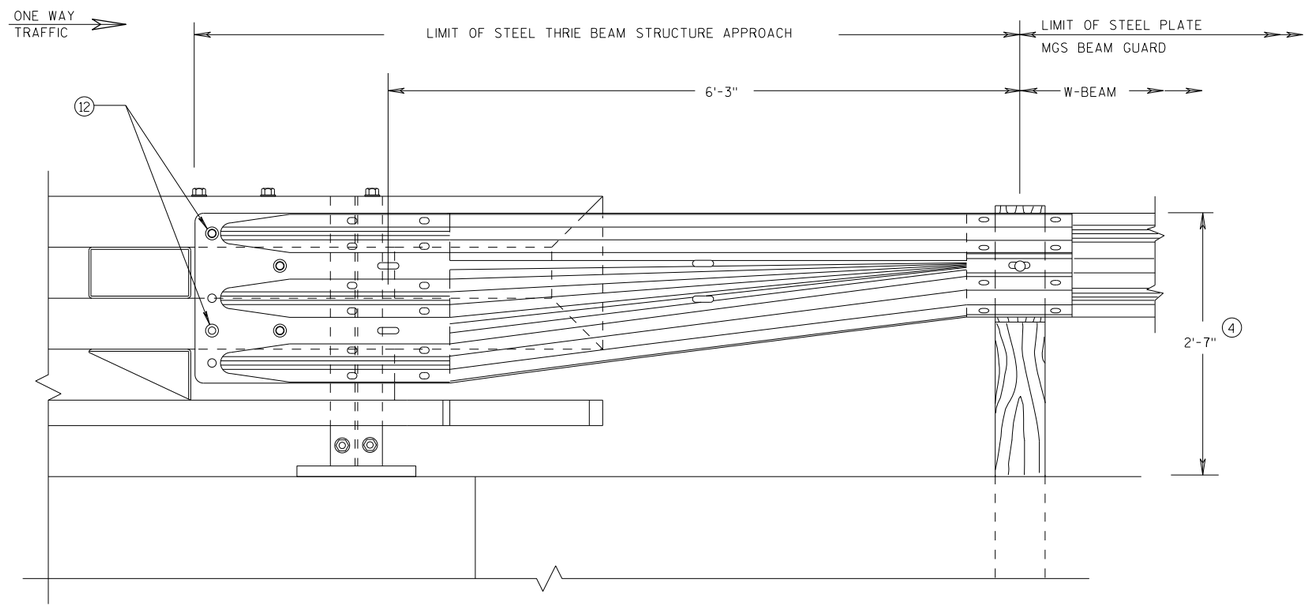
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FRONT VIEW

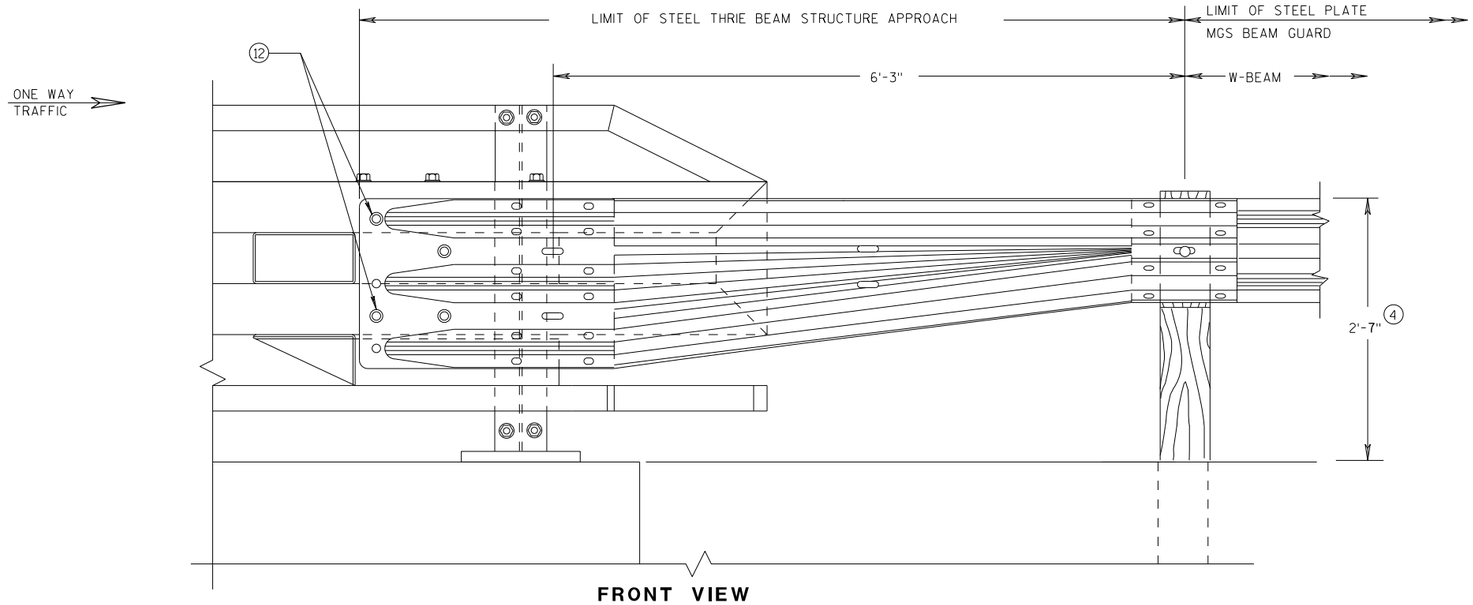
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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

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

GENERAL NOTES

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

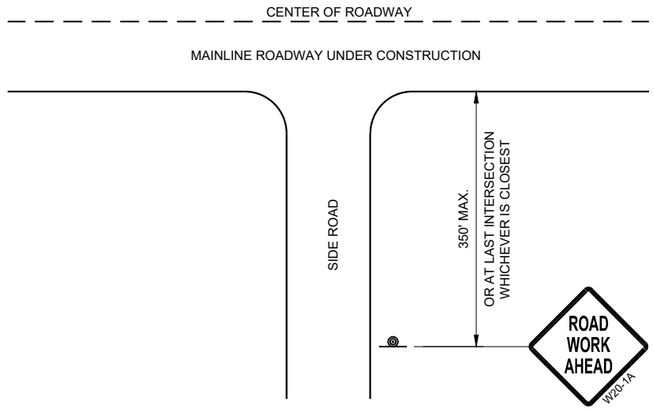
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

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

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

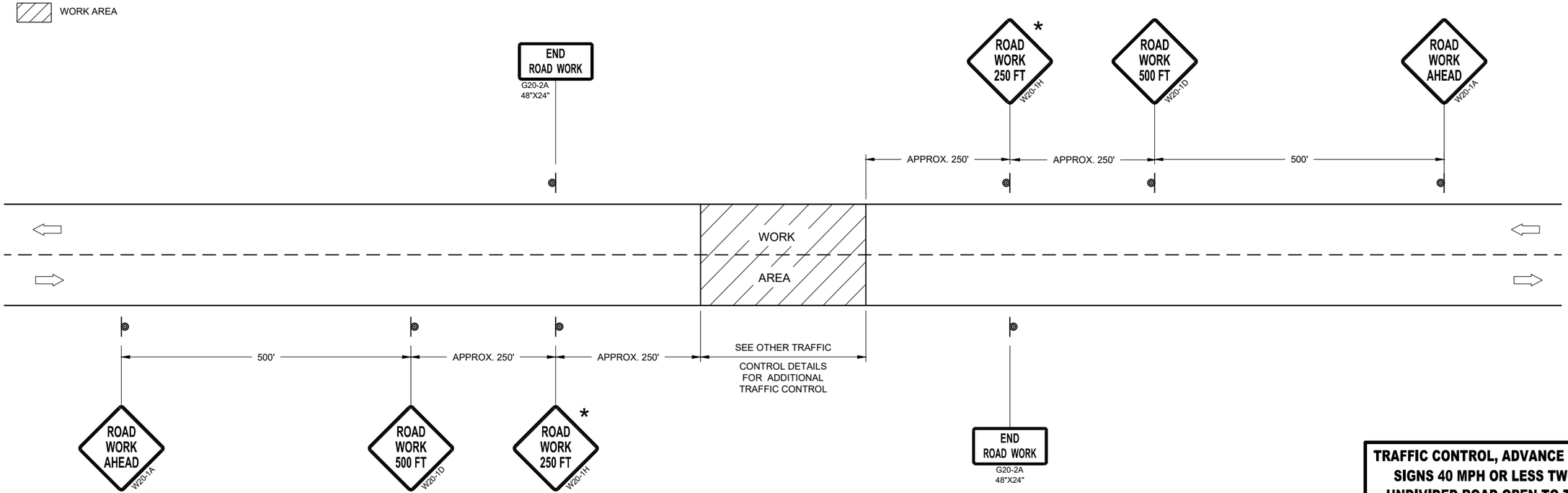
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

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



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C05 - 05

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

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

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

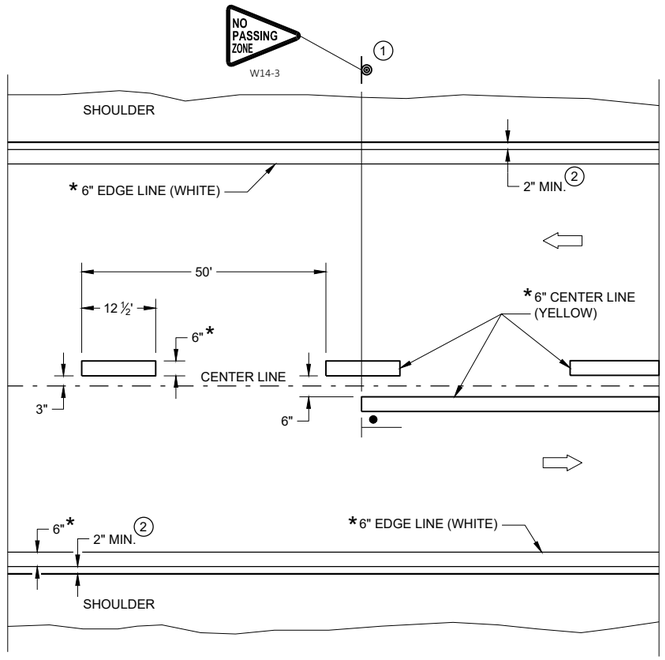
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

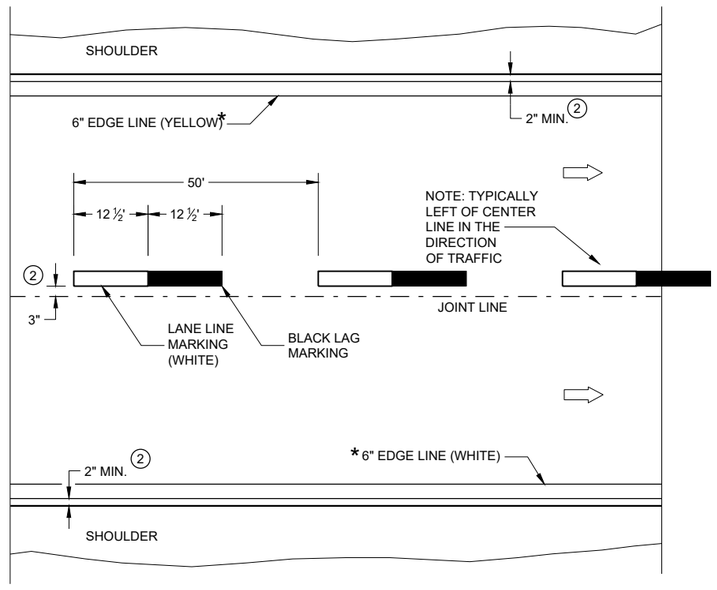
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023 — DATE

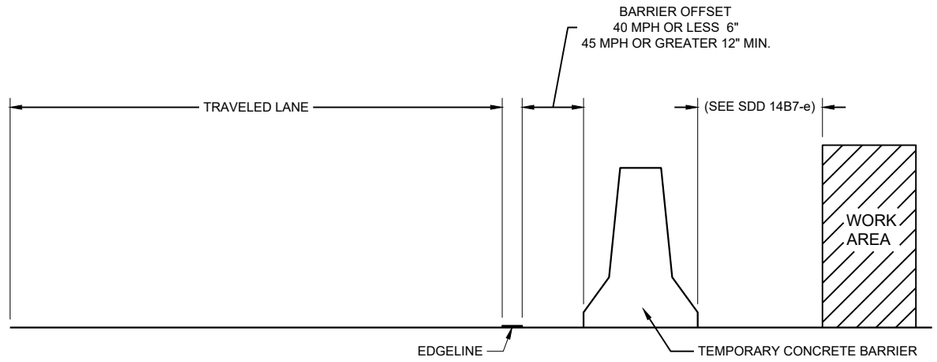
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

FHWA

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SDD 15C08-23a

SDD 15C08-23a



TEMPORARY BARRIER OFFSET FROM EDGELINE

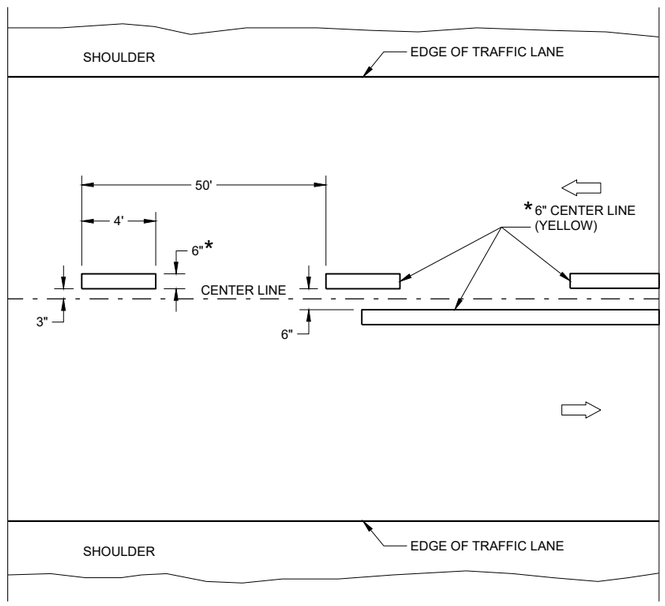
GENERAL NOTES

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

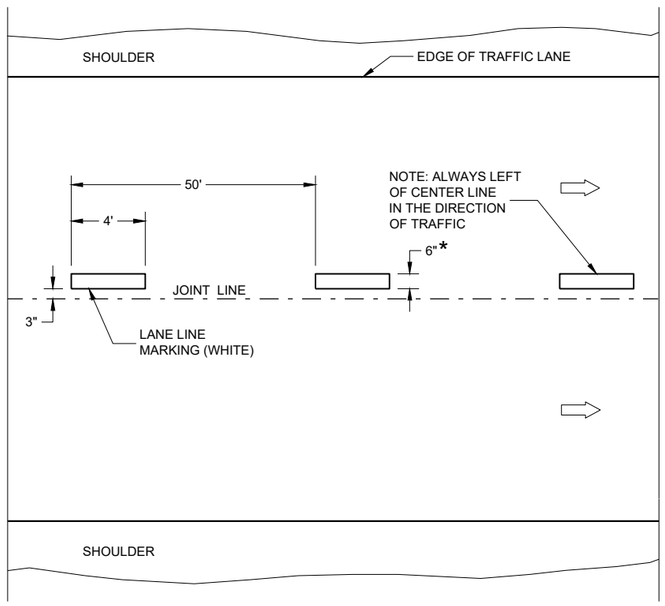
LEGEND

⇨ DIRECTION OF TRAFFIC

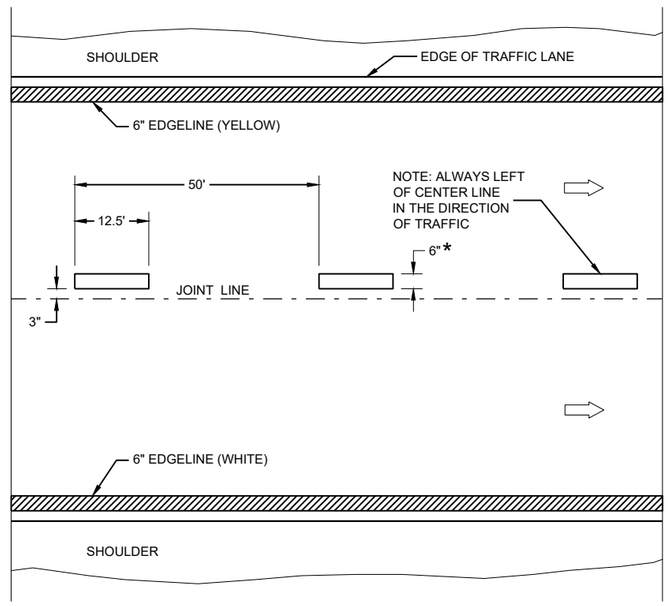
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

FHWA

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SDD 15C08-23b

6

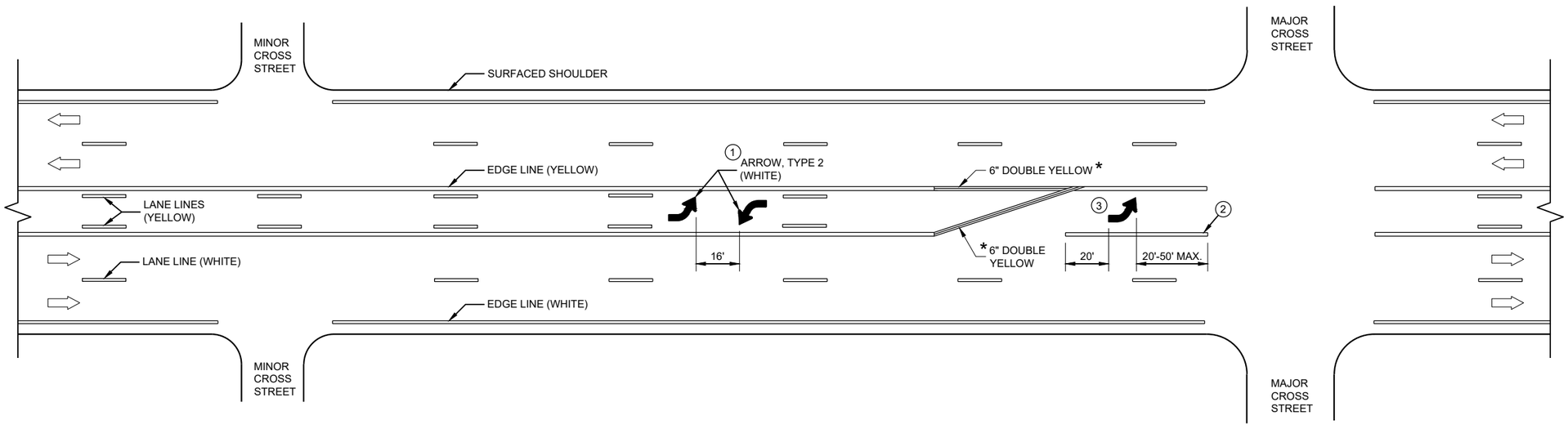
SDD 15C08-23b

GENERAL NOTES

1. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
2. 10" WHITE
3. TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

⇨ DIRECTION OF TRAFFIC

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY LEFT TURN LANE

6

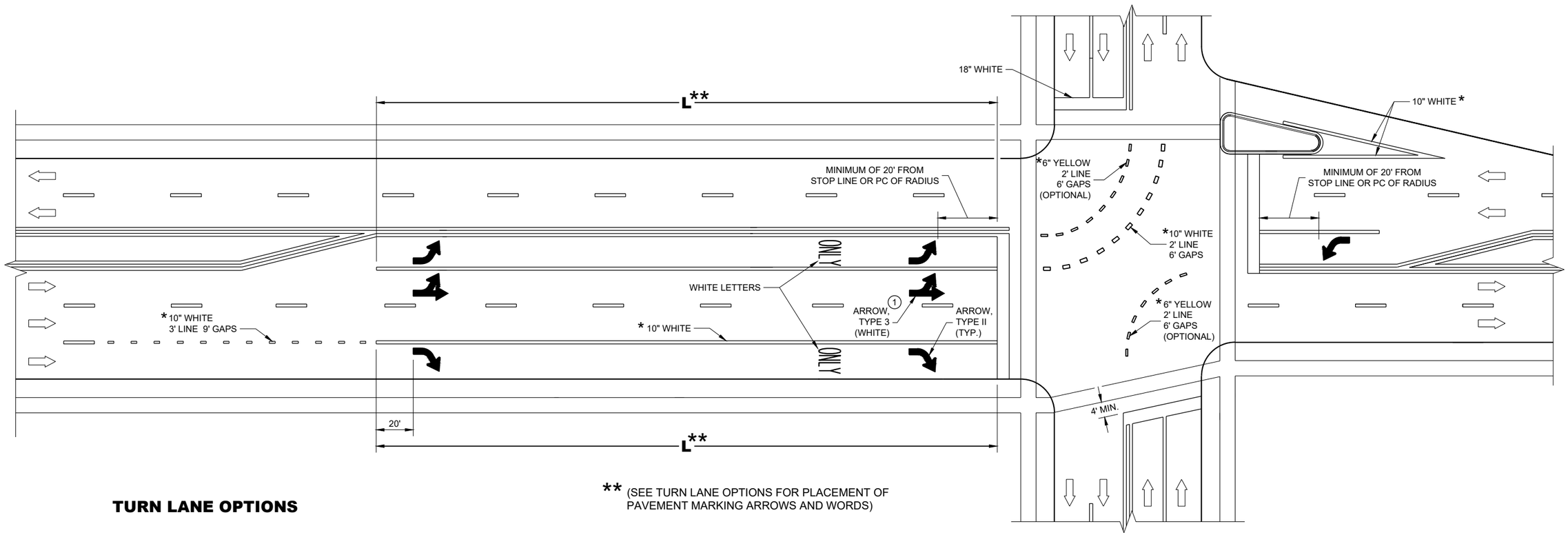
SDD 15C08-23c

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA· 152

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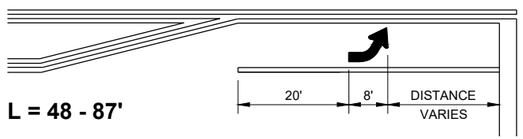
SDD 15C08-23c



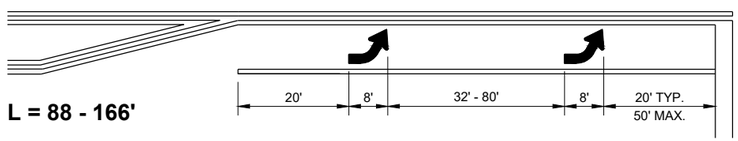
** (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

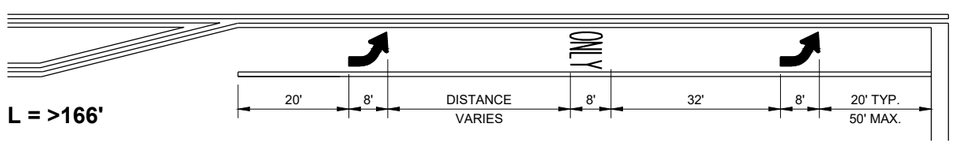
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

(1) 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

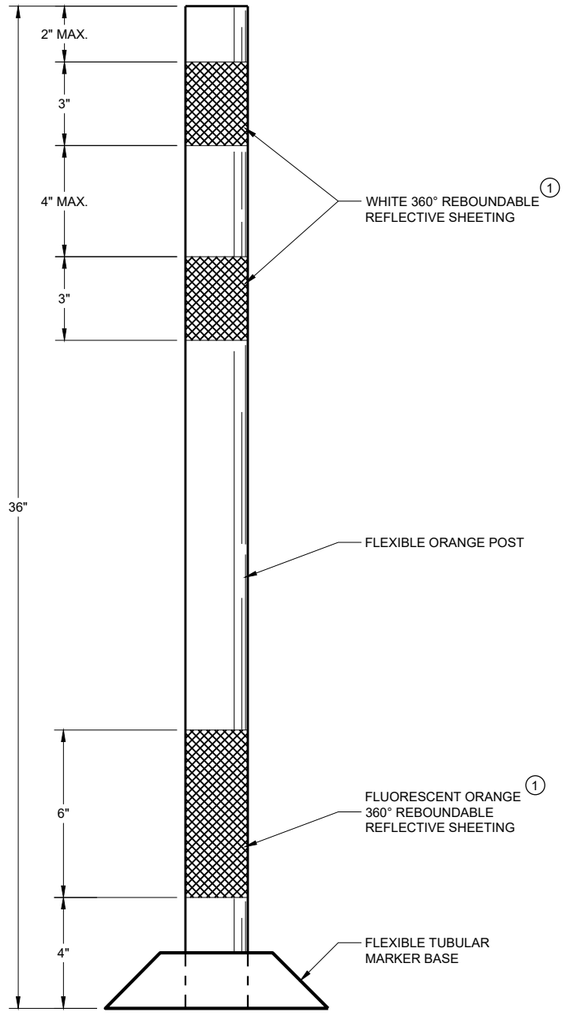
L = LENGTH OF TURN BAY

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 15C08-23d



FLEXIBLE TUBULAR MARKER POST WORK ZONE

GENERAL NOTES

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

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

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

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

CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

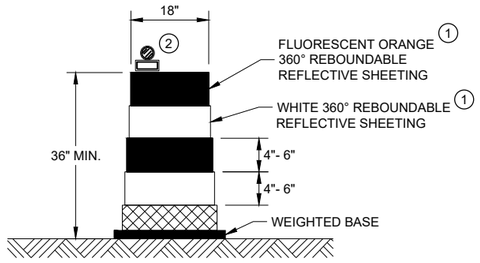
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SDD15C11 - 10a

SDD15C11 - 10a

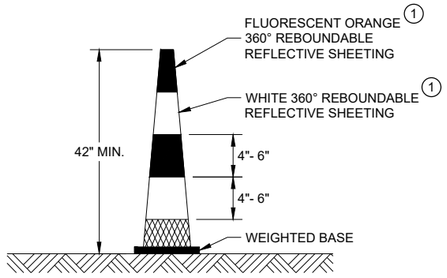
GENERAL NOTES

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



DRUM

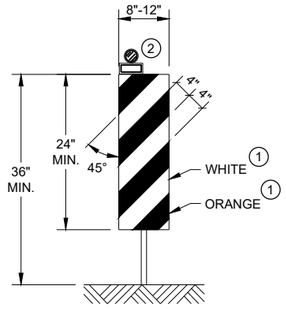
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

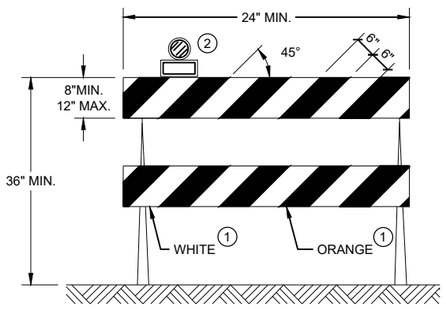
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



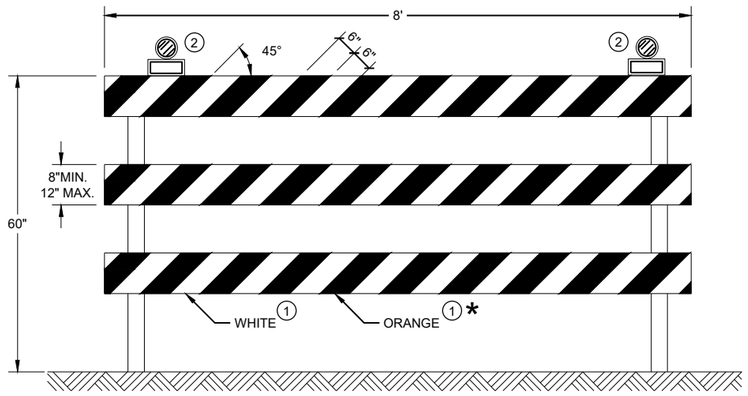
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C11 - 10b

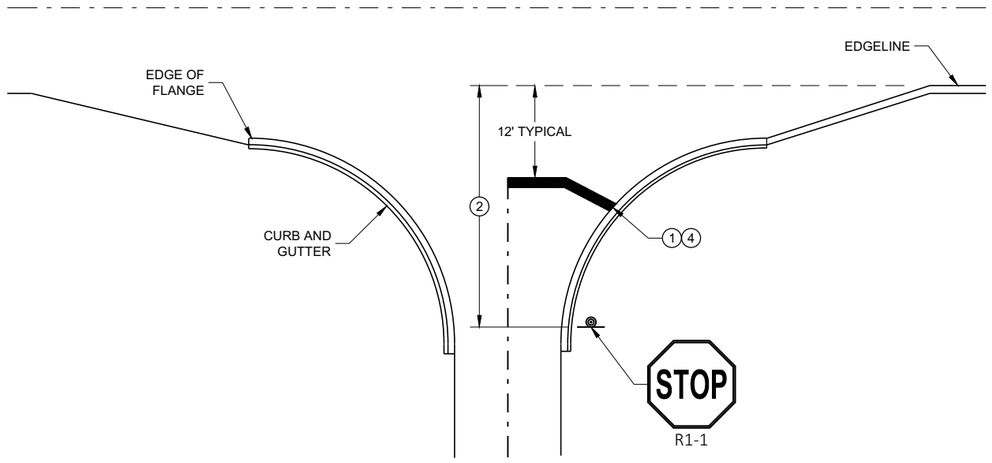
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SDD 15C11 - 10b

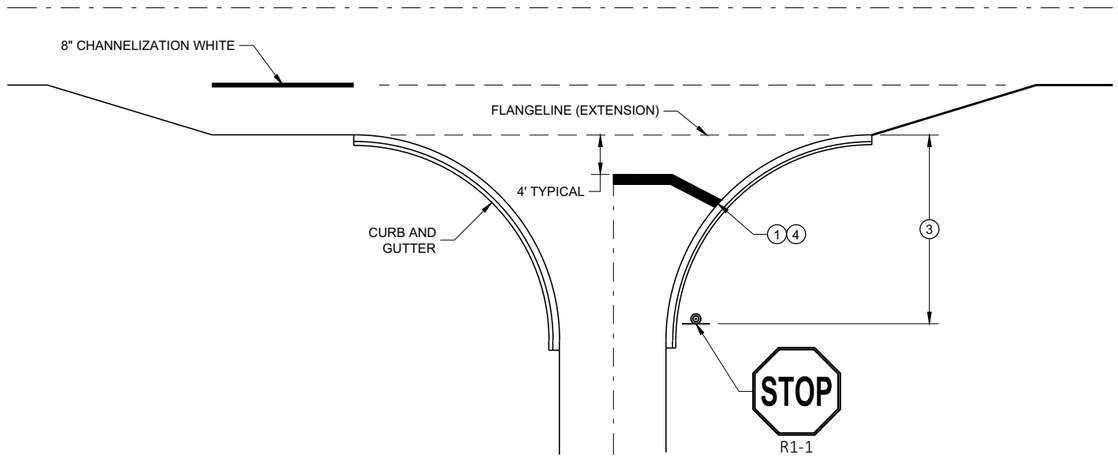
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

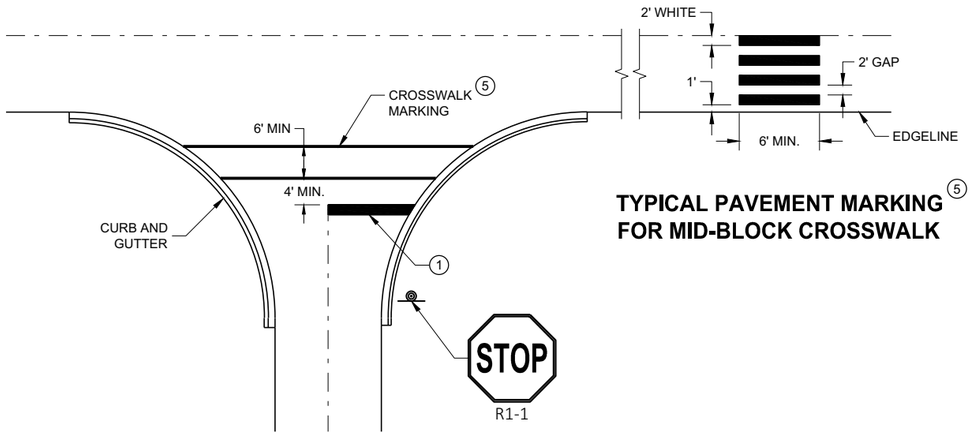
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

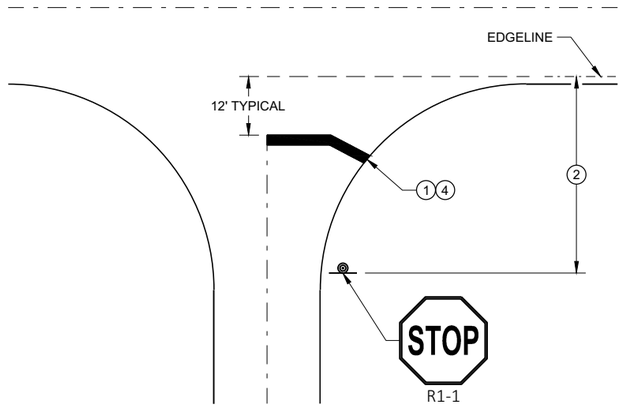


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

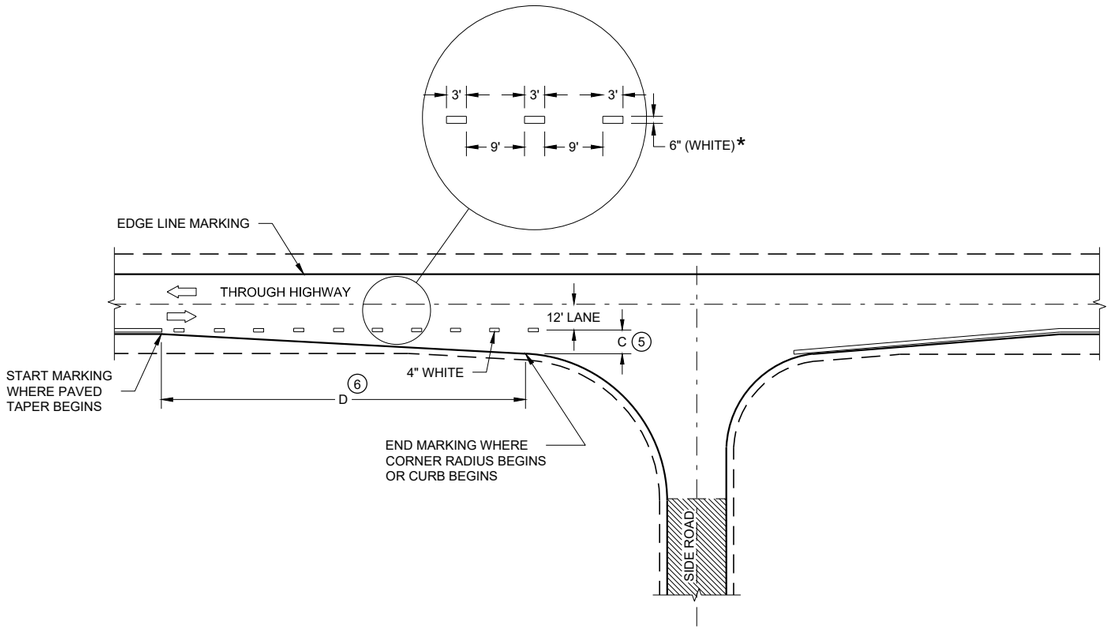
FHWA

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SDD 15C33 - 04

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SDD 15C33 - 04



MINOR INTERSECTION

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

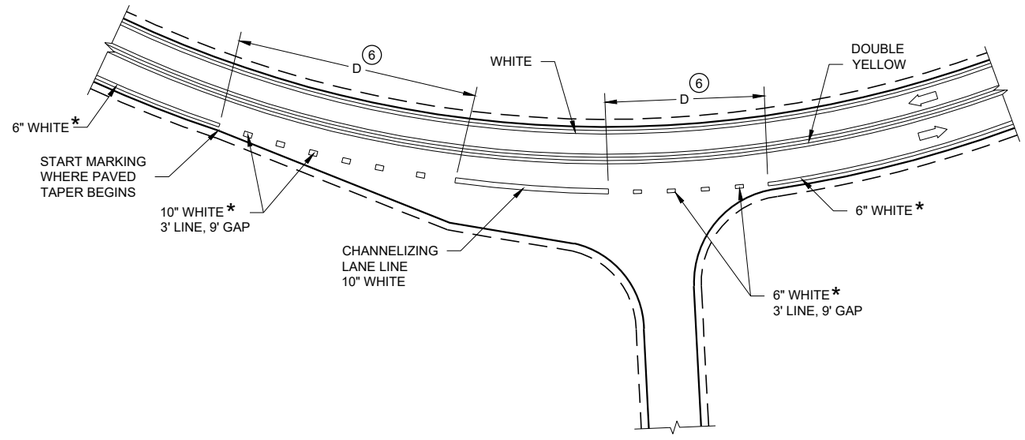
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

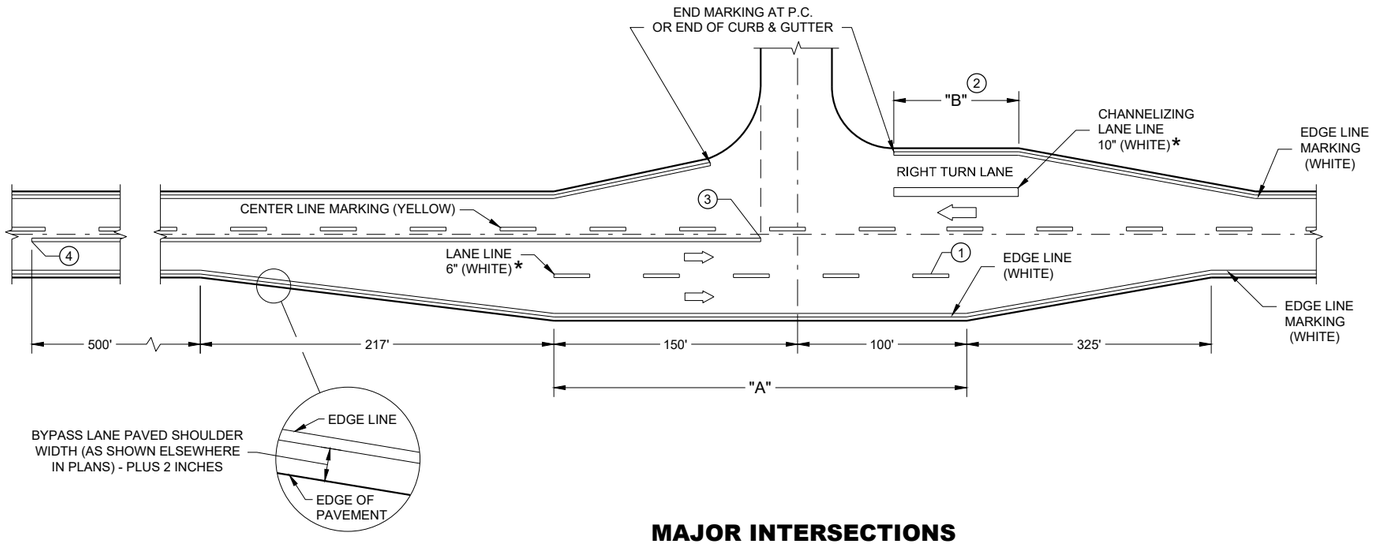
1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
6. WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

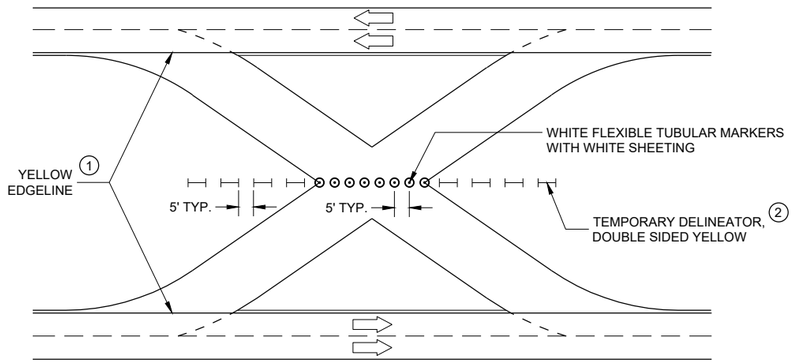
PAVEMENT MARKING (INTERSECTIONS)

SDD 15C35-06a

6

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- DELINEATOR FLEXIBLE / TUBULAR MARKER
- TEMPORARY DELINEATOR (STEEL POST WITH SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING
- TEMPORARY DELINEATOR (DOUBLE SIDED)
- TYPE "A" WARNING LIGHT (FLASHING)
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- REMOVE PAVEMENT MARKINGS
- WORK AREA



TRAFFIC CONTROL FOR CROSSOVER THAT IS NOT IN USE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

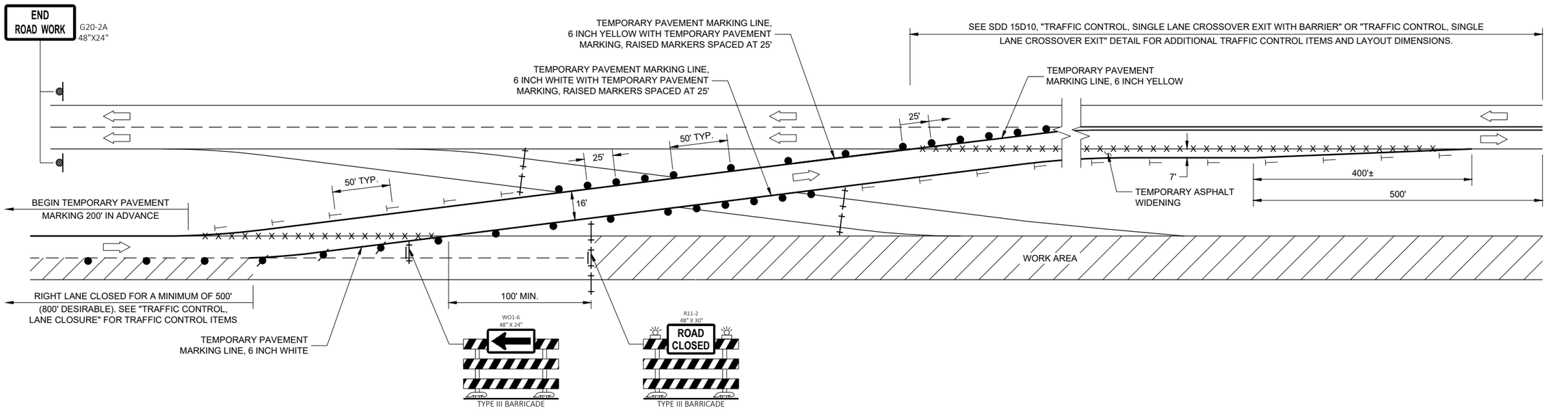
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

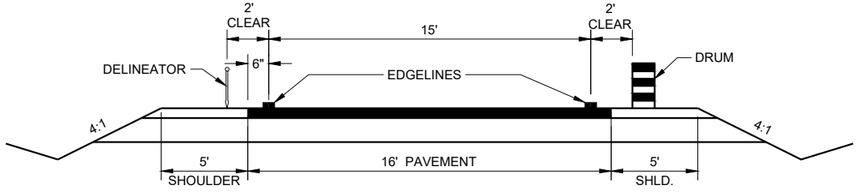
THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

REVERSE DEVICES WHEN OTHER LEG OF CROSSOVER IS IN USE.

(1) FOR PERMANENT CROSSOVER, PAVEMENT MARKING SHOULD CONFORM TO SECTION 646 OF THE STANDARD SPECIFICATIONS.

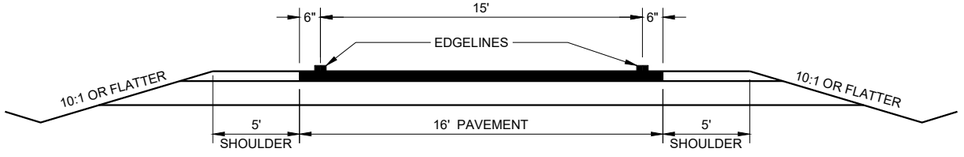
(2) FOR PERMANENT CROSSOVER, INSTALL PERMANENT DELINEATORS ACCORDING TO SECTION 633 OF THE STANDARD SPECIFICATIONS.





TYPICAL TEMPORARY CROSSOVER ROADWAY DIMENSIONS

(SEE PLAN FOR ROADWAY DESIGN ELEMENTS)



TYPICAL CROSSOVER TO REMAIN IN PLACE ROADWAY DIMENSIONS

(SEE PLAN FOR ROADWAY DESIGN ELEMENTS)

TRAFFIC CONTROL, SINGLE LANE CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6
SDD 15D11-09

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

"WO" 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 OR 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 AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS 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.

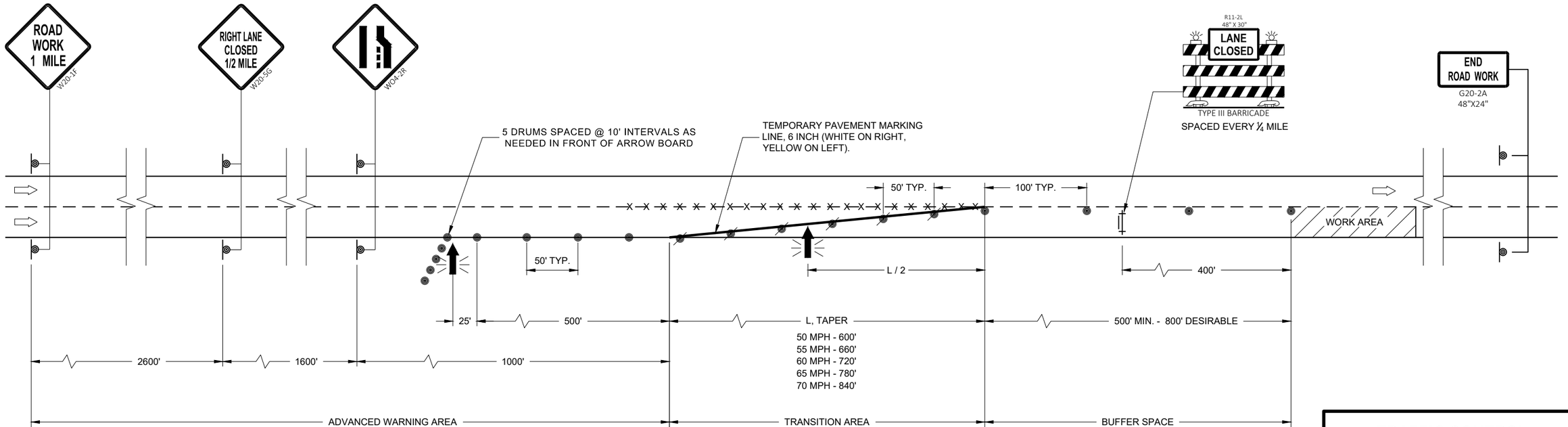
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD



TRAFFIC CONTROL LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

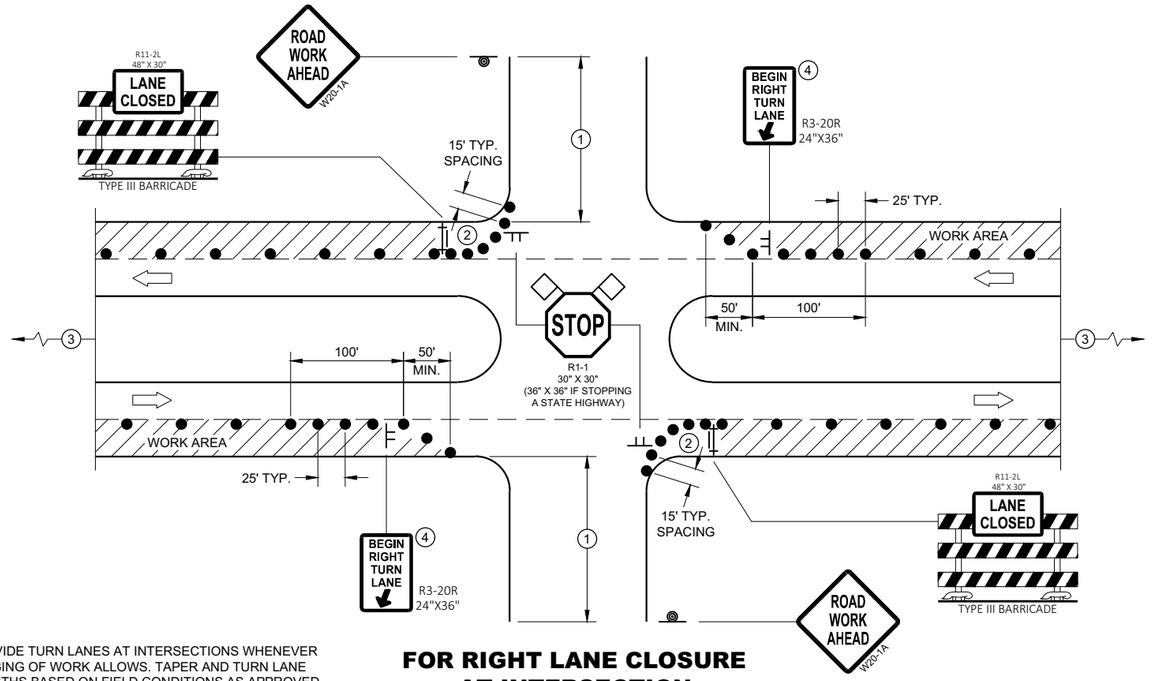
FHWA

6

SDD 15D12 - 11a

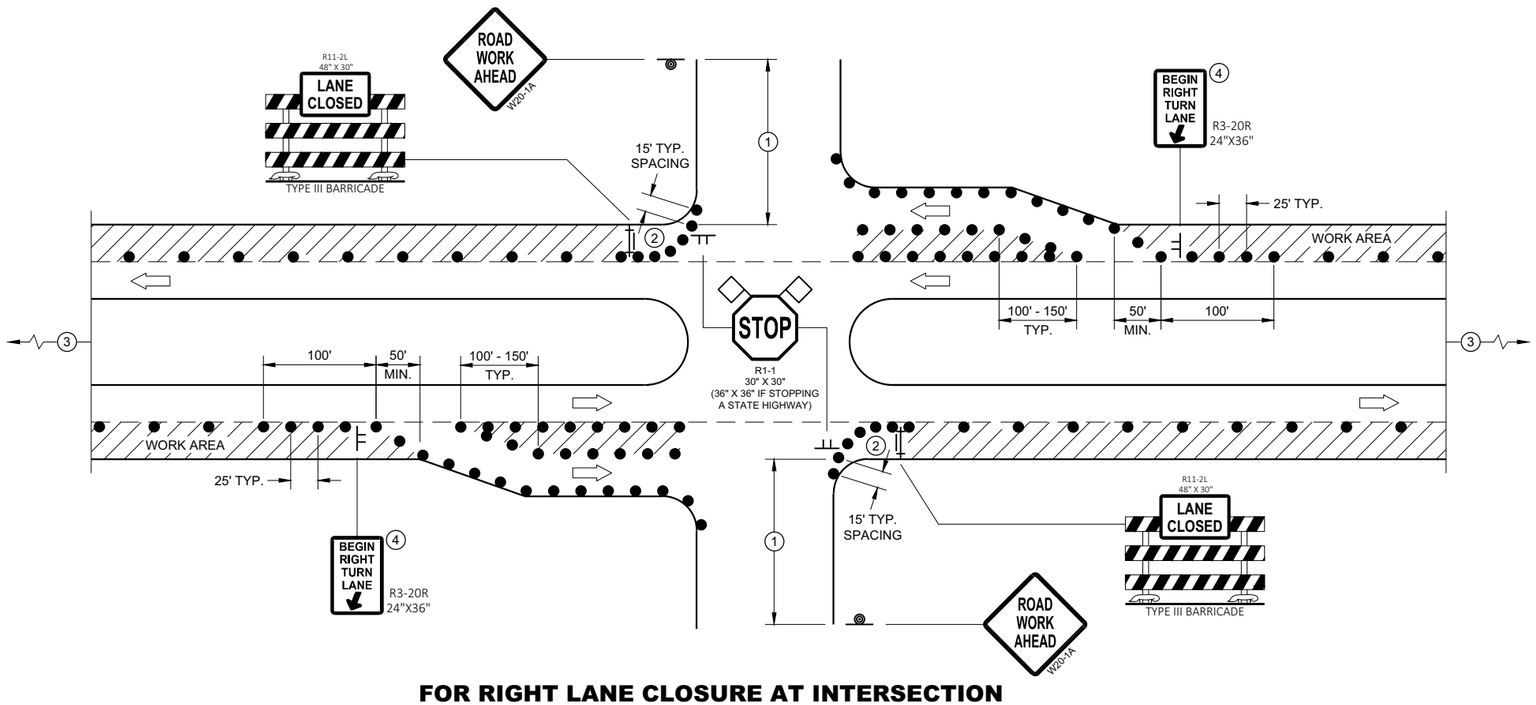
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SDD 15D12 - 11a



FOR RIGHT LANE CLOSURE AT INTERSECTION

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

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

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE

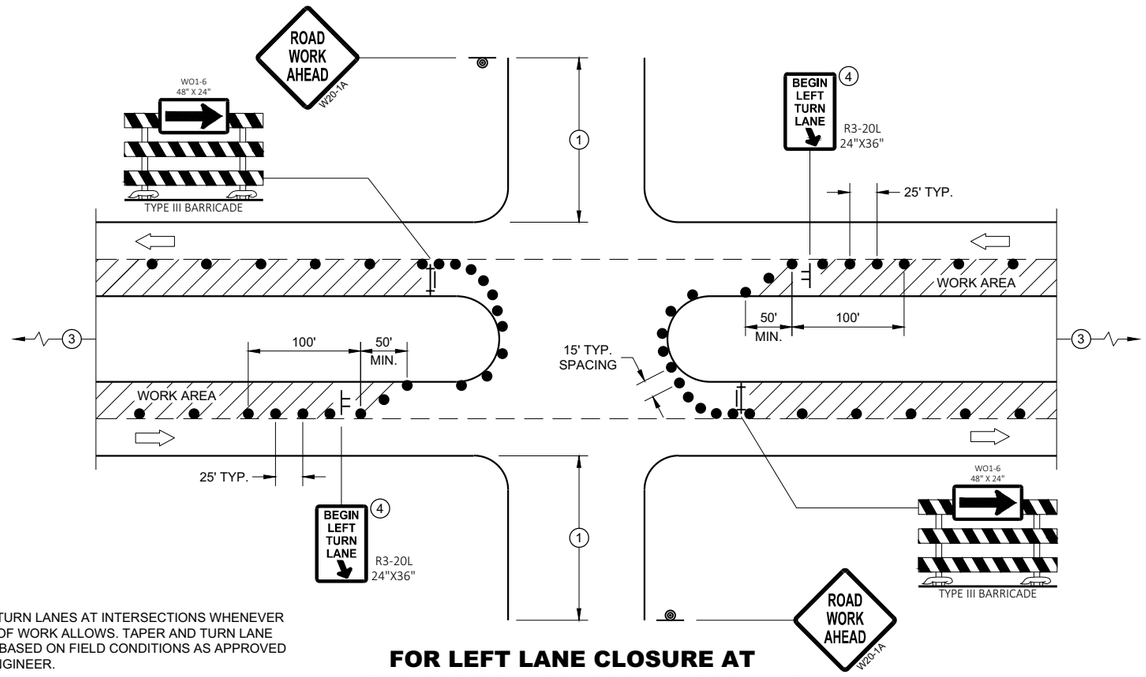
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15D21 - 07a

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SDD 15D21 - 07a



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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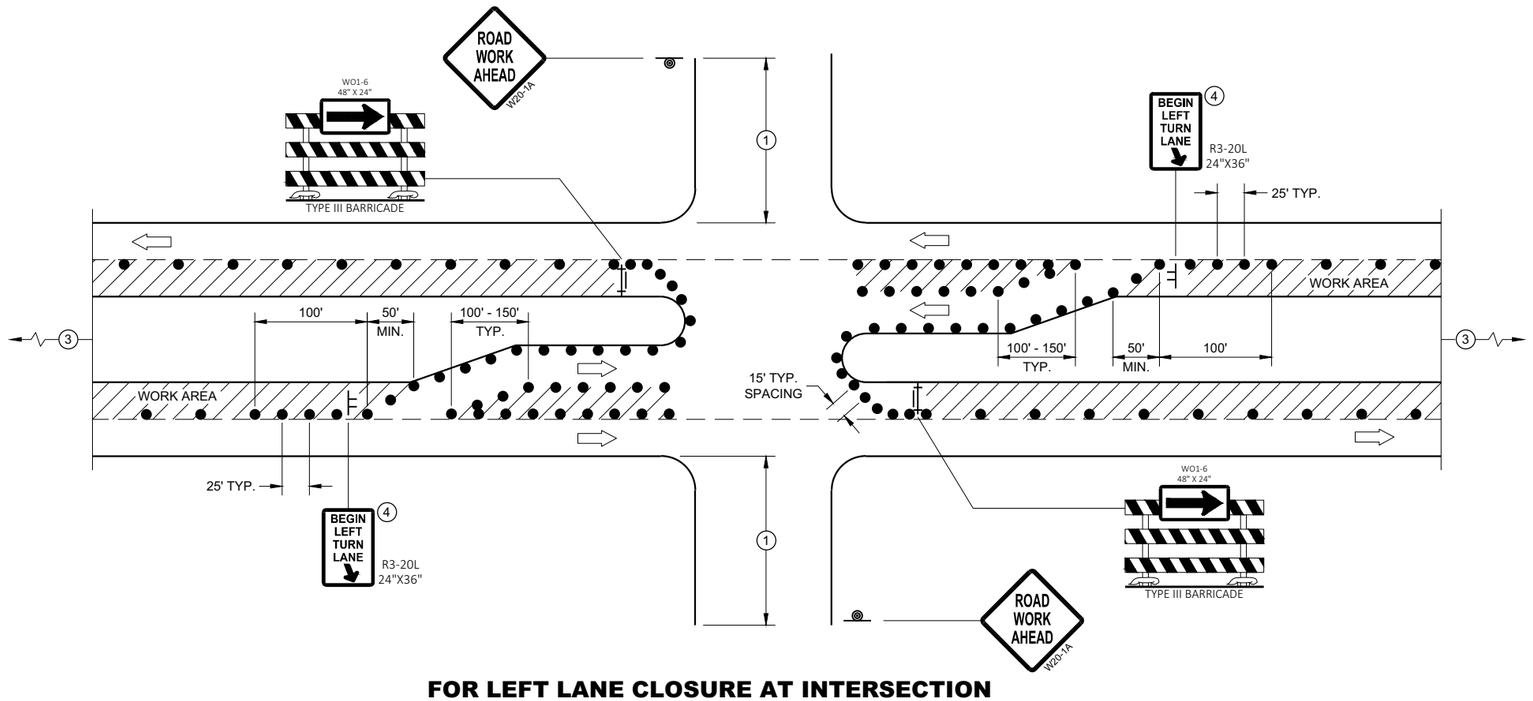
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(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

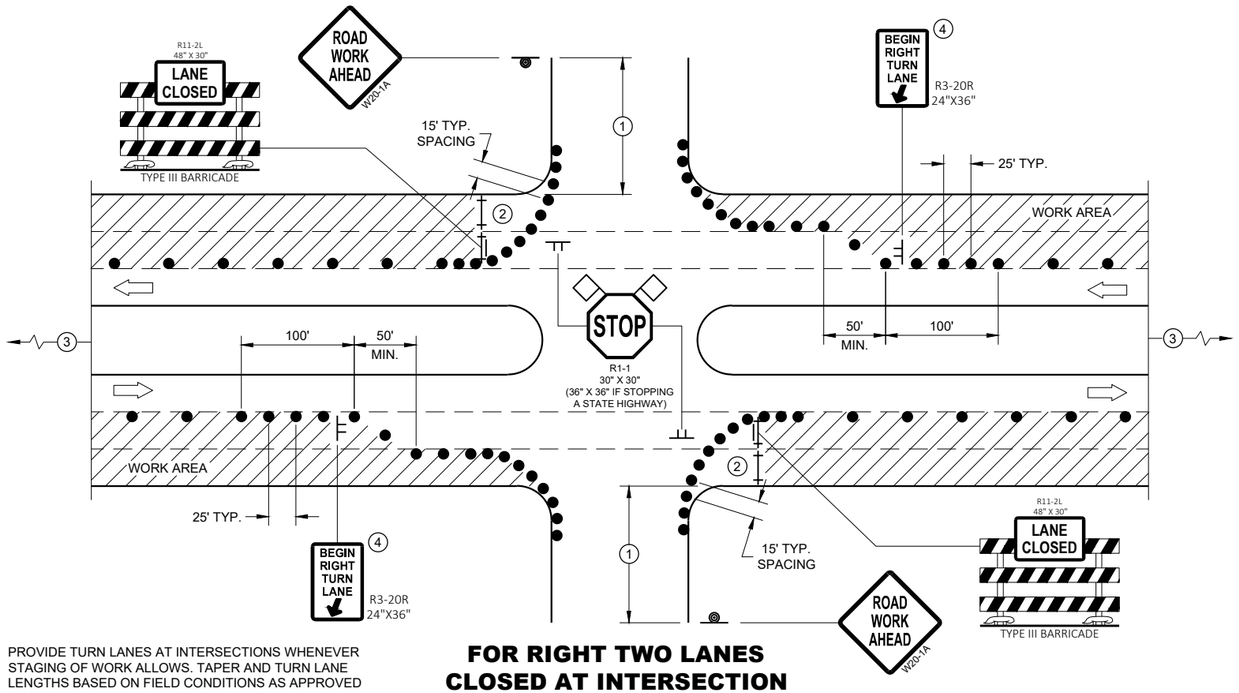
FHWA

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SDD 15D21 - 07b

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SDD 15D21 - 07b



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR RIGHT TWO LANES CLOSED AT INTERSECTION

GENERAL NOTES

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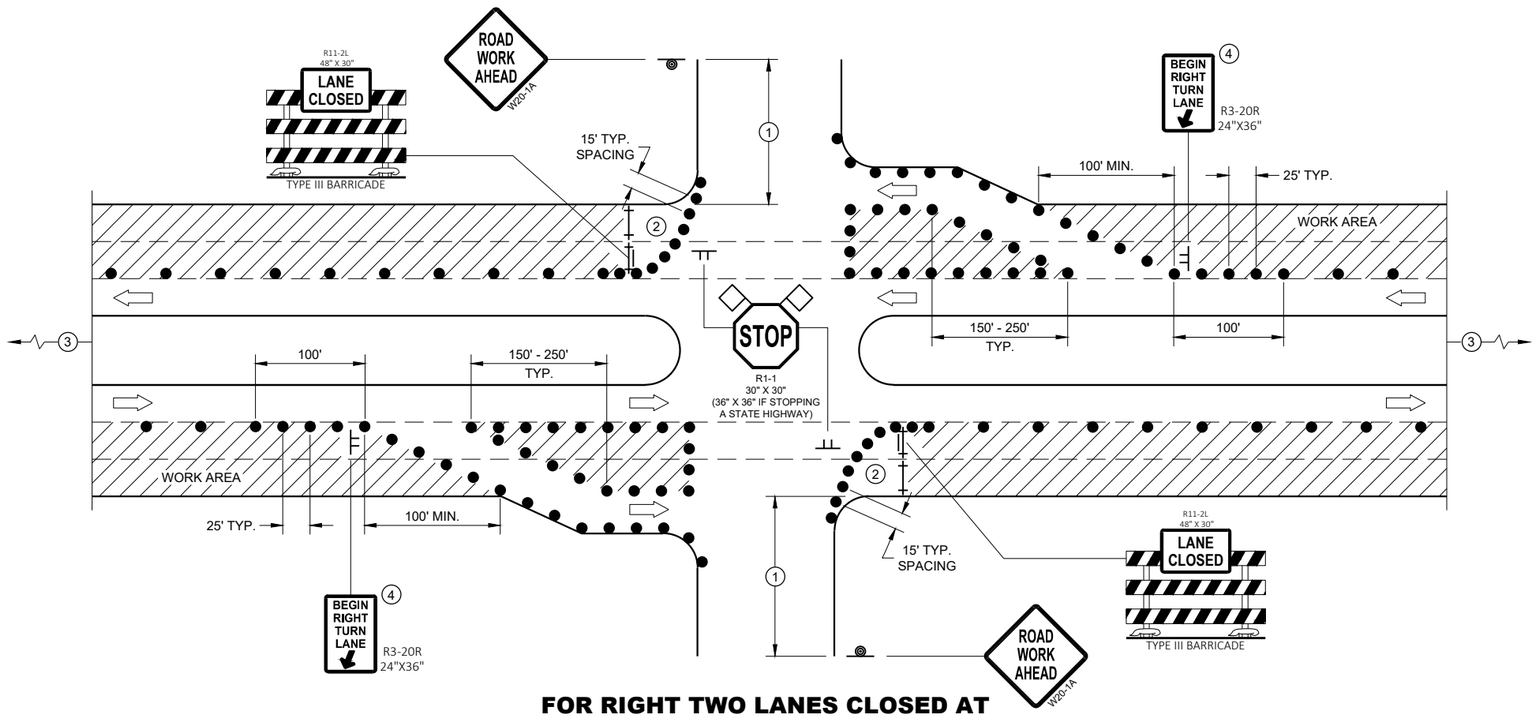
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FOR RIGHT TWO LANES CLOSED AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

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- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN TWO RIGHT LANE CLOSURE

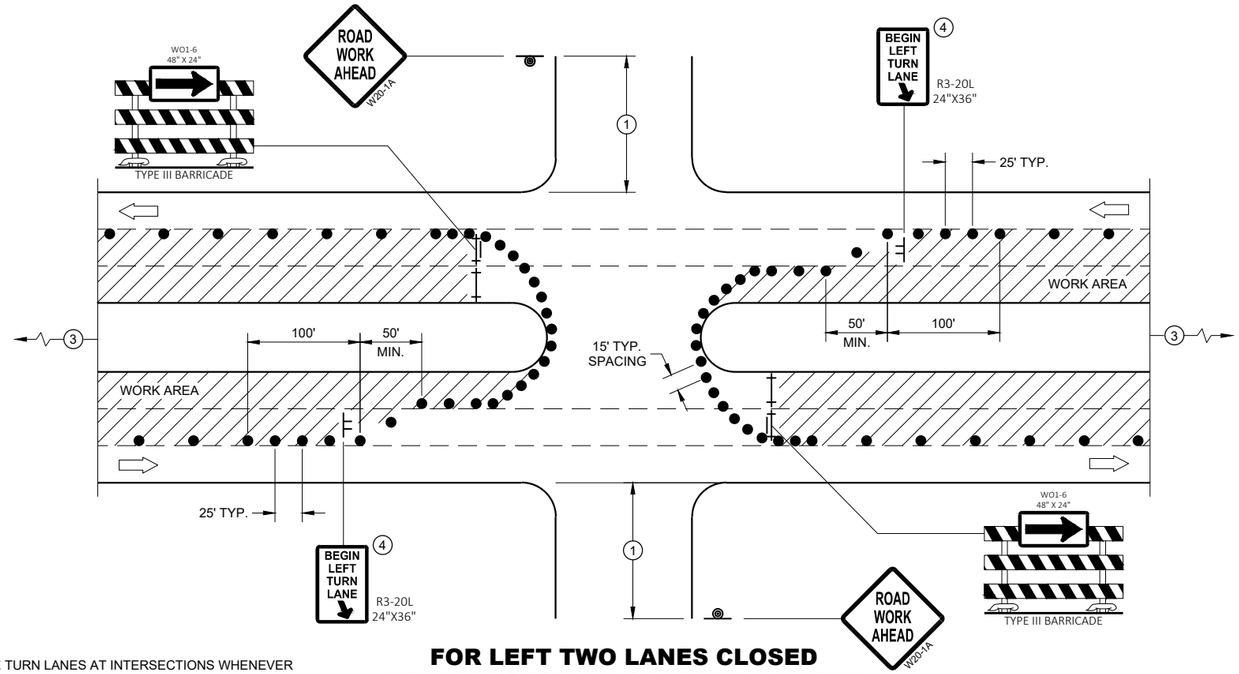
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15D23 - 07a

6

SDD 15D23 - 07a



FOR LEFT TWO LANES CLOSED AT INTERSECTION OR MEDIAN BREAK

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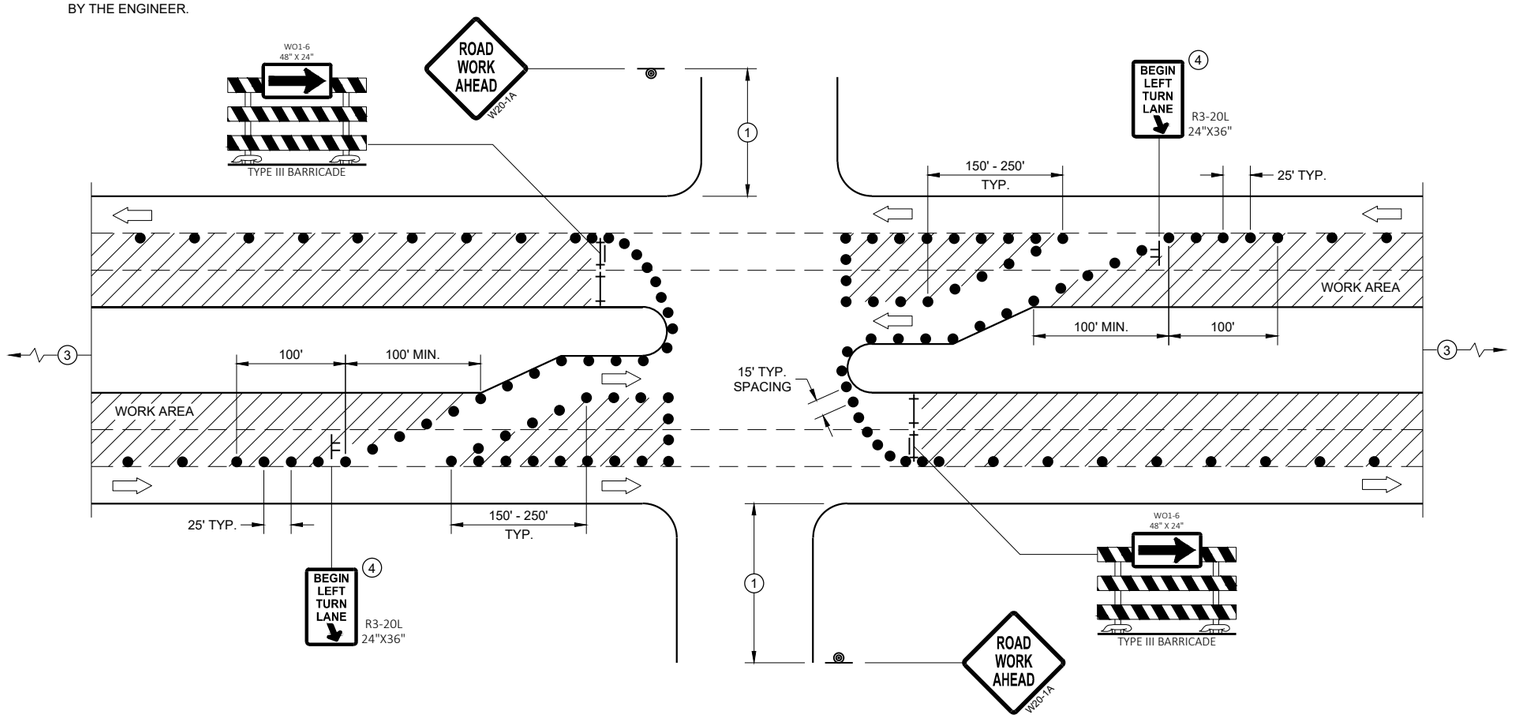
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(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



FOR LEFT TWO LANES CLOSED AT INTERSECTION OR MEDIAN BREAK (WITH LEFT TURN BAY OPEN)

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN TWO LEFT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D23 - 07b
SDD15D23 - 07b

GENERAL NOTES

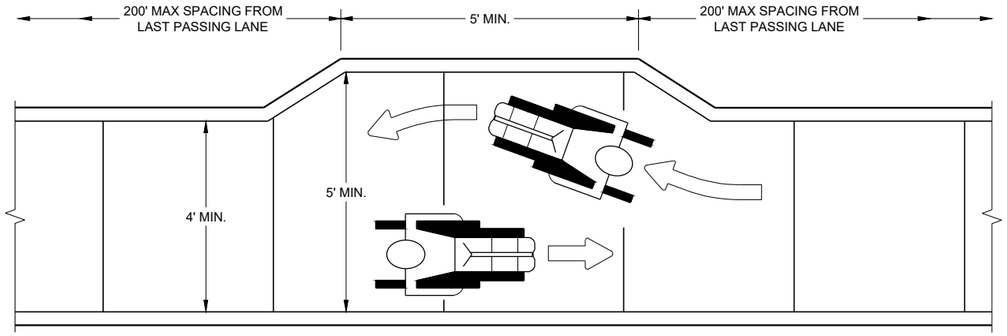
BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

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

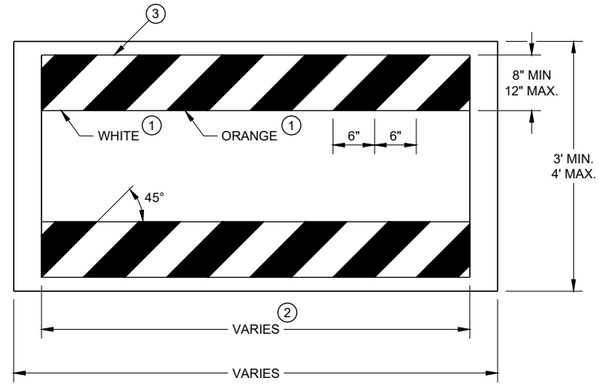
(2) SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.

(3) PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

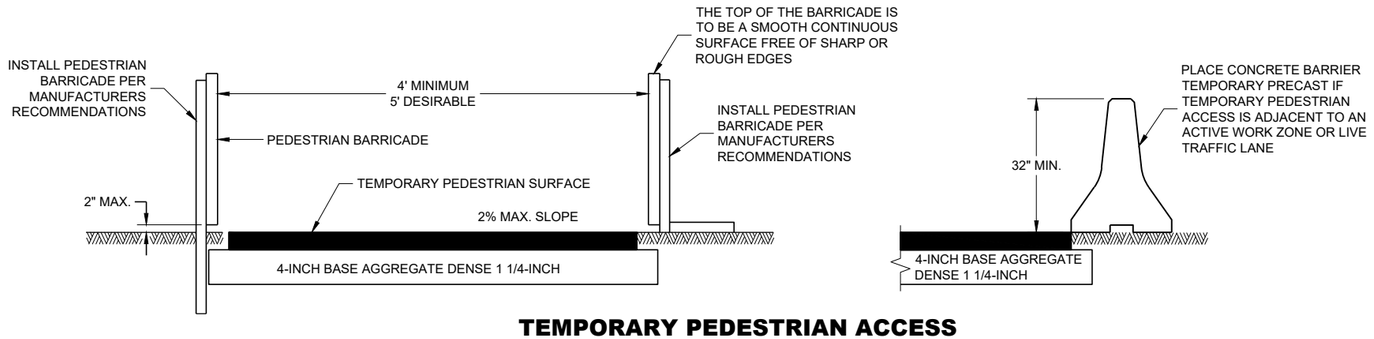
* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.



NARROW SIDEWALK PASSING DETAIL



TEMPORARY PEDESTRIAN BARRICADE*



TEMPORARY PEDESTRIAN ACCESS

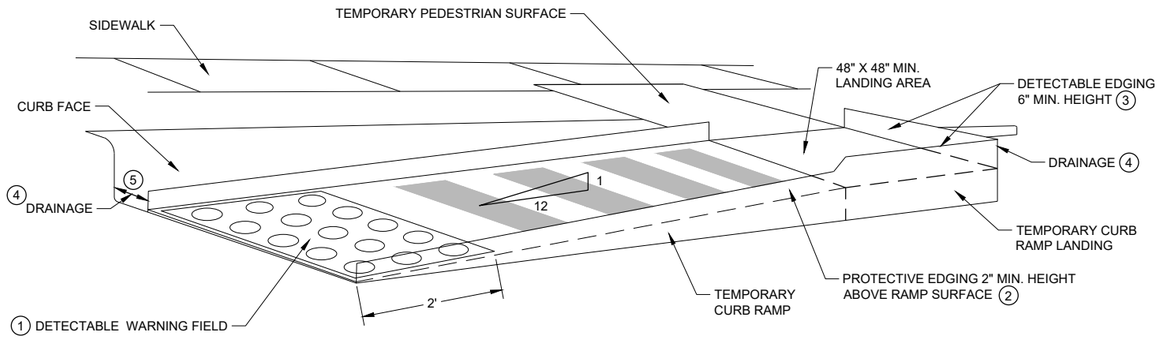
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SDD 15D30 - 09a

SDD 15D30 - 09a

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION



PERSPECTIVE VIEW

GENERAL NOTES

CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

(1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.

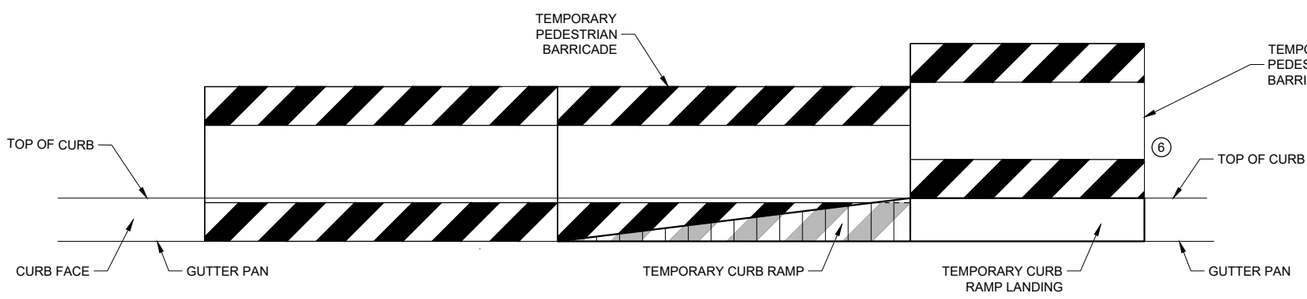
(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

(3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

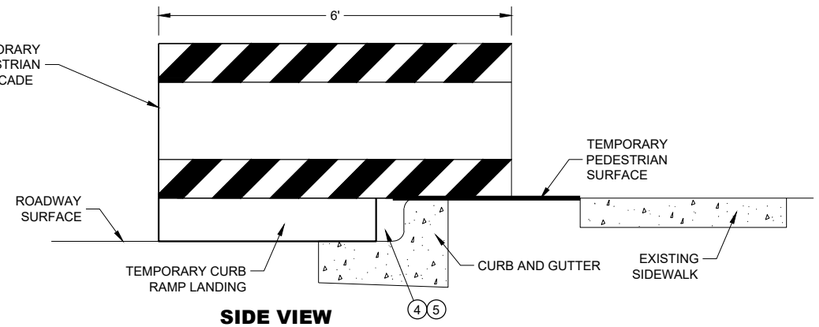
(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(5) ENSURE CURB RAMP IS OUT OF THE GUTTER PAN.

(6) IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.



FRONT VIEW



SIDE VIEW

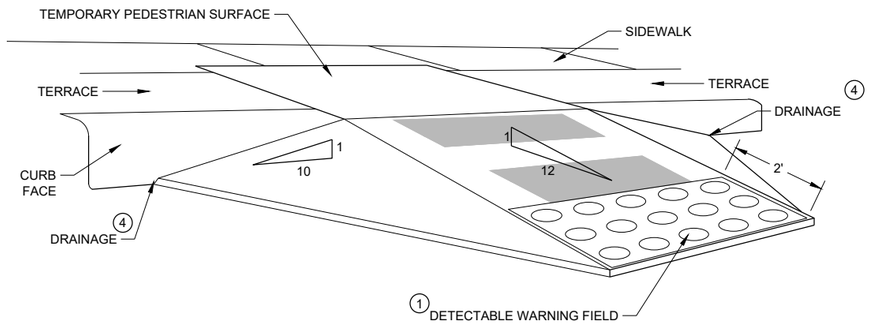
TEMPORARY CURB RAMP PARALLEL TO CURB

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

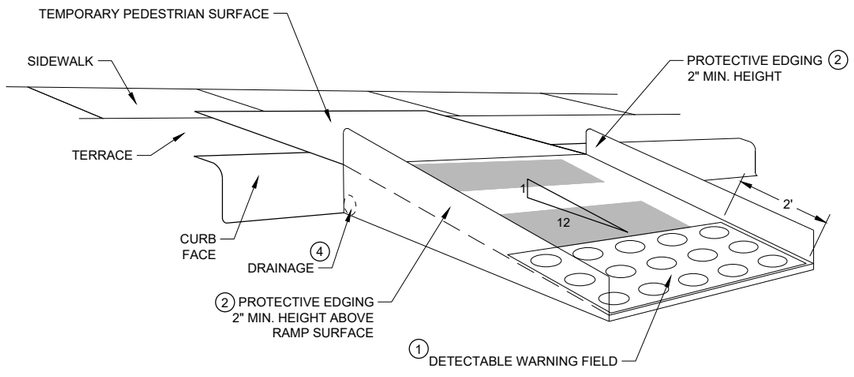
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15D30 - 09b



WITH SIDE APRON (5)



WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

(1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS

(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

(3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(5) CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

GENERAL NOTES

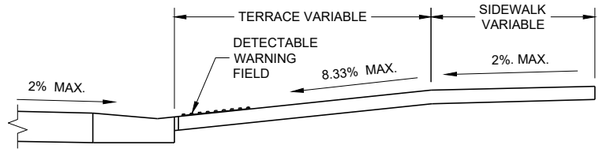
BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

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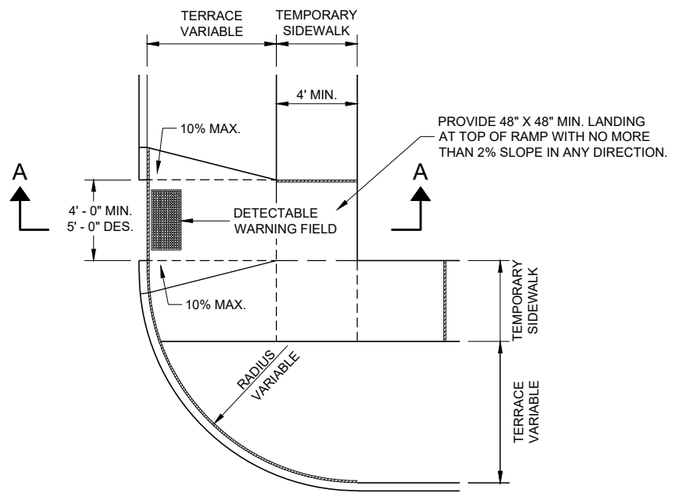
(2) SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.

(3) PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.



SECTION A - A



PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)

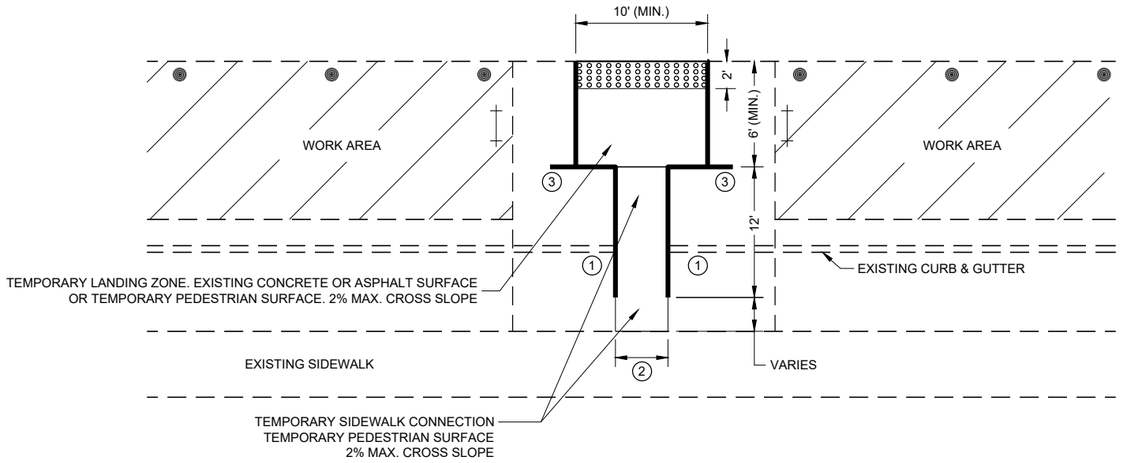
TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

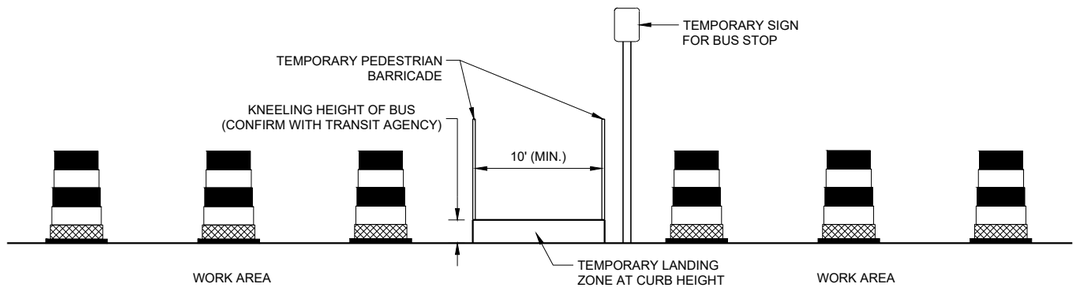
APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

SDD 15D30-09d



PLAN VIEW



PROFILE VIEW

TEMPORARY BUS STOP PAD

GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

(1) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(2) 5' WIDE MIN. WITH TEMPORARY PEDESTRIAN BARRICADE, 10' WIDE MIN. WITHOUT TEMPORARY PEDESTRIAN BARRICADE.

(3) PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE INTO THIS SPACE.

LEGEND

- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- TEMPORARY PEDESTRIAN BARRICADE
- TEMPORARY DETECTABLE WARNING FIELD
- WORK AREA

6

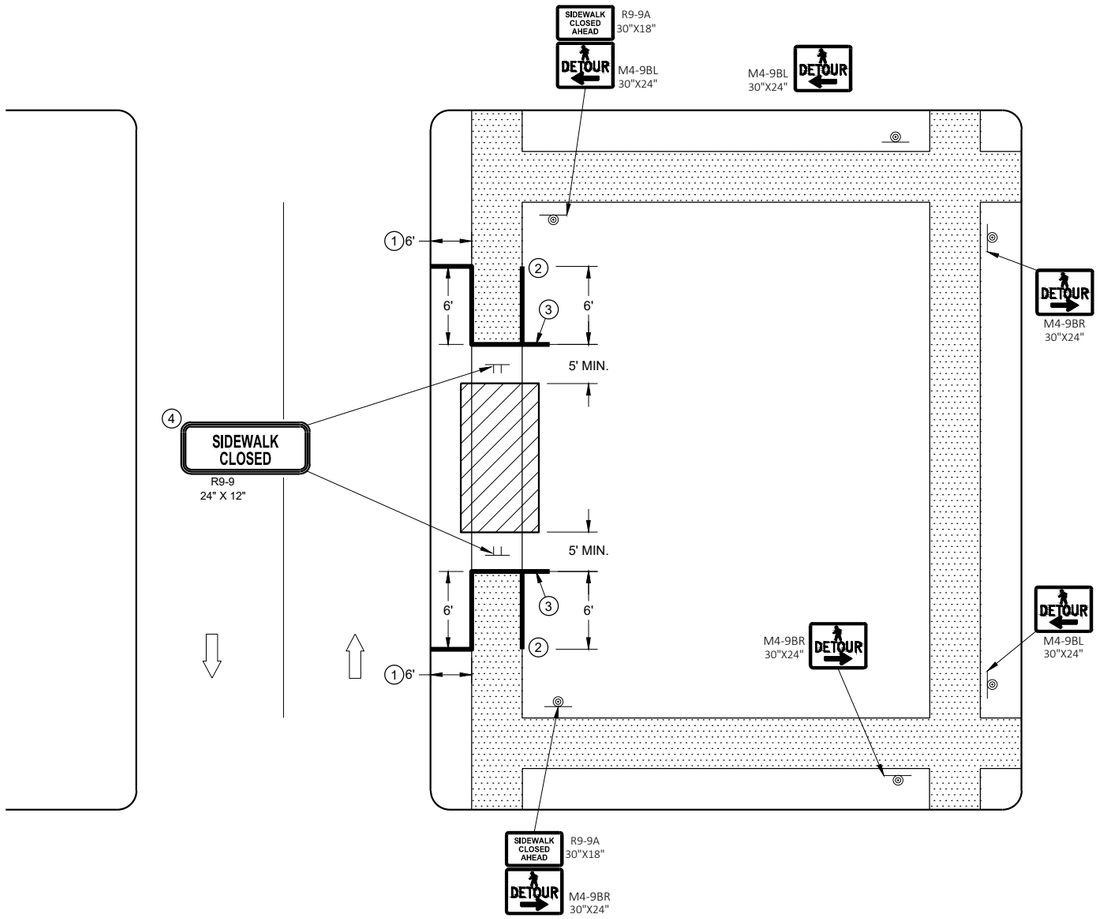
SDD 15D30 - 09e

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC



GENERAL NOTES

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

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

PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICTS WITH DRIVEWAYS AND OTHER EXISTING FEATURES.

1. IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
2. PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
3. IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
4. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.

SIDEWALK DETOUR, SIDEWALK ONLY ON ONE SIDE

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6

SDD 15D30 - 09f

LEGEND

- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- UNDER PEDESTRIAN TRAFFIC
- TEMPORARY PEDESTRIAN SURFACE
- TEMPORARY PEDESTRIAN BARRICADE
- OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

GENERAL NOTES

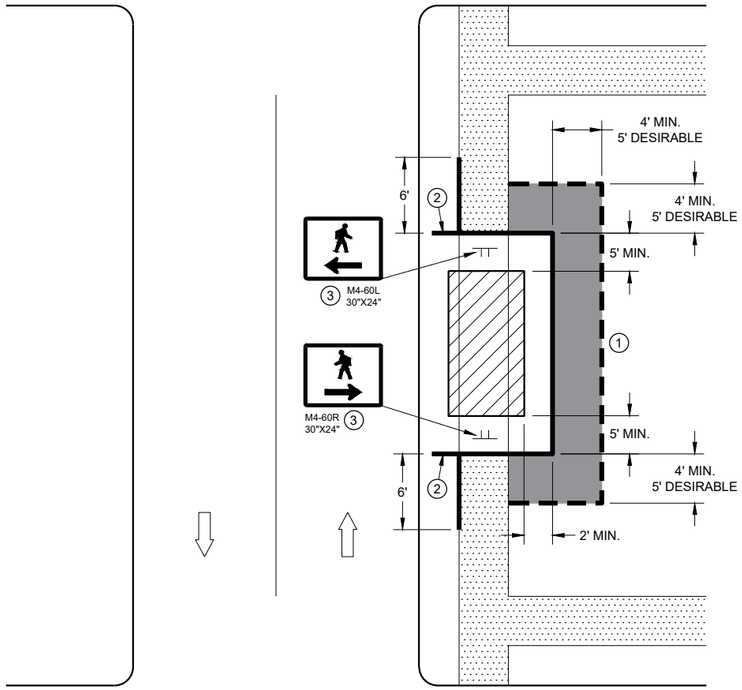
TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

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

1. USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
2. IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
3. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



SIDEWALK DIVERSION
SINGLE SIDE

6

SDD 15D30 - 09g

TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD15D30 - 09g

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- WORK AREA
- UNDER PEDESTRIAN TRAFFIC
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

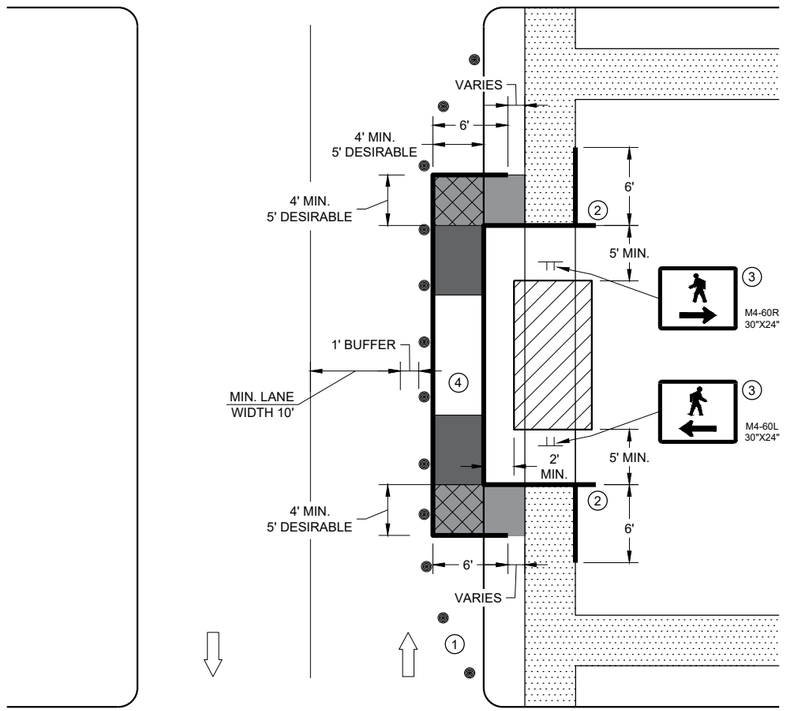
GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

1. SHOULDER OR LANE CLOSURE ADVANCE WARNING AND BUFFER SPACE REQUIRED.
2. PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL PAST THE SIDEWALK ON THE SIDE AWAY FROM THE ROAD.
3. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.
4. USE EXISTING PAVEMENT SURFACE. IF EXISTING PAVEMENT SURACE HAS BEEN REMOVED, USE A TEMPORARY PEDESTRIAN SURFACE.



SIDEWALK DIVERSION, SINGLE SIDE

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

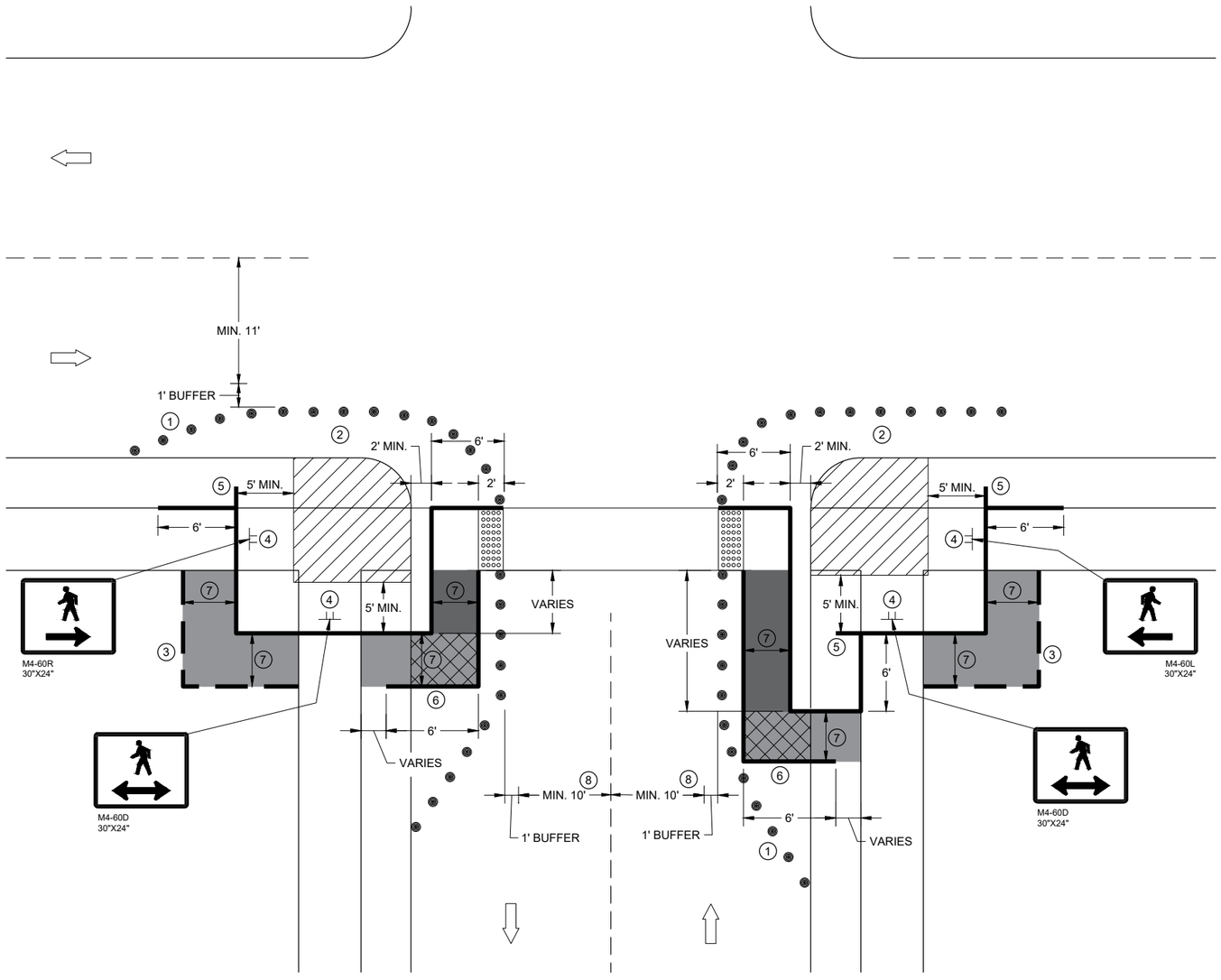
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 15D30 - 09h

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CURB RAMP PEDESTRIAN TRAFFIC CONTROL
SIDEWALK ON SINGLE SIDE

GENERAL NOTES

IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE TEMPORARY PEDESTRIAN ACCOMMODATIONS.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

WHEN TEMPORARY PEDESTRIAN BARRICADE RUNS PARALLEL ALONG THE SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

(1) SHOULDER OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE REQUIRED.

(2) PROVIDE ADEQUATE SPACE FOR CONTRACTOR OPERATIONS

(3) USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.

(4) MOUNTING HEIGHT OF 5 FEET FROM SIDEWALK SURFACE TO BOTTOM OF SIGN.

(5) PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL IN THE SIDEWALK TERRACE.

(6) IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.

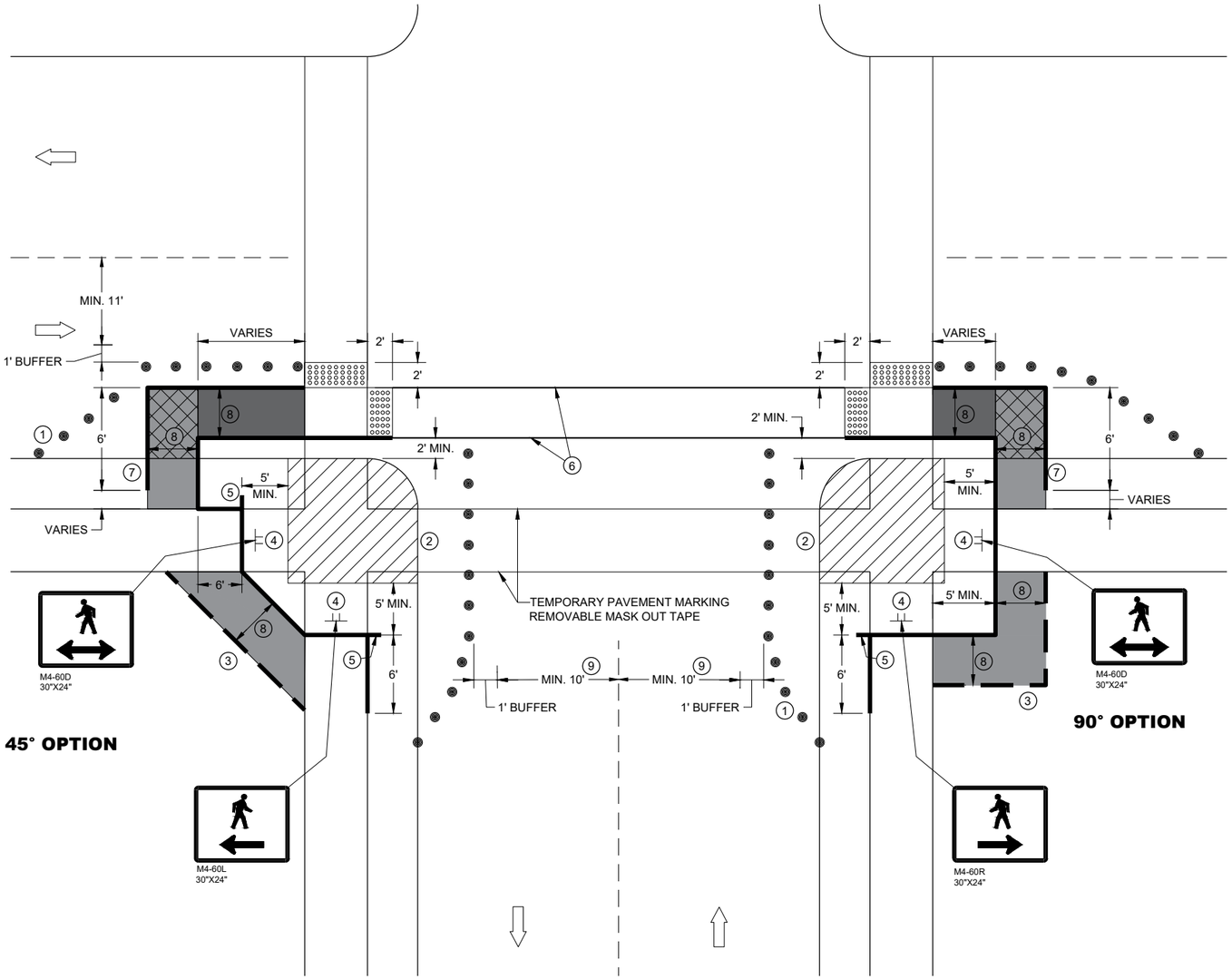
(7) 4 FEET MINIMUM, 5 FEET DESIRABLE

(8) IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, CURB RAMPS MAY NEED TO BE CONSTRUCTED AT SEPARATE TIMES.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- WORK AREA
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN BARRICADE
- OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION



CURB RAMP PEDESTRIAN TRAFFIC CONTROL

GENERAL NOTES

IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE TEMPORARY PEDESTRIAN ACCOMMODATIONS.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

WHEN TEMPORARY PEDESTRIAN BARRICADE RUNS PARALLEL ALONG THE SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

1. SHOULDER OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE REQUIRED.
2. PROVIDE ADEQUATE SPACE FOR CONTRACTOR OPERATIONS
3. USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
4. MOUNTING HEIGHT OF 5 FEET FROM SIDEWALK SURFACE TO BOTTOM OF SIGN.
5. PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL IN THE SIDEWALK TERRACE.
6. WHITE 6" TEMPORARY PAVEMENT MARKING
7. IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.
8. 4 FEET MINIMUM, 5 FEET DESIRABLE
9. IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, CURB RAMPS MAY NEED TO BE CONSTRUCTED AT SEPARATE TIMES.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- WORK AREA
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN BARRICADE
- OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

LEGEND

SIGN ON PERMANENT SUPPORT

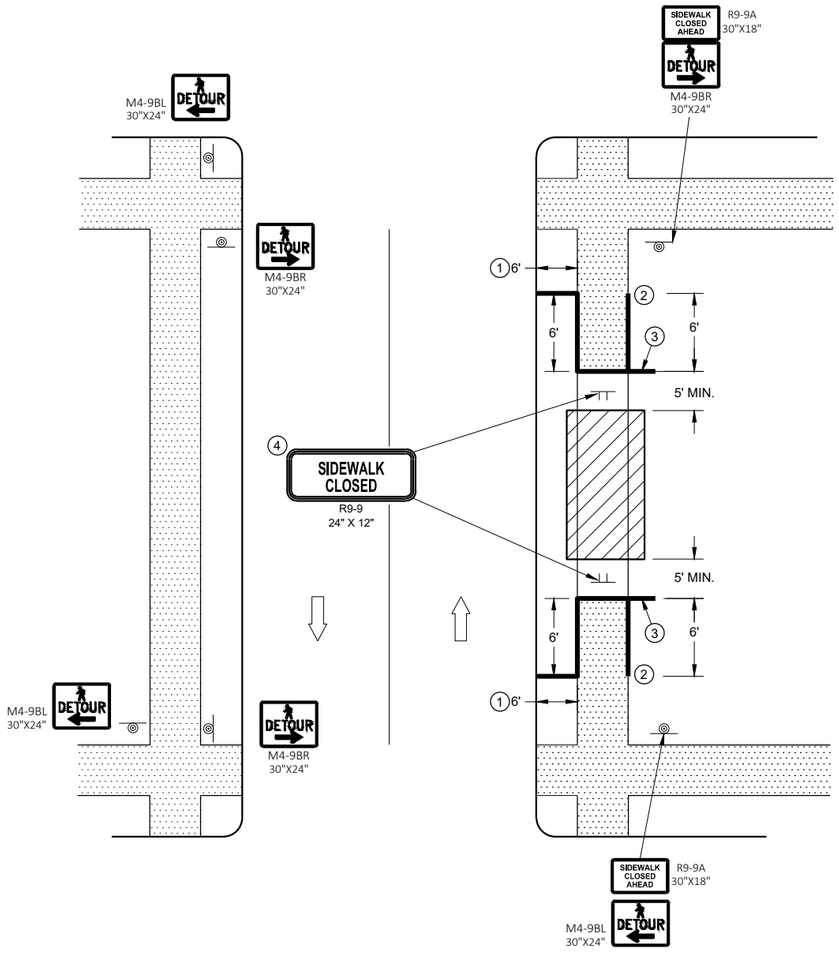
SIGN ON TEMPORARY SUPPORT

UNDER PEDESTRIAN TRAFFIC

WORK AREA

TEMPORARY PEDESTRIAN BARRICADE

DIRECTION OF TRAFFIC



GENERAL NOTES

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

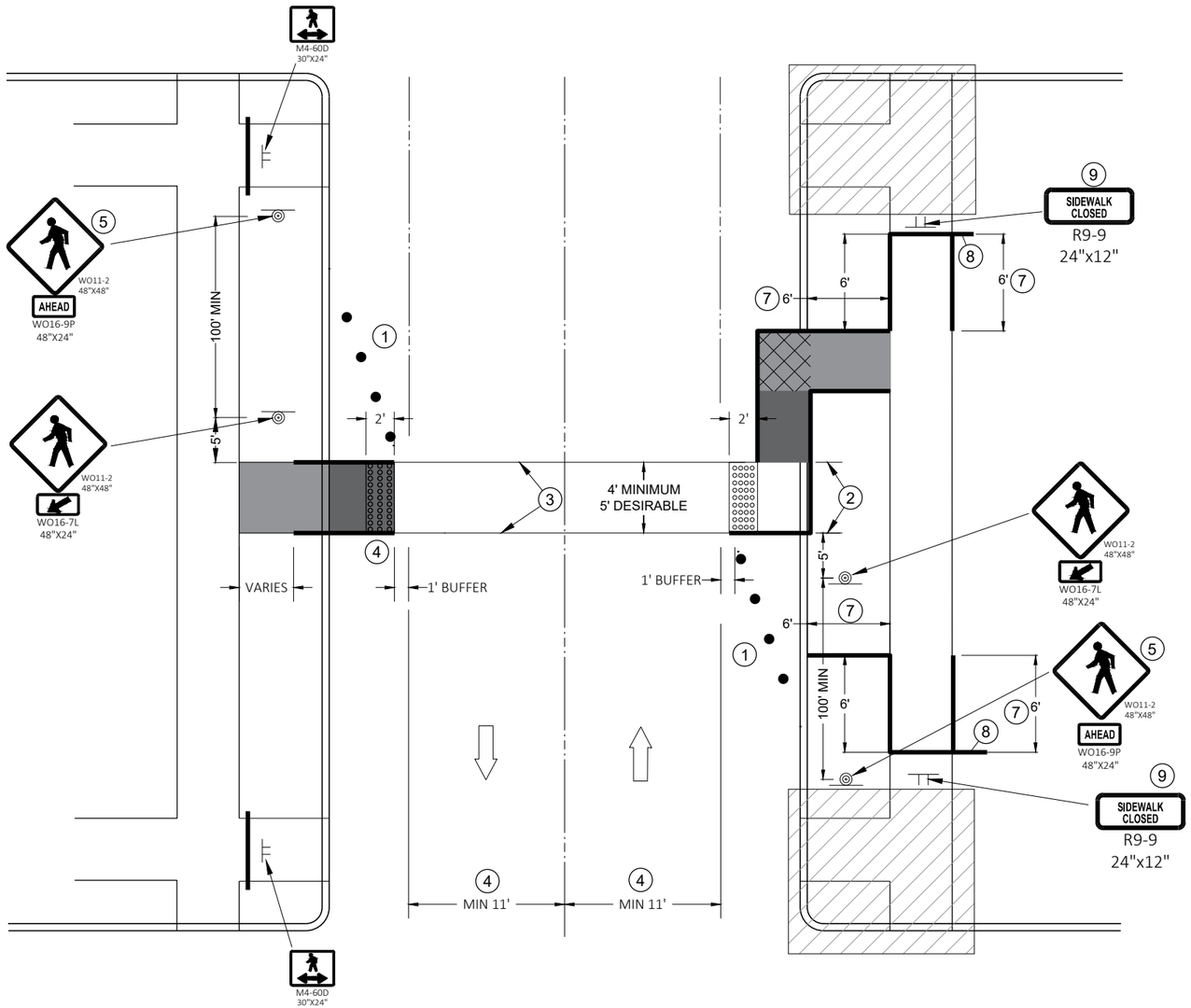
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SIGNS THAT REMAIN IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICT WITH DRIVEWAYS AND OTHER EXISTING FEATURES.

1. IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
2. PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
3. IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
4. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.

SIDEWALK DETOUR, SIDEWALK ON BOTH SIDES



TEMPORARY PEDESTRIAN CROSSING

GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

SEE OTHER PEDESTRIAN ACCOMMODATION DETAILS FOR SIGNING AND DEVICES FOR DIFFERENT PEDESTRIAN FACILITIES CLOSURES.

(1) SHOULDER OR LANE CLOSURE ADVANCED WARNING AND PROPER BUFFER SPACE REQUIRED.

(2) 4 FEET MINIMUM, 5 FEET DESIRABLE.

(3) WHITE 6" TEMPORARY PAVEMENT MARKING.

(4) IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, PERPENDICULAR CURB RAMPS MAY NEED TO BE UTILIZED.

(5) IF MINIMUM 100' SPACING FROM THE MID-BLOCK CROSSING CANNOT BE ATTAINED BEFORE THE INTERSECTION, REMOVE THIS SIGN ASSEMBLY.

(6) IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.

(7) PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.

(8) IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF THE EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.

(9) MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF THE SIGN.

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON TEMPORARY SUPPORT
- TEMPORARY CURB RAMP
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

6

SDD 15D30 - 09L

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- CONCRETE BARRIER TEMPORARY PRECAST

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)					BUFFER SPACE (B) FEET
		10	11	12	13	14	
25	200	52	57	63	68	73	55
30	200	75	83	90	98	105	85
35	350	102	112	123	133	143	120
40	350	133	147	160	173	187	170
45	500	225	248	270	293	315	220

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT 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. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

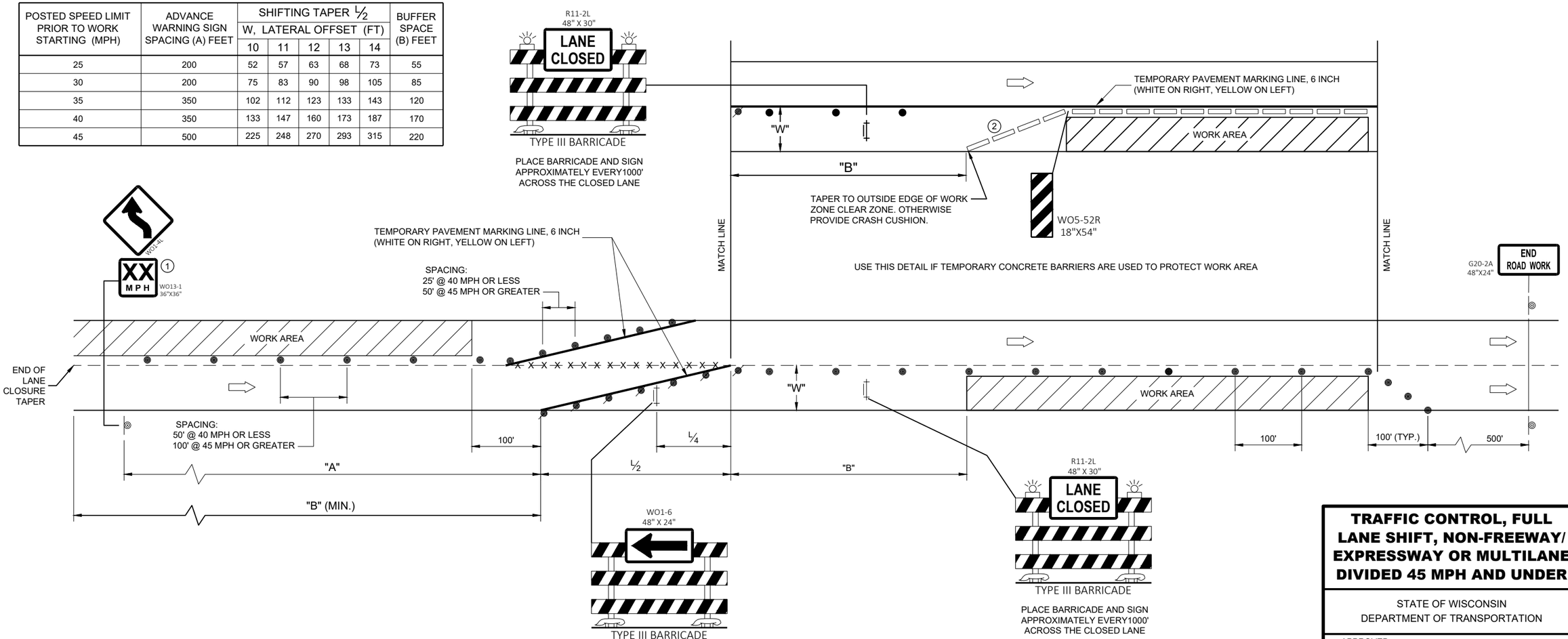
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER
SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL
CHANGE SUCH AS A CROSSOVER MANEUVER.

(1) USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.

(2) BARRIER FLARE RATE: 6:1 @ 40 MPH OR LESS
8:1 @ 45 MPH OR GREATER



TRAFFIC CONTROL, FULL LANE SHIFT, NON-FREEWAY/ EXPRESSWAY OR MULTILANE DIVIDED 45 MPH AND UNDER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D40-05a

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SDD 15D40-05a

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- CONCRETE BARRIER TEMPORARY PRECAST

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

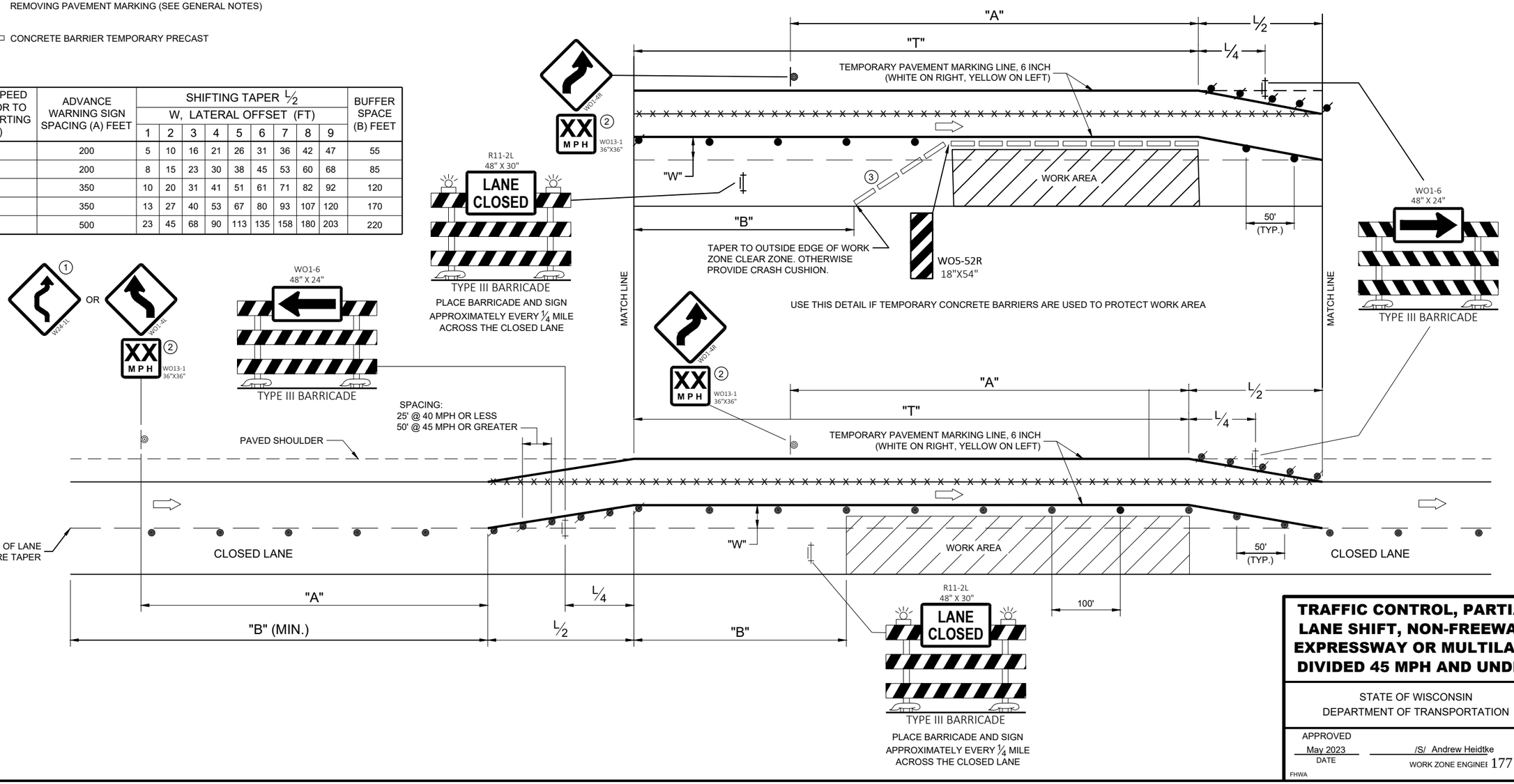
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(1) USE ONLY WHEN T<600', OMIT WO1-4R.

(2) IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.

(3) BARRIER FLARE RATE: 6:1 @ 40 MPH OR LESS
8:1 @ 45 MPH OR GREATER

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)									BUFFER SPACE (B) FEET
		1	2	3	4	5	6	7	8	9	
25	200	5	10	16	21	26	31	36	42	47	55
30	200	8	15	23	30	38	45	53	60	68	85
35	350	10	20	31	41	51	61	71	82	92	120
40	350	13	27	40	53	67	80	93	107	120	170
45	500	23	45	68	90	113	135	158	180	203	220



TRAFFIC CONTROL, PARTIAL LANE SHIFT, NON-FREEWAY/ EXPRESSWAY OR MULTILANE DIVIDED 45 MPH AND UNDER

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DEPARTMENT OF TRANSPORTATION

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WORK ZONE ENGINEER

FHWA

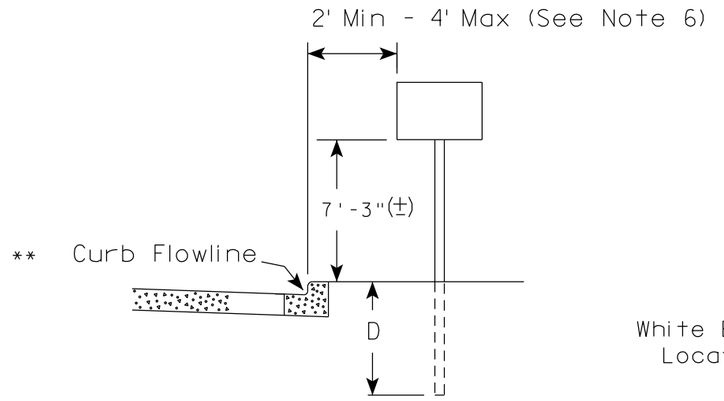
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SDD 15D40-05c

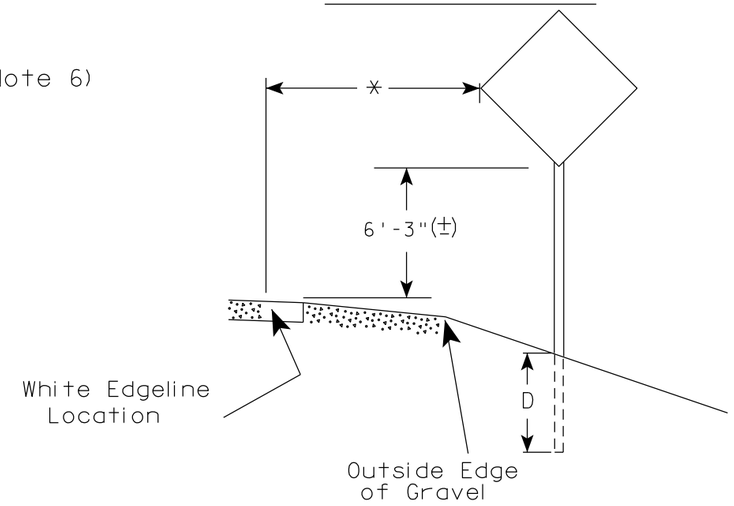
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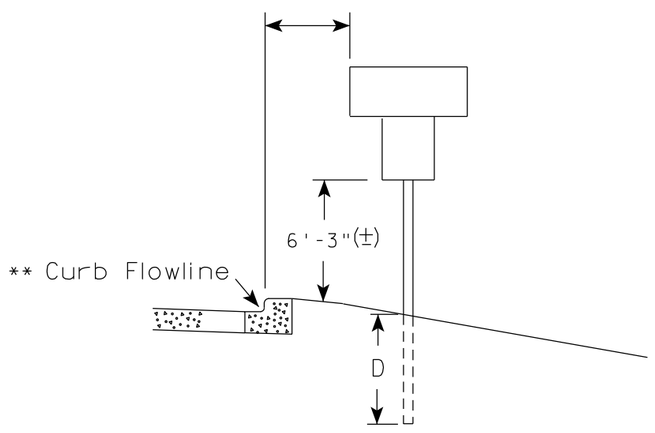
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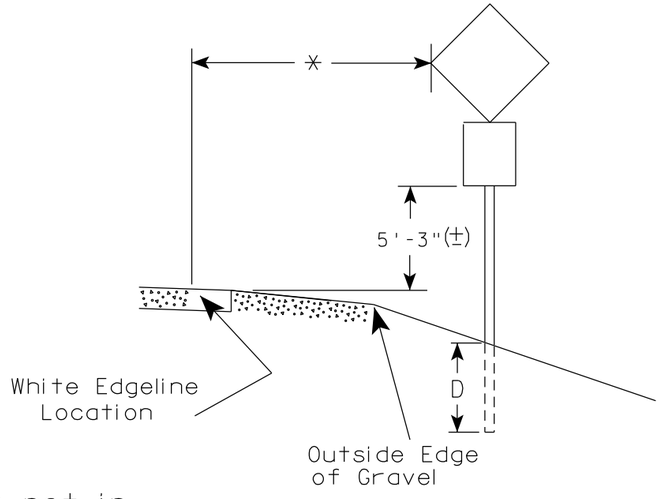
URBAN AREA



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.

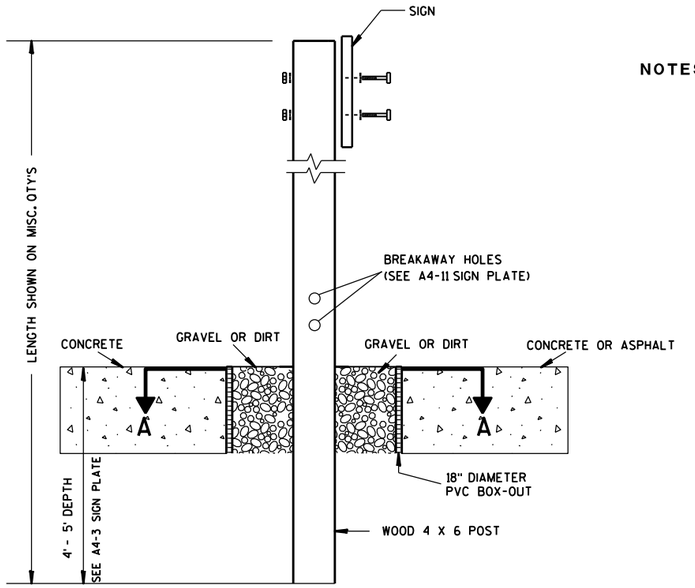
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

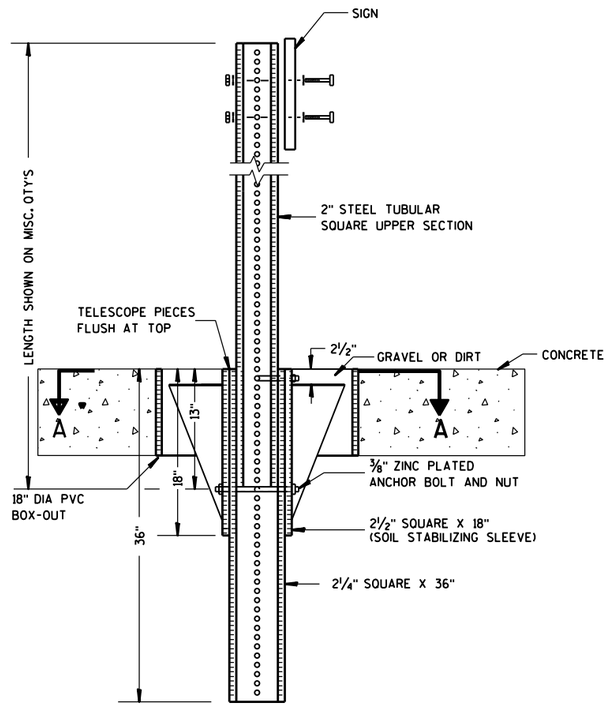
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 178	E



ELEVATION VIEW

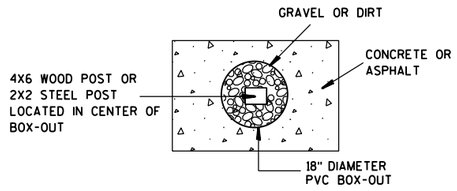
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

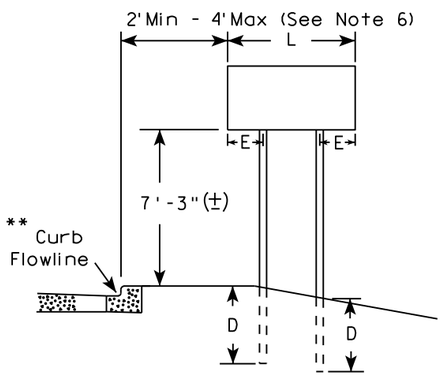
APPROVED Matthew R Rauch
for State Traffic Engineer

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

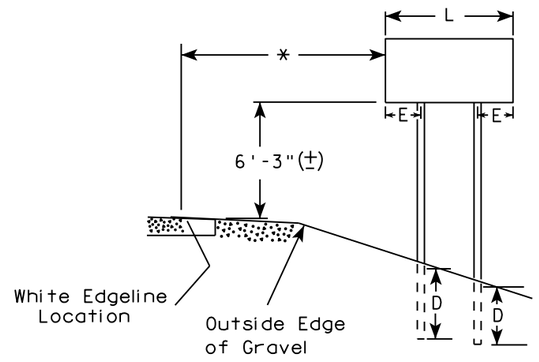
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

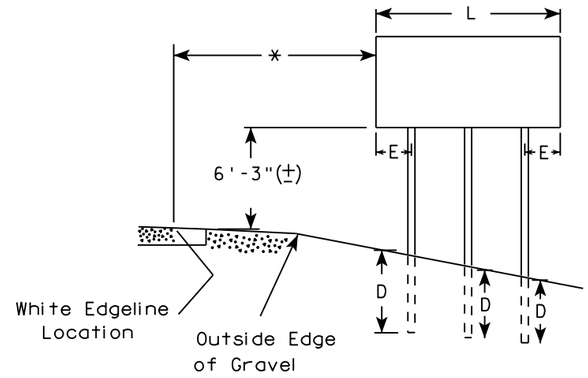
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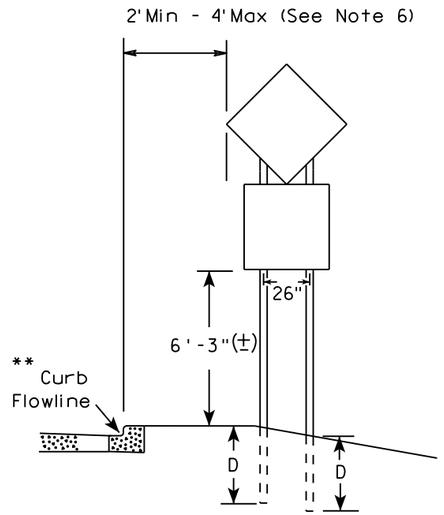
URBAN AREA



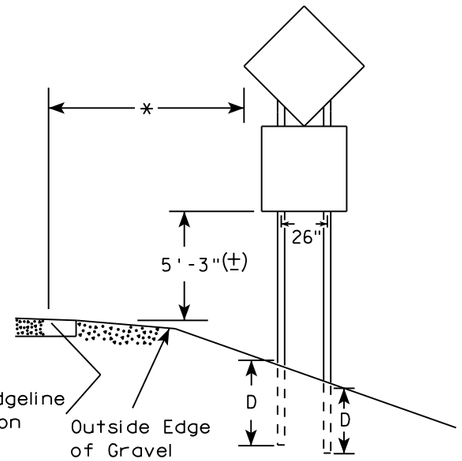
RURAL AREA (See Note 3)







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'

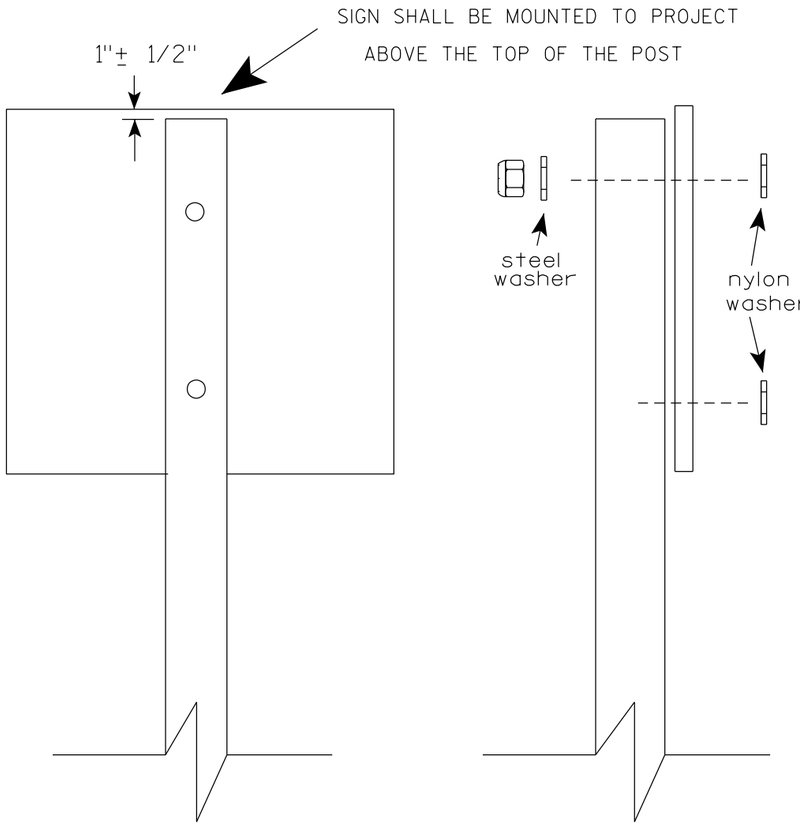
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

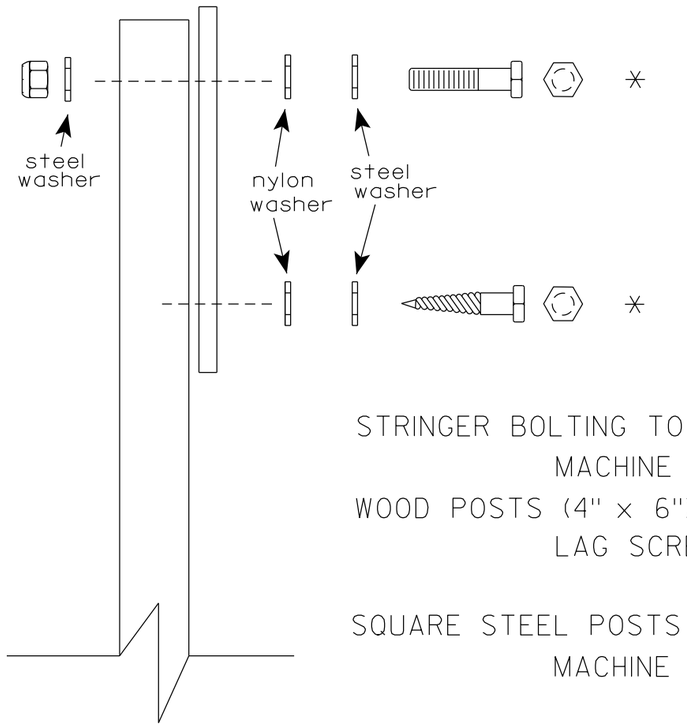
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 180	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

PROJECT NO:

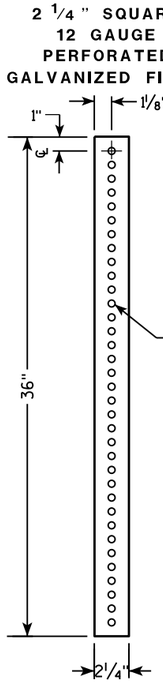
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FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 01-APRIL-2020 PLOT BY : dotc4c

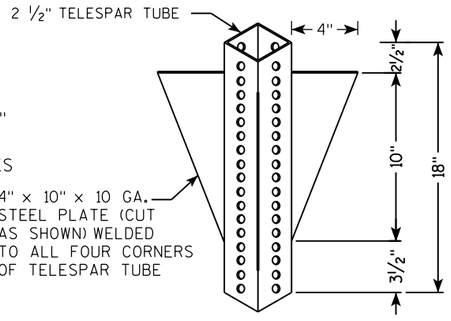
WISDOT/CADDS SHEET 42

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

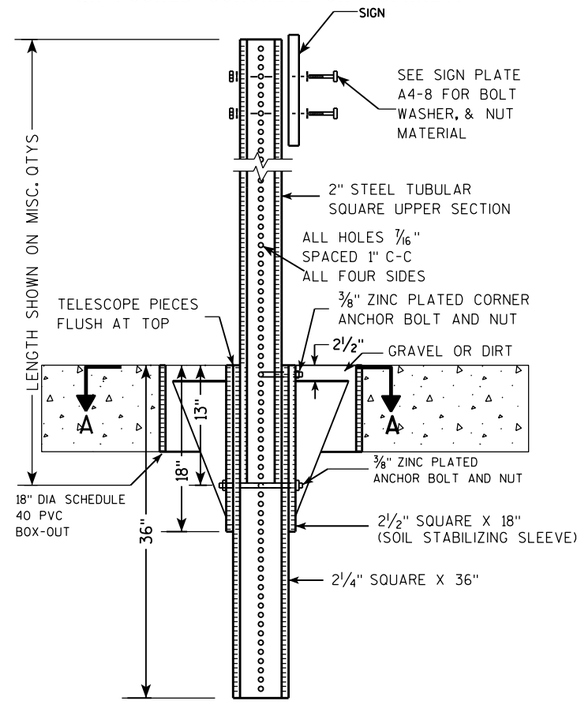
2 ¼ " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



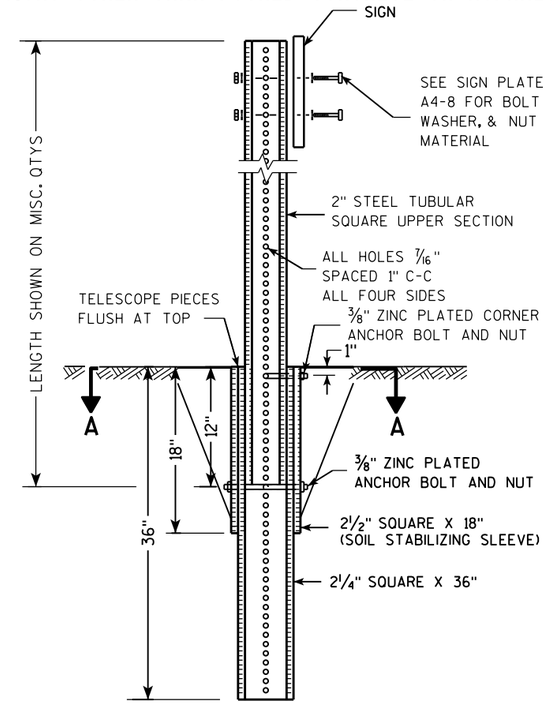
2 ½ " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

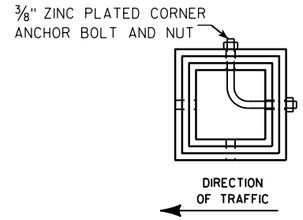


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

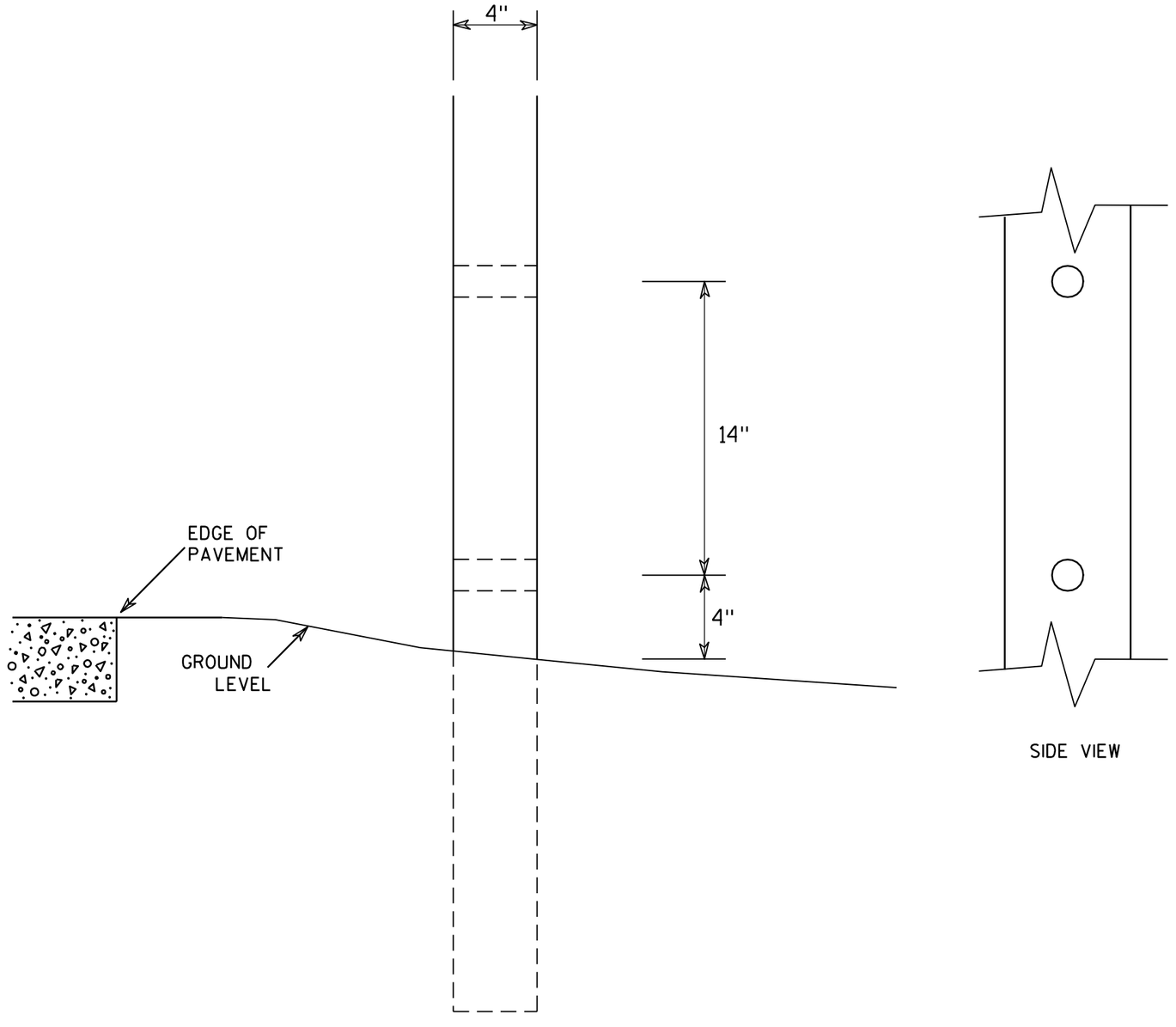
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

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4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

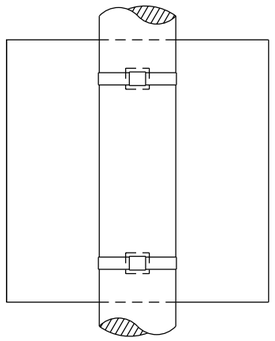
APPROVED Chester J Spang for State Traffic Engineer

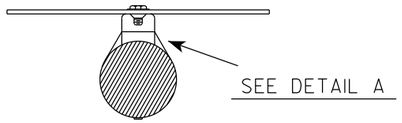
DATE 3/27/97 PLATE NO. A4-11.2

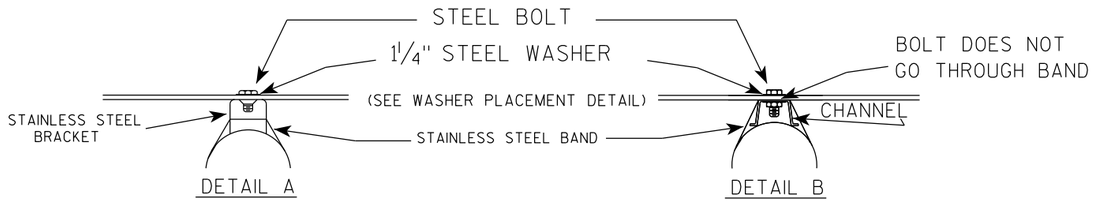
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 183	E

BANDING

SINGLE SIGN



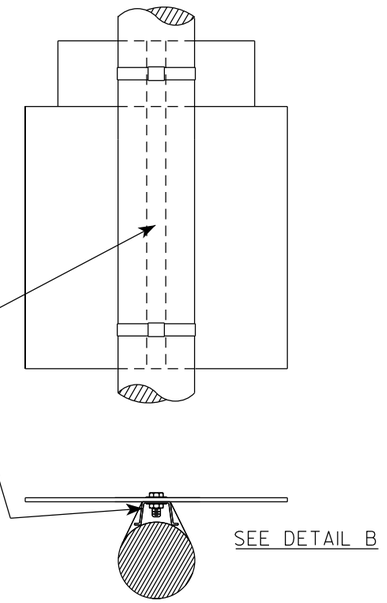




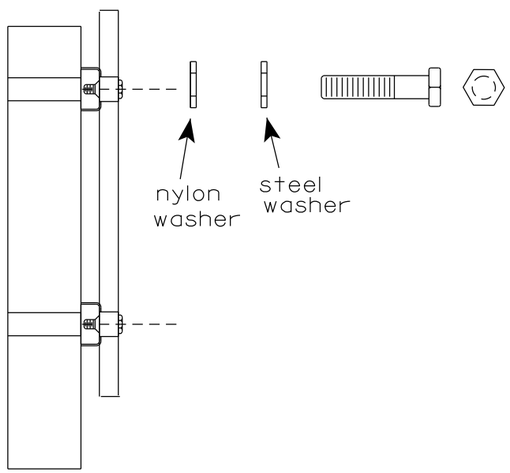
GENERAL NOTES

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

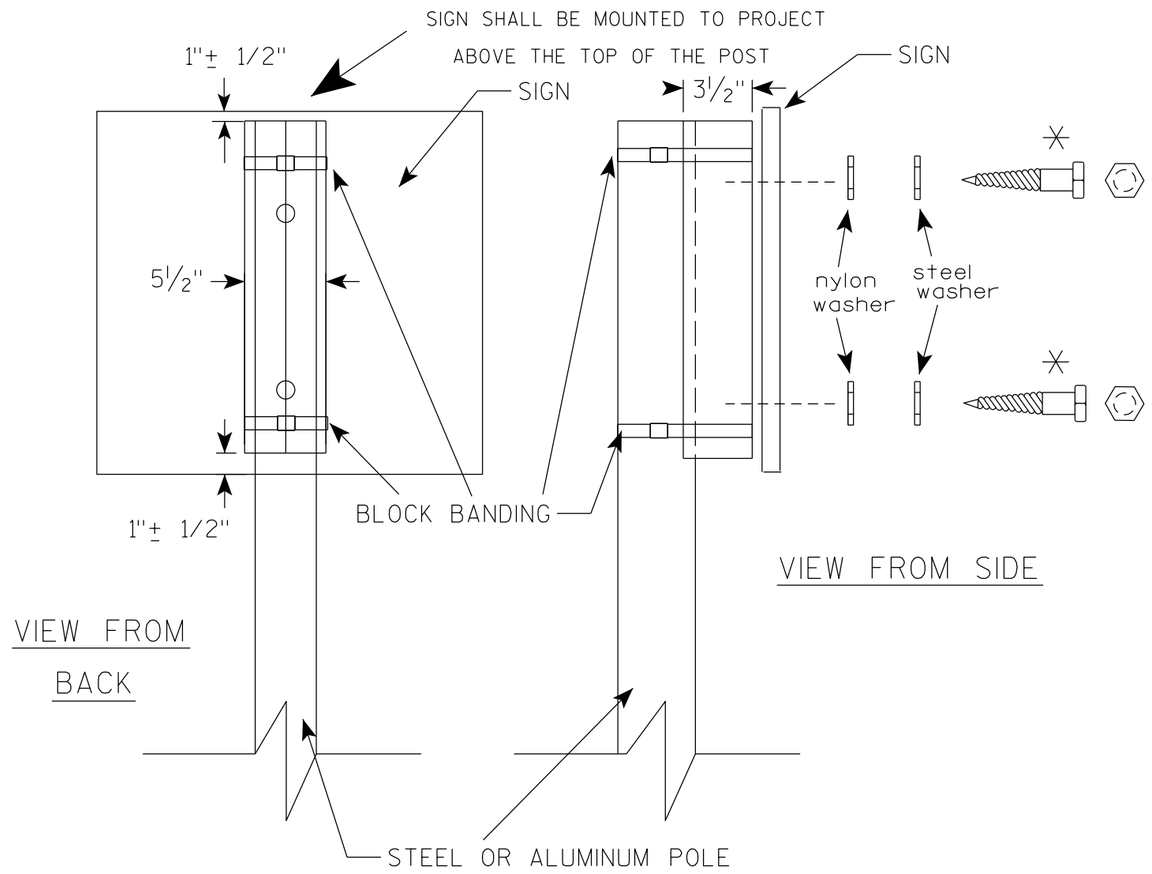
DATE 6/10/19 PLATE NO. A5-9.4

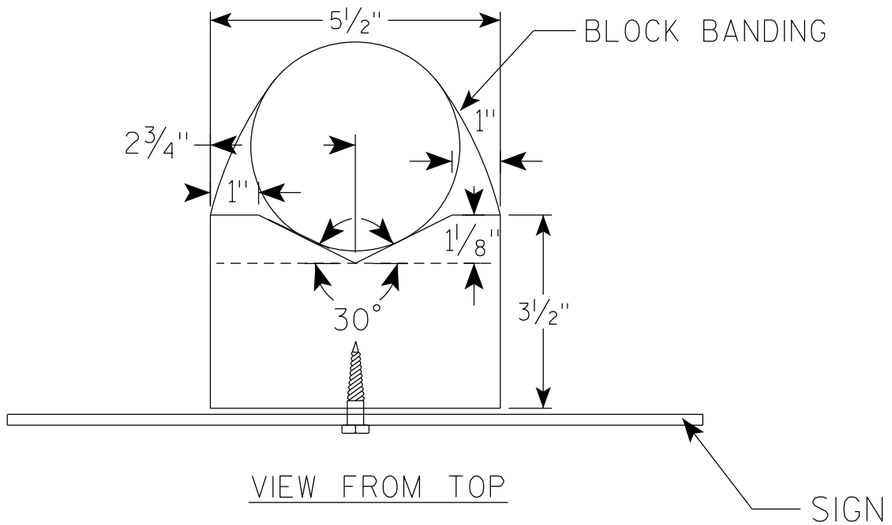
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 184	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

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GENERAL NOTES

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

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

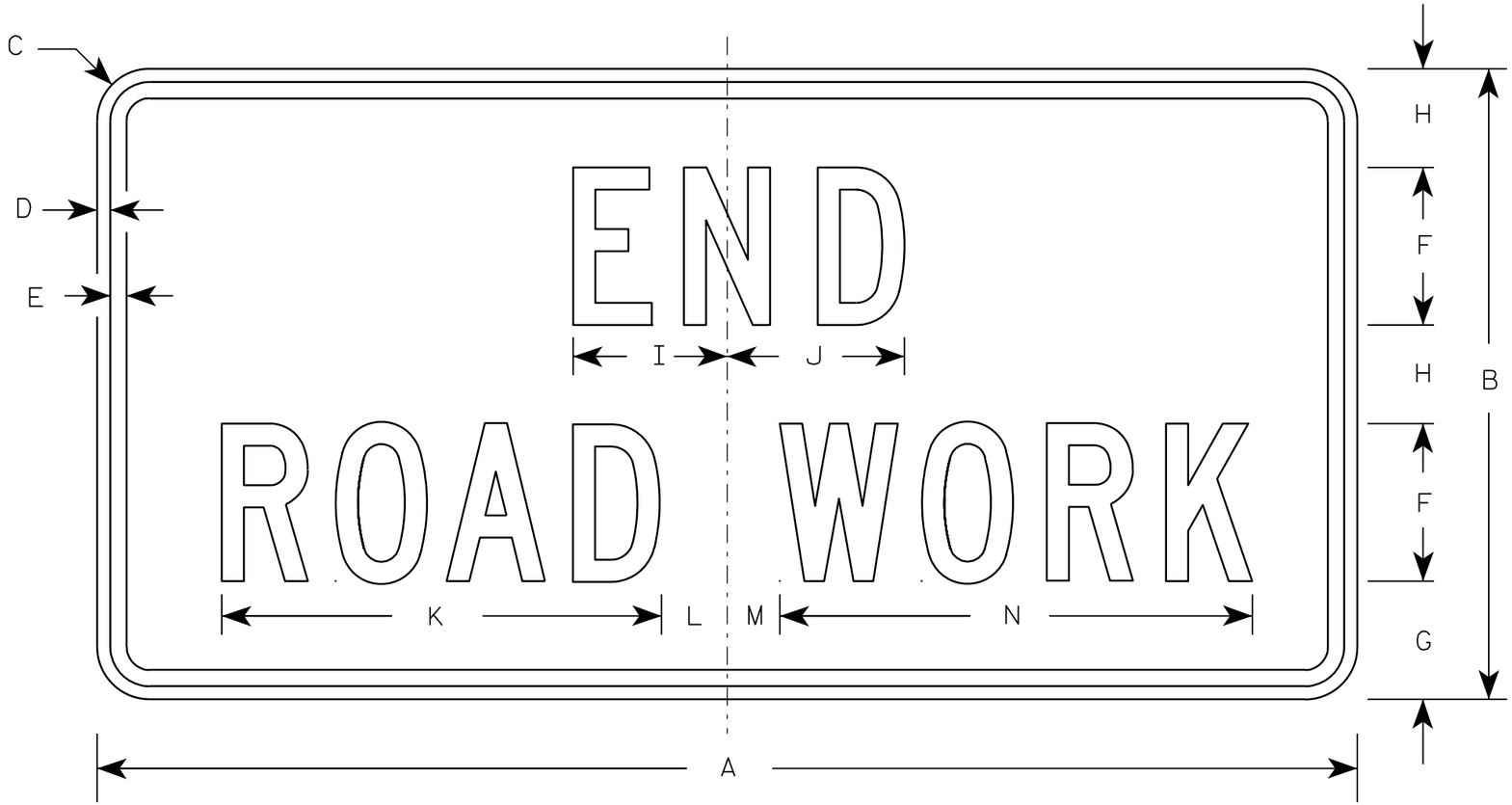
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 185 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

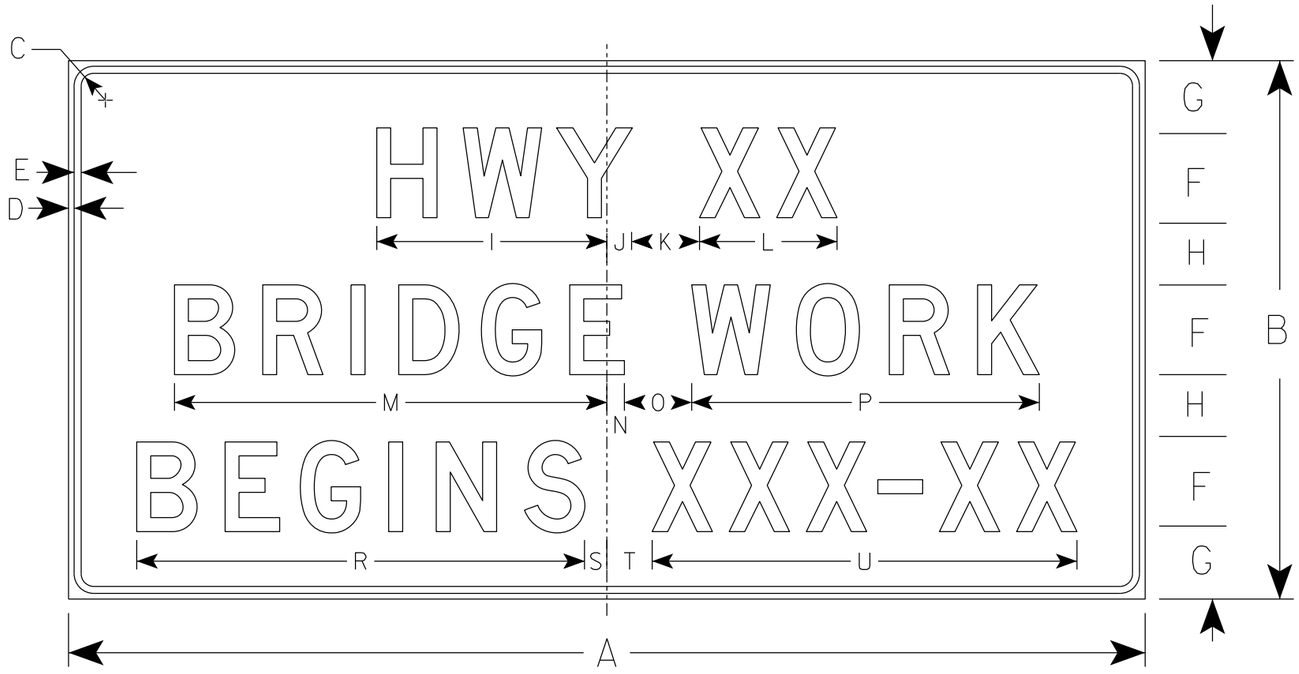
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 186	E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Substitute appropriate numeral and adjust spacing to achieve proper balance.



G20-57B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3	72	36	1 1/8	1/2	5/8	6	5	4	15 5/8	1 5/8	5	9 1/4	29 1/8	7/8	5	23 1/4		29 7/8	1 3/4	3 1/4	28 1/2						18.0
4	96	48	2 1/4	3/4	1	8	6 1/2	5 1/2	20 5/8	2 1/4	6	12 1/4	38 1/2	1 1/2	6	31		39 1/4	2	4	37 7/8						32.0
5																											

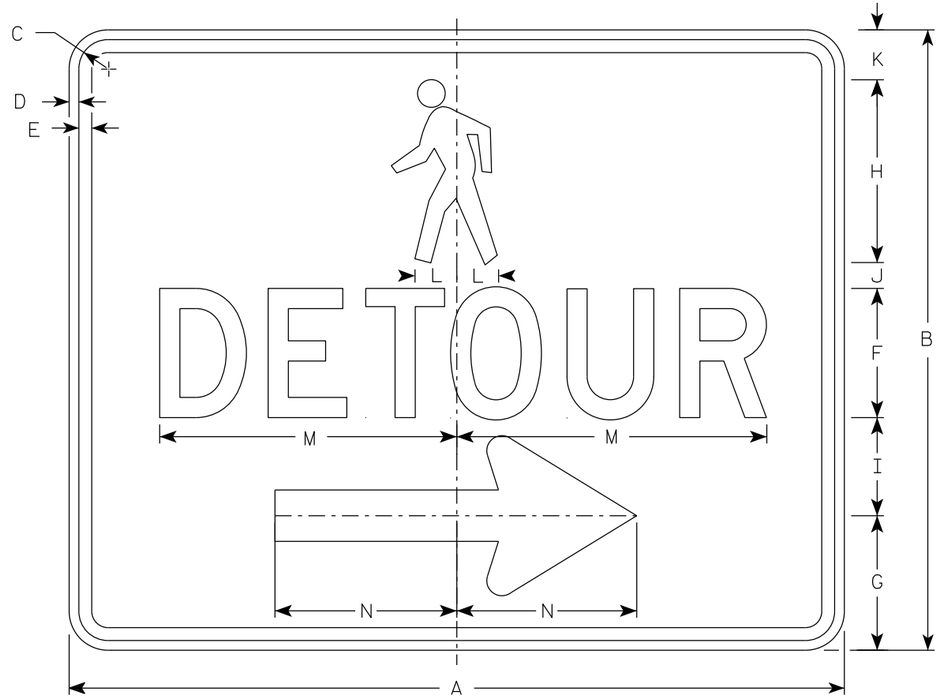
STANDARD SIGN
G20-57B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/22/19 PLATE NO. G20-57B.1

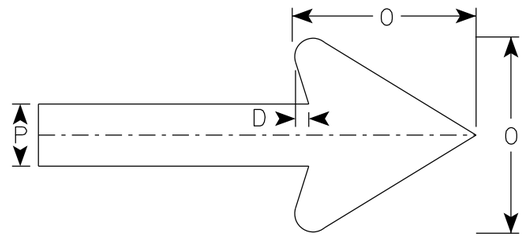
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 187	E



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																											

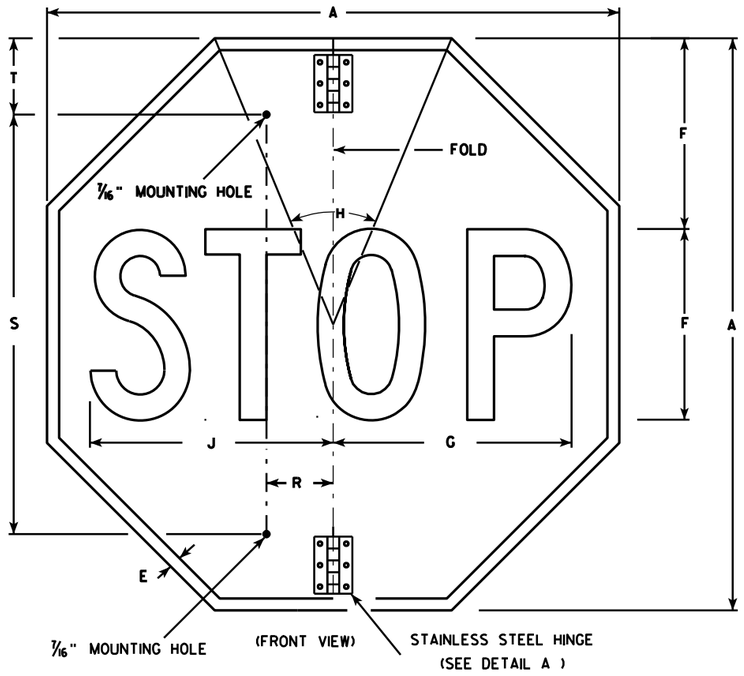
STANDARD SIGN
M4-9B L&R

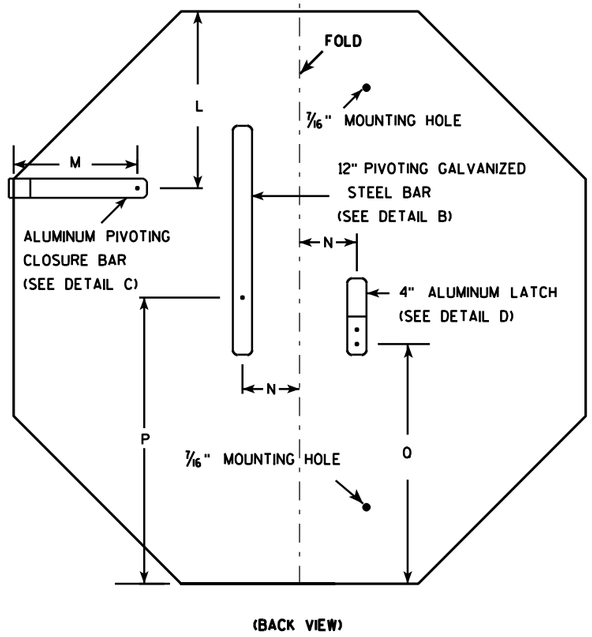
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 7/1/19 PLATE NO. M4-9B.2

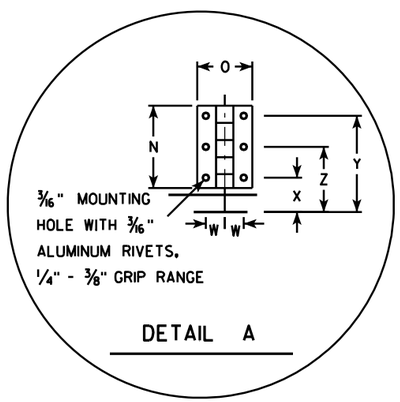
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 188 | E



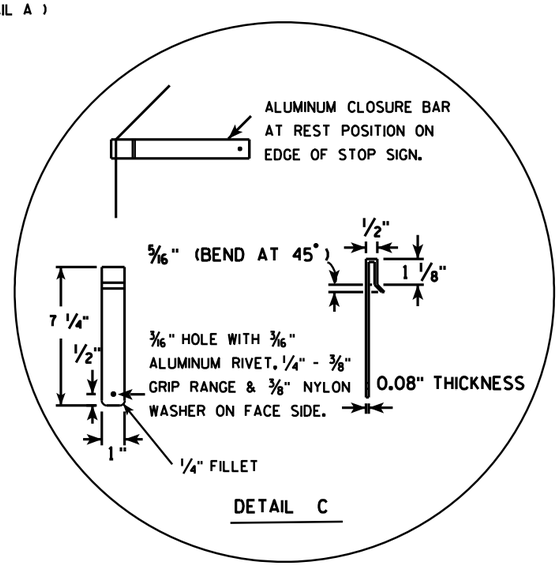


NOTES

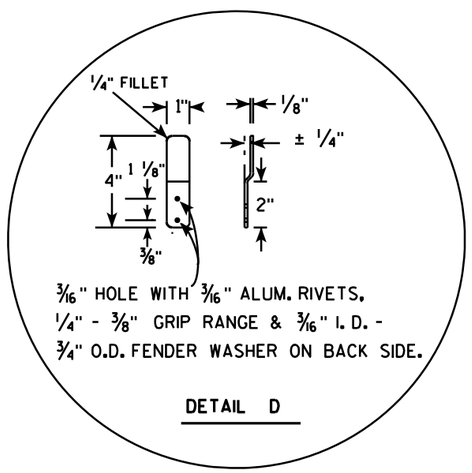
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



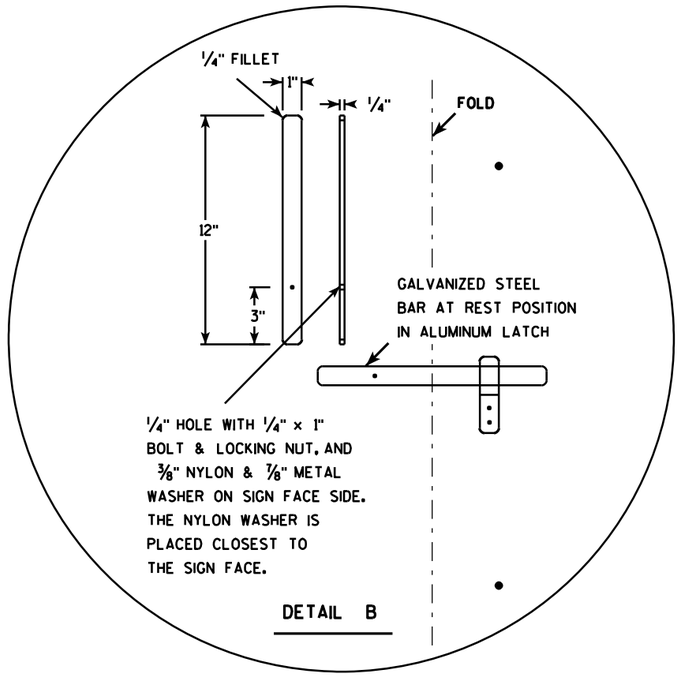
DETAIL A



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																											

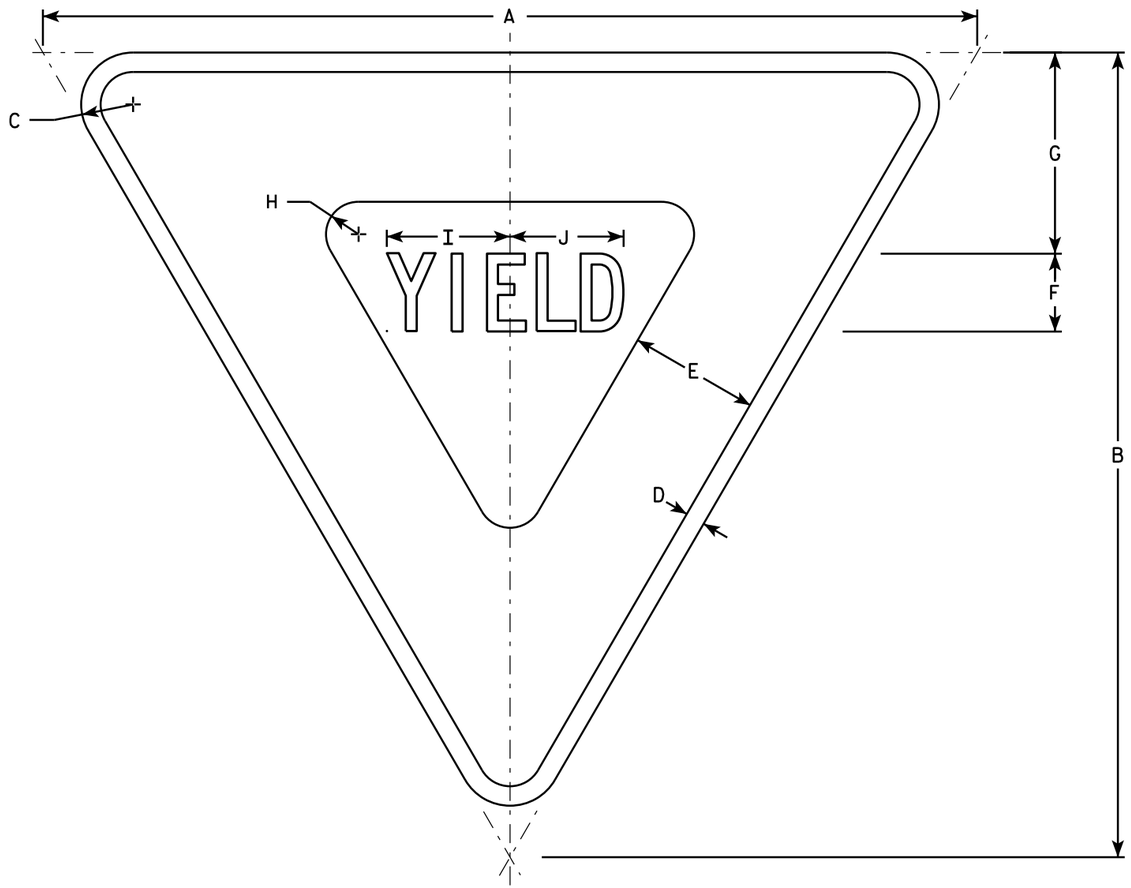
STANDARD SIGN
R1-1F

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: 189	E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

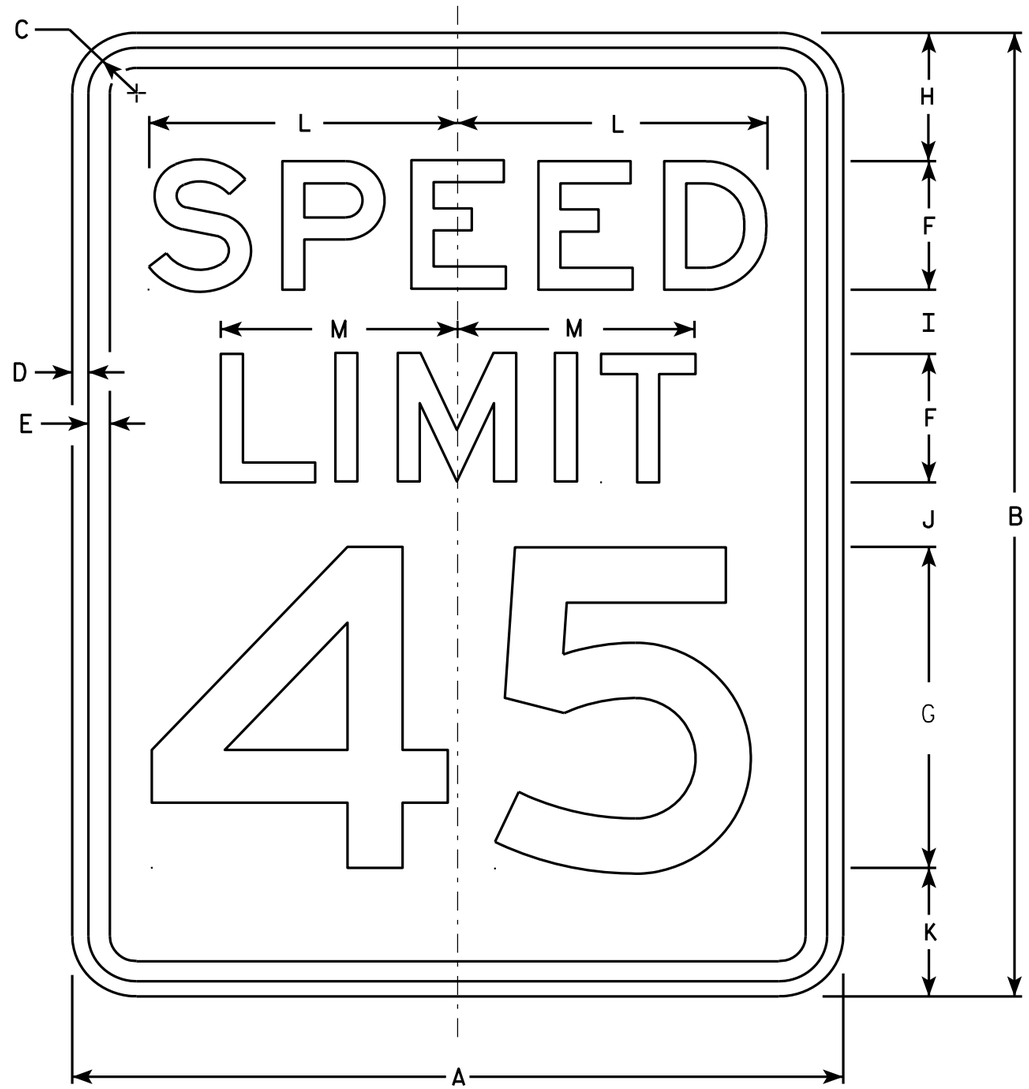
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000

WISDOT/CADDS SHEET 42



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

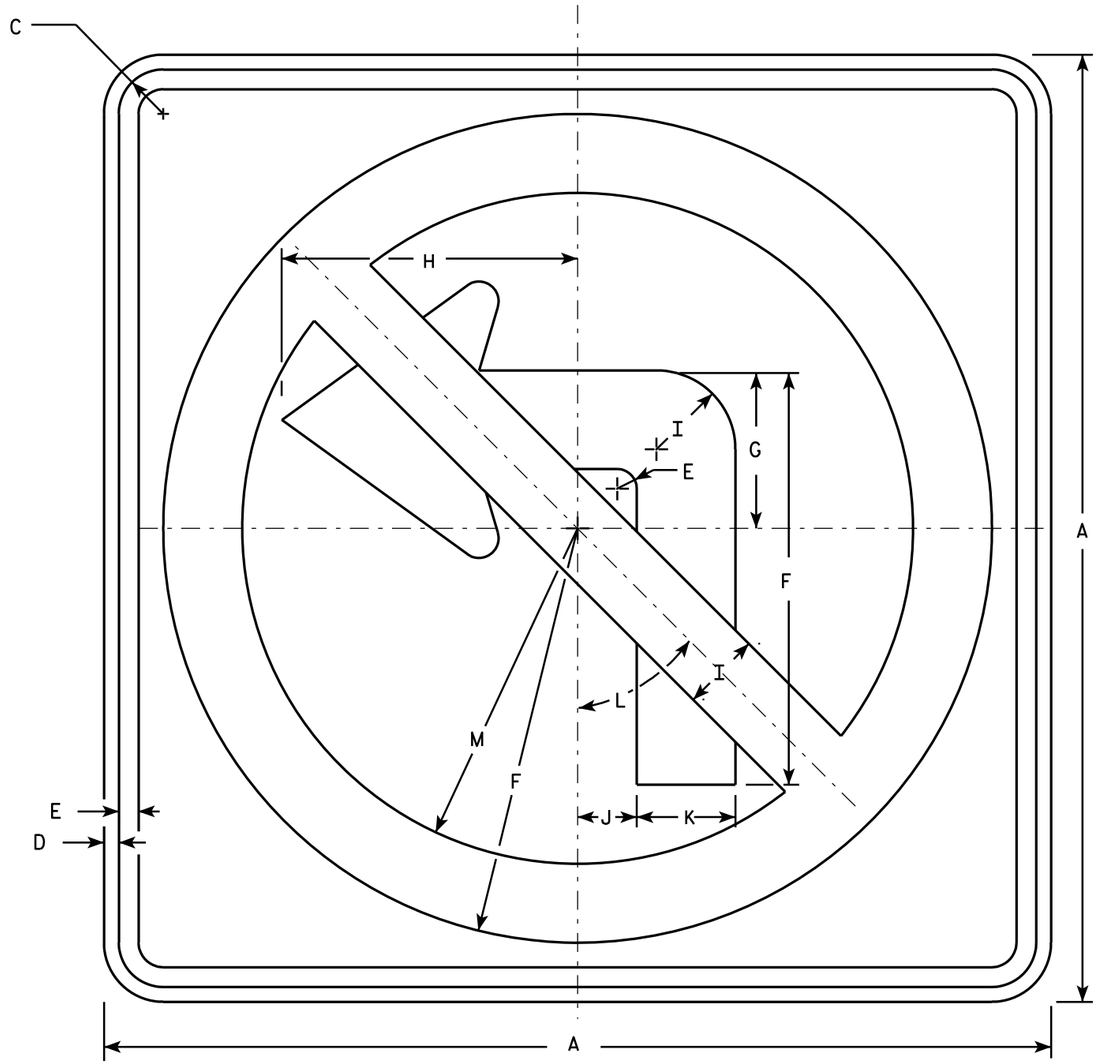
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

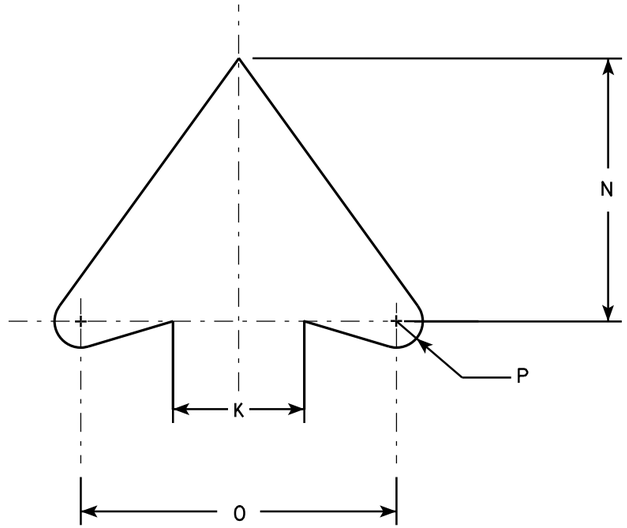
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 191 | E



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

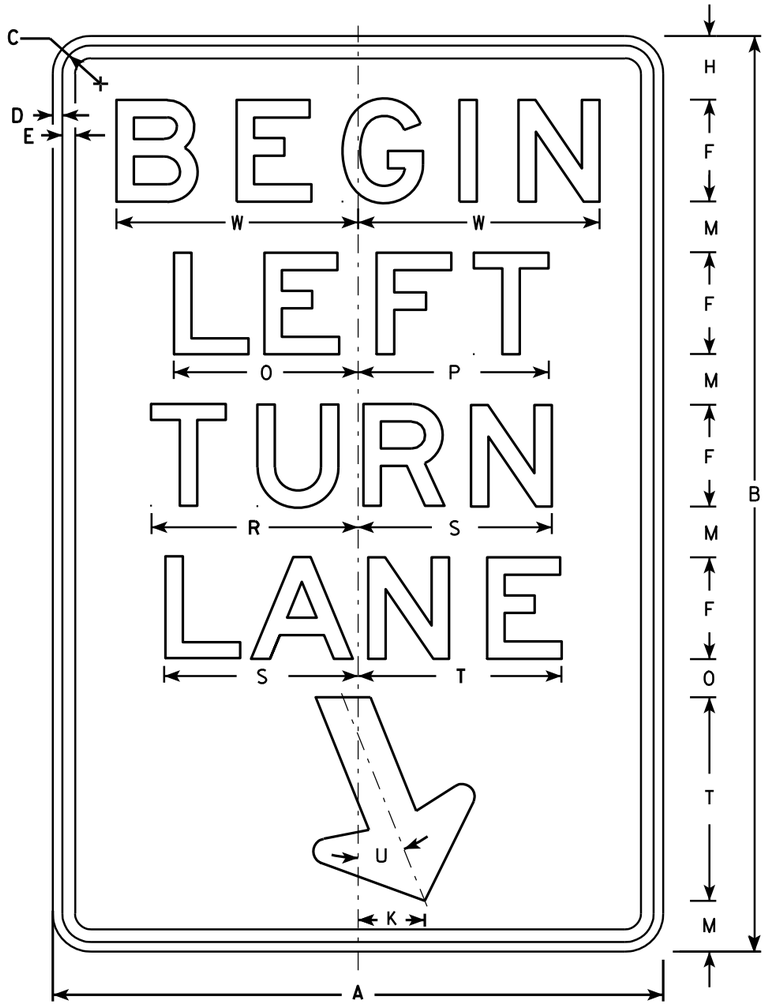
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

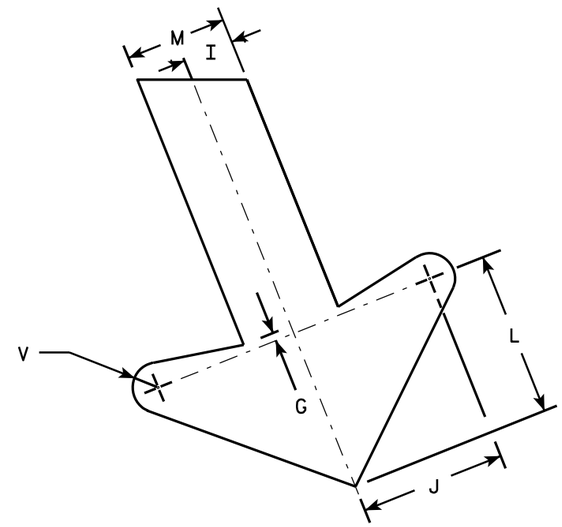
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 192 | E



R3-20L

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

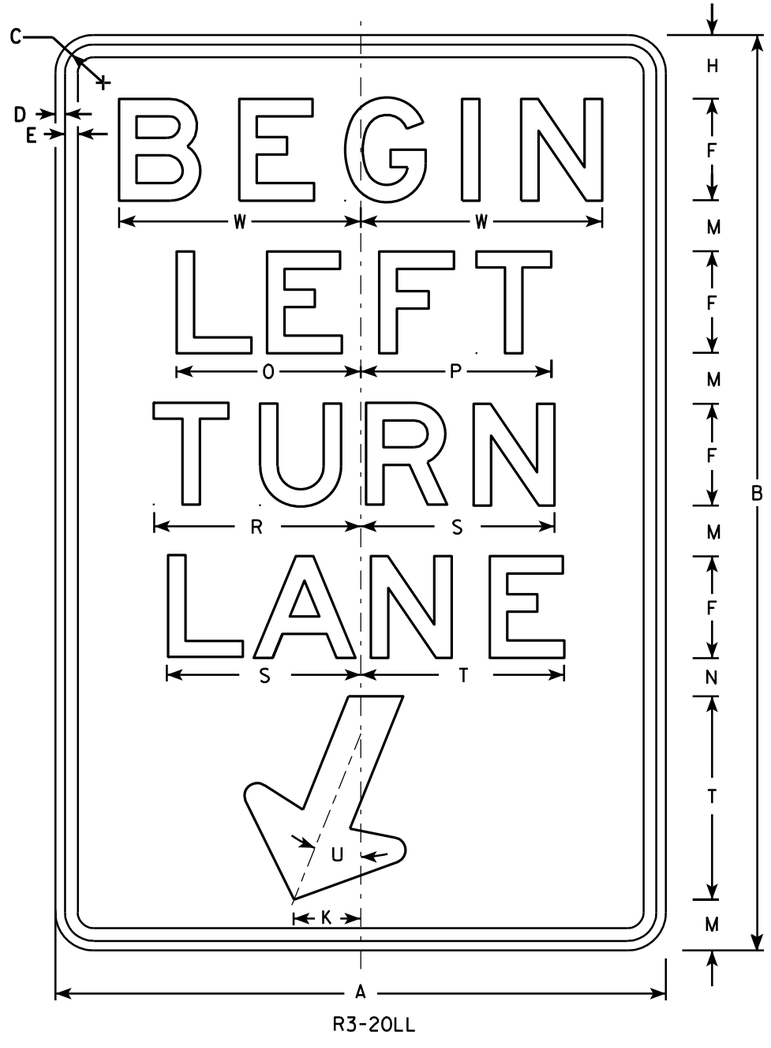
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

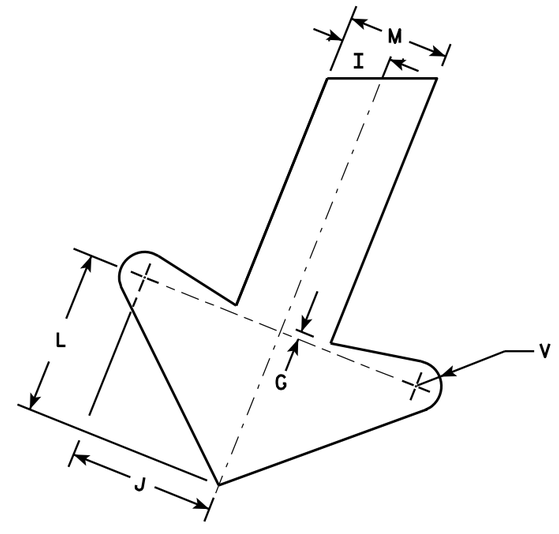
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 193 | E



R3-20LL

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN
R3-20LL

WISCONSIN DEPT OF TRANSPORTATION

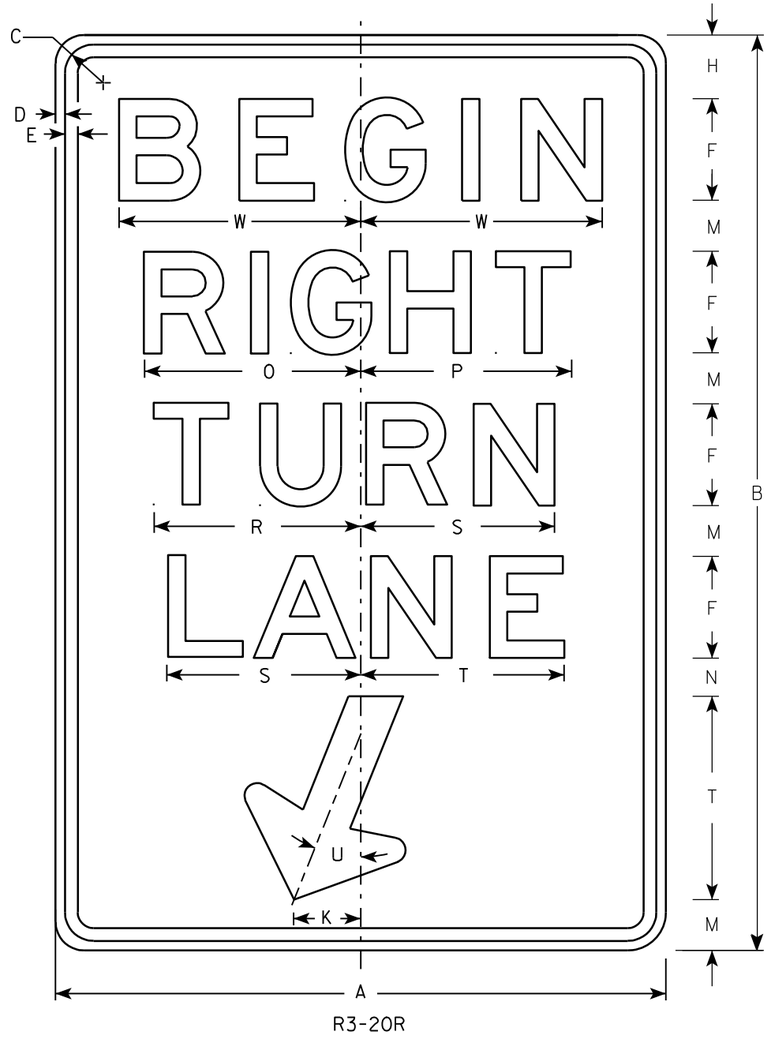
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20LL.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 194 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R320LL.DGN PLOT DATE : 15-OCT-2010 14:38 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 5.959043:1.000000

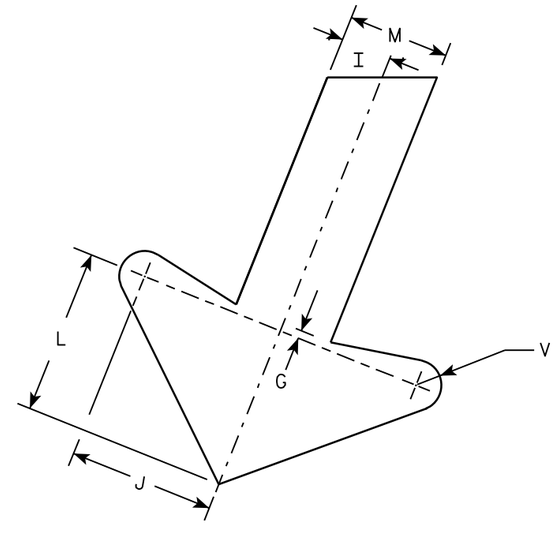
WISDOT/CADDS SHEET 42



R3-20R

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

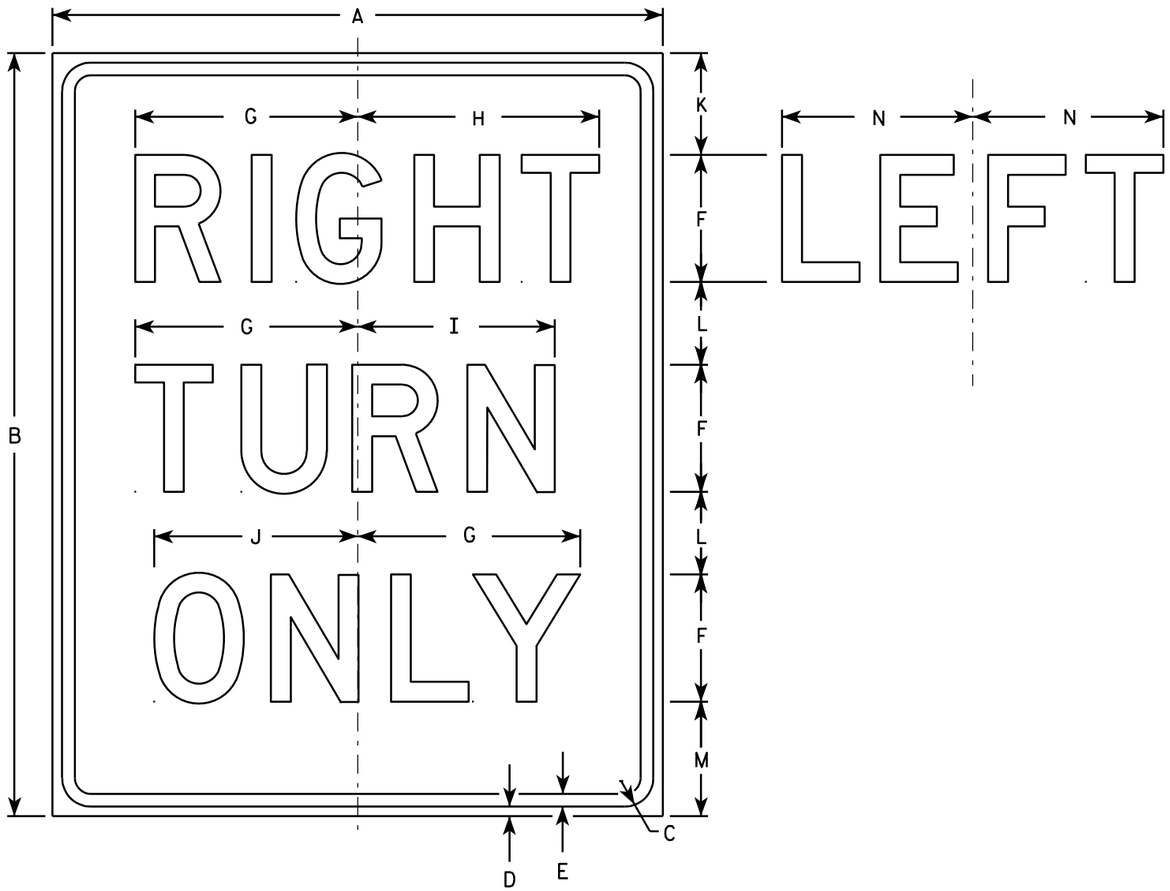
STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 195 | E



R3-53R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R3-53L same as R3-53R except LEFT is substituted for RIGHT.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
2M	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
3	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
4																											
5																											

STANDARD SIGN
R3-53

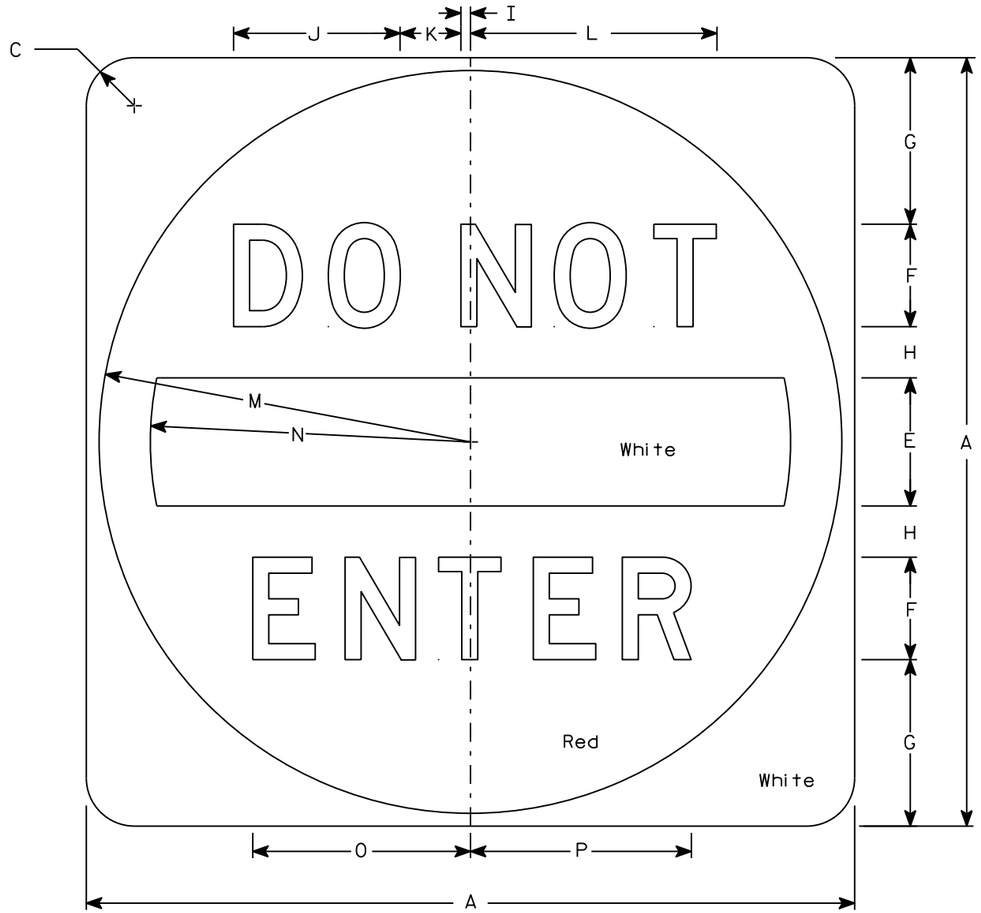
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/24/2011 PLATE NO. R3-53.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 196 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R353.DGN PLOT DATE : 24-MAR-2011 14:54 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.959043:1.000000
WISDOT/CADDS SHEET 42



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

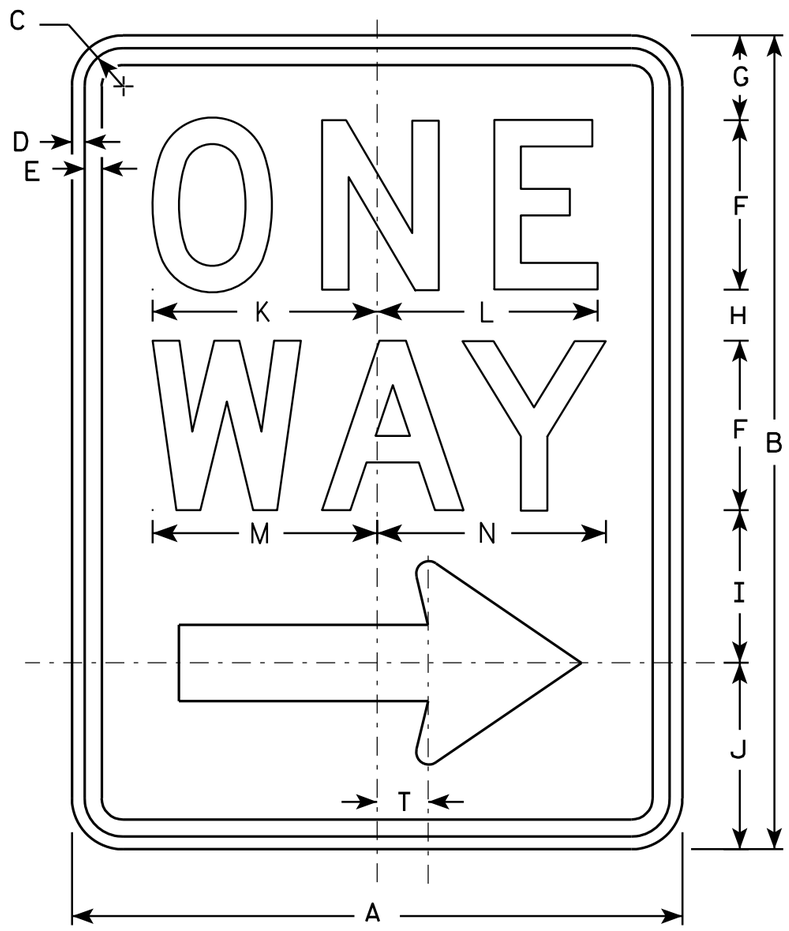
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/18 PLATE NO. R5-1.16

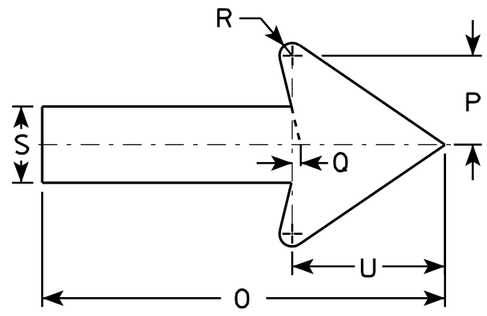
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 197 | E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

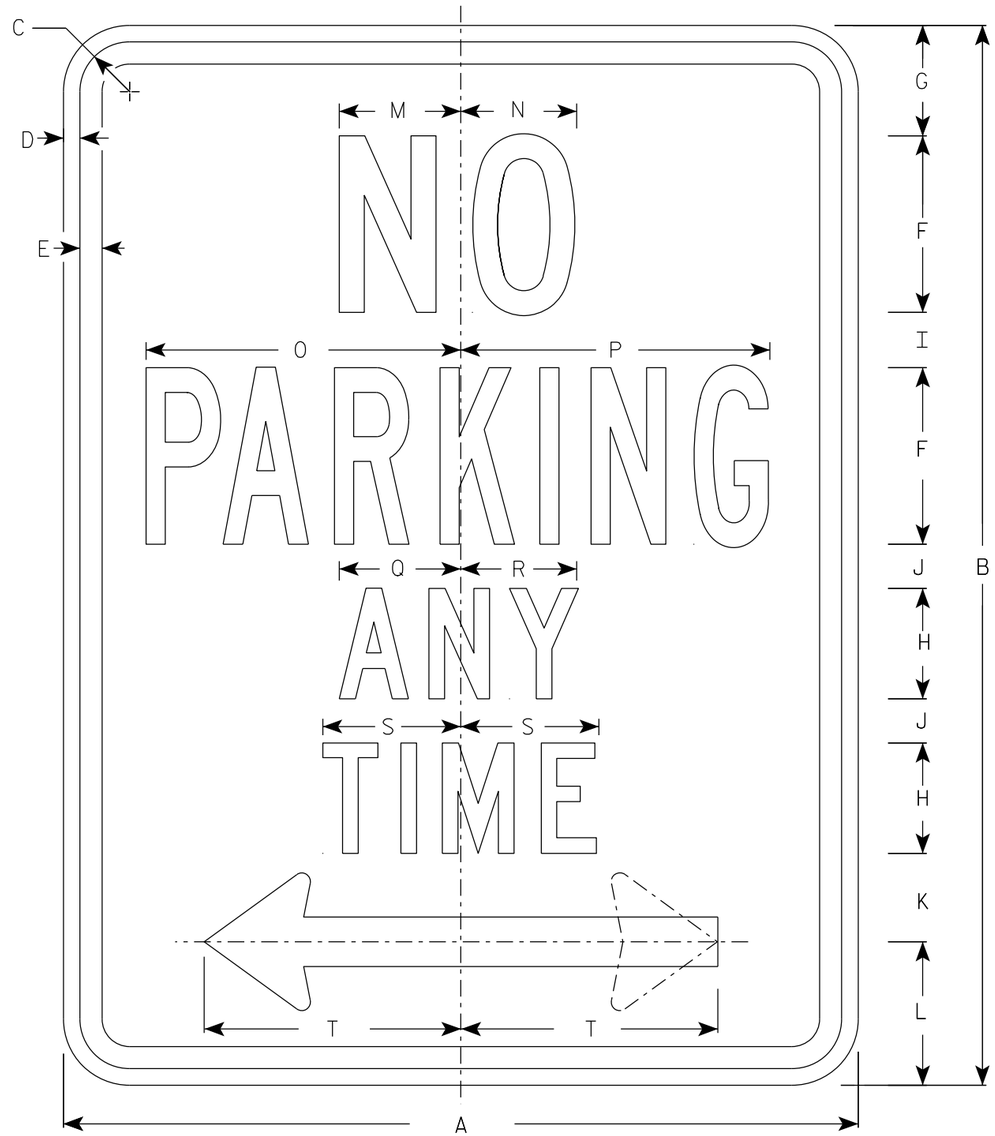
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

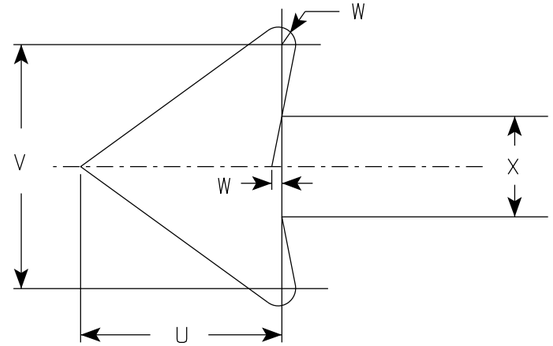
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 198 | E



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

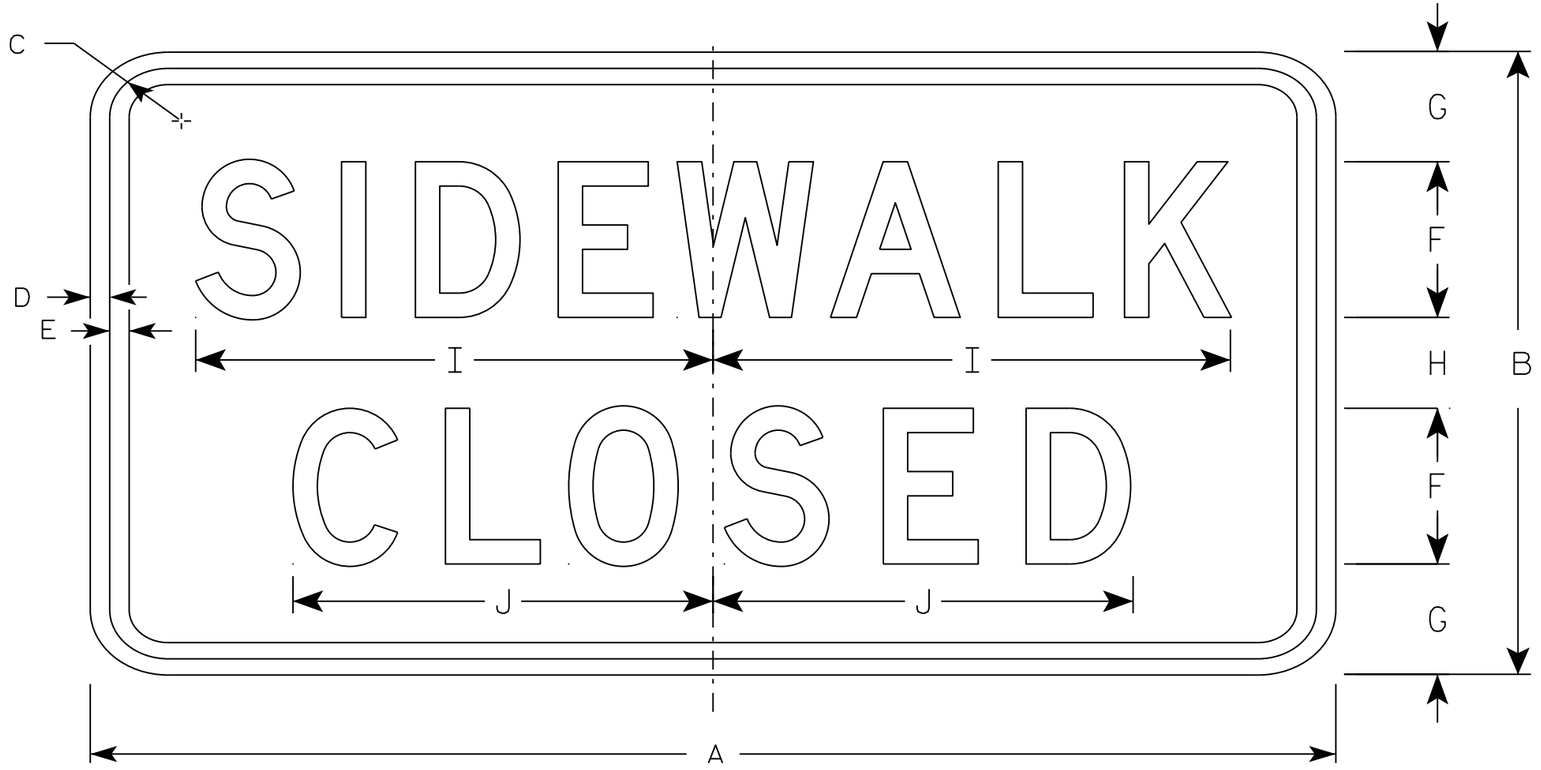
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2021 PLATE NO. R7-1.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 199 E

7

7



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

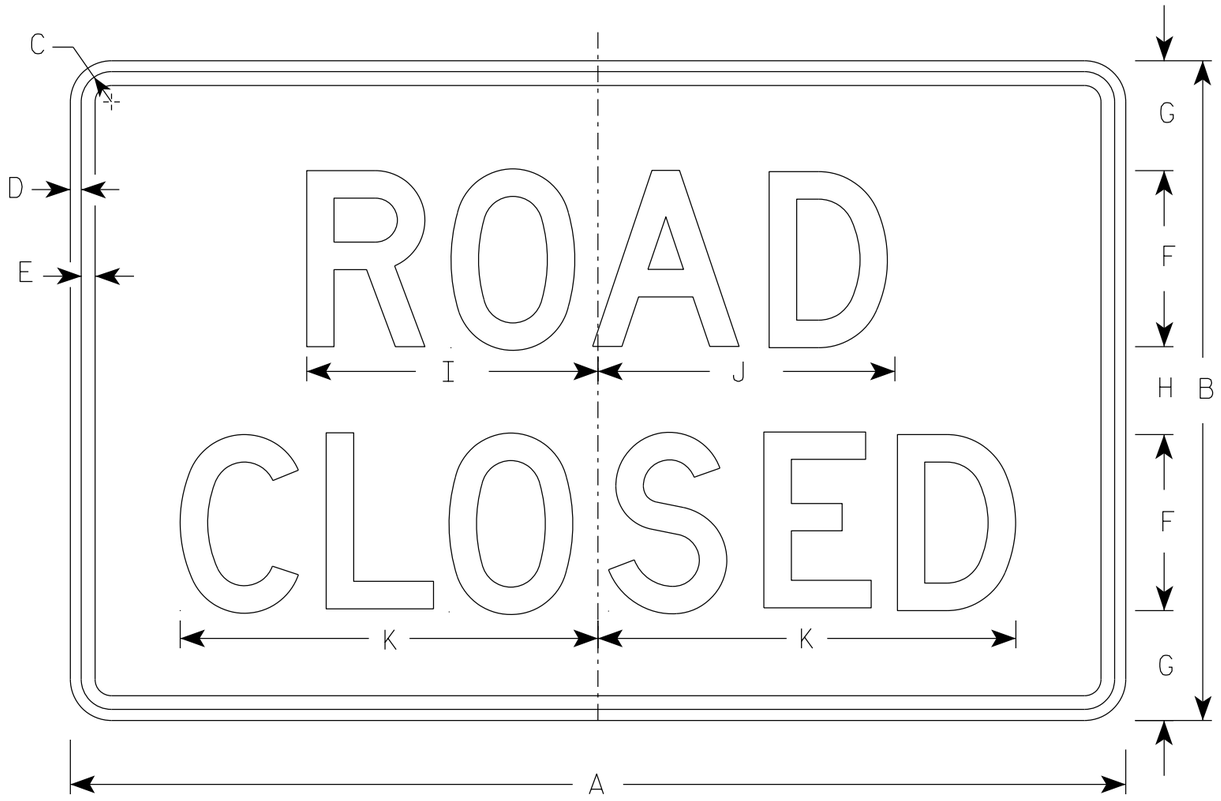
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/11/16 PLATE 200 R9-9.6

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

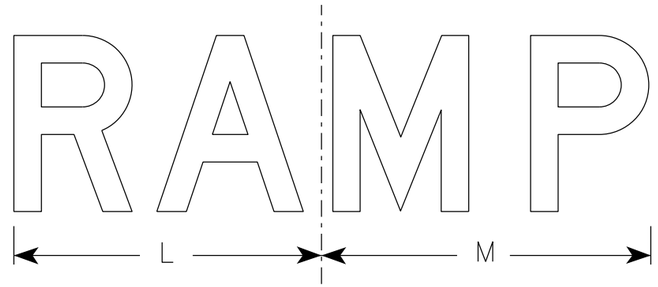
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R99.DGN PLOT DATE : 11-AUG-2016 11:33 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 2.918761:1.000000



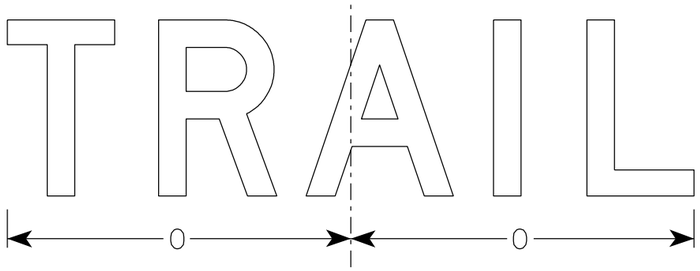
R11-2

NOTES

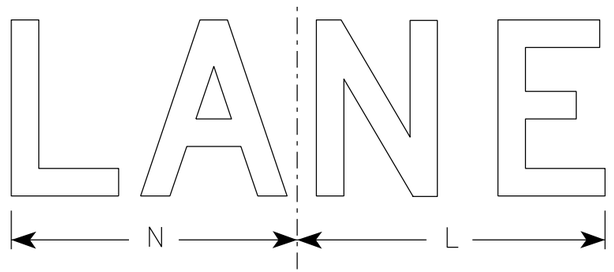
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the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

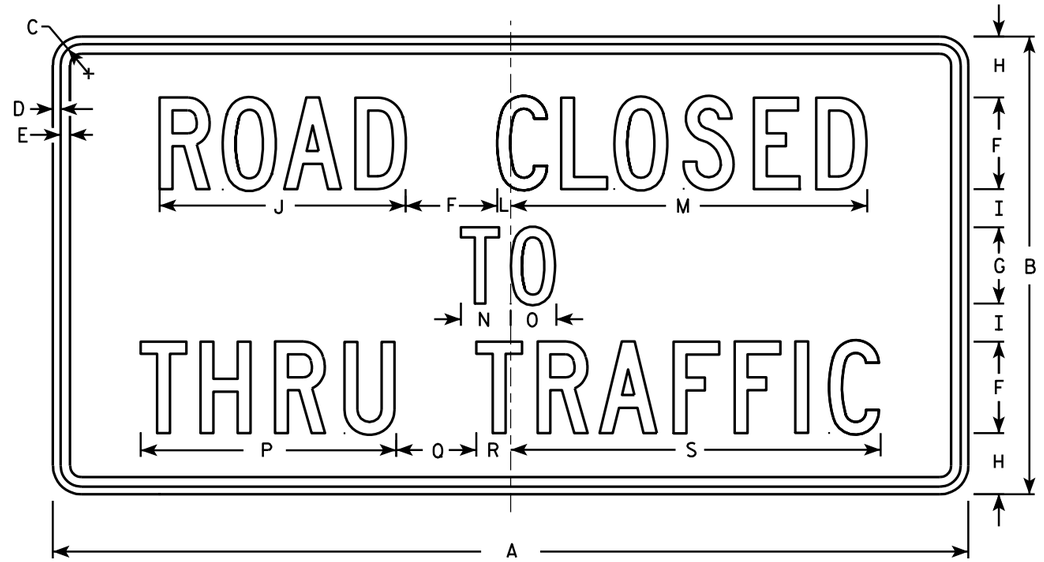
STANDARD SIGN
R11-2

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: 201	E



R11-4

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

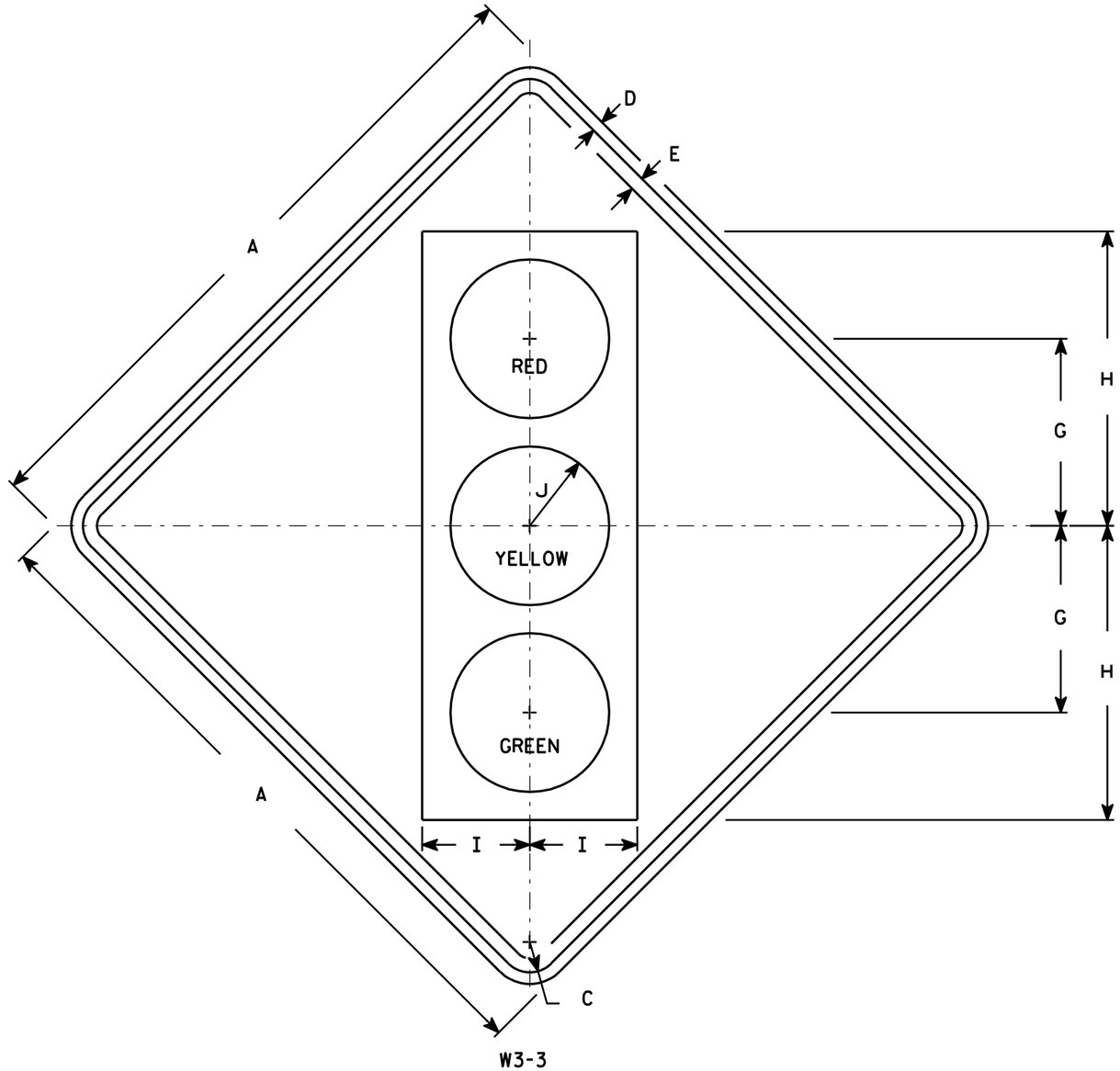
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 202 | 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 - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

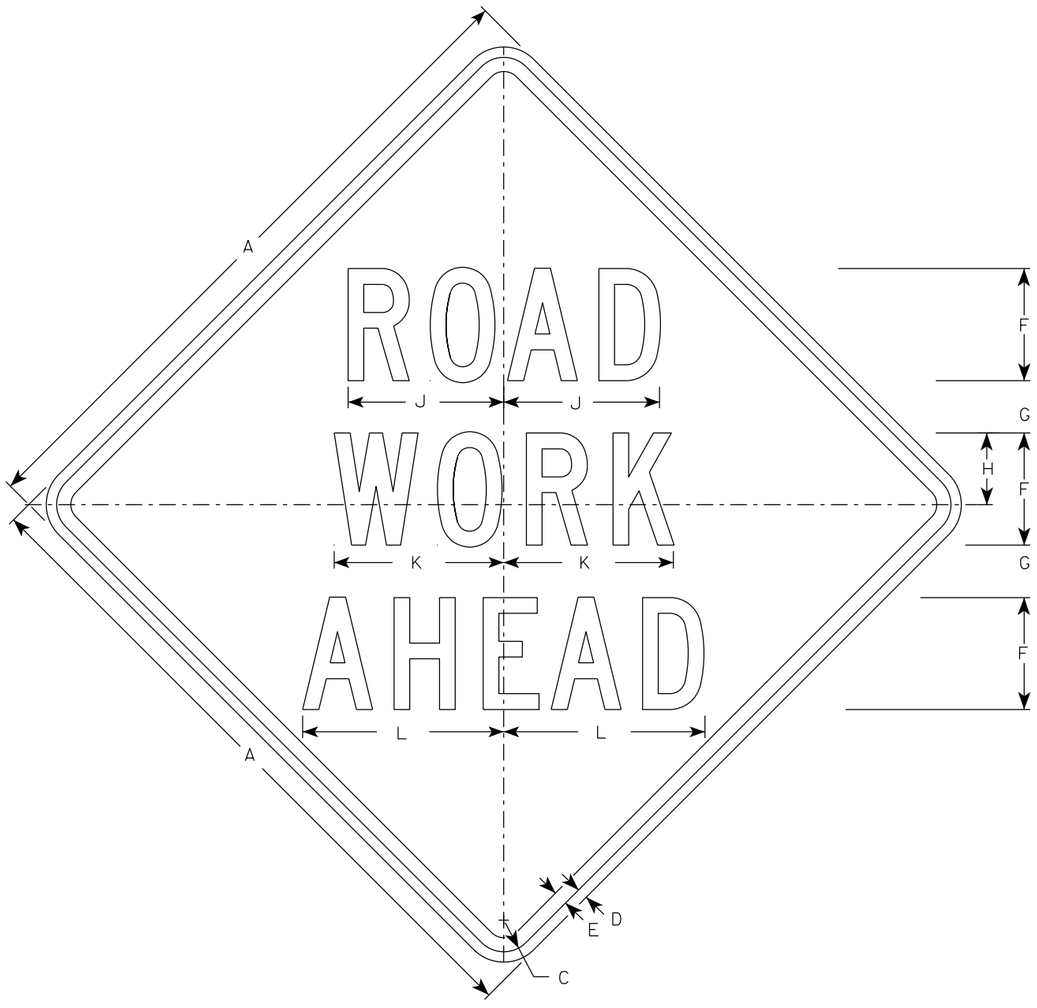
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

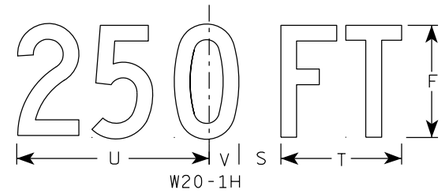
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 203 | E

NOTES

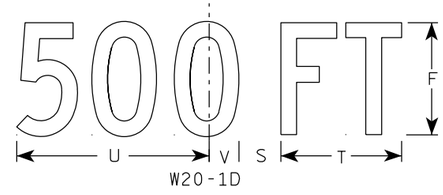
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1A



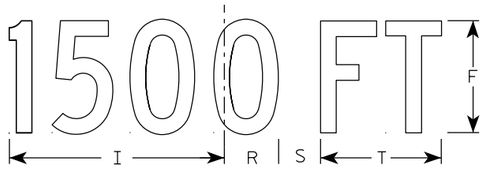
W20-1H



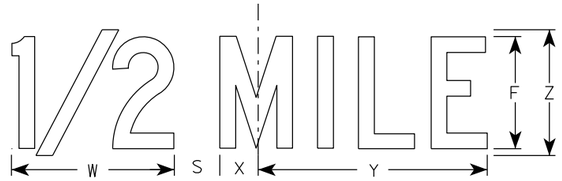
W20-1D



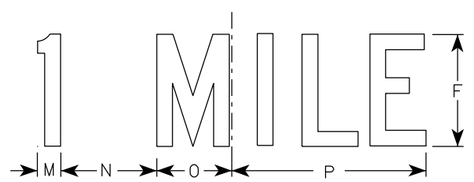
W20-1C



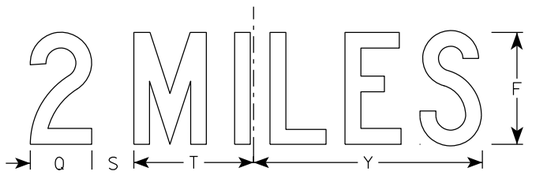
W20-1B



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

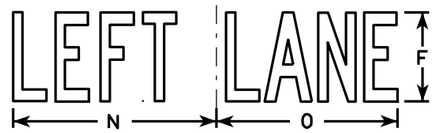
WISDOT/CADDS SHEET 42

7

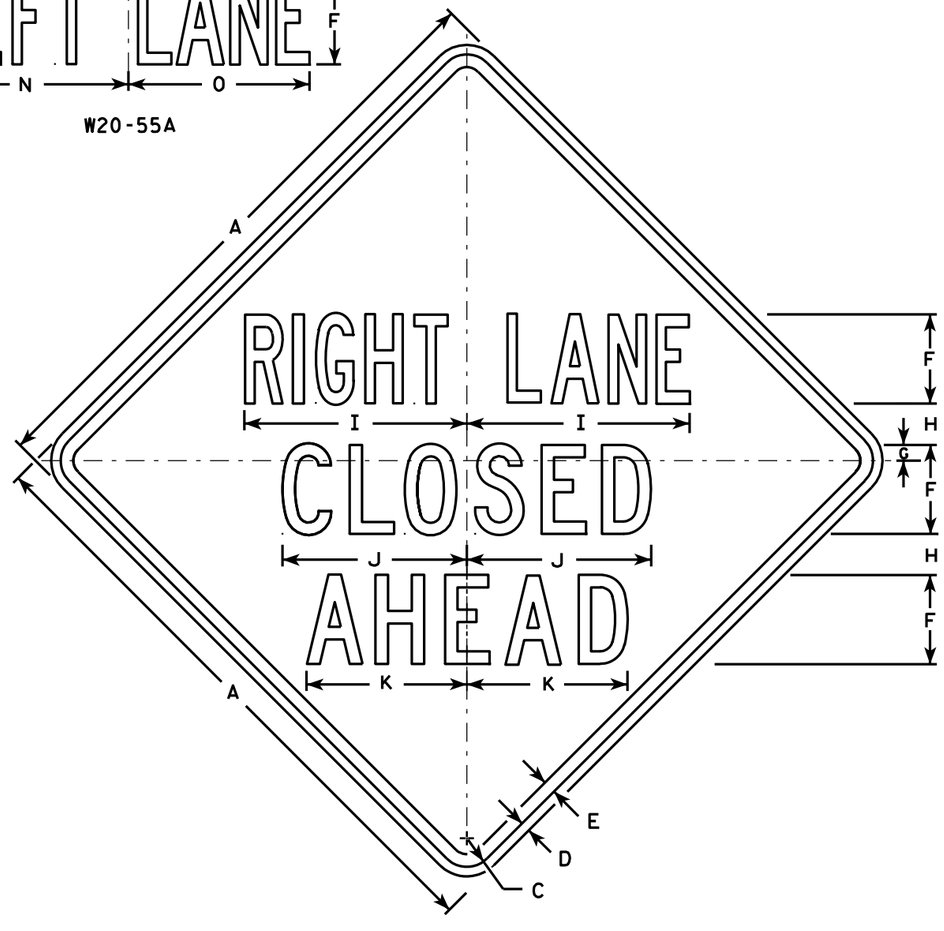
7



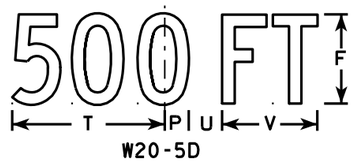
W20-56A



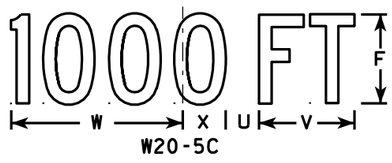
W20-55A



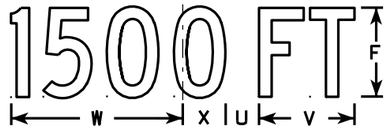
W20-5A



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

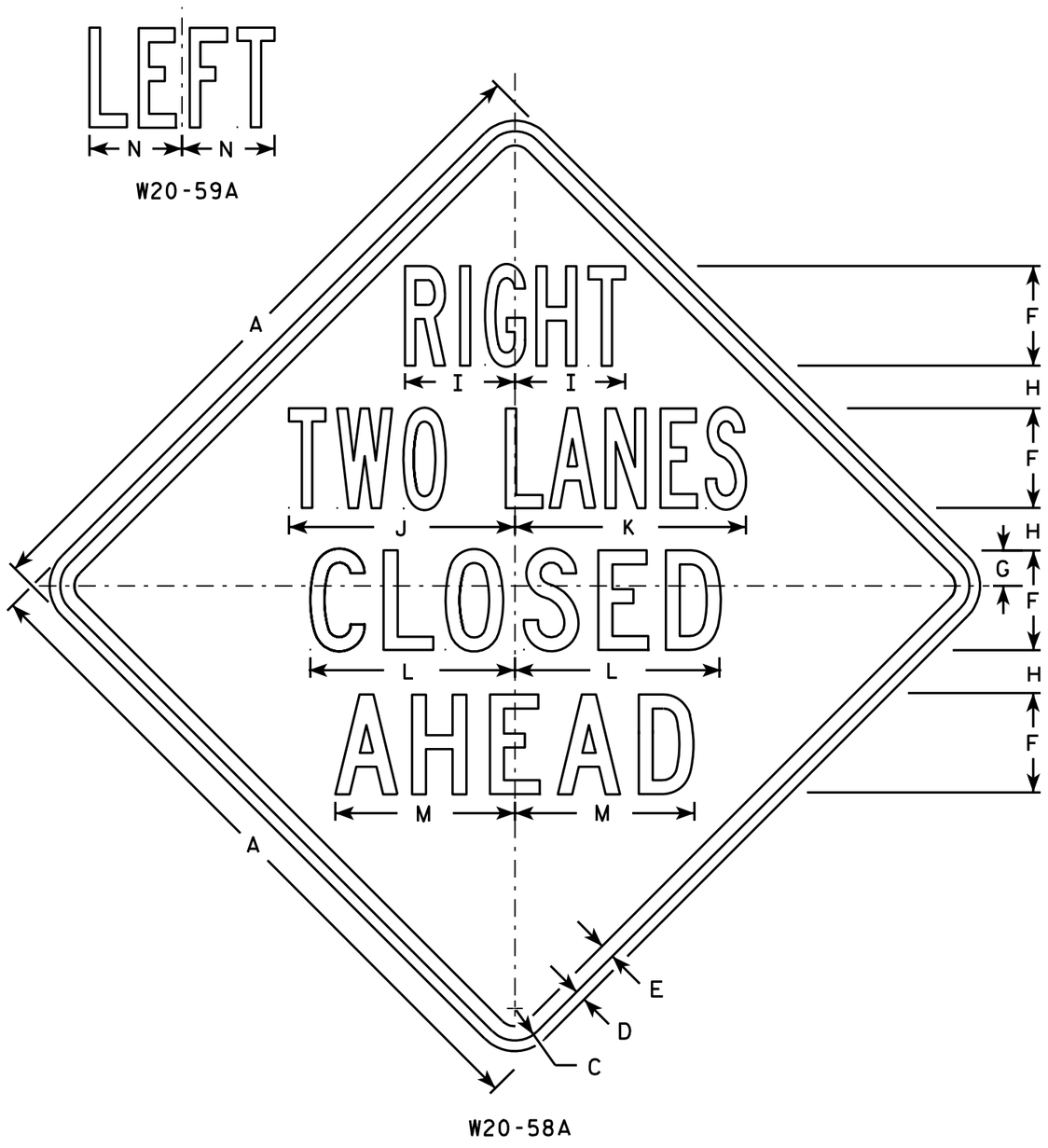
STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

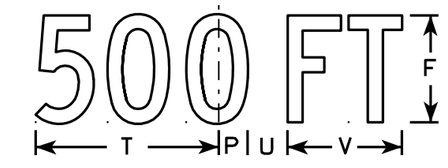
APPROVED Matthew R Rauch
for State Traffic Engineer

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

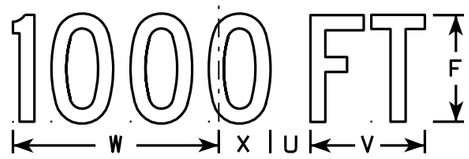
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 205	E



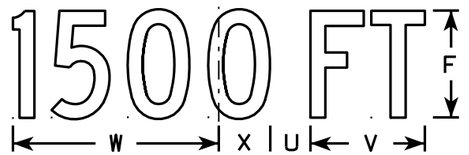
W20-58A



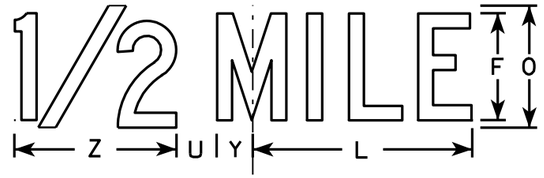
W20-58D



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

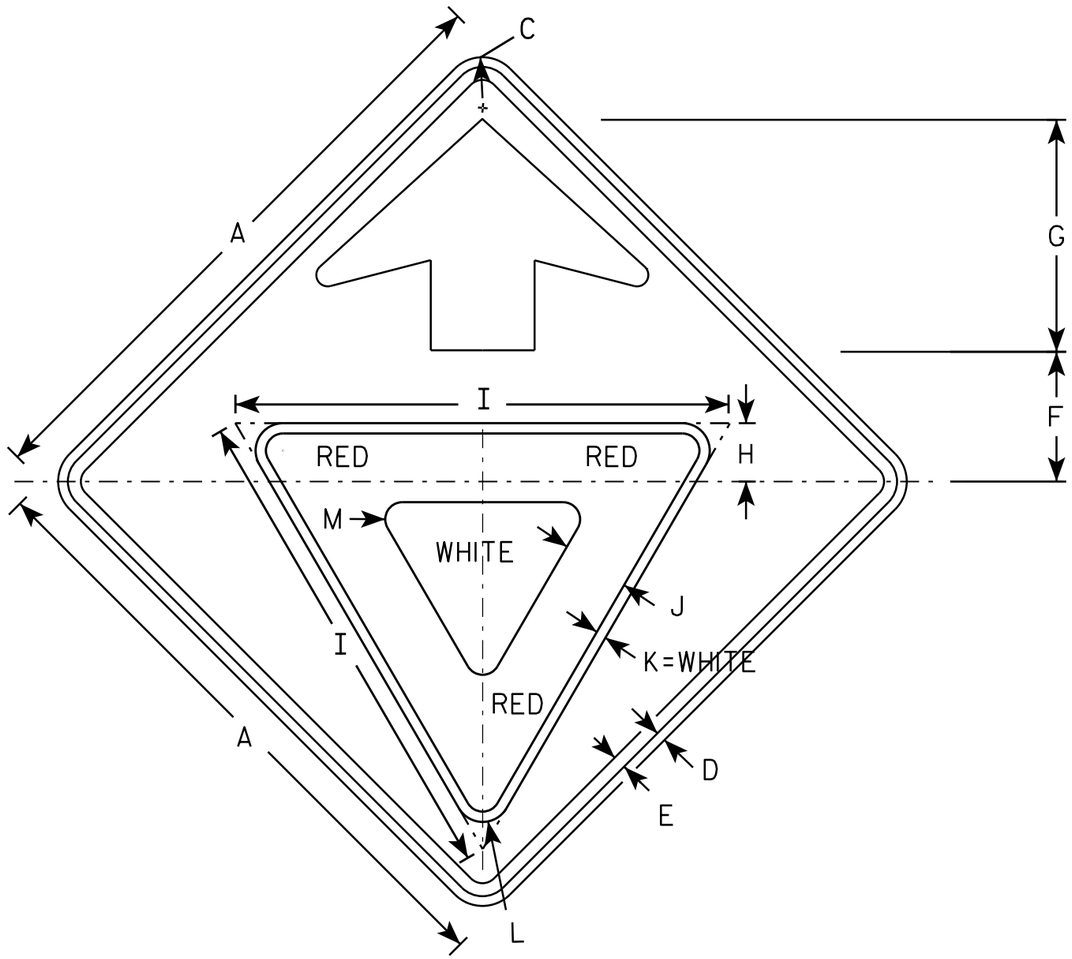
STANDARD SIGN
W20-58A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-58.4

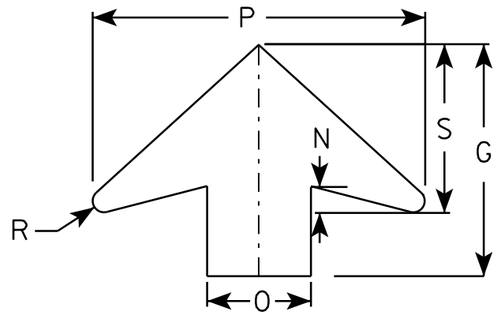
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 206	E



W03-2

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

STANDARD SIGN
W03-2

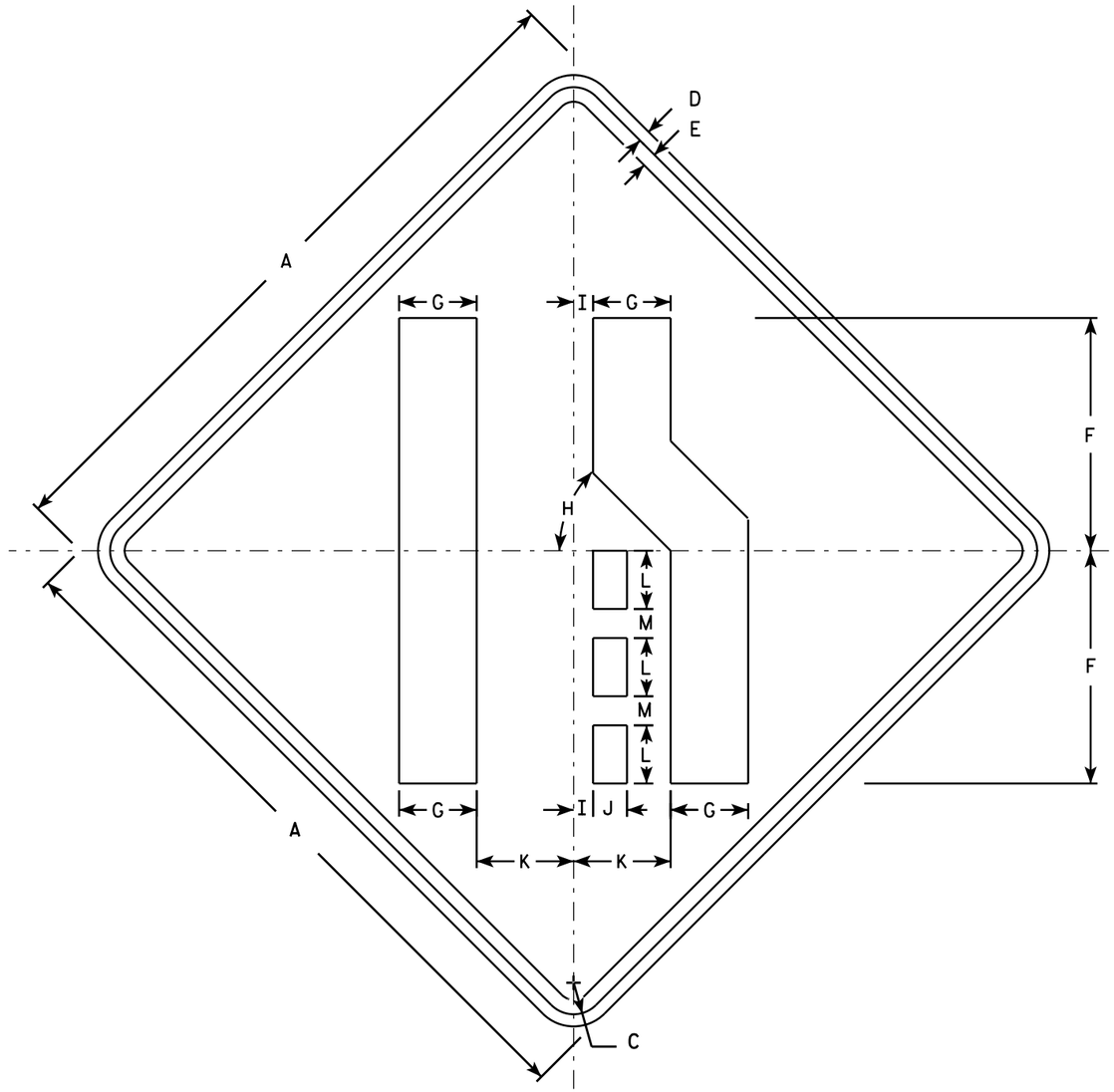
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W03-2.1

PROJECT NO:

SHEET NO: E



W04-2R

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

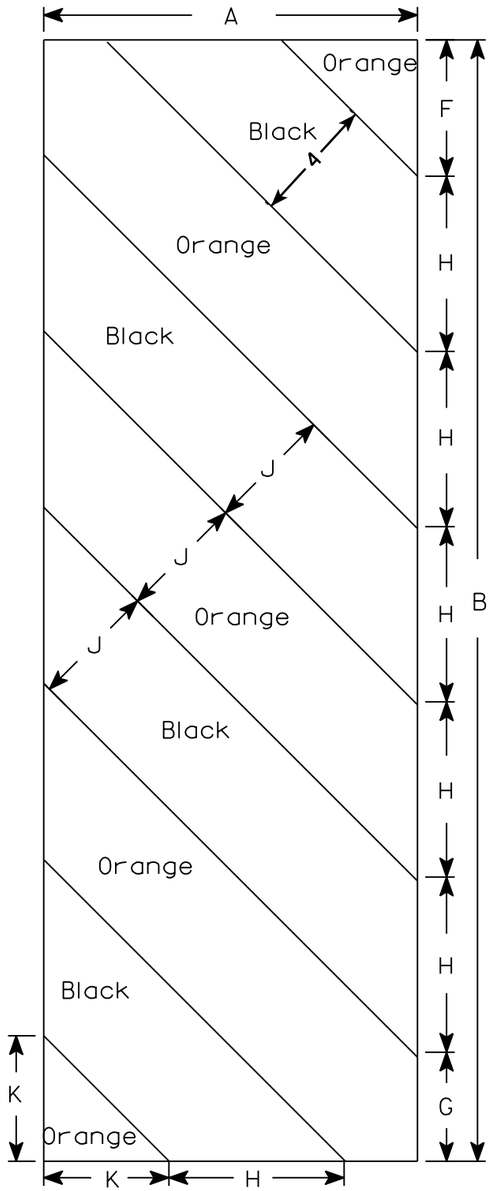
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

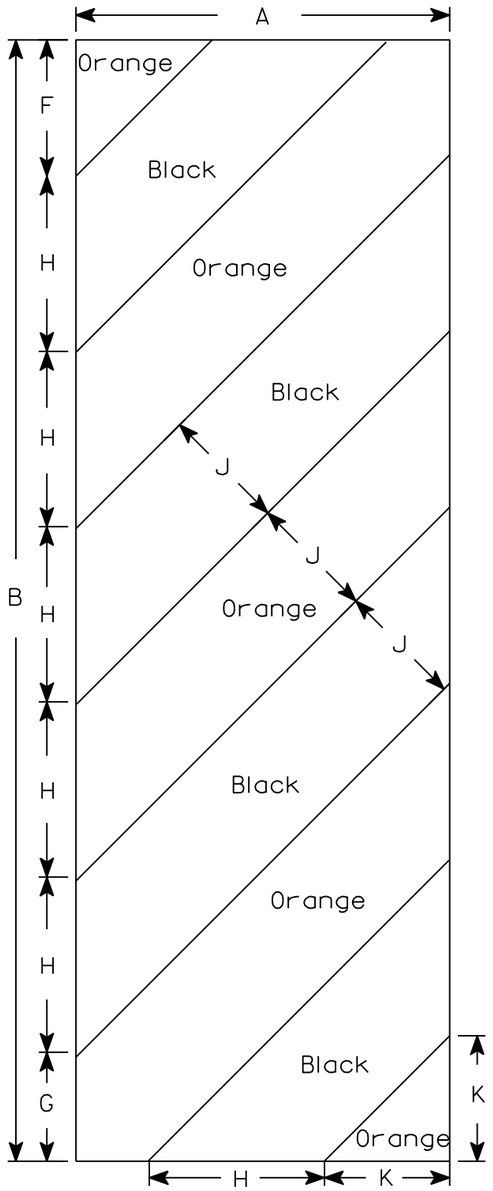
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 208 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

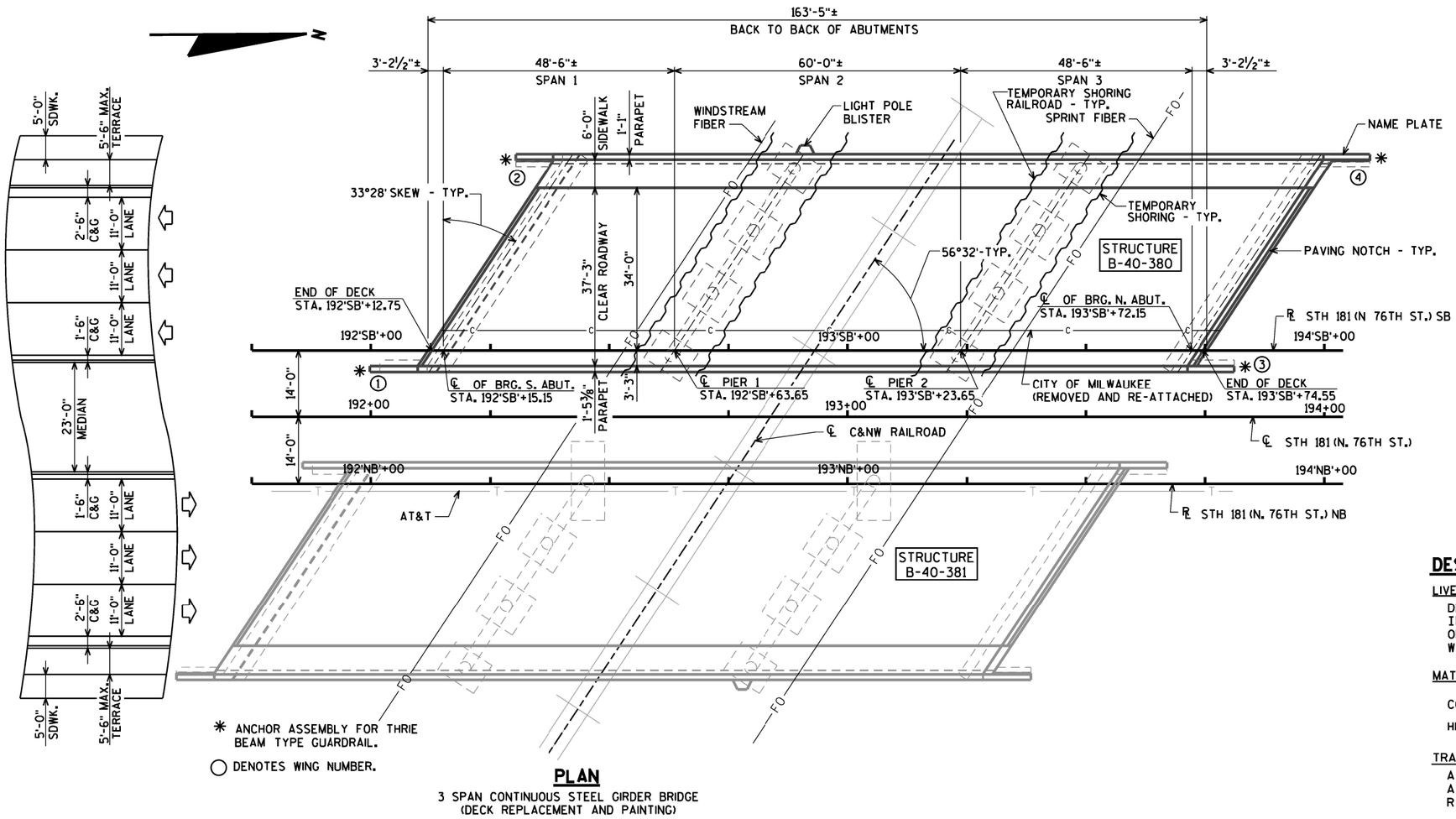
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W05-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

STATE PROJECT NUMBER
2967-17-71



PLAN

3 SPAN CONTINUOUS STEEL GIRDER BRIDGE
(DECK REPLACEMENT AND PAINTING)

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTION
3A. QUANTITIES AND NOTES
3B. SPECIAL DETAILS AND PROFILE GRADELINE
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT WING 1 DETAILS
6. SOUTH ABUTMENT WING 2 DETAILS & BILL OF BARS
7. NORTH ABUTMENT
8. NORTH ABUTMENT WING 4 DETAILS
9. NORTH ABUTMENT WING 3 DETAILS
10. NORTH ABUTMENT DETAILS AND BILL OF BARS
11. PIERS 1 & 2 DETAILS
12. CRASH WALL DETAILS
13. SUPERSTRUCTURE
14. SUPERSTRUCTURE PLAN
15. TRANSVERSE DECK STEEL LAYOUT
16. SUPERSTRUCTURE DETAILS
17. SUPERSTRUCTURE BILL OF BARS
18. DECK ELEVATIONS AND DEFLECTIONS
19. PARAPET "A" ELECTRICAL WORK
20. ELECTRICAL DETAILS AT 42SS PARAPET
21. STRIP SEAL EXPANSION DEVICE
22. SIDEWALK COVER PLATE DETAILS
23. COVER PLATE DETAILS
24. VERTICAL FACE PARAPET "A"
25. FENCING DETAILS
26. SINGLE SLOPE PARAPET 42SS
27. SLOPE PAVING (CRUSHED AGGREGATE)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-19
OPERATING RATING: HS- 33
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 190 KIPS

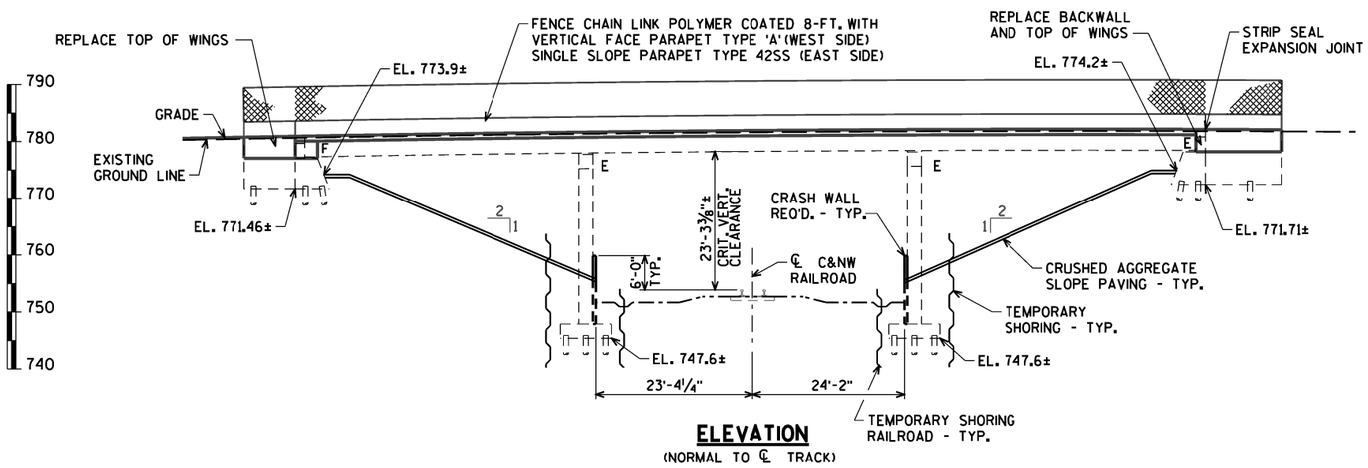
MATERIAL PROPERTIES:

CONCRETE MASONRY	SUPERSTRUCTURE f'_c =	4,000 p.s.i.
	ALL OTHER f'_c =	3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)	f_y =	60,000 p.s.i.

TRAFFIC DATA:

A.A.D.T. = 26,300 (2020)
A.A.D.T. = 28,900 (2040)
R.D.S. = 45 M.P.H.

FOR TYPICAL SECTION SEE SHEET 2



ELEVATION

(NORMAL TO ℄ TRACK)

WISCONSIN
ARLEN E. BEAUDETTE
E-36829
EAU CLAIRE, WI
PROFESSIONAL ENGINEER
11/28/2023

BRIDGE OFFICE CONTACT:
AARON BONK
(608)261-0261

CONSULTANT CONTACT:
ARLEN BEAUDETTE
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/29/23
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-40-380

STH 181 (N. 76TH ST.) SB OVER C&NW RAILROAD

COUNTY MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~ MILWAUKEE
DESIGN SPEC. REHABILITATION N/A	
DESIGNED BY JCK	DESIGN CK'D. JLB
DRAWN BY JLB/CLP	PLANS CK'D. AEB

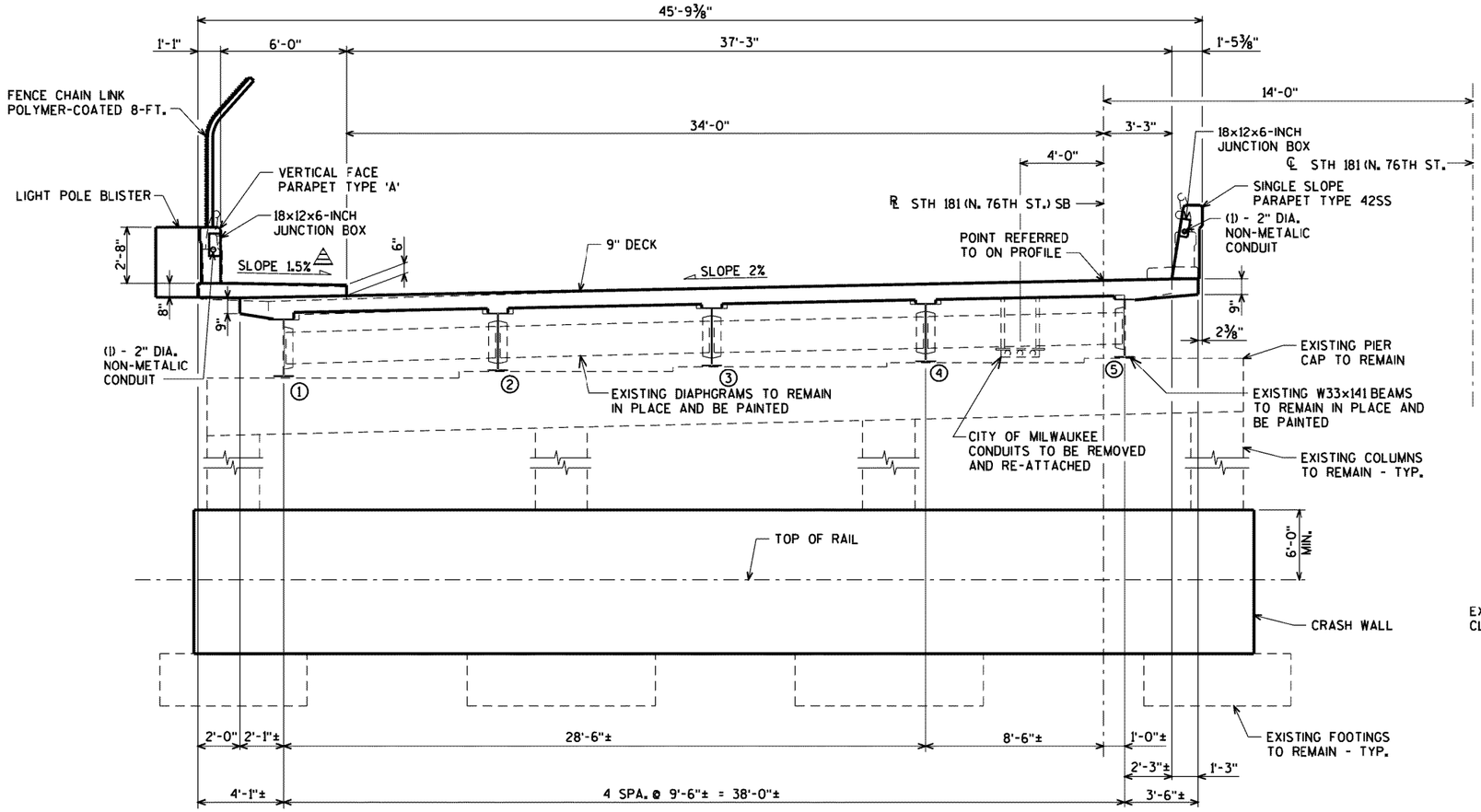
GENERAL PLAN

SHEET 1 OF 27
210

$PRFNAME$
I:\42\42-1099.00 - STH 181 Redecks - Milwaukee Co\Structures\B-40-380\Final\B-40-380 gp.DGN

STATE PROJECT NUMBER

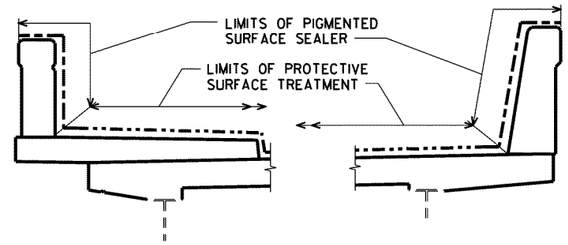
2967-17-71



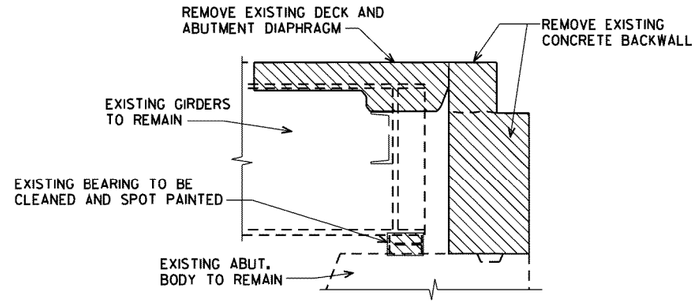
△ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

TYPICAL SECTION THRU BRIDGE

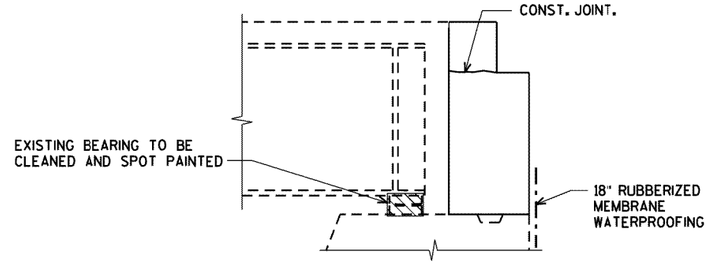
(LOOKING NORTH)



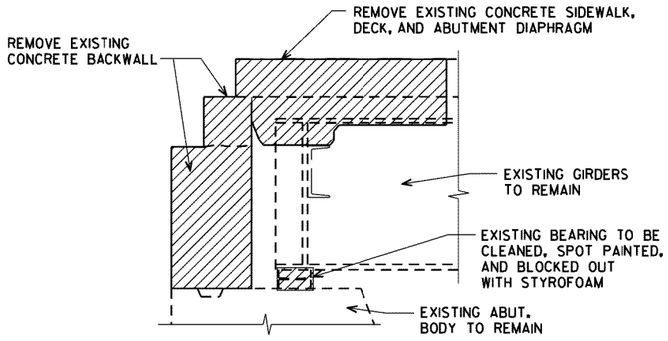
PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAILS



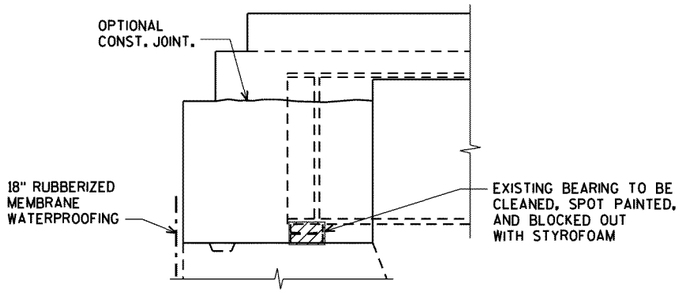
NORTH ABUTMENT REMOVAL SECTION



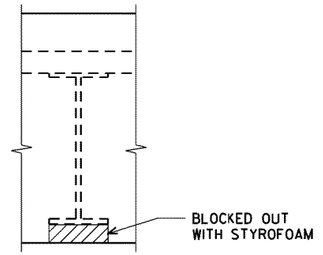
NORTH ABUTMENT TYPICAL SECTION



SOUTH ABUTMENT REMOVAL SECTION



SOUTH ABUTMENT TYPICAL SECTION



FRONT FACE OF SOUTH ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

DRAWN BY JLB/CLP | PLANS CK'D. AEB

TYPICAL SECTION

SHEET 2 OF 27
211

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

$PRFNAME$
I:\42\42-1099.00 - STH 181 Redecks - Milwaukee Co\Structures\B-40-380\Final\B-40-380 gp.DGN

11/2/2023

PENTABLE:BReau_shd_util.tbl

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	PIER 1	PIER 2	N. ABUT.	SUPER.	TOTAL
203.0220	REMOVING STRUCTURE B-40-380	EACH	-----	-----	-----	-----	-----	1
203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-40-380	EACH	-----	-----	-----	-----	-----	1
203.0330	DEBRIS CONTAINMENT B-40-380	EACH	-----	-----	-----	-----	-----	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-40-380	EACH	-----	-----	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	65	-----	-----	65	-----	130
502.0100	CONCRETE MASONRY BRIDGES	CY	3.5	58.5	58.5	18.0	336.4	475
502.3101	EXPANSION DEVICE	LF	-----	-----	-----	-----	52	52
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	-----	-----	800	800
502.3210	PIGMENTED SURFACE SEALER	SY	-----	-----	-----	-----	150	150
502.4205	ADHESIVE ANCHORS NO. 5 BARS	EACH	34	-----	-----	150	-----	184
502.4206	ADHESIVE ANCHORS NO. 6 BARS	EACH	-----	110	110	-----	-----	220
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	-----	2,980	2,980	-----	-----	5,960
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,090	-----	-----	2,850	64,240	68,180
509.1500	CONCRETE SURFACE REPAIR	SF	-----	-----	-----	-----	-----	100
511.1200	TEMPORARY SHORING B-40-380	SF	-----	375	375	-----	-----	750
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	2	-----	-----	10	-----	12
517.0901.S	PREPARATION AND COATING OF TOP FLANGES B-40-380	EACH	-----	-----	-----	-----	-----	1
517.3001.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-40-380	EACH	-----	-----	-----	-----	-----	1
517.4001.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-40-380	EACH	-----	-----	-----	-----	-----	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	-----	-----	-----	-----	-----	1
531.8990	ANCHOR ASSEMBLIES POLES ON STRUCTURES	EACH	-----	-----	-----	-----	1	1
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	220	-----	-----	220	-----	440
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-----	-----	-----	95	-----	95
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	-----	-----	2	-----	4
645.0111	GEOTEXTILE FABRIC DF SCHEDULE A	SY	-----	-----	-----	70	-----	70
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	12	-----	-----	12	-----	24
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	-----	-----	-----	-----	340	340
653.0222	JUNCTION BOXES 18x12x6-INCH	EACH	-----	-----	-----	-----	1	1
SPV.0060.001	BEARING MAINTENANCE B-40-380	EACH	5	-----	-----	5	-----	10
SPV.0090.003	FENCE CHAIN LINK POLYMER COATED 8-FT	LF	-----	-----	-----	-----	182	182
SPV.0165.001	TEMPORARY SHORING RAILROAD B-40-380	SF	-----	250	250	-----	-----	500
	NON-BID ITEMS							
	FILLER	SIZE	-----	-----	-----	-----	-----	½" & ¾"
	BRIDGE SEAT PROTECTION							

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS ARE BASED ON ORIGINAL STRUCTURE PLANS.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT UNLESS SHOWN OR NOTED OTHERWISE.

AT ABUTMENTS ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW THE ORIGINAL CONSTRUCTION YEAR OF 1969.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

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.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

ALL EXISTING STRUCTURAL STEEL SHALL BE PAINTED. THE COLOR OF THE FINISH EPOXY TOP COAT SHALL BE LIGHT GRAY (AMS COLOR NO. 26293).

PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER ARE TO BE APPLIED AS SHOWN IN THE DETAILS ON SHEET 3.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF THE ABUTMENT BEAM SEATS BELOW EXPANSION DEVICES.

STRIP SEAL EXPANSION JOINT ASSEMBLIES, INCLUDING ANCHOR STUDS AND HARDWARE, SHALL BE PAID FOR UNDER THE BID ITEM "EXPANSION DEVICE"

STEEL PLATES AT NORTH ABUTMENT TO BE SAND BLASTED AND PAINTED. BEARING AT NORTH ABUTMENT GIRDER 5 TO BE REMOVED, BENT ANCHOR ROD REPLACED AND BEARING RE-INSTALLED. BEARING AT NORTH ABUTMENT GIRDER 1 TO BE RE-SET. PAID FOR UNDER THE BID ITEM "BEARING MAINTENANCE".

CONCRETE SURFACE REPAIR REQUIRED ON ABUTMENTS AND PIERS AS DIRECTED BY THE ENGINEER IN THE FIELD.

EXISTING BEARINGS TO BE CLEANED AND PAINTED AT SOUTH ABUTMENT AND PIERS.

UPRR GENERAL NOTES FOR OVERHEAD STRUCTURES

USE THE UNION PACIFIC RAILROAD PUBLIC PROJECTS MANUAL AS A GUIDE FOR ASSISTING IN ADMINISTERING, COORDINATING, PLANNING, AND IMPLEMENTING YOUR PROJECT.

PRIOR TO CONSTRUCTION, OBTAIN RAILROAD REVIEW AND APPROVAL OF ALL RELEVANT CONSTRUCTION ITEMS, INCLUDING BUT NOT LIMITED TO, SHORING, TRACK & GROUND MONITORING, ERECTION, DEMOLITION, AND FALSEWORK. ALL DESIGNS MUST ADHERE TO THE MOST RESTRICTIVE PROVISIONS OF THE CURRENT UPRR AND AREMA STANDARDS AND GUIDELINES IN EFFECT AT THE TIME THE WORK IS EXECUTED. ALLOW A MINIMUM OF 4 WEEKS FOR REVIEW AND APPROVAL OF EACH SUBMITTAL. FOR SUBMITTALS NOT IN ACCORDANCE WITH THESE NOTES, LONGER REVIEW TIMES SHALL BE EXPECTED.

PROJECTS SHALL BE DESIGNED SUCH THAT ALL CONSTRUCTION ACTIVITIES AND PHASING WILL NOT COMPROMISE SAFETY NOR IMPACT RAILROAD OPERATIONS.

VERIFY THE ELEVATION OF THE EXISTING TOP-OF-RAIL PROFILE BEFORE STARTING CONSTRUCTION.

CONSTRUCTION ACTIVITIES ARE NOT ALLOWED WITHIN THE TEMPORARY CONSTRUCTION CLEARANCE ENVELOPE PER THE CURRENT UPRR GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECTS AND GUIDELINES FOR TEMPORARY SHORING.

THE MINIMUM PERMANENT VERTICAL CLEARANCE SHALL BE 23'-4" MEASURED FROM TOP OF HIGHEST RAIL TO THE LOWEST OBSTRUCTION UNDER THE STRUCTURE. THE EXTENT OF THIS VERTICAL CLEARANCE SHALL BE A MINIMUM OF 9 FEET TO THE FIELD SIDE OF THE OUTERMOST EXISTING OR FUTURE TRACKS, MEASURED PERPENDICULAR FROM THE CENTERLINE OF SAID TRACKS. IN CURVED TRACKS, 9 FEET SHALL BE INCREASED EITHER 6 INCHES TOTAL OR 1.5 INCHES FOR EVERY DEGREE OF CURVE, WHICHEVER IS GREATER. THE PERMANENT VERTICAL CLEARANCE SHALL EXTEND TO COVER ALL EXISTING AND FUTURE TRACKS, INCLUDING THE SPACE IN BETWEEN.

ALL PERMANENT CLEARANCES SHALL BE VERIFIED THROUGHOUT CONSTRUCTION. A COMPLIANCE REPORT SHALL BE SUBMITTED TO THE RAILROAD BEFORE PROJECT CLOSING. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE RAILROAD.

THE PERMANENT VERTICAL AND HORIZONTAL DESIGN CLEARANCES, WHICH ARE SPECIFIED IN THE BID DOCUMENTS APPROVED BY THE RAILROAD, MUST BE MAINTAINED IN RELATION TO THE TOP-OF-RAIL AND CENTERLINE OF EXISTING AND FUTURE TRACKS, RESPECTIVELY. ANY REDUCTION OF THESE CLEARANCES IS NOT PERMITTED.

APPROPIATE MEASURES FOR THE LOCATION AND PROTECTION OF UPRR FACILITIES SHALL BE ADDRESSED IN THE PLANS AND CONTRACT DOCUMENTS. FOR SPECIFIC RAILROAD REQUIREMENTS AND ADDITIONAL INFORMATION REFER TO WWW.UP.COM/CBUD. ABANDONMENT OF UTILITIES MUST FOLLOW THE UPRR GUIDELINES FOR ABANDONMENT OF SUBSURFACE UTILITY STRUCTURES.

UPRR GENERAL CONSTRUCTION REQUIREMENTS

ALL WORK WITHIN 25 FEET OF TRACK, OVER TRACK, OR WITH POTENTIAL TO FOUL TRACK REQUIRES UPRR FLAGMAN TO BE ON SITE.

ALL EQUIPMENT, CONSTRUCTION MATERIALS, AND PERSONNEL SHALL REMAIN OUTSIDE THE MINIMUM CONSTRUCTION CLEARANCE ENVELOPE, EXCEPT WHEN WITHIN PRE-DETERMINED TRACK CURFEWS.

ALL PERSONNEL MUST CLEAR THE AREA WITHIN 25 FEET OF THE TRACK CENTERLINE AND SECURE ALL EQUIPMENT WITHIN 50 FEET DURING THE APPROACH AND PASSAGE OF A TRAIN.

EQUIPMENT SHALL NOT BE SUPPORTED BY THE TRACK BALLAST, SUB-BALLAST, TIES, OR RAILS AT ANY TIME.

STORAGE AND STAGING AREAS ARE PROHIBITED WITHIN UPRR RIGHT-OF-WAY, EXCEPT WITHIN PERMITTED ZONES SUCH AS EASEMENTS.

TEMPORARY TRACK CROSSINGS MUST BE APPROVED BY UPRR'S LOCAL OPERATING UNIT AND UPRR MANAGER OF PUBLIC PROJECTS PRIOR TO START OF CONSTRUCTION.

TRACK CROSSINGS AND USE OF UPRR ACCESS ROADS/HAUL ROADS MUST BE COORDINATED WITH UPRR'S LOCAL MANAGER OF TRACK MAINTENANCE (AND YARD MASTER, IF WITHIN YARD LIMITS).

TEMPORARY DRAINAGE STRUCTURES AND/OR BMPS SHALL NOT DIRECT STORMWATER TOWARD UPRR TRACK OR ACCESS ROADS.

UNATTENDED EXCAVATIONS WITHIN UPRR RIGHT-OF-WAY SHALL BE PROPERLY SECURED BY FENCING AND/OR COVERING(S) PER OSHA REQUIREMENTS.

FOR ANY CONSTRUCTION THAT INCLUDES HEAVY EQUIPMENT OR EXCAVATION, ALL UTILITIES WITHIN UPRR RIGHT-OF-WAY MUST BE IDENTIFIED AND MARKED PRIOR TO START OF CONSTRUCTION. UPRR CALL BEFORE YOU DIG: UP.com/CBUD.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

DRAWN BY JLB | PLANS CK'D. AEB

QUANTITIES AND NOTES

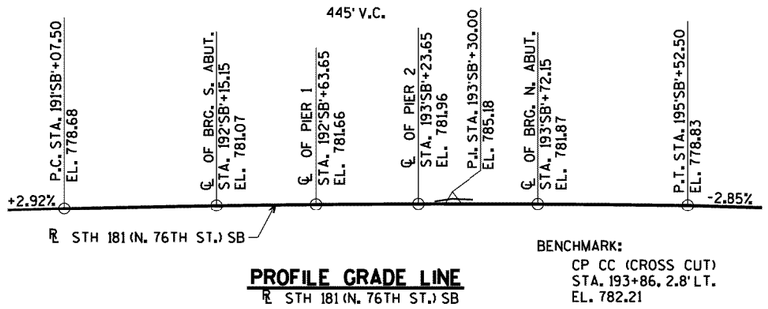
SHEET 3A OF 27
212

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$PRFNAME$
I:\42\42-1099.00 - STH 181 Redecks - Milwaukee Co\Structures\B-40-380\Final\B-40-380 gp.DGN

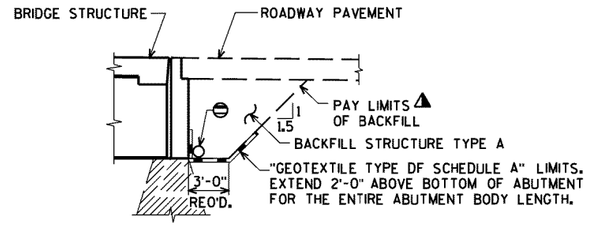
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8



PROFILE GRADE LINE
℄ STH 181 (N. 76TH ST.) SB

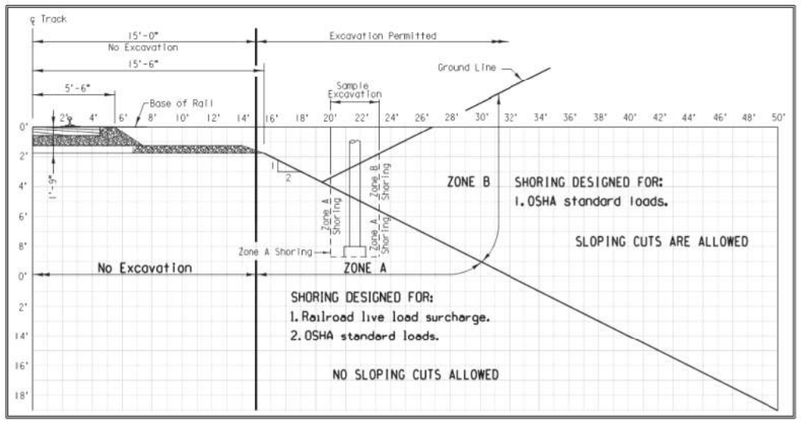
BENCHMARK:
CP CC (CROSS CUT)
STA. 193+86. 2.8' LT.
EL. 782.21



BACKFILL STRUCTURE LIMITS THRU ABUTMENT

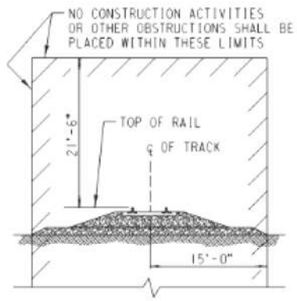
▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 10.



SHORING ZONES

ALL DIMENSIONS MEASURED PERPENDICULAR TO ℄ OF TRACK.
FOR ALL EXCAVATIONS WITHIN ZONE A, SHORING PLANS SHALL BE ACCOMPANIED BY DESIGN CALCULATIONS.
ALL SHORING WITHIN THE LIMITS OF ZONE A MUST BE PLACED PRIOR TO THE START OF EXCAVATION.



MINIMUM CONSTRUCTION CLEARANCE ENVELOPE
(NORMAL TO RAILROAD)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

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SPECIAL DETAILS AND PROFILE GRADELINE

SHEET 3B OF 27
213

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8

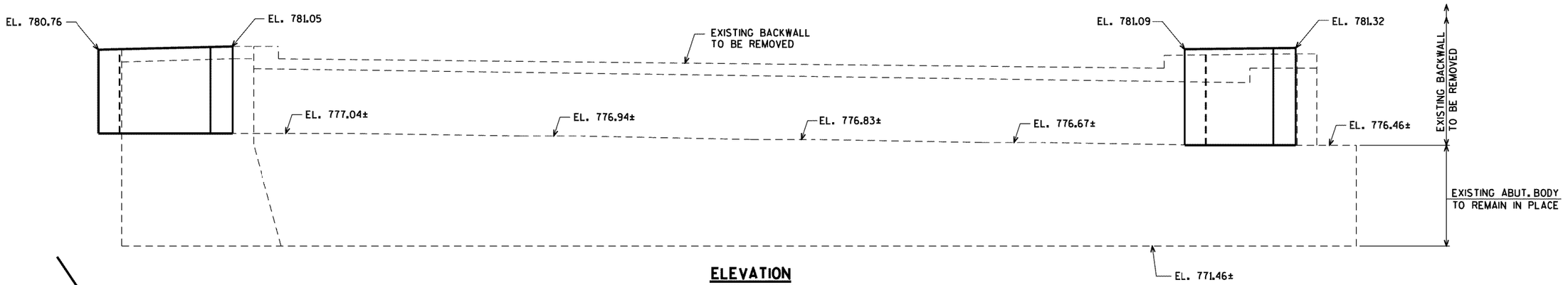
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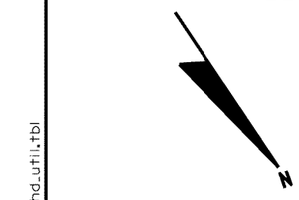
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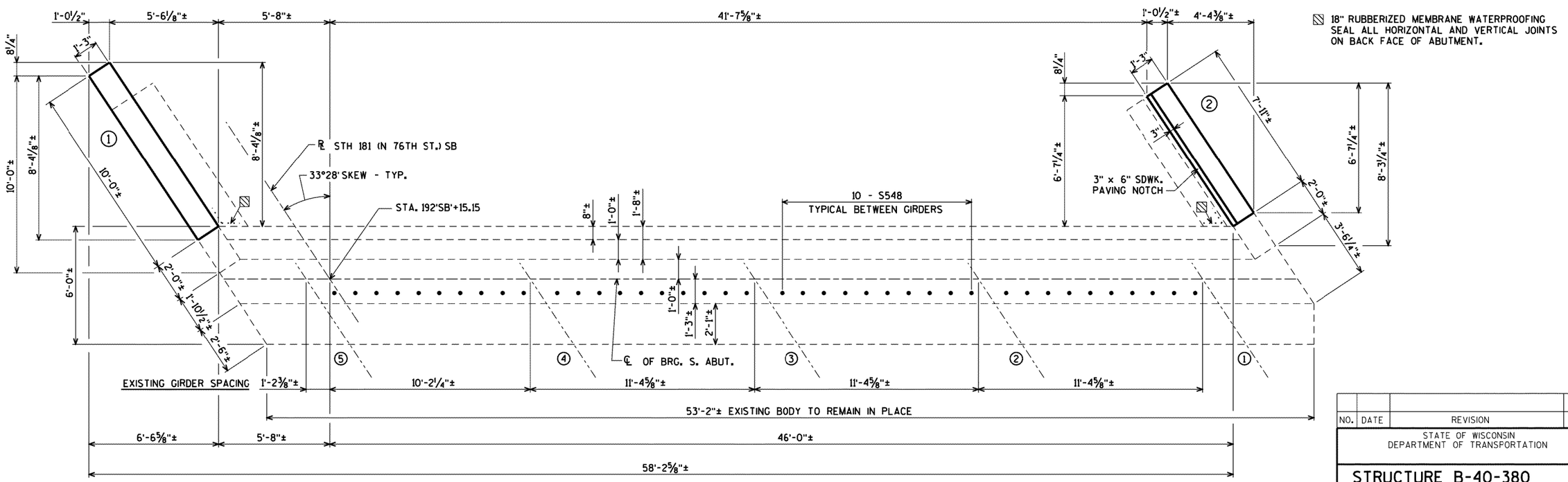
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STATE PROJECT NUMBER
2967-17-71



ELEVATION
(LOOKING SOUTH)





PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

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SOUTH ABUTMENT

SHEET 4 OF 27
214

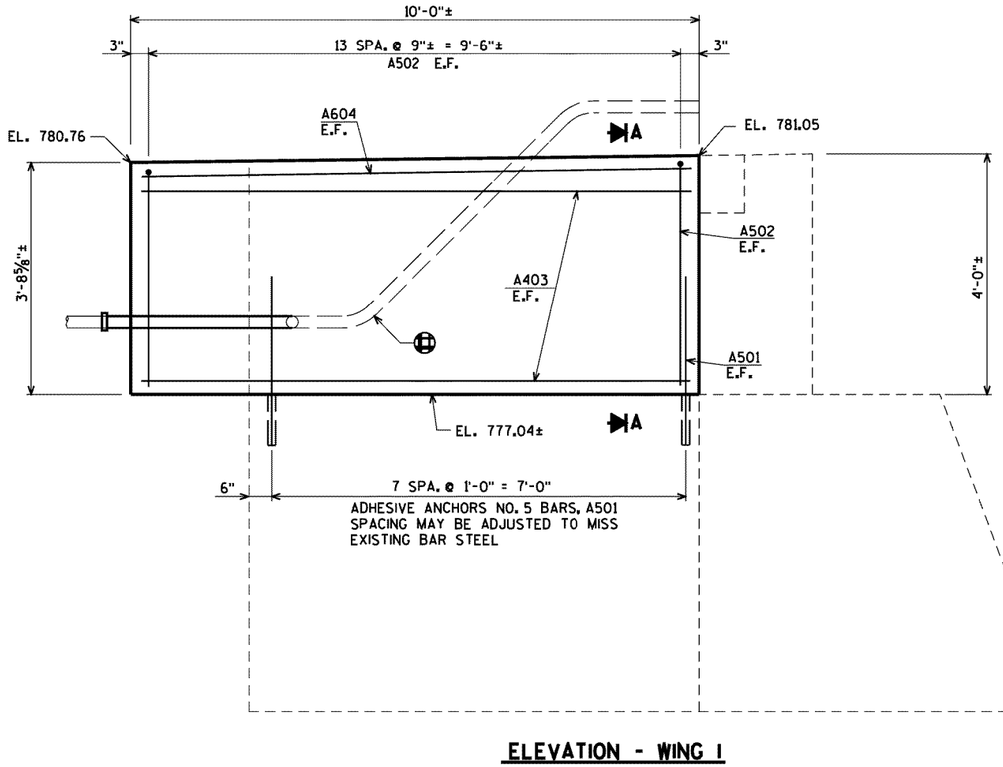
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11/2/2023
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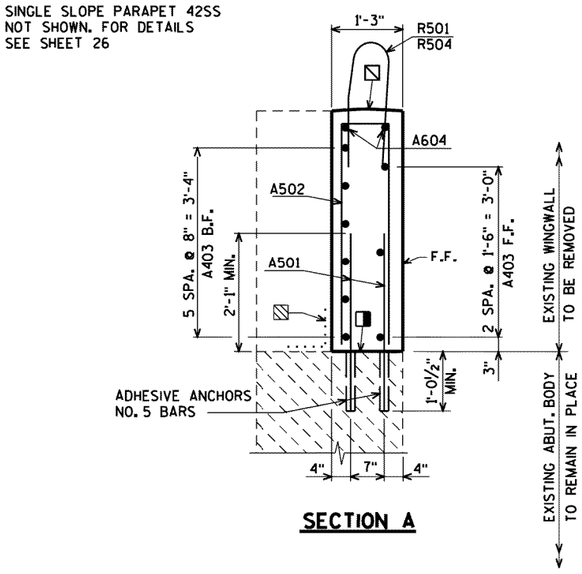
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STATE PROJECT NUMBER

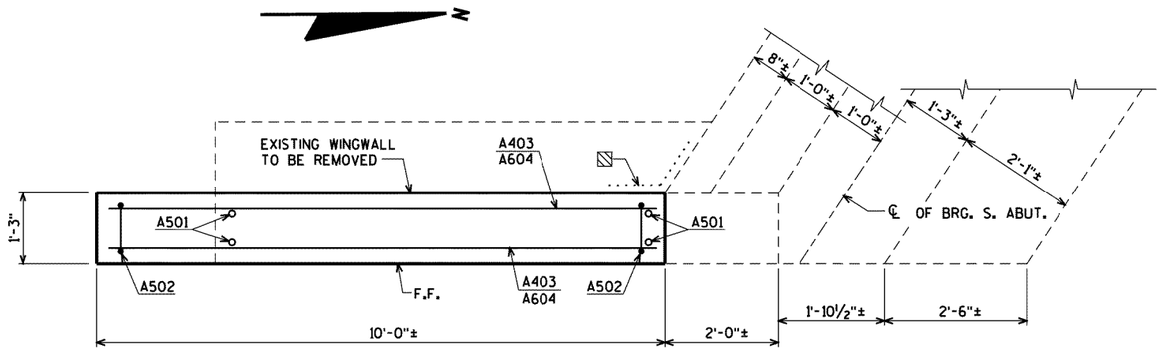
2967-17-71



ELEVATION - WING 1



SECTION A



PLAN - WING 1

- EXISTING CONST. JOINT
- 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT.
- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- FOR CONDUIT DETAILS SEE SHEET 20.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

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SOUTH ABUTMENT WING 1 DETAILS

SHEET 5 OF 27
215

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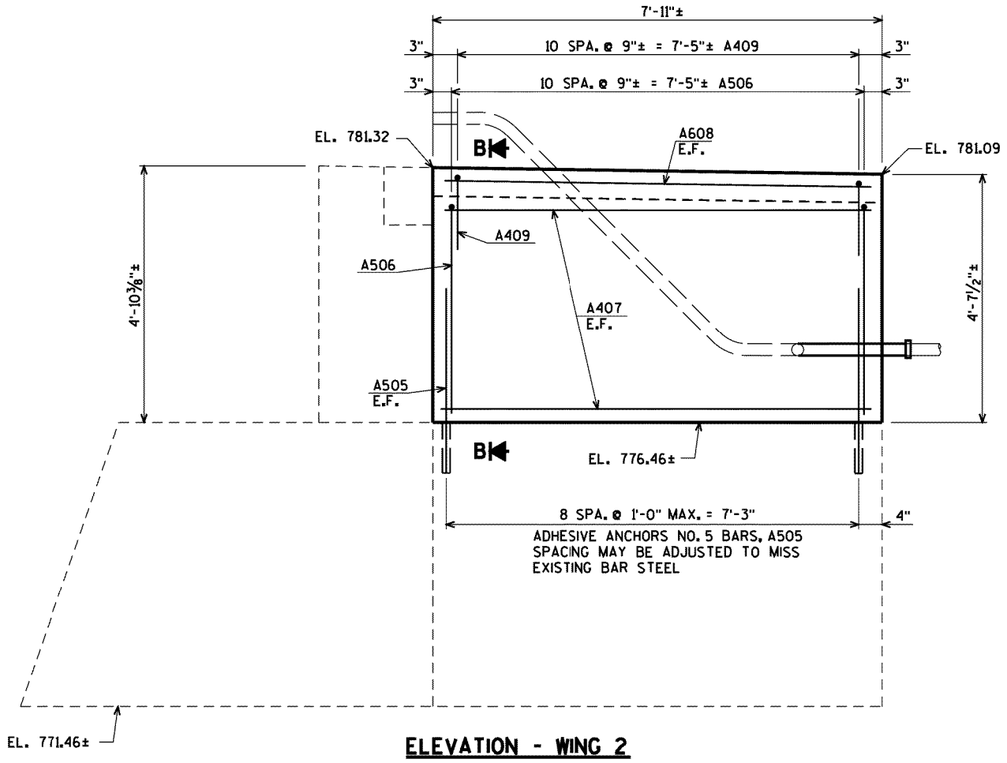
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I:±42±42-1099.00 - STH 181 Redecks - Milwaukee Co±Structures±B-40-380±Final±B-40-380 sa.dgn

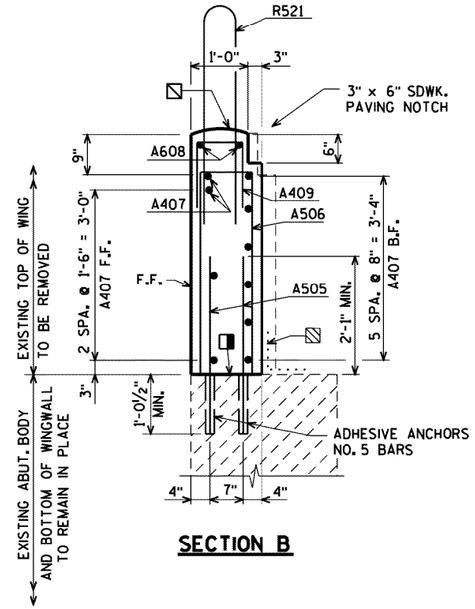
STATE PROJECT NUMBER

2967-17-71



ELEVATION - WING 2

PARAPET NOT SHOWN.
FOR DETAILS SEE SHEET 24



SECTION B

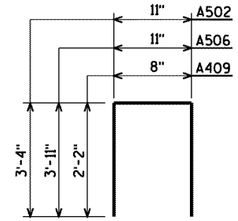
BILL OF BARS

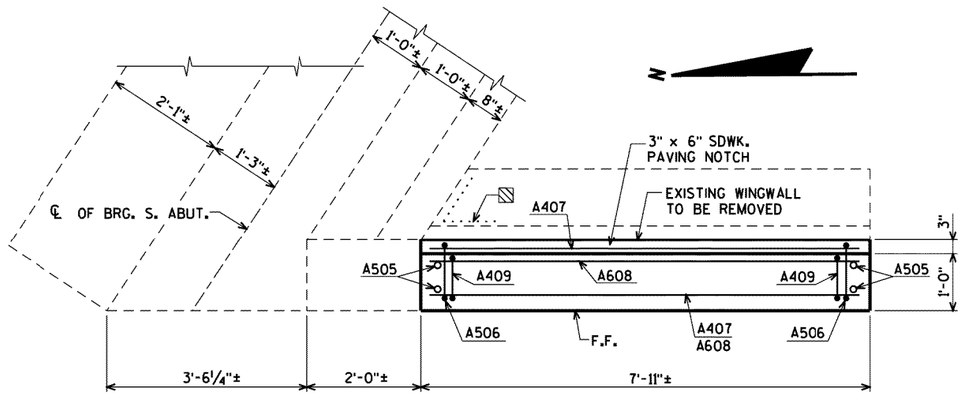
WEIGHT INCLUDES PARAPET STEEL SHOWN ON SHEETS 24 & 26

	BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	1,090# COATED LOCATION
▲	A501	X	16	3-2			WING 1 VERT. DOWELS E.F.
	A502	X	14	7-5	X		WING 1 VERT.
	A403	X	9	9-6			WING 1 HORIZ. E.F.
	A604	X	2	9-6			WING 1 HORIZ. E.F. TOP
▲	A505	X	18	3-2			WING 2 VERT. DOWELS E.F.
	A506	X	11	8-6	X		WING 2 VERT.
	A407	X	10	7-7			WING 2 HORIZ. E.F.
	A608	X	2	7-7			WING 2 HORIZ. E.F. TOP
	A409	X	11	4-10	X		WING 2 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS

▲ ADHESIVE ANCHORS NO. 5 BAR





PLAN - WING 2

- EXISTING CONST. JOINT
- 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT.
- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- FOR CONDUIT DETAILS SEE SHEET 20.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

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SOUTH ABUTMENT WING 2 DETAILS & BILL OF BARS

SHEET 6 OF 27
216

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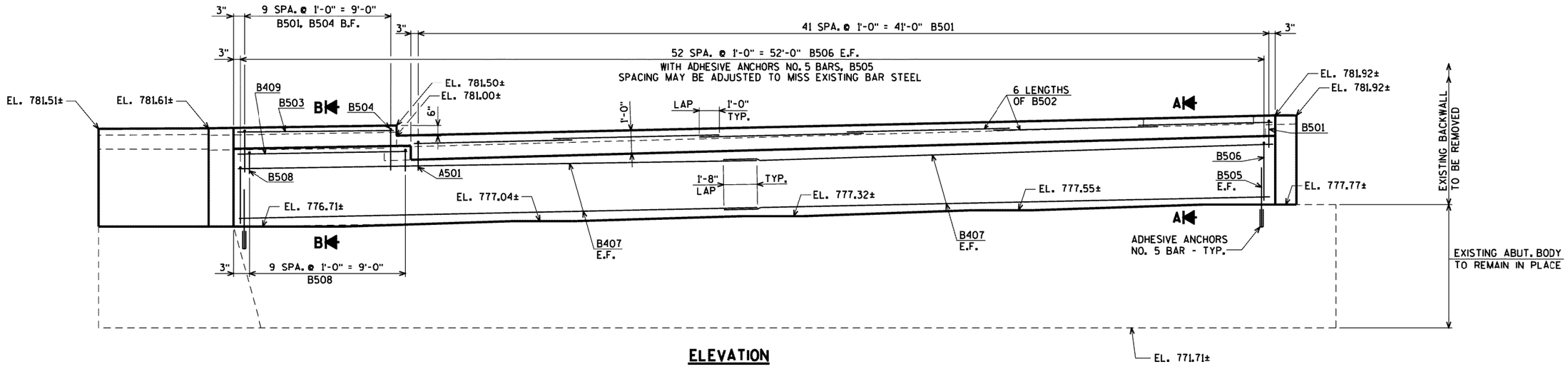
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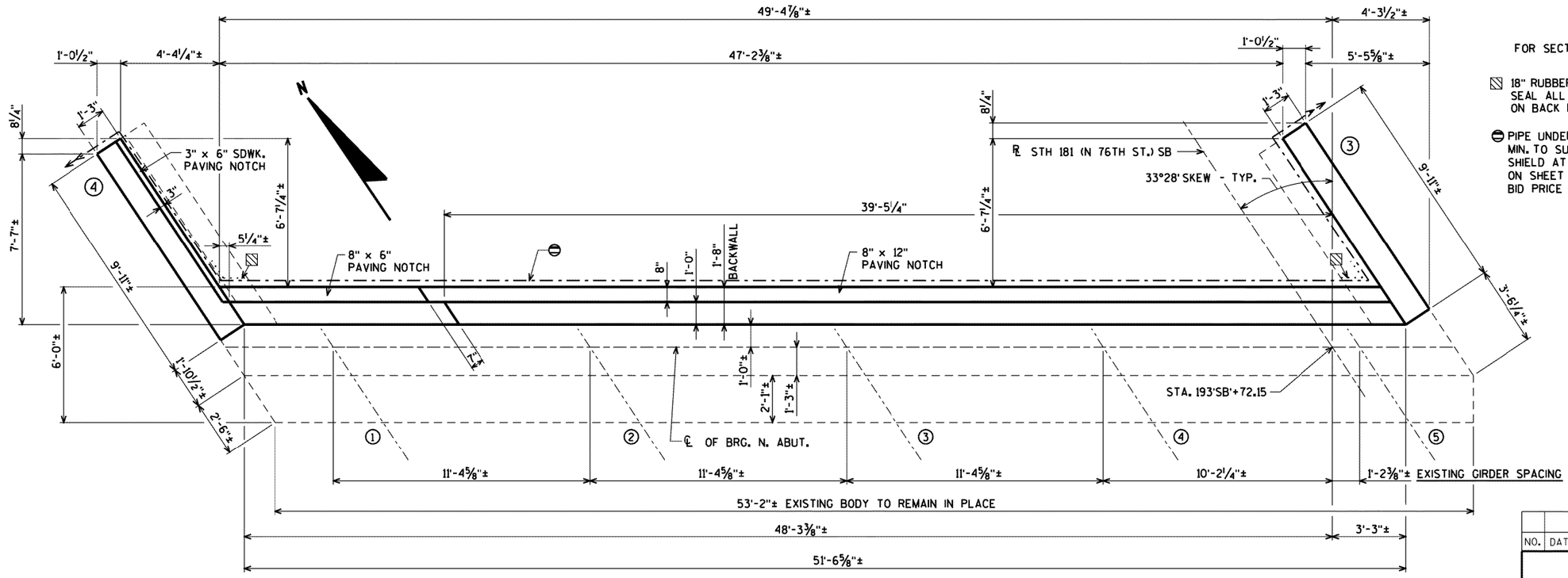
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STATE PROJECT NUMBER
2967-17-71



ELEVATION
(LOOKING NORTH)



PLAN

FOR SECTIONS A & B SEE SHEET 10

▨ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 10. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

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NORTH ABUTMENT

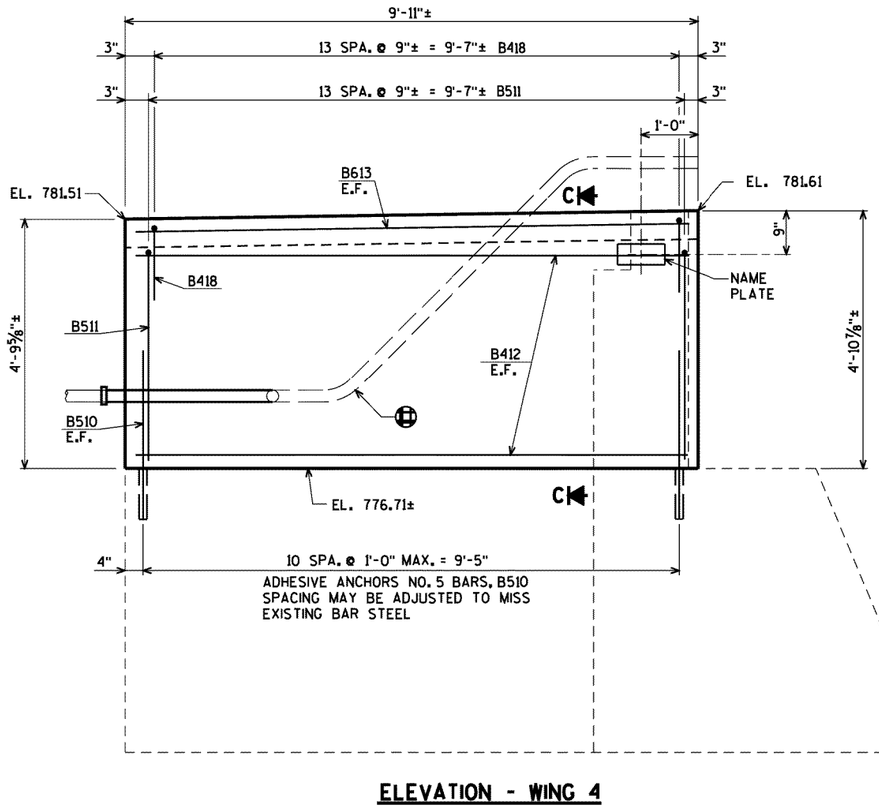
SHEET 7 OF 27
217

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9/13/2023
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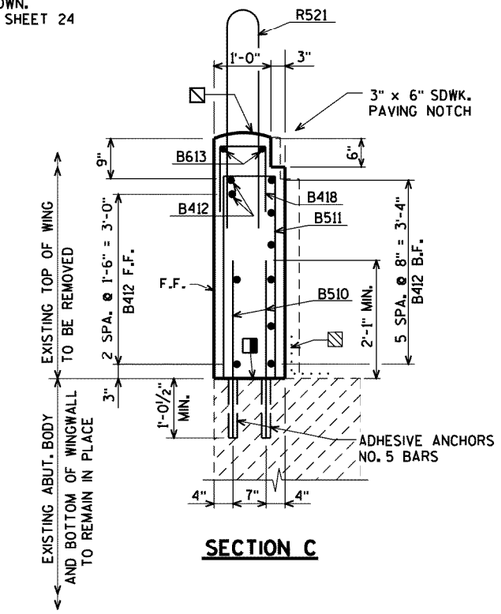
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STATE PROJECT NUMBER
2967-17-71

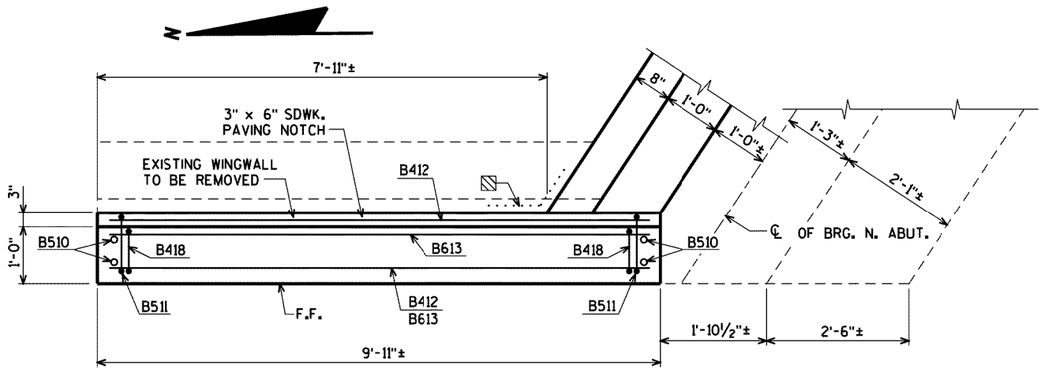


ELEVATION - WING 4

PARAPET NOT SHOWN.
FOR DETAILS SEE SHEET 24



SECTION C



PLAN - WING 4

- EXISTING CONST. JOINT
- 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT.
- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- FOR CONDUIT DETAILS SEE SHEET 20.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

DRAWN BY CLP | PLANS CK'D. AEB

NORTH ABUTMENT
WING 4 DETAILS

SHEET 8 OF 27
218

ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

8/24/2023
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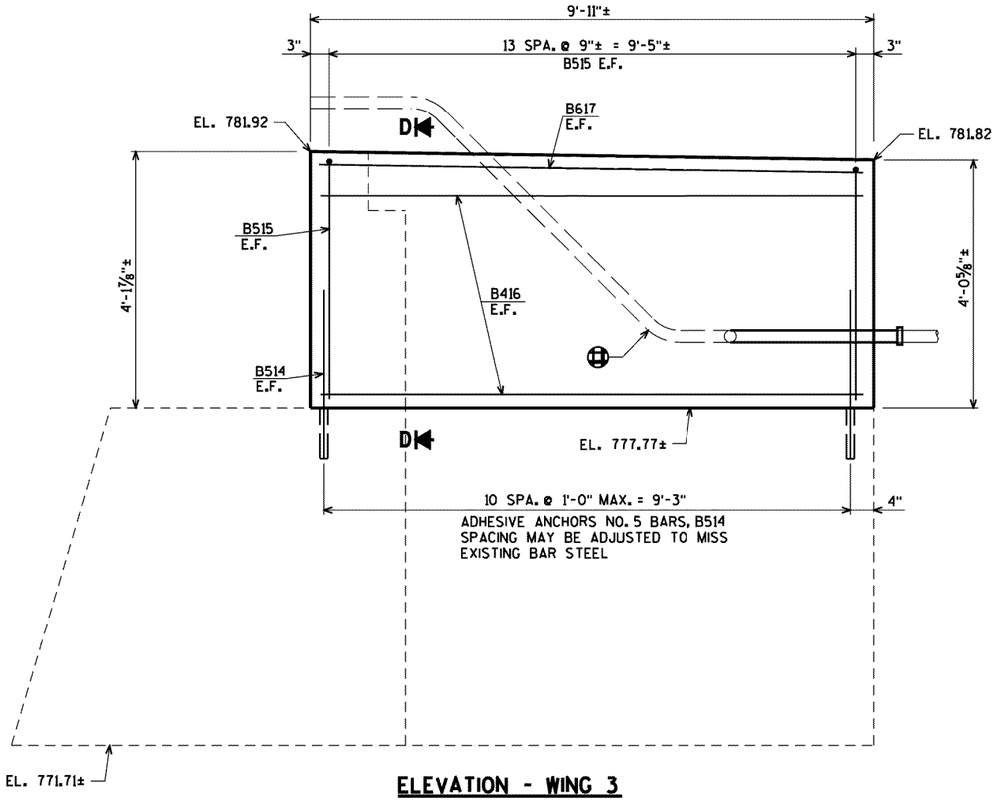
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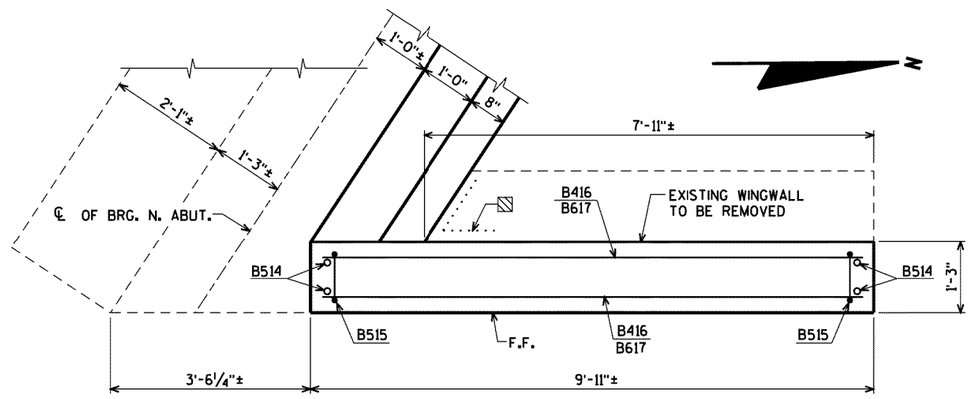
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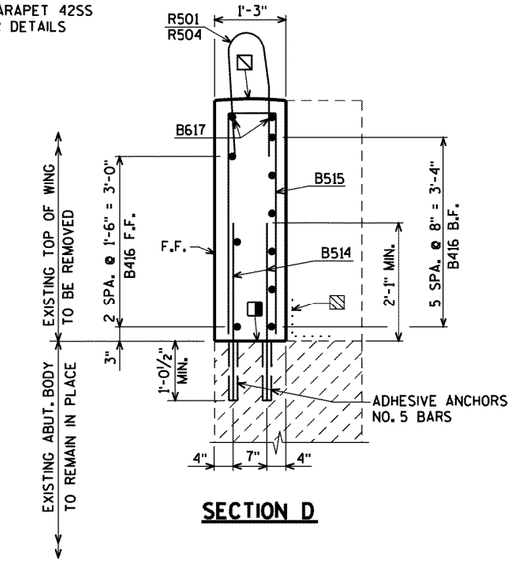


ELEVATION - WING 3



PLAN - WING 3

SINGLE SLOPE PARAPET 42SS
NOT SHOWN. FOR DETAILS
SEE SHEET 26



SECTION D

EXISTING CONST. JOINT

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

CONST. JOINT - STRIKE OFF AS SHOWN
AND LEAVE ROUGH.

FOR CONDUIT DETAILS SEE SHEET 20.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

DRAWN BY CLP | PLANS CK'D. AEB

NORTH ABUTMENT
WING 3 DETAILS

SHEET 9 OF 27
219

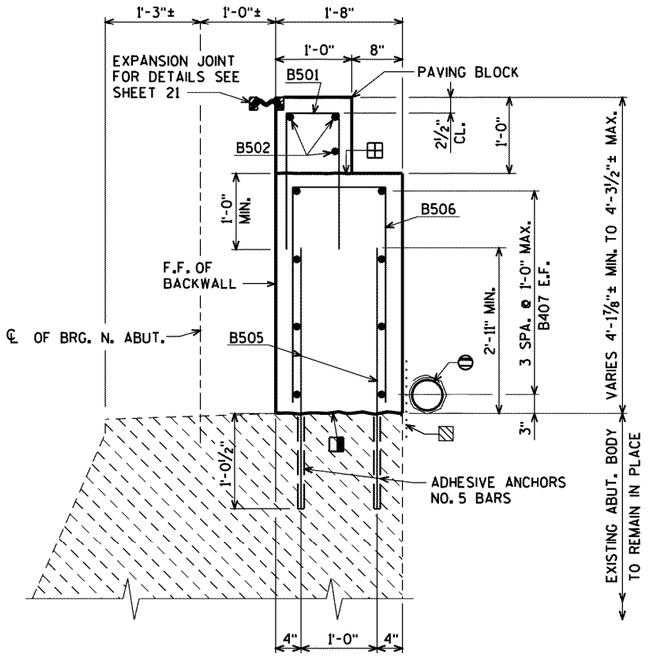
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3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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8/24/2023
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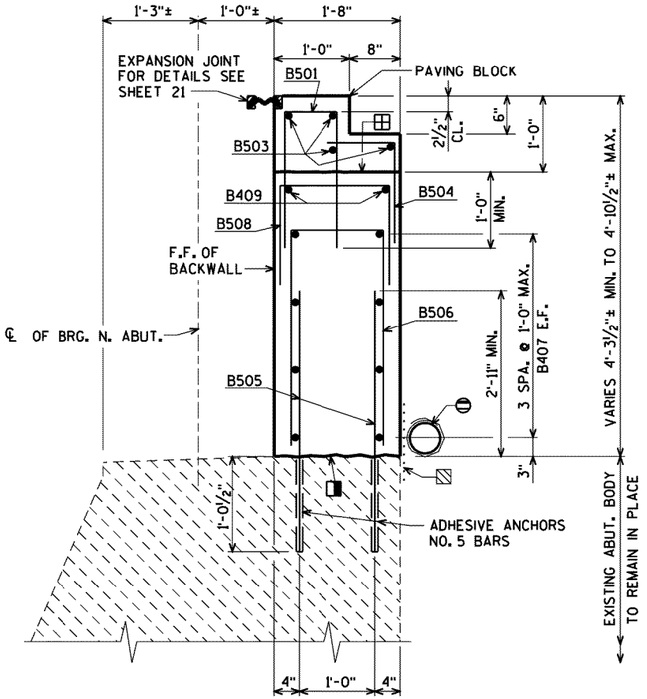
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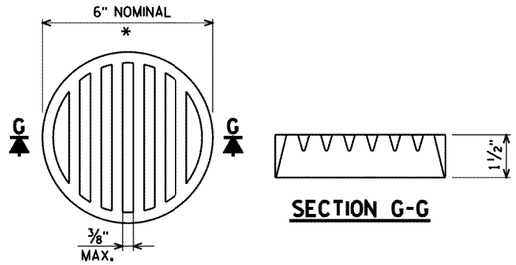


SECTION A



SECTION B

FOR LOCATION OF SECTIONS A & B
SEE SHEET 7



SECTION G-G

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

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

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

RODENT SHIELD DETAIL

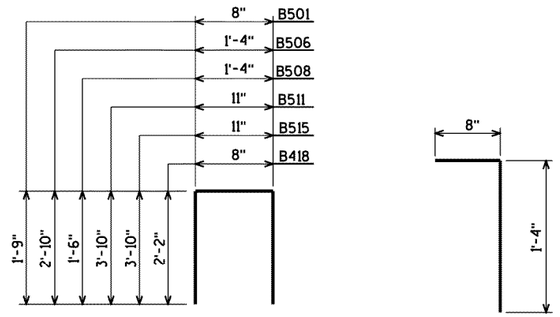
BILL OF BARS

WEIGHT INCLUDES PARAPET STEEL SHOWN ON SHEETS 24 & 26

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2,850# COATED LOCATION
B501	X	52	3-11	X		PAVING BLOCK VERT.
B502	X	18	10-0			PAVING BLOCK HORIZ.
B503	X	4	8-3			PAVING BLOCK HORIZ. @ SDWK
B504	X	9	1-11	X		PAVING BLOCK VERT. B.F. @ SDWK
▲ B505	X	106	4-0			BACKWALL VERT. DOWELS E.F.
B506	X	53	6-9	X		BACKWALL VERT.
B407	X	16	27-6			BACKWALL HORIZ. E.F.
B508	X	10	4-2	X		BACKWALL VERT. @ SDWK
B409	X	2	7-6			BACKWALL HORIZ. E.F. @ SDWK
▲ B510	X	22	3-2			WING 4 VERT. DOWELS E.F.
B511	X	14	8-6	X		WING 4 VERT.
B412	X	10	9-7			WING 4 HORIZ. E.F.
B613	X	2	9-7			WING 4 HORIZ. E.F. TOP
▲ B514	X	22	3-2			WING 3 VERT. DOWELS E.F.
B515	X	14	8-5	X		WING 3 VERT.
B416	X	9	9-7			WING 3 HORIZ. E.F.
B617	X	2	9-7			WING 3 HORIZ. E.F. TOP
B418	X	14	4-10	X		WING 4 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS

▲ ADHESIVE ANCHORS NO. 5 BAR



B504

℄ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

▮ EXISTING CONST. JOINT

▨ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

⊞ CONST. JOINT - POUR CONCRETE ABOVE THIS JOINT AFTER SUBSTRUCTURE IS IN PLACE. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

DRAWN BY CLP | PLANS CK'D. AEB

NORTH ABUTMENT DETAILS AND BILL OF BARS

SHEET 10 OF 27
220

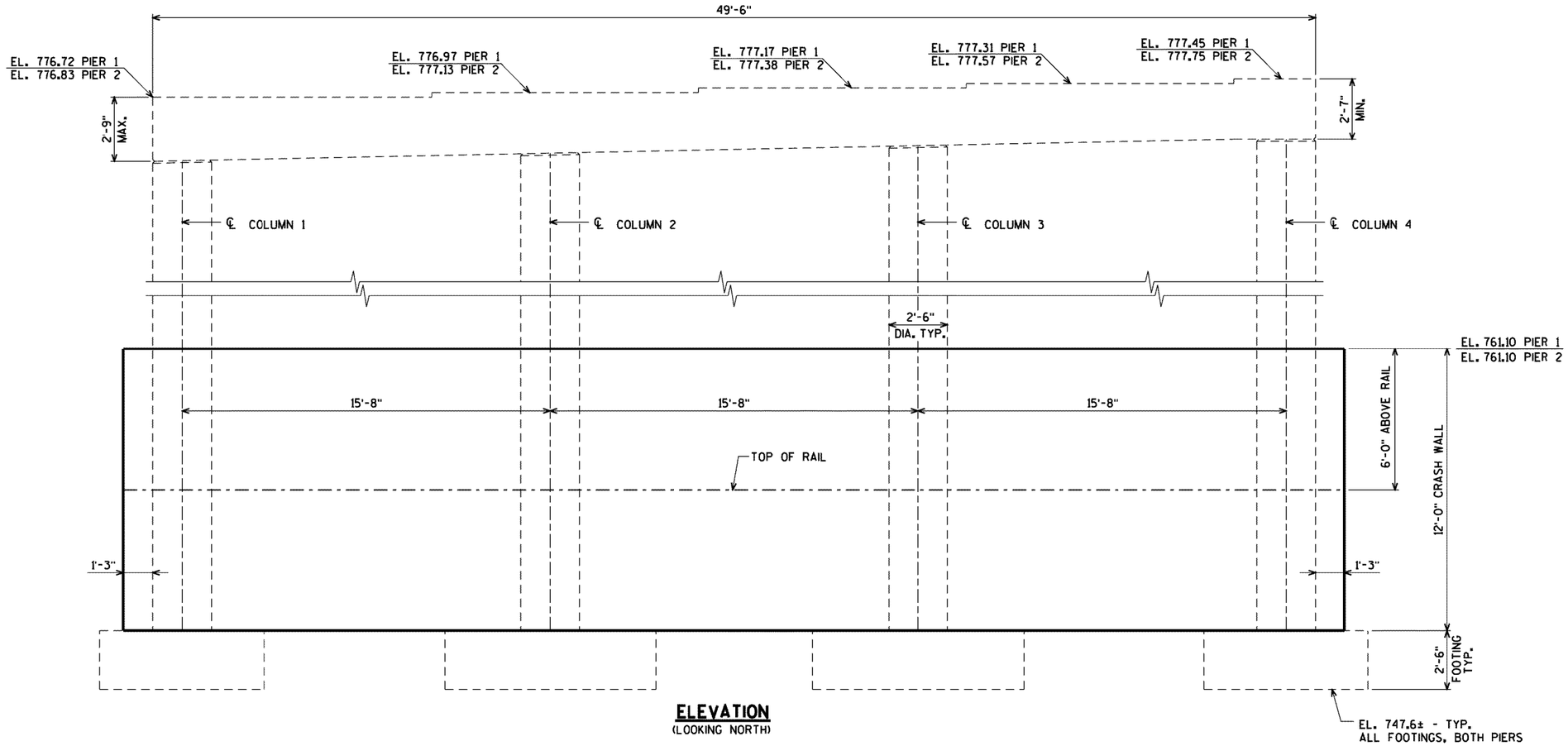
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Eau Claire, WI 54701
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9/13/2023
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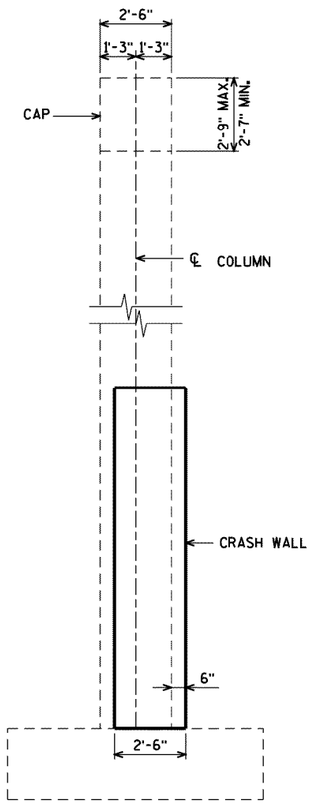
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STATE PROJECT NUMBER

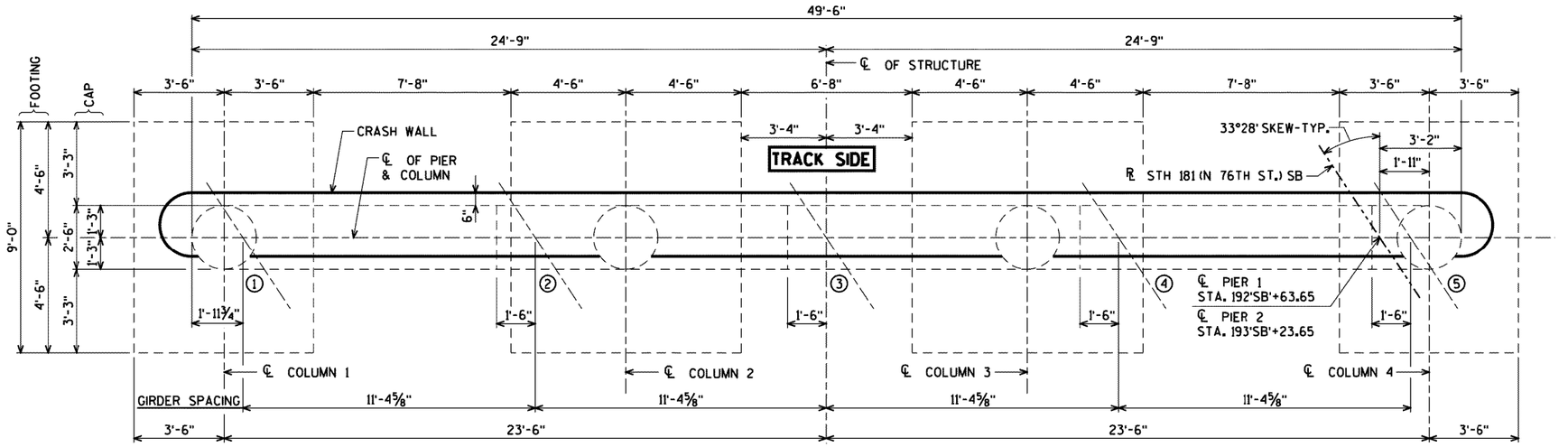
2967-17-71



ELEVATION
(LOOKING NORTH)



END VIEW



PLAN

NOTES:

EXISTING FOOTINGS, COLUMNS AND CAP TO REMAIN IN PLACE.

PIER 1 SHOWN ON THIS SHEET, PIER 2 SIMILAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

DRAWN BY CLP | PLANS CK'D. AEB

PIERS 1 & 2 DETAILS

SHEET 11 OF 27
221

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8

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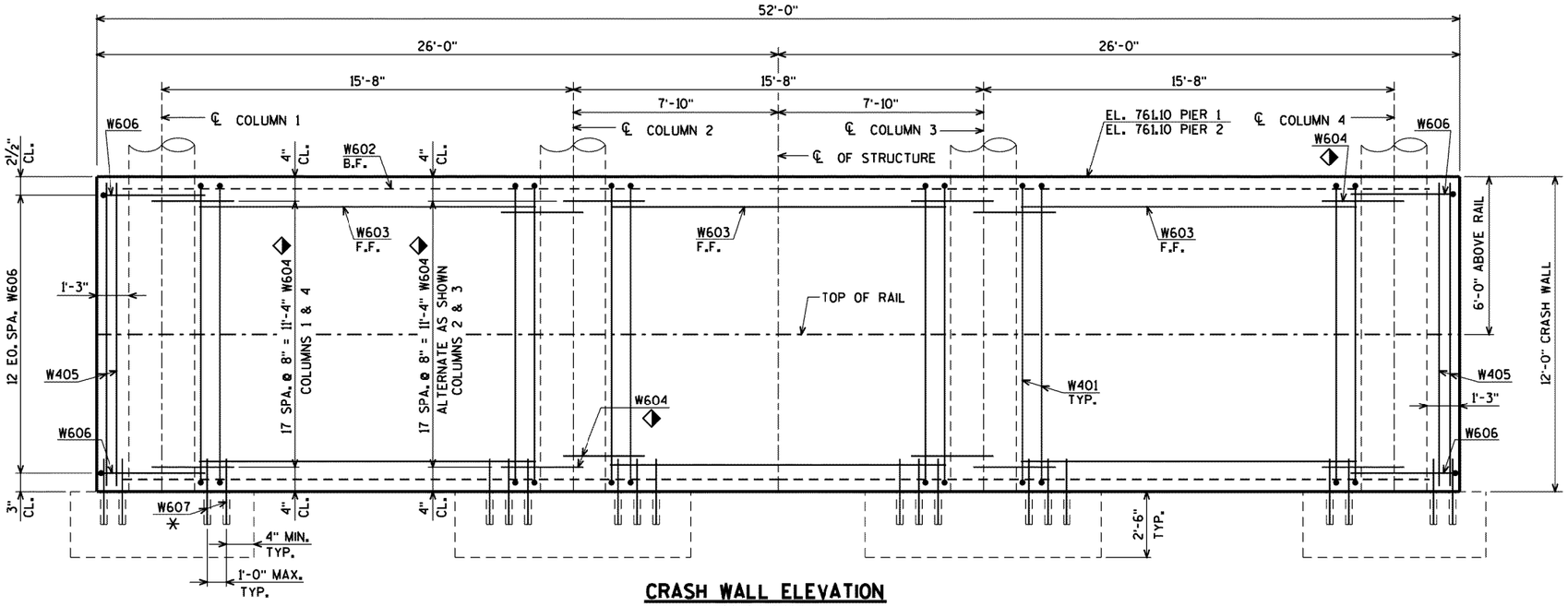
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2967-17-71

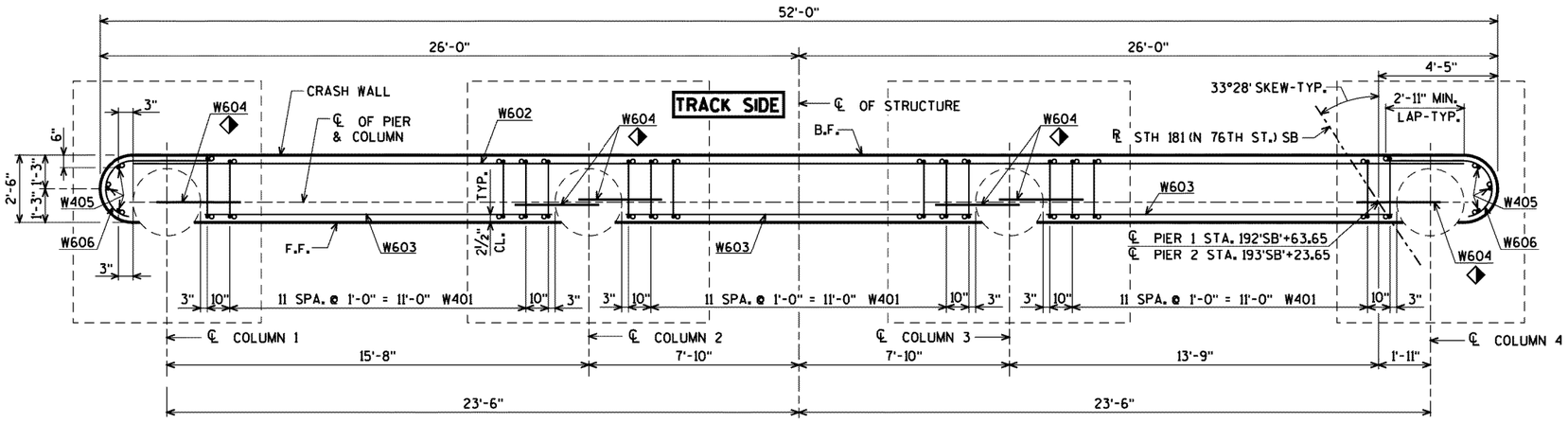
BILL OF BARS

	BAR NO.	COATED BAR	NO. REQ'D. PIER 1	NO. REQ'D. PIER 2	LENGTH	BENT BAR	BUNDLED BAR	SERIES	2.980" UNCOATED LOCATION
	W401		42	42	27-10	X			VERT. STIRRUPS
	W602		13	13	49-6				HORIZ. B.F. TRACK SIDE
	W603		39	39	12-11				HORIZ. F.F.
◆	W604		72	72	2-9				HORIZ. COLUMN DOWELS
	W405		6	6	11-7				VERT. AT ENDS
	W606		26	26	6-3	X			HORIZ. AT ENDS
*	W607		38	38	2-9				VERT. FOOTING DOWELS

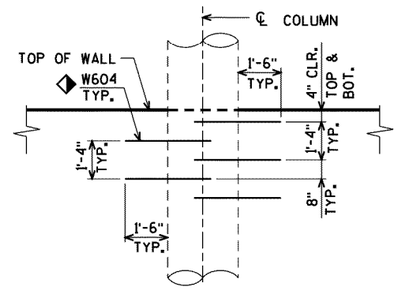
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



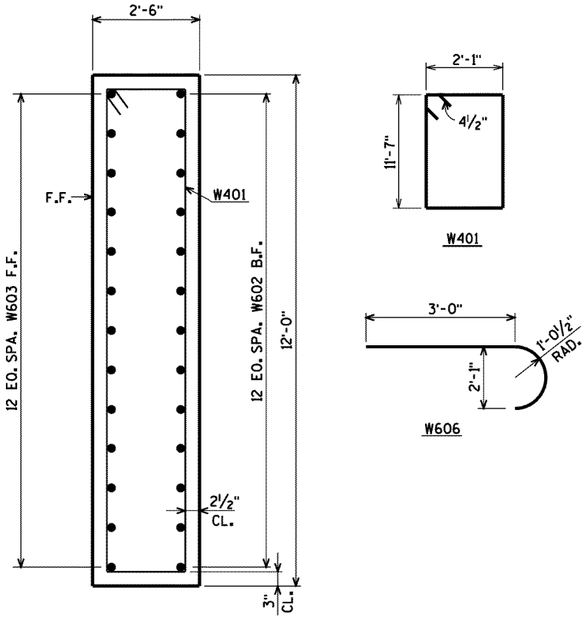
CRASH WALL ELEVATION
(LOOKING NORTH)



CRASH WALL PLAN



CRASH WALL TO COLUMN CONNECTION DETAIL
TYPICAL ALL COLUMNS UNLESS NOTED OTHERWISE



TYPICAL SECTION

NOTES:

EXISTING FOOTINGS, COLUMNS AND CAP TO REMAIN IN PLACE.

CRASH WALL @ PIER 1 SHOWN. CRASH WALL FOR PIER 2 SIMILAR.

◆ ADHESIVE ANCHORS NO. 6 BARS, W604 EMBED 1'-3". DETERMINE LOCATION OF COLUMN BAR STEEL PRIOR TO DRILLING ANCHORS.

* ADHESIVE ANCHORS NO. 6 BARS, W607 EMBED 1'-3" INTO FOOTING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

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CRASH WALL DETAILS

SHEET 12 OF 27
222

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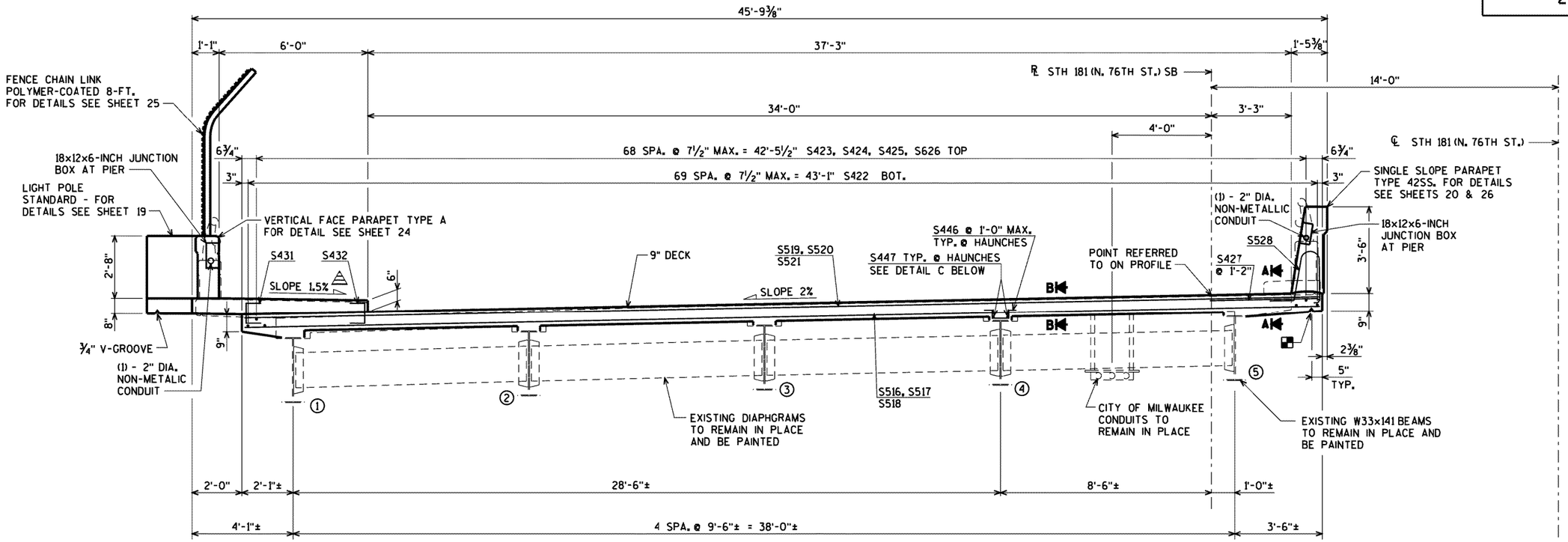
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11/2/2023
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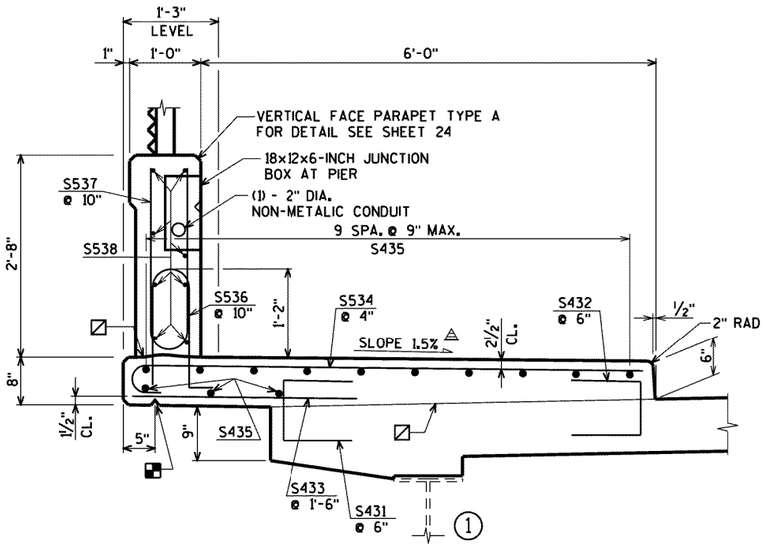
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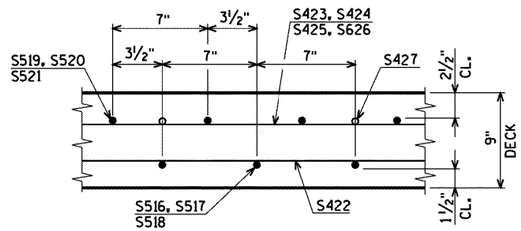
2967-17-71



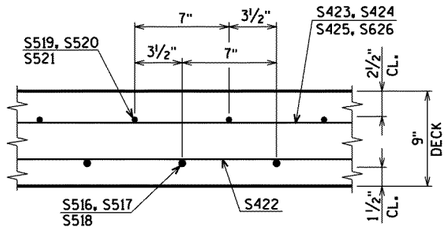
TYPICAL SECTION THRU BRIDGE
(LOOKING NORTH)



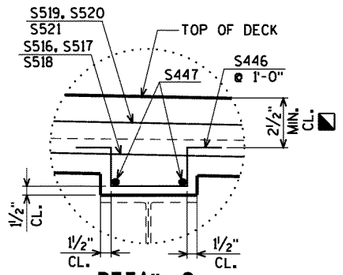
SECTION THRU SIDEWALK
(LOOKING NORTH)



SECTION A



SECTION B



DETAIL C

▨ TILT S446 BARS 30 DEG. MAX. FROM VERTICAL AS REQ'D. TO MAINTAIN 2½" CLEAR

△ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

▩ ¾" V - GROOVE. TERMINATE 2'-0" FROM FRONT FACE OF ABUTMENTS - TYP.

▨ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE CROSS SLOPE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

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SUPERSTRUCTURE

SHEET 13 OF 27
223

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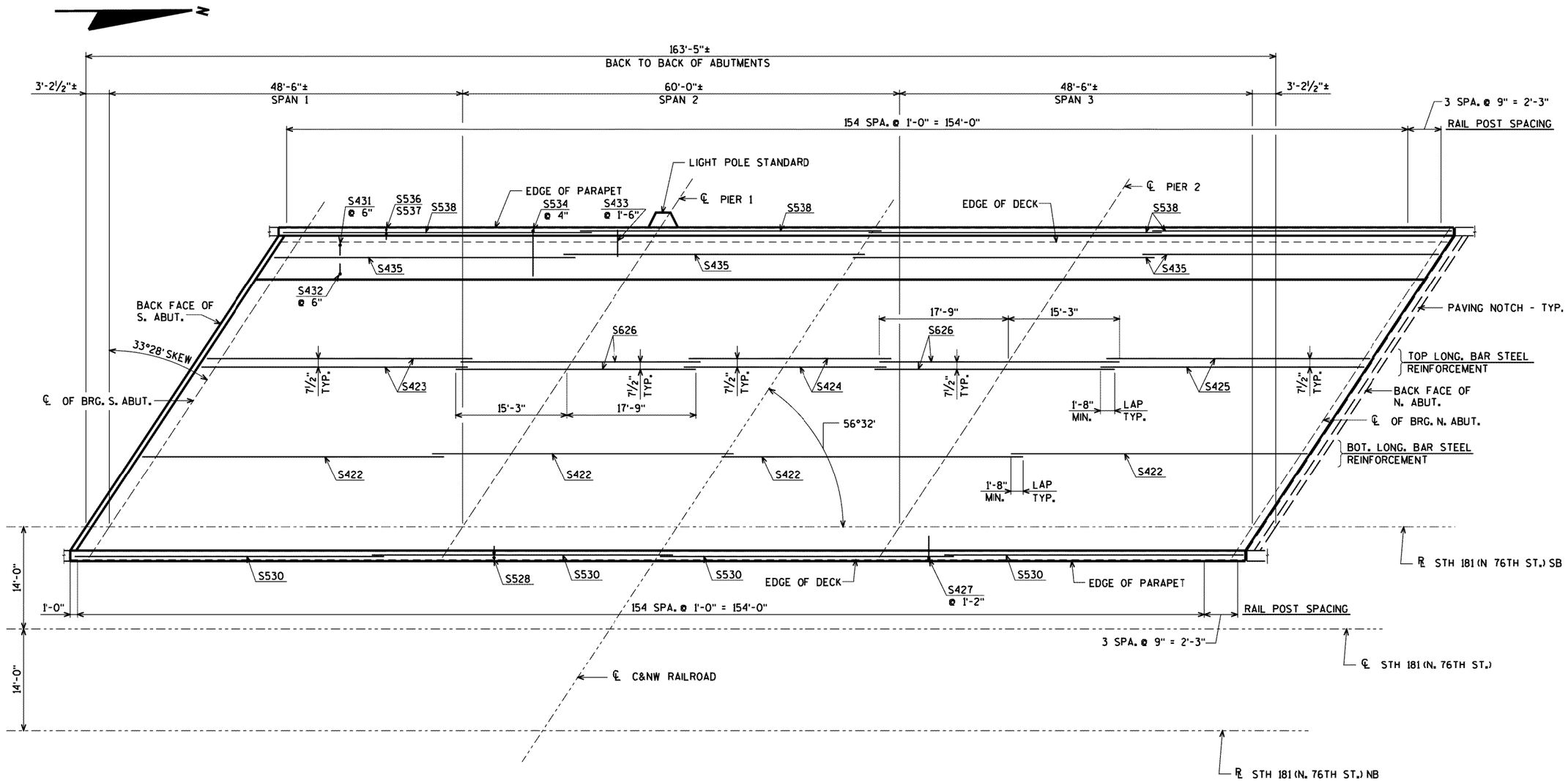
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8

8

STATE PROJECT NUMBER
2967-17-71



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

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SUPERSTRUCTURE PLAN

SHEET 14 OF 17
224

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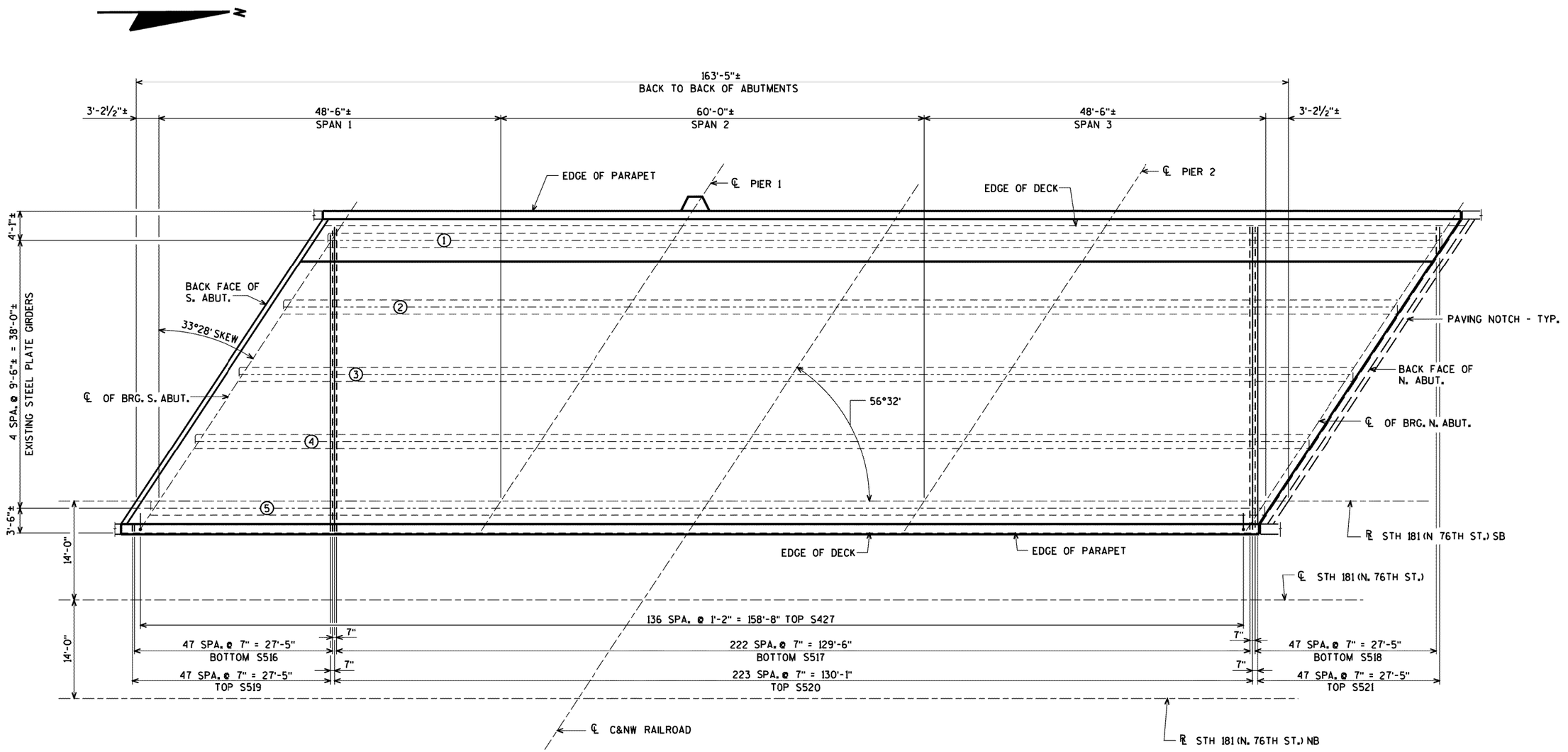
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10/23/2023
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PLAN

8/15/2023
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8

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

DRAWN BY CLP | PLANS CK'D. AEB

TRANSVERSE DECK STEEL LAYOUT

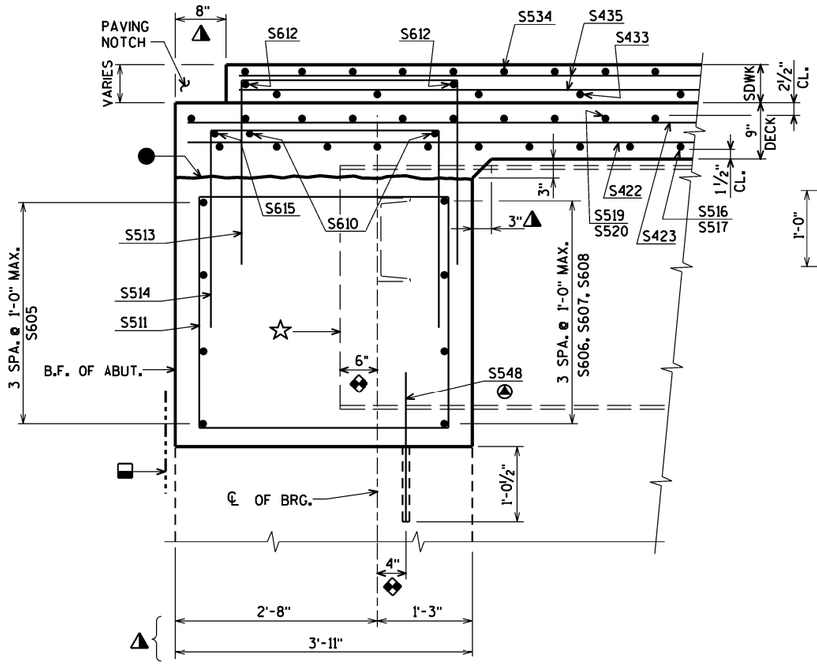
SHEET 15 OF 27
225

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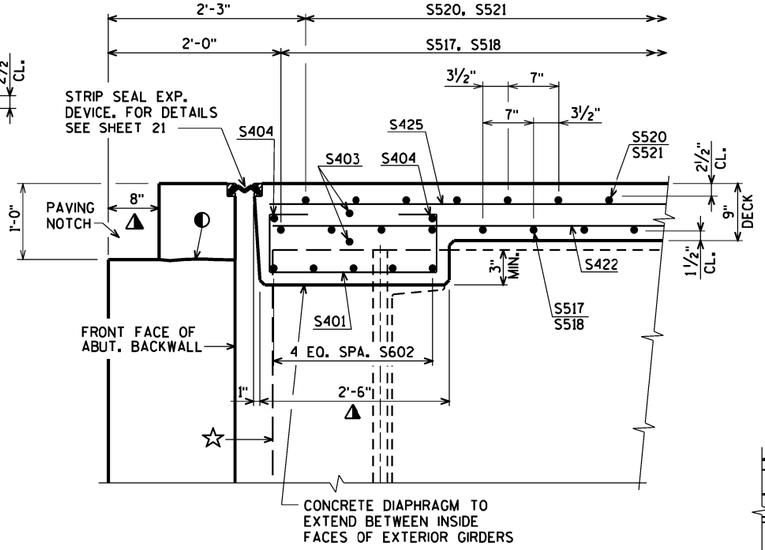
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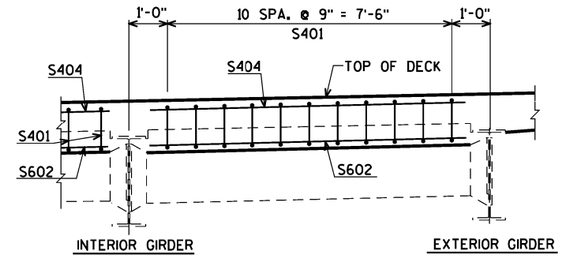
2967-17-71



PART LONGITUDINAL SECTION - SOUTH ABUTMENT SIDEWALK

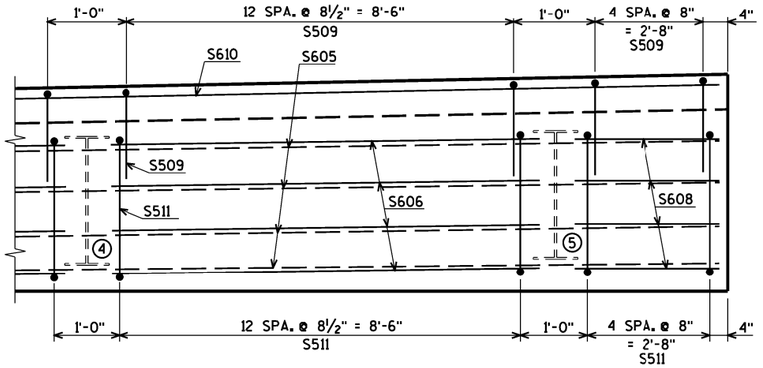


PART LONGITUDINAL SECTION - NORTH ABUTMENT



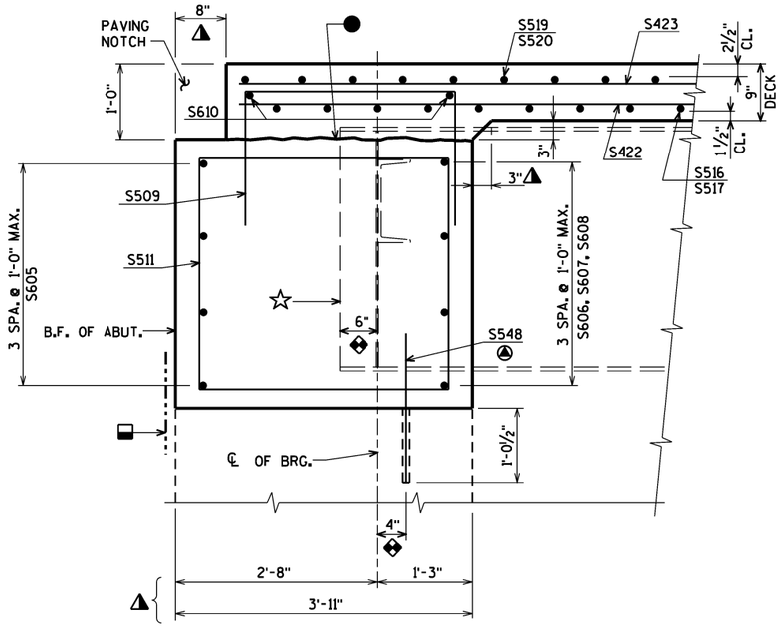
PART TRANSVERSE SECTION AT DIAPHRAGM - NORTH ABUTMENT

(NON-SIDEWALK SIDE SHOWN, OTHER SIDE SIMILAR)

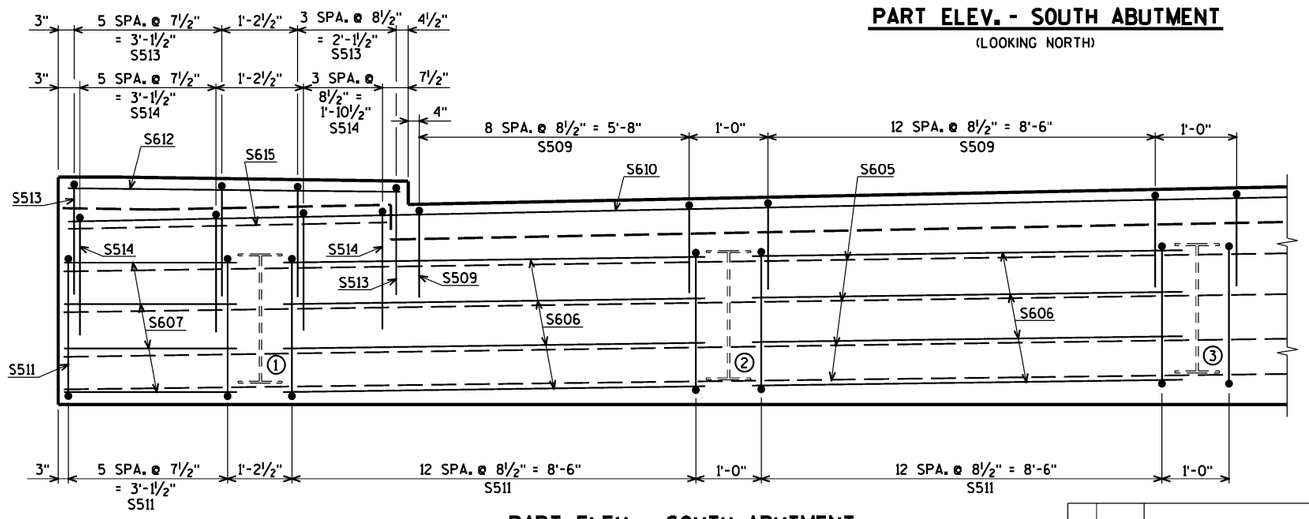


PART ELEV. - SOUTH ABUTMENT

(LOOKING NORTH)



PART LONGITUDINAL SECTION - SOUTH ABUTMENT



PART ELEV. - SOUTH ABUTMENT

(LOOKING NORTH)

▲ ADHESIVE ANCHORS NO. 5 BARS, S548 EMBED 1'-0½" INTO ABUTMENT.

☆ END OF EXISTING GIRDER.

◐ CONSTRUCTION JOINT - POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

⚠ DIMENSIONS MEASURED NORMAL TO ℄ OF SUBSTRUCTURE UNIT.

▭ RUBBERIZED MEMBRANE WATERPROOFING.

◈ DIMENSIONS MEASURED ALONG ℄ OF GIRDER.

● OPTIONAL CONST. JT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

DRAWN BY CLP | PLANS CK'D. AEB

SUPERSTRUCTURE DETAILS

SHEET 16 OF 27
226

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11/14/2023
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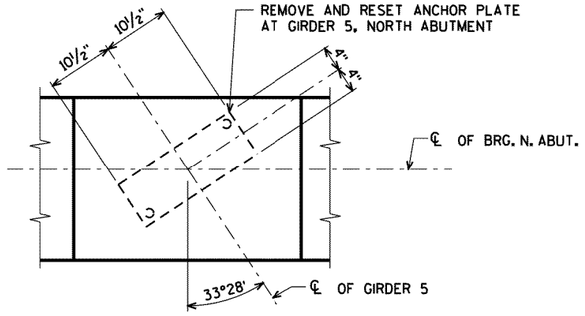
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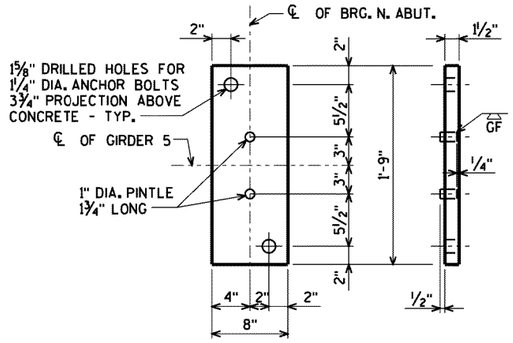
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STATE PROJECT NUMBER

2967-17-71

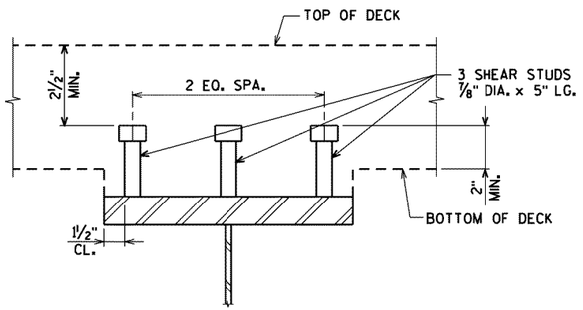


BEARING DETAIL



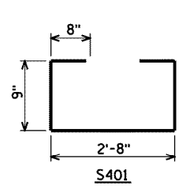
MASONRY PLATE

NOTE:
USE THREE FIELD WELDED ⅞" DIA. x 5" LONG STUDS EQUALLY SPACED WITH A MIN. OF 1½" CL. FROM THE FLANGE EDGE. STUDS SHALL NOT BE PLACED OVER FIELD SPLICE PLATES.

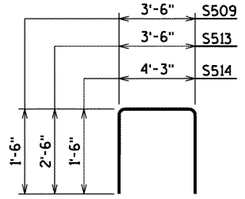


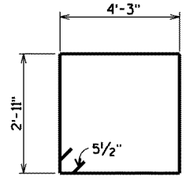
SHEAR CONNECTOR DETAIL

IF EXISTING SHEAR LUGS ARE DAMAGED DURING THE DECK REMOVAL, SALVAGE THE EXISTING ONES AND REPLACE WITH SHEAR STUDS AS DETAILED ABOVE. COST IS INCIDENTAL TO CONCRETE MASONRY BRIDGES.

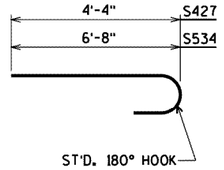


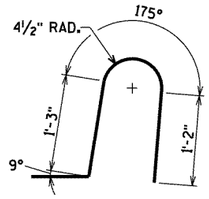
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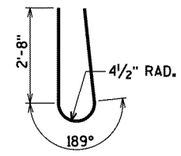


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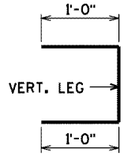




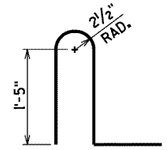
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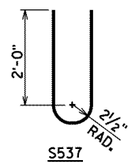
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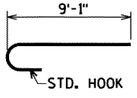
S431, S432



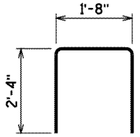
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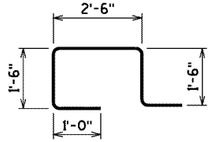
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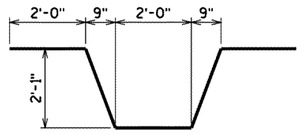
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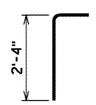
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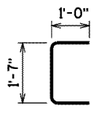
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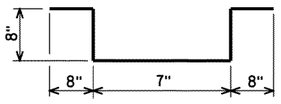
S642



S544



S545



S446

BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	64,240# COATED LOCATION
S401	X	44	5-2	X		DIAPH. @ N. ABUT. VERT.
S602	X	20	9-0			DIAPH. @ N. ABUT. HORIZ. BOT.
S403	X	8	9-0			DIAPH. @ N. ABUT. HORIZ.
S404	X	8	9-0			DIAPH. @ N. ABUT. HORIZ. TOP
S605	X	4	53-4			DIAPH. @ S. ABUT. HORIZ.
S606	X	16	10-9			DIAPH. @ S. ABUT. HORIZ.
S607	X	4	4-4			DIAPH. @ S. ABUT. HORIZ. GDR. 1
S608	X	4	3-7			DIAPH. @ S. ABUT. HORIZ. GDR. 5
S509	X	48	6-3	X		DIAPH. @ S. ABUT. VERT.
S610	X	2	53-4			DIAPH. @ S. ABUT. HORIZ.
S511	X	63	14-11	X		DIAPH. @ S. ABUT. VERT.
S612	X	2	8-0			DIAPH. @ S. ABUT. HORIZ.
S513	X	10	8-3	X		DIAPH. @ S. ABUT. VERT.
S514	X	10	7-0	X		DIAPH. @ S. ABUT. VERT.
S615	X	1	7-8			DIAPH. @ S. ABUT. HORIZ.
S516	X	48	22-4		⊗	SLAB TRANS. BOT.
S517	X	223	43-2			SLAB TRANS. BOT.
S518	X	48	21-10		⊗	SLAB TRANS. BOT.
S519	X	48	22-4		⊗	SLAB TRANS. TOP
S520	X	224	43-2			SLAB TRANS. TOP
S521	X	48	21-10		⊗	SLAB TRANS. TOP
S422	X	280	41-6			SLAB LONG. BOT.
S423	X	69	37-4			SLAB LONG. TOP SPAN 1
S424	X	69	27-10			SLAB LONG. TOP SPAN 2
S425	X	69	36-0			SLAB LONG. TOP SPAN 3
S626	X	138	33-0			SLAB LONG. TOP @ PIERS
S427	X	137	4-10	X		SLAB TRANS. @ OVERHANG
S528	X	245	4-5	X		SLAB @ PARAPET VERT.
S529	X	245	6-8	X		SLAB @ PARAPET VERT.
S530	X	24	55-6			SLAB @ PARAPET HORIZ.
S431	X	322	3-1	X		SLAB @ SDWK. @ CURB
S432	X	322	2-11	X		SLAB @ SDWK. @ CURB
S433	X	108	2-10			SDWK. TRANS. BOT.
S534	X	482	7-3	X		SDWK. TRANS. TOP
S435	X	52	41-6			SDWK. LONG.
S536	X	194	4-4	X		SLAB @ PARAPET VERT.
S537	X	194	4-9	X		SLAB @ PARAPET VERT.
S538	X	24	55-6			SLAB @ PARAPET HORIZ.
S539	X	12	9-8	X		LIGHT STD. TRANS. SDWK. TOP
S540	X	4	6-3	X		LIGHT STD. VERT. PARAPET
S541	X	4	7-0	X		LIGHT STD. VERT. PARAPET
S642	X	7	10-0	X		LIGHT STD. HORIZ. PARAPET
S543	X	12	9-1			LIGHT STD. TRANS. SDWK. BOT.
S544	X	2	3-3	X		LIGHT STD. VERT. PARAPET
S545	X	2	3-4	X		LIGHT STD. VERT. PARAPET
S446	X	790	3-0	X		SLAB @ GIRDER HAUNCHES
S447	X	40	40-6			SLAB LONG. BOT. @ HAUNCHES
▲ S548	X	40	2-1			VERT. DOWEL BAR @ S. ABUT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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

▲ ADHESIVE ANCHORS NO. 5 BARS, S548 EMBED 1'-0½" INTO ABUTMENT.

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
S516	1 SERIES OF 48	1'-7" TO 43'-1"
S518	1 SERIES OF 48	1'-1" TO 42'-7"
S519	1 SERIES OF 48	1'-7" TO 43'-1
S521	1 SERIES OF 48	1'-1" TO 42'-7

BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

DRAWN BY CLP | PLANS CK'D. AEB

SUPERSTRUCTURE BILL OF BARS

SHEET 17 OF 27
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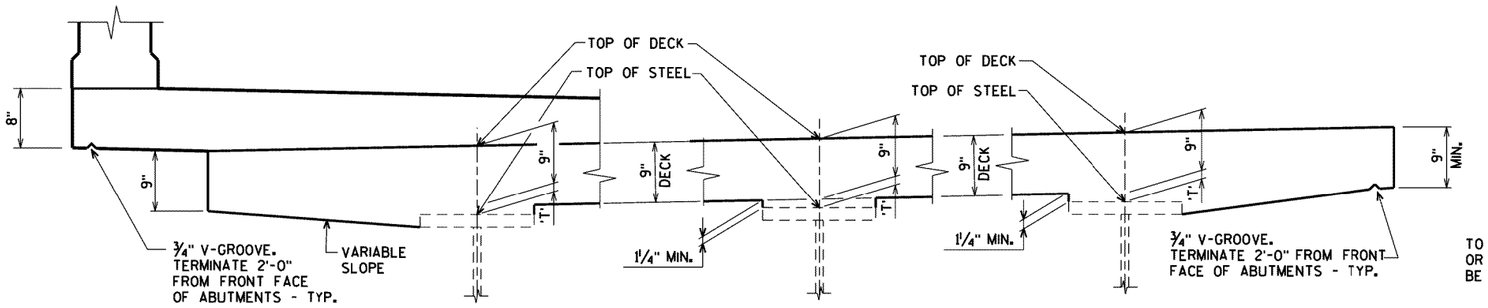
ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

11/2/2023
PENTABLE:BRequ_shd_utl1.tbl

I:±42±42-1099.00 - STH 181 Redecks - Milwaukee Co±Structures±B-40-380±Final±B-40-380 sup.DGN

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EXTERIOR GIRDER 1 — INTERIOR GIRDERS 2 - 4 — EXTERIOR GIRDER 5

DECK HAUNCH DETAILS

TO DETERMINE 'T': AFTER ALL DECK IS REMOVED. ELEVATIONS OF THE TOP FLANGES OR TOP OF SPLICE PLATES, OR TOP OF COVER PLATES WHICHEVER APPLIES, SHALL BE TAKEN AT CENTERLINE OF BEARINGS AND AT TENTH POINTS OF EACH SPAN.

TOP OF DECK ELEVATION AT FINAL GRADE
- TOP OF STEEL ELEVATION AFTER DECK REMOVAL
+ DEAD LOAD DEFLECTION: DOWNWARD DEFLECTION IS ADDED, UPWARD DEFLECTION IS SUBTRACTED
- DECK THICKNESS (9")

= HAUNCH THICKNESS 'T'

AVERAGE "T" USED FOR ESTIMATING QUANTITIES = 4½"

PARAPETS AND SIDEWALKS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK AS BEEN RELEASED.

TOP OF DECK ELEVATIONS

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES FOR DEAD LOAD DEFLECTION.

LOCATION	℄ OF S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 1
WEST EDGE OF DECK	780.64	780.70	780.75	780.80	780.85	780.89	780.93	780.97	781.01	781.04	781.07
GIRDER 1	780.67	780.72	780.78	780.83	780.88	780.92	780.96	781.00	781.04	781.07	781.10
GIRDER 2	780.78	780.84	780.90	780.95	781.00	781.05	781.10	781.14	781.18	781.22	781.25
GIRDER 3	780.89	780.95	781.01	781.07	781.13	781.18	781.23	781.28	781.32	781.36	781.40
GIRDER 4	780.99	781.06	781.12	781.18	781.24	781.30	781.35	781.40	781.45	781.50	781.54
REFERENCE LINE	781.07	781.15	781.21	781.28	781.34	781.40	781.46	781.52	781.57	781.61	781.66
GIRDER 5	781.08	781.16	781.23	781.29	781.36	781.42	781.47	781.53	781.58	781.63	781.67
F.F. OF 42SS PARAPET	781.10	781.18	781.25	781.32	781.38	781.44	781.50	781.56	781.61	781.66	781.70
EAST EDGE OF DECK	781.09	781.17	781.24	781.31	781.37	781.43	781.49	781.55	781.60	781.65	781.70

LOCATION	℄ OF PIER 1	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 2
WEST EDGE OF DECK	781.07	781.10	781.12	781.15	781.16	781.18	781.18	781.19	781.18	781.18	781.17
GIRDER 1	781.10	781.13	781.16	781.18	781.20	781.21	781.22	781.23	781.23	781.22	781.21
GIRDER 2	781.25	781.29	781.32	781.35	781.37	781.39	781.40	781.41	781.42	781.42	781.41
GIRDER 3	781.40	781.44	781.48	781.51	781.54	781.56	781.58	781.59	781.60	781.61	781.61
GIRDER 4	781.54	781.58	781.63	781.66	781.70	781.73	781.75	781.77	781.78	781.79	781.80
REFERENCE LINE	781.66	781.71	781.76	781.80	781.84	781.87	781.90	781.92	781.94	781.95	781.96
GIRDER 5	781.67	781.73	781.77	781.82	781.85	781.89	781.91	781.94	781.96	781.97	781.98
F.F. OF 42SS PARAPET	781.70	781.76	781.81	781.85	781.89	781.92	781.95	781.98	782.00	782.01	782.02
EAST EDGE OF DECK	781.70	781.75	781.80	781.84	781.88	781.92	781.95	781.97	782.00	782.01	782.02

LOCATION	℄ OF PIER 2	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF N. ABUT.
WEST EDGE OF DECK	781.17	781.16	781.14	781.12	781.10	781.08	781.05	781.02	780.99	780.95	780.91
GIRDER 1	781.21	781.20	781.19	781.17	781.15	781.13	781.10	781.07	781.04	781.00	780.96
GIRDER 2	781.41	781.41	781.39	781.38	781.36	781.35	781.32	781.30	781.27	781.24	781.20
GIRDER 3	781.61	781.60	781.60	781.59	781.58	781.56	781.54	781.52	781.49	781.47	781.44
GIRDER 4	781.80	781.80	781.80	781.79	781.78	781.77	781.75	781.74	781.72	781.69	781.67
REFERENCE LINE	781.96	781.97	781.97	781.97	781.96	781.95	781.94	781.93	781.91	781.89	781.87
GIRDER 5	781.98	781.99	781.99	781.99	781.98	781.97	781.96	781.95	781.93	781.91	781.89
F.F. OF 42SS PARAPET	782.02	782.03	782.03	782.03	782.03	782.02	782.01	782.00	781.98	781.96	781.94
EAST EDGE OF DECK	782.02	782.03	782.03	782.03	782.03	782.02	782.01	782.00	781.99	781.97	781.95

DEAD LOAD DEFLECTIONS

DEFLECTIONS ARE GIVEN IN INCHES.
NEGATIVE DEFLECTION VALUE DENOTES AN UPWARD DELFECTION.
DEFLECTIONS ARE THEORETICAL AND MAY VARY IN THE FIELD.

	℄ OF S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 1
GIRDER 1-5	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.0	0.0

	℄ OF PIER 1	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 2
GIRDER 1-5	0.0	0.1	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.0

	℄ OF PIER 2	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF N. ABUT.
GIRDER 1-5	0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.0

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

DRAWN BY CLP | PLANS CK'D. AEB

DECK ELEVATIONS AND DEFLECTIONS

SHEET 18 OF 27
228

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

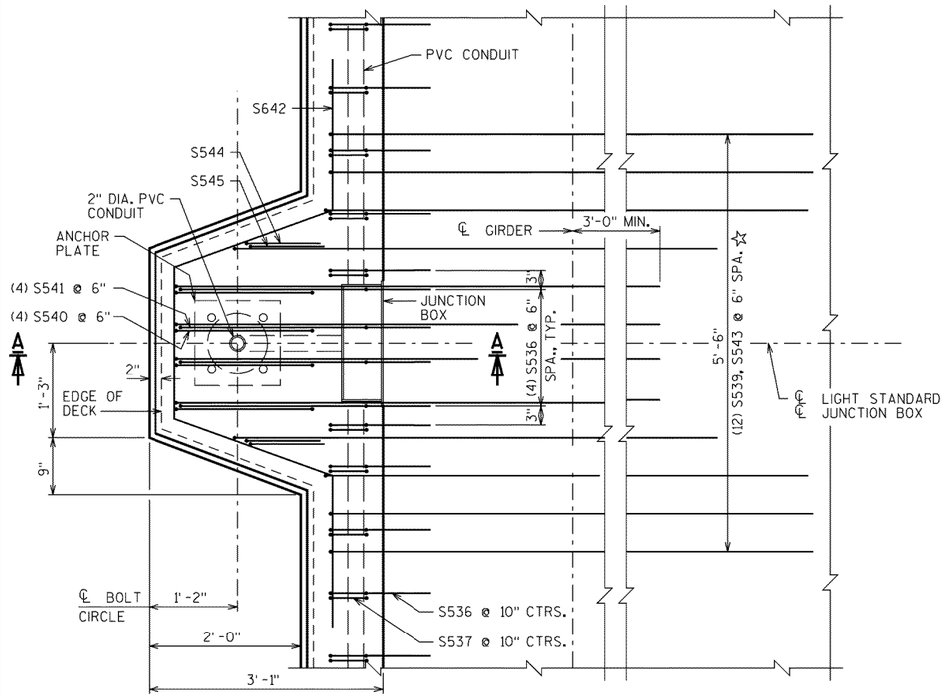
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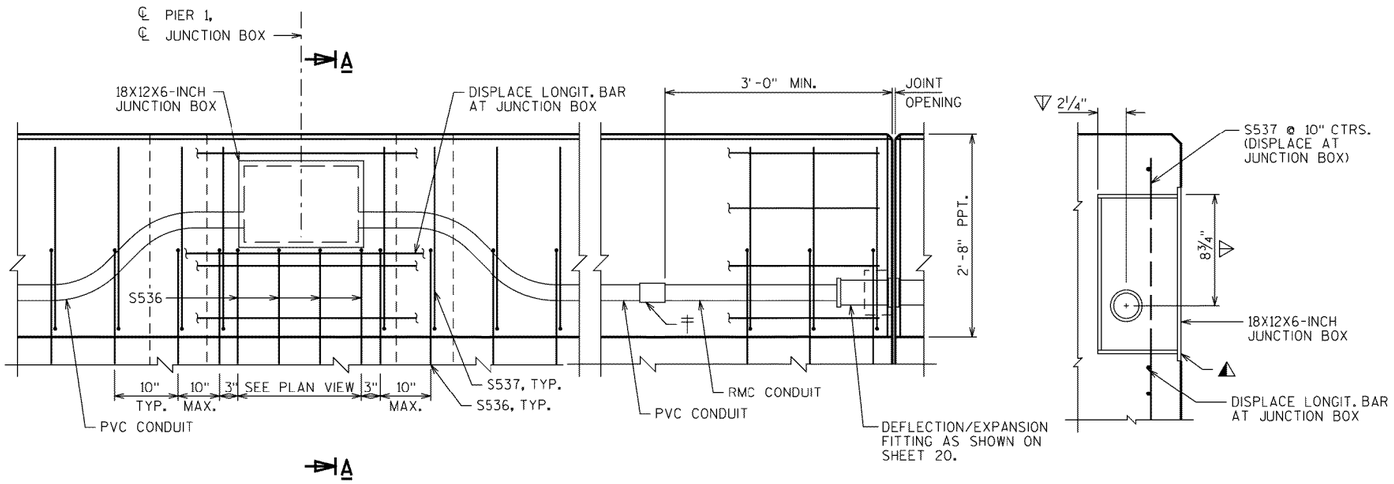
STATE PROJECT NUMBER

2967-17-71



PLAN AT LIGHT STANDARD

(DECK STEEL NOT SHOWN FOR CLARITY)



INSIDE ELEVATION AT JUNCTION BOX

(DECK STEEL NOT SHOWN FOR CLARITY)

JUNCTION BOX DETAIL

NOTES

BID ITEM SHALL BE "ANCHOR ASSEMBLIES POLES ON STRUCTURES", EACH

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 SHEET 20 FOR ADDITIONAL INFORMATION.

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.

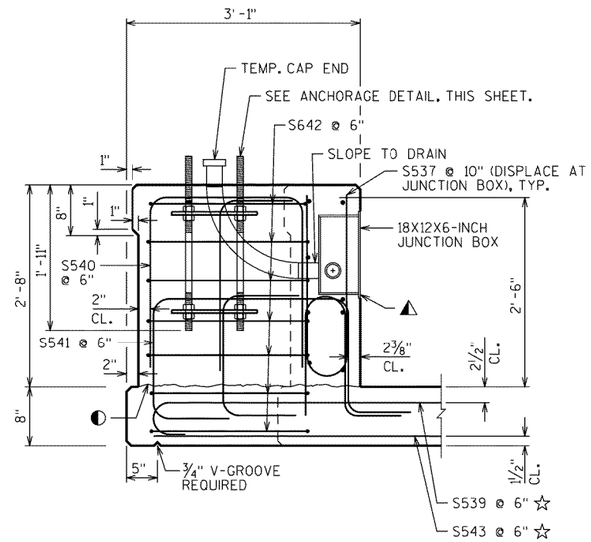
⫩ NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).

PVC = POLYVINYL CHLORIDE (RIGID NONMETALLIC) CONDUIT

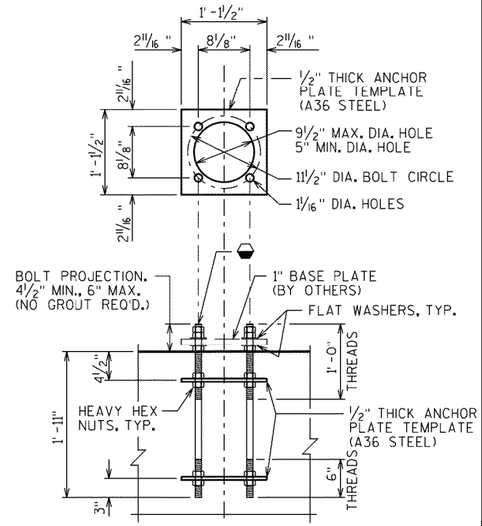
RMC = RIGID METALLIC CONDUIT

⬭ 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.

☆ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.



SECTION A-A



ANCHOR ROD ASSEMBLY DETAIL

(1 REQ'D.)

(4) - ANCHOR RODS REQUIRED PER ASSEMBLY

8

8

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STRUCTURE B-40-380

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PARAPET "A" ELECTRICAL WORK

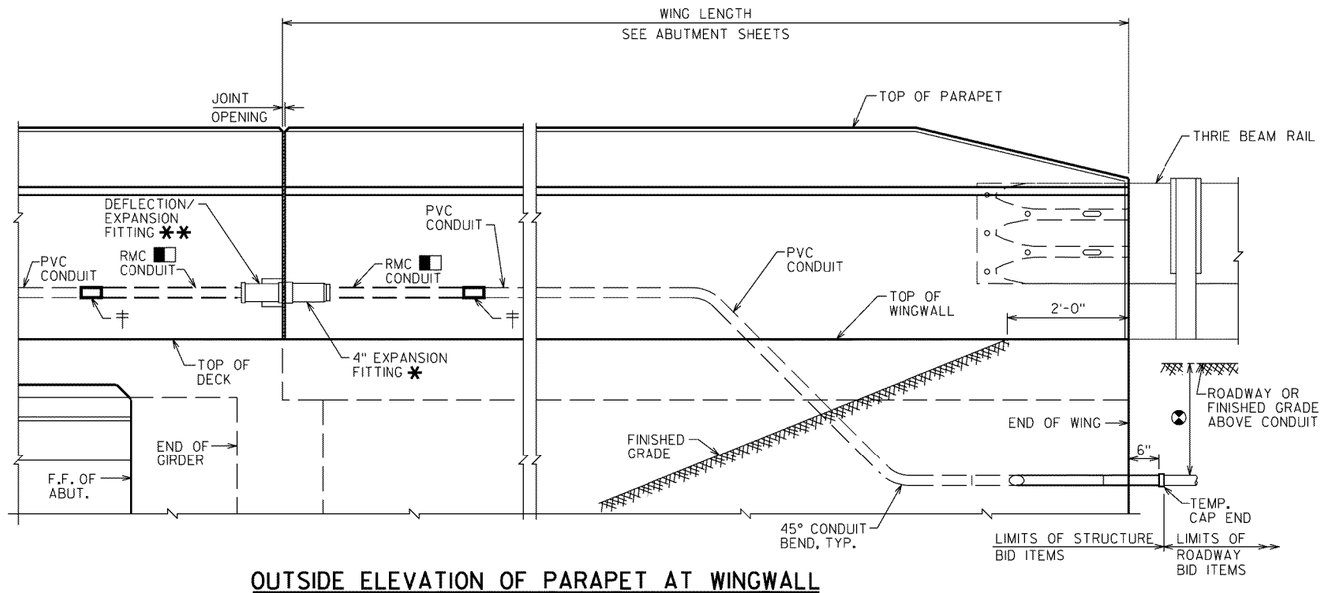
SHEET 19 OF 27

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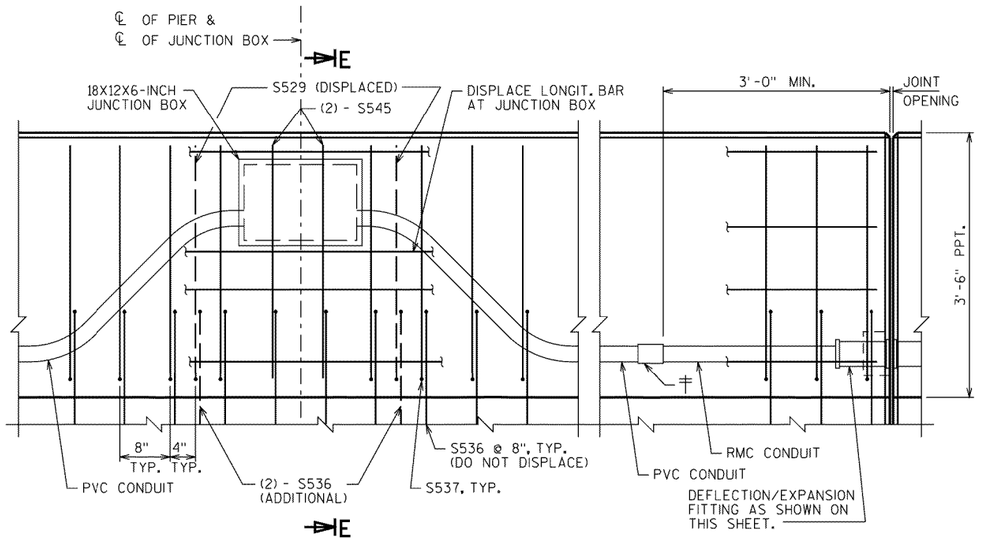
STATE PROJECT NUMBER

2967-17-71



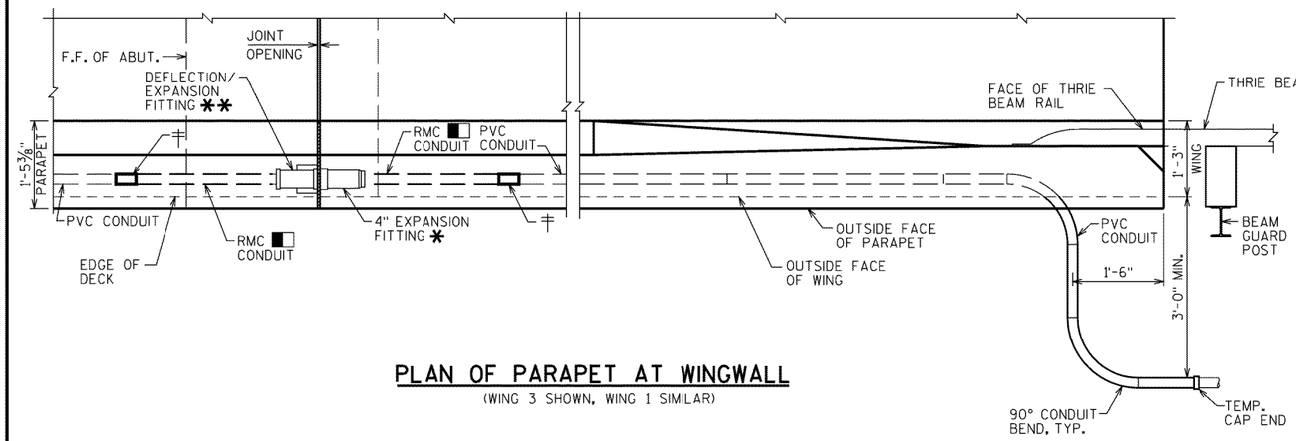
OUTSIDE ELEVATION OF PARAPET AT WINGWALL

(WING 3 SHOWN, WING 1 SIMILAR)



INSIDE ELEVATION AT JUNCTION BOX

(DECK STEEL NOT SHOWN FOR CLARITY)

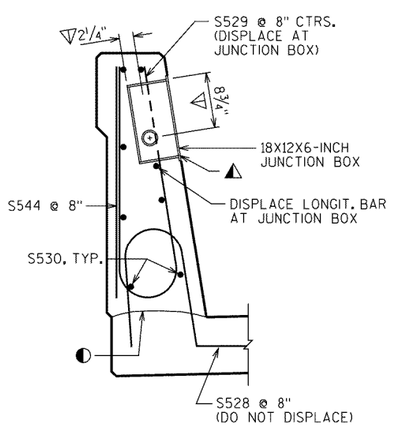


PLAN OF PARAPET AT WINGWALL

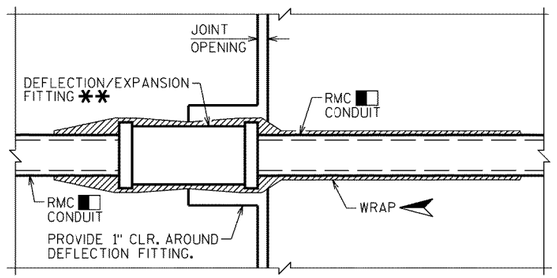
(WING 3 SHOWN, WING 1 SIMILAR)

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 (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.
- 2'-0" MIN. CONDUIT COVER UNDER ROADWAYS, 1'-6" OTHERWISE. CONDUIT COVER SHOULD NOT EXCEED 3'-0".
- * EXPANSION FITTING REQUIREMENTS:
  - 4" TOTAL MOVEMENT WITH BONDING JUMPER @ NORTH ABUTMENT
- ** DEFLECTION/EXPANSION FITTING REQUIREMENTS:
  - UP TO ¾" CONDUIT CONTRACTION OR EXPANSION AND UP TO 30° OF ANGULAR MISALIGNMENT IN ANY DIRECTION WITH BONDING JUMPER @ SOUTH ABUTMENT
- ◐ 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.

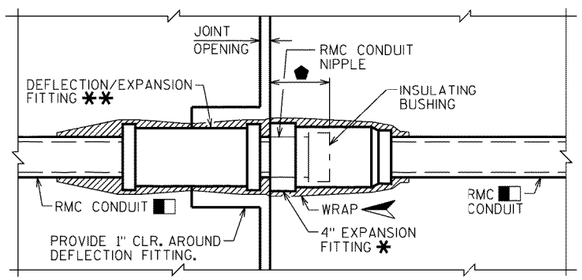


SECTION E-E



DEFLECTION/EXPANSION FITTING @ SOUTH ABUTMENT

THIS DETAIL ACCOMMODATES A MAXIMUM OF ¾" TOTAL MOVEMENT AND UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION. BOND JUMPER NOT SHOWN FOR CLARITY



DEFLECTION/EXPANSION AND 4" EXPANSION FITTING @ NORTH ABUTMENT

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

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.

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STRUCTURE B-40-380

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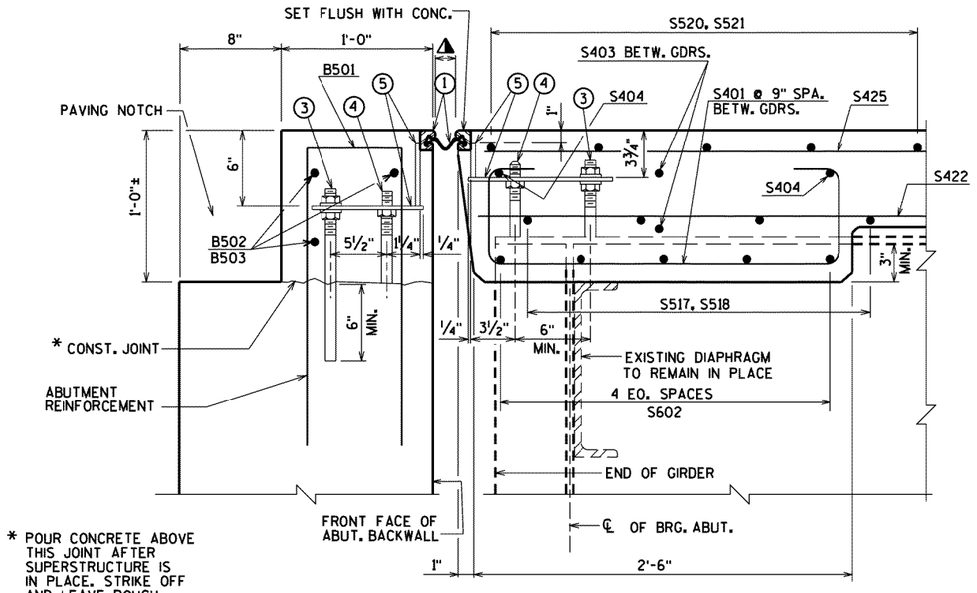
ELECTRICAL DETAILS AT 42SS PARAPET

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230

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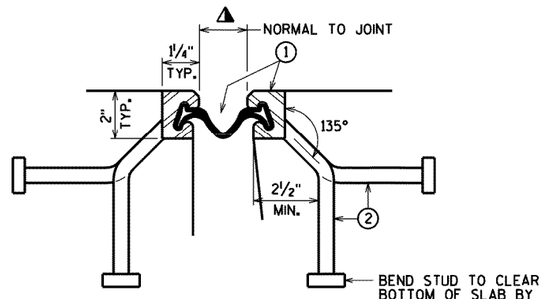
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* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

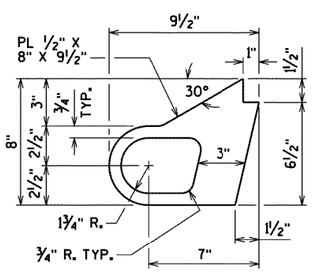
SECTION THRU JOINT AT NORTH ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

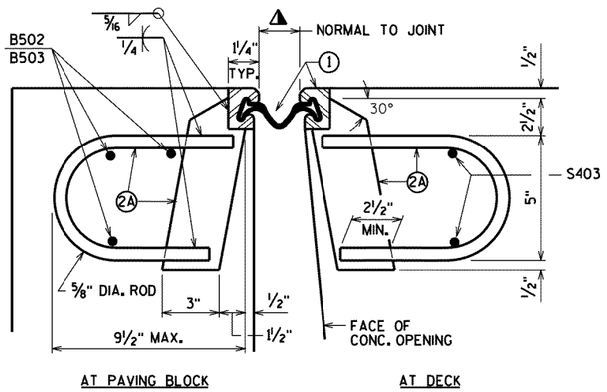


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS AND SIDEWALKS

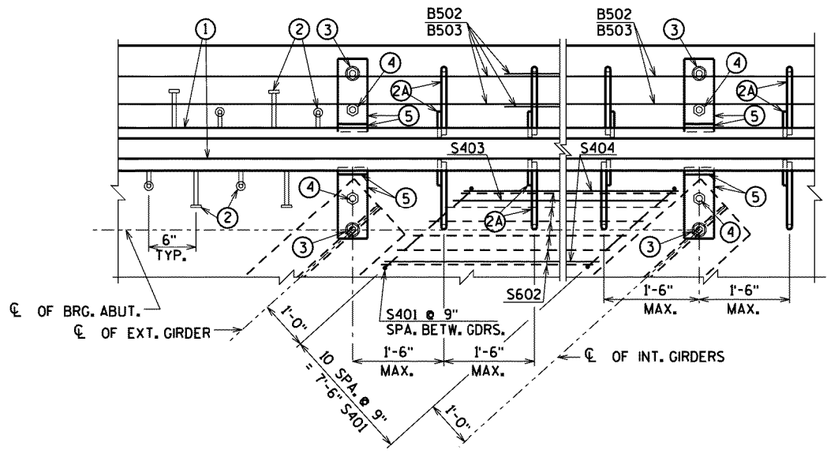


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

LEGEND

▲ (1) NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.

(2) STUDS 5/8" DIA. X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH 5/8" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

(6) GALVANIZED PLATE ⅜" X 10" X 2'-2" WITH HOLES FOR NO. 7.

(7) ¾" DIA. X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾" DIA. X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾" DIA. X 2¼" GALVANIZED THREADED COUPLING.

(10) SIDEWALK COVER PLATE ⅜" X 2'-0" WIDE BY LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

(11) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE UNIT PRICE BID FOR "EXPANSION DEVICE B-40-380".

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STRUCTURE B-40-380

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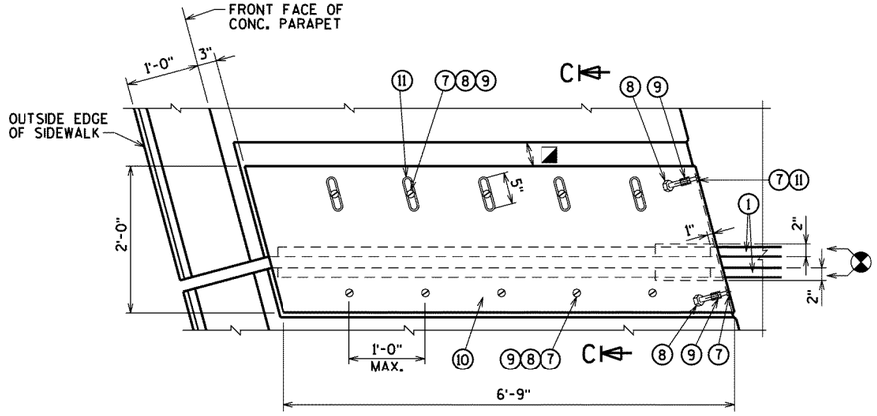
STRIP SEAL EXPANSION DEVICE

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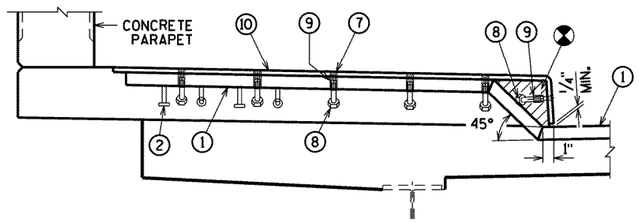
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$PRFNAME$
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8/15/2023
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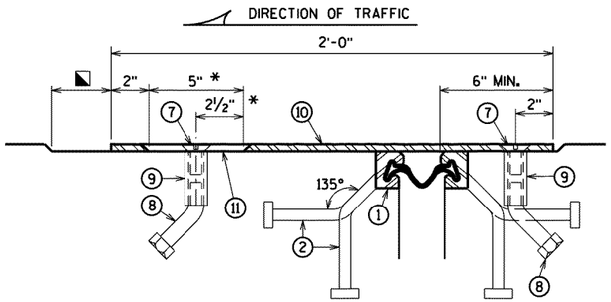


PLAN AT SIDEWALK



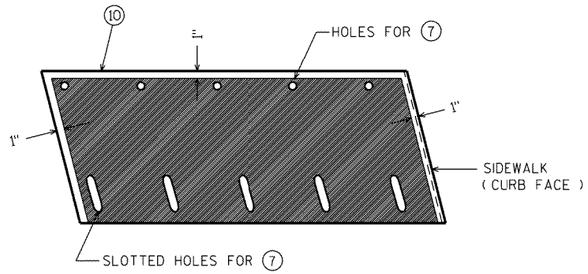
SECTION AT SIDEWALK

(LOOKING NORTH)



SECTION C-C

* DIMENSION ALONG DIRECTION OF MOVEMENT



PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE).

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION PLUS ½".

◪ BLOCK OUT CONCRETE ABOVE AND AT END OF EXTRUSIONS.

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STRUCTURE B-40-380

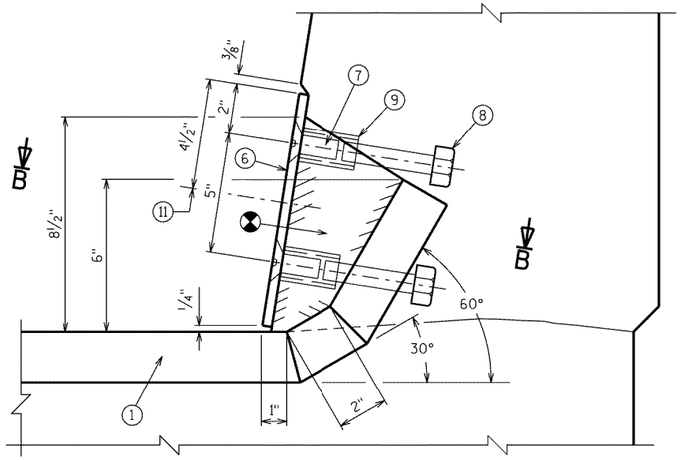
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SIDEWALK COVER PLATE DETAILS

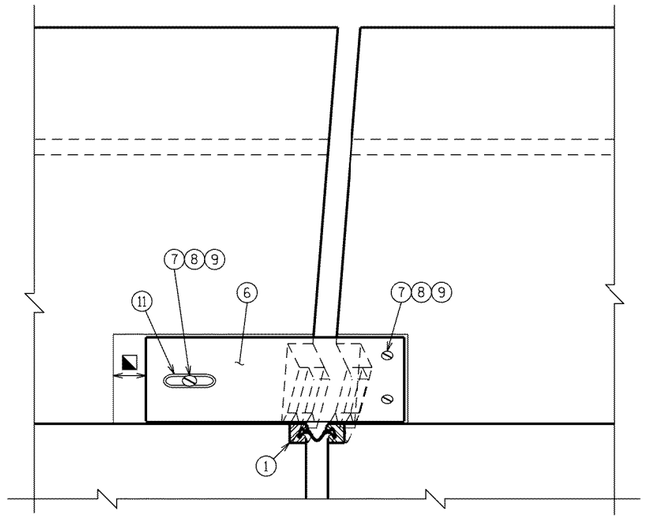
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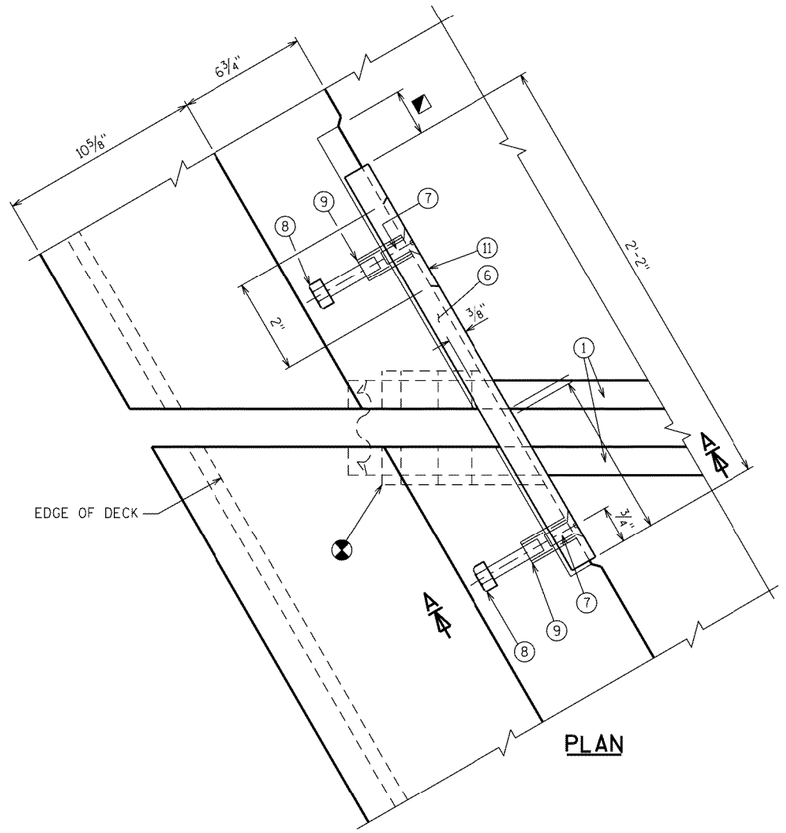
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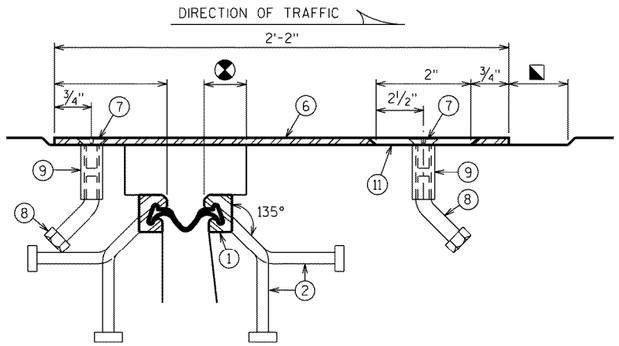
SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY



PLAN



SECTION B-B

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".

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STRUCTURE B-40-380

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COVER PLATE DETAILS

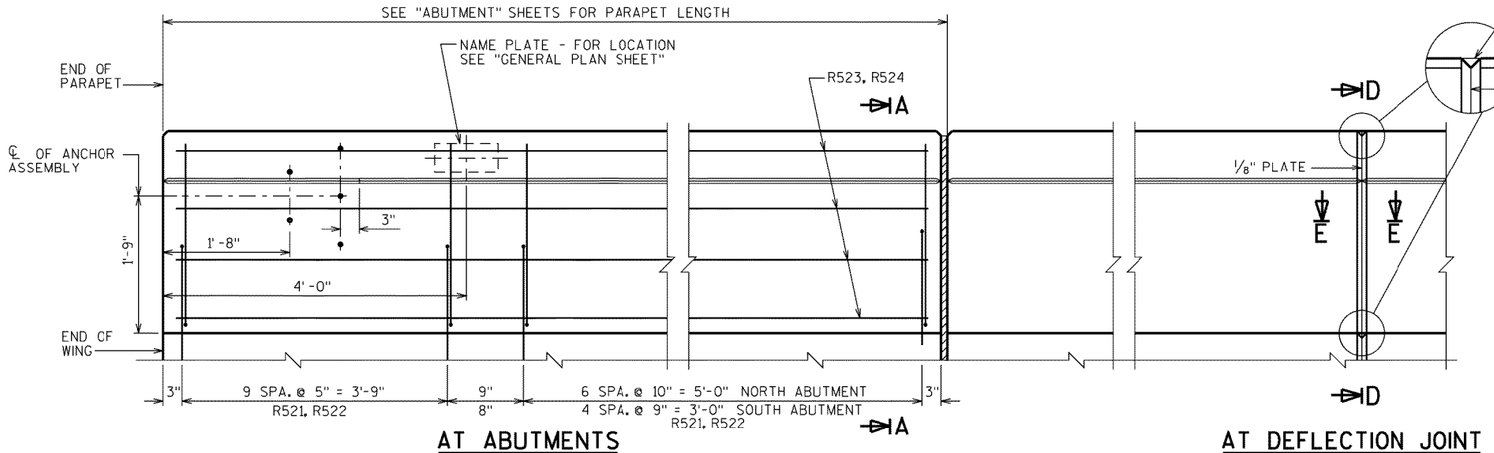
SHEET 23 OF 27
233

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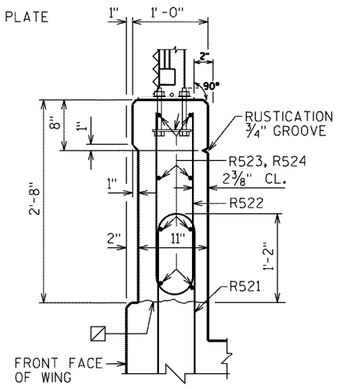
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8



AT ABUTMENTS

AT DEFLECTION JOINT

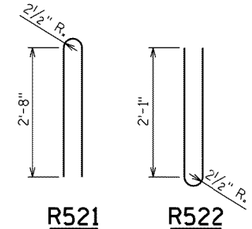


SECTION A-A

BILL OF BARS

NOTE: REINFORCEMENT WEIGHT INCLUDED IN ABUTMENT QUANTITIES

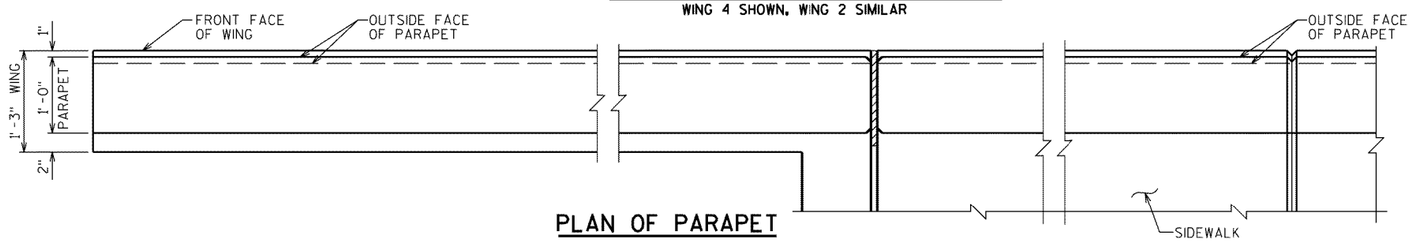
BAR MARK	COAT	NORTH REQ'D.	SOUTH REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R521	X	17	15	6'-0"	X		PARAPET VERT.
R522	X	17	15	4'-9"	X		PARAPET VERT.
R523	X	8	---	9'-7"			PARAPET HORIZ.
R524	X	---	8	7'-7"			PARAPET HORIZ.



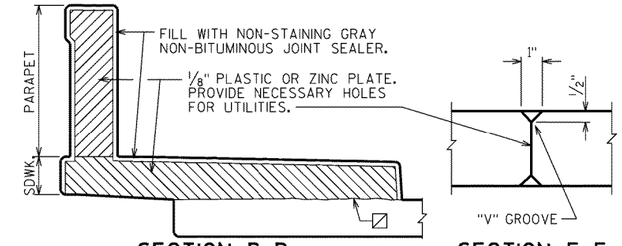
R521 R522

OUTSIDE ELEVATION OF PARAPET

WING 4 SHOWN, WING 2 SIMILAR



PLAN OF PARAPET

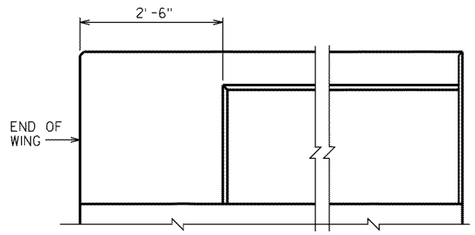


SECTION D-D

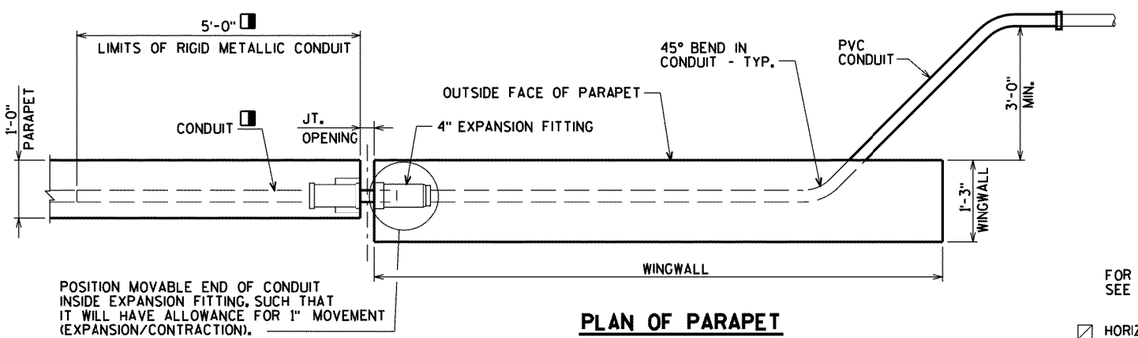
SECTION E-E

(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 B-B 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.



OUTSIDE FACE OF PARAPET



PLAN OF PARAPET

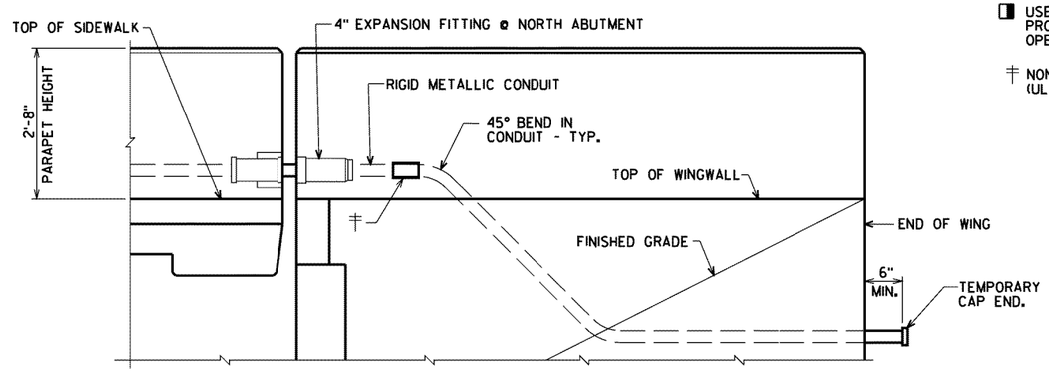
WING 4 SHOWN, WING 2 SIMILAR

FOR DEFLECTION/EXPANSION FITTING DETAILS SEE SHEET 20.

▨ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

◨ 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).



INSIDE ELEVATION OF PARAPET

WING 4 SHOWN, WING 2 SIMILAR

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STRUCTURE B-40-380

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VERTICAL FACE PARAPET "A"

SHEET 24 OF 27
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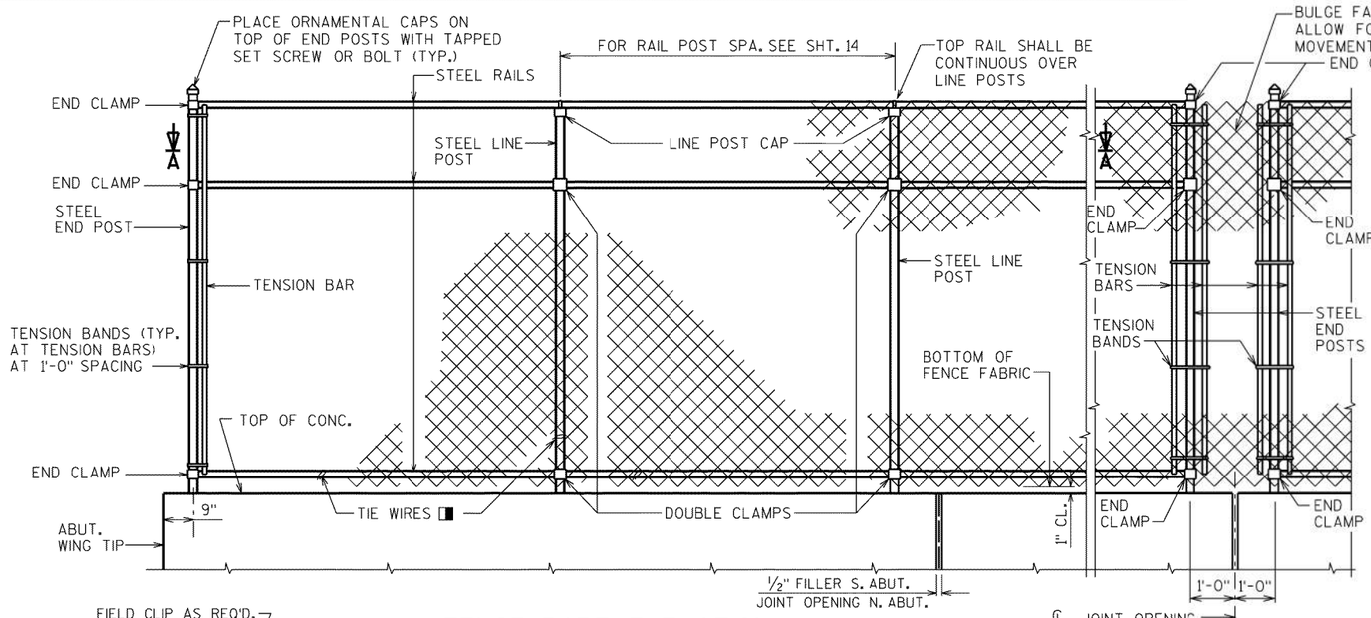
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8/28/2023

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STATE PROJECT NUMBER

2967-17-71

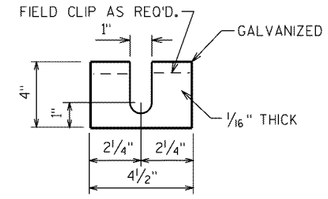


FENCE PART ELEVATION

VIEWING FABRIC SIDE

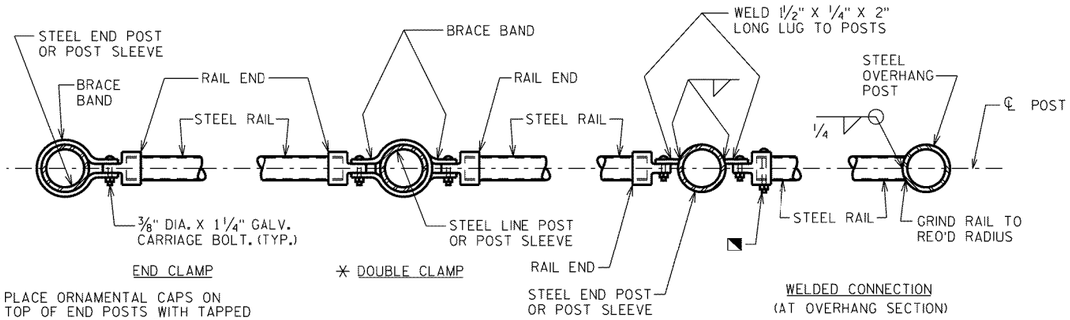
AT NORTH ABUTMENT

EXPANSION JOINT OPENING ≤ 2" OF MOVEMENT



POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



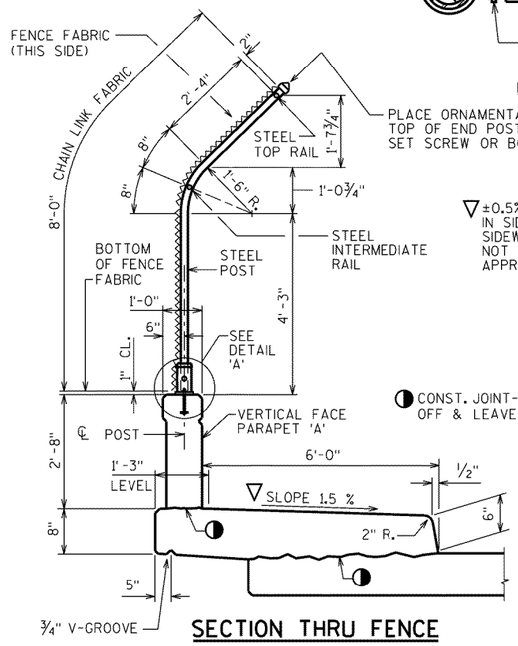
END CLAMP

✳ DOUBLE CLAMP

WELDED CONNECTION (AT OVERHANG SECTION)

SECTION A-A

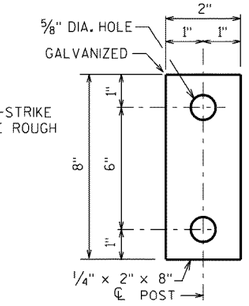
NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



SECTION THRU FENCE

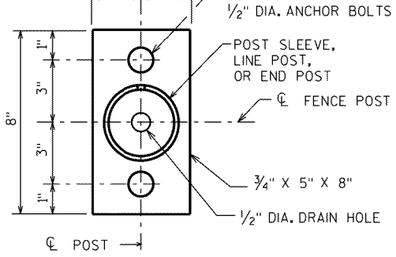
▽ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

◑ CONST. JOINT-STRIKE OFF & LEAVE ROUGH



ANCHOR PLATE

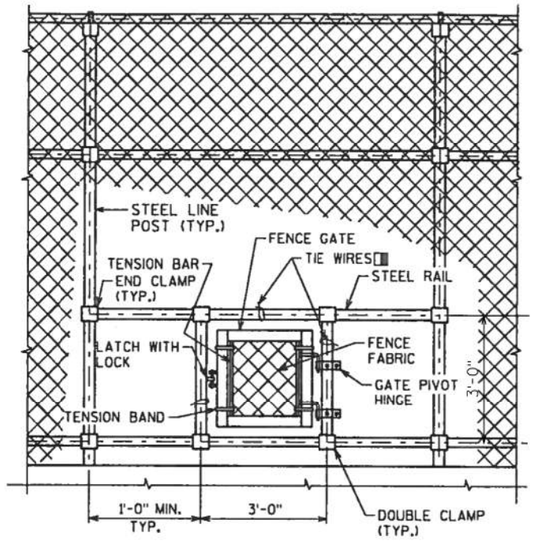
✿ NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



BASE PLATE

FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12

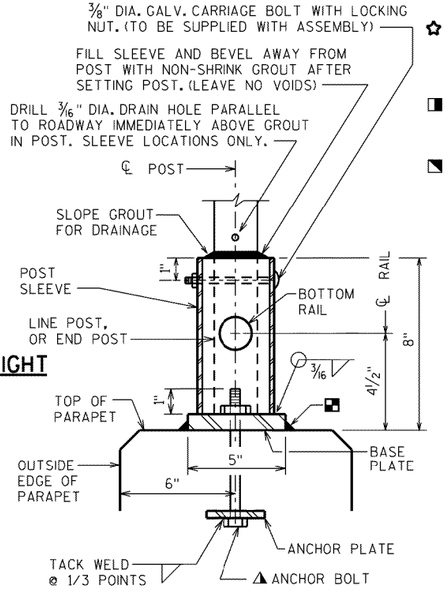


GATE DETAIL

TYPICAL AT LIGHT STANDARD BASES (1 REQUIRED)

GATE ASSEMBLY & ALL REQUIRED HARDWARE TO BE INCLUDED IN THE BID ITEM "FENCE CHAIN LINK 8-FT".

GATE ASSEMBLY TO BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL WITH A COLORED POLYMER-COATING ON THE OUTSIDE.

FABRIC SHALL CONFORM TO ASTM F668, CLASS 2B. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626. SEE THE "BRIDGE SPECIAL PROVISIONS" FOR ADDITIONAL DETAILS.

THE COLOR OF POLYMER-COATING FOR THIS STRUCTURE SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

THE BID ITEM SHALL BE "FENCE CHAIN LINK POLYMER-COATED 8- FT. B-40-380".

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

◪ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

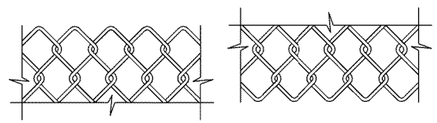
▲ 1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. ✿

✿ ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 1/2-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS.

◨ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

◥ BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST SPACING.



TOP DETAIL BOTTOM DETAIL

FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

DRAWN BY CLP | PLANS CK'D. AEB

FENCING DETAILS

SHEET 25 OF 27

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ORIGINAL PLANS PREPARED BY

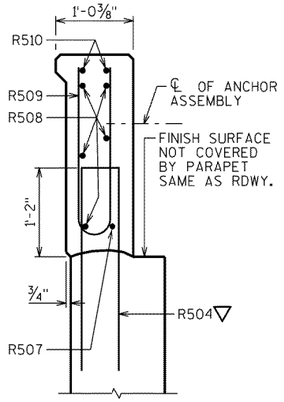
AYRES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com

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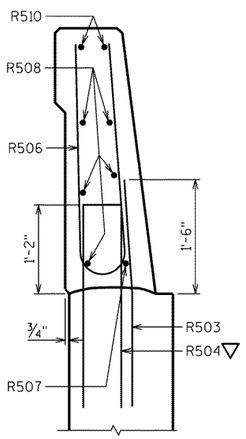
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STATE PROJECT NUMBER

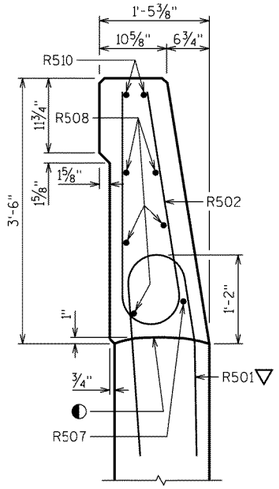
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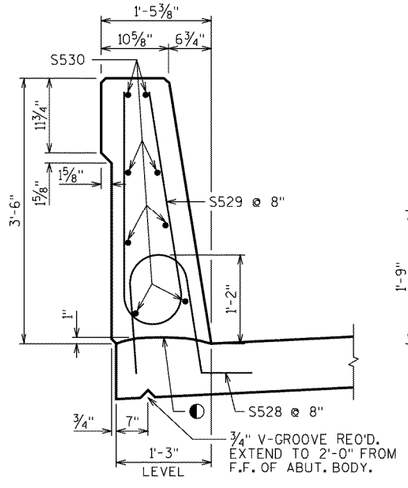
SECTION A-A



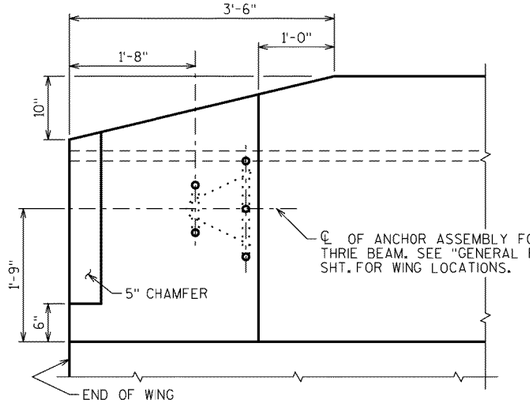
SECTION B-B



SECTION C-C



SECTION THRU PARAPET ON BRIDGE



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

BILL OF BARS

FOR ABUTMENT PARAPETS

NOTE: REINFORCEMENT WEIGHT INCLUDED IN ABUTMENT QUANTITIES.

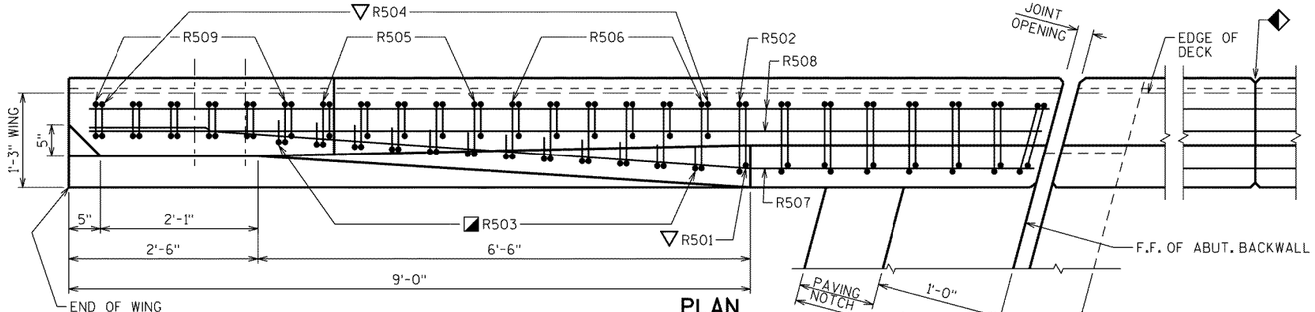
BAR MARK	COAT	SOUTH ABUT.	NORTH ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	2	2	5'-10"	X		PARAPET VERT.
R502	X	2	2	6'-8"	X		PARAPET VERT.
R503	X	11	11	3'-0"	X		PARAPET VERT.
R504	X	17	17	5'-7"	X		PARAPET VERT.
R505	X	5	5	6'-5"	X		PARAPET VERT.
R506	X	6	6	6'-6"	X		PARAPET VERT.
R507	X	1	1	9'-7"	X		PARAPET HORIZ.
R508	X	5	5	9'-7"			PARAPET HORIZ.
R509	X	6	6	5'-5"	X	◭	PARAPET VERT.
R510	X	2	2	9'-7"	X		PARAPET HORIZ.

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

BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
R509	2 SERIES OF 6	4'-9" TO 6'-1"

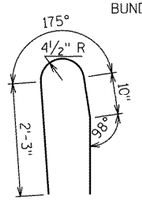
BUNDLE AND TAG EACH SERIES SEPARATELY.



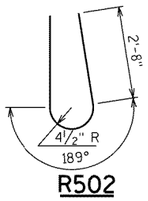
PLAN

WING 3 SHOWN, WING 1 SIMILAR

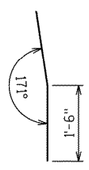
◆ OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.



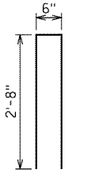
R501



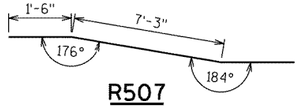
R502



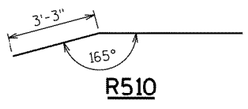
R503



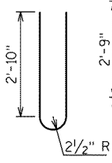
R504



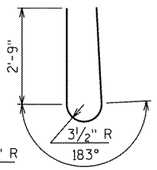
R507



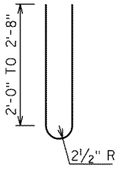
R510



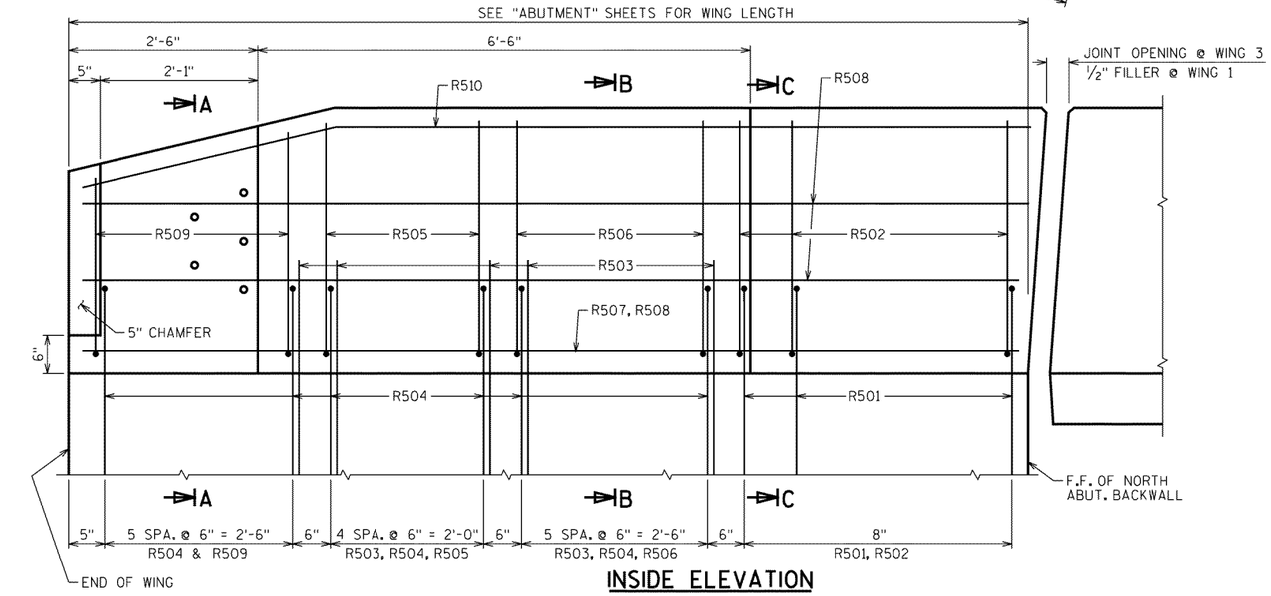
R505



R506

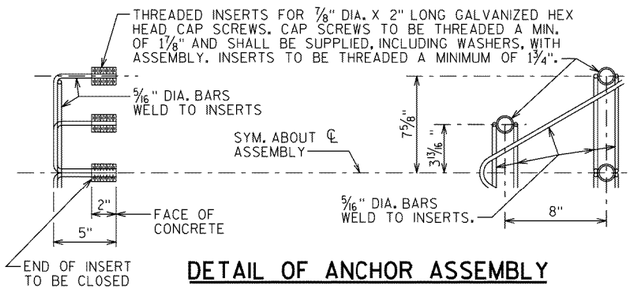


R509



INSIDE ELEVATION

WING 3 SHOWN, WING 1 SIMILAR



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.

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

◐ CONST. JOINT - STRIKE OFF AS SHOWN

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-380

DRAWN BY CLP | PLANS CK'D. AEB

SINGLE SLOPE PARAPET 42SS

SHEET 26 OF 27
236

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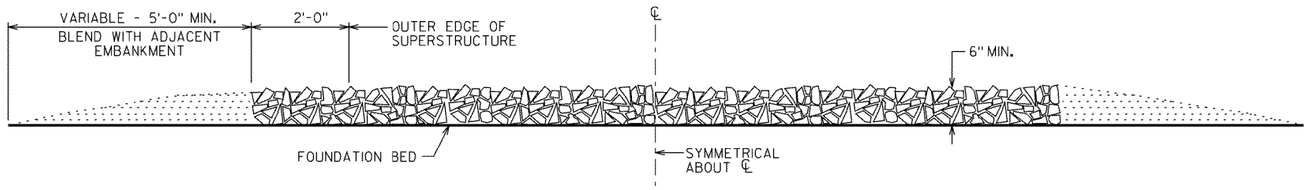
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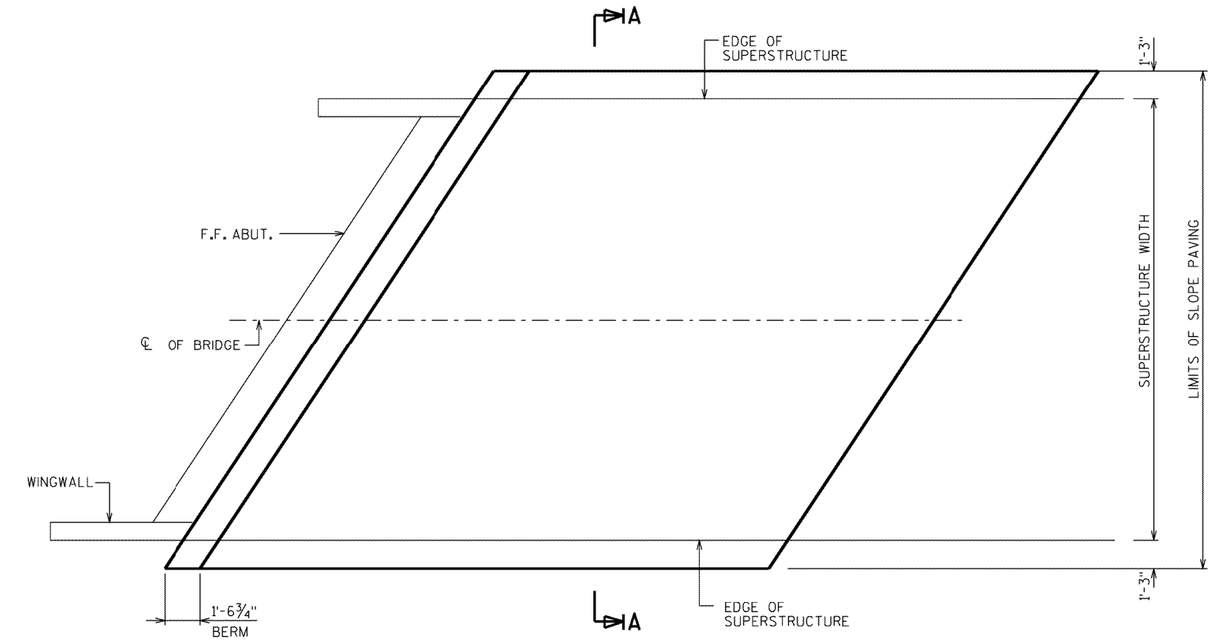
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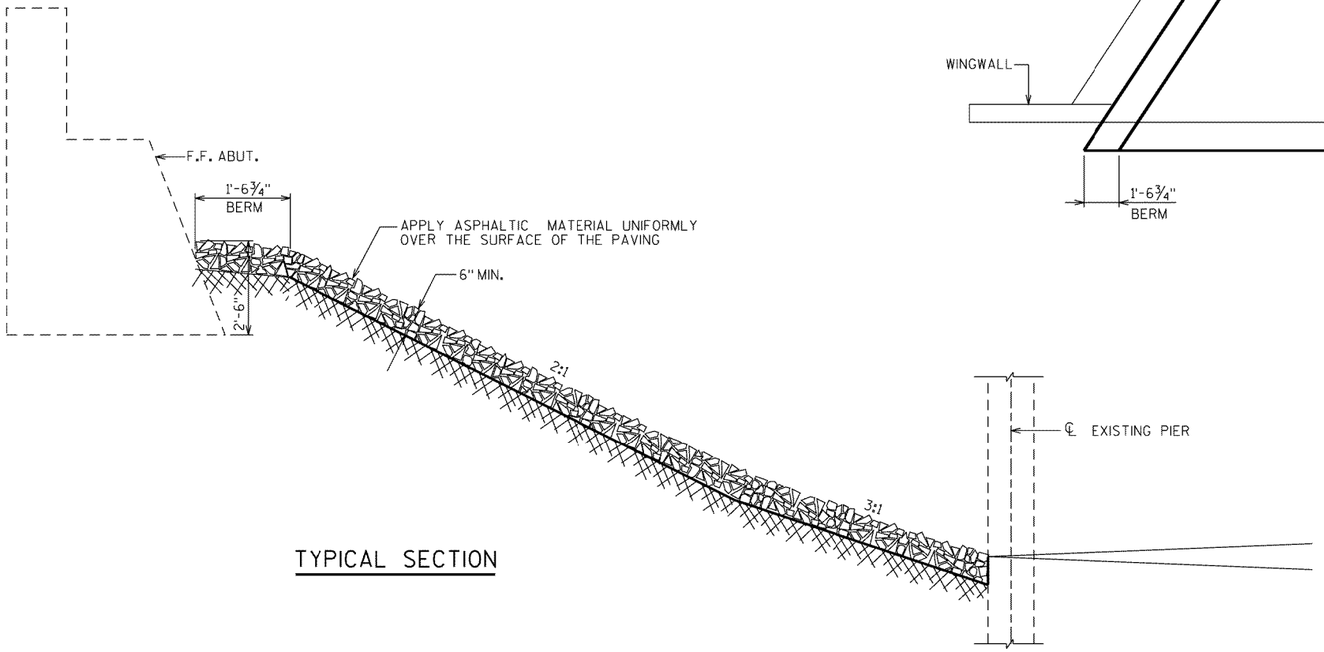
STATE PROJECT NUMBER
2967-17-71



SECTION A-A



PLAN



TYPICAL SECTION

NOTES

BID ITEM SHALL BE "SLOPE PAVING CRUSHED AGGREGATE"

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-40-380

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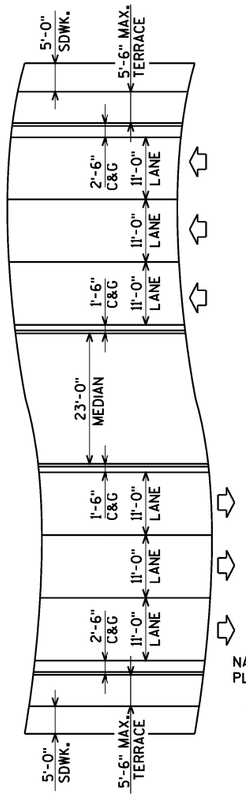
SLOPE PAVING (CRUSHED AGGREGATE)

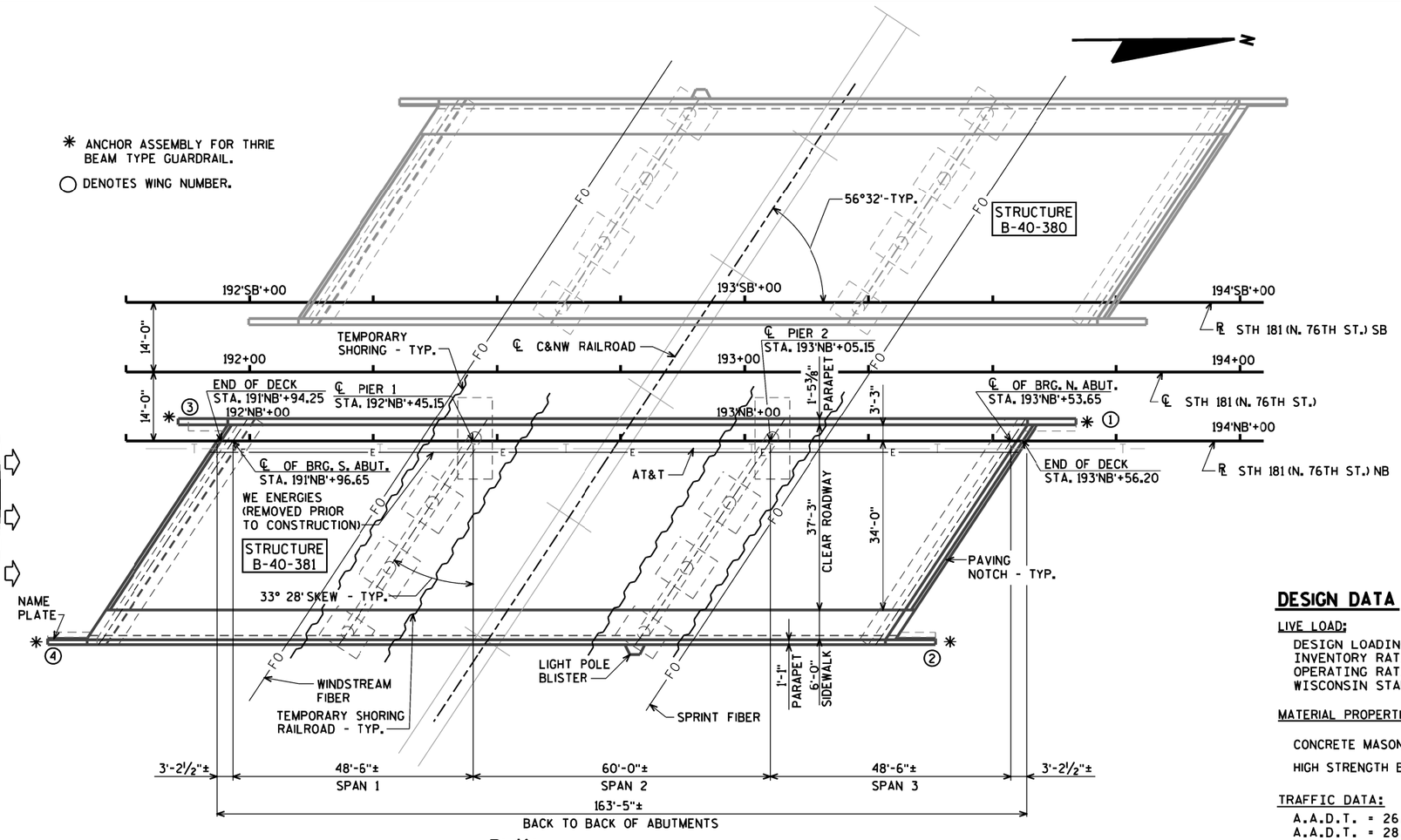
SHEET 27 OF 27
237

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Eau Claire, WI 54701
www.AyresAssociates.com

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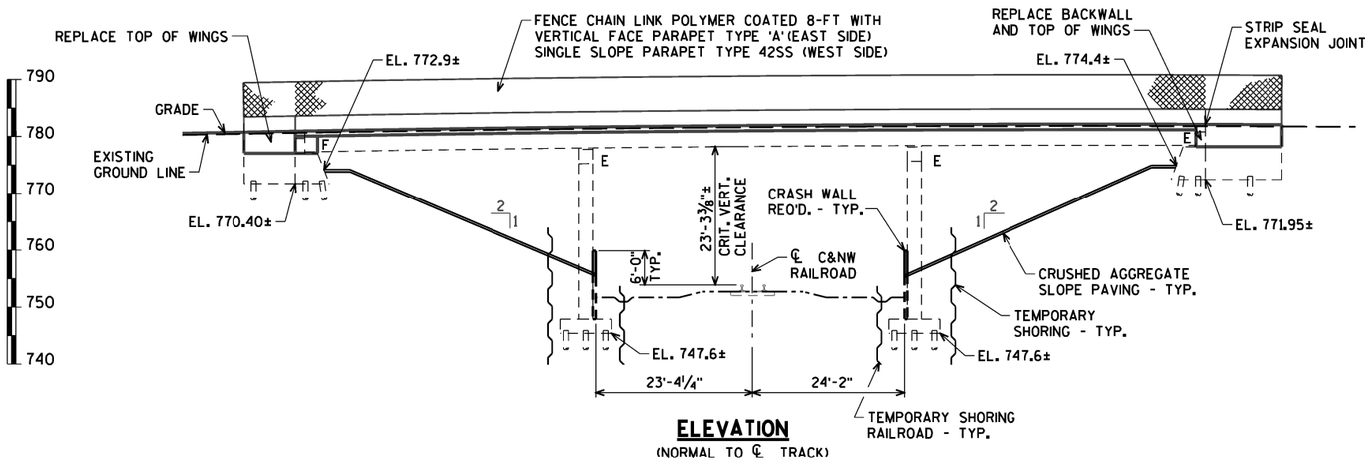
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PLAN

3 SPAN CONTINUOUS STEEL GIRDER BRIDGE
(DECK REPLACEMENT AND PAINTING)



ELEVATION

(NORMAL TO ℄ TRACK)

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTION
3A. QUANTITIES AND NOTES
3B. SPECIAL DETAILS AND PROFILE GRADELINE
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT WING 1 DETAILS
6. SOUTH ABUTMENT WING 2 DETAILS & BILL OF BARS
7. NORTH ABUTMENT
8. NORTH ABUTMENT WING 4 DETAILS
9. NORTH ABUTMENT WING 3 DETAILS
10. NORTH ABUTMENT DETAILS AND BILL OF BARS
11. PIERS 1 & 2 DETAILS
12. CRASH WALL DETAILS
13. SUPERSTRUCTURE
14. SUPERSTRUCTURE PLAN
15. TRANSVERSE DECK STEEL LAYOUT
16. SUPERSTRUCTURE DETAILS
17. SUPERSTRUCTURE BILL OF BARS
18. DECK ELEVATIONS AND DEFLECTIONS
19. PARAPET "A" ELECTRICAL WORK
20. ELECTRICAL DETAILS AT 42SS PARAPET
21. STRIP SEAL EXPANSION DEVICE
22. SIDEWALK COVER PLATE DETAILS
23. COVER PLATE DETAILS
24. VERTICAL FACE PARAPET "A"
25. FENCING DETAILS
26. SINGLE SLOPE PARAPET 42SS
27. SLOPE PAVING (CRUSHED AGGREGATE)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-19
OPERATING RATING: HS- 33
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 190 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY	SUPERSTRUCTURE f'_c=	4,000 p.s.i.
	ALL OTHER f'_c=	3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)	f_y=	60,000 p.s.i.

TRAFFIC DATA:

A.A.D.T. = 26,300 (2020)
A.A.D.T. = 28,900 (2040)
R.D.S. = 45 M.P.H.

FOR TYPICAL SECTION SEE SHEET 2

WISCONSIN
ARLEN E. BEAUDETTE
E-36829
EAU CLAIRE, WI
PROFESSIONAL ENGINEER
11/28/2023

NO.	DATE	REVISION	BY

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3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/29/23
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-40-381

STH 181 (N. 76TH ST.) NB OVER C&NW RAILROAD

COUNTY MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~ MILWAUKEE
DESIGN SPEC. REHABILITATION N/A	
DESIGNED BY JCK	DESIGN CK'D. JLB
DRAWN BY JLB/CLP	PLANS CK'D. AEB

GENERAL PLAN

SHEET 1 OF 27
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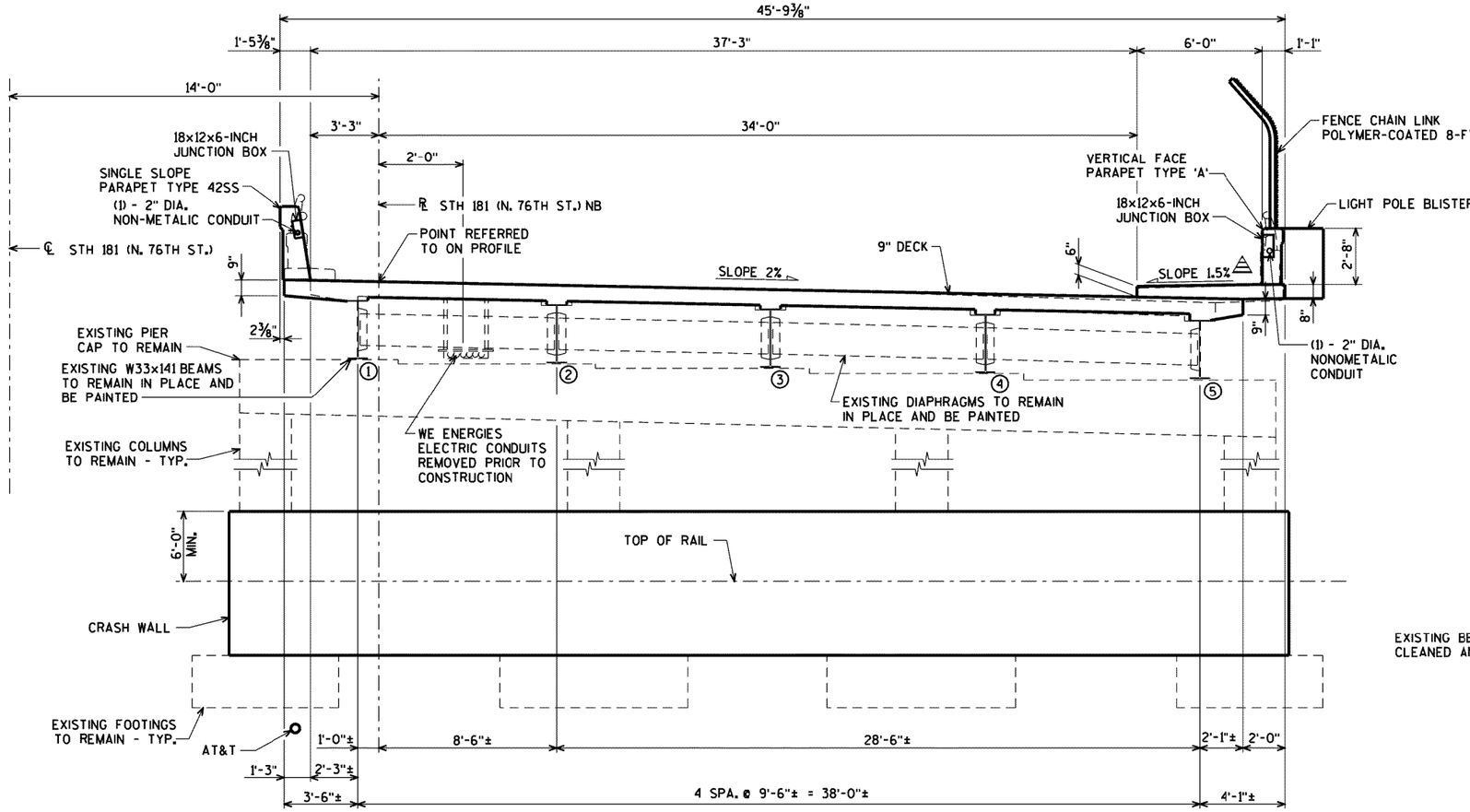
BRIDGE OFFICE CONTACT:
AARON BONK
(608)261-0261

CONSULTANT CONTACT:
ARLEN BEAUDETTE
(715)-834-3161

$PRFNAME$
I:±42±42-1099.00 - STH 181 Redecks - Milwaukee Co±Structures±B-40-381±Final±B-40-381gp.DGN
11/15/2023
PENTABLE:BReau_shd_util.tbl

STATE PROJECT NUMBER

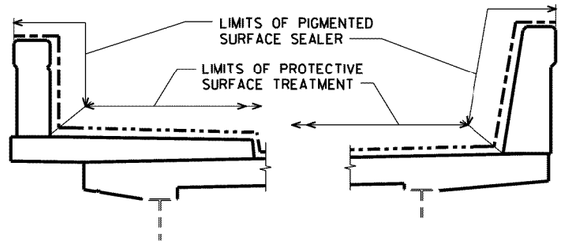
2967-17-71



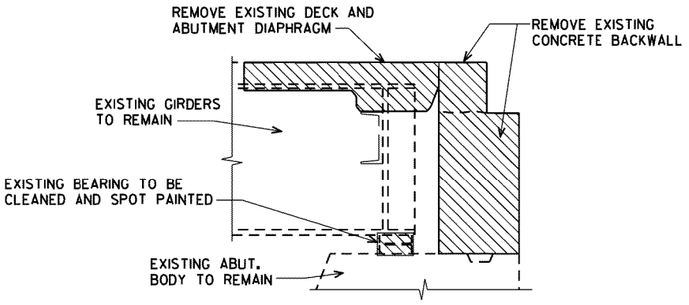
TYPICAL SECTION THRU BRIDGE

(LOOKING NORTH)

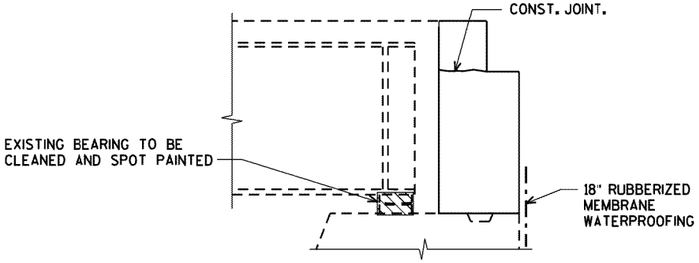
△ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



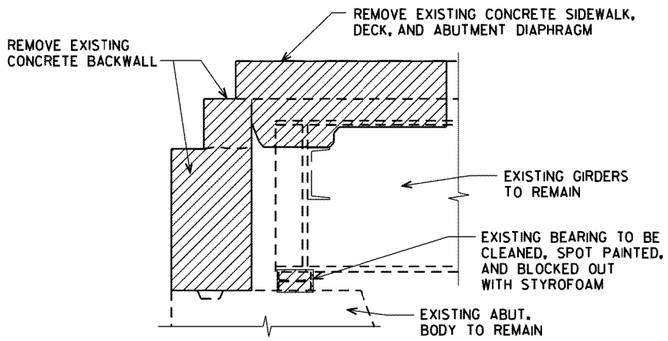
PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAILS



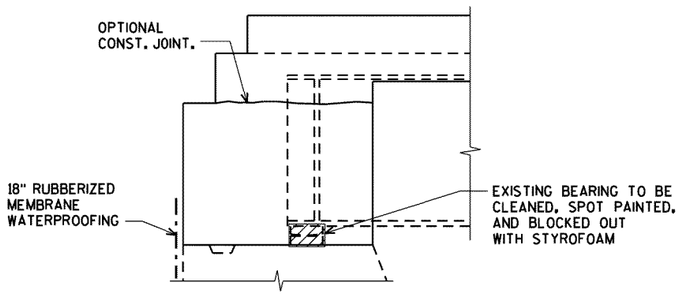
NORTH ABUTMENT REMOVAL SECTION



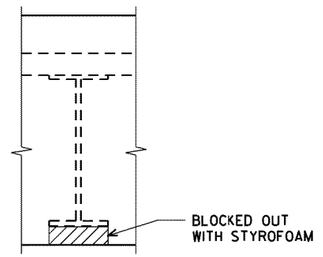
NORTH ABUTMENT TYPICAL SECTION



SOUTH ABUTMENT REMOVAL SECTION



SOUTH ABUTMENT TYPICAL SECTION



FRONT FACE OF SOUTH ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY JLB/CLP | PLANS CK'D. AEB

TYPICAL SECTION

SHEET 2 OF 27
239

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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1:±42:±42-1099.00 - STH 181 Redecks - Milwaukee Co±Structures±B-40-381±Final±B-40-381 gp.DGN

8

8

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	PIER 1	PIER 2	N. ABUT.	SUPER.	TOTAL
203.0220	REMOVING STRUCTURE B-40-381	EACH	-----	-----	-----	-----	-----	1
203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-40-381	EACH	-----	-----	-----	-----	-----	1
203.0330	DEBRIS CONTAINMENT B-40-381	EACH	-----	-----	-----	-----	-----	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-40-381	EACH	-----	-----	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	65	-----	-----	65	-----	130
502.0100	CONCRETE MASONRY BRIDGES	CY	3.5	58.5	58.5	18.0	336.4	475
502.3101	EXPANSION DEVICE	LF	-----	-----	-----	-----	52	52
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	-----	-----	800	800
502.3210	PIGMENTED SURFACE SEALER	SY	-----	-----	-----	-----	150	150
502.4205	ADHESIVE ANCHORS NO. 5 BARS	EACH	34	-----	-----	150	-----	184
502.4206	ADHESIVE ANCHORS NO. 6 BARS	EACH	-----	110	110	-----	-----	220
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	-----	2,980	2,980	-----	-----	5,960
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,090	-----	-----	2,850	64,240	68,180
509.1500	CONCRETE SURFACE REPAIR	SF	-----	-----	-----	-----	-----	100
511.1200	TEMPORARY SHORING B-40-381	SF	-----	375	375	-----	-----	750
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	2	-----	-----	10	-----	12
517.0901.S	PREPARATION AND COATING OF TOP FLANGES B-40-381	EACH	-----	-----	-----	-----	-----	1
517.3001.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-40-381	EACH	-----	-----	-----	-----	-----	1
517.4001.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-40-381	EACH	-----	-----	-----	-----	-----	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	-----	-----	-----	-----	-----	1
531.8990	ANCHOR ASSEMBLIES POLES ON STRUCTURES	EACH	-----	-----	-----	-----	1	1
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	220	-----	-----	220	-----	440
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-----	-----	-----	95	-----	95
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	-----	-----	2	-----	4
645.0111	GEOTEXTILE FABRIC DF SCHEDULE A	SY	-----	-----	-----	70	-----	70
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	12	-----	-----	12	-----	24
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	-----	-----	-----	-----	340	340
653.0222	JUNCTION BOXES 18x12x6-INCH	EACH	-----	-----	-----	-----	1	1
SPV.0060.002	BEARING MAINTENANCE B-40-381	EACH	5	-----	-----	5	-----	10
SPV.0090.003	FENCE CHAIN LINK POLYMER COATED 8-FT	LF	-----	-----	-----	-----	182	182
SPV.0165.002	TEMPORARY SHORING RAILROAD B-40-381	SF	-----	250	250	-----	-----	500
	NON-BID ITEMS							
	FILLER	SIZE	-----	-----	-----	-----	-----	½" & ¾"
	BRIDGE SEAT PROTECTION							

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS ARE BASED ON ORIGINAL STRUCTURE PLANS.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT UNLESS SHOWN OR NOTED OTHERWISE.

AT ABUTMENTS ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW THE ORIGINAL CONSTRUCTION YEAR OF 1969.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

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.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

ALL EXISTING STRUCTURAL STEEL SHALL BE PAINTED. THE COLOR OF THE FINISH EPOXY TOP COAT SHALL BE LIGHT GRAY (AMS COLOR NO. 26293).

PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER ARE TO BE APPLIED AS SHOWN IN THE DETAILS ON SHEET 3.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF THE ABUTMENT BEAM SEATS BELOW EXPANSION DEVICES.

STRIP SEAL EXPANSION JOINT ASSEMBLIES, INCLUDING ANCHOR STUDS AND HARDWARE, SHALL BE PAID FOR UNDER THE BID ITEM "EXPANSION DEVICE"

STEEL PLATES AT NORTH ABUTMENT TO BE SAND BLASTED AND PAINTED. BEARING AT NORTH ABUTMENT GIRDER 5 TO BE REMOVED, BENT ANCHOR ROD REPLACED AND BEARING RE-INSTALLED. BEARING AT NORTH ABUTMENT GIRDER 1 TO BE RE-SET. PAID FOR UNDER THE BID ITEM "BEARING MAINTENANCE".

CONCRETE SURFACE REPAIR REQUIRED ON ABUTMENTS AND PIERS AS DIRECTED BY THE ENGINEER IN THE FIELD.

EXISTING BEARINGS TO BE CLEANED AND PAINTED AT SOUTH ABUTMENT AND PIERS.

UPRR GENERAL NOTES FOR OVERHEAD STRUCTURES

USE THE UNION PACIFIC RAILROAD PUBLIC PROJECTS MANUAL AS A GUIDE FOR ASSISTING IN ADMINISTERING, COORDINATING, PLANNING, AND IMPLEMENTING YOUR PROJECT.

PRIOR TO CONSTRUCTION, OBTAIN RAILROAD REVIEW AND APPROVAL OF ALL RELEVANT CONSTRUCTION ITEMS, INCLUDING BUT NOT LIMITED TO, SHORING, TRACK & GROUND MONITORING, ERECTION, DEMOLITION, AND FALSEWORK. ALL DESIGNS MUST ADHERE TO THE MOST RESTRICTIVE PROVISIONS OF THE CURRENT UPRR AND AREMA STANDARDS AND GUIDELINES IN EFFECT AT THE TIME THE WORK IS EXECUTED. ALLOW A MINIMUM OF 4 WEEKS FOR REVIEW AND APPROVAL OF EACH SUBMITTAL. FOR SUBMITTALS NOT IN ACCORDANCE WITH THESE NOTES, LONGER REVIEW TIMES SHALL BE EXPECTED.

PROJECTS SHALL BE DESIGNED SUCH THAT ALL CONSTRUCTION ACTIVITIES AND PHASING WILL NOT COMPROMISE SAFETY NOR IMPACT RAILROAD OPERATIONS.

VERIFY THE ELEVATION OF THE EXISTING TOP-OF-RAIL PROFILE BEFORE STARTING CONSTRUCTION.

CONSTRUCTION ACTIVITIES ARE NOT ALLOWED WITHIN THE TEMPORARY CONSTRUCTION CLEARANCE ENVELOPE PER THE CURRENT UPRR GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECTS AND GUIDELINES FOR TEMPORARY SHORING.

THE MINIMUM PERMANENT VERTICAL CLEARANCE SHALL BE 23'-4" MEASURED FROM TOP OF HIGHEST RAIL TO THE LOWEST OBSTRUCTION UNDER THE STRUCTURE. THE EXTENT OF THIS VERTICAL CLEARANCE SHALL BE A MINIMUM OF 9 FEET TO THE FIELD SIDE OF THE OUTERMOST EXISTING OR FUTURE TRACKS, MEASURED PERPENDICULAR FROM THE CENTERLINE OF SAID TRACKS. IN CURVED TRACKS, 9 FEET SHALL BE INCREASED EITHER 6 INCHES TOTAL OR 1.5 INCHES FOR EVERY DEGREE OF CURVE, WHICHEVER IS GREATER. THE PERMANENT VERTICAL CLEARANCE SHALL EXTEND TO COVER ALL EXISTING AND FUTURE TRACKS, INCLUDING THE SPACE IN BETWEEN.

ALL PERMANENT CLEARANCES SHALL BE VERIFIED THROUGHOUT CONSTRUCTION. A COMPLIANCE REPORT SHALL BE SUBMITTED TO THE RAILROAD BEFORE PROJECT CLOSING. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE RAILROAD.

THE PERMANENT VERTICAL AND HORIZONTAL DESIGN CLEARANCES, WHICH ARE SPECIFIED IN THE BID DOCUMENTS APPROVED BY THE RAILROAD, MUST BE MAINTAINED IN RELATION TO THE TOP-OF-RAIL AND CENTERLINE OF EXISTING AND FUTURE TRACKS, RESPECTIVELY. ANY REDUCTION OF THESE CLEARANCES IS NOT PERMITTED.

APPROPIATE MEASURES FOR THE LOCATION AND PROTECTION OF UPRR FACILITIES SHALL BE ADDRESSED IN THE PLANS AND CONTRACT DOCUMENTS. FOR SPECIFIC RAILROAD REQUIREMENTS AND ADDITIONAL INFORMATION REFER TO WWW.UP.COM/CBUD. ABANDONMENT OF UTILITIES MUST FOLLOW THE UPRR GUIDELINES FOR ABANDONMENT OF SUBSURFACE UTILITY STRUCTURES.

UPRR GENERAL CONSTRUCTION REQUIREMENTS

ALL WORK WITHIN 25 FEET OF TRACK, OVER TRACK, OR WITH POTENTIAL TO FOUL TRACK REQUIRES UPRR FLAGMAN TO BE ON SITE.

ALL EQUIPMENT, CONSTRUCTION MATERIALS, AND PERSONNEL SHALL REMAIN OUTSIDE THE MINIMUM CONSTRUCTION CLEARANCE ENVELOPE, EXCEPT WHEN WITHIN PRE-DETERMINED TRACK CURFEWS.

ALL PERSONNEL MUST CLEAR THE AREA WITHIN 25 FEET OF THE TRACK CENTERLINE AND SECURE ALL EQUIPMENT WITHIN 50 FEET DURING THE APPROACH AND PASSAGE OF A TRAIN.

EQUIPMENT SHALL NOT BE SUPPORTED BY THE TRACK BALLAST, SUB-BALLAST, TIES, OR RAILS AT ANY TIME.

STORAGE AND STAGING AREAS ARE PROHIBITED WITHIN UPRR RIGHT-OF-WAY, EXCEPT WITHIN PERMITTED ZONES SUCH AS EASEMENTS.

TEMPORARY TRACK CROSSINGS MUST BE APPROVED BY UPRR'S LOCAL OPERATING UNIT AND UPRR MANAGER OF PUBLIC PROJECTS PRIOR TO START OF CONSTRUCTION.

TRACK CROSSINGS AND USE OF UPRR ACCESS ROADS/HAUL ROADS MUST BE COORDINATED WITH UPRR'S LOCAL MANAGER OF TRACK MAINTENANCE (AND YARD MASTER, IF WITHIN YARD LIMITS).

TEMPORARY DRAINAGE STRUCTURES AND/OR BMPS SHALL NOT DIRECT STORMWATER TOWARD UPRR TRACK OR ACCESS ROADS.

UNATTENDED EXCAVATIONS WITHIN UPRR RIGHT-OF-WAY SHALL BE PROPERLY SECURED BY FENCING AND/OR COVERING(S) PER OSHA REQUIREMENTS.

FOR ANY CONSTRUCTION THAT INCLUDES HEAVY EQUIPMENT OR EXCAVATION, ALL UTILITIES WITHIN UPRR RIGHT-OF-WAY MUST BE IDENTIFIED AND MARKED PRIOR TO START OF CONSTRUCTION. UPRR CALL BEFORE YOU DIG: UP.com/CBUD.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY JLB | PLANS CK'D. AEB

QUANTITIES AND NOTES

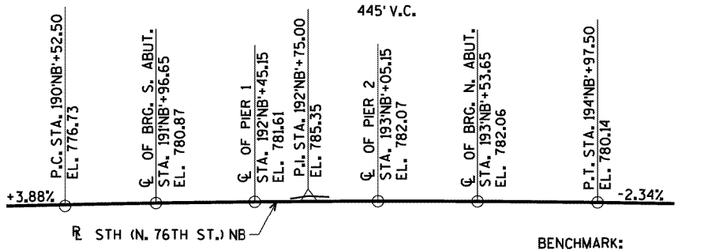
SHEET 3A OF 27
240

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

$PRFNAME$
1:\42\42-1099.00 - STH 181 Redecks - Milwaukee Co\Structures\B-40-381\Final\B-40-381 gp.DGN

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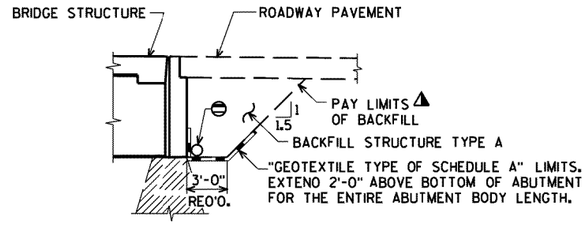
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PROFILE GRADE LINE

℄ STH (N. 76TH ST.) NB

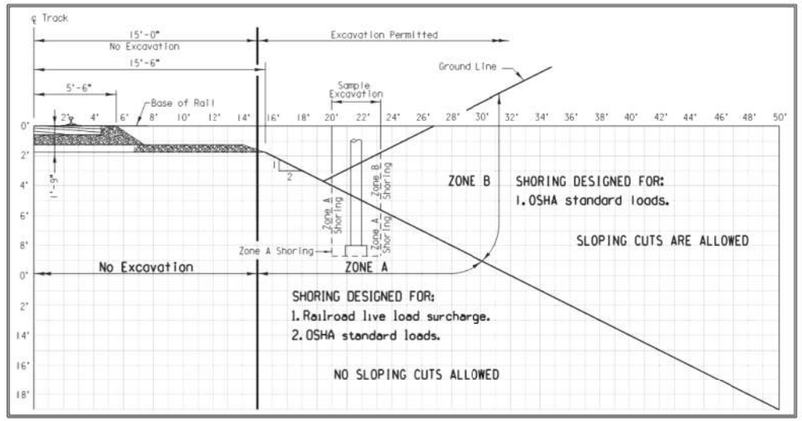
BENCHMARK:
CP CC (CROSS CUT)
STA. 193+86, 2.8' LT.
EL. 782.21



BACKFILL STRUCTURE LIMITS THRU ABUTMENT

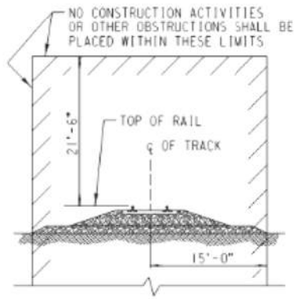
⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 10.



SHORING ZONES

ALL DIMENSIONS MEASURED PERPENDICULAR TO ℄ OF TRACK.
FOR ALL EXCAVATIONS WITHIN ZONE A, SHORING PLANS SHALL BE ACCOMPANIED BY DESIGN CALCULATIONS.
ALL SHORING WITHIN THE LIMITS OF ZONE A MUST BE PLACED PRIOR TO THE START OF EXCAVATION.



MINIMUM CONSTRUCTION CLEARANCE ENVELOPE

(NORMAL TO RAILROAD)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

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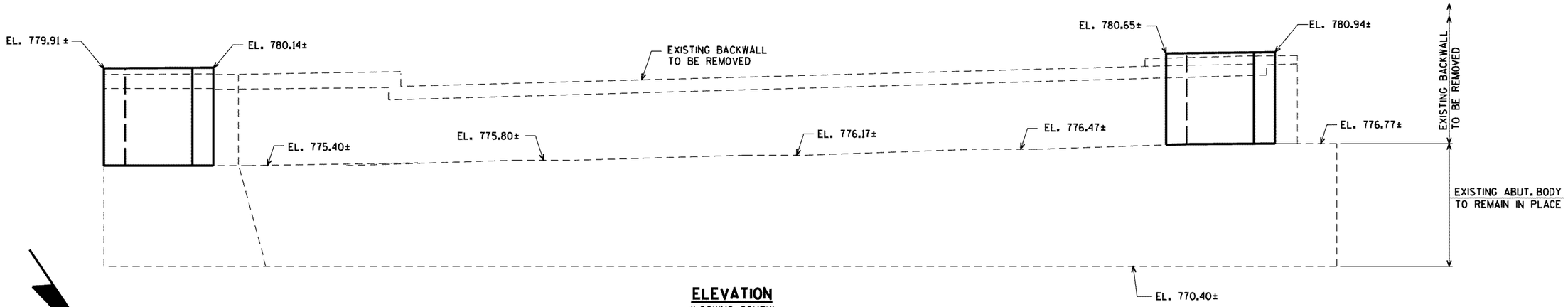
SPECIAL DETAILS AND PROFILE GRADELINE

SHEET 3B OF 27
241

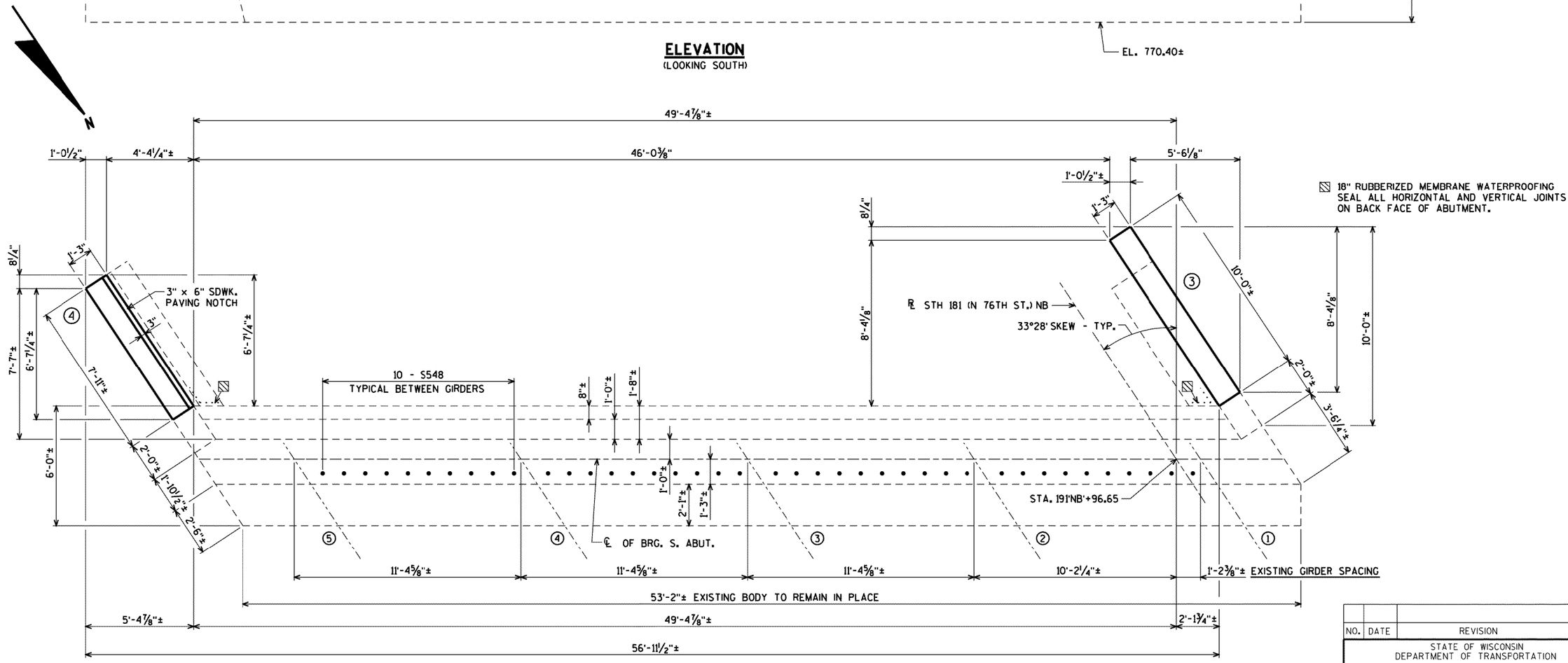
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STATE PROJECT NUMBER
2967-17-71



ELEVATION
(LOOKING SOUTH)



PLAN

▨ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY	CLP	PLANS CK'D.	AEB

SOUTH ABUTMENT

SHEET 4 OF 27
242

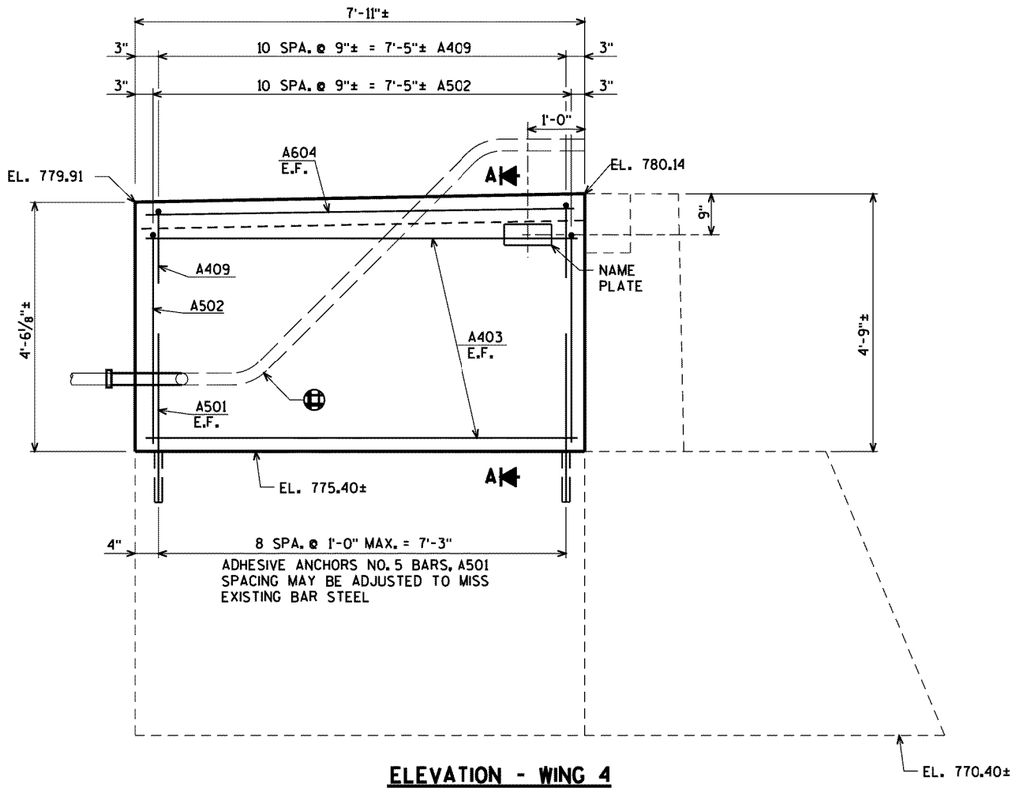
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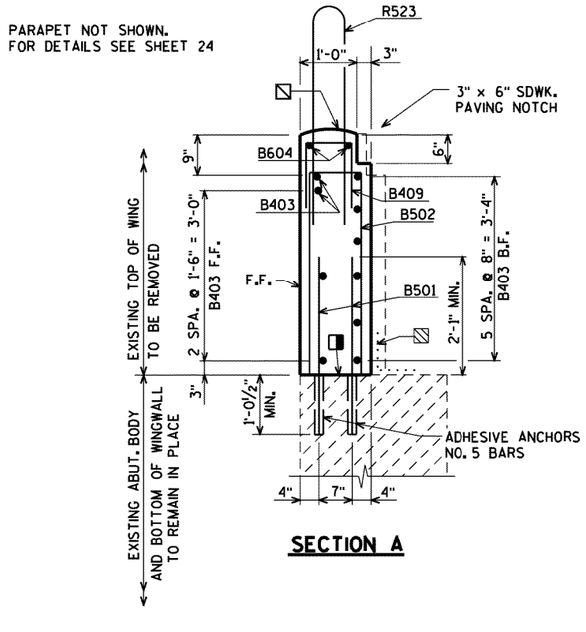
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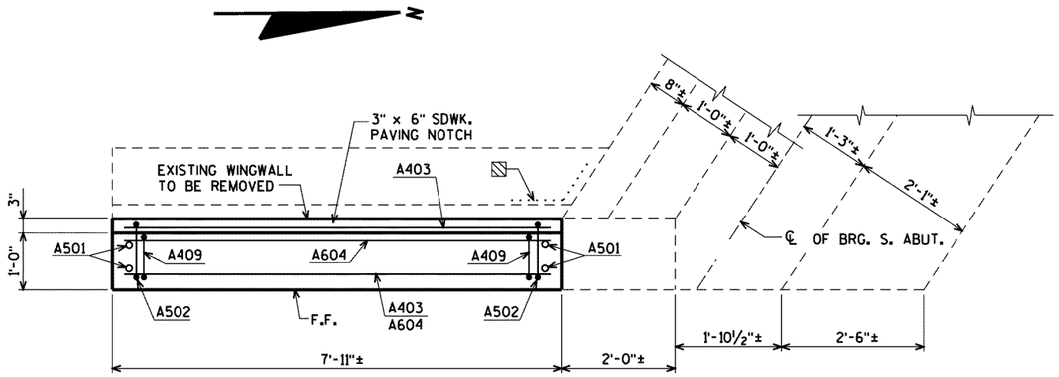
2967-17-71



ELEVATION - WING 4



SECTION A



PLAN - WING 4

- EXISTING CONST. JOINT
- 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT.
- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- FOR CONDUIT DETAILS SEE SHEET 20.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY CLP | PLANS CK'D. AEB

SOUTH ABUTMENT
WING 4 DETAILS

SHEET 5 OF 27
243

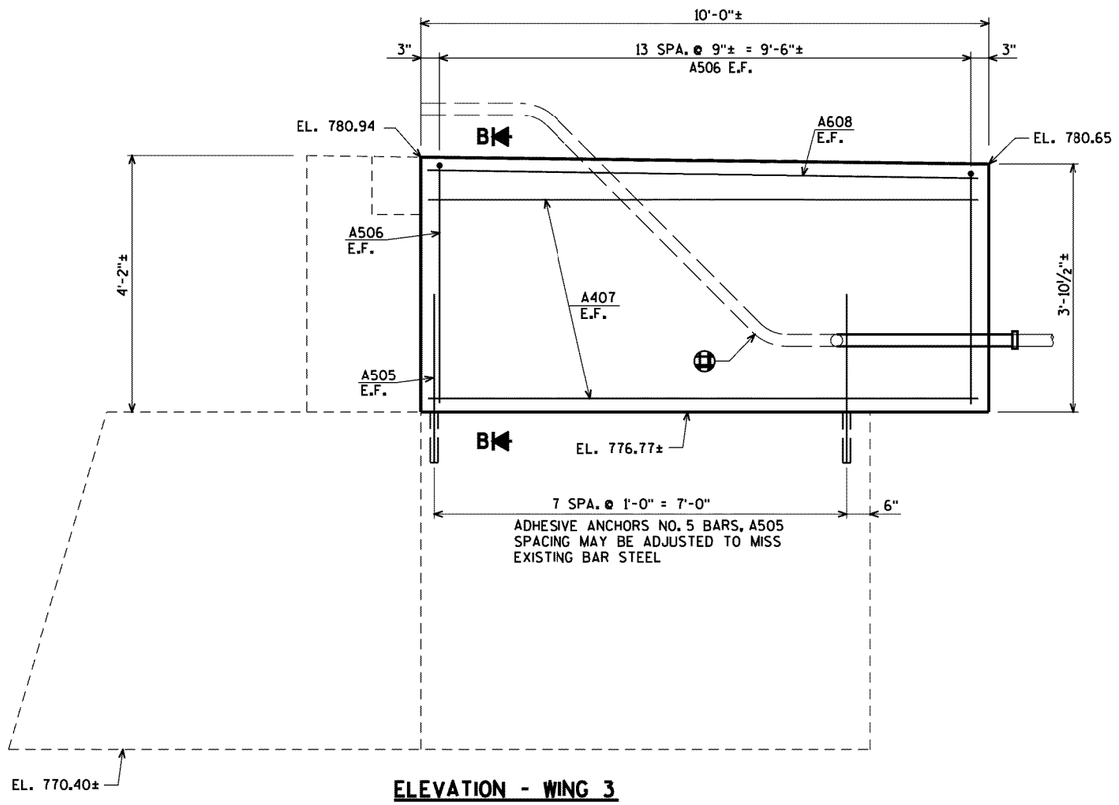
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8/25/2023
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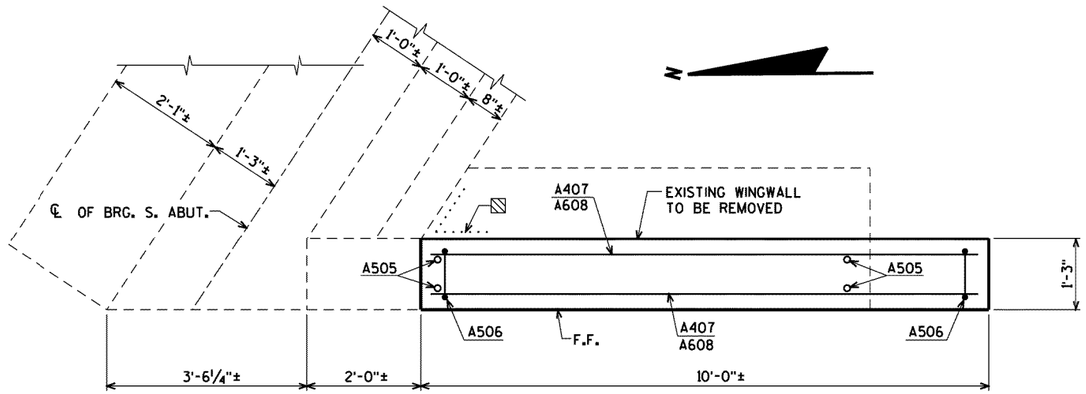
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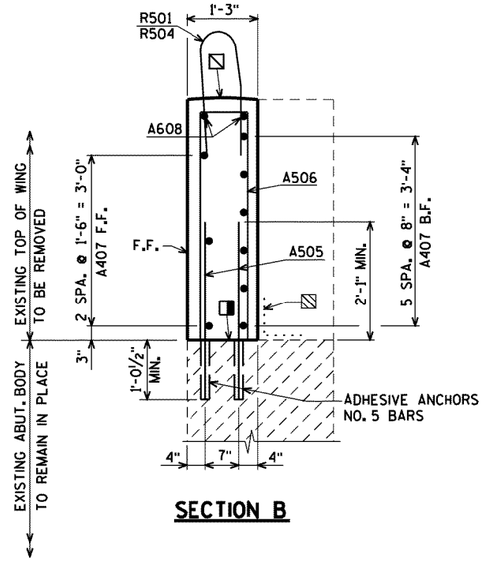


ELEVATION - WING 3



PLAN - WING 3

SINGLE SLOPE PARAPET 42SS
NOT SHOWN. FOR DETAILS
SEE SHEET 26



SECTION B

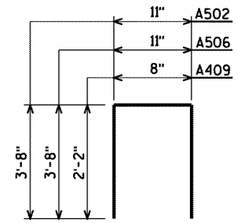
BILL OF BARS

WEIGHT INCLUDES PARAPET STEEL
SHOWN ON SHEETS 24 & 26

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	1,100# COATED LOCATION
▲ A501	X	18	3-2				WING 4 VERT. DOWELS E.F.
A502	X	11	8-3	X			WING 4 VERT.
A403	X	10	7-7				WING 4 HORIZ. E.F.
A604	X	2	7-7				WING 4 HORIZ. E.F. TOP
▲ A505	X	16	3-2				WING 3 VERT. DOWELS E.F.
A506	X	14	8-3	X			WING 3 VERT.
A407	X	9	9-6				WING 3 HORIZ. E.F.
A608	X	2	9-6				WING 3 HORIZ. E.F. TOP
A409	X	11	4-10	X			WING 4 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS

▲ ADHESIVE ANCHORS NO. 5 BAR



EXISTING CONST. JOINT

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

CONST. JOINT - STRIKE OFF AS SHOWN
AND LEAVE ROUGH.

FOR CONDUIT DETAILS SEE SHEET 20.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY CLP | PLANS CK'D. AEB

SOUTH ABUTMENT WING 3 DETAILS & BILL OF BARS

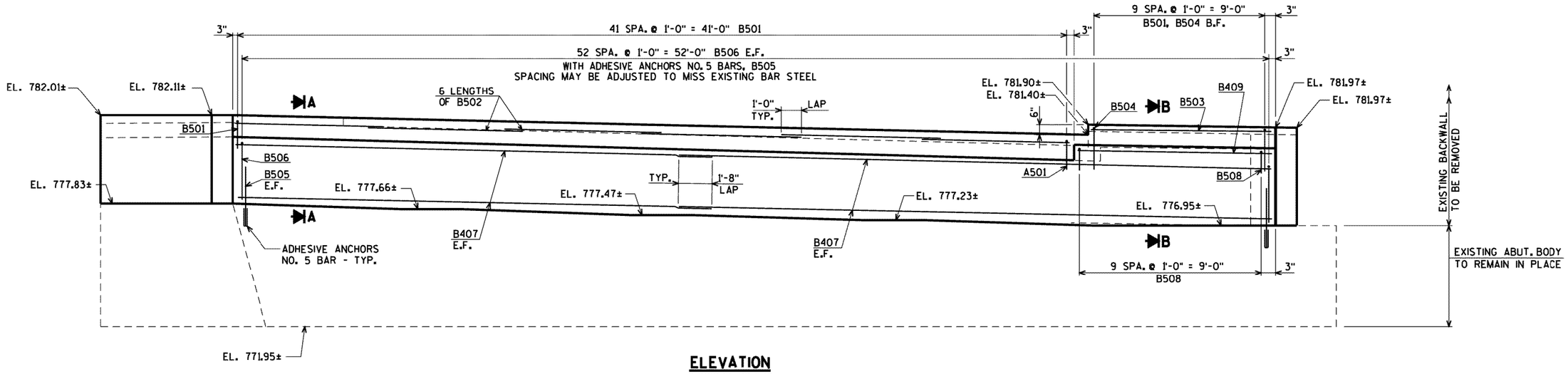
SHEET 6 OF 27
244

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

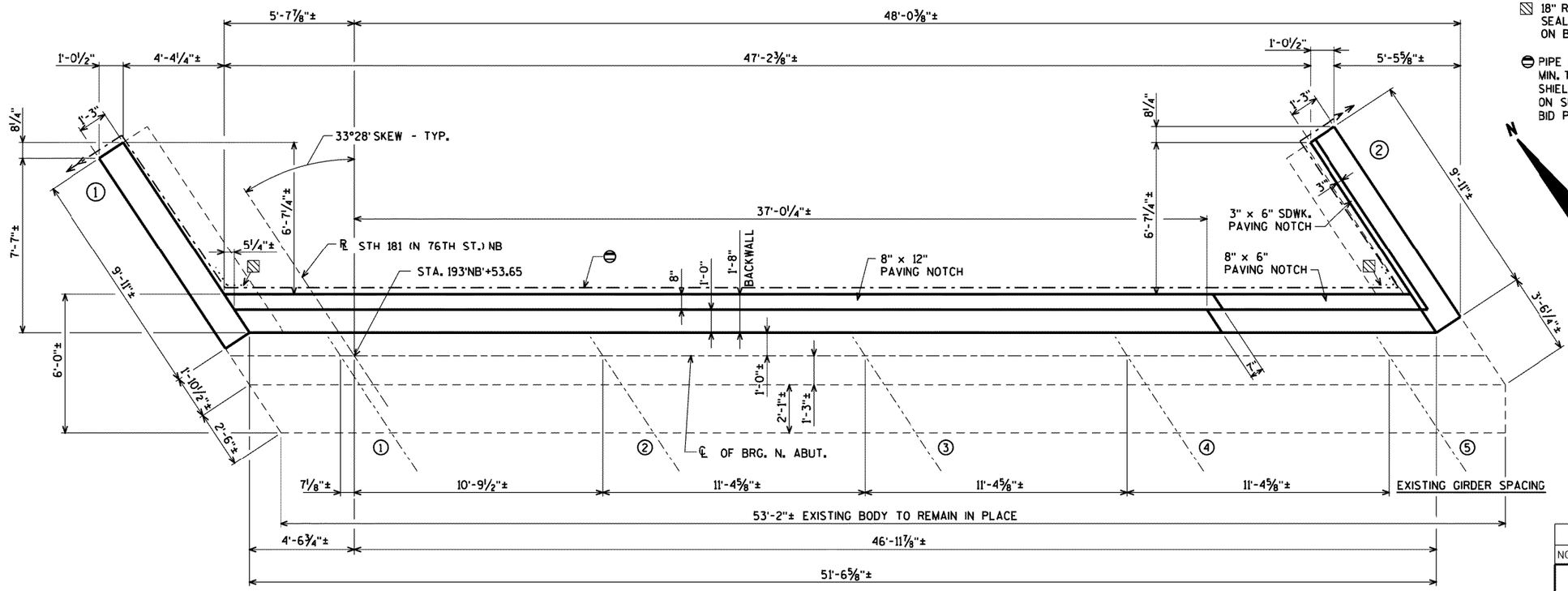
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I:±42±42-1099.00 - STH 181 Redecks - Milwaukee Co±Structures±B-40-381±Final±B-40-381 sa.dgn

STATE PROJECT NUMBER
2967-17-71



ELEVATION
(LOOKING NORTH)



PLAN

FOR SECTIONS A & B SEE SHEET 10

▨ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 10. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY CLP | PLANS CK'D. AEB

NORTH ABUTMENT

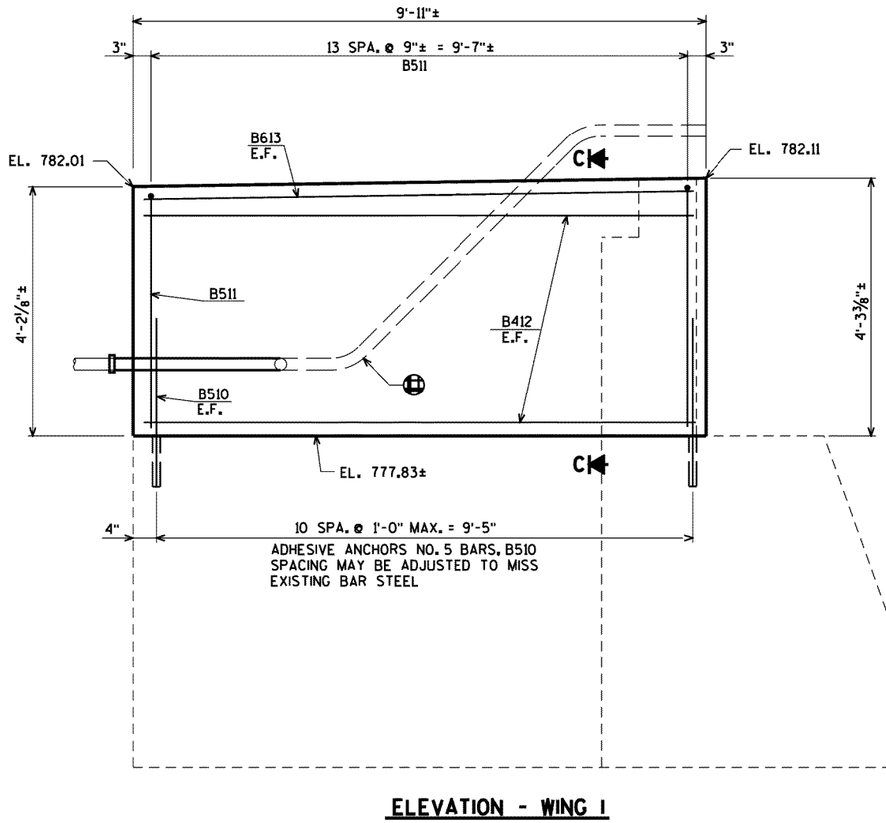
SHEET 7 OF 27
245

ORIGINAL PLANS PREPARED BY
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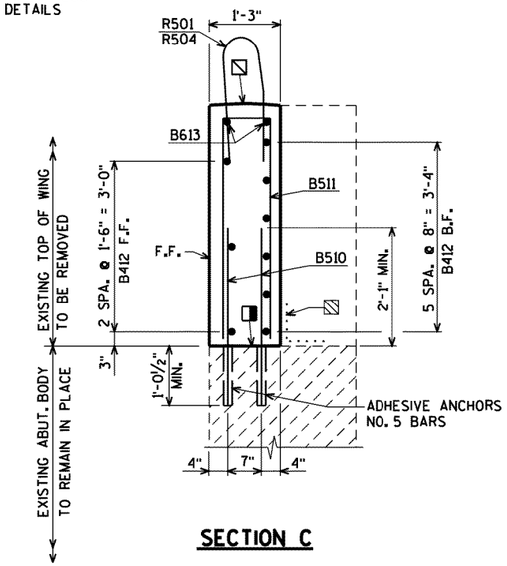
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STATE PROJECT NUMBER
2967-17-71

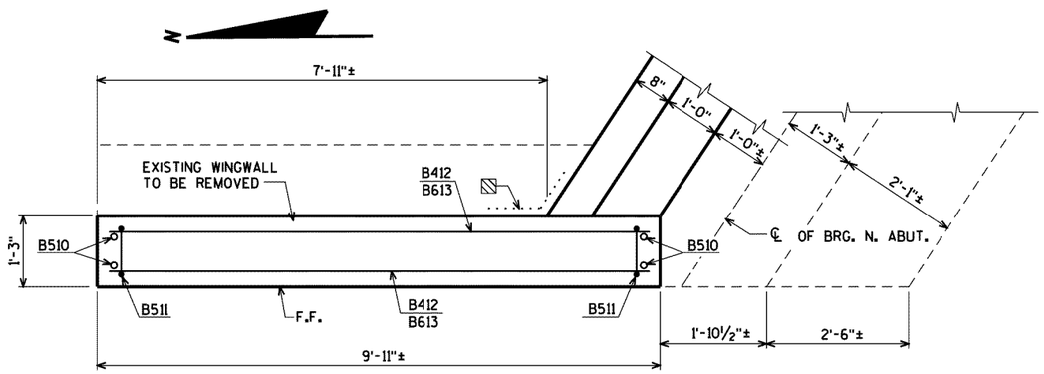


ELEVATION - WING 1

SINGLE SLOPE PARAPET 42SS
NOT SHOWN, FOR DETAILS
SEE SHEET 26



SECTION C



PLAN - WING 1

- EXISTING CONST. JOINT
- 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT.
- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- FOR CONDUIT DETAILS SEE SHEET 20.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY CLP | PLANS CK'D. AEB

NORTH ABUTMENT
WING 1 DETAILS

SHEET 8 OF 27
246

ORIGINAL PLANS PREPARED BY
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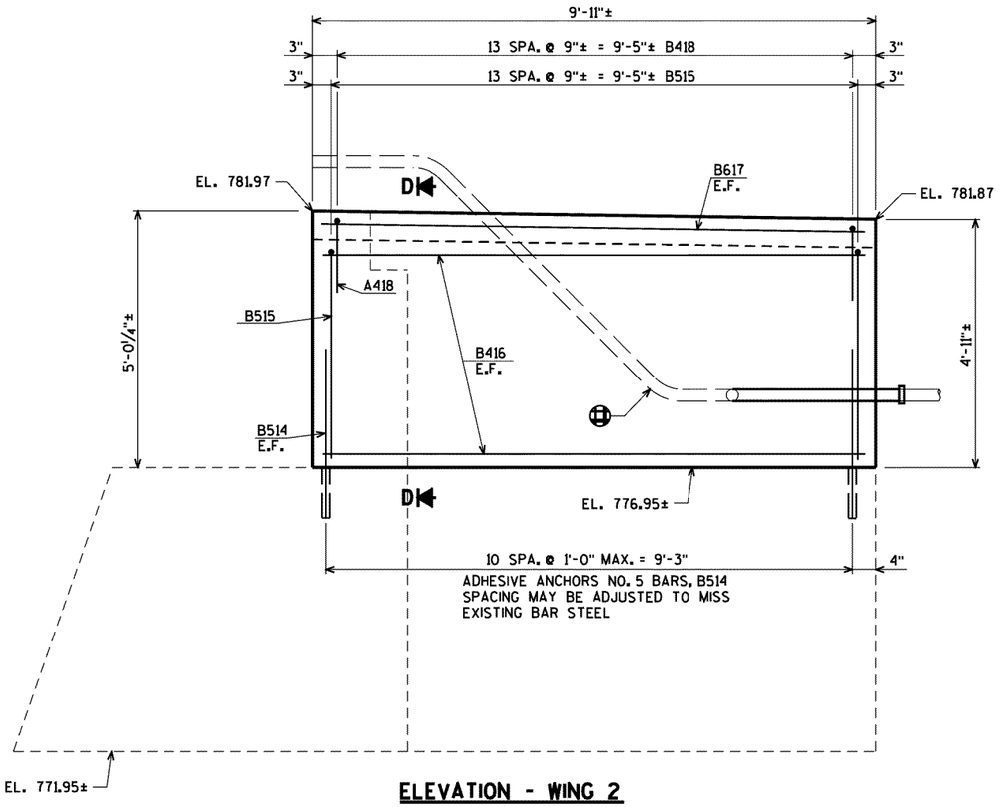
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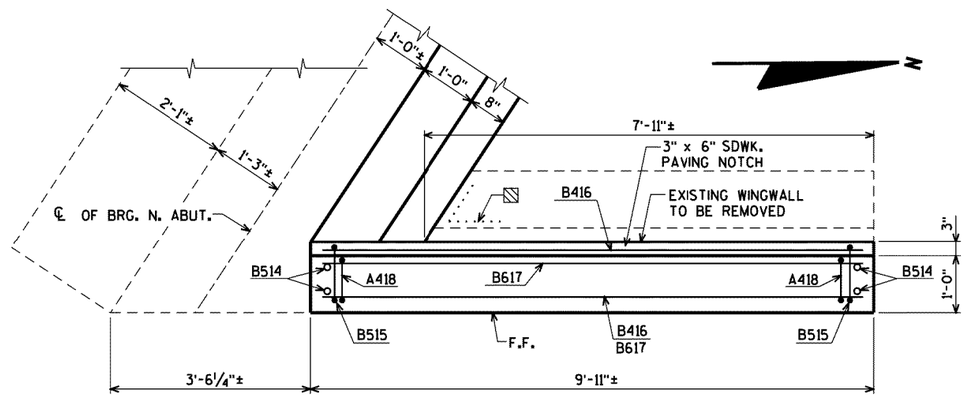
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STATE PROJECT NUMBER

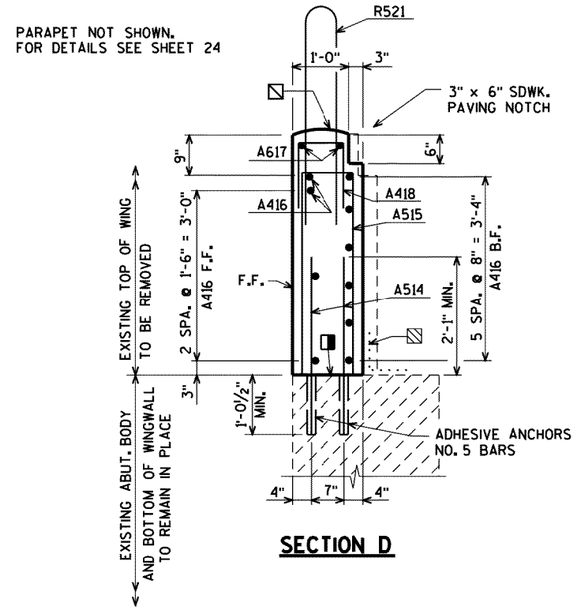
2967-17-71



ELEVATION - WING 2



PLAN - WING 2



SECTION D

◨ EXISTING CONST. JOINT

▨ 18" RUBBERIZED MEMBRANE WATERPROOFING
SEAL ALL HORIZONTAL AND VERTICAL JOINTS
ON BACK FACE OF ABUTMENT.

▧ CONST. JOINT - STRIKE OFF AS SHOWN
AND LEAVE ROUGH.

FOR CONDUIT DETAILS SEE SHEET 20.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY CLP | PLANS CK'D. AEB

NORTH ABUTMENT
WING 2 DETAILS

SHEET 9 OF 27
247

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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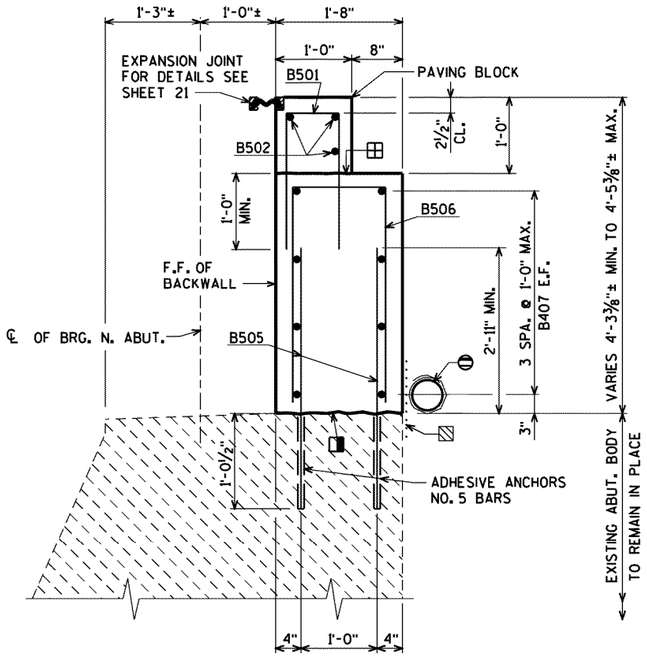
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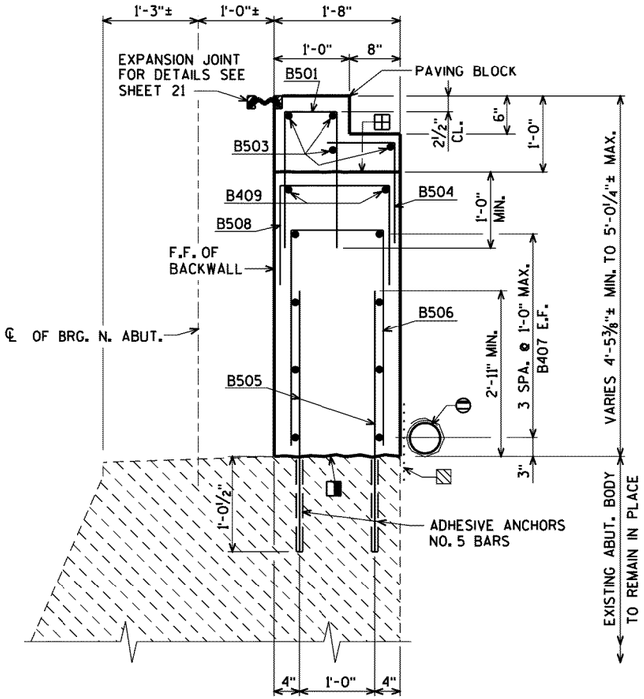
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STATE PROJECT NUMBER
2967-17-71

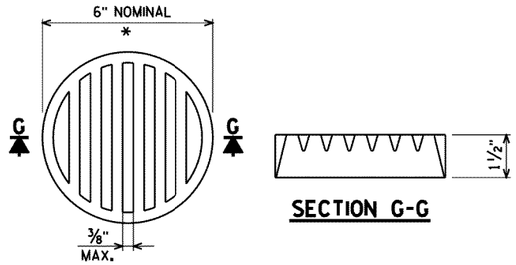


SECTION A



SECTION B

FOR LOCATION OF SECTIONS A & B
SEE SHEET 7



SECTION G-G

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

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

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

RODENT SHIELD DETAIL

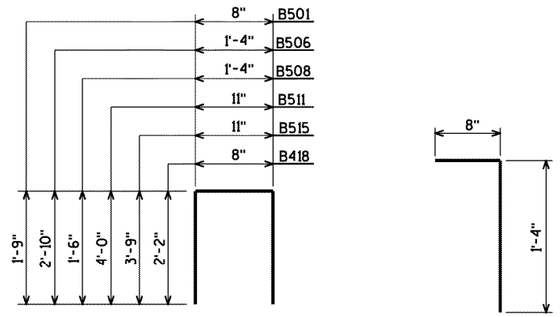
BILL OF BARS

WEIGHT INCLUDES PARAPET STEEL SHOWN ON SHEETS 24 & 26

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2,850# COATED LOCATION
B501	X	52	3-11	X		PAVING BLOCK VERT.
B502	X	18	10-0			PAVING BLOCK HORIZ.
B503	X	4	8-3			PAVING BLOCK HORIZ. @ SDWK
B504	X	9	1-11	X		PAVING BLOCK VERT. B.F. @ SDWK
▲ B505	X	106	4-0			BACKWALL VERT. DOWELS E.F.
B506	X	53	6-9	X		BACKWALL VERT.
B407	X	16	27-6			BACKWALL HORIZ. E.F.
B508	X	10	4-2	X		BACKWALL VERT. @ SDWK
B409	X	2	7-6			BACKWALL HORIZ. E.F. @ SDWK
▲ B510	X	22	3-2			WING 1 VERT. DOWELS E.F.
B511	X	14	8-9	X		WING 1 VERT.
B412	X	9	9-7			WING 1 HORIZ. E.F.
B613	X	2	9-7			WING 1 HORIZ. E.F. TOP
▲ B514	X	22	3-2			WING 2 VERT. DOWELS E.F.
B515	X	14	8-3	X		WING 2 VERT.
B416	X	9	9-7			WING 2 HORIZ. E.F.
B617	X	2	9-7			WING 2 HORIZ. E.F. TOP
B418	X	14	4-10	X		WING 2 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS

▲ ADHESIVE ANCHORS NO. 5 BAR



B504

℄ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

EXISTING CONST. JOINT

18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

CONST. JOINT - POUR CONCRETE ABOVE THIS JOINT AFTER SUBSTRUCTURE IS IN PLACE. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY CLP | PLANS CK'D. AEB

NORTH ABUTMENT DETAILS AND BILL OF BARS

SHEET 10 OF 27
248

ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com

9/13/2023
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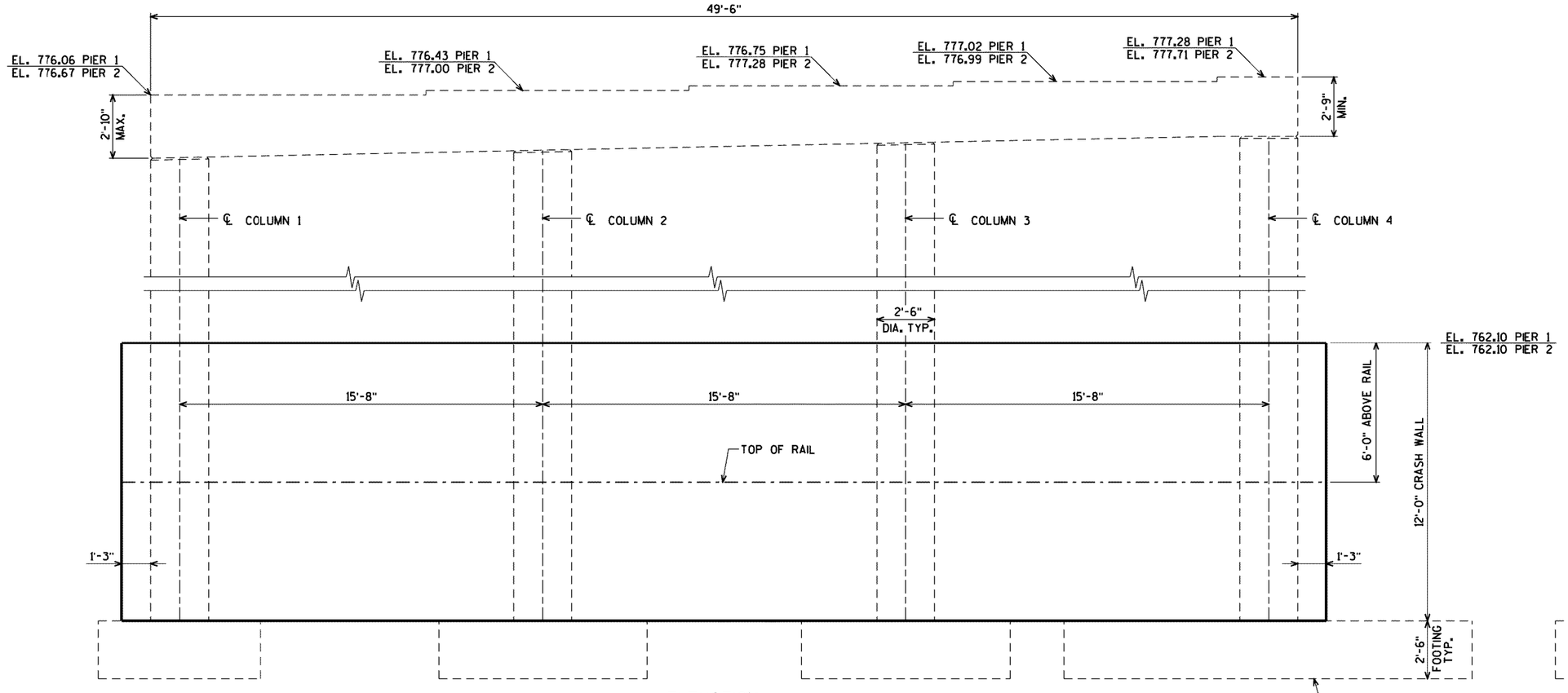
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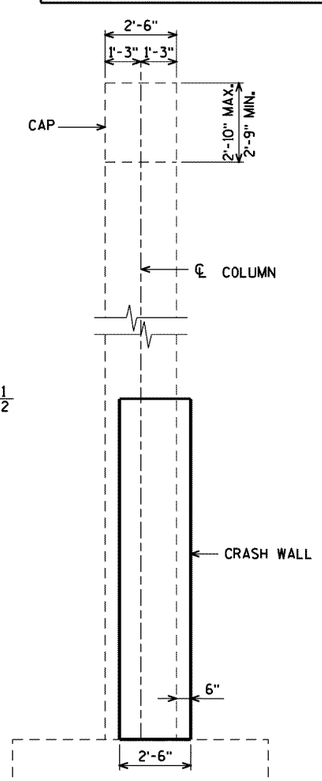
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STATE PROJECT NUMBER

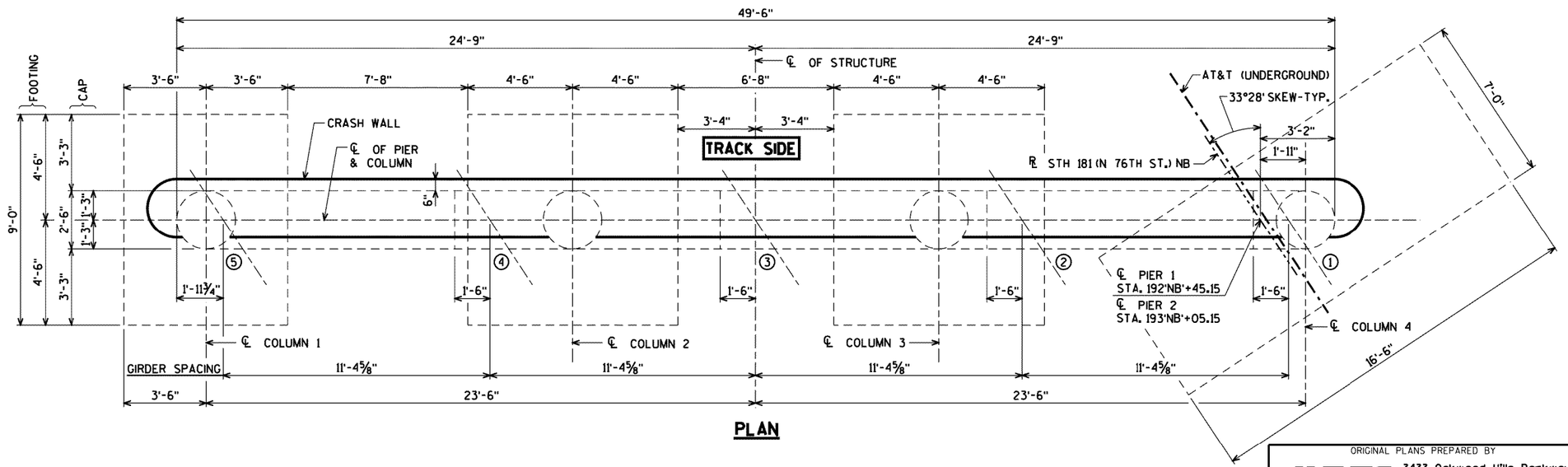
2967-17-71



ELEVATION
(LOOKING SOUTH)



END VIEW



PLAN

NOTES:

EXISTING FOOTINGS, COLUMNS AND CAP TO REMAIN IN PLACE.

PIER 1 SHOWN ON THIS SHEET, PIER 2 SIMILAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

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ORIGINAL PLANS PREPARED BY

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Eau Claire, WI 54701
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PIERS 1 & 2 DETAILS

SHEET 11 OF 27
249

10/23/2023
PENTABLE:BRequ_shd_util.tbl

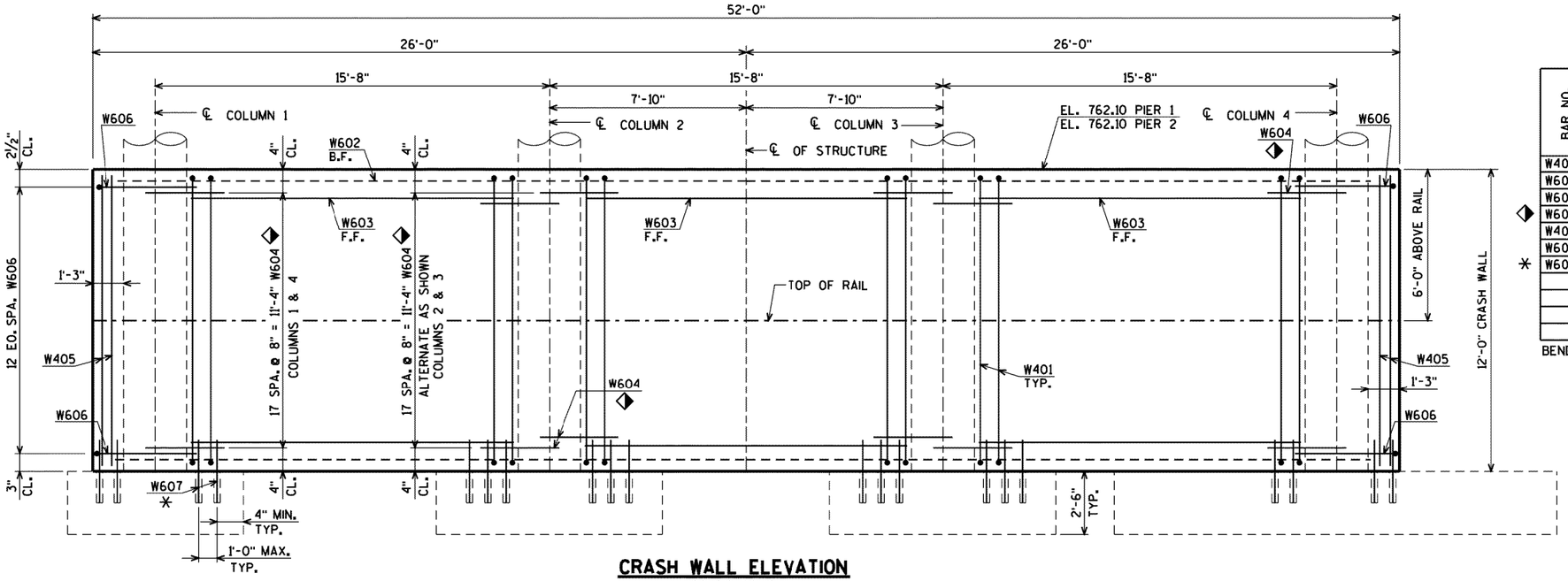
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STATE PROJECT NUMBER
2967-17-71

BILL OF BARS

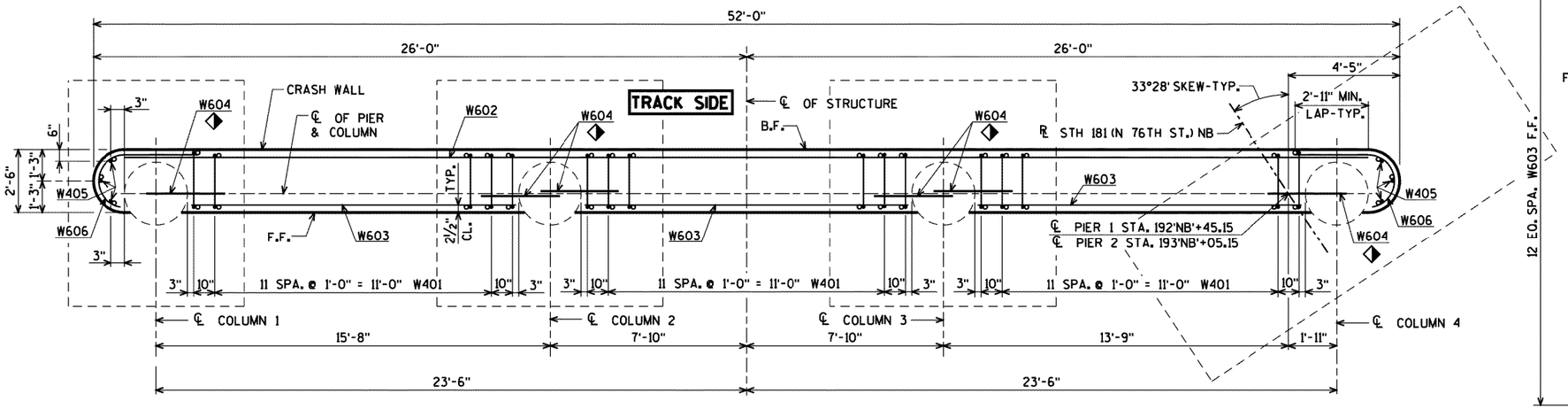
BAR NO.	COATED BAR	NO. REQ'D. PIER 1	NO. REQ'D. PIER 2	LENGTH	BENT BAR	BUNDLED	BAR SERIES	2.980" UNCOATED LOCATION
W401		42	42	27-10	X			
W602		13	13	49-6				
W603		39	39	12-11				
◆ W604		72	72	2-9				
W405		6	6	11-7				
W606		26	26	6-3	X			
* W607		38	38	2-9				

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

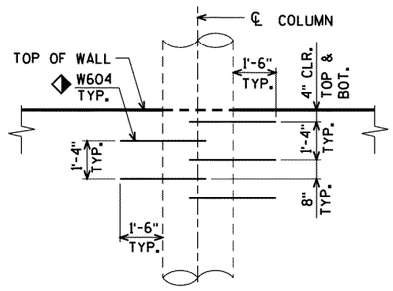


CRASH WALL ELEVATION

(LOOKING SOUTH)

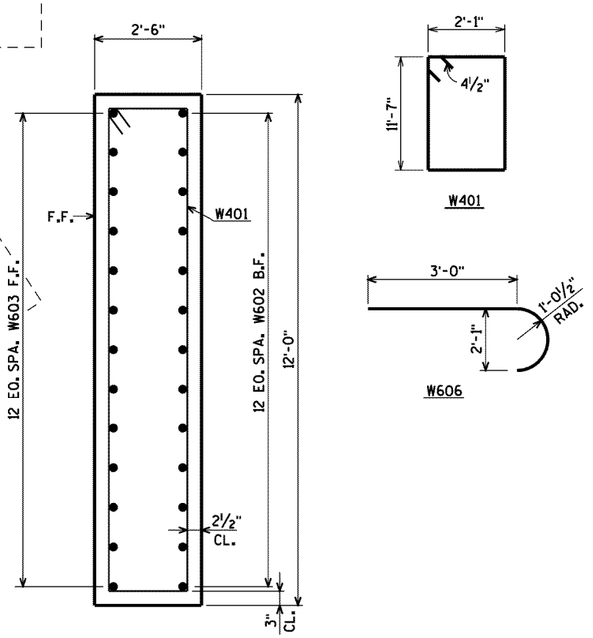


CRASH WALL PLAN



CRASH WALL TO COLUMN CONNECTION DETAIL

TYPICAL ALL COLUMNS UNLESS NOTED OTHERWISE



TYPICAL SECTION

NOTES:

EXISTING FOOTINGS, COLUMNS AND CAP TO REMAIN IN PLACE.

CRASH WALL ℄ PIER 1 SHOWN. CRASH WALL FOR PIER 2 SIMILAR.

◆ ADHESIVE ANCHORS NO. 6 BARS, W604 EMBED 1'-3". DETERMINE LOCATION OF COLUMN BAR STEEL PRIOR TO DRILLING ANCHORS.

* ADHESIVE ANCHORS NO. 6 BARS, W607 EMBED 1'-3" INTO FOOTING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

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CRASH WALL DETAILS

SHEET 12 OF 27
250

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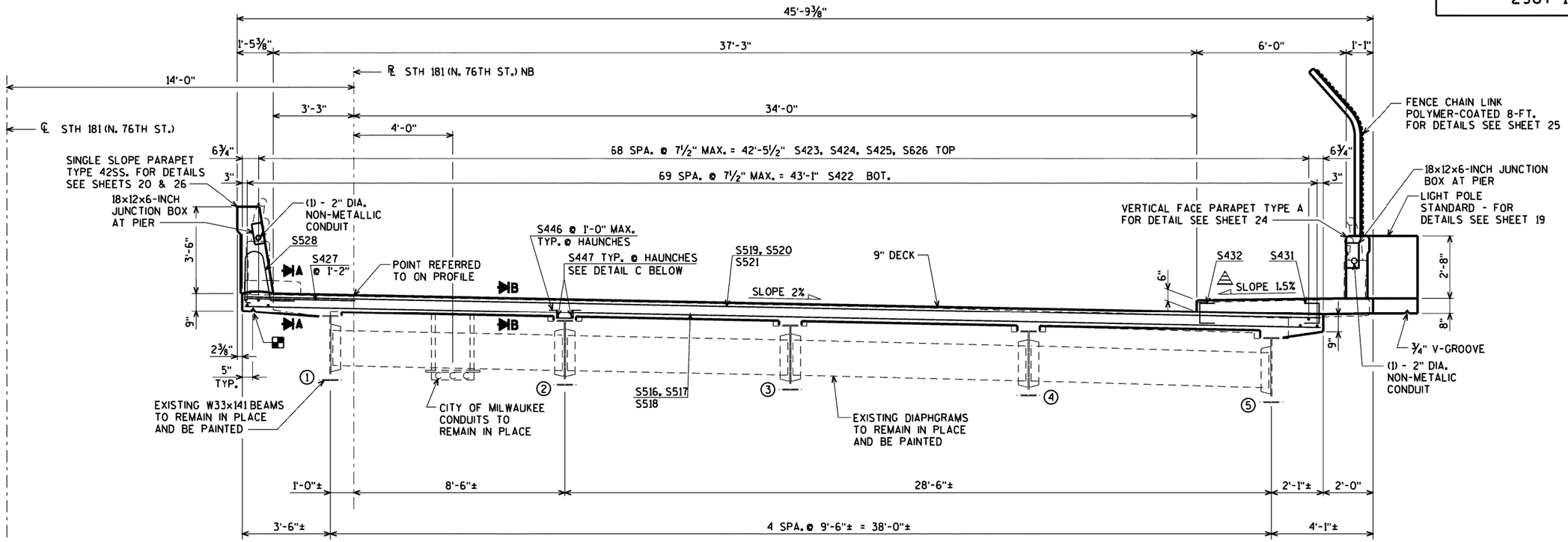
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11/2/2023
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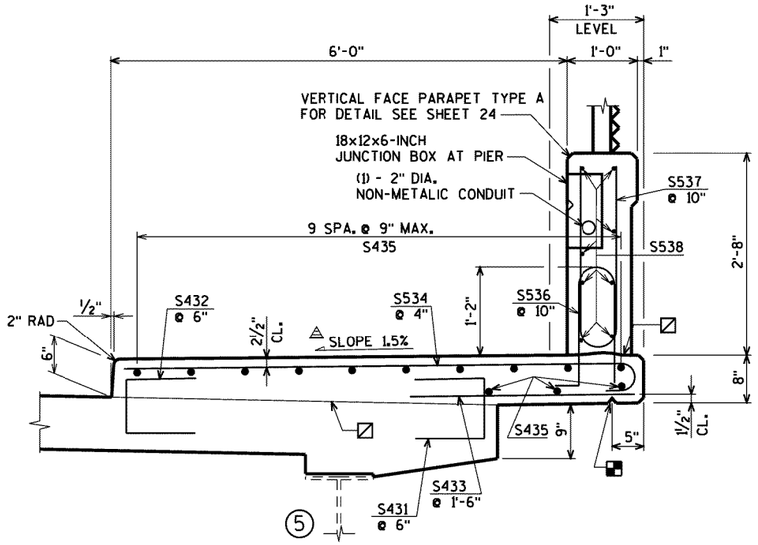
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STATE PROJECT NUMBER

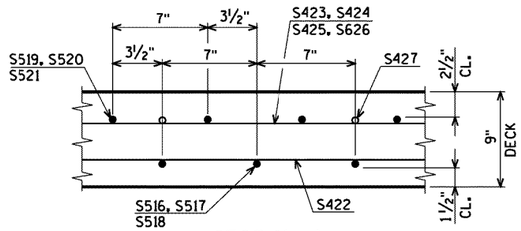
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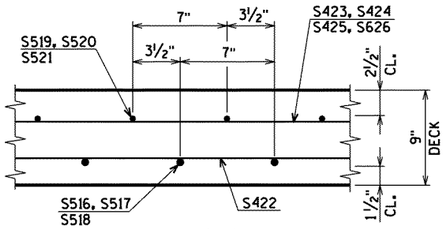
TYPICAL SECTION THRU BRIDGE
(LOOKING NORTH)



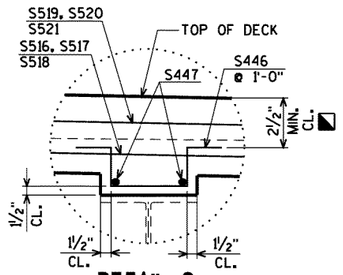
SECTION THRU SIDEWALK
(LOOKING NORTH)



SECTION A



SECTION B



DETAIL C

▨ TILT S446 BARS 30 DEG. MAX. FROM VERTICAL AS REQ'D. TO MAINTAIN 2½" CLEAR

△ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

▪ ¾" V - GROOVE. TERMINATE 2'-0" FROM FRONT FACE OF ABUTMENTS - TYP.

▨ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE CROSS SLOPE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY CLP | PLANS CK'D. AEB

SUPERSTRUCTURE

SHEET 13 OF 27
251

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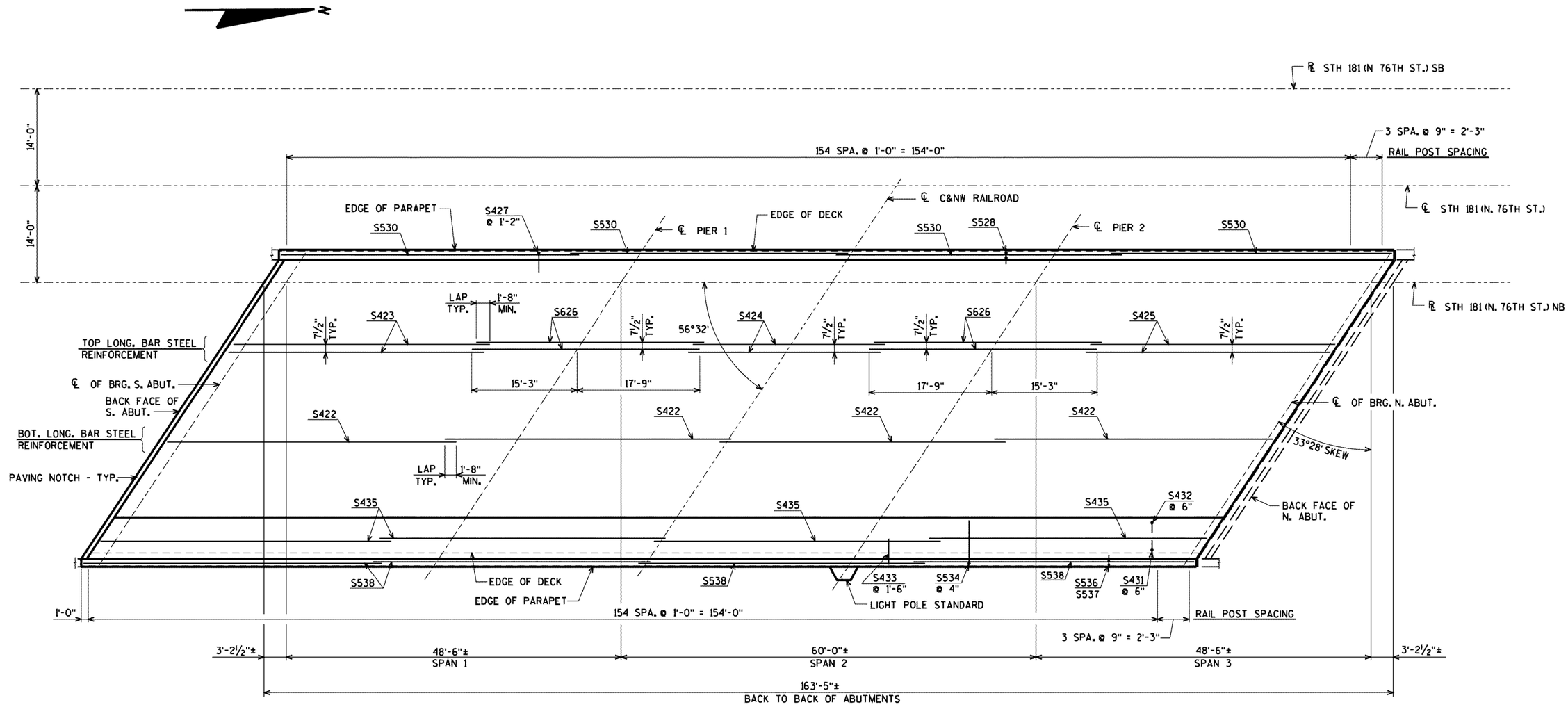
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8

8

STATE PROJECT NUMBER
2967-17-71



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY CLP | PLANS CK'D. AEB

SUPERSTRUCTURE PLAN

SHEET 14 OF 27
252

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3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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8

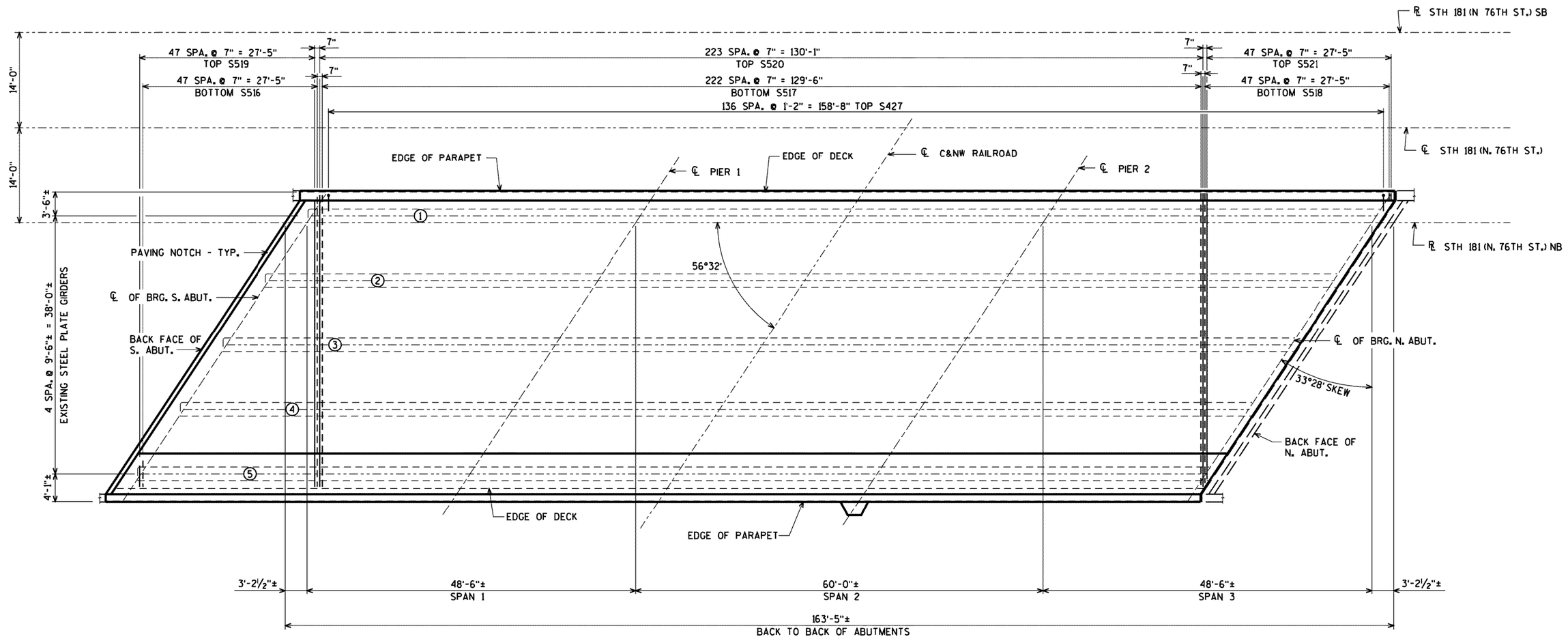
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STATE PROJECT NUMBER

2967-17-71



PLAN

8/25/2023
PENTABLE:±Reau_shd_util.tbl

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY CLP | PLANS CK'D. AEB

TRANSVERSE DECK STEEL LAYOUT

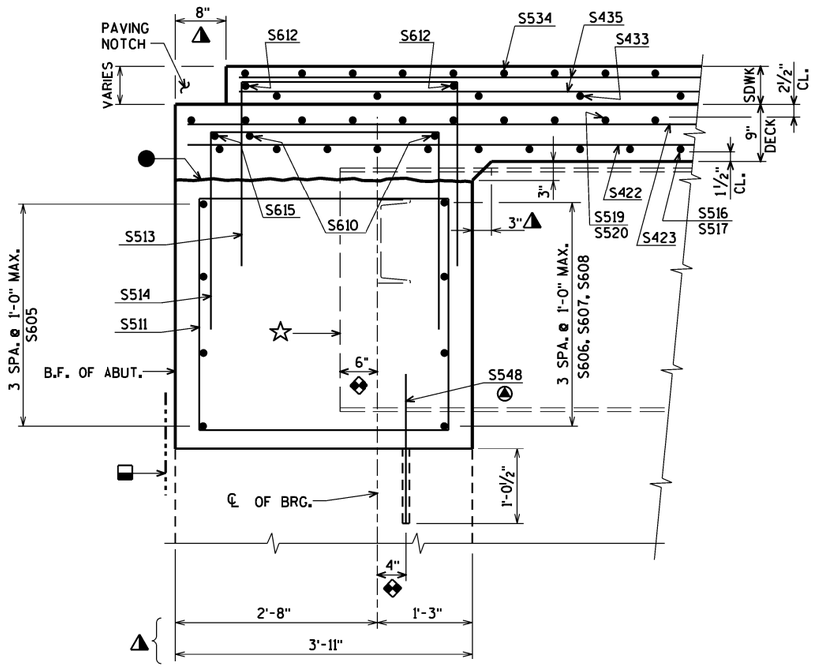
SHEET 15 OF 27
253

ORIGINAL PLANS PREPARED BY

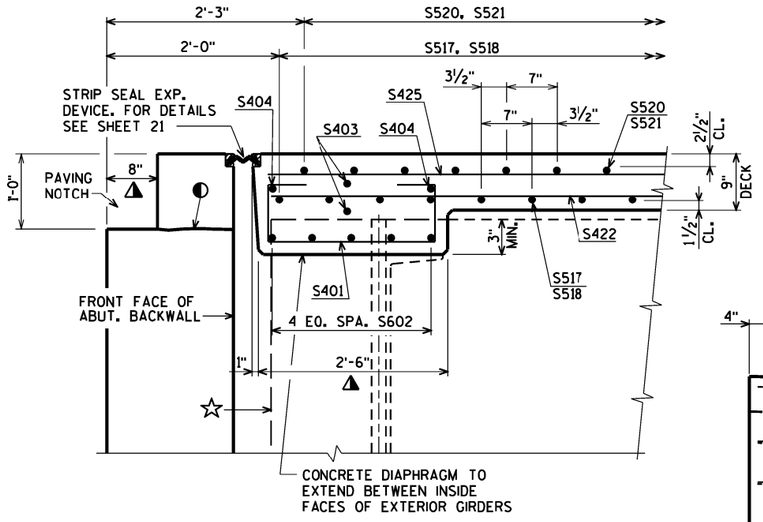
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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I:±42±42-1099.00 - STH 181 Redecks - Milwaukee Co±Structures±B-40-381±Final±B-40-381 sup.DGN

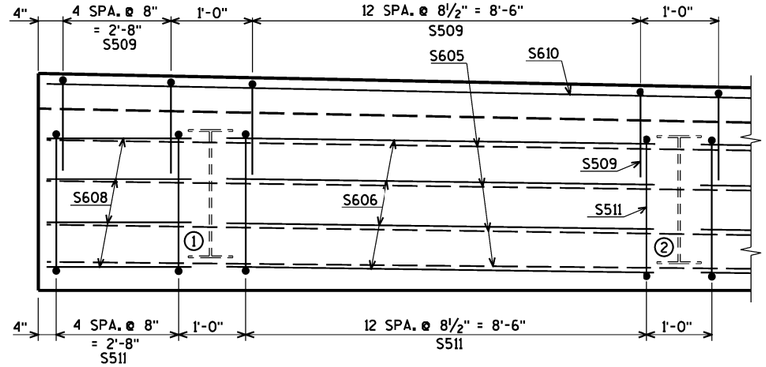
STATE PROJECT NUMBER
2967-17-71



PART LONGITUDINAL SECTION - SOUTH ABUTMENT SIDEWALK

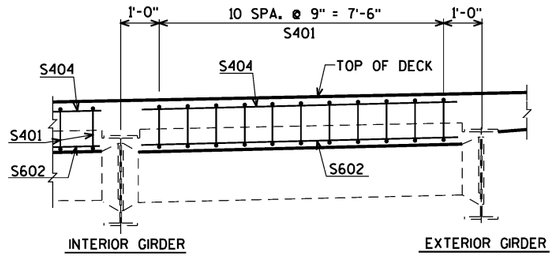


PART LONGITUDINAL SECTION - NORTH ABUTMENT



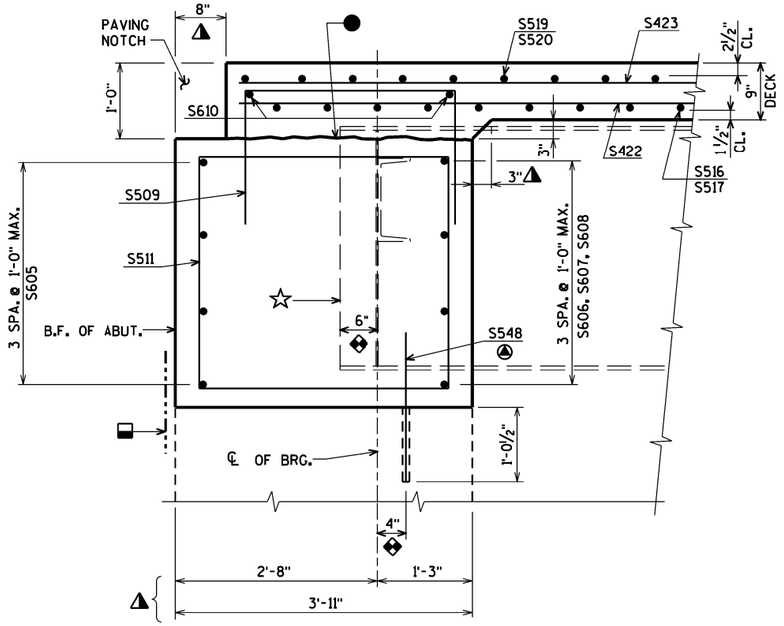
PART ELEV. - SOUTH ABUTMENT

(LOOKING NORTH)

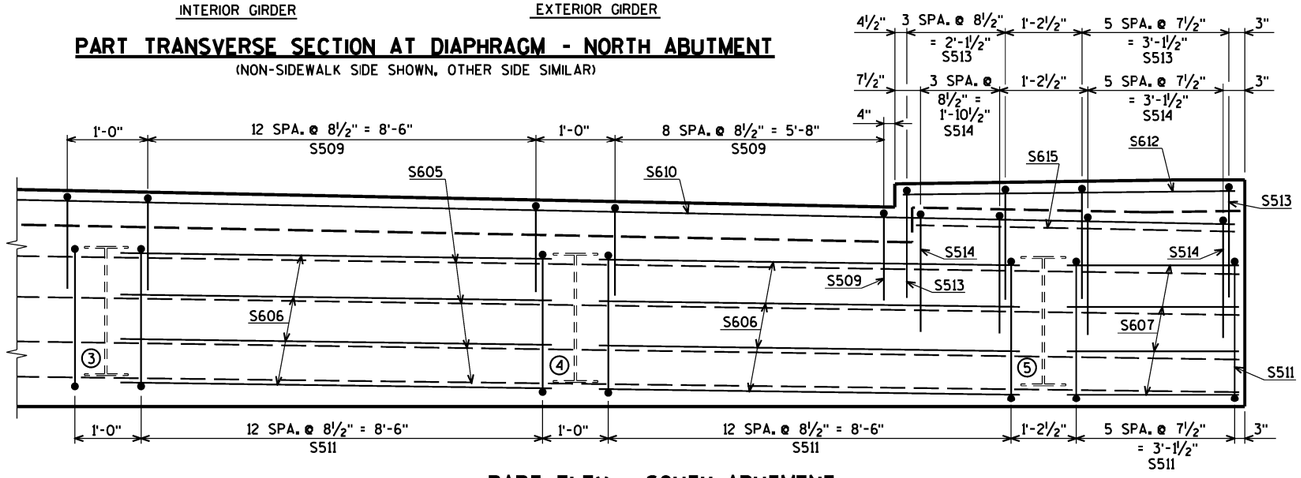


PART TRANSVERSE SECTION AT DIAPHRAGM - NORTH ABUTMENT

(NON-SIDEWALK SIDE SHOWN, OTHER SIDE SIMILAR)



PART LONGITUDINAL SECTION - SOUTH ABUTMENT



PART ELEV. - SOUTH ABUTMENT

(LOOKING NORTH)

▲ ADHESIVE ANCHORS NO. 5 BARS, S548 EMBED 1'-0½" INTO ABUTMENT.

☆ END OF EXISTING GIRDER.

◐ CONSTRUCTION JOINT - POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

⚠ DIMENSIONS MEASURED NORMAL TO ℄ OF SUBSTRUCTURE UNIT.

▬ RUBBERIZED MEMBRANE WATERPROOFING.

◆ DIMENSIONS MEASURED ALONG ℄ OF GIRDER.

● OPTIONAL CONST. JT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY CLP | PLANS CK'D. AEB

SUPERSTRUCTURE DETAILS

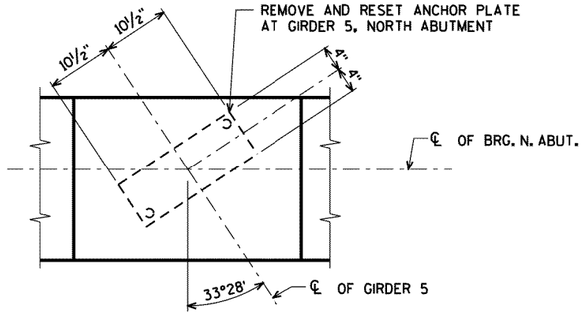
SHEET 16 OF 27
254

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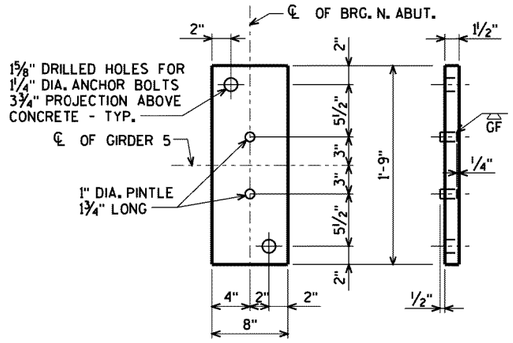
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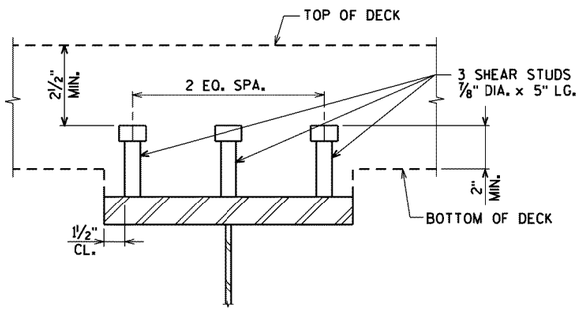


BEARING DETAIL



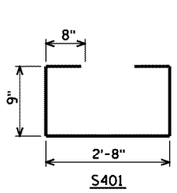
MASONRY PLATE

NOTE:
USE THREE FIELD WELDED ⅞" DIA. x 5" LONG STUDS EQUALLY SPACED WITH A MIN. OF 1½" CL. FROM THE FLANGE EDGE. STUDS SHALL NOT BE PLACED OVER FIELD SPLICE PLATES.

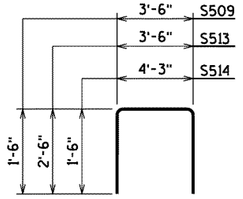


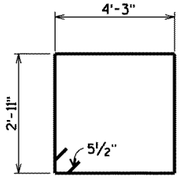
SHEAR CONNECTOR DETAIL

IF EXISTING SHEAR LUGS ARE DAMAGED DURING THE DECK REMOVAL, SALVAGE THE EXISTING ONES AND REPLACE WITH SHEAR STUDS AS DETAILED ABOVE. COST IS INCIDENTAL TO CONCRETE MASONRY BRIDGES.

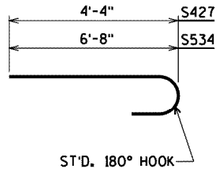


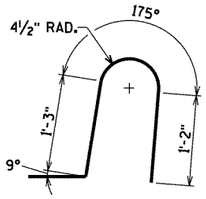
S401



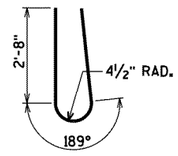


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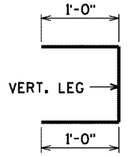




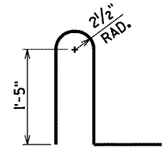
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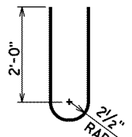
S529



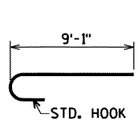
S431, S432



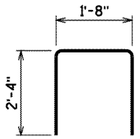
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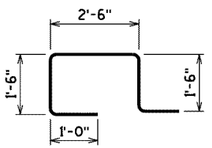
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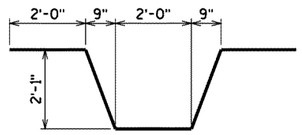
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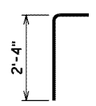
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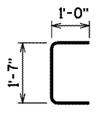
S541



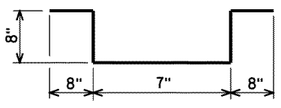
S642



S544



S545



S446

BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	64,240# COATED LOCATION
S401	X	44	5-2	X		DIAPH. @ N. ABUT. VERT.
S602	X	20	9-0			DIAPH. @ N. ABUT. HORIZ. BOT.
S403	X	8	9-0			DIAPH. @ N. ABUT. HORIZ.
S404	X	8	9-0			DIAPH. @ N. ABUT. HORIZ. TOP
S605	X	4	53-4			DIAPH. @ S. ABUT. HORIZ.
S606	X	16	10-9			DIAPH. @ S. ABUT. HORIZ.
S607	X	4	4-4			DIAPH. @ S. ABUT. HORIZ. GDR. 5
S608	X	4	3-7			DIAPH. @ S. ABUT. HORIZ. GDR. 1
S509	X	48	6-3	X		DIAPH. @ S. ABUT. VERT.
S610	X	2	53-4			DIAPH. @ S. ABUT. HORIZ.
S511	X	63	14-11	X		DIAPH. @ S. ABUT. VERT.
S612	X	2	8-0			DIAPH. @ S. ABUT. HORIZ.
S513	X	10	8-3	X		DIAPH. @ S. ABUT. VERT.
S514	X	10	7-0	X		DIAPH. @ S. ABUT. VERT.
S615	X	1	7-8			DIAPH. @ S. ABUT. HORIZ.
S516	X	48	22-4		⊗	SLAB TRANS. BOT.
S517	X	223	43-2			SLAB TRANS. BOT.
S518	X	48	21-10		⊗	SLAB TRANS. BOT.
S519	X	48	22-4		⊗	SLAB TRANS. TOP
S520	X	224	43-2			SLAB TRANS. TOP
S521	X	48	21-10		⊗	SLAB TRANS. TOP
S422	X	280	41-6			SLAB LONG. BOT.
S423	X	69	37-4			SLAB LONG. TOP SPAN 1
S424	X	69	27-10			SLAB LONG. TOP SPAN 2
S425	X	69	36-0			SLAB LONG. TOP SPAN 3
S626	X	138	33-0			SLAB LONG. TOP @ PIERS
S427	X	137	4-10	X		SLAB TRANS. @ OVERHANG
S528	X	245	4-5	X		SLAB @ PARAPET VERT.
S529	X	245	6-8	X		SLAB @ PARAPET VERT.
S530	X	24	55-6			SLAB @ PARAPET HORIZ.
S431	X	322	3-1	X		SLAB @ SDWK. @ CURB
S432	X	322	2-11	X		SLAB @ SDWK. @ CURB
S433	X	108	2-10			SDWK. TRANS. BOT.
S534	X	482	7-3	X		SDWK. TRANS. TOP
S435	X	52	41-6			SDWK. LONG.
S536	X	194	4-4	X		SLAB @ PARAPET VERT.
S537	X	194	4-9	X		SLAB @ PARAPET VERT.
S538	X	24	55-6			SLAB @ PARAPET HORIZ.
S539	X	12	9-8	X		LIGHT STD. TRANS. SDWK. TOP
S540	X	4	6-3	X		LIGHT STD. VERT. PARAPET
S541	X	4	7-0	X		LIGHT STD. VERT. PARAPET
S642	X	7	10-0	X		LIGHT STD. HORIZ. PARAPET
S543	X	12	9-1			LIGHT STD. TRANS. SDWK. BOT.
S544	X	2	3-3	X		LIGHT STD. VERT. PARAPET
S545	X	2	3-4	X		LIGHT STD. VERT. PARAPET
S446	X	790	3-0	X		SLAB @ GIRDER HAUNCHES
S447	X	40	40-6			SLAB LONG. BOT. @ HAUNCHES
▲ S548	X	40	2-1			VERT. DOWEL BAR @ S. ABUT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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

▲ ADHESIVE ANCHORS NO. 5 BARS, S548 EMBED 1'-0½" INTO ABUTMENT.

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
S516	1 SERIES OF 48	1'-7" TO 43'-1"
S518	1 SERIES OF 48	1'-1" TO 42'-7"
S519	1 SERIES OF 48	1'-7" TO 43'-1
S521	1 SERIES OF 48	1'-1" TO 42'-7

BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

DRAWN BY CLP | PLANS CK'D. AEB

SUPERSTRUCTURE BILL OF BARS

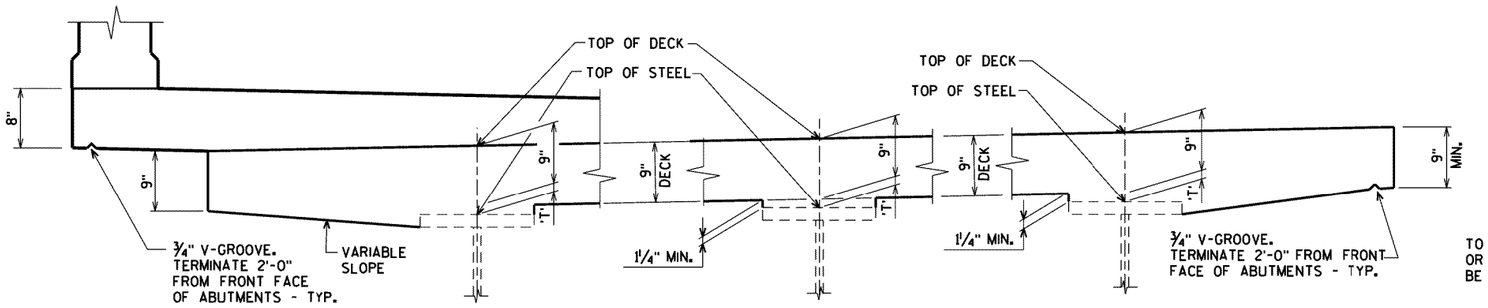
SHEET 17 OF 27
255

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EXTERIOR GIRDER 1 — INTERIOR GIRDERS 2 - 4 — EXTERIOR GIRDER 5

DECK HAUNCH DETAILS

TO DETERMINE 'T': AFTER ALL DECK IS REMOVED. ELEVATIONS OF THE TOP FLANGES OR TOP OF SPLICE PLATES, OR TOP OF COVER PLATES WHICHEVER APPLIES, SHALL BE TAKEN AT CENTERLINE OF BEARINGS AND AT TENTH POINTS OF EACH SPAN.

TOP OF DECK ELEVATION AT FINAL GRADE
- TOP OF STEEL ELEVATION AFTER DECK REMOVAL
+ DEAD LOAD DEFLECTION: DOWNWARD DEFLECTION IS ADDED, UPWARD DEFLECTION IS SUBTRACTED
- DECK THICKNESS (9")

= HAUNCH THICKNESS 'T'

AVERAGE "T" USED FOR ESTIMATING QUANTITIES = 4½"

PARAPETS AND SIDEWALKS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK AS BEEN RELEASED.

TOP OF DECK ELEVATIONS

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES FOR DEAD LOAD DEFLECTION.

LOCATION	℄ OF S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 1
WEST EDGE OF DECK	780.98	781.07	781.15	781.23	781.31	781.38	781.45	781.52	781.58	781.64	781.70
F.F. OF 42SS PARAPET	780.97	781.06	781.14	781.22	781.30	781.37	781.44	781.51	781.57	781.63	781.69
GIRDER 1	780.90	780.98	781.07	781.15	781.23	781.30	781.38	781.44	781.51	781.57	781.63
REFERENCE LINE	780.86	780.95	781.04	781.12	781.20	781.27	781.35	781.41	781.48	781.54	781.60
GIRDER 2	780.59	780.68	780.77	780.85	780.94	781.02	781.09	781.16	781.23	781.30	781.36
GIRDER 3	780.27	780.37	780.46	780.55	780.64	780.72	780.80	780.88	780.95	781.02	781.09
GIRDER 4	779.95	780.05	780.15	780.24	780.34	780.42	780.51	780.59	780.67	780.74	780.81
GIRDER 5	779.63	779.73	779.83	779.93	780.03	780.12	780.21	780.29	780.38	780.45	780.53
EAST EDGE OF DECK	779.55	779.66	779.76	779.86	779.96	780.05	780.14	780.23	780.31	780.39	780.47

LOCATION	℄ OF PIER 1	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 2
WEST EDGE OF DECK	781.70	781.77	781.83	781.88	781.93	781.98	782.02	782.06	782.09	782.11	782.13
F.F. OF 42SS PARAPET	781.69	781.76	781.82	781.88	781.93	781.97	782.02	782.05	782.08	782.11	782.13
GIRDER 1	781.63	781.70	781.76	781.82	781.87	781.92	781.96	782.00	782.03	782.06	782.08
REFERENCE LINE	781.60	781.67	781.73	781.79	781.85	781.89	781.94	781.98	782.01	782.04	782.06
GIRDER 2	781.36	781.44	781.50	781.57	781.63	781.68	781.73	781.77	781.81	781.84	781.87
GIRDER 3	781.09	781.17	781.24	781.31	781.37	781.43	781.49	781.53	781.58	781.62	781.65
GIRDER 4	780.81	780.90	780.98	781.05	781.12	781.18	781.24	781.29	781.34	781.39	781.42
GIRDER 5	780.53	780.62	780.70	780.78	780.86	780.92	780.99	781.05	781.10	781.15	781.19
EAST EDGE OF DECK	780.47	780.56	780.64	780.72	780.80	780.87	780.93	780.99	781.05	781.10	781.14

LOCATION	℄ OF PIER 2	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF N. ABUT.
WEST EDGE OF DECK	782.13	782.15	782.16	782.16	782.17	782.17	782.16	782.16	782.15	782.13	782.12
F.F. OF 42SS PARAPET	782.13	782.15	782.16	782.16	782.17	782.17	782.16	782.16	782.15	782.14	782.12
GIRDER 1	782.08	782.10	782.11	782.12	782.12	782.12	782.12	782.12	782.11	782.10	782.08
REFERENCE LINE	782.06	782.08	782.09	782.10	782.10	782.10	782.10	782.10	782.09	782.08	782.06
GIRDER 2	781.87	781.89	781.90	781.92	781.92	781.93	781.93	781.93	781.93	781.92	781.91
GIRDER 3	781.65	781.67	781.69	781.71	781.72	781.73	781.74	781.74	781.74	781.74	781.73
GIRDER 4	781.42	781.45	781.48	781.50	781.51	781.53	781.54	781.55	781.55	781.55	781.55
GIRDER 5	781.19	781.23	781.25	781.28	781.30	781.32	781.33	781.35	781.36	781.36	781.36
EAST EDGE OF DECK	781.14	781.18	781.20	781.23	781.25	781.27	781.29	781.30	781.31	781.32	781.32

DEAD LOAD DEFLECTIONS

DEFLECTIONS ARE GIVEN IN INCHES.
NEGATIVE DEFLECTION VALUE DENOTES AN UPWARD DELFECTION.
DEFLECTIONS ARE THEORETICAL AND MAY VARY IN THE FIELD.

	℄ OF S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 1
GIRDER 1-5	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.0	0.0

	℄ OF PIER 1	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 2
GIRDER 1-5	0.0	0.1	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.0

	℄ OF PIER 2	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF N. ABUT.
GIRDER 1-5	0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.0

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

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DECK ELEVATIONS AND DEFLECTIONS

SHEET 18 OF 27
256

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I:±42±42-1099.00 - STH 181 Redecks - Milwaukee Co±Structures±B-40-381±Final±B-40-381elev .dgn

8/25/2023

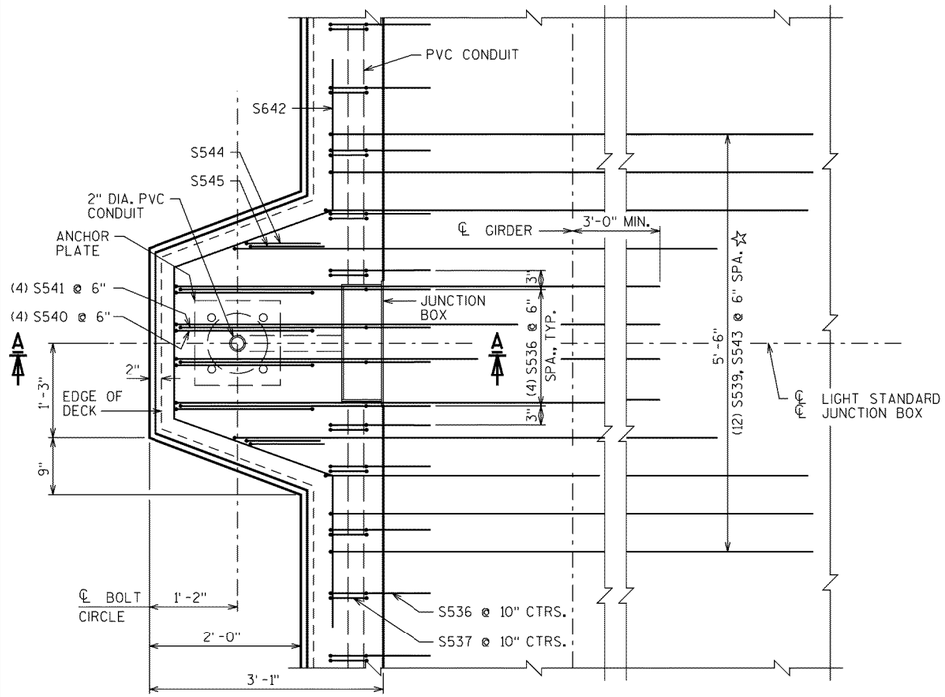
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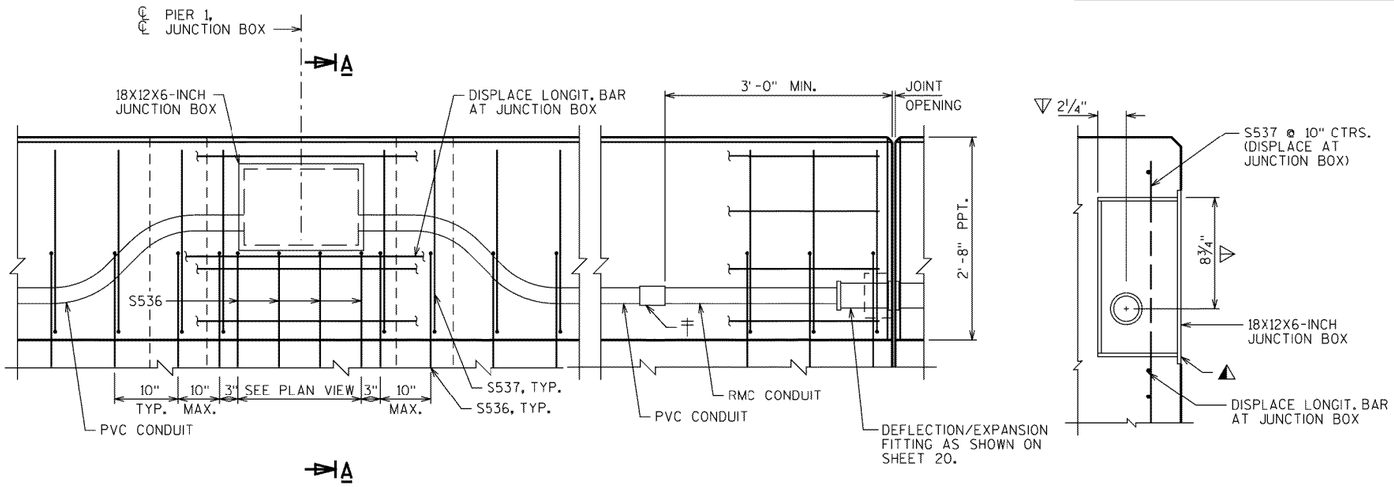
STATE PROJECT NUMBER

2967-17-71



PLAN AT LIGHT STANDARD

(DECK STEEL NOT SHOWN FOR CLARITY)



INSIDE ELEVATION AT JUNCTION BOX

(DECK STEEL NOT SHOWN FOR CLARITY)

JUNCTION BOX DETAIL

NOTES

BID ITEM SHALL BE "ANCHOR ASSEMBLIES POLES ON STRUCTURES", EACH

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 SHEET 20 FOR ADDITIONAL INFORMATION.

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.

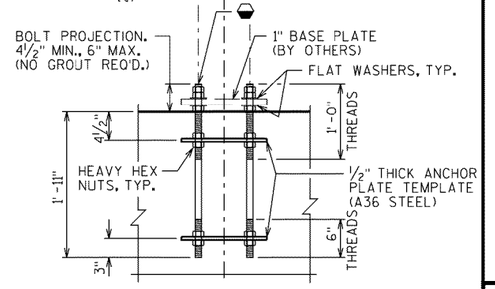
⫩ NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).

PVC = POLYVINYL CHLORIDE (RIGID NONMETALLIC) CONDUIT

RMC = RIGID METALLIC CONDUIT

⬭ 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.

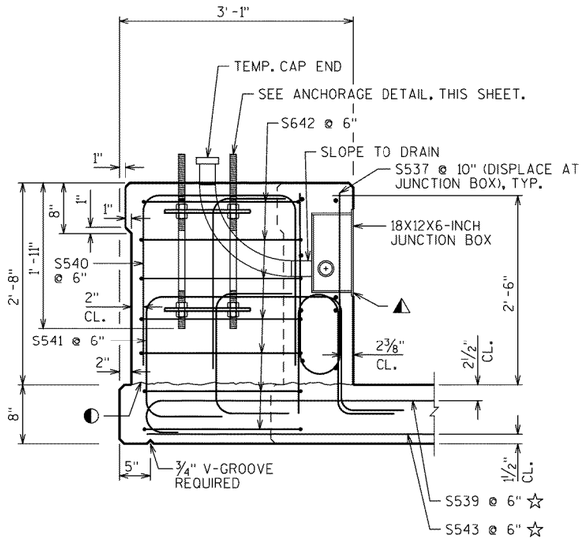
☆ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.



ANCHOR ROD ASSEMBLY DETAIL

(1 REQ'D.)

(4) - ANCHOR RODS REQUIRED PER ASSEMBLY



SECTION A-A

8

8

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STRUCTURE B-40-381

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PARAPET "A" ELECTRICAL WORK

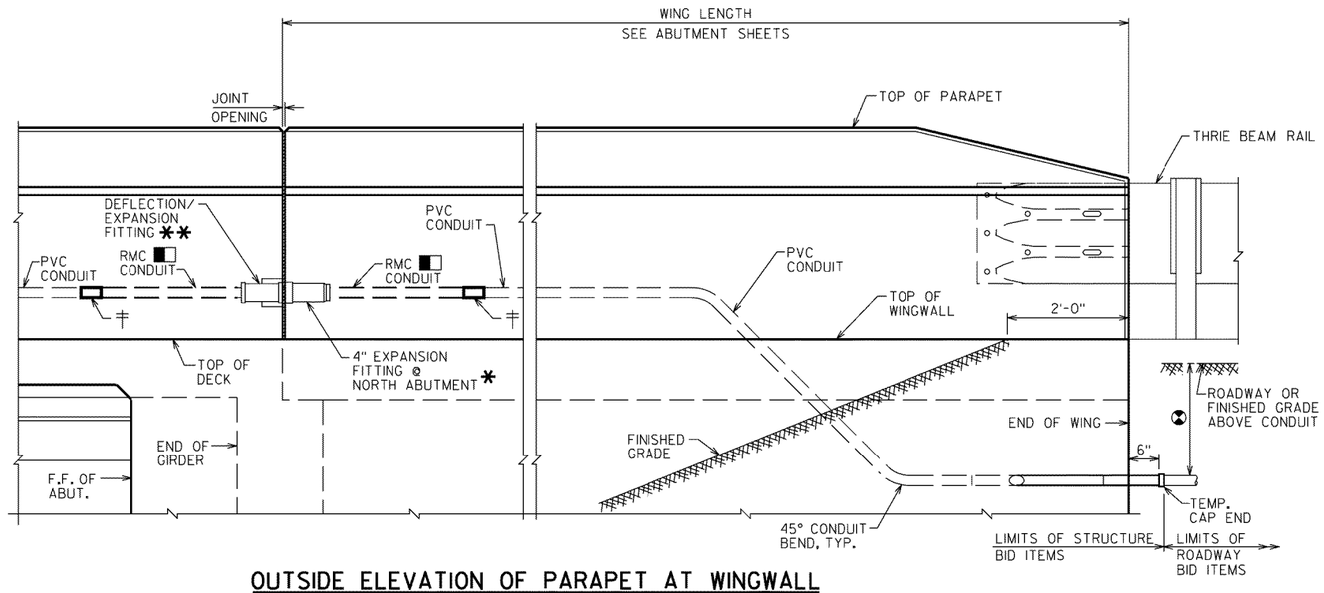
SHEET 19 OF 27
257

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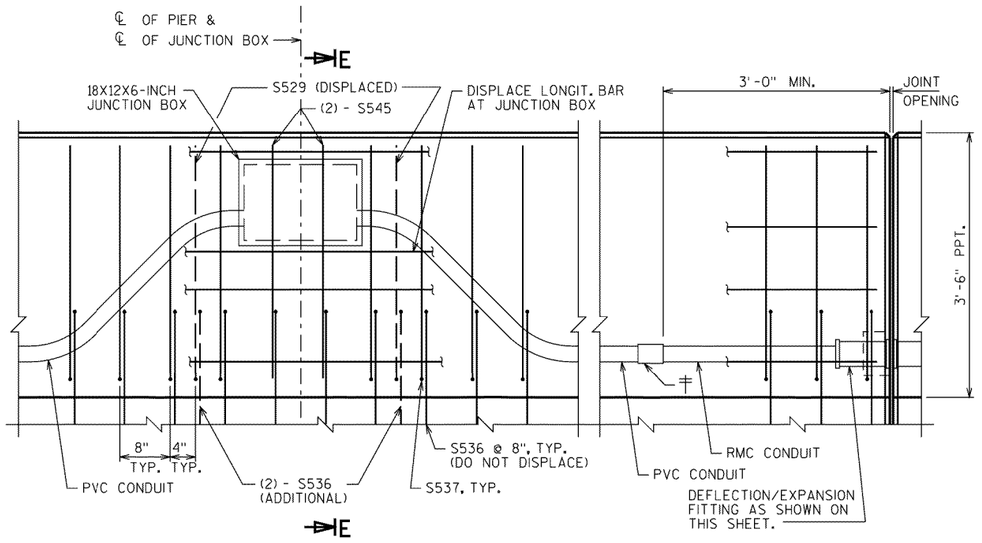
STATE PROJECT NUMBER

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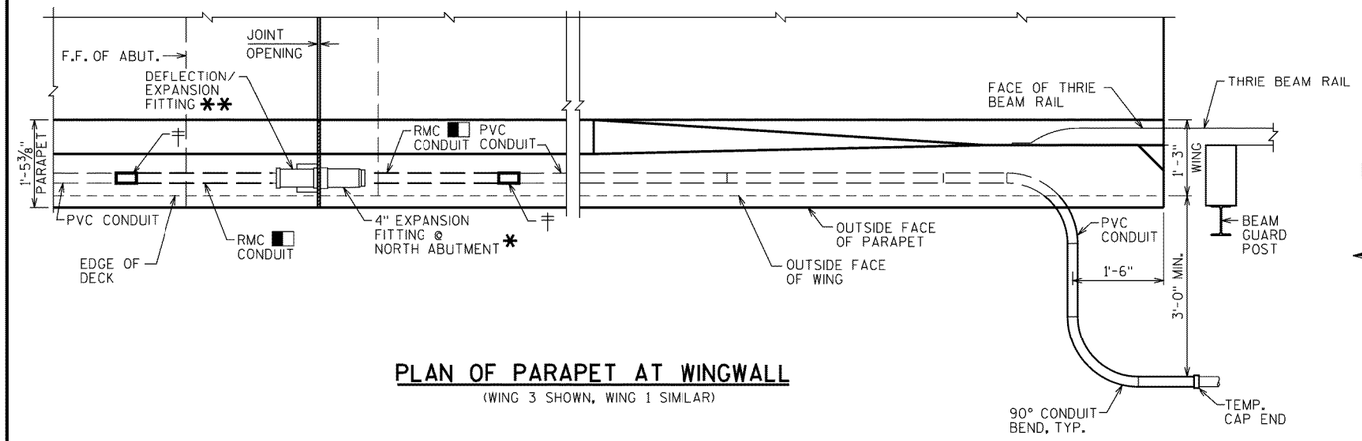
OUTSIDE ELEVATION OF PARAPET AT WINGWALL

(WING 3 SHOWN, WING 1 SIMILAR)



INSIDE ELEVATION AT JUNCTION BOX

(DECK STEEL NOT SHOWN FOR CLARITY)

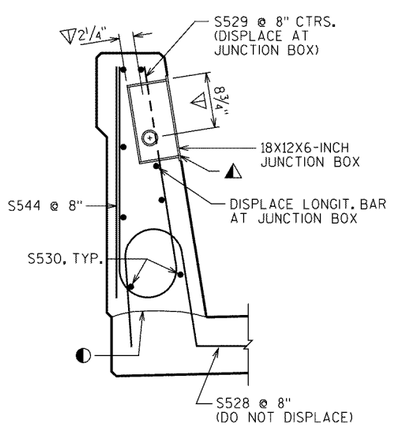


PLAN OF PARAPET AT WINGWALL

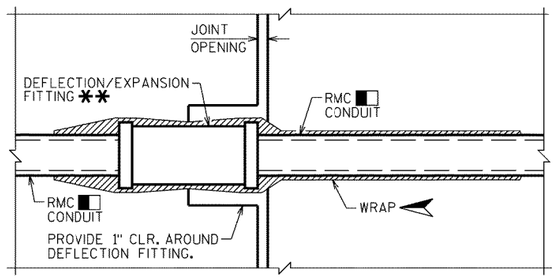
(WING 3 SHOWN, WING 1 SIMLAR)

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 (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.
- 2'-0" MIN. CONDUIT COVER UNDER ROADWAYS, 1'-6" OTHERWISE. CONDUIT COVER SHOULD NOT EXCEED 3'-0".
- * EXPANSION FITTING REQUIREMENTS:
  - 4" TOTAL MOVEMENT WITH BONDING JUMPER @ NORTH ABUTMENT
- ** DEFLECTION/EXPANSION FITTING REQUIREMENTS:
  - UP TO ¾" CONDUIT CONTRACTION OR EXPANSION AND UP TO 30° OF ANGULAR MISALIGNMENT IN ANY DIRECTION WITH BONDING JUMPER @ SOUTH ABUTMENT
- ◐ 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.

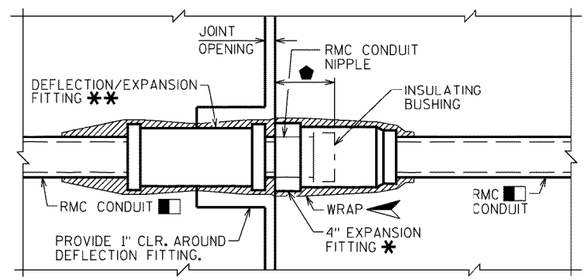


SECTION E-E



DEFLECTION/EXPANSION FITTING @ SOUTH ABUTMENT

THIS DETAIL ACCOMMODATES A MAXIMUM OF ¾" TOTAL MOVEMENT AND UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION. BOND JUMPER NOT SHOWN FOR CLARITY



DEFLECTION/EXPANSION AND 4" EXPANSION FITTING @ NORTH ABUTMENT

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

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.

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STRUCTURE B-40-381

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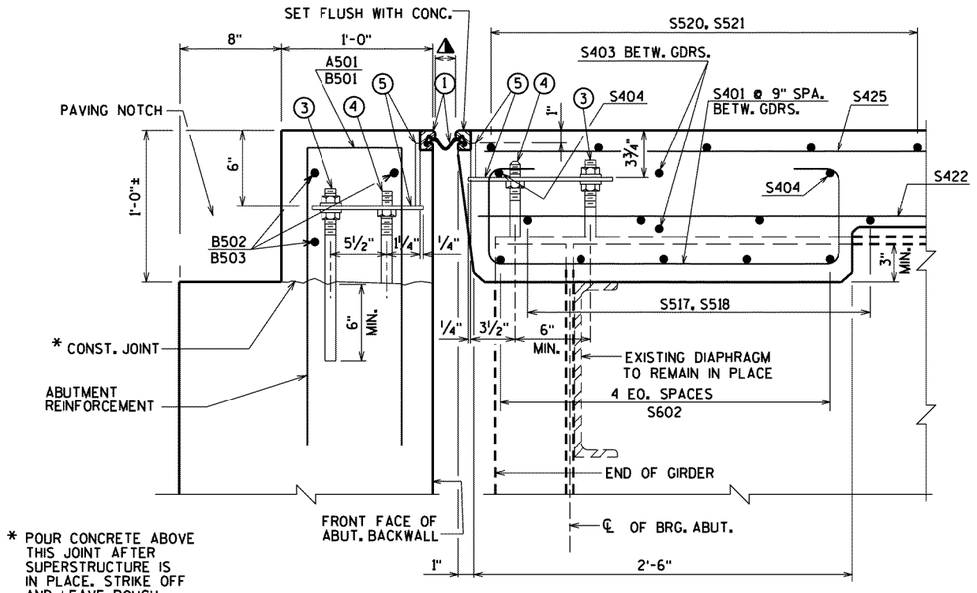
ELECTRICAL DETAILS AT 42SS PARAPET

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258

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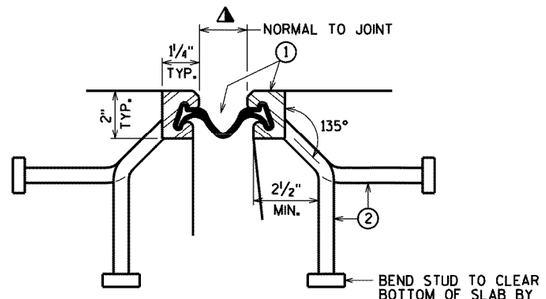
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* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

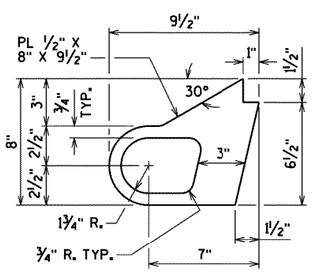
SECTION THRU JOINT AT NORTH ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

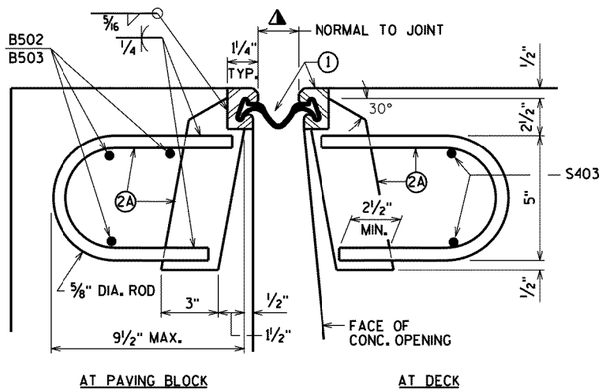


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS AND SIDEWALKS

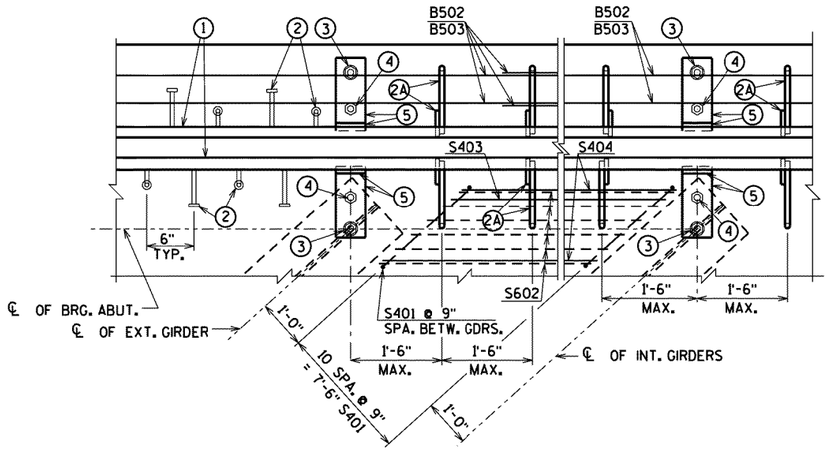


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

LEGEND

⚠ (1) NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.

(2) STUDS ⅝" DIA. X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

(6) GALVANIZED PLATE ⅜" X 10" X 2'-2" WITH HOLES FOR NO. 7.

(7) ¾" DIA. X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾" DIA. X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾" DIA. X 2¼" GALVANIZED THREADED COUPLING.

(10) SIDEWALK COVER PLATE ⅜" X 2'-0" WIDE BY LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

(11) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE UNIT PRICE BID FOR "EXPANSION DEVICE B-40-381".

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STATE OF WISCONSIN
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STRUCTURE B-40-381

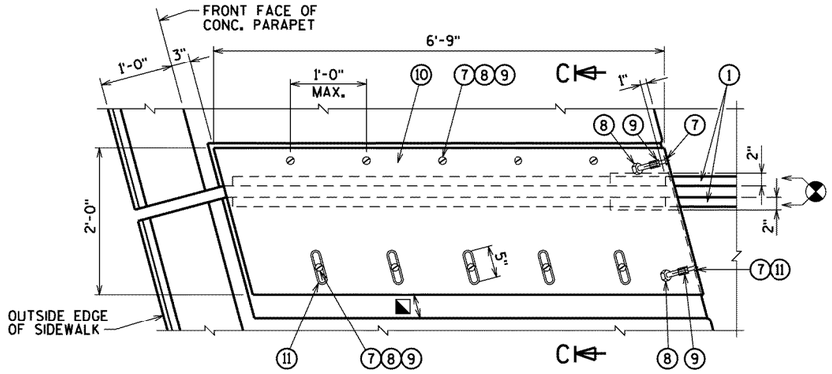
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STRIP SEAL EXPANSION DEVICE

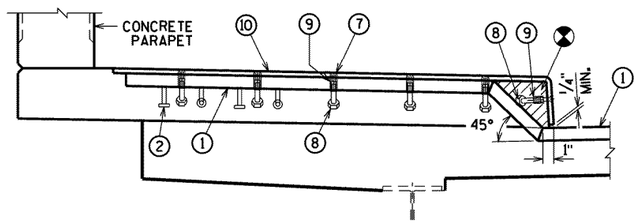
SHEET 21 OF 27
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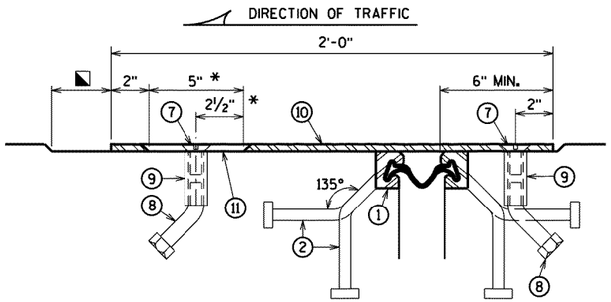


PLAN AT SIDEWALK



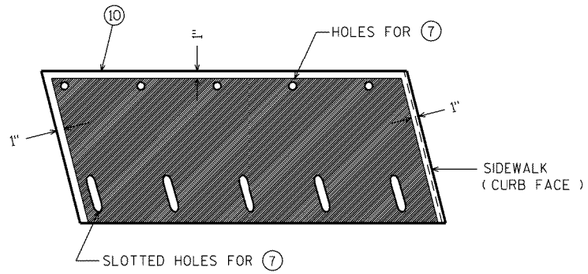
SECTION AT SIDEWALK

(LOOKING NORTH)



SECTION C-C

* DIMENSION ALONG DIRECTION OF MOVEMENT



PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE).

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION PLUS ½".

◪ BLOCK OUT CONCRETE ABOVE AND AT END OF EXTRUSIONS.

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STRUCTURE B-40-381

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SIDEWALK COVER PLATE DETAILS

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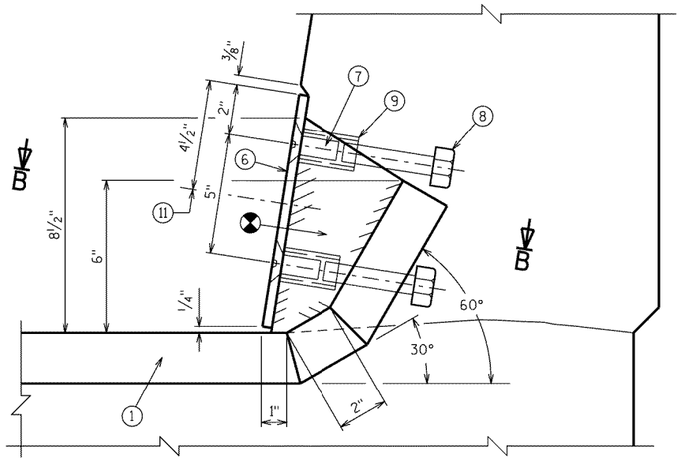
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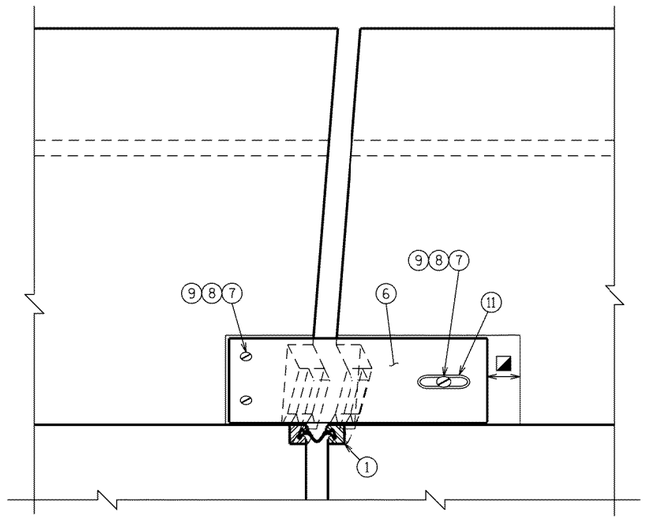
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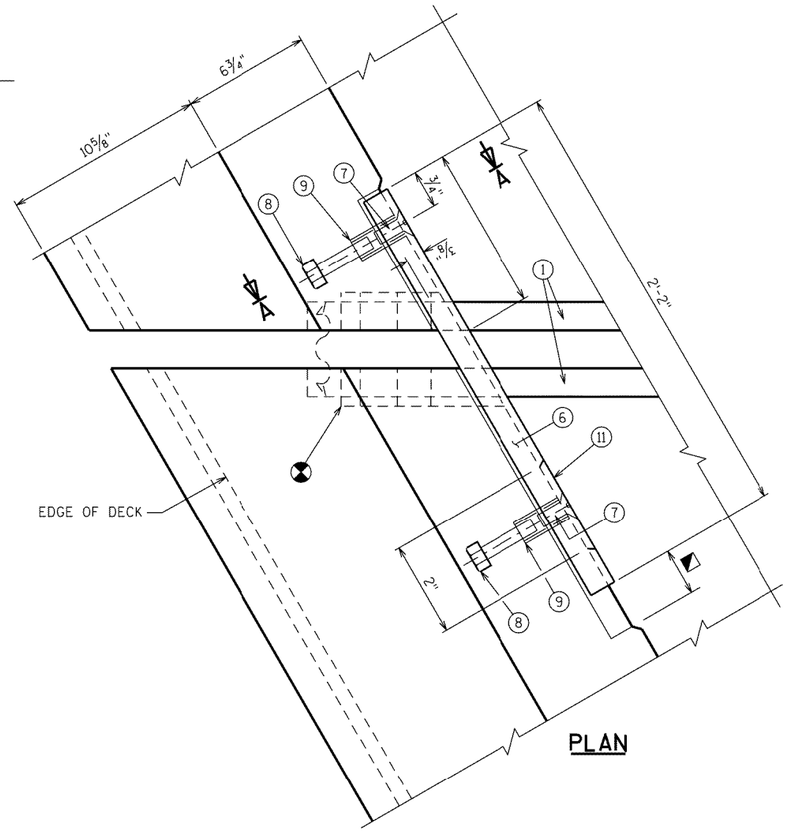
STATE PROJECT NUMBER
2967-17-71



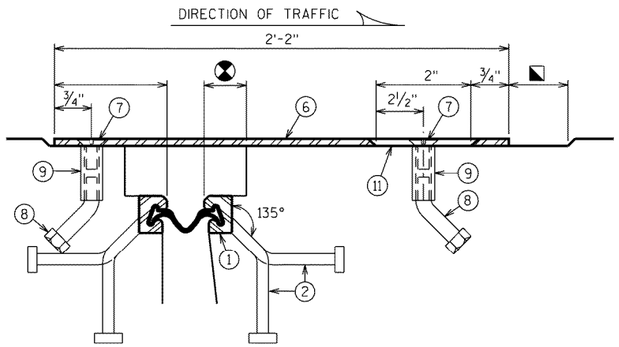
SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY



PLAN



SECTION B-B

- BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".

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STRUCTURE B-40-381

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COVER PLATE DETAILS

SHEET 23 OF 27
261

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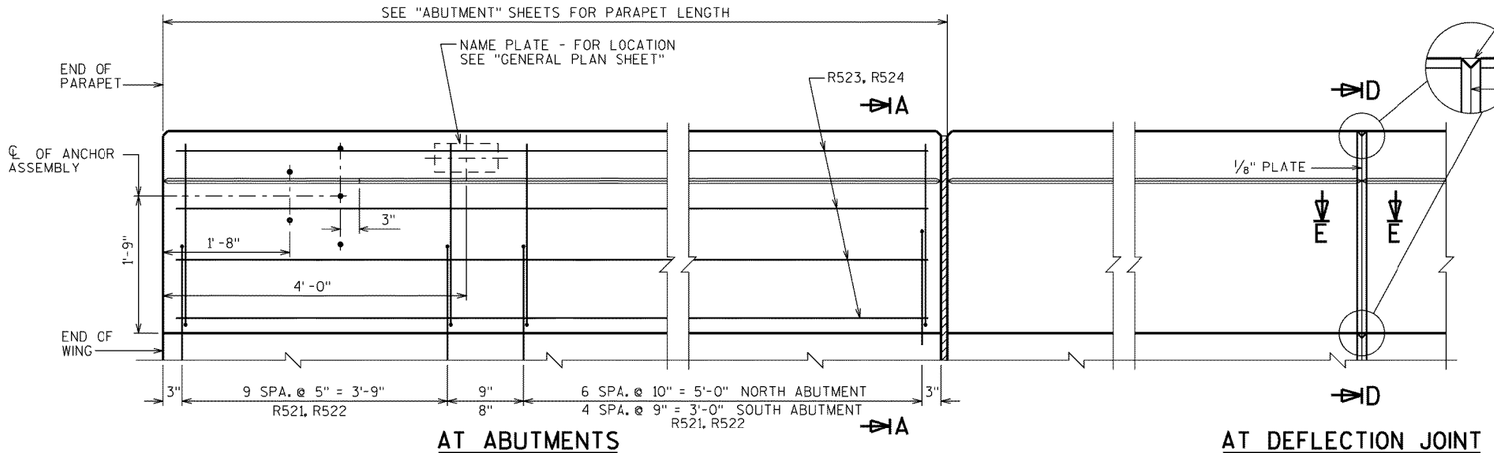
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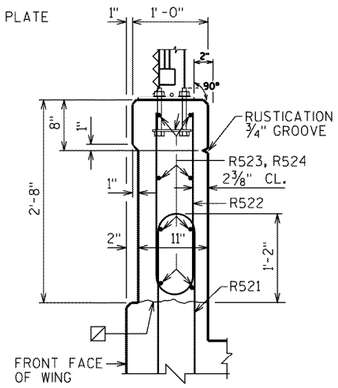
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AT ABUTMENTS

AT DEFLECTION JOINT

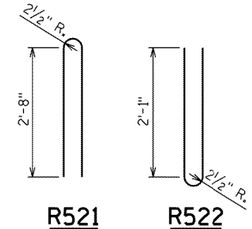


SECTION A-A

BILL OF BARS

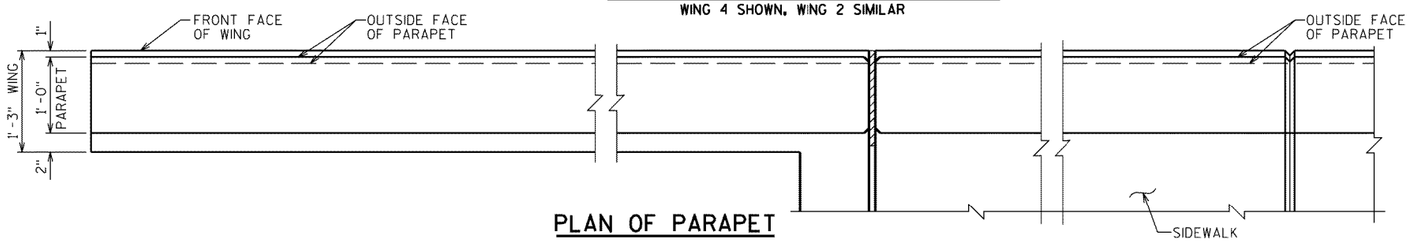
NOTE: REINFORCEMENT WEIGHT INCLUDED IN ABUTMENT QUANTITIES

BAR MARK	COAT	NORTH REQ'D.	SOUTH REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R521	X	17	15	6'-0"	X		PARAPET VERT.
R522	X	17	15	4'-9"	X		PARAPET VERT.
R523	X	8	---	9'-7"			PARAPET HORIZ.
R524	X	---	8	7'-7"			PARAPET HORIZ.

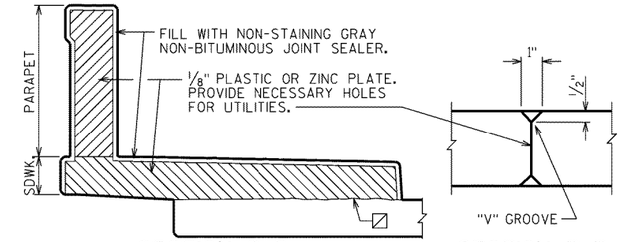


R521 R522

OUTSIDE ELEVATION OF PARAPET
WING 4 SHOWN, WING 2 SIMILAR



PLAN OF PARAPET

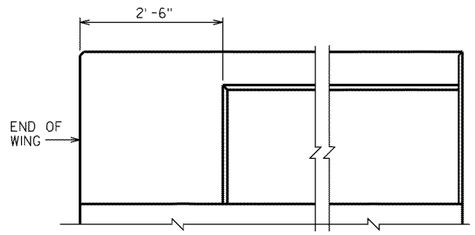


SECTION D-D

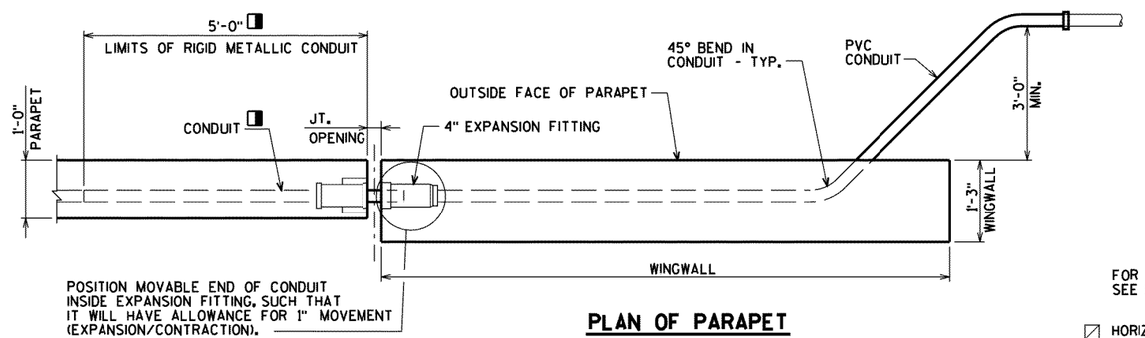
SECTION E-E

(SHOWING DEFLECTION JOINT IN PARAPET AND SIDEWALK.)

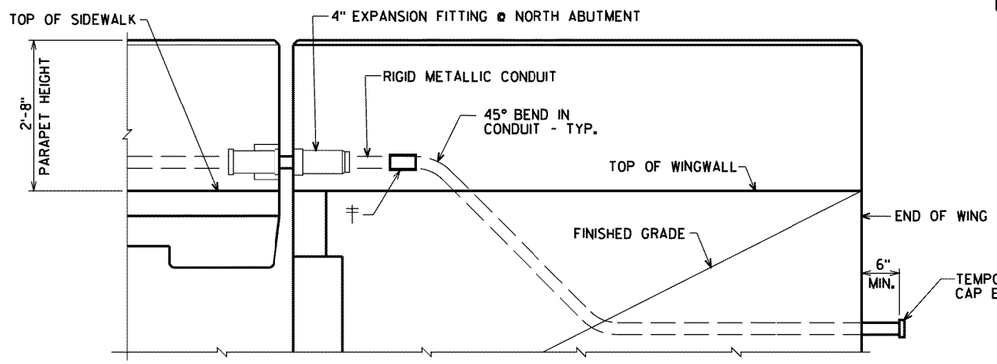
WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ⅛" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION B-B BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.



OUTSIDE FACE OF PARAPET



PLAN OF PARAPET
WING 4 SHOWN, WING 2 SIMILAR



INSIDE ELEVATION OF PARAPET
WING 4 SHOWN, WING 2 SIMILAR

FOR DEFLECTION/EXPANSION FITTING DETAILS SEE SHEET 20.

▨ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

◨ 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).

NO.	DATE	REVISION	BY

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STRUCTURE B-40-381

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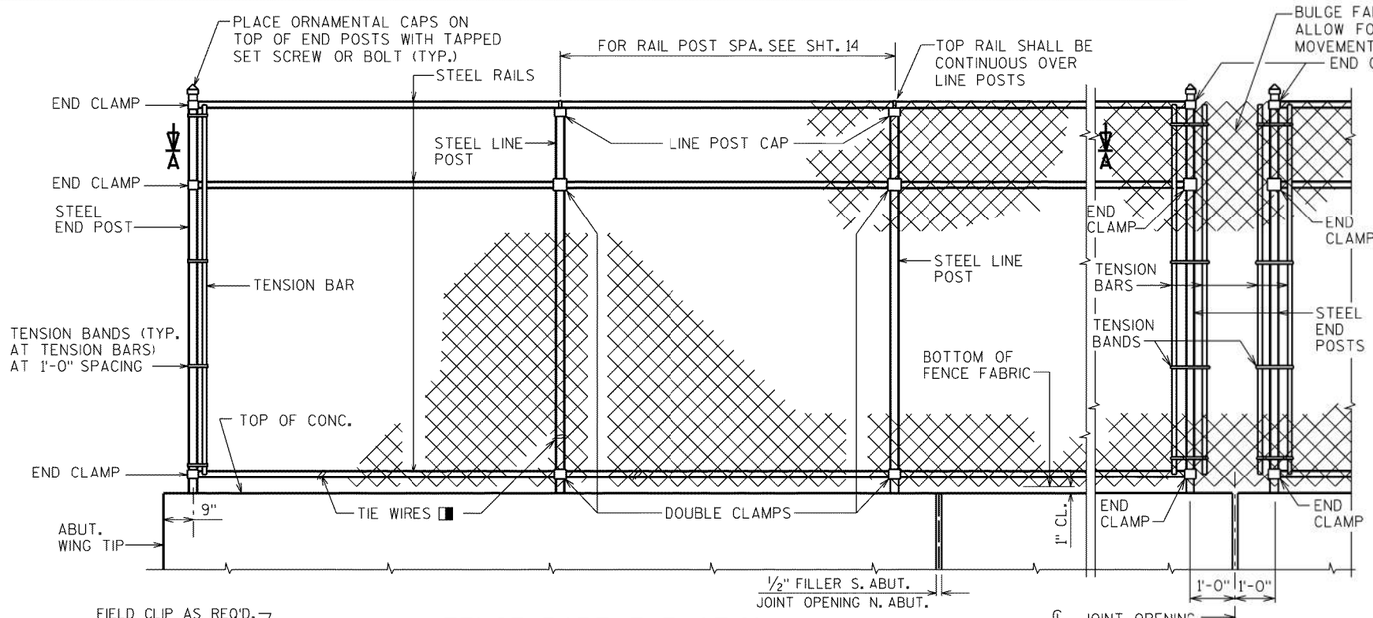
VERTICAL FACE PARAPET "A"

SHEET 24 OF 27
262

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STATE PROJECT NUMBER

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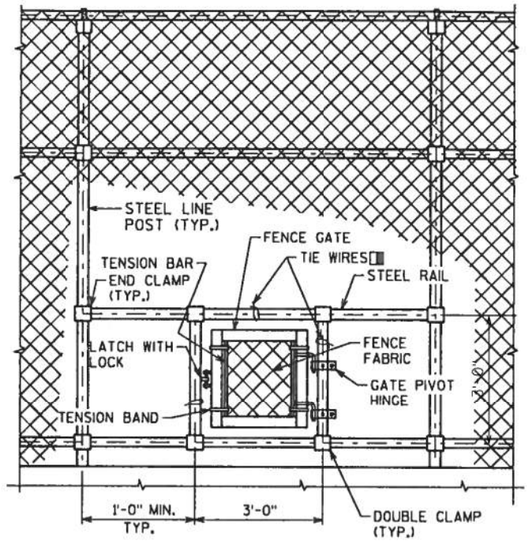


FENCE PART ELEVATION

VIEWING FABRIC SIDE

AT NORTH ABUTMENT

EXPANSION JOINT OPENING ≤ 2" OF MOVEMENT



GATE DETAIL

TYPICAL AT LIGHT STANDARD BASES (1 REQUIRED)

GATE ASSEMBLY & ALL REQUIRED HARDWARE TO BE INCLUDED IN THE BID ITEM "FENCE CHAIN LINK 8-FT".

GATE ASSEMBLY TO BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.

NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL WITH A COLORED POLYMER-COATING ON THE OUTSIDE.

FABRIC SHALL CONFORM TO ASTM F668, CLASS 2B. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626. SEE THE "BRIDGE SPECIAL PROVISIONS" FOR ADDITIONAL DETAILS.

THE COLOR OF POLYMER-COATING FOR THIS STRUCTURE SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

THE BID ITEM SHALL BE "FENCE CHAIN LINK POLYMER-COATED 8- FT. B-40-380".

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

■ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

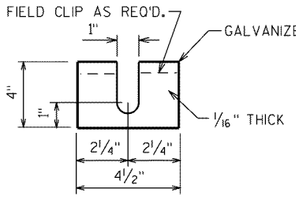
▲ 1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. ✿

✿ ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 1/2-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS.

◨ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

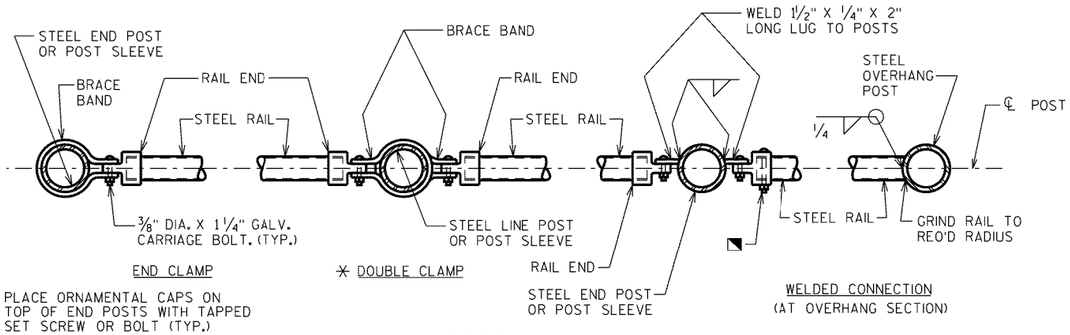
◥ BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST SPACING.



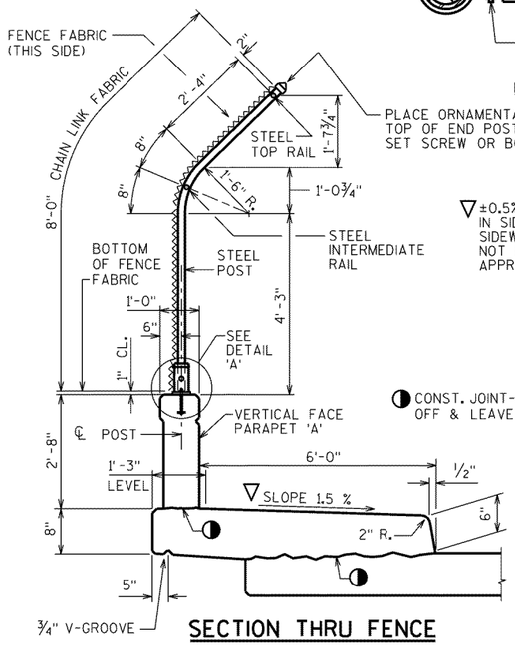
POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



SECTION A-A

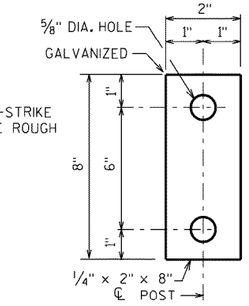
NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



SECTION THRU FENCE

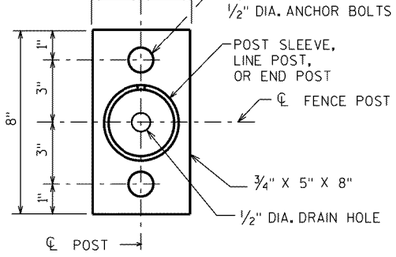
▽ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

◑ CONST. JOINT-STRIKE OFF & LEAVE ROUGH



ANCHOR PLATE

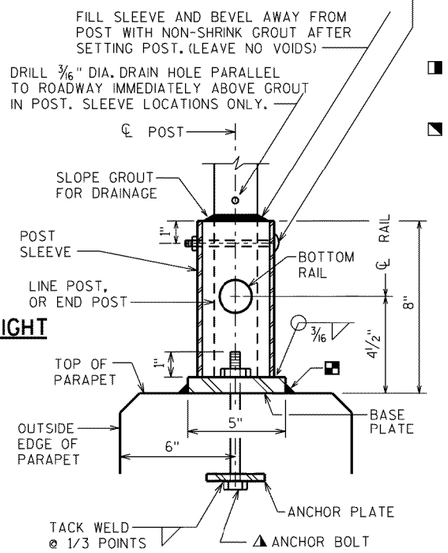
✿ NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



BASE PLATE

FENCE MEMBER SIZE & WEIGHT

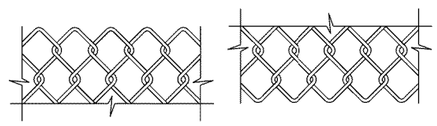
STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.



FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

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FENCING DETAILS

SHEET 25 OF 27
263

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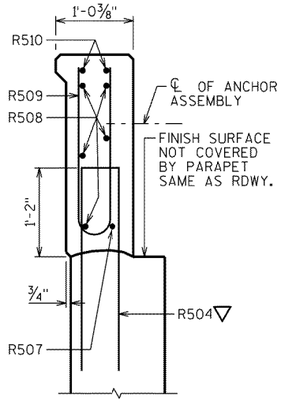
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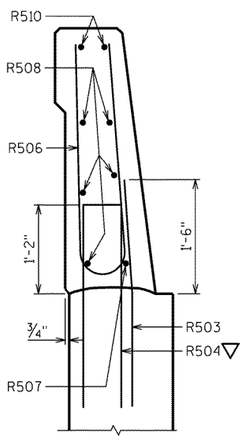
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STATE PROJECT NUMBER

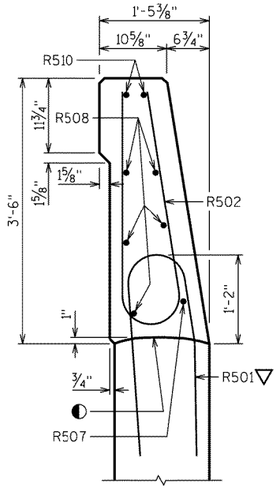
2967-17-71



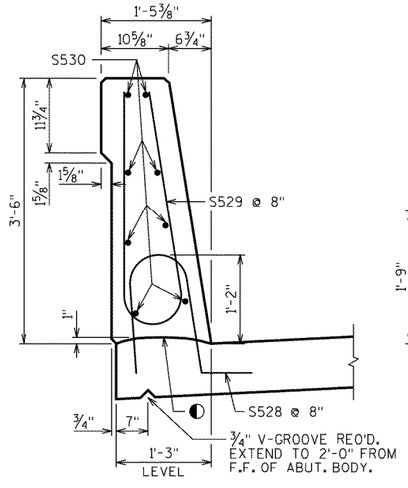
SECTION A-A



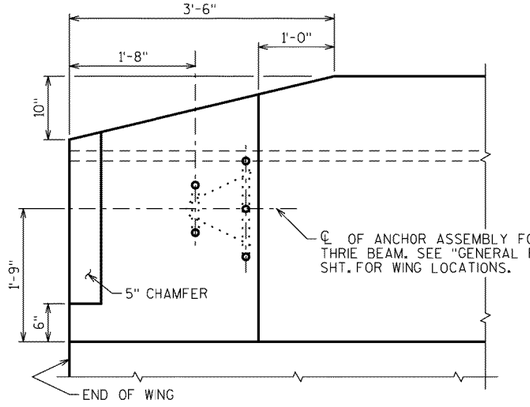
SECTION B-B



SECTION C-C



SECTION THRU PARAPET ON BRIDGE



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

BILL OF BARS

FOR ABUTMENT PARAPETS

NOTE: REINFORCEMENT WEIGHT INCLUDED IN ABUTMENT QUANTITIES.

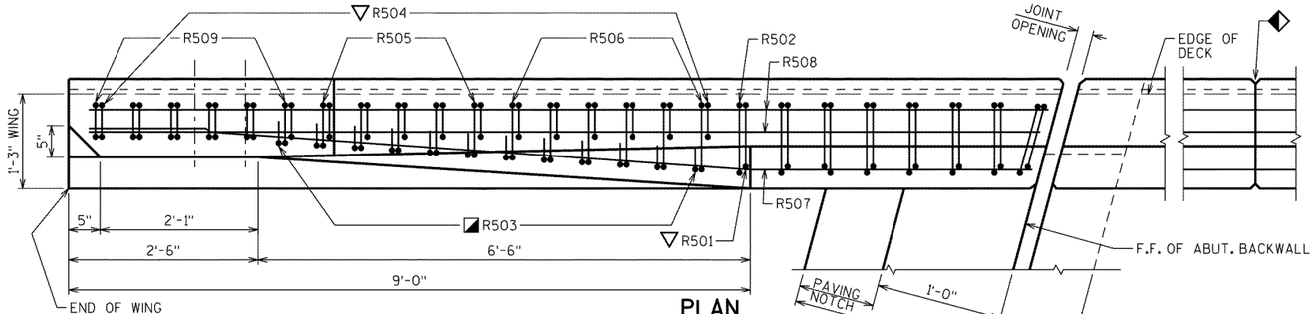
BAR MARK	COAT	SOUTH ABUT.	NORTH ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	2	2	5'-10"	X		PARAPET VERT.
R502	X	2	2	6'-8"	X		PARAPET VERT.
R503	X	11	11	3'-0"	X		PARAPET VERT.
R504	X	17	17	5'-7"	X		PARAPET VERT.
R505	X	5	5	6'-5"	X		PARAPET VERT.
R506	X	6	6	6'-6"	X		PARAPET VERT.
R507	X	1	1	9'-7"	X		PARAPET HORIZ.
R508	X	5	5	9'-7"			PARAPET HORIZ.
R509	X	6	6	5'-5"	X	◭	PARAPET VERT.
R510	X	2	2	9'-7"	X		PARAPET HORIZ.

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

BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
R509	2 SERIES OF 6	4'-9" TO 6'-1"

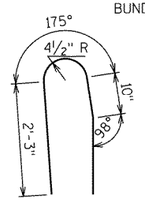
BUNDLE AND TAG EACH SERIES SEPARATELY.



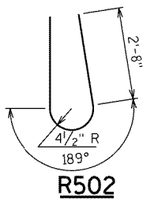
PLAN

WING 1 SHOWN, WING 3 SIMILAR

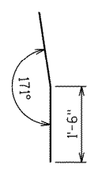
◆ OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.



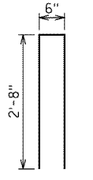
R501



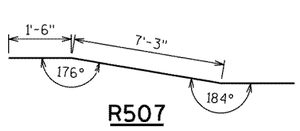
R502



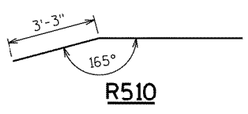
R503



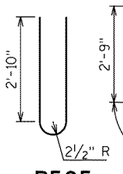
R504



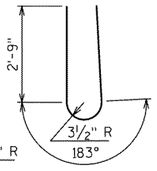
R507



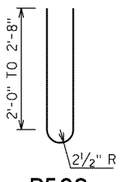
R510



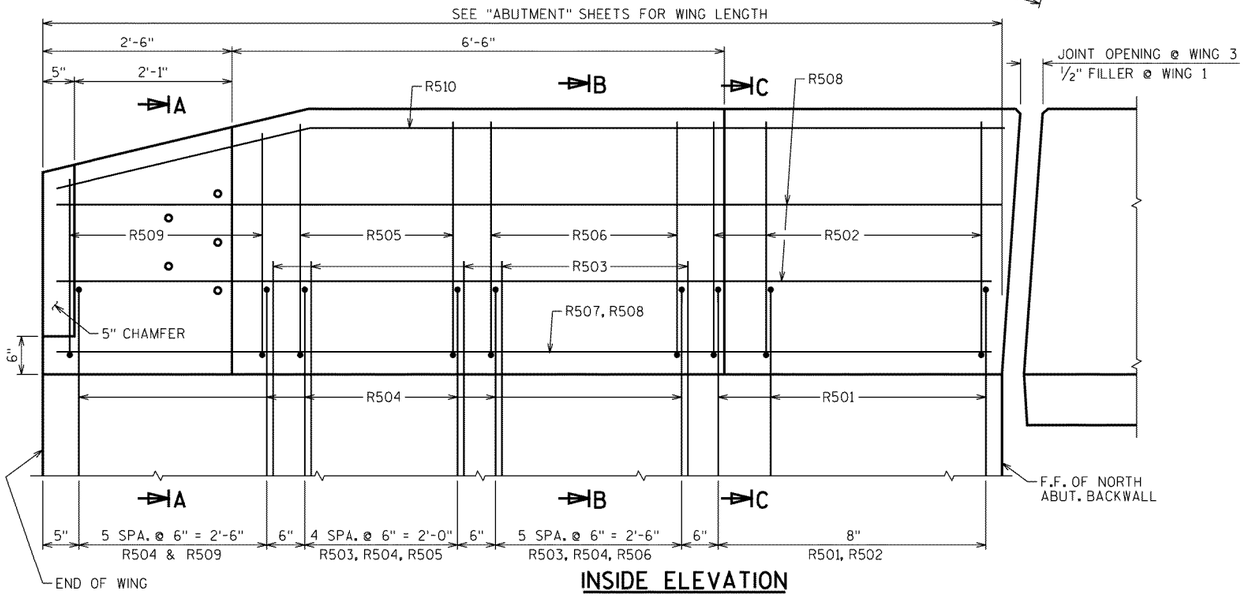
R505



R506

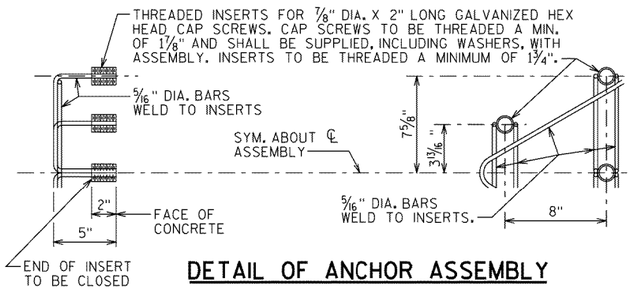


R509



INSIDE ELEVATION

WING 1 SHOWN, WING 3 SIMILAR



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.

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

◐ CONST. JOINT - STRIKE OFF AS SHOWN

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-381

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SINGLE SLOPE PARAPET 42SS

SHEET 26 OF 27
264

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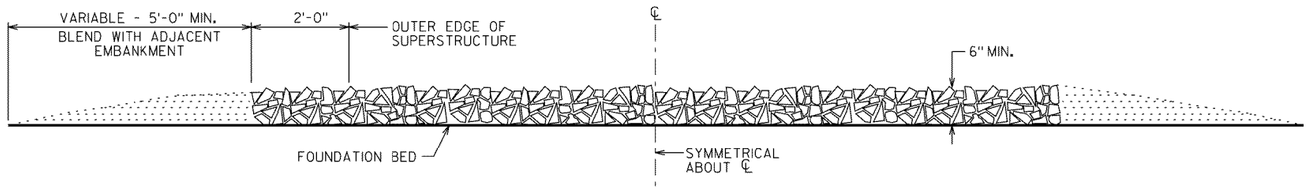
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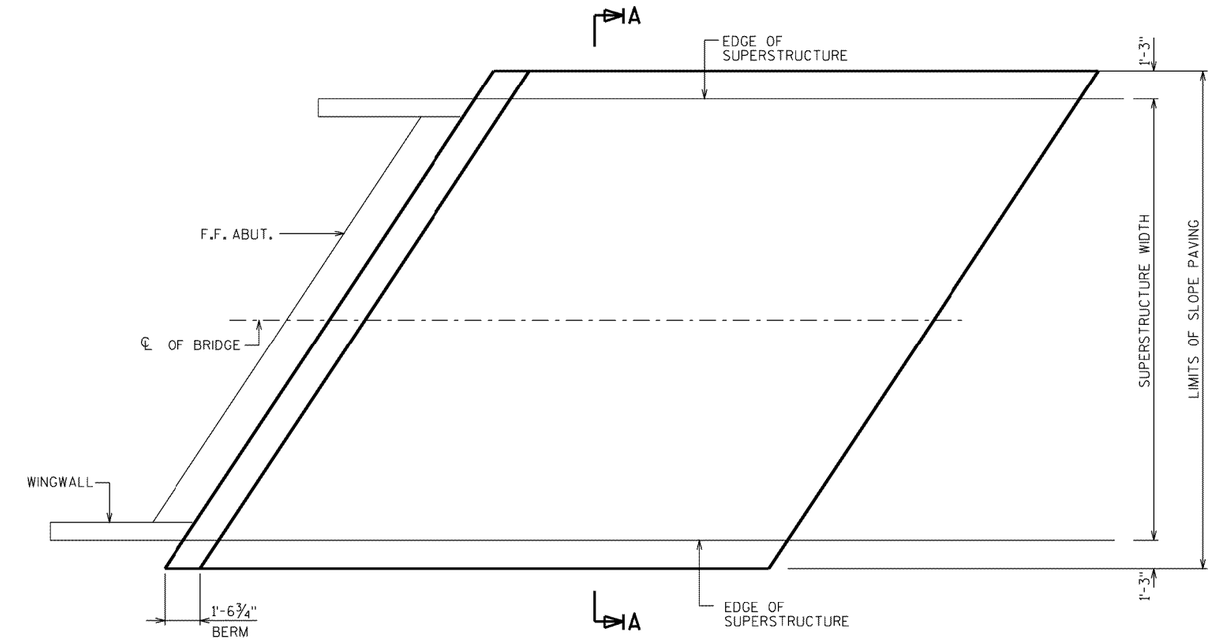
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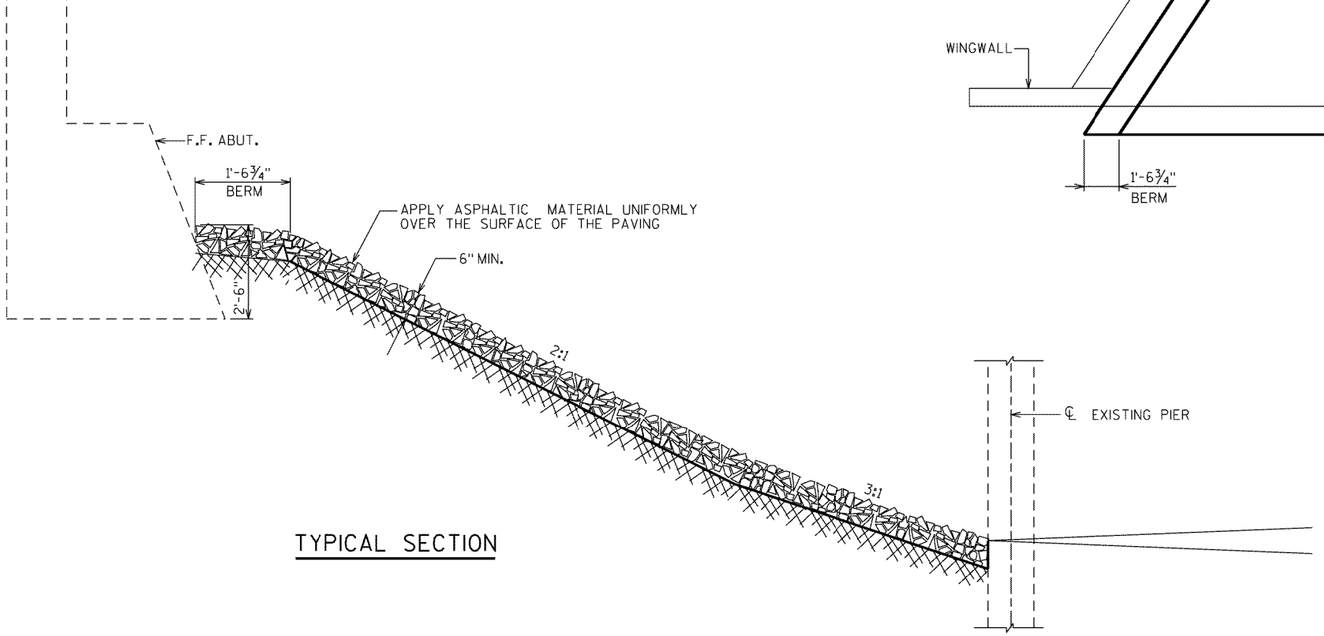
STATE PROJECT NUMBER
2967-17-71



SECTION A-A



PLAN



TYPICAL SECTION

NOTES

BID ITEM SHALL BE "SLOPE PAVING CRUSHED AGGREGATE"

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-40-381

DRAWN BY CLP | PLANS CK'D. AEB

SLOPE PAVING (CRUSHED AGGREGATE)

SHEET 27 OF 27
265

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Eau Claire, WI 54701
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8

8

STAGE 1 - CROSSOVER SOUTH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.20	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
187+14.99	18714.99	0.00	10.52	10.52	0.00	0	0	0	0	0	0
187+25.00	18725.00	10.01	10.28	10.28	0.00	4	4	0	4	0	0
187+50.00	18750.00	25.00	10.27	10.27	0.00	10	10	0	14	0	0
187+75.00	18775.00	25.00	10.27	10.27	0.00	10	10	0	24	0	0
188+00.00	18800.00	25.00	10.50	10.50	0.00	10	10	0	34	0	0
188+25.00	18825.00	25.00	14.36	14.36	0.00	12	12	0	46	0	0
188+50.00	18850.00	25.00	16.13	16.13	0.00	14	14	0	60	0	0
188+75.00	18875.00	25.00	20.33	20.33	0.00	17	17	0	77	0	0
189+00.00	18900.00	25.00	25.26	25.26	0.00	21	21	0	98	0	0
189+25.00	18925.00	25.00	29.71	29.71	0.00	25	25	0	123	0	0
189+50.00	18950.00	25.00	34.21	34.21	0.00	30	30	0	153	0	0
189+72.54	18972.54	22.54	36.78	36.78	0.00	30	30	0	183	0	0
189+75.00	18975.00	2.46	37.08	37.08	0.00	3	3	0	186	0	0
189+93.73	18993.73	18.73	37.49	37.49	0.00	26	26	0	212	0	0
190+00.00	19000.00	6.27	37.39	37.39	0.00	9	9	0	221	0	0
190+21.73	19021.73	21.73	37.03	37.03	0.00	30	30	0	251	0	0
190+25.00	19025.00	3.27	36.98	36.98	0.00	4	4	0	255	0	0
190+33.20	19033.20	8.20	36.79	36.79	0.00	11	11	0	266	0	0
190+46.73	19046.73	13.53	36.48	36.48	0.00	18	18	0	284	0	0
190+50.00	19050.00	3.27	36.40	36.40	0.00	4	4	0	288	0	0
190+75.00	19075.00	25.00	36.24	36.24	0.00	34	34	0	322	0	0
190+84.63	19084.63	9.63	35.70	35.70	0.00	13	13	0	335	0	0
191+00.00	19100.00	15.37	35.42	35.42	0.00	20	20	0	355	0	0
191+08.68	19108.68	8.68	35.05	35.05	0.00	11	11	0	366	0	0
191+12.63	19112.63	3.95	34.82	34.82	0.00	5	5	0	371	0	0
191+25.00	19125.00	12.37	37.15	37.15	0.00	16	16	0	387	0	0
191+37.63	19137.63	12.63	38.33	38.33	0.00	18	18	0	405	0	0
191+47.36	19147.36	9.73	37.14	37.14	0.00	14	14	0	419	0	0
191+50.00	19150.00	2.64	36.56	36.56	0.00	4	4	0	423	0	0
191+58.68	19158.68	8.68	35.52	35.52	0.00	12	12	0	435	0	0
191+75.00	19175.00	16.32	34.59	34.59	0.00	21	21	0	456	0	0
191+95.64	19195.64	20.64	0.00	0.00	0.00	13	13	0	469	0	0
192+00.00	19200.00	4.36	0.00	0.00	0.00	0	0	0	469	0	0
192+05.98	19205.98	5.98	0.00	0.00	0.00	0	0	0	469	0	0

STAGE 1 - CROSSOVER NORTH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.20	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
193+71.72	19371.72	0.00	0.00	0.00	0.00	0	0	0	0	0	0
193+75.00	19375.00	3.28	0.00	0.00	0.00	0	0	0	0	0	0
194+00.00	19400.00	25.00	34.32	34.32	0.00	16	16	0	16	0	0
194+10.73	19410.73	10.73	34.92	34.92	0.00	14	14	0	30	0	0
194+21.72	19421.72	10.99	35.12	35.12	0.00	14	14	0	44	0	0
194+25.00	19425.00	3.28	35.15	35.15	0.00	4	4	0	48	0	0
194+31.55	19431.55	6.55	35.89	35.89	0.00	9	9	0	57	0	0
194+50.00	19450.00	18.45	32.46	32.46	0.00	23	23	0	80	0	0
194+56.55	19456.55	6.55	32.43	32.43	0.00	8	8	0	88	0	0
194+60.73	19460.73	4.18	32.40	32.40	0.00	5	5	0	93	0	0
194+75.00	19475.00	14.27	32.30	32.30	0.00	17	17	0	110	0	0
194+84.55	19484.55	9.55	32.41	32.41	0.00	11	11	0	121	0	0
195+00.00	19500.00	15.45	32.59	32.59	0.00	19	19	0	140	0	0
195+22.22	19522.22	22.22	33.41	33.41	0.00	27	27	0	167	0	0
195+25.00	19525.00	2.78	33.52	33.52	0.00	3	3	0	170	0	0
195+47.22	19547.22	22.22	34.81	34.81	0.00	28	28	0	198	0	0
195+50.00	19550.00	2.78	34.98	34.98	0.00	4	4	0	202	0	0
195+61.25	19561.25	11.25	38.01	38.01	0.00	15	15	0	217	0	0
195+62.75	19562.75	1.50	40.30	40.30	0.00	2	2	0	219	0	0
195+75.00	19575.00	12.25	38.79	38.79	0.00	18	18	0	237	0	0
195+75.22	19575.22	0.22	38.79	38.79	0.00	0	0	0	237	0	0
196+00.00	19600.00	24.78	38.36	38.36	0.00	35	35	0	272	0	0
196+25.00	19625.00	25.00	36.22	36.22	0.00	35	35	0	307	0	0
196+50.00	19650.00	25.00	37.46	37.46	0.00	34	34	0	341	0	0
196+75.00	19675.00	25.00	38.48	38.48	0.00	35	35	0	376	0	0
197+00.00	19700.00	25.00	39.12	39.12	0.00	36	36	0	412	0	0
197+25.00	19725.00	25.00	39.37	39.37	0.00	36	36	0	448	0	0
197+50.00	19750.00	25.00	39.54	39.54	0.00	37	37	0	485	0	0
197+75.00	19775.00	25.00	39.35	39.35	0.00	37	37	0	522	0	0
198+00.00	19800.00	25.00	38.50	38.50	0.00	36	36	0	558	0	0
198+25.00	19825.00	25.00	37.33	37.33	0.00	35	35	0	593	0	0
198+50.00	19850.00	25.00	37.66	37.66	0.00	35	35	0	628	0	0
198+75.00	19875.00	25.00	37.59	37.59	0.00	35	35	0	663	0	0
199+00.00	19900.00	25.00	37.51	37.51	0.00	35	35	0	698	0	0
199+25.00	19925.00	25.00	37.85	37.85	0.00	35	35	0	733	0	0
199+50.00	19950.00	25.00	37.48	37.48	0.00	35	35	0	768	0	0
199+75.00	19975.00	25.00	37.04	37.04	0.00	35	35	0	803	0	0
200+00.00	20000.00	25.00	36.76	36.76	0.00	34	34	0	837	0	0
200+25.00	20025.00	25.00	32.33	32.33	0.00	32	32	0	869	0	0
200+50.00	20050.00	25.00	28.50	28.50	0.00	28	28	0	897	0	0
200+75.00	20075.00	25.00	25.17	25.17	0.00	25	25	0	922	0	0
201+00.00	20100.00	25.00	21.95	21.95	0.00	22	22	0	944	0	0

STAGE 2 - SB OVERLAY SOUTH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.20	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
190+33.20	19033.20	0.00	4.48	4.48	0.00	0	0	0	0	0	0
190+46.73	19046.73	13.53	3.77	3.77	0.00	2	2	0	2	0	0
190+50.00	19050.00	3.27	4.80	4.80	0.00	1	1	0	3	0	0
190+75.00	19075.00	25.00	3.80	3.80	0.00	4	4	0	7	0	0
190+84.63	19084.63	9.63	3.62	3.62	0.00	1	1	0	8	0	0
191+00.00	19100.00	15.37	1.12	1.12	0.08	1	1	0	9	0	0
191+08.68	19108.68	8.68	0.37	0.37	0.91	0	0	0	9	0	0
191+12.63	19112.63	3.95	0.18	0.18	1.39	0	0	0	9	0	0
191+25.00	19125.00	12.37	0.00	0.00	2.87	0	0	1	9	1	-1
191+37.63	19137.63	12.63	0.00	0.00	3.61	0	0	2	9	4	-4
191+47.36	19147.36	9.73	0.00	0.00	0.00	0	0	1	9	5	-5

STAGE 2 - SB RECONSTRUCT SOUTH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.20	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
191+47.36	19147.36	0.00	62.68	62.68	0.00	0	0	0	0	0	0
191+50.00	19150.00	2.64	63.82	63.82	0.00	6	6	0	6	0	0
191+58.68	19158.68	8.68	62.32	62.32	0.00	20	20	0	26	0	0
191+75.00	19175.00	16.32	62.54	62.54	0.00	38	38	0	64	0	0
191+95.64	19195.64	20.64	66.45	66.45	0.00	49	49	0	113	0	0
192+00.00	19200.00	4.36	65.60	65.60	0.00	11	11	0	124	0	0
192+05.98	19205.98	5.98	64.67	64.67	0.00	14	14	0	138	0	0
192+27.26	19227.26	21.28	40.48	40.48	0.11	41	41	0	179	0	0
192+35.33	19235.33	8.07	25.54	25.54	0.00	10	10	0	189	0	0

STAGE 2 - SB RECONSTRUCT NORTH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.20	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
193+75.00	19375.00	0.00	52.59	52.59	0.00	0	0	0	0	0	0
194+00.00	19400.00	25.00	53.53	53.53	0.00	49	49	0	49	0	0
194+10.73	19410.73	10.73	54.87	54.87	5.95	22	22	1	71	1	-1
194+21.72	19421.72	10.99	57.56	57.56	5.81	23	23	2	94	4	-4
194+25.00	19425.00	3.28	58.06	58.06	6.36	7	7	1	101	5	-5
194+31.55	19431.55	6.55	58.68	58.68	6.96	14	14	2	115	7	-7
194+50.00	19450.00	18.45	57.10	57.10	5.47	40	40	4	155	12	-12
194+56.55	19456.55	6.55	57.29	57.29	4.54	14	14	1	169	13	-13
194+60.73	19460.73	4.18	56.67	56.67	4.33	9	9	1	178	14	-14

STAGE 2 - SB OVERLAY NORTH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.20	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
194+60.73	19460.73	0.00	0.00	0.00	0.00	0	0	0	0	0	0
194+75.00	19475.00	14.27	0.00	0.00	5.28	0	0	1	0	1	-1
194+84.55	19484.55	9.55	0.00	0.00	5.22	0	0	2	0	4	-4
195+00.00	19500.00	15.45	1.90	1.90	4.65	1	1	3	1	7	-7
195+22.22	19522.22	22.22	1.01	1.01	4.65	1	1	4	2	12	-12
195+25.00	19525.00	2.78	1.70	1.70	3.95	0	0	0	2	12	-12
195+47.22	19547.22	22.22	0.83	0.83	4.87	1	1	4	3	17	-17
195+50.00	19550.00	2.78	1.04	1.04	4.75	0	0	0	3	17	-17
195+61.25	19561.25	11.25	1.92	1.92	5.24	1	1	2	4	19	-19
195+62.75	19562.75	1.50	1.14	1.14	1.93	0	0	0	4	19	-19
195+75.00	19575.00	12.25	0.18	0.18	4.35	0	0	1	4	20	-20
195+75.22	19575.22	0.22	0.18	0.18	4.32	0	0	0	4	20	-20
196+00.00	19600.00	24.78	0.16	0.16	0.16	0	0	2	4	23	-23

STAGE 3 - NB OVERLAY SOUTH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.20	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
189+72.54	18972.54	0.00	0.00	0.00	8.54	0	0	0	0	0	0
189+75.00	18975.00	2.46	0.00	0.00	9.89	0	0	1	0	1	-1
189+93.73	18993.73	18.73	0.00	0.00	10.56	0	0	7	0	10	-10
190+00.00	19000.00	6.27	0.00	0.00	7.52	0	0	2	0	12	-12
190+21.73	19021.73	21.73	0.01	0.01	1.79	0	0	4	0	17	-17
190+25.00	19025.00	3.27	0.10	0.10	3.35	0	0	0	0	17	-17
190+33.20	19033.20	8.20	5.47	5.47	2.99	1	1	1	1	18	-18
190+46.73	19046.73	13.53	4.68	4.68	2.95	3	3	1	4	19	-19
190+50.00	19050.00	3.27	4.48	4.48	3.10	1	1	0	5	19	-19
190+75.00	19075.00	25.00	1.95	1.95	0.00	3	3	1	8	20	-20
190+84.63	19084.63	9.63	0.44	0.44	1.77	0	0	0	8	20	-20
191+00.00	19100.00	15.37	0.48	0.48	3.58	0	0	2	8	23	-23
191+08.68	19108.68	8.68	0.46	0.46	4.75	0	0	1	8	24	-24

STAGE 3 - NB RECONSTRUCT SOUTH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.20	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
191+08.68	19108.68	0.00	57.07	57.07	0.30	0	0	0	0	0	0
191+12.63	19112.63	3.95	55.60	55.60	0.22	8	8	0	8	0	0
191+25.00	19125.00	12.37	53.92	53.92	0.81	25	25	0	33	0	0
191+37.63	19137.63	12.63	54.46	54.46	1.12	25	25	0	58	0	0
191+47.36	19147.36	9.73	55.79	55.79	2.92	20	20	1	78	1	-1
191+50.00	19150.00	2.64	56.20	56.20	3.82	5	5	0	83	1	-1
191+58.68	19158.68	8.68	56.28	56.28	5.82	18	18	2	101	4	-4
191+75.00	19175.00	16.32	53.93	53.93	0.73	33	33	2	134	6	-6
191+95.64	19195.64	20.64	0.00	0.00	0.00	21	21	0	155	6	-6

STAGE 3 - NB RECONSTRUCT NORTH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.20	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
193+30.10	19330.10	0.00	45.38	45.38	3.57	0	0	0	0	0	0
193+50.00	19350.00	19.90	46.17	46.17	0.99	34	34	2	34	2	-2
193+71.72	19371.72	21.72	56.68	56.68	0.65	41	41	1	75	4	-4
193+75.00	19375.00	3.28	59.26	59.26	0.19	7	7	0	82	4	-4
194+00.00	19400.00	25.00	58.65	58.65	0.05	55	55	0	137	4	-4
194+10.73	19410.73	10.73	60.26	60.26	0.20	24	24	0	161	4	-4
194+21.72	19421.72	10.99	62.31	62.31	0.00	25	25	0	186	4	-4

STAGE 3 - NB OVERLAY NORTH

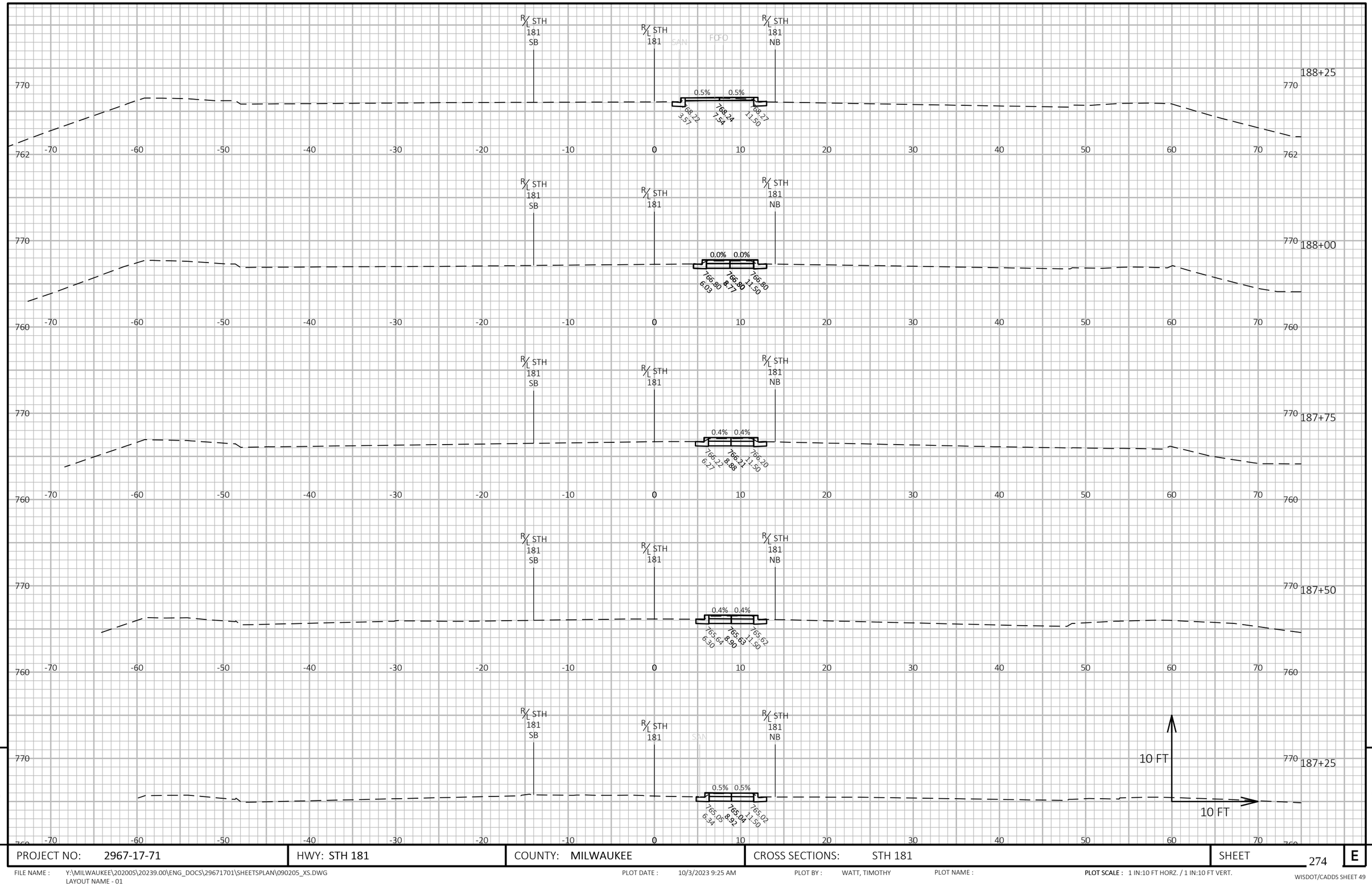
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.20	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
194+21.72	19421.72	0.00	0.00	0.00	0.00	0	0	0	0	0	0
194+25.00	19425.00	3.28	0.00	0.00	3.48	0	0	0	0	0	0
194+31.55	19431.55	6.55	0.00	0.00	4.56	0	0	1	0	1	-1
194+50.00	19450.00	18.45	0.14	0.14	1.33	0	0	2	0	4	-4
194+56.55	19456.55	6.55	0.27	0.27	1.28	0	0	0	0	4	-4
194+60.73	19460.73	4.18	0.32	0.32	0.80	0	0	0	0	4	-4
194+75.00	19475.00	14.27	1.36	1.36	0.27	0	0	0	0	4	-4
194+84.55	19484.55	9.55	1.24	1.24	0.38	0	0	0	0	4	-4
195+00.00	19500.00	15.45	1.33	1.33	0.27	1	1	0	1	4	-4
195+22.22	19522.22	22.22	1.42	1.42	0.04	1	1	0	2	4	-4
195+25.00	19525.00	2.78	1.40	1.40	0.03	0	0	0	2	4	-4
195+47.22	19547.22	22.22	3.10	3.10	0.00	2	2	0	4	4	-4
195+50.00	19550.00	2.78	3.42	3.42	0.00	0	0	0	4	4	-4
195+61.25	19561.25	11.25	4.61	4.61	0.00	2	2	0	6	4	-4

STAGE 4 - MEDIAN RESTORATION SOUTH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.20	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
187+14.99	18714.99	0.00	6.50	6.50	0.00	0	0	0	0	0	0
187+25.00	18725.00	10.01	6.31	6.31	0.00	2	2	0	2	0	0
187+50.00	18750.00	25.00	6.16	6.16	0.00	6	6	0	8	0	0
187+75.00	18775.00	25.00	6.14	6.14	0.00	6	6	0	14	0	0
188+00.00	18800.00	25.00	6.27	6.27	0.00	6	6	0	20	0	0
188+25.00	18825.00	25.00	2.66	2.66	0.00	4	4	0	24	0	0
188+50.00	18850.00	25.00	2.00	2.00	0.00	2	2	0	26	0	0
188+75.00	18875.00	25.00	3.37	3.37	0.00	2	2	0	28	0	0
189+00.00	18900.00	25.00	5.55	5.55	0.00	4	4	0	32	0	0
189+25.00	18925.00	25.00	7.11	7.11	0.00	6	6	0	38	0	0
189+50.00	18950.00	25.00	8.93	8.93	0.00	7	7	0	45	0	0
189+72.54	18972.54	22.54	9.05	9.05	0.00	8	8	0	53	0	0
189+75.00	18975.00	2.46	9.06	9.06	0.00	1	1	0	54	0	0
189+93.73	18993.73	18.73	9.26	9.26	0.00	6	6	0	60	0	0
190+00.00	19000.00	6.27	9.17	9.17	0.00	2	2	0	62	0	0
190+21.73	19021.73	21.73	8.79	8.79	0.00	7	7	0	69	0	0
190+25.00	19025.00	3.27	8.73	8.73	0.00	1	1	0	70	0	0
190+33.20	19033.20	8.20	8.58	8.58	0.00	3	3	0	73	0	0
190+46.73	19046.73	13.53	8.28	8.28	0.00	4	4	0	77	0	0
190+50.00	19050.00	3.27	8.15	8.15	0.00	1	1	0	78	0	0
190+75.00	19075.00	25.00	6.21	6.21	0.01	7	7	0	85	0	0
190+84.63	19084.63	9.63	4.17	4.17	0.07	2	2	0	87	0	0
191+00.00	19100.00	15.37	2.18	2.18	0.99	2	2	0	89	0	0
191+08.68	19108.68	8.68	1.29	1.29	2.04	1	1	0	90	0	0
191+12.63	19112.63	3.95	0.89	0.89	2.94	0	0	0	90	0	0
191+25.00	19125.00	12.37	0.79	0.79	1.73	0	0	1	90	1	-1
191+37.63	19137.63	12.63	1.18	1.18	0.23	0	0	0	90	1	-1
191+47.36	19147.36	9.73	1.26	1.26	0.72	0	0	0	90	1	-1
191+50.00	19150.00	2.64	1.15	1.15	0.90	0	0	0	90	1	-1
191+58.68	19158.68	8.68	0.69	0.69	1.08	0	0	0	90	1	-1
191+75.00	19175.00	16.32	1.06	1.06	0.42	1	1	0	91	1	-1
191+95.64	19195.64	20.64	0.70	0.70	3.73	1	1	2	92	4	-4
192+00.00	19200.00	4.36	0.68	0.68	2.84	0	0	1	92	5	-5
192+05.98	19205.98	5.98	0.85	0.85	1.98	0	0	1	92	6	-6

STAGE 4 - MEDIAN RESTORATION NORTH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.20	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
193+71.72	19371.72	0.00	0.35	0.35	1.33	0	0	0	0	0	0
193+75.00	19375.00	3.28	0.10	0.10	6.20	0	0	0	0	0	0
194+00.00	19400.00	25.00	0.12	0.12	2.24	0	0	4	0	5	-5
194+10.73	19410.73	10.73	0.16	0.16	1.28	0	0	1	0	6	-6
194+21.72	19421.72	10.99	0.35	0.35	0.65	0	0	0	0	6	-6
194+25.00	19425.00	3.28	0.46	0.46	0.51	0	0	0	0	6	-6
194+31.55	19431.55	6.55	1.03	1.03	0.08	0	0	0	0	6	-6
194+50.00	19450.00	18.45	1.16	1.16	2.68	1	1	1	1	7	-7
194+56.55	19456.55	6.55	0.88	0.88	3.12	0	0	1	1	8	-8
194+60.73	19460.73	4.18	0.73	0.73	3.49	0	0	1	1	10	-10
194+75.00	19475.00	14.27	0.43	0.43	4.57	0	0	2	1	12	-12
194+84.55	19484.55	9.55	0.37	0.37	4.66	0	0	2	1	14	-14
195+00.00	19500.00	15.45	0.38	0.38	4.51	0	0	3	1	18	-18
195+22.22	19522.22	22.22	0.56	0.56	2.61	0	0	3	1	22	-22
195+25.00	19525.00	2.78	0.58	0.58	2.34	0	0	0	1	22	-22
195+47.22	19547.22	22.22	2.57	2.57	0.00	1	1	1	2	23	-23
195+50.00	19550.00	2.78	3.19	3.19	0.00	0	0	0	2	23	-23
195+61.25	19561.25	11.25	6.23	6.23	0.00	2	2	0	4	23	-23
195+62.75	19562.75	1.50	8.54	8.54	0.00	0	0	0	4	23	-23
195+75.00	19575.00	12.25	8.97	8.97	0.00	4	4	0	8	23	-23
195+75.22	19575.22	0.22	8.91	8.91	0.00	0	0	0	8	23	-23
196+00.00	19600.00	24.78	8.97	8.97	0.00	8	8	0	16	23	-23
196+25.00	19625.00	25.00	6.72	6.72	0.00	7	7	0	23	23	-23
196+50.00	19650.00	25.00	8.07	8.07	0.00	7	7	0	30	23	-23
196+75.00	19675.00	25.00	9.04	9.04	0.00	8	8	0	38	23	-23
197+00.00	19700.00	25.00	9.62	9.62	0.00	9	9	0	47	23	-23
197+25.00	19725.00	25.00	9.87	9.87	0.00	9	9	0	56	23	-23
197+50.00	19750.00	25.00	9.91	9.91	0.00	9	9	0	65	23	-23
197+75.00	19775.00	25.00	9.51	9.51	0.00	9	9	0	74	23	-23
198+00.00	19800.00	25.00	8.66	8.66	0.00	8	8	0	82	23	-23
198+25.00	19825.00	25.00	7.37	7.37	0.00	7	7	0	89	23	-23
198+50.00	19850.00	25.00	7.82	7.82	0.00	7	7	0	96	23	-23
198+75.00	19875.00	25.00	8.11	8.11	0.00	7	7	0	103	23	-23
199+00.00	19900.00	25.00	8.09	8.09	0.00	7	7	0	110	23	-23
199+25.00	19925.00	25.00	8.37	8.37	0.00	8	8	0	118	23	-23
199+50.00	19950.00	25.00	7.90	7.90	0.00	8	8	0	126	23	-23
199+75.00	19975.00	25.00	7.47	7.47	0.00	7	7	0	133	23	-23
200+00.00	20000.00	25.00	8.41	8.41	0.00	7	7	0	140	23	-23
200+25.00	20025.00	25.00	5.88	5.88	0.00	7	7	0	147	23	-23
200+50.00	20050.00	25.00	5.05	5.05	0.00	5	5	0	152	23	-23
200+75.00	20075.00	25.00	4.61	4.61	0.00	4	4	0	156	23	-23
201+00.00	20100.00	25.00	4.67	4.67	0.00	4	4	0	160	23	-23



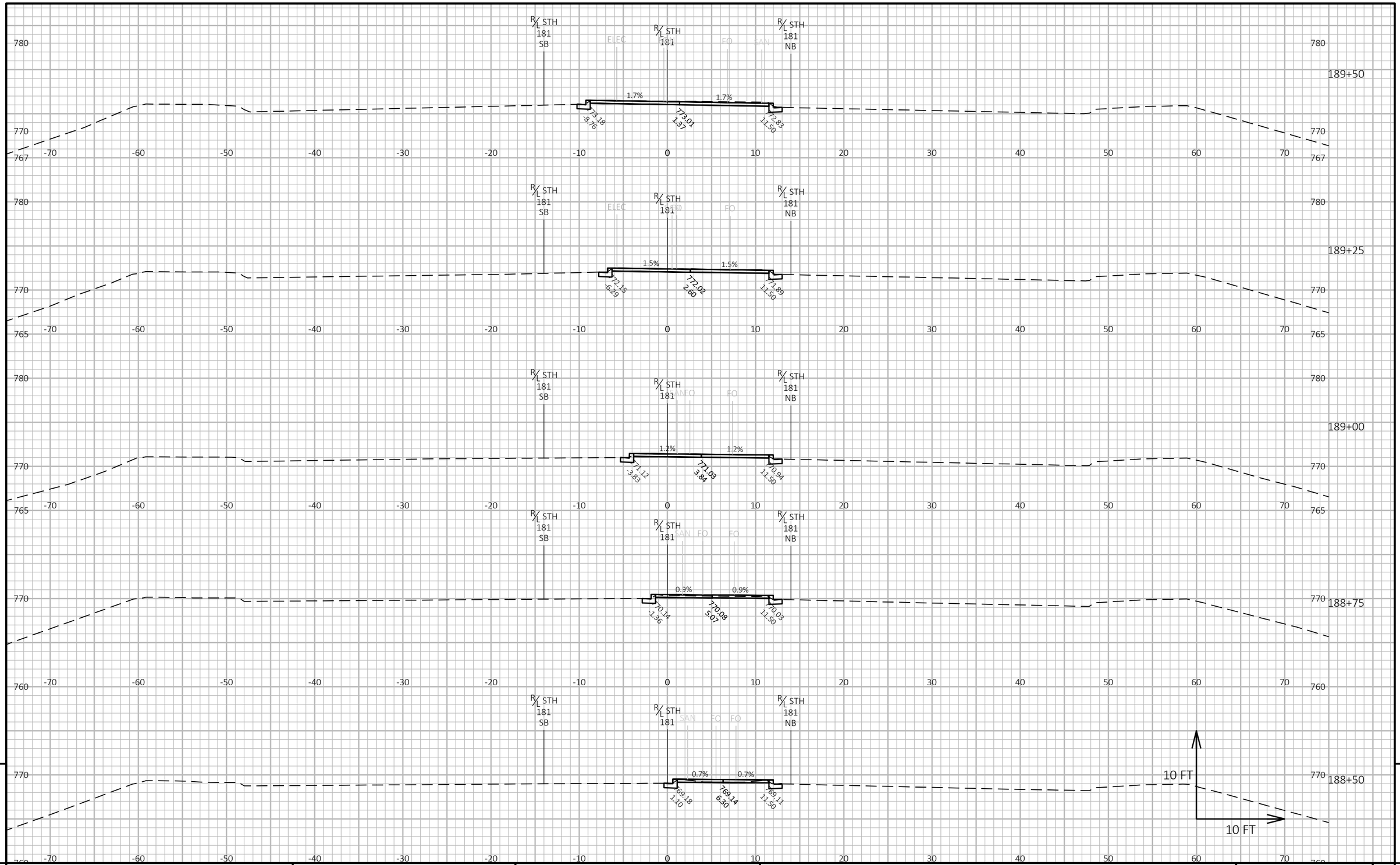
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PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 274	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 01

PLOT DATE : 10/3/2023 9:25 AM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 275	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 02

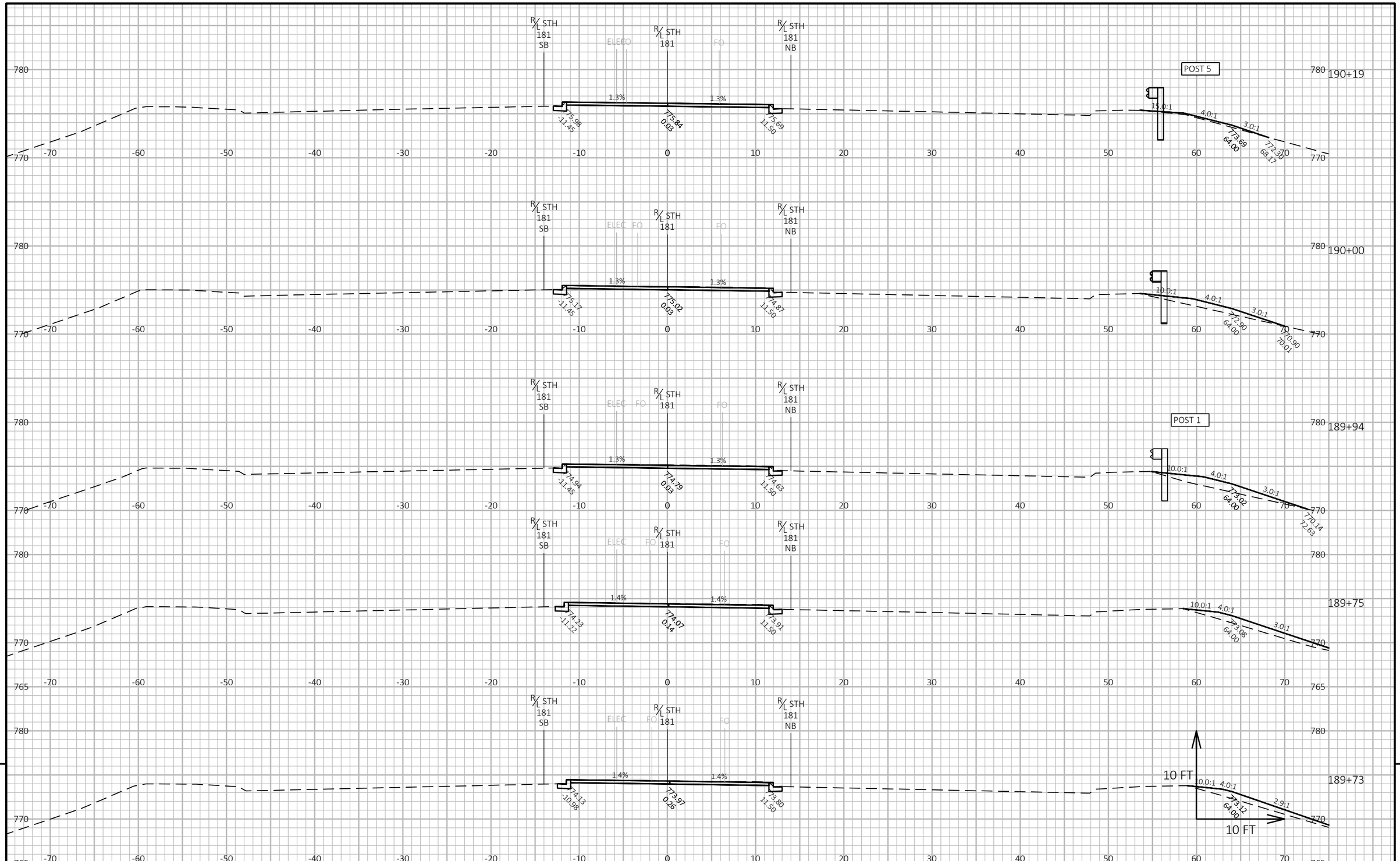
PLOT DATE : 10/3/2023 9:25 AM

PLOT BY : WATT, TIMOTHY

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 276	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 03

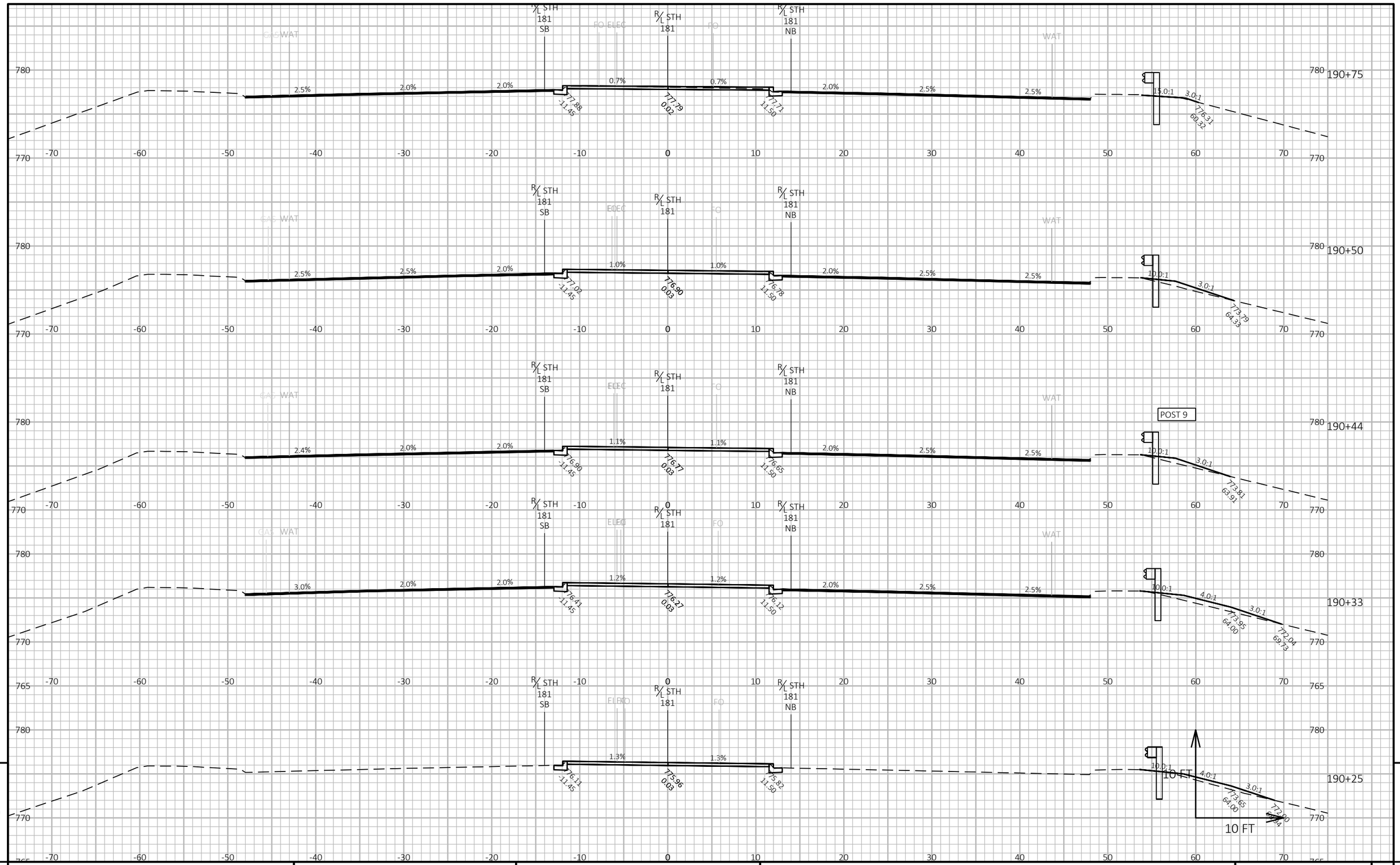
PLOT DATE : 10/3/2023 9:26 AM

PLOT BY : WATT, TIMOTHY

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

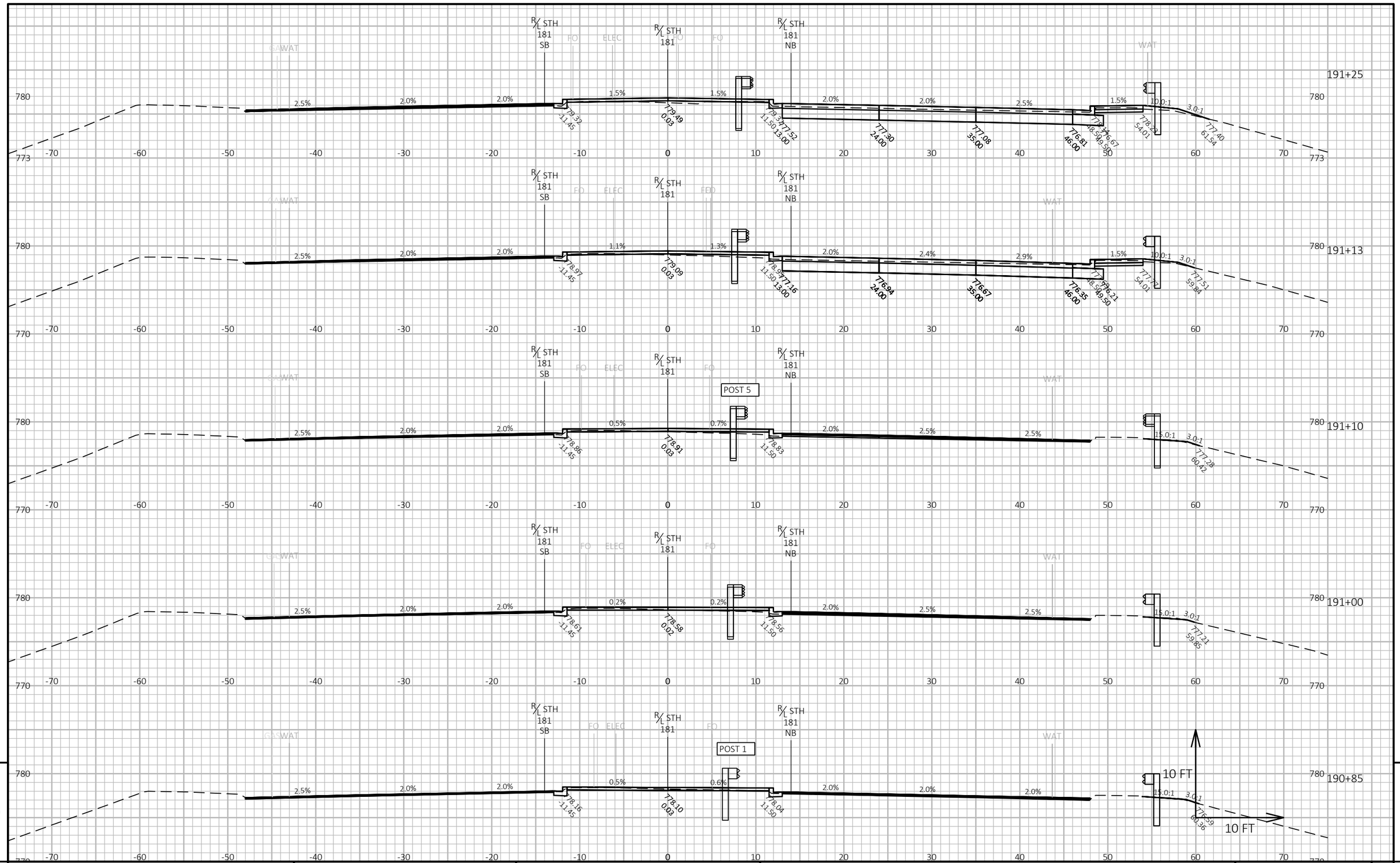


PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 277	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 04

PLOT DATE : 10/3/2023 9:26 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

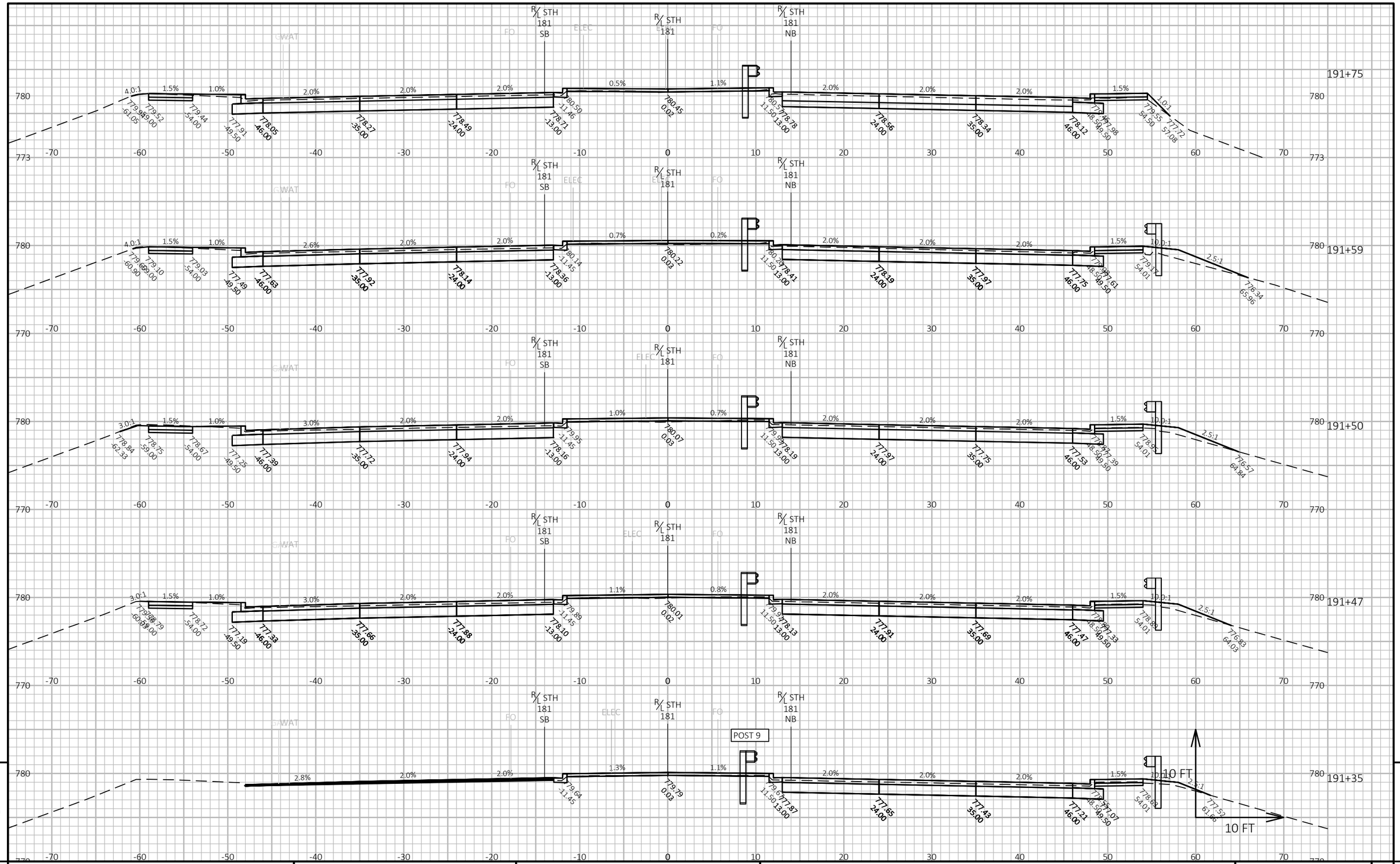


PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 278 E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 05

PLOT DATE : 10/3/2023 9:26 AM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 279	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 06

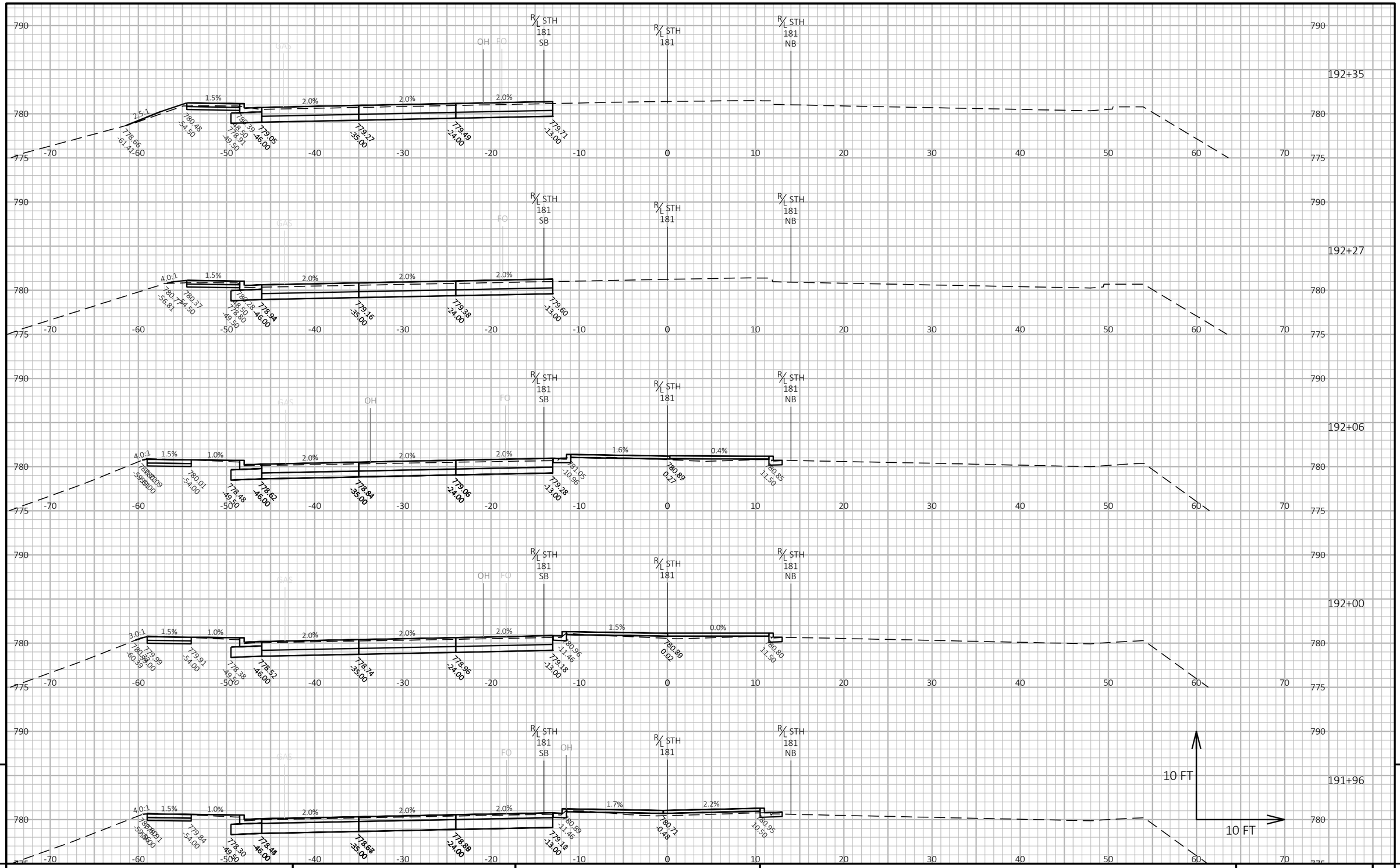
PLOT DATE : 10/3/2023 9:26 AM

PLOT BY : WATT, TIMOTHY

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 280 E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 07

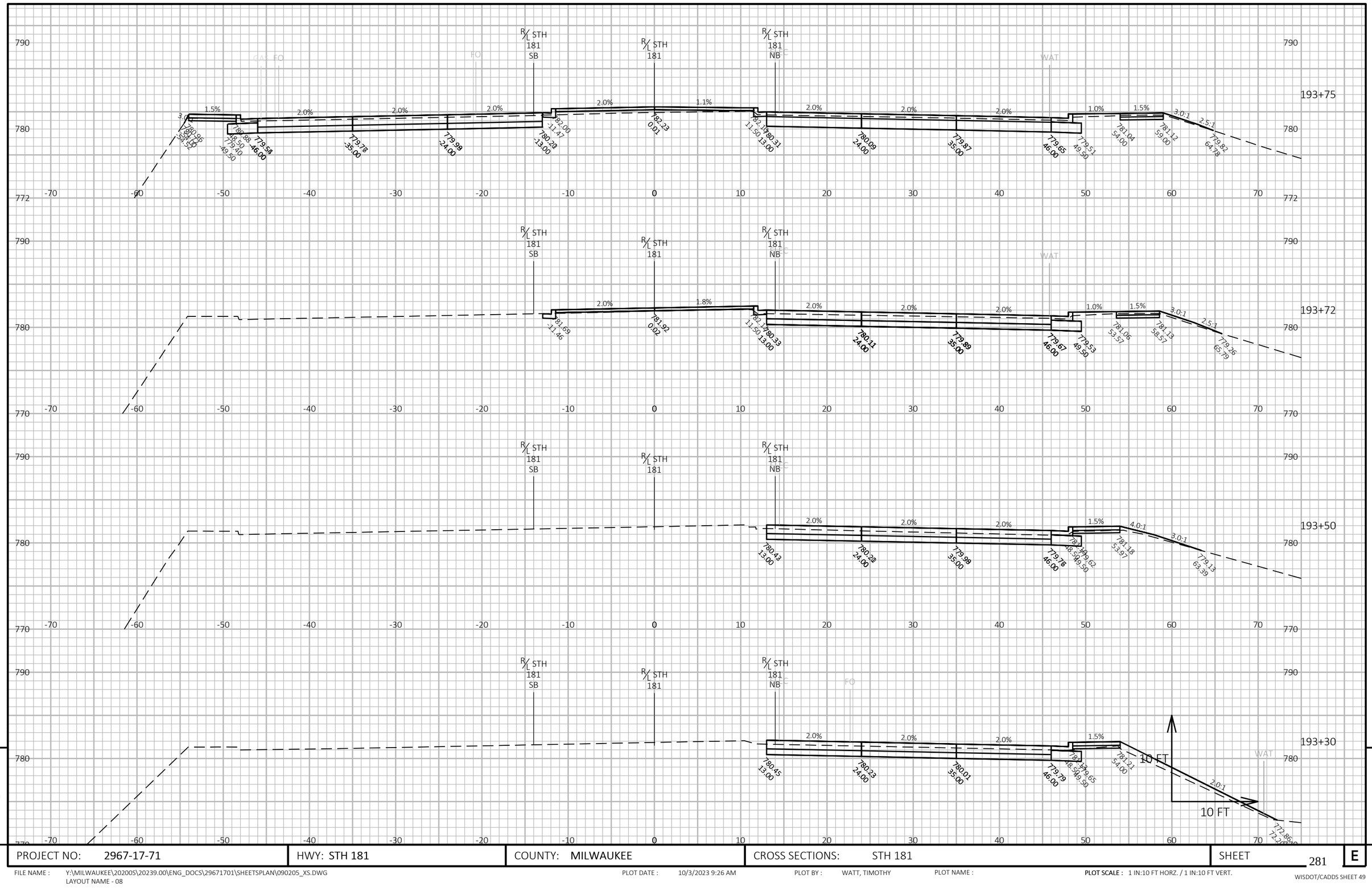
PLOT DATE : 10/3/2023 9:26 AM

PLOT BY : WATT, TIMOTHY

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

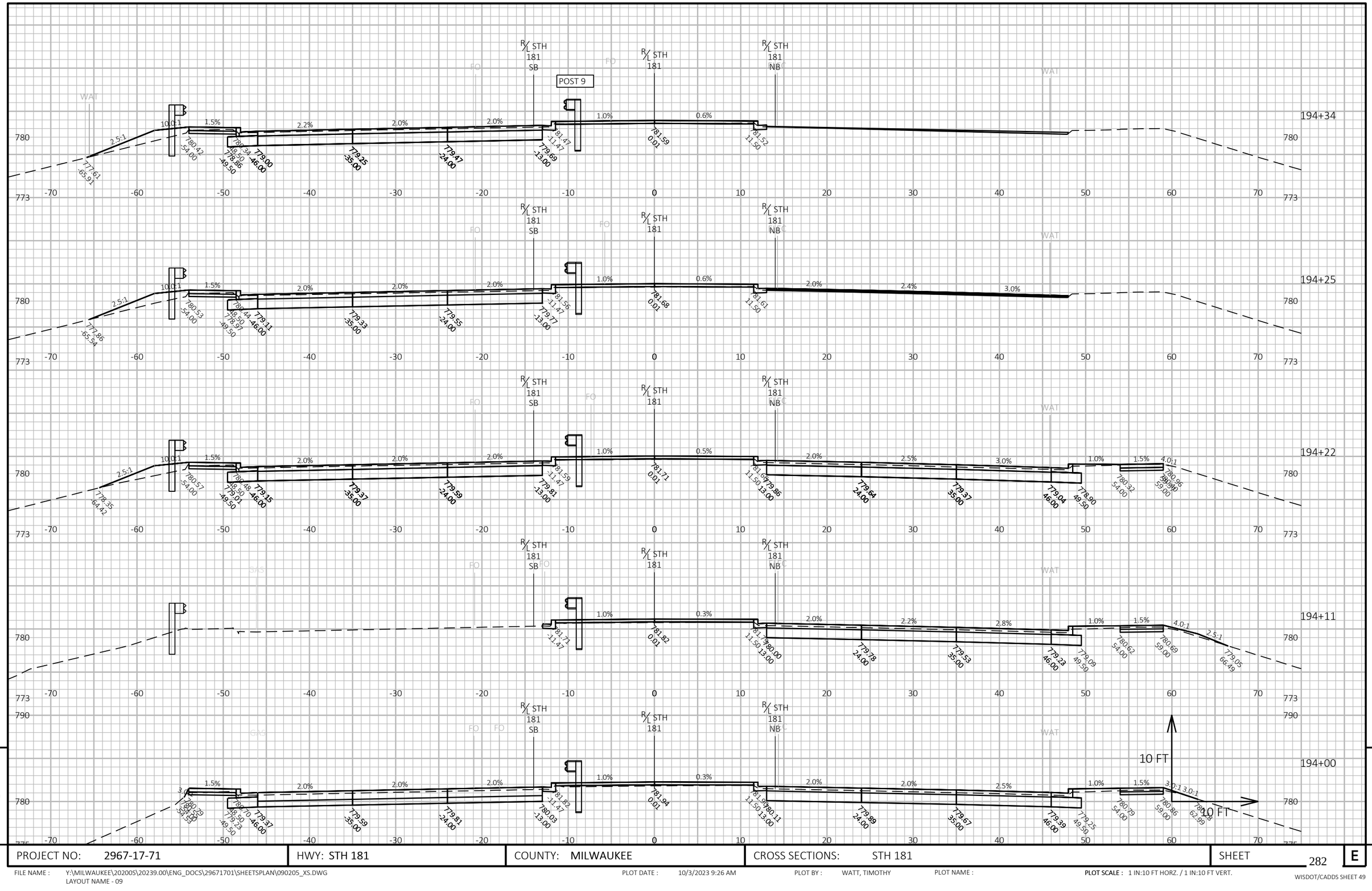


PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 281	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 08

PLOT DATE : 10/3/2023 9:26 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 282	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 09

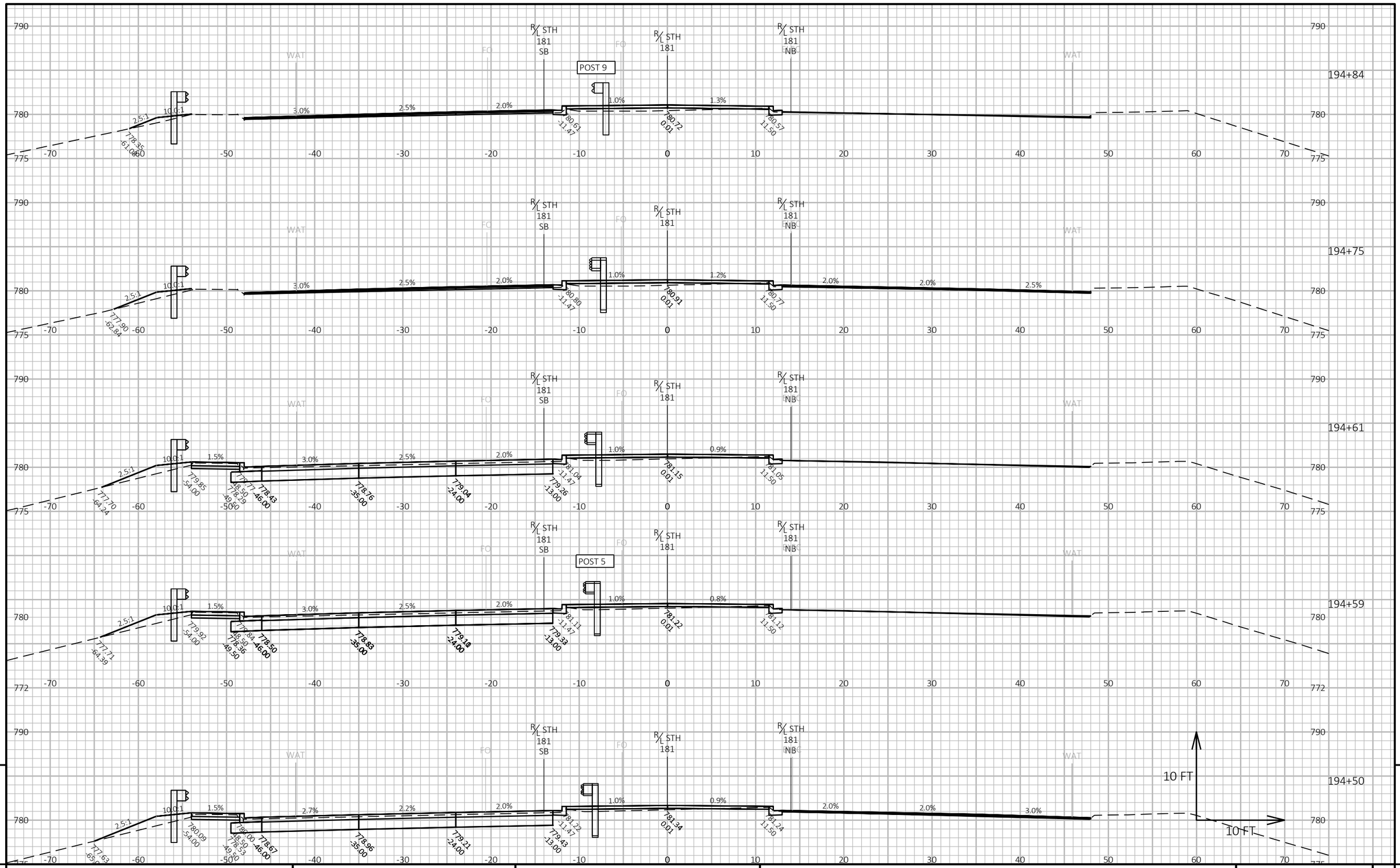
PLOT DATE : 10/3/2023 9:26 AM

PLOT BY : WATT, TIMOTHY

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 283	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 10

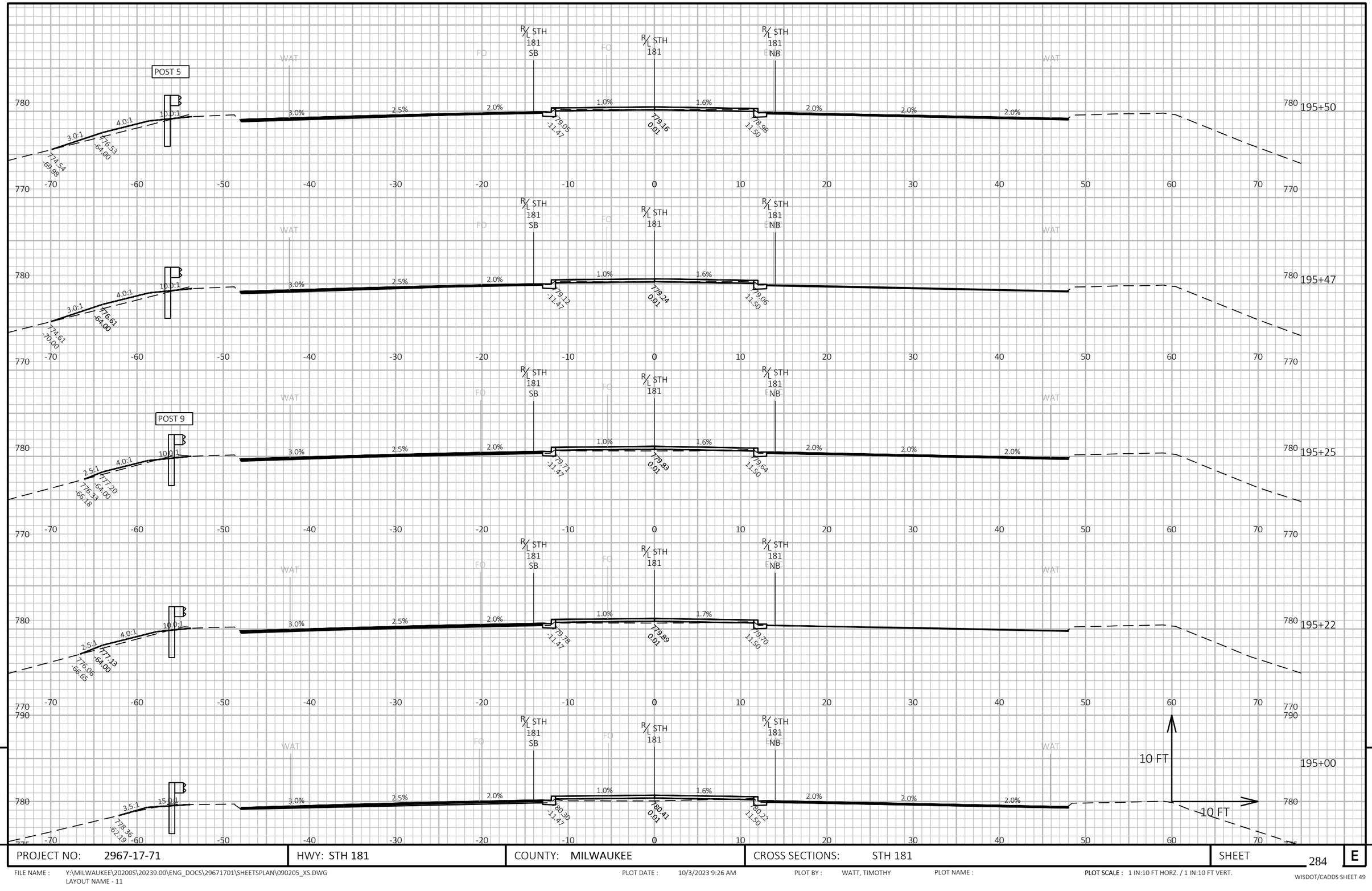
PLOT DATE : 10/3/2023 9:26 AM

PLOT BY : WATT, TIMOTHY

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 284	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 11

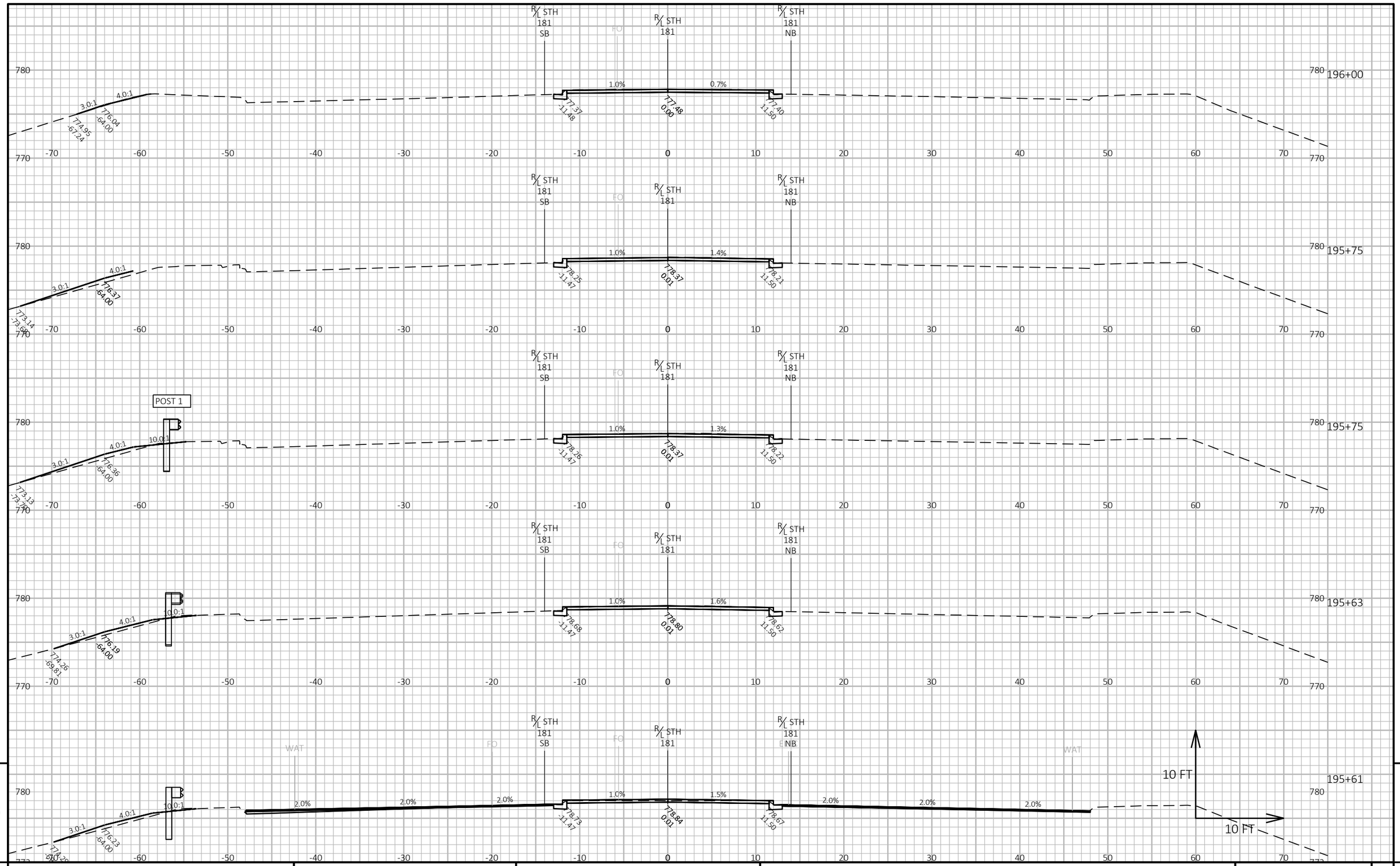
PLOT DATE : 10/3/2023 9:26 AM

PLOT BY : WATT, TIMOTHY

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

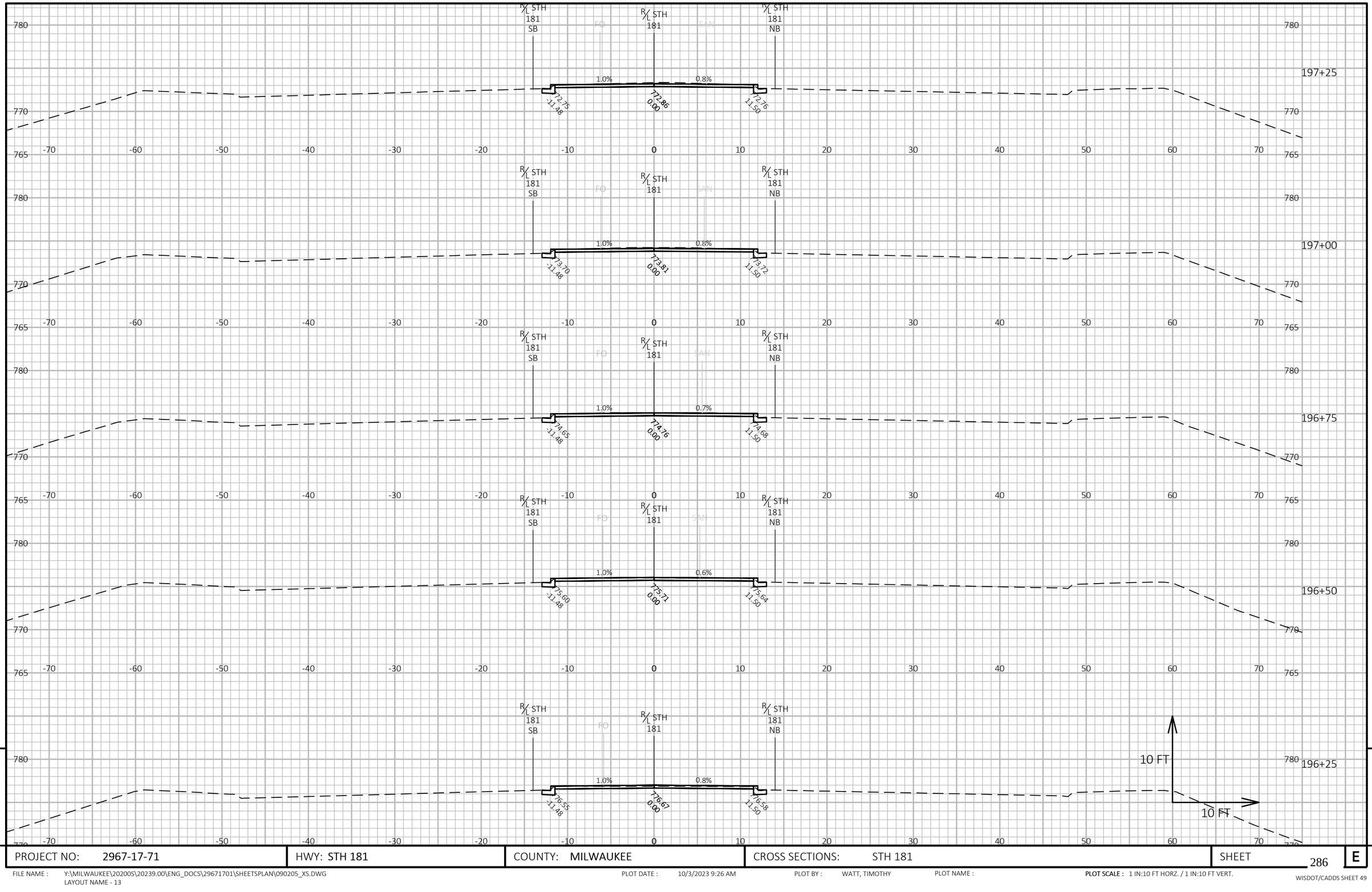


PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 285	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 12

PLOT DATE : 10/3/2023 9:26 AM PLOT BY : WATT, TIMOTHY PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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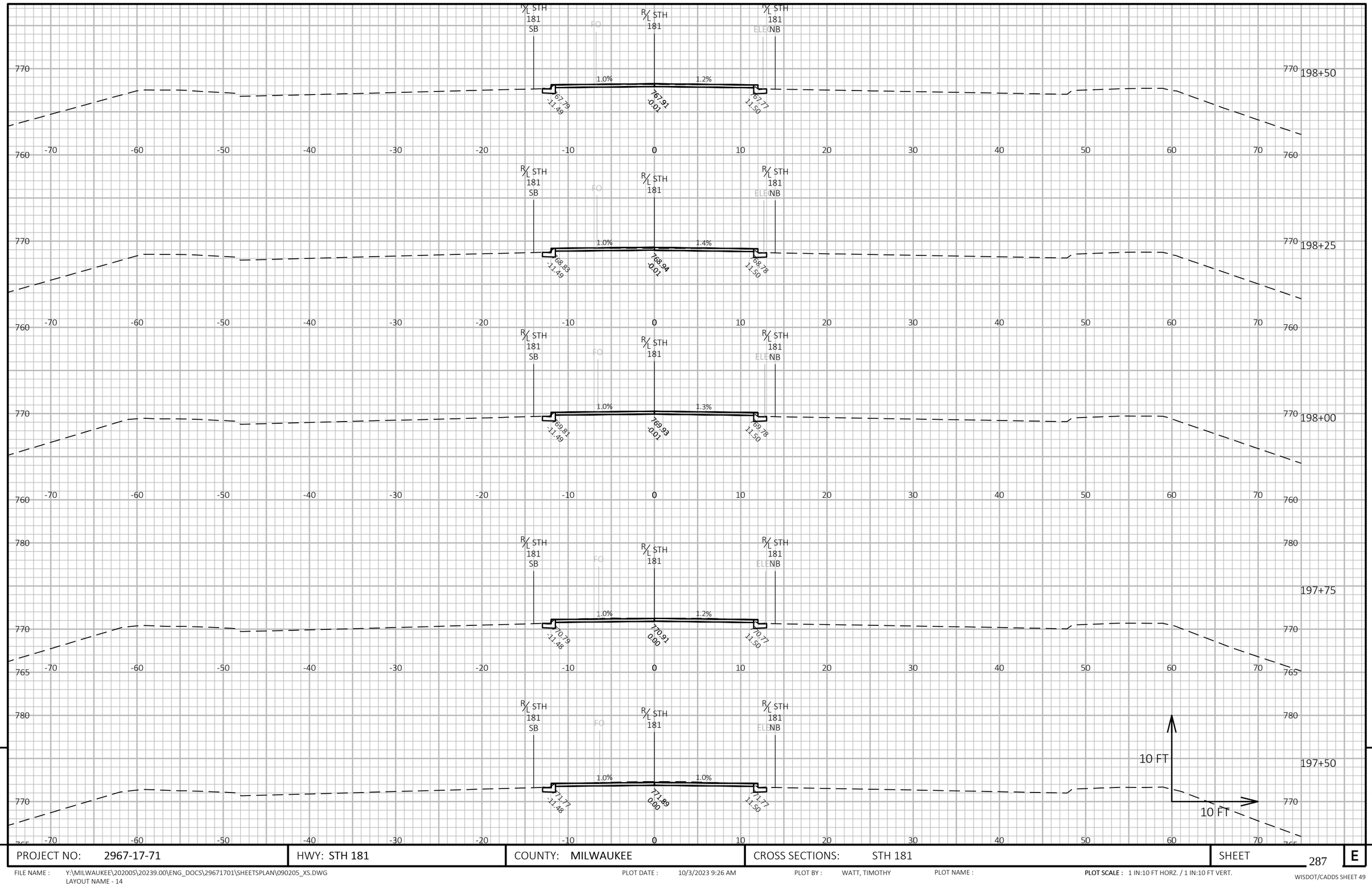
PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 286	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 13

PLOT DATE : 10/3/2023 9:26 AM PLOT BY : WATT, TIMOTHY PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

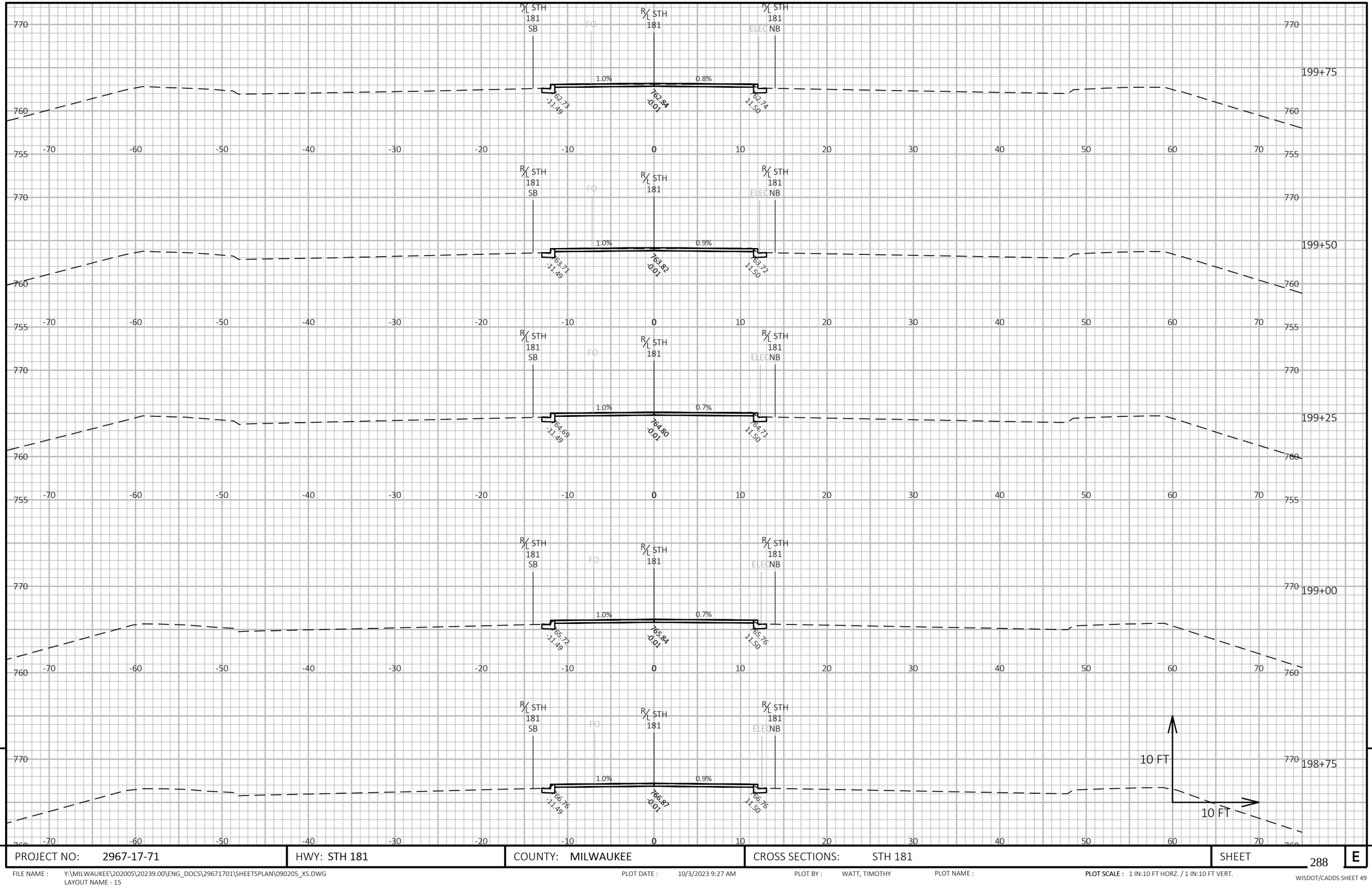


PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 287	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 14

PLOT DATE : 10/3/2023 9:26 AM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



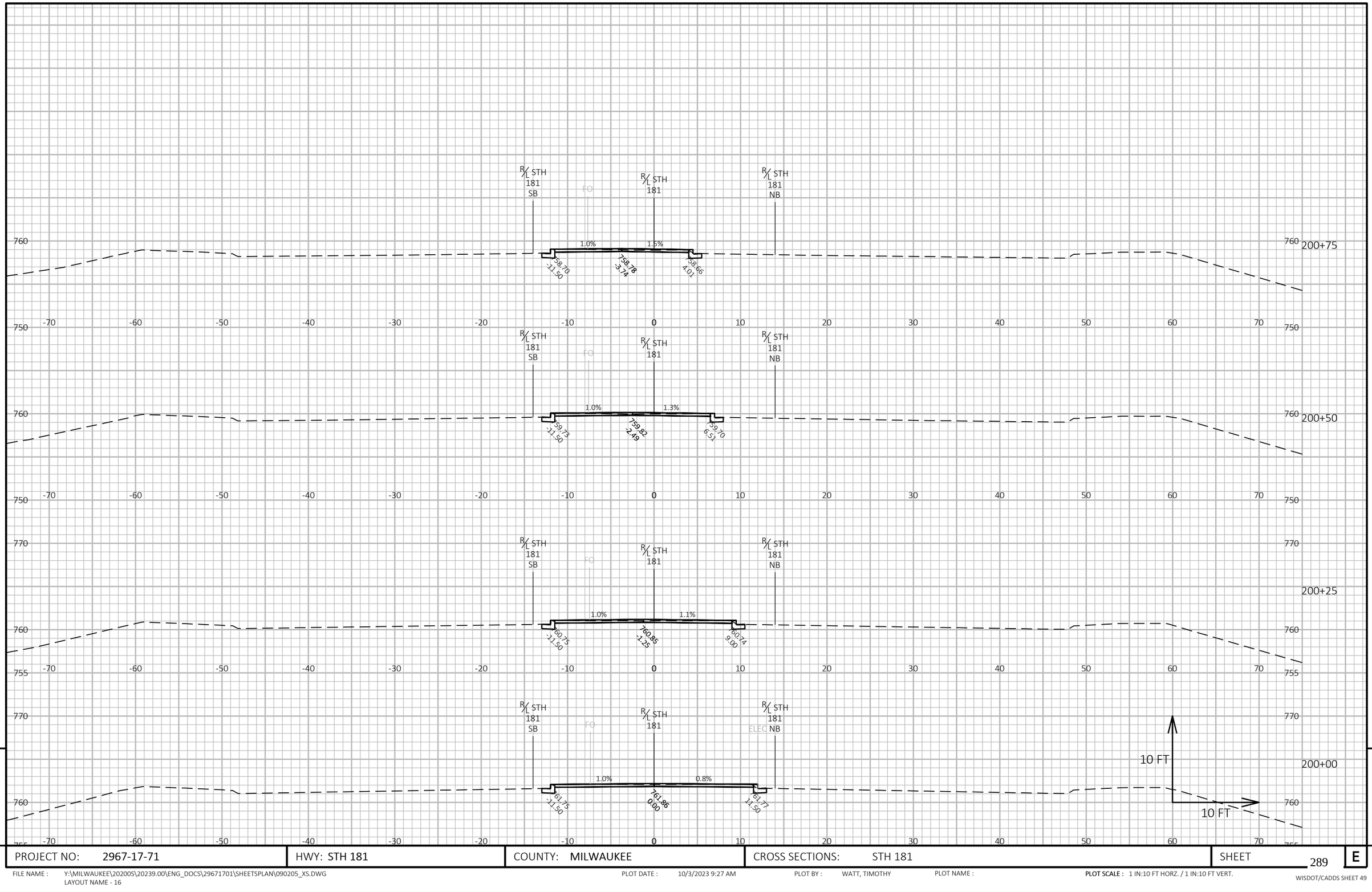
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PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 288	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 15

PLOT DATE : 10/3/2023 9:27 AM PLOT BY : WATT, TIMOTHY PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 2967-17-71	HWY: STH 181	COUNTY: MILWAUKEE	CROSS SECTIONS: STH 181	SHEET 289	E

FILE NAME : Y:\MILWAUKEE\20200S\20239.00\ENG_DOCS\29671701\SHEETSPLAN\090205_XS.DWG
LAYOUT NAME - 16

PLOT DATE : 10/3/2023 9:27 AM PLOT BY : WATT, TIMOTHY PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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