

WKE
PROJECT ID:
WITH: 2305-02-70

MARCH 2024

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 = 124



STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C FRANKLIN W RAWSON AVENUE

INTERSECTIONS WITH 68TH, 51ST & 31ST

CTH BB MILWAUKEE COUNTY

STATE PROJECT NUMBER
2050-12-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2050-12-70	WISC 2024276	1

ORIGINAL PLANS PREPARED BY:
MILWAUKEE COUNTY
DEPARTMENT OF TRANSPORTATION



PROJECT DESIGNER:
DATE: 10/16/2023 *Alex Thornburg*

RECOMMENDED FOR APPROVAL:
DATE: 10/17/2023 *James Brown-Martin*
Director Transportation Services

APPROVED:
DATE: 10/19/2023 *James Brown-Martin*
Director of Milwaukee County
Department of Transportation

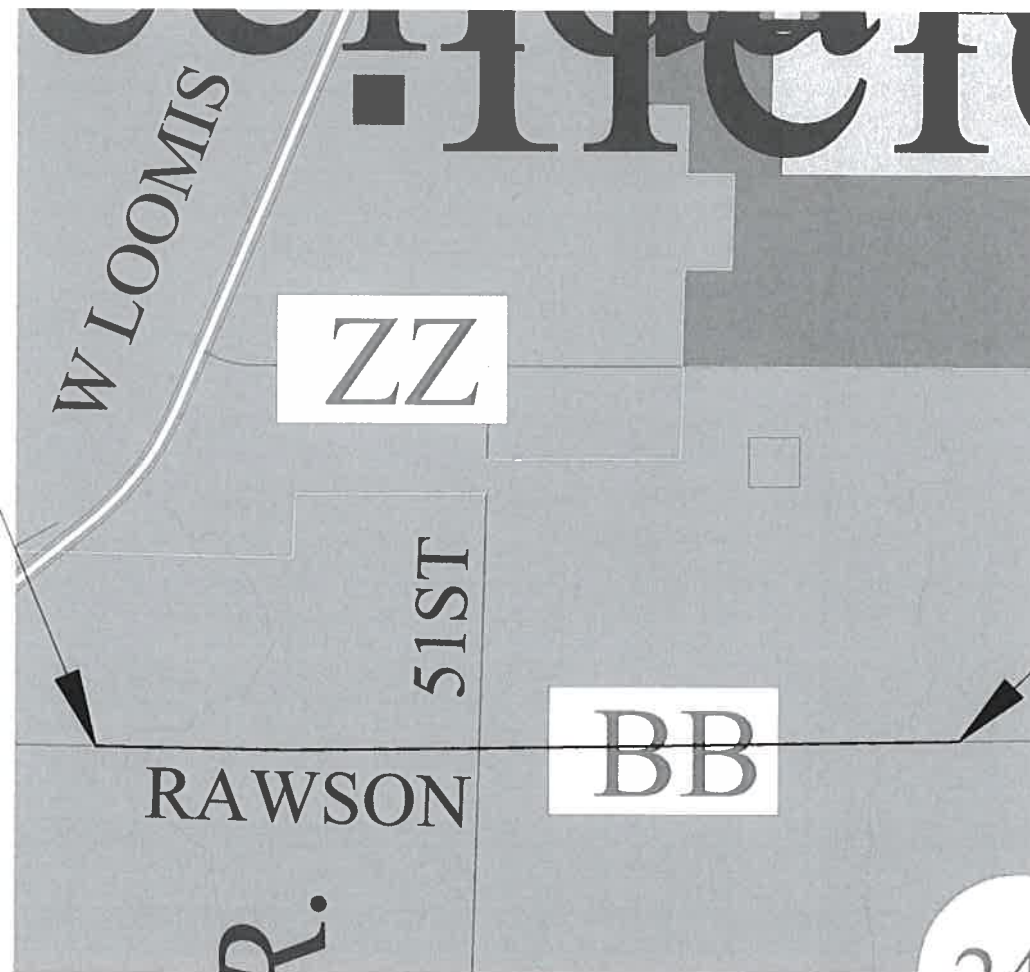
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MILWAUKEE COUNTY
Designer	MILWAUKEE COUNTY
Project Manager	MICHAEL BAIRD
Regional Examiner	
Regional Supervisor	BRIAN BOOTHBY

APPROVED FOR THE DEPARTMENT
DATE: 10/19/2023 *Michael Baird*
(Signature)

E



BEGIN PROJECT
STA 206+00
X: 2504348.59
Y: 340287.81

END PROJECT
STA 328+14

DESIGN DESIGNATION

A.A.D.T.	2018, 2021	=	15,900 - 17,400
A.A.D.T.		=	N/A
D.H.V.		=	N/A
D.D.		=	N/A
T.		=	N/A
DESIGN SPEED		=	45 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

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



TOTAL NET LENGTH OF CENTERLINE = N/A

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN STATE PLANE COORDINATES, SOUTH ZONE, NAD27, IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NGVD29

GENERAL NOTES

REMOVALS

- DO NOT REMOVE TREES OR SHRUBS WITHOUT THE CONSENT OF THE ENGINEER.
- FILL ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES WITH GRANULAR BACKFILL. GRANULAR BACKFILL IS INCIDENTAL TO THE PERTINENT REMOVAL ITEM.

UTILITIES

- THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT LIMITS THAT ARE NOT SHOWN.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF EXISTING UTILITIES AND TO NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES.

EROSION CONTROL

- EROSION CONTROL ITEMS SHOWN ARE AT SUGGESTED LOCATIONS AND THE EXACT LOCATIONS/DIMENSIONS WILL BE DETERMINED BY THE ENGINEER. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL SUCH TIME THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.
- TOPSOIL, FERTILIZE, SOD, AND WATER DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS AS DIRECTED BY THE ENGINEER.

SIGNING/MARKING

- DO NOT REMOVE SIGNS WITHOUT THE CONSENT OF THE ENGINEER.
- SALVAGE ALL REMOVED SIGNS AND PLACE AT A SITE SPECIFIED BY THE ENGINEER TO BE PICKED UP BY MILWAUKEE COUNTY. COST IS INCIDENTAL TO THE ITEM REMOVING SMALL SIGNS TYPE II.
- ALL NEW PERMANENT SIGNS SHALL BE MADE OF ALUMINUM MATERIAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

MISCELLANEOUS

- ADJUST TRAFFIC CONTROL DEVICES TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- CONSTRUCT TRANSVERSE JOINTS IN THE CONCRETE SIDEWALK AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES WITHIN THE PROJECT LIMITS AT ALL TIMES.
- DETAILS OF CONSTRUCTION NOT SHOWN IN THE PLANS SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.
- CONTACT THE PROJECT ENGINEER AND SEWRPC AT LEAST TWO WEEKS PRIOR TO ANY WORK NEAR ANY PUBLIC SURVEY MONUMENT.

LIST OF STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AEW	APRON ENDWALL
AGG	AGGREGATE
AH	AHEAD
ASPH	ASPHALT OR ASPHALTIC
BAD	BASE AGGREGATE DENSE
BK	BACK
BM	BENCHMARK
CABC	CRUSHED AGGREGATE BASE COURSE
CB	CATCH BASIN
CL or C/L	CENTER LINE
CONC	CONCRETE
CTH	COUNTY TRUNK HIGHWAY
C&G	CURB AND GUTTER
DWY	DRIVEWAY
EL or ELEV	ELEVATION
EBS	EXCAVATION BELOW SUBGRADE
HMA	HOT MIX ASPHALT
INL	INLET
INV	INVERT
LT	LEFT
MH	MANHOLE
MIS	METROPOLITAN INTERCEPTOR SEWER
OFF	OFFSET
PAVT	PAVEMENT
PLE	PERMANENT LIMITED EASEMENT
PT	POINT OF TANGENT
PCC	POINT OF COMPOUND CURVATURE
RL or R/L	REFERENCE LINE
R	RADIUS
REQD	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
SE	SUPERELEVATION
SEC	SECTION
SDD	STANDARD DETAIL DRAWING
SI	SLOPE INTERCEPT
STH	STATE TRUNK HIGHWAY
STA	STATION
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
S/W	SIDEWALK
TLE	TEMPORARY LIMITED EASEMENT
VERT	VERTICAL
VC	VERTICAL CURVE
VCL	VERTICAL CURVE LENGTH
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY

UTILITIES

AT&T Wisconsin – Communication Line
411 7th St.
Racine, WI 53403
Attn: Mr. Nathan Gibert
Phone: (262) 720-8235 ng952w@att.com

Charter Communications – Communication Line
1320 N. Martin Luther King Dr.
Milwaukee, WI 53212
Attn: Mr. Mario Oviedo
Mario.Oviedo@charter.com
wis.engineering@charter.com

City of Franklin Department of Public Works – Water
9229 W. Loomis Rd.
Franklin, WI 53132
Glen E. Morrow City Engineer/
Director of Public Works
Phone: (414) 425-7510
gmorrow@franklin.gov

Everstream – Communication Line
324 E Wisconsin Ave, Suite 730,
Milwaukee, WI 53202
Attn: Joe Hines
Mobile: (847) 525-3511
JHines@everstream.net
Emergency Phone: (866) 624-8624

Midwest Fiber Networks – Communication Line
Mr. Cory Schmuki
6070 N. Flint Rd
Glendale, WI 53209
Phone: (414) 459-3561
Mobile: (414) 349-2764
rtrgovec@midwestfibernetworks.com
relocationrequests@midwestfibernetworks.com

UTILITIES

Milwaukee Metropolitan Sewerage District (MMSD) - Sewer
260 W Seeboth St
Milwaukee, WI 53204
Attn: Michael Lee
Office: 414-225-2241
Mobile: 414-617-1429
Mlee@mmsd.com

Oak Creek / Franklin School District Joint Fiber – Communication Line
4933 Allen Road
Little Suamico, WI 54141
Bruce Rowell
Direct: (920) 819-2269
Office: (920) 826-4600
browell@access-engineering.com

We Energies - Electric
700 S Kane St
Burlington, WI 53105
Attn: Jacob Schoenung
Office: (262) 763-1011
jacob.schoenung@we-energies.com
WE-Utility-Relocations@we-energies.com

We Energies – Gas
7815 Northwestern Ave
Racine, WI 53406
Attn: Wesley Nunn
Office: 262-552-3446
Cell: 414-659-4933
Wesley.Nunn@we-energies.com
WE-Utility-Relocations@we-energies.com

UTILITIES

Westshore Pipeline Co, - Gas
11115 W County Line Rd,
Milwaukee, WI 53224
Attn: Aric Aufdermauer
Office: (414) 354-8660
Cell: (414) 391-8102
westshorepipeline.com
aaufermauer@buckeye.com

AGENCIES

City of Franklin Engineering Department
Mr. Glen Morrow
City Engineer
9229 W. Loomis Rd.
Franklin, WI 53132
Phone: (414) 425-7510
gmorrow@franklin.gov

MCEWI (Franklin School District Fiber) – Communication Line
P.O. Box 11064
Green Bay, WI 54307
Greg Selissen
O: (877) 870-6968 ext. 1004
C: 920-328-8452
gselissen@mcewi.com
LuAnn Zielinski
District Technology Coordinator
8255 West Forest Home Ave
Franklin, WI 53132
Phone: 414-525-7633
luann.zielinski@franklin.k12.wi.us

Southeastern Wisconsin Regional Planning Commission (SEWRPC)
Mr. Rob Merry
W239 N1812 Rockwood Drive
PO Box 1607
Waukesha, WI 53187-1607
Phone: (262) 547-6722, Ext. 289
rmerry@sewrpc.org

STATE AGENCIES

Wisconsin Department of Natural Resources
Mr. Ryan Pappas
Environmental Analysis and Review Specialist
1027 W. Saint Paul Ave.
Milwaukee, WI 53233
Phone: (414) 750-7495
Ryan.Pappas@wisconsin.gov

MILWAUKEE COUNTY (MCDOT)

Mr. Kevin Kent, Hwy Superintendent
10320 W. Watertown Plank Rd, 1st Floor
Wauwatosa, WI 53226
Phone: (414) 257-6580
Fax: (414) 257-6501
Kevin.Kent@milwaukeecountywi.gov

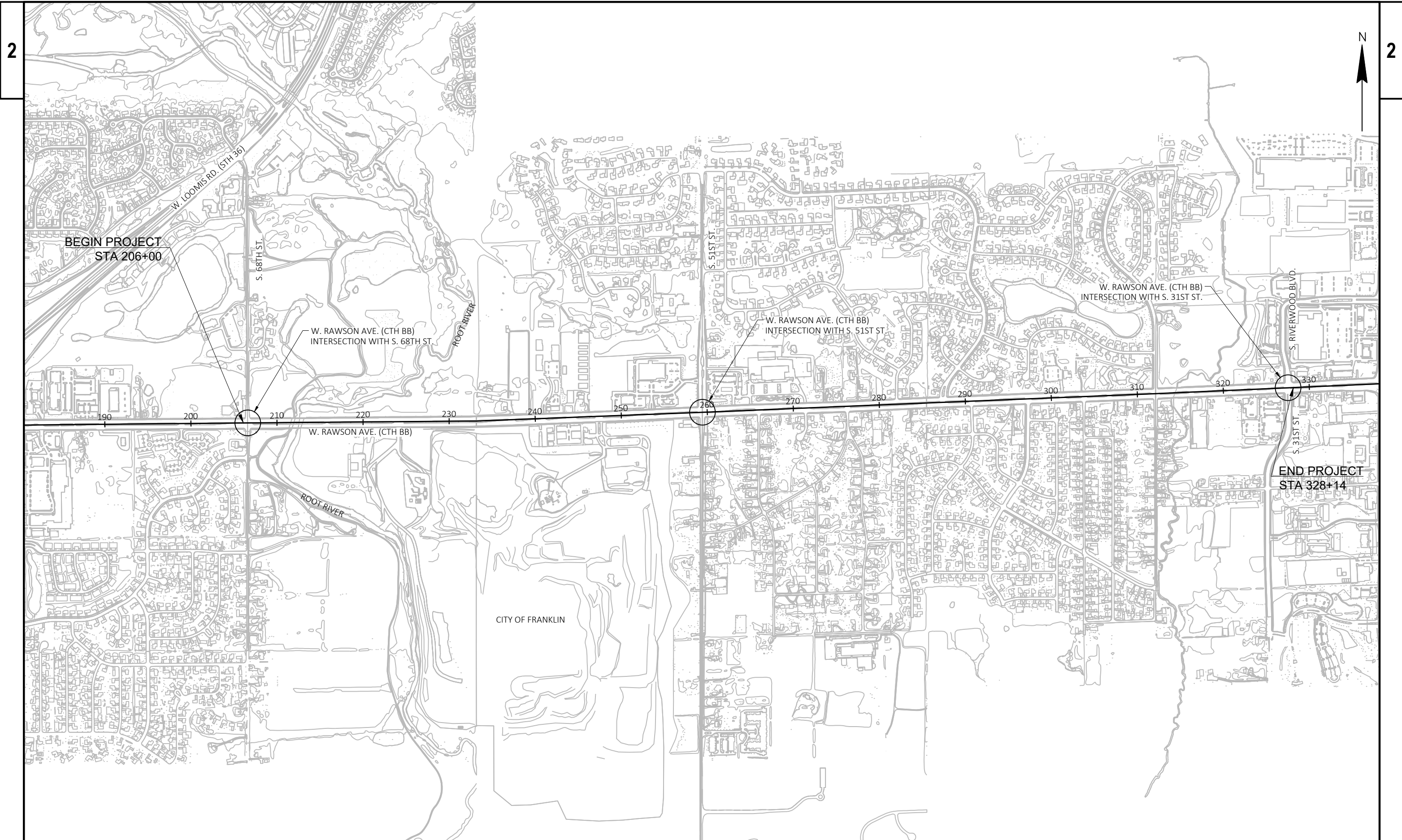
Ms. Andrea Weddle-Henning
Director of Transportation Engineering
10930 W. Lapham St
West Allis, WI 53214
Phone: (414) 257-5934
Andrea.Weddle-Henning@milwaukeecountywi.gov

Mr. Daniel Murphy
Traffic Engineer Manager
10930 W. Lapham St
West Allis, WI 53214
Phone: (414) 257-5942
Daniel.Murphy@milwaukeecountywi.gov

ORDER OF SECTION 2 SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- CONSTRUCTION DETAILS
- PLAN DETAILS
- EROSION CONTROL
- SIGNING AND PAVEMENT MARKING
- TRAFFIC SIGNALS
- TRAFFIC SIGNAL REMOVALS
- TEMPORARY TRAFFIC SIGNALS
- TRAFFIC CONTROL
- ALIGNMENT DIAGRAM



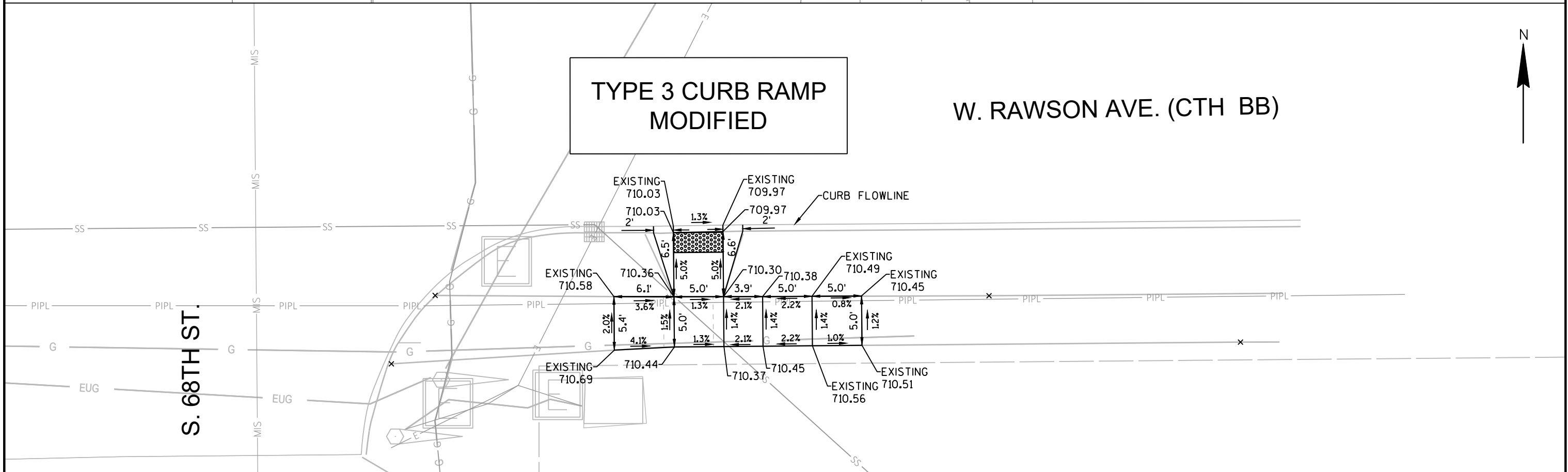
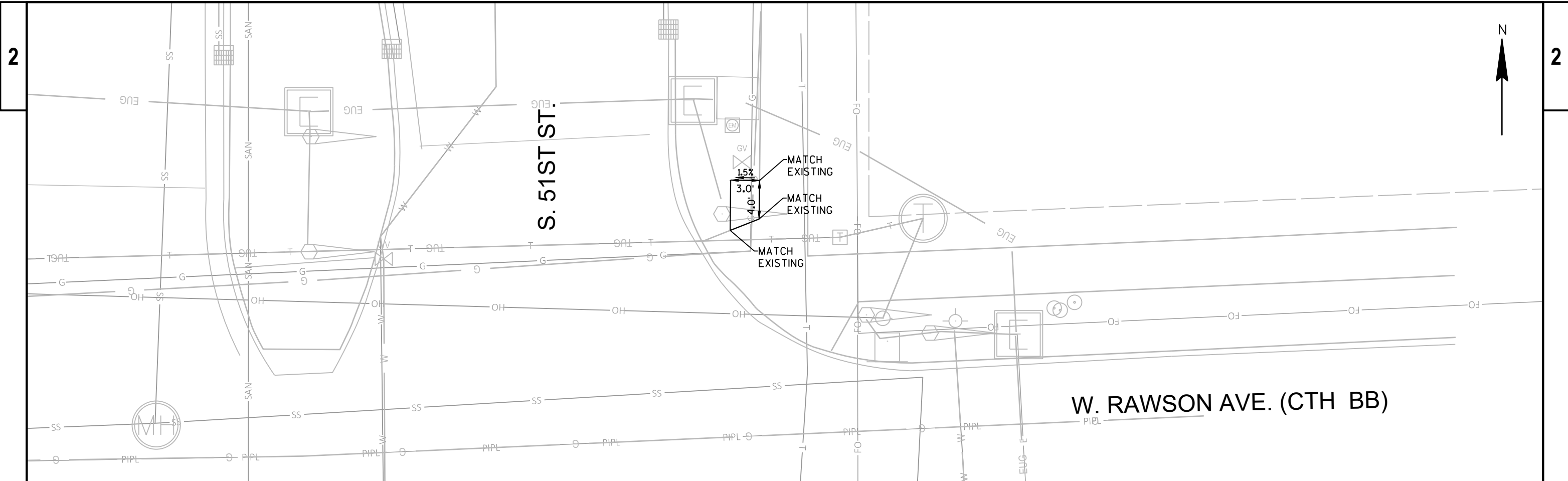


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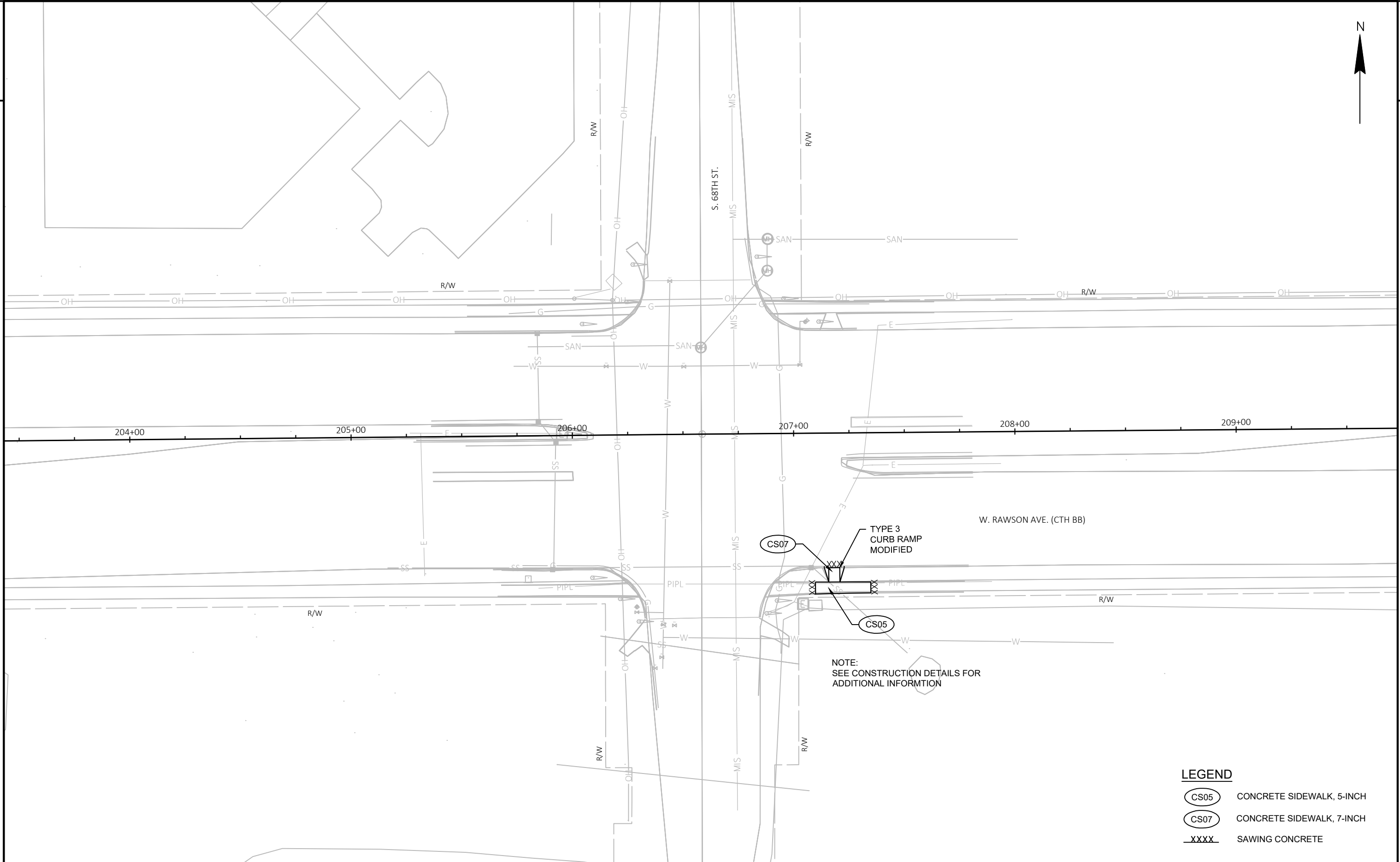
2



PROJECT NO: 2050-12-70	HWY: CTH BB	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET	E
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PROJECT NO: 2050-12-70	HWY: CTH BB	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET	E
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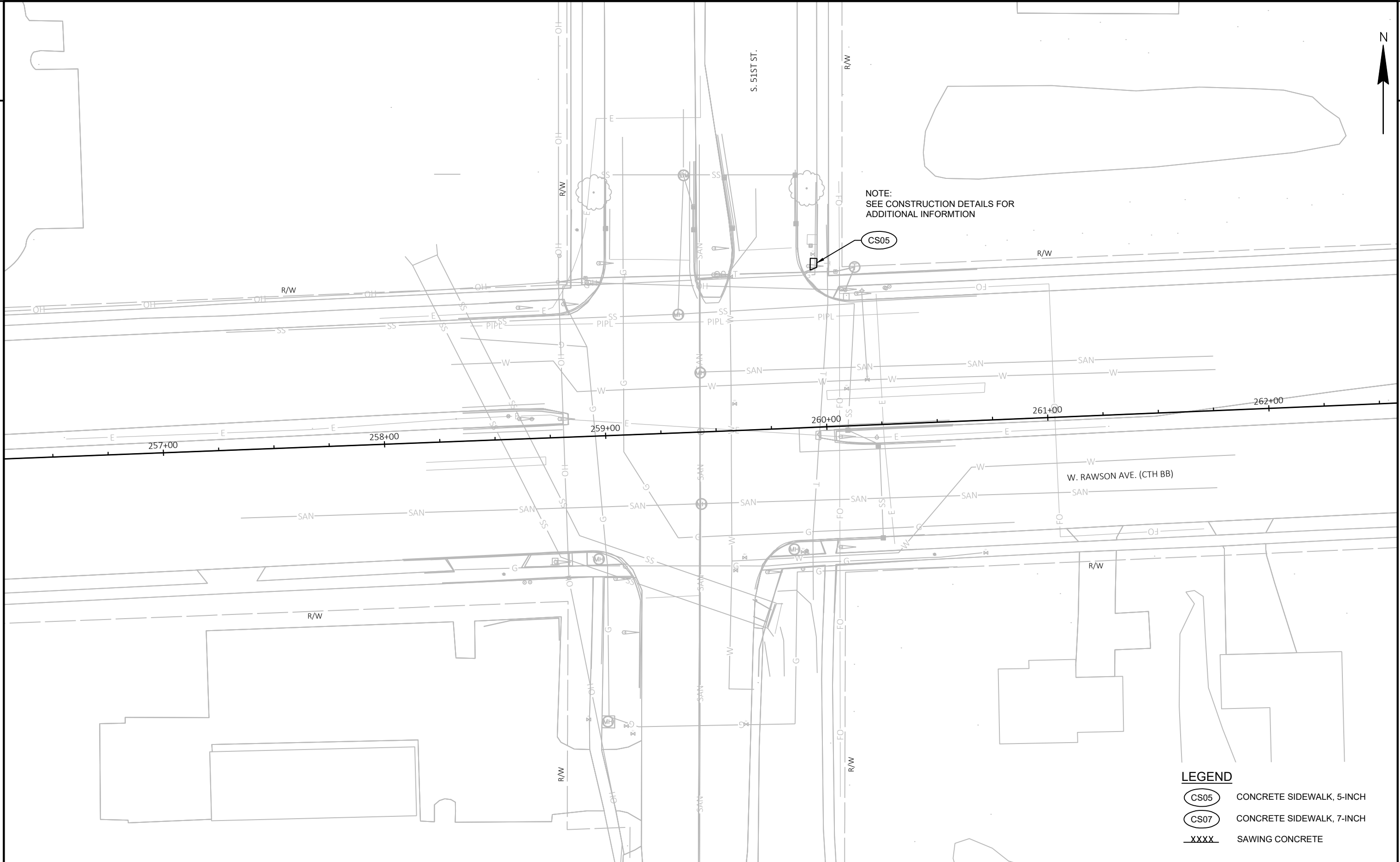


NOTE:
SEE CONSTRUCTION DETAILS FOR
ADDITIONAL INFORMATION

LEGEND

- CS05 CONCRETE SIDEWALK, 5-INCH
- CS07 CONCRETE SIDEWALK, 7-INCH
- XXXX SAWING CONCRETE




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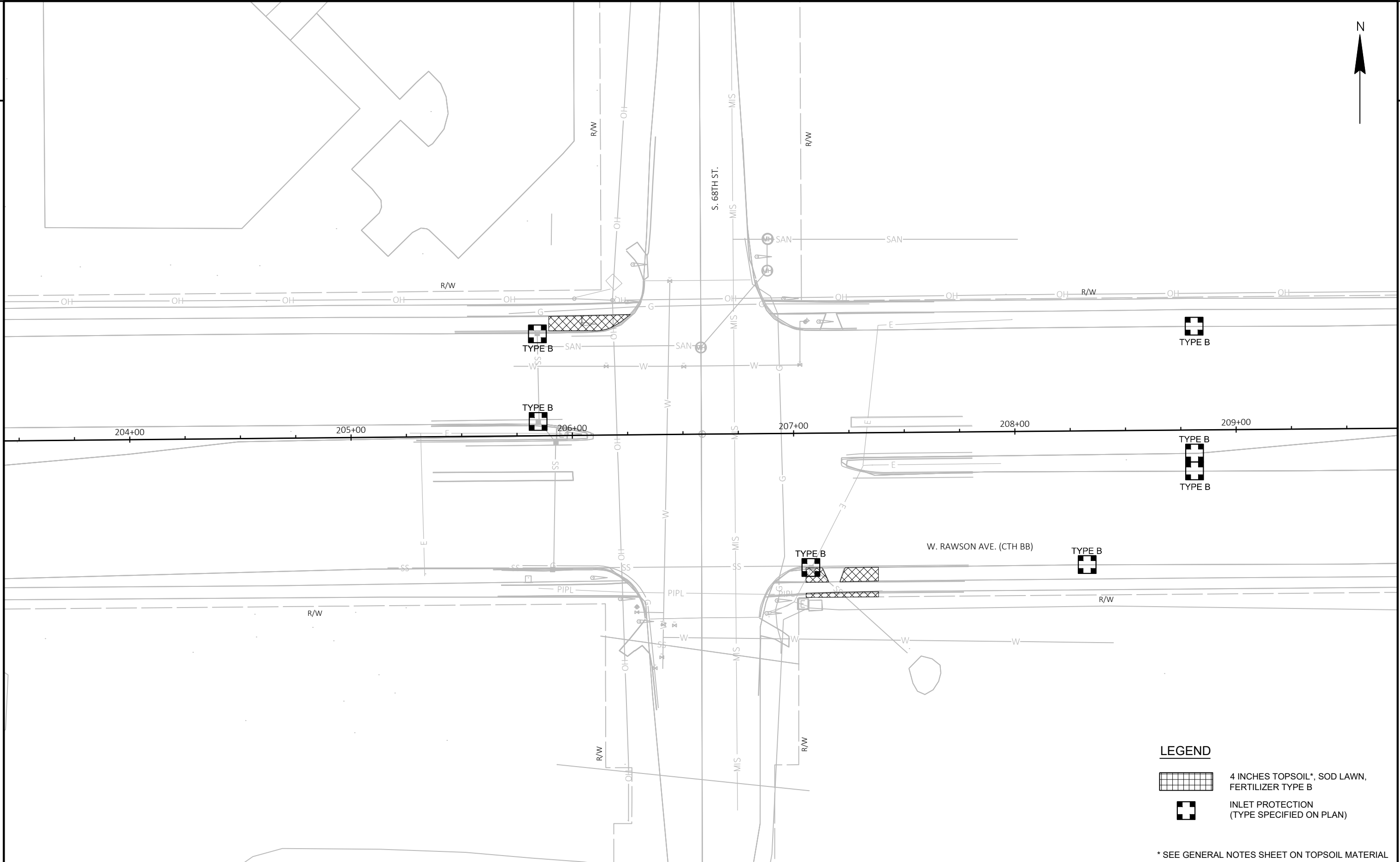
NOTE:
SEE CONSTRUCTION DETAILS FOR
ADDITIONAL INFORMATION

CS05

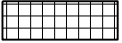

LEGEND

-  CONCRETE SIDEWALK, 5-INCH
-  CONCRETE SIDEWALK, 7-INCH
-  SAWING CONCRETE

PROJECT NO: 2050-12-70	HWY: CTH BB	COUNTY: MILWAUKEE	PLAN DETAILS	SHEET	E
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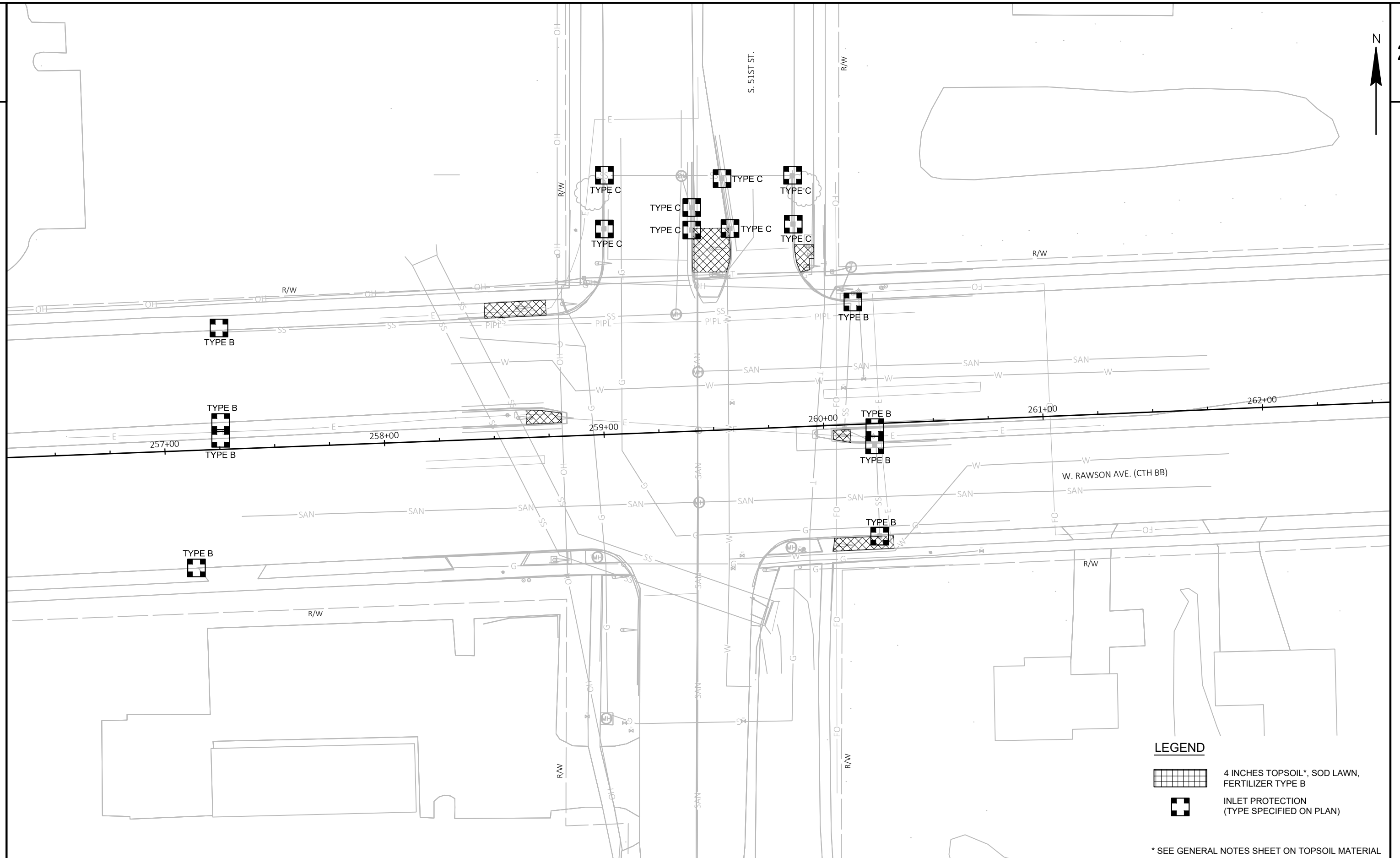


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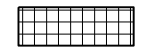
-  4 INCHES TOPSOIL*, SOD LAWN, FERTILIZER TYPE B
-  INLET PROTECTION (TYPE SPECIFIED ON PLAN)

* SEE GENERAL NOTES SHEET ON TOPSOIL MATERIAL

PROJECT NO: 2050-12-70	HWY: CTH BB	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET	E
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LEGEND



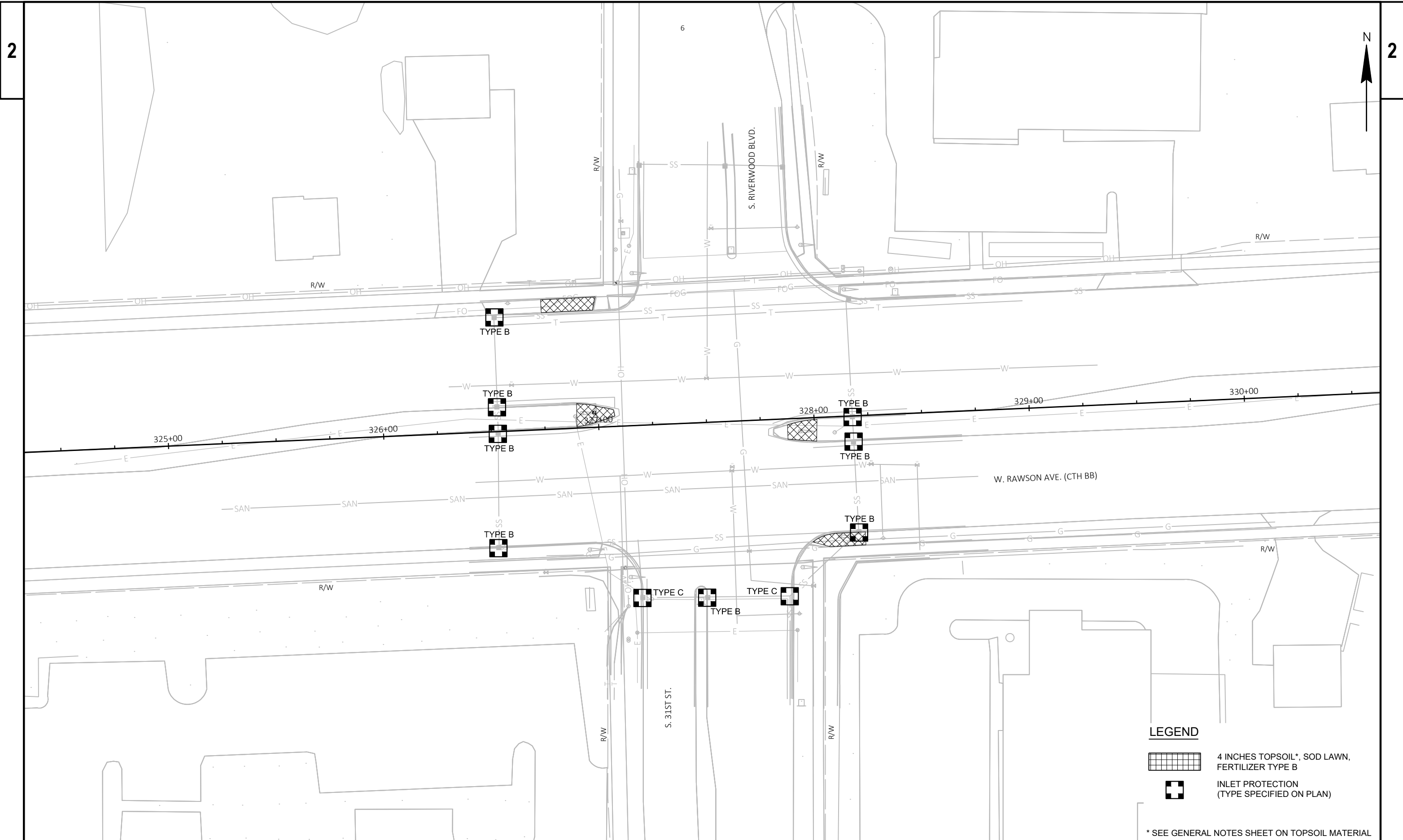
4 INCHES TOPSOIL*, SOD LAWN,
FERTILIZER TYPE B



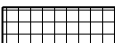
INLET PROTECTION
(TYPE SPECIFIED ON PLAN)


* SEE GENERAL NOTES SHEET ON TOPSOIL MATERIAL

PROJECT NO: 2050-12-70	HWY: CTH BB	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET	E
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LEGEND

 4 INCHES TOPSOIL*, SOD LAWN, FERTILIZER TYPE B

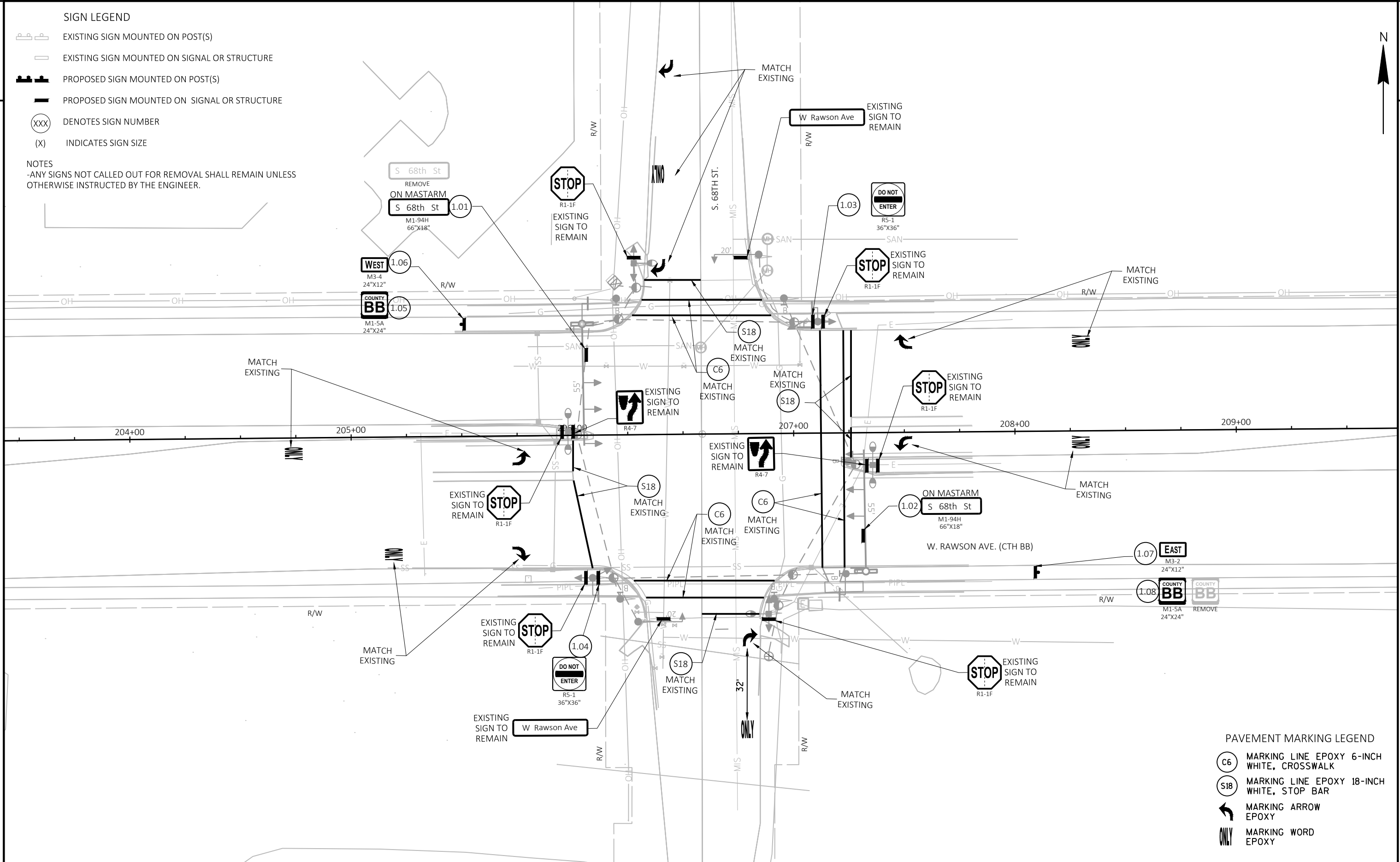
 INLET PROTECTION (TYPE SPECIFIED ON PLAN)

* SEE GENERAL NOTES SHEET ON TOPSOIL MATERIAL

SIGN LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON SIGNAL OR STRUCTURE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON SIGNAL OR STRUCTURE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE

NOTES
 -ANY SIGNS NOT CALLED OUT FOR REMOVAL SHALL REMAIN UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.



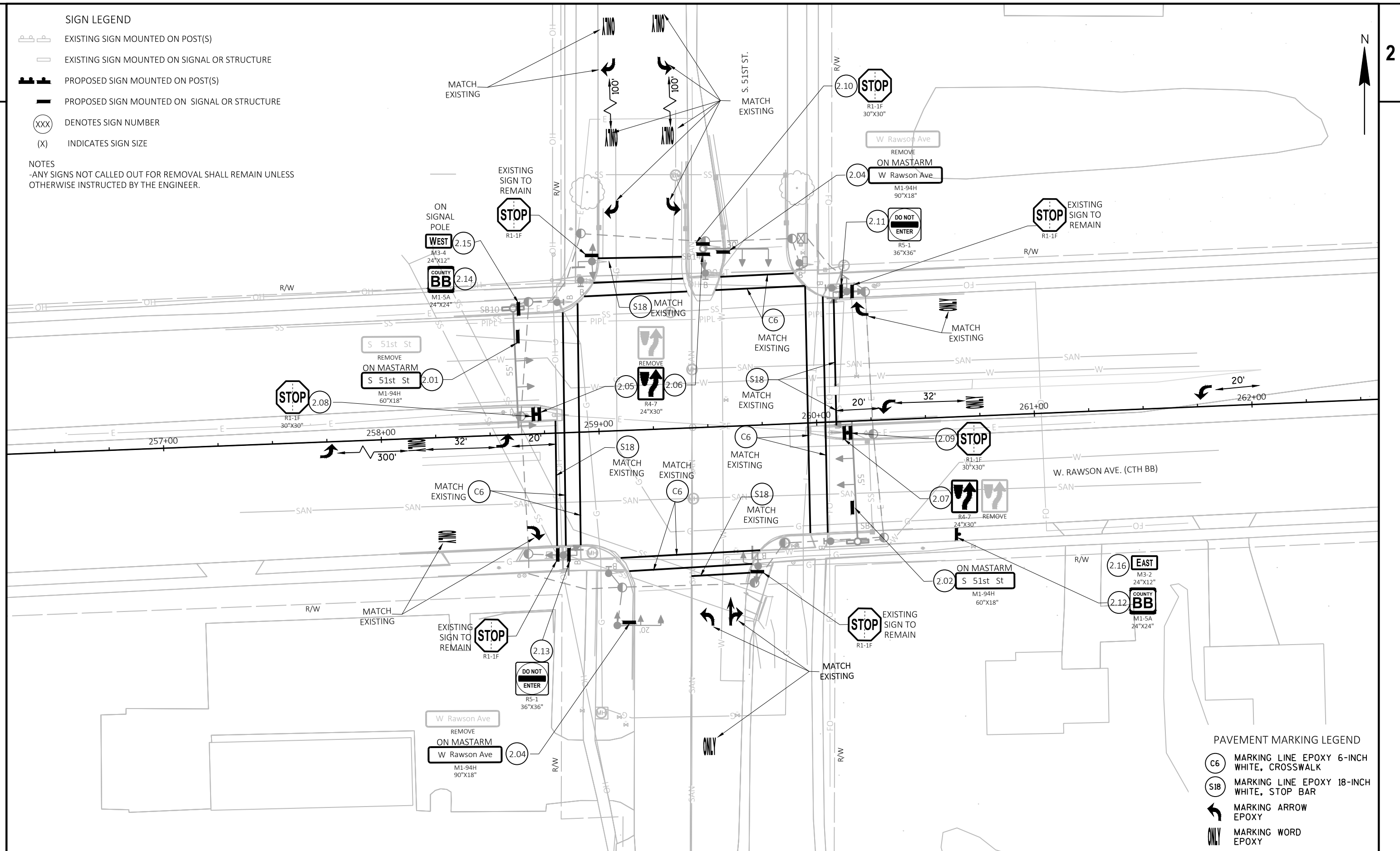
PAVEMENT MARKING LEGEND

- MARKING LINE EPOXY 6-INCH WHITE, CROSSWALK
- MARKING LINE EPOXY 18-INCH WHITE, STOP BAR
- MARKING ARROW EPOXY
- MARKING WORD EPOXY

SIGN LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON SIGNAL OR STRUCTURE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON SIGNAL OR STRUCTURE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE

NOTES
 -ANY SIGNS NOT CALLED OUT FOR REMOVAL SHALL REMAIN UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.



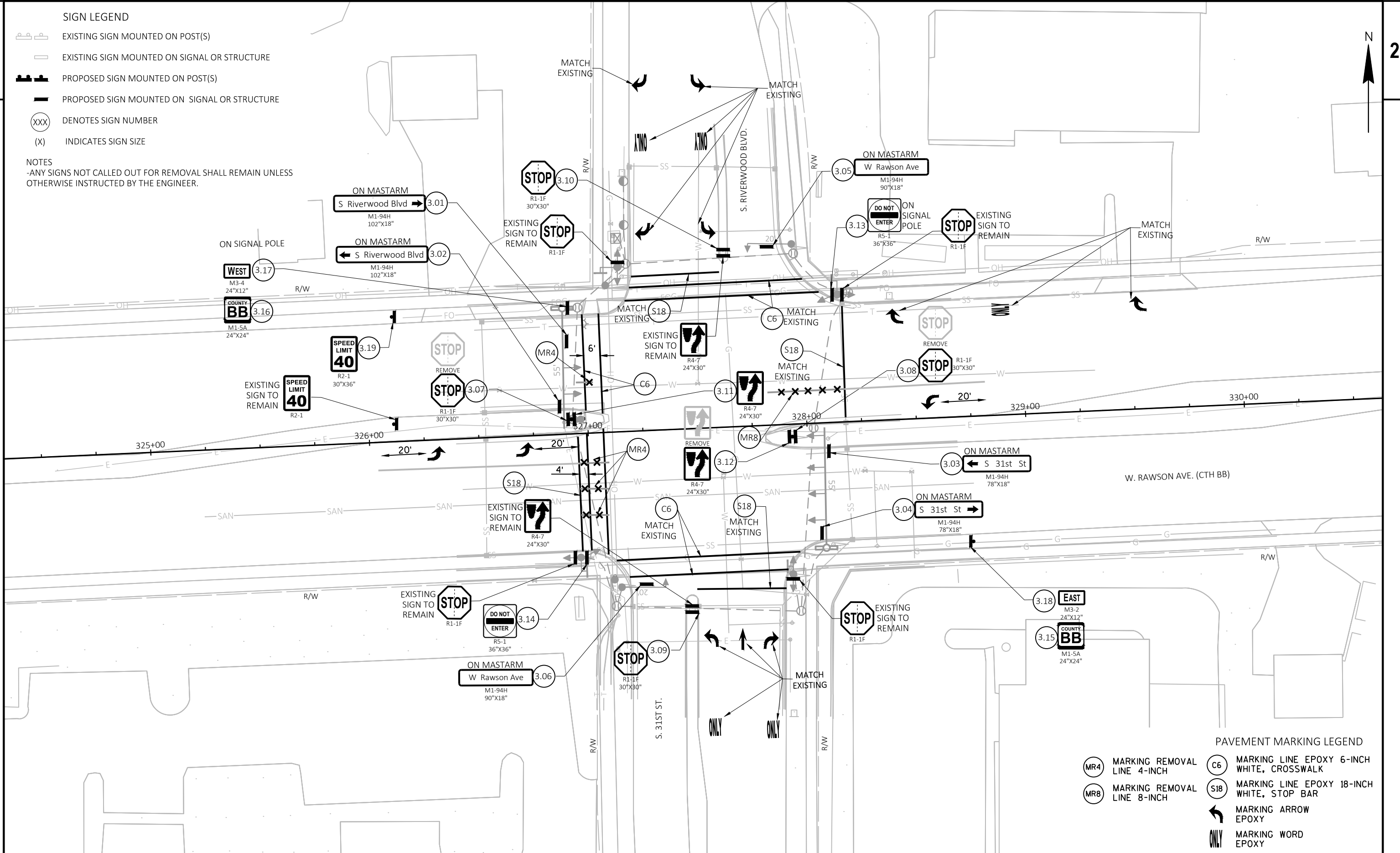
PAVEMENT MARKING LEGEND

- MARKING LINE EPOXY 6-INCH WHITE, CROSSWALK
- MARKING LINE EPOXY 18-INCH WHITE, STOP BAR
- MARKING ARROW EPOXY
- MARKING WORD EPOXY

SIGN LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON SIGNAL OR STRUCTURE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON SIGNAL OR STRUCTURE
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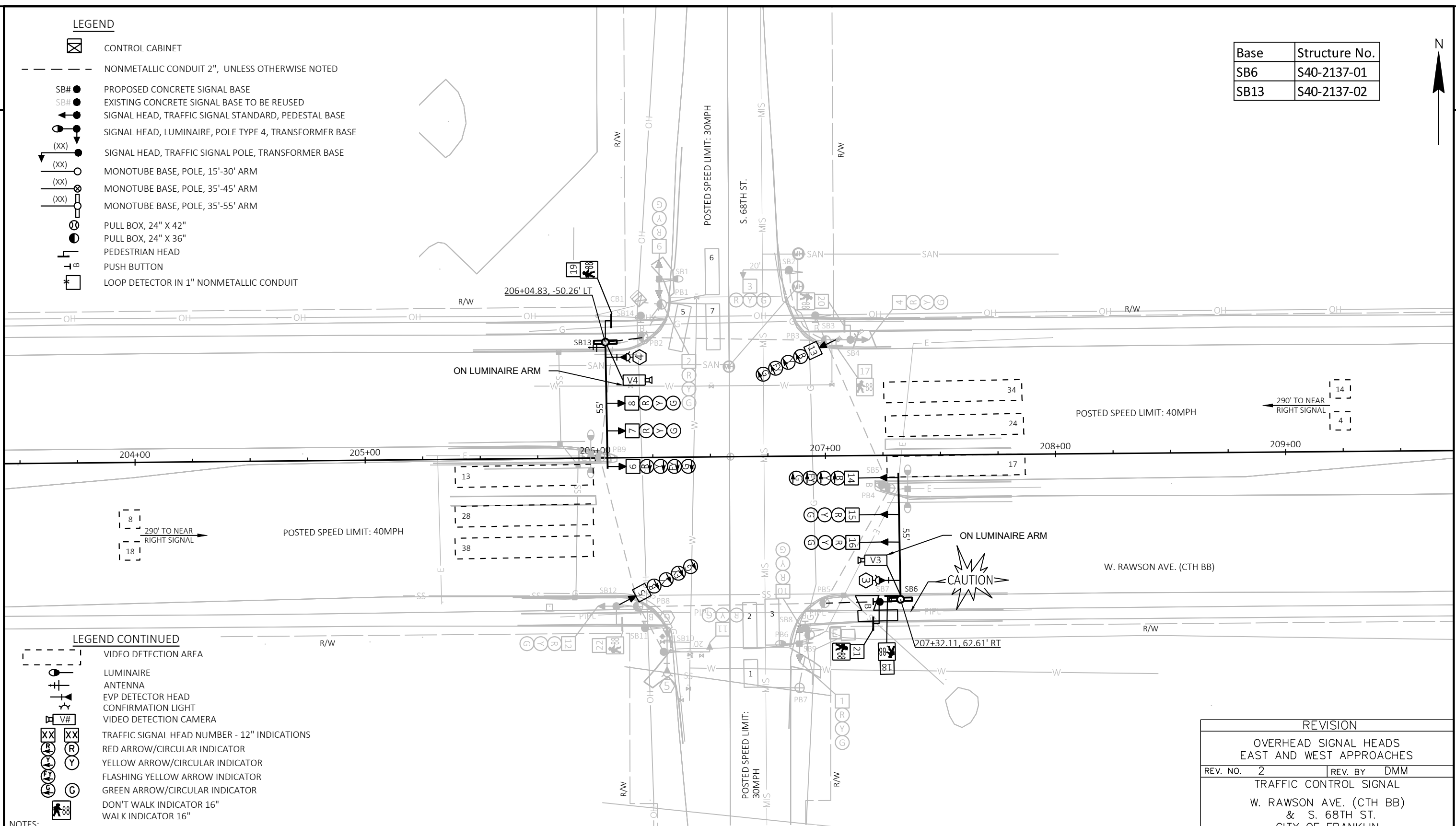
PAVEMENT MARKING LEGEND

- MARKING REMOVAL LINE 4-INCH
- MARKING REMOVAL LINE 8-INCH
- MARKING LINE EPOXY 6-INCH WHITE, CROSSWALK
- MARKING LINE EPOXY 18-INCH WHITE, STOP BAR
- MARKING ARROW EPOXY
- MARKING WORD EPOXY

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- PROPOSED CONCRETE SIGNAL BASE
- EXISTING CONCRETE SIGNAL BASE TO BE REUSED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- SIGNAL HEAD, LUMINAIRE, POLE TYPE 4, TRANSFORMER BASE
- SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- MONOTUBE BASE, POLE, 15'-30' ARM
- MONOTUBE BASE, POLE, 35'-45' ARM
- MONOTUBE BASE, POLE, 35'-55' ARM
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 36"
- PEDESTRIAN HEAD
- PUSH BUTTON
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

Base	Structure No.
SB6	S40-2137-01
SB13	S40-2137-02



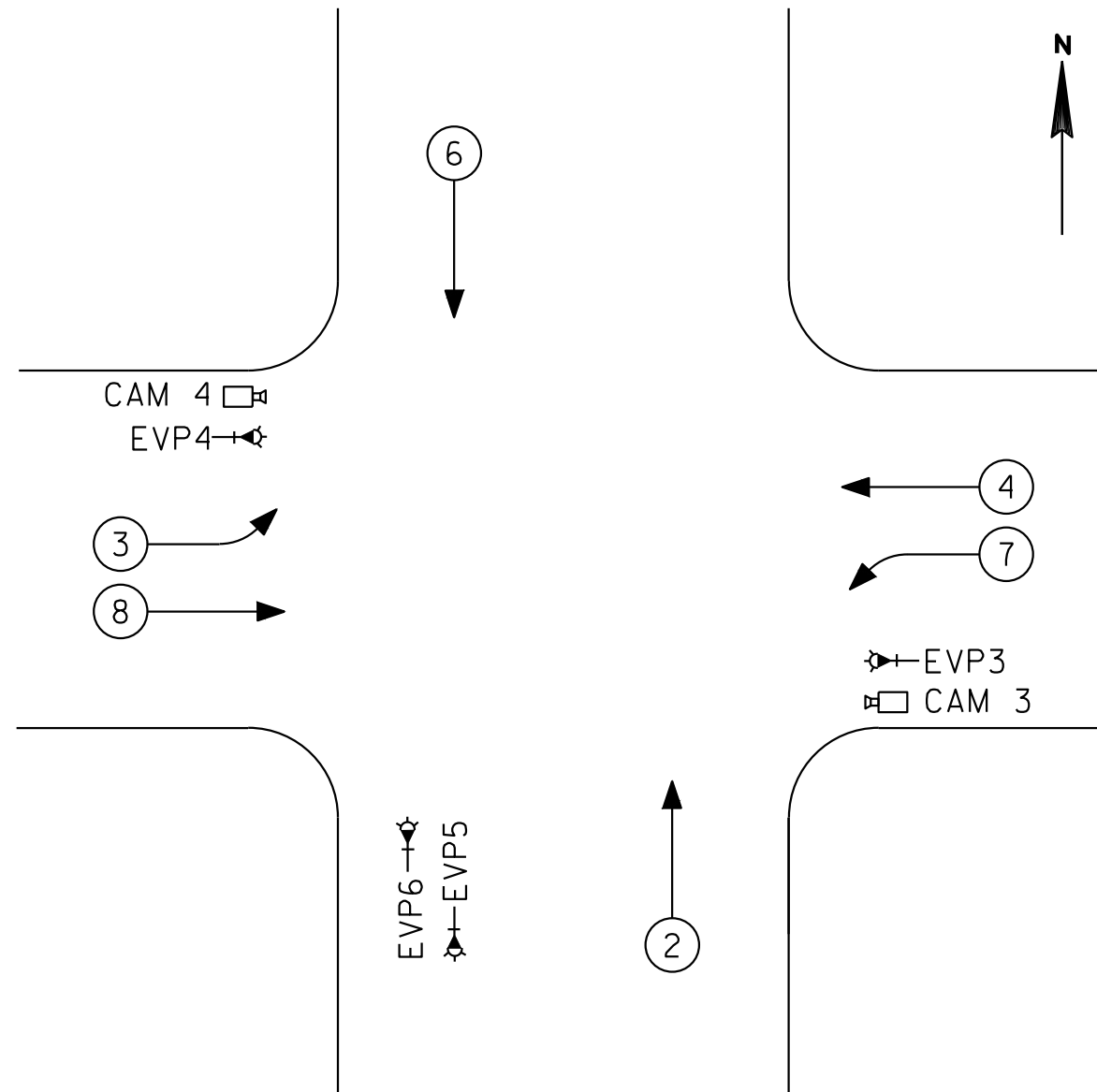
LEGEND CONTINUED

- VIDEO DETECTION AREA
- LUMINAIRE
- ANTENNA
- EVP DETECTOR HEAD
- CONFIRMATION LIGHT
- VIDEO DETECTION CAMERA
- TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
- RED ARROW/CIRCULAR INDICATOR
- YELLOW ARROW/CIRCULAR INDICATOR
- FLASHING YELLOW ARROW INDICATOR
- GREEN ARROW/CIRCULAR INDICATOR
- DON'T WALK INDICATOR 16"
- WALK INDICATOR 16"

NOTES:

- GRAYSHADE REPRESENTS EXISTING
- NOTIFY THE MCDOT TRAFFIC ENGINEER, DANIEL MURPHY AT 414-257-5942 FIVE WORKING DAYS PRIOR TO INSTALLING THE VIDEO DETECTION SYSTEM FOR FIELD CONFIGURATION
- SECURE NEARBY PULLBOXES WHEN PERFORMING EXCAVATION FOR SIGNAL BASES TO PREVENT UNDERMINING
- RELOCATE EXISTING ANTENNA TO PROPOSED MASTARM SB13
- RELOCATE EXISTING V3 AND V4 TO PROPOSED MASTARMS SB6 AND SB13 RESPECTIVELY
- HYDROEXCAVATE FOR SB6 AND SB13
- RELOCATE EXISTING EVP3 AND EVP4 TO PROPOSED SB6 AND SB13 RESPECTIVELY

REVISION	
OVERHEAD SIGNAL HEADS EAST AND WEST APPROACHES	
REV. NO. 2	REV. BY DMM
TRAFFIC CONTROL SIGNAL W. RAWSON AVE. (CTH BB) & S. 68TH ST. CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MC087	
MILWAUKEE COUNTY DOT	
PAGE 1 OF 3	



PHASE	VEHICLE	LEFT TURN TYPE	PED	OVERLAPS			PRE-EMPTION CONFIRMATION BEACONS	
				OVLP	INCLUDES	OUTPUT	PRE-EMPT	OUTPUT
1				A				
2	X		X	B			3/EB	RELAY
3	X	FYA		C			4/WB	RELAY
4	X		X	D			5/NB	RELAY
5				E			6/SB	RELAY
6	X			F	3 FY	10 Y		
7	X	FYA		G				
8	X		X	H	7 FY	12 Y		

COMMUNICATION	
ETHERNET SWITCH	X
SM FIBER	
MM FIBER	
5.8 GHZ RADIO	X
900 MHZ ETHERNET RADIO	
900 MHZ SERIAL RADIO	
ETHERNET OVER COPPER	

AUXILARY EQUIPMENT	
LIGHTING FROM CABINET	
BATTERY BACKUP	
PTZ CAMERA	
AUDIBLE PEDESTRIAN HEADS	
AUDIBLE PEDESTRIAN BUTTONS	
-APS USING SDLC	

PRE-EMPTION	
EMERGENCY VEHICLE	X
CONFIRMATION BEACONS	X
RAILROAD	

REVISION	
OVERHEAD SIGNAL HEADS EAST AND WEST APPROACHES	
REV. NO. 2	REV. BY DMM
TRAFFIC CONTROL SIGNAL	
W. RAWSON AVE. (CTH BB) & S. 68TH ST. CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MCO87	
MILWAUKEE COUNTY DOT	

PROJECT ID:	2050-12-70
INTERSECTION:	W. RAWSON AVE (CTH BB) & S. 68TH ST.

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

CB1 TO	# OF COND.	HEAD NO.	PHASE	SIGNAL INDICATION WIRE COLOR								PED BUTTONS			
				RED	YELLOW	GREEN	<RED>	<YELLOW>	<FL YLW>	<GREEN>	D/WALK	WALK			
SB1	*12	2	2	RED	ORG	GRN									
		9	6				RED/BLK	ORG/BLK			GRN/BLK				
SB2	*7	3	2	RED	ORG	GRN									
SB3	*7	B	4P										GRN	WHT/BLK	
SB4	*12	4	4	RED	ORG	GRN									
		17	2P									BLU	BLK		
		B	2P											WHT/BLK	BLK/WHT
		20	4P									BLU/BLK	GRN/BLK		
SB4	7	13	3				RED	ORG	BLU	GRN					
SB5	*7	B	2P										GRN	WHT/BLK	
SB6	15	15 / 16	8	RED	ORG	GRN									
		14	3				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK					
SB7	*12	18	2P										BLU	BLK	
		B	2P											WHT/BLK	BLK/WHT
		21	8P									BLU/BLK	GRN/BLK		
SB8	*7	B	8P										GRN	WHT/BLK	
SB9	*12	1	2	RED	ORG	GRN									
		10	6				RED/BLK	ORG/BLK			GRN/BLK				
SB10	*7	11	6	RED	ORG	GRN									
SB11	*7	B	8P										GRN	WHT/BLK	
SB12	*7	12	8	RED	ORG	GRN									
		22	8P									BLU	BLK		
SB12	7	5	7				RED	ORG	BLU	GRN					
SB13	12	7 / 8	4	RED	ORG	GRN									
		6	7				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK					
SB14	*7	19	4P										BLU	BLK	
		B	4P											GRN	WHT/BLK

NOTES:

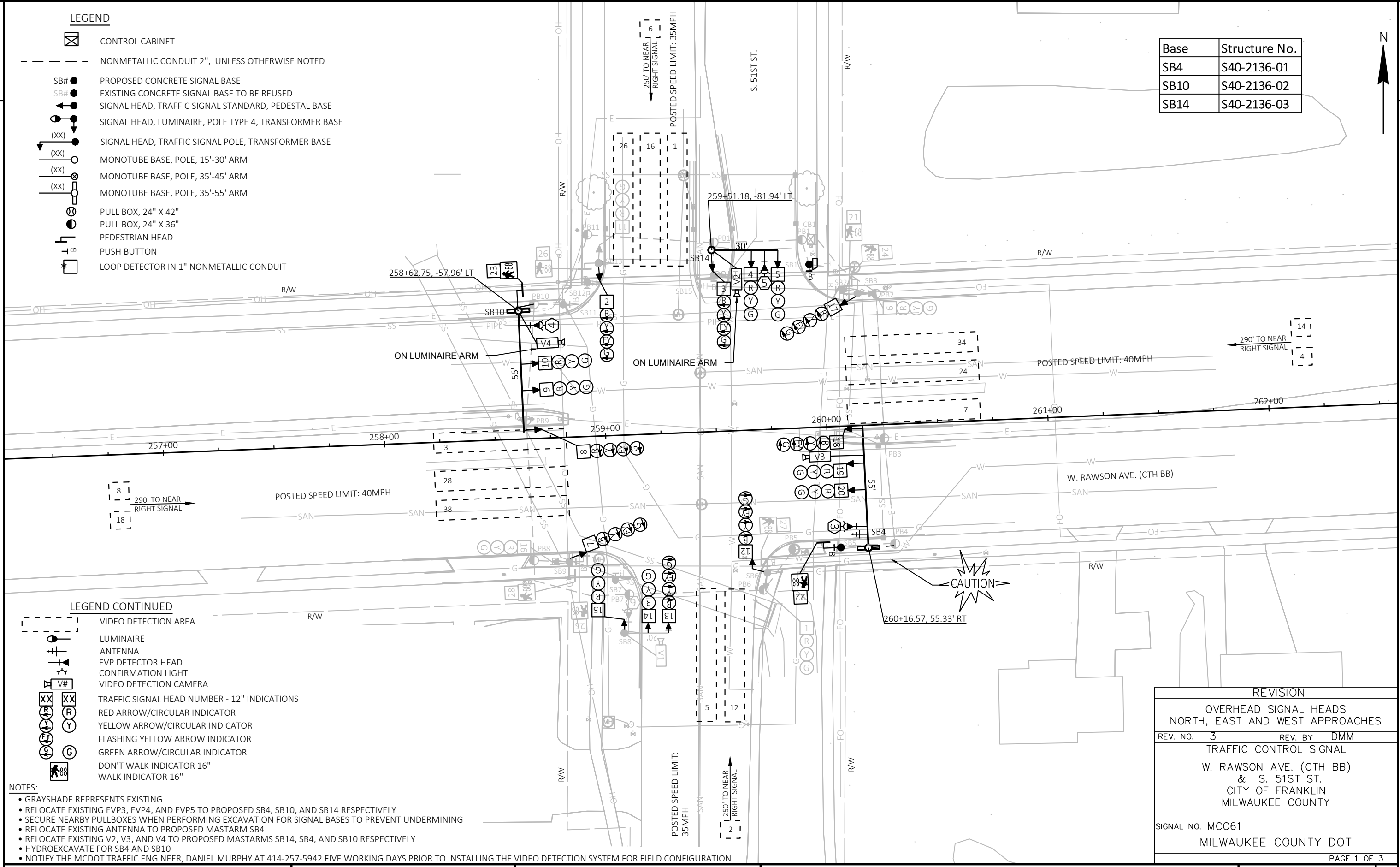
- DO NOT USE THE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR SIGNAL INDICATIONS.
 - ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
- * EXISTING SIGNAL WIRING TO REMAIN.

REVISION	
OVERHEAD SIGNAL HEADS EAST AND WEST APPROACHES	
REV. NO. 2	REV. BY DMM
TRAFFIC CONTROL SIGNAL W. RAWSON AVE. (CTH BB) & S. 68TH ST. CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MC087	
MILWAUKEE COUNTY DOT	
PAGE 3 OF 3	

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- PROPOSED CONCRETE SIGNAL BASE
- EXISTING CONCRETE SIGNAL BASE TO BE REUSED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- SIGNAL HEAD, LUMINAIRE, POLE TYPE 4, TRANSFORMER BASE
- SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- MONOTUBE BASE, POLE, 15'-30' ARM
- MONOTUBE BASE, POLE, 35'-45' ARM
- MONOTUBE BASE, POLE, 35'-55' ARM
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 36"
- PEDESTRIAN HEAD
- PUSH BUTTON
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

Base	Structure No.
SB4	S40-2136-01
SB10	S40-2136-02
SB14	S40-2136-03



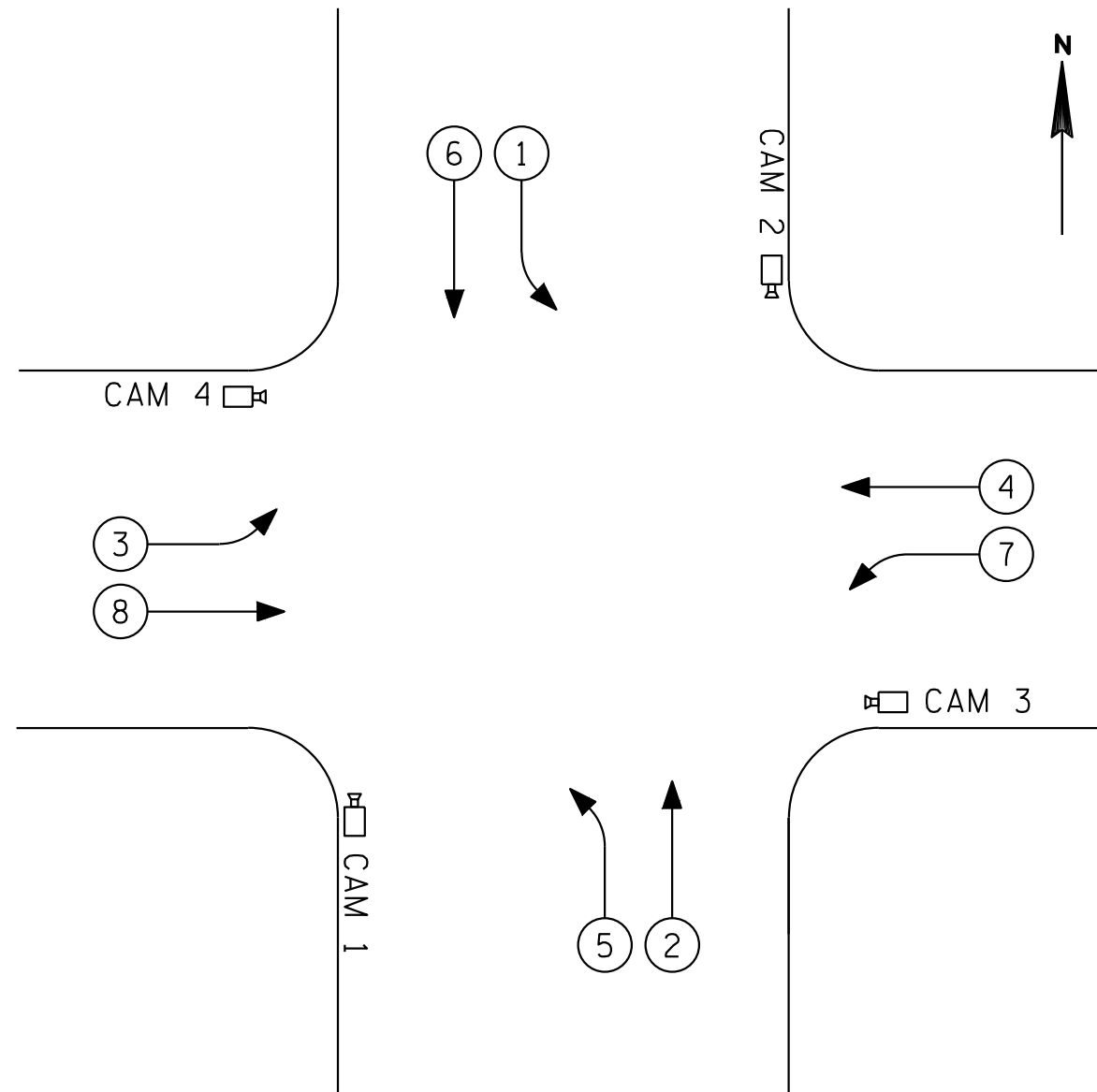
LEGEND CONTINUED

- VIDEO DETECTION AREA
- LUMINAIRE
- ANTENNA
- EVP DETECTOR HEAD
- CONFIRMATION LIGHT
- VIDEO DETECTION CAMERA
- TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
- RED ARROW/CIRCULAR INDICATOR
- YELLOW ARROW/CIRCULAR INDICATOR
- FLASHING YELLOW ARROW INDICATOR
- GREEN ARROW/CIRCULAR INDICATOR
- DON'T WALK INDICATOR 16"
- WALK INDICATOR 16"

NOTES:

- GRAYSHADE REPRESENTS EXISTING
- RELOCATE EXISTING EVP3, EVP4, AND EVP5 TO PROPOSED SB4, SB10, AND SB14 RESPECTIVELY
- SECURE NEARBY PULLBOXES WHEN PERFORMING EXCAVATION FOR SIGNAL BASES TO PREVENT UNDERMINING
- RELOCATE EXISTING ANTENNA TO PROPOSED MASTARM SB4
- RELOCATE EXISTING V2, V3, AND V4 TO PROPOSED MASTARMS SB14, SB4, AND SB10 RESPECTIVELY
- HYDROEXCAVATE FOR SB4 AND SB10
- NOTIFY THE MCDOT TRAFFIC ENGINEER, DANIEL MURPHY AT 414-257-5942 FIVE WORKING DAYS PRIOR TO INSTALLING THE VIDEO DETECTION SYSTEM FOR FIELD CONFIGURATION

REVISION	
OVERHEAD SIGNAL HEADS NORTH, EAST AND WEST APPROACHES	
REV. NO. 3	REV. BY DMM
TRAFFIC CONTROL SIGNAL W. RAWSON AVE. (CTH BB) & S. 51ST ST. CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MCO61	
MILWAUKEE COUNTY DOT	
PAGE 1 OF 3	



PHASE	VEHICLE	LEFT TURN TYPE	PED	OVERLAPS			PRE-EMPTION CONFIRMATION BEACONS	
				OVLP	INCLUDES	OUTPUT	PRE-EMPT	OUTPUT
1	X	FYA		A				
2	X		X	B			3/EB	RELAY
3	X	FYA		C			4/WB	RELAY
4	X		X	D			5/NB	RELAY
5	X	FYA		E	1 FY	9 Y	6/SB	RELAY
6	X		X	F	3 FY	10 Y		
7	X	FYA		G	5 FY	11 Y		
8	X		X	H	7 FY	12 Y		

COMMUNICATION	
ETHERNET SWITCH	X
SM FIBER	
MM FIBER	
5.8 GHZ RADIO	X
900 MHZ ETHERNET RADIO	
900 MHZ SERIAL RADIO	
ETHERNET OVER COPPER	

AUXILARY EQUIPMENT	
LIGHTING FROM CABINET	
BATTERY BACKUP	
PTZ CAMERA	
AUDIBLE PEDESTRIAN HEADS	
AUDIBLE PEDESTRIAN BUTTONS	
-APS USING SDLC	

PRE-EMPTION	
EMERGENCY VEHICLE	X
CONFIRMATION BEACONS	X
RAILROAD	

REVISION	
OVERHEAD SIGNAL HEADS NORTH, EAST AND WEST APPROACHES	
REV. NO. 3	REV. BY DMM
TRAFFIC CONTROL SIGNAL	
W. RAWSON AVE. (CTH BB) & S. 51ST ST. CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MCO61	
MILWAUKEE COUNTY DOT	

PROJECT ID:	2050-12-70
INTERSECTION:	W. RAWSON AVE. (CTH BB) & S. 51ST ST.

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


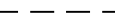













CB1 TO	# OF COND.	HEAD NO.	PHASE	SIGNAL INDICATION WIRE COLOR								PED BUTTONS			
				RED	YELLOW	GREEN	<RED>	<YELLOW>	<FL YLW>	<GREEN>	D/WALK	WALK			
SB1	*7	B	4P											GRN	WHT/BLK
SB2	*7	B	2P											GRN	WHT/BLK
SB3	*12	6	4	RED	ORG	GRN									
		21	2P									BLU	BLK		
		24	4P									BLU/BLK	GRN/BLK		
SB3	7	17	3				RED	ORG	BLU	GRN					
SB4	12	19 / 20	8	RED	ORG	GRN									
		18	3				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK					
SB5	*12	22	2P									BLU	BLK		
		B	2P											WHT/BLK	BLK/WHT
SB6	*12	1	2	RED	ORG	GRN									
		12	1				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK					
		27	8P									BLU	BLK		
		B	8P											WHT/BLK	BLK/WHT
SB7	*7	B	8P											GRN	WHT/BLK
SB8	12	14 / 15	6	RED	ORG	GRN									
		13	1				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK					
SB9	*12	16	8	RED	ORG	GRN									
		25	6P									BLU	BLK		
		B	6P											WHT/BLK	BLK/WHT
		28	8P									BLU/BLK	GRN/BLK		
SB9	7	7	7				RED	ORG	BLU	GRN					
SB10	12	9 / 10	4	RED	ORG	GRN									
		8	7				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK					
		23	4P									BLU	BLK		
SB11	*7	B	6P											GRN	WHT/BLK
SB12	*7	B	4P											GRN	WHT/BLK
SB13	*12	11	6	RED	ORG	GRN									
		2	5				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK					
		26	6P									BLU	BLK		
SB14	12	4 / 5	2	RED	ORG	GRN									
		3	5				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK					
SB15	*7	B	4P											GRN	WHT/BLK

NOTES:

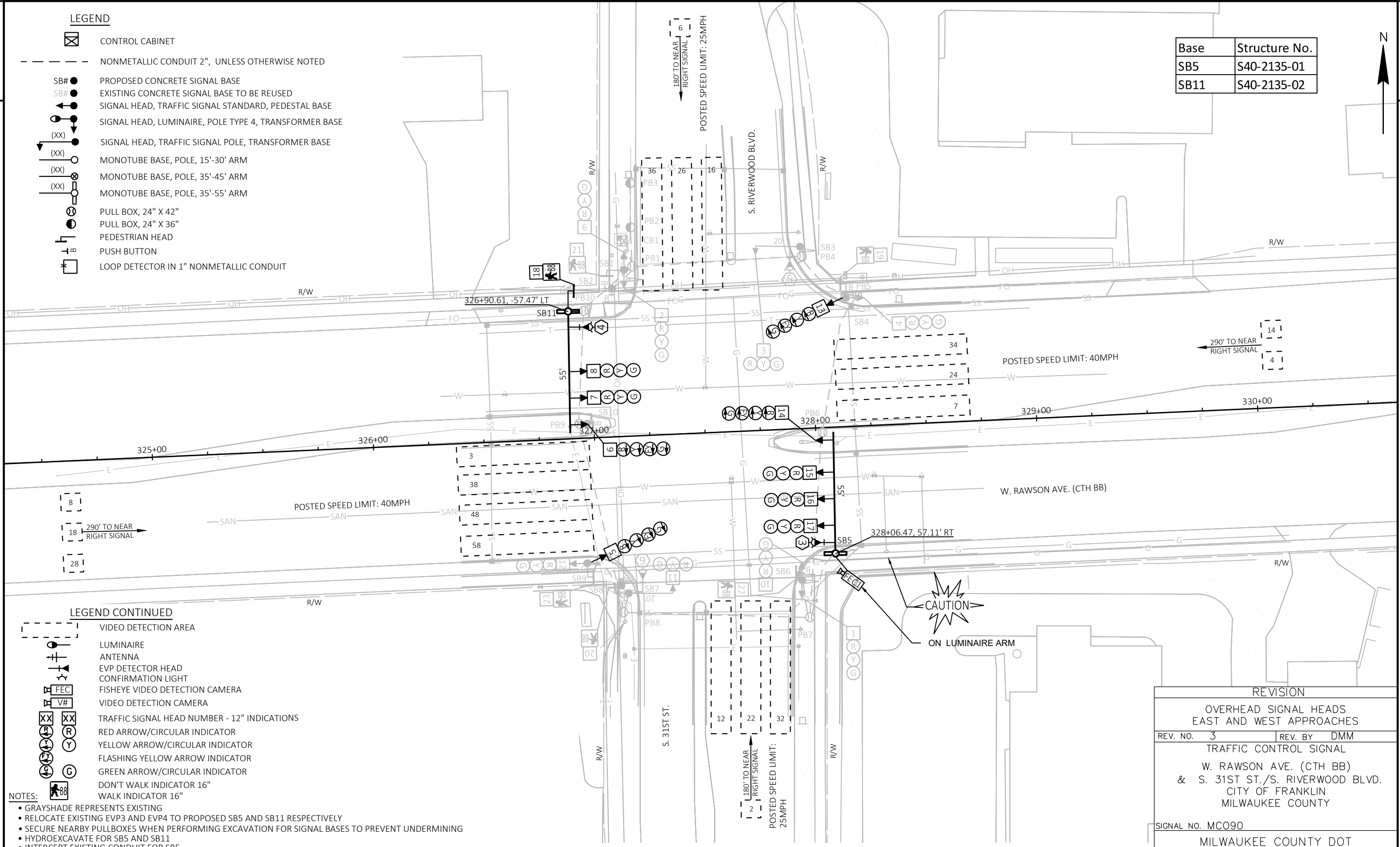
- DO NOT USE THE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR SIGNAL INDICATIONS.
 - ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
- * EXISTING SIGNAL WIRING TO REMAIN.

REVISION	
OVERHEAD SIGNAL HEADS NORTH, EAST AND WEST APPROACHES	
REV. NO. 3	REV. BY DMM
TRAFFIC CONTROL SIGNAL W. RAWSON AVE. (CTH BB) & S. 51ST ST. CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MCO61	
MILWAUKEE COUNTY DOT	
PAGE 3 OF 3	

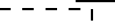




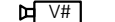








LEGEND

-  CONTROL CABINET
-  NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
-  SB# PROPOSED CONCRETE SIGNAL BASE
-  SB# EXISTING CONCRETE SIGNAL BASE TO BE REUSED
-  SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
-  SIGNAL HEAD, LUMINAIRE, POLE TYPE 4, TRANSFORMER BASE
-  (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
-  (XX) MONOTUBE BASE, POLE, 15'-30' ARM
-  (XX) MONOTUBE BASE, POLE, 35'-45' ARM
-  (XX) MONOTUBE BASE, POLE, 35'-55' ARM
-  PULL BOX, 24" X 42"
-  PULL BOX, 24" X 36"
-  PEDESTRIAN HEAD
-  PUSH BUTTON
-  LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

Base	Structure No.
SB5	S40-2135-01
SB11	S40-2135-02



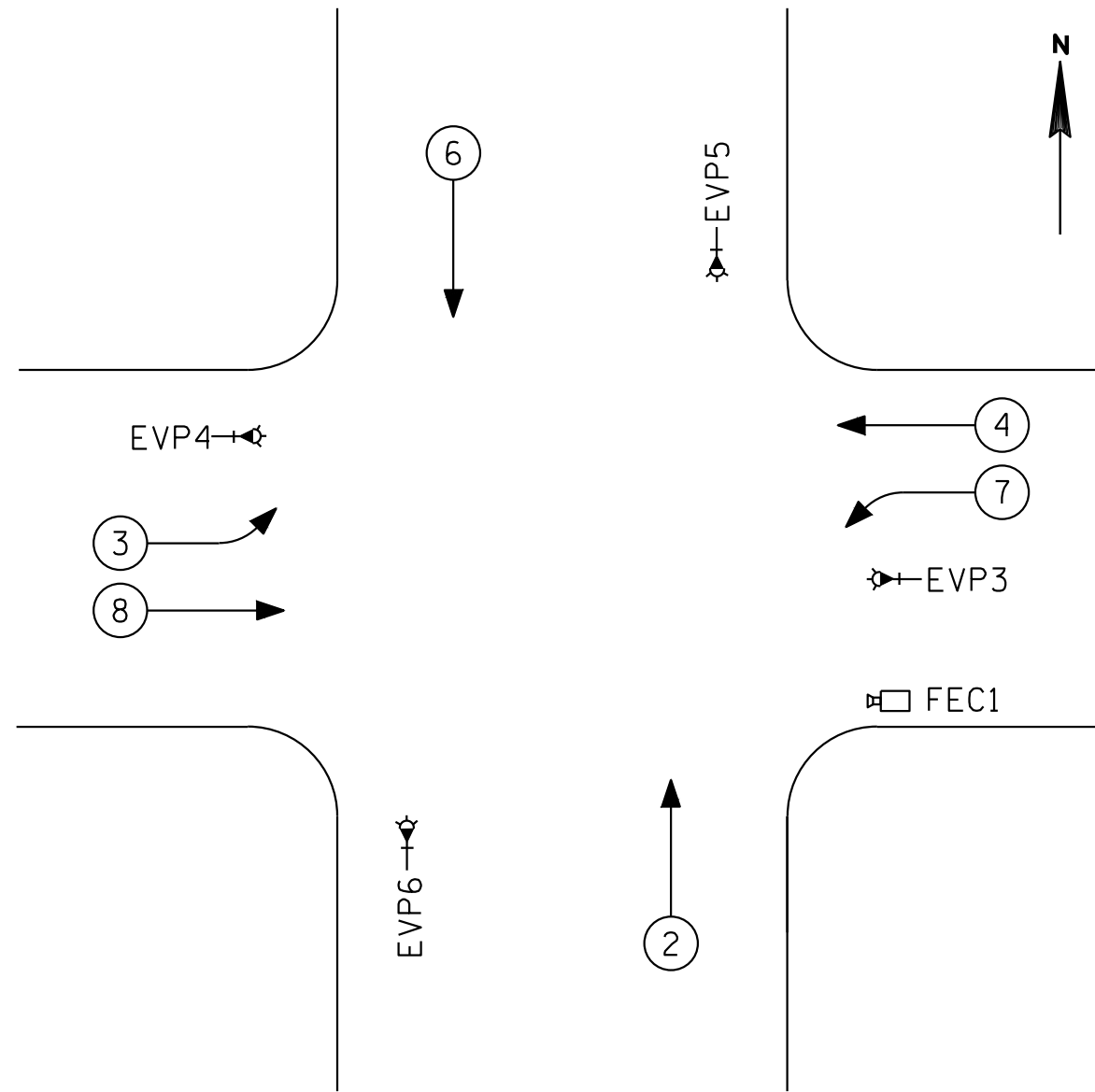
LEGEND CONTINUED

-  VIDEO DETECTION AREA
-  LUMINAIRE
-  ANTENNA
-  EVP DETECTOR HEAD
-  CONFIRMATION LIGHT
-  FEC FISHEYE VIDEO DETECTION CAMERA
-  V# VIDEO DETECTION CAMERA
-  TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
-  RED ARROW/CIRCULAR INDICATOR
-  YELLOW ARROW/CIRCULAR INDICATOR
-  FLASHING YELLOW ARROW INDICATOR
-  GREEN ARROW/CIRCULAR INDICATOR
-  DON'T WALK INDICATOR 16"
-  WALK INDICATOR 16"

NOTES:

- GRAYSHADE REPRESENTS EXISTING
- RELOCATE EXISTING EVP3 AND EVP4 TO PROPOSED SB5 AND SB11 RESPECTIVELY
- SECURE NEARBY PULLBOXES WHEN PERFORMING EXCAVATION FOR SIGNAL BASES TO PREVENT UNDERMINING
- HYDROEXCAVATE FOR SB5 AND SB11
- INTERCEPT EXISTING CONDUIT FOR SB5
- NOTIFY THE MCDOT TRAFFIC ENGINEER, DANIEL MURPHY AT 414-257-5942 FIVE WORKING DAYS PRIOR TO INSTALLING THE VIDEO DETECTION SYSTEM FOR FIELD CONFIGURATION

REVISION	
OVERHEAD SIGNAL HEADS EAST AND WEST APPROACHES	
REV. NO. 3	REV. BY DMM
TRAFFIC CONTROL SIGNAL W. RAWSON AVE. (CTH BB) & S. 31ST ST./S. RIVERWOOD BLVD. CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MCO90	
MILWAUKEE COUNTY DOT	
PAGE 1 OF 3	



PHASE	VEHICLE	LEFT TURN TYPE	PED	OVERLAPS			PRE-EMPTION CONFIRMATION BEACONS	
				OVL	INCLUDES	OUTPUT	PRE-EMPT	OUTPUT
1				A				
2	X			B			3/EB	RELAY
3	X	FYA		C			4/WB	RELAY
4	X		X	D			5/NB	RELAY
5				E			6/SB	RELAY
6	X		X	F	3 FY	10 Y		
7	X	FYA		G				
8	X		X	H	7 FY	12 Y		

COMMUNICATION	
ETHERNET SWITCH	X
SM FIBER	X
MM FIBER	
5.8 GHZ RADIO	
900 MHZ ETHERNET RADIO	
900 MHZ SERIAL RADIO	
ETHERNET OVER COPPER	

AUXILARY EQUIPMENT	
LIGHTING FROM CABINET	
BATTERY BACKUP	
PTZ CAMERA	
AUDIBLE PEDESTRIAN HEADS	
AUDIBLE PEDESTRIAN BUTTONS	
-APS USING SDLC	

PRE-EMPTION	
EMERGENCY VEHICLE	X
CONFIRMATION BEACONS	X
RAILROAD	

REVISION	
OVERHEAD SIGNAL HEADS EAST AND WEST APPROACHES	
REV. NO. 3	REV. BY DMM
TRAFFIC CONTROL SIGNAL	
W. RAWSON AVE. (CTH BB) & S. 31ST ST./S. RIVERWOOD BLVD. CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MCO90	
MILWAUKEE COUNTY DOT	

PROJECT ID:	2050-12-70
INTERSECTION:	W. RAWSON AVE (CTH BB) & S. 31ST ST.

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

CB1 TO	# OF COND.	HEAD NO.	PHASE	SIGNAL INDICATION WIRE COLOR								PED BUTTONS		
				RED	YELLOW	GREEN	<RED>	<YELLOW>	<FL YLW>	<GREEN>	D/WALK	WALK		
SB1	*12	9	6	RED	ORG	GRN								
		2	2				RED/BLK	ORG/BLK		GRN/BLK				
		21	6P								BLU	BLK		
SB2	*7	B	6P										GRN	WHT/BLK
		B	4P										RED	WHT/BLK
SB3	*7	3	2	RED	ORG	GRN								
SB4	*12	4	4	RED	ORG	GRN								
		19	4P								BLU	BLK		
		B	4P										WHT/BLK	BLK/WHT
SB4	7	13	3				RED	ORG	BLU	GRN				
SB5	12	15 / 16 / 17	8	RED	ORG	GRN								
		14	3				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK				
SB6	*12	1	2	RED	ORG	GRN								
		10	6				RED/BLK	ORG/BLK		GRN/BLK				
		22	8P								BLU	BLK		
SB7	*7	B	8P										WHT/BLK	BLK/WHT
		11	6	RED	ORG	GRN								
SB8	*7	20	6P									BLU	BLK	
		B	6P										GRN	WHT/BLK
SB9	*7	B	8P										RED	WHT/BLK
		12	8	RED	ORG	GRN								
SB9	7	23	8P									BLU	BLK	
		5	7				RED	ORG	BLU	GRN				
SB10	*7	B	6P										GRN	WHT/BLK
SB11	12	7 / 8	4	RED	ORG	GRN								
		6	7				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK				
		18	4P								BLU	BLK		

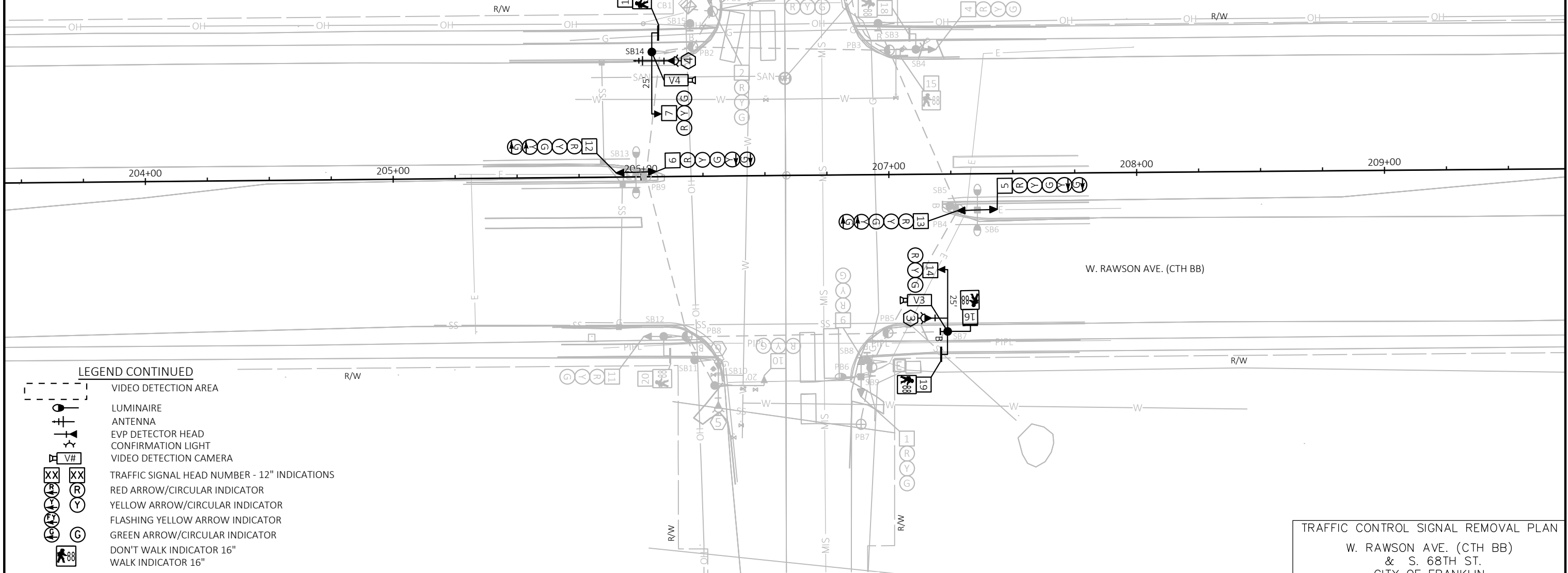
NOTES:

- DO NOT USE THE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR SIGNAL INDICATIONS.
 - ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
- * EXISTING SIGNAL WIRING TO REMAIN.

REVISION	
OVERHEAD SIGNAL HEADS EAST AND WEST APPROACHES	
REV. NO. 3	REV. BY DMM
TRAFFIC CONTROL SIGNAL W. RAWSON AVE. (CTH BB) & S. 31ST ST./S. RIVERWOOD BLVD. CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MC090	
MILWAUKEE COUNTY DOT	
PAGE 3 OF 3	

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- PROPOSED CONCRETE SIGNAL BASE
- EXISTING CONCRETE SIGNAL BASE TO BE REUSED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- SIGNAL HEAD, LUMINAIRE, POLE TYPE 4, TRANSFORMER BASE
- SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- MONOTUBE BASE, POLE, 15'-30' ARM
- MONOTUBE BASE, POLE, 35'-45' ARM
- MONOTUBE BASE, POLE, 35'-55' ARM
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 36"
- PEDESTRIAN HEAD
- PUSH BUTTON
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT



LEGEND CONTINUED

- VIDEO DETECTION AREA
- LUMINAIRE
- ANTENNA
- EVP DETECTOR HEAD
- CONFIRMATION LIGHT
- VIDEO DETECTION CAMERA
- TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
- RED ARROW/CIRCULAR INDICATOR
- YELLOW ARROW/CIRCULAR INDICATOR
- FLASHING YELLOW ARROW INDICATOR
- GREEN ARROW/CIRCULAR INDICATOR
- DON'T WALK INDICATOR 16"
- WALK INDICATOR 16"

- NOTES:
- GRAYSHADE REPRESENTS EXISTING
 - SECURE NEARBY PULLBOXES WHEN PERFORMING EXCAVATION FOR SIGNAL BASES TO PREVENT UNDERMINING
 - RELOCATE EXISTING ANTENNA TO PROPOSED MASTARM SB13
 - RELOCATE EXISTING V3 AND V4 TO PROPOSED MASTARMS SB6 AND SB13 RESPECTIVELY
 - RELOCATE EXISTING EVP3 AND EVP4 TO PROPOSED SB6 AND SB13 RESPECTIVELY

TRAFFIC CONTROL SIGNAL REMOVAL PLAN
 W. RAWSON AVE. (CTH BB)
 & S. 68TH ST.
 CITY OF FRANKLIN
 MILWAUKEE COUNTY


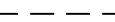













SIGNAL NO. MC087

MILWAUKEE COUNTY DOT

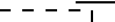



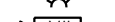
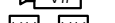




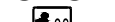
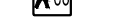

PAGE 1 OF 1

PROJECT NO: 2050-12-70	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E
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LEGEND

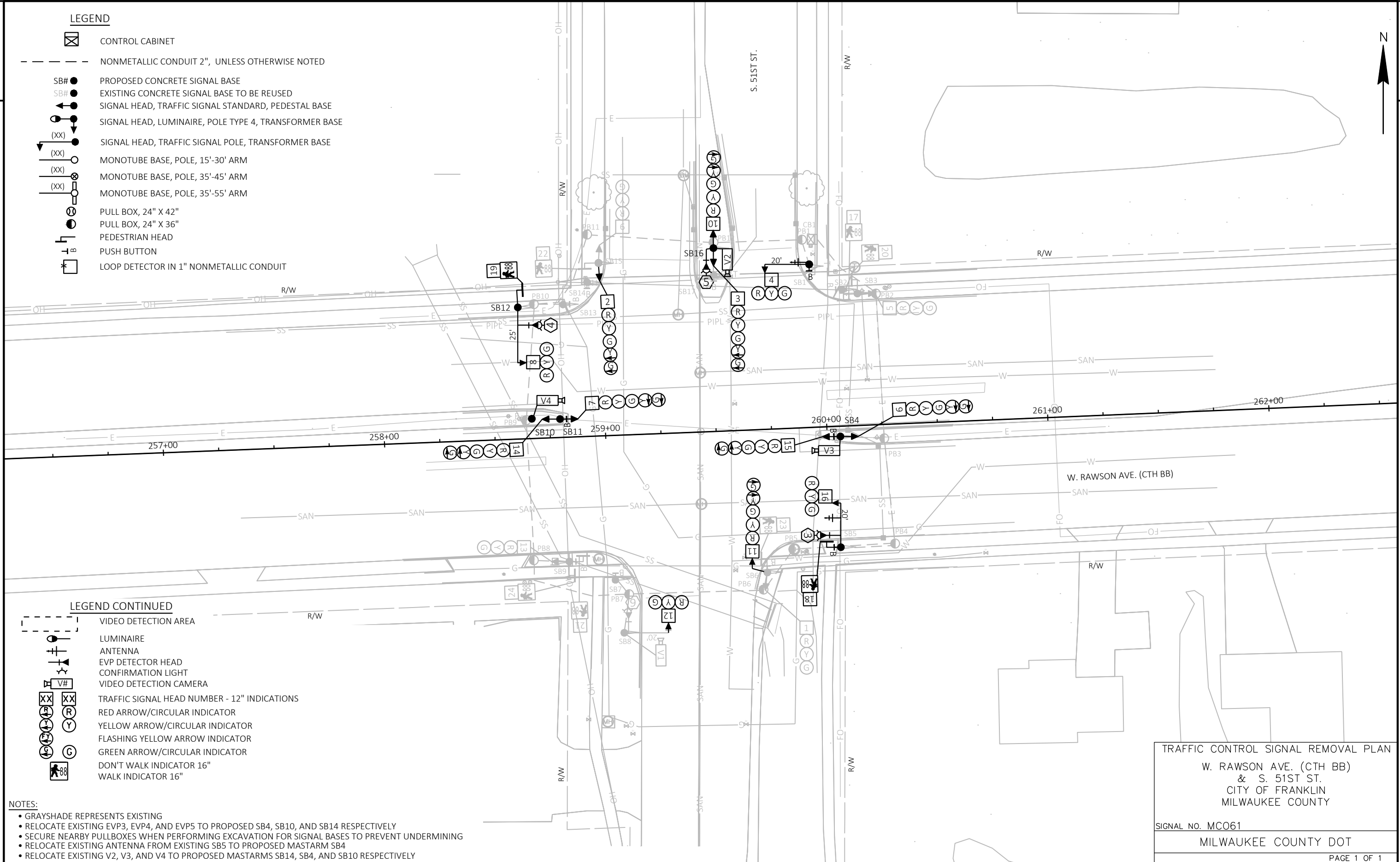
-  CONTROL CABINET
-  NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
-  SB# ● PROPOSED CONCRETE SIGNAL BASE
-  SB# ● EXISTING CONCRETE SIGNAL BASE TO BE REUSED
-  SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
-  SIGNAL HEAD, LUMINAIRE, POLE TYPE 4, TRANSFORMER BASE
-  (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
-  (XX) MONOTUBE BASE, POLE, 15'-30' ARM
-  (XX) MONOTUBE BASE, POLE, 35'-45' ARM
-  (XX) MONOTUBE BASE, POLE, 35'-55' ARM
-  PULL BOX, 24" X 42"
-  PULL BOX, 24" X 36"
-  PEDESTRIAN HEAD
-  PUSH BUTTON
-  LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

LEGEND CONTINUED

-  VIDEO DETECTION AREA
-  LUMINAIRE
-  ANTENNA
-  EVP DETECTOR HEAD
-  CONFIRMATION LIGHT
-  V# VIDEO DETECTION CAMERA
-  XX XX TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
-  R RED ARROW/CIRCULAR INDICATOR
-  Y YELLOW ARROW/CIRCULAR INDICATOR
-  F FLASHING YELLOW ARROW INDICATOR
-  G GREEN ARROW/CIRCULAR INDICATOR
-  16" DON'T WALK INDICATOR 16"
-  16" WALK INDICATOR 16"

NOTES:

- GRAYSHADE REPRESENTS EXISTING
- RELOCATE EXISTING EVP3, EVP4, AND EVP5 TO PROPOSED SB4, SB10, AND SB14 RESPECTIVELY
- SECURE NEARBY PULLBOXES WHEN PERFORMING EXCAVATION FOR SIGNAL BASES TO PREVENT UNDERMINING
- RELOCATE EXISTING ANTENNA FROM EXISTING SB5 TO PROPOSED MASTARM SB4
- RELOCATE EXISTING V2, V3, AND V4 TO PROPOSED MASTARMS SB14, SB4, AND SB10 RESPECTIVELY


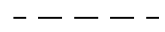















TRAFFIC CONTROL SIGNAL REMOVAL PLAN
 W. RAWSON AVE. (CTH BB)
 & S. 51ST ST.
 CITY OF FRANKLIN
 MILWAUKEE COUNTY















SIGNAL NO. MCO61
 MILWAUKEE COUNTY DOT
 PAGE 1 OF 1



LEGEND

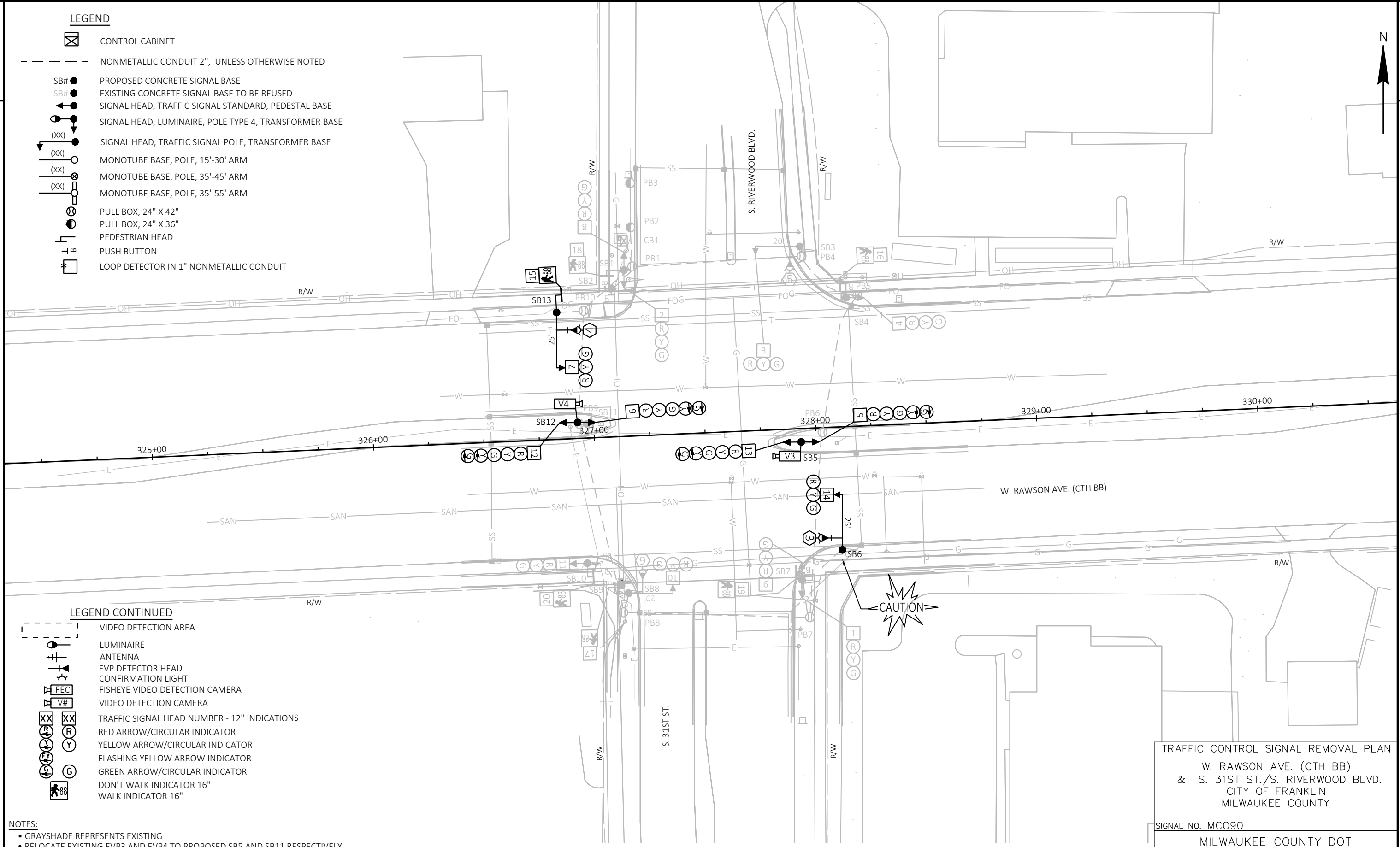
-  CONTROL CABINET
-  NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
-  PROPOSED CONCRETE SIGNAL BASE
-  EXISTING CONCRETE SIGNAL BASE TO BE REUSED
-  SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
-  SIGNAL HEAD, LUMINAIRE, POLE TYPE 4, TRANSFORMER BASE
-  SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
-  MONOTUBE BASE, POLE, 15'-30' ARM
-  MONOTUBE BASE, POLE, 35'-45' ARM
-  MONOTUBE BASE, POLE, 35'-55' ARM
-  PULL BOX, 24" X 42"
-  PULL BOX, 24" X 36"
-  PEDESTRIAN HEAD
-  PUSH BUTTON
-  LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

LEGEND CONTINUED

-  VIDEO DETECTION AREA
-  LUMINAIRE
-  ANTENNA
-  EVP DETECTOR HEAD
-  CONFIRMATION LIGHT
-  FISHEYE VIDEO DETECTION CAMERA
-  VIDEO DETECTION CAMERA
-  TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
-  RED ARROW/CIRCULAR INDICATOR
-  YELLOW ARROW/CIRCULAR INDICATOR
-  FLASHING YELLOW ARROW INDICATOR
-  GREEN ARROW/CIRCULAR INDICATOR
-  DON'T WALK INDICATOR 16"
-  WALK INDICATOR 16"

NOTES:

- GRAYSHADE REPRESENTS EXISTING
- RELOCATE EXISTING EVP3 AND EVP4 TO PROPOSED SB5 AND SB11 RESPECTIVELY
- SECURE NEARBY PULLBOXES WHEN PERFORMING EXCAVATION FOR SIGNAL BASES TO PREVENT UNDERMINING


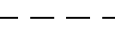















TRAFFIC CONTROL SIGNAL REMOVAL PLAN
 W. RAWSON AVE. (CTH BB)
 & S. 31ST ST./S. RIVERWOOD BLVD.
 CITY OF FRANKLIN
 MILWAUKEE COUNTY

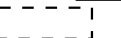
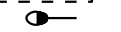
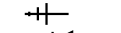

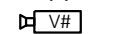
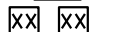



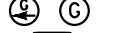

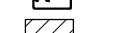



SIGNAL NO. MCO90
 MILWAUKEE COUNTY DOT



LEGEND

-  CONTROL CABINET
-  NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
-  SB# ● PROPOSED CONCRETE SIGNAL BASE
-  SB# ● EXISTING CONCRETE SIGNAL BASE TO BE REUSED
-  SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
-  SIGNAL HEAD, LUMINAIRE, POLE TYPE 4, TRANSFORMER BASE
-  (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
-  (XX) MONOTUBE BASE, POLE, 15'-30' ARM
-  (XX) MONOTUBE BASE, POLE, 35'-45' ARM
-  (XX) MONOTUBE BASE, POLE, 35'-55' ARM
-  PULL BOX, 24" X 42"
-  PULL BOX, 24" X 36"
-  PEDESTRIAN HEAD
-  PUSH BUTTON
-  LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

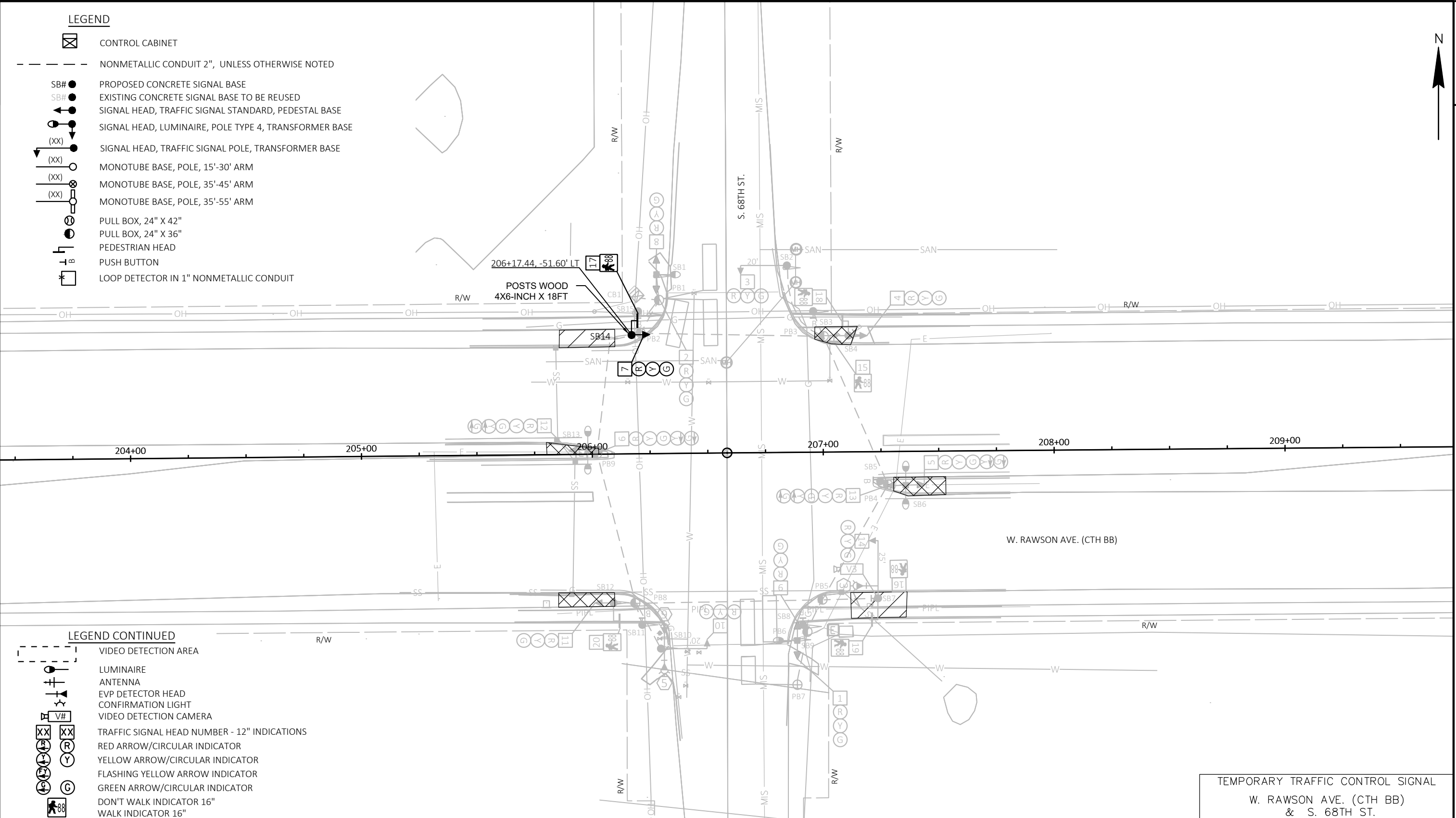
LEGEND CONTINUED

-  VIDEO DETECTION AREA
-  LUMINAIRE
-  ANTENNA
-  EVP DETECTOR HEAD
-  CONFIRMATION LIGHT
-  VIDEO DETECTION CAMERA
-  (XX) TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
-  (R) RED ARROW/CIRCULAR INDICATOR
-  (Y) YELLOW ARROW/CIRCULAR INDICATOR
-  (F) FLASHING YELLOW ARROW INDICATOR
-  (G) GREEN ARROW/CIRCULAR INDICATOR
-  (88) DON'T WALK INDICATOR 16"
-  (88) WALK INDICATOR 16"
-  (Hatched box) WORK ZONE, LONG-TERM
-  (Cross-hatched box) WORK ZONE, SHORT-TERM

NOTES:

- GRAYSHADE REPRESENTS EXISTING
- MINIMUM TWO FAR INDICATIONS SHALL BE ACTIVE AT ALL TIMES DURING INSTALLATION
- NOTIFY THE MCDOT TRAFFIC ENGINEER, DANIEL MURPHY AT 414-257-5942 FIVE WORKING DAYS PRIOR TO INSTALLING TEMPORARY PEDESTRIAN HEADS FOR PROGRAMMING PEDESTRIAN RECALL

PROJECT NO: 2050-12-70	HWY: CTH BB	COUNTY: MILWAUKEE	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET	E
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TEMPORARY TRAFFIC CONTROL SIGNAL

W. RAWSON AVE. (CTH BB)
& S. 68TH ST.
CITY OF FRANKLIN
MILWAUKEE COUNTY


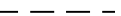













SIGNAL NO. MC087

MILWAUKEE COUNTY DOT

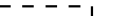
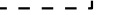



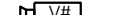






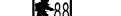


PAGE 1 OF 1



LEGEND

-  CONTROL CABINET
-  NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
-  PROPOSED CONCRETE SIGNAL BASE
-  EXISTING CONCRETE SIGNAL BASE TO BE REUSED
-  SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
-  SIGNAL HEAD, LUMINAIRE, POLE TYPE 4, TRANSFORMER BASE
-  SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
-  MONOTUBE BASE, POLE, 15'-30' ARM
-  MONOTUBE BASE, POLE, 35'-45' ARM
-  MONOTUBE BASE, POLE, 35'-55' ARM
-  PULL BOX, 24" X 42"
-  PULL BOX, 24" X 36"
-  PEDESTRIAN HEAD
-  PUSH BUTTON
-  LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

LEGEND CONTINUED

-  VIDEO DETECTION AREA
-  LUMINAIRE
-  ANTENNA
-  EVP DETECTOR HEAD
-  CONFIRMATION LIGHT
-  VIDEO DETECTION CAMERA
-  TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
-  RED ARROW/CIRCULAR INDICATOR
-  YELLOW ARROW/CIRCULAR INDICATOR
-  FLASHING YELLOW ARROW INDICATOR
-  GREEN ARROW/CIRCULAR INDICATOR
-  DON'T WALK INDICATOR 16"
-  WALK INDICATOR 16"
-  WORK ZONE, LONG-TERM
-  WORK ZONE, SHORT-TERM

NOTES:

- GRAYSHADE REPRESENTS EXISTING
- MINIMUM TWO FAR INDICATIONS SHALL BE ACTIVE AT ALL TIMES DURING INSTALLATION
- NOTIFY THE MCDOT TRAFFIC ENGINEER, DANIEL MURPHY AT 414-257-5942 FIVE WORKING DAYS PRIOR TO INSTALLING TEMPORARY PEDESTRIAN HEADS FOR PROGRAMMING PEDESTRIAN RECALL

PROJECT NO: 2050-12-70

HWY: CTH BB

COUNTY: MILWAUKEE

TEMPORARY TRAFFIC SIGNAL PLAN

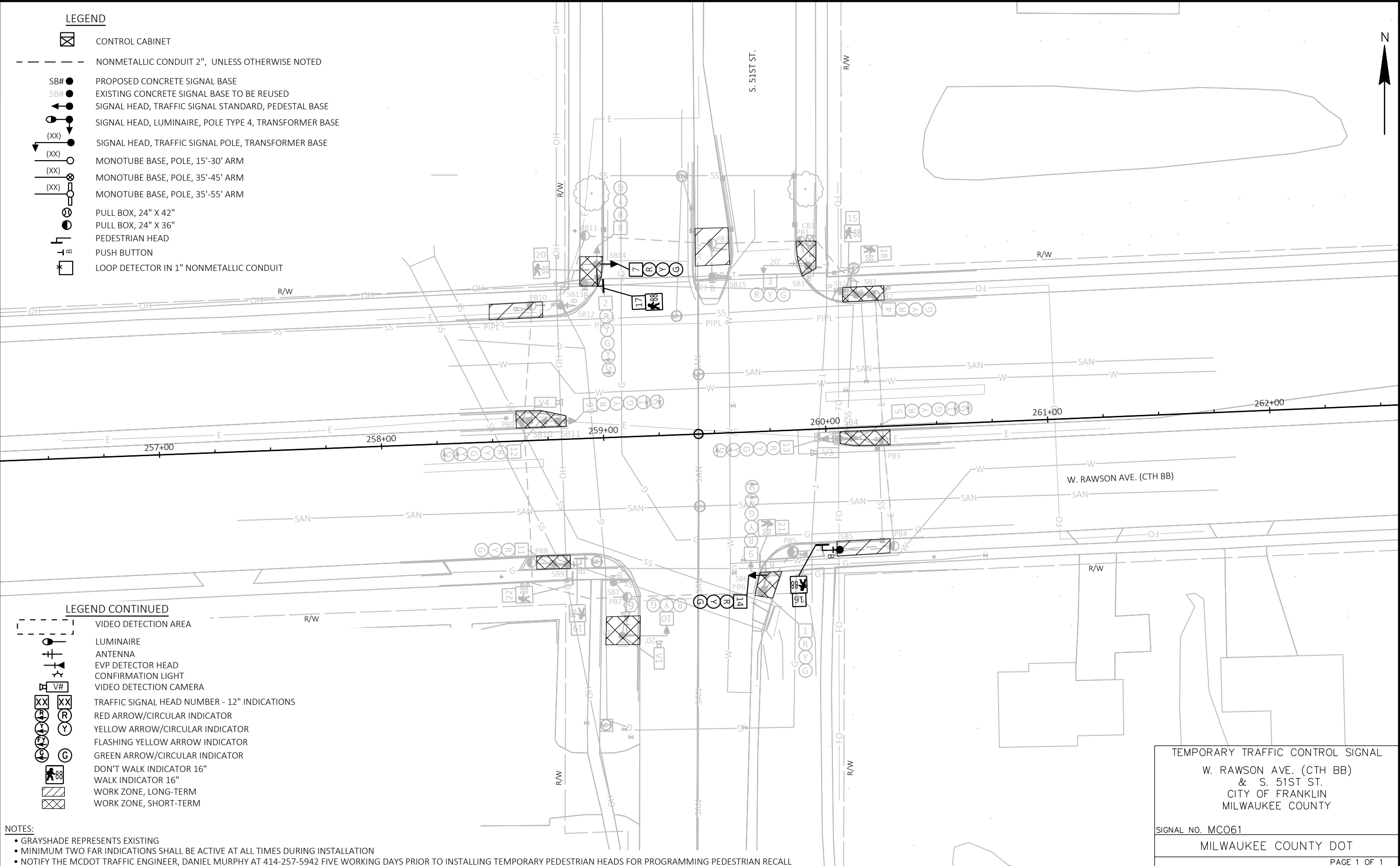
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TEMPORARY TRAFFIC CONTROL SIGNAL
 W. RAWSON AVE. (CTH BB)
 & S. 51ST ST.
 CITY OF FRANKLIN
 MILWAUKEE COUNTY

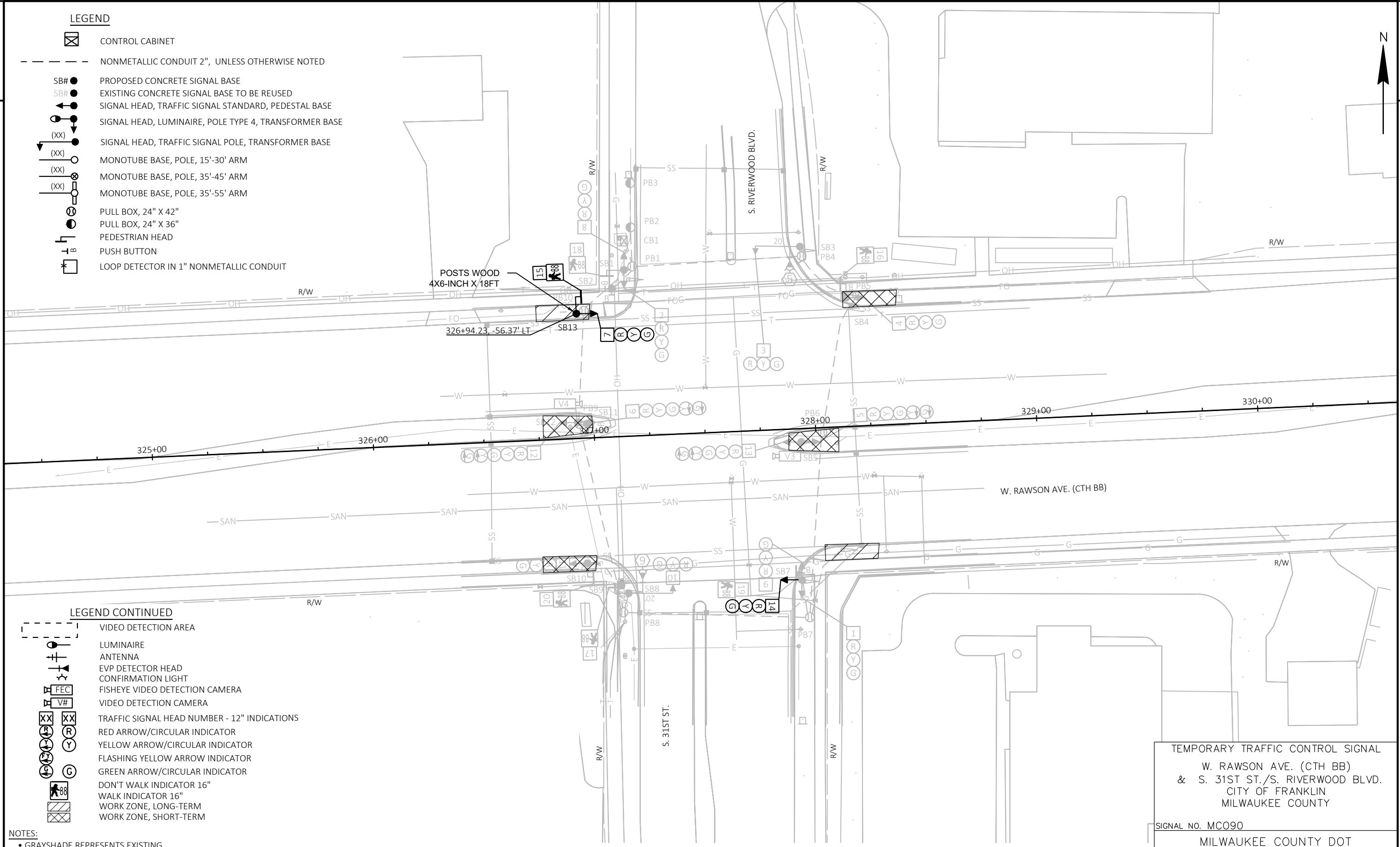
SIGNAL NO. MCO61

MILWAUKEE COUNTY DOT



LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- PROPOSED CONCRETE SIGNAL BASE
- EXISTING CONCRETE SIGNAL BASE TO BE REUSED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- SIGNAL HEAD, LUMINAIRE, POLE TYPE 4, TRANSFORMER BASE
- SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- MONOTUBE BASE, POLE, 15'-30' ARM
- MONOTUBE BASE, POLE, 35'-45' ARM
- MONOTUBE BASE, POLE, 35'-55' ARM
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 36"
- PEDESTRIAN HEAD
- PUSH BUTTON
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT



LEGEND CONTINUED

- VIDEO DETECTION AREA
- LUMINAIRE
- ANTENNA
- EVP DETECTOR HEAD
- CONFIRMATION LIGHT
- FISHEYE VIDEO DETECTION CAMERA
- VIDEO DETECTION CAMERA
- TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
- RED ARROW/CIRCULAR INDICATOR
- YELLOW ARROW/CIRCULAR INDICATOR
- FLASHING YELLOW ARROW INDICATOR
- GREEN ARROW/CIRCULAR INDICATOR
- DON'T WALK INDICATOR 16"
- WALK INDICATOR 16"
- WORK ZONE, LONG-TERM
- WORK ZONE, SHORT-TERM







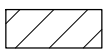
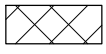






NOTES:

- GRAYSHADE REPRESENTS EXISTING
- MINIMUM TWO FAR INDICATIONS SHALL BE ACTIVE AT ALL TIMES DURING INSTALLATION

TEMPORARY TRAFFIC CONTROL SIGNAL
 W. RAWSON AVE. (CTH BB)
 & S. 31ST ST./S. RIVERWOOD BLVD.
 CITY OF FRANKLIN
 MILWAUKEE COUNTY

SIGNAL NO. MCO90
 MILWAUKEE COUNTY DOT

LEGEND

	TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE A WARNING LIGHT (FLASHING)
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	WORK ZONE, LONG-TERM (SEE NOTE 1 BELOW)
	WORK ZONE, SHORT-TERM (SEE NOTE 2 BELOW)
	DIRECTION OF TRAFFIC
	TEMPORARY PEDESTRIAN CURB RAMP WITH TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD
	TEMPORARY PEDESTRIAN SURFACE MATTING, 5FT WIDE
	TEMPORARY PEDESTRIAN BARRICADE
	TEMPORARY PAVEMENT MARKING REMOVABLE 6-INCH TAPE (WHITE)
	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

NOTES:

1. FOR LONG-TERM WORK ZONE TRAFFIC CONTROL, REFER TO THE TRAFFIC CONTROL PLANS FOR DEVICE PLACEMENT AND LAYOUTS.
2. FOR SHORT-TERM WORK ZONE TRAFFIC CONTROL, REFER TO SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY AND SDD TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT FOR DEVICE PLACEMENT AND LAYOUTS. SHORT-TERM WORK ZONE LANE CLOSURES CAN BE COMPLETE BETWEEN THE HOURS OF 9AM-3PM. PROVIDE THE NECESSARY R3-1 NO RIGHT TURN OR R3-2 NO LEFT TURN SIGNS WHERE APPLICABLE.
3. A MINIMUM OF 2 FAR HEADS PER PHASE AND PER APPROACH MUST REMAIN OPERATIONAL DURING TRAFFIC SIGNAL INSTALLATIONS AND REMOVALS.
4. A MINIMUM OF 3 QUADRANTS PER INTERSECTION MUST REMAIN OPEN AND ACCESSIBLE TO PEDESTRIANS TO TRAVERSE AN INTERSECTION DURING CONSTRUCTION. REFER TO SDD TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION FOR DEVICE PLACEMENT AND LAYOUT FOR SIDEWALK CLOSURES. NOTIFY THE MCDOT TRAFFIC ENGINEER, DANIEL MURPHY AT 414-257-5942 FIVE WORKING DAYS PRIOR TO CONSTRUCTION TO PROGRAM PEDESTRIAN RECALL.
5. FOR ALL WORK NEXT TO SIDEWALKS:
 - ALL WORK OPERATIONS MUST BE PROTECTED NEXT TO SIDEWALKS.
 - ALL DROP-OFFS MUST BE PROTECTED FROM SIDEWALKS AS WELL.
 - ALL EQUIPMENT USED FOR PROTECTION MUST BE MUTCD, MASH, AND/OR NCHRP 350
6. ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

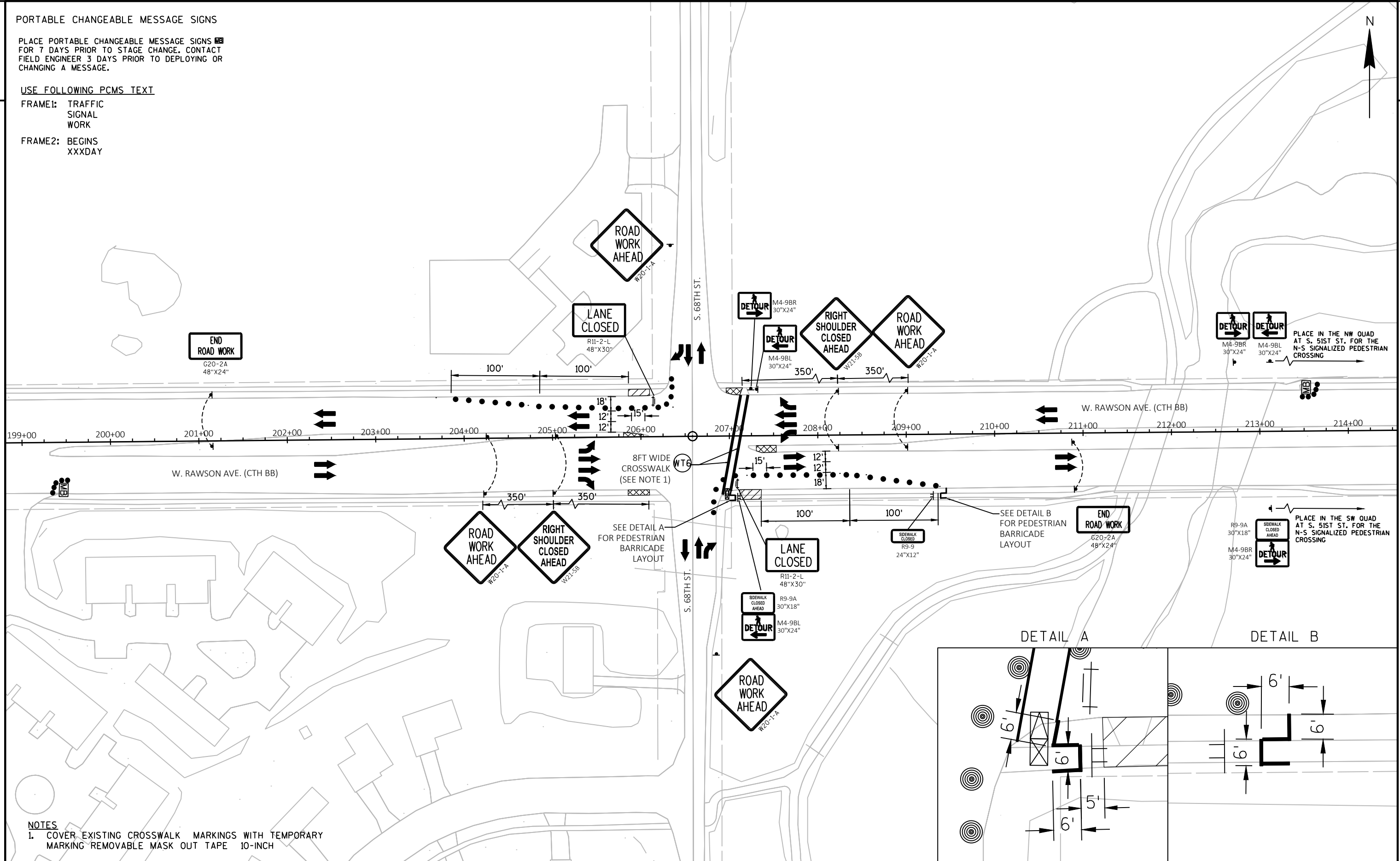
PORTABLE CHANGEABLE MESSAGE SIGNS

PLACE PORTABLE CHANGEABLE MESSAGE SIGNS FOR 7 DAYS PRIOR TO STAGE CHANGE. CONTACT FIELD ENGINEER 3 DAYS PRIOR TO DEPLOYING OR CHANGING A MESSAGE.

USE FOLLOWING PCMS TEXT

FRAME1: TRAFFIC SIGNAL WORK

FRAME2: BEGINS XXXDAY



- NOTES
- COVER EXISTING CROSSWALK MARKINGS WITH TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH

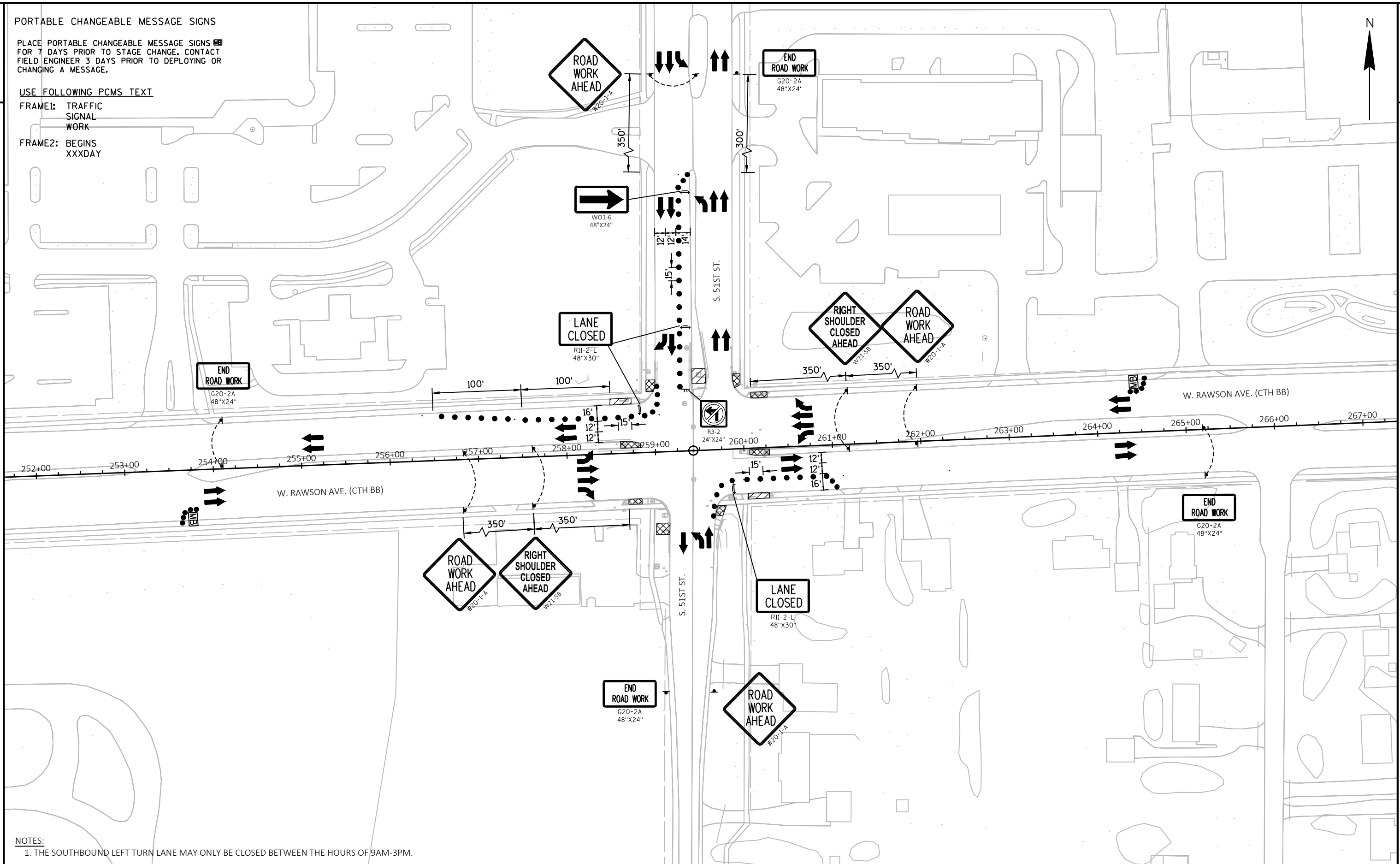
PROJECT NO: 2050-12-70	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL PLAN - W. RAWSON AVE. (CTH BB) & S. 68TH ST.	SHEET	E
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PORTABLE CHANGEABLE MESSAGE SIGNS

PLACE PORTABLE CHANGEABLE MESSAGE SIGNS FOR 7 DAYS PRIOR TO STAGE CHANGE. CONTACT FIELD ENGINEER 3 DAYS PRIOR TO DEPLOYING OR CHANGING A MESSAGE.

USE FOLLOWING PCMS TEXT

FRAME1: TRAFFIC SIGNAL WORK
FRAME2: BEGINS XXXDAY



NOTES:
1. THE SOUTHBOUND LEFT TURN LANE MAY ONLY BE CLOSED BETWEEN THE HOURS OF 9AM-3PM.

PROJECT NO: 2050-12-70	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL PLAN - W. RAWSON AVE. (CTH BB) & S. 51ST ST.	SHEET	E
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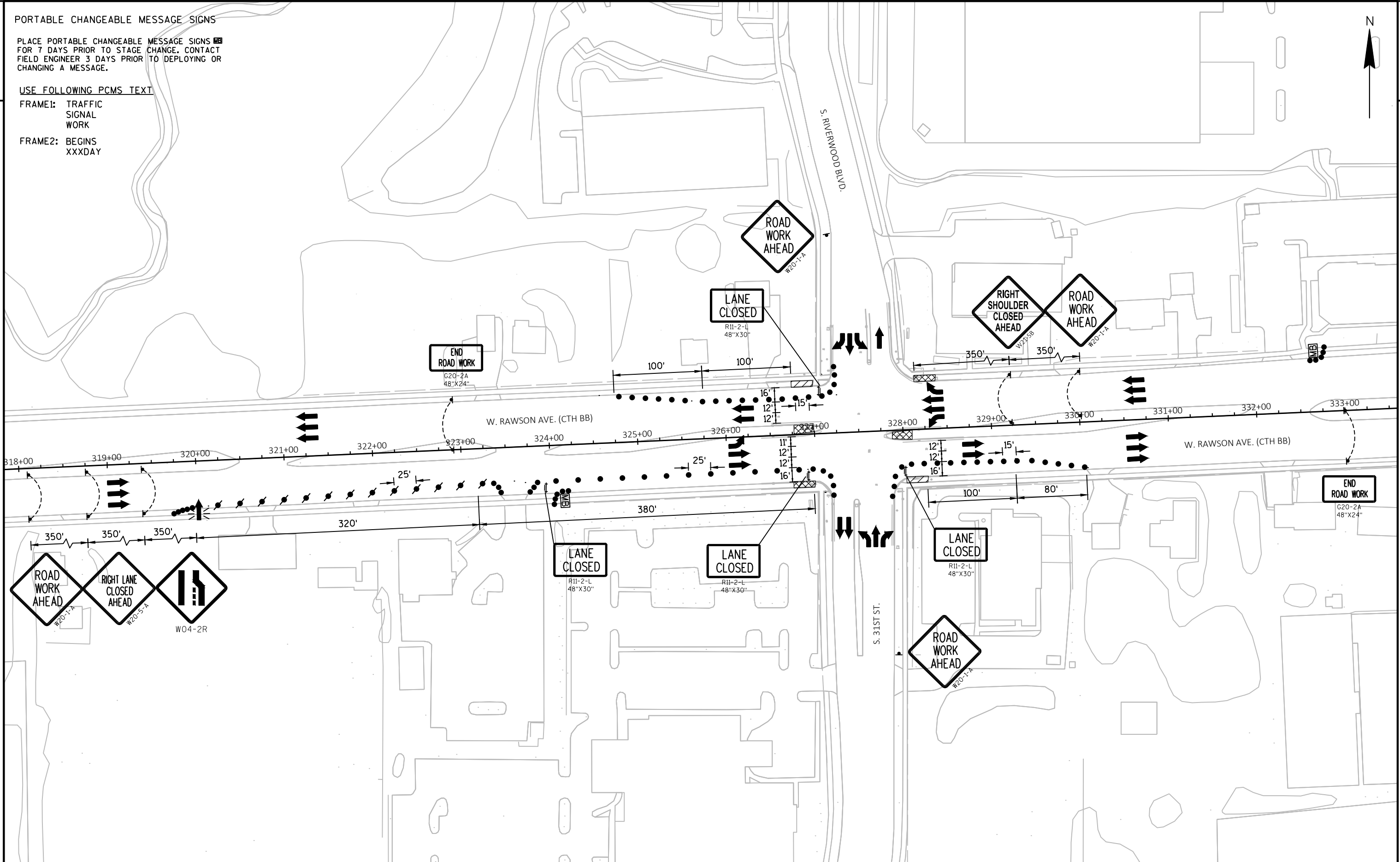
PORTABLE CHANGEABLE MESSAGE SIGNS

PLACE PORTABLE CHANGEABLE MESSAGE SIGNS FOR 7 DAYS PRIOR TO STAGE CHANGE. CONTACT FIELD ENGINEER 3 DAYS PRIOR TO DEPLOYING OR CHANGING A MESSAGE.

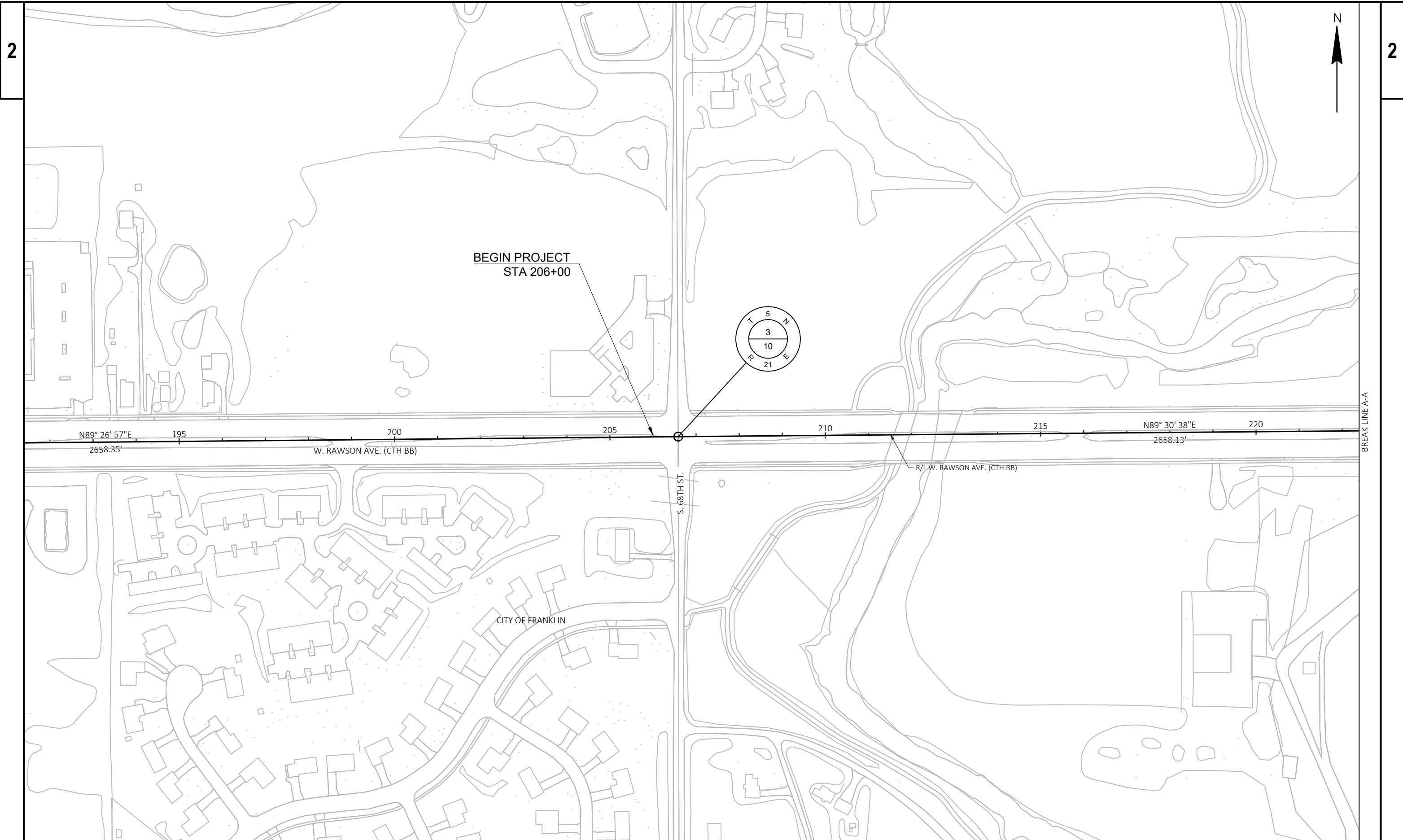
USE FOLLOWING PCMS TEXT

FRAME1: TRAFFIC SIGNAL WORK

FRAME2: BEGINS XXXDAY



PROJECT NO: 2050-12-70	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL PLAN - W. RAWSON AVE. (CTH BB) & S. 31ST ST./S. RIVERWOOD BLVD.	SHEET	E
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BREAK LINE A-A

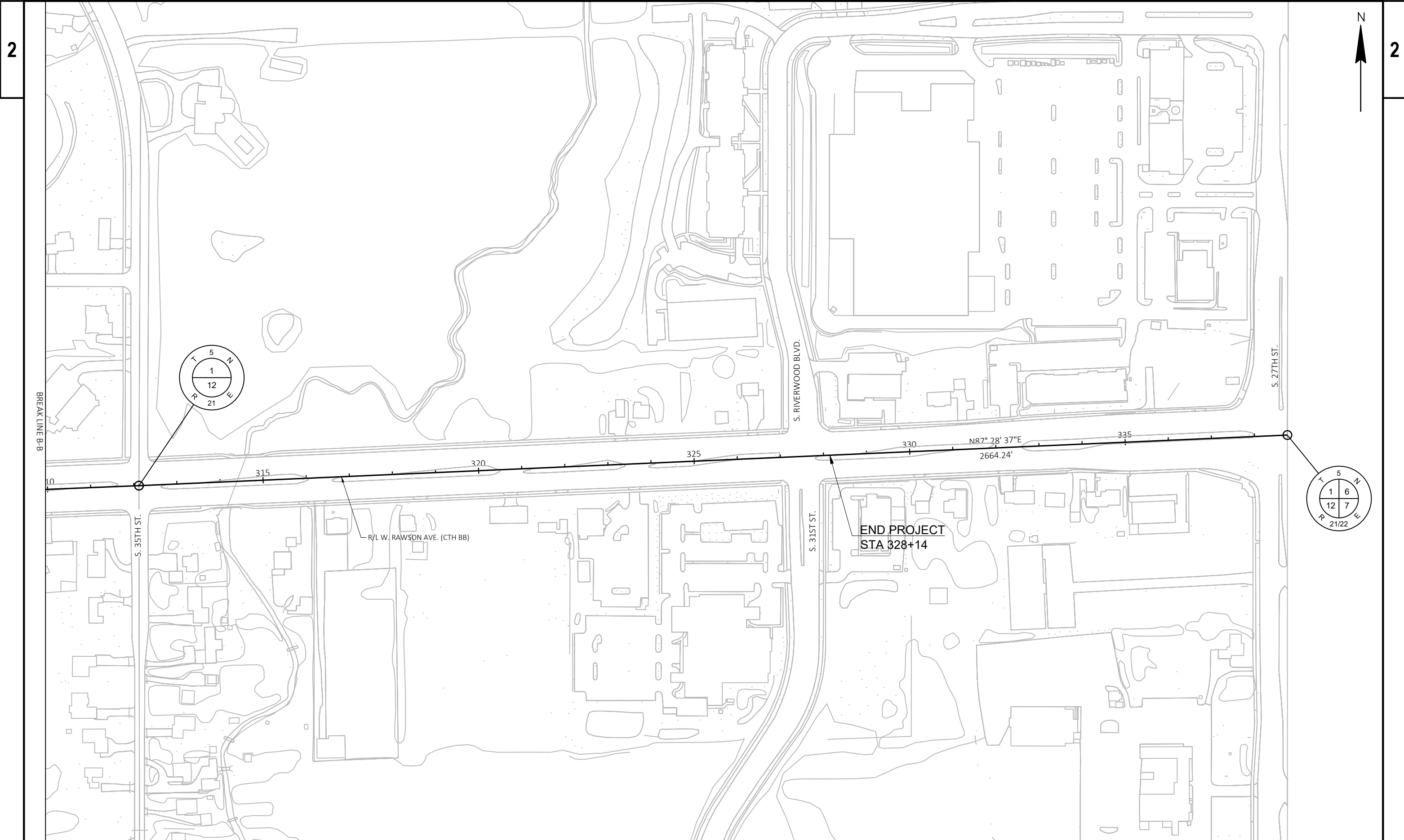
PROJECT NO: 2050-12-70	HWY: CTH BB	COUNTY: MILWAUKEE	ALIGNMENT DIAGRAM	SHEET	E
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PROJECT NO: 2050-12-70 HWY: CTH BB COUNTY: MILWAUKEE ALIGNMENT DIAGRAM SHEET E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-12-00 W RAWSON AVE INTS 68TH 51ST 31ST\PLANS\027201_AD.DWG PLOT DATE : 1/12/2023 1:05 PM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1 IN:200 FT WISDOT/CADD SHEET 42

LAYOUT NAME - 51



PROJECT NO: 2050-12-70

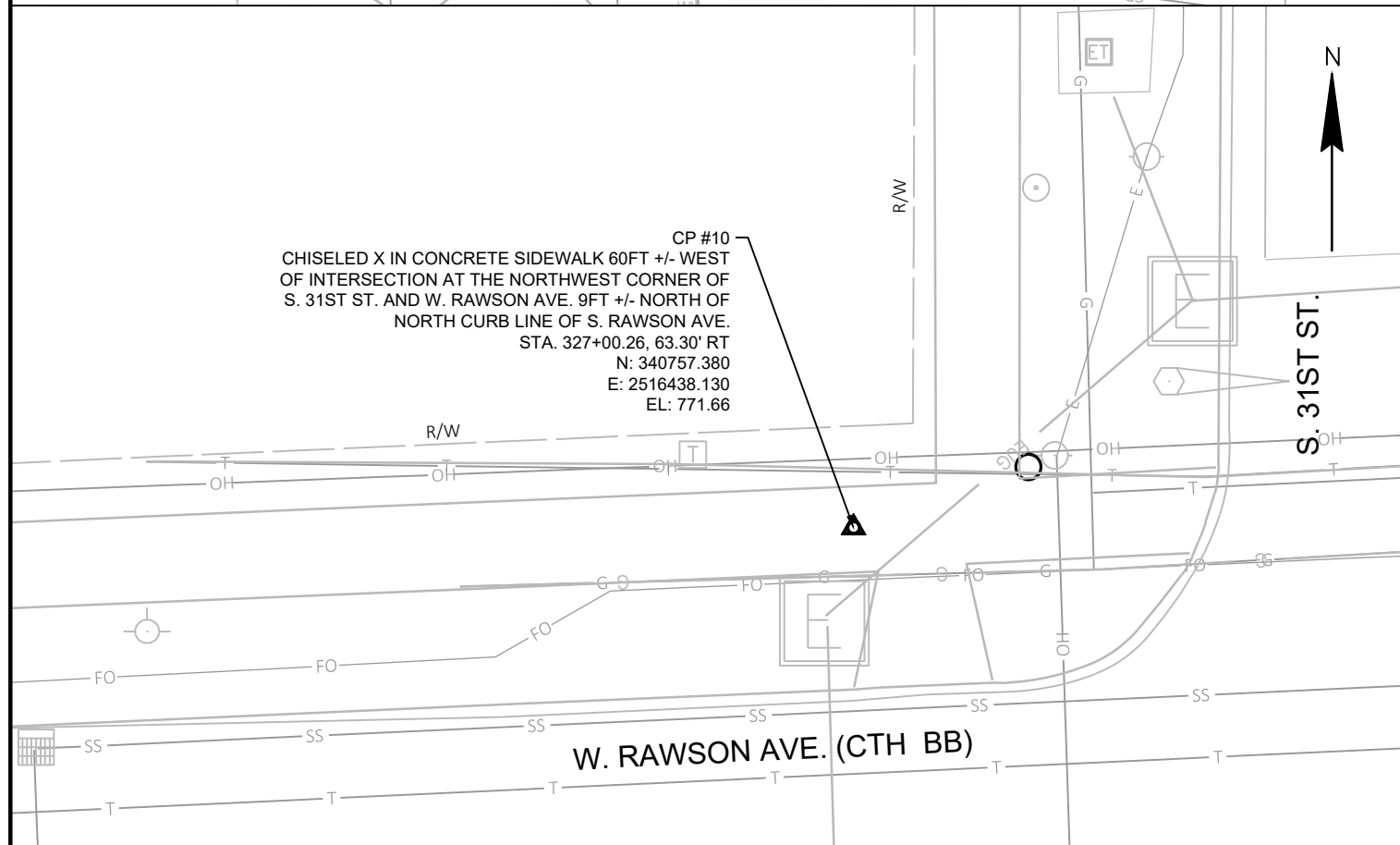
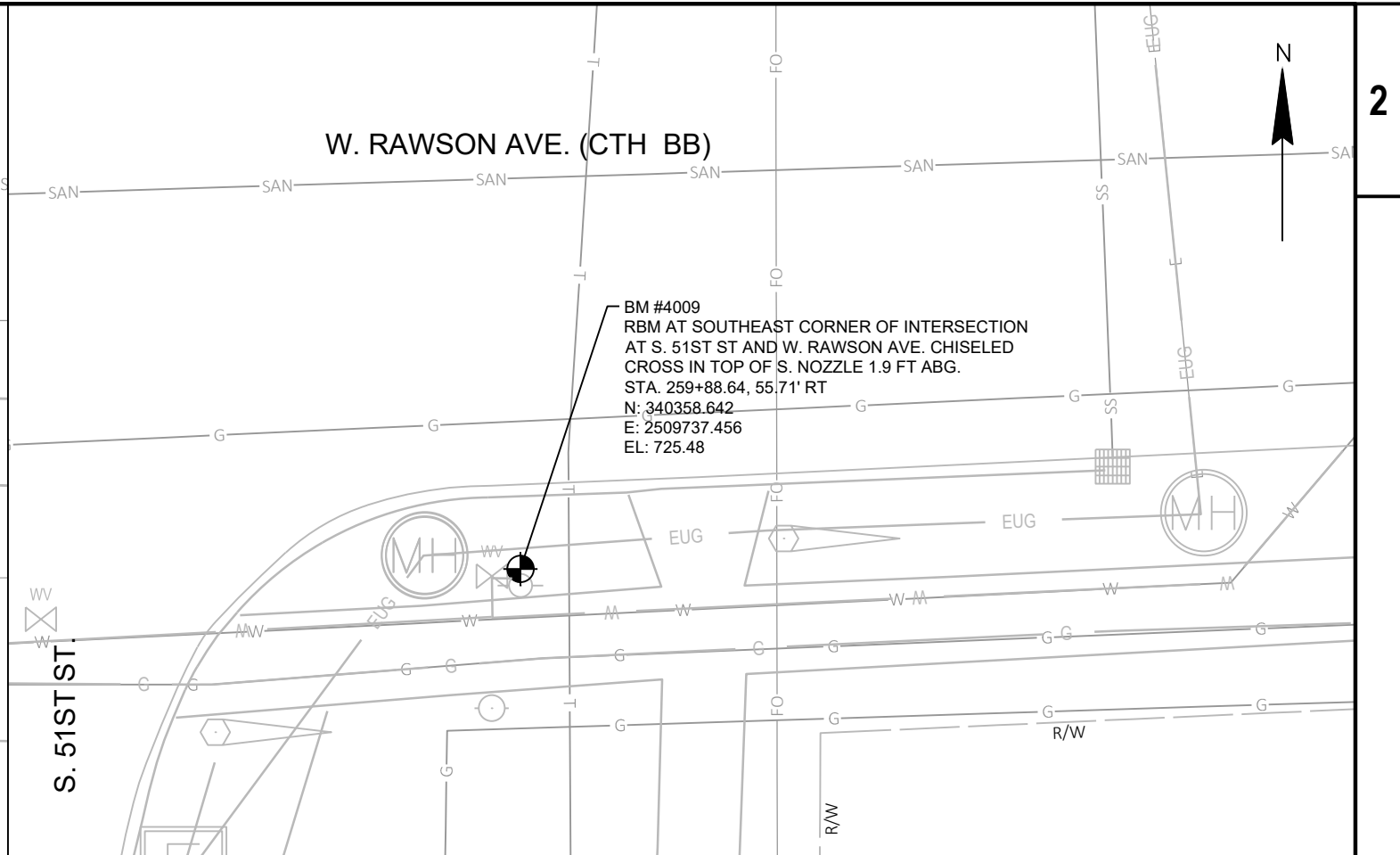
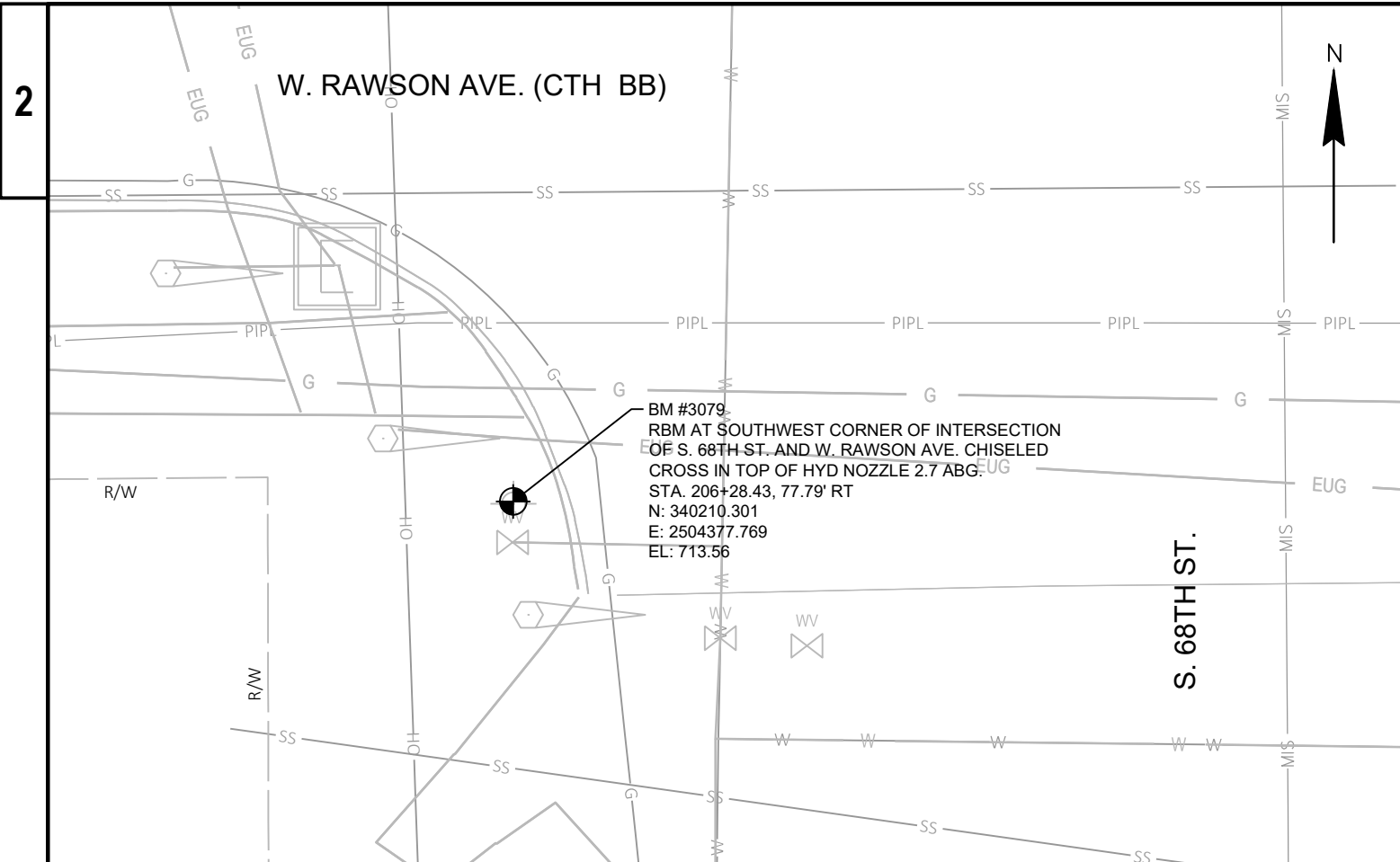
HWY: CTH BB

COUNTY: MILWAUKEE

ALIGNMENT DIAGRAM

SHEET

E



PROJECT NO: 2050-12-70	HWY: CTH BB	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT - SURVEY CONTROL (CTH BB)	SHEET	E
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Estimate Of Quantities By Plan Sets

2050-12-70

Line	Item	Item Description	Unit	Total	Qty
0002	204.0155	Removing Concrete Sidewalk	SY	25.000	25.000
0004	204.0195	Removing Concrete Bases	EACH	10.000	10.000
0006	204.9060.S	Removing (item description) 01. Traffic Signal Equipment at Intersection	EACH	3.000	3.000
0010	205.0100	Excavation Common	CY	0.500	0.500
0012	213.0100	Finishing Roadway (project) 01. 2050-12-70	EACH	1.000	1.000
0014	602.0410	Concrete Sidewalk 5-Inch	SF	180.000	180.000
0016	602.0420	Concrete Sidewalk 7-Inch	SF	50.000	50.000
0018	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	20.000	20.000
0020	619.1000	Mobilization	EACH	0.750	0.750
0022	625.0100	Topsoil	SY	300.000	300.000
0024	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0026	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0028	628.6510	Soil Stabilizer Type B	ACRE	0.100	0.100
0030	628.7005	Inlet Protection Type A	EACH	3.000	3.000
0032	628.7010	Inlet Protection Type B	EACH	30.000	30.000
0034	628.7015	Inlet Protection Type C	EACH	15.000	15.000
0038	629.0210	Fertilizer Type B	CWT	0.200	0.200
0040	631.0300	Sod Water	MGAL	10.000	10.000
0042	631.1000	Sod Lawn	SY	300.000	300.000
0044	634.0811	Posts Tubular Steel 2x2-Inch X 11-FT	EACH	9.000	9.000
0046	637.2210	Signs Type II Reflective H	SF	236.500	236.500
0048	637.2215	Signs Type II Reflective H Folding	SF	36.260	36.260
0052	638.2602	Removing Signs Type II	EACH	11.000	11.000
0054	642.5001	Field Office Type B	EACH	1.000	1.000
0056	643.0300	Traffic Control Drums	DAY	10,000.000	10,000.000
0058	643.0420	Traffic Control Barricades Type III	DAY	580.000	580.000
0060	643.0705	Traffic Control Warning Lights Type A	DAY	1,160.000	1,160.000
0062	643.0715	Traffic Control Warning Lights Type C	DAY	900.000	900.000
0064	643.0800	Traffic Control Arrow Boards	DAY	100.000	100.000
0066	643.0900	Traffic Control Signs	DAY	3,550.000	3,550.000
0068	643.1050	Traffic Control Signs PCMS	DAY	42.000	42.000
0070	643.3180	Temporary Marking Line Removable Tape 6-Inch	LF	250.000	250.000
0072	643.3970	Temporary Marking Removable Mask Out Tape 10-Inch	LF	230.000	230.000
0074	643.5000	Traffic Control	EACH	0.750	0.750
0076	644.1440	Temporary Pedestrian Surface Matting	SF	70.000	70.000
0078	644.1601	Temporary Pedestrian Curb Ramp	DAY	50.000	50.000
0080	644.1605	Temporary Pedestrian Detectable Warning Field	SF	20.000	20.000
0082	644.1810	Temporary Pedestrian Barricade	LF	60.000	60.000
0084	646.5020	Marking Arrow Epoxy	EACH	31.000	31.000
0086	646.5120	Marking Word Epoxy	EACH	20.000	20.000
0088	646.6120	Marking Stop Line Epoxy 18-Inch	LF	600.000	600.000
0090	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	1,800.000	1,800.000
0092	646.9000	Marking Removal Line 4-Inch	LF	60.000	60.000
0094	646.9100	Marking Removal Line 8-Inch	LF	50.000	50.000
0096	650.8501	Construction Staking Electrical Installations (project) 01. 2050-12-70	EACH	1.000	1.000
0100	650.9000	Construction Staking Curb Ramps	EACH	1.000	1.000
0102	650.9500	Construction Staking Sidewalk (project) 01. 2050-12-70	EACH	1.000	1.000
0104	650.9911	Construction Staking Supplemental Control (project) 01. 2050-12-70	EACH	1.000	1.000
0108	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	200.000	200.000
0110	652.0615	Conduit Special 3-Inch	LF	300.000	300.000

Estimate Of Quantities By Plan Sets

2050-12-70

Line	Item	Item Description	Unit	Total	Qty
0112	652.0700.S	Install Conduit into Existing Item	EACH	10.000	10.000
0114	654.0110	Concrete Bases Type 10	EACH	1.000	1.000
0116	654.0113	Concrete Bases Type 13	EACH	6.000	6.000
0118	655.0210	Cable Traffic Signal 3-14 AWG	LF	2,105.000	2,105.000
0120	655.0230	Cable Traffic Signal 5-14 AWG	LF	1,030.000	1,030.000
0122	655.0240	Cable Traffic Signal 7-14 AWG	LF	2,150.000	2,150.000
0124	655.0260	Cable Traffic Signal 12-14 AWG	LF	1,755.000	1,755.000
0126	655.0270	Cable Traffic Signal 15-14 AWG	LF	600.000	600.000
0128	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	130.000	130.000
0130	655.0900	Traffic Signal EVP Detector Cable	LF	1,880.000	1,880.000
0132	657.0100	Pedestal Bases	EACH	3.000	3.000
0134	657.0350	Poles Type 10	EACH	1.000	1.000
0136	657.0355	Poles Type 12	EACH	3.000	3.000
0138	657.0360	Poles Type 13	EACH	3.000	3.000
0140	657.0405	Traffic Signal Standards Aluminum 3.5-FT	EACH	1.000	1.000
0142	657.0430	Traffic Signal Standards Aluminum 10-FT	EACH	2.000	2.000
0144	657.0530	Monotube Arms 30-FT	EACH	1.000	1.000
0146	657.0555	Monotube Arms 55-FT	EACH	6.000	6.000
0148	657.0815	Luminaire Arms Steel 15-FT	EACH	4.000	4.000
0150	658.0173	Traffic Signal Face 3S 12-Inch	EACH	17.000	17.000
0152	658.0174	Traffic Signal Face 4S 12-Inch	EACH	16.000	16.000
0154	658.0416	Pedestrian Signal Face 16-Inch	EACH	6.000	6.000
0156	658.0500	Pedestrian Push Buttons	EACH	3.000	3.000
0158	658.5070	Signal Mounting Hardware (location) 01. CTH BB & 68TH ST	EACH	1.000	1.000
0160	658.5070	Signal Mounting Hardware (location) 02. CTH BB & 51ST ST	EACH	1.000	1.000
0162	658.5070	Signal Mounting Hardware (location) 03. CTH BB & 31ST ST	EACH	1.000	1.000
0166	661.0201	Temporary Traffic Signals for Intersections (location) 01. CTH BB & 68TH ST	EACH	1.000	1.000
0168	661.0201	Temporary Traffic Signals for Intersections (location) 02. CTH BB & 51ST ST	EACH	1.000	1.000
0170	661.0201	Temporary Traffic Signals for Intersections (location) 03. CTH BB & 31ST ST	EACH	1.000	1.000
0172	690.0250	Sawing Concrete	LF	30.000	30.000
0174	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0176	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	2,700.000	2,700.000
0178	SPV.0035	Special 01. Backfill Slurry	CY	9.000	9.000
0180	SPV.0060	Special 01. Remove and Reinstall Video Detection System	EACH	2.000	2.000
0182	SPV.0060	Special 02. Cabinet Modification	EACH	3.000	3.000
0184	SPV.0060	Special 03. Transport and Install Fisheye Camera System	EACH	1.000	1.000
0186	SPV.0060	Special 04. Remove and Reinstall EVP Detectors	EACH	3.000	3.000
0188	SPV.0060	Special 05. Remove and Reinstall Antenna	EACH	2.000	2.000
0190	SPV.0060	Special 06. Exposing Existing Infrastructure Unpaved Area	EACH	4.000	4.000
0194	SPV.0090	Special 01. Furnish and Install Camera Cable	LF	370.000	370.000

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REMOVING CONCRETE BASES

204.0195

REMOVING
CONCRETE BASES

CATEGORY	LOCATION	NO.	EACH
0010	W. RAWSON AVE (CTH BB) & S. 68TH ST	SB14	1
0010	W. RAWSON AVE (CTH BB) & S. 51ST ST	SB4	1
0010		SB10	1
0010		SB11	1
0010		SB12	1
0010		SB16	1
0010	W. RAWSON AVE (CTH BB) & S. 31ST ST	SB5	1
0010		SB6	1
0010		SB12	1
0010		SB13	1
	TOTAL 0010		10

CONDUIT

CATEGORY	LOCATION	FROM	TO	652.0235	652.0615	652.0700.S
				CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	CONDUIT SPECIAL 3- INCH LF	INSTALL CONDUIT INTO EXISTING ITEM EACH
0010	W. RAWSON AVE (CTH BB) & S. 68TH ST	PB5	SB6	25	-	1
0010		PB2	SB13	15	-	1
0010	W. RAWSON AVE (CTH BB) & S. 51ST ST	PB4	SB4	15	-	1
0010		PB10	SB10	10	-	1
0010		PB12	SB14	5	-	1
0010	W. RAWSON AVE (CTH BB) & S. 31ST ST	PB7	SB5	5	-	-
0010		PB10	SB11	10	-	1
0010	UNDISTRIBUTED			115	300	4
TOTAL 0010				200	300	10

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CONCRETE SIDEWALK ITEMS

CATEGORY	LOCATION	204.0155	205.0100	602.0410	602.0420	602.0515	650.9000	650.9500.01	690.0250
		REMOVING CONCRETE SIDEWALK SY	EXCAVATION COMMON CY	CONCRETE SIDEWALK 5- INCH SF	CONCRETE SIDEWALK 7- INCH SF	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF	650.9000 CONSTRUCTION STAKING CURB RAMPS EACH	650.9500.01 CONSTRUCTION STAKING SIDEWALK (PROJECT) (01. 2050-12-70) EACH	690.0250 SAWING CONCRETE LF
0010	W. RAWSON AVE (CTH BB) & S. 68TH ST	22	-	150	46	12	1	-	20
0010	W. RAWSON AVE (CTH BB) & S. 51ST ST	-	0.3	14	-	-	-	-	-
SUBTOTAL		22	0.3	164	46	12	1	0	20
UNDISTRIBUTED		3	0.2	16	4	8	-	1	10
TOTAL 0010		25	0.5	180	50	20	1	1	30

EROSION CONTROL ITEMS

CATEGORY	LOCATION	625.0100	628.1905	628.1910	628.6510	628.7005	628.7010	628.7015	629.0210	631.0300	631.1000
		TOPSOIL SY	MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	SOIL STABILIZER TYPE B ACRE	INLET PROTECTION TYPE A EACH	INLET PROTECTION TYPE B EACH	INLET PROTECTION TYPE C EACH	FERTILIZER TYPE B CWT	SOD WATER MGAL	SOD LAWN SY
0010	W. RAWSON AVE (CTH BB) & S. 68TH ST	50	-	-	0.010	-	7	-	0.04	2	50
0010	W. RAWSON AVE (CTH BB) & S. 51ST ST	100	-	-	0.021	-	8	8	0.07	3	100
0010	W. RAWSON AVE (CTH BB) & S. 31ST ST	63	-	-	0.013	-	8	2	0.04	2	63
0010											
SUBTOTAL		213	0	0	0.04	0	23	10	0.15	7	213
UNDISTRIBUTED		87	2	2	0.06	3	7	5	0.05	3	87
TOTAL 0010		300	2	2	0.10	3	30	15	0.20	10	300

PROJECT NO: 2050-12-70

HWY: CTH BB

COUNTY: MILWAUKEE

MISCELLANEOUS QUANTITIES

SHEET

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FILE NAME :

PLOT DATE :

PLOT BY :

PLOT SCALE : 1:1

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SIGN SUMMARY

CATEGORY	SIGN NO.	SIGN CODE	DESCRIPTION	INCHES	SIZE		634.0811	637.2210	637.2215	638.2602	REMARKS
					X	INCHES	POSTS TUBULAR STEEL 2X2-INCH X 11-FT EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE H FOLDING SF	REMOVING SIGNS TYPE II EACH	
0010	1.01	M1-94H	S 68th ST	66.00	X	18.00	--	8.25	--	1	ON MASTARM
0010	1.02	M1-94H	S 68th ST	66.00	X	18.00	--	8.25	--	--	ON MASTARM
0010	1.03	R5-1	DO NOT ENTER	36.00	X	36.00	--	9.00	--	--	ON SIGNAL POLE
0010	1.04	R5-1	DO NOT ENTER	36.00	X	36.00	--	9.00	--	--	ON SIGNAL POLE
0010	1.05	M1-5A	COUNTY BB	24.00	X	24.00	1	4.00	--	--	
0010	1.06	M3-4	WEST	24.00	X	12.00	--	2.00	--	--	SAME POST AS 1.05
0010	1.07	M3-2	EAST	24.00	X	12.00	--	2.00	--	--	SAME POST AS 1.08
0010	1.08	M1-5A	COUNTY BB	24.00	X	24.00	--	4.00	--	1	REUSE EXISTING POST
0010	2.01	M1-94H	S 51st ST	60.00	X	18.00	--	7.50	--	1	ON MASTARM
0010	2.02	M1-94H	S 51st ST	60.00	X	18.00	--	7.50	--	--	ON MASTARM
0010	2.03	M1-94H	W RAWSON AVE	90.00	X	18.00	--	11.25	--	1	ON MASTARM
0010	2.04	M1-94H	W RAWSON AVE	90.00	X	18.00	--	11.25	--	1	ON MASTARM
0010	2.05	R4-7	KEEP RIGHT	24.00	X	30.00	1	5.00	--	1	
0010	2.06	R4-7	KEEP RIGHT	24.00	X	30.00	--	5.00	--	1	ON SIGNAL POLE
0010	2.07	R4-7	KEEP RIGHT	24.00	X	30.00	1	5.00	--	1	
0010	2.08	R1-1F	STOP (FOLDING)	30.00	X	30.00	--	--	5.18	--	SAME POST AS 2.05
0010	2.09	R1-1F	STOP (FOLDING)	30.00	X	30.00	--	--	5.18	--	SAME POST AS 2.07
0010	2.10	R1-1F	STOP (FOLDING)	30.00	X	30.00	--	--	5.18	--	ON SIGNAL POLE
0010	2.11	R5-1	DO NOT ENTER	36.00	X	36.00	--	9.00	--	--	ON SIGNAL POLE
0010	2.12	M1-5A	COUNTY BB	24.00	X	24.00	1	4.00	--	--	
0010	2.13	R5-1	DO NOT ENTER	36.00	X	36.00	--	9.00	--	--	ON SIGNAL POLE
0010	2.14	M1-5A	COUNTY BB	24.00	X	24.00	1	4.00	--	--	ON SIGNAL POLE
0010	2.15	M3-4	WEST	24.00	X	12.00	--	2.00	--	--	ON SIGNAL POLE
0010	2.16	M3-2	EAST	24.00	X	12.00	--	2.00	--	--	SAME POST AS 2.12
0010	3.01	M1-94H	S RIVERWOOD BLVD ->	102.00	X	18.00	--	12.75	--	--	ON MASTARM
0010	3.02	M1-94H	<- S RIVERWOOD BLVD	102.00	X	18.00	--	12.75	--	--	ON MASTARM
0010	3.03	M1-94H	<- S 31st ST	78.00	X	18.00	--	9.75	--	--	ON MASTARM
0010	3.04	M1-94H	S 31st ST ->	78.00	X	18.00	--	9.75	--	--	ON MASTARM
0010	3.05	M1-94H	W RAWSON AVE	90.00	X	18.00	--	11.25	--	--	ON MASTARM
0010	3.06	M1-94H	W RAWSON AVE	90.00	X	18.00	--	11.25	--	--	ON MASTARM
0010	3.07	R1-1F	STOP (FOLDING)	30.00	X	30.00	1	--	5.18	1	
0010	3.08	R1-1F	STOP (FOLDING)	30.00	X	30.00	1	--	5.18	1	
0010	3.09	R1-1F	STOP (FOLDING)	30.00	X	30.00	--	--	5.18	--	BACKSIDE OF EXISTING KEEP RIGHT
0010	3.10	R1-1F	STOP (FOLDING)	30.00	X	30.00	--	--	5.18	--	BACKSIDE OF EXISTING KEEP RIGHT
0010	3.11	R4-7	KEEP RIGHT	24.00	X	30.00	--	5.00	--	--	SAME AS POST 3.07
0010	3.12	R4-7	KEEP RIGHT	24.00	X	30.00	--	5.00	--	1	SAME AS POST 3.08
0010	3.13	R5-1	DO NOT ENTER	36.00	X	36.00	--	9.00	--	--	ON SIGNAL POLE
0010	3.14	R5-1	DO NOT ENTER	36.00	X	36.00	--	9.00	--	--	ON SIGNAL POLE
0010	3.15	M1-5A	COUNTY BB	24.00	X	24.00	1	4.00	--	--	
0010	3.16	M1-5A	COUNTY BB	24.00	X	24.00	1	4.00	--	--	ON SIGNAL POLE
0010	3.17	M3-4	WEST	24.00	X	12.00	--	2.00	--	--	ON SIGNAL POLE
0010	3.18	M3-2	EAST	24.00	X	12.00	--	2.00	--	--	SAME POST AS 3.15
TOTAL 0010							9	236.50	36.26	11	

PROJECT NO: 2050-12-70

HWY: CTH BB

COUNTY: MILWAUKEE

MISCELLANEOUS QUANTITIES

SHEET

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FILE NAME :

PLOT DATE :

PLOT BY :

PLOT SCALE : 1:1

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TRAFFIC CONTROL

LOCATION	DURATION DAYS *	643.0300 TRAFFIC CONTROL DRUMS		643.0420 TRAFFIC CONTROL BARRICADES TYPE III		643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A		643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C		643.0800 TRAFFIC CONTROL ARROW BOARDS		643.0900 TRAFFIC CONTROL SIGNS		643.1050 TRAFFIC CONTROL SIGNS PCMS		643.5000 TRAFFIC CONTROL EACH	644.1601 TEMPORARY PEDESTRIAN CURB RAMP		644.1605 TEMPORARY PEDESTRIAN DETECTABLE WARNING		644.1810 TEMPORARY PEDESTRIAN BARRICADE		644.1440 TEMPORARY PEDESTRIAN SURFACE MATTING	
		*EACH	DAY	*EACH	DAY	*EACH	DAY	*EACH	DAY	*EACH	DAY	*EACH	DAY	*EACH	DAY		EACH	*EACH	DAY	SF	LF	SF	LF	
<u>W. RAWSON AVE (CTH BB) & S. 68TH ST</u>	40	50	2,000	2	80	4	160	--	--	--	--	27	1,080	2	14	--	1	40	12	50	60			
UNDISTRIBUTED	10	10	100	2	20	4	40	10	100	2	20	5	50	--	--	--	1	10	8	10	10			
SUBTOTAL	50		2,100		100		200		100		20		1,130		14		50		20		60	70		
<u>W. RAWSON AVE (CTH BB) & S. 51ST ST</u>	60	65	3,900	4	240	8	480	--	--	--	--	24	1,440	2	14	--	--	--	--	--	--			
UNDISTRIBUTED	10	20	200	4	40	8	80	10	100	2	20	5	50	--	--	--	--	--	--	--	--			
SUBTOTAL	70		4,100		280		560		100		20		1,490		14		--		--		--	--		
<u>W. RAWSON AVE (CTH BB) & S. 31ST ST</u>	40	90	3,600	4	160	8	320	14	560	1	40	22	880	2	14	--	--	--	--	--	--			
UNDISTRIBUTED	10	20	200	4	40	8	80	14	140	2	20	5	50	--	--	.75	--	--	--	--	--			
SUBTOTAL	50		3,800		200		400		700		60		930		14		0.75		--		--	--		
TOTAL			10,000		580		1,160		900		100		3,550		42		.75		50		20	60	70	
CATEGORY 0010			DAY		DAY		DAY		DAY		DAY		DAY		DAY		EACH		DAY		SF	LF	SF	
* FOR INFORMATIONAL USE ONLY																								

TEMPORARY MARKING

CATEGORY	LOCATION	643.3180 TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH		643.3970 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH	
		LF	LF	LF	LF
0010	W. RAWSON AVE (CTH BB) & S. 68TH ST	230		210	
0010	UNDISTRIBUTED	20		20	
	TOTAL 0010	250		230	

EVP

CATEGORY	FROM	THRU	TO	LOCATION	* 655.0210 CABLE TRAFFIC SIGNAL 3-14 AWG **(EVP LIGHT)		655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE	
					LF	LF	LF	LF
0010				W. RAWSON AVE (CTH BB) & S. 68TH ST				
0010	CB1	-	SB6		350		350	
0010	CB1	-	SB13		120		120	
0010				W. RAWSON AVE (CTH BB) & S. 51ST ST				
0010	CB1	-	SB4		250		250	
0010	CB1	-	SB10		240		240	
0010	CB1	-	SB14		120		120	
0010				W. RAWSON AVE (CTH BB) & S. 31ST ST				
0010	CB1	-	SB5		390		390	
0010	CB1	-	SB11		110		110	
0010				UNDISTRIBUTED	400		300	
				TOTAL 0010	1,980		1,880	

* ADDITIONAL QUANTITIES ELSEWHERE

** FOR INFORMATIONAL USE ONLY

PROJECT NO: 2050-12-70

HWY: CTH BB

COUNTY: MILWAUKEE

MISCELLANEOUS QUANTITIES

SHEET

E

FILE NAME :

PLOT DATE :

PLOT BY :

PLOT SCALE : 1:1

TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRING

LOCATION			*	*	*	*	*	*	
FROM	THROUGH	TO	655.0210	655.0230	655.0240	655.0260	655.0270	655.0515	
			CABLE TRAFFIC	CABLE TRAFFIC	CABLE TRAFFIC	CABLE TRAFFIC	CABLE TRAFFIC	ELECTRICAL	
			SIGNAL 3-14	SIGNAL 5-14	SIGNAL 7-14	SIGNAL 12-14	SIGNAL 15-14	WIRE TRAFFIC	
			AWG	AWG	AWG	AWG	AWG	SIGNALS 10	
			LF	LF	LF	LF	LF	LF	
W. RAWSON AVE (CTH BB) & S. 68TH ST									
<u>CABINET TO SIGNAL BASE</u>									
CB1	PB1, PB2, PB3	SB4	--	--	145	--	--	--	
CB1	PB1, PB2, PB3, PB4, PB5	SB6	--	--	--	--	310	35	
CB1	PB1, PB2, PB9, PB8	SB12	--	--	200	--	--	--	
CB1	PB1, PB2	SB13	--	--	--	70	--	15	
<u>BASE TO SIGNAL HEAD</u>									
SB12		HEAD 5	--	--	20	--	--	--	
SB13		HEAD 6	--	--	85	--	--	--	
SB13		HEAD 7	--	70	--	--	--	--	
SB13		HEAD 8	--	55	--	--	--	--	
SB4		HEAD 13	--	--	20	--	--	--	
SB6		HEAD 14	--	--	85	--	--	--	
SB6		HEAD 15	--	70	--	--	--	--	
SB6		HEAD 16	--	55	--	--	--	--	
SB7		HEAD 18	15	--	--	--	--	--	
SB13		HEAD 19	15	--	--	--	--	--	
SB7		HEAD 21	15	--	--	--	--	--	
SB7		PUSH BUTTON	5	--	--	--	--	--	
UNDISTRIBUTED			10	50	95	160	90	10	
W. RAWSON AVE (CTH BB) & S. 68TH ST			SUBTOTAL:	60	300	650	230	400	60
			CATEGORY	0010	0010	0010	0010	0010	0010

*ADDITIONAL QUANTITIES ELSEWHERE

TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRING

LOCATION FROM	THROUGH	TO	* 655.0210 CABLE TRAFFIC SIGNAL 3-14 AWG LF	* 655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG LF	* 655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG LF	* 655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF	* 655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG LF	* 655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF	
W. RAWSON AVE (CTH BB) & S. 51ST ST									
<u>CABINET TO SIGNAL BASE</u>									
CB1	PB2	SB3	--	--	65	--	--	--	
CB1	PB2,PB3, PB4	SB4	--	--	--	195	--	15	
CB1	PB2,PB3, PB4, PB5, PB6, PB7	SB8	--	--	--	345	--	--	
CB1	PB1, PB12, PB11, PB10, PB9, PB8	SB9	--	--	325	--	--	--	
CB1	PB1, PB12, PB11, PB10	SB10	--	--	--	185	--	10	
CB1	PB1, PB12	SB14	--	--	--	70	--	5	
<u>BASE TO SIGNAL HEAD</u>									
SB13		HEAD 2	--	--	20	--	--	--	
SB14		HEAD 3	--	--	20	--	--	--	
SB14		HEAD 4	--	50	--	--	--	--	
SB14		HEAD 5	--	60	--	--	--	--	
SB9		HEAD 7	--	--	20	--	--	--	
SB10		HEAD 8	--	--	85	--	--	--	
SB10		HEAD 9	--	65	--	--	--	--	
SB10		HEAD 10	--	55	--	--	--	--	
SB6		HEAD 12	--	--	20	--	--	--	
SB8		HEAD 13	--	--	50	--	--	--	
SB8		HEAD 14	--	40	--	--	--	--	
SB8		HEAD 15	--	20	--	--	--	--	
SB3		HEAD 17	--	--	20	--	--	--	
SB4		HEAD 18	--	--	85	--	--	--	
SB4		HEAD 19	--	70	--	--	--	--	
SB4		HEAD 20	--	55	--	--	--	--	
SB5		HEAD 22	15	--	--	--	--	--	
SB10		HEAD 23	15	--	--	--	--	--	
SB1		PUSH BUTTON	5	--	--	--	--	--	
SB5		PUSH BUTTON	5	--	--	--	--	--	
UNDISTRIBUTED			5	15	95	160	100	10	
W. RAWSON AVE (CTH BB) & S. 51ST ST			SUBTOTAL:	45	430	805	955	100	40
			CATEGORY	0010	0010	0010	0010	0010	0010

*ADDITIONAL QUANTITIES ELSEWHERE

TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRING

LOCATION FROM	THROUGH	TO	655.0210 CABLE TRAFFIC SIGNAL 3-14 AWG LF	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG LF	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG LF	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF	
W. RAWSON AVE (CTH BB) & S. 31ST ST									
<u>CABINET TO SIGNAL BASE</u>									
CB1	PB1, PB4, PB5	SB4	--	--	155	--	--	--	
CB1	PB1, PB10, PB9, PB8, PB7	SB5	--	--	--	340	--	5	
CB1	PB1, PB10, PB9, PB8	SB9	--	--	245	--	--	--	
CB1	PB1, PB10	SB11	--	--	--	70	--	10	
<u>BASE TO SIGNAL HEAD</u>									
SB9		HEAD 5	--	--	20	--	--	--	
SB11		HEAD 6	--	--	80	--	--	--	
SB11		HEAD 7	--	70	--	--	--	--	
SB11		HEAD 8	--	55	--	--	--	--	
SB4		HEAD 13	--	--	20	--	--	--	
SB5		HEAD 14	--	--	80	--	--	--	
SB5		HEAD 15	--	65	--	--	--	--	
SB5		HEAD 16	--	55	--	--	--	--	
SB5		HEAD 17	--	40	--	--	--	--	
SB11		HEAD 18	15	--	--	--	--	--	
<u>UNDISTRIBUTED</u>			5	15	95	160	100	15	
W. RAWSON AVE (CTH BB) & S. 31ST ST			SUBTOTAL:	20	300	695	570	100	30
			PROJECT TOTAL:	2,105	1,030	2,150	1,755	600	130
			CATEGORY	0010	0010	0010	0010	0010	0010

*ADDITIONAL QUANTITIES ELSEWHERE

TRAFFIC SIGNAL BASES, STANDARDS, FACES

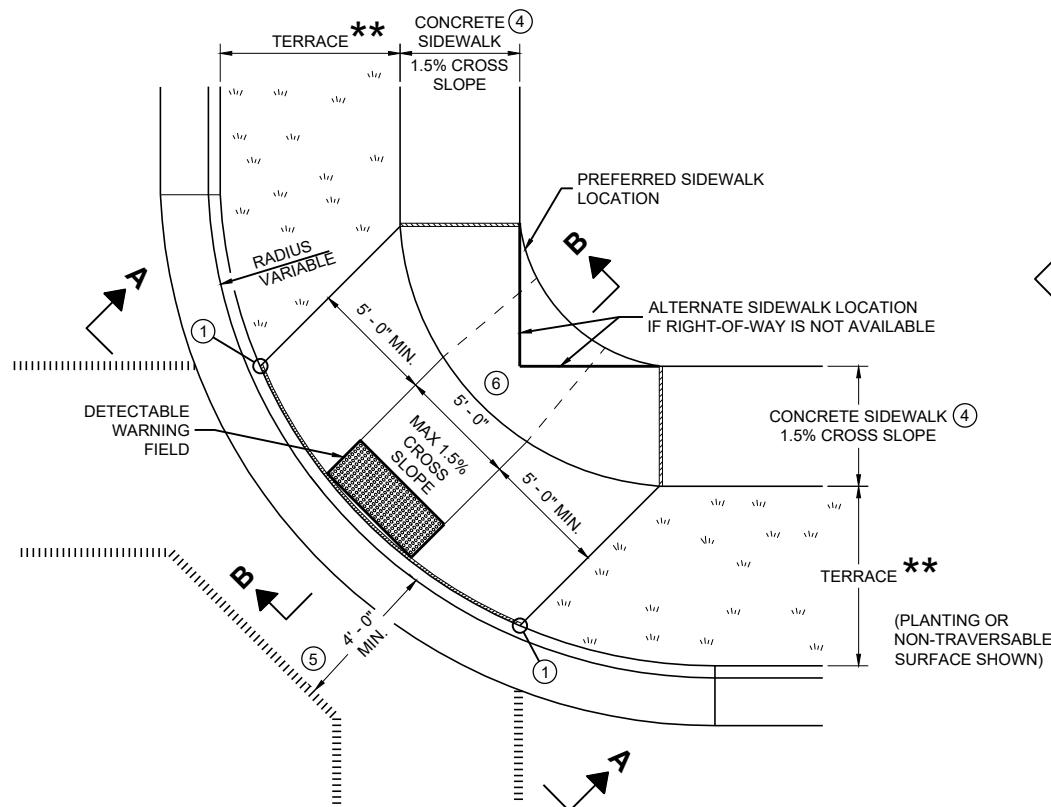
CATEGORY	LOCATION	NO.	657.0100	657.0405	657.0430	658.0173	658.0174	658.0416	658.0500
			PEDESTAL BASES EACH	TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5- FT EACH	TRAFFIC SIGNAL STANDARDS ALUMINUM 10- FT EACH	TRAFFIC SIGNAL FACE 3S 12-INCH EACH	TRAFFIC SIGNAL FACE 4S 12-INCH EACH	PEDESTRIAN SIGNAL FACE 16- INCH EACH	PEDESTRIAN PUSH BUTTONS EACH
0010	W. RAWSON AVE (CTH BB) & S. 68TH ST	SB4					1		
0010		SB6			2	1			
0010		SB7	1		1			2	1
0010		SB12					1		
0010		SB13				2	1	1	
0010	W. RAWSON AVE (CTH BB) & S. 51ST ST	SB1	1	1					1
0010		SB3					1		
0010		SB4				2	1		
0010		SB5	1		1			1	1
0010		SB6					1		
0010		SB8				2	1		
0010		SB9					1		
0010		SB10				2	1	1	
0010		SB13					1		
0010		SB14				2	1		
0010	W. RAWSON AVE (CTH BB) & S. 31ST ST	SB4					1		
0010		SB5				3	1		
0010		SB9					1		
0010		SB11				2	1	1	
0010		TOTAL 0010		3	1	2	17	16	6

CONCRETE BASES, POLES, AND MAST ARMS

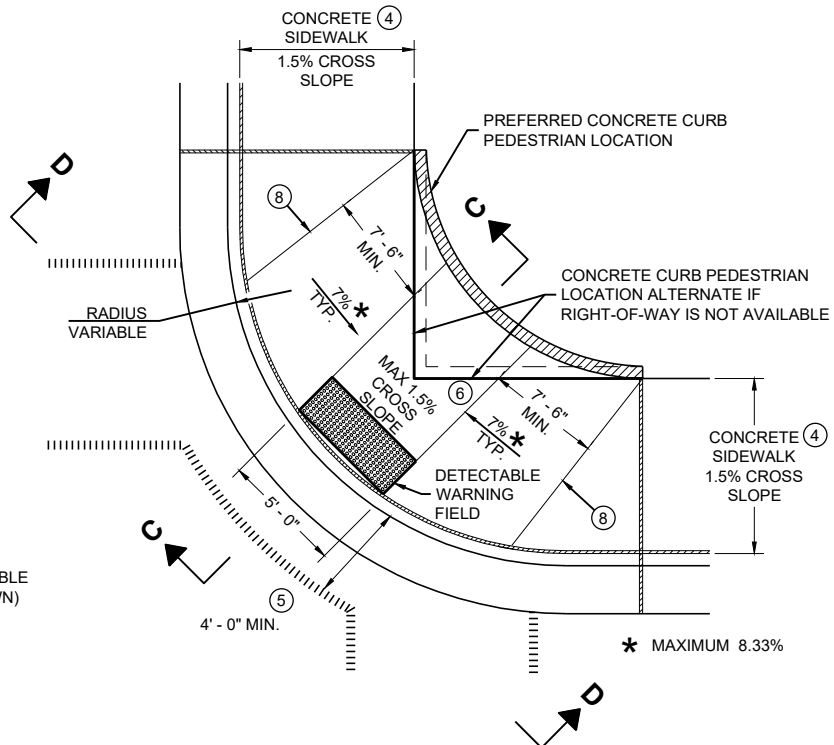
CATEGORY	LOCATION	NO.	654.0110	654.0113	657.0350	657.0355	657.0360	657.0530	657.0555	657.0815
			CONCRETE BASES TYPE 10 EACH	CONCRETE BASES TYPE 13 EACH	POLES TYPE 10 EACH	POLES TYPE 12 EACH	POLES TYPE 13 EACH	MONOTUBE ARMS 30-FT EACH	MONOTUBE ARMS 55-FT EACH	ARMS STEEL 15- FT EACH
0010	W. RAWSON AVE (CTH BB) & S. 68TH ST	SB6		1			1		1	1
0010		SB13		1			1		1	1
0010	W. RAWSON AVE (CTH BB) & S. 51ST ST	SB4		1		1			1	
0010		SB10		1		1			1	
0010		SB14	1			1		1		1
0010	W. RAWSON AVE (CTH BB) & S. 31ST ST	SB5		1			1		1	1
0010		SB11		1		1			1	
0010	TOTAL 0010		1	6	1	3	3	1	6	4

Standard Detail Drawing List

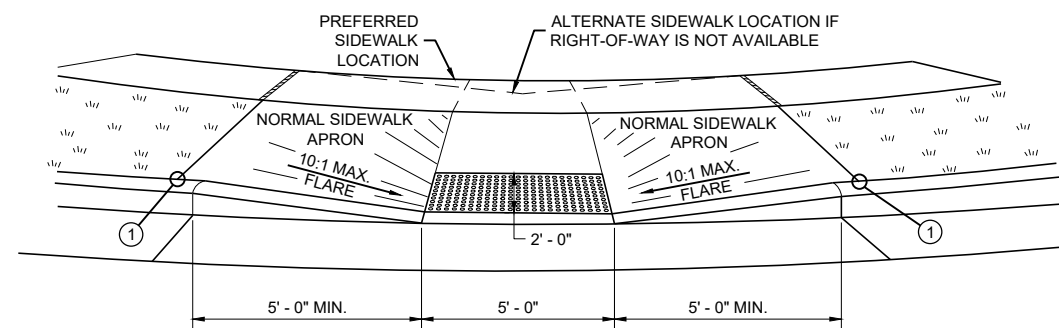
08D05-21A	CURB RAMPS TYPES 1 AND 1-A
08D05-21B	CURB RAMPS TYPES 2 AND 3
08D05-21C	CURB RAMPS TYPES 4A AND 4A1
08D05-21D	CURB RAMPS TYPE 4B AND 4B1
08D05-21E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-21F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-21G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-10	CONDUIT
09C03-04	TRANSFORMER/PEDESTAL BASES
09C11-10	CONCRETE BASE TYPE 10
09C12-09A	CONCRETE BASE TYPE 13
09C12-09B	CONCRETE BASE TYPE 13
09E01-15A	POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2
09E01-15B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)
09E01-15G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-06	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-09E	TYPE 10 POLE 15' -30' MONOTUBE ARM
09E08-09I	TYPE 12 POLE 35' -55' MONOTUBE ARM
09E08-09J	TYPE 13 POLE 35' -55' MONOTUBE ARM
09E08-09K	GENERAL NOTES, HARDWARE DETAILS FOR TYPE 9/10, 9/10 SPECIAL, 12 & 13 POLES W/MONOTUBE ARMS
09G01-04A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D20-07A	TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY
15D20-07B	TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY
15D20-07C	TRAFFIC CONTROL, SINGLE LEFT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE 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
15D30-09I	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09J	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09K	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09L	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D50-03A	TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT



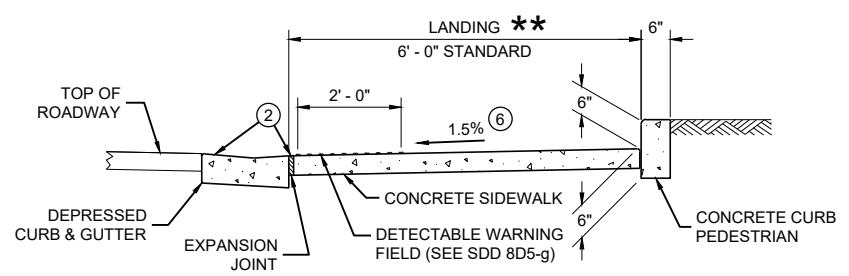
**PLAN VIEW
CURB RAMP TYPE 1
(CENTER OF CORNER RADIUS)**



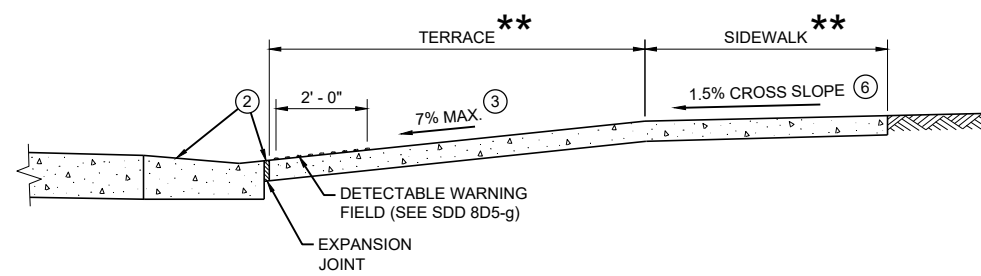
**PLAN VIEW
CURB RAMP TYPE 1 - A
(NO TERRACE)**



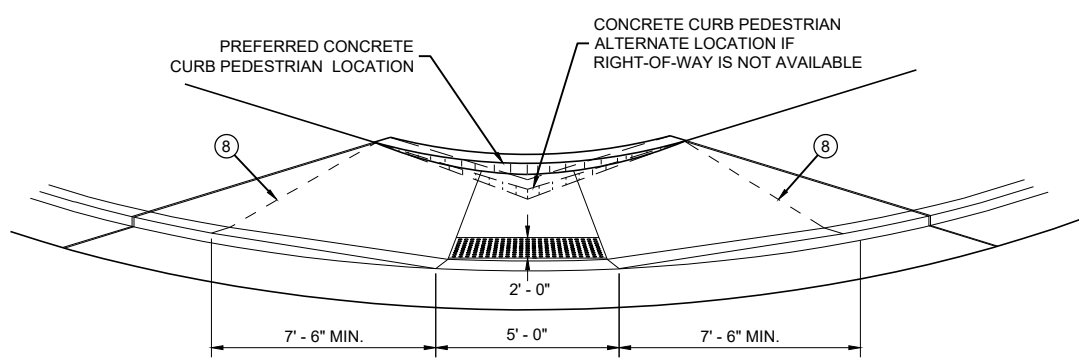
VIEW A - A FOR TYPE 1



SECTION C - C FOR TYPE 1 - A



SECTION B - B FOR TYPE 1



VIEW D - D FOR TYPE 1 - A

GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.
- TYPE 1 CURB RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.
- DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAR FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.
- SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD"
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑤ PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA. 4 FOOT WIDTH IS MEASURED FROM THE FLANGE LINE
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS
TYPE 1 AND 1-A**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

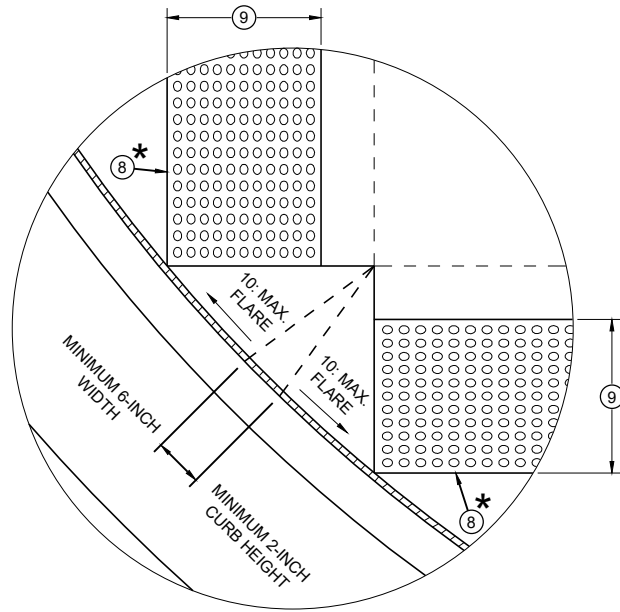
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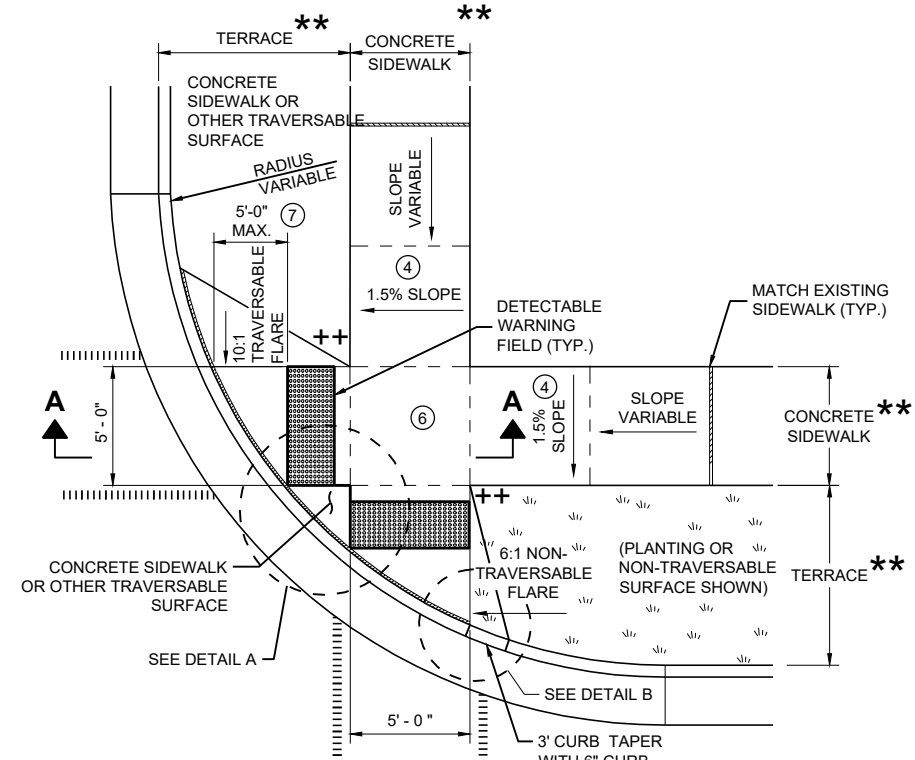
SDD 08D05-21a

SDD 08D05-21a

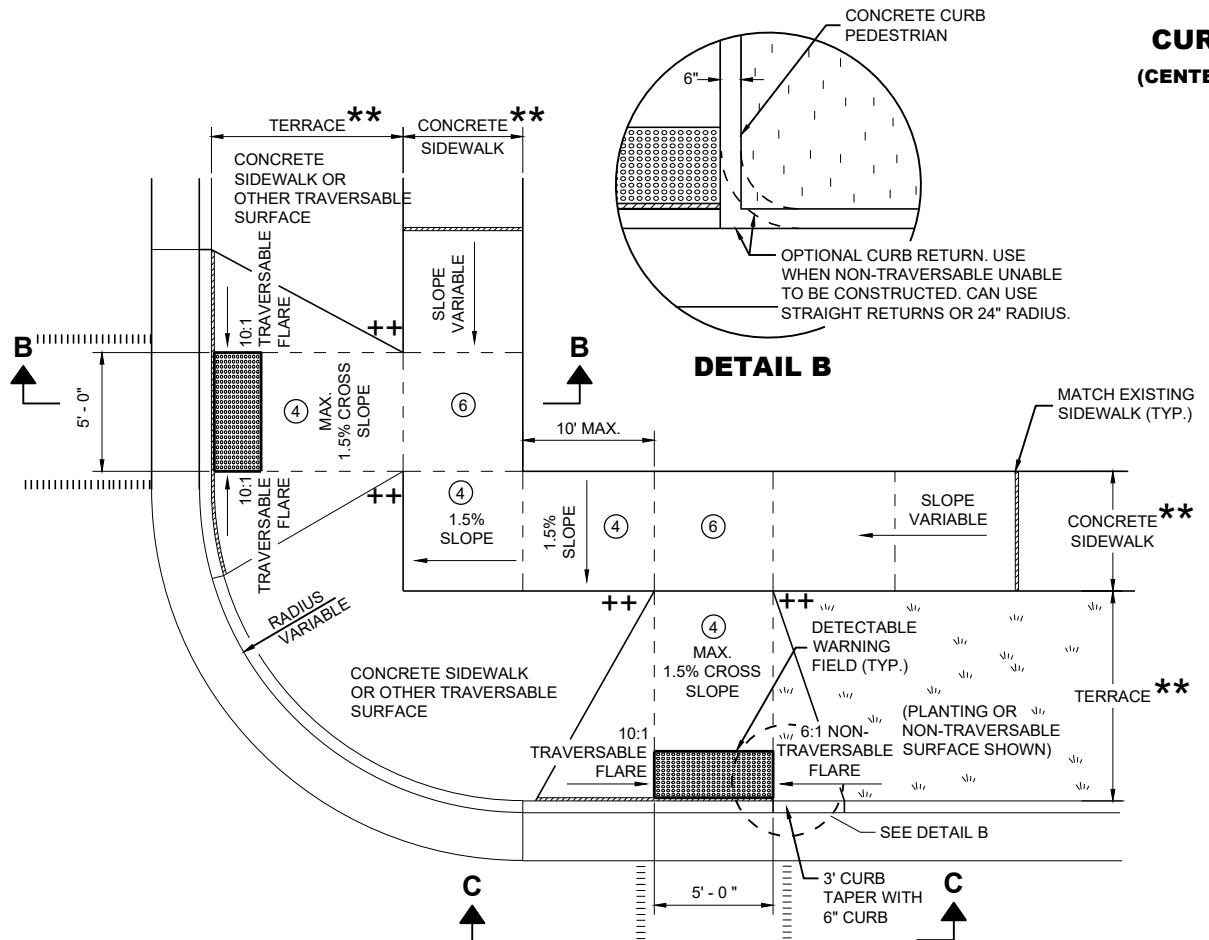
** WIDTH SHOWN ELSEWHERE IN THE PLANS



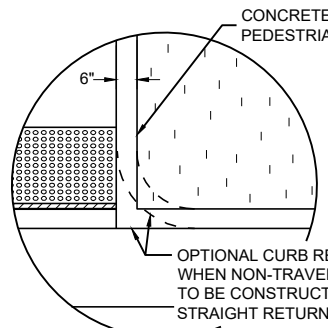
DETAIL A



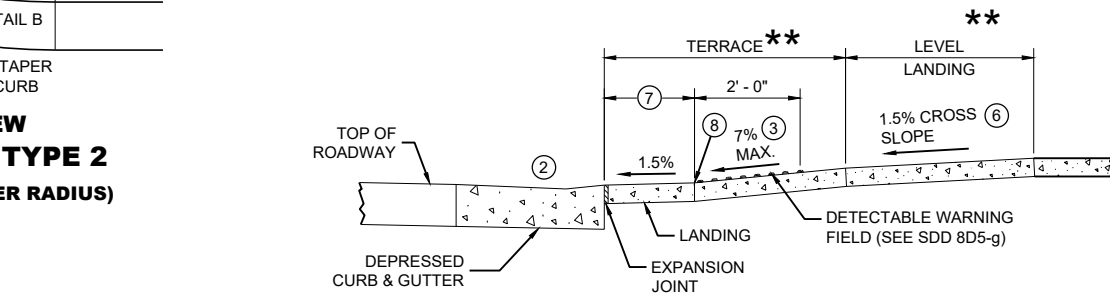
**PLAN VIEW
CURB RAMP TYPE 2
(CENTER OF CORNER RADIUS)**



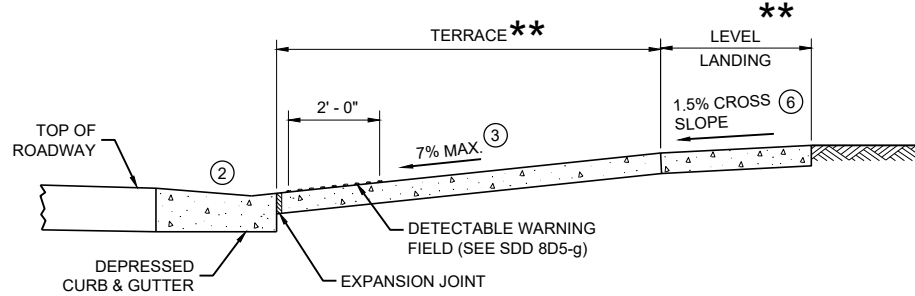
**PLAN VIEW
CURB RAMP TYPE 3
(OUTSIDE OF CROSSWALK AREA)**



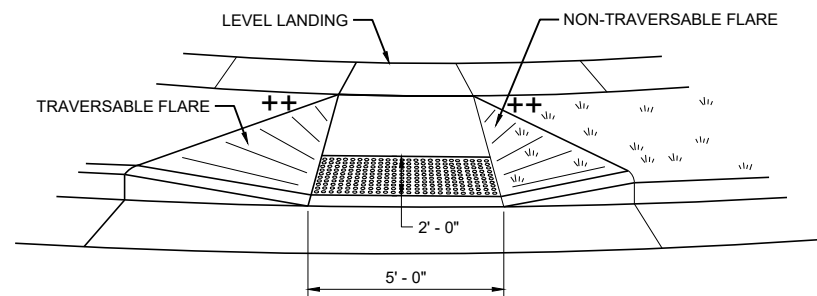
DETAIL B



SECTION A - A FOR TYPE 2



SECTION B - B FOR TYPE 3



VIEW C - C FOR TYPE 3

GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.
- ⑦ WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑨ WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

- * MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK
- ** WIDTH SHOWN ELSEWHERE IN THE PLANS
- ++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- - - - CONTRACTION JOINT SIDEWALK
- |||||| PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS
TYPE 2 AND 3**

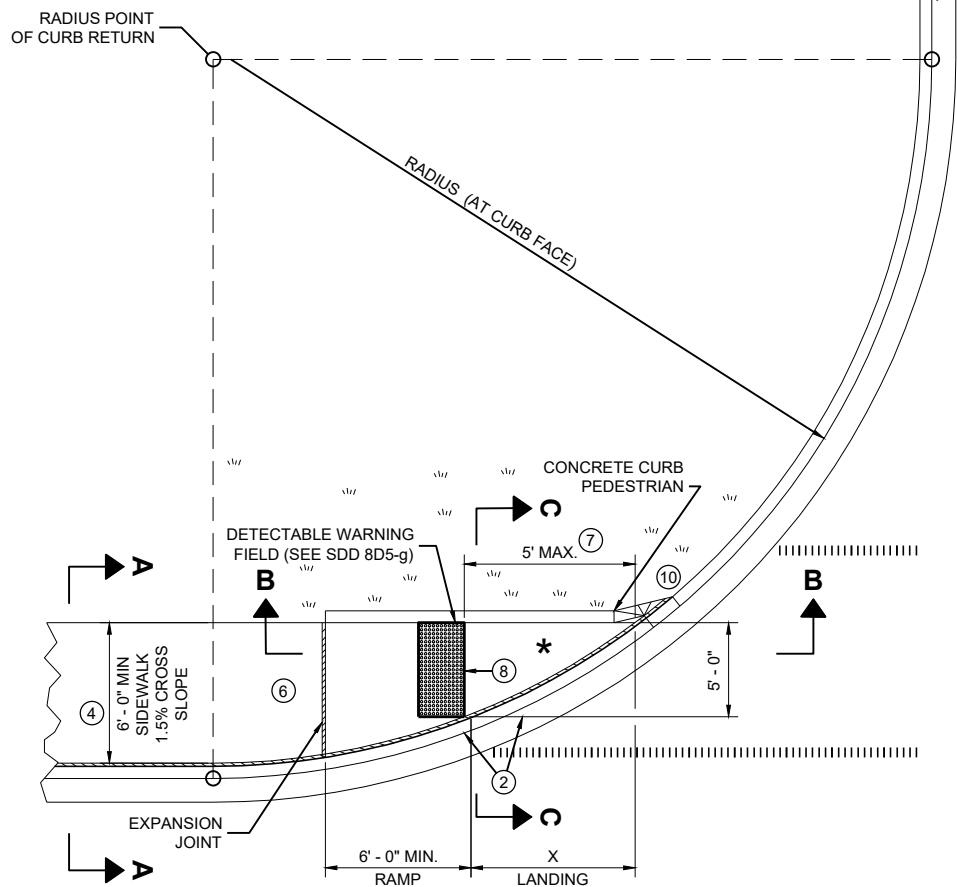
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 08D05-21b

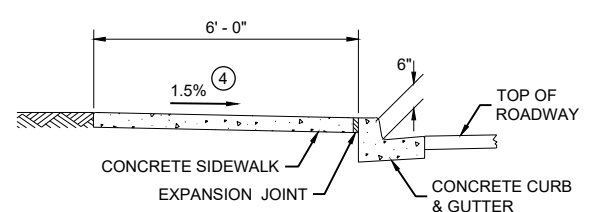
SDD 08D05-21b



**PLAN VIEW
CURB RAMP TYPE 4A**

RADIUS (AT CURB FACE)	X
10 FEET	4' - 7"

INTERMEDIATE RADII CAN BE INTERPOLATED



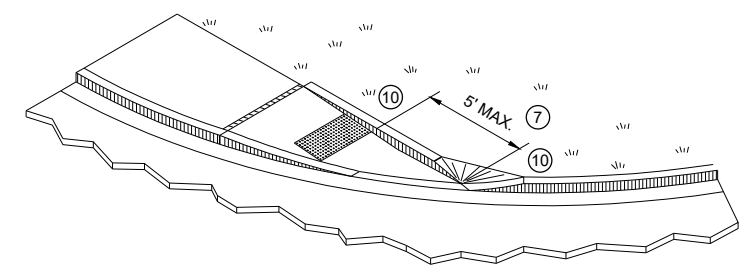
SECTION A - A FOR TYPE 4A

GENERAL NOTES

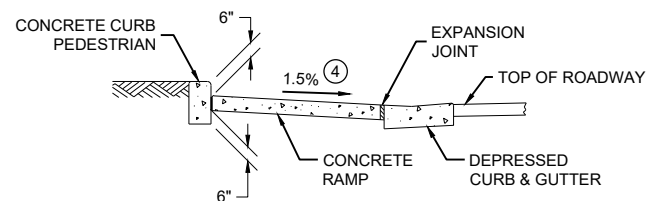
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT SIDEWALK
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

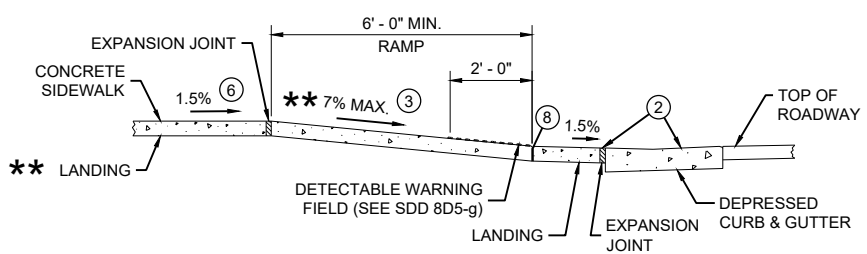


ISOMETRIC VIEW FOR TYPE 4A



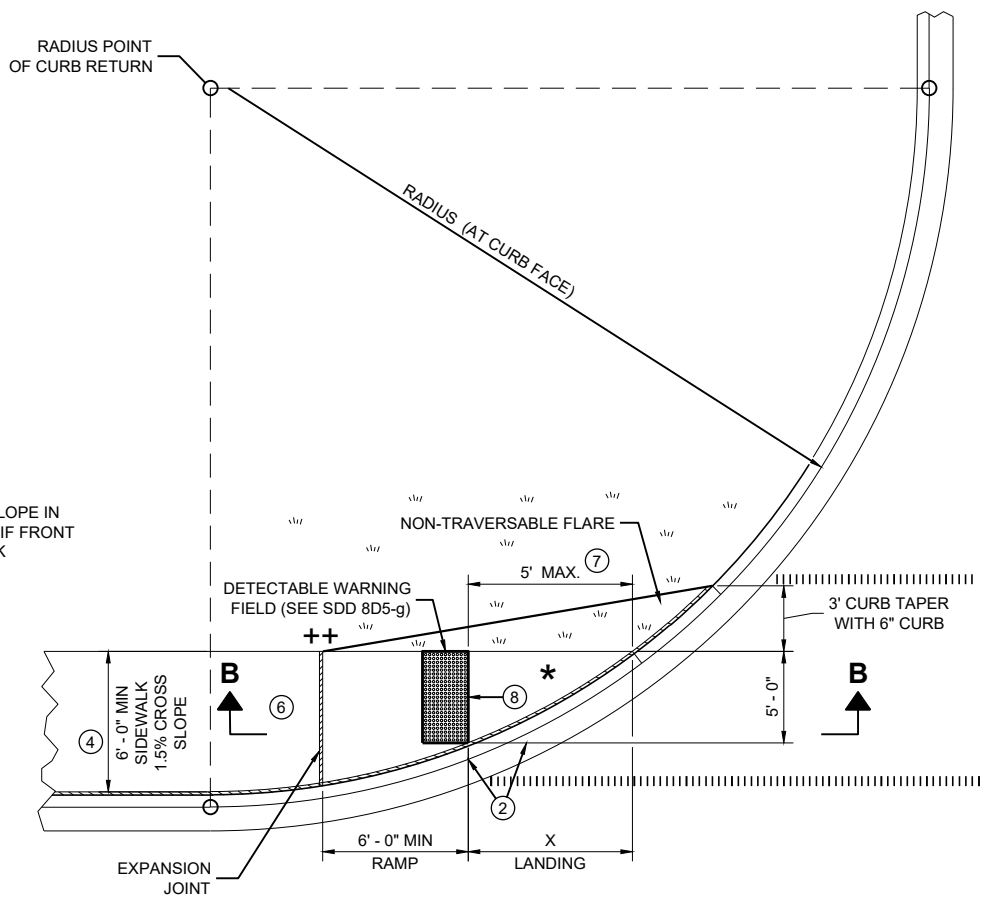
SECTION C - C FOR TYPE 4A

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK



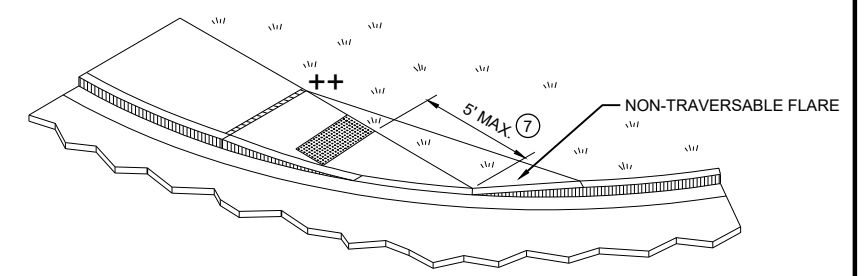
**SECTION B - B FOR
TYPE 4A AND TYPE 4A1**

** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED



**PLAN VIEW
CURB RAMP TYPE 4A1**

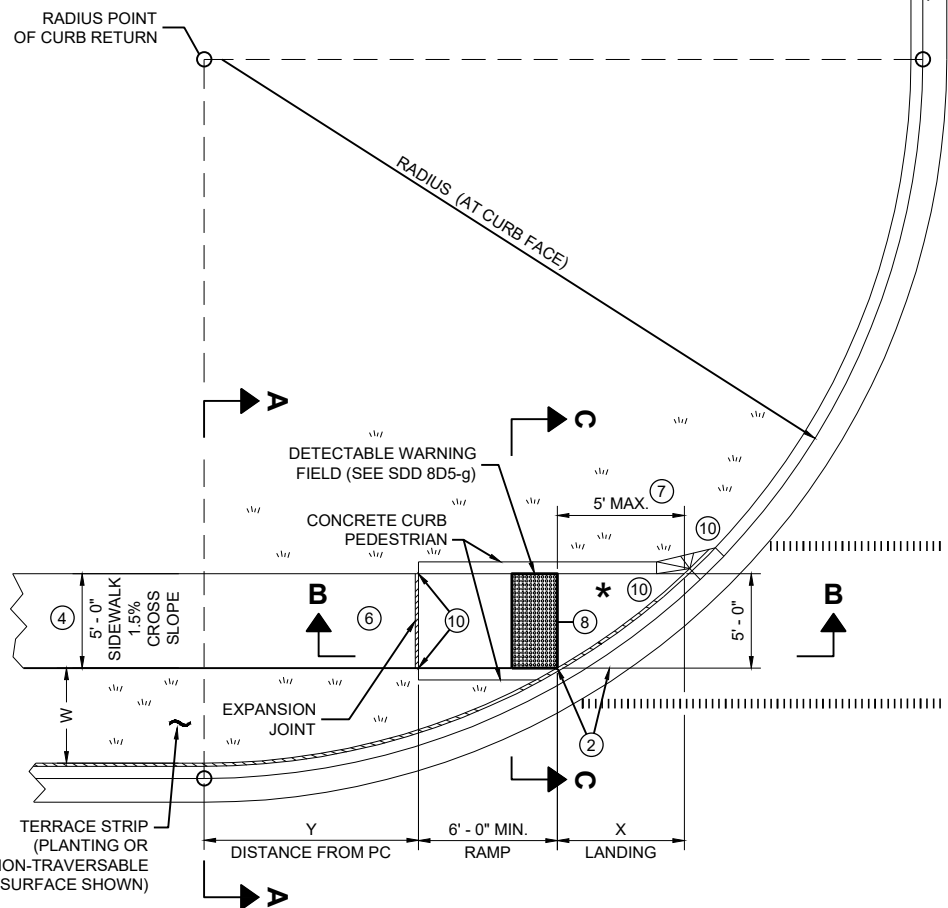
++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



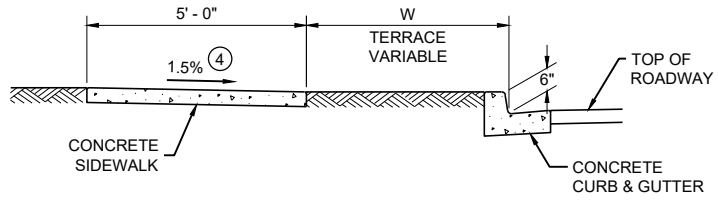
ISOMETRIC VIEW FOR TYPE 4A1

**CURB RAMPS
TYPE 4A AND 4A1**

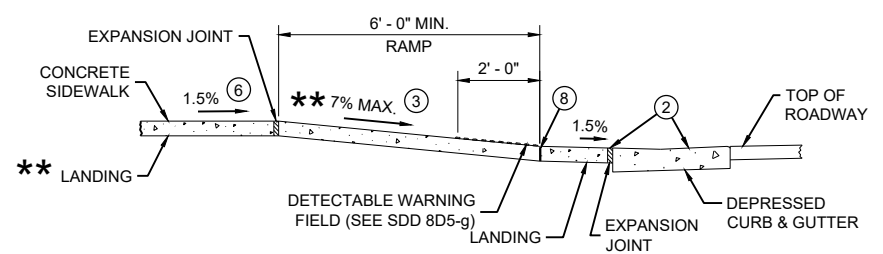
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PLAN VIEW CURB RAMP TYPE 4B



SECTION A - A FOR TYPE 4B

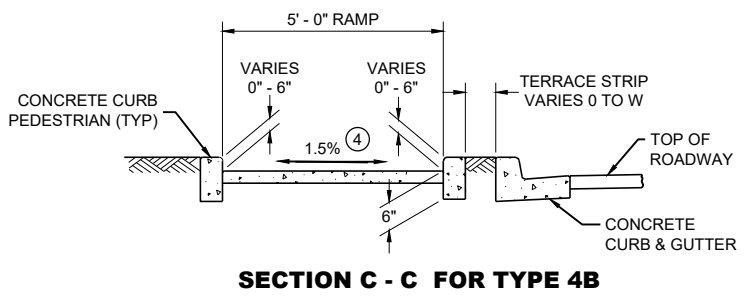


SECTION B - B FOR TYPE 4B AND TYPE 4B1

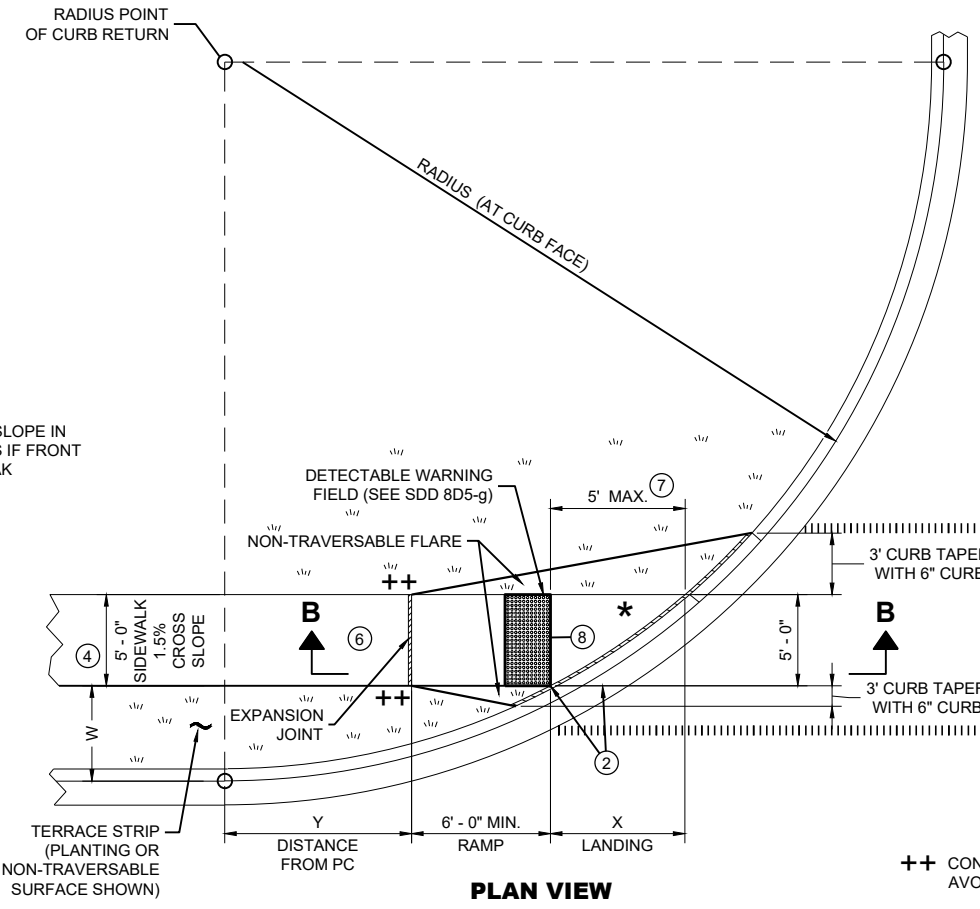
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 1/4"	0' - 5"	2' - 1"	1' - 4 1/2"	1' - 5"	2' - 1"	0' - 10"	2' - 7 1/2"	0' - 3 1/4"	3' - 0 1/4"						
15 FEET	4' - 6 3/4"	2' - 1 3/4"	3' - 9"	3' - 5 3/4"	3' - 1 1/4"	4' - 6"	2' - 6 3/4"	5' - 4 1/2"	2' - 1"	6' - 1"	1' - 8"	6' - 8 1/2"	1' - 3 1/4"	7' - 2 1/2"	0' - 10 3/4"	7' - 7 1/4"
20 FEET			4' - 11 1/2"	5' - 1 3/4"	4' - 3 1/4"	6' - 5 1/2"	3' - 8 3/4"	7' - 7"	3' - 3"	8' - 6 1/2"	2' - 10"	9' - 4 1/2"	2' - 5 1/2"	10' - 1 1/4"	2' - 1 1/4"	10' - 9"
30 FEET									4' - 10 3/4"	12' - 5 3/4"	4' - 5 1/2"	13' - 7 3/4"	4' - 0 3/4"	14' - 8 1/2"	3' - 8 1/2"	15' - 8 1/4"
40 FEET															4' - 10 3/4"	19' - 8 1/4"

INTERMEDIATE RADII CAN BE INTERPOLATED
 DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
 DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH

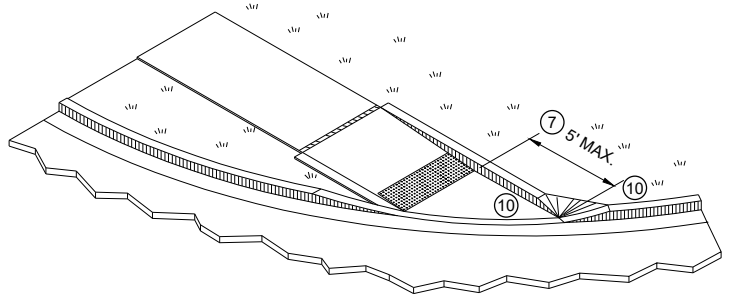


SECTION C - C FOR TYPE 4B

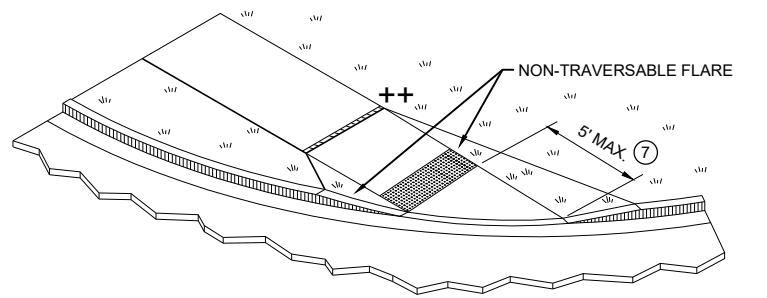


PLAN VIEW CURB RAMP TYPE 4B1

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

LEGEND

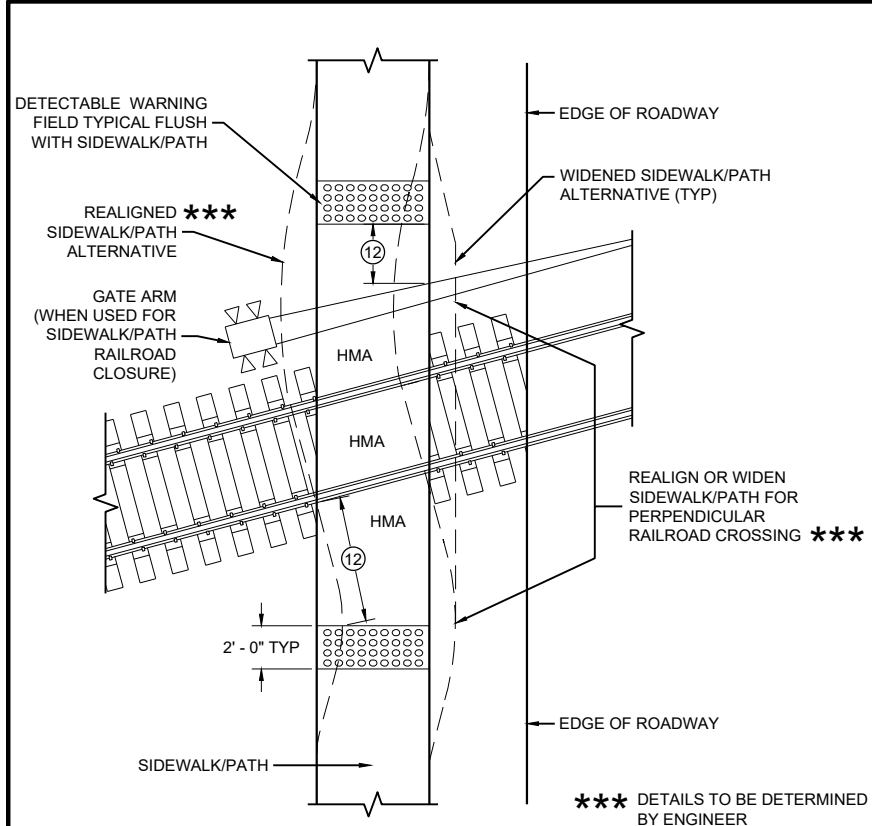
- ===== 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT SIDEWALK
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- (2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- (3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- (4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- (6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- (7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- (8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- (10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

CURB RAMPS TYPE 4B AND 4B1

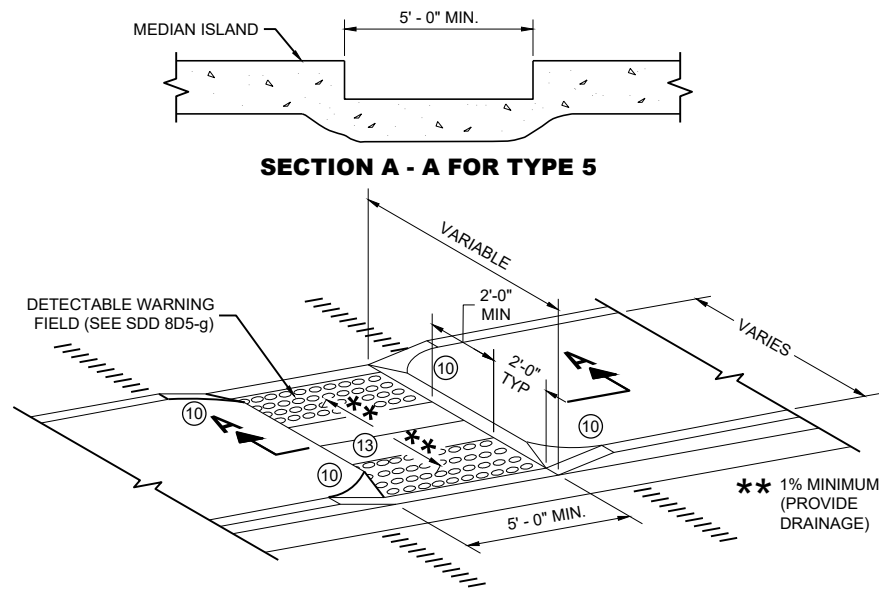
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CURB RAMP TYPE 8

DETECTABLE WARNINGS FOR SIDEWALKS OR SHARED USE PATHS AT RAILROAD CROSSINGS

*** DETAILS TO BE DETERMINED BY ENGINEER



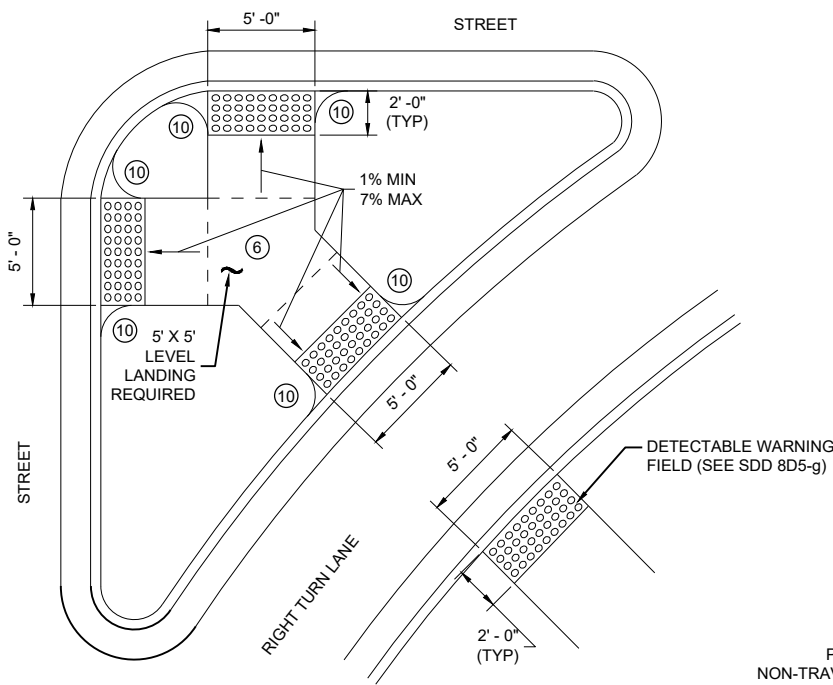
**CURB RAMP TYPE 5
MEDIAN ISLAND
NON-ELEVATED PEDESTRIAN CROSSING**

GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- ⑪ SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ⑫ THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK/PATH. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD TRACK IS 15 FEET MAXIMUM AND 12 FEET MINIMUM, 15 FEET TYPICAL FROM THE NEAREST RAIL.
- ⑬ DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STREET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

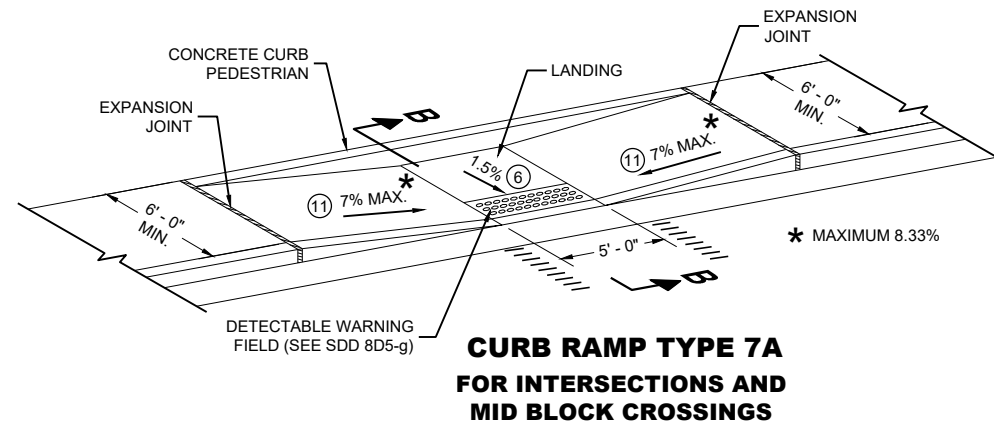
LEGEND

- ===== 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)

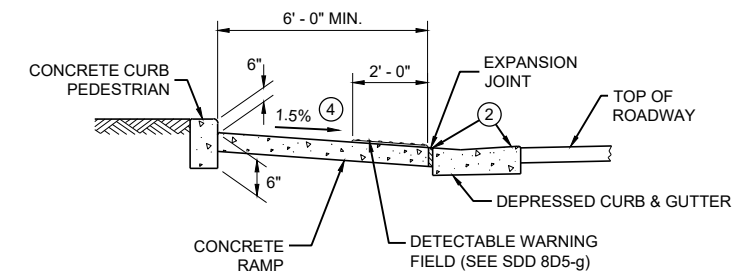


**CURB RAMP TYPE 6
DETECTABLE WARNING AT ISLANDS**

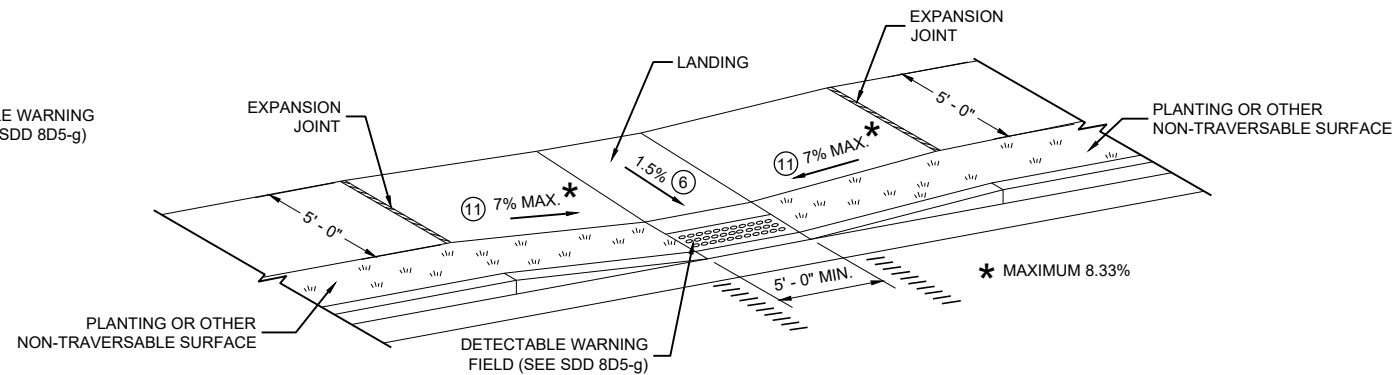
REFER TO GENERAL NOTES ② AND ③ FOR ALL ISLAND CURB RAMPS



**CURB RAMP TYPE 7A
FOR INTERSECTIONS AND
MID BLOCK CROSSINGS**



SECTION B - B FOR TYPE 7A

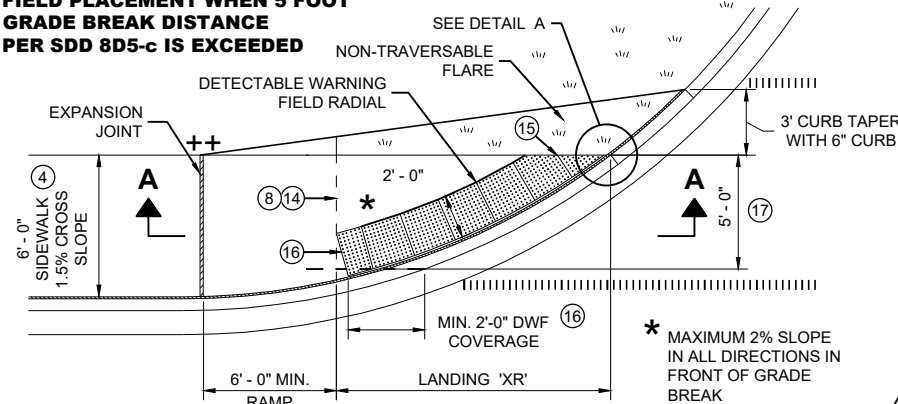


**CURB RAMP TYPE 7B
FOR INTERSECTIONS AND
MID BLOCK CROSSINGS**

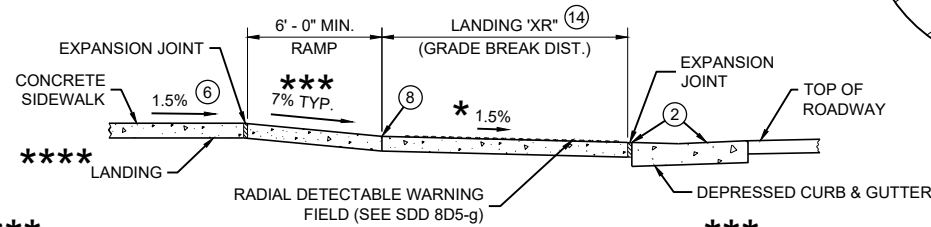
**CURB RAMPS
TYPE 5, 6, 7A, 7B & 8**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-c IS EXCEEDED**



**PLAN VIEW
CURB RAMP TYPE 4A1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**



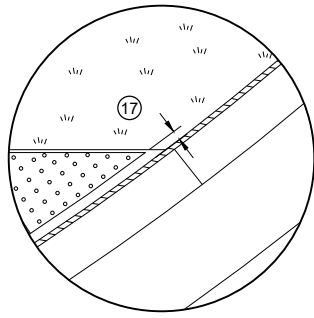
SECTION A - A FOR TYPE 4A1

**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%

LEGEND

- ===== 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- |||||| PAVEMENT MARKING CROSSWALK (WHITE)

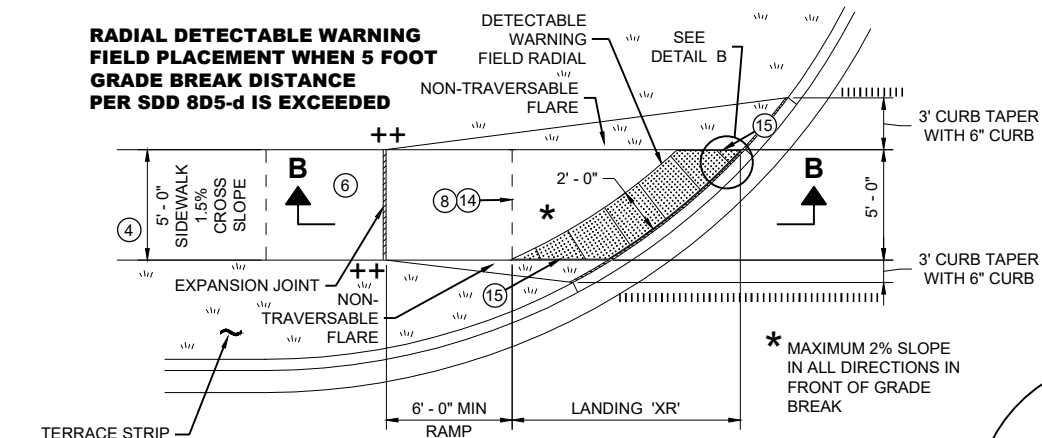


DETAIL A

GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.
- REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.
- FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.
- DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.
- 2 GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- 3 AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- 4 ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- 6 PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.
- 8 PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- 14 CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.
- 15 FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/2" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.
- 16 USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.
- 17 A MAXIMUM 3 INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

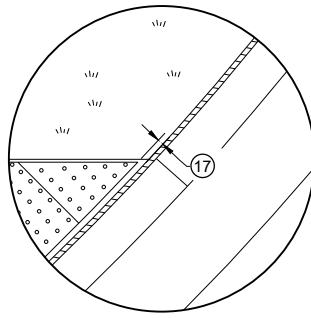
**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-d IS EXCEEDED**



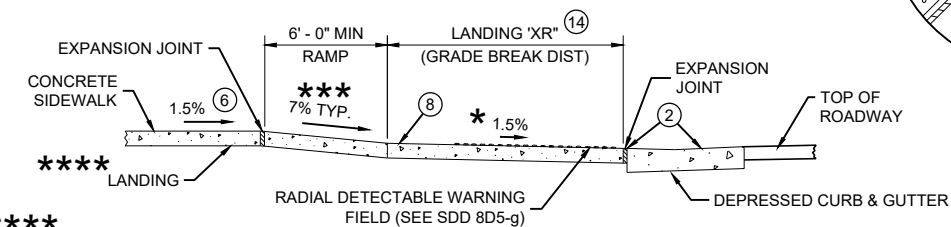
**PLAN VIEW
CURB RAMP TYPE 4B1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**

TERRACE STRIP (PLANTING OR NON-TRAVERSABLE SURFACE SHOWN)

* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



DETAIL B

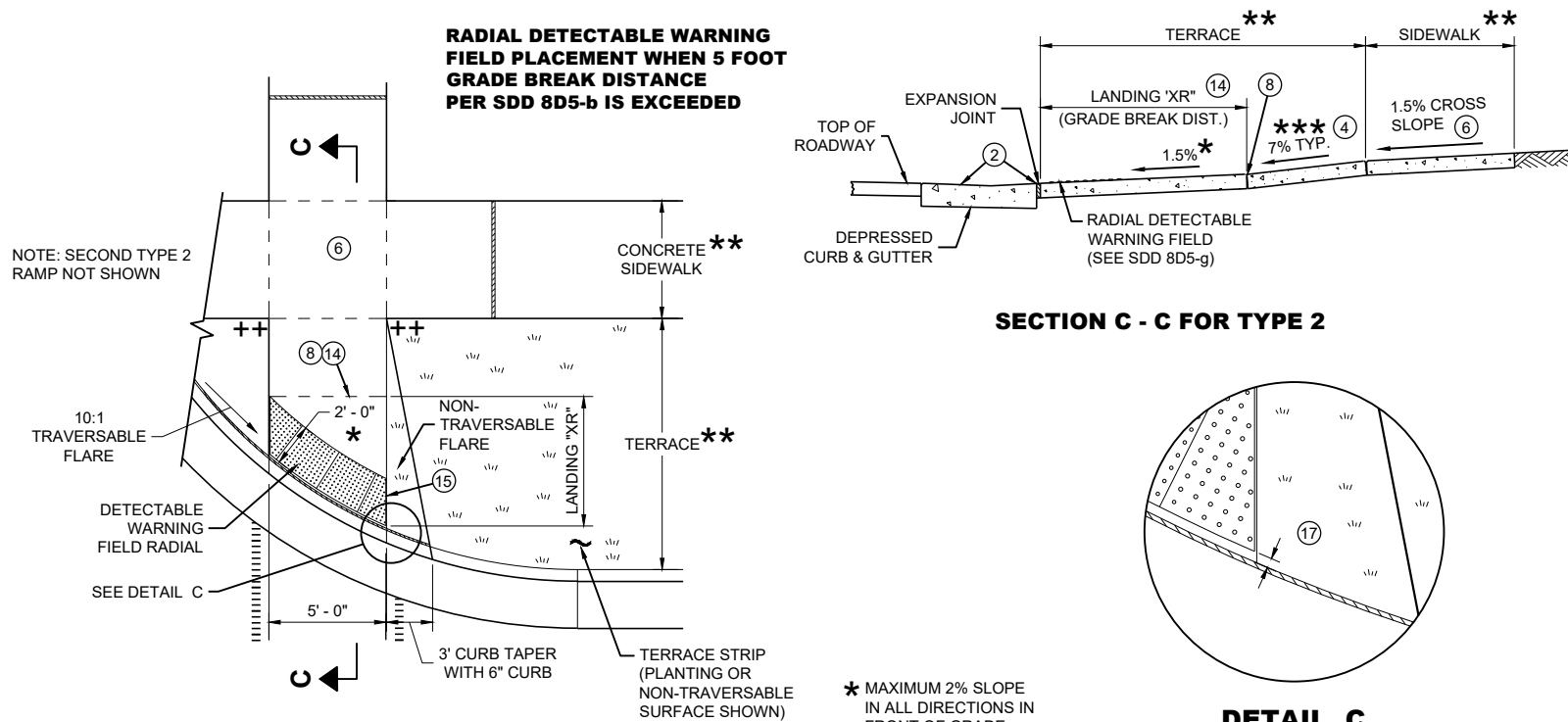


SECTION B - B FOR TYPE 4B1

**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%

**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-b IS EXCEEDED**



**PLAN VIEW
CURB RAMP TYPE 2
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)
(ON LINE WITH SIDEWALK)**

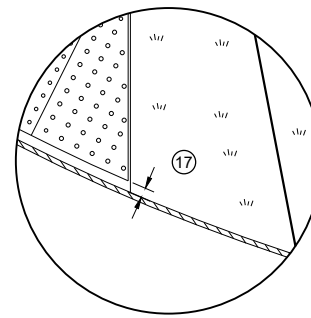
NOTE: SECOND TYPE 2 RAMP NOT SHOWN

* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** MAXIMUM 8.33%

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



DETAIL C

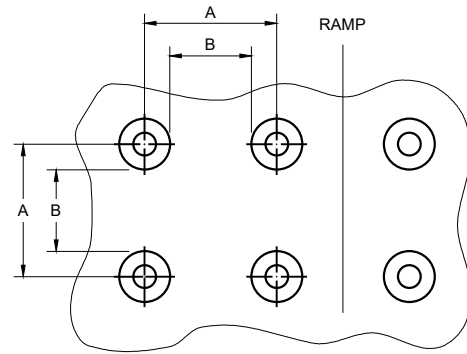
SECTION C - C FOR TYPE 2

**CURB RAMPS
RADIAL DETECTABLE WARNING**

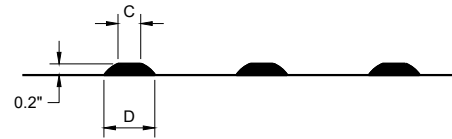
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	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

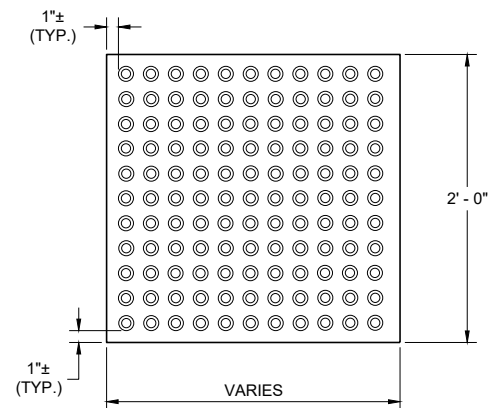


PLAN VIEW

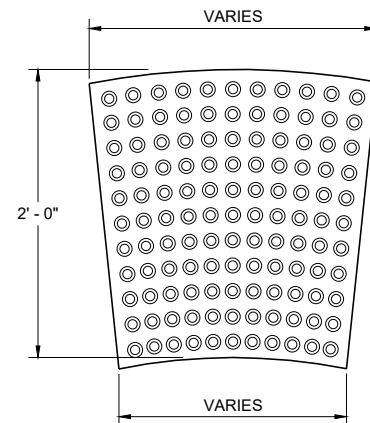


ELEVATION VIEW

**TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL**

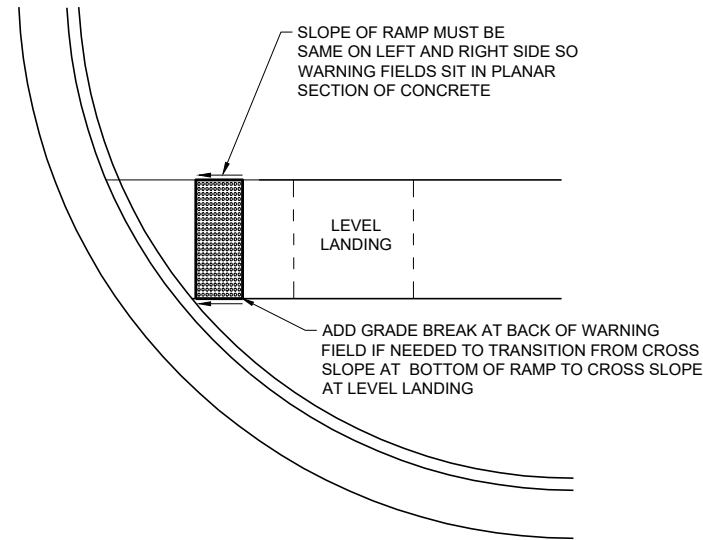


**RECTANGULAR
PLATES**



**RADIAL
PLATES**

**PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)**

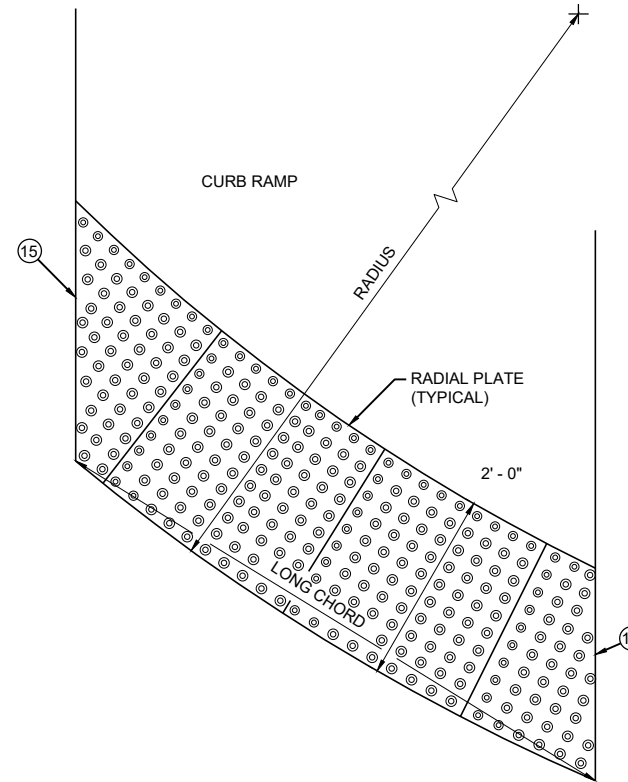


**DETECTABLE WARNING FIELD
PLANAR INSTALLATION**

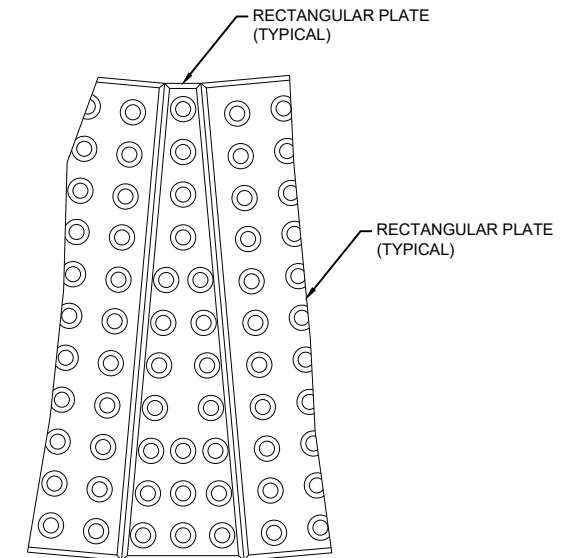
GENERAL NOTES

- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.
- PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.
- FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.
- DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.
- FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.
- REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.
- DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

15 FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.



**PLAN VIEW
RADIAL DETECTABLE
WARNING FIELD ATTRIBUTES**

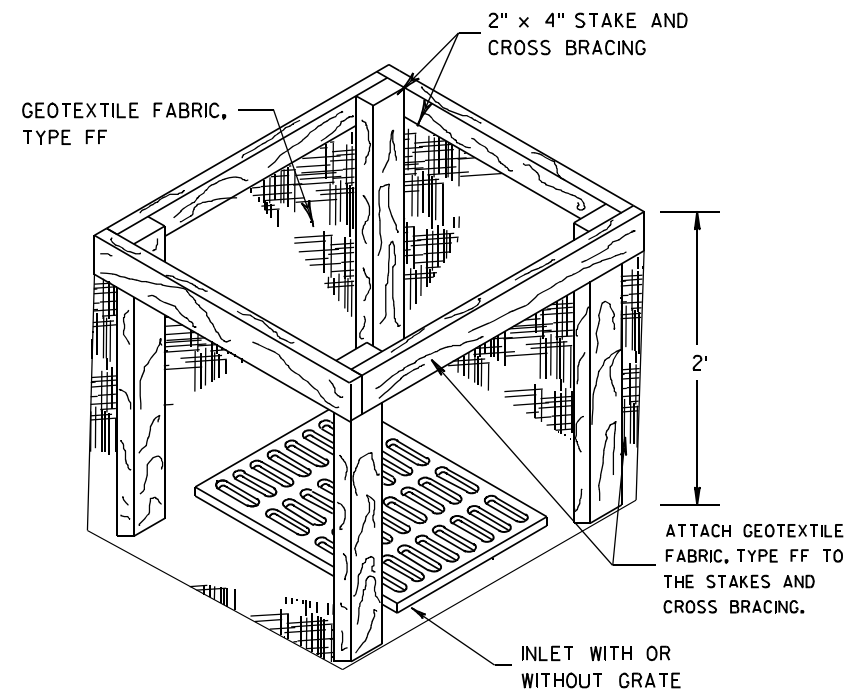
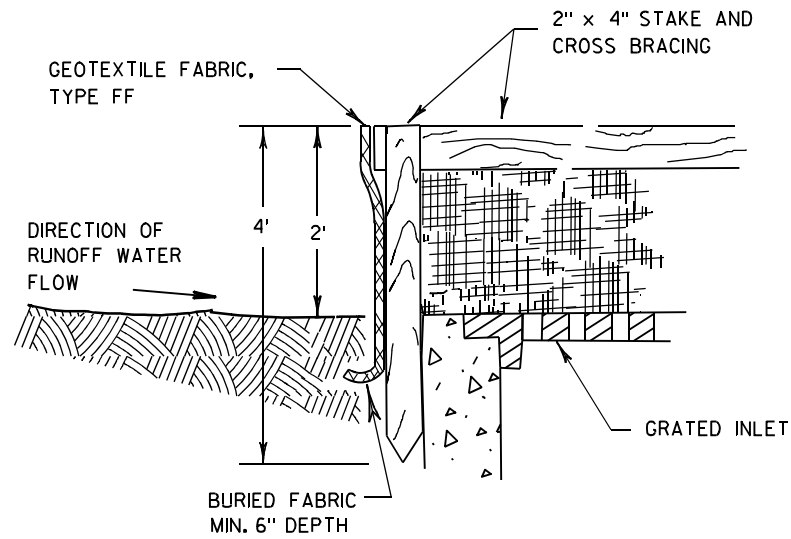


**PLAN VIEW
RADIAL WEDGE PLATE
CONNECTION DETAIL**

**CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



INLET PROTECTION, TYPE A

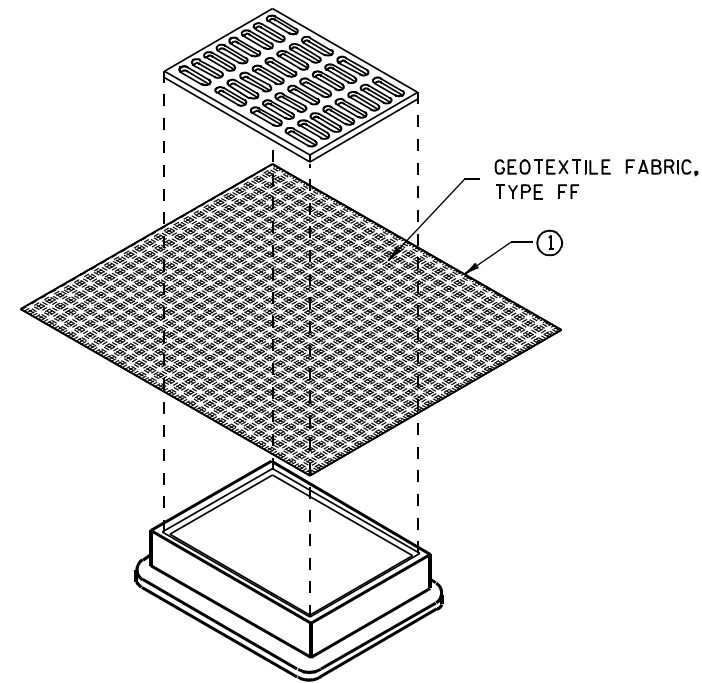
GENERAL NOTES

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.

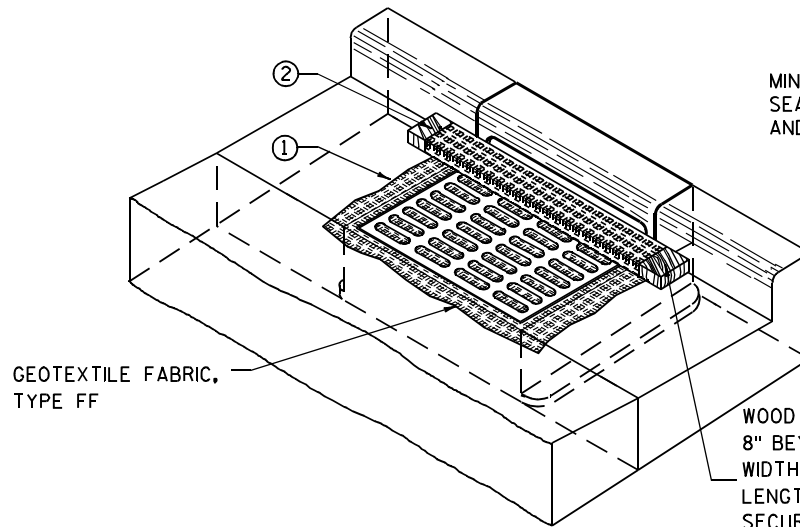
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

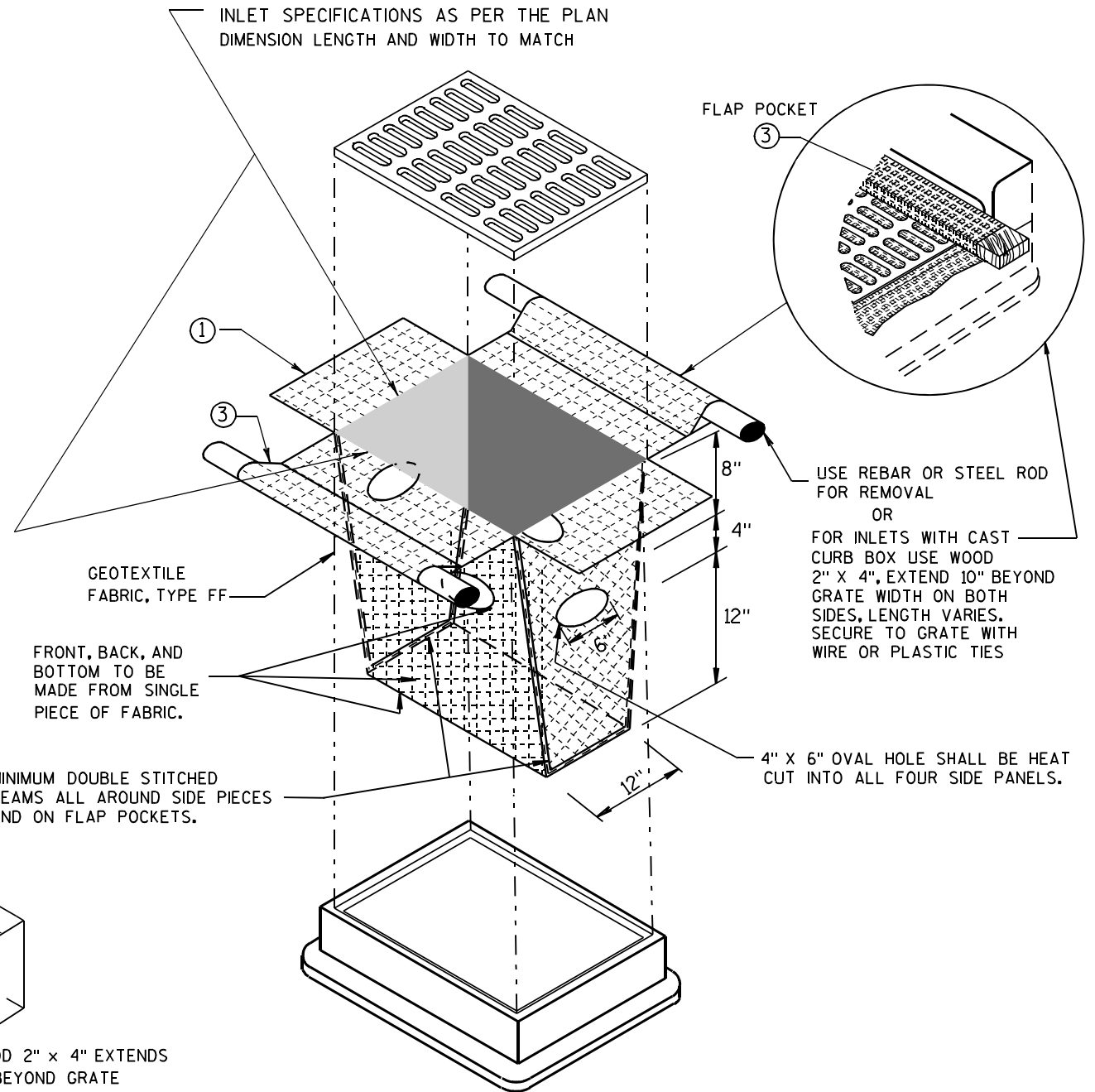
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.

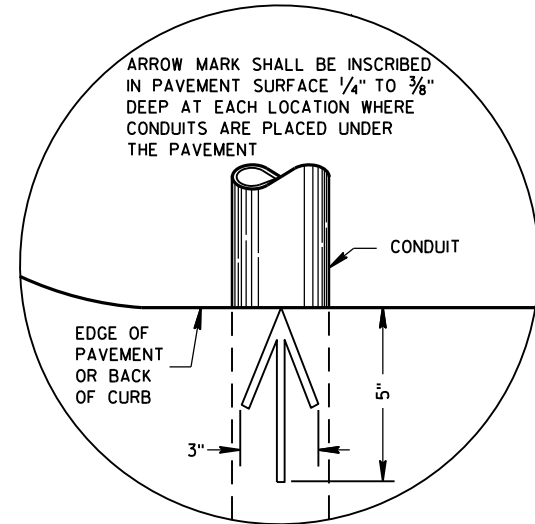
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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



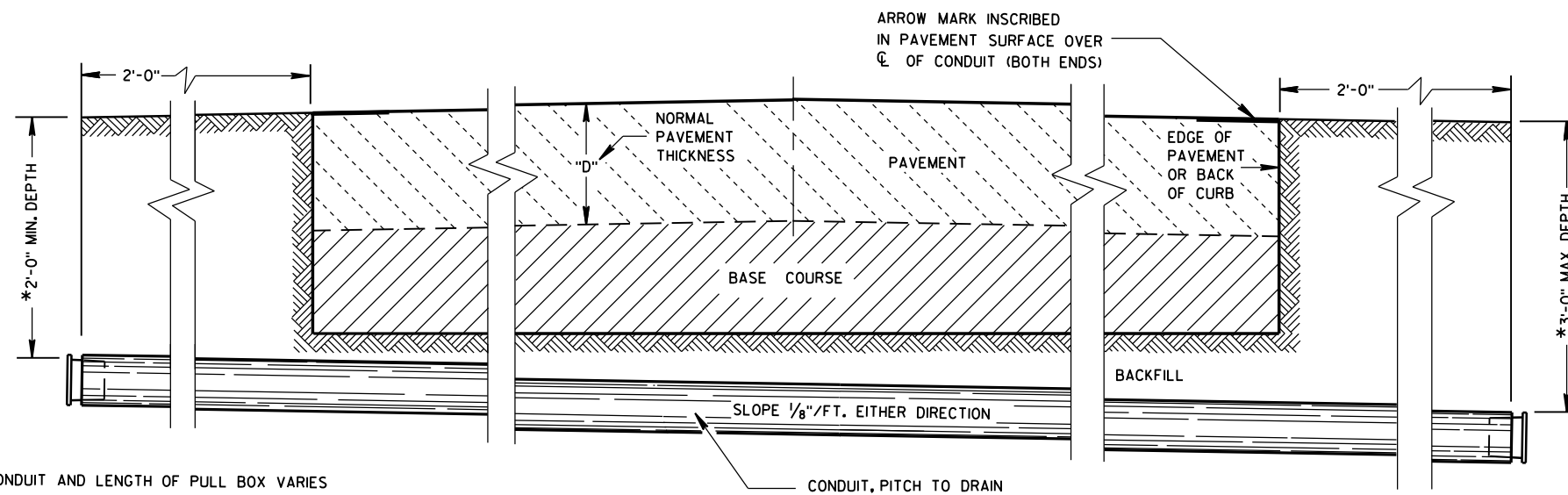
INLET PROTECTION, TYPE D

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

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/s/ Beth Connestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



PLAN VIEW
ARROW MARK



SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

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 EMERSON 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.

6

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S.D.D. 9 B 2-10

S.D.D. 9 B 2-10

CONDUIT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March, 2017 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

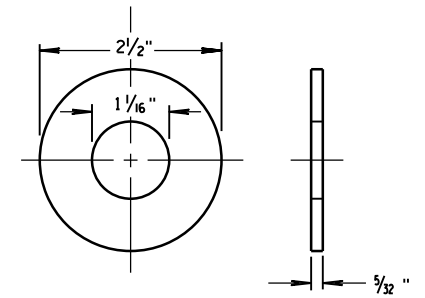
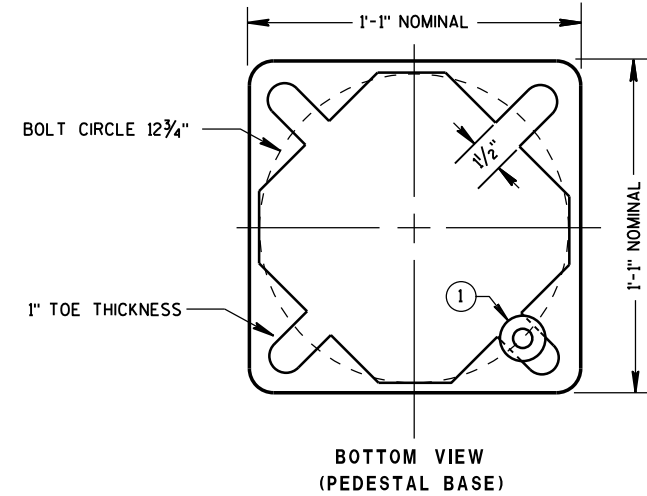
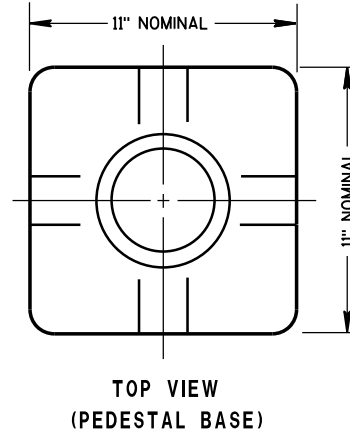
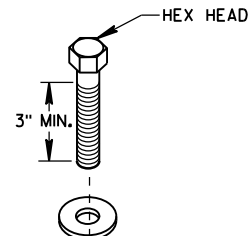
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

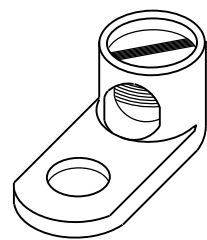
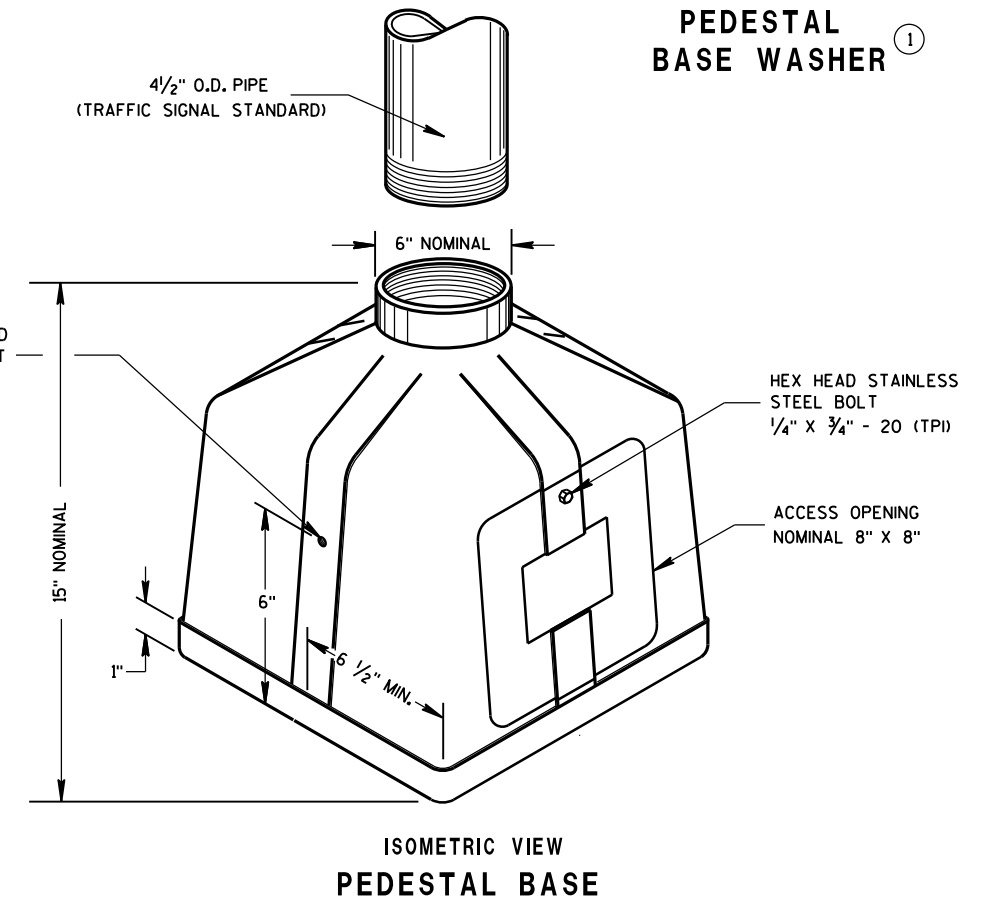
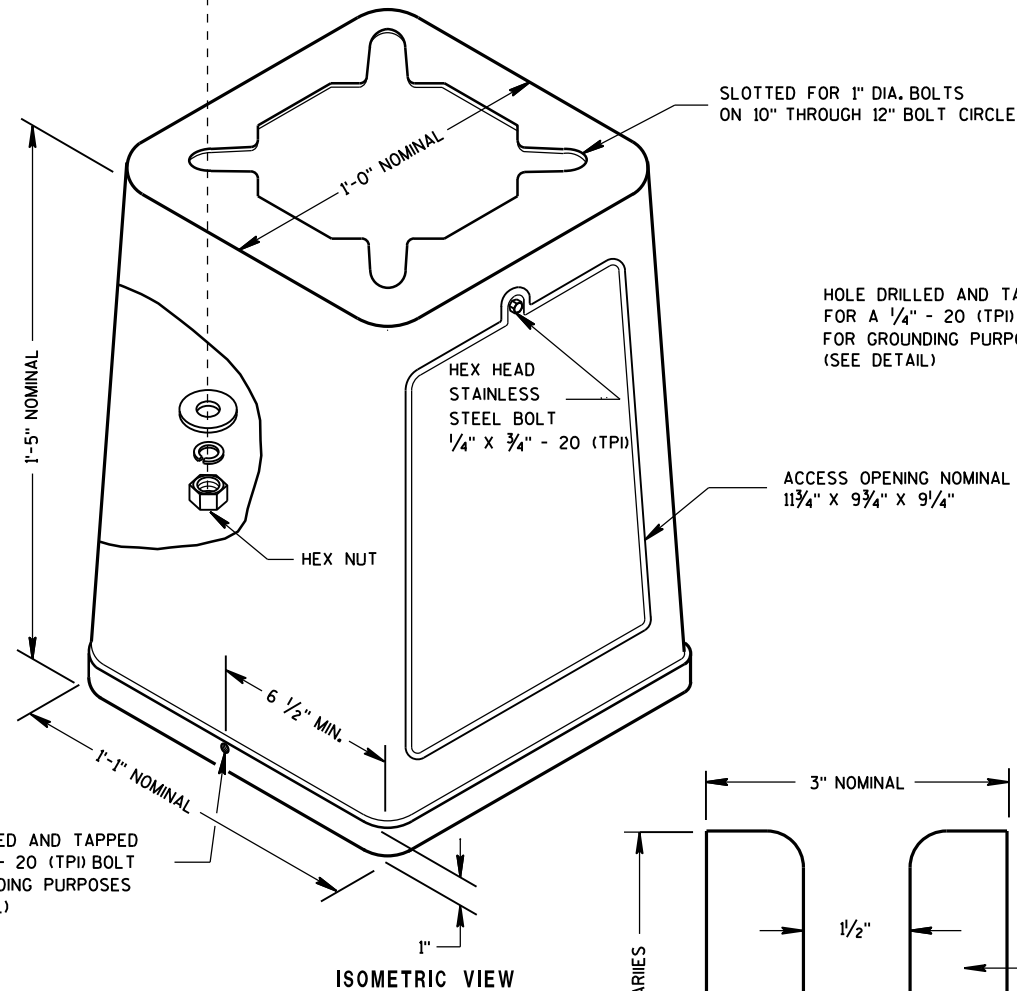
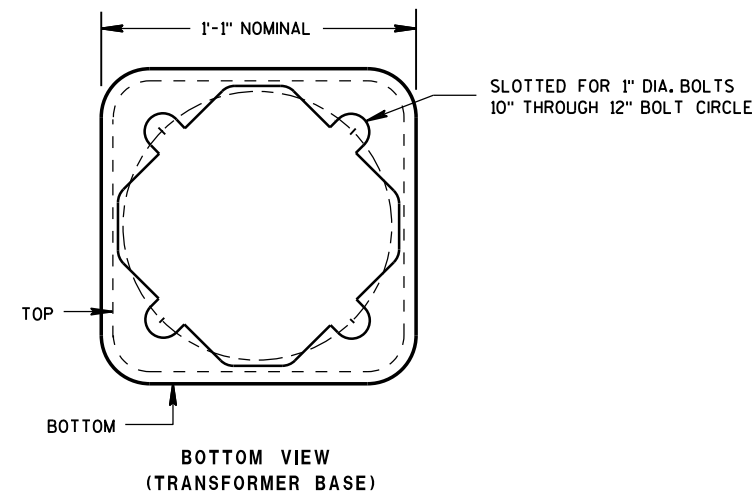
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



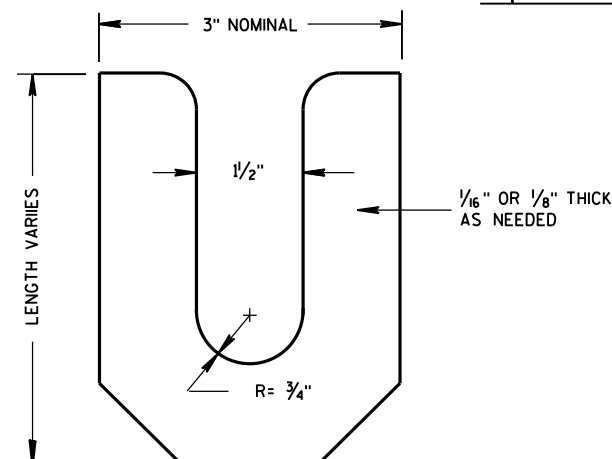
ZINC COATED STEEL WASHER TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER ①



TYPICAL MECHANICAL CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

6

6

S.D.D. 9 C 3-4

S.D.D. 9 C 3-4

GENERAL NOTES

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

BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING. A STEEL CASING OR CORRUGATED METAL PIPE IS ALLOWED TO REMAIN. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BASE IN LAYERS OF ONE FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

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

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 TIMES THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NON-METALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

WHEN REQUIRED TO CONNECT NON-METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

① THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES (GREATER THAN 36 INCHES IF INSTALLED IN BREAKER RUN) EXCEPT WITH WRITTEN APPROVAL OF THE ENGINEER.

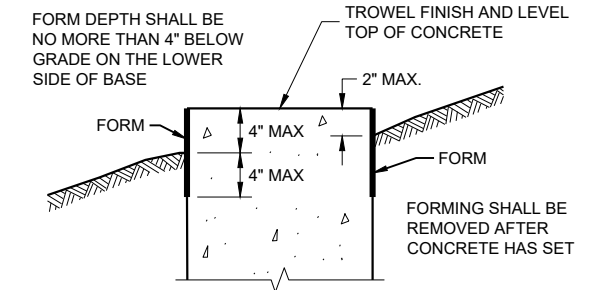
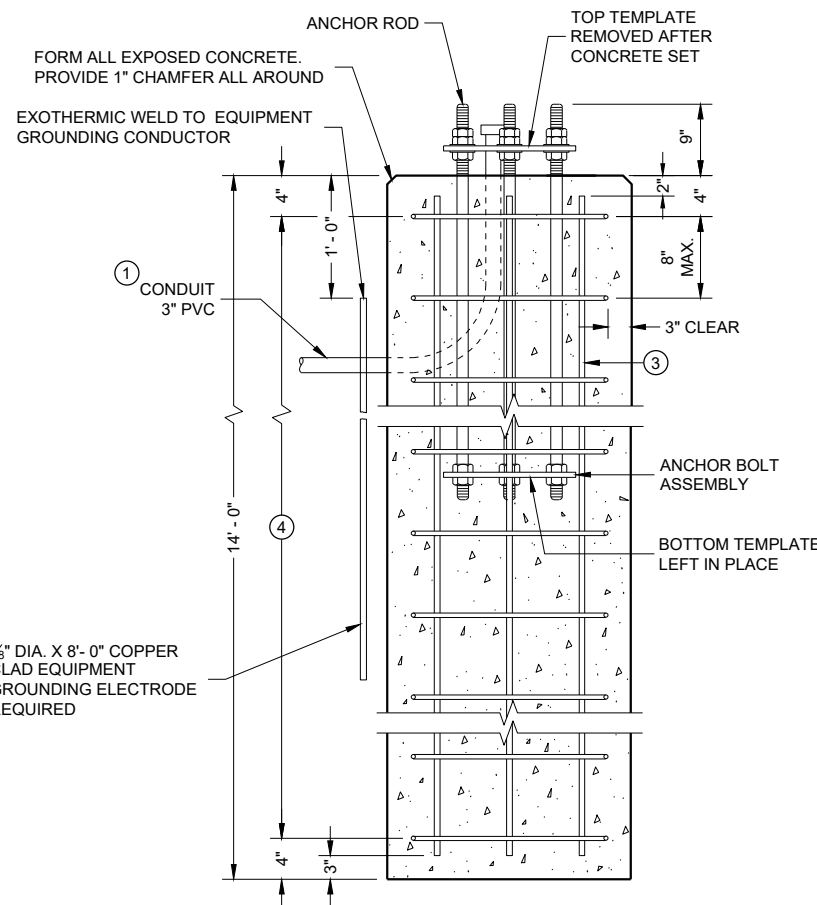
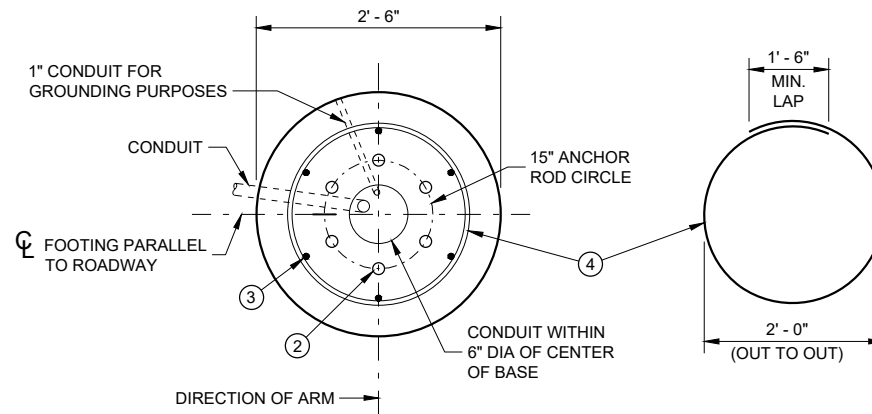
② (6) 1 1/2" DIA. X 4' - 4" ANCHOR RODS

③ (6) NO. 6 X 13' - 7" BAR STEEL REINFORCEMENT.

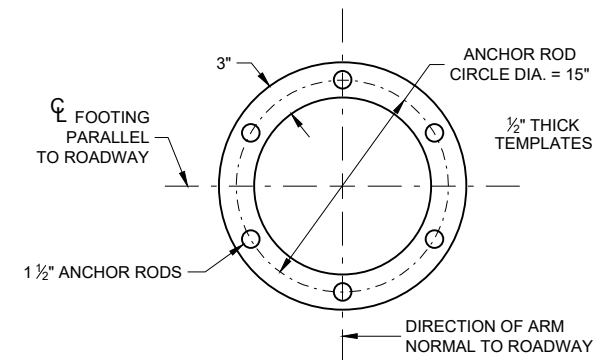
④ (21) NO. 5 X 7'-10" BAR STEEL REINFORCEMENT @ 8" MAX. C-C.

CONCRETE MASONRY.....fc = 3,500 p.s.i.
 HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60.....fy = 60,000 p.s.i.
 ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATION).....fy = 55,000 p.s.i.
 TEMPLATES, ASTM A709, GRADE 36.....fy = 36,000 p.s.i.

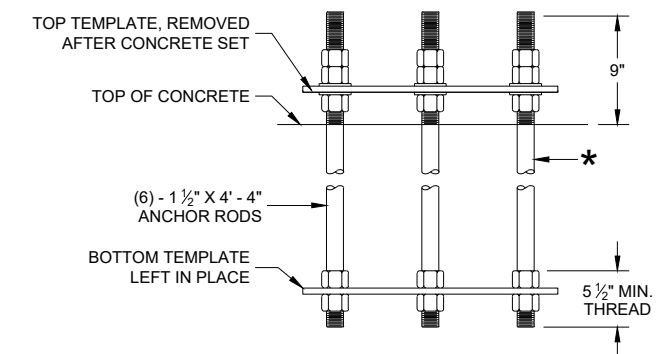
QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	2.5
LBS. OF HOOP BAR STEEL	172
LBS. OF VERTICAL BAR STEEL	122



FORMING DETAIL



TOP AND BOTTOM TEMPLATE



ANCHOR ROD ASSEMBLY DETAILS

* THREAD TOP 10" OF ANCHOR ROD FOR 3 NUTS AND 2 WASHERS AND BOTTOM 5 1/2" FOR 2 NUTS PER ANCHOR ROD. HOT DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR ROD (ASTM A123) AND HOT DIP NUTS AND WASHERS (ASTM A153). USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

CONCRETE BASE, TYPE 10 (FOR TYPE 9, TYPE 10 AND OVER HEIGHT (OH) POLES)

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE SDD 9C13 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2017 /S/ Ahmet Demerbilek
DATE WIND LOADED STRUCTURES PROGRAM LEADER

FHWA

GENERAL NOTES

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

BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS.

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

WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

CONDUIT SIZE AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4 1/2" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE THROUGH A 1-INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4-FOOT COIL OF WIRE ABOVE THE CONCRETE BASE, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

① THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL WAY SHALL BE 24-INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18-INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36-INCHES, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

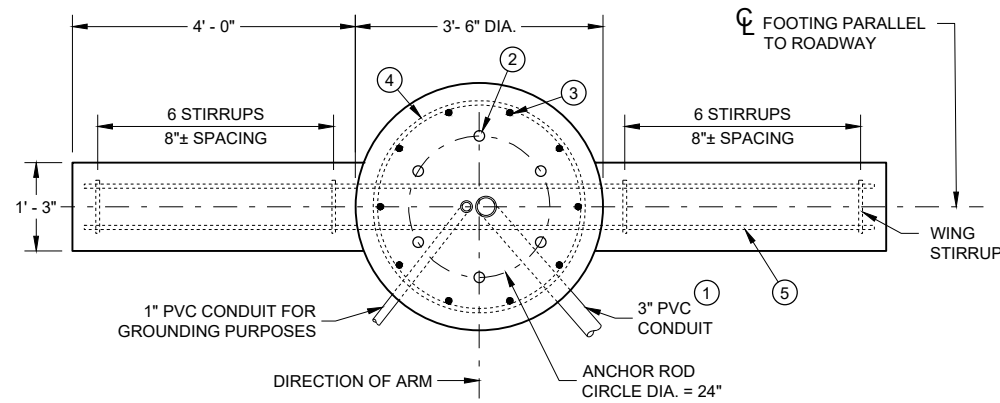
② (6) 1 3/4" DIA. X 7' - 2" ANCHOR RODS

③ (10) NO. 6 X 14' - 1" BAR STEEL VERTICAL REINFORCEMENT.

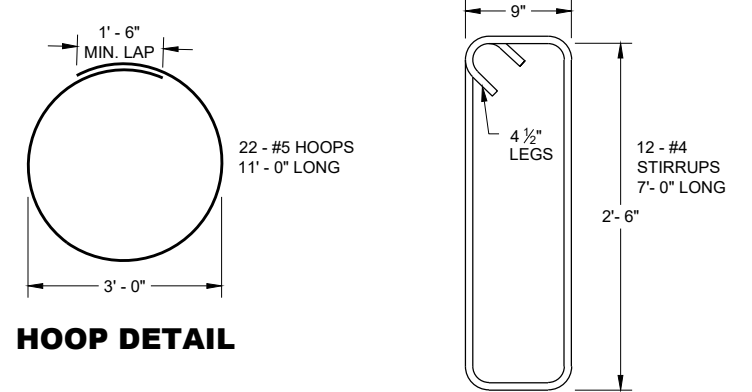
④ (22) NO. 5 X 11' - 0" BAR STEEL REINFORCEMENT @ 8" MAX. C-C.

⑤ (10) NO. 5 X 11' - 0" BAR STEEL HORIZONTAL REINFORCEMENT

CONCRETE MASONRY.....fc = 3,500 p.s.i.
 HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60.....fy = 60,000 p.s.i.
 ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATION).....fy = 55,000 p.s.i.
 TEMPLATES, ASTM A709, GRADE 36.....fy = 36,000 p.s.i.

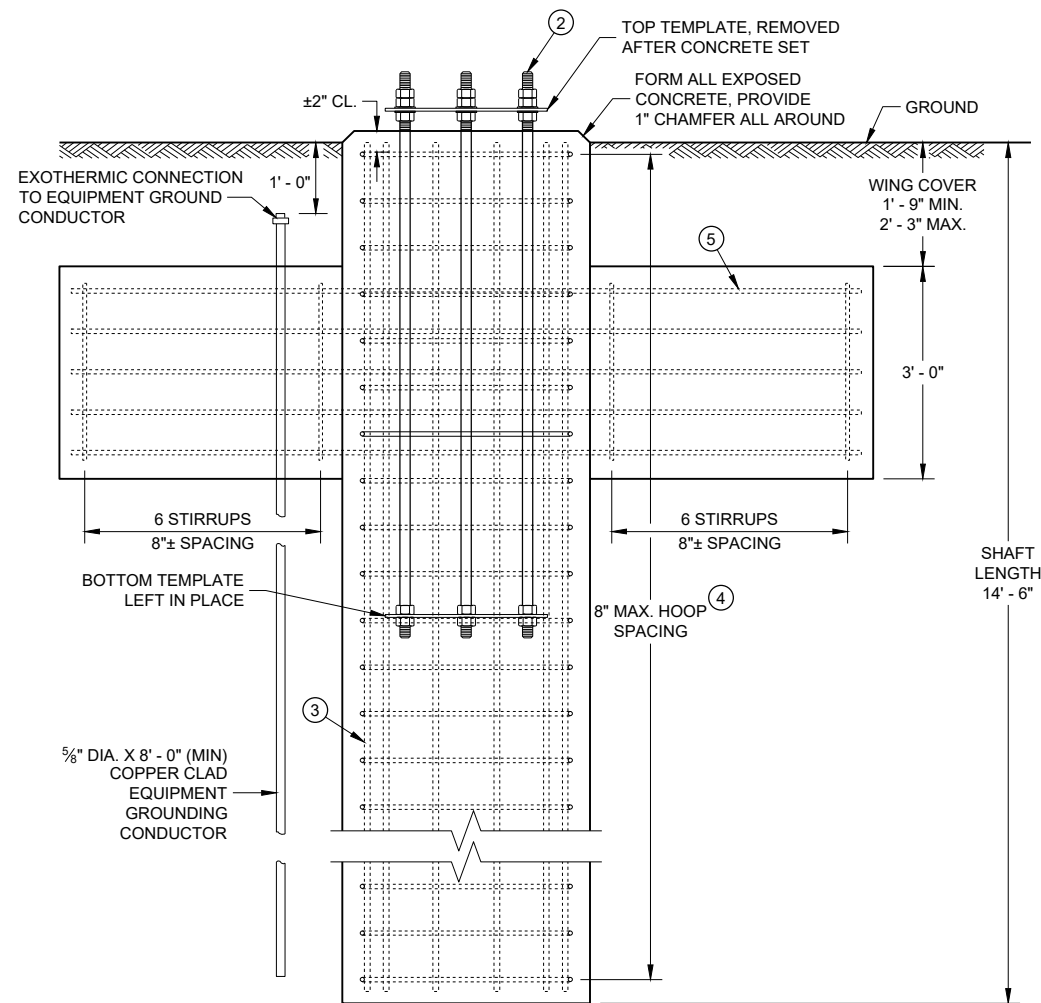


PLAN VIEW

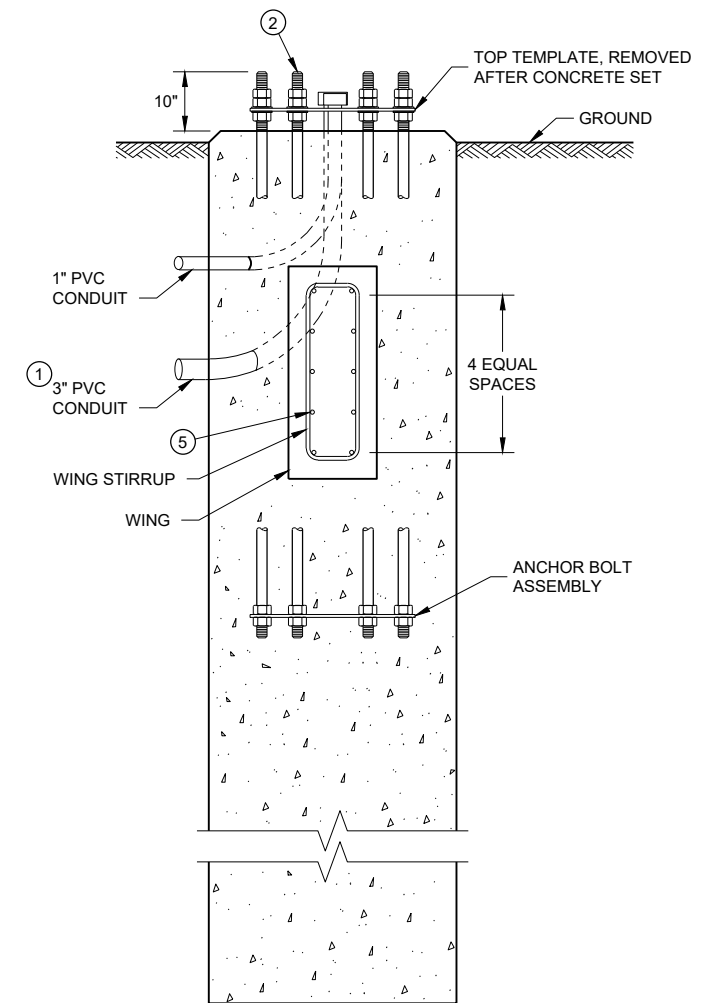


HOOP DETAIL

WING STIRRUP DETAIL



ELEVATION VIEW
(CONDUITS NOT SHOWN ON THIS VIEW FOR CLARITY)



(HOOPS AND VERTICAL SHAFT REINFORCEMENT NOT SHOWN ON THIS VIEW FOR CLARITY)

CONCRETE BASE, TYPE 13
(FOR TYPE 12, TYPE 13 AND OVER HEIGHT (OH) POLES)

CONCRETE = 6.3 CUBIC YARD
 H.S. REINFORCEMENT = 635 LBS.

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE 9C13 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION

CONCRETE BASE TYPE 13

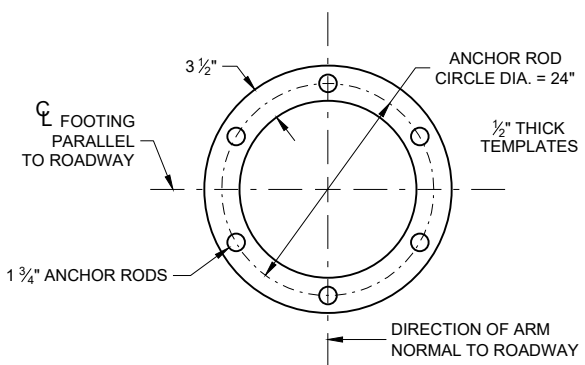
STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

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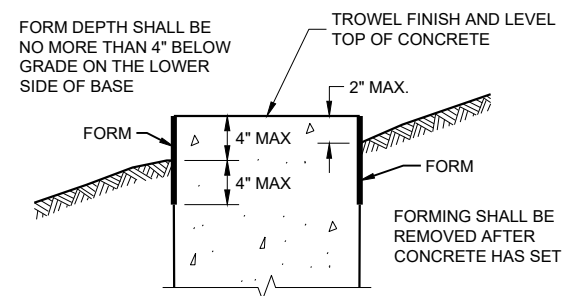
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SDD 09C12 - 09a

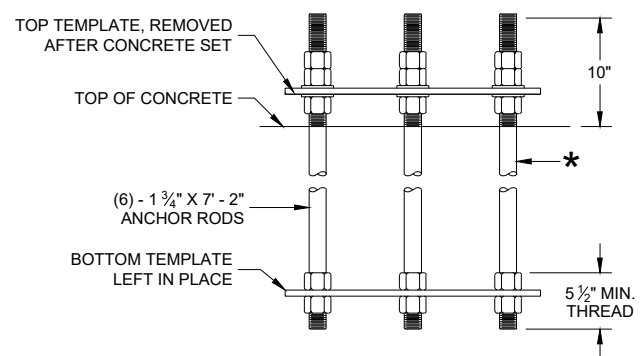
SDD 09C12 - 09a



TOP AND BOTTOM TEMPLATE



FORMING DETAIL



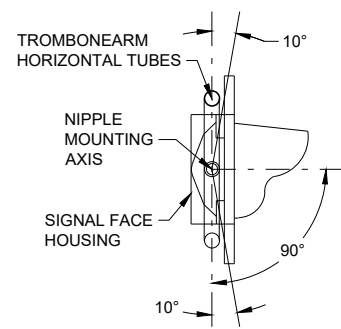
ANCHOR ROD ASSEMBLY DETAILS

* THREAD TOP 11" OF ANCHOR ROD FOR 3 NUTS AND 2 WASHERS AND BOTTOM 5 1/2" FOR 2 NUTS PER ANCHOR ROD. HOT DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR ROD (ASTM A123) AND HOT DIP NUTS AND WASHERS (ASTM A153. USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

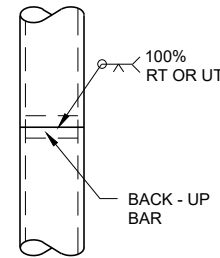
APPROVED
DATE: May 2017 /S/ Ahmet Demirelek
WIND LOADED STRUCTURES PROGRAM LEADER



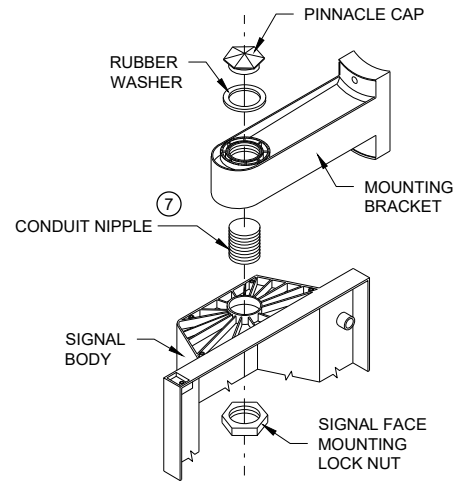
SECTION A-A
(10 DEGREES TILT REQUIREMENT OF FACE(S) IN THE TROMBONE MOUNTING)

FOR MANUFACTURERS USE ONLY

WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN / BRIDGE FOR VERIFICATION AND APPROVAL.



POLE SPLICE DETAIL



SIGNAL FACE MOUNTING DETAIL (BANDED)

GENERAL NOTES

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

POLES SHALL BE EITHER ALUMINUM OR GALVANIZED STEEL AS CALLED FOR IN THE CONTRACT.

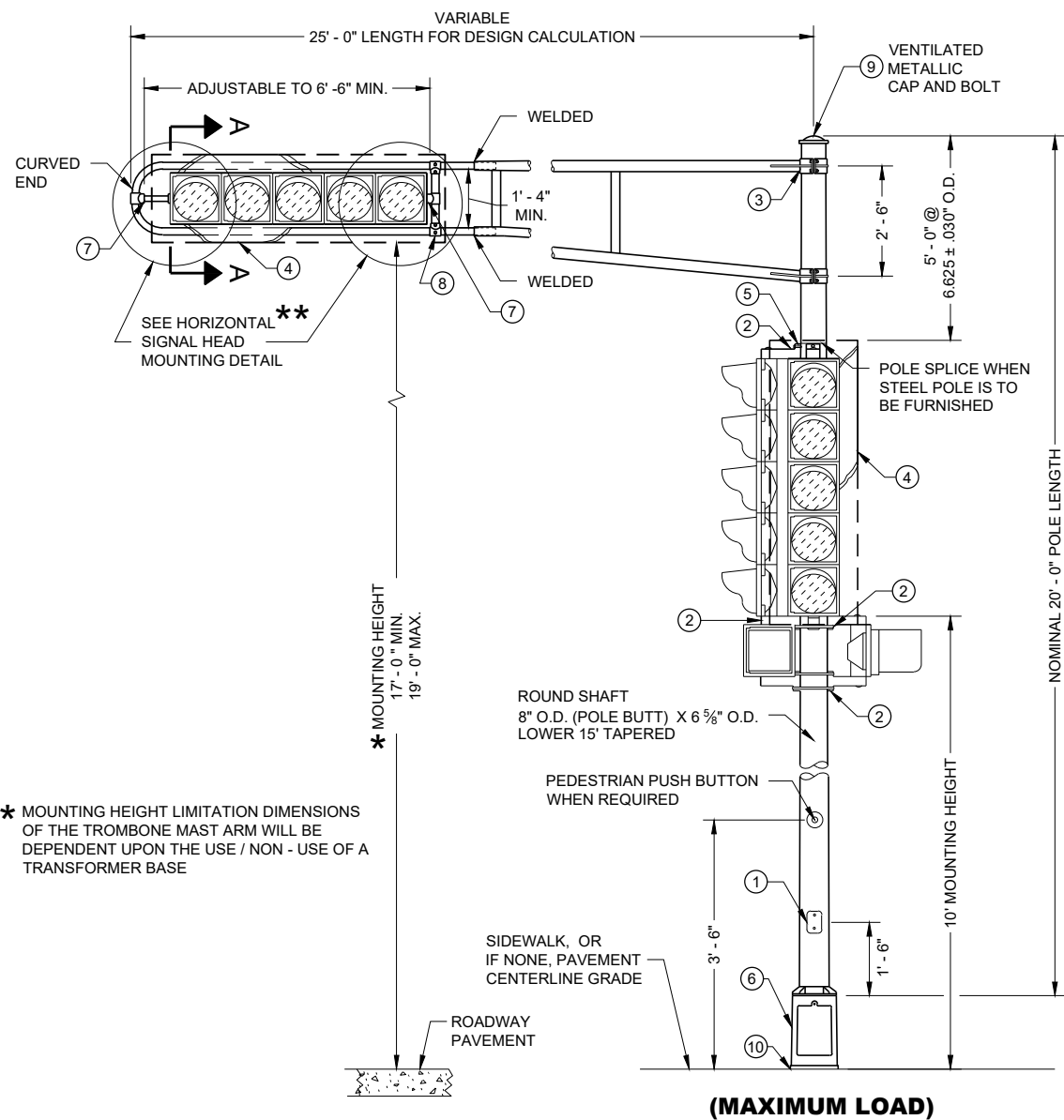
SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE / ROPE SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

TYPE 2 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063 - T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

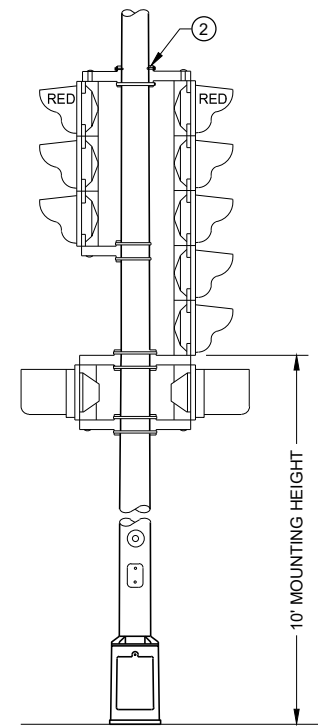
WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

- ① 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) 1/4" X 3/4" - 20 TPI, STAINLESS STEEL, HEX HEAD BOLTS.
- ② SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING.
- ③ GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
- ④ SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.
- ⑤ POLE MOUNTED SIGNAL FACES SHALL REQUIRE ONE OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACES.
- ⑥ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ⑦ USE 1 1/2" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 1/2" OPENING IN SIGNAL FACES AND BRACKET ENDS.
- ⑧ VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.
- ⑨ FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑩ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.
- ⑪ USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.

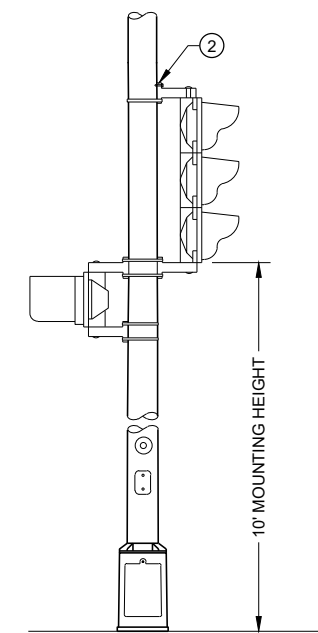


* MOUNTING HEIGHT LIMITATION DIMENSIONS OF THE TROMBONE MAST ARM WILL BE DEPENDENT UPON THE USE / NON - USE OF A TRANSFORMER BASE

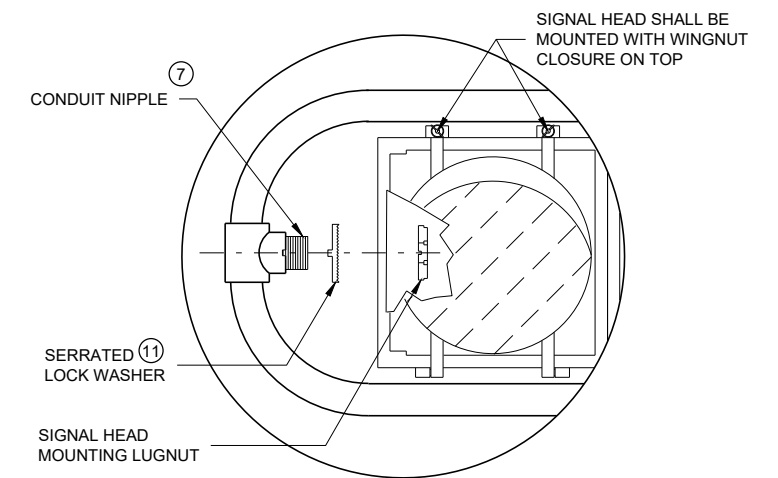
(MAXIMUM LOAD)



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE

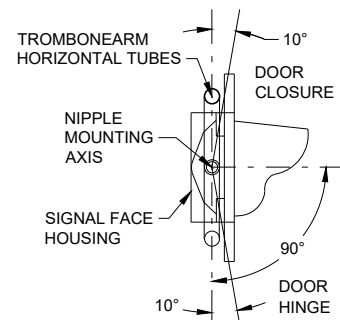


HORIZONTAL SIGNAL HEAD MOUNTING DETAIL

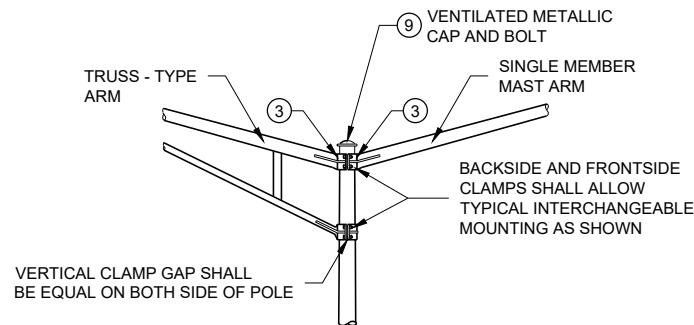
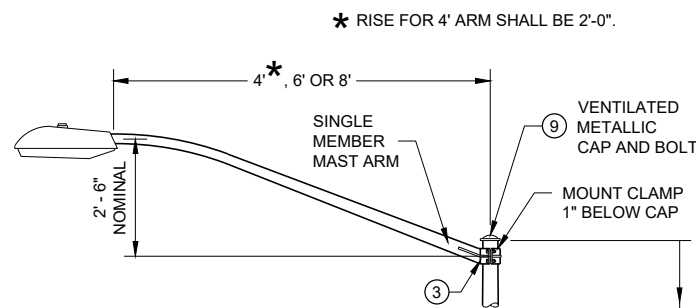
** SIGNAL HEAD ATTACHMENT ALSO APPLIES TO MOUNTING AT CROSS BAR

POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2

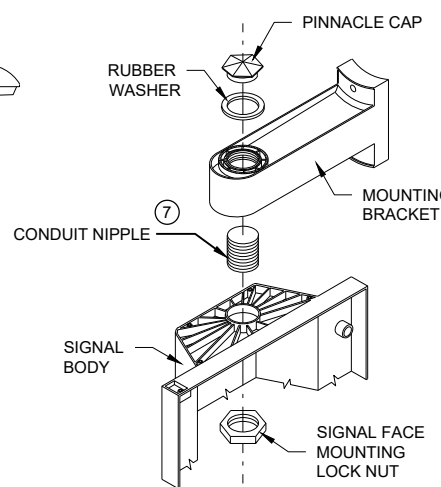
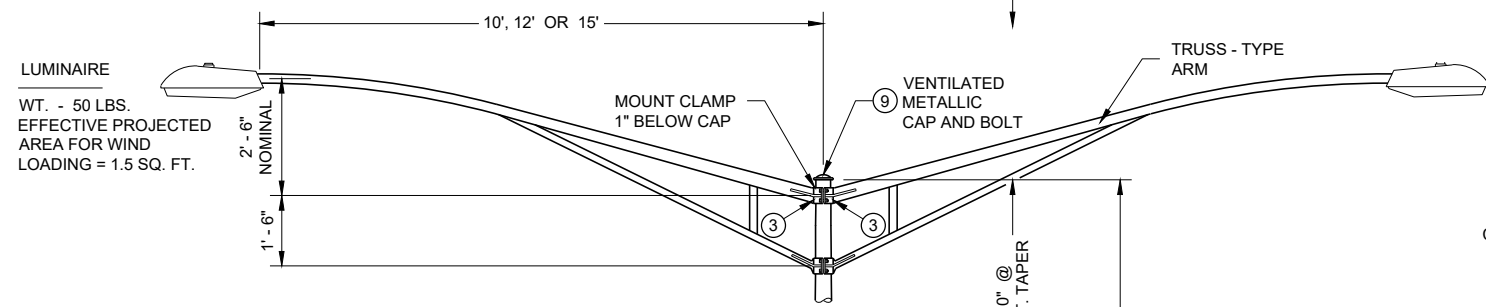
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



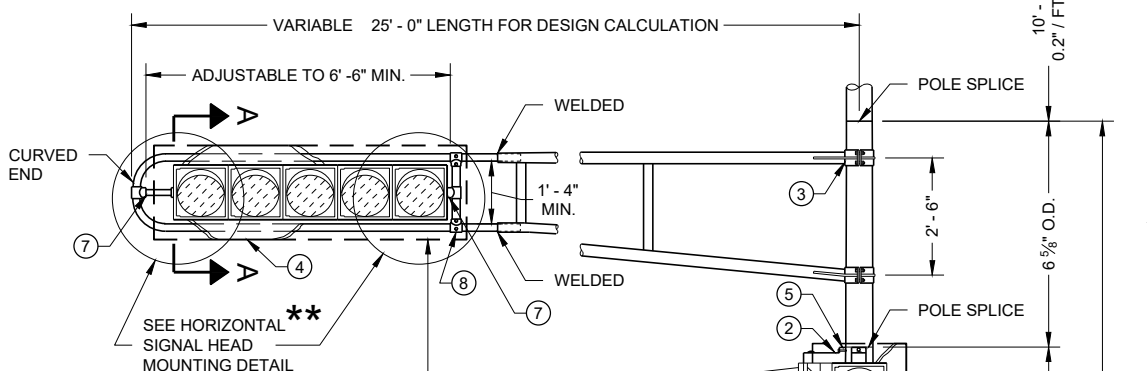
SECTION A-A



INTERCHANGEABLE MOUNTING DETAIL

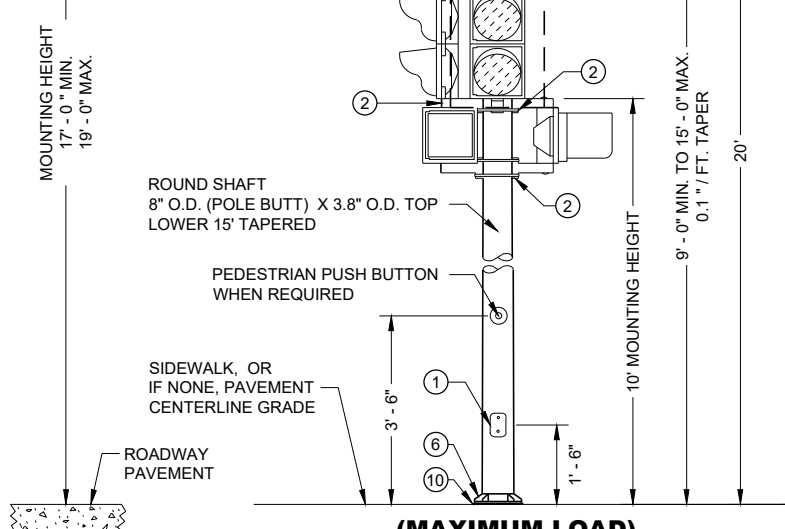


SIGNAL FACE MOUNTING DETAIL (BANDED)

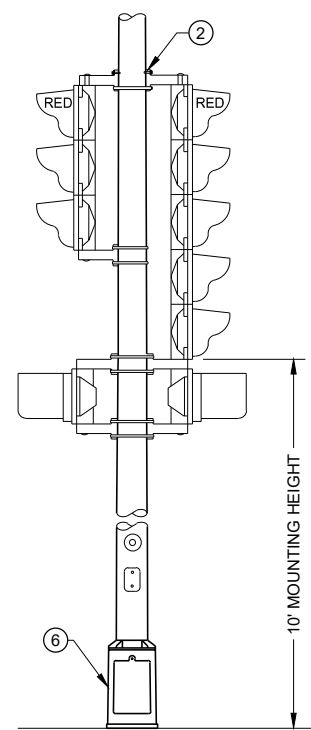


POLE SPLICE DETAIL FOR MANUFACTURERS USE ONLY

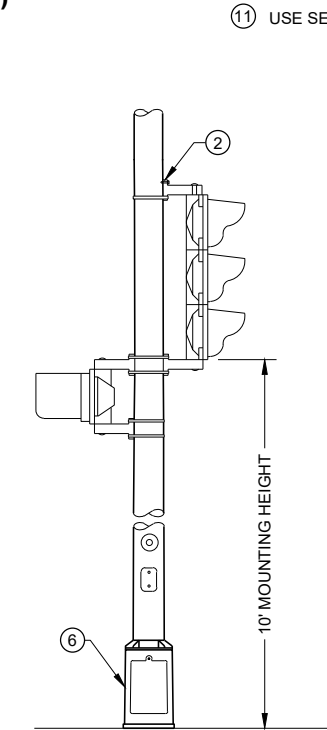
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN / BRIDGE FOR VERIFICATION AND APPROVAL.



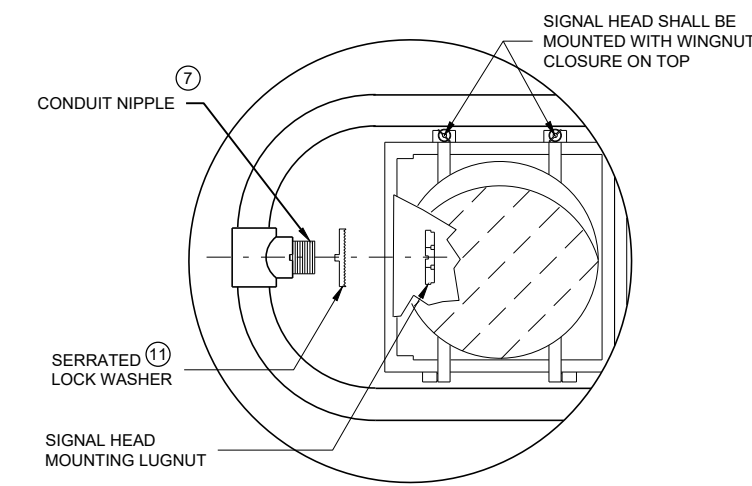
TYPE 3 POLE MOUNTING CONFIGURATION



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE



HORIZONTAL SIGNAL HEAD MOUNTING DETAIL

** SIGNAL HEAD ATTACHMENT ALSO APPLIES TO MOUNTING AT CROSS BAR

GENERAL NOTES

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

ALL TYPE 3 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL.

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE / ROPE SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

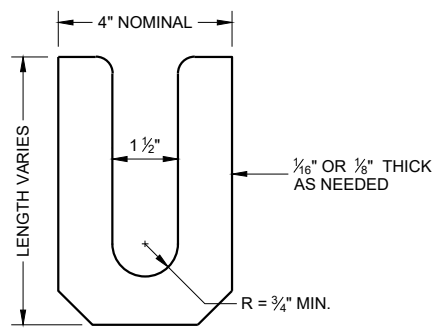
THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8 INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

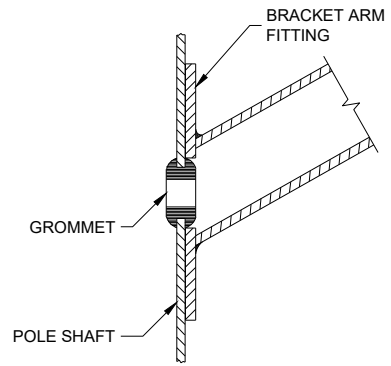
- ① 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) 1/2" X 3/4" - 20 TPI, STAINLESS STEEL, HEX HEAD BOLTS.
- ② SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING.
- ③ GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 1/2" HOLE IN POLE SHAFT FOR WIRING.
- ④ SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.
- ⑤ POLE MOUNTED SIGNAL FACES SHALL REQUIRE ONE OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.
- ⑥ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED. UNDER MAX LOADING, TYPE 3 POLE SHALL BE MOUNTED DIRECTLY TO ITS CONCRETE BASE.
- ⑦ USE 1 1/2" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 1/2" OPENING IN SIGNAL FACES AND BRACKET ENDS.
- ⑧ VERTICAL STRUT (ADJUSTABLE), ONE (1) SET SCREW (1/2" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.
- ⑨ FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/2" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑩ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.
- ⑪ USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.

POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS TYPE 3 (HEAVY DUTY)

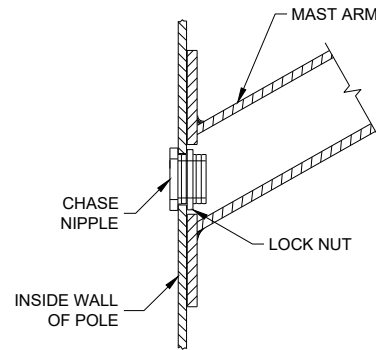
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



LEVELING SHIM
SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



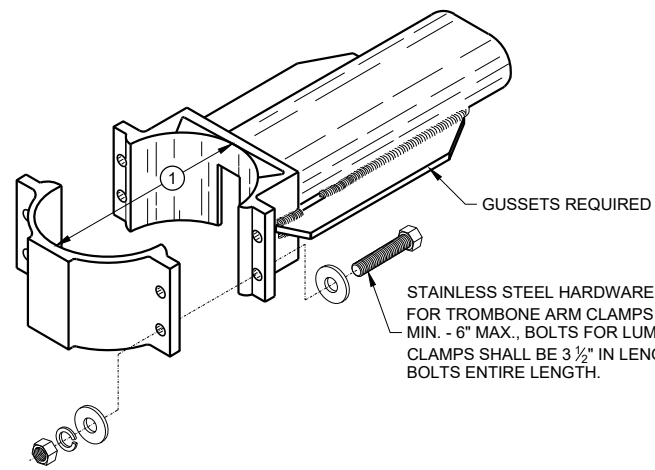
TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

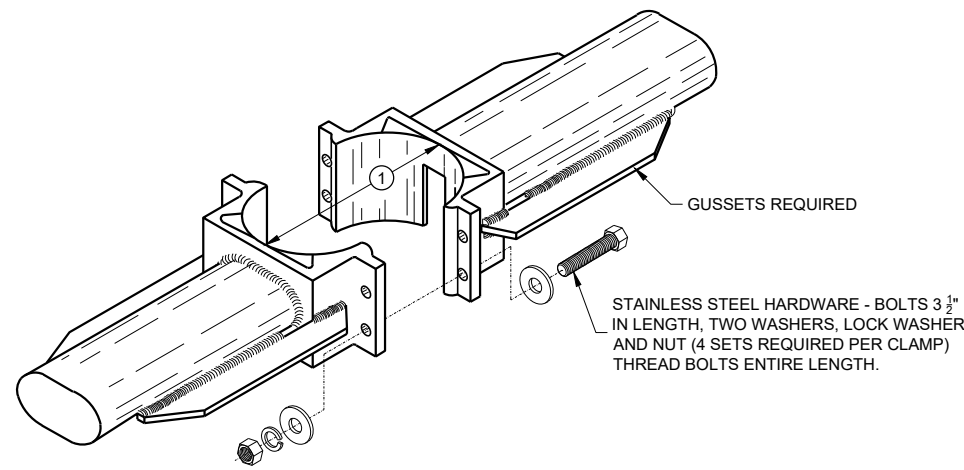
CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

- ① 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP. 6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- ② INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- ③ BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.
- ④ LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

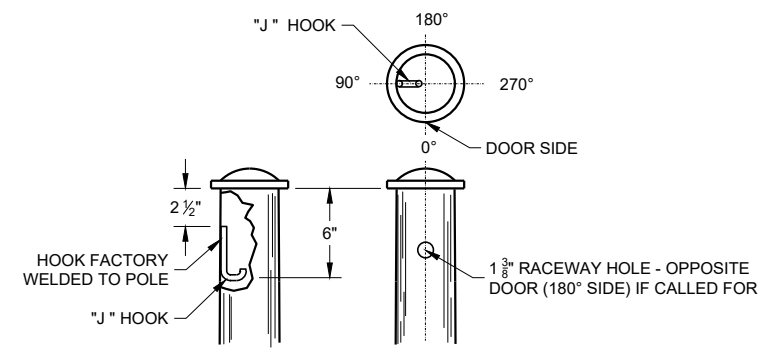
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



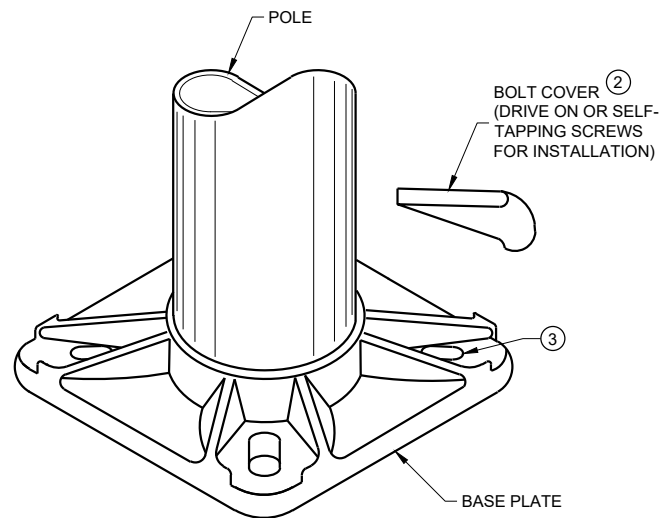
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



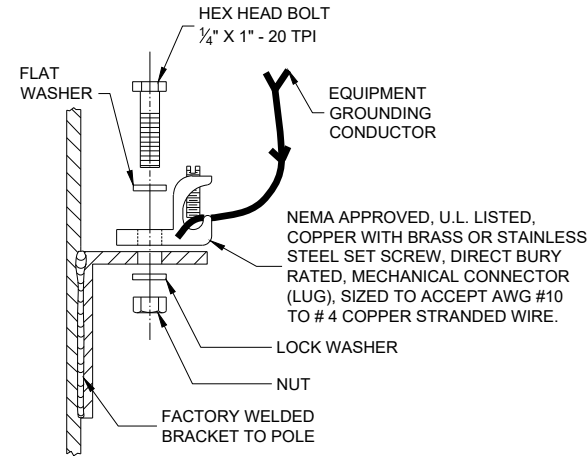
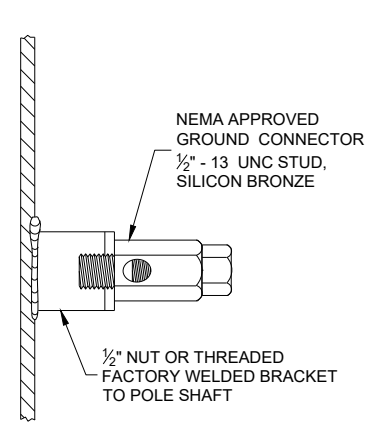
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS



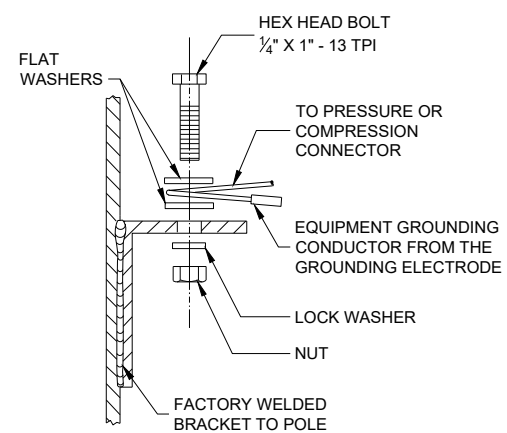
TYPICAL "J" HOOK LOCATION



BASE PLATE



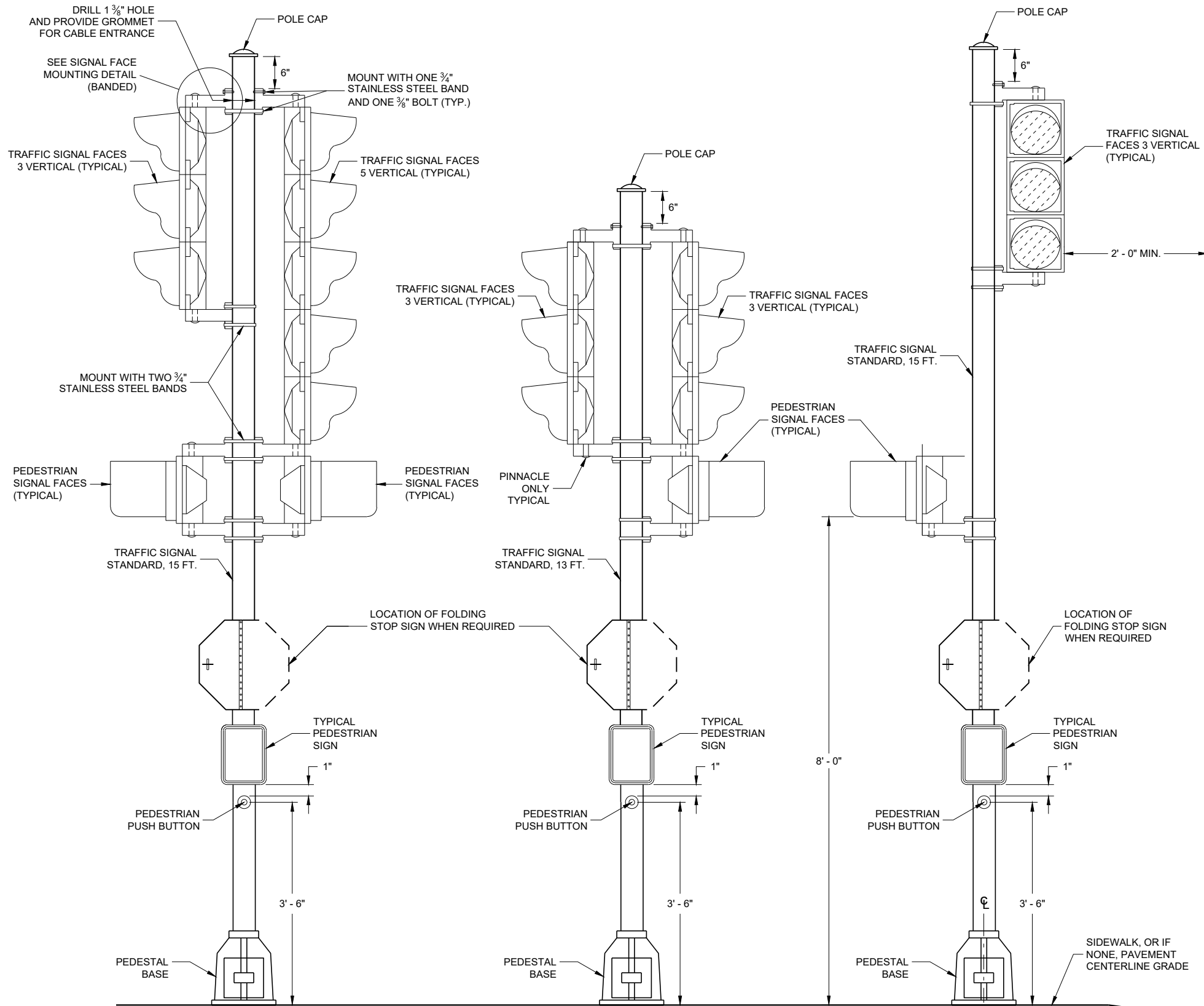
TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



HARDWARE DETAILS FOR POLE MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



TRAFFIC SIGNAL STANDARD - 15 FT.

TRAFFIC SIGNAL STANDARD - 13 FT.

TRAFFIC SIGNAL STANDARD - 15 FT. 3M MOUNTING (TYPICAL)

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

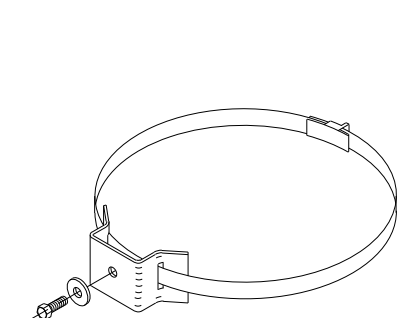
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

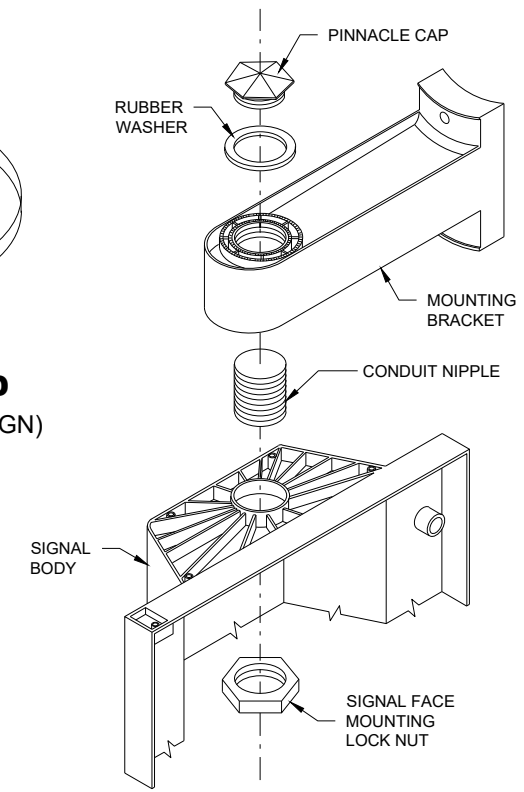
FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



TYPICAL SIGN MOUNTING BAND (TOP AND BOTTOM OF SIGN)



SIGNAL FACE MOUNTING DETAIL (BANDED)

TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/28/2013 DATE /S/ Ahmet Demirelek
STATE ELECTRICAL ENGINEER

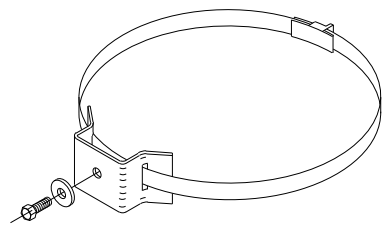
FHWA

6

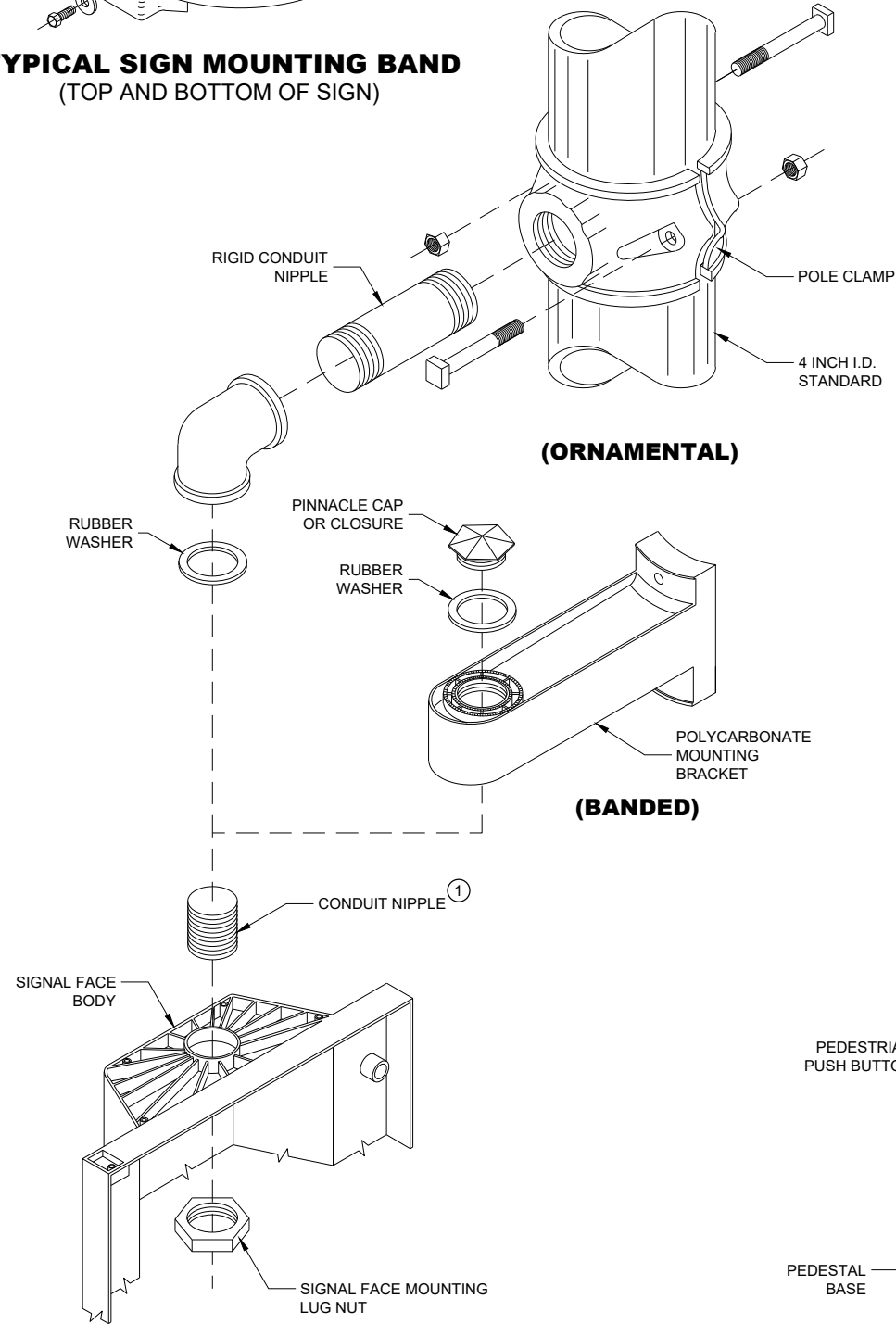
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SDD 09E06 - 05

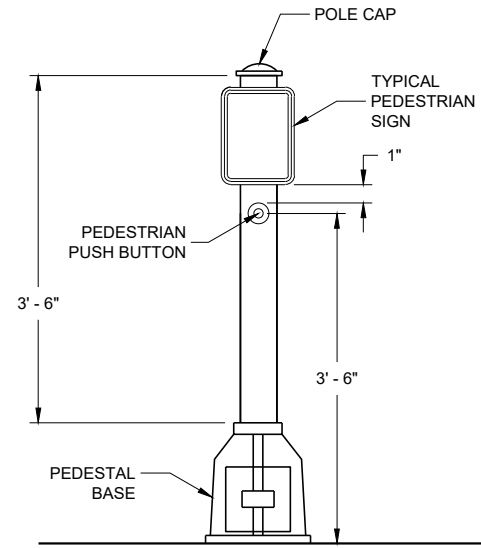
SDD 09E06 - 05



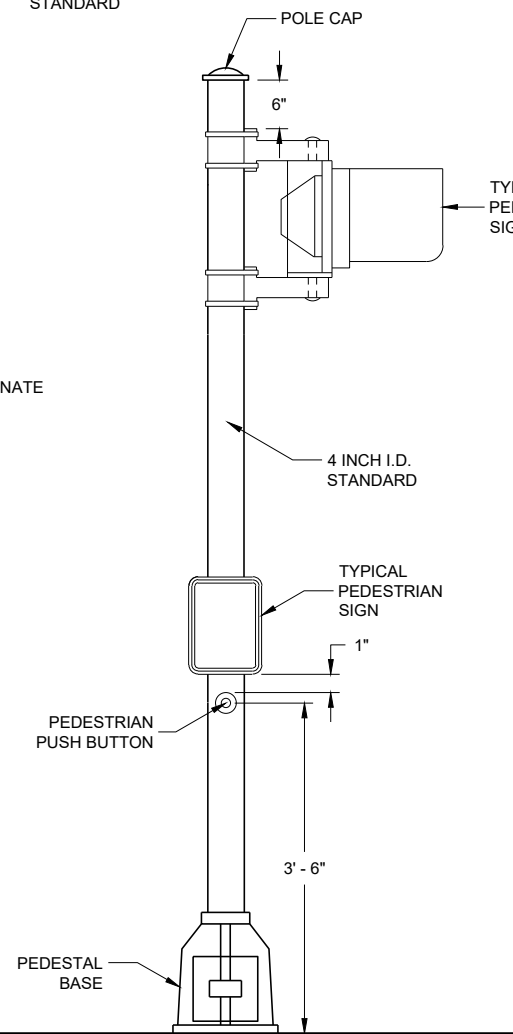
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



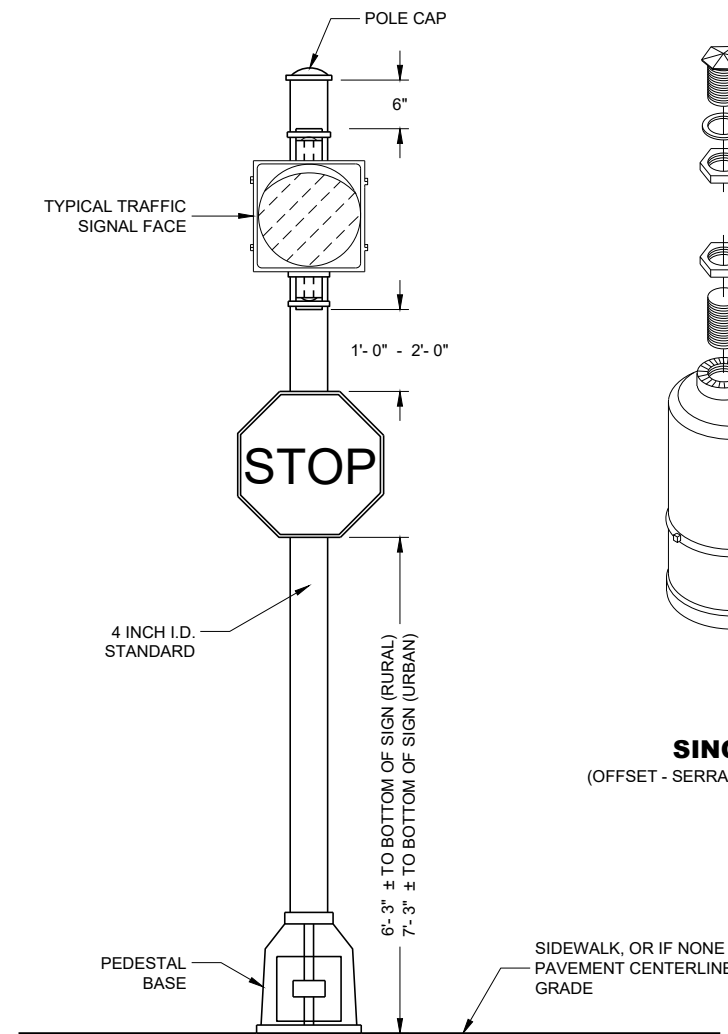
SIGNAL FACE MOUNTING DETAILS



PEDESTRIAN PUSH BUTTON
TYPICAL MOUNTING



PEDESTRIAN FACE STANDARD - 10 FT.
(WALK - DON'T WALK)



STANDARD FLASHER
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS, UNLESS APPROVED BY THE ENGINEER IN THE FIELD.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

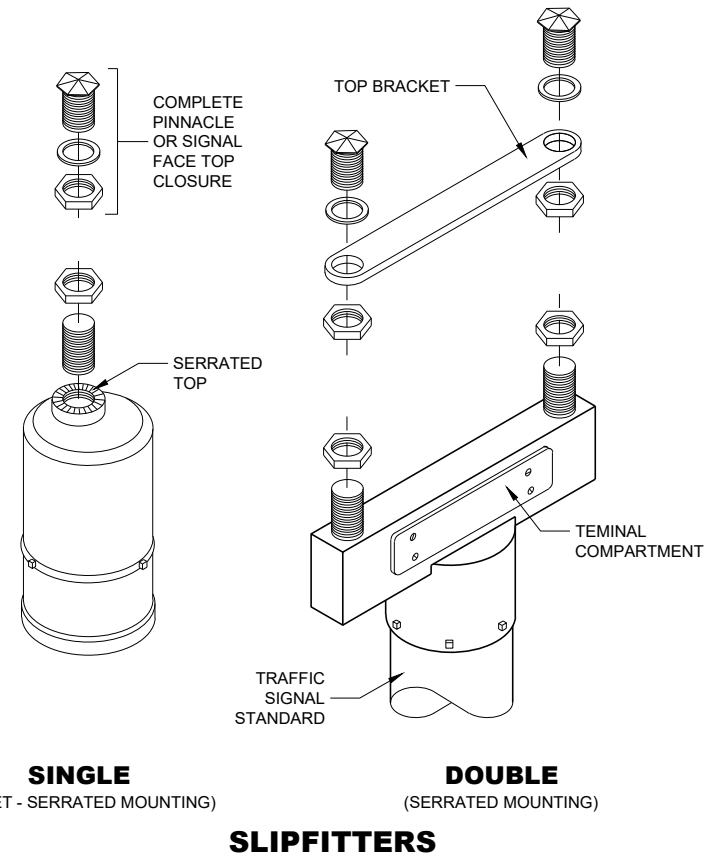
LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE REGION TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/2" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

① USE 1 1/2" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 1/2" OPENING IN SIGNAL FACES AND BRACKET ENDS.

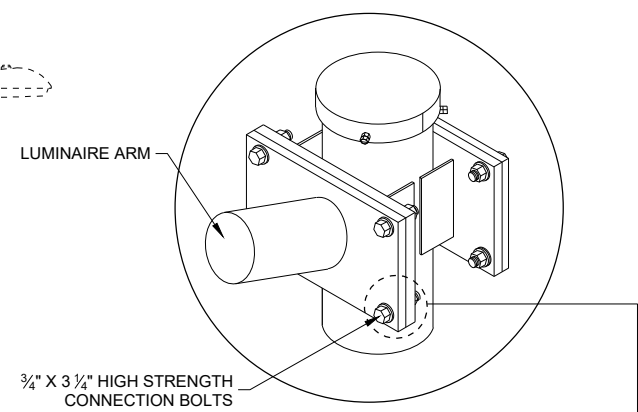
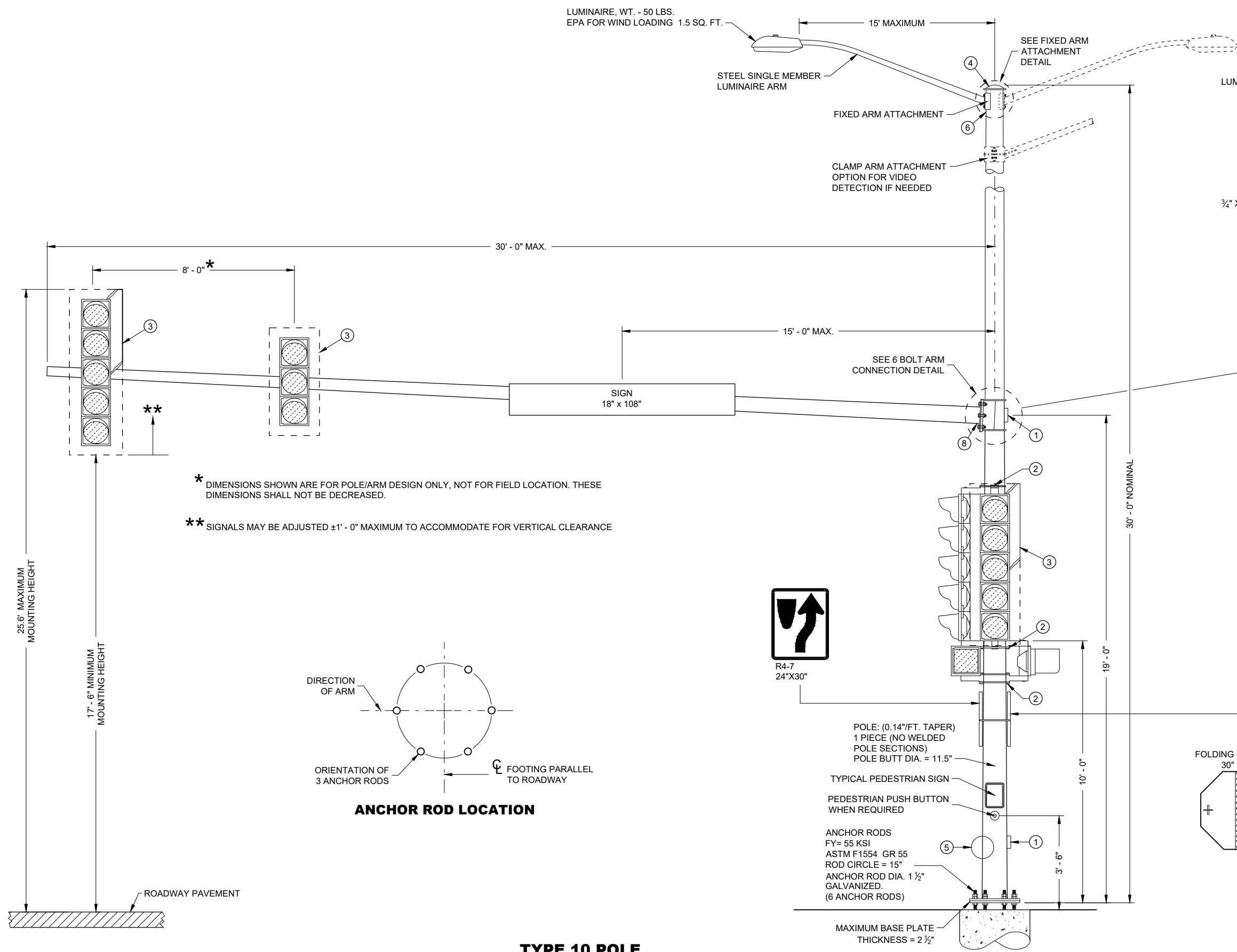


SLIPFITTERS

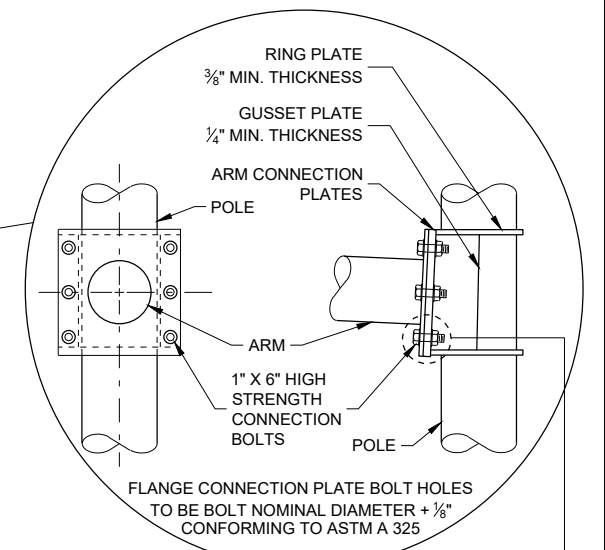
TRAFFIC SIGNAL STANDARD
PEDESTRIAN AND FLASHER
TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

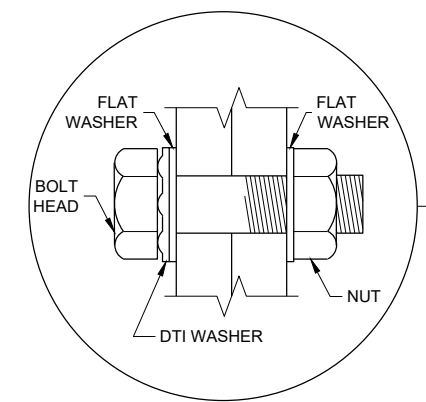
APPROVED
November 2018 /S/ Ahmet Demirelek
DATE STATE ELECTRICAL ENGINEER
FHWA



FIXED ARM ATTACHMENT DETAIL



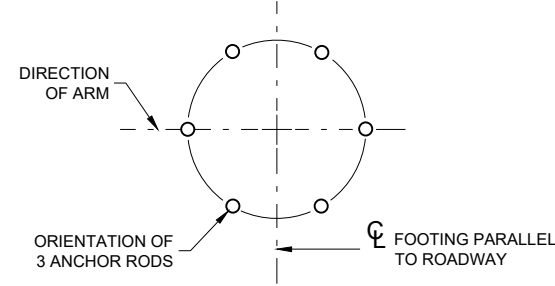
6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL

* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

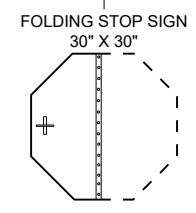
** SIGNALS MAY BE ADJUSTED ±1' - 0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE



ANCHOR ROD LOCATION

TYPE 10 POLE
15' - 30' MONOTUBE ARM
 (MAXIMUM LOAD)

- POLE: (0.14"/FT. TAPER)
1 PIECE (NO WELDED POLE SECTIONS)
POLE BUTT DIA. = 11.5"
- TYPICAL PEDESTRIAN SIGN
- PEDESTRIAN PUSH BUTTON WHEN REQUIRED
- ANCHOR RODS
FY= 55 KSI
ASTM F1554 GR 55
ROD CIRCLE = 15"
ANCHOR ROD DIA. 1 1/2"
GALVANIZED.
(6 ANCHOR RODS)
- MAXIMUM BASE PLATE THICKNESS = 2 1/2"

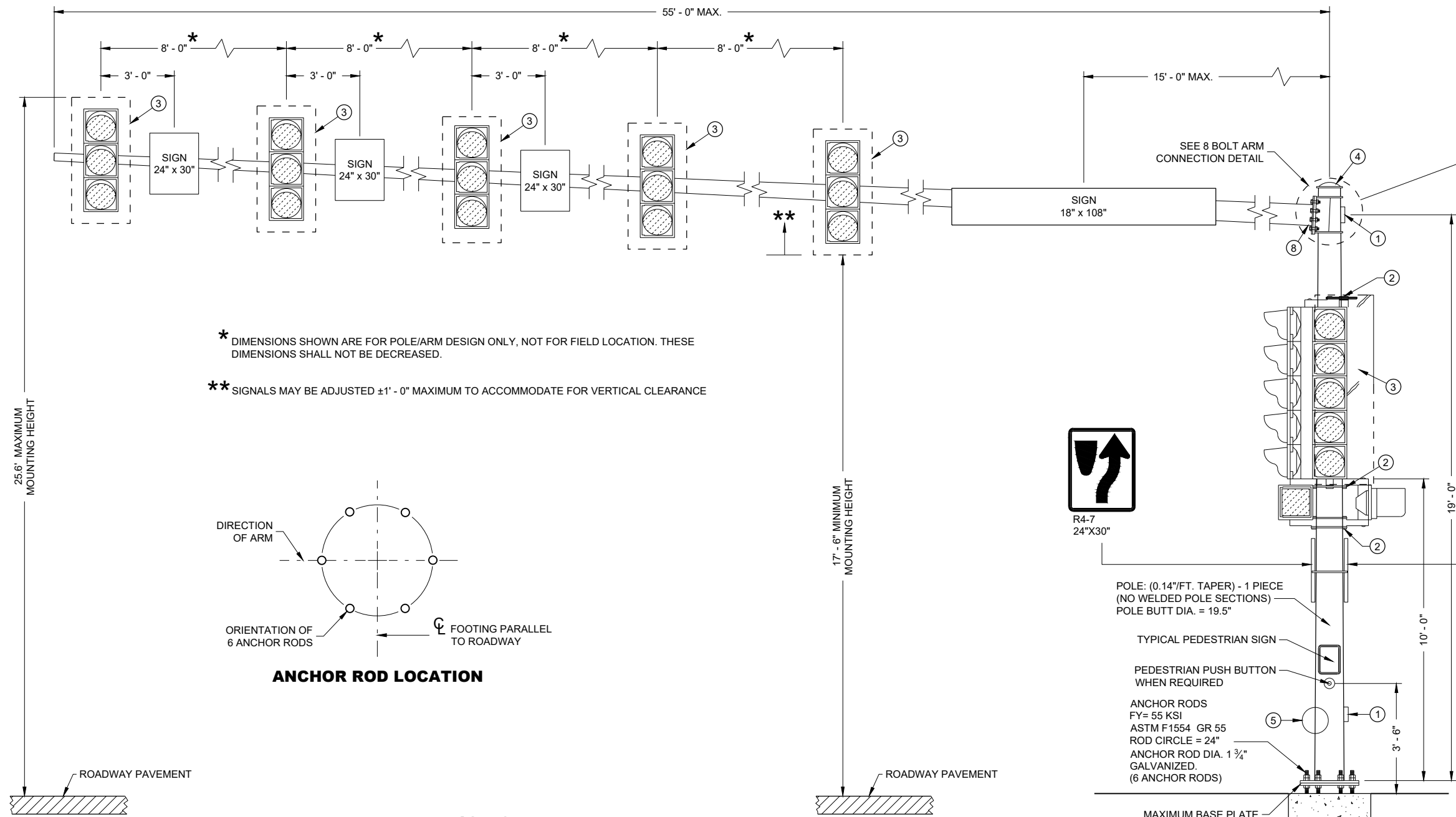


TYPE 10 POLE
15' - 30' MONOTUBE ARM

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

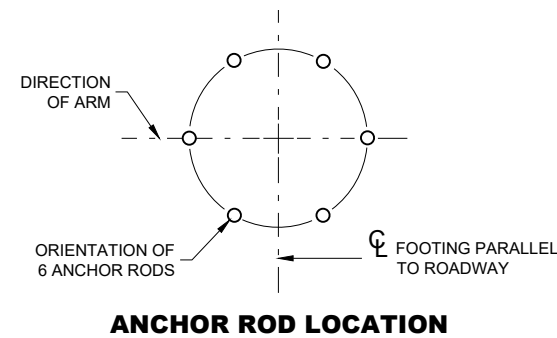
APPROVED
 August 2020 /S/ Ahmet Demirebilek
 DATE STATE ELECTRICAL ENGINEER

FHWA

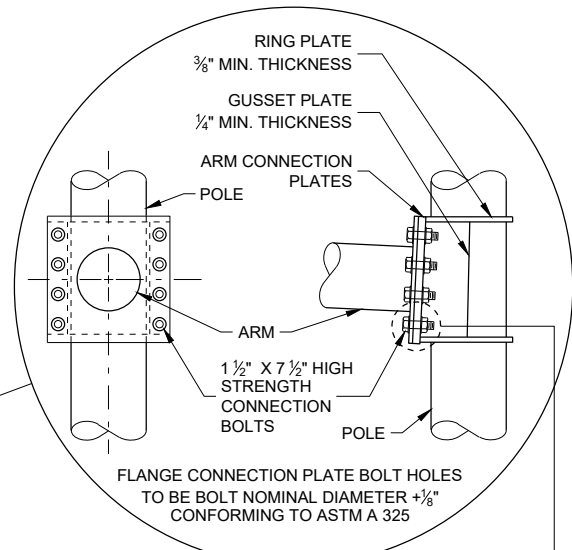


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

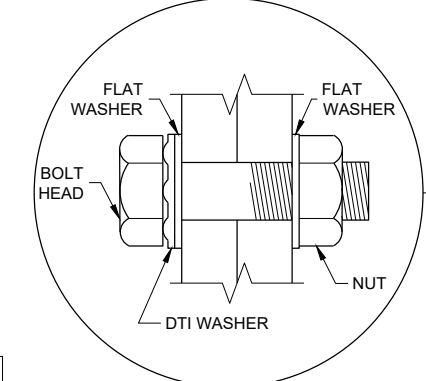
** SIGNALS MAY BE ADJUSTED ±1' - 0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE



**TYPE 12 POLE
35' - 55' MONOTUBE ARM
(MAXIMUM LOAD)**



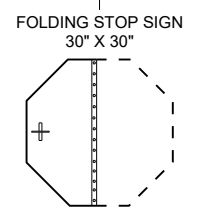
**8 BOLT ARM
CONNECTION DETAIL**



**RECOMMENDED BOLT
ASSEMBLY DETAIL**

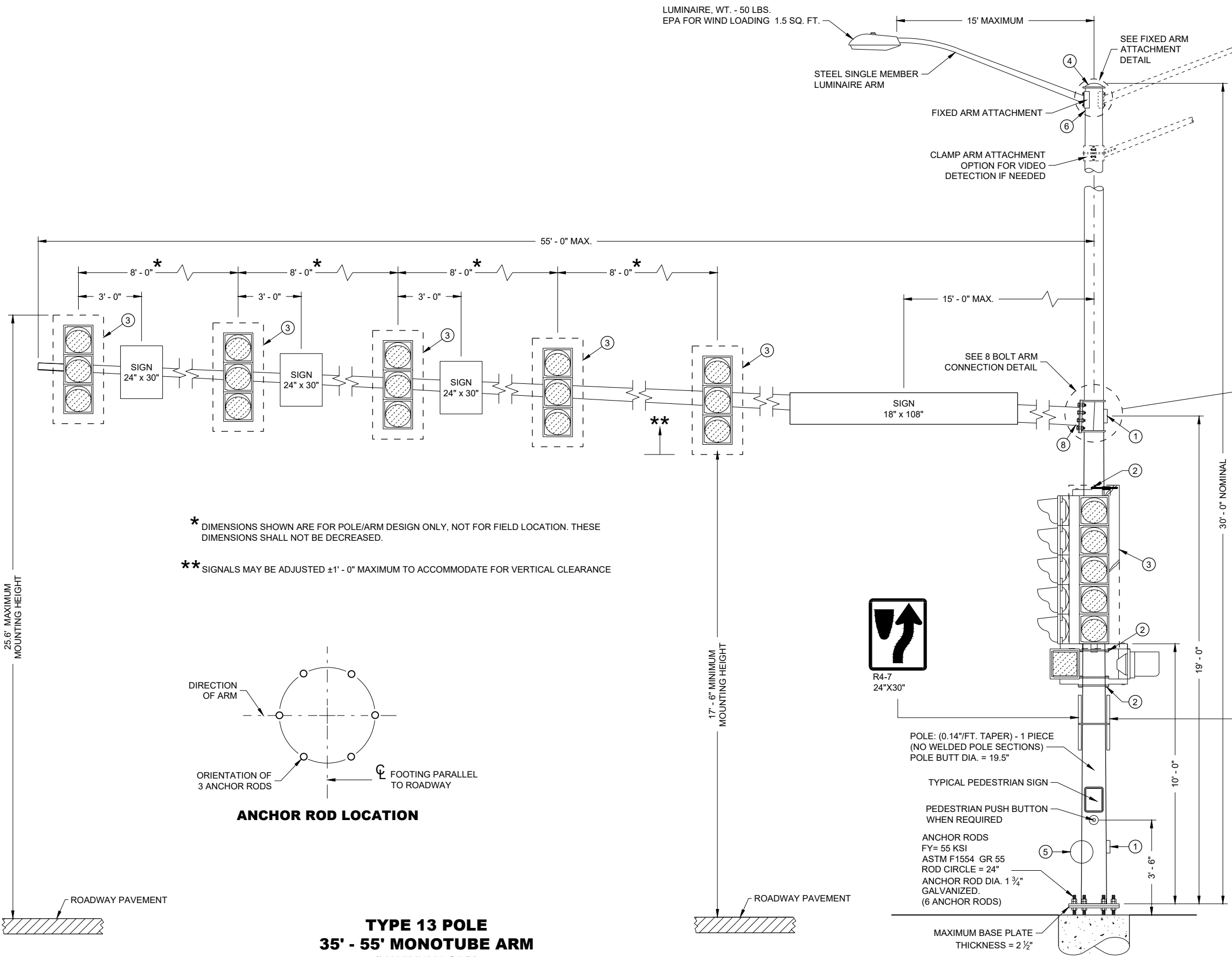


- POLE: (0.14\"/>



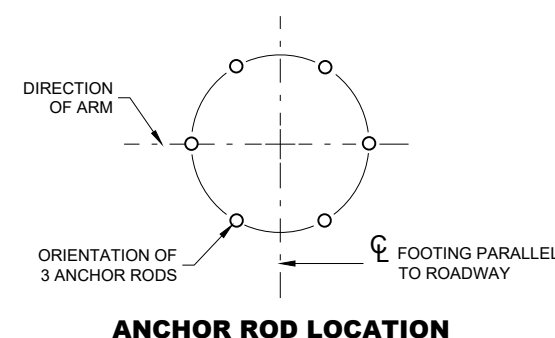
TYPE 12 POLE 35' - 55' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2020 DATE	/s/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
<small>FHWA</small>	

LUMINAIRE, WT. - 50 LBS.
EPA FOR WIND LOADING 1.5 SQ. FT.

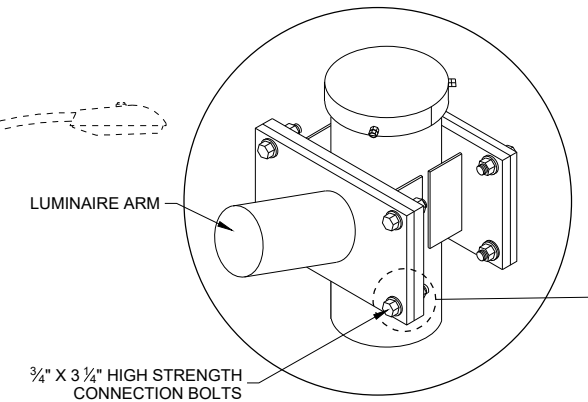


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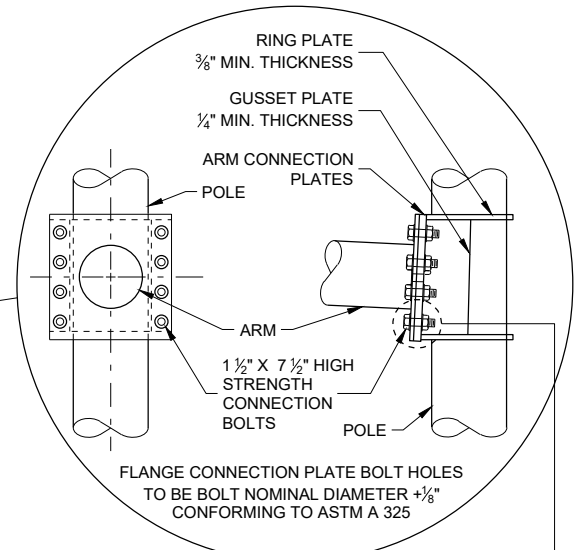
** SIGNALS MAY BE ADJUSTED ±1' - 0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE



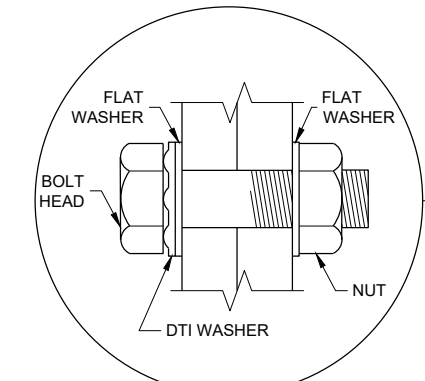
**TYPE 13 POLE
35' - 55' MONOTUBE ARM
(MAXIMUM LOAD)**



FIXED ARM ATTACHMENT DETAIL



8 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL



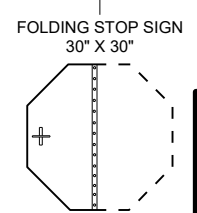
POLE: (0.14"/FT. TAPER) - 1 PIECE (NO WELDED POLE SECTIONS)
POLE BUTT DIA. = 19.5"

TYPICAL PEDESTRIAN SIGN

PEDESTRIAN PUSH BUTTON WHEN REQUIRED

ANCHOR RODS
FY= 55 KSI
ASTM F1554 GR 55
ROD CIRCLE = 24"
ANCHOR ROD DIA. 1 3/4"
GALVANIZED.
(6 ANCHOR RODS)

MAXIMUM BASE PLATE THICKNESS = 2 1/2"



TYPE 13 POLE 35' - 55' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2020 DATE	/S/ Ahmet Demirelek STATE ELECTRICAL ENGINEER
FHWA	

GENERAL NOTES

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15 FOOT TO 30 FOOT.

POLE TYPES 9 SPECIAL AND 10 SPECIAL ARE FOR ARM LENGTHS 35 FOOT, 40 FOOT, AND 45 FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35 FOOT TO 55 FOOT.

MONOTUBE POLES AND ARMS SHALL BE GALVANIZED STEEL.

RING STIFFENED BUILT UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3% ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATION SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING INTERIM REVISIONS)" AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR THE LIGHTING STRUCTURES AS FOLLOWS:

CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.

CATEGORY II FATIGUE LOADS OF TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 SPECIAL AND TYPE 10 SPECIAL STRUCTURES. IN LIEU OF DESIGNING FOR GALLOPING, A VIBRATION DAMPER MITIGATION DEVICE IS REQUIRED TO BE SUPPLIED AND INSTALLED AT THE END OF THE MAST ARM.

CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.

115 MPH (700 YEAR MRI BASIC WIND SPEED).

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH 3/4" STAINLESS STEEL BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL 1/2" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEAD AT SAME ELEVATION.

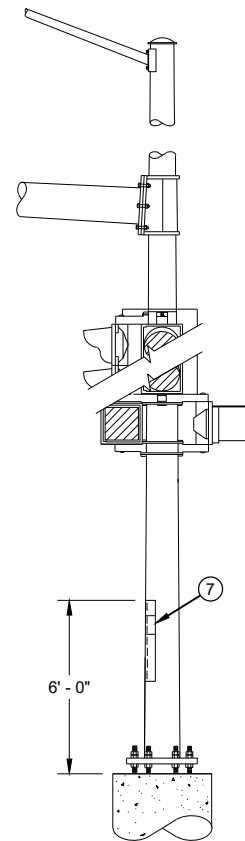
SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

- ① DESIGN FOR MAXIMUM ALLOWABLE HAND HOLE WITH COVER ASSEMBLY WITH TWO 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
- ② SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING (SEE SPECIFICATION SECTION 658).
- ③ SECURELY MOUNT BACK PLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.
- ④ THE TOP OF THE POLE SHAFT AND THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.
- ⑤ FACTORY WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HAND HOLD, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.
- ⑥ FACTORY WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.
- ⑦ INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

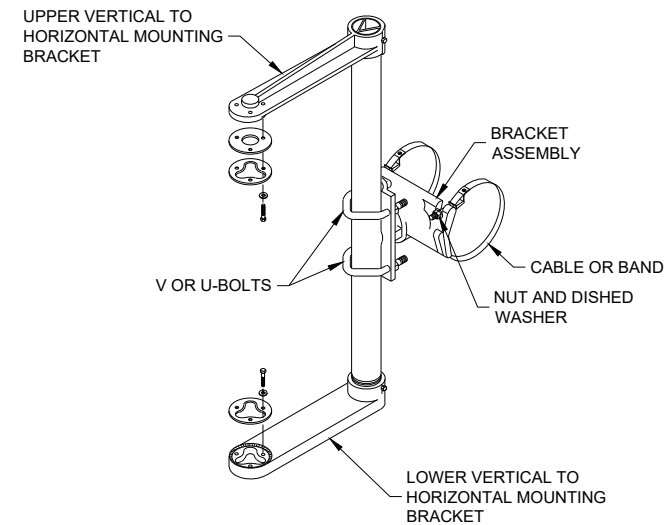
STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 6' - 0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

- ⑧ FACTORY DRILLED 1/2" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

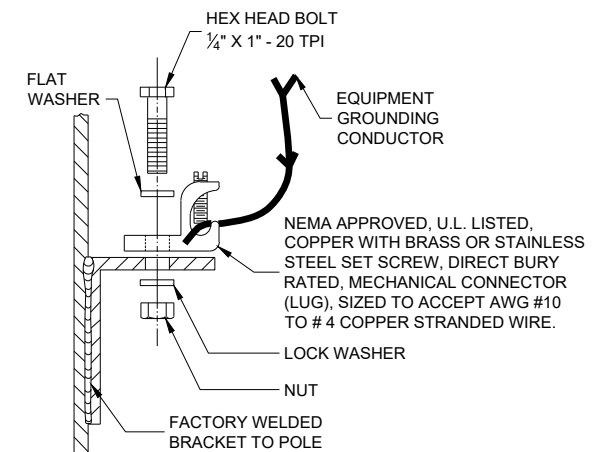


**STRUCTURAL IDENTIFICATION
PLAQUE PLACEMENT**



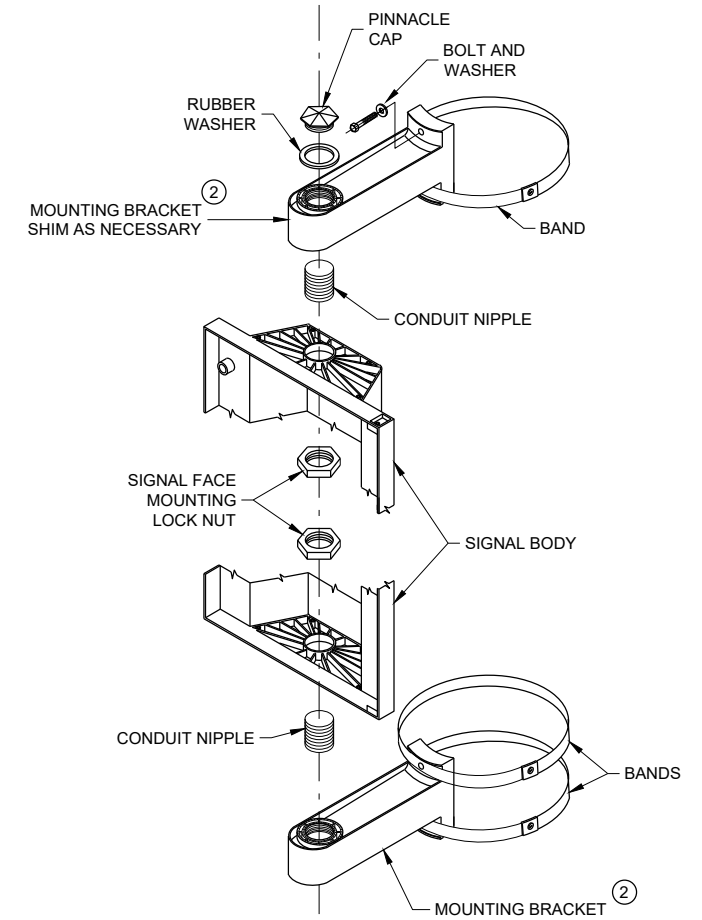
**SIGNAL FACE MOUNTING BRACKET
DETAIL FOR MONOTUBE ARM**

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

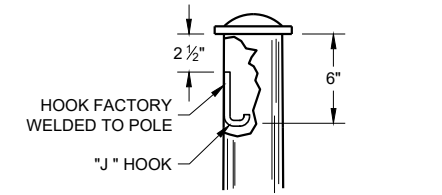


**TYPICAL GROUNDING
CONNECTIONS**

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



**SIGNAL FACE VERTICAL
MOUNTING DETAIL**



**TYPICAL "J" HOOK
WIRE SUPPORT**

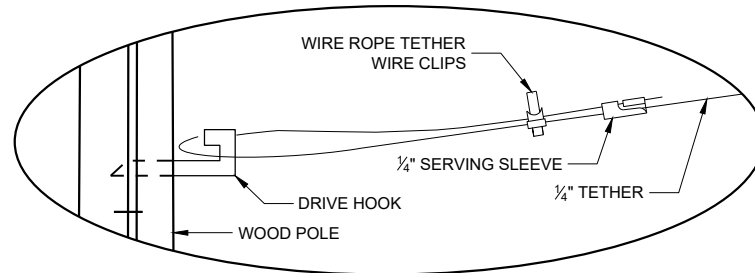
**GENERAL NOTES AND
HARDWARE FOR TYPES 9,10,
9/10 SPECIAL, 12 AND 13
POLES WITH MONOTUBE ARMS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020 DATE /S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

FHWA

MINIMUM POLE LENGTHS	POLE BURIAL DEPTHS
25'	5'
30'	6'
35'	7'
40'	8'
45'	9'

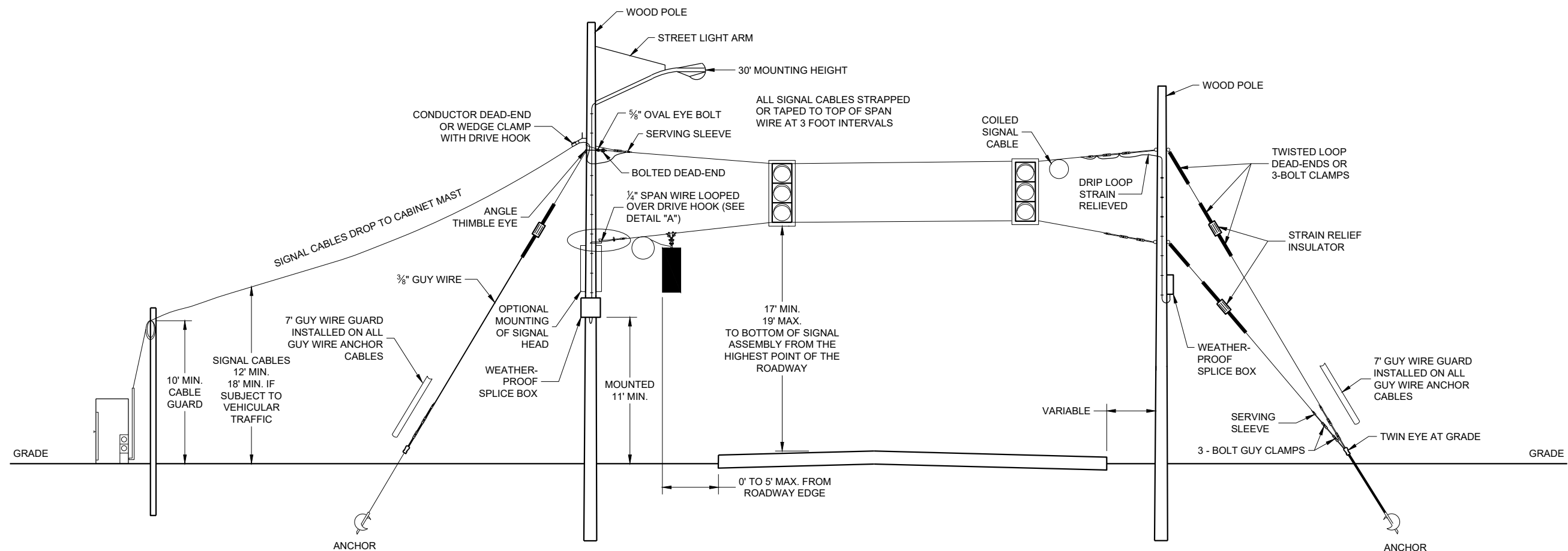


DETAIL "A"

GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
2. SIGNAL FACES:
 - A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
 - B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
 - C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
 - D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
3. SPAN WIRE:
 - A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED
 - B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
 - C. THE SIGNAL ASSEMBLY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



SPAN WIRE TEMPORARY SIGNALS

SPAN WIRE TEMPORARY TRAFFIC SIGNAL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2015 DATE	/S/ Ahmet Demerbilek STATE ELECTRICAL ENGINEER
FHWA	

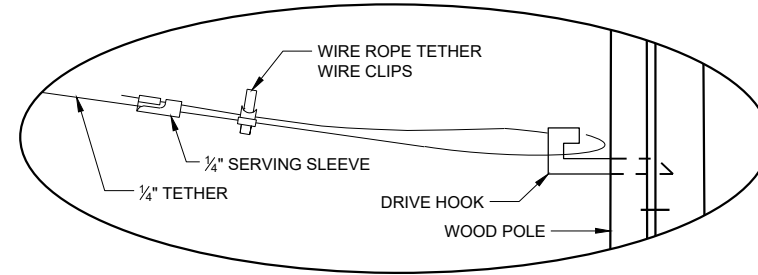
6

6

SDD09G01 - 04a

SDD09G01 - 04a

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

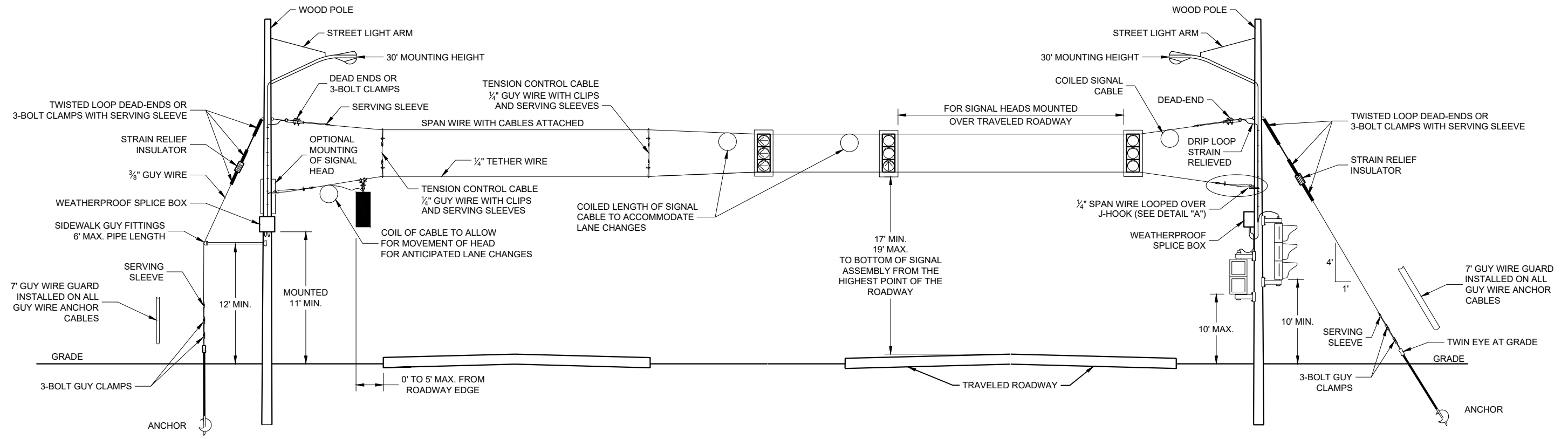


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 - FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
- SPAN WIRE:
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 - SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
 - THE SIGNAL ASSEMBLY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



**SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS**

**SPAN WIRE TEMPORARY
TRAFFIC SIGNAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

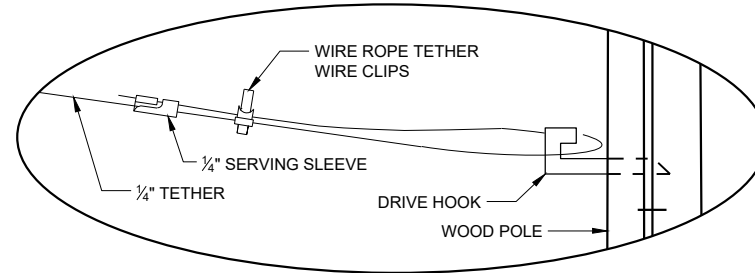
APPROVED
June 2015 /S/ Ahmet Demerbilek
DATE STATE ELECTRICAL ENGINEER

FHWA

SDD09G01 - 04b

SDD09G01 - 04b

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

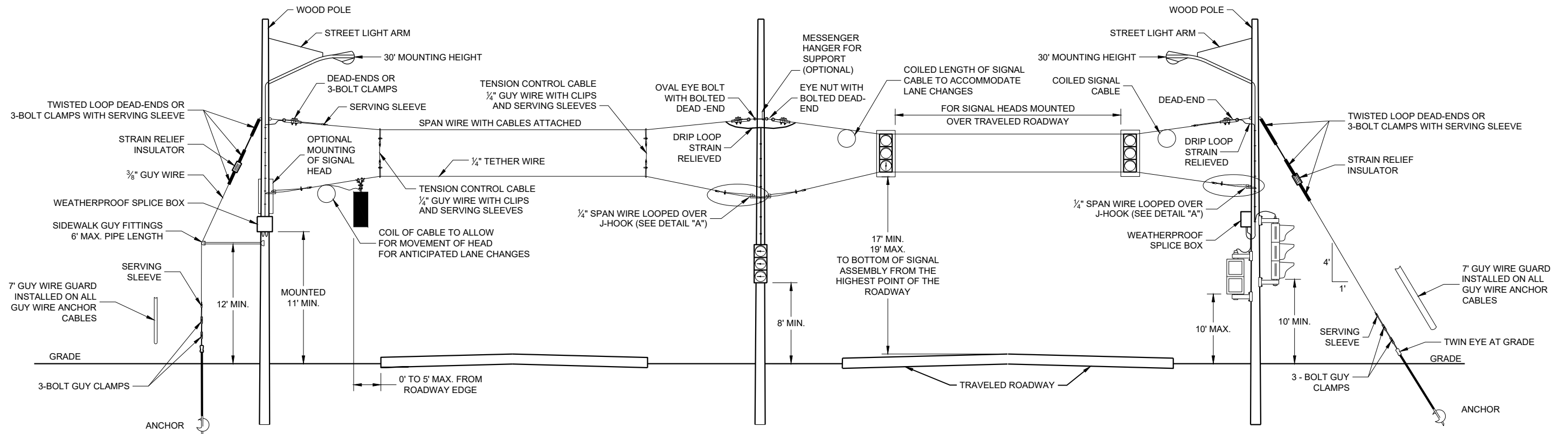


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**SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS**

**SPAN WIRE TEMPORARY
TRAFFIC SIGNAL**

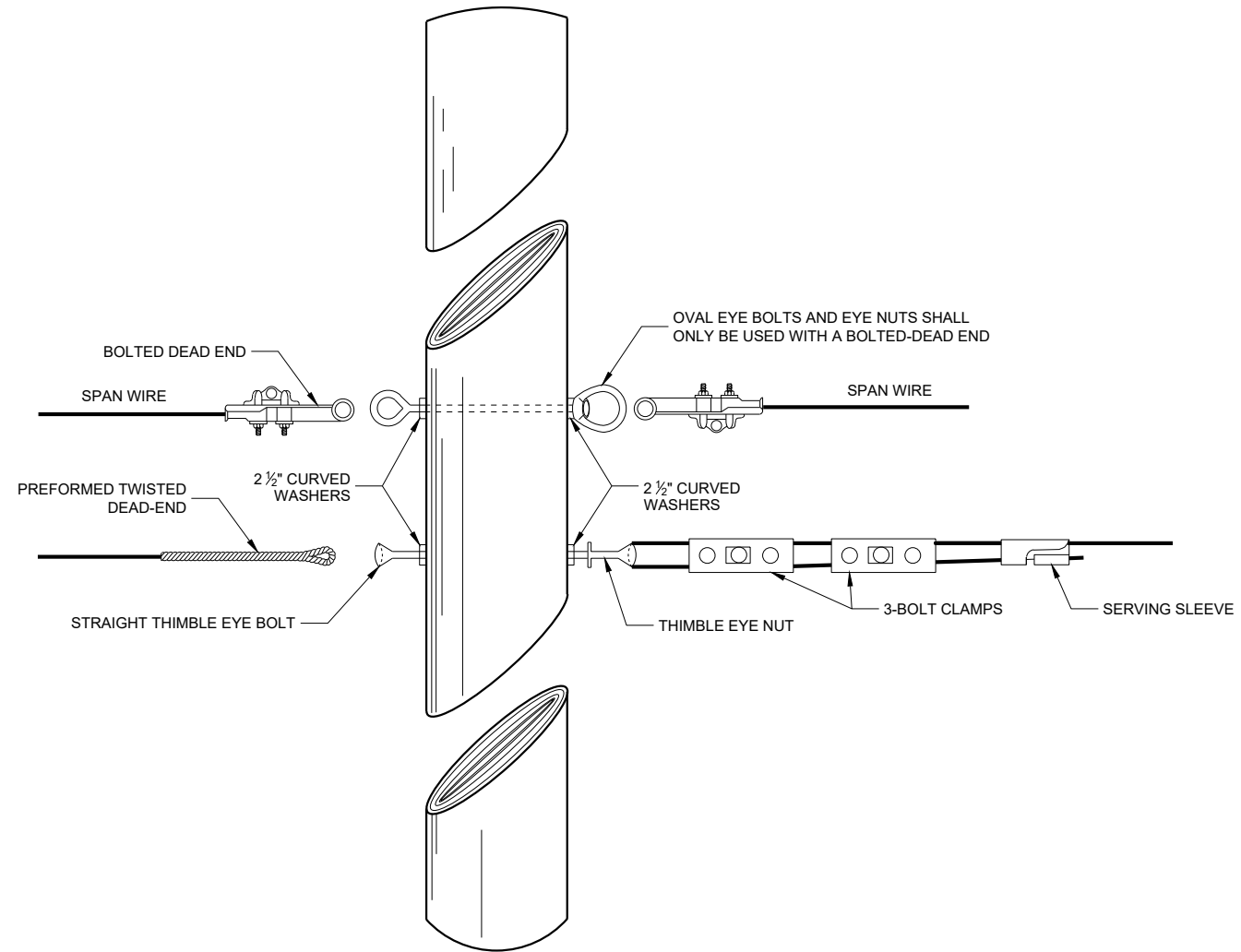
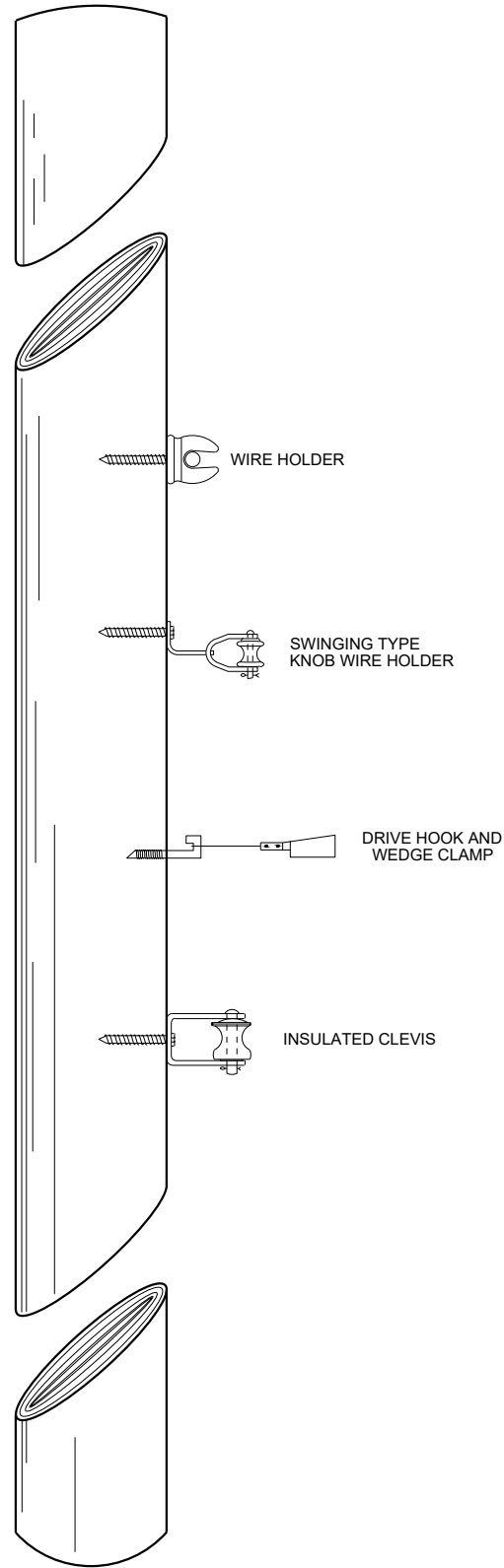
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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June 2015 /S/ Ahmet Demerbilek
DATE STATE ELECTRICAL ENGINEER

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SDD09G01 - 04c

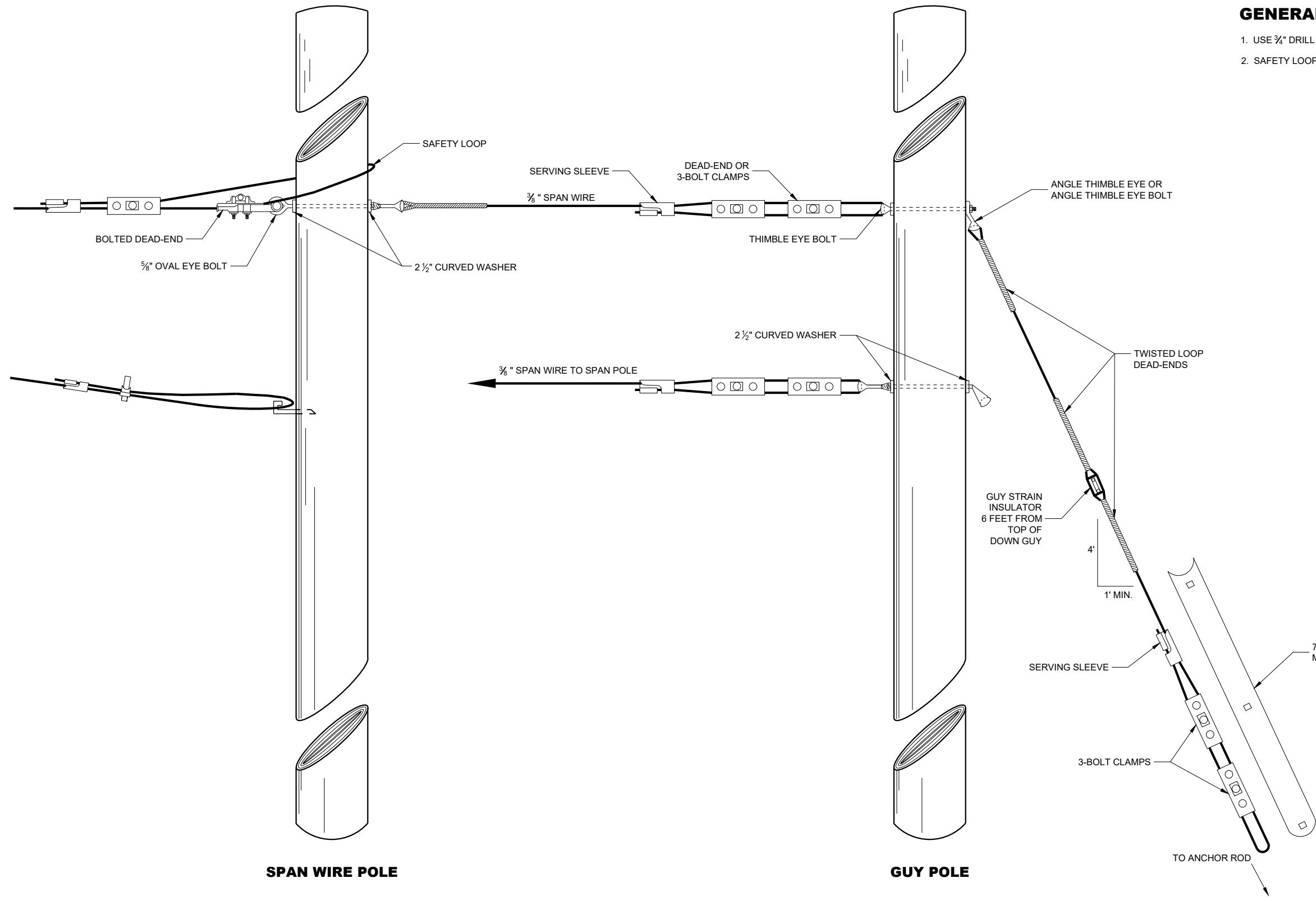
SDD09G01 - 04c



**SPAN WIRE TEMPORARY
TRAFFIC SIGNAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015 /S/ Ahmet Demerbilek
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER



GENERAL NOTES

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE FOR 5/8" BOLTS.
2. SAFETY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.

SPAN WIRE POLE

GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015 /S/ Ahmet Demerbilek
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

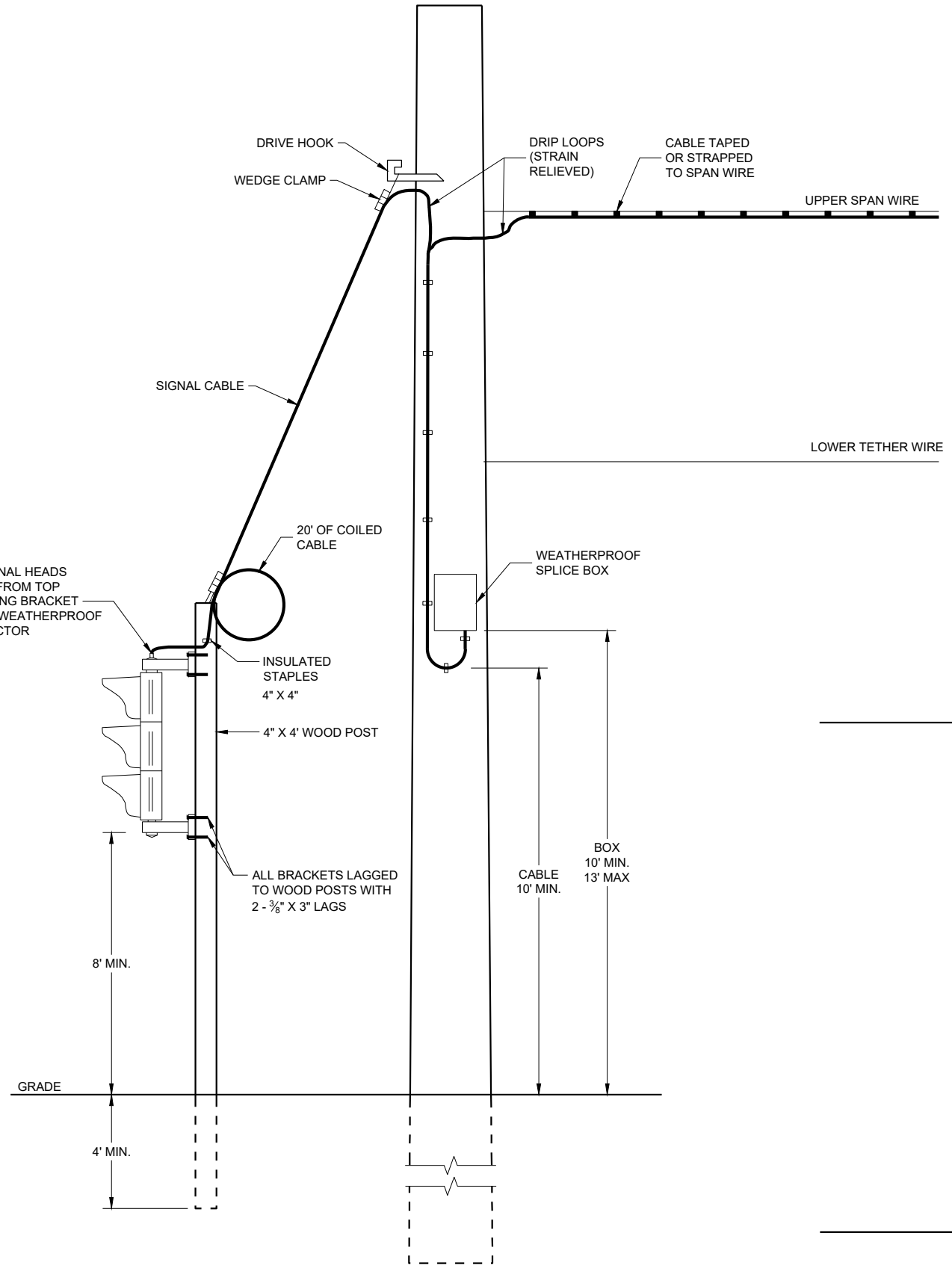
FHWA

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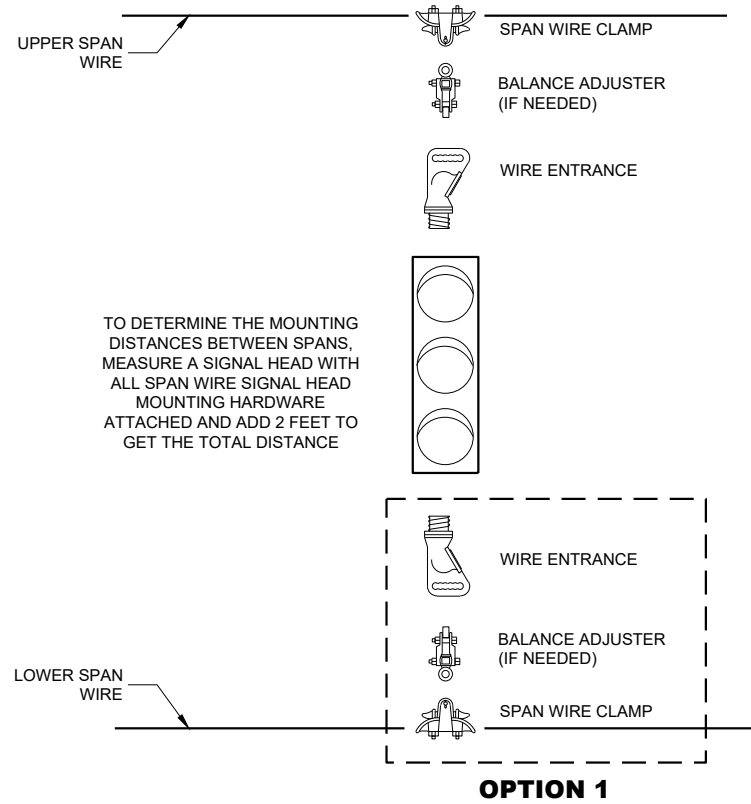
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SDD 09G01 - 4e

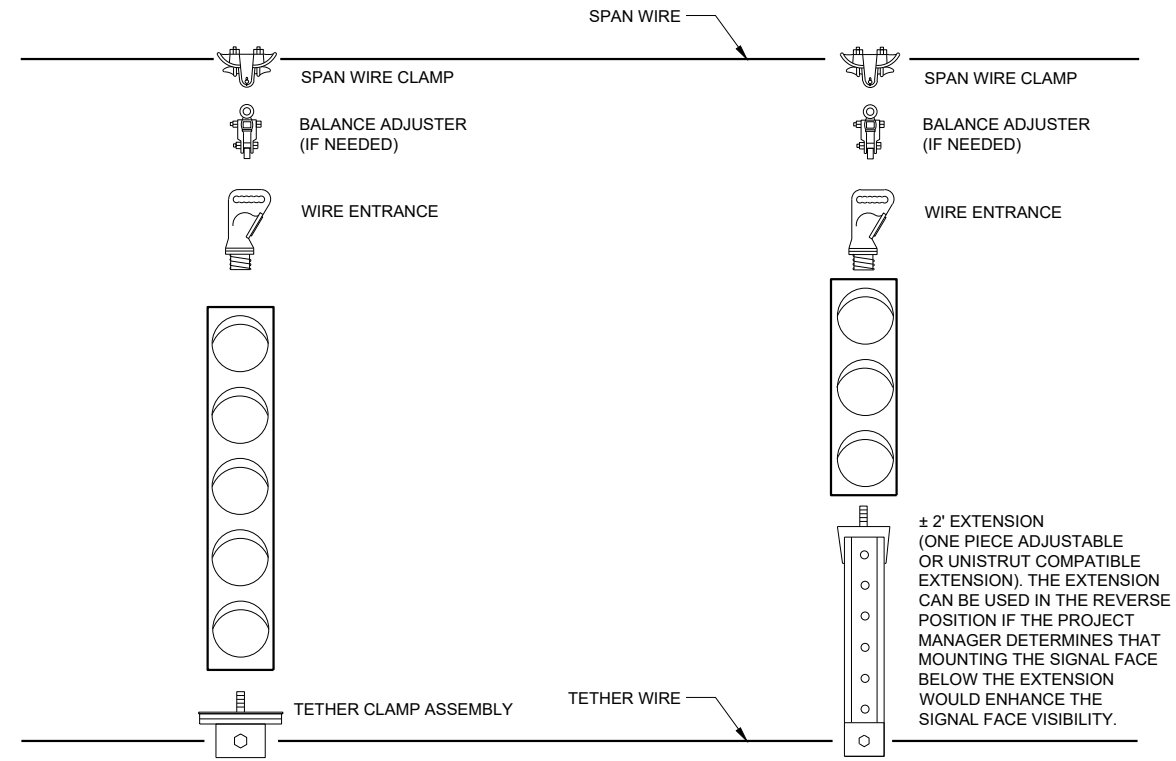
SDD 09G01 - 4e



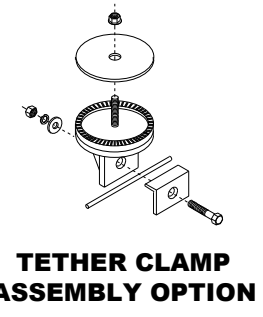
TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



TYPICAL SPAN WIRE MOUNTING HARDWARE



5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE



USE OPTION 1 OR TETHER CLAMP ASSEMBLY

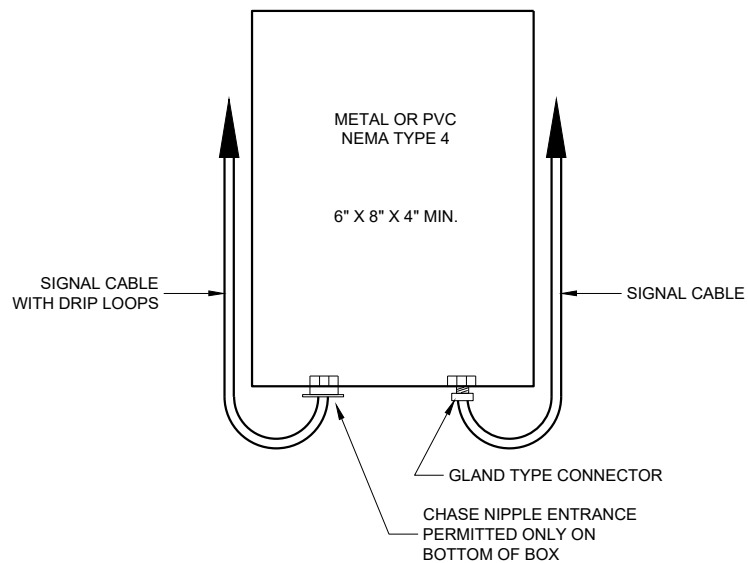
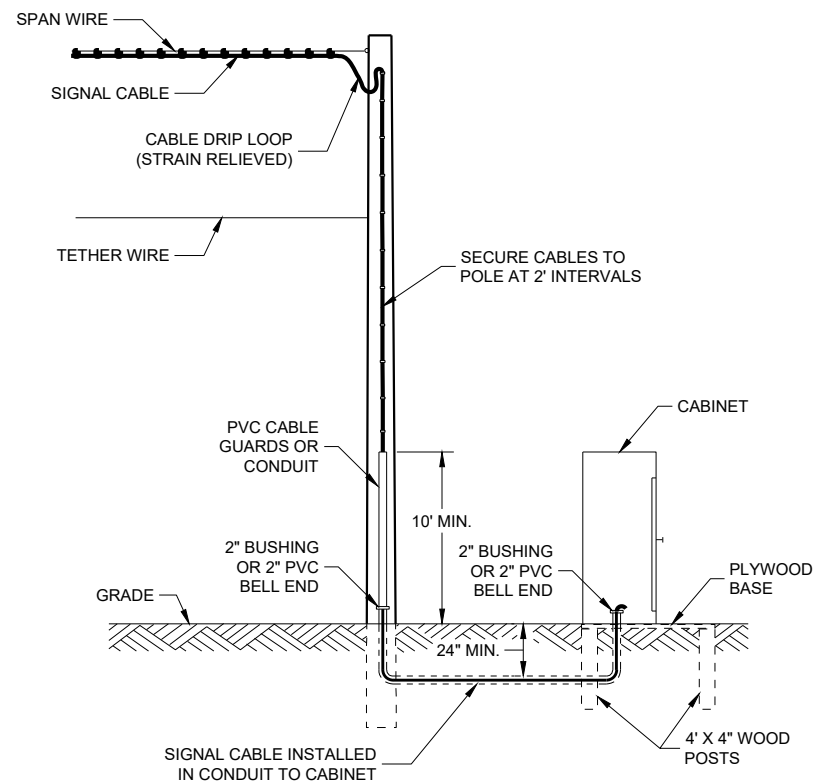
TETHER CLAMP ASSEMBLY OPTION

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

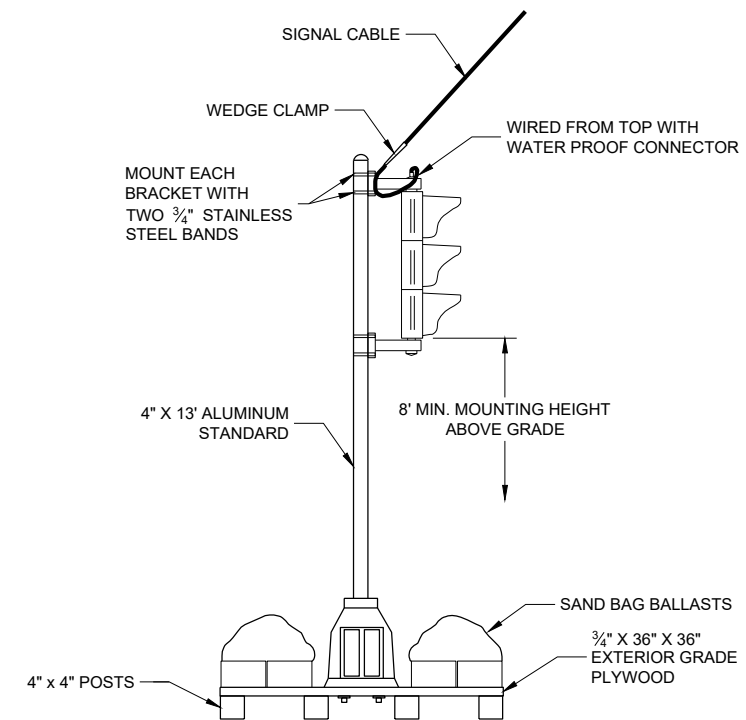
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED
 June 2015 /S/ Ahmet Demerbilek
 DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

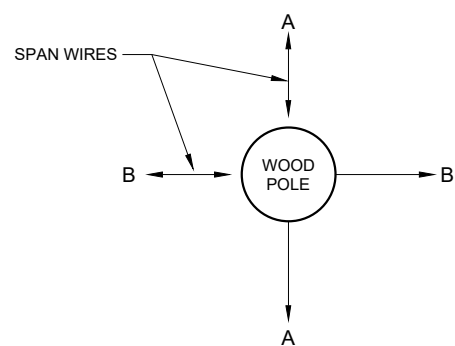
FHWA



SPLICE BOX

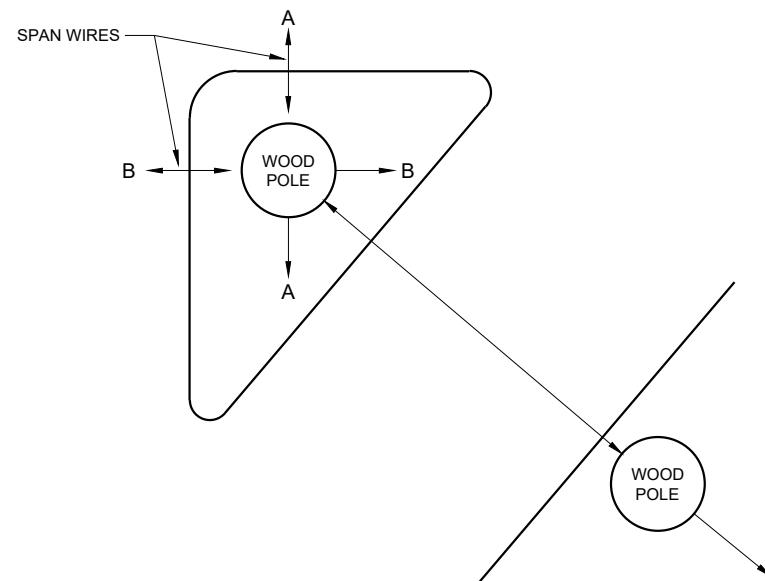


TYPICAL SKID TYPE TEMPORARY

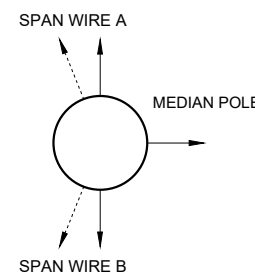


CORNER POLES

ALL DOWN OR SIDEWALK GUYS SHALL BE INSTALLED IN THE OPPOSITE DIRECTION OF THE STRAIN OF THE SPAN WIRE



ISLAND POLES



MEDIAN POLES

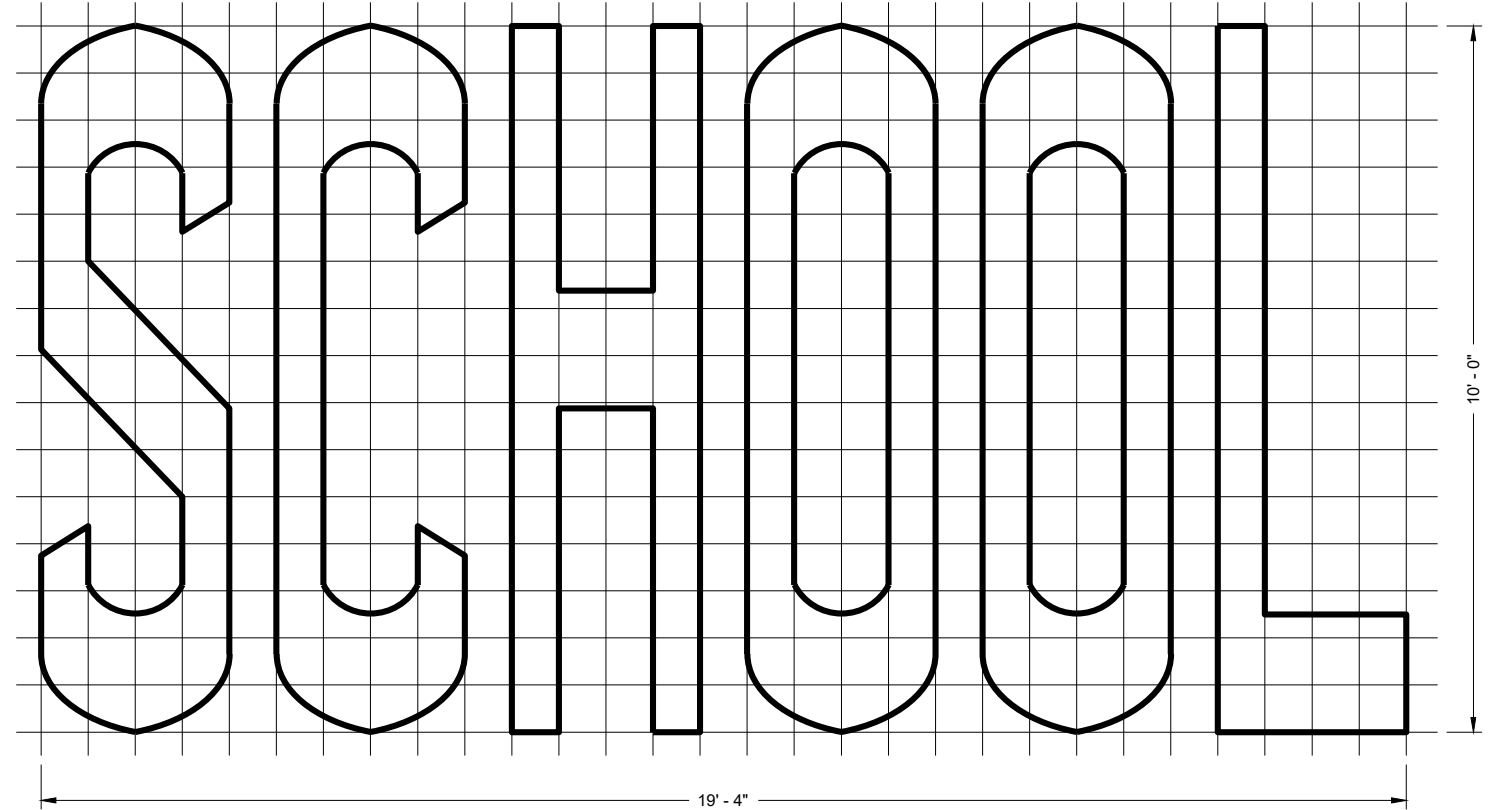
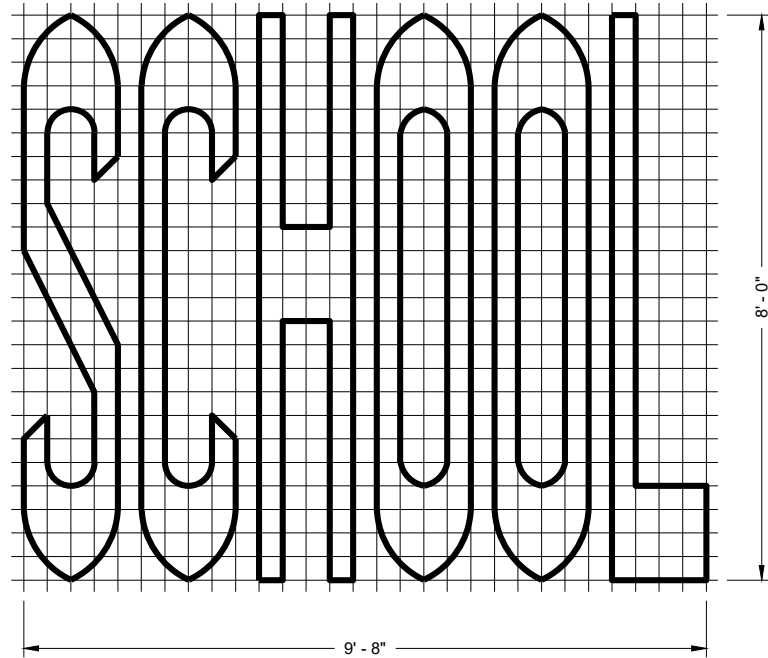
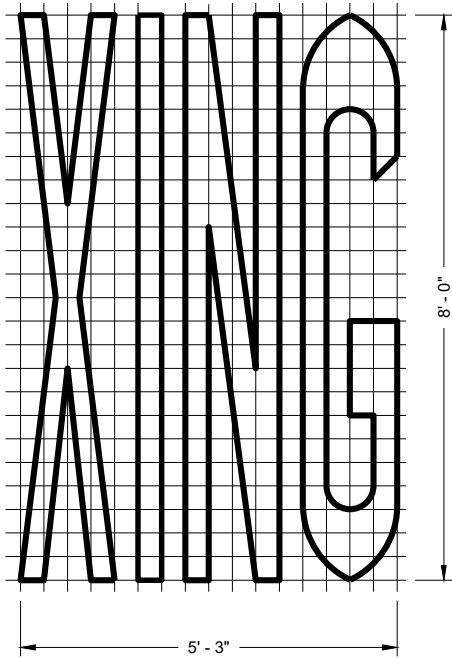
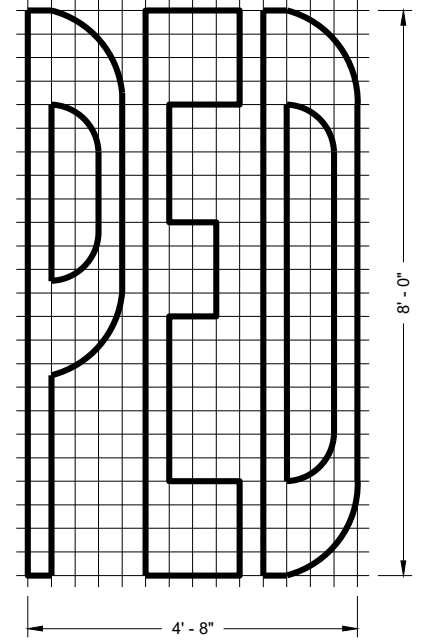
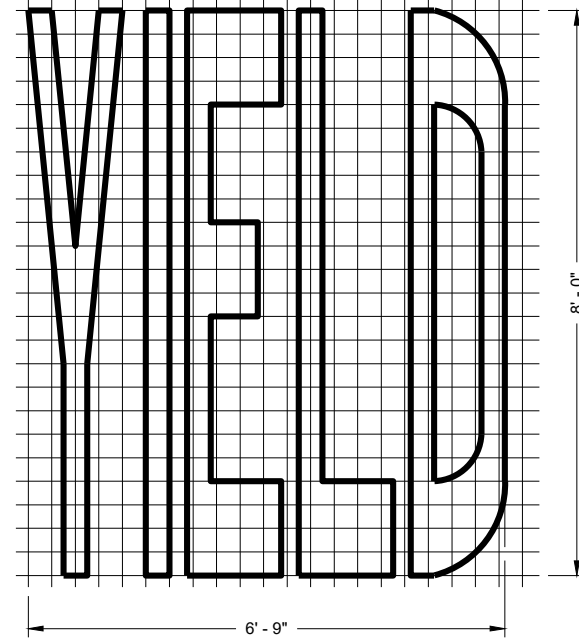
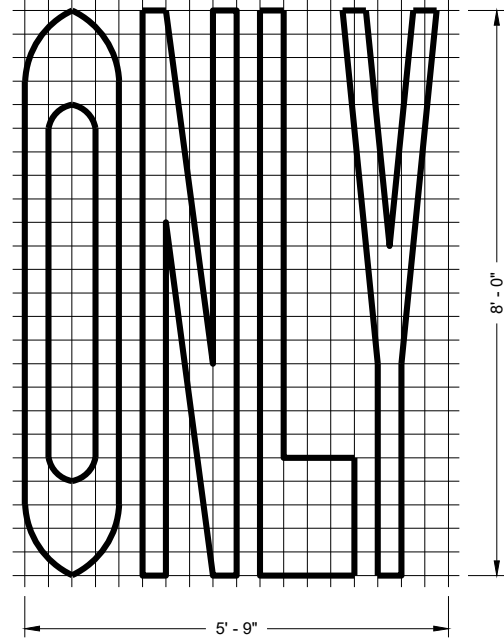
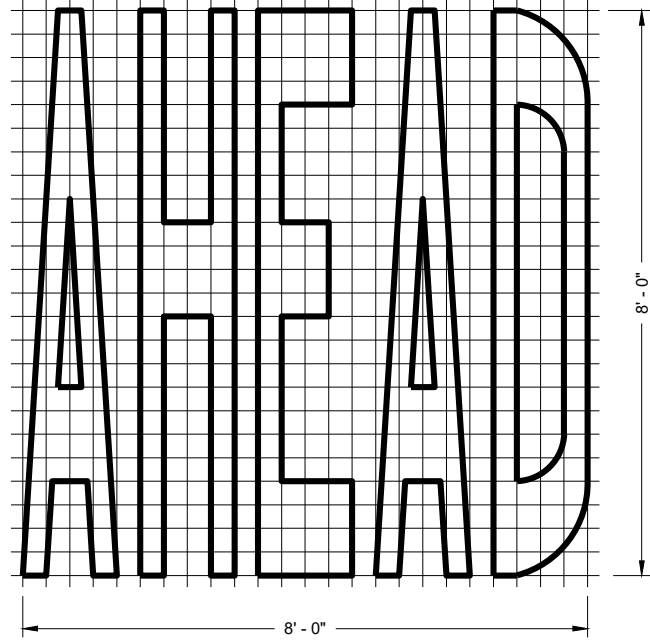
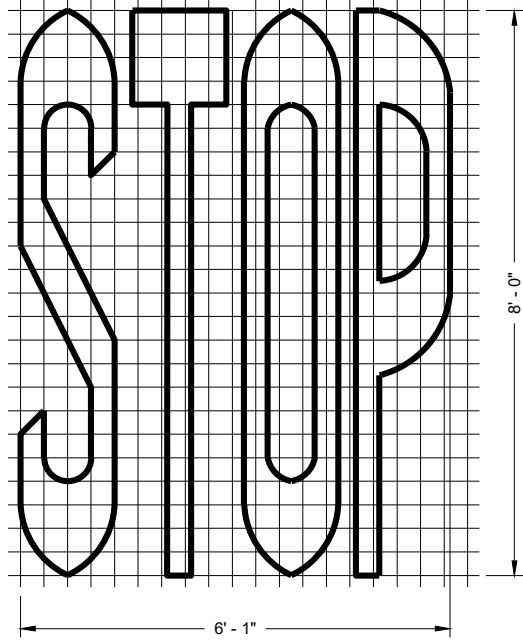
GUY AWAY FROM INTERSECTION OR IN OPPOSITE DIRECTION OF THE SPAN LOADING

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015 /S/ Ahmet Demerbilek
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



SINGLE LANE

TWO - LANE

GENERAL NOTES

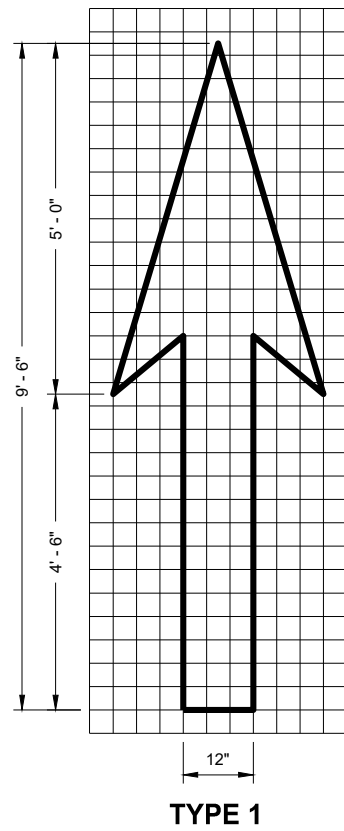
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING WORDS

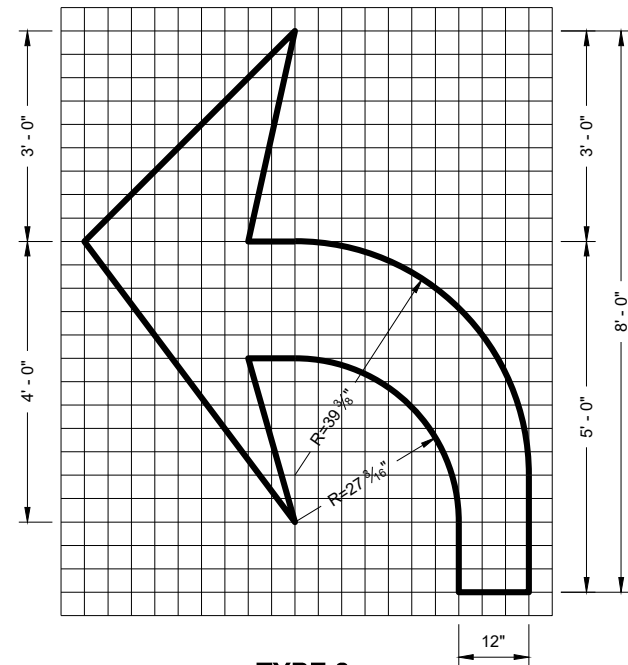
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING
ENGINEER

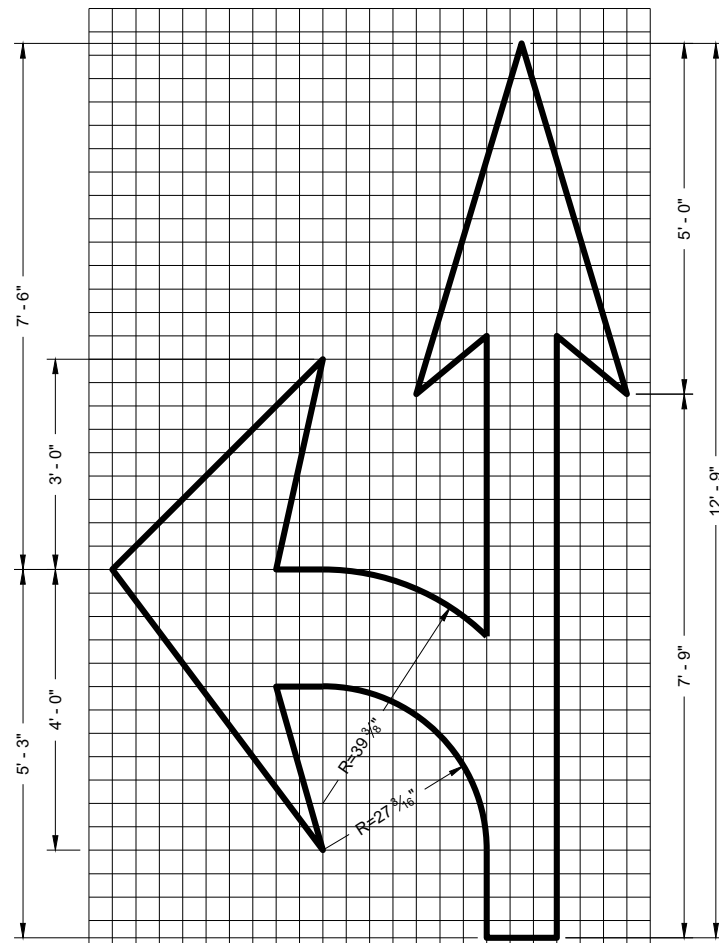
FHWA



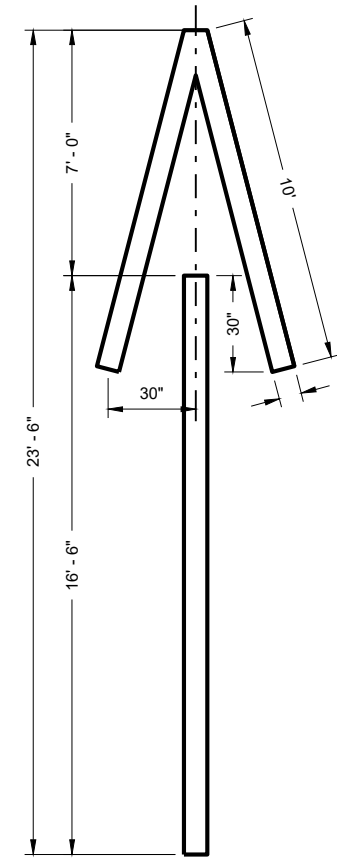
TYPE 1



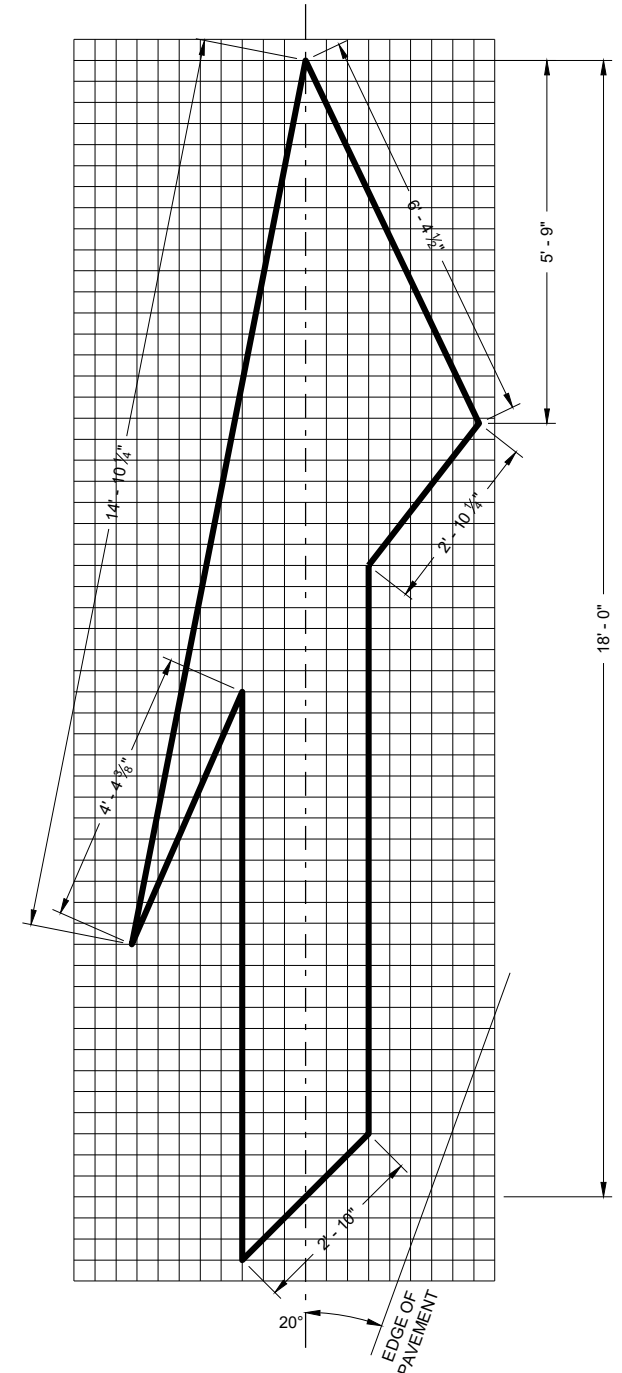
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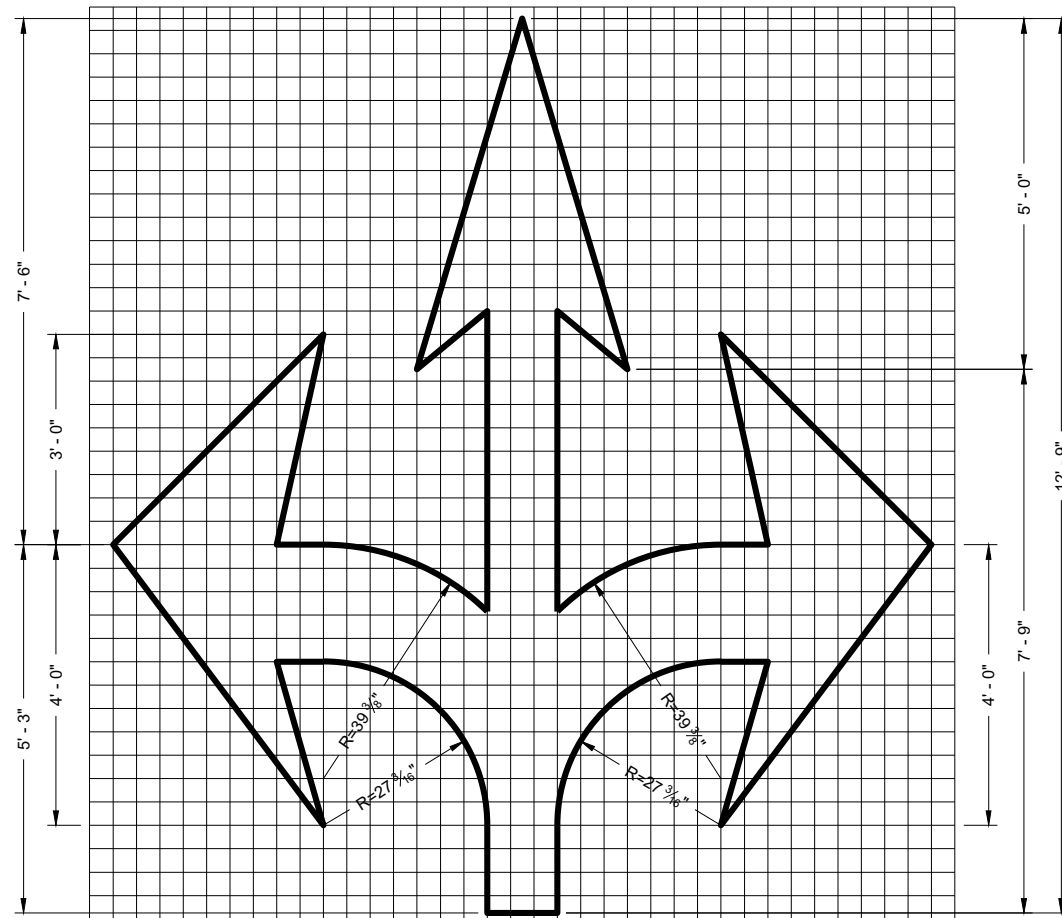
TYPE 3



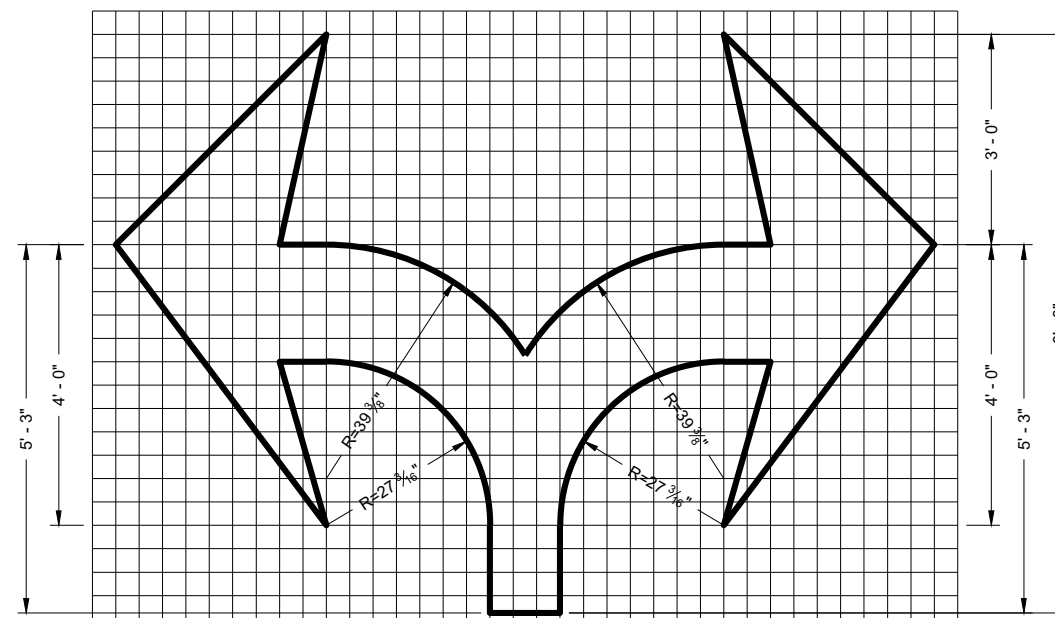
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

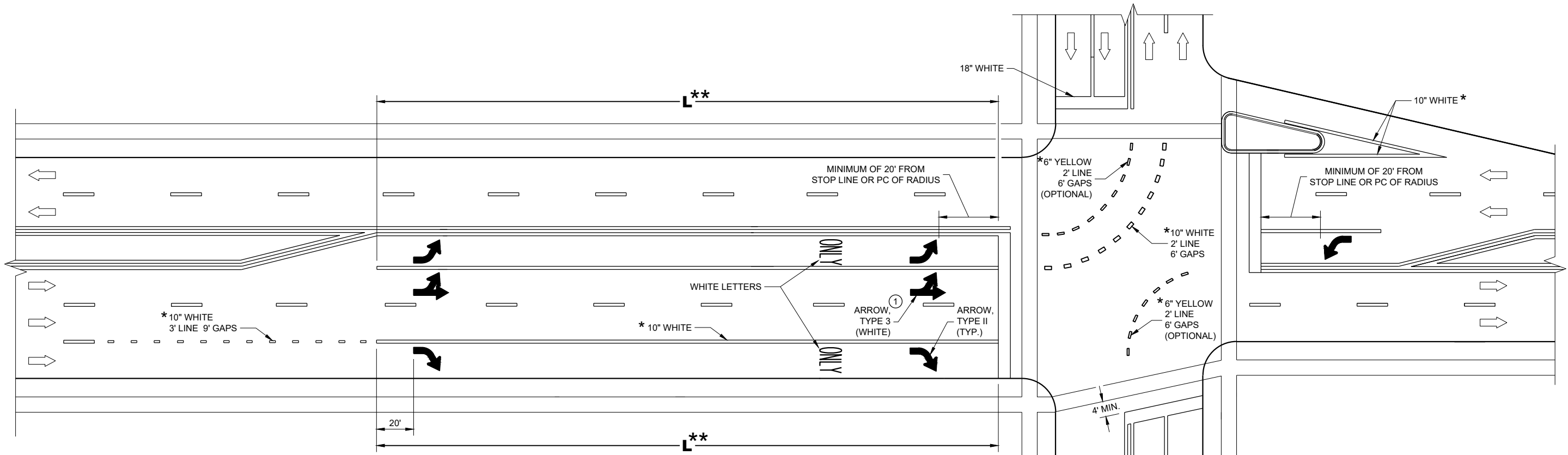
GENERAL NOTES

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

PAVEMENT MARKING ARROWS

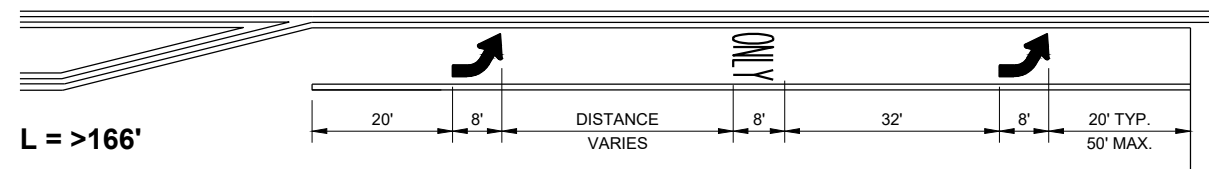
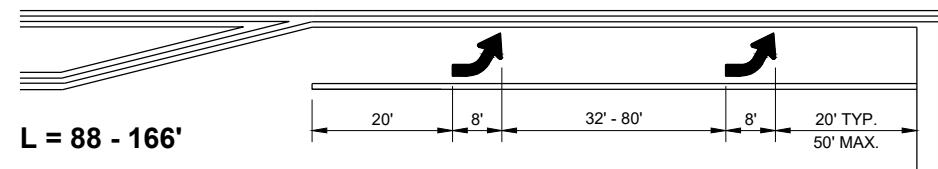
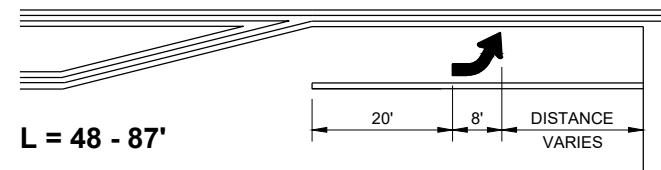
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE /S/ Matthew Rauch
STATE SIGNING AND MARKING
ENGINEER
FHWA



TURN LANE OPTIONS

LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



** (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

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.

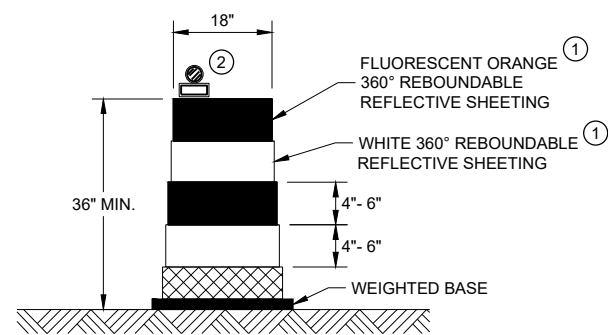
➡ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

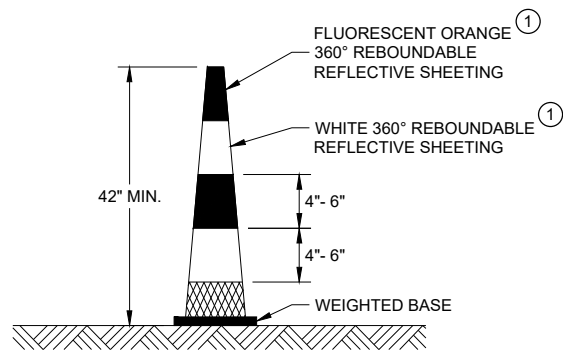
PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



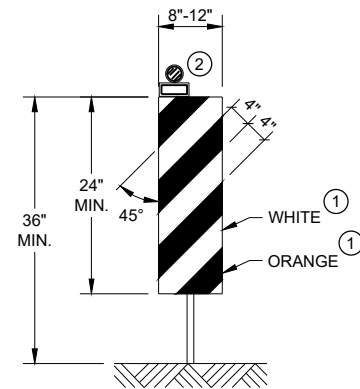
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"

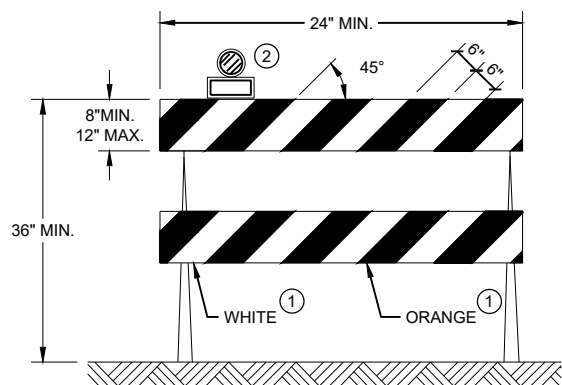


VERTICAL PANEL

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

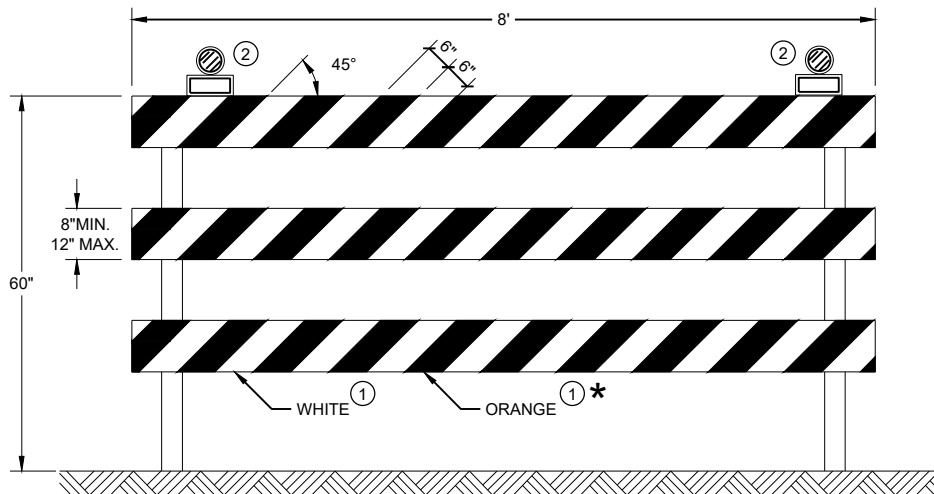
GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



TYPE 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**

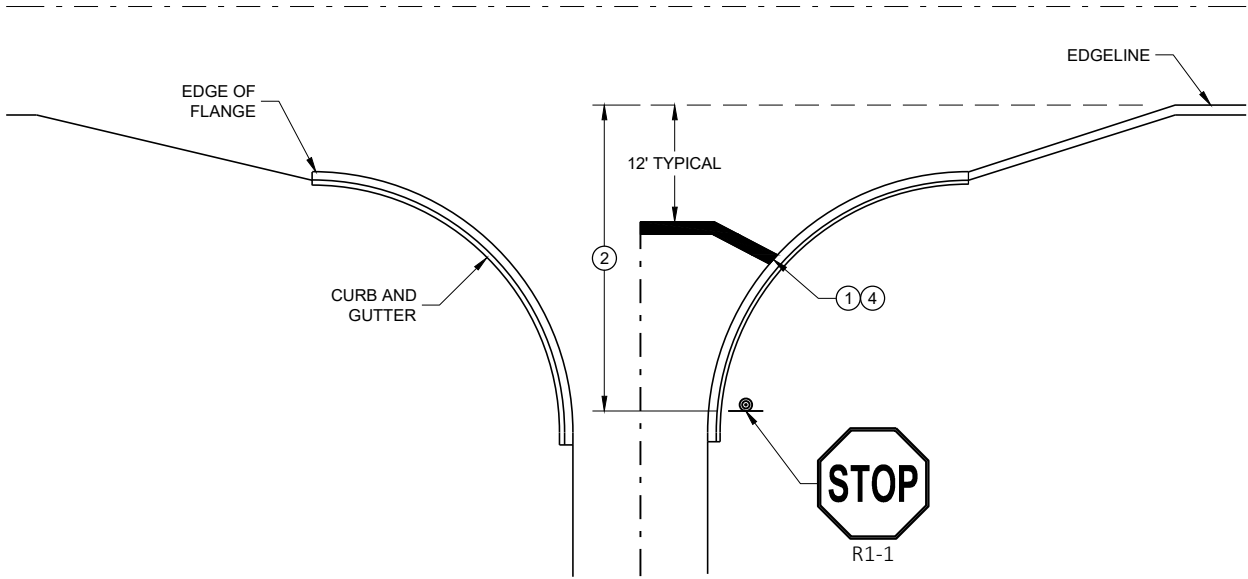
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
 November 2022 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER
 FHWA

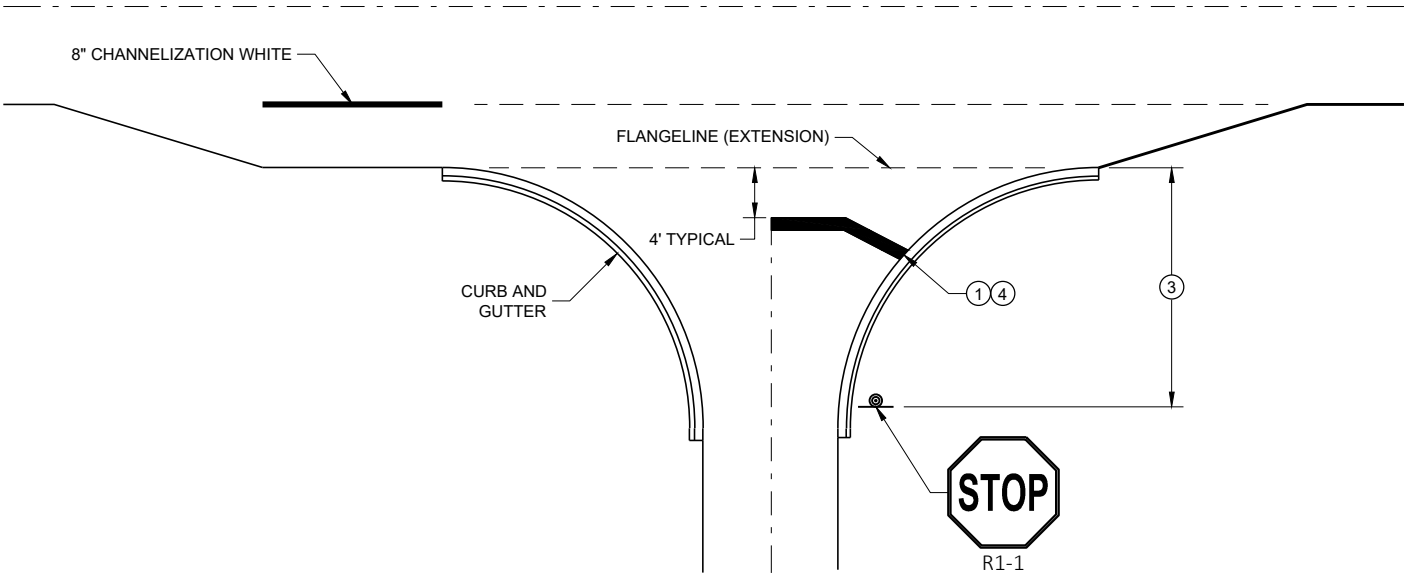
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

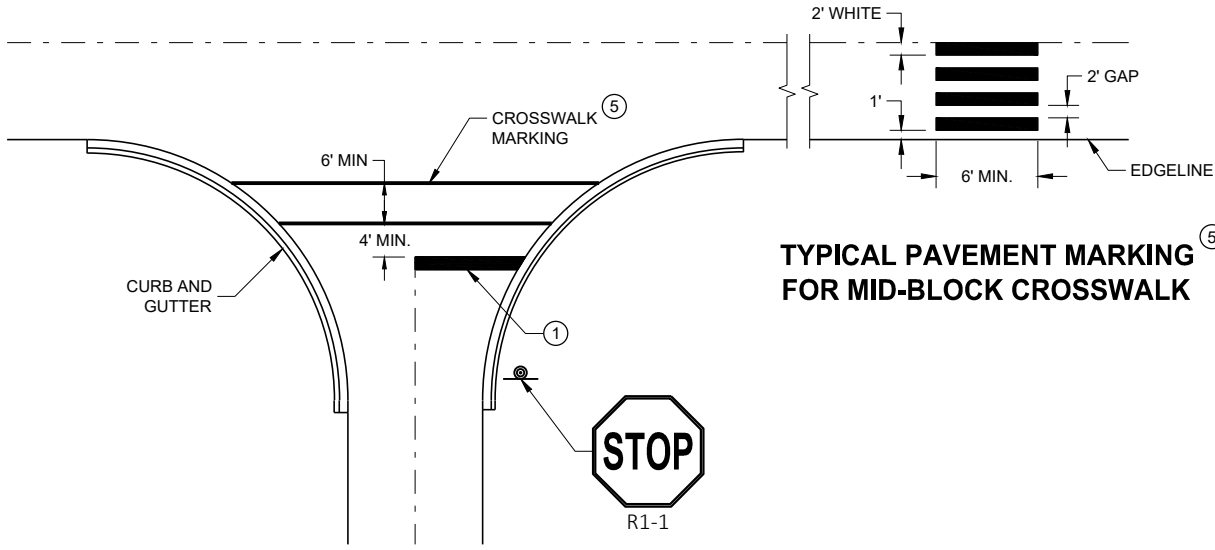
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
- ④ MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
- ⑤ LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

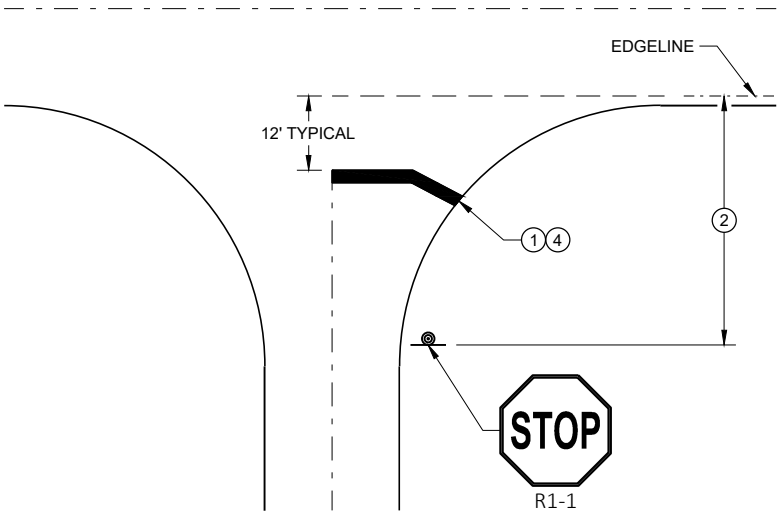


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING

TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER










STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING ENGINEER

FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
-  WORK AREA

GENERAL NOTES

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45MPH, USE SDD 15D12.

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

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

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

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

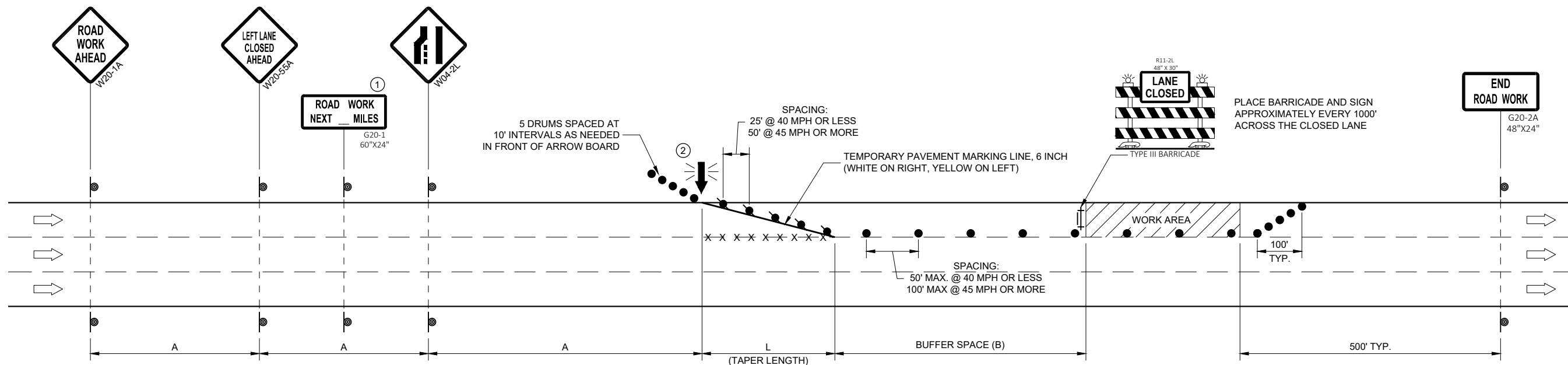
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO PLACE THE ARROW BOARD AS SHOWN, PLACE THE ARROW BOARD AT THE END OF THE TAPER.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'










TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
-  WORK AREA

GENERAL NOTES

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"X 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

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SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

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

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W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

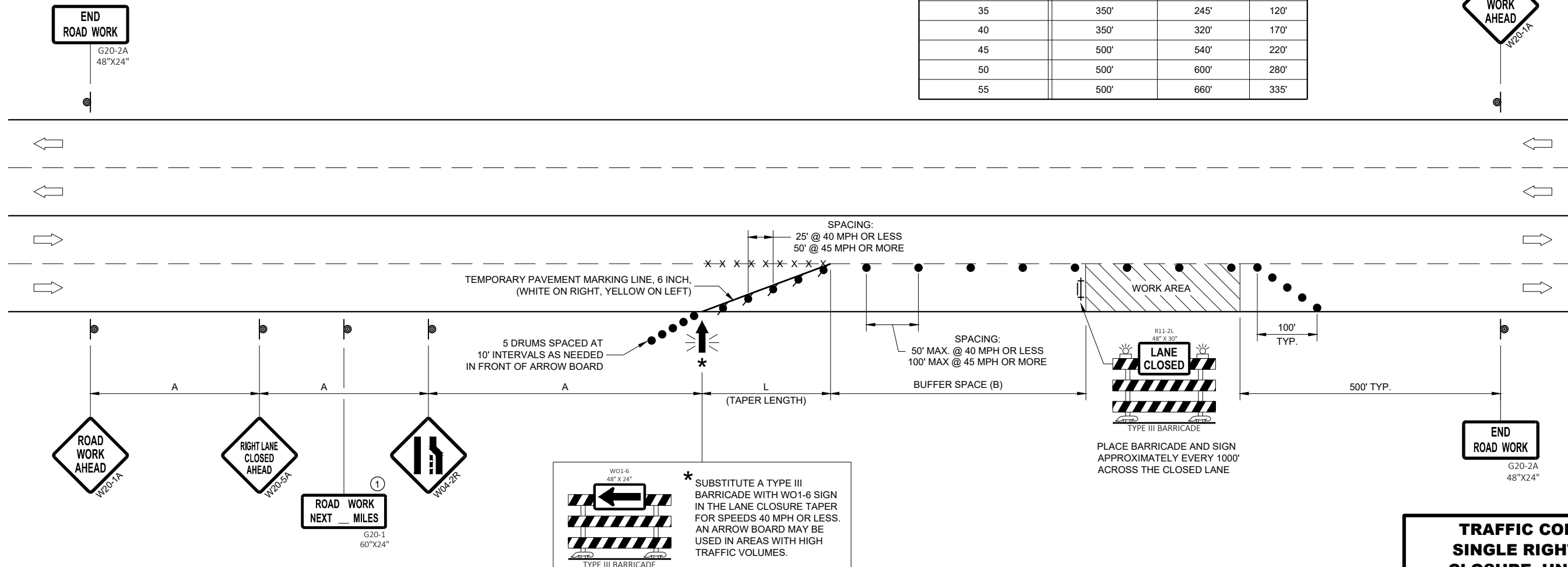
① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'
50	500'	600'	280'
55	500'	660'	335'



6

6



* SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER FOR SPEEDS 40 MPH OR LESS. AN ARROW BOARD MAY BE USED IN AREAS WITH HIGH TRAFFIC VOLUMES.

**TRAFFIC CONTROL,
SINGLE RIGHT LANE
CLOSURE, UNDIVIDED
NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION










APPROVED
DATE: May 2023 /S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D20-07b

SDD 15D20-07b

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
-  WORK AREA

GENERAL NOTES

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"X 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

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

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

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

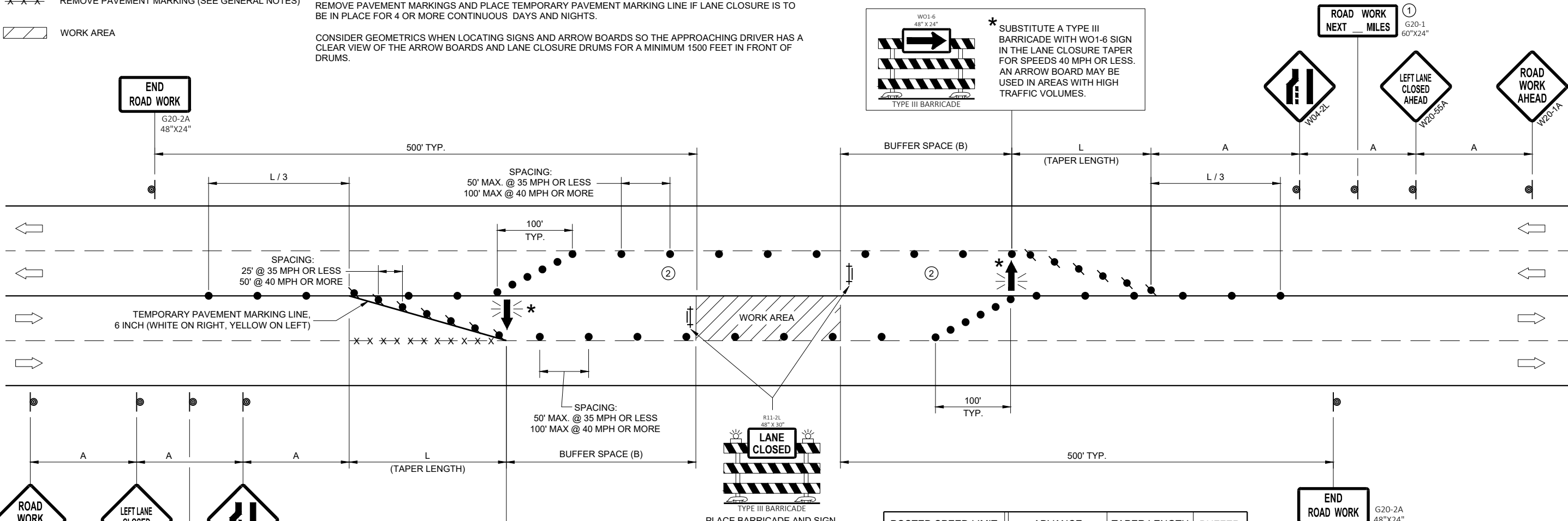
DUE TO LACK OF SHOULDER/MEDIAN, ARROW BOARD IS PLACED AT THE THE END OF THE TAPER.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.


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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② LANE MAY BE OPENED WHEN WORKERS ARE NOT PRESENT IN THE WORK AREA.



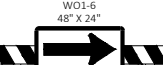
WO1-6
48" X 24"



* SUBSTITUTE A TYPE III BARRICADE WITH WO1-6 SIGN IN THE LANE CLOSURE TAPER FOR SPEEDS 40 MPH OR LESS. AN ARROW BOARD MAY BE USED IN AREAS WITH HIGH TRAFFIC VOLUMES.

TYPE III BARRICADE


WO1-6
48" X 24"



* SUBSTITUTE A TYPE III BARRICADE WITH WO1-6 SIGN IN THE LANE CLOSURE TAPER FOR SPEEDS 40 MPH OR LESS. AN ARROW BOARD MAY BE USED IN AREAS WITH HIGH TRAFFIC VOLUMES.

TYPE III BARRICADE

R11-2L
48" X 30"



PLACE BARRICADE AND SIGN APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE.

TYPE III BARRICADE

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'
50	500'	600'	280'
55	500'	660'	335'

**TRAFFIC CONTROL,
SINGLE LEFT LANE
CLOSURE, UNDIVIDED
NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: May 2023 /S/ Andrew Heidtke
WORK ZONE ENGINEER

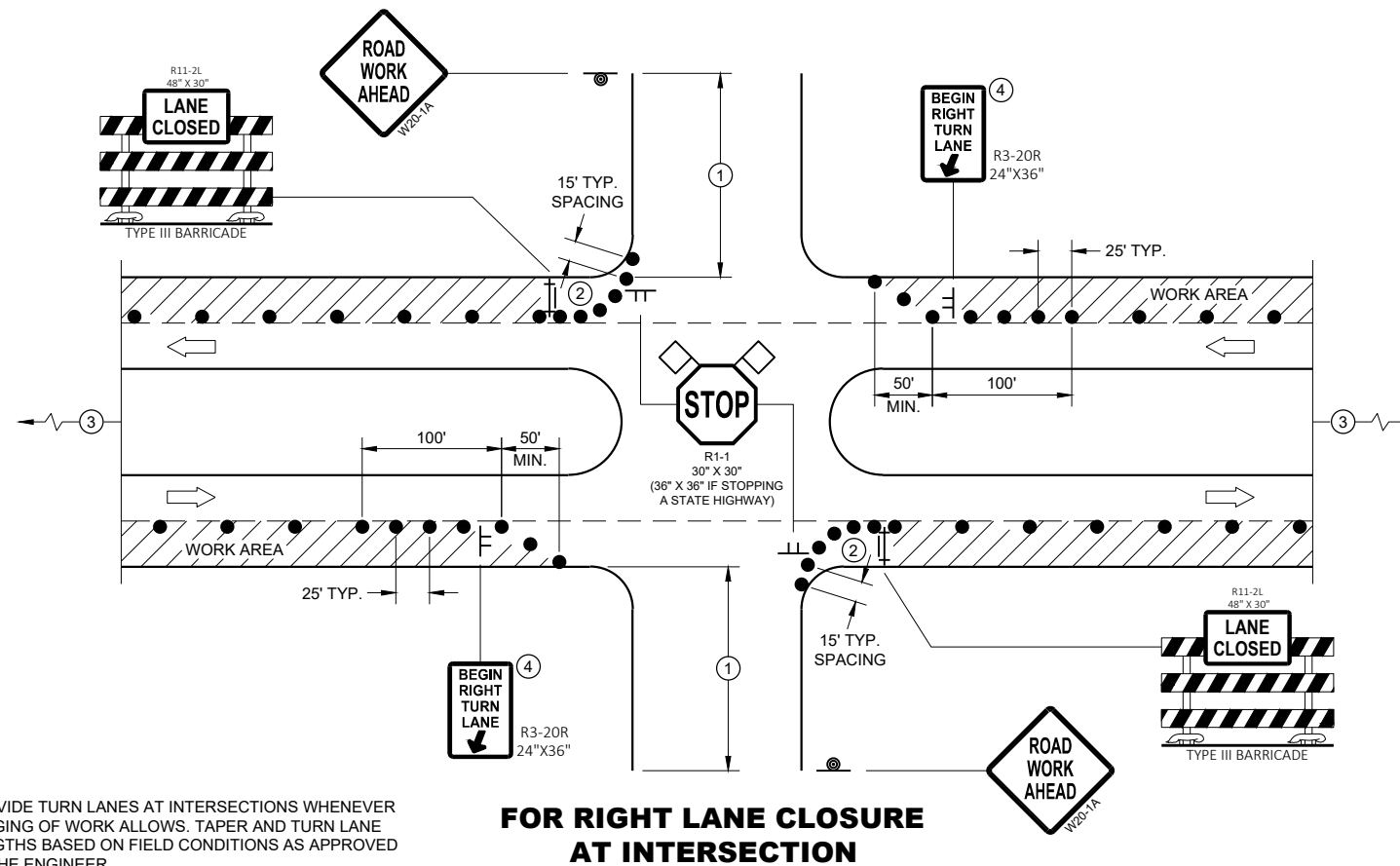
FHWA

6

6

SDD 15D20-07C

SDD 15D20-07C



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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

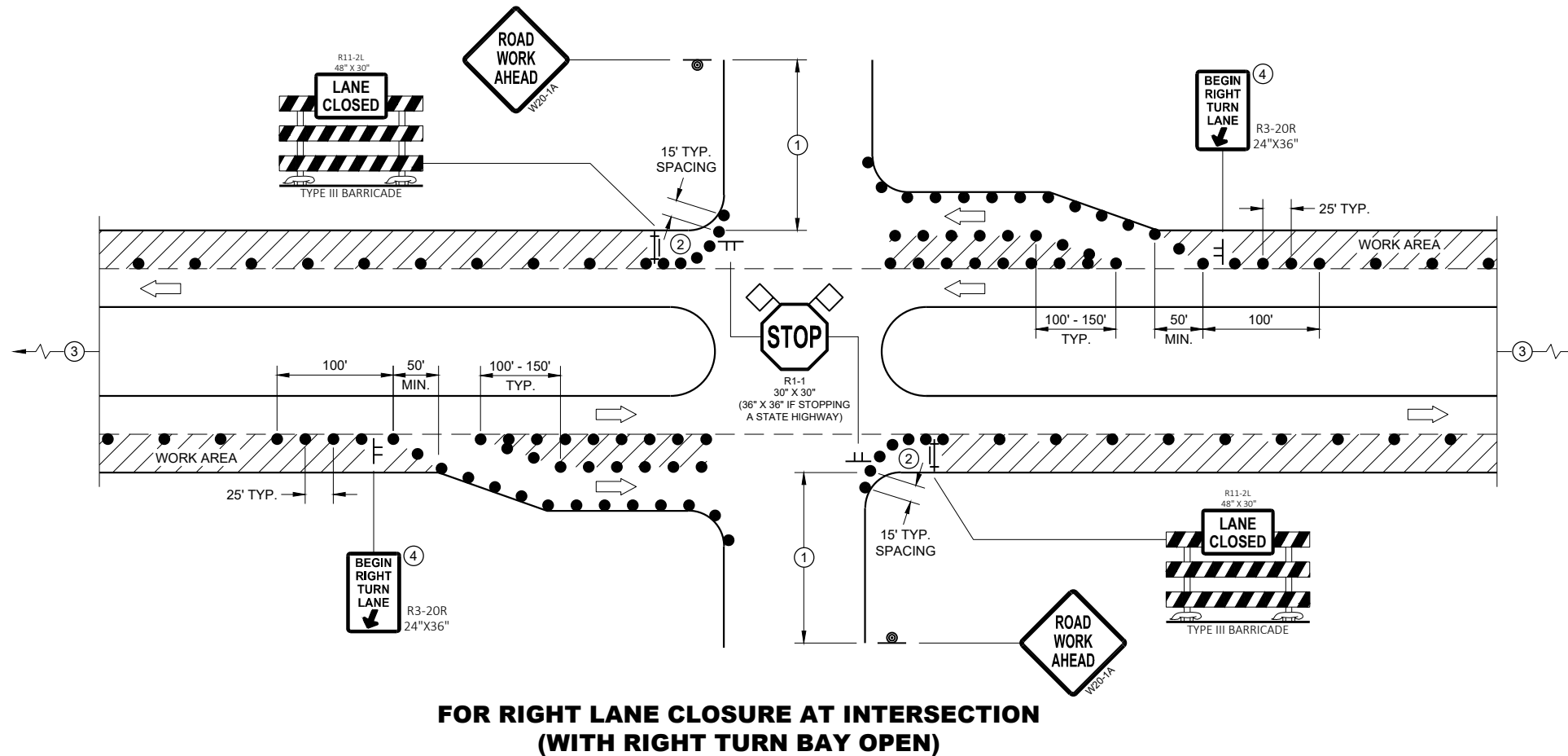
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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.

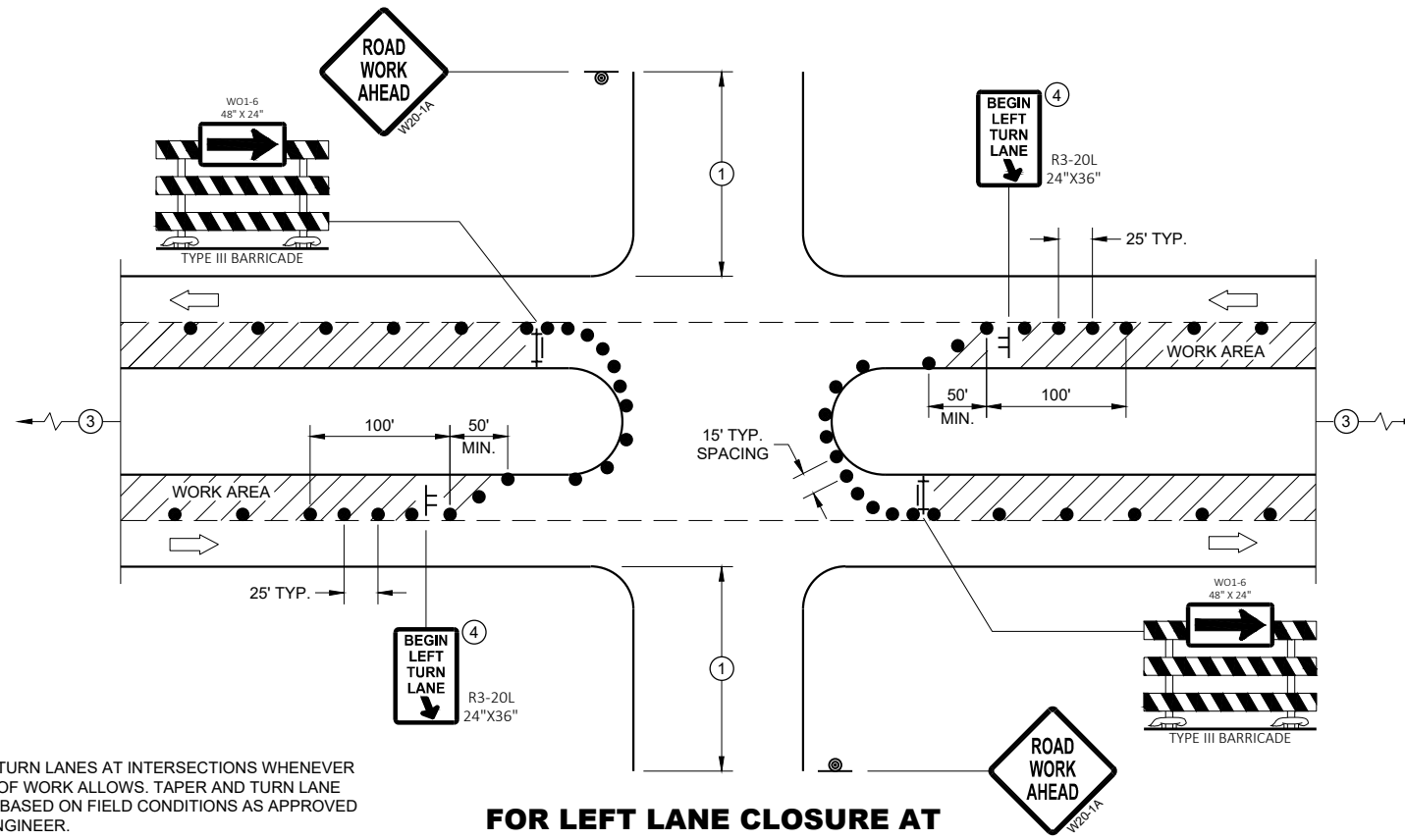


LEGEND

- 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



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

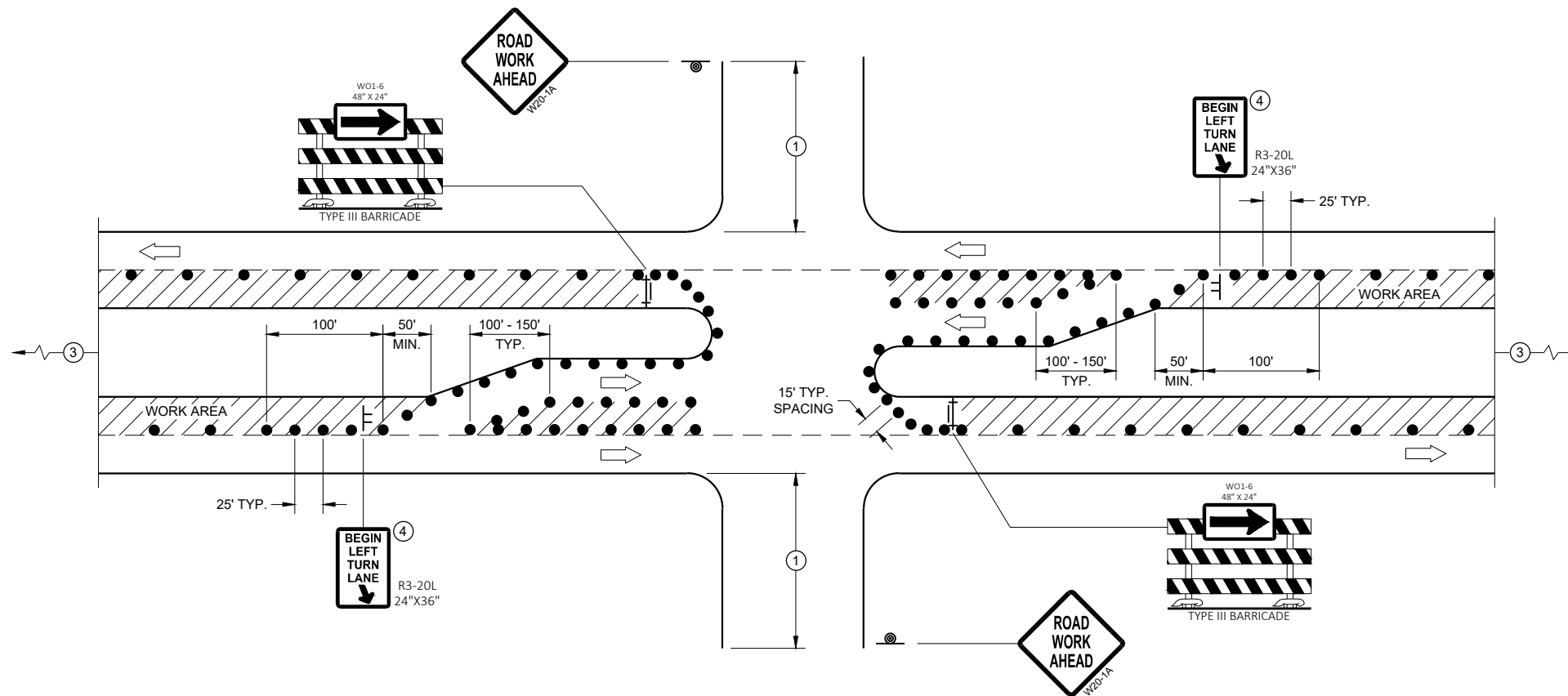
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.
- ② ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.
- ④ MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)

LEGEND

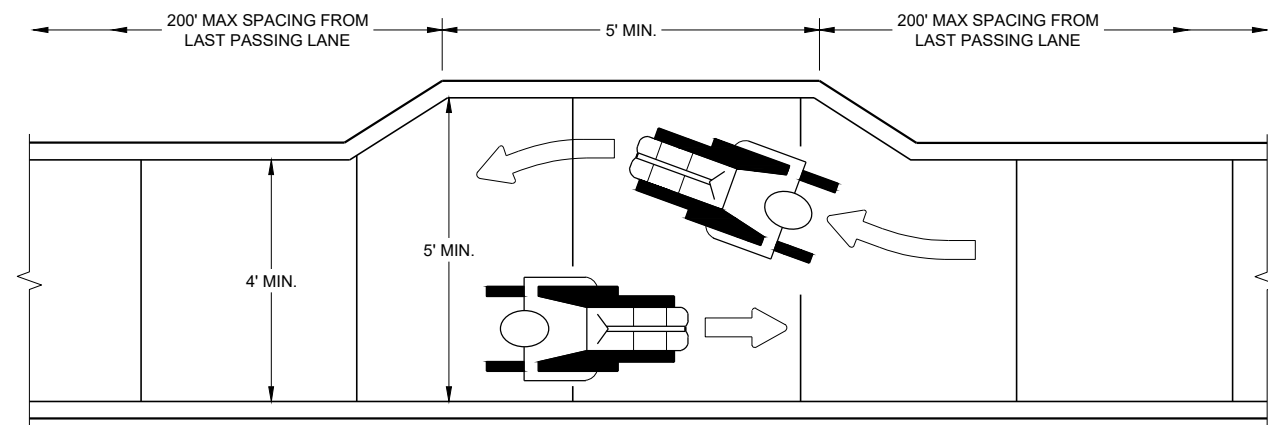
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

**TRAFFIC CONTROL,
INTERSECTION WITHIN SINGLE
LEFT LANE CLOSURE**

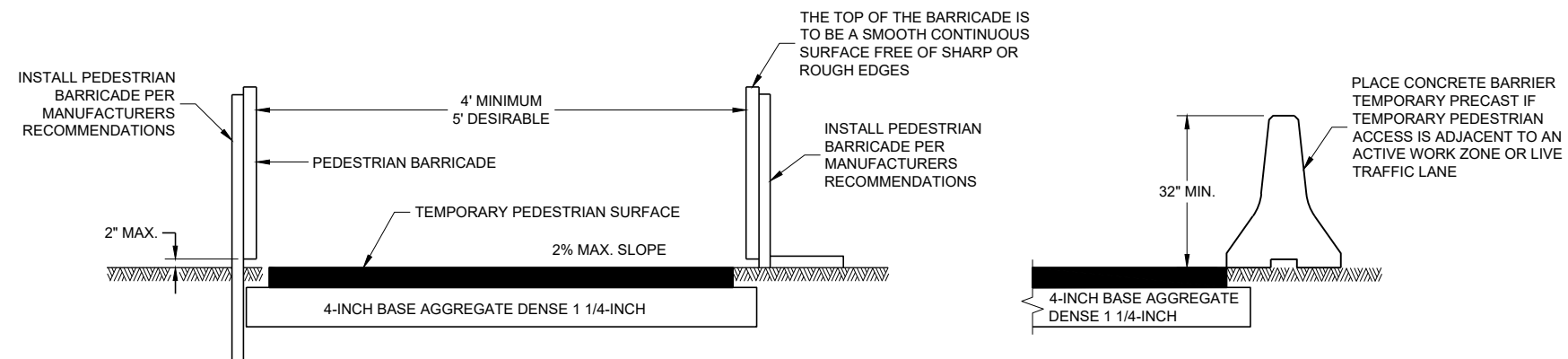
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



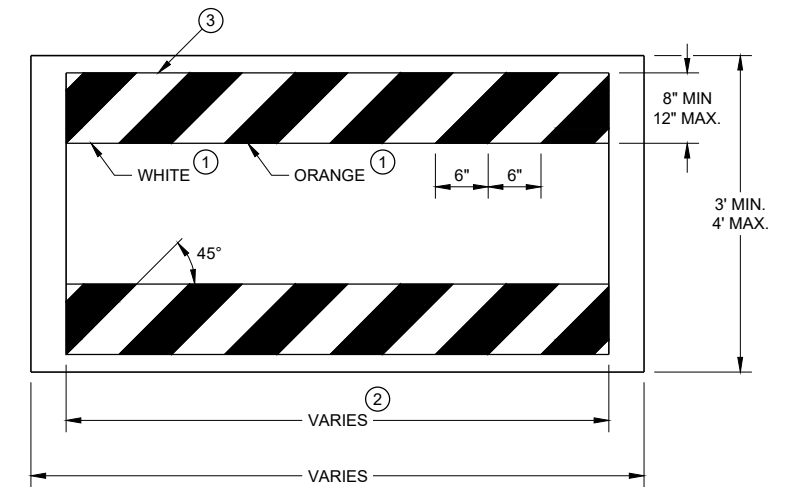
NARROW SIDEWALK PASSING DETAIL



TEMPORARY PEDESTRIAN ACCESS

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.

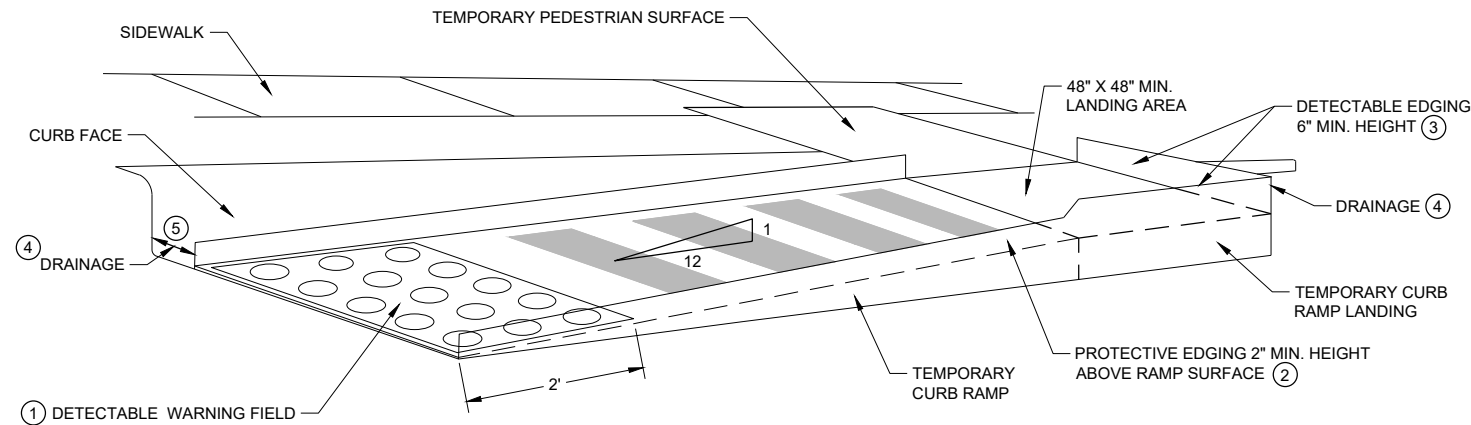


TEMPORARY PEDESTRIAN BARRICADE*

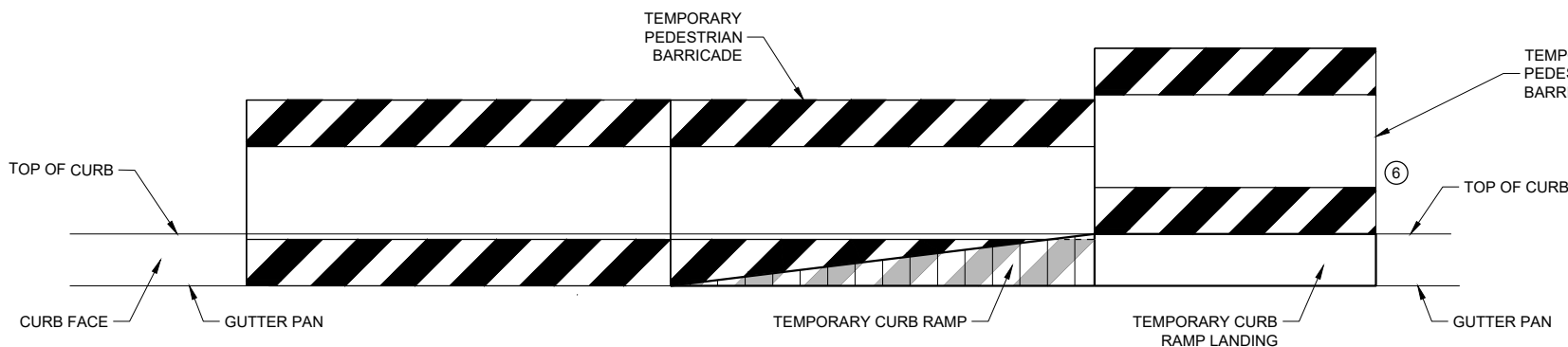
GENERAL NOTES

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 1/2" WIDTH.
 CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

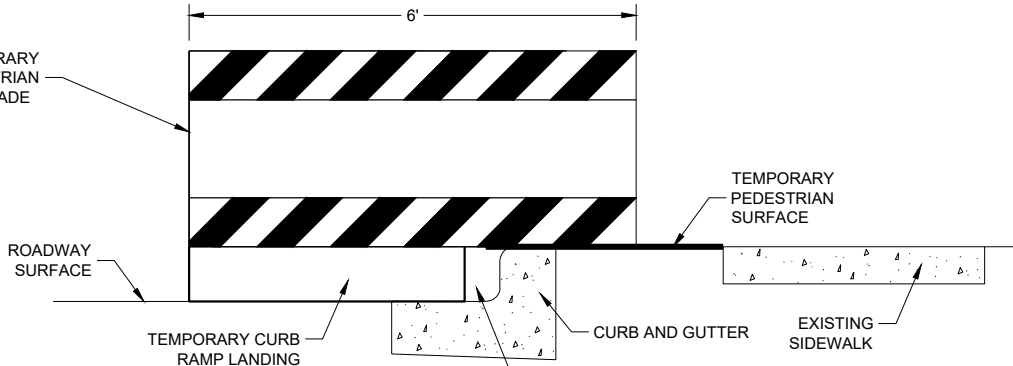
- ① INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). 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.



PERSPECTIVE VIEW



FRONT VIEW

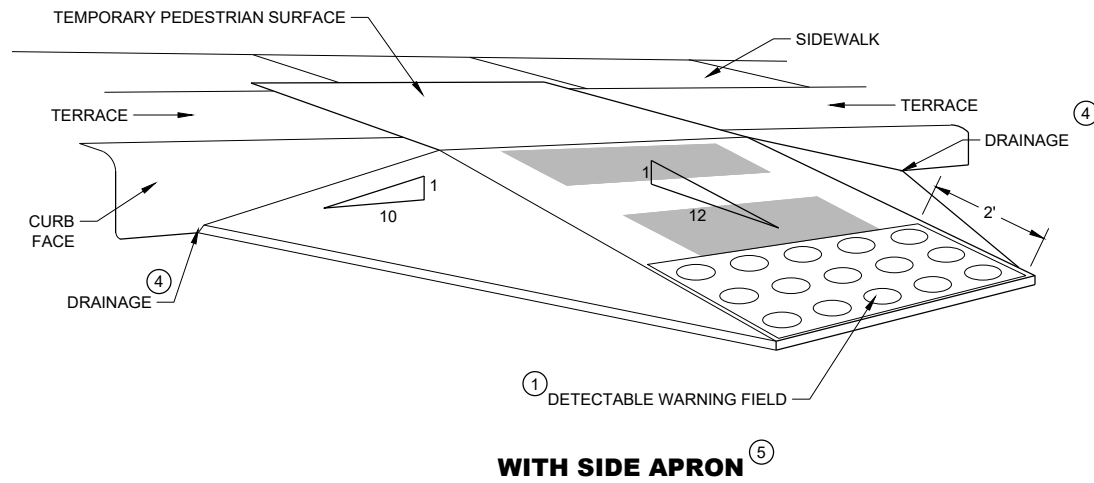


SIDE VIEW

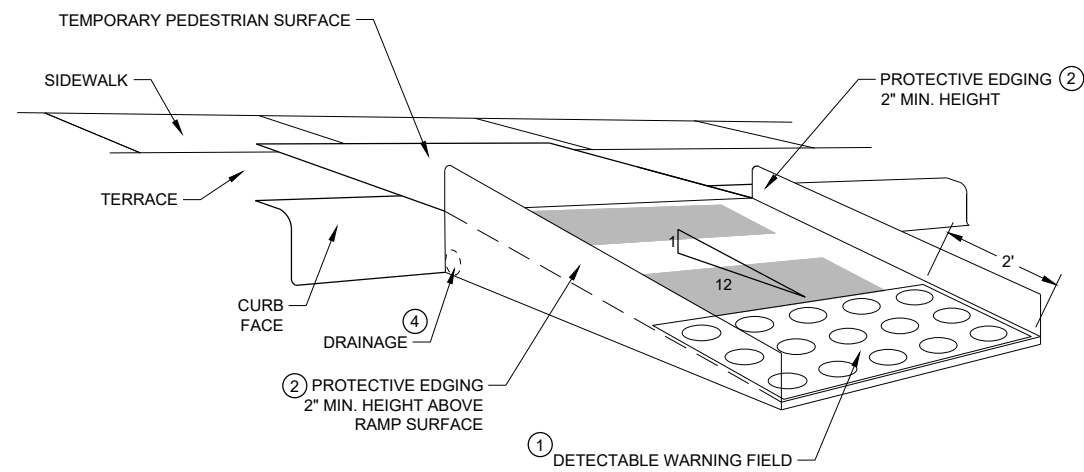
TEMPORARY CURB RAMP PARALLEL TO CURB

**TRAFFIC CONTROL,
 PEDESTRIAN
 ACCOMMODATION**

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION



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.

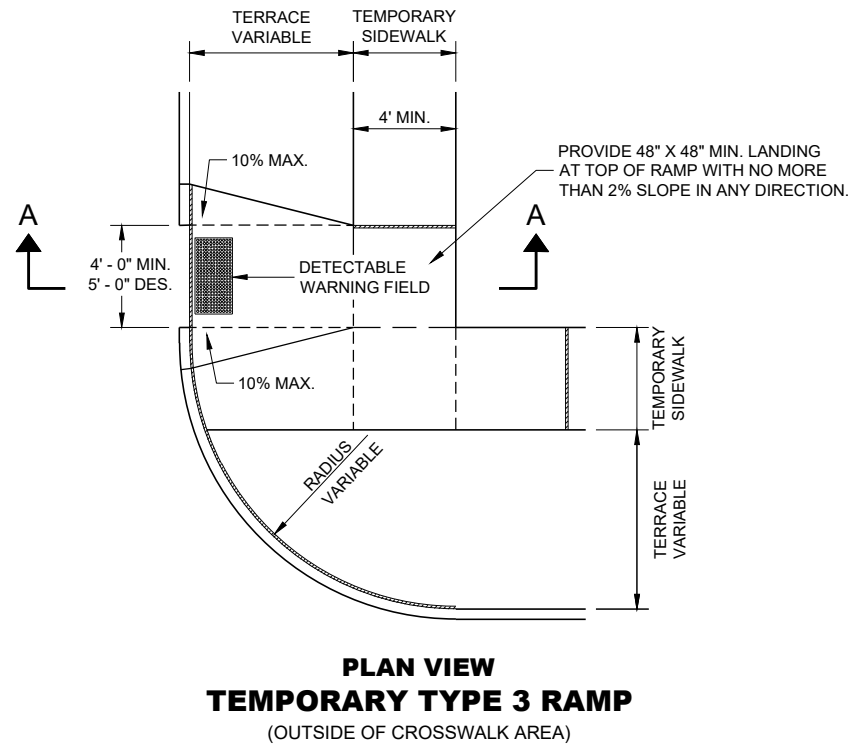
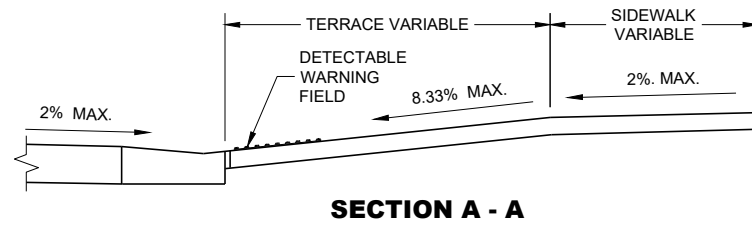
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

- (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
- 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.



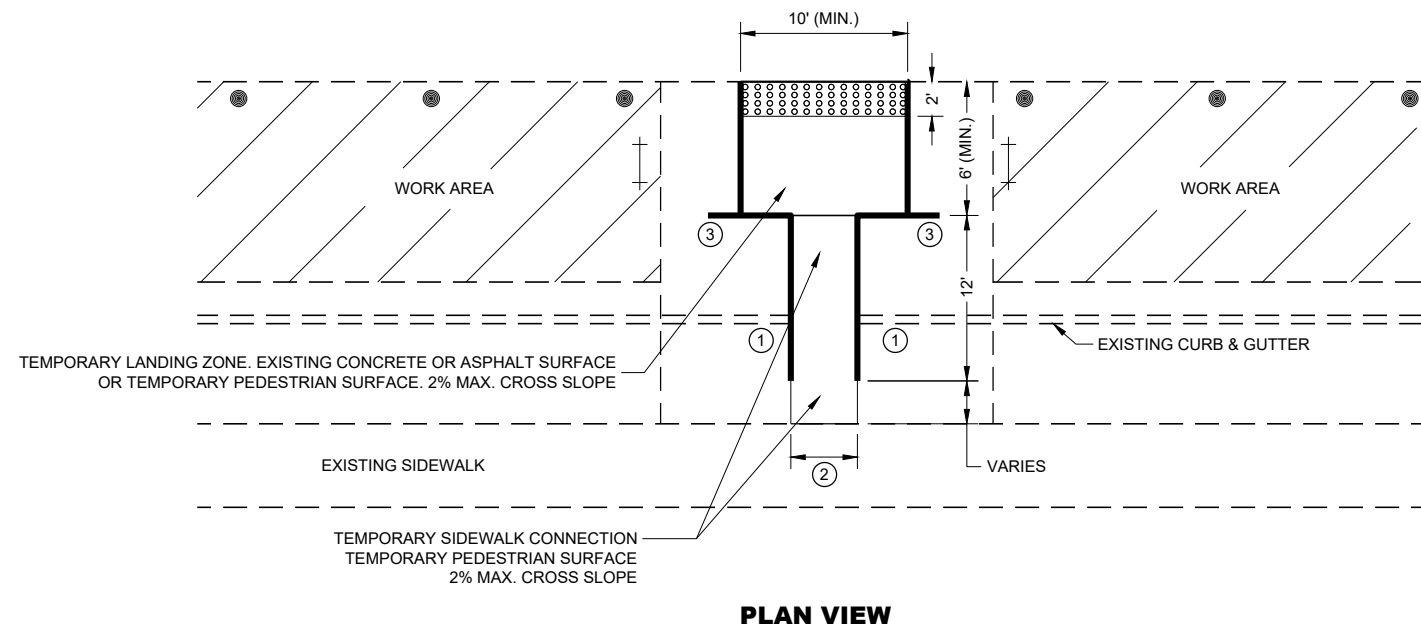
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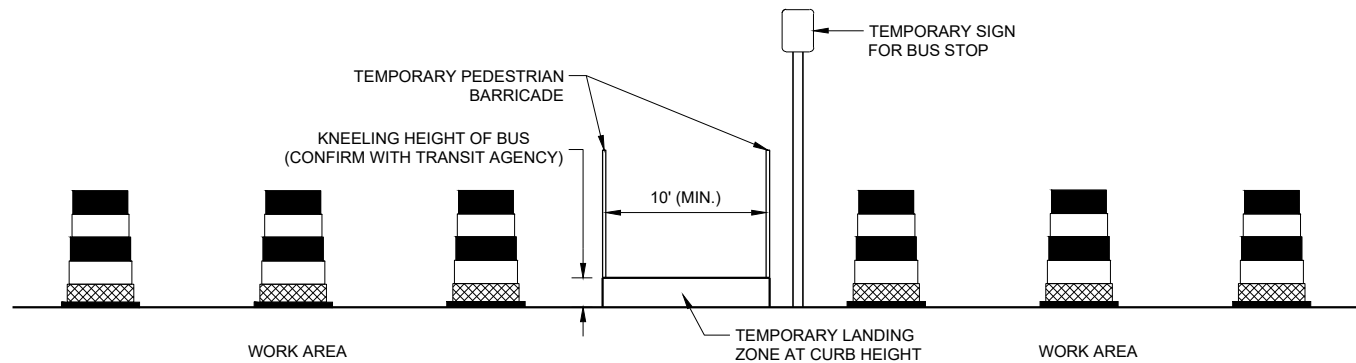
SDD 15D30-09d

SDD 15D30-09d

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



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 RAMP 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 1/2" WIDTH.
- CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".
- CURB RAMP 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

**TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION**

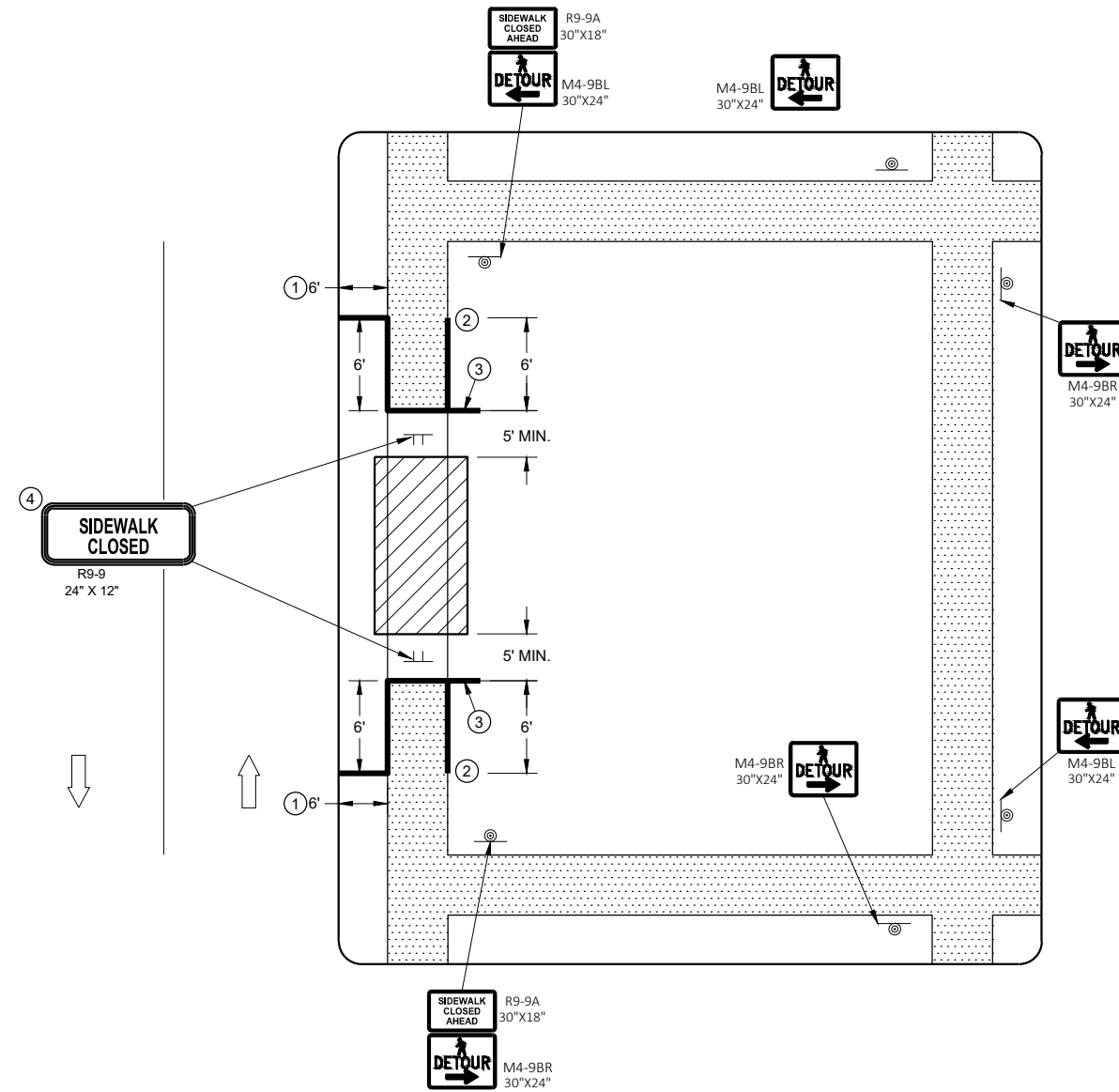
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

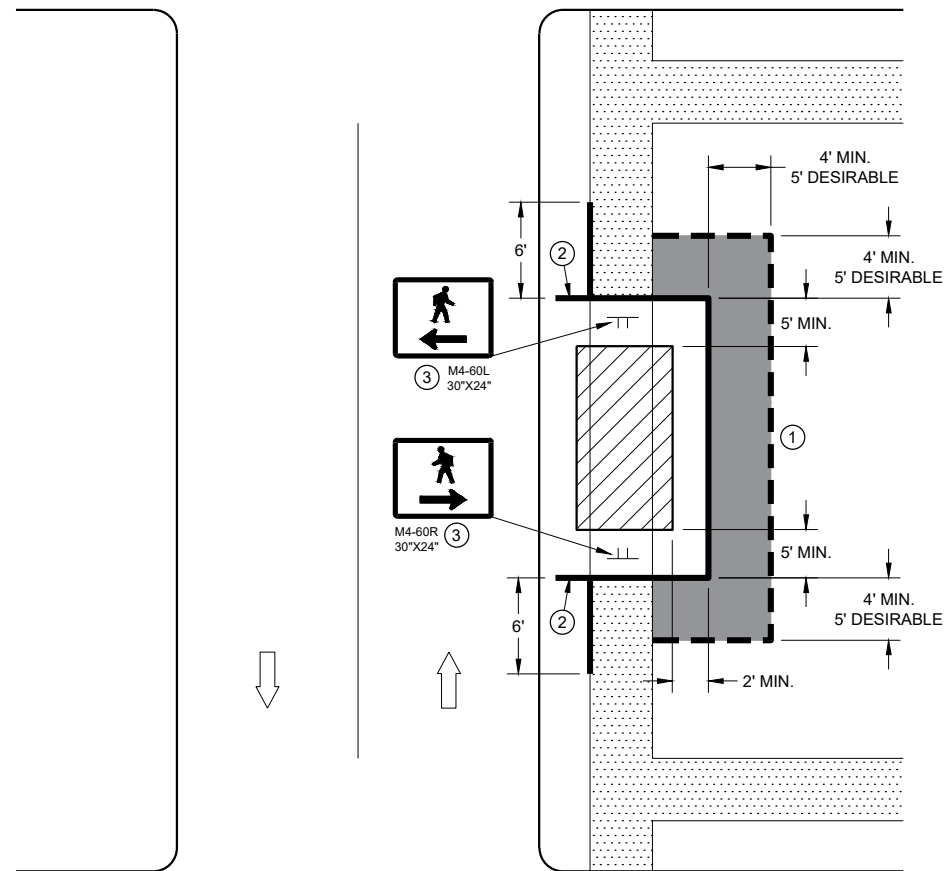
TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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.



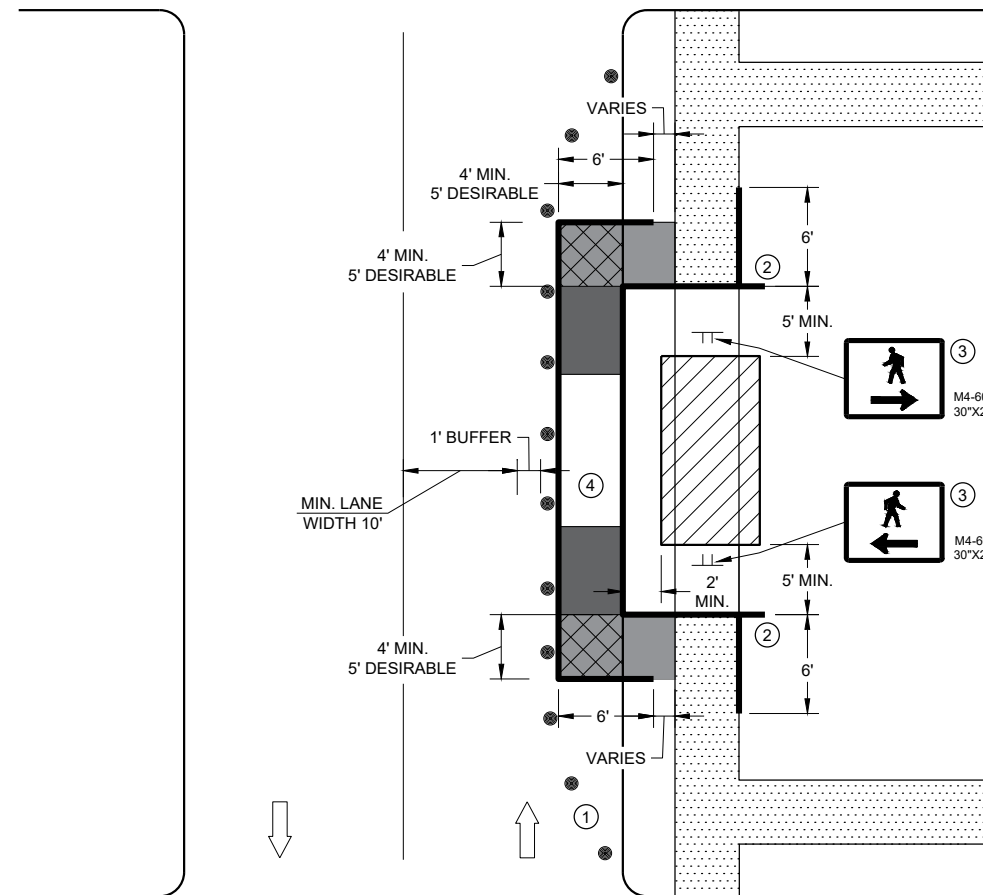
**SIDEWALK DIVERSION
SINGLE SIDE**

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 SURFACE HAS BEEN REMOVED, USE A TEMPORARY PEDESTRIAN SURFACE.



SIDEWALK DIVERSION, SINGLE SIDE

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6

6

SDD 15D30 - 09h

SDD 15D30 - 09h

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.

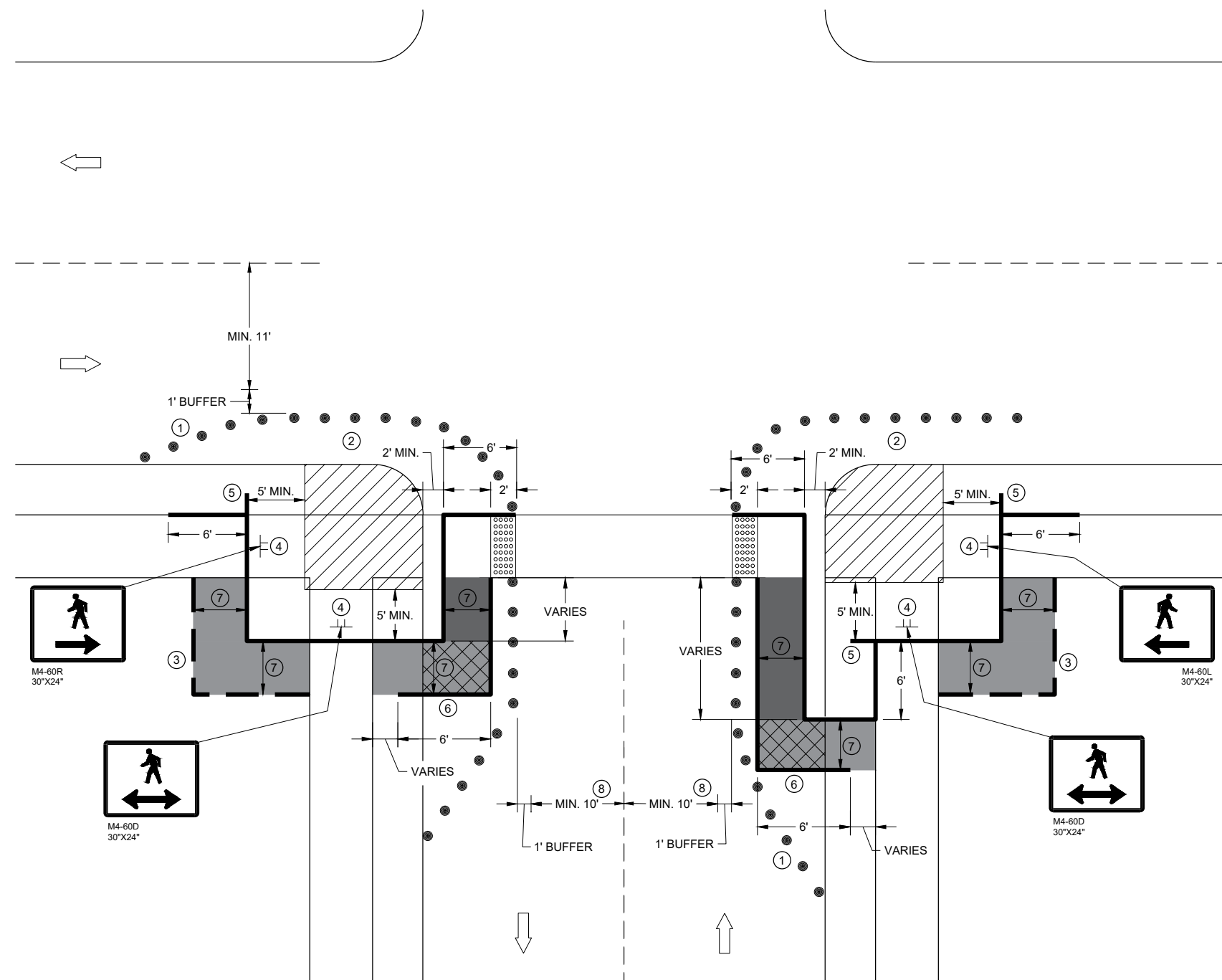
TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

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



**CURB RAMP PEDESTRIAN TRAFFIC CONTROL
SIDEWALK ON SINGLE SIDE**

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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.

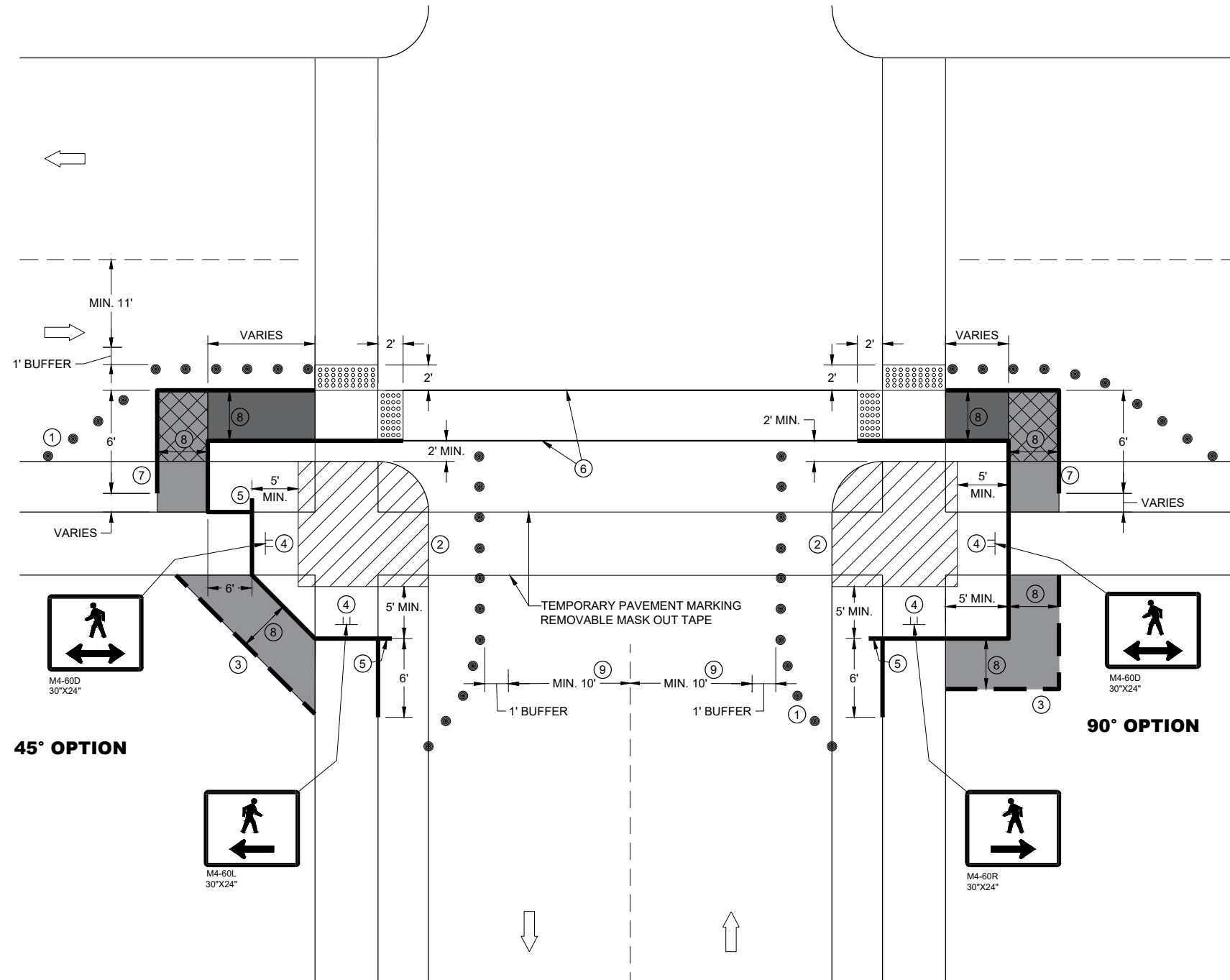
TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

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









CURB RAMP PEDESTRIAN TRAFFIC CONTROL

**TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION**

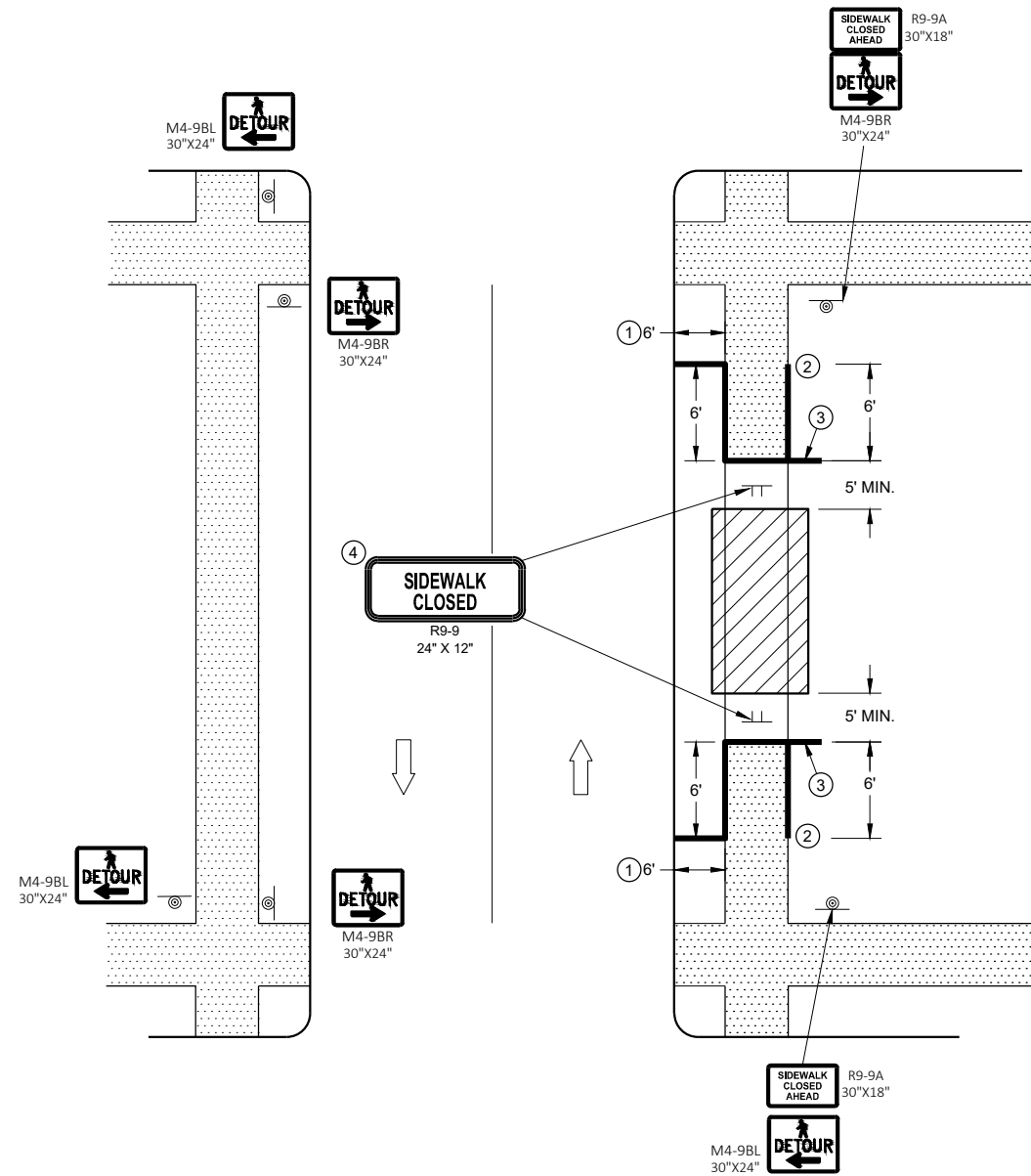
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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 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

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.

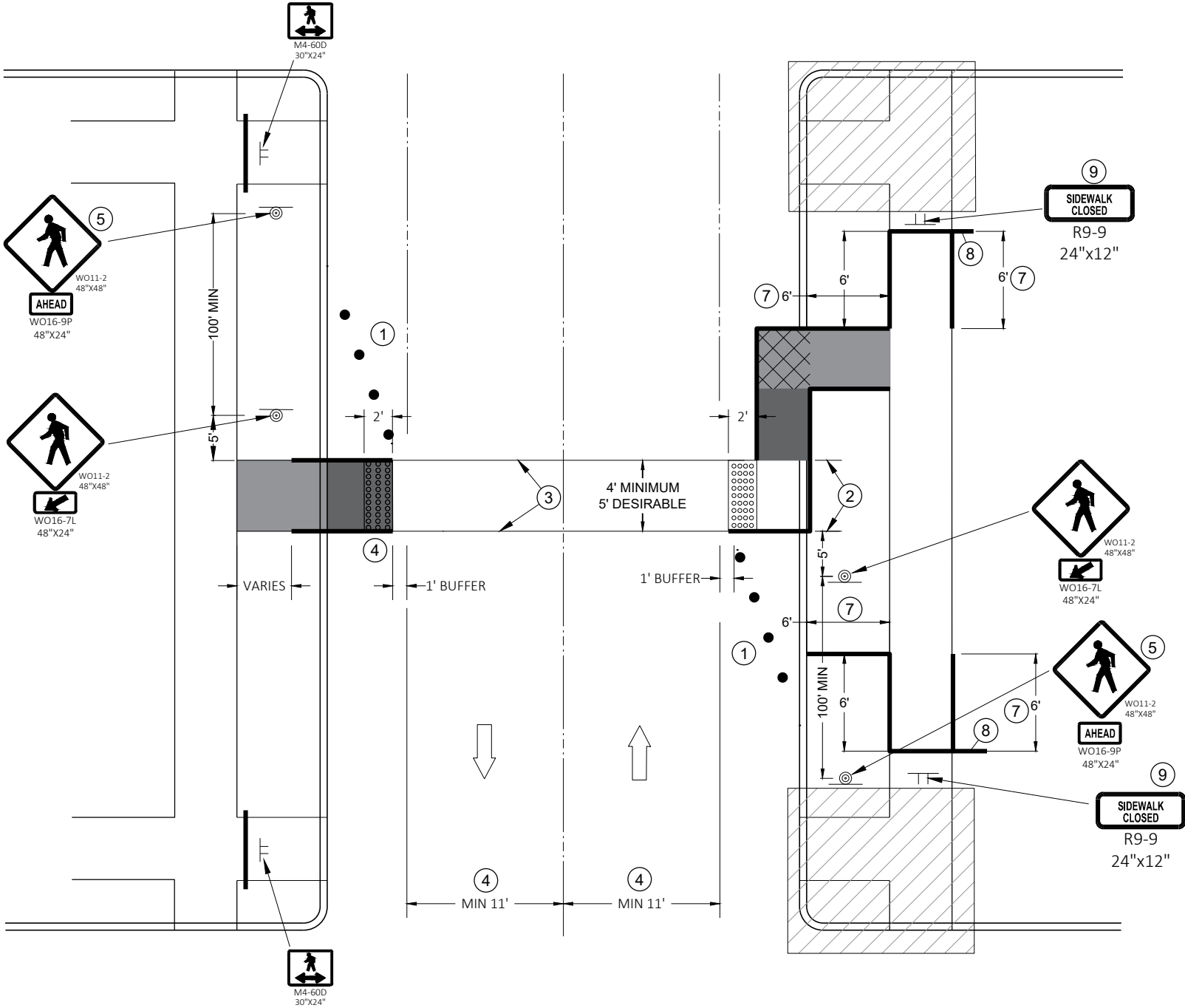
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

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 RAMP 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



TEMPORARY PEDESTRIAN CROSSING

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER $L/2$					
		W, LATERAL OFFSET (FT)					
		3	4	5	6	7	8
25	200	10	14	17	21	24	28
30	200	15	20	25	30	35	40
35	350	20	27	34	40	47	54
40	350	26	35	44	53	62	70
45	500	45	59	74	89	104	119
50	500	50	66	83	99	116	132
55	500	54	73	91	109	127	145

GENERAL NOTES

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

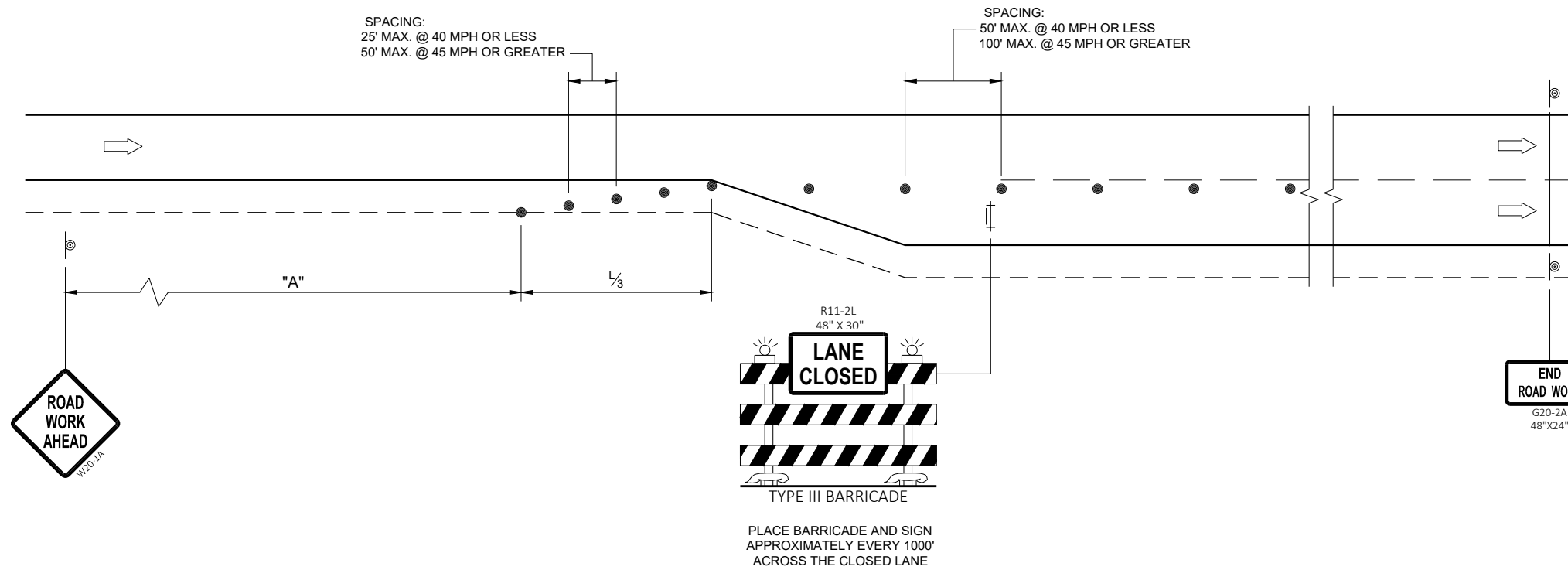
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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.

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

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

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.



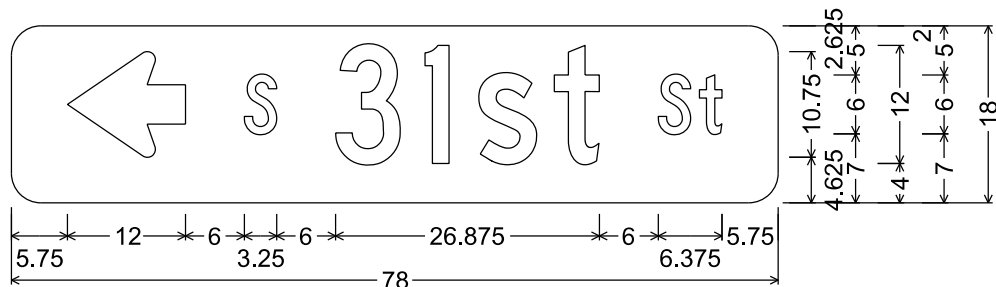
6

6

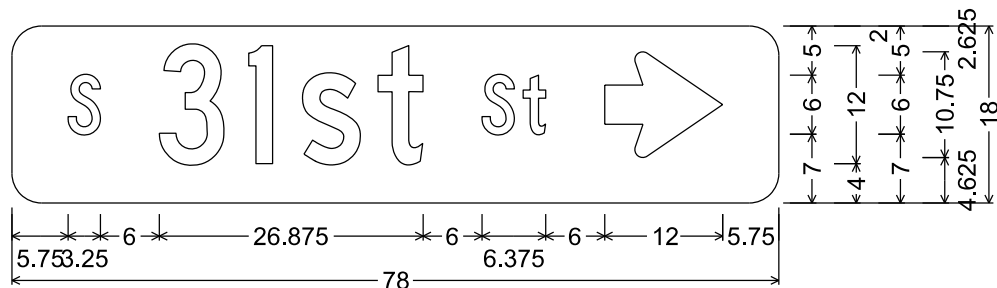
SDD 15D50-03a

SDD 15D50-03a

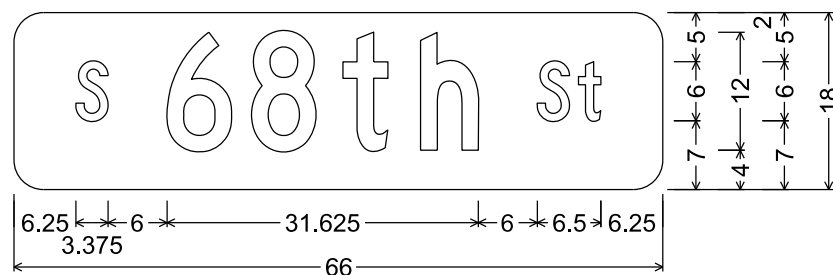
TRAFFIC CONTROL ADDED LANE CLOSURE WITHOUT LANE SHIFT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE May 2023	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



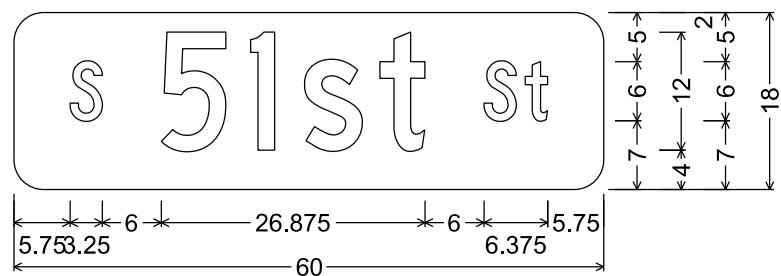
M1-94H; 3.000" Radius, No border



M1-94H; 3.000" Radius, No border



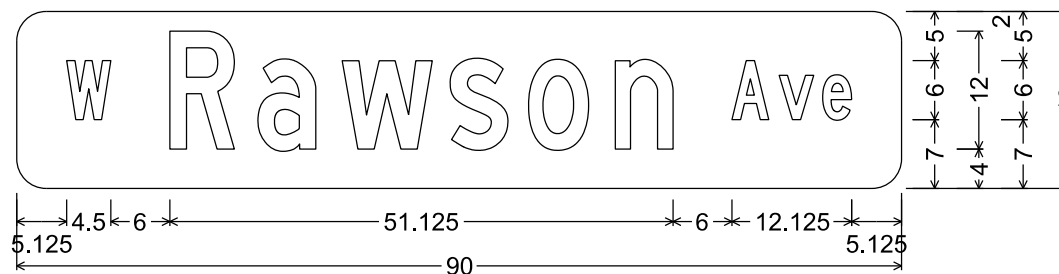
M1-94H; 3.000" Radius, No border



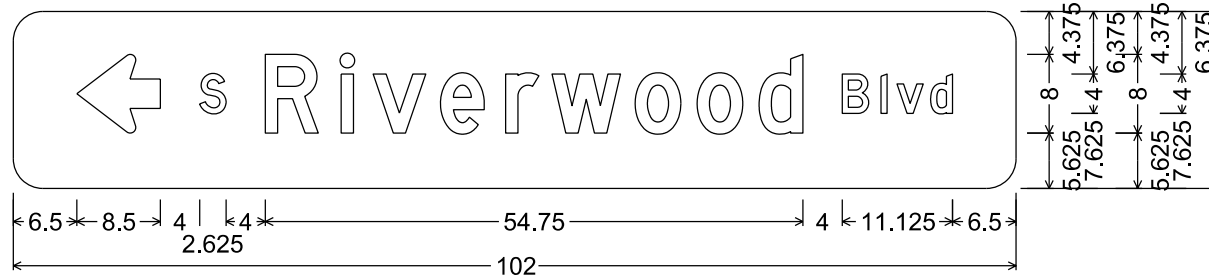
M1-94H; 3.000" Radius, No border

NOTES

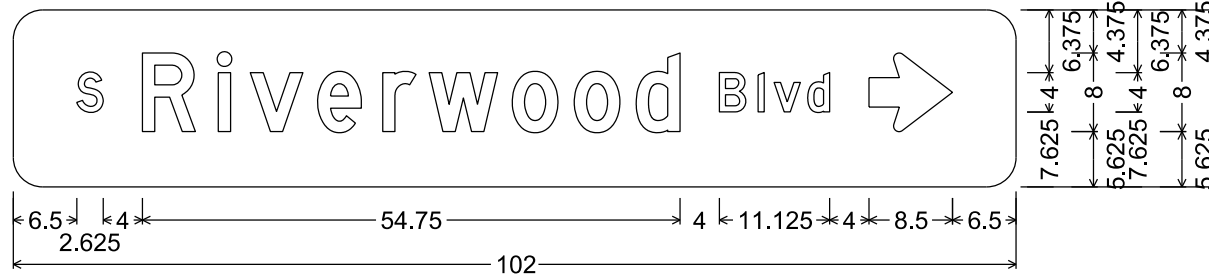
1. All Signs Type II - Type H Reflective
2. Color:
Background - Green
Message - White
3. Message Series - C except as noted



M1-94H; 3.000" Radius, No border



M1-94H; 3.000" Radius, No border,
"S", D; "Riverwood", D; "Blvd", D

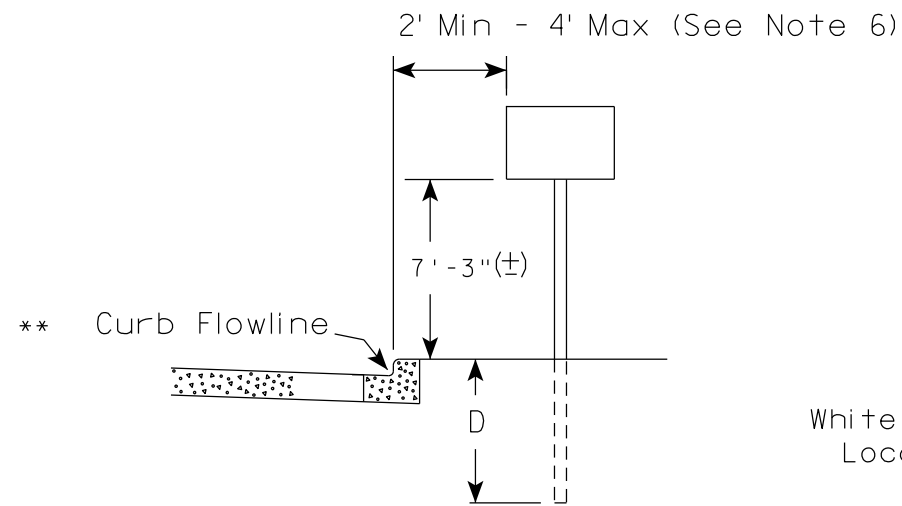


M1-94H; 3.000" Radius, No border,
"S", D; "Riverwood", D; "Blvd", D

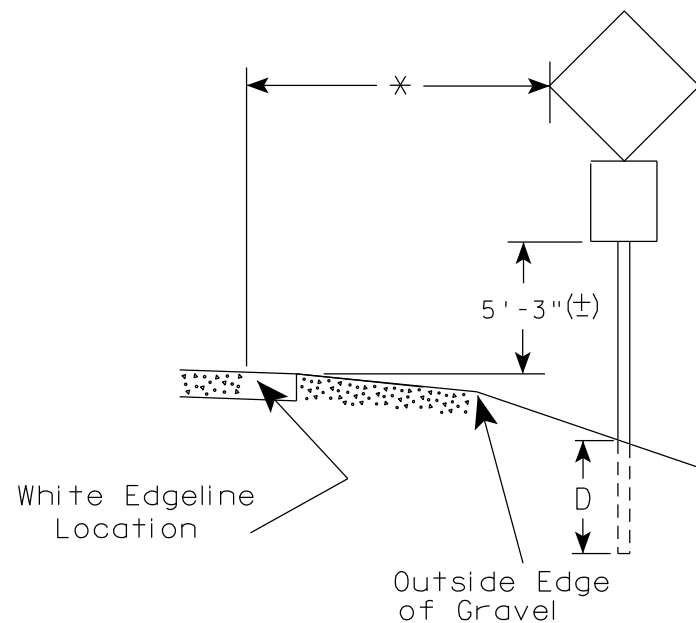
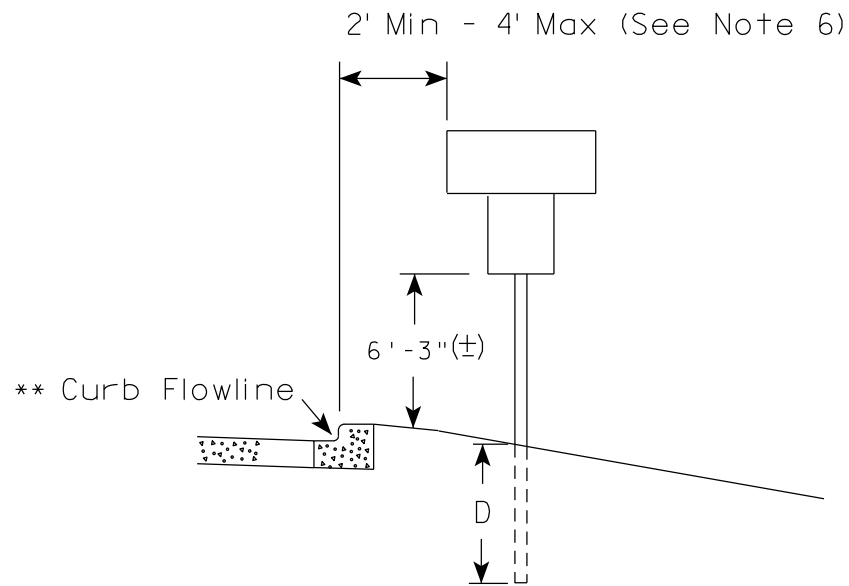
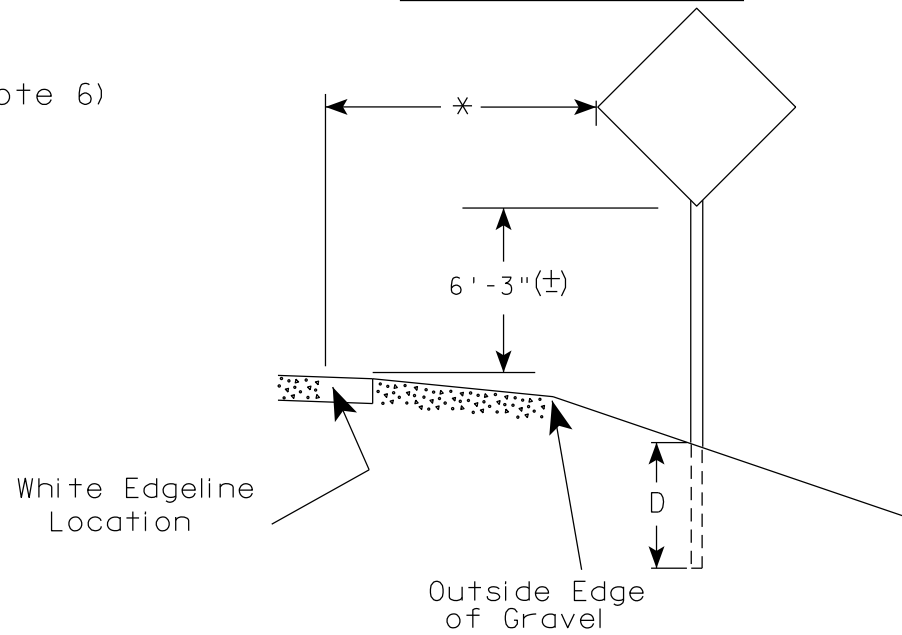
7

7

URBAN AREA



RURAL AREA (See Note 2)



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 directed by the Engineer.

POST EMBEDMENT DEPTH

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

* * 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.

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



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

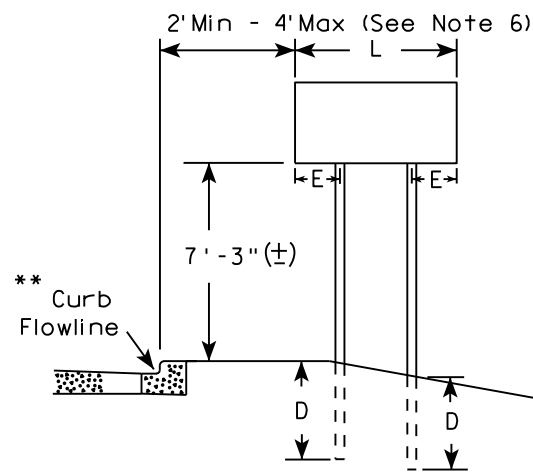
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

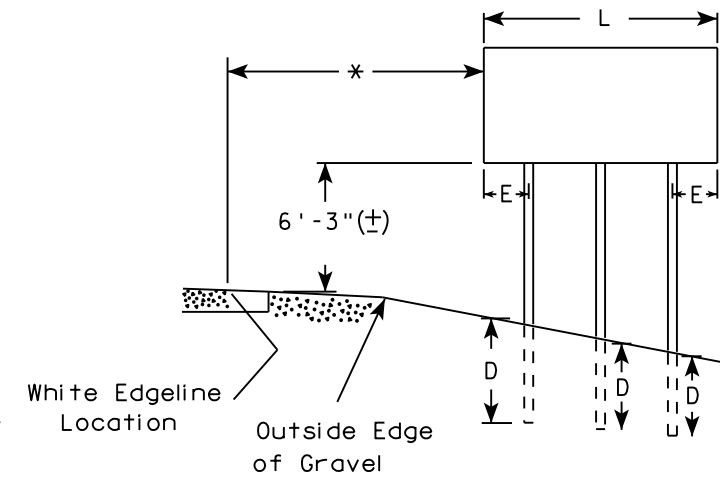
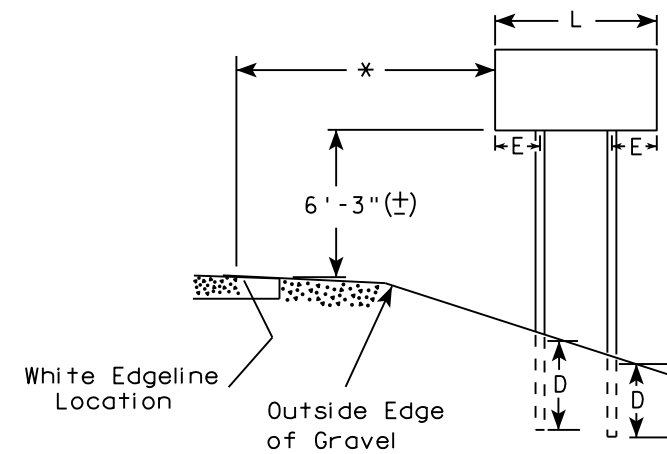
GENERAL NOTES

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" (±).

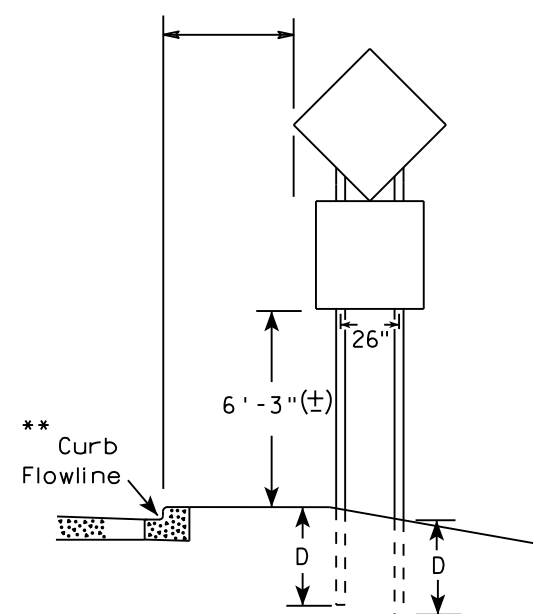
URBAN AREA



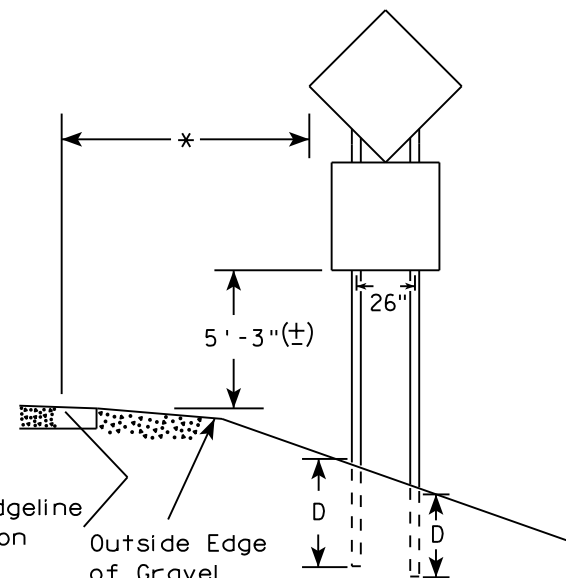
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

* 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.

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

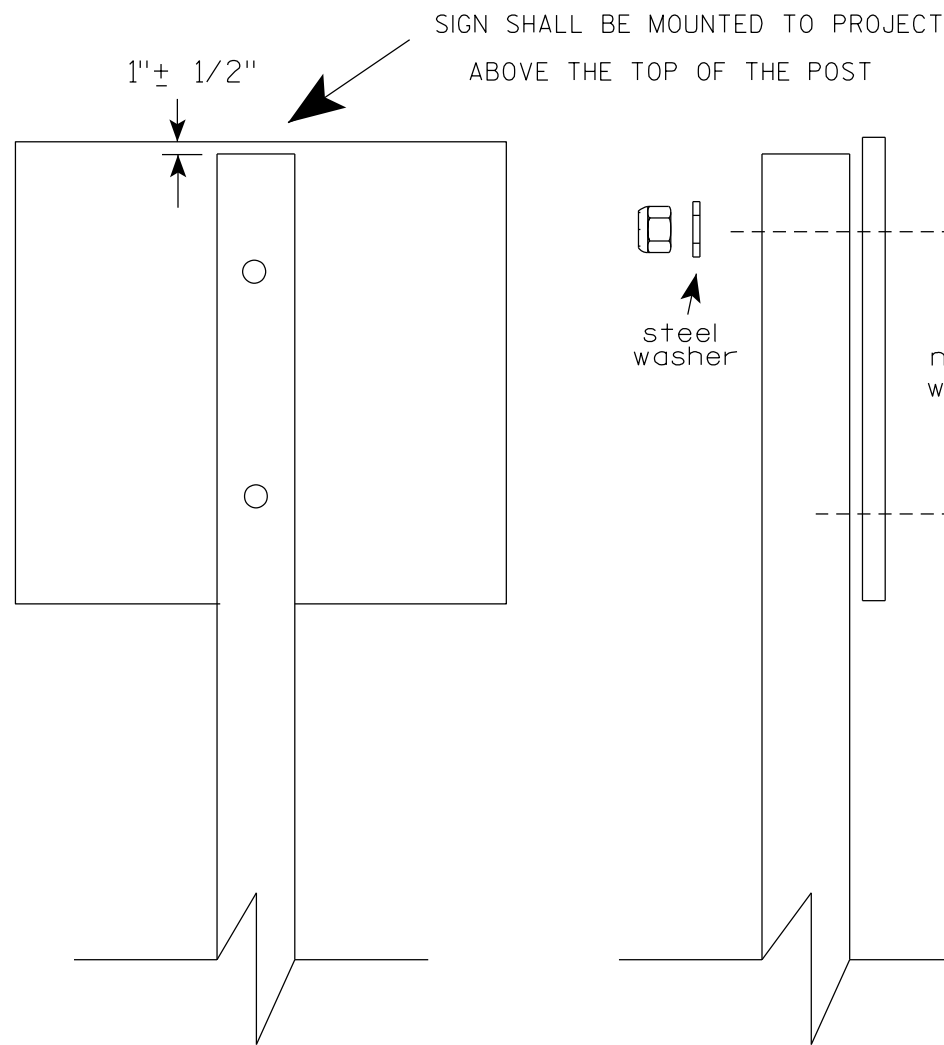
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- 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.

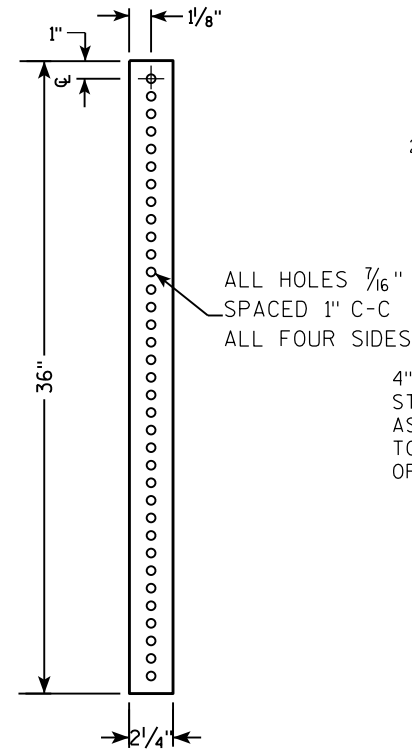
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " 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.

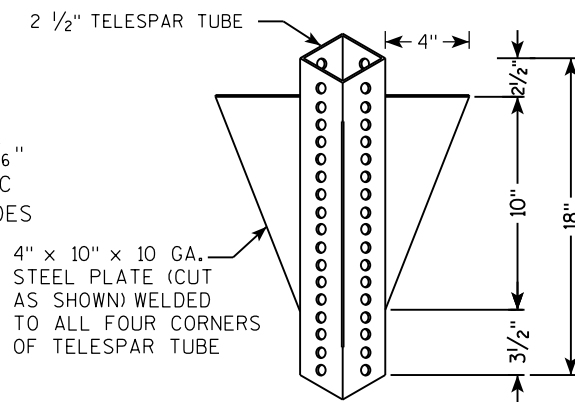
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

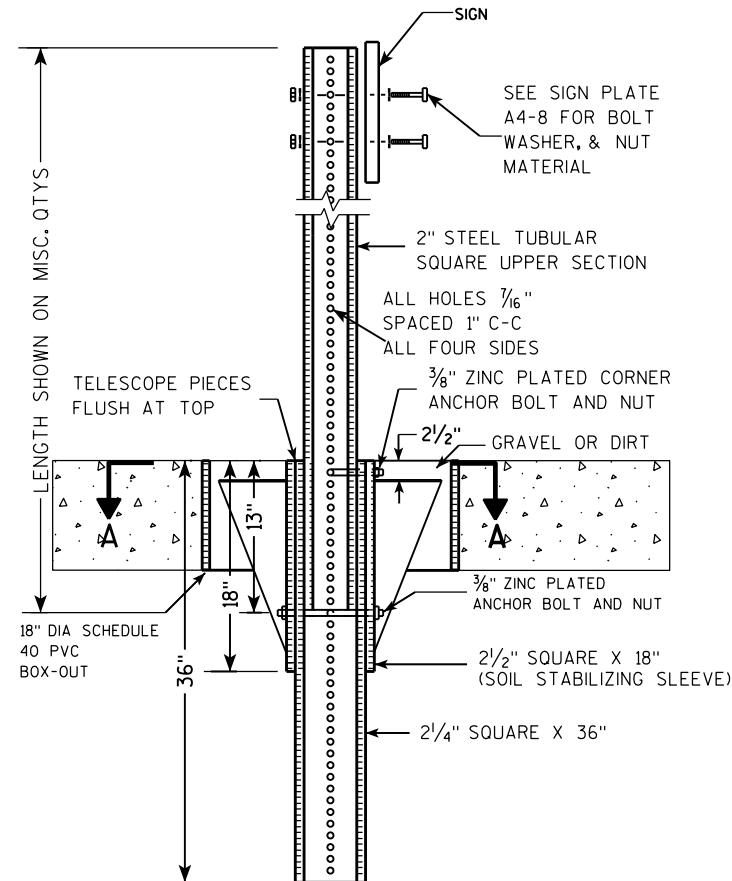
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



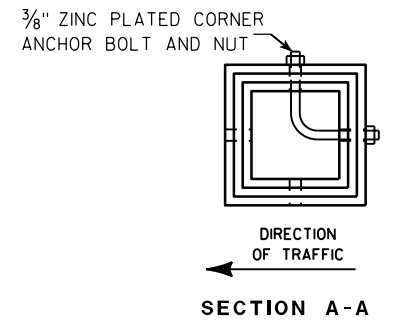
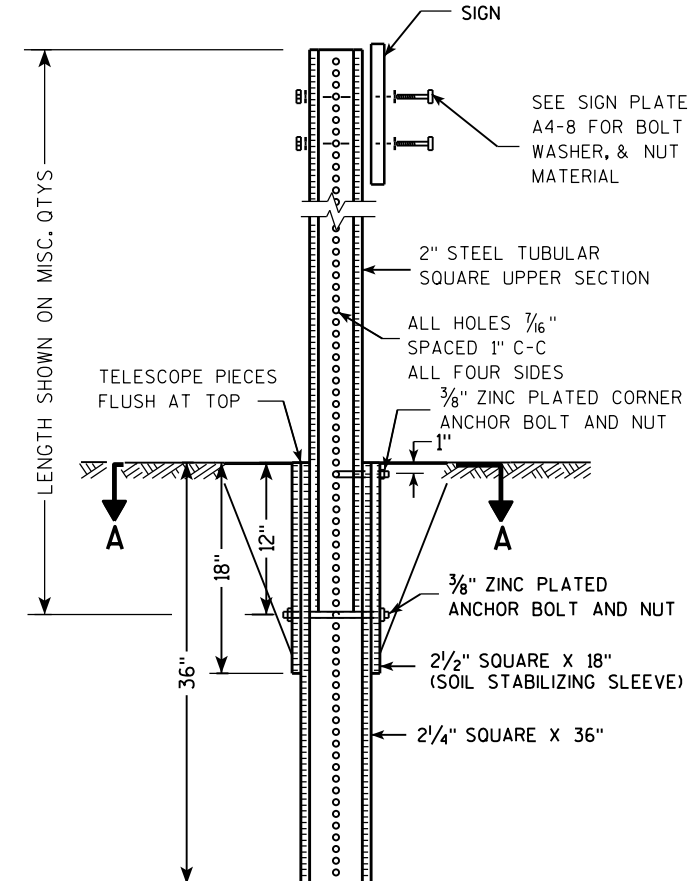
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



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



**DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**



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

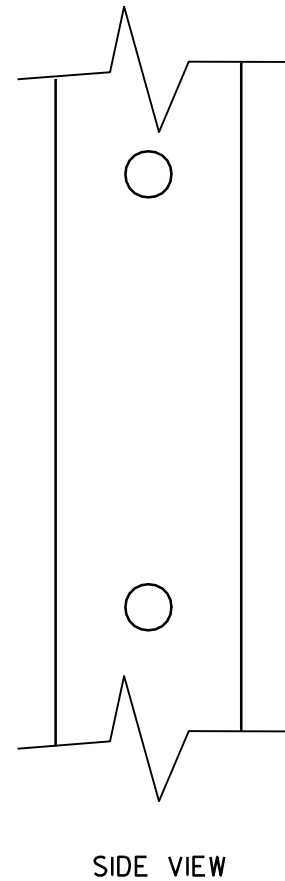
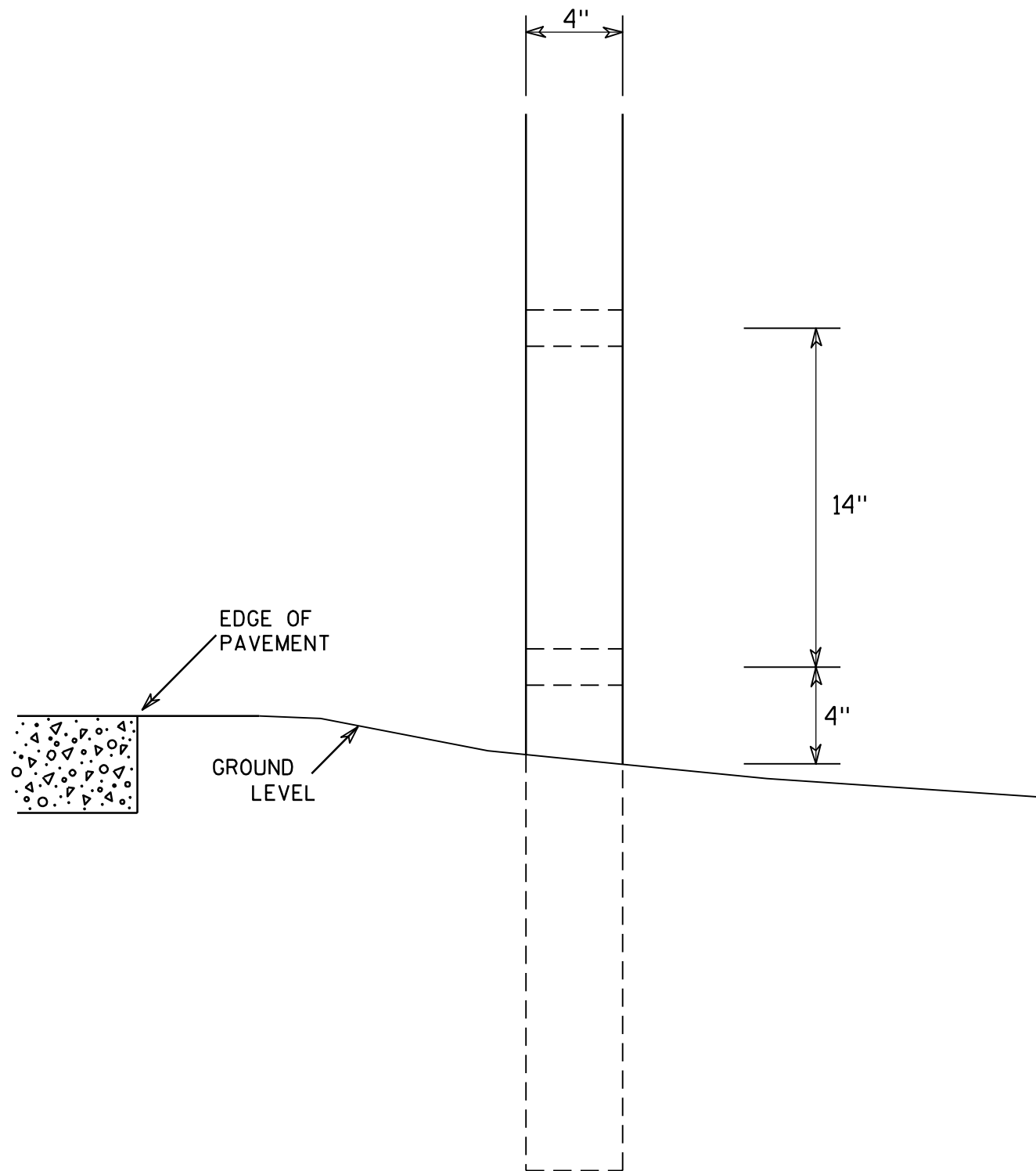
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL
SIGN POST
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9



GENERAL NOTES

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

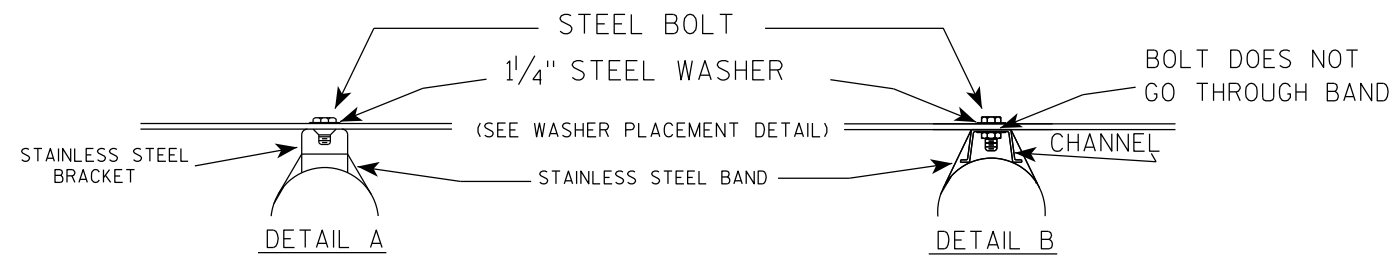
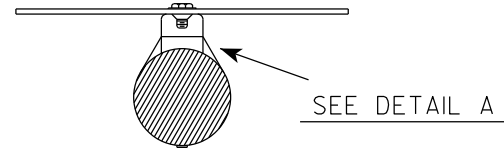
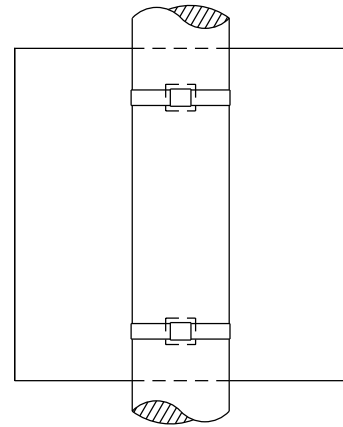
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7

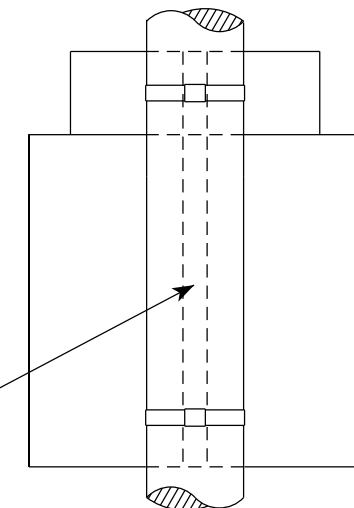
4 X 6 WOOD POST MODIFICATIONS	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

BANDING

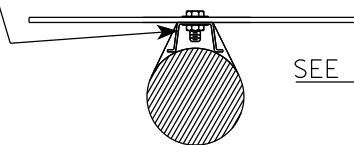
SINGLE SIGN



"J" ASSEMBLY

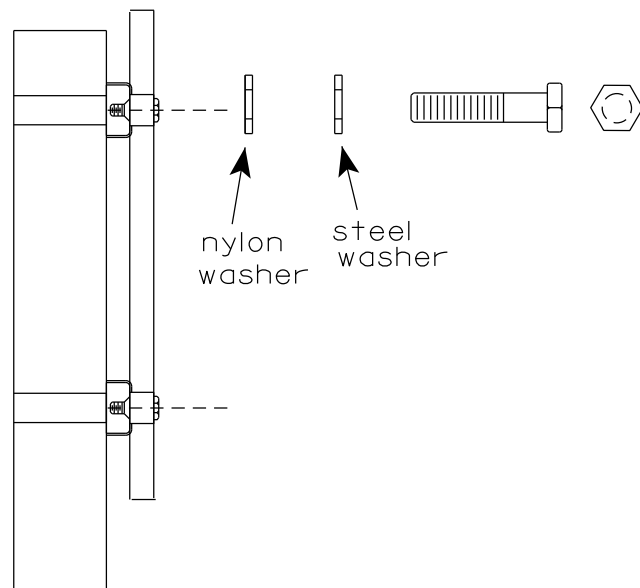


CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



- 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 $\frac{3}{4}$ " 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

WASHER PLACEMENT



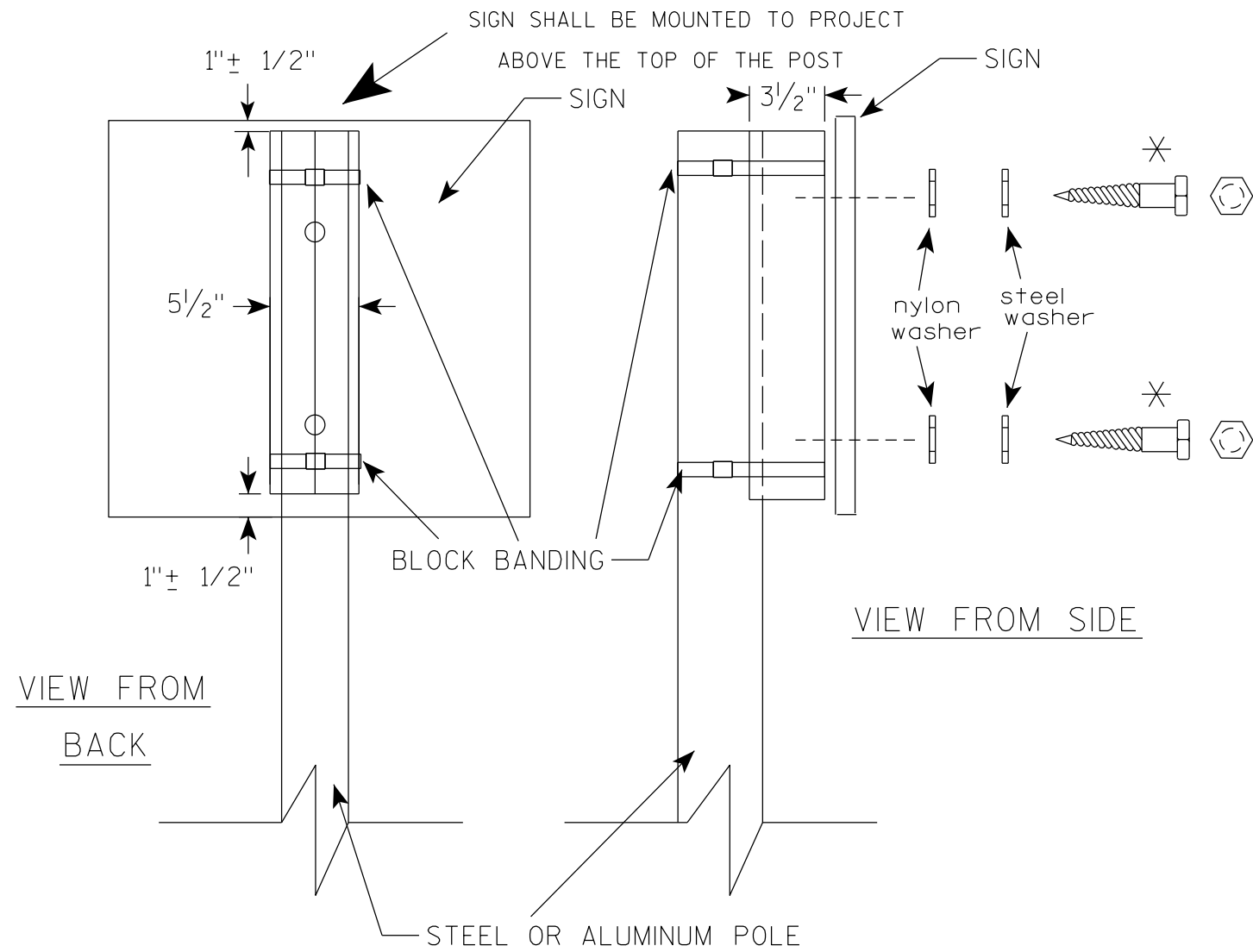
WASHERS (ALL POSTS) -
 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON
 FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

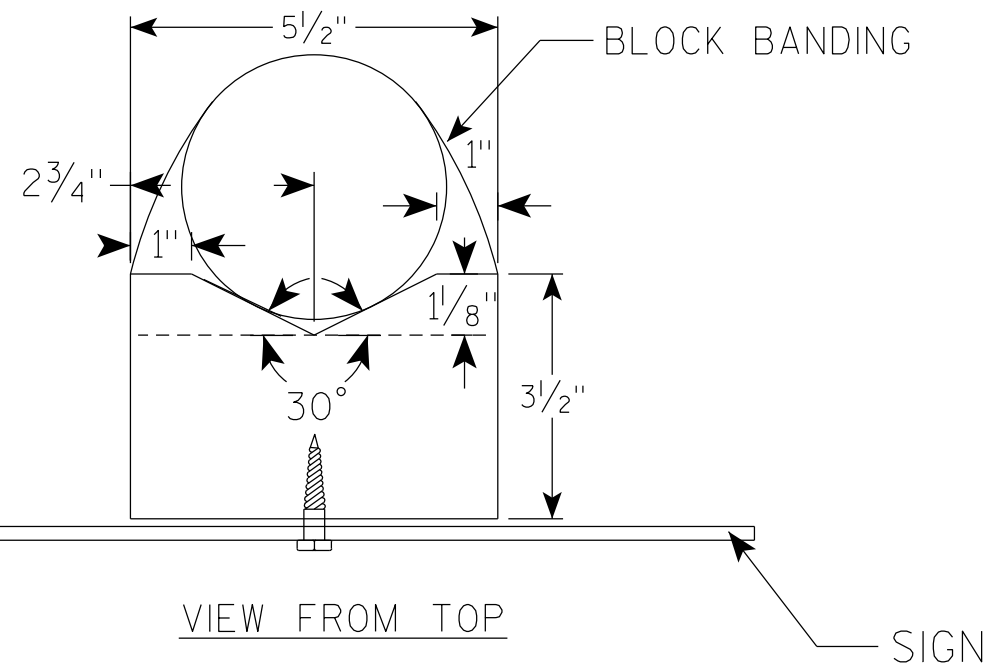
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE

STEEL OR ALUMINUM POLE



VIEW FROM TOP

SIGN

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, 3/4" 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 NORMALLY 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 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"

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

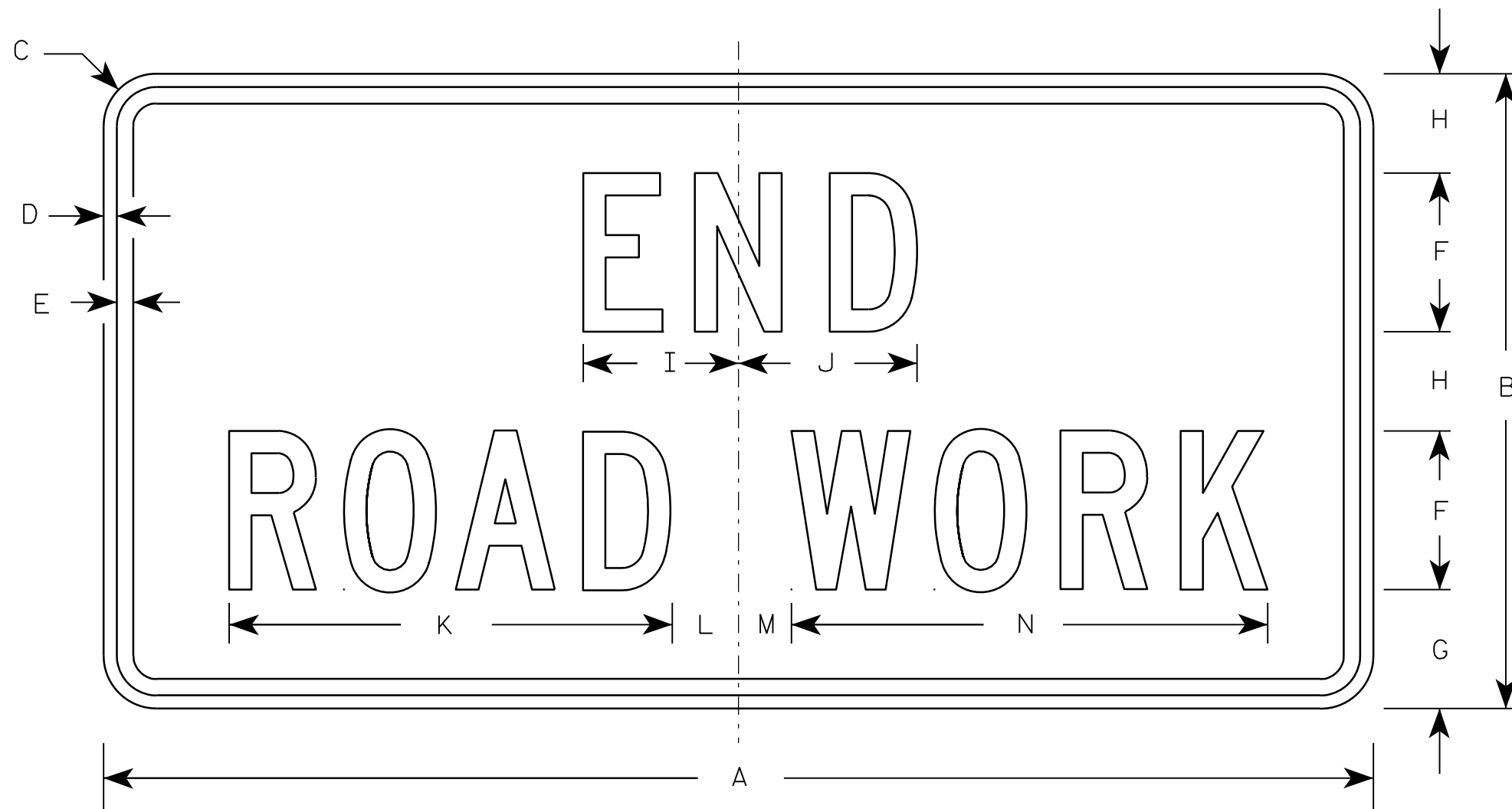
PROJECT NO:

SHEET NO:

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 - 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.



G20-2A

7

7

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

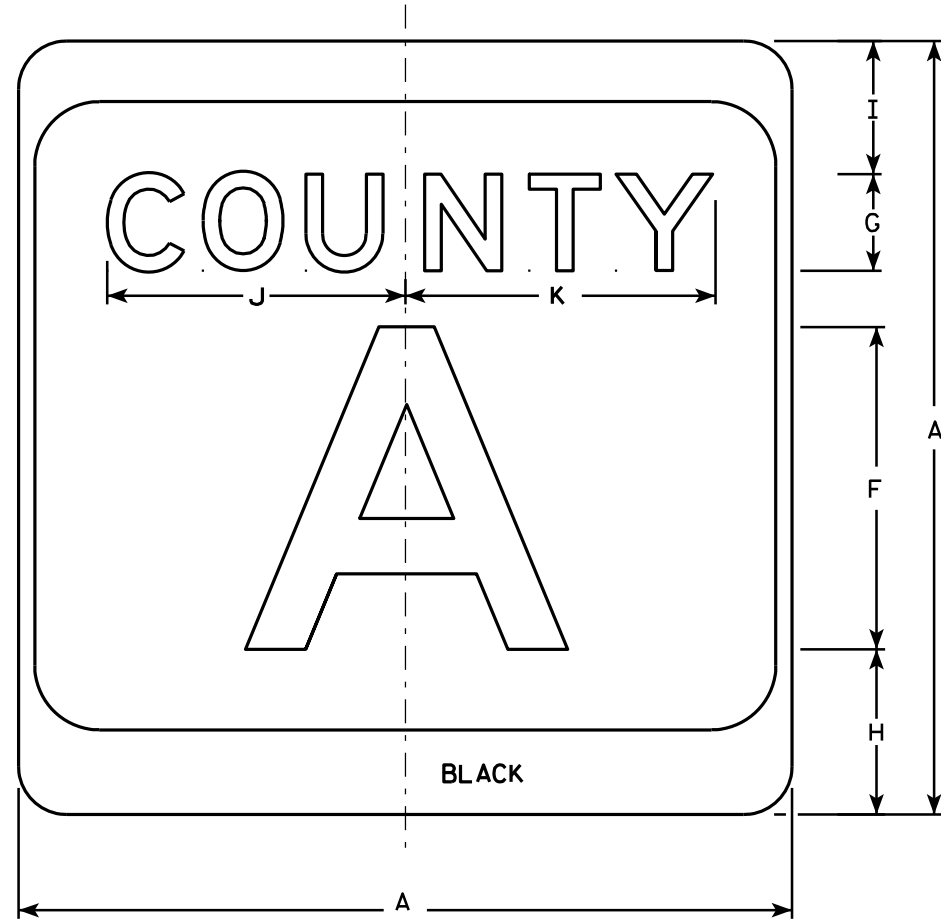
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq. m.
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 9/30/09	PLATE NO. G20-2A.8

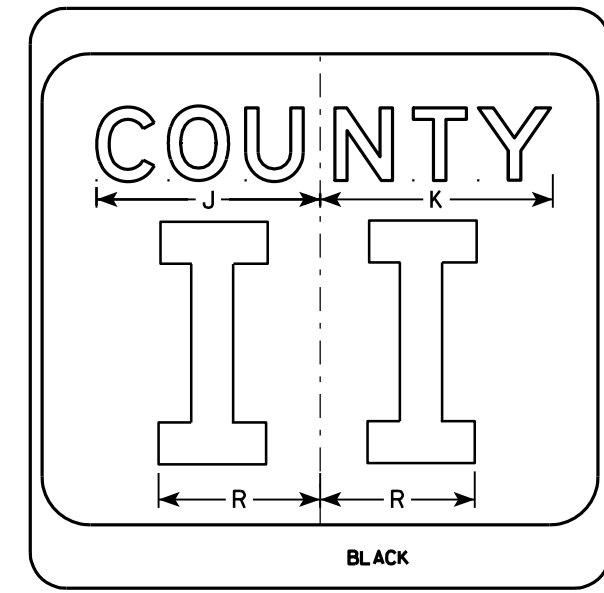
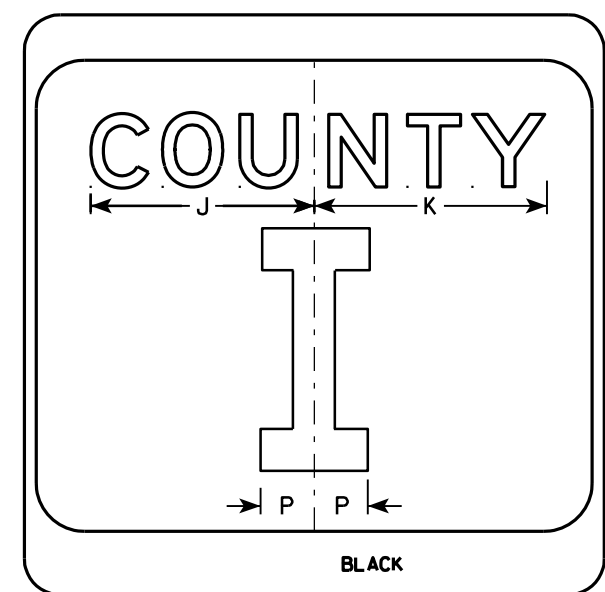
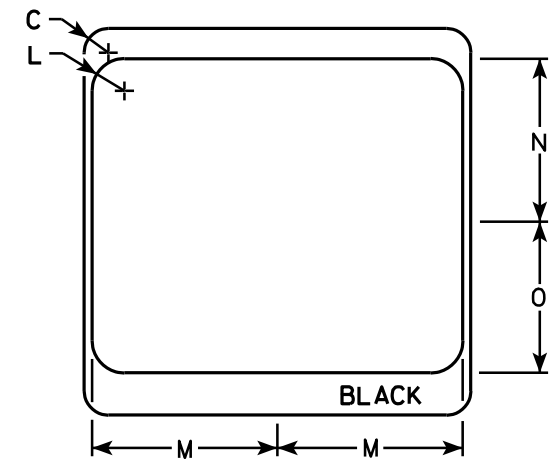
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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NOTES

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



M1-5A



7

7

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

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

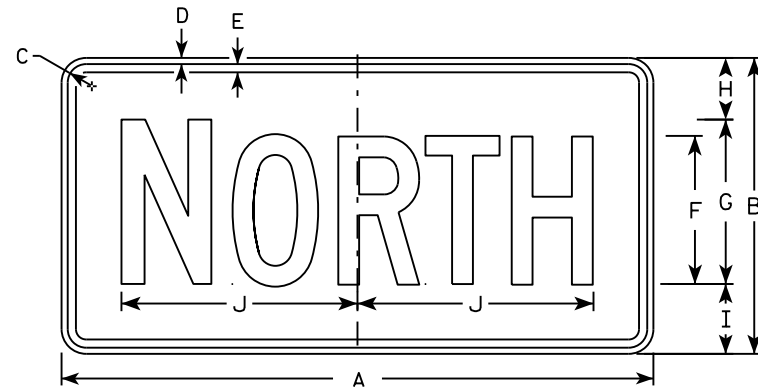
APPROVED *Matthew R. Raub*
For State Traffic Engineer

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

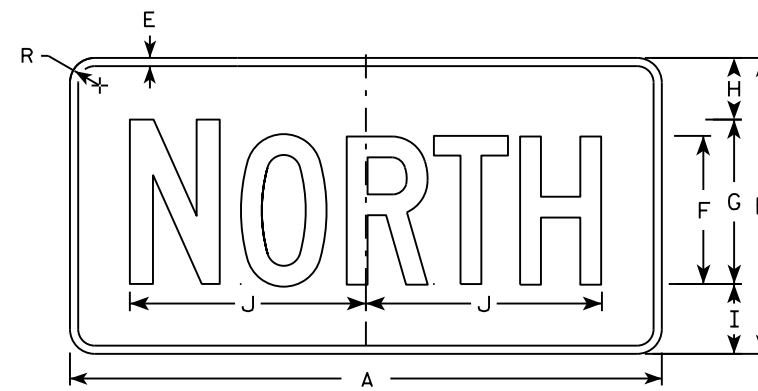
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

NOTES

- All Signs Type II - Type H
- Color:
 - Background - See note 5
 - Message - See note 5
- Message Series - C
- 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.
- M3-1 thru M3-4 Background - White
 Message - Black
 MB3-1 thru MB3-4 Background - Blue
 Message - White
 MK3-1 thru MK3-4 Background - Green
 Message - White
 MM3-1 thru MM3-4 Background - White
 Message - Green
 MN3-1 thru MN3-4 Background - Brown
 Message - White
 MP3-1 thru MP3-4 Background - White
 Message - Blue
- Note the first letter of each direction is larger than the remainder of the message.



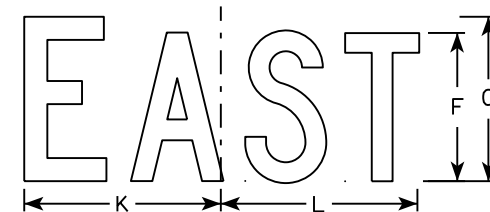
M3-1
MM3-1
MP3-1



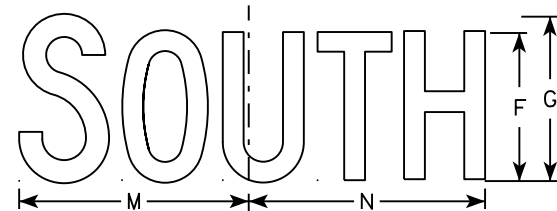
MB3-1
MK3-1
MN3-1



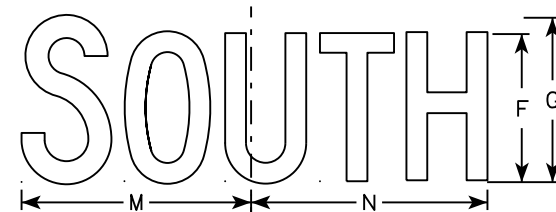
M3-2
MM3-2
MP3-2



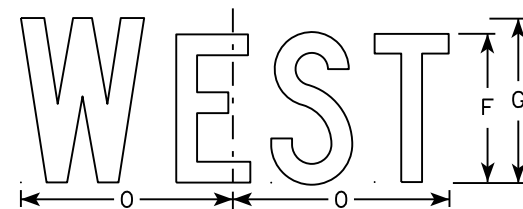
MB3-2
MK3-2
MN3-2



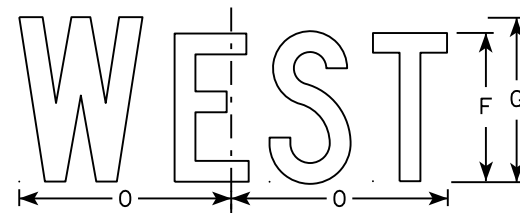
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

7

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

STANDARD SIGNS
M3-1 thru M3-4
SERIES

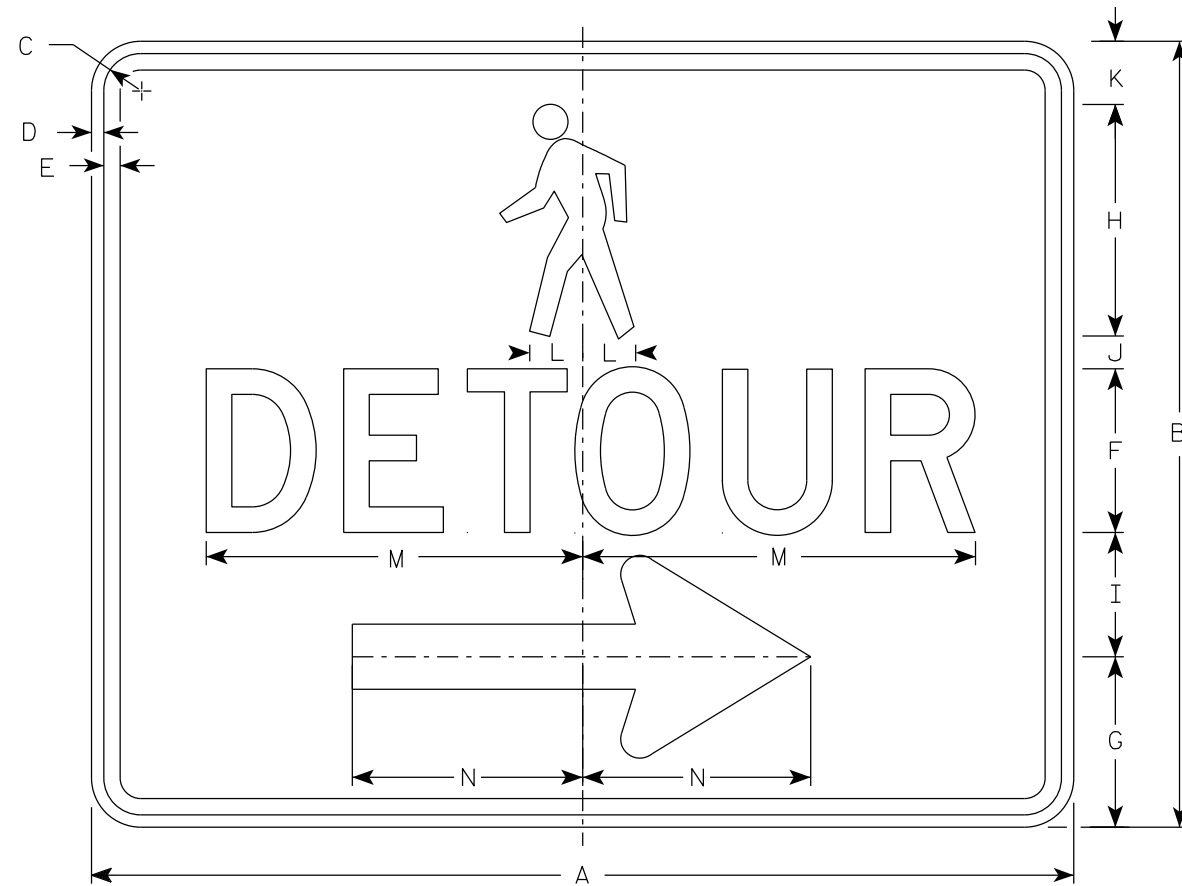
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

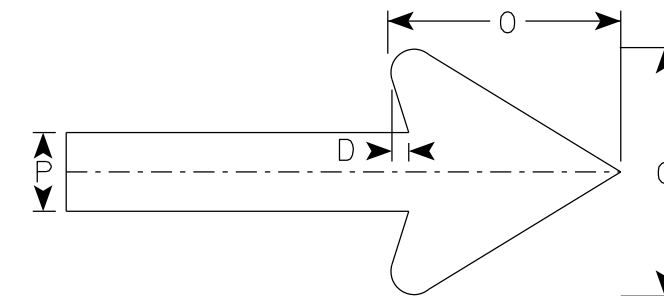
DATE 10/15/15 PLATE NO. M3-1.14

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.



M4 - 9BR



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																											

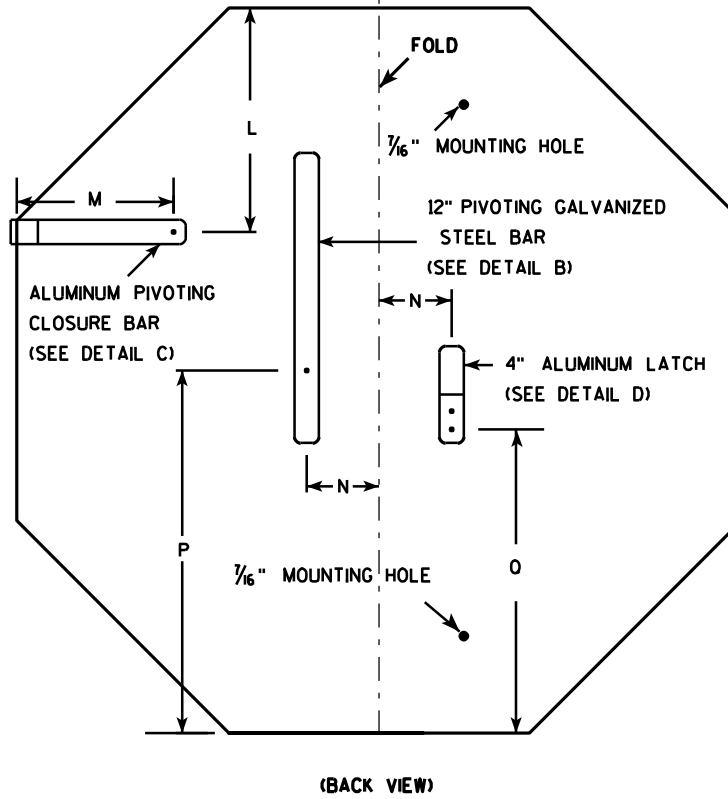
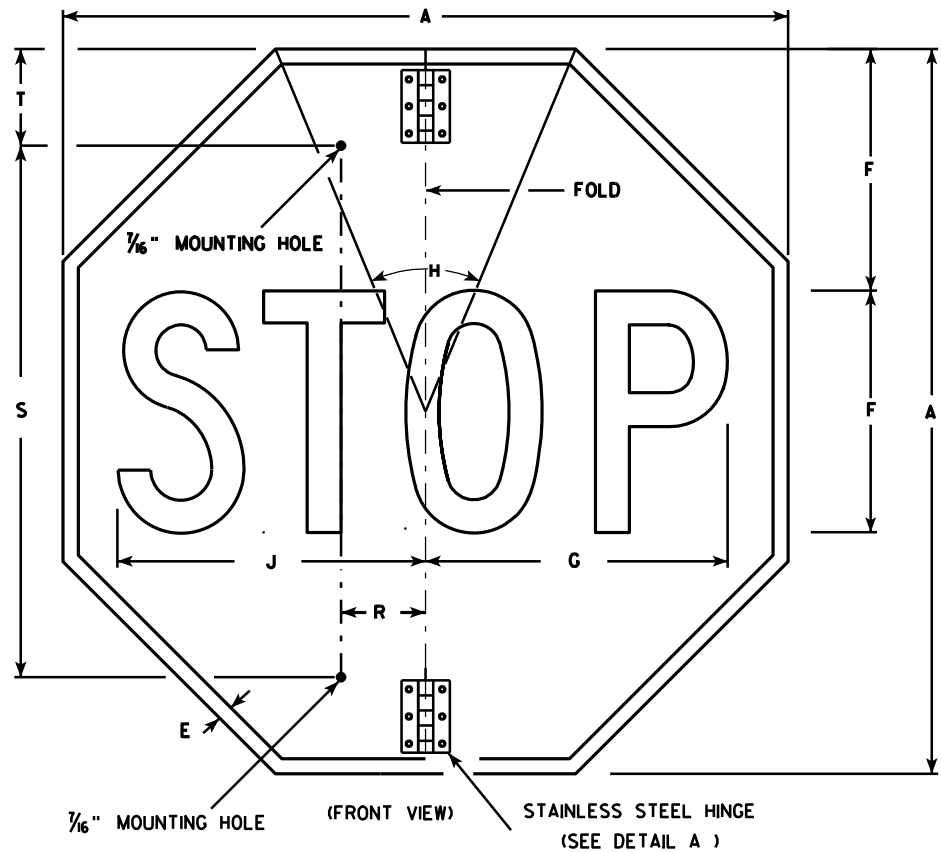
STANDARD SIGN
M4-9B L&R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

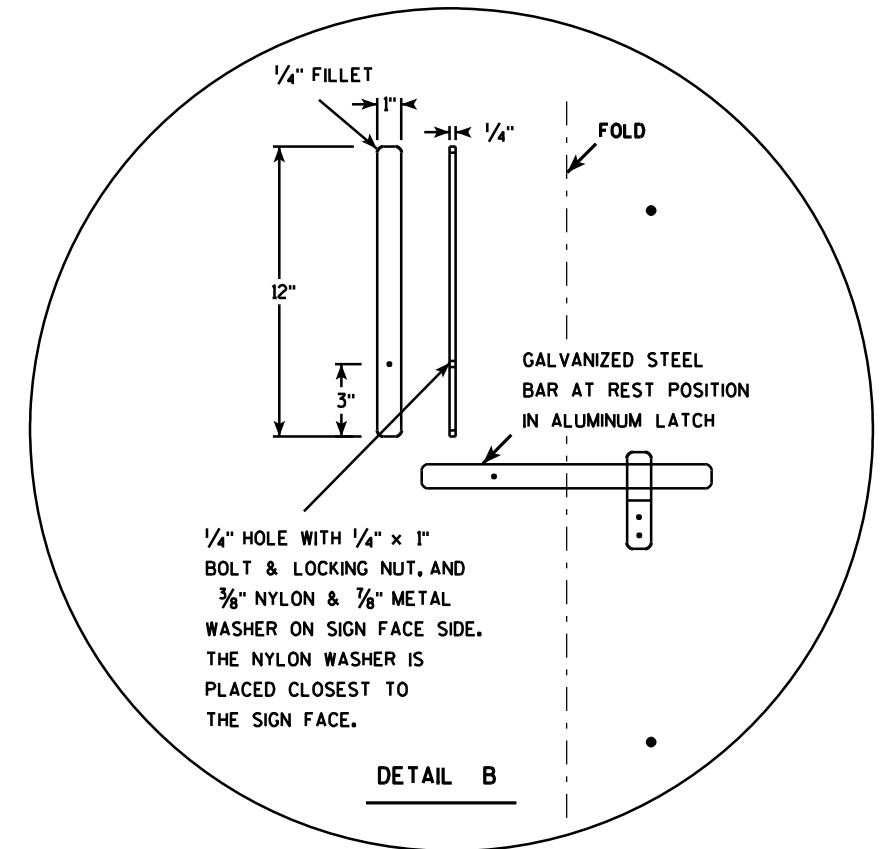
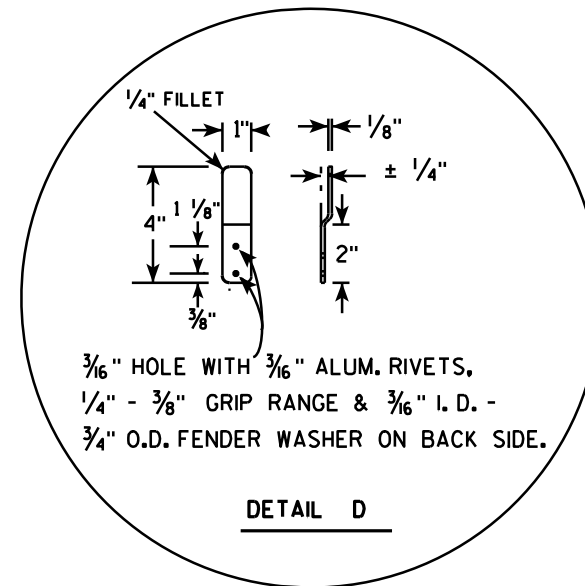
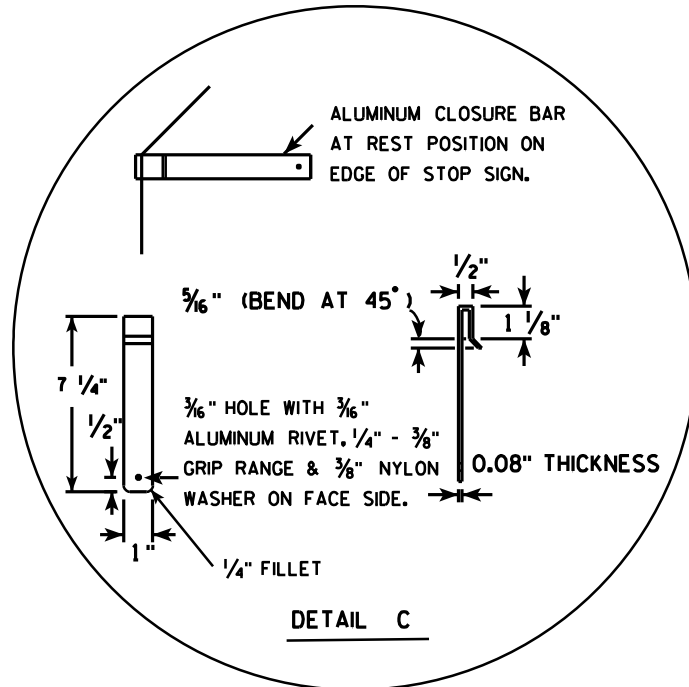
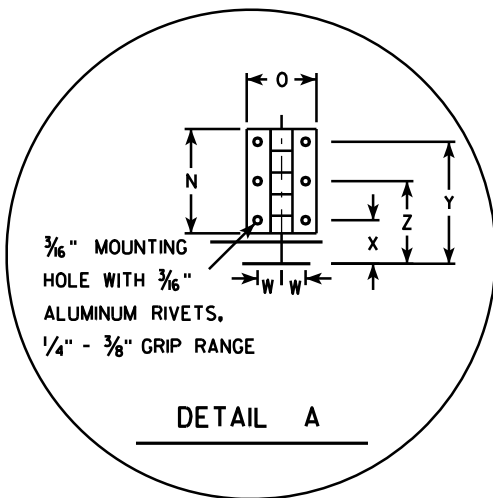
DATE 7/1/19 PLATE NO. M4-9B.2

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **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.



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				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			1 1/8	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			1 1/8	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			1 1/8	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

STANDARD SIGN
R1-1F

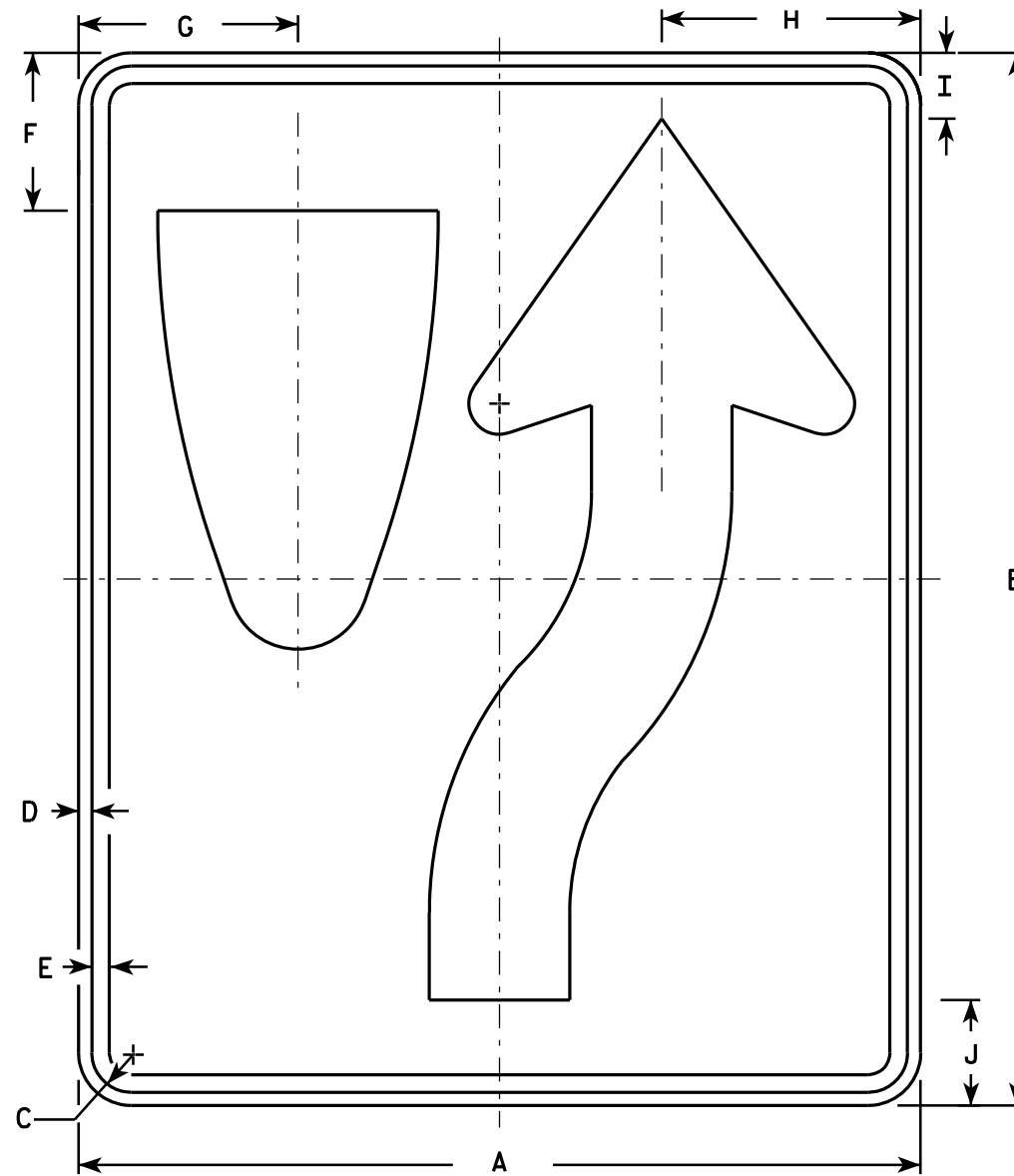
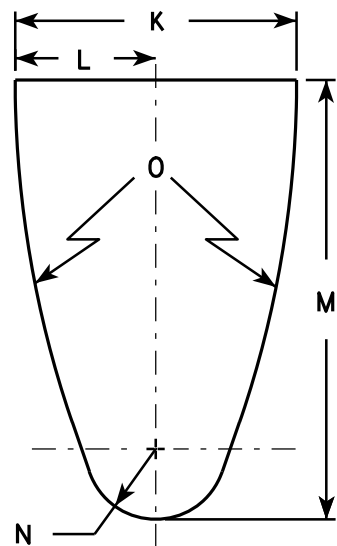
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

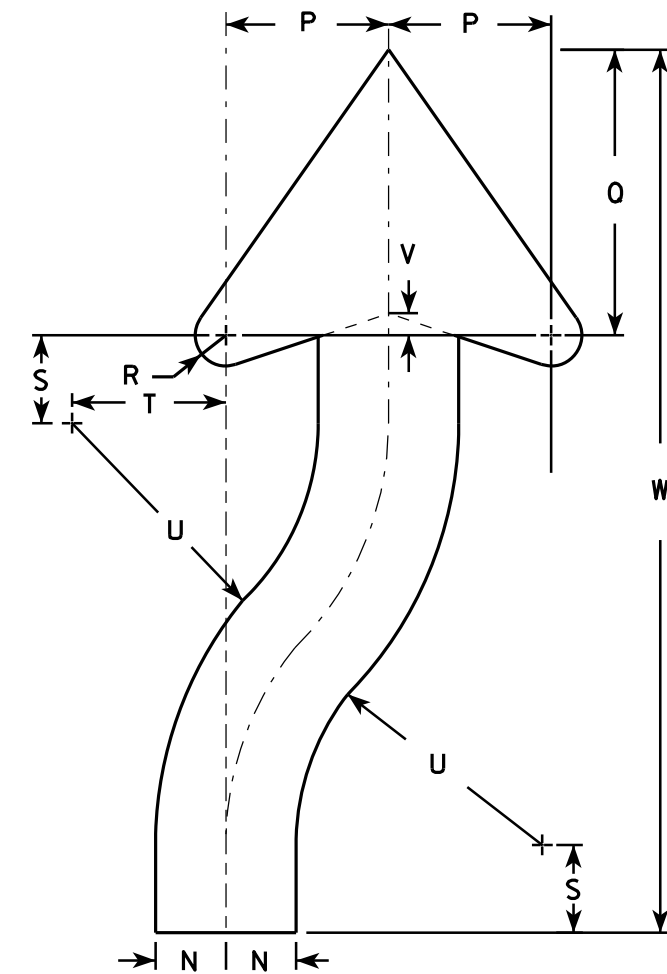
DATE 12/03/10 PLATE NO. R1-1F.3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
Background - White
Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



R4-7



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

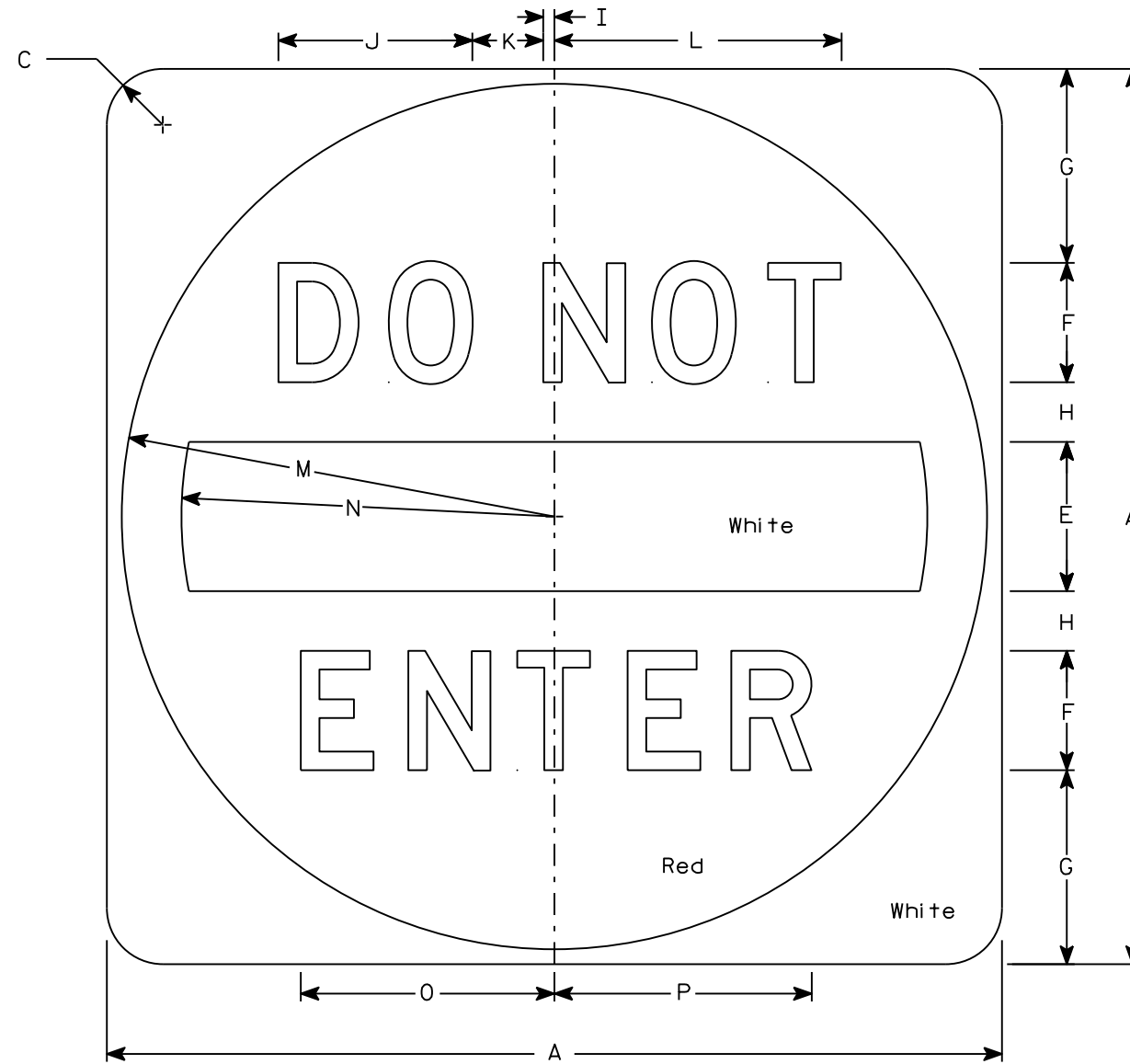
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - See detail
Message - White
3. Message Series - D



R5-1

7

7

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

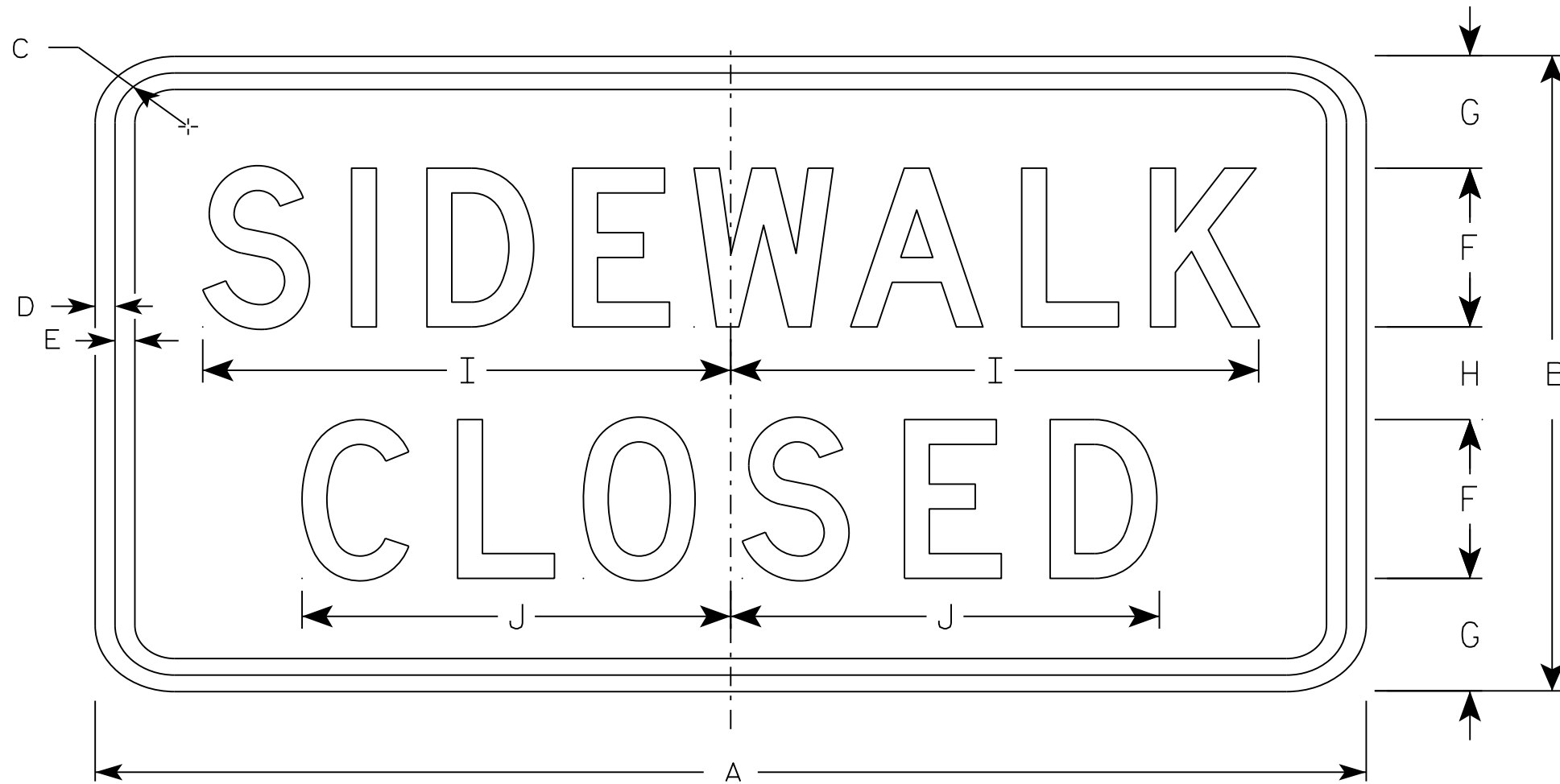
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/15/18 PLATE NO. R5-1.16

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ **E**

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.



R9-9

7

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

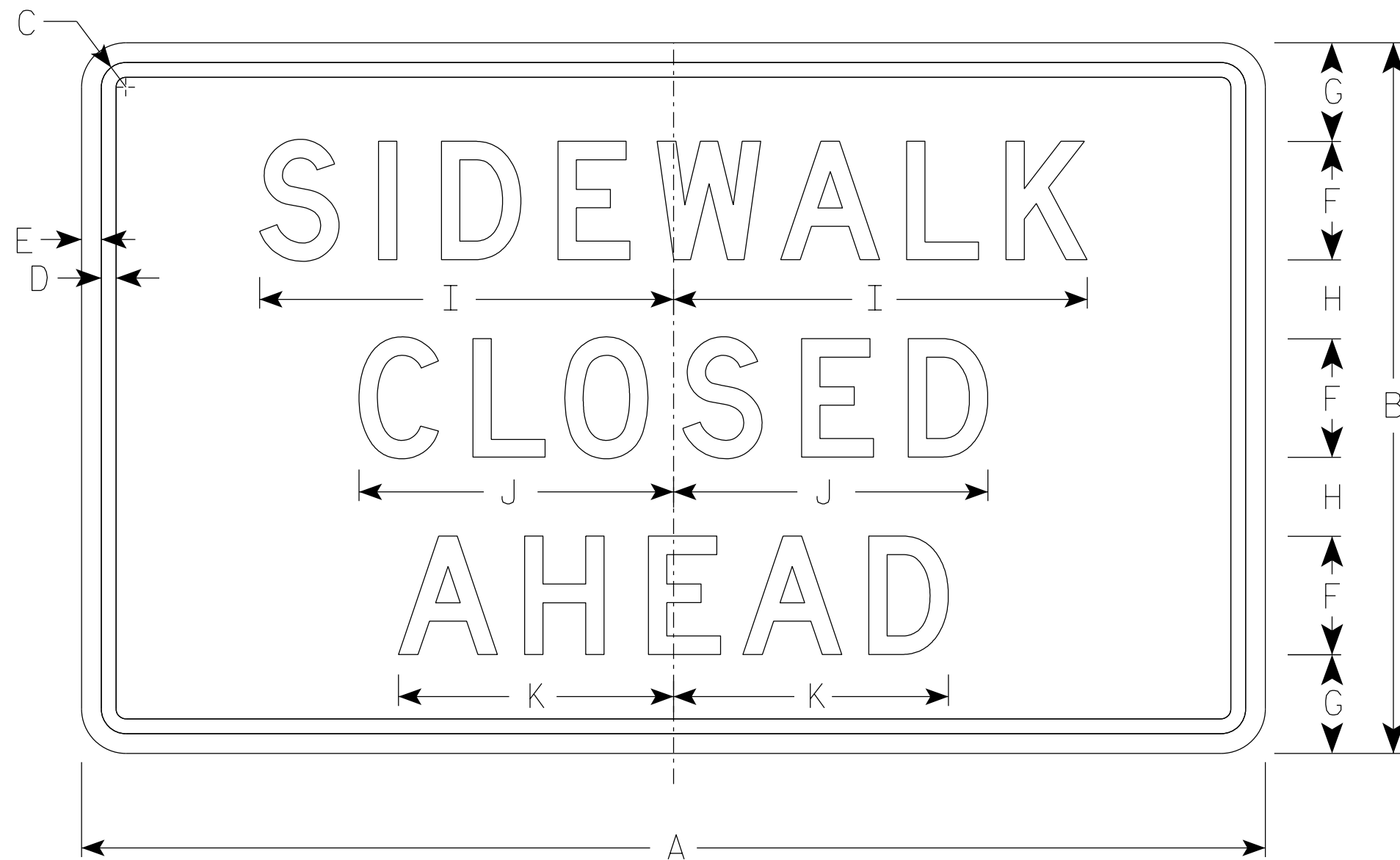
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 8/11/16 PLATE NO. R9-9.6

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.



R9-9A

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	18	1 1/8	3/8	1/2	3	2 1/2	2	10 1/2	8	7																3.75
2M	30	18	1 1/8	3/8	1/2	3	2 1/2	2	10 1/2	8	7																3.75
3																											
4																											
5																											

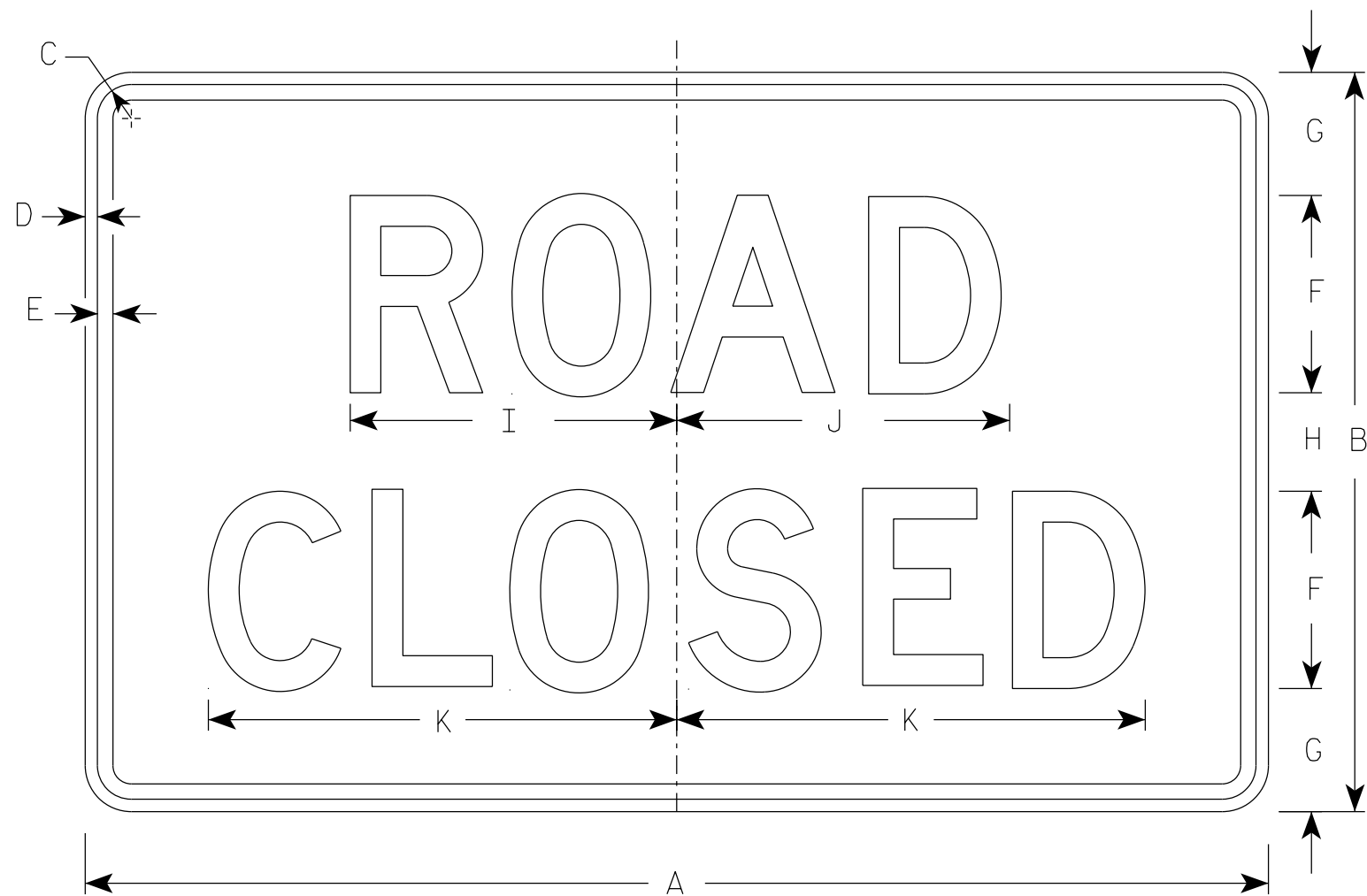
STANDARD SIGN
R9-9A

WISCONSIN DEPT OF TRANSPORTATION

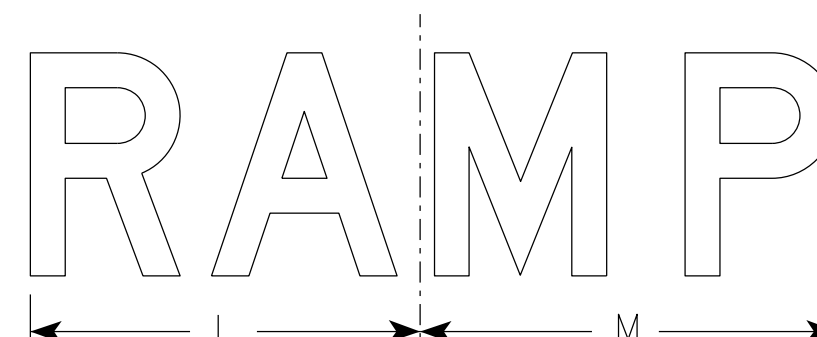
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 8/31/2020 PLATE NO. R9-9A.1

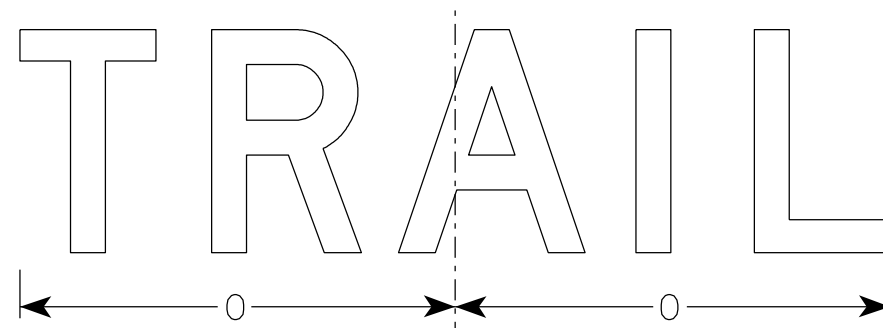
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



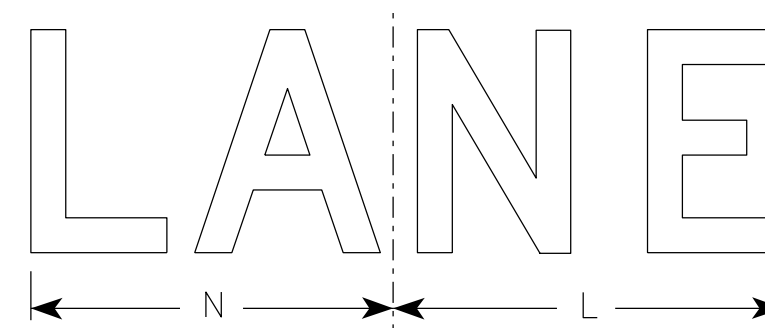
R11-2



R11-2R



R11-2T



R11-2L

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.

7

7

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

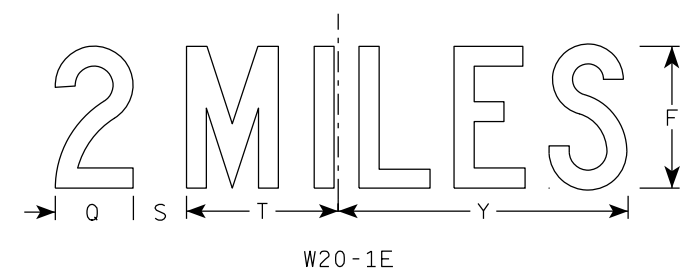
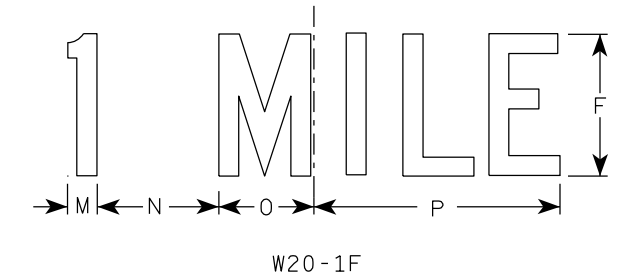
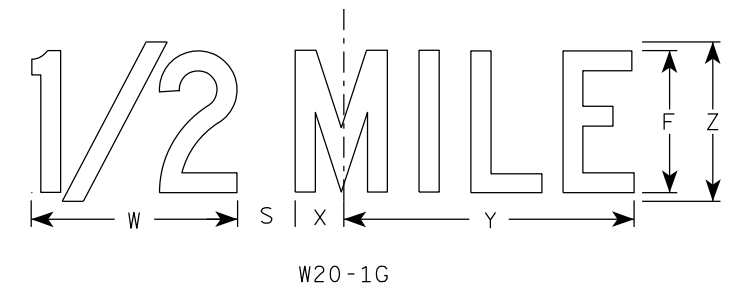
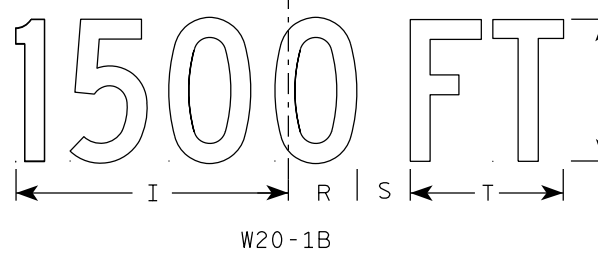
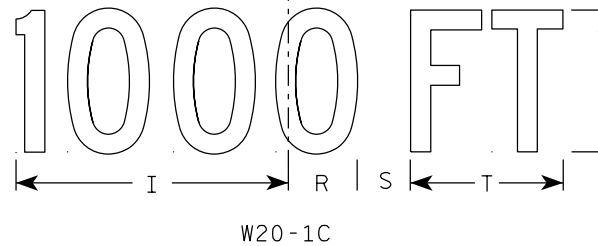
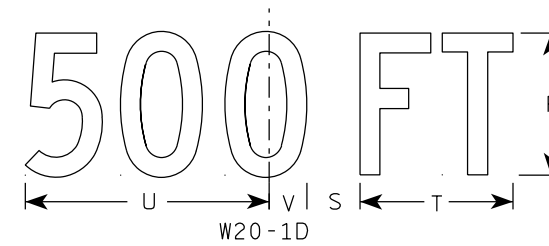
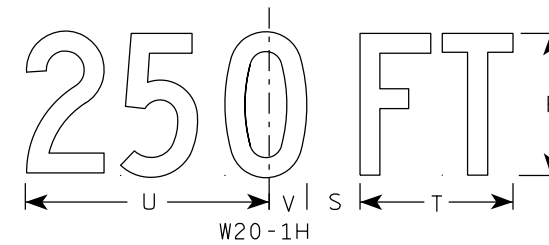
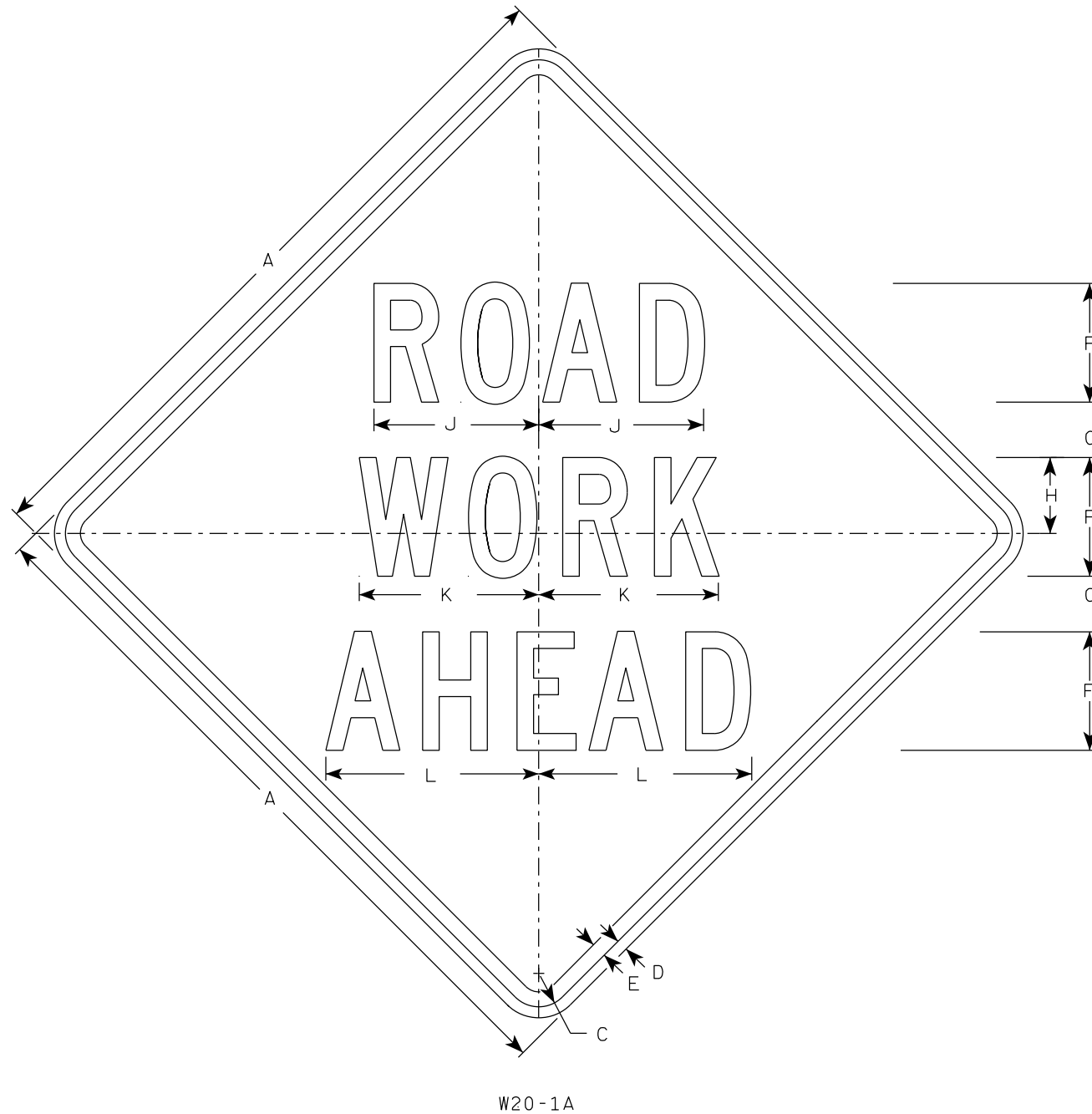
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **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.



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

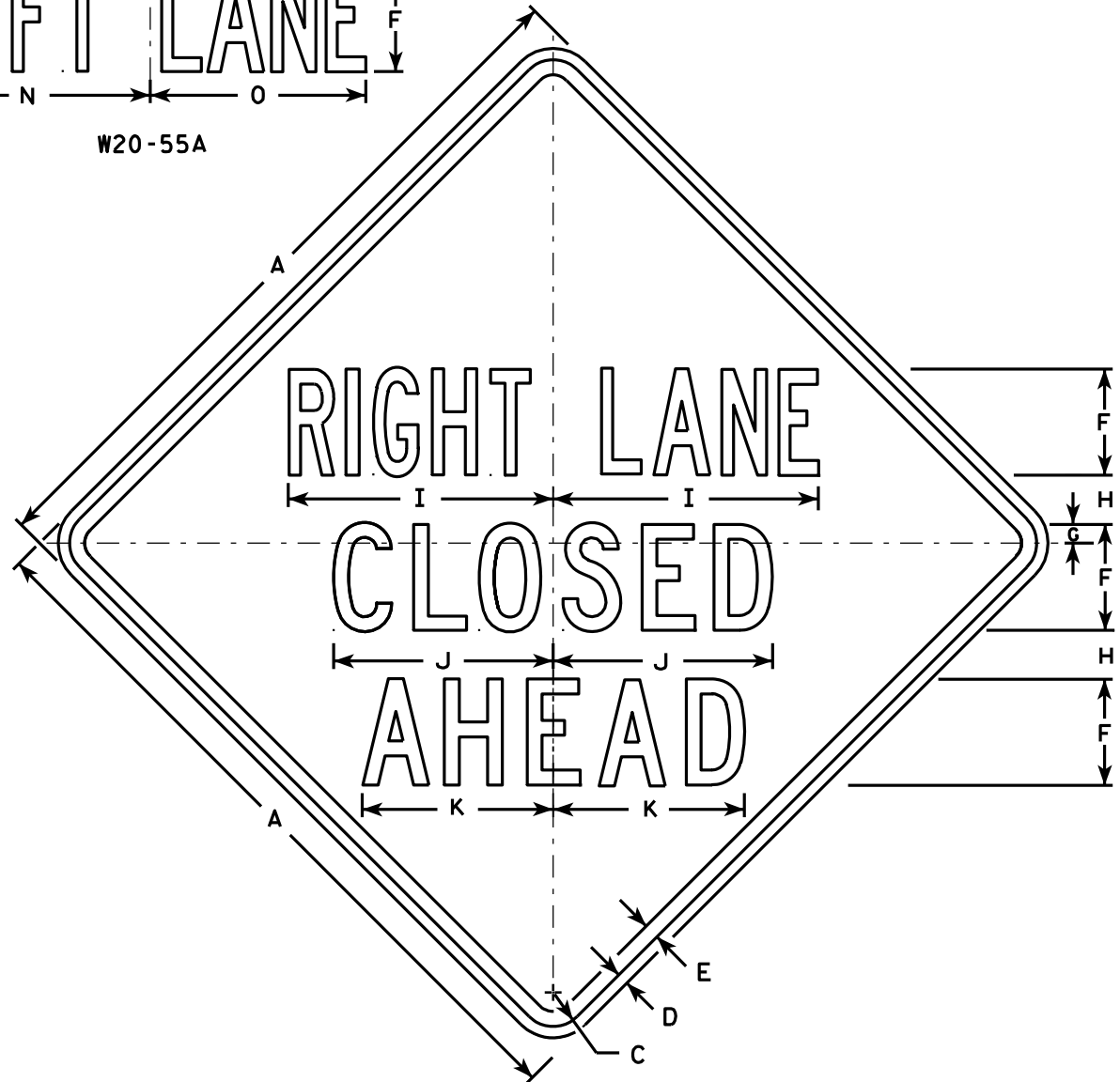
DATE 3/25/2020 PLATE NO. W20-1.11

CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

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.

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

W20-5F

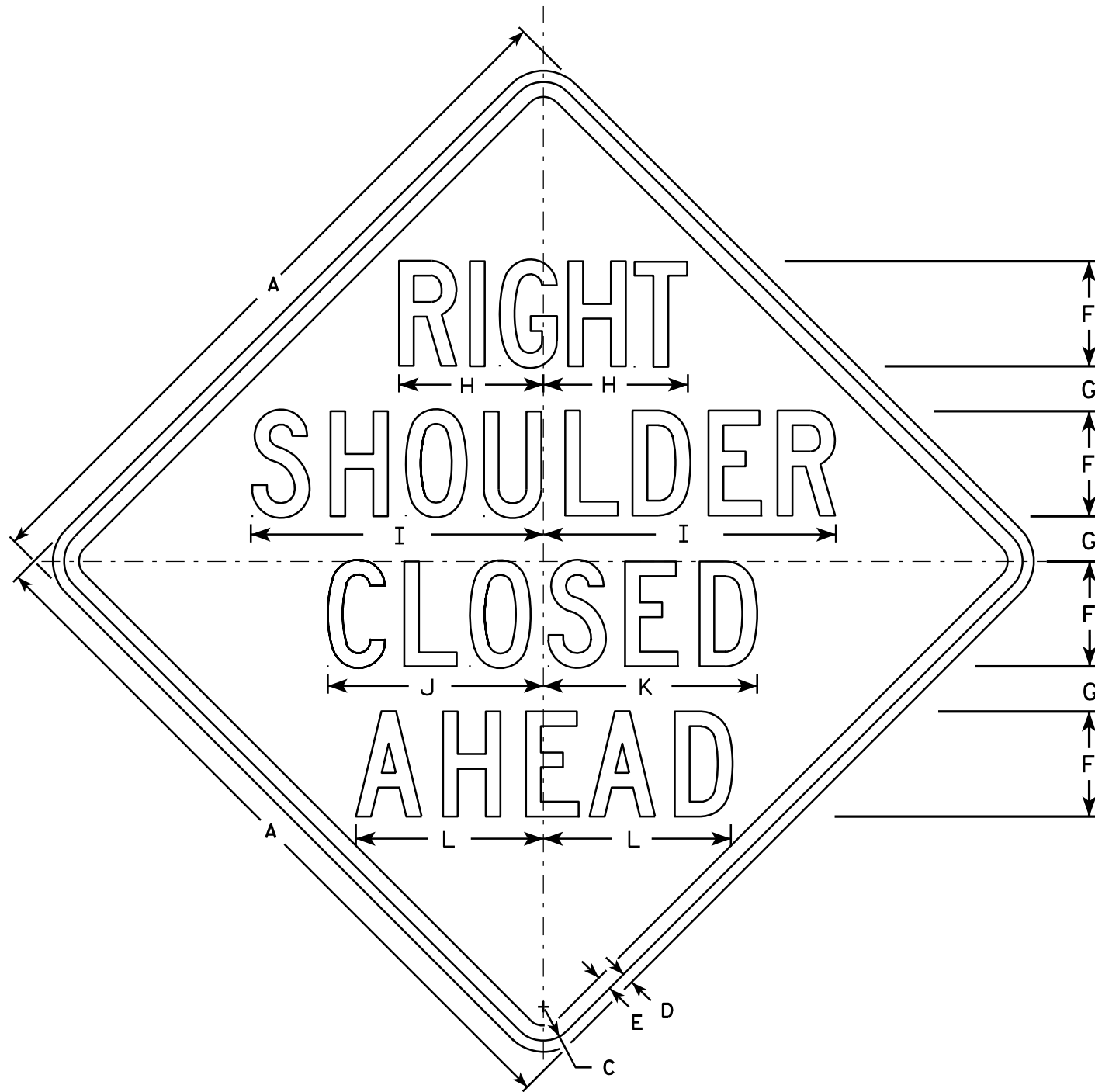
7

7

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	7/8	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 7/8	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

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E

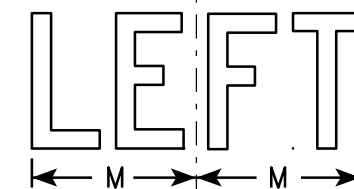
STANDARD SIGN
W20-5A, B, C, D, F & G
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-5.11



W21-5B

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.



W21-5BL

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 1/4	7 3/8	14 1/4	10 1/4	10 1/8	8 7/8	6 1/4														9.0
2S	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
2M	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
3	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
4	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
5	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0

STANDARD SIGN
W21-5B

WISCONSIN DEPT OF TRANSPORTATION

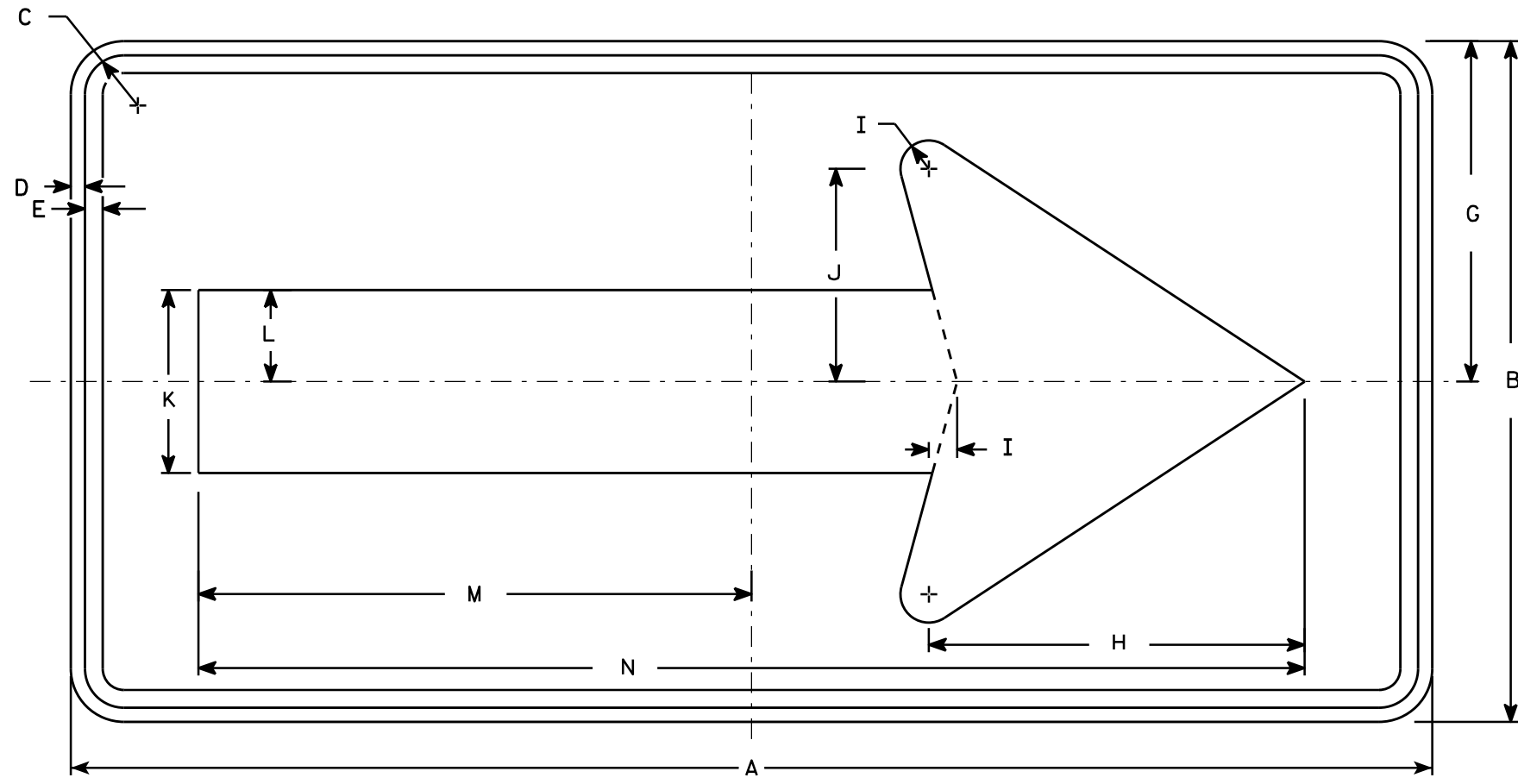
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5B.3

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ 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 - 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.



W01-6

7

7

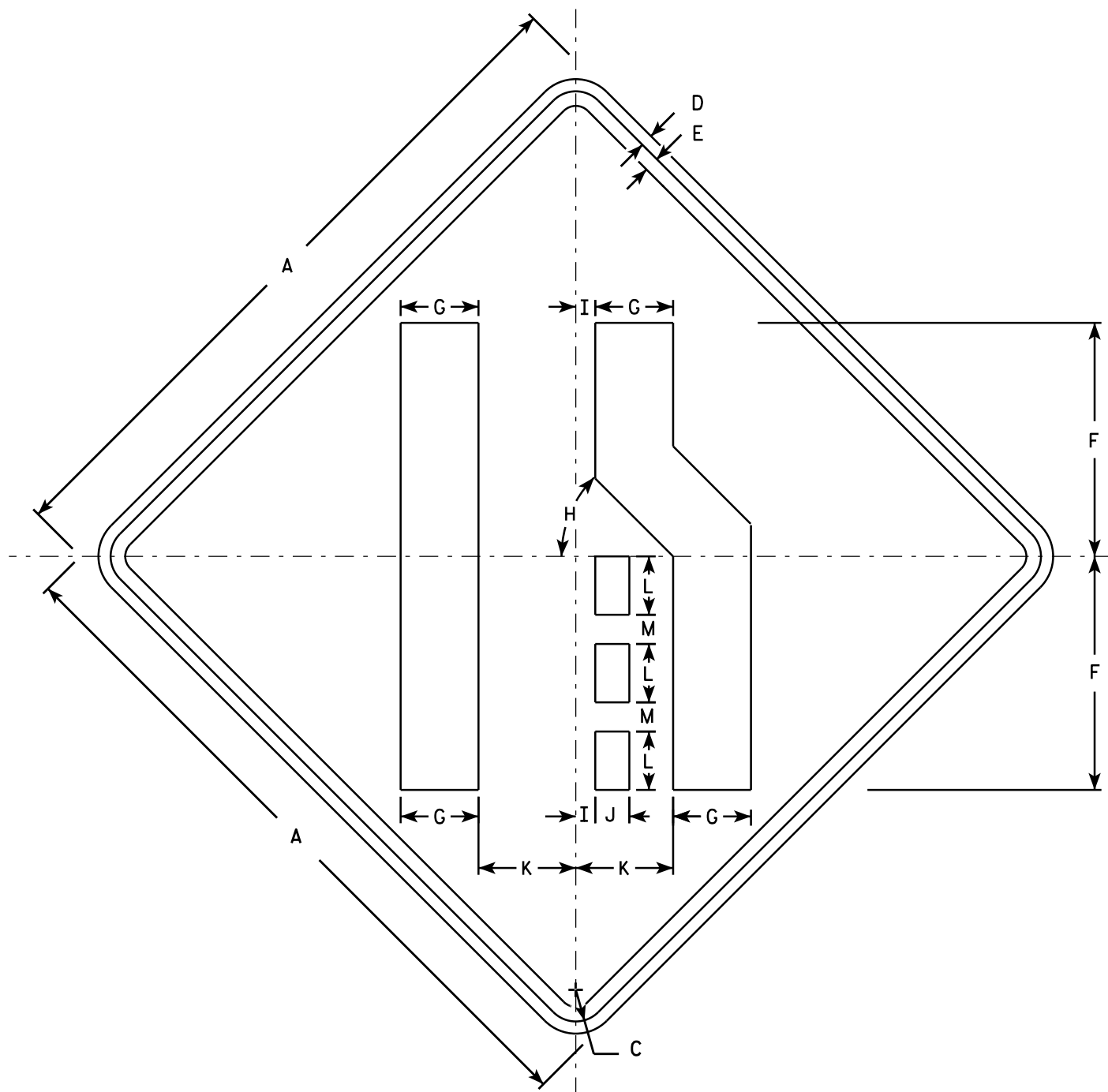
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



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 symbols is reversed along the vertical centerline.

7

7

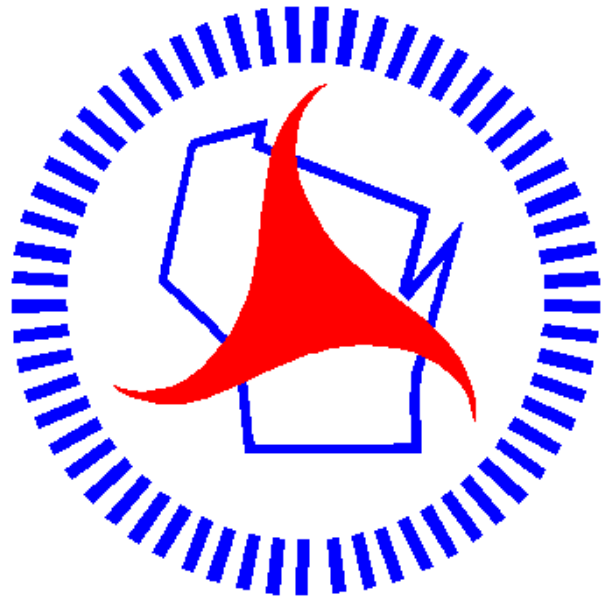
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 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 NO. W04-2.1



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>

WKE
PROJECT ID:
WITH: 2050-12-70

MARCH 2024

2305-02-70

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 = 54



10

DESIGN DESIGNATION

A.A.D.T.	2021	=	7,100 - 10,700
A.A.D.T.		=	N/A
D.H.V.		=	N/A
D.D.		=	N/A
T.		=	N/A
DESIGN SPEED		=	45 MPH
ESALS		=	N/A

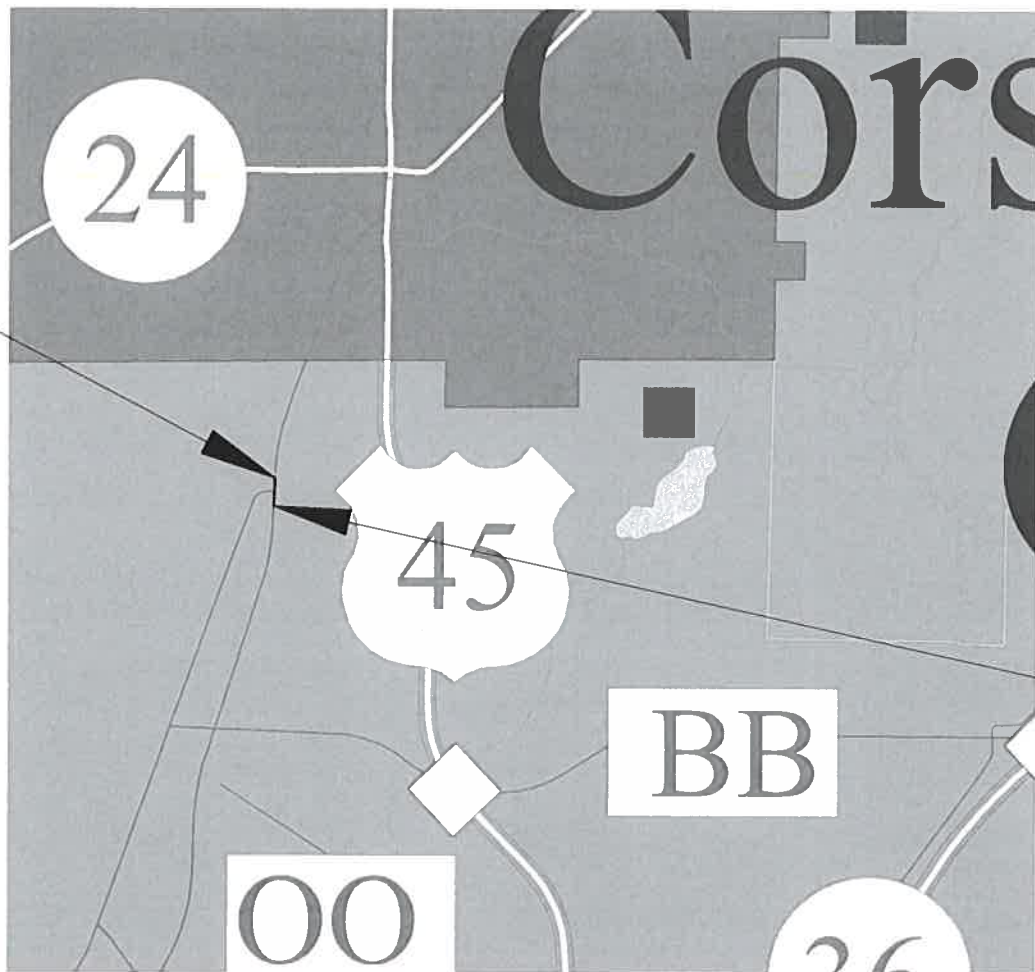
CONVENTIONAL SYMBOLS

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

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 PLAN OF PROPOSED IMPROVEMENT
 C FRANKLIN FOREST HOME AVENUE
 INTERSECT WITH SPEEDWAY
 CTH 00
 MILWAUKEE COUNTY

STATE PROJECT NUMBER
 2305-02-70



BEGIN PROJECT
 STA 133+08
 X: 2521153.94
 Y: 343213.90

END PROJECT
 STA 134+53

SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = N/A

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN STATE PLANE COORDINATES, SOUTH ZONE, NAD27, IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NGVD29

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2305-02-70	WISC 2024279	1

ORIGINAL PLANS PREPARED BY:
 MILWAUKEE COUNTY
 DEPARTMENT OF TRANSPORTATION



PROJECT DESIGNER:
 DATE: 10/16/2023

RECOMMENDED FOR APPROVAL:
 DATE: 10/17/2023

APPROVED:
 DATE: 10/18/2023

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	BAXTER & WOODMAN
Designer	MILWAUKEE COUNTY
Project Manager	MICHAEL BAIRD
Regional Examiner	
Regional Supervisor	BRIAN BOOTHBY

APPROVED FOR THE DEPARTMENT
 DATE: 10/19/2023

GENERAL NOTES

REMOVALS

- DO NOT REMOVE TREES OR SHRUBS WITHOUT THE CONSENT OF THE ENGINEER.
- FILL ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES WITH GRANULAR BACKFILL. GRANULAR BACKFILL IS INCIDENTAL TO THE PERTINENT REMOVAL ITEM.

UTILITIES

- THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT LIMITS THAT ARE NOT SHOWN.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF EXISTING UTILITIES AND TO NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES.

EROSION CONTROL

- EROSION CONTROL ITEMS SHOWN ARE AT SUGGESTED LOCATIONS AND THE EXACT LOCATIONS/DIMENSIONS WILL BE DETERMINED BY THE ENGINEER. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL SUCH TIME THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.
- TOPSOIL, FERTILIZE, SOD, AND WATER DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS AS DIRECTED BY THE ENGINEER.

SIGNING/MARKING

- DO NOT REMOVE SIGNS WITHOUT THE CONSENT OF THE ENGINEER.
- ALL NEW PERMANENT SIGNS SHALL BE MADE OF ALUMINUM MATERIAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

MISCELLANEOUS

- ADJUST TRAFFIC CONTROL DEVICES TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- CONSTRUCT TRANSVERSE JOINTS IN THE CONCRETE SIDEWALK AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES WITHIN THE PROJECT LIMITS AT ALL TIMES.
- DETAILS OF CONSTRUCTION NOT SHOWN IN THE PLANS SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

LIST OF STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AEW	APRON ENDWALL
AGG	AGGREGATE
AH	AHEAD
ASPH	ASPHALT OR ASPHALTIC
BAD	BASE AGGREGATE DENSE
BK	BACK
BM	BENCHMARK
CABC	CRUSHED AGGREGATE BASE COURSE
CB	CATCH BASIN
CL or C/L	CENTER LINE
CONC	CONCRETE
CTH	COUNTY TRUNK HIGHWAY
C&G	CURB AND GUTTER
DWY	DRIVEWAY
EL or ELEV	ELEVATION
EBS	EXCAVATION BELOW SUBGRADE
HMA	HOT MIX ASPHALT
INL	INLET
INV	INVERT
LT	LEFT
MH	MANHOLE
MIS	METROPOLITAN INTERCEPTOR SEWER
OFF	OFFSET
PAVT	PAVEMENT
PLE	PERMANENT LIMITED EASEMENT
PT	POINT OF TANGENT
PCC	POINT OF COMPOUND CURVATURE
RL or R/L	REFERENCE LINE
R	RADIUS
REQD	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
SE	SUPERELEVATION
SEC	SECTION
SDD	STANDARD DETAIL DRAWING
SI	SLOPE INTERCEPT
STH	STATE TRUNK HIGHWAY
STA	STATION
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
S/W	SIDEWALK
TLE	TEMPORARY LIMITED EASEMENT
VERT	VERTICAL
VC	VERTICAL CURVE
VCL	VERTICAL CURVE LENGTH
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY

UTILITIES

**AT&T Wisconsin –
Communication Line**

411 7th St.
Racine, WI 53403
Attn: Mr. Nathan Gibert
Phone: (262) 720-8235
ng952w@att.com

**Charter Communications –
Communication Line**

1320 N. Martin Luther King Dr.
Milwaukee, WI 53212
Attn: Mr. Jay Chapman
Jay.Chapman@charter.com
wis.engineering@charter.com

**City of Franklin Department of Public
Works – Water**

9229 W. Loomis Rd.
Franklin, WI 53132
Glen E. Morrow City Engineer/
Director of Public Works
Phone: (414) 425-7510
gmorrow@franklin.gov

Everstream – Communication Line

324 E Wisconsin Ave, Suite 730,
Milwaukee, WI 53202
Attn: Shad Garcia
Phone Number: Office (414) 409-1708
Mobile (414) 522-6685
sgarcia@everstrem.net
Emergency Phone: (866) 624-8624

UTILITIES

**Milwaukee Metropolitan
Sewerage District (MMSD) -
Sewer**

260 W Seeboth St
Milwaukee, WI 53204
Attn: Michael Lee
Office: 414-225-2241
Mobile: 414-617-1429
Mlee@mmsd.com

**TDS Metrocom –
Communication Line**

525 Junction Rd
Madison, WI 53717
Attn: Jason Kenny
Desk: (541) 585-2965
Mobile: (262) 514-2127
Jason.kenny@tdstelcom.com

UTILITIES

We Energies - Electric

700 S Kane St
Burlington, WI 53105
Attn: Jacob Schoenung
Office: (262) 763-1011
jacob.schoenung@we-energies.com
WE-Utility-Relocations@we-energies.com

We Energies – Gas

7815 Northwestern Ave
Racine, WI 53406
Attn: Evon Karpinski
Office: (262)884-6722
Mobile: (414)531-9338
Evon.karpinski@we-energies.com
WE-Utility-Relocations@we-energies.com

AGENCIES

City of Franklin Engineering Department

Mr. Glen Morrow
City Engineer
9229 W. Loomis Rd.
Franklin, WI 53132
Phone: (414) 425-7510
gmorrow@franklin.gov

**Milwaukee Metropolitan Sewerage District
(MMSD)**

Mr. Michael Lee
260 W Seeboth St
Milwaukee, WI 53204
Office: 414-225-2241
Mobile: 414-617-1429
Mlee@mmsd.com

MILWAUKEE COUNTY (MCDOT)

Mr. Kevin Kent, Hwy Superintendent
10320 W. Watertown Plank Rd, 1st Floor
Wauwatosa, WI 53226
Phone: (414) 257-6580
Fax: (414) 257-6501
Kevin.Kent@milwaukeecountywi.gov

Ms. Andrea Weddle-Henning
Director of Transportation Engineering
10930 W. Lapham St
West Allis, WI 53214
Phone: (414) 257-5934
Andrea.Weddle-Henning@milwaukeecountywi.gov

Mr. Daniel Murphy
Traffic Engineer Manager
10930 W. Lapham St
West Allis, WI 53214
Phone: (414) 257-5942
Daniel.Murphy@milwaukeecountywi.gov

ORDER OF SECTION 2 SHEETS

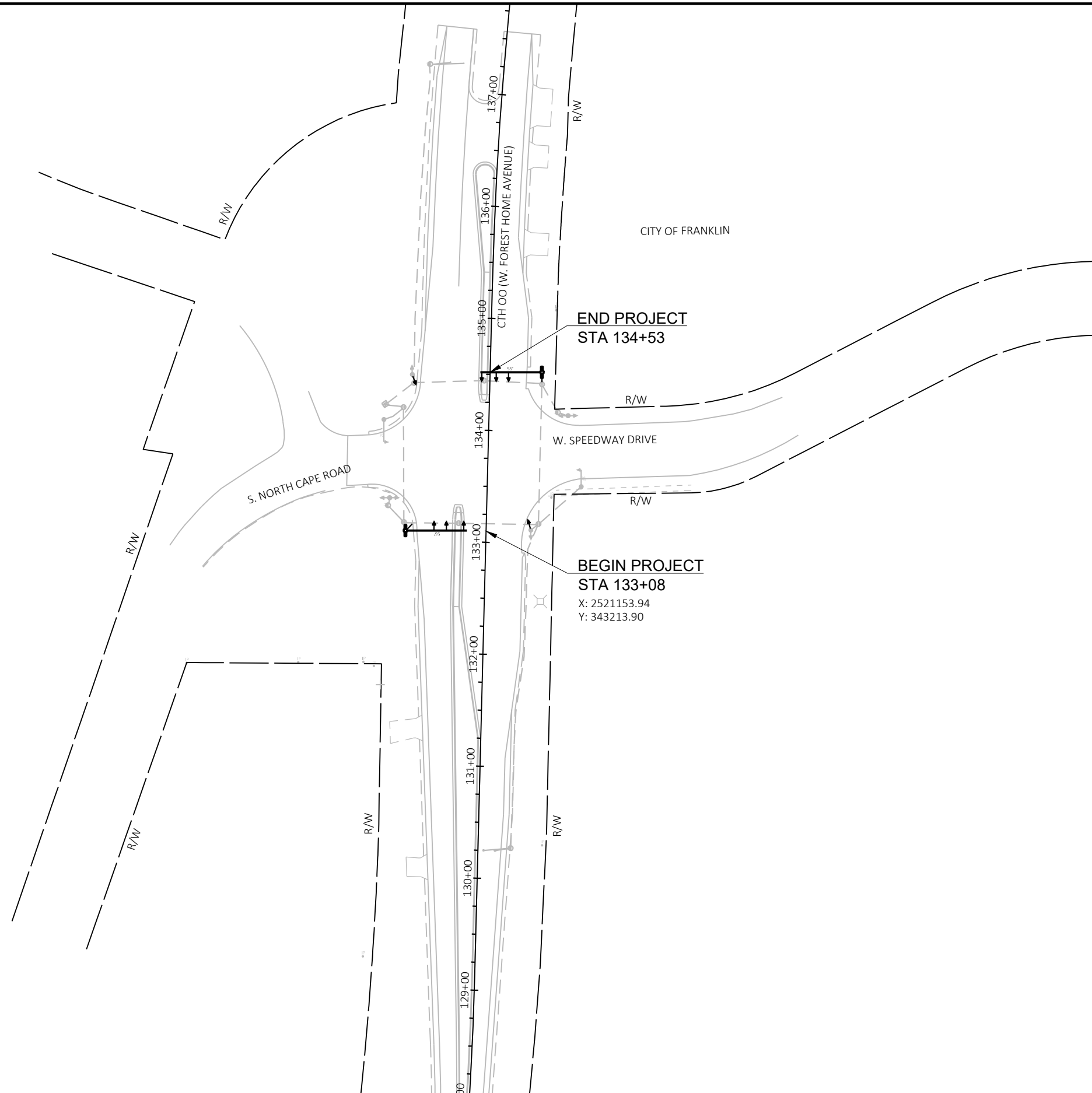
- GENERAL NOTES
- PROJECT OVERVIEW
- EROSION CONTROL
- SIGNING
- TRAFFIC SIGNALS
- TRAFFIC SIGNAL REMOVALS
- TRAFFIC CONTROL
- ALIGNMENT DIAGRAM

STATE AGENCIES

**Wisconsin Department of
Natural Resources**

Mr. Ryan Pappas
Environmental Analysis and
Review Specialist
1027 W. Saint Paul Ave.
Milwaukee, WI 53233
Phone: (414) 750-7495
Ryan.Pappas@wisconsin.gov





PROJECT NO: 2305-02-70

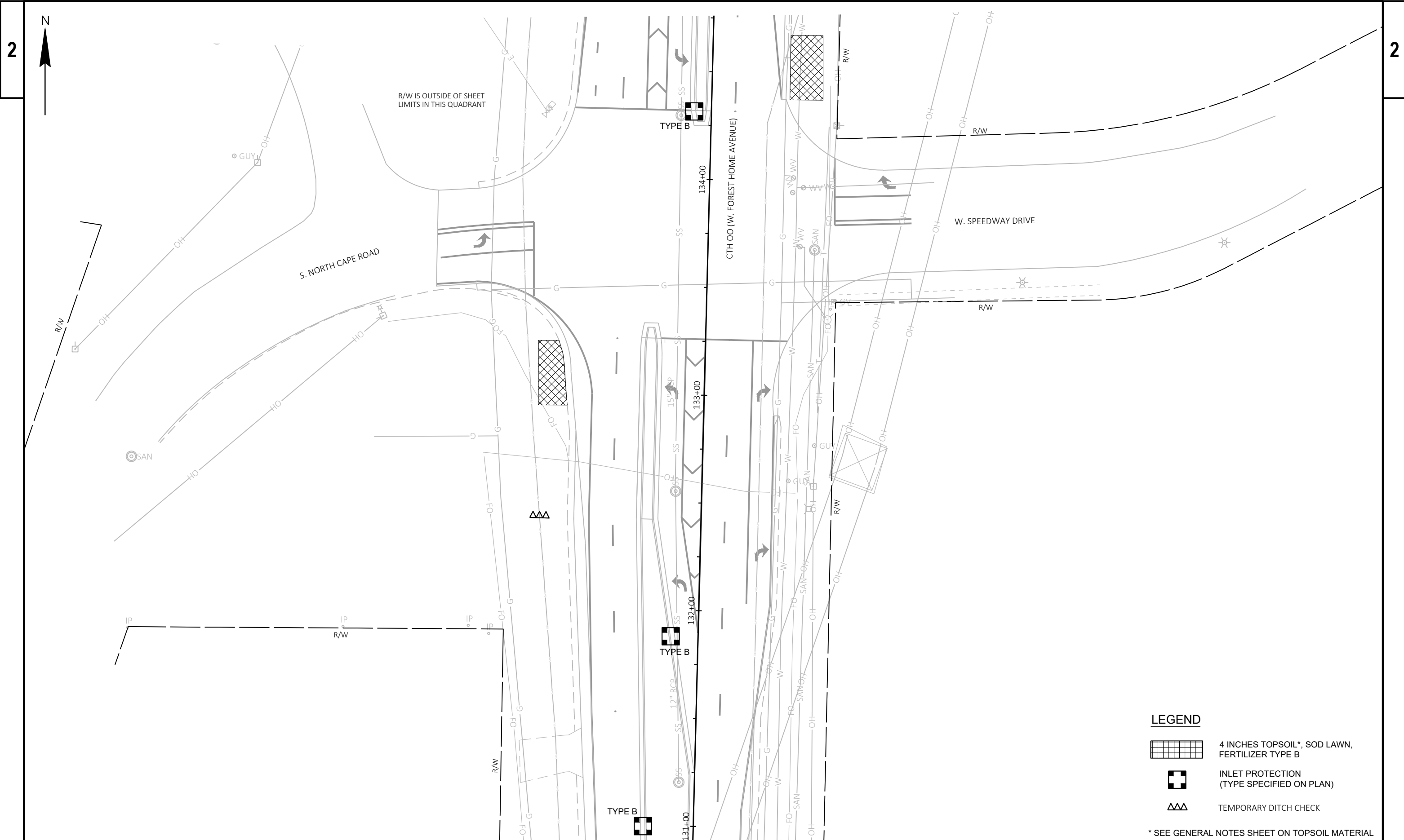
HWY: CTH 00

COUNTY: MILWAUKEE

PROJECT OVERVIEW

SHEET




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




LEGEND

-  4 INCHES TOPSOIL*, SOD LAWN, FERTILIZER TYPE B
-  INLET PROTECTION (TYPE SPECIFIED ON PLAN)
-  TEMPORARY DITCH CHECK

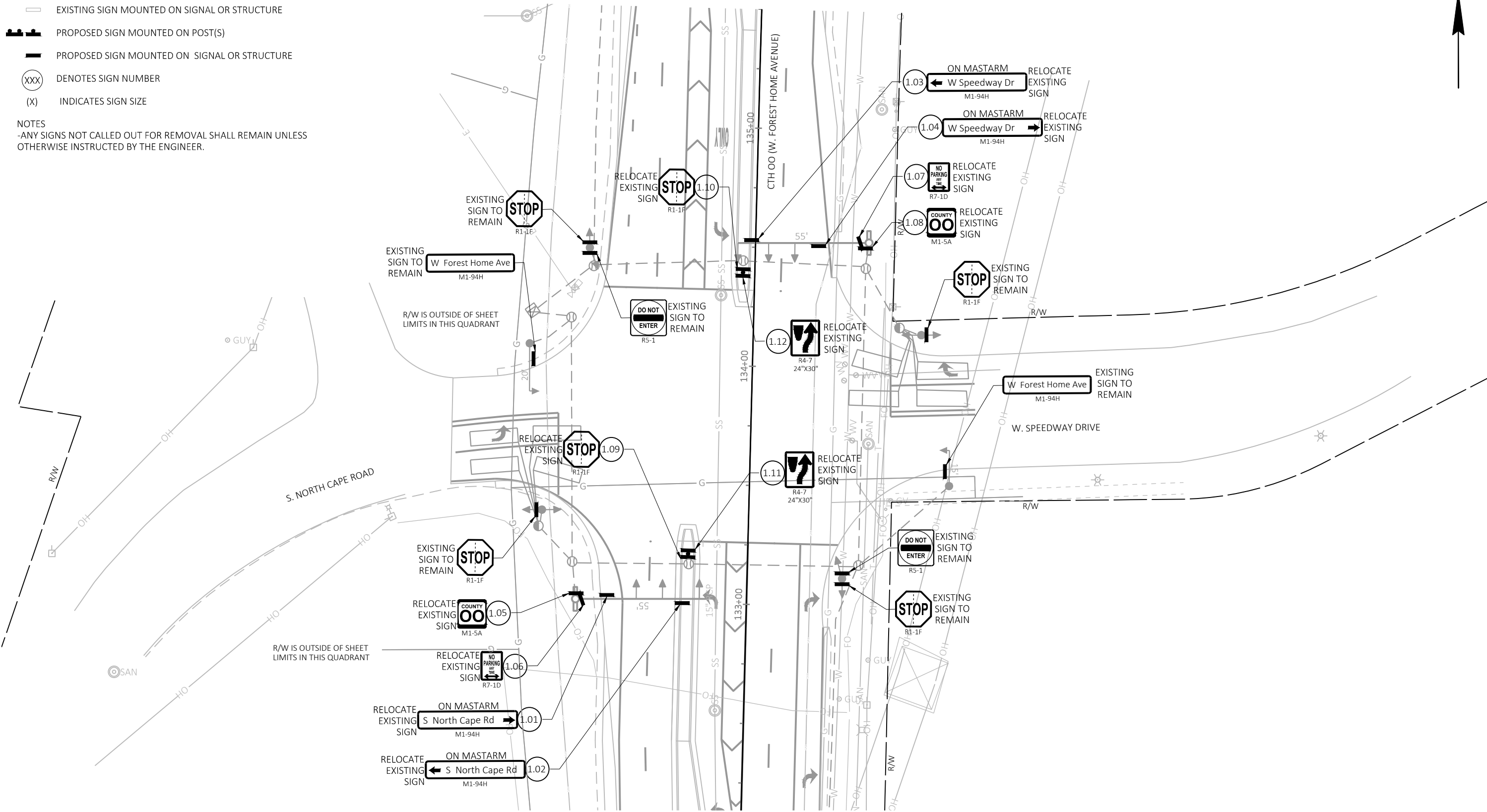
* SEE GENERAL NOTES SHEET ON TOPSOIL MATERIAL

PROJECT NO: 2305-02-70	HWY: CTH 00	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET	E
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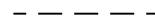
















SIGN LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
-  EXISTING SIGN MOUNTED ON SIGNAL OR STRUCTURE
-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON SIGNAL OR STRUCTURE
-  DENOTES SIGN NUMBER
-  INDICATES SIGN SIZE

NOTES
 -ANY SIGNS NOT CALLED OUT FOR REMOVAL SHALL REMAIN UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.












LEGEND

-  CONTROL CABINET
-  NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
-  SB# ● PROPOSED CONCRETE SIGNAL BASE
-  SB# ● EXISTING CONCRETE SIGNAL BASE TO BE REUSED
-  SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
-  SIGNAL HEAD, LUMINAIRE, POLE TYPE 4, TRANSFORMER BASE
-  (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
-  (XX) MONOTUBE BASE, POLE, 15'-30' ARM
-  (XX) MONOTUBE BASE, POLE, 35'-45' ARM
-  (XX) MONOTUBE BASE, POLE, 35'-55' ARM
-  PULL BOX, 24" X 42"
-  PULL BOX, 24" X 36"
-  PEDESTRIAN HEAD
-  PUSH BUTTON
-  LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
-  VIDEO DETECTION AREA
-  LUMINAIRE
-  ANTENNA

Base	Structure No.
SB2	S40-2138-01
SB6	S40-2138-02



LEGEND CONTINUED

-  EVP DETECTOR HEAD
-  CONFIRMATION LIGHT
-  TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
-  RED ARROW/CIRCULAR INDICATOR
-  YELLOW ARROW/CIRCULAR INDICATOR
-  FLASHING YELLOW ARROW INDICATOR
-  GREEN ARROW/CIRCULAR INDICATOR
-  DON'T WALK INDICATOR 16"
-  WALK INDICATOR 16"
















NOTES:

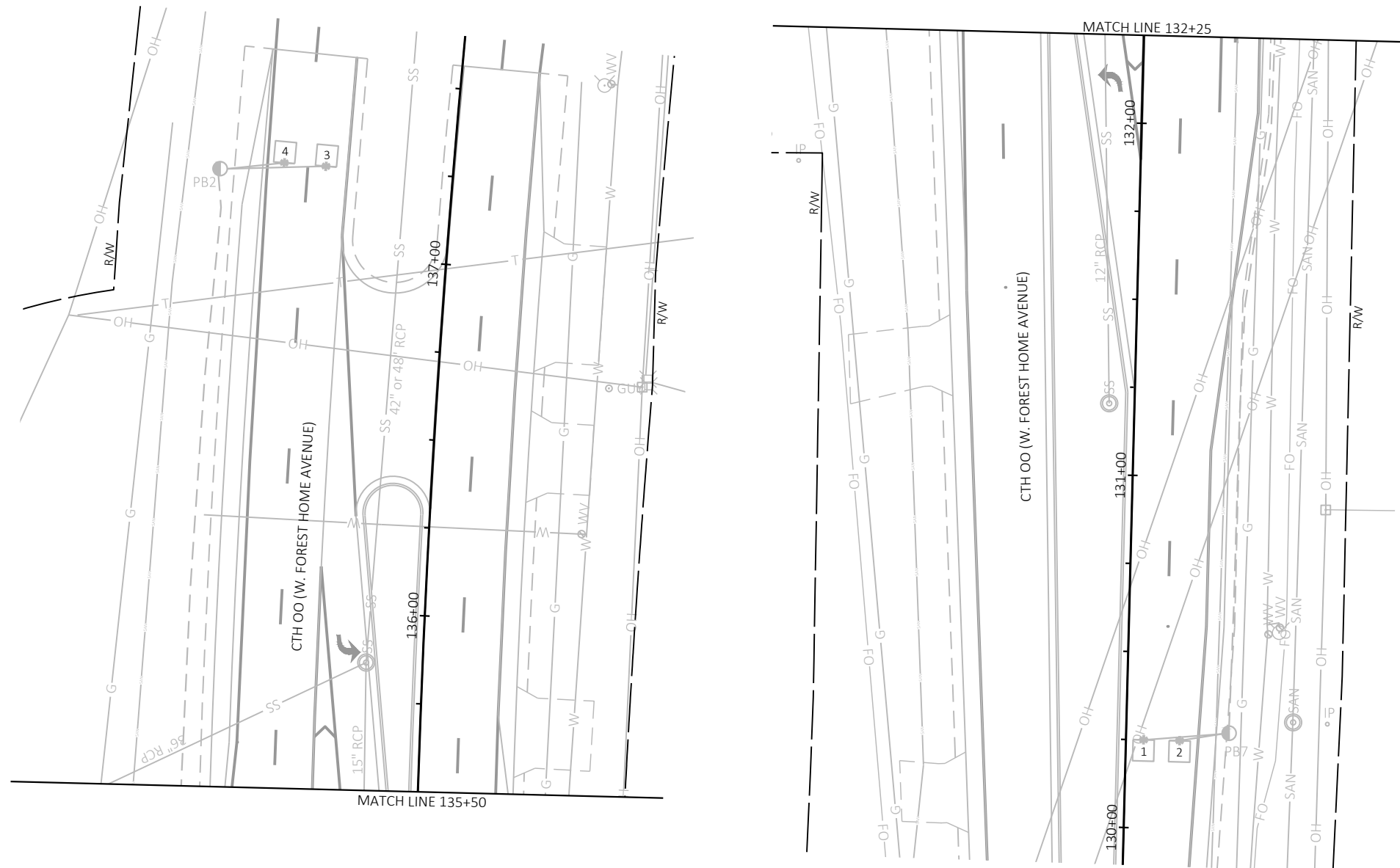
- GRAYSHADE REPRESENTS EXISTING
- SECURE NEARBY PULLBOXES WHEN PERFORMING EXCAVATION FOR SIGNAL BASES TO PREVENT UNDERMINING
- RELOCATE EXISTING EVP5 AND EVP6 TO PROPOSED SB2 AND SB6 RESPECTIVELY
- RELOCATE EXISTING ANTENNA TO PROPOSED SB6
- HYDROEXCAVATE FOR SB2 AND SB6

REVISION	
OVERHEAD SIGNAL HEADS NORTH AND SOUTH APPROACHES	
REV. NO. 2	REV. BY DMM
TRAFFIC CONTROL SIGNAL S. NORTH CAPE RD./W. SPEEDWAY DR. & CTH OO (W. FOREST HOME AVE.) CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MCO65	
MILWAUKEE COUNTY DOT	
PAGE 1 OF 4	












LEGEND

-  CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SB# ● PROPOSED CONCRETE SIGNAL BASE
- SB# ● EXISTING CONCRETE SIGNAL BASE TO BE REUSED
-  SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
-  SIGNAL HEAD, LUMINAIRE, POLE TYPE 4, TRANSFORMER BASE
- (XX)  SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- (XX)  MONOTUBE BASE, POLE, 15'-30' ARM
- (XX)  MONOTUBE BASE, POLE, 35'-45' ARM
- (XX)  MONOTUBE BASE, POLE, 35'-55' ARM
-  PULL BOX, 24" X 42"
-  PULL BOX, 24" X 36"
-  PEDESTRIAN HEAD
-  PUSH BUTTON
-  LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
-  VIDEO DETECTION AREA
-  LUMINAIRE
-  ANTENNA



LEGEND CONTINUED

-  EVP DETECTOR HEAD
-  CONFIRMATION LIGHT
-  TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
-  RED ARROW/CIRCULAR INDICATOR
-  YELLOW ARROW/CIRCULAR INDICATOR
-  FLASHING YELLOW ARROW INDICATOR
-  GREEN ARROW/CIRCULAR INDICATOR
-  DON'T WALK INDICATOR 16"
-  WALK INDICATOR 16"

NOTES:

- GRAYSHADE REPRESENTS EXISTING
- SECURE NEARBY PULLBOXES WHEN PERFORMING EXCAVATION FOR SIGNAL BASES TO PREVENT UNDERMINING
- RELOCATE EXISTING EVP5 AND EVP6 TO PROPOSED SB2 AND SB6 RESPECTIVELY
- RELOCATE EXISTING ANTENNA TO PROPOSED SB2

REVISION	
OVERHEAD SIGNAL HEADS NORTH AND SOUTH APPROACHES	
REV. NO. 2	REV. BY DMM
TRAFFIC CONTROL SIGNAL S. NORTH CAPE RD./W. SPEEDWAY DR. & CTH OO (W. FOREST HOME AVE.) CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MCO65	
MILWAUKEE COUNTY DOT	
PAGE 2 OF 4	

PROJECT NO: 2305-02-70

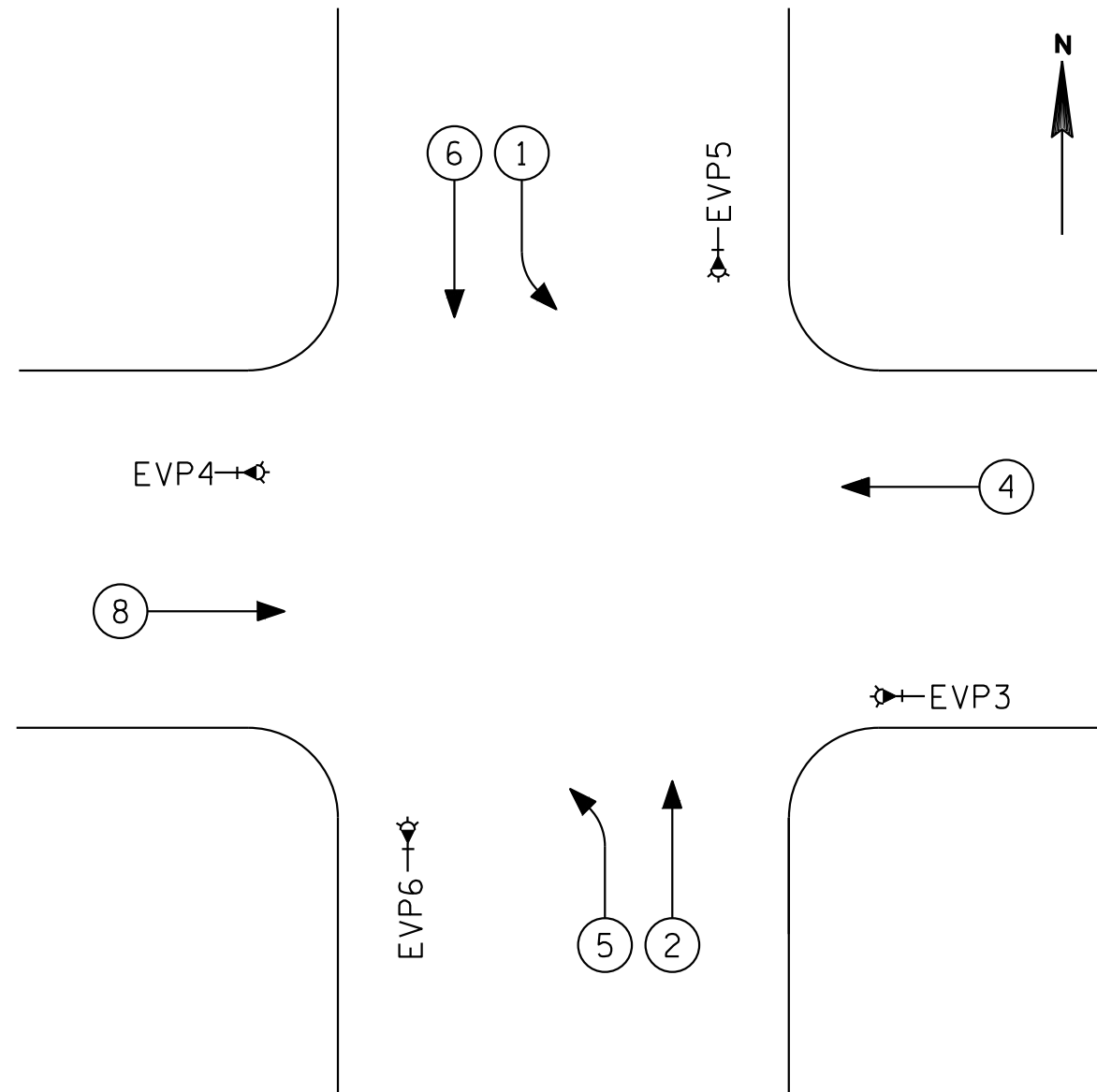
HWY: CTH OO

COUNTY: MILWAUKEE

TRAFFIC SIGNAL PLAN

SHEET

E



PHASE	PHASES			OVERLAPS			PRE-EMPTION CONFIRMATION BEACONS	
	VEHICLE	LEFT TURN TYPE	PED	OVL	INCLUDES	OUTPUT	PRE-EMPT	OUTPUT
1	X	FYA		A				
2	X			B				
3				C			3/EB	13 R
4	X			D			4/WB	14 R
5	X	FYA		E	1 FY	9 Y	5/NB	15 R
6	X			F			6/SB	16 R
7				G	5 FY	11 Y		
8	X			H				

COMMUNICATION	
ETHERNET SWITCH	X
SM FIBER	
MM FIBER	
5.8 GHZ RADIO	X
900 MHZ ETHERNET RADIO	
900 MHZ SERIAL RADIO	
ETHERNET OVER COPPER	

AUXILARY EQUIPMENT	
LIGHTING FROM CABINET	
BATTERY BACKUP	
PTZ CAMERA	
AUDIBLE PEDESTRIAN HEADS	
AUDIBLE PEDESTRIAN BUTTONS	
-APS USING SDLC	

PRE-EMPTION	
EMERGENCY VEHICLE	X
CONFIRMATION BEACONS	X
RAILROAD	

REVISION	
OVERHEAD SIGNAL HEADS NORTH AND SOUTH APPROACHES	
REV. NO. 2	REV. BY DMM
TRAFFIC CONTROL SIGNAL S. NORTH CAPE RD./W. SPEEDWAY DR. & CTH OO (W. FOREST HOME AVE.) CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MCO65	
MILWAUKEE COUNTY DOT	
PAGE 3 OF 4	

PROJECT ID:	2305-02-70
INTERSECTION:	W. FOREST HOME AVE. (CTH OO) & W. SPEEDWAY DR.

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


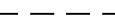















CB1 TO	# OF COND.	HEAD NO.	PHASE	SIGNAL INDICATION WIRE COLOR								PED BUTTONS	
				RED	YELLOW	GREEN	<RED>	<YELLOW>	<FL YLW>	<GREEN>	D/WALK	WALK	
SB1	12*	9	6	RED	ORG	GRN							
		2	5				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB2	12	4 / 5	2	RED	ORG	GRN							
		3	5				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB3	12*	6	4	RED	ORG	GRN							
		15	8				RED/BLK	ORG/BLK		GRN/BLK			
SB4	7*	16	8	RED	ORG	GRN							
SB5	12*	1	2	RED	ORG	GRN							
		10	1				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB6	12	12 / 13	6	RED	ORG	GRN							
		11	1				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB7	12*	7	4	RED	ORG	GRN							
		14	8				RED/BLK	ORG/BLK		GRN/BLK			
SB8	7*	8	4	RED	ORG	GRN							

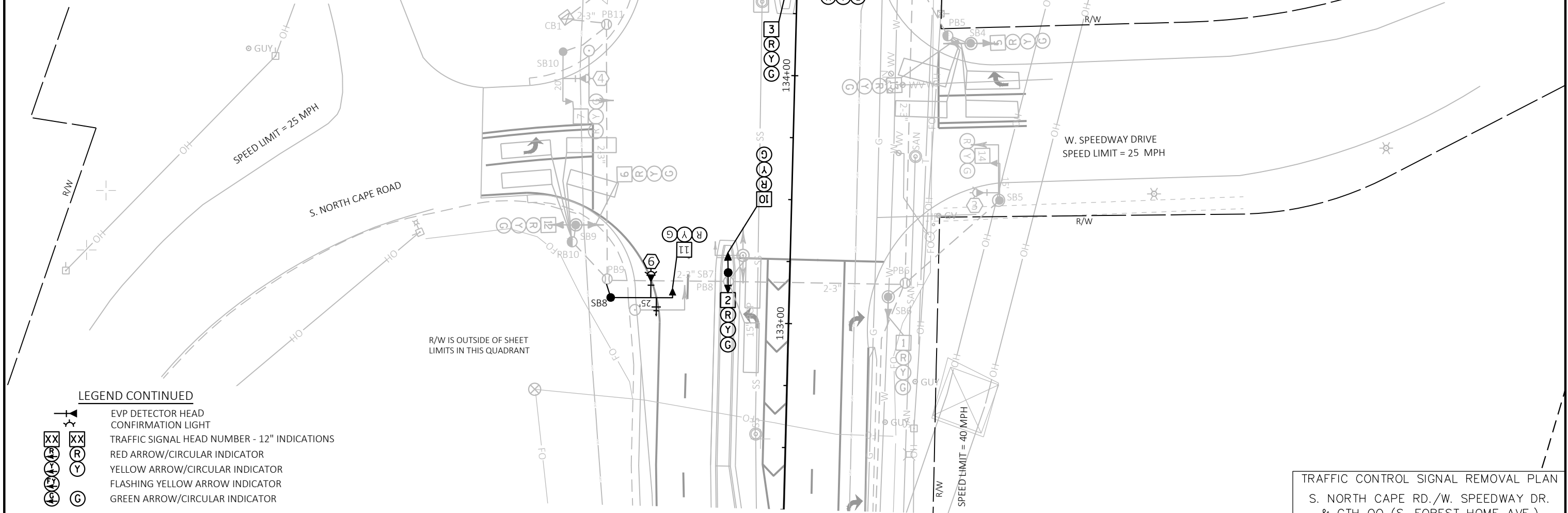
NOTES:

- DO NOT USE THE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR SIGNAL INDICATIONS.
 - ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
- * EXISTING SIGNAL WIRING TO REMAIN.








REVISION	
OVERHEAD SIGNAL HEADS NORTH AND SOUTH APPROACHES	
REV. NO. 2	REV. BY DMM
TRAFFIC CONTROL SIGNAL S. NORTH CAPE RD./W. SPEEDWAY DR. & CTH OO (W. FOREST HOME AVE.) CITY OF FRANKLIN MILWAUKEE COUNTY	
SIGNAL NO. MCO65	
MILWAUKEE COUNTY DOT	
PAGE 4 OF 4	

LEGEND

-  CONTROL CABINET
-  NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
-  SB# PROPOSED CONCRETE SIGNAL BASE
-  SB# EXISTING CONCRETE SIGNAL BASE TO BE REUSED/REMAIN
-  SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
-  SIGNAL HEAD, LUMINAIRE, POLE TYPE 4, TRANSFORMER BASE
-  SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
-  MONOTUBE BASE, POLE, 15'-30' ARM
-  MONOTUBE BASE, POLE, 35'-45' ARM
-  MONOTUBE BASE, POLE, 35'-55' ARM
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-  PULL BOX, 24" X 36"
-  PEDESTRIAN HEAD
-  PUSH BUTTON
-  LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
-  LUMINAIRE
-  ANTENNA



LEGEND CONTINUED

-  EVP DETECTOR HEAD
-  CONFIRMATION LIGHT
-  TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
-  RED ARROW/CIRCULAR INDICATOR
-  YELLOW ARROW/CIRCULAR INDICATOR
-  FLASHING YELLOW ARROW INDICATOR
-  GREEN ARROW/CIRCULAR INDICATOR

NOTES:







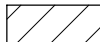



- GRAYSHADE REPRESENTS EXISTING
- SECURE NEARBY PULLBOXES WHEN PERFORMING EXCAVATION FOR SIGNAL BASES TO PREVENT UNDERMINING
- RELOCATE EXISTING EVP5 AND EVP6 TO PROPOSED SB2 AND SB6 RESPECTIVELY
- RELOCATE EXISTING ANTENNA TO PROPOSED SB6

TRAFFIC CONTROL SIGNAL REMOVAL PLAN
 S. NORTH CAPE RD./W. SPEEDWAY DR.
 & CTH 00 (S. FOREST HOME AVE.)
 CITY OF FRANKLIN
 MILWAUKEE COUNTY

SIGNAL NO. MCO65

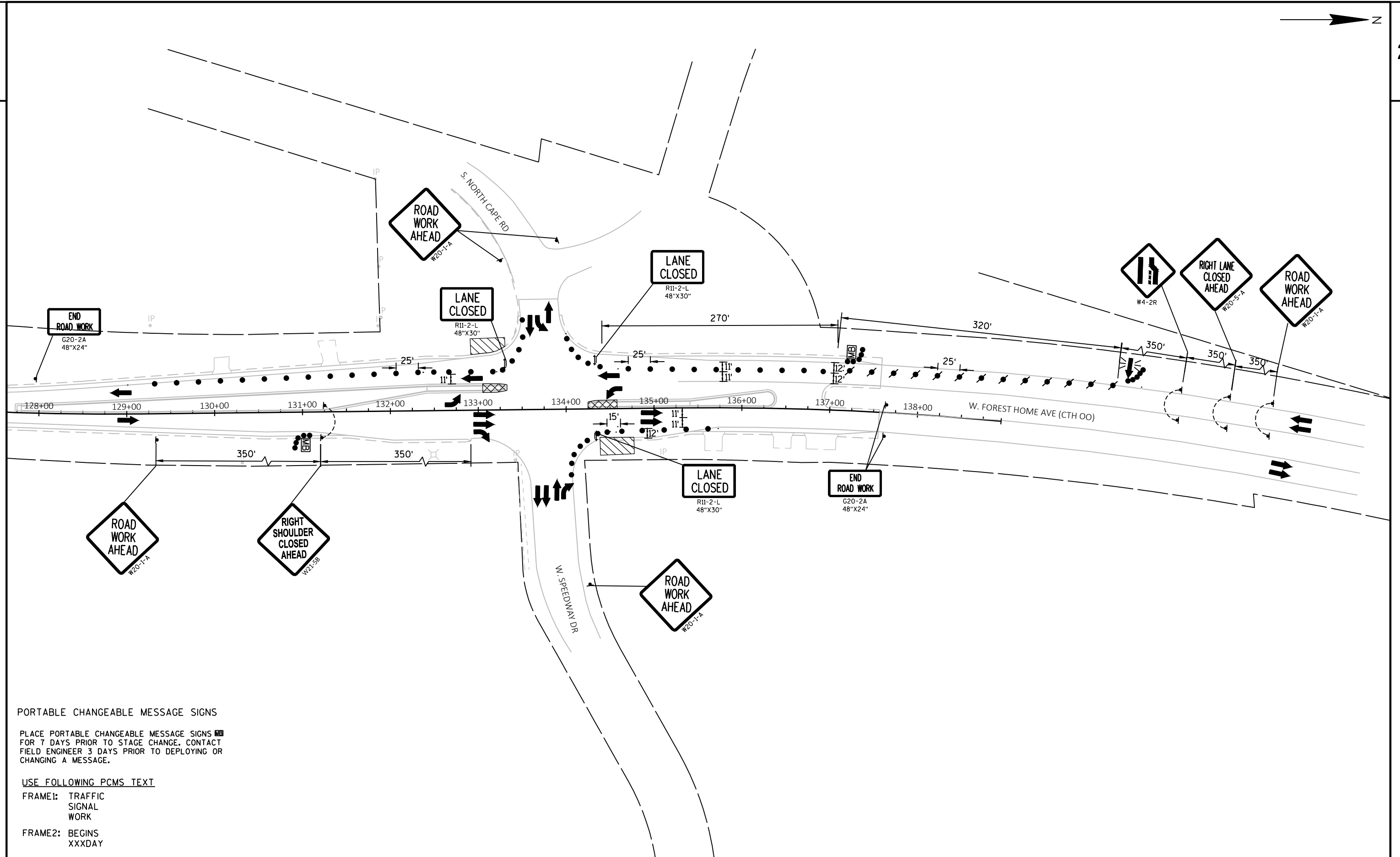
MILWAUKEE COUNTY DOT

LEGEND

-  TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE A WARNING LIGHT (FLASHING)
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
-  FLASHING ARROW BOARD
-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  WORK ZONE, LONG-TERM (SEE NOTE 1 BELOW)
-  WORK ZONE, SHORT-TERM (SEE NOTE 2 BELOW)
-  DIRECTION OF TRAFFIC
-  PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

NOTES:

1. FOR LONG-TERM WORK ZONE TRAFFIC CONTROL, REFER TO THE TRAFFIC CONTROL PLANS FOR DEVICE PLACEMENT AND LAYOUTS.
2. FOR SHORT-TERM WORK ZONE TRAFFIC CONTROL, REFER TO SDD TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT FOR DEVICE PLACEMENT AND LAYOUTS. SHORT-TERM WORK ZONE LANE CLOSURES CAN BE COMPLETE BETWEEN THE HOURS OF 9AM-3PM. PROVIDE THE NECESSARY R3-1 NO RIGHT TURN OR R3-2 NO LEFT TURN SIGNS WHERE APPLICABLE.
3. A MINIMUM OF 2 FAR HEADS PER PHASE AND PER APPROACH MUST REMAIN OPERATIONAL DURING TRAFFIC SIGNAL INSTALLATIONS AND REMOVALS.
4. ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.



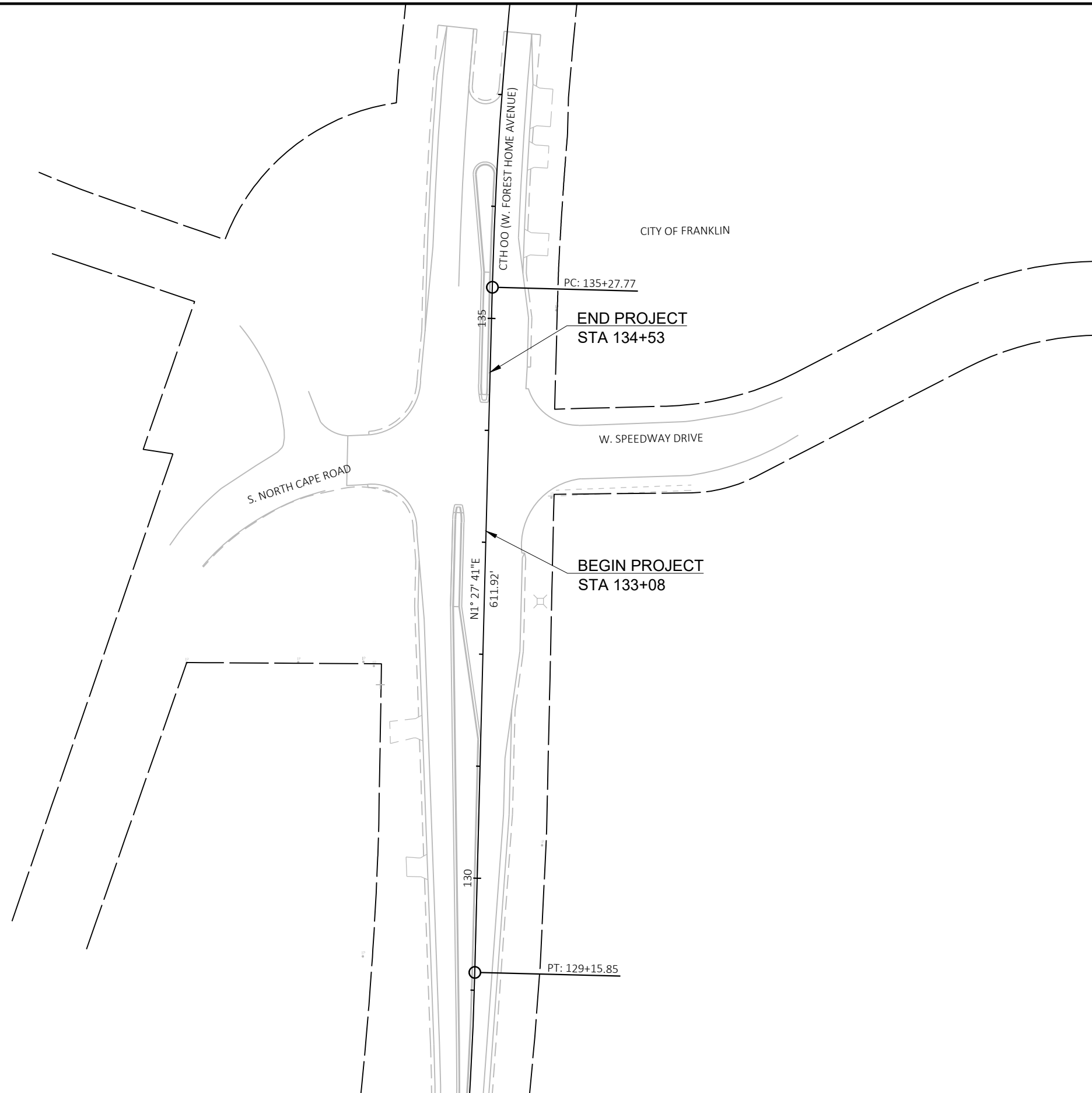
PORTABLE CHANGEABLE MESSAGE SIGNS

PLACE PORTABLE CHANGEABLE MESSAGE SIGNS FOR 7 DAYS PRIOR TO STAGE CHANGE. CONTACT FIELD ENGINEER 3 DAYS PRIOR TO DEPLOYING OR CHANGING A MESSAGE.

USE FOLLOWING PCMS TEXT

FRAME1: TRAFFIC SIGNAL WORK

FRAME2: BEGINS XXXDAY



PROJECT NO: 2305-02-70

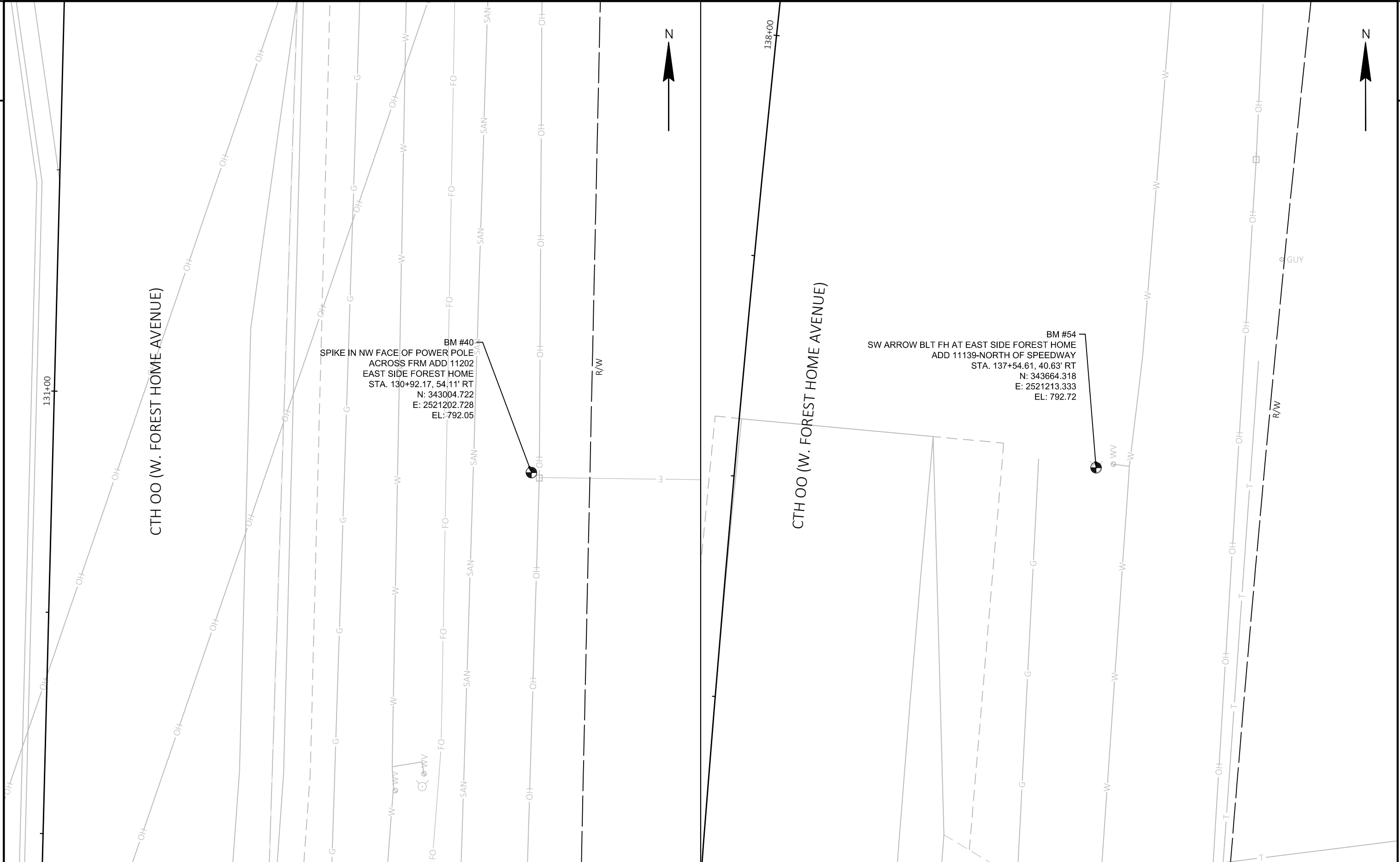
HWY: CTH 00

COUNTY: MILWAUKEE

ALIGNMENT DIAGRAM

SHEET

E



BM #40
 SPIKE IN NW FACE OF POWER POLE
 ACROSS FRM ADD 11202
 EAST SIDE FOREST HOME
 STA. 130+92.17, 54.11' RT
 N: 343004.722
 E: 2521202.728
 EL: 792.05

BM #54
 SW ARROW BLT FH AT EAST SIDE FOREST HOME
 ADD 11139-NORTH OF SPEEDWAY
 STA. 137+54.61, 40.63' RT
 N: 343664.318
 E: 2521213.333
 EL: 792.72

PROJECT NO: 2305-02-70	HWY: CTH 00	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT - SURVEY CONTROL (CTH 00)	SHEET	E
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Estimate Of Quantities By Plan Sets

2305-02-70

Line	Item	Item Description	Unit	Total	Qty
0004	204.0195	Removing Concrete Bases	EACH	2.000	2.000
0006	204.9060.S	Removing (item description) 01. Traffic Signal Equipment at Intersection	EACH	1.000	1.000
0008	204.9060.S	Removing (item description) 02. Concrete Base Bolts	EACH	2.000	2.000
0020	619.1000	Mobilization	EACH	0.250	0.250
0022	625.0100	Topsoil	SY	100.000	100.000
0024	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0026	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0028	628.6510	Soil Stabilizer Type B	ACRE	0.030	0.030
0032	628.7010	Inlet Protection Type B	EACH	5.000	5.000
0036	628.7504	Temporary Ditch Checks	LF	15.000	15.000
0038	629.0210	Fertilizer Type B	CWT	0.100	0.100
0040	631.0300	Sod Water	MGAL	5.000	5.000
0042	631.1000	Sod Lawn	SY	100.000	100.000
0044	634.0811	Posts Tubular Steel 2x2-Inch X 11-FT	EACH	2.000	2.000
0050	638.2102	Moving Signs Type II	EACH	12.000	12.000
0056	643.0300	Traffic Control Drums	DAY	3,600.000	3,600.000
0058	643.0420	Traffic Control Barricades Type III	DAY	140.000	140.000
0060	643.0705	Traffic Control Warning Lights Type A	DAY	280.000	280.000
0062	643.0715	Traffic Control Warning Lights Type C	DAY	620.000	620.000
0064	643.0800	Traffic Control Arrow Boards	DAY	50.000	50.000
0066	643.0900	Traffic Control Signs	DAY	850.000	850.000
0068	643.1050	Traffic Control Signs PCMS	DAY	7.000	7.000
0074	643.5000	Traffic Control	EACH	0.250	0.250
0098	650.8501	Construction Staking Electrical Installations (project) 02. 2305-02-70	EACH	1.000	1.000
0106	650.9911	Construction Staking Supplemental Control (project) 02. 2305-02-70	EACH	1.000	1.000
0108	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	50.000	50.000
0112	652.0700.S	Install Conduit into Existing Item	EACH	2.000	2.000
0116	654.0113	Concrete Bases Type 13	EACH	2.000	2.000
0118	655.0210	Cable Traffic Signal 3-14 AWG	LF	600.000	600.000
0120	655.0230	Cable Traffic Signal 5-14 AWG	LF	700.000	700.000
0124	655.0260	Cable Traffic Signal 12-14 AWG	LF	500.000	500.000
0128	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	50.000	50.000
0130	655.0900	Traffic Signal EVP Detector Cable	LF	700.000	700.000
0136	657.0355	Poles Type 12	EACH	1.000	1.000
0138	657.0360	Poles Type 13	EACH	1.000	1.000
0146	657.0555	Monotube Arms 55-FT	EACH	2.000	2.000
0148	657.0815	Luminaire Arms Steel 15-FT	EACH	1.000	1.000
0150	658.0173	Traffic Signal Face 3S 12-Inch	EACH	4.000	4.000
0152	658.0174	Traffic Signal Face 4S 12-Inch	EACH	4.000	4.000
0164	658.5070	Signal Mounting Hardware (location) 04. CTH OO & Speedway	EACH	1.000	1.000
0186	SPV.0060	Special 04. Remove and Reinstall EVP Detectors	EACH	1.000	1.000
0188	SPV.0060	Special 05. Remove and Reinstall Antenna	EACH	1.000	1.000
0192	SPV.0060	Special 07. Cored Sign Post Holes 6-Inch	EACH	2.000	2.000

REMOVING CONCRETE BASES

CATEGORY	LOCATION	NO.	204.0195 REMOVING CONCRETE BASES EACH	204.9060.S.02 REMOVING (ITEM DESCRIPTION) (02. CONCRETE BASE BOLTS) EACH
0010	S. NORTH CAPE RD./W. SPEEDWAY DR. & CTH OO (W. FOREST HOME AVE.)			
0010		SB2		1
0010		SB3	1	
0010		SB7		1
0010		SB8	1	
0010				
		TOTAL 0010	<u>2</u>	<u>2</u>

CONDUIT

CATEGORY	LOCATION	FROM	TO	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3- INCH LF	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH
0010	S. NORTH CAPE RD./W. SPEEDWAY DR. & CTH OO (W. FOREST HOME AVE.)				
0010		PB4	SB2	15	1
0010		PB9	SB6	20	1
0010		UNDISTRIBUTED		15	-
0010					
		TOTAL 0010		<u>50</u>	<u>2</u>

EROSION CONTROL ITEMS

CATEGORY	LOCATION	625.0100 TOPSOIL SY	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.6510 SOIL STABILIZER TYPE B ACRE	628.7010 INLET PROTECTION TYPE B EACH	628.7504 TEMPORARY DITCH CHECKS LF	629.0210 FERTILIZER TYPE B CWT	631.0300 SOD WATER MGAL	631.1000 SOD LAWN SY
0010	S. NORTH CAPE RD./W. SPEEDWAY DR. & CTH OO (W. FOREST HOME AVE.)									
0010		92	-	-	0.019	3	10	0.06	3	92
0010	UNDISTRIBUTED	8	2	2	0.011	2	5	0.04	2	8
		TOTAL 0010	<u>100</u>	<u>2</u>	<u>0.03</u>	<u>5</u>	<u>15</u>	<u>0.10</u>	<u>5</u>	<u>100</u>

3

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TRAFFIC CONTROL

CATEGORY	LOCATION	DURATION DAYS*	643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.1050		643.5000
			TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL WARNING LIGHTS TYPE C		TRAFFIC CONTROL ARROW BOARDS		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL SIGNS PCMS		TRAFFIC CONTROL
			*EACH	DAY	*EACH	DAY	*EACH	DAY	*EACH	DAY	*EACH	DAY	*EACH	DAY	*EACH	DAY	EACH
0010	S. NORTH CAPE RD./W. SPEEDWAY DR. & CTH OO (W. FOREST HOME AVE.)	40	85	3,400	3	120	6	240	14	560	1	40	20	800	2	7	0.25
0010	UNDISTRIBUTED	10	20	200	2	20	4	40	6	60	1	10	5	50	--	--	--
0010																	
TOTAL 0010				3,600		140		280		620		50		850		7	0.25
				DAY		DAY		DAY		DAY		DAY		DAY		DAY	EACH

* FOR INFORMATIONAL USE ONLY

SIGNAL & EVP CABLE

CATEGORY	FROM	THRU	TO	655.0210		655.0230	655.0260	655.0515	655.0900
				CABLE TRAFFIC SIGNAL 3-14		CABLE TRAFFIC SIGNAL 5-14	CABLE TRAFFIC SIGNAL 12-14	WIRE TRAFFIC SIGNALS 10	TRAFFIC SIGNAL EVP DETECTOR
				AWG LF	AWG LF	AWG LF	AWG LF	AWG LF	
S. NORTH CAPE RD./W. SPEEDWAY DR. & CTH OO (W. FOREST HOME AVE.)									
0010	CABINET TO SIGNAL BASE								
0010	CB1	-	SB2	-	-	200	15	-	
0010	CB1	-	SB6	-	-	170	20	-	
0010	SIGNAL BASE TO SIGNAL HEAD								
0010	SB1	-	HEAD 2	-	20	-	-	-	
0010	SB2	-	HEAD 3	-	90	-	-	-	
0010	SB2	-	HEAD 4	-	80	-	-	-	
0010	SB2	-	HEAD 5	-	70	-	-	-	
0010	SB5	-	HEAD 10	-	20	-	-	-	
0010	SB6	-	HEAD 11	-	90	-	-	-	
0010	SB6	-	HEAD 12	-	80	-	-	-	
0010	SB6	-	HEAD 13	-	70	-	-	-	
0010	EVP CABLING								
0010	CB1	-	EVP5	270	-	-	-	270	
0010	CB1	-	EVP6	240	-	-	-	240	
0010	UNDISTRIBUTED			90	180	130	15	190	
0010	TOTAL 0010			600	700	500	50	700	

** FOR INFORMATIONAL USE ONLY

SIGN SUMMARY

CATEGORY	NO.	SIGN CODE	DESCRIPTION	634.0811			638.2102	SPV.0060.07	REMARKS
				POSTS TUBULAR STEEL 2X2-INCH X 11-FT	MOVING SIGNS TYPE II	(CORED SIGN POST HOLES 6- INCH)			
SIGN				EACH	EACH	EACH			
0010	1.01	M1-94H	S North Cape Rd ->	-	1	-		ON MASTARM	
0010	1.02	M1-94H	<- S North Cape Rd	-	1	-		ON MASTARM	
0010	1.03	M1-94H	<- W Speedway Dr	-	1	-		ON MASTARM	
0010	1.04	M1-94H	W Speedway Dr ->	-	1	-		ON MASTARM	
0010	1.05	M1-5A	COUNTY OO	-	1	-		ON SIGNAL POLE	
0010	1.06	R7-1D	NO PARKING ANY TIME <->	-	1	-		ON SIGNAL POLE	
0010	1.07	R7-1D	NO PARKING ANY TIME <->	-	1	-		ON SIGNAL POLE	
0010	1.08	M1-5A	COUNTY OO	-	1	-		ON SIGNAL POLE	
0010	1.09	R1-1F	STOP (FOLDING)	1	1	1			
0010	1.10	R1-1F	STOP (FOLDING)	1	1	1			
0010	1.11	R4-7	KEEP RIGHT	-	1	-		ON SAME POST AS 1.09	
0010	1.12	R4-7	KEEP RIGHT	-	1	-		ON SAME POST AS 1.10	
0010	TOTAL 0010			2	12	2			

PROJECT NO: 2305-02-70

HWY: CTH OO

COUNTY: MILWAUKEE

MISCELLANEOUS QUANTITIES

SHEET

E

FILE NAME :

PLOT DATE :

PLOT BY :

PLOT SCALE : 1:1

3

3

CONCRETE BASES, POLES, AND MAST ARMS

CATEGORY	LOCATION	NO.	654.0113	657.0355	657.0360	657.0555	657.0815
			CONCRETE BASES TYPE 13 EACH	POLES TYPE 12 EACH	POLES TYPE 13 EACH	MONOTUBE ARMS 55-FT EACH	LUMINAIRE ARMS STEEL 15- FT EACH
0010	S. NORTH CAPE RD./W. SPEEDWAY DR. & CTH OO (W. FOREST HOME AVE.)						
0010		SB2	1	1	--	1	--
0010		SB6	1	--	1	1	1
0010							
	TOTAL 0010		<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>

TRAFFIC SIGNAL FACES

CATEGORY	LOCATION	NO.	658.0173	658.0174
			TRAFFIC SIGNAL FACE 3S 12-INCH EACH	TRAFFIC SIGNAL FACE 4S 12-INCH EACH
0010	S. NORTH CAPE RD./W. SPEEDWAY DR. & CTH OO (W. FOREST HOME AVE.)			
0010		2	-	1
0010		3	-	1
0010		4	1	-
0010		5	1	-
0010		10	-	1
0010		11	-	1
0010		12	1	-
0010		13	1	-
	TOTAL 0010		<u>4</u>	<u>4</u>

MISCELLANEOUS ITEMS

CATEGORY	LOCATION	204.9060.S.01	619.1000	650.8501.01	650.9911.01	658.5070.01	SPV.0060.04	SPV.0060.05
		REMOVING (ITEM DESCRIPTION) (01. TRAFFIC SIGNAL EQUIPMENT AT INTERSECTION) EACH	MOBILIZATION EACH	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) (2305- 02-70) EACH	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (2305- 02-70) EACH	SIGNAL MOUNTING HARDWARE (LOCATION) (01. CTH OO & SPEEDWAY) EACH	SPECIAL (REMOVE AND REINSTALL EVP DETECTORS) EACH	SPECIAL (REMOVE AND REINSTALL ANTENNA) EACH
0010	S. NORTH CAPE RD./W. SPEEDWAY DR. & CTH OO (W. FOREST HOME AVE.)	1	0.25	1	1	1	1	1
0010								
	TOTAL 0010	<u>1</u>	<u>0.25</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>

PROJECT NO: 2305-02-70

HWY: CTH OO

COUNTY: MILWAUKEE

MISCELLANEOUS QUANTITIES

SHEET

E

FILE NAME :

PLOT DATE :

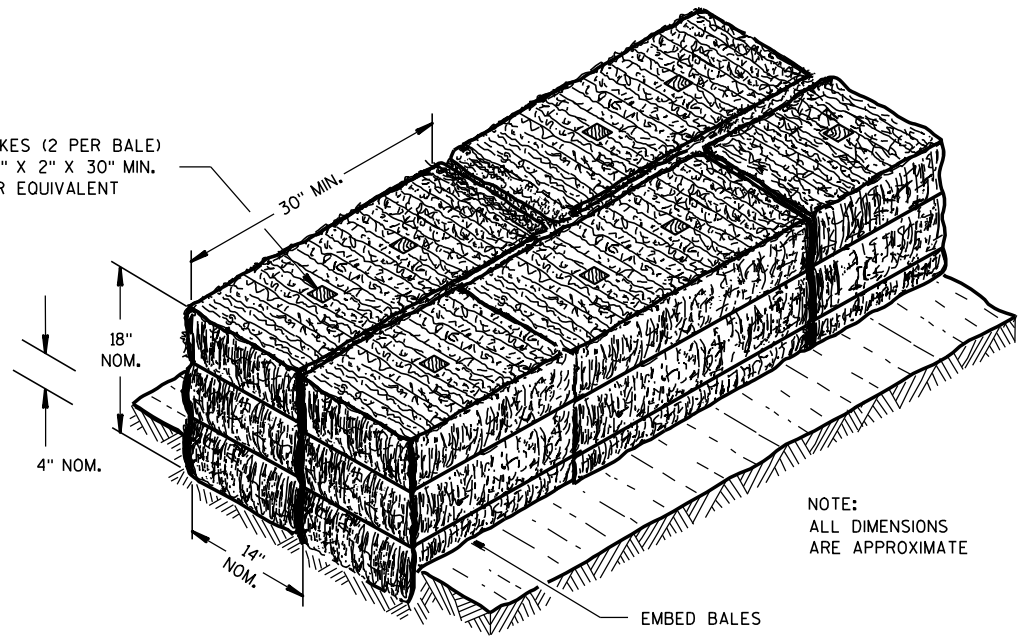
PLOT BY :

PLOT SCALE : 1:1

Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-10	CONDUIT
09C12-09A	CONCRETE BASE TYPE 13
09C12-09B	CONCRETE BASE TYPE 13
09E01-15A	POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2
09E01-15G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E08-09I	TYPE 12 POLE 35' -55' MONOTUBE ARM
09E08-09J	TYPE 13 POLE 35' -55' MONOTUBE ARM
09E08-09K	GENERAL NOTES, HARDWARE DETAILS FOR TYPE 9/10, 9/10 SPECIAL, 12 & 13 POLES W/MONOTUBE ARMS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D20-07A	TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY
15D20-07B	TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY
15D20-07C	TRAFFIC CONTROL, SINGLE LEFT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D50-03A	TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT

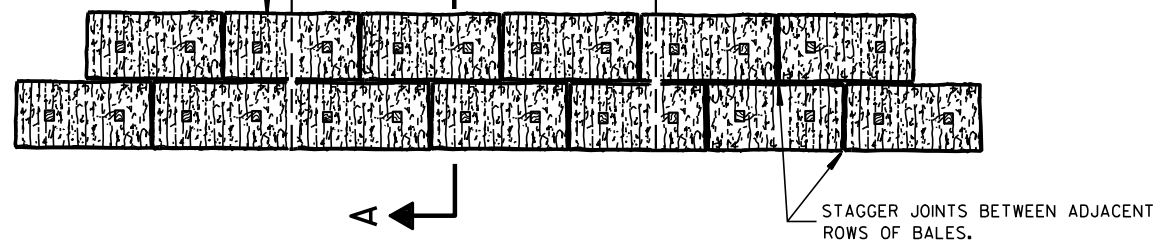
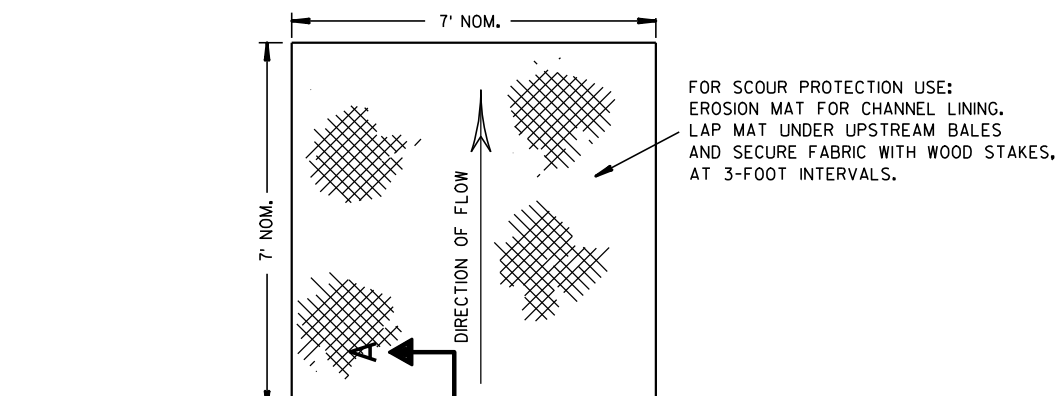
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

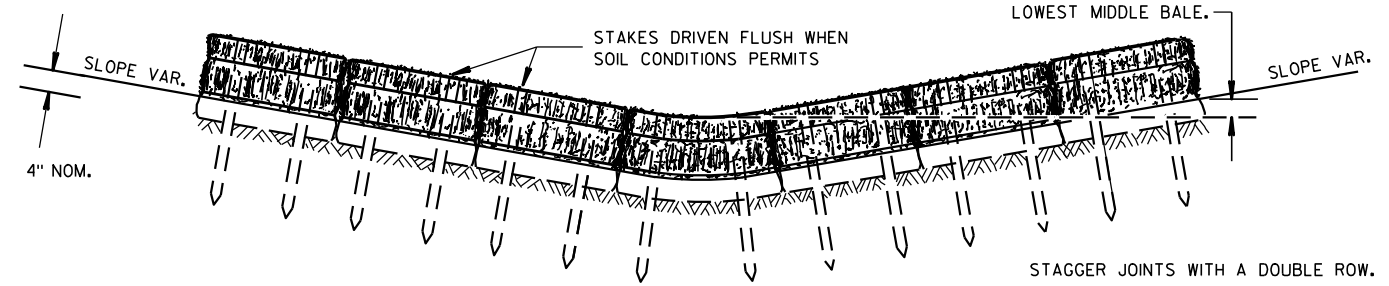
EMBED BALES

SECTION A-A



PLAN VIEW

BOTTOM ELEVATION OF END BALE SHALL BE EQUAL TO OR GREATER THAN TOP OF LOWEST MIDDLE BALE.



FRONT ELEVATION

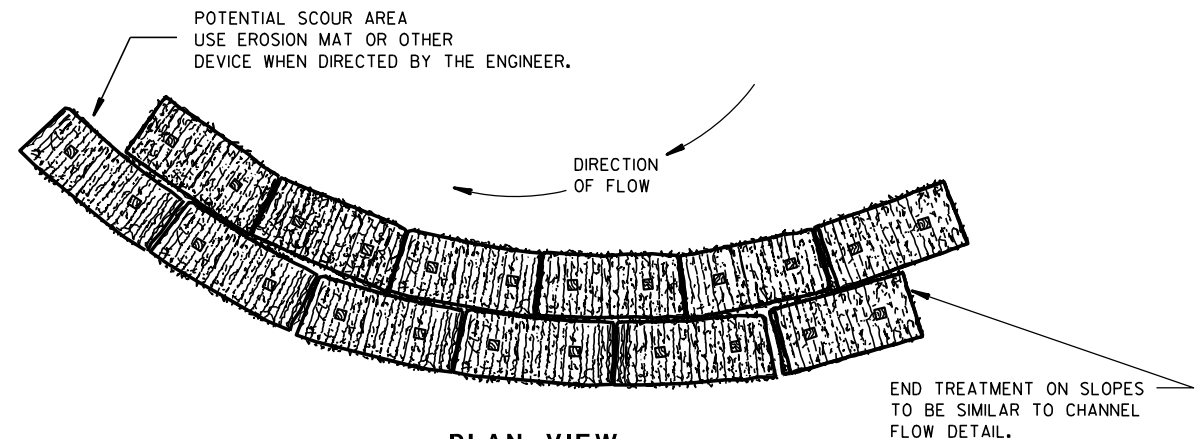
STAGGER JOINTS WITH A DOUBLE ROW.

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

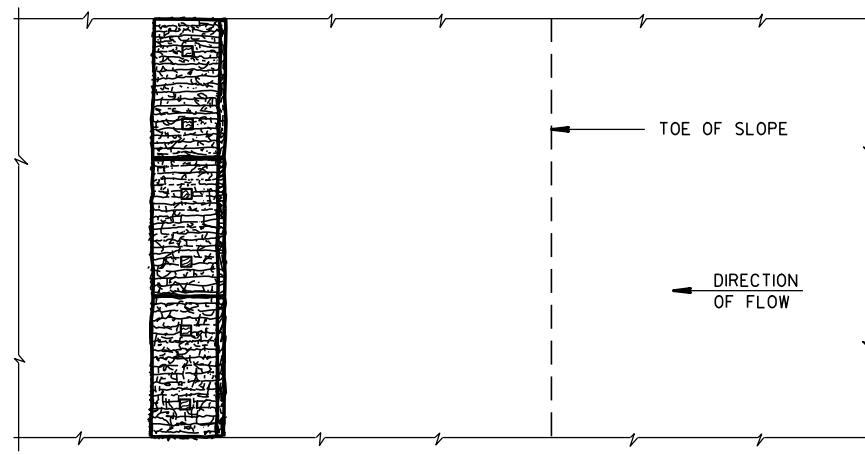
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

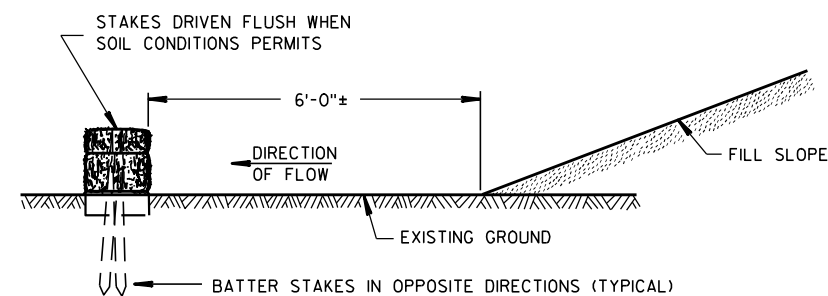


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

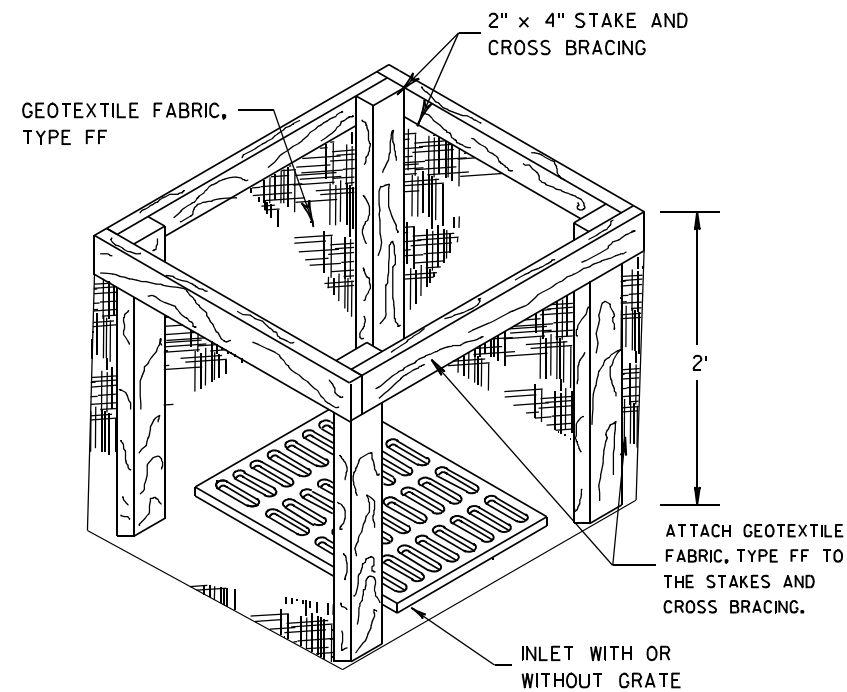
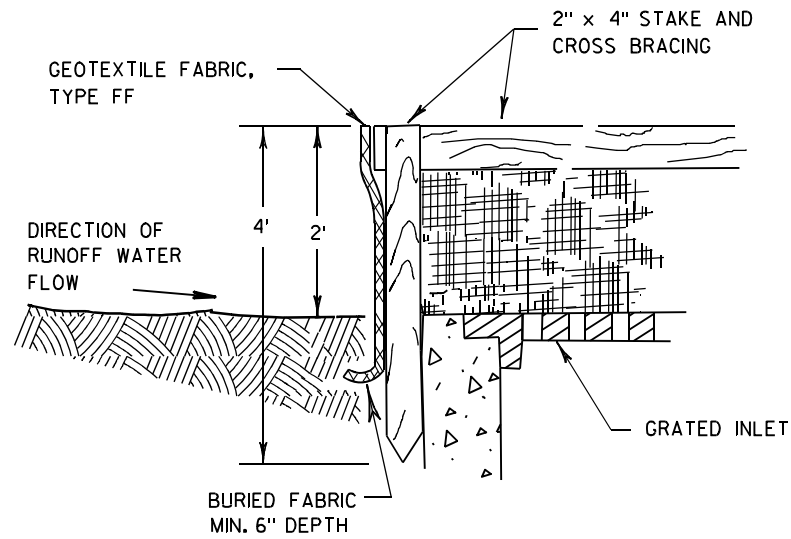
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
 6/04/02 /S/ Beth Canestra
 DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
 FHWA



INLET PROTECTION, TYPE A

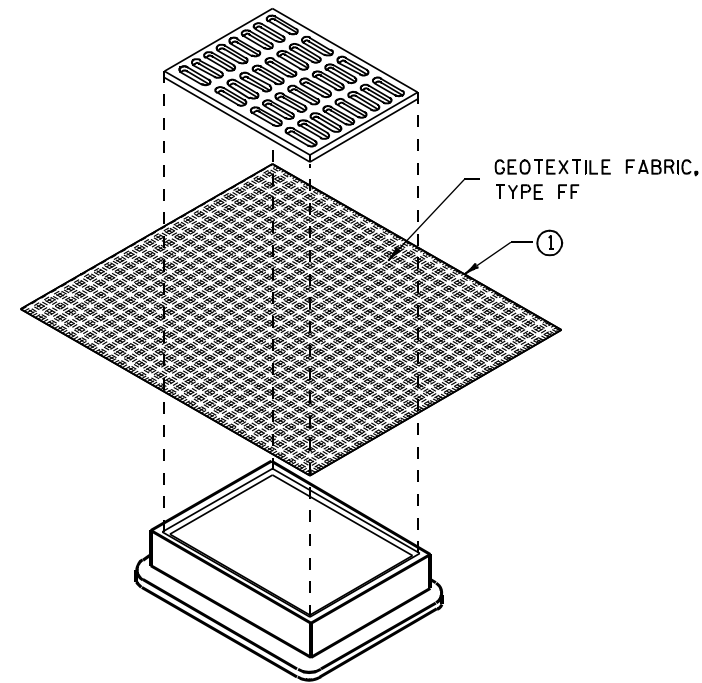
GENERAL NOTES

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.

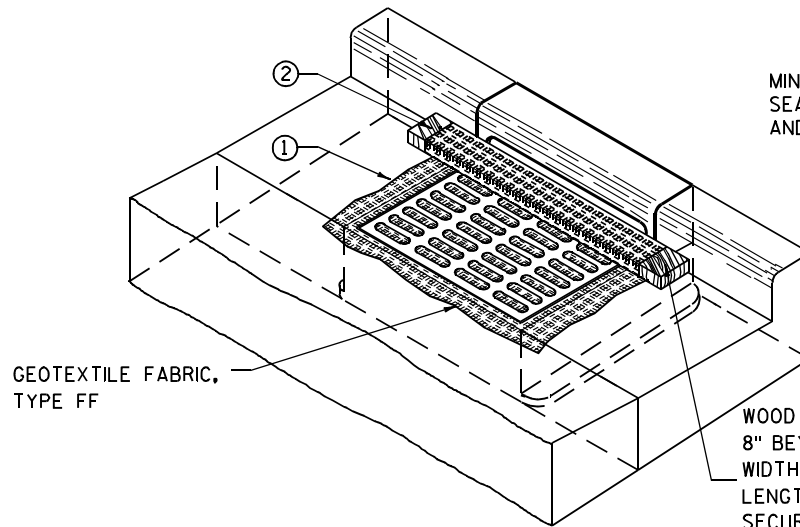
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

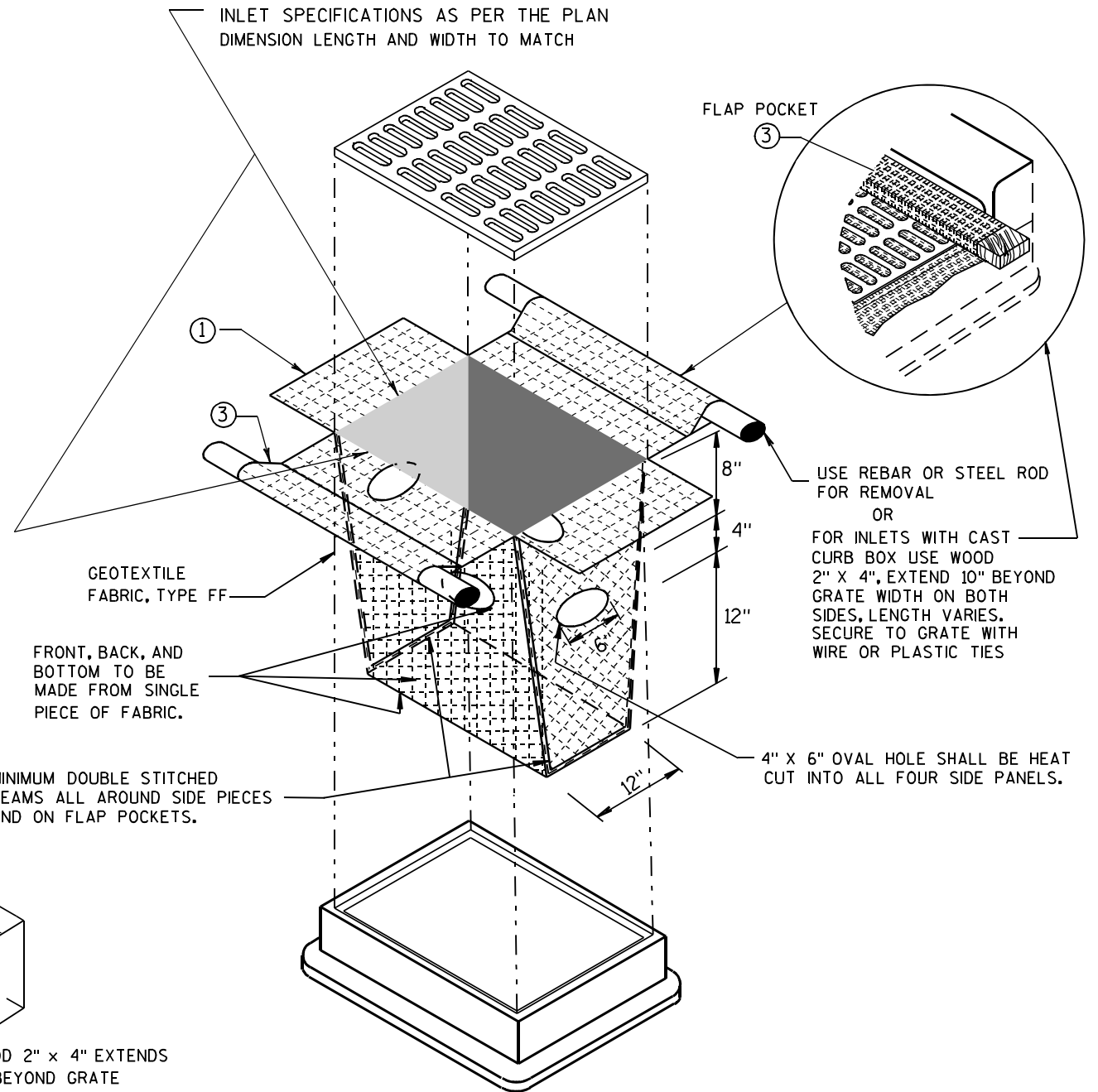
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.



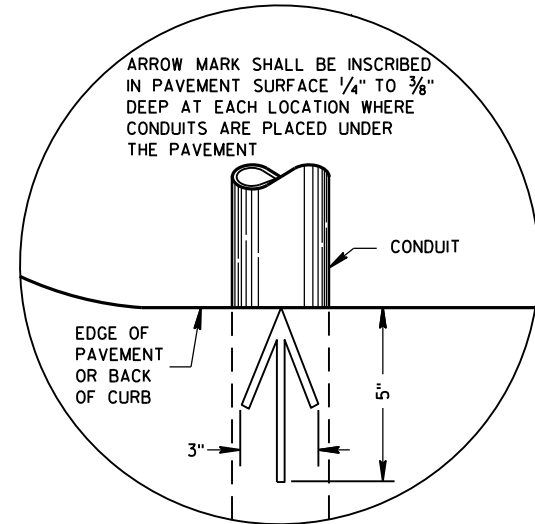
INLET PROTECTION, TYPE D

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

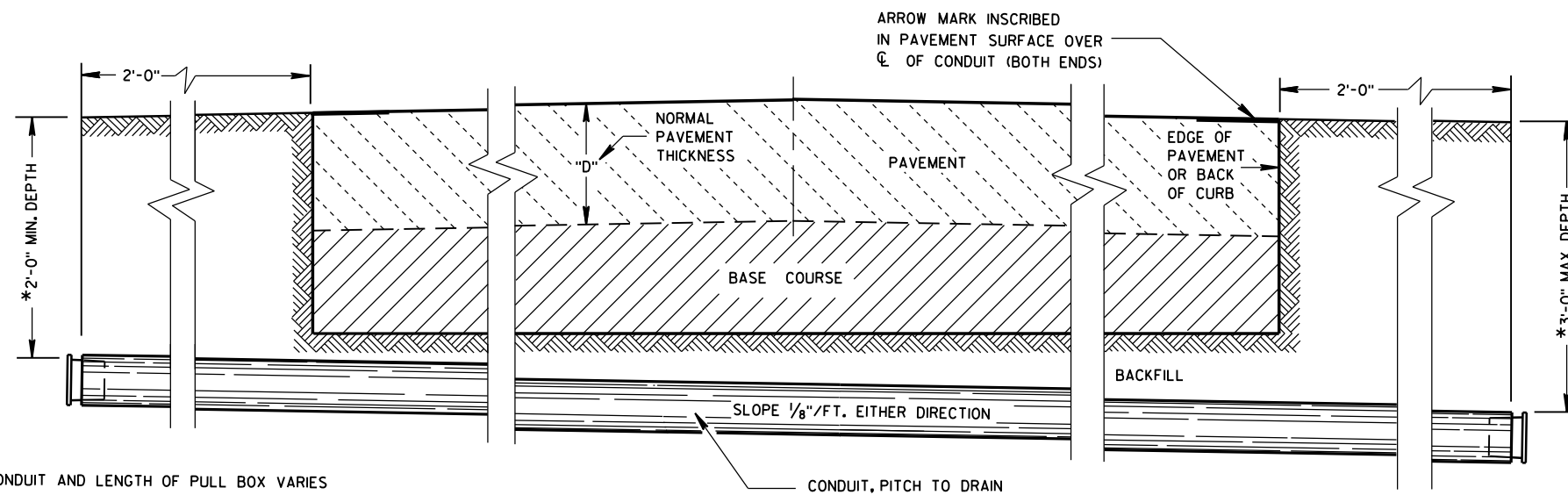
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW
ARROW MARK



SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

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 EMERSON 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.

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S.D.D. 9 B 2-10

S.D.D. 9 B 2-10

CONDUIT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March, 2017 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

GENERAL NOTES

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

BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS.

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

WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

CONDUIT SIZE AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4 1/2" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE THROUGH A 1-INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4-FOOT COIL OF WIRE ABOVE THE CONCRETE BASE, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

① THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL WAY SHALL BE 24-INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18-INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36-INCHES, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

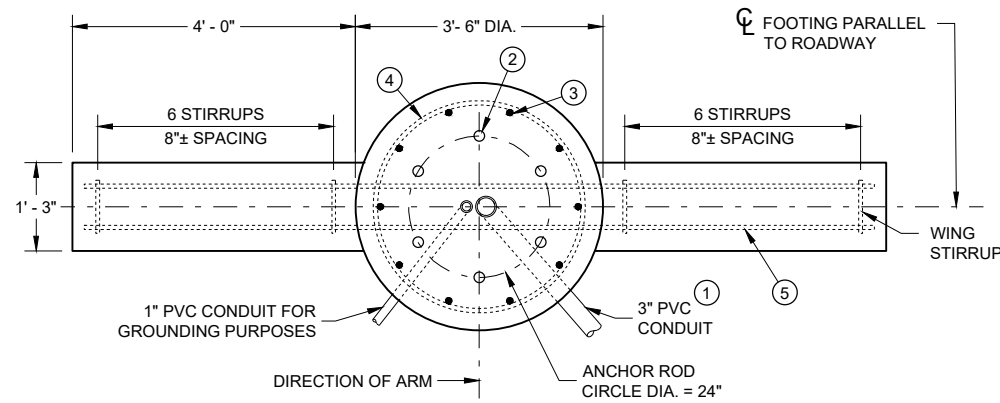
② (6) 1 3/4" DIA. X 7' - 2" ANCHOR RODS

③ (10) NO. 6 X 14' - 1" BAR STEEL VERTICAL REINFORCEMENT.

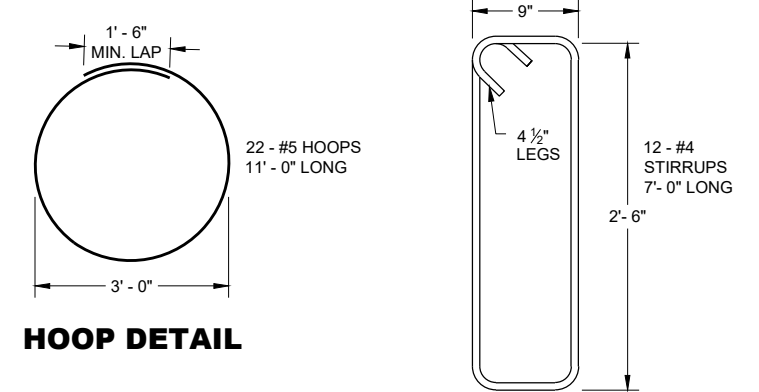
④ (22) NO. 5 X 11' - 0" BAR STEEL REINFORCEMENT @ 8" MAX. C-C.

⑤ (10) NO. 5 X 11' - 0" BAR STEEL HORIZONTAL REINFORCEMENT

CONCRETE MASONRY.....fc = 3,500 p.s.i.
 HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60.....fy = 60,000 p.s.i.
 ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATION).....fy = 55,000 p.s.i.
 TEMPLATES, ASTM A709, GRADE 36.....fy = 36,000 p.s.i.

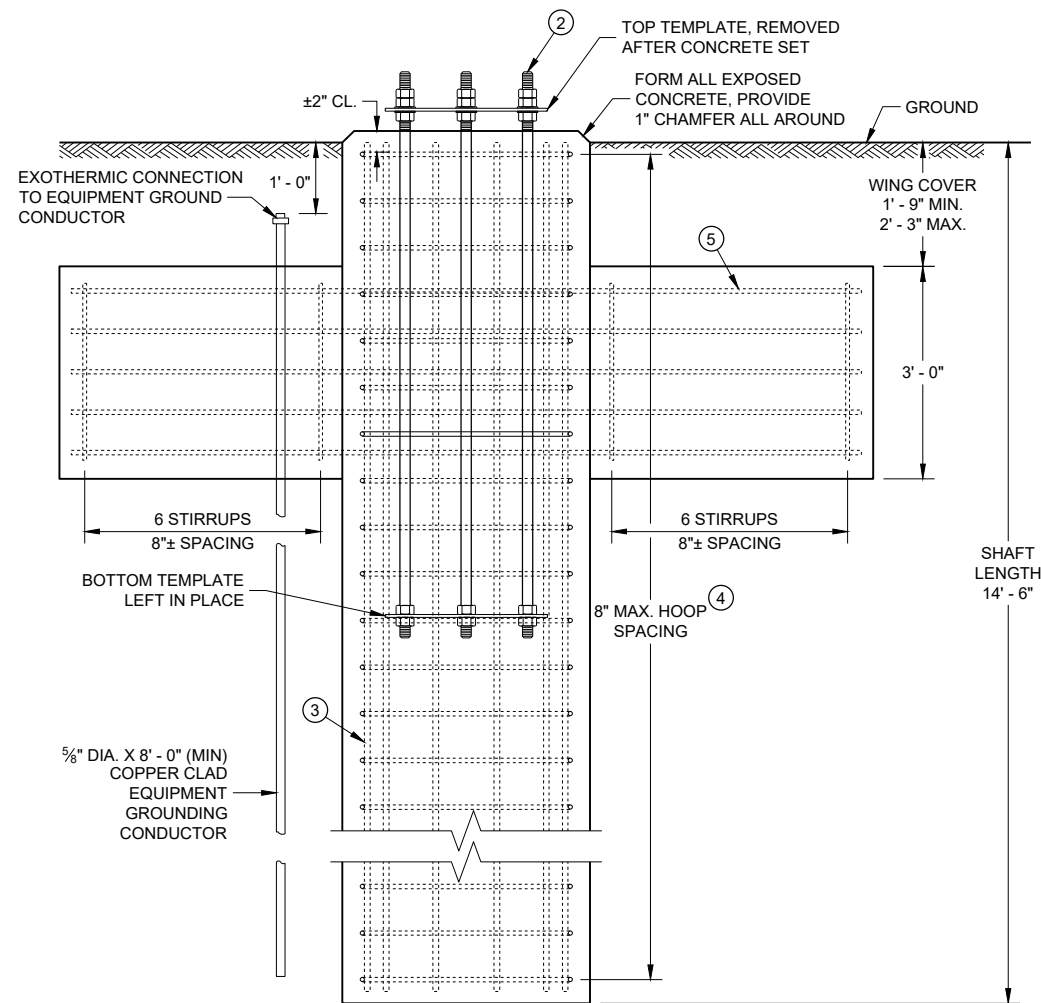


PLAN VIEW

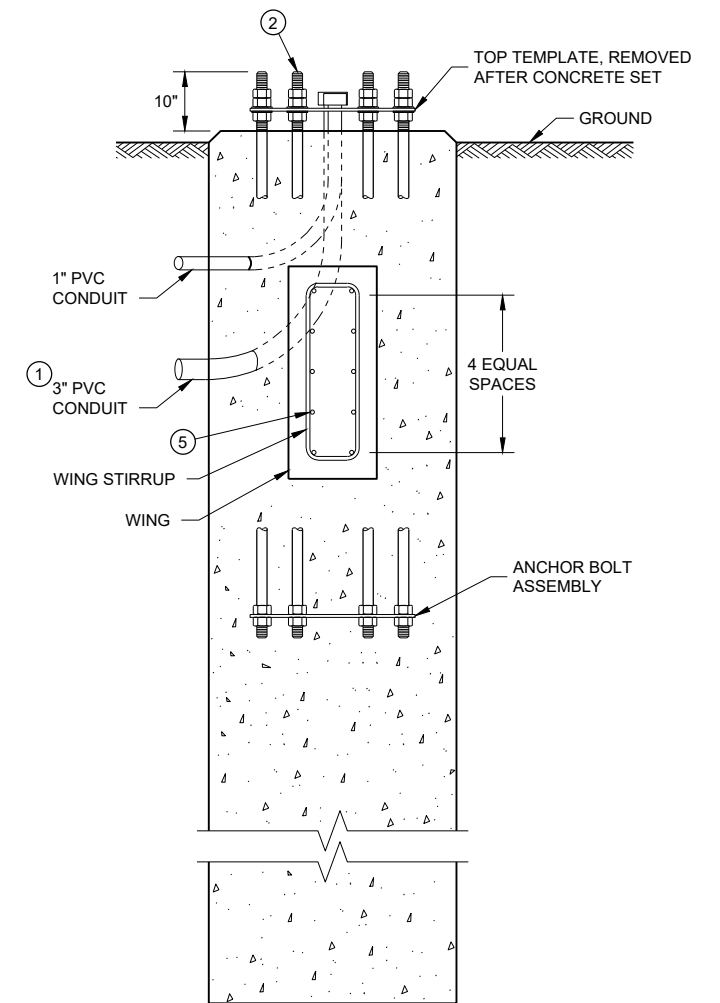


HOOP DETAIL

WING STIRRUP DETAIL



ELEVATION VIEW
(CONDUITS NOT SHOWN ON THIS VIEW FOR CLARITY)



(HOOPS AND VERTICAL SHAFT REINFORCEMENT NOT SHOWN ON THIS VIEW FOR CLARITY)

CONCRETE BASE, TYPE 13
(FOR TYPE 12, TYPE 13 AND OVER HEIGHT (OH) POLES)

CONCRETE = 6.3 CUBIC YARD
 H.S. REINFORCEMENT = 635 LBS.

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE 9C13 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION

CONCRETE BASE TYPE 13

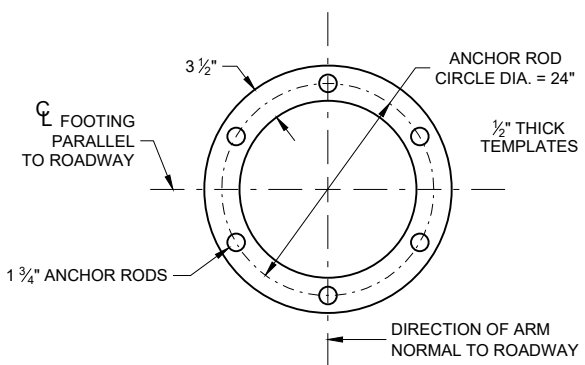
STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

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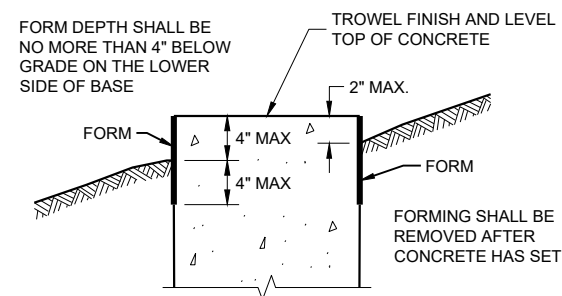
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SDD 09C12 - 09a

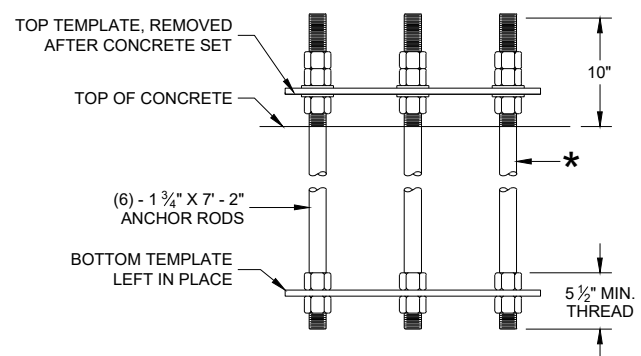
SDD 09C12 - 09a



TOP AND BOTTOM TEMPLATE



FORMING DETAIL



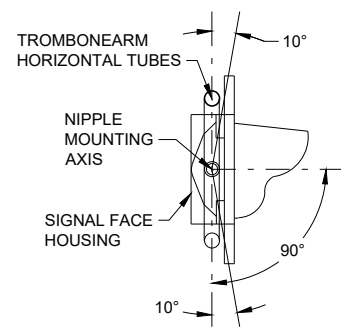
ANCHOR ROD ASSEMBLY DETAILS

* THREAD TOP 11" OF ANCHOR ROD FOR 3 NUTS AND 2 WASHERS AND BOTTOM 5 1/2" FOR 2 NUTS PER ANCHOR ROD. HOT DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR ROD (ASTM A123) AND HOT DIP NUTS AND WASHERS (ASTM A153. USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

CONCRETE BASE TYPE 13

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DEPARTMENT OF TRANSPORTATION

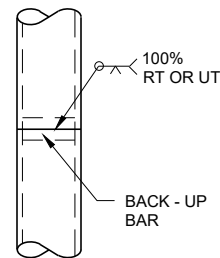
APPROVED
May 2017 DATE /S/ Ahmet Demirelek
WIND LOADED STRUCTURES PROGRAM LEADER



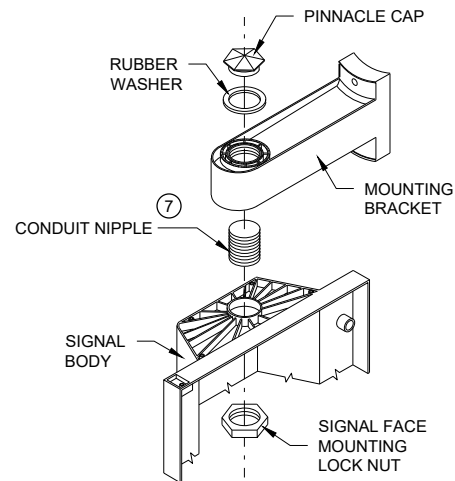
SECTION A-A
(10 DEGREES TILT REQUIREMENT OF FACE(S) IN THE TROMBONE MOUNTING)

FOR MANUFACTURERS USE ONLY

WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN / BRIDGE FOR VERIFICATION AND APPROVAL.



POLE SPLICE DETAIL



SIGNAL FACE MOUNTING DETAIL (BANDED)

GENERAL NOTES

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

POLES SHALL BE EITHER ALUMINUM OR GALVANIZED STEEL AS CALLED FOR IN THE CONTRACT.

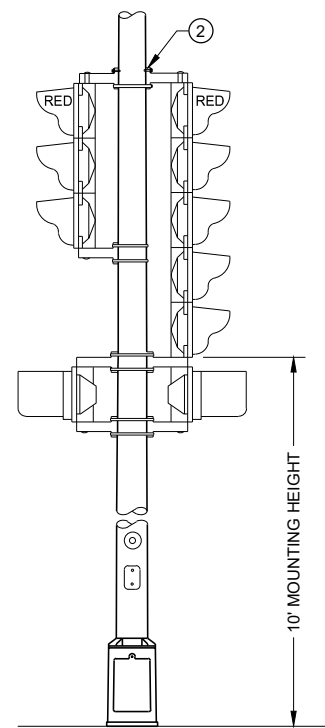
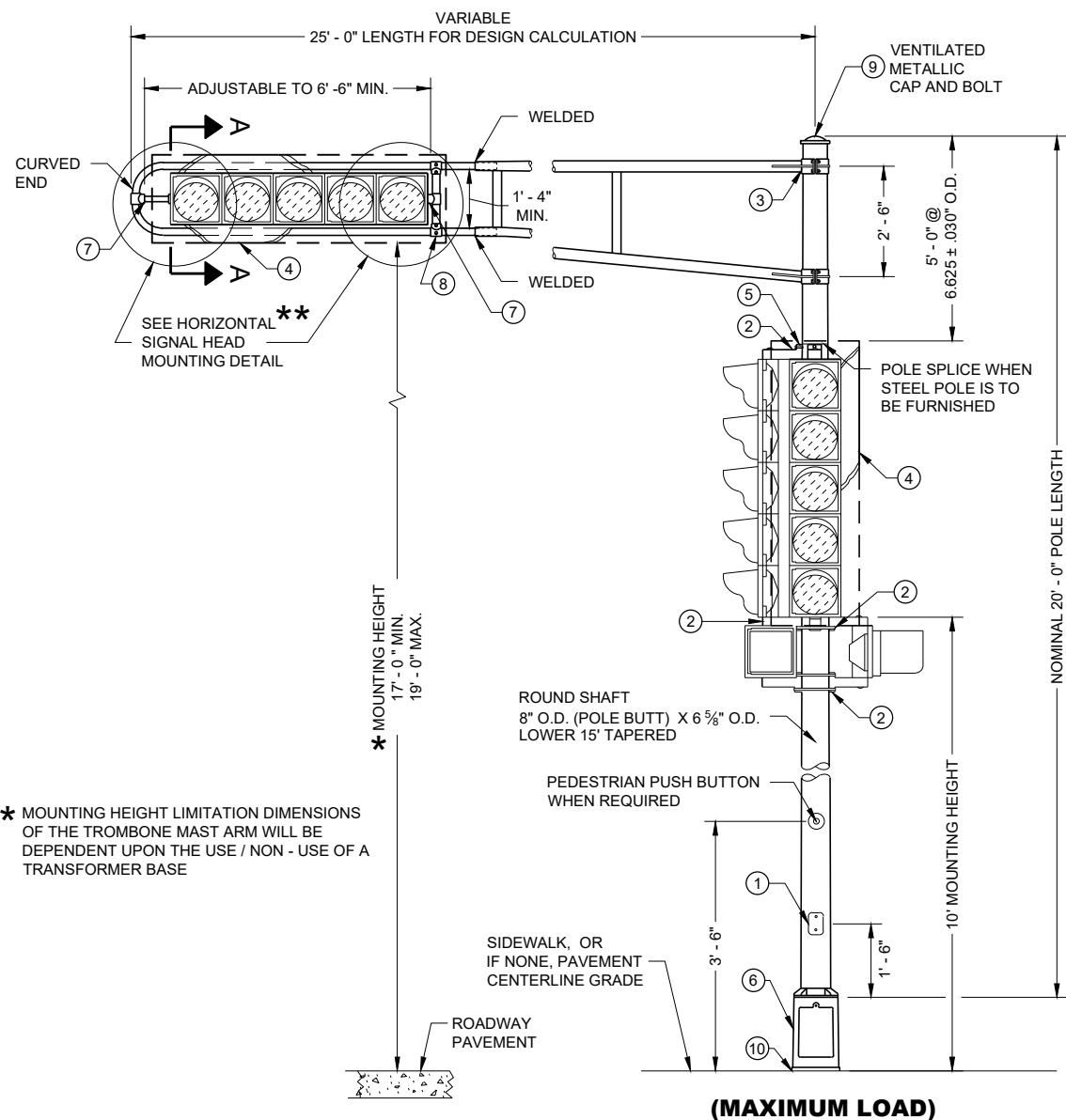
SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE / ROPE SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

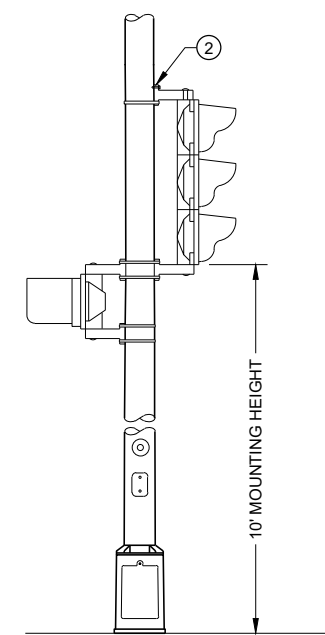
TYPE 2 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063 - T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

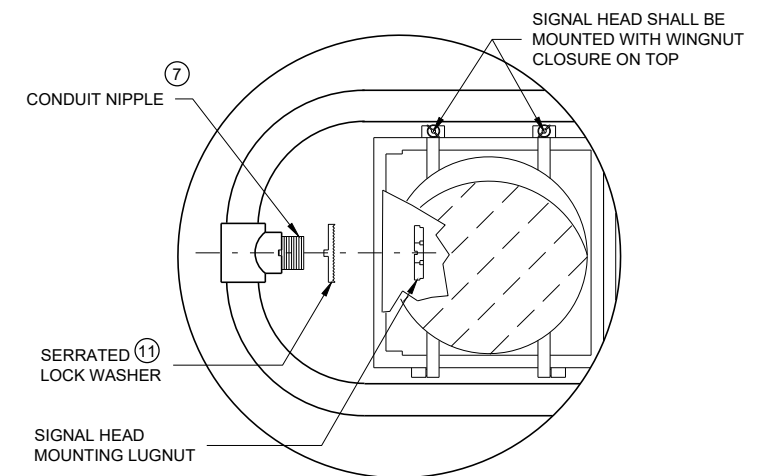
- ① 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) 1/4" X 3/4" - 20 TPI, STAINLESS STEEL, HEX HEAD BOLTS.
- ② SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING.
- ③ GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
- ④ SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.
- ⑤ POLE MOUNTED SIGNAL FACES SHALL REQUIRE ONE OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACES.
- ⑥ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ⑦ USE 1 1/2" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 1/2" OPENING IN SIGNAL FACES AND BRACKET ENDS.
- ⑧ VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.
- ⑨ FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑩ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.
- ⑪ USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE

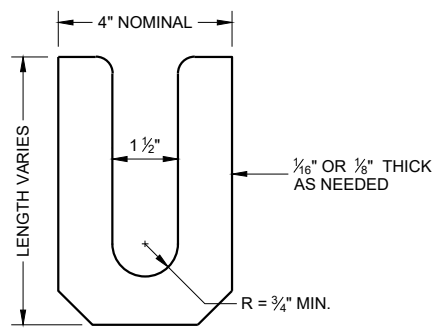


HORIZONTAL SIGNAL HEAD MOUNTING DETAIL

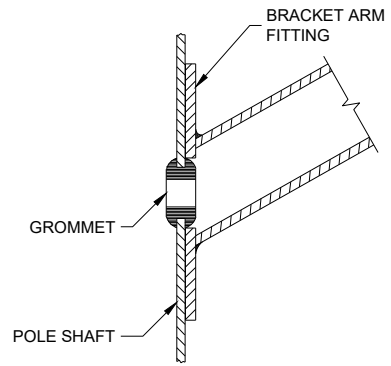
** SIGNAL HEAD ATTACHMENT ALSO APPLIES TO MOUNTING AT CROSS BAR

POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2

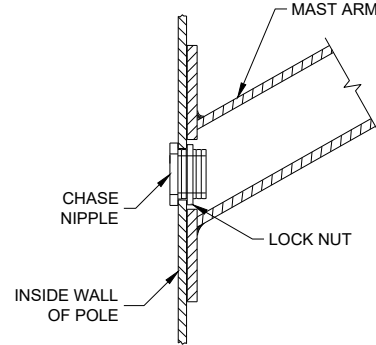
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



LEVELING SHIM
SHALL BE ALUMINUM



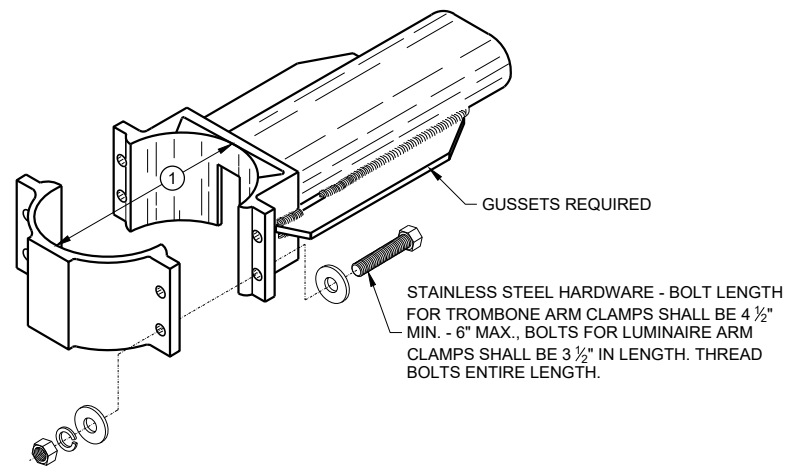
TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



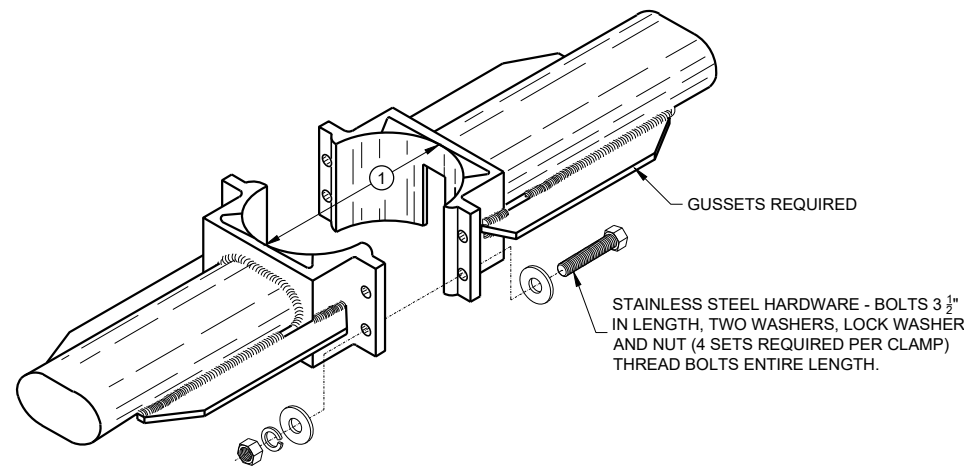
TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

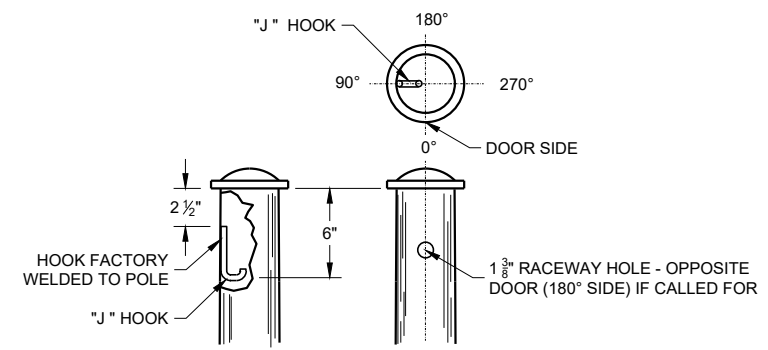
- CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.
- ① 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP. 6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
 - ② INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
 - ③ BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.
 - ④ LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.
- SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



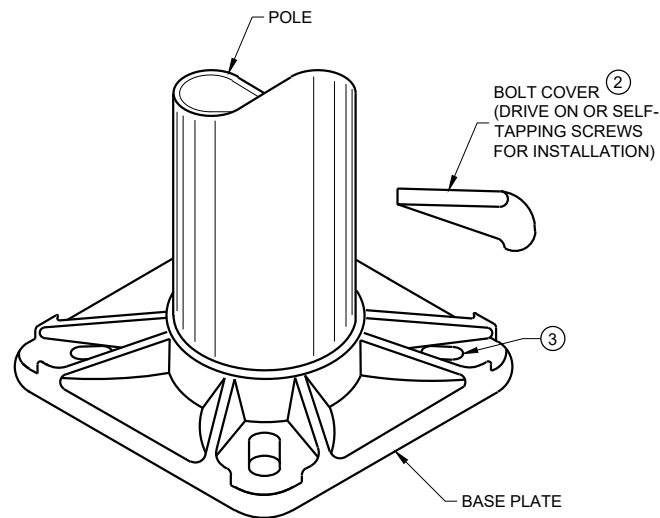
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



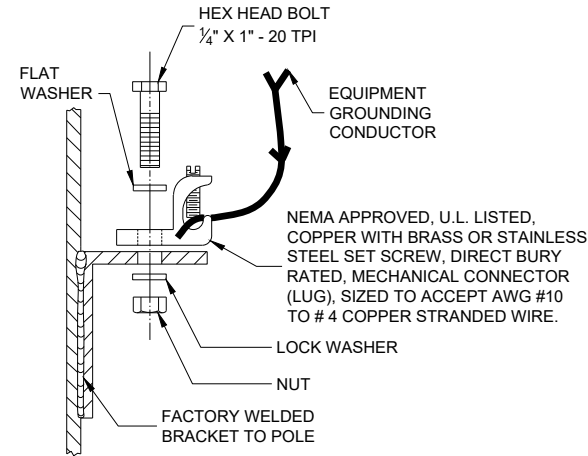
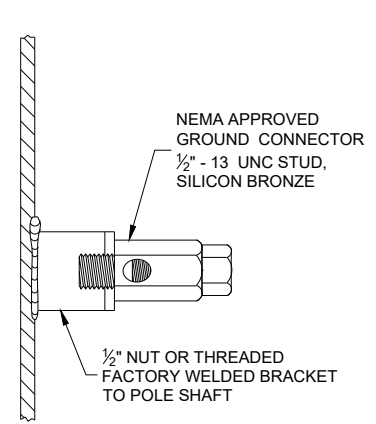
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS



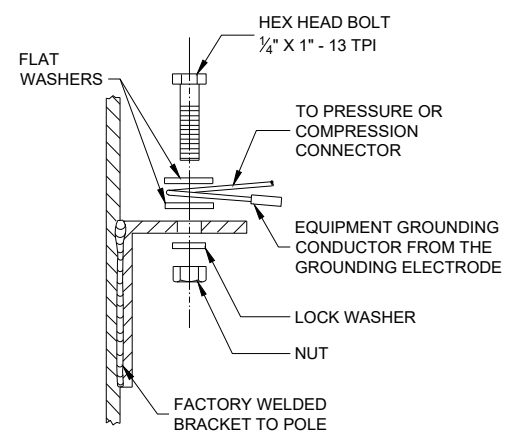
TYPICAL "J" HOOK LOCATION



BASE PLATE



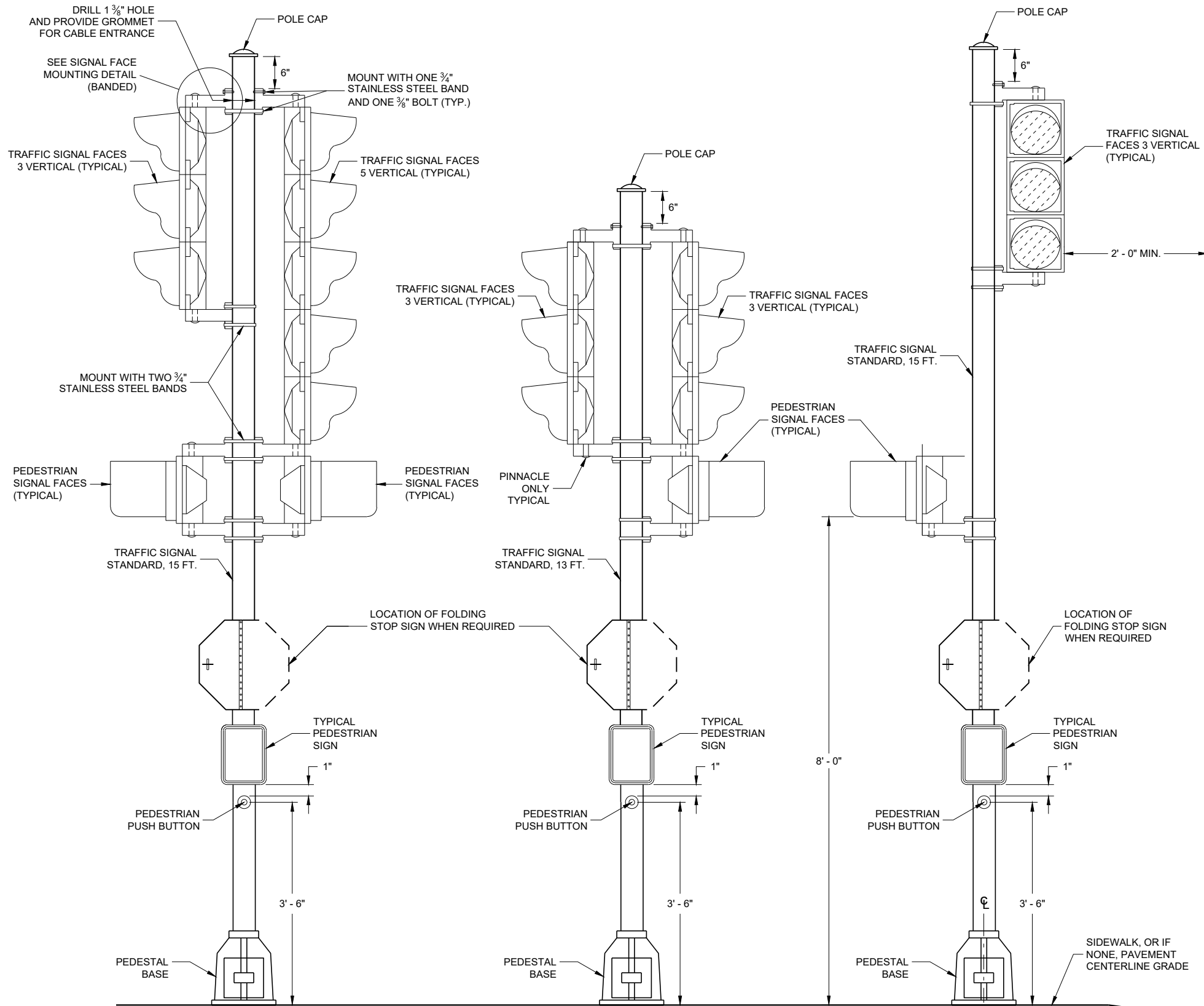
TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



HARDWARE DETAILS FOR POLE MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



TRAFFIC SIGNAL STANDARD - 15 FT.

TRAFFIC SIGNAL STANDARD - 13 FT.

TRAFFIC SIGNAL STANDARD - 15 FT. 3M MOUNTING (TYPICAL)

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

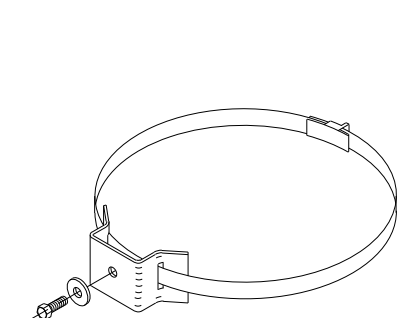
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

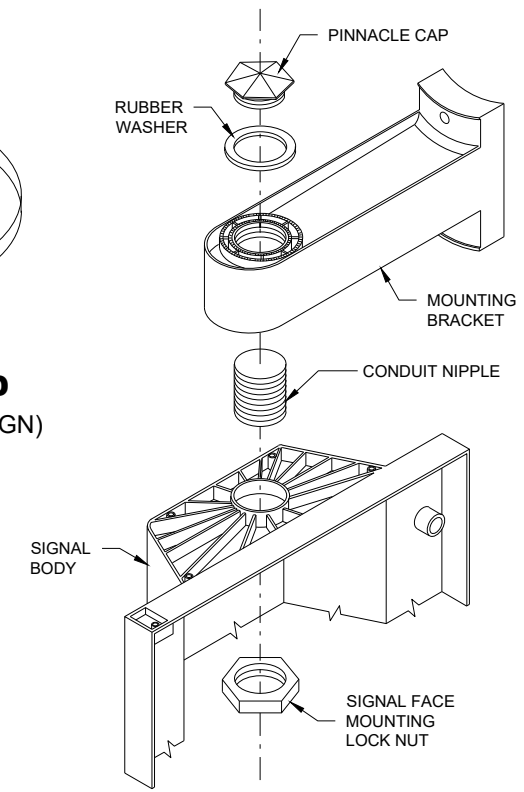
FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



TYPICAL SIGN MOUNTING BAND (TOP AND BOTTOM OF SIGN)



SIGNAL FACE MOUNTING DETAIL (BANDED)

TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/28/2013 DATE /S/ Ahmet Demirelek
STATE ELECTRICAL ENGINEER

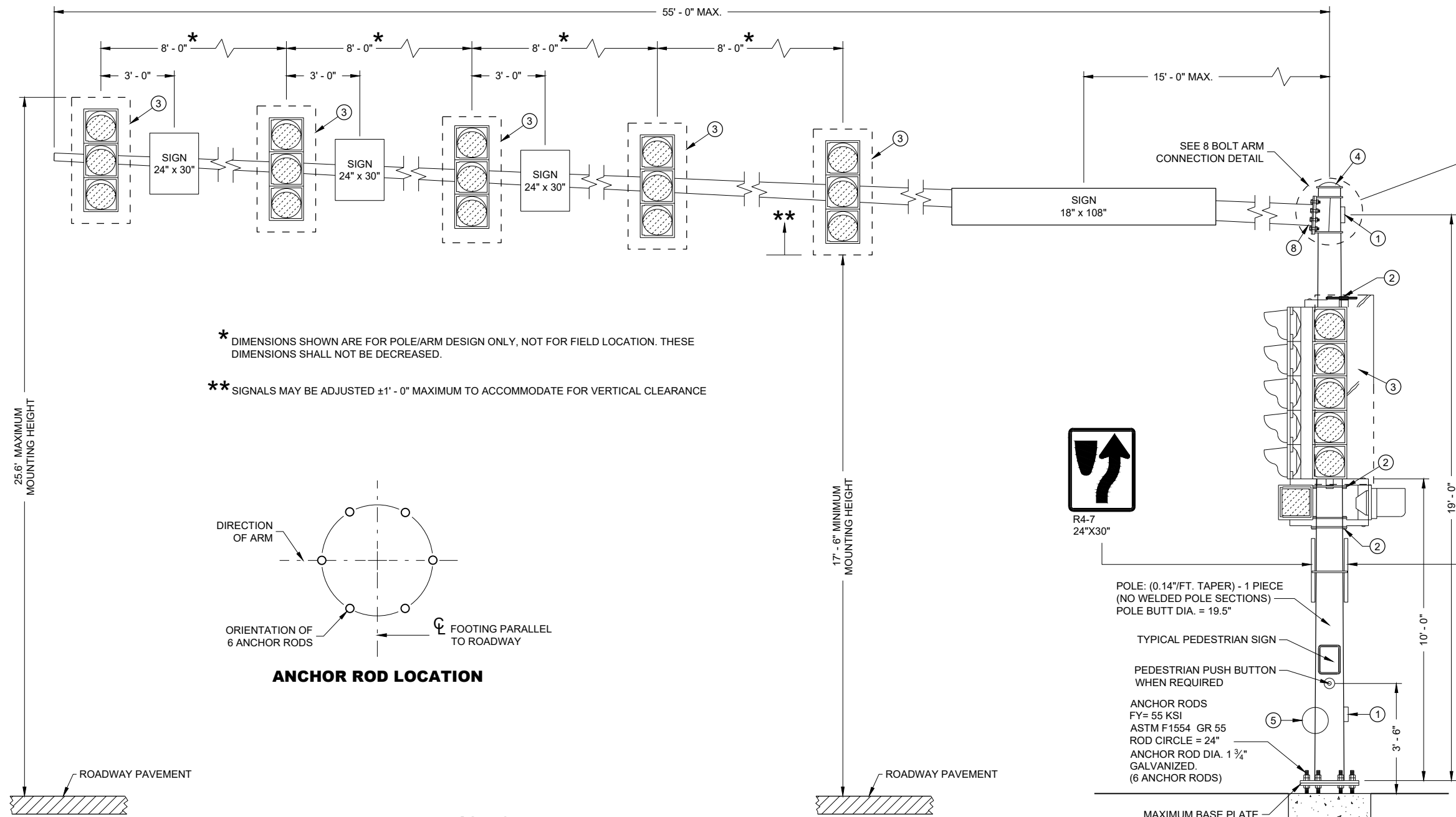
FHWA

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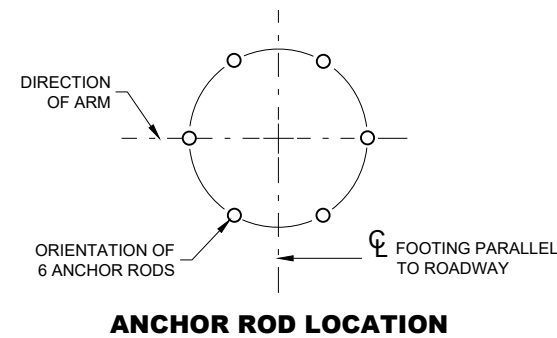
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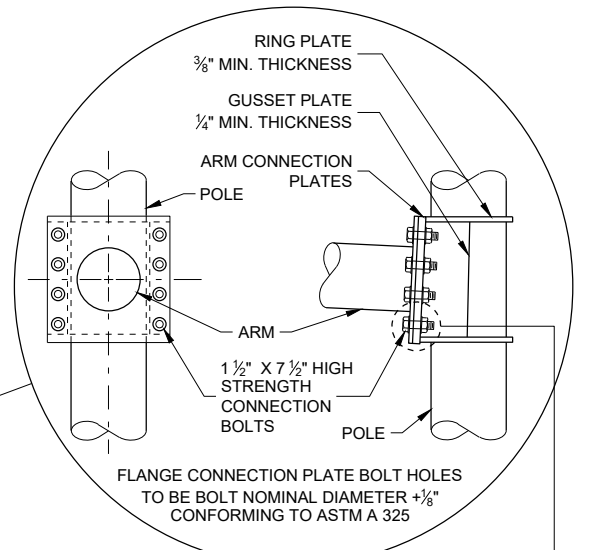


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

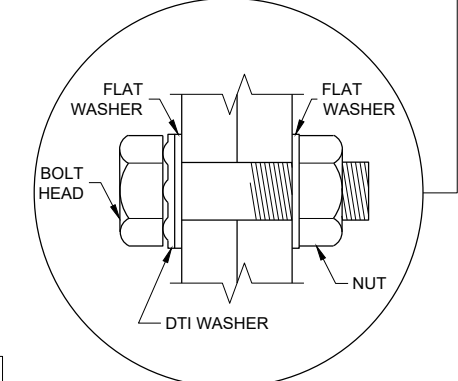
** SIGNALS MAY BE ADJUSTED ±1' - 0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE



**TYPE 12 POLE
35' - 55' MONOTUBE ARM
(MAXIMUM LOAD)**



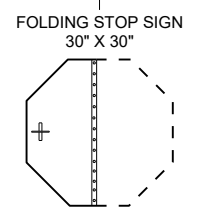
**8 BOLT ARM
CONNECTION DETAIL**



**RECOMMENDED BOLT
ASSEMBLY DETAIL**

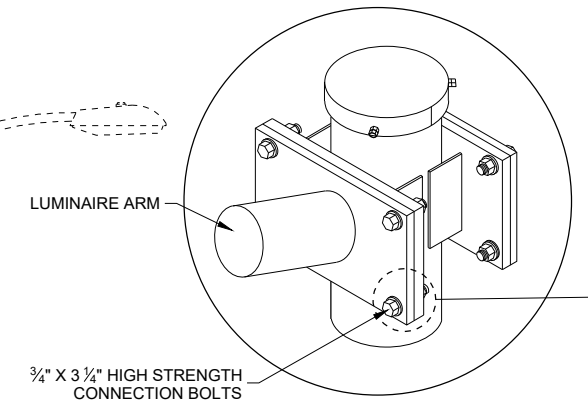
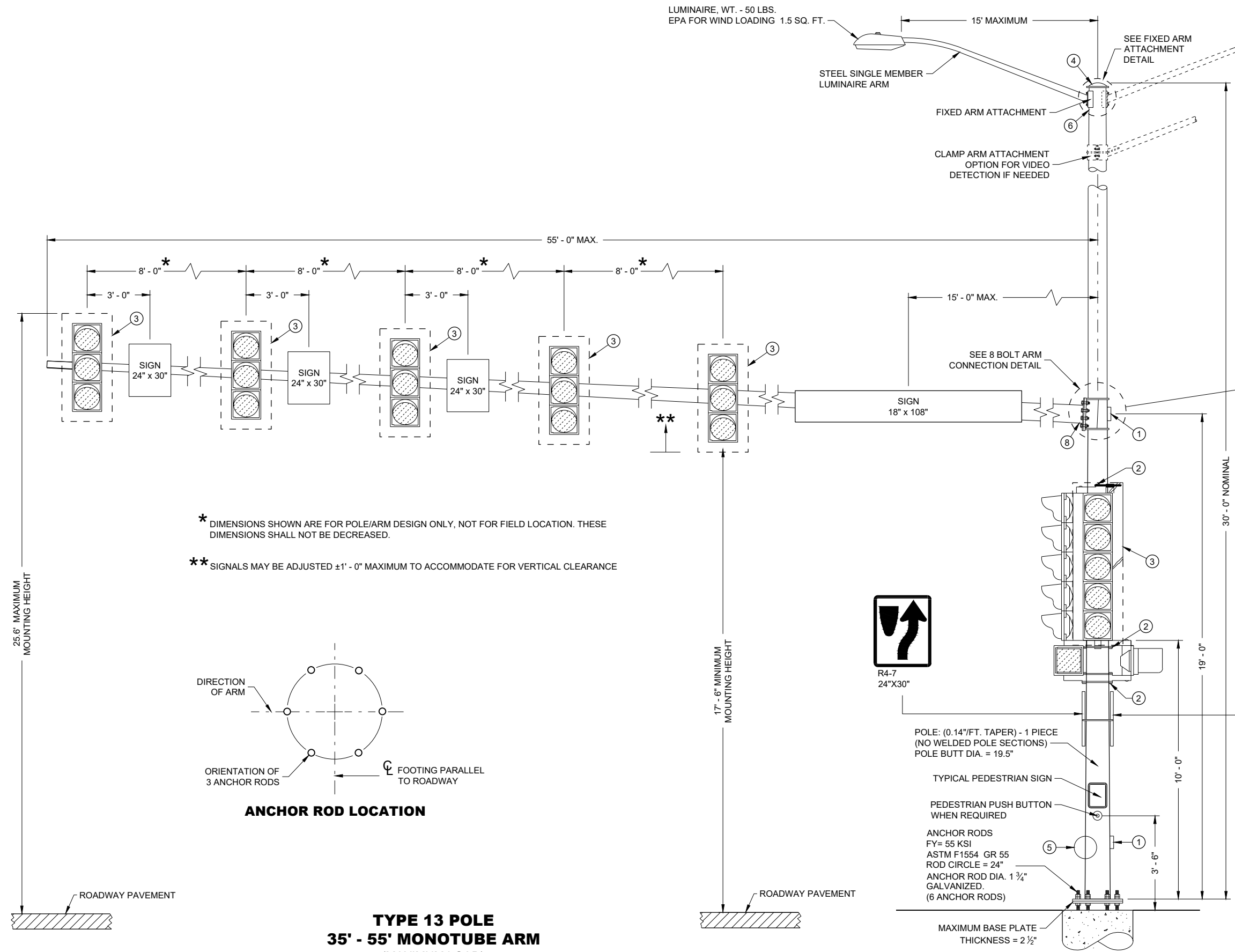


- POLE: (0.14\"/>

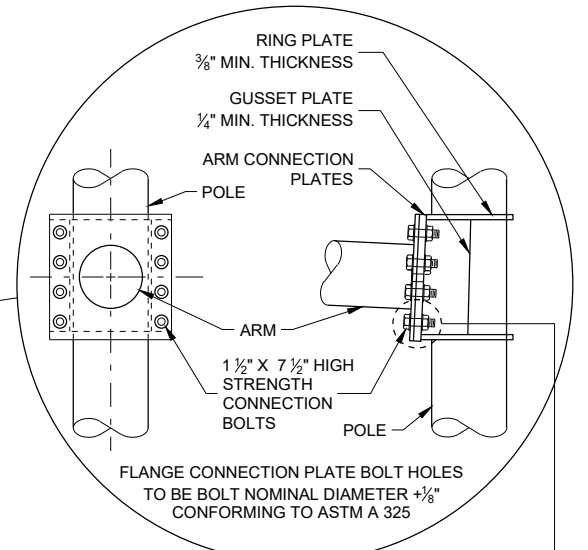


TYPE 12 POLE 35' - 55' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2020 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
<small>FHWA</small>	

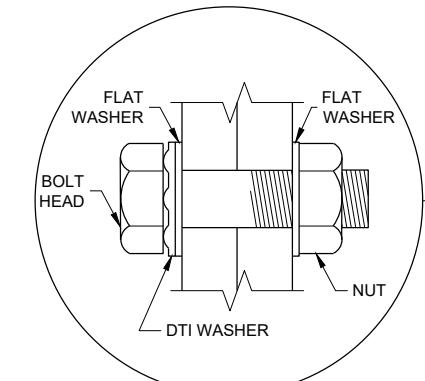
LUMINAIRE, WT. - 50 LBS.
EPA FOR WIND LOADING 1.5 SQ. FT.



FIXED ARM ATTACHMENT DETAIL



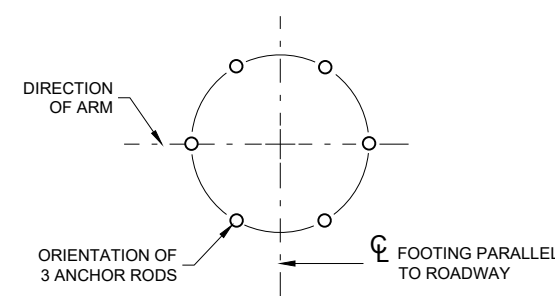
8 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL

* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ±1' - 0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE



ANCHOR ROD LOCATION

**TYPE 13 POLE
35' - 55' MONOTUBE ARM
(MAXIMUM LOAD)**



R4-7
24" X 30"

POLE: (0.14"/FT. TAPER) - 1 PIECE
(NO WELDED POLE SECTIONS)
POLE BUTT DIA. = 19.5"

TYPICAL PEDESTRIAN SIGN

PEDESTRIAN PUSH BUTTON
WHEN REQUIRED

ANCHOR RODS
FY= 55 KSI
ASTM F1554 GR 55
ROD CIRCLE = 24"
ANCHOR ROD DIA. 1 3/4"
GALVANIZED.
(6 ANCHOR RODS)

MAXIMUM BASE PLATE
THICKNESS = 2 1/2"

TYPE 13 POLE 35' - 55' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2020 DATE	/S/ Ahmet Demirelek STATE ELECTRICAL ENGINEER
FHWA	

GENERAL NOTES

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15 FOOT TO 30 FOOT.

POLE TYPES 9 SPECIAL AND 10 SPECIAL ARE FOR ARM LENGTHS 35 FOOT, 40 FOOT, AND 45 FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35 FOOT TO 55 FOOT.

MONOTUBE POLES AND ARMS SHALL BE GALVANIZED STEEL.

RING STIFFENED BUILT UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3% ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATION SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING INTERIM REVISIONS)" AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR THE LIGHTING STRUCTURES AS FOLLOWS:

CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.

CATEGORY II FATIGUE LOADS OF TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 SPECIAL AND TYPE 10 SPECIAL STRUCTURES. IN LIEU OF DESIGNING FOR GALLOPING, A VIBRATION DAMPER MITIGATION DEVICE IS REQUIRED TO BE SUPPLIED AND INSTALLED AT THE END OF THE MAST ARM.

CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.

115 MPH (700 YEAR MRI BASIC WIND SPEED).

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH 3/4" STAINLESS STEEL BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL 1/2" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEAD AT SAME ELEVATION.

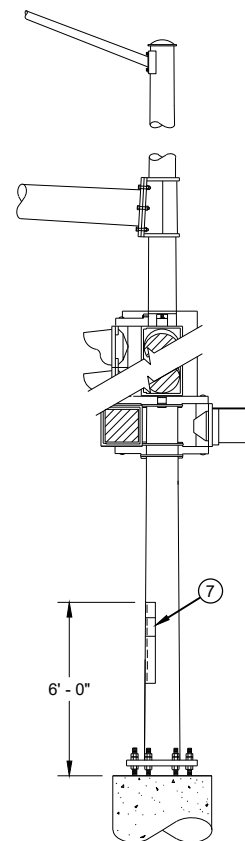
SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

- ① DESIGN FOR MAXIMUM ALLOWABLE HAND HOLE WITH COVER ASSEMBLY WITH TWO 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
- ② SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING (SEE SPECIFICATION SECTION 658).
- ③ SECURELY MOUNT BACK PLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.
- ④ THE TOP OF THE POLE SHAFT AND THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.
- ⑤ FACTORY WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HAND HOLD, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.
- ⑥ FACTORY WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.
- ⑦ INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

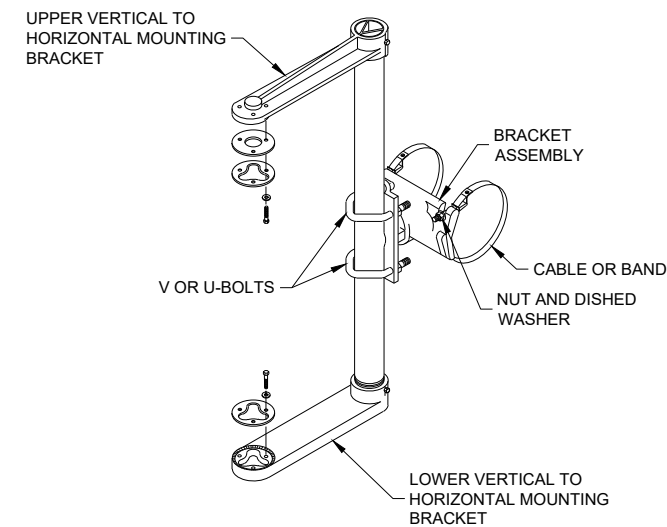
STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 6' - 0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

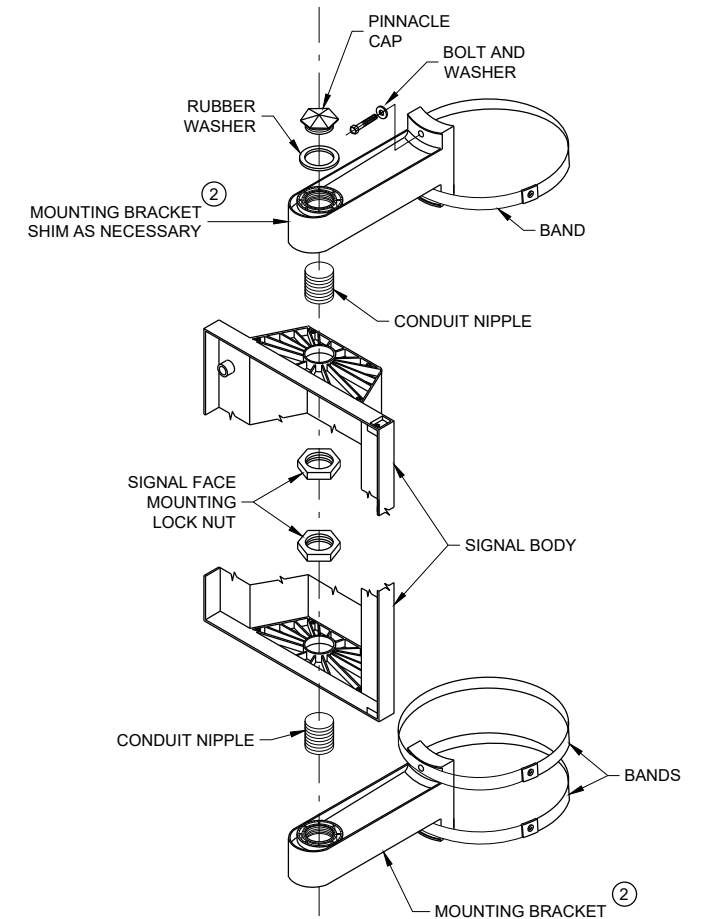
- ⑧ FACTORY DRILLED 1/2" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.



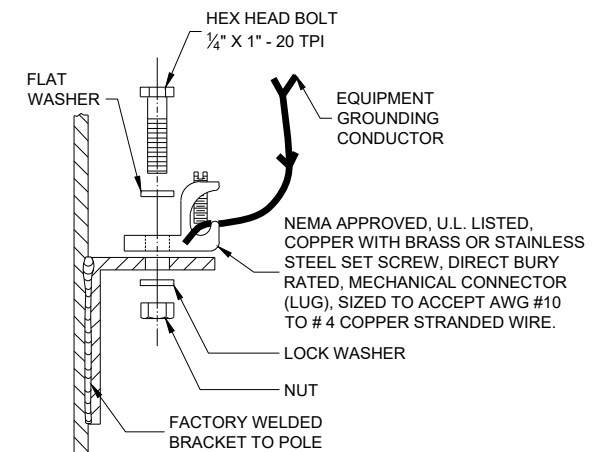
**STRUCTURAL IDENTIFICATION
PLAQUE PLACEMENT**



**SIGNAL FACE MOUNTING BRACKET
DETAIL FOR MONOTUBE ARM**
(MOUNT PER MANUFACTURER'S RECOMMENDATION)

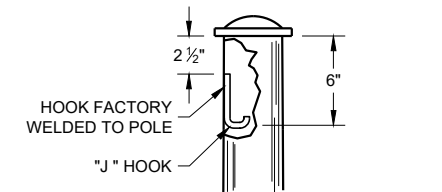


**SIGNAL FACE VERTICAL
MOUNTING DETAIL**



**TYPICAL GROUNDING
CONNECTIONS**

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



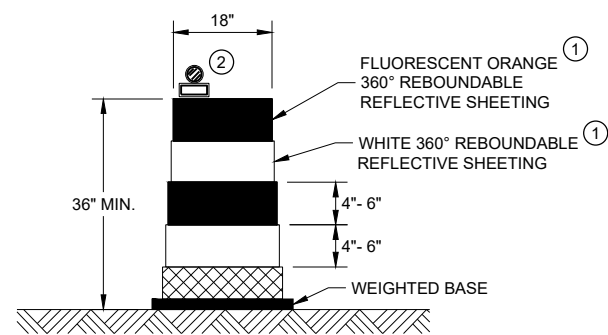
**TYPICAL "J" HOOK
WIRE SUPPORT**

**GENERAL NOTES AND
HARDWARE FOR TYPES 9,10,
9/10 SPECIAL, 12 AND 13
POLES WITH MONOTUBE ARMS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

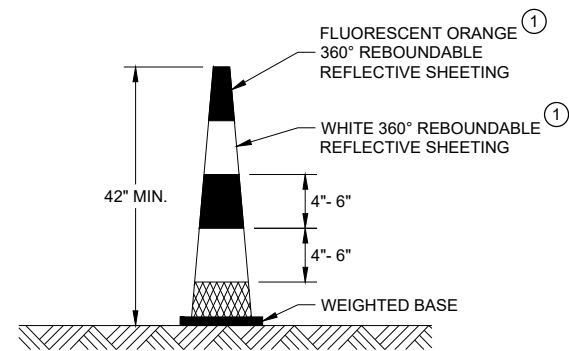
APPROVED
August 2020 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL
ENGINEER

FHWA



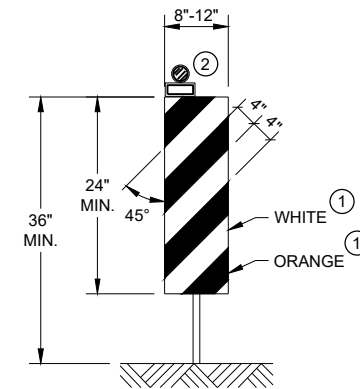
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"

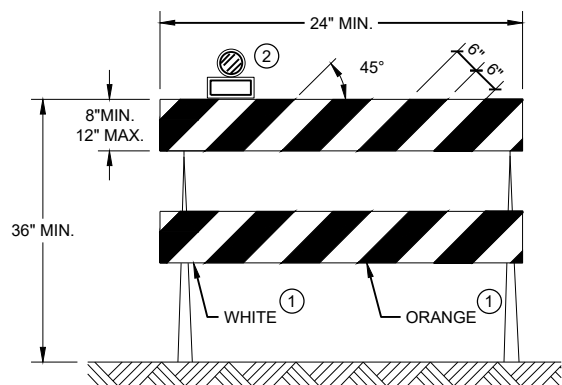


VERTICAL PANEL

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

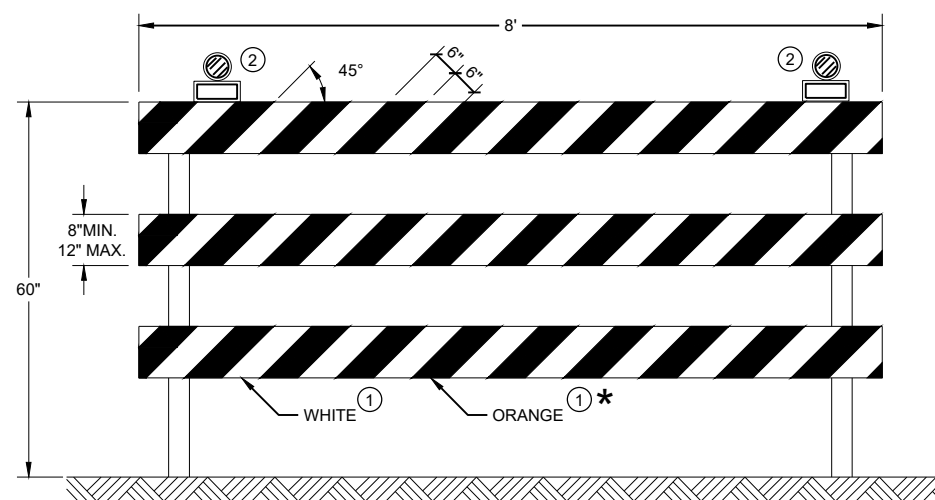
GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



TYPE 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 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER
 FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
-  WORK AREA

GENERAL NOTES

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45MPH, USE SDD 15D12.

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"X 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

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

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

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

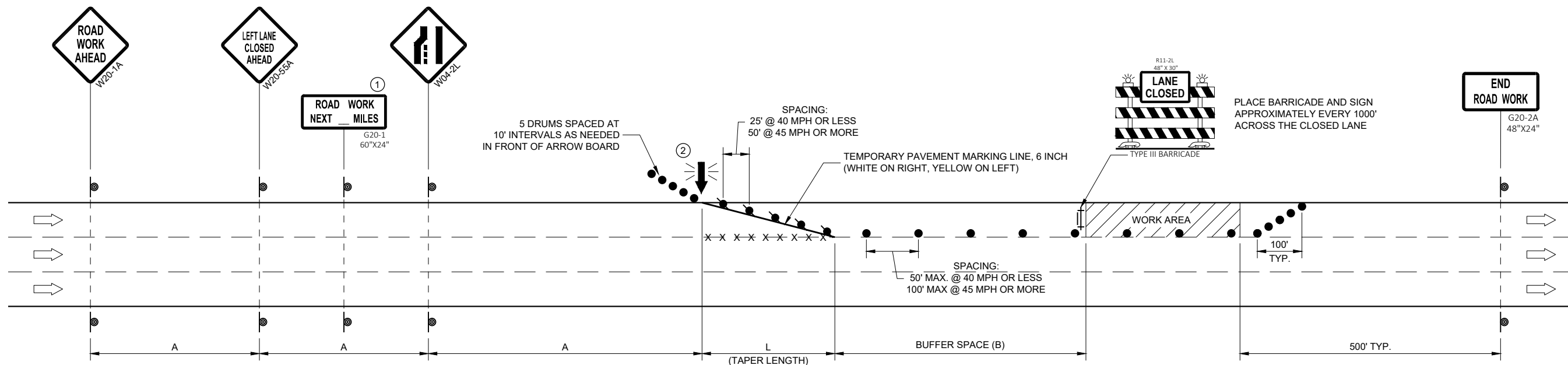
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO PLACE THE ARROW BOARD AS SHOWN, PLACE THE ARROW BOARD AT THE END OF THE TAPER.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'










TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
-  WORK AREA

GENERAL NOTES

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"X 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

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ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

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

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

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

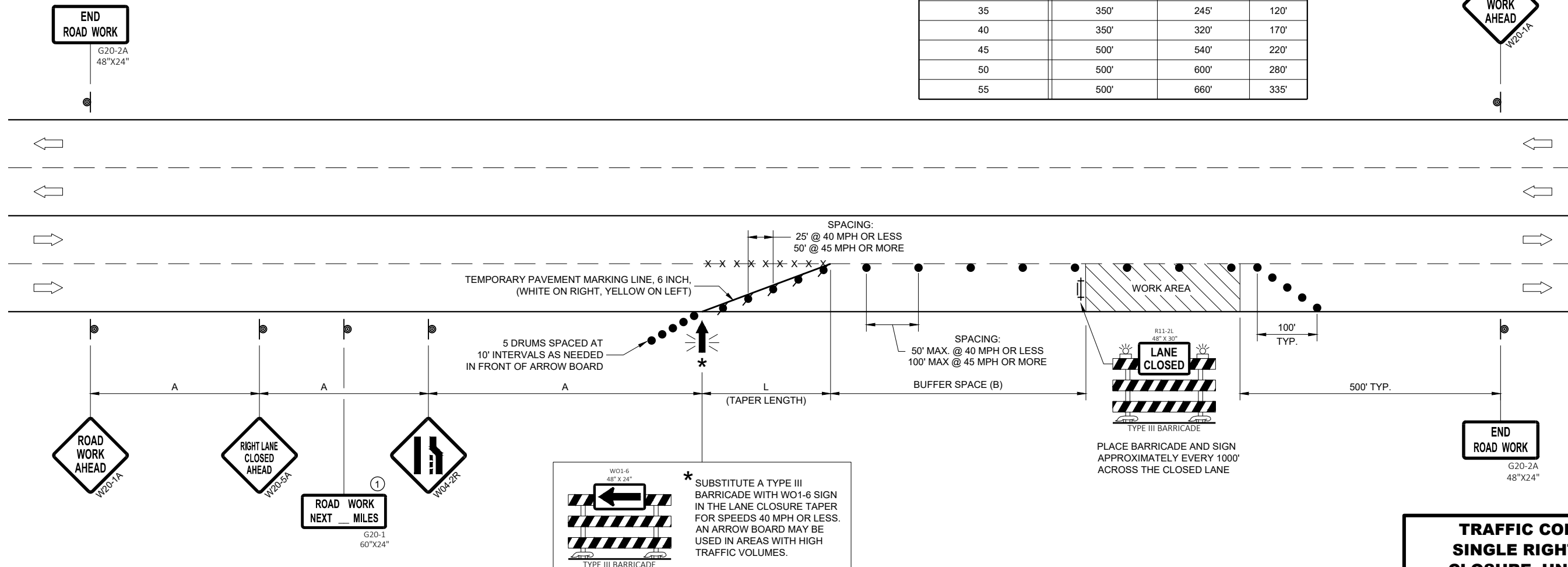
① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
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45	500'	540'	220'
50	500'	600'	280'
55	500'	660'	335'



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SDD 15D20-07b

SDD 15D20-07b










**TRAFFIC CONTROL,
SINGLE RIGHT LANE
CLOSURE, UNDIVIDED
NON-FREWAY/EXPRESSWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
-  WORK AREA

GENERAL NOTES

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"X 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

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

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

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

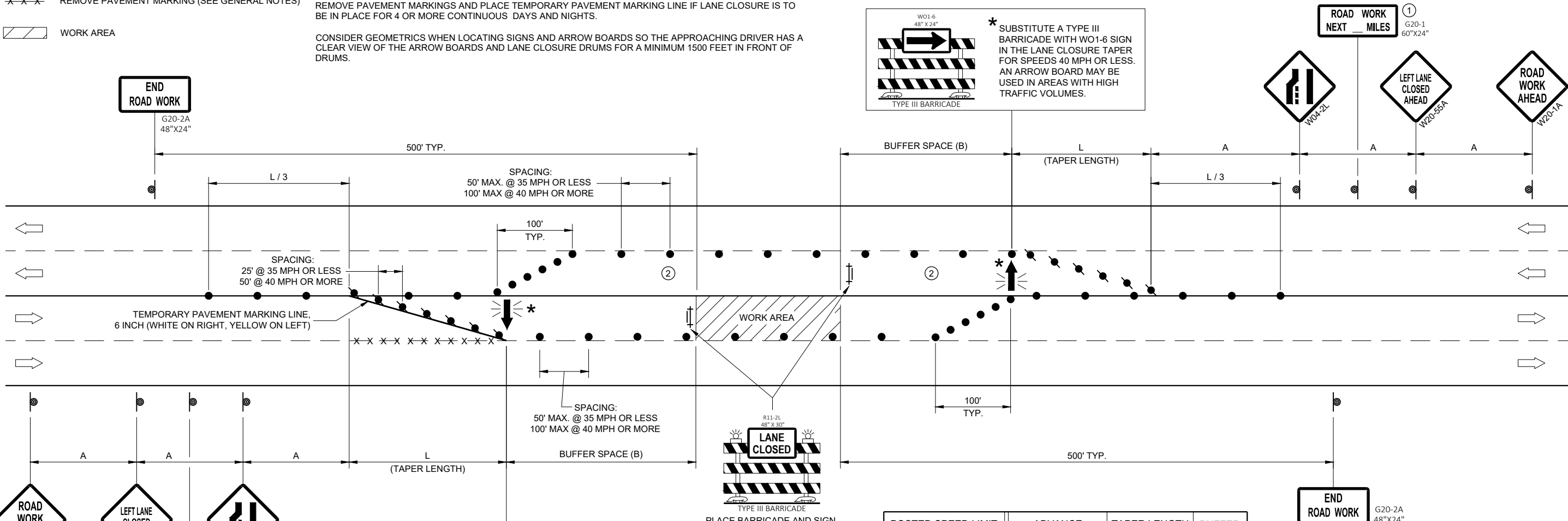
DUE TO LACK OF SHOULDER/MEDIAN, ARROW BOARD IS PLACED AT THE THE END OF THE TAPER.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② LANE MAY BE OPENED WHEN WORKERS ARE NOT PRESENT IN THE WORK AREA.



W01-6
48" X 24"

* SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER FOR SPEEDS 40 MPH OR LESS. AN ARROW BOARD MAY BE USED IN AREAS WITH HIGH TRAFFIC VOLUMES.

TYPE III BARRICADE

W01-6
48" X 24"

* SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER FOR SPEEDS 40 MPH OR LESS. AN ARROW BOARD MAY BE USED IN AREAS WITH HIGH TRAFFIC VOLUMES.

TYPE III BARRICADE

R11-2L
48" X 30"

LANE CLOSED

TYPE III BARRICADE

PLACE BARRICADE AND SIGN APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'
50	500'	600'	280'
55	500'	660'	335'

**TRAFFIC CONTROL,
SINGLE LEFT LANE
CLOSURE, UNDIVIDED
NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: May 2023 /S/ Andrew Heidtke
WORK ZONE ENGINEER

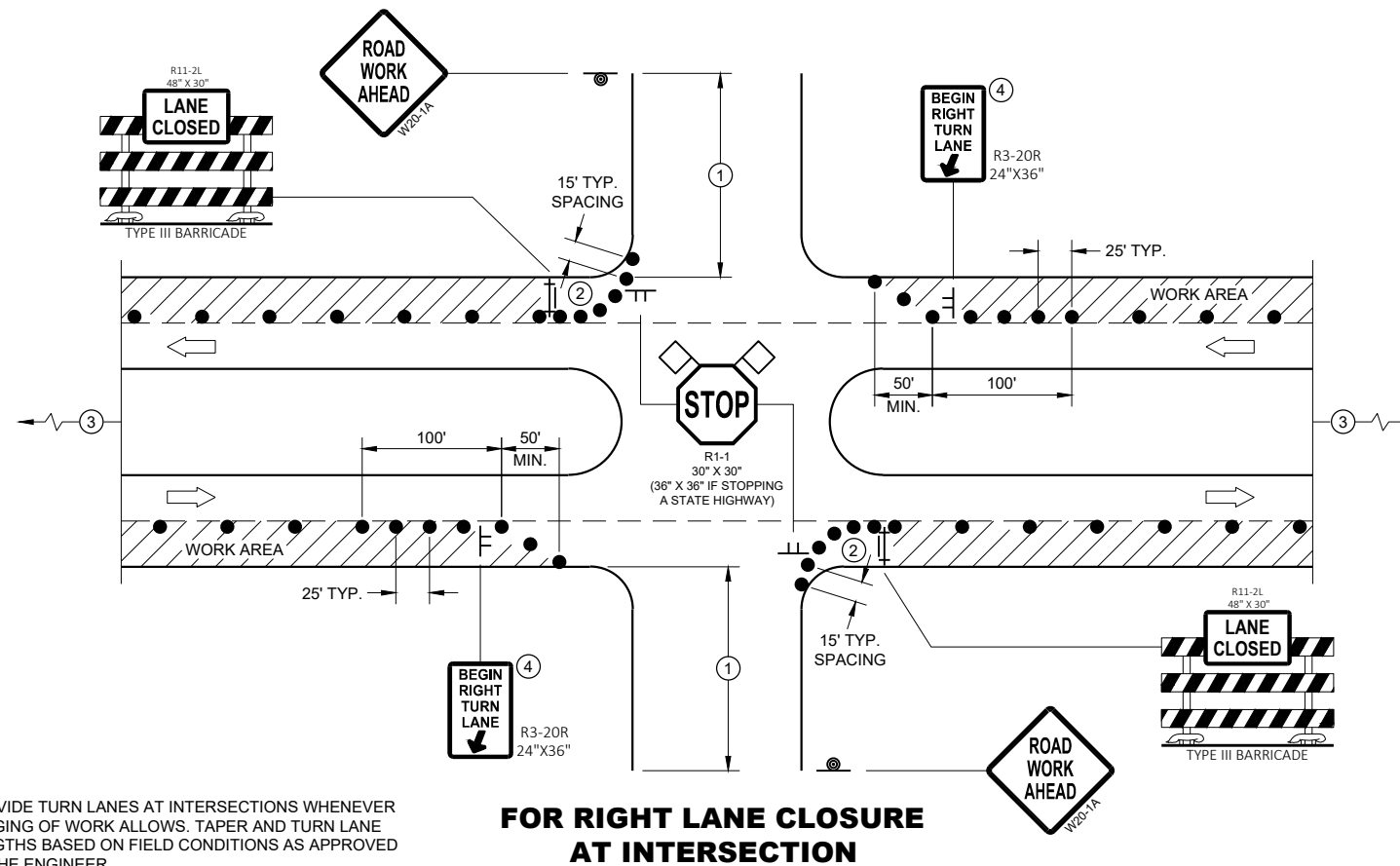
FHWA

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SDD 15D20-07C

SDD 15D20-07C



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

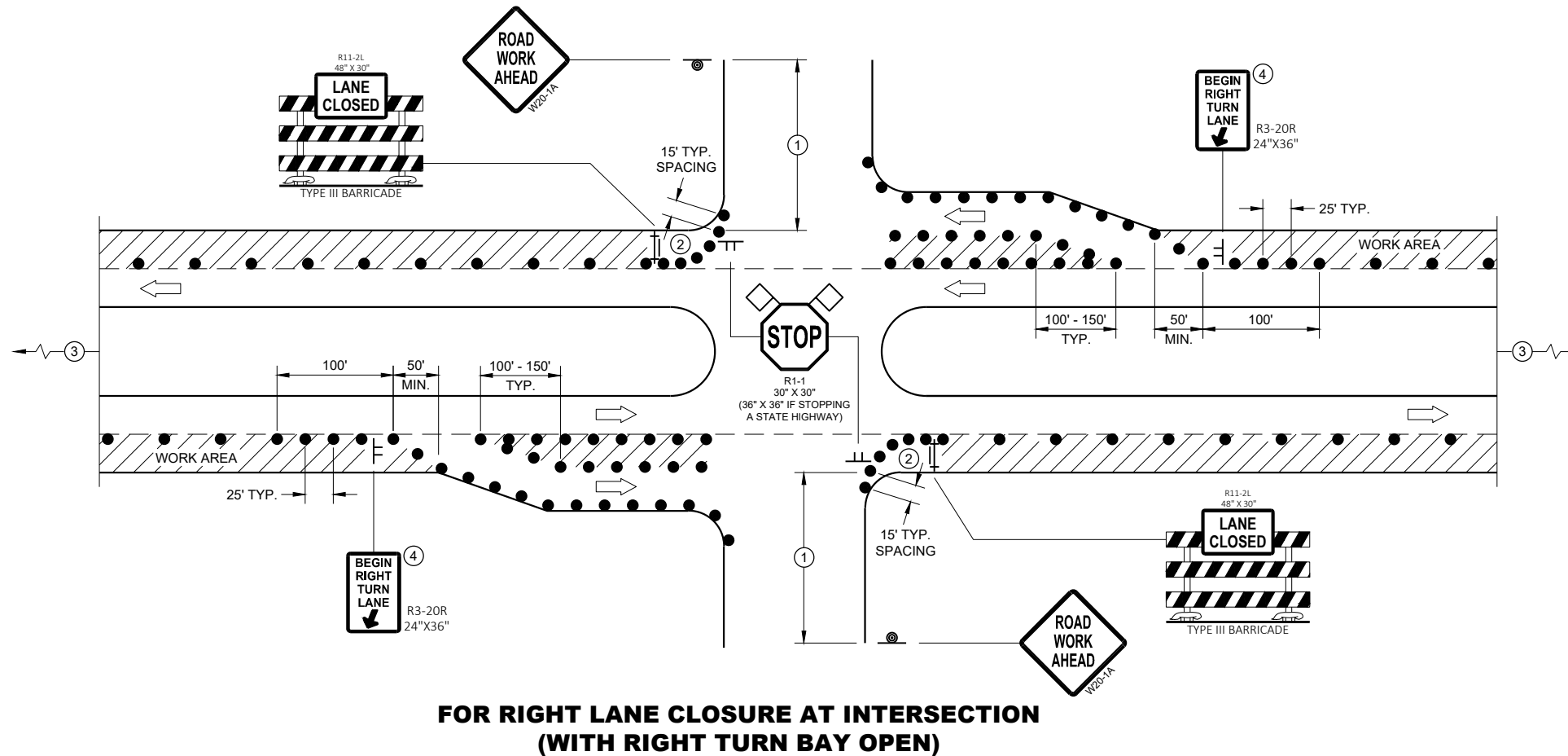
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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.

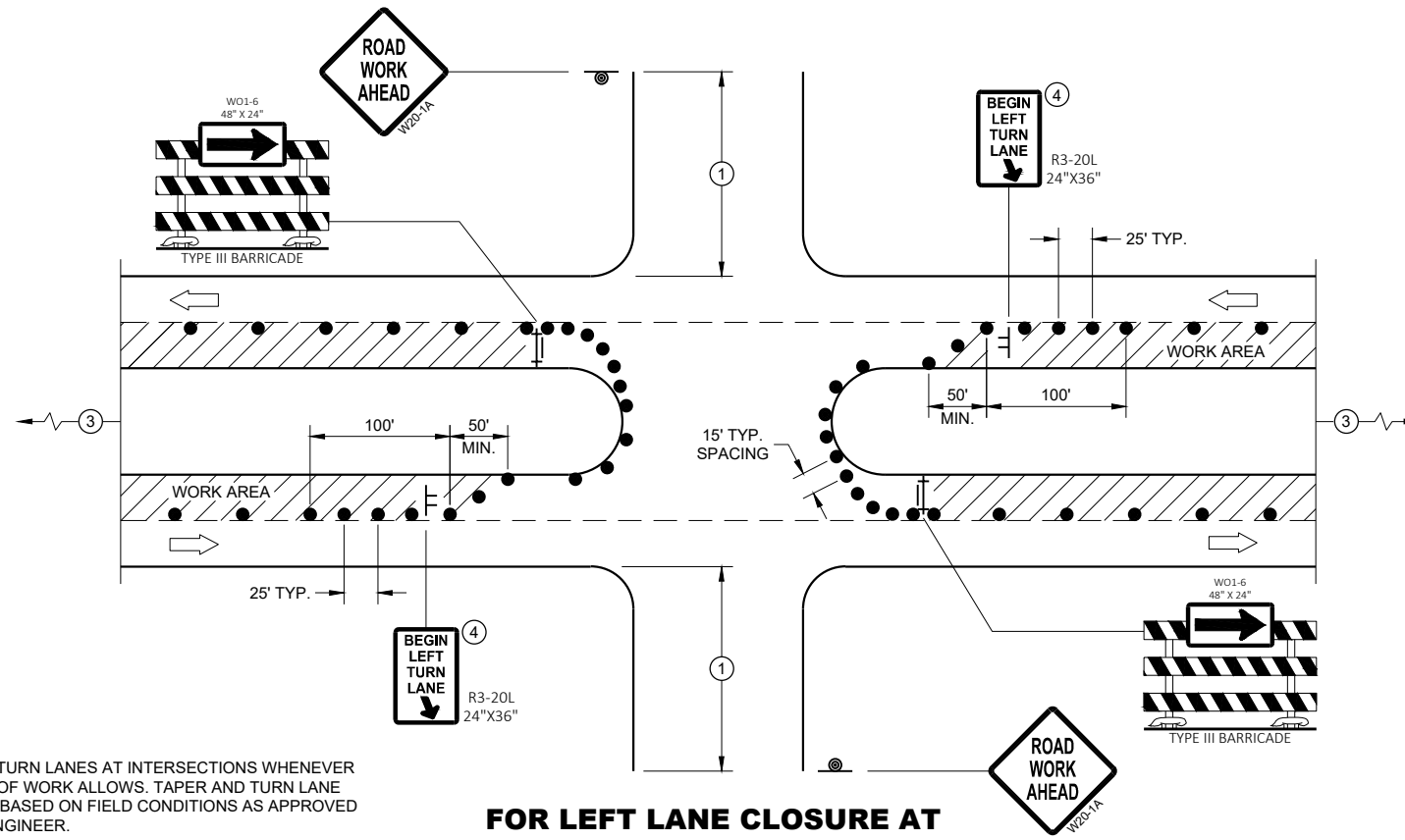


LEGEND

- ⊥ 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



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

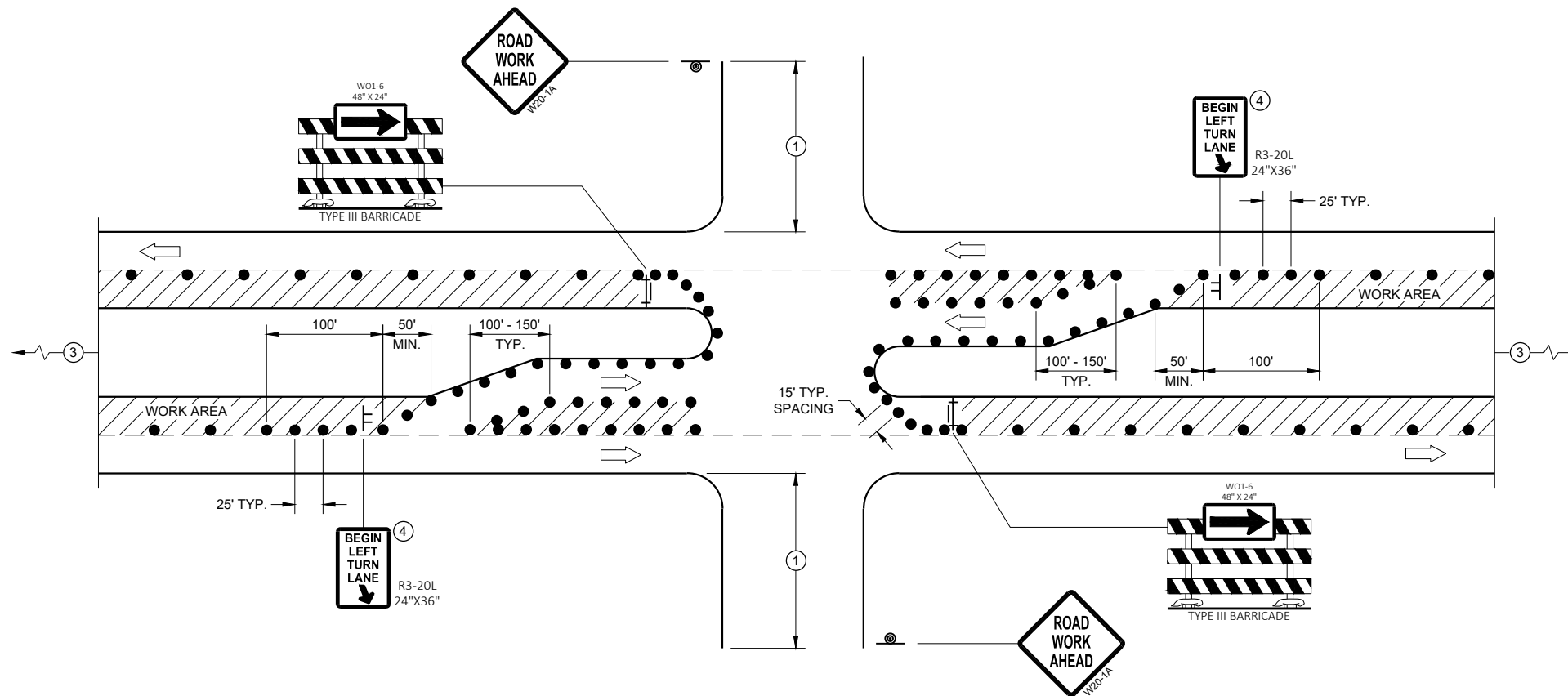
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.
- ② ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.
- ④ MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA








**TRAFFIC CONTROL,
INTERSECTION WITHIN SINGLE
LEFT LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

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

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER $L/2$					
		W, LATERAL OFFSET (FT)					
		3	4	5	6	7	8
25	200	10	14	17	21	24	28
30	200	15	20	25	30	35	40
35	350	20	27	34	40	47	54
40	350	26	35	44	53	62	70
45	500	45	59	74	89	104	119
50	500	50	66	83	99	116	132
55	500	54	73	91	109	127	145

GENERAL NOTES

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

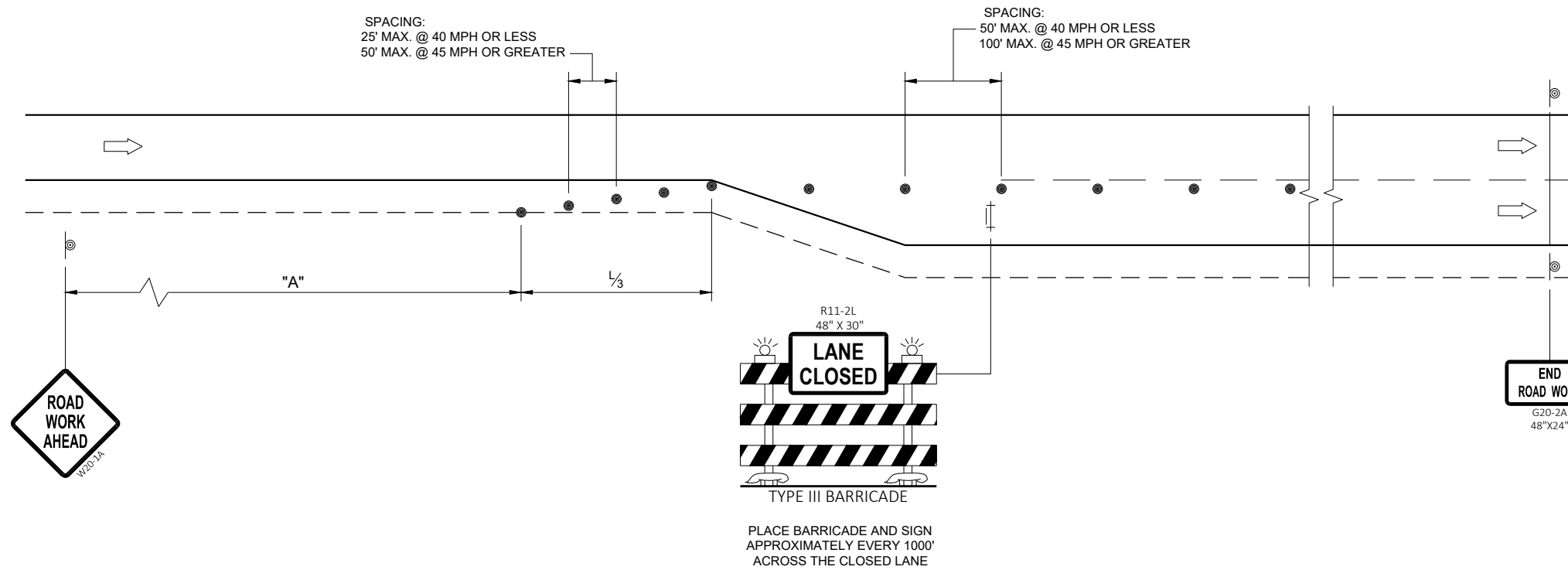
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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.

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

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

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.



6

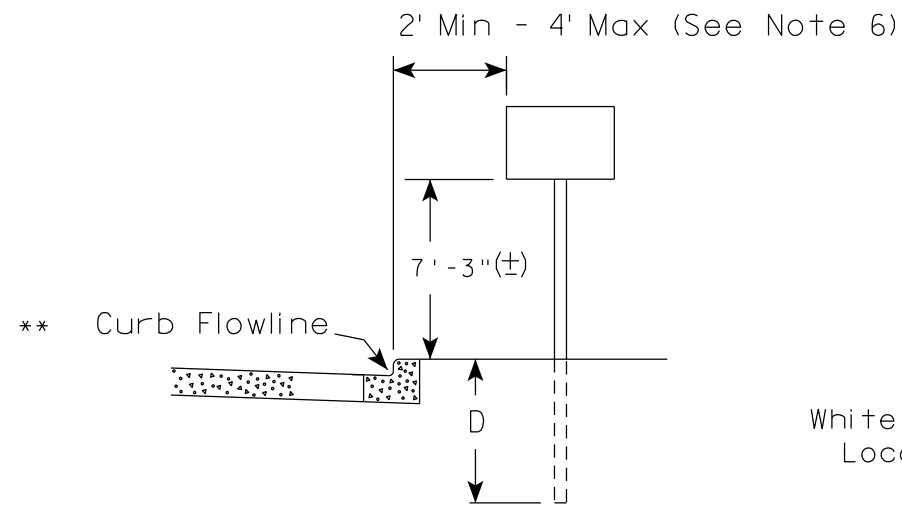
6

SDD 15D50-03a

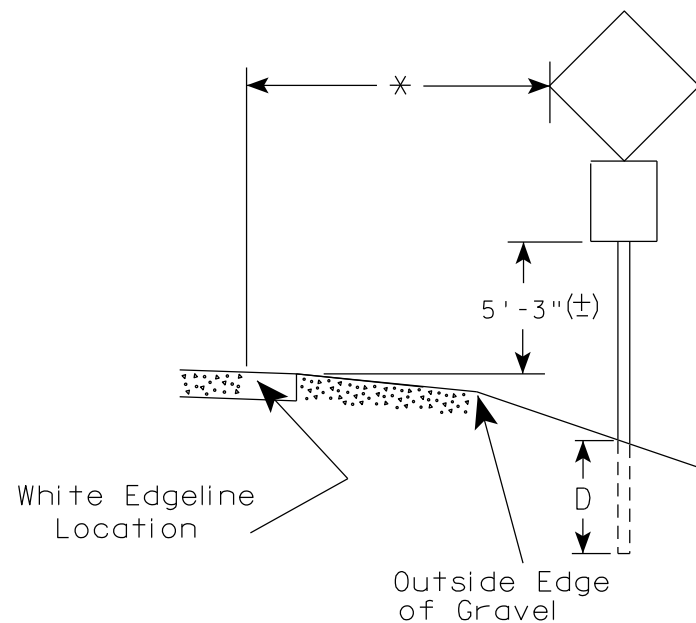
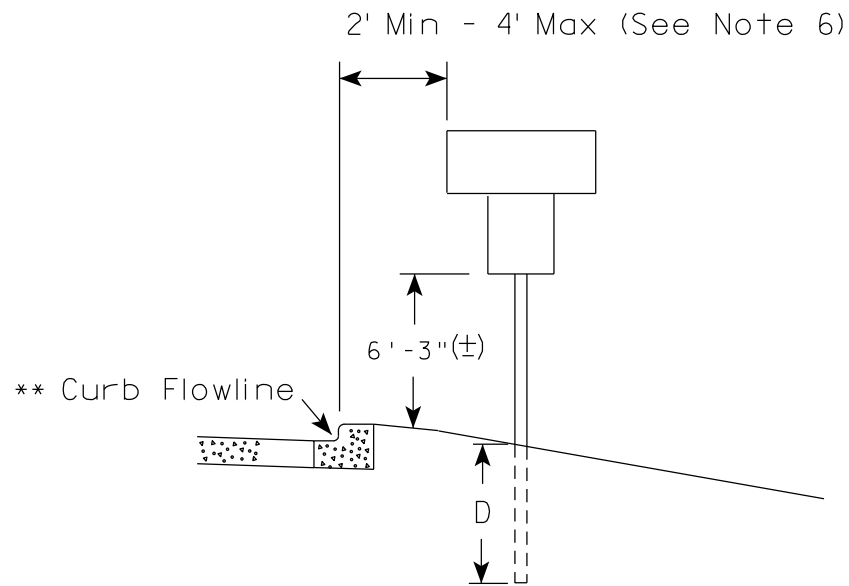
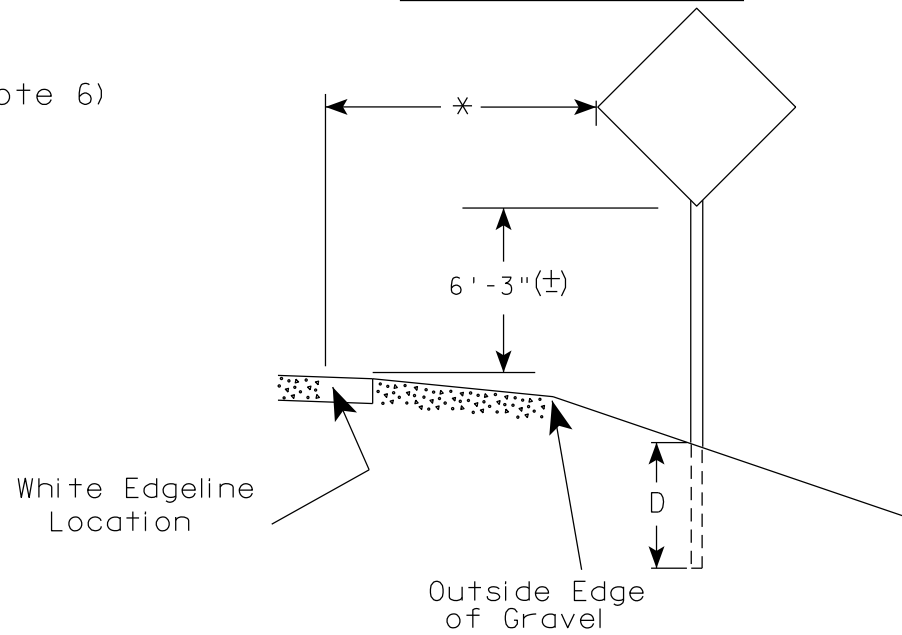
SDD 15D50-03a

TRAFFIC CONTROL ADDED LANE CLOSURE WITHOUT LANE SHIFT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE May 2023	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

URBAN AREA



RURAL AREA (See Note 2)



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 directed by the Engineer.

POST EMBEDMENT DEPTH

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

* * 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.

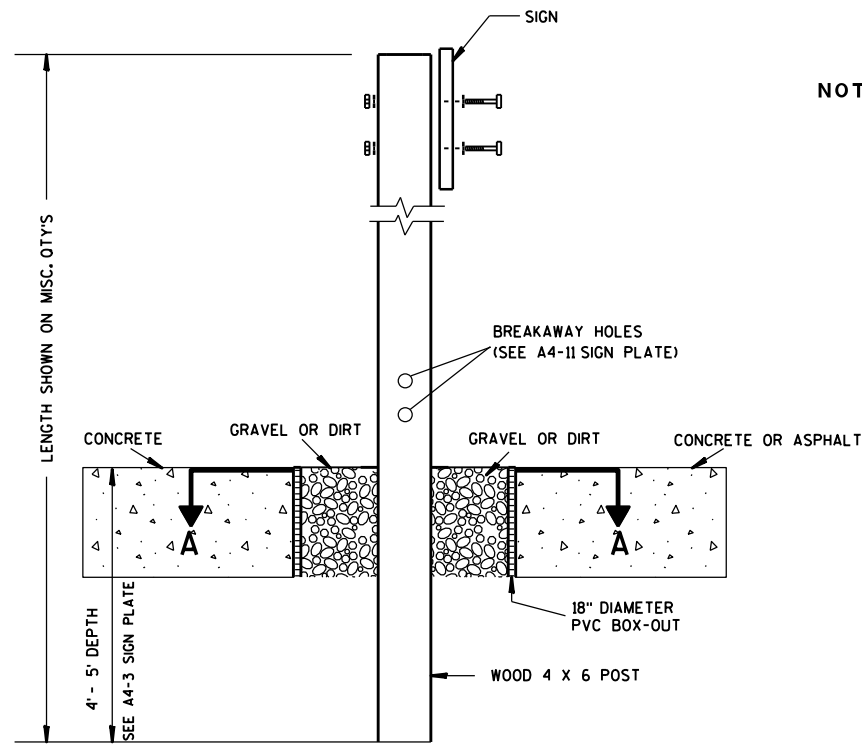
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

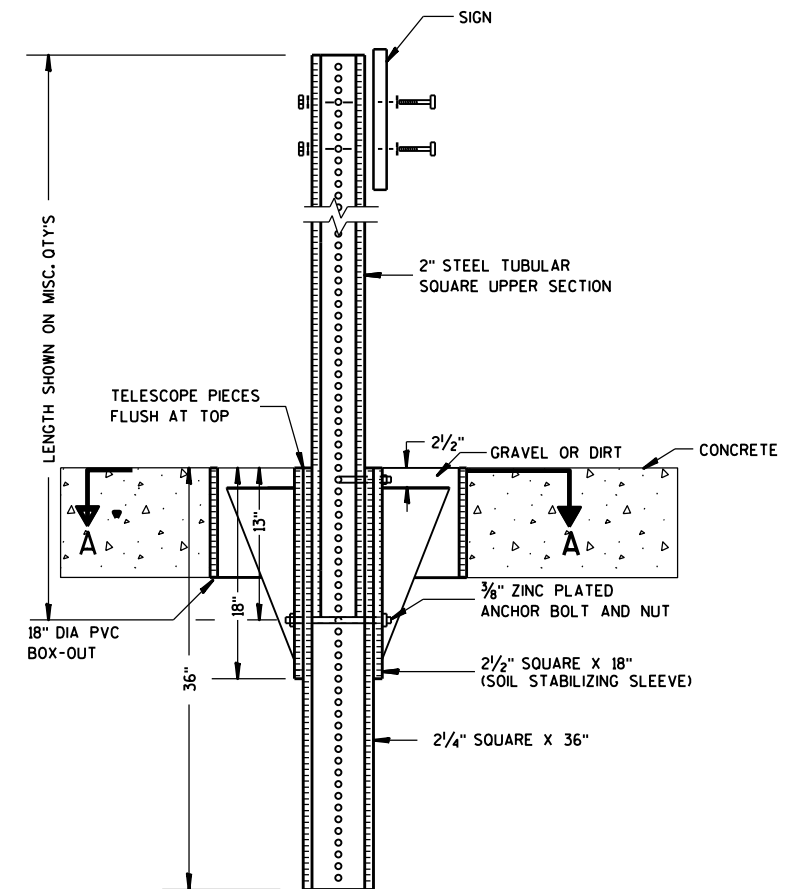
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

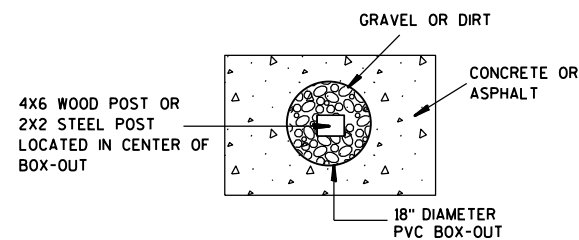
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

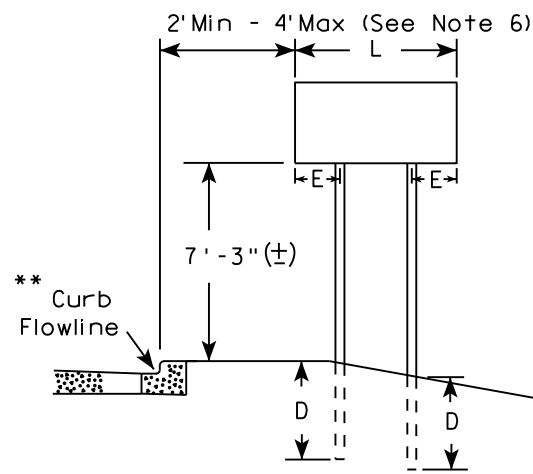
FOR NEW CONCRETE/ ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B	
<small>WISCONSIN DEPT OF TRANSPORTATION</small>	
APPROVED <i>Matthew R. Rauch</i> <small>for State Traffic Engineer</small>	
<small>DATE 1/27/14</small>	<small>PLATE NO. A4-3B.1</small>

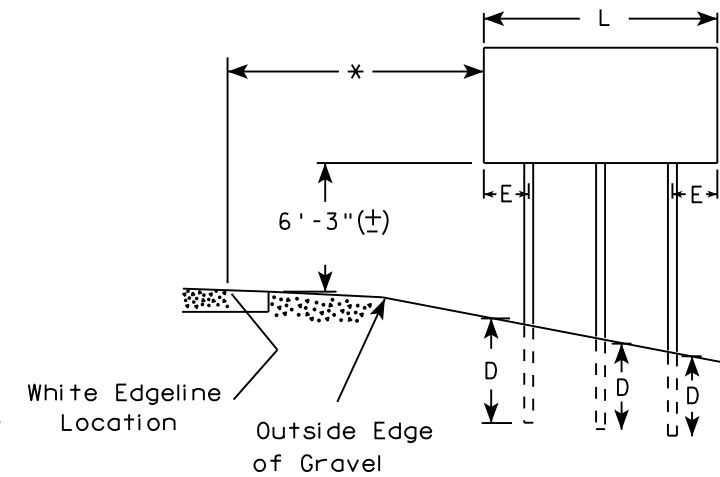
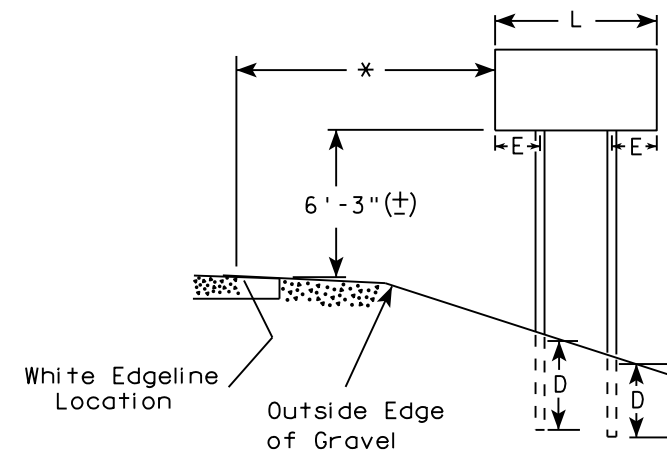
GENERAL NOTES

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" (±).

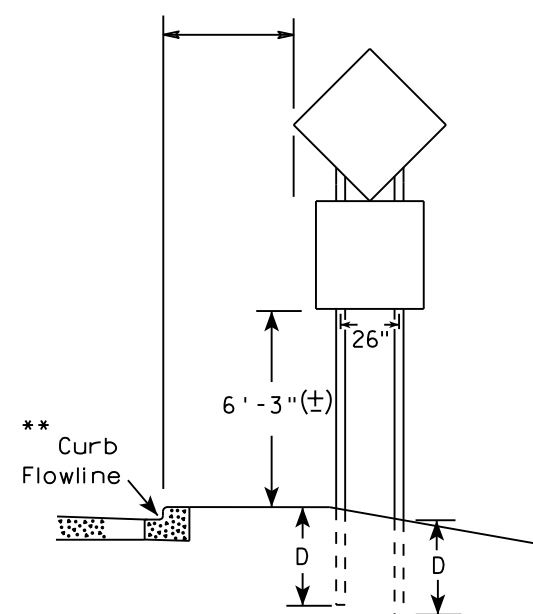
URBAN AREA



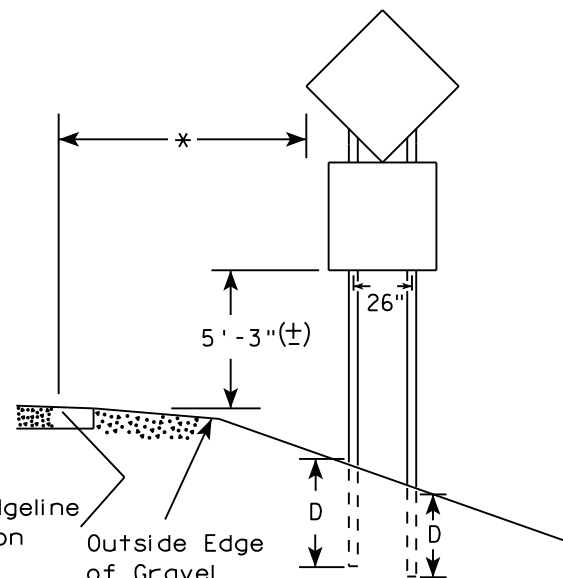
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

* 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.

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

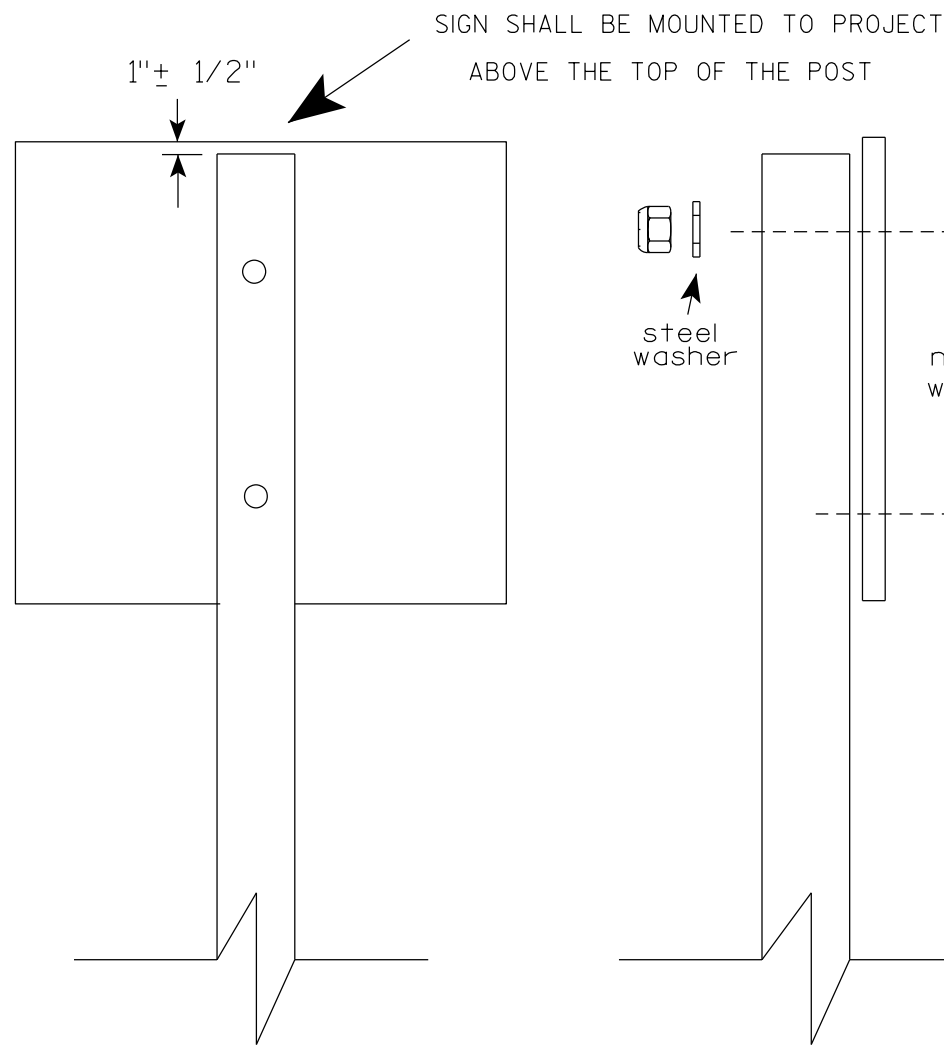
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- 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.

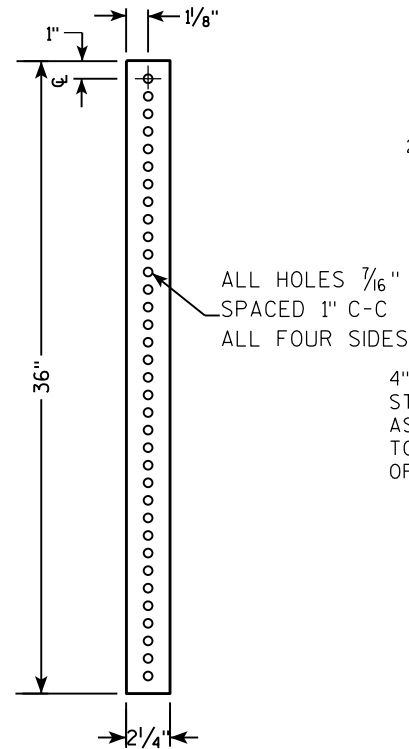
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " 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.

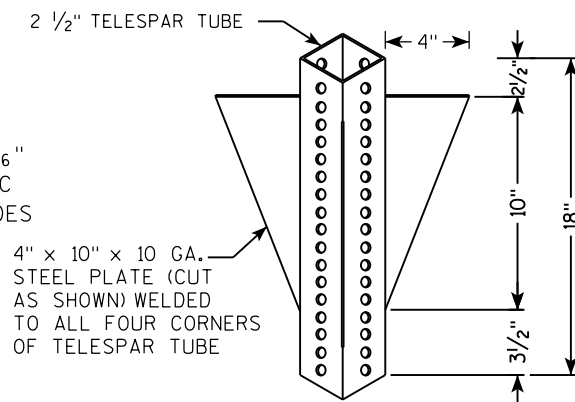
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

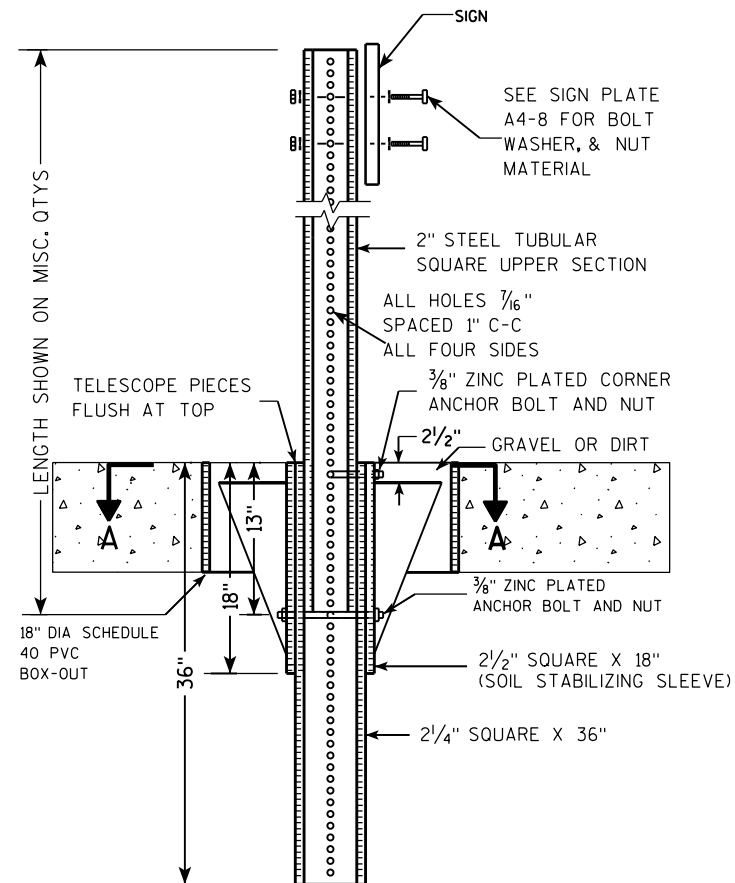
**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



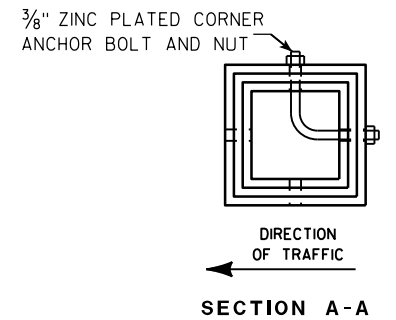
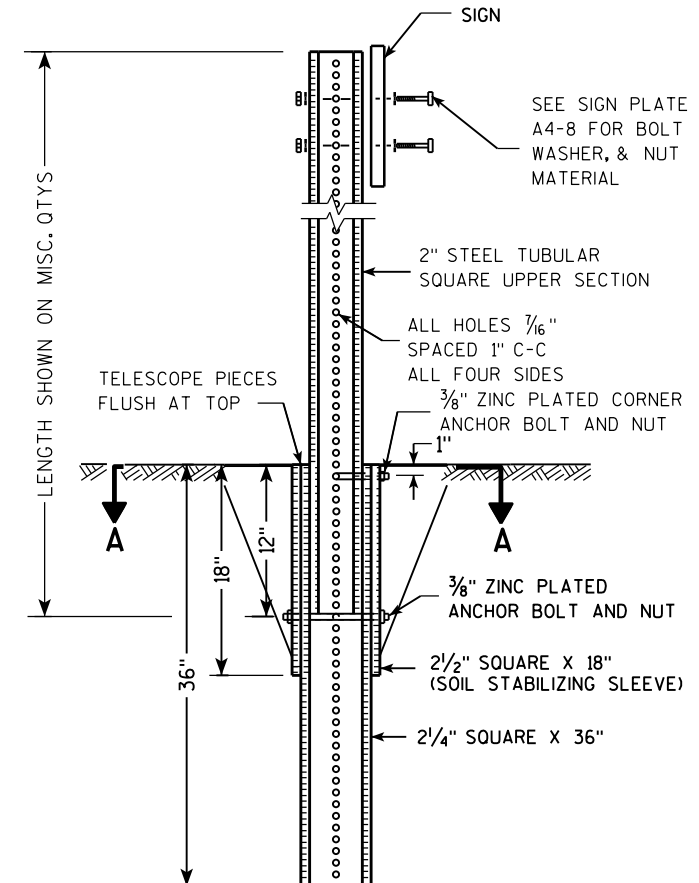
**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



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



**DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**



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 NO. A4-9.9

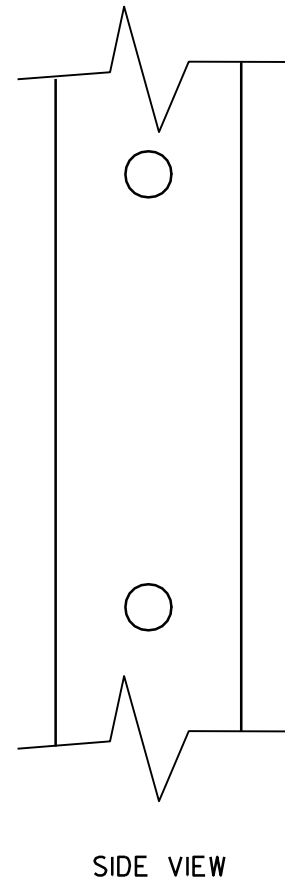
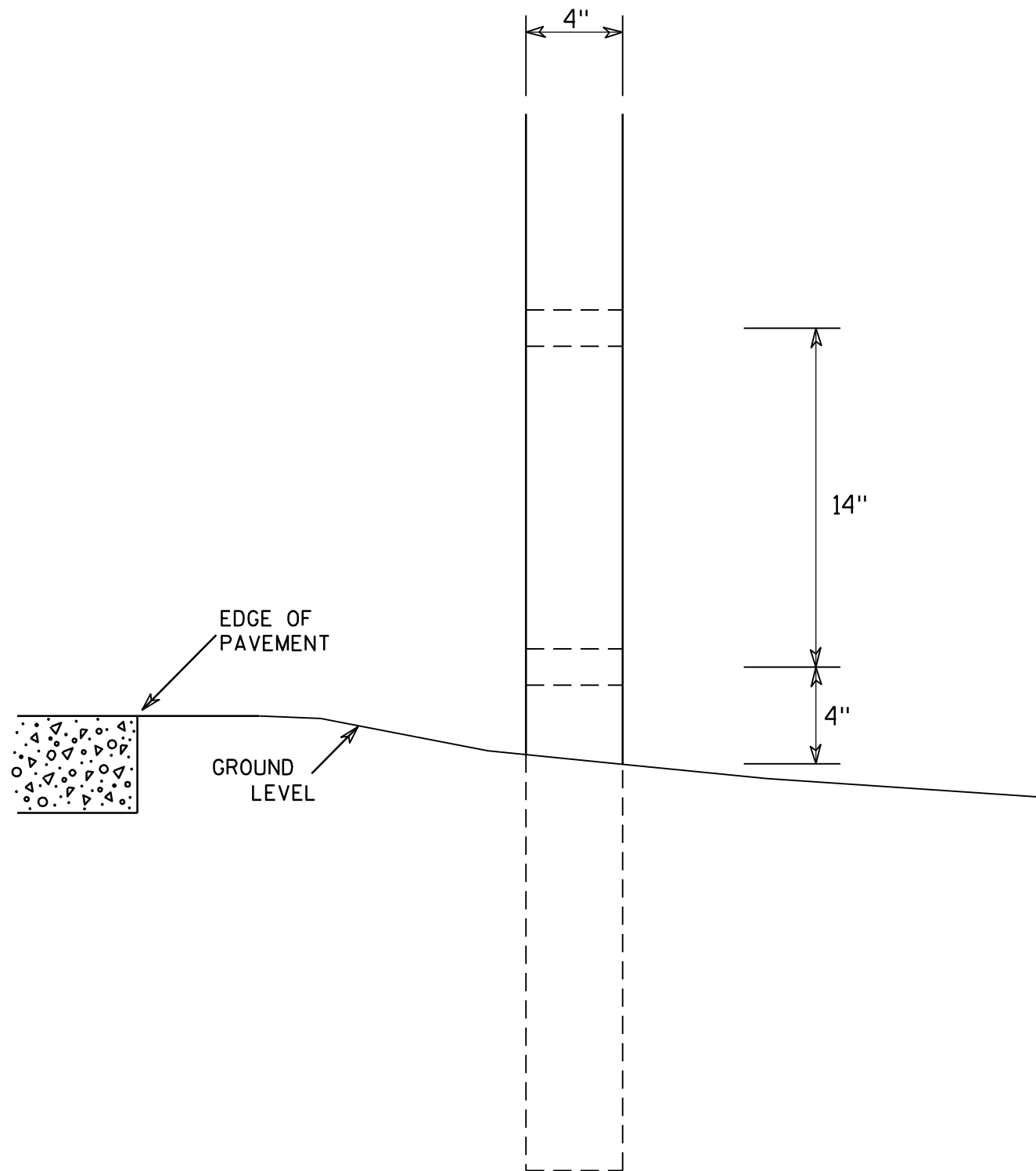
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

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

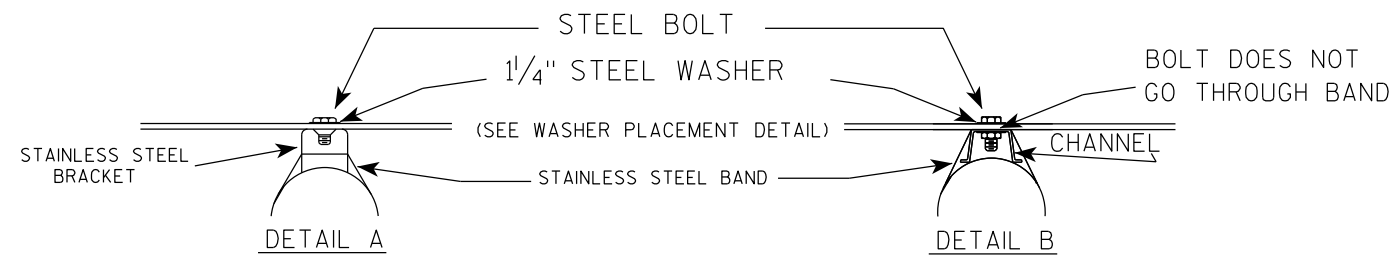
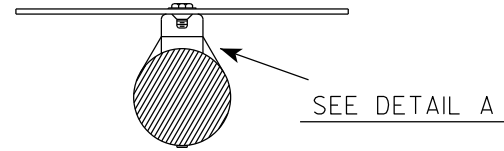
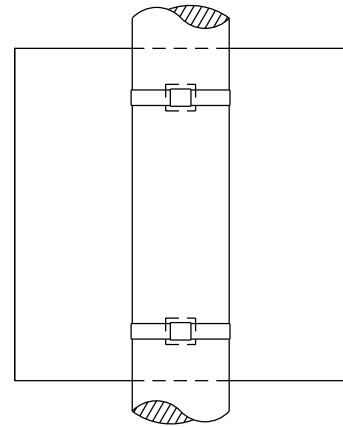
7

7

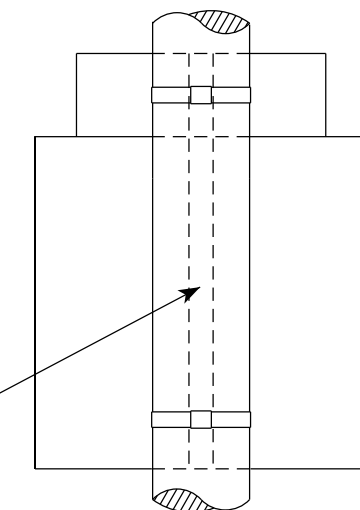
4 X 6 WOOD POST MODIFICATIONS	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

BANDING

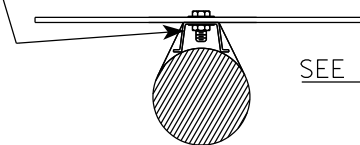
SINGLE SIGN



"J" ASSEMBLY

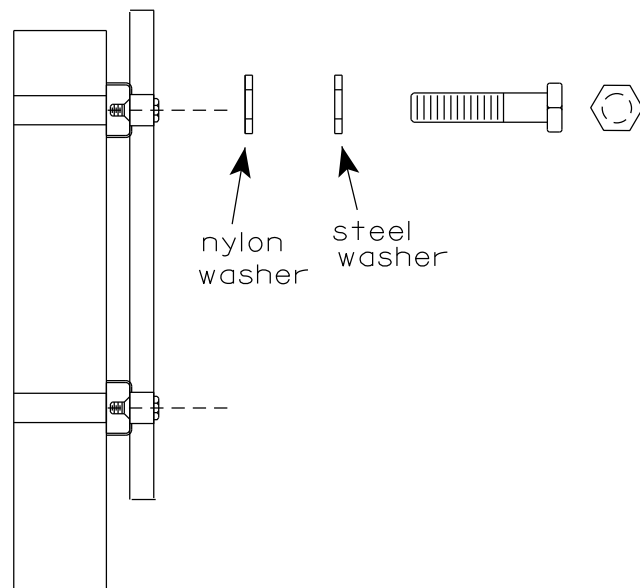


CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



- 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 $\frac{3}{4}$ " 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

WASHER PLACEMENT



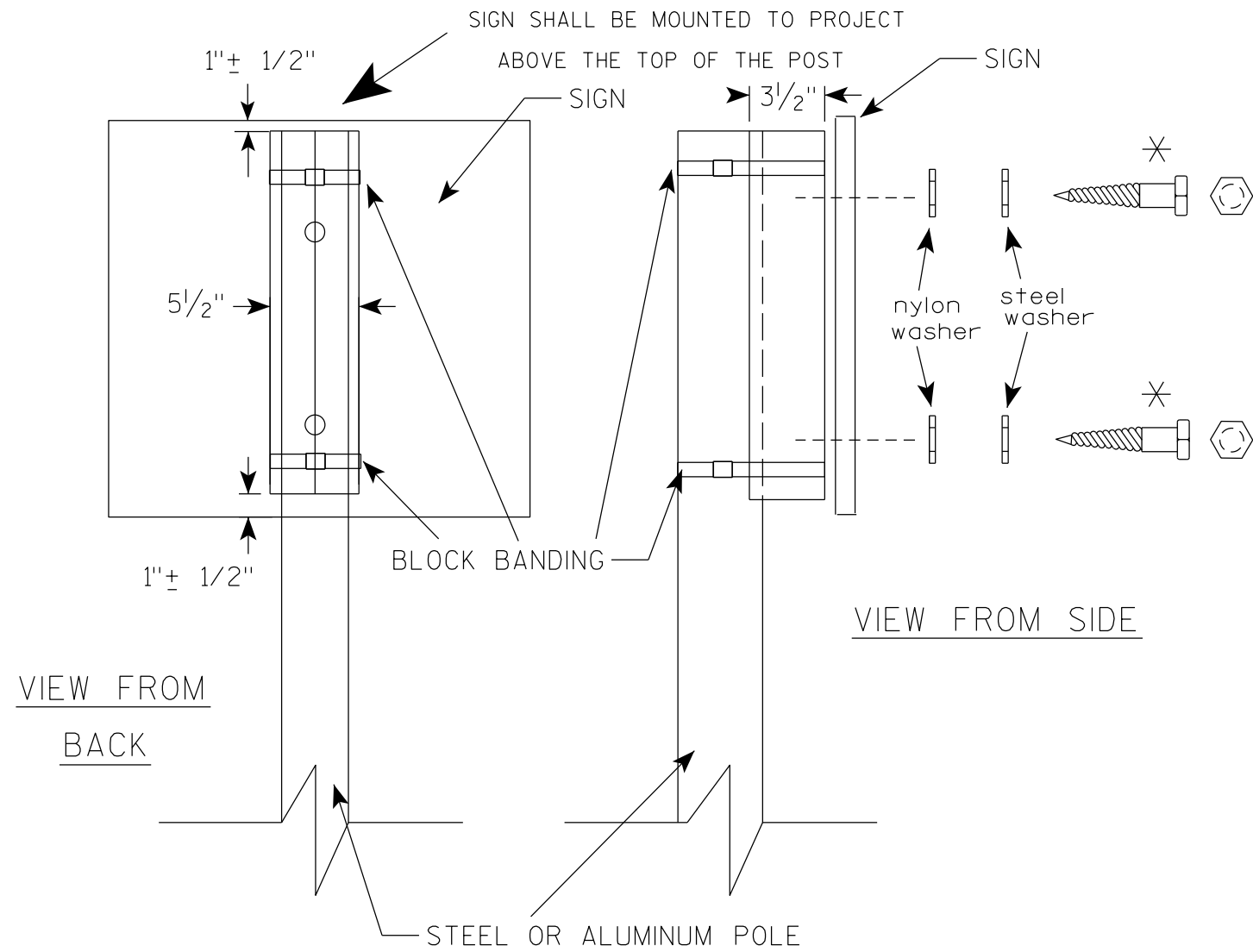
WASHERS (ALL POSTS) -
 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON
 FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

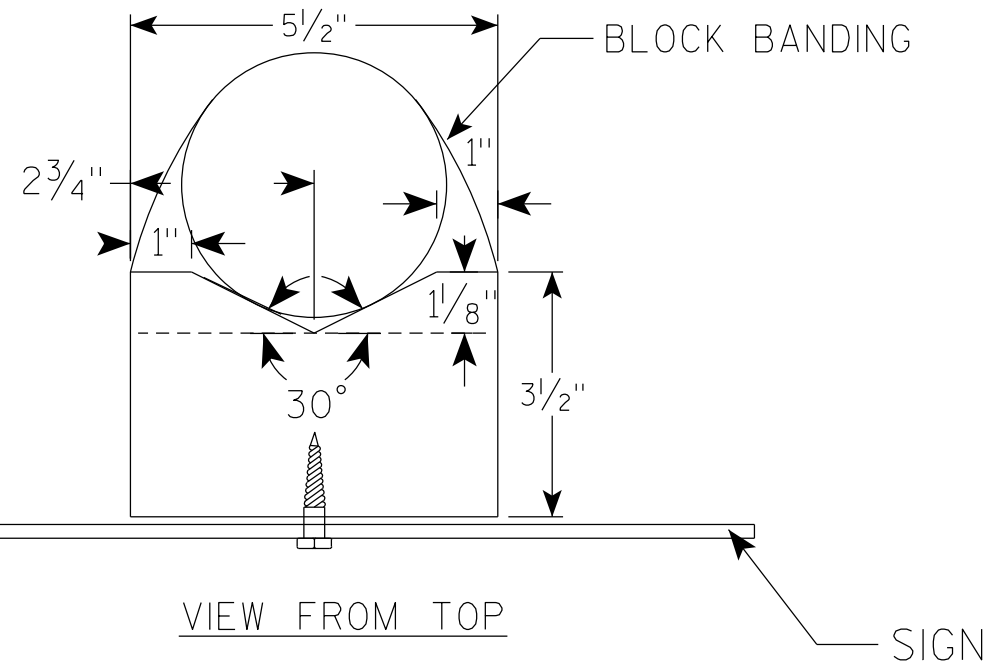
DATE 6/10/19 PLATE NO. A5-9.4



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, 3/4" 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 NORMALLY 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 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"



BLOCK BANDING DETAIL
(V-BLOCK OPTION)

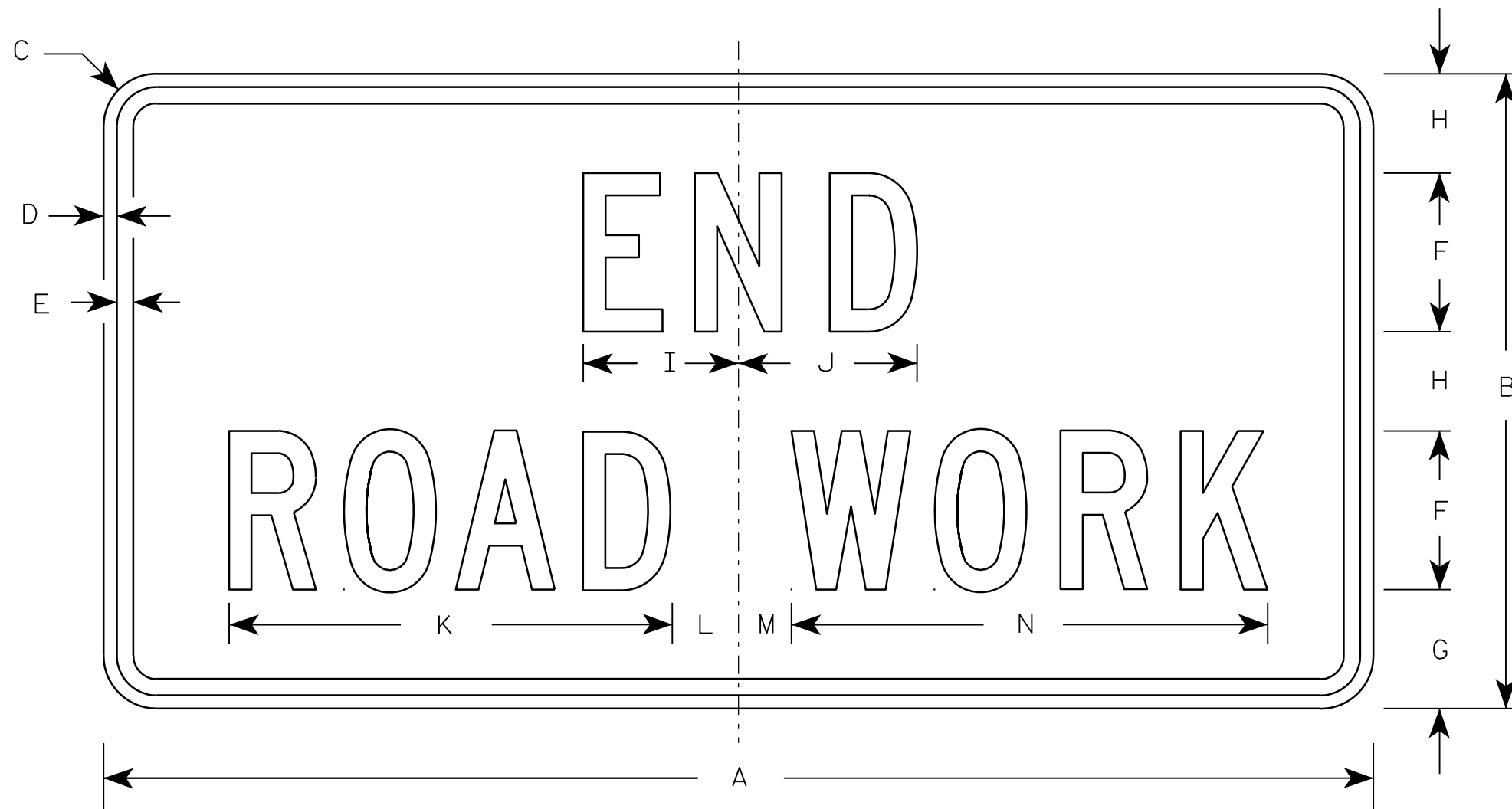
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

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.



G20-2A

7

7

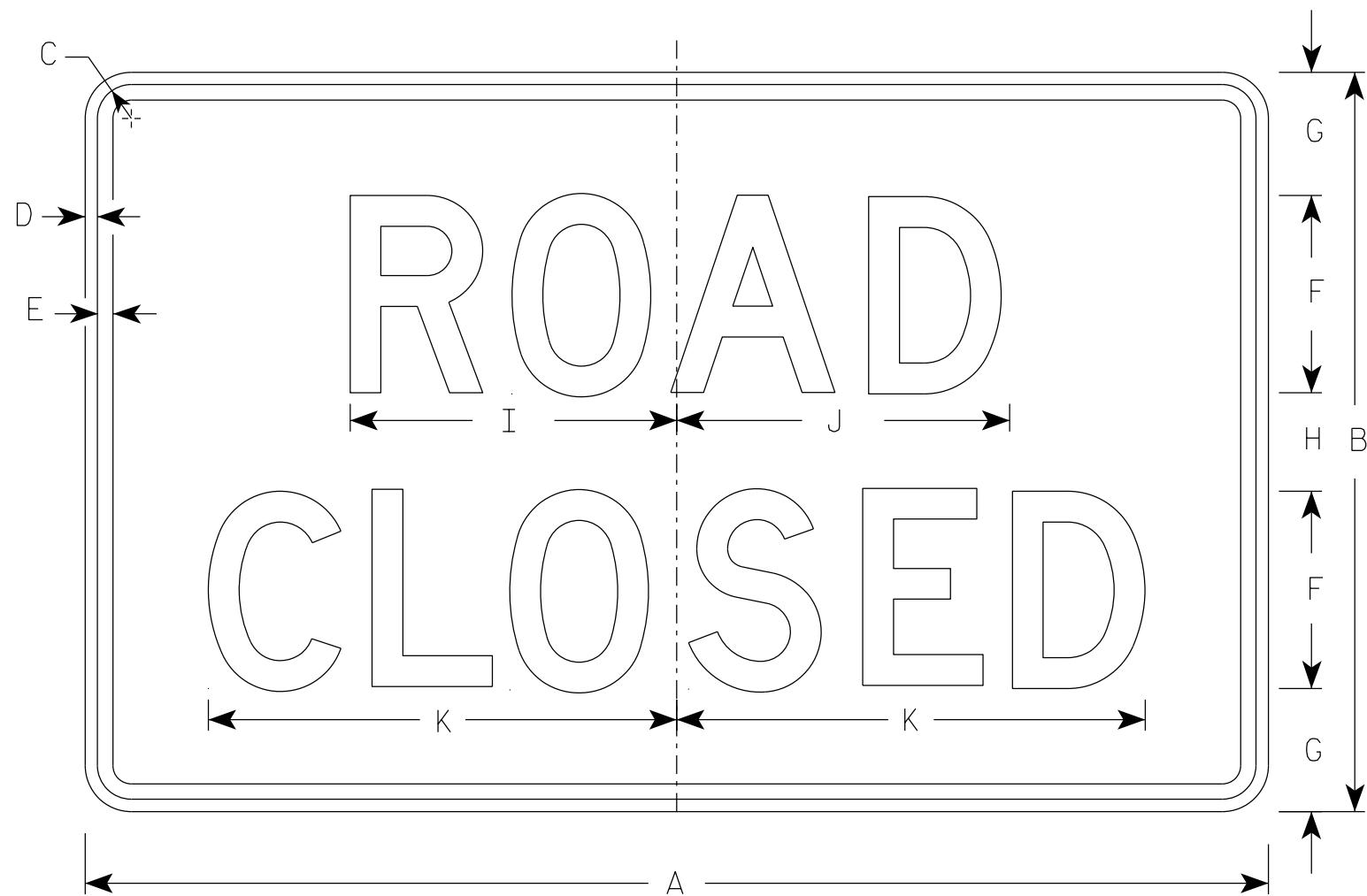
Metric equivalent for this sign is:

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 sq. m.
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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 9/30/09	PLATE NO. G20-2A.8

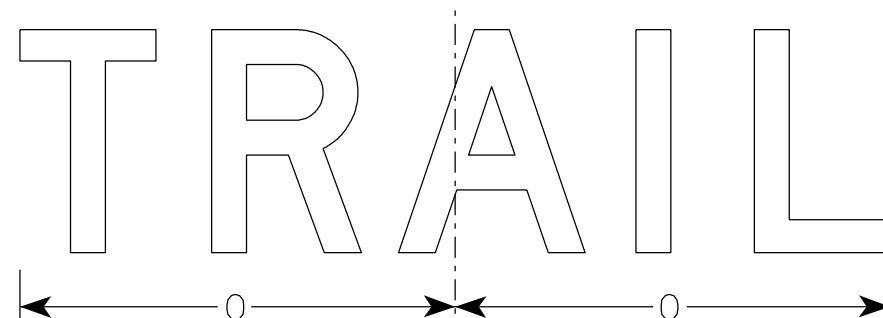
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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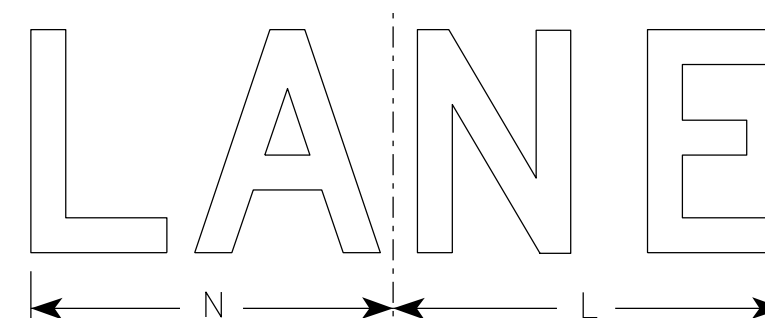
R11-2



R11-2R



R11-2T



R11-2L

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.

7

7

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

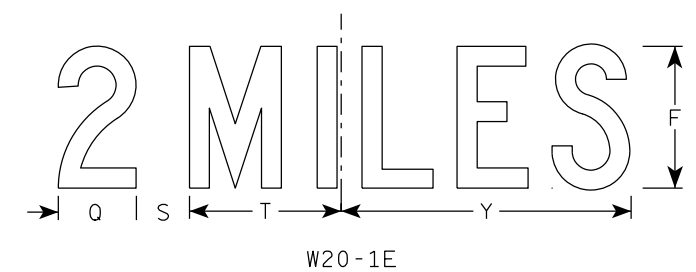
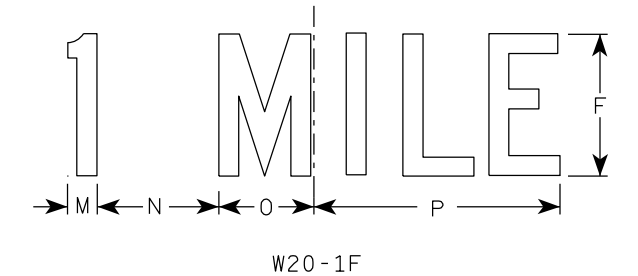
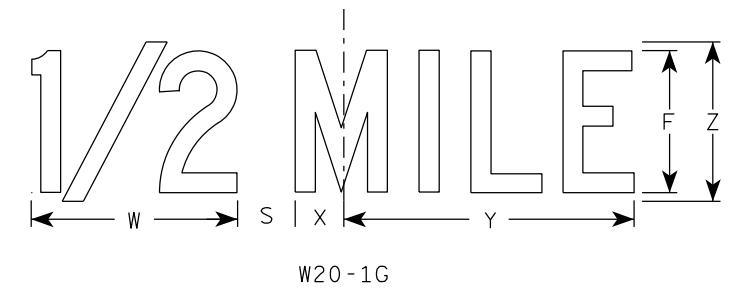
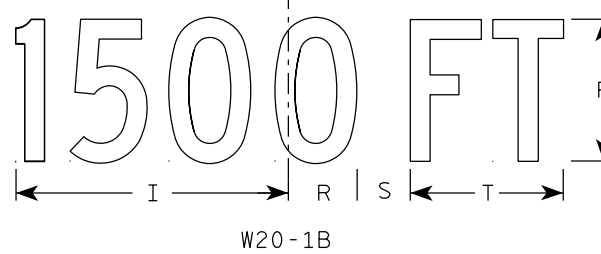
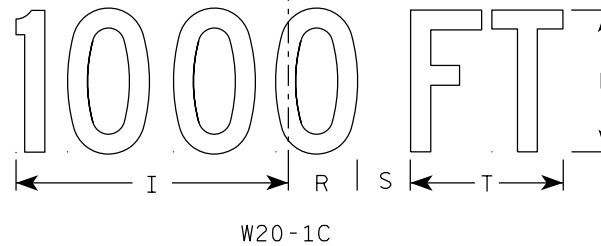
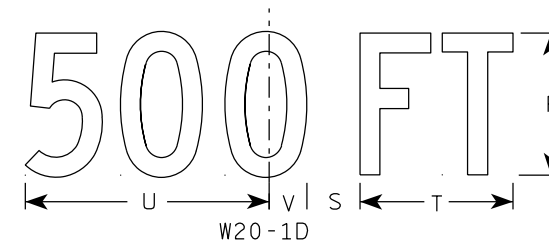
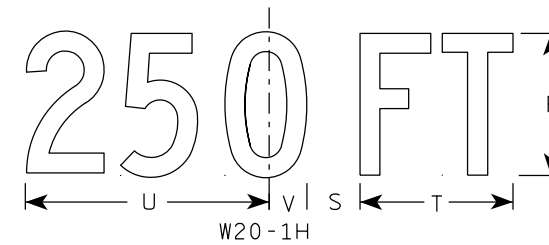
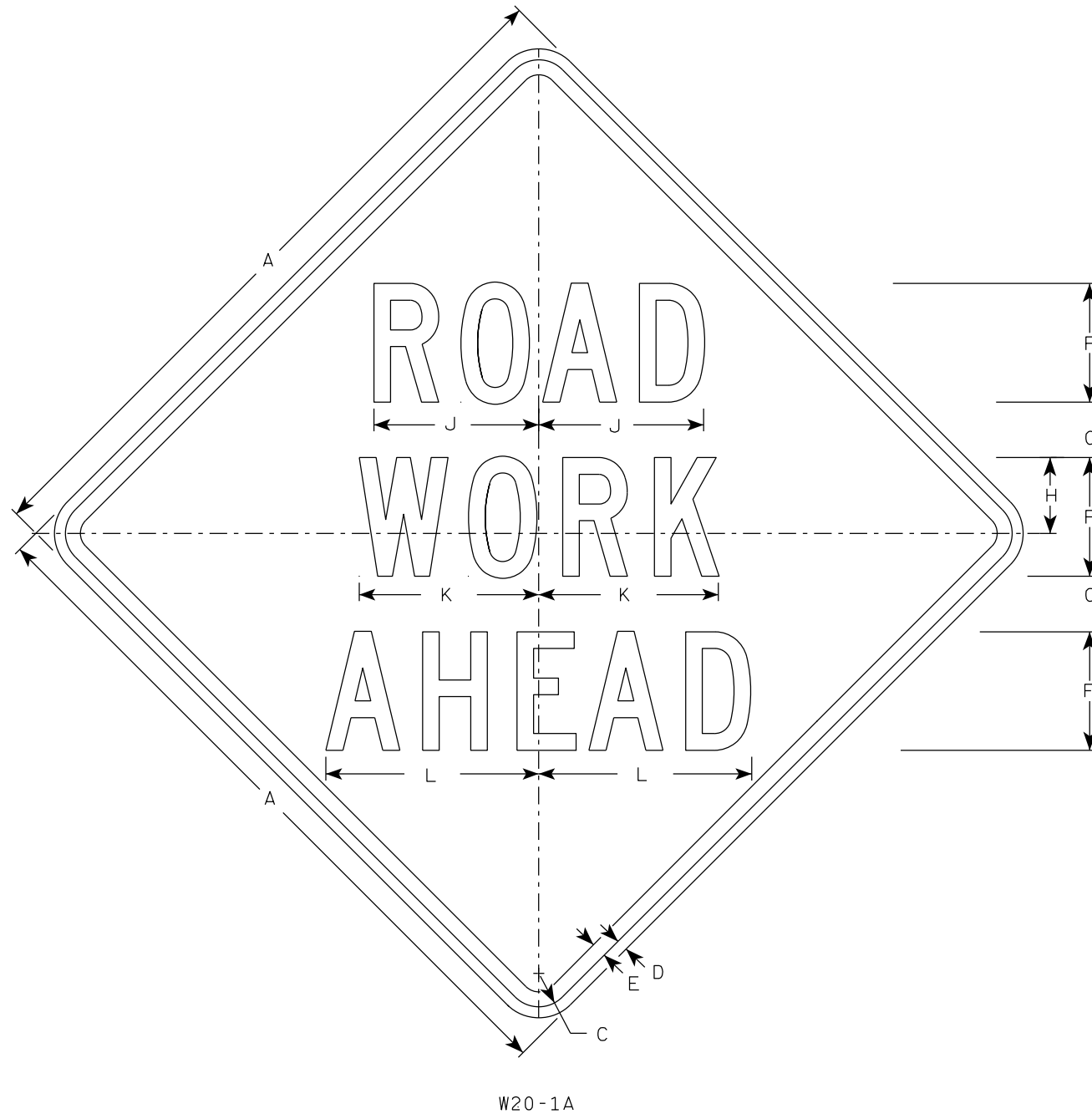
APPROVED *Matthew R Rauch*
For State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **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.



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

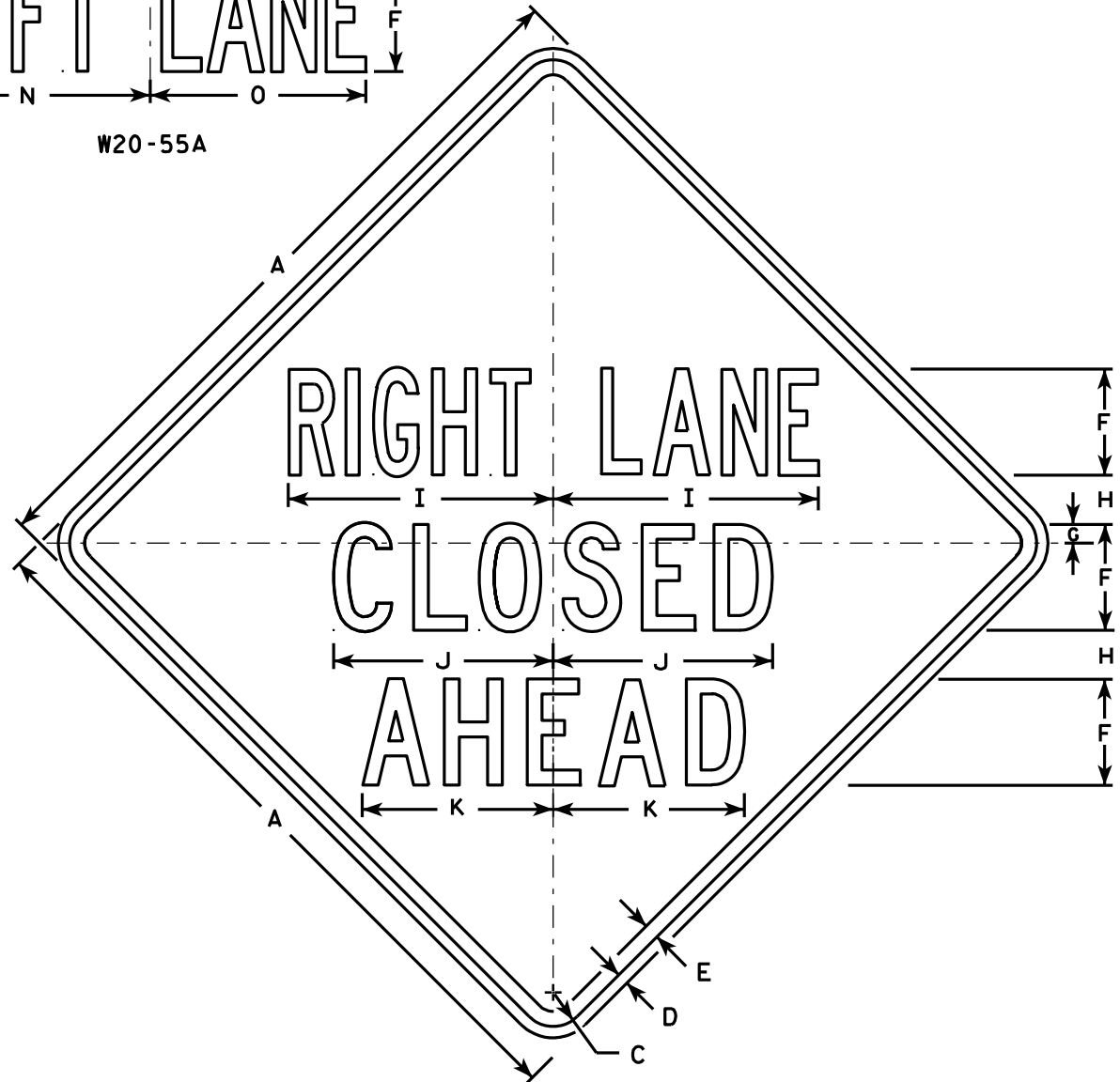
DATE 3/25/2020 PLATE NO. W20-1.11

CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

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.

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

W20-5F

7

7

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	7/8	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 7/8	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

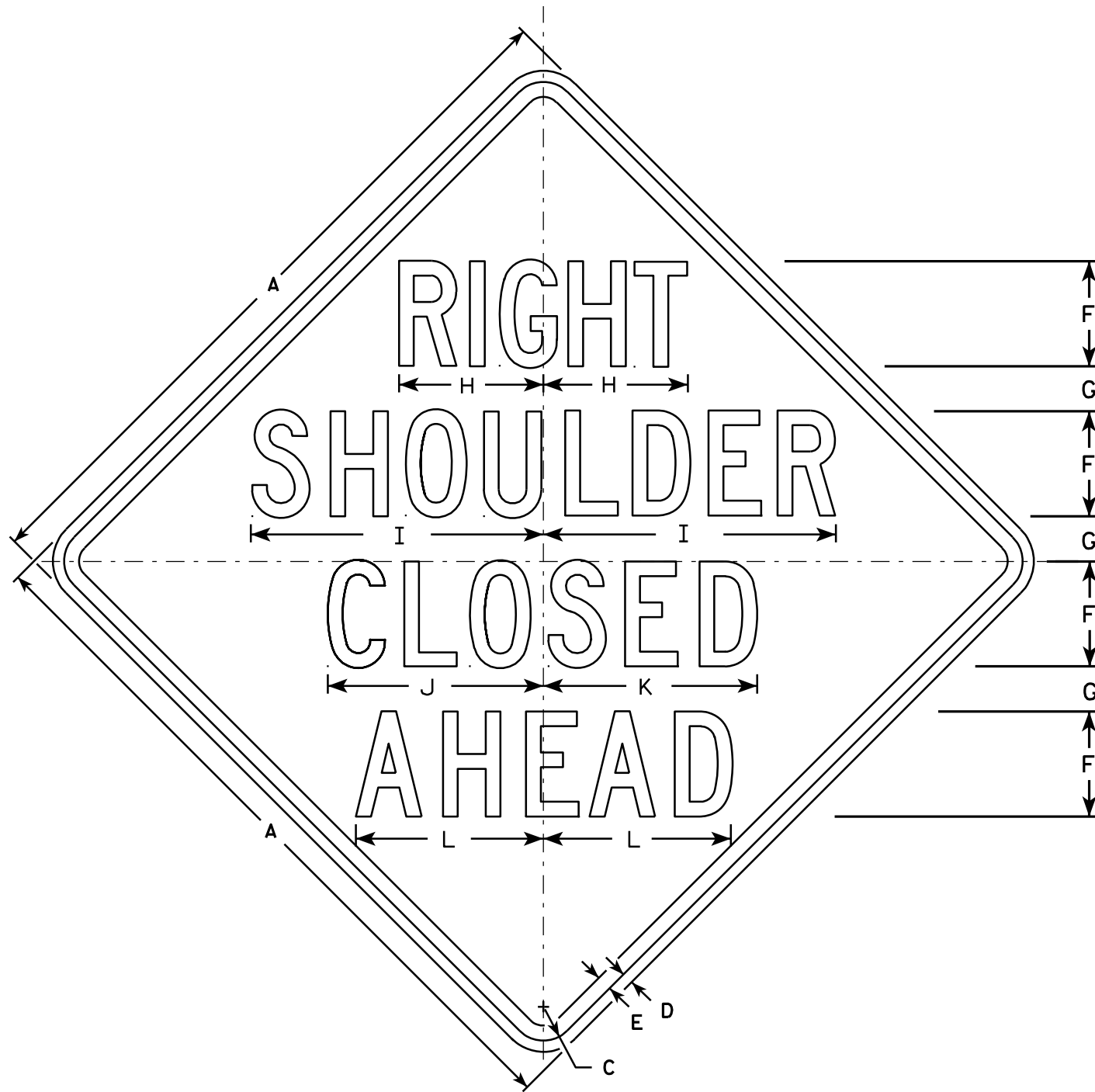
STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

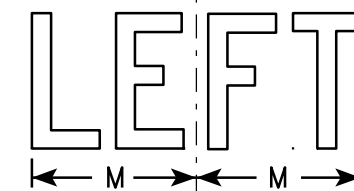
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



W21-5B

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.



W21-5BL

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 1/4	7 3/8	14 1/4	10 1/4	10 1/8	8 7/8	6 1/4														9.0
2S	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
2M	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
3	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
4	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
5	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0

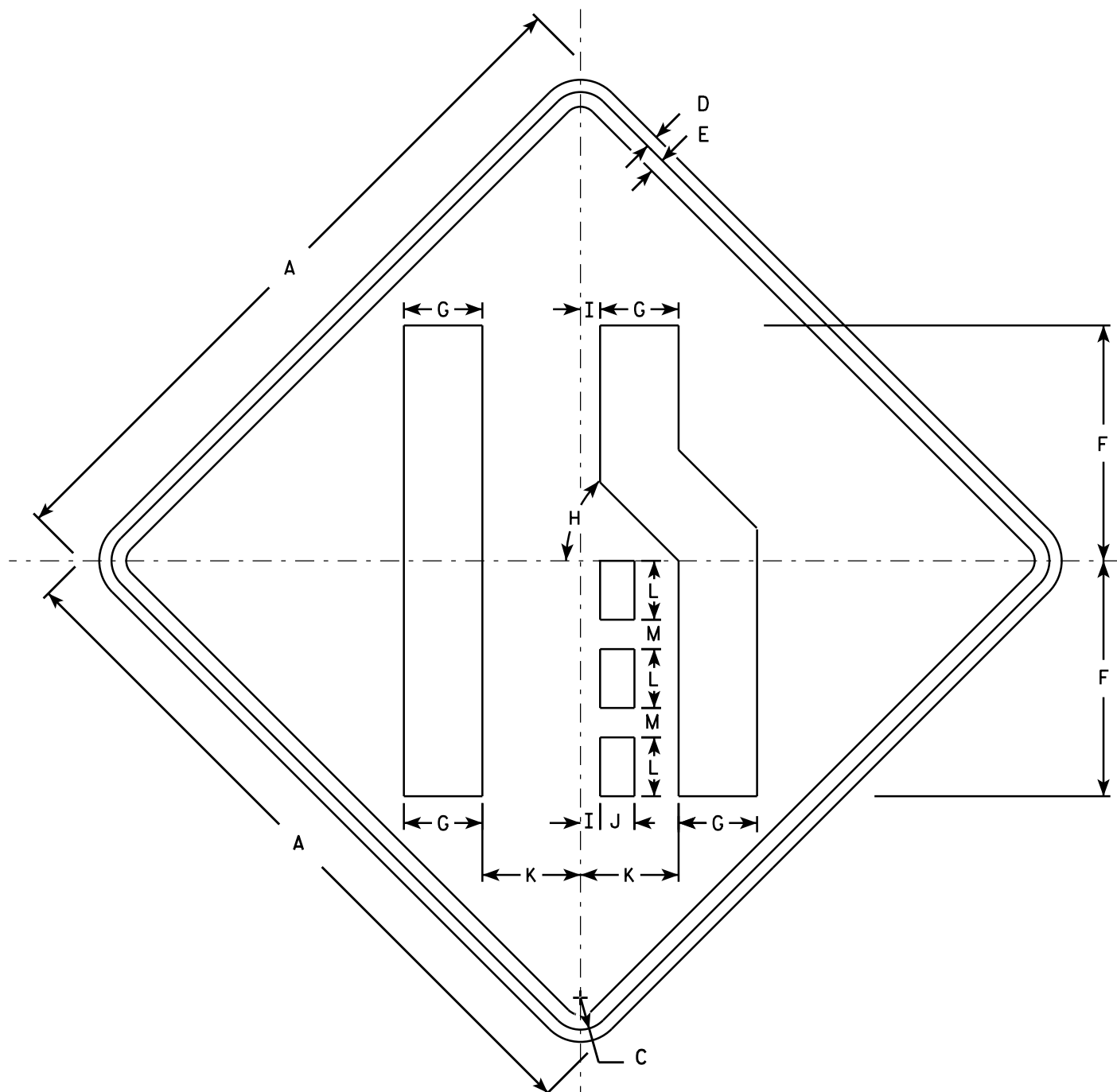
STANDARD SIGN
W21-5B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5B.3

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ 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 symbols is reversed along the vertical centerline.

7

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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

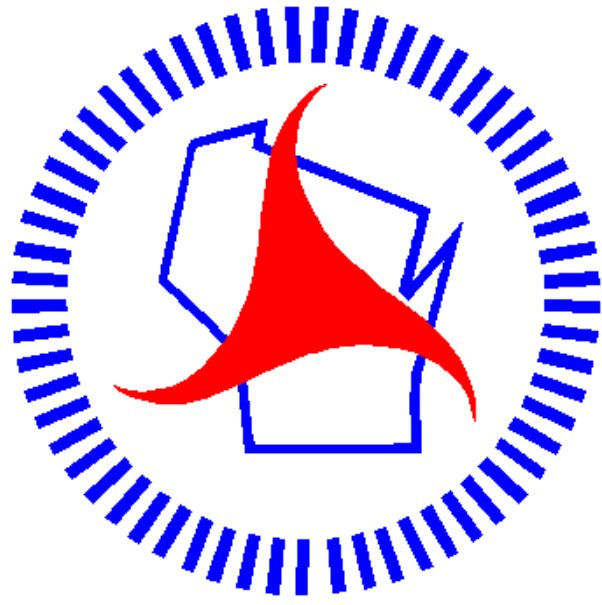
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 11/20/13 PLATE NO. W04-2.1

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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