WKE FEB 11,

PROJECT ID: 3700-20-80

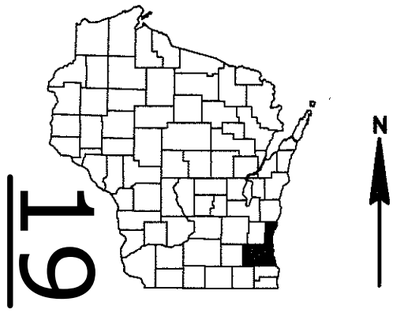
WITH:

COUNTY: MILW./ OZAUKEE/ WAUK.

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 = 308



N

DESIGN DESIGNATION

A.A.D.T.	N/A	=	N/A
A.A.D.T.	N/A	=	N/A
D.H.V.		=	N/A
D.D.		=	N/A
T.		=	N/A
DESIGN SPEED		=	N/A
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

REPLACE EXISTING SIGNALS

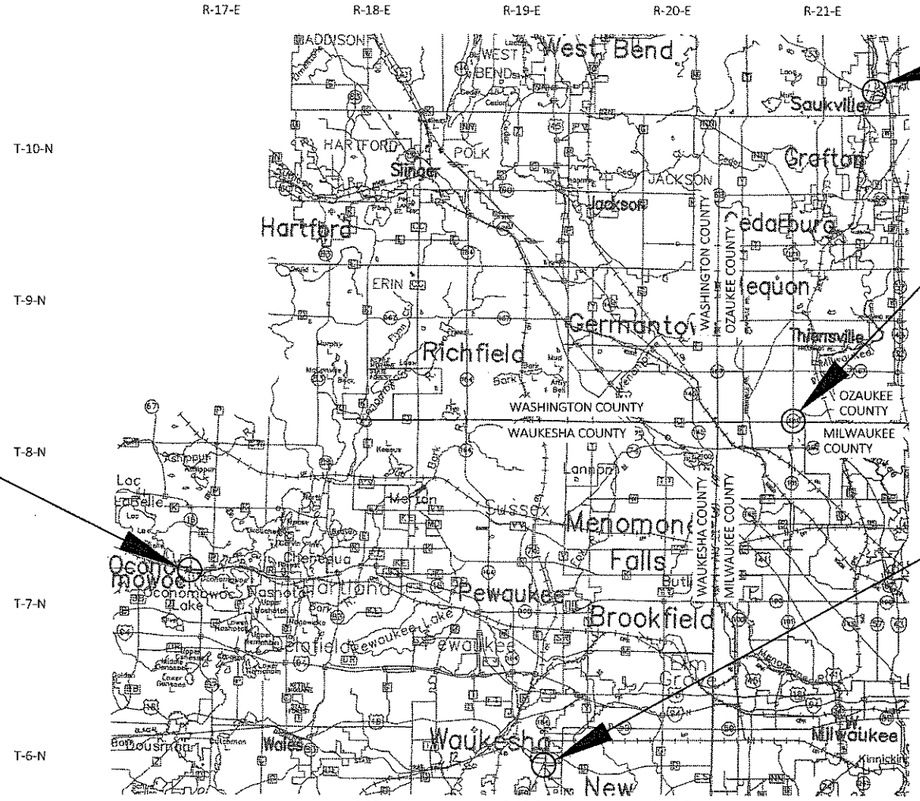
VARIOUS SIGNALIZED INTERSECTIONS

VARIOUS HIGHWAYS

MILWAUKEE, OZAUKEE AND WAUKESHA COUNTIES

STATE PROJECT NUMBER
3700-20-80

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3700-20-80		



LAYOUT

SCALE 0 6 MI

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	SURVEYOR
Designer	WISDOT
Project Manager	SEAN MCKINNEY
Regional Examiner	RICH HERRICK
Regional Supervisor	REEM SHAHIN

APPROVED FOR THE DEPARTMENT

DATE: 8-1-19 Sean McKinney (Signature)

E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\010101_TI.DWG PLOT DATE : 7/31/2019 6:37 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME :

ORDER OF SECTION 2 SHEETS

GENERAL NOTES
PROJECT OVERVIEW
CONSTRUCTION DETAILS
REMOVAL PLANS
INTERSECTION DETAILS
EROSION CONTROL
SIGNING PLANS
TRAFFIC SIGNAL PLANS
PAVEMENT MARKING
TRAFFIC CONTROL
ALIGNMENT DETAILS

GENERAL NOTES

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

CONTACT THE PROJECT ENGINEER, THE COUNTY SURVEYOR, AND SEWRPC AT LEAST TWO WEEKS BEFORE WORKING NEAR ANY SECTION CORNER MONUMENT.

VERIFY EXISTING PAVEMENT ELEVATIONS AT ALL TIE-INS TO EXISTING PAVEMENT PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF A DISCREPANCY IS FOUND BETWEEN PROPOSED PLAN ELEVATIONS AND EXISTING PAVEMENT ELEVATIONS.

SAWCUT EXISTING ASPHALT AND CONCRETE PAVEMENT AT THE MATCHLINE AS INDICATED ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

TINE CONCRETE PAVEMENT LONGITUDINALLY UNLESS OTHERWISE IDENTIFIED IN THE PLAN OR DIRECTED BY THE ENGINEER.

CONSTRUCT INSIDE EDGE OF SIDEWALK 1/2 INCH HIGHER THAN TOP OF CURB WHEN THEY ARE ADJACENT TO EACH OTHER.

RESHAPE, RESTORE AND FINISH ALL PREVIOUSLY GRASSED AREAS DISTURBED BY OPERATIONS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT NO EXPENSE TO THE DEPARTMENT.

PLACE TOPSOIL 1 INCH BELOW THE TOP OF ADJACENT CONCRETE CURBS OR SIDEWALKS IN SOD AREAS.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED, FERTILIZED, SEEDED, AND MULCHED OR SODDED AS DIRECTED BY THE ENGINEER.

DO NOT REMOVE ANY TREES OR SHRUBS WITHOUT APPROVAL OF THE ENGINEER.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

EXISTING DRIVEWAYS AND FIELD ENTRANCES SHALL BE RESTORED IN KIND AS DIRECTED BY THE ENGINEER IN THE FIELD AND AT THE LOCATION DETERMINED BY THE ENGINEER.

EXISTING PAVEMENT STRUCTURE (FOR INFORMATION ONLY)

INTERSECTION	ROADWAY	DESCRIPTION
STH 16 & STH 67 NB & SB RAMPS	STH 16	PAVEMENT LAYER: NON-REINFORCED CONCRETE PAVEMENT, DOWELED & TIED, 9-INCH UPPER BASE LAYER: CRUSHED AGGREGATE BASE COURSE, OPEN-GRADED, 5-INCH LOWER BASE LAYER: CRUSHED AGGREGATE BASE COURSE, 4-INCH
	STH 67 NB & SB RAMPS	PAVEMENT LAYER: NON-REINFORCED P.C. CONCRETE PAVEMENT, DOWELED & TIED, 9-INCH BASE LAYER: CRUSHED AGGREGATE BASE COURSE, 8-INCH
	FRONTAGE ROAD	PAVEMENT LAYER: BITUMINOUS CONCRETE PAVEMENT, 5-INCH BASE LAYER: CRUSHED AGGREGATE BASE COURSE, 10-INCH
	PLANK ROAD	PAVEMENT LAYER: BITUMINOUS CONCRETE PAVEMENT, 5-INCH BASE LAYER: CRUSHED AGGREGATE BASE COURSE, 10-INCH
STH 59/164 & CTH Y (RACINE AVE)	STH 59/164	PAVEMENT LAYER: NON-REINFORCED CONCRETE PAVEMENT, NON-DOWELED, TIED, 9-INCH BASE LAYER: CRUSHED AGGREGATE BASE COURSE, OPEN-GRADED, 6-INCH
	CTH Y (RACINE AVE)	PAVEMENT LAYER: NON-REINFORCED CONCRETE PAVEMENT, NON-DOWELED, TIED, 9-INCH BASE LAYER: CRUSHED AGGREGATE BASE COURSE, 6-INCH
STH 181 & COUNTY LINE RD	STH 181	PAVEMENT LAYER: NON-REINFORCED CONCRETE PAVEMENT, NON-DOWELED, TIED, 9-INCH BASE LAYER: CRUSHED AGGREGATE BASE COURSE, 6-INCH
	COUNTY LINE RD	PAVEMENT LAYER: RECYCLED BITUMINOUS SURFACE, 4-INCH BASE LAYER: CRUSHED AGGREGATE BASE COURSE, 8-INCH
STH 33 & CTH O	STH 33	PAVEMENT LAYER: RECYCLED BITUMINOUS SURFACE, VARIES 4-1/2 TO 6-INCHES UPPER BASE LAYER: CONCRETE PAVEMENT, UNKNOWN DEPTH LOWER BASE LAYER: CRUSHED AGGREGATE BASE COURSE, 12-INCH

HMA PAVING

LOCATION	THICKNESS	DESCRIPTION
COUNTY LINE ROAD	4-INCHES	ASPHALTIC SURFACE
STH 67 NB & SB RAMP PORKCHOP & MEDIAN ISLANDS	3.5-INCHES	ASPHALTIC SURFACE SAFETY ISLANDS
STH 59/164 & RACINE AVE PORKCHOP & MEDIAN ISLANDS	2-INCHES	ASPHALTIC SURFACE SAFETY ISLANDS

UTILITY CONTACTS

WE ENERGIES (ELECTRIC, GAS AND STEAM)
MS. NICOLE SMULLEN
333 W EVERETT ST - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
FAX: (414) 221-2336
EMAIL: nicole.smullen@wecenergygroup.com

ANR PIPELINE CO.
MR. TODD BRISTER
W3925 PIPELINE LANE
EDEN, WI 53019
PHONE: (920) 477-2235
EMAIL: todd_brister@transcanada.com

AT&T LOCAL NETWORK
TELEPORT COMMUNICATIONS AMERICA, LLC
MS. JENNIFER NAVARRO, ENGINEERING TECH
C/O NORTHWIND TECHNICAL SERVICES
6070 N FLINT RD
GLENDALE, WI 53209
PHONE: (414) 459-3564
EMAIL: j.navarro@northwindtech.com

AT&T WISCONSIN
MR. JAY BULANEK, MGR OSP PLNG & ENGRG DESIGN
2005 PEWAUKEE RD
WAUKESHA, WI 53188
PHONE: (262) 896-7669
EMAIL: jb5175@att.com

AT&T LEGACY
MR. KENNETH COLWELL
866 ROCK CREEK RD
PLANO, IL 60545
PHONE: (847) 420-9115
FAX: (847) 244-9597
EMAIL: kc1298@att.com

CHARTER COMMUNICATIONS
MR. PETE KRUZELA, CONSTRUCTION SUPERVISOR
1320 N MARTIN LUTHER KING JR. DR
MILWAUKEE, WI 53212
PHONE: (414) 908-1339
FAX: (414) 277-0638
EMAIL: wis.engineering@charter.com

LEVEL 3 COMMUNICATIONS, LLC
NETWORK RELOCATIONS
1025 ELDORADO BLVD
BROOMFIELD, CO 80021
PHONE: (720) 888-0336
EMAIL: relo@level3.com

OCONOMOWOC UTILITIES (WASTEWATER)
MR. TOM STEINBACH, OPERATIONS MANAGER
900 S WORTHINGTON ST
OCONOMOWOC, WI 53066
PHONE: (262) 569-2912
EMAIL: tsteinbach@oconomowoc-wi.gov

OCONOMOWOC UTILITIES (WATER)
MR. SCOTT OSBORN, P.E., WATER SUPERINTENDENT
808 S WORTHINGTON ST
OCONOMOWOC, WI 53066
PHONE: (262) 569-6421
FAX: (262) 569-2164
EMAIL: sosborn@oconomowoc-wi.gov

OCONOMOWOC UTILITIES (ELECTRIC)
MR. JOE PICKART, ELECTRIC ENGINEER
808 S WORTHINGTON ST
OCONOMOWOC, WI 53066
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FAX: (262) 569-2164
EMAIL: jpickart@oconomowoc-wi.gov

CITY OF OCONOMOWOC (ENGINEERING)
MARK FRYE (STORM SEWER ONLY)
174 E WISCONSIN AVE
OCONOMOWOC, WI 53066
PHONE: (262) 569-2184
EMAIL: mfrye@oconomowoc-wi.gov

CITY OF WAUKESHA SANITARY & STORM SEWER
MR. ALEX DAMIEN, P. E.
130 DELAFIELD ST
WAUKESHA, WI 53188 3616
PHONE: (262) 524-3907
FAX: (262) 524-3898
EMAIL: adamien@waukesha-wi.gov

CITY OF WAUKESHA WATER
MR. CHRIS WALTER, P.E.
PO BOX 1648
WAUKESHA, WI 53187 1648
PHONE: (262) 521-5272
EMAIL: cwalter@waukesha-water.com

WAUKESHA WATER UTILITY
MS. KELLY ZYLSTRA, P.E., TECHNICAL SERVICE MANAGER
115 DELAFIELD ST
WAUKESHA, WI 53188
PHONE: (262) 521-5272
FAX: (262) 521-3999
EMAIL: kzylstra@waukesha-water.com

CITY OF MILWAUKEE (ELECTRIC, SEWER AND WATER)
MR. SAMIR AMIN
841 N BROADWAY ST RM 902
MILWAUKEE, WI 53202
PHONE: (414) 286-3301
EMAIL: samin@milwaukee.gov

CITY OF MEQUON
MR. JIM VOIGT, WATER OPERATIONS SUPERVISOR
11333 N CEDARBURG RD
MEQUON, WI 53092
PHONE: (414) 559-8656
EMAIL: jim.voigt@citywaterusa.com

PORT WASHINGTON-SAUKVILLE SCHOOL DISTRICT
MR. MICHAEL WEBER, SUPERINTENDENT
100 W MONROE ST
PORT WASHINGTON, WI 53074
PHONE: (262) 268-6000
FAX: (262) 268-6020
EMAIL: michael.weber@pwssd.k12.wi.us

VILLAGE OF SAUKVILLE DPW
MR. DALE KROPIDLOWSKI, WATER UTILITY SUPERINTENDENT
1600 COTTONTAIL LANE
SAUKVILLE, WI 53080
PHONE: (262) 284-3185
FAX: (262) 284-1801
EMAIL: dkropidlowski@village.saukville.wi.us

VILLAGE OF SAUKVILLE
MR. RAY HARTMANN, WASTEWATER UTILITY SUPERINTENDENT
1600 COTTONTAIL LANE
SAUKVILLE, WI 53080
PHONE: (262) 284-3185
FAX: (262) 284-1801
EMAIL: rhartmann@village.saukville.wi.us

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

WISDOT CONTACTS

WISDOT PROJECT MANAGER
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141 NW BARSTOW ST.
WAUKESHA, WI 53187
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EMAIL: Sean.McKinney@dot.wi.gov

WISDOT STOC
JEFF MADSON
433 W ST PAUL AVE., STE 300
MILWAUKEE, WI 53203 3007
PHONE: (414) 225-3723
EMAIL: jeffrey.madson@dot.wi.gov

WISDOT TRAFFIC LIGHTING
ERIC PEREA, SE REGION LIGHTING ENGINEER
935 S 60TH ST
WEST ALLIS, WI 53214
PHONE: (262) 574-5422
EMAIL: eric.perea@dot.wi.gov

WISDOT SIGNALS
DERRIN WOLFORD, LEAD WORKER
141 NW BARSTOW ST.
WAUKESHA, WI 53187
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EMAIL: derrin.wolford@dot.wi.gov

WISDOT ELECTICAL FIELD UNIT
DENNIS CAULEY (LEAD ELECTRICIAN)
935 S 60TH ST
WEST ALLIS, WI 53214
PHONE: (414) 266-1170
EMAIL: Dennis.Cauley@dot.wi.gov

WISDOT ATR PULL BOXES, TRAVEL SURVEY SHOP
CHAD BIGLER
3633 PIERSTORFF ST
MADISON, WI 53704 -258
PHONE: (608) 535-7413
EMAIL: chad.bigler@dot.wi.gov

WIS DNR CONTACTS

WISCONSIN DNR LIAISON - MILWAUKEE & OZAUKEE COUNTY
KRISTINA BETZOLD
2300 N. DR. MARTIN LUTHER KING DRIVE
MILWAUKEE, WI 53212
PHONE: (414) 507-4946
EMAIL: Kristina.Betzold@wisconsin.gov

WISCONSIN DNR LIAISON - WAUKESHA COUNTY
CRAIG WEBSTER
141 NW BARSTOW ST.
WAUKESHA, WI 53187
PHONE: (262) 574-2141
EMAIL: Craig.Webster@wisconsin.gov

PROJECT LOCATIONS

TRAFFIC SIGNAL IMPROVEMENT:
INTERSECTION OF STH 16 &
STH 67 NB & SB RAMPS

STH 16

STH 67

TRAFFIC SIGNAL IMPROVEMENT:
INTERSECTION OF STH 33 & CTH O

STH 33

CTH O

TRAFFIC SIGNAL IMPROVEMENT:
INTERSECTION OF STH 181 & COUNTY LINE ROAD

COUNTY LINE ROAD

STH 181

TRAFFIC SIGNAL IMPROVEMENT:
INTERSECTION OF STH 59/164 & CTH Y

STH 59/164

CTH Y

Lake Michigan

N

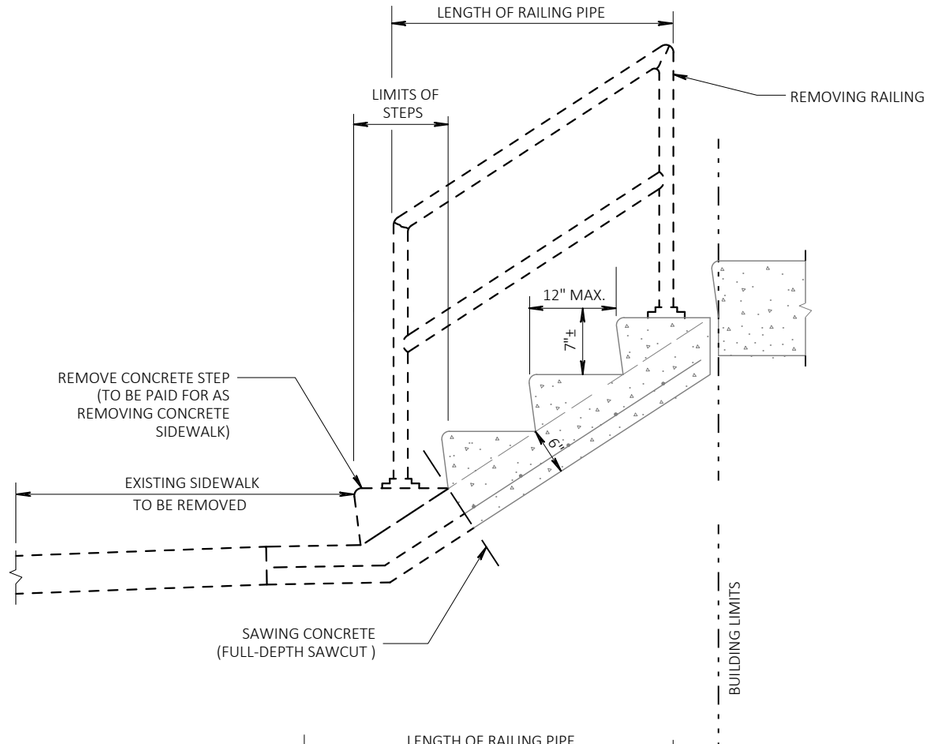
PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	PROJECT OVERVIEW	SHEET 4	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\020201_PO.DWG
LAYOUT NAME - 01

PLOT DATE : 7/31/2019 6:38 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:3 MI

WISDOT/CADDS SHEET 42

2



LEGEND

EXISTING TO REMAIN

EXISTING TO REMOVE

PROPOSED NEW ITEMS

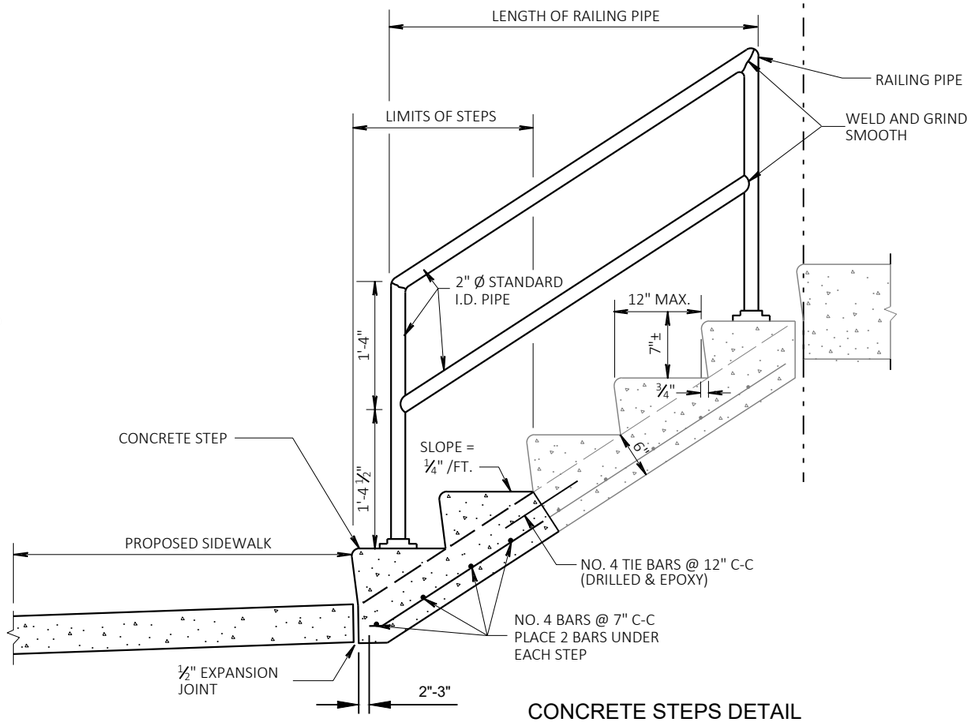
STH 33 & CTH O

NW CORNER — REMOVE 1 STEP, REPLACE WITH 2 STEPS
REMOVE RAILING, RAILING TO BE PROVIDED AND INSTALLED BY OTHERS

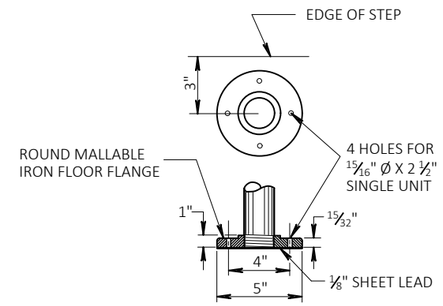
SW CORNER — REMOVE 1 STEP, REPLACE WITH 3 STEPS
REMOVE RAILING, INSTALL RAILING PIPE

NE CORNER — REMOVE 1 STEP, REPLACE WITH 2 STEPS
REMOVE RAILING, INSTALL RAILING PIPE

SEE INTERSECTION PLAN DETAILS



CONCRETE STEPS DETAIL



FLANGE DETAIL

NOTES:

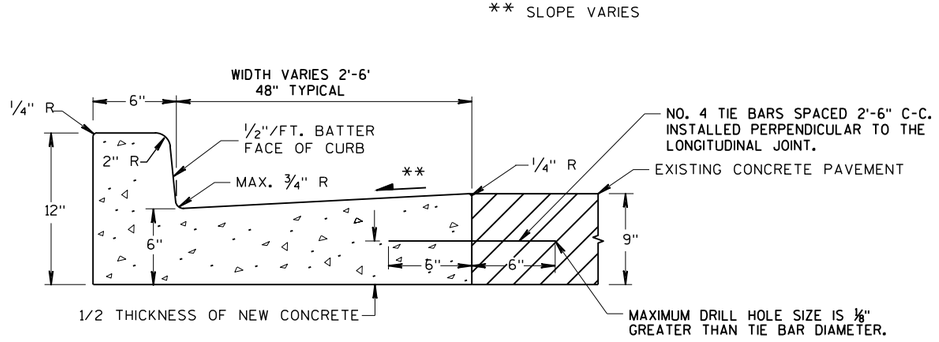
THE EXACT LOCATION, WIDTHS, & NUMBER OF STEPS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

STEEL REINFORCEMENT AND PIPE RAILING NOT REQUIRED ON STEPS WITH 2 RISERS OR LESS.

MATCH EXISTING WIDTH OF STEPS, TREAD HEIGHT, & TREAD LENGTH.

LENGTH OF PIPE RAILING IS TO BE FIELD MEASURED PRIOR TO ORDERING.

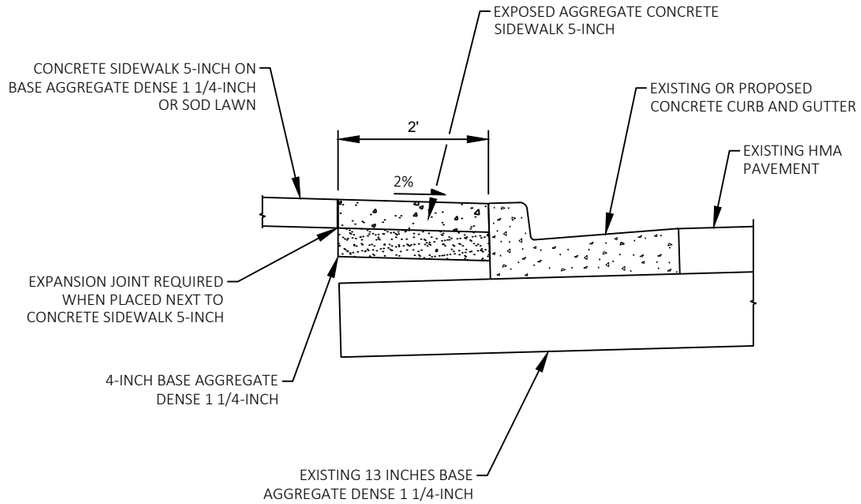
RAILING TO BE PLACED ON LEFT ASCENDING SIDE OF STEPS OR REPLACED IN EXISTING LOCATION(S).



CONCRETE CURB AND GUTTER VARIABLE WIDTH TYPE A DETAIL

STH 59/164 & RACINE AVE INTERSECTION
(SEE INTERSECTION DETAILS FOR LOCATIONS)

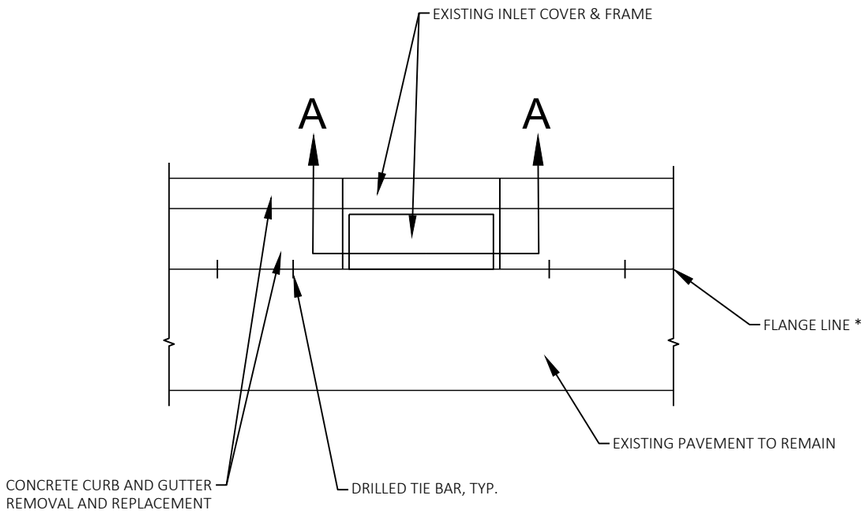
REMOVING CONCRETE CURB AND GUTTER VARIABLE WIDTH TYPE A
TO BE PAID FOR AS REMOVING CURB AND GUTTER.



EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH

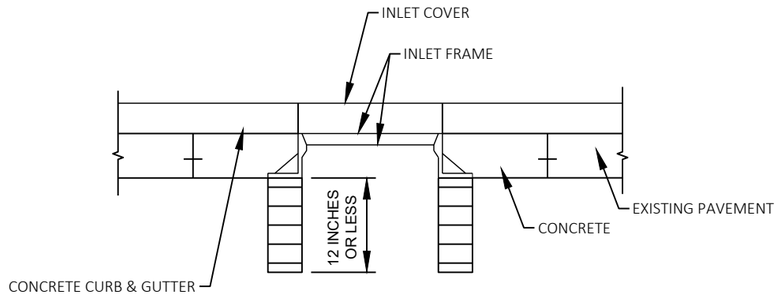
STH 33 & CTH O INTERSECTION
(SEE INTERSECTION DETAILS FOR LOCATIONS)

REMOVING EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH
TO BE PAID FOR AS REMOVING CONCRETE SIDEWALK.



REMOVE 2' CURB & GUTTER MINIMUM OR TO THE NEAREST JOINT UNLESS OTHERWISE DIRECTED.

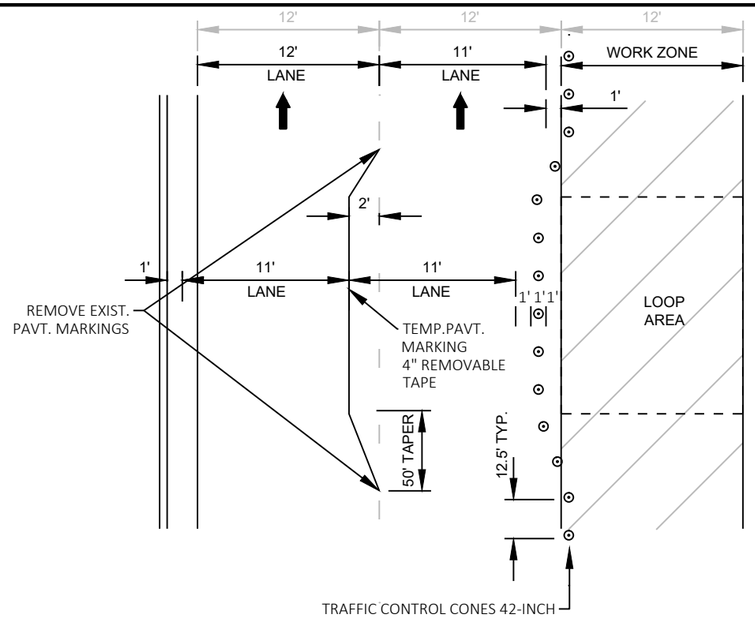
*SAWCUT CONCRETE ON FLANGE LINE. PAID FOR AS SAWING CONCRETE.



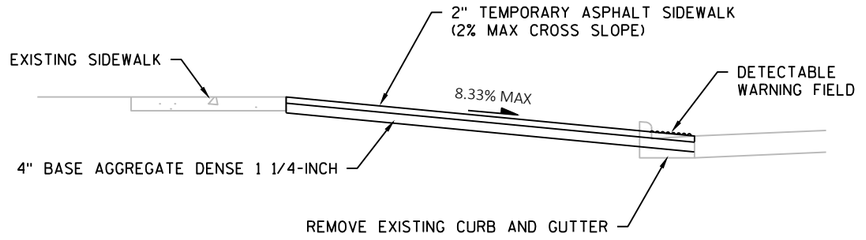
SECTION A-A

ADJUSTING INLET COVERS

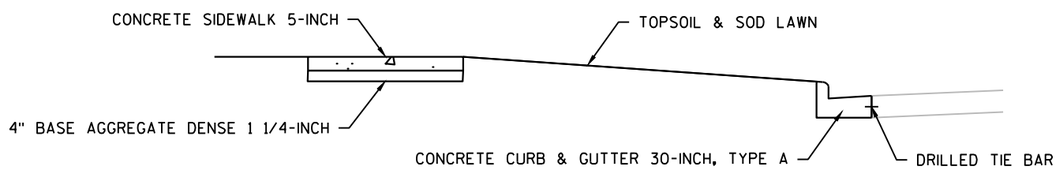
SEE INTERSECTION DETAILS FOR LOCATIONS



TRAFFIC CONTROL BUMPOUT AT LOOP LOCATIONS



TEMPORARY CONDITION



FINAL CONDITION

TEMPORARY ASPHALT SIDEWALK DETAIL

GENERAL NOTES

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

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

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

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

WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.
BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUNG THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

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

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

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

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4½" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

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

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

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

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

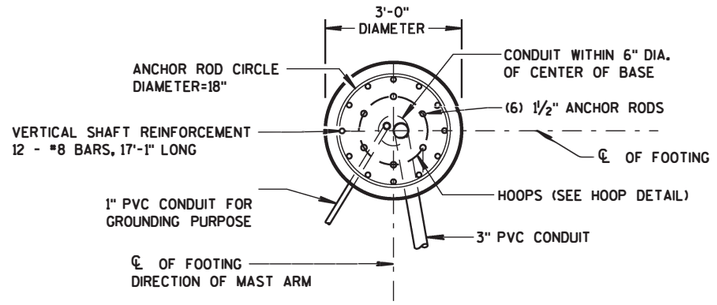
THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE THROUGH A 1-INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4-FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

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

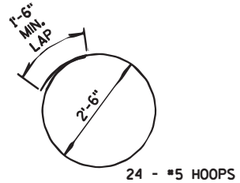
THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL WAY SHALL BE 24-INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18-INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36-INCHES, (GREATER THAN 36-INCHES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

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

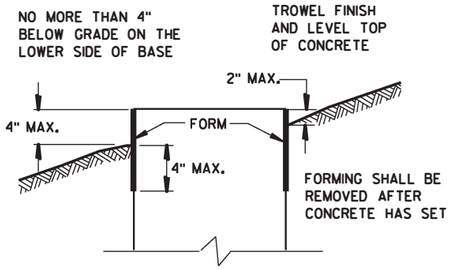
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 641.2.2.3 OF THE STANDARD SPECIFICATIONS	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36	fy=36,000 p.s.i.



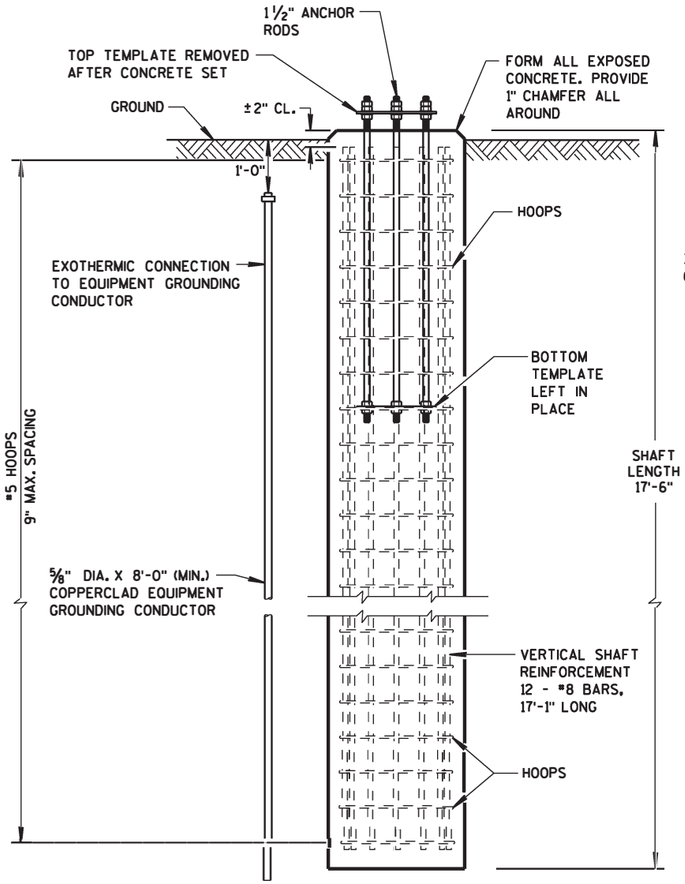
PLAN VIEW



HOOP DETAIL

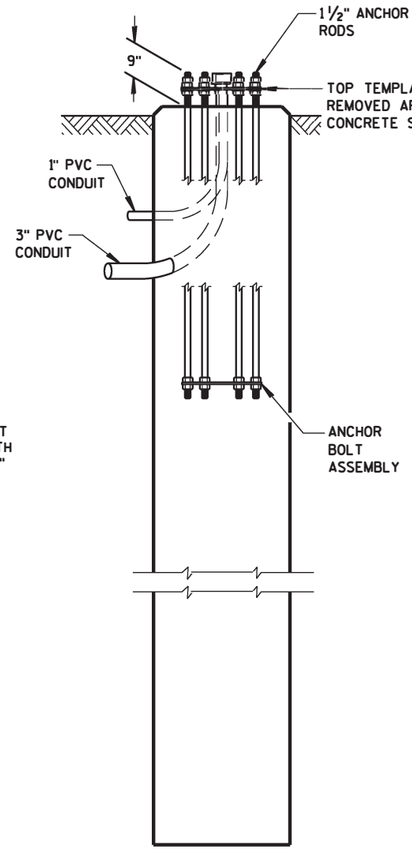


FORMING DETAIL



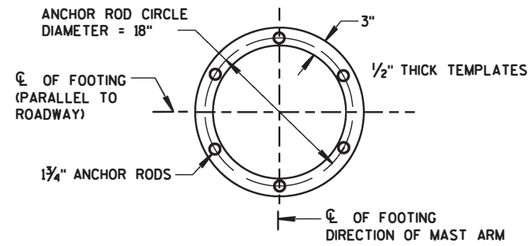
ELEVATION VIEW*

* CONDUITS ARE NOT SHOWN ON THIS VIEW FOR CLARITY

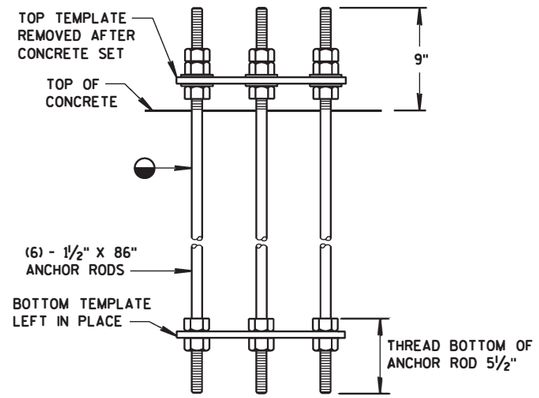


SIDE VIEW **

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



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE ANCHOR ASSEMBLY

◒ THREAD TOP 9" OF ANCHOR ROD FOR 3 NUTS AND 2 WASHERS AND BOTTOM 5½" FOR 2 NUTS PER ANCHOR ROD. HOT-DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR RODS (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.

(FOR TYPE 9 & 10 SPECIAL POLES)

CONCRETE = 4.6 C.Y.
H.S. REINFORCEMENT = 779 LBS.

TO BE USED WHEN GROUND ELEVATION, AT BASE, EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.

2

N

STH 16 WB

STH 16 EB

17+00

18+00

19+00

20+00

21+00

22+00

STH 67 SB OFF RAMP

STH 67 SB ON RAMP

497+00

216+00

217+00

218+00

498+00

215+00

250' TO STOP BAR

E. WISCONSIN AVE.

FRONTAGE ROAD

STH 67 OVERPASS

EXCAVATE TO ADJACENT CONCRETE DEPTH. PAID UNDER CONCRETE PAVT REPAIR OR REPLACEMENT SHES.

LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING CURB & GUTTER
- REMOVING ASPHALTIC SURFACE
- REMOVING PAVEMENT
- REMOVING PAVEMENT (PAID UNDER CONCRETE PAVEMENT REPAIR SHES AND CONCRETE PAVEMENT REPLACEMENT SHES)
- X X X X SAWING CONCRETE
- O O O O SAWING ASPHALT

NOTES

SAW CUT CURB & GUTTER AS SHOWN ON PLANS OR TO THE NEAREST JOINT.

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	REMOVAL PLANS - STH 16 & STH 67 SB RAMPS	SHEET 9	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\021101_RM.DWG
LAYOUT NAME - 01
PLOT DATE : 7/31/2019 6:57 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

PROPOSED LOOP DETECTOR
SEE SIGNAL PLANS

313+00

250' TO STOP BAR

STH 67 NB OFF RAMP

STH 67 NB ON RAMP

314+00

STH 67 NB OFF RAMP

STH 67 NB ON RAMP

315+00

SIGN

STH 16 WB

STH 16 EB

25+00

26+00

27+00

28+00

29+00

30+00

CONC

ASPH

E. WISCONSIN AVE.

EXCAVATE TO ADJACENT CONCRETE DEPTH.
PAID UNDER CONCRETE PAVT REPAIR OR
REPLACEMENT SHES.

LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING CURB & GUTTER
- REMOVING ASPHALTIC SURFACE
- REMOVING PAVEMENT
- REMOVING PAVEMENT (PAID UNDER CONCRETE PAVEMENT REPAIR SHES AND CONCRETE PAVEMENT REPLACEMENT SHES)
- X X X X SAWING CONCRETE
- O O O O SAWING ASPHALT

N

NOTES

SAW CUT CURB & GUTTER AS SHOWN ON PLANS
OR TO THE NEAREST JOINT.

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	REMOVAL PLANS - STH 16 & STH 67 NB RAMPS	SHEET 10	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\021101_RM.DWG
LAYOUT NAME - 02
PLOT DATE : 7/31/2019 6:57 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

STH 59/164

MATCHLINE A

RACINE AVE\CTH Y

EXISTING ROW

256+00

257+00

258+00

177+00

SEE NEXT SHEET

SEE NEXT SHEET

MATCHLINE B

LIMITS OF HAZ MAT
PETROLEUM
CONTAMINATED SOIL

NOTES

SAW CUT CURB & GUTTER AS SHOWN ON PLANS
OR TO THE NEAREST JOINT.

LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING CURB & GUTTER
- REMOVING ASPHALTIC SURFACE
- REMOVING PAVEMENT
- REMOVING PAVEMENT (PAID UNDER CONCRETE PAVEMENT REPAIR SHES AND CONCRETE PAVEMENT REPLACEMENT SHES)
- X X X X SAWING CONCRETE
- O O O O SAWING ASPHALT

2

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	REMOVAL PLANS - STH 59/164 & CTH Y	SHEET 11	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\021101_RM.DWG
LAYOUT NAME - 03
PLOT DATE : 7/31/2019 6:57 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

2

RACINE AVE\CTH Y

RACINE AVE\CTH Y

254+50

260+00

261+00

ABANDON LOOP DETECTOR
SEE SIGNAL PLANS

PROPOSED LOOP DETECTOR
SEE SIGNAL PLANS

SIDEWALK REMOVAL AT
STA 259+35, 4' RT (5' x 5')

PROPOSED LOOP DETECTOR
SEE SIGNAL PLANS

PROPOSED LOOP DETECTOR
SEE SIGNAL PLANS

ABANDON LOOP DETECTOR
SEE SIGNAL PLANS

PT: 261+49.16

ASPHALT

CONCRETE

NOTES

SAW CUT CURB & GUTTER AS SHOWN ON PLANS
OR TO THE NEAREST JOINT.

LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING CURB & GUTTER
- REMOVING ASPHALTIC SURFACE
- REMOVING PAVEMENT
- REMOVING PAVEMENT (PAID UNDER CONCRETE PAVEMENT REPAIR SHES AND CONCRETE PAVEMENT REPLACEMENT SHES)
- X X X X SAWING CONCRETE
- O O O O SAWING ASPHALT

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	REMOVAL PLANS - STH 59/164 & CTH Y	SHEET 12	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\021101_RM.DWG
LAYOUT NAME - 04
PLOT DATE : 7/31/2019 6:57 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

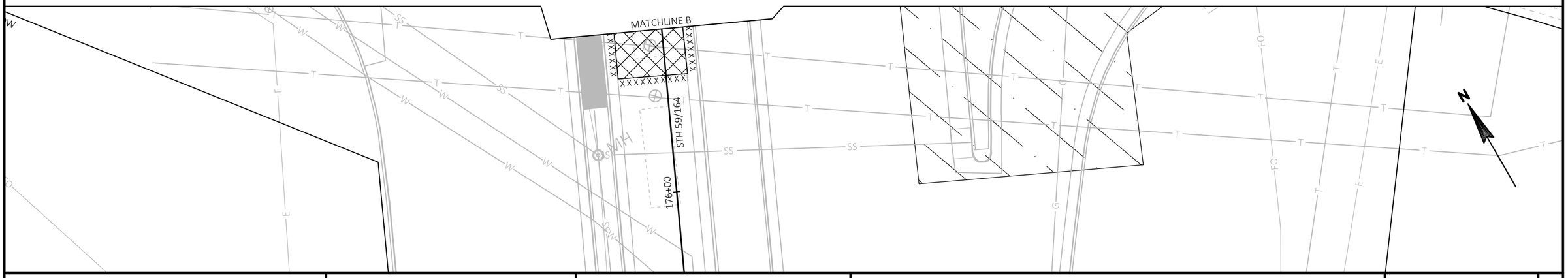


LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING CURB & GUTTER
- REMOVING ASPHALTIC SURFACE
- REMOVING PAVEMENT
- REMOVING PAVEMENT (PAID UNDER CONCRETE PAVEMENT REPAIR SHES AND CONCRETE PAVEMENT REPLACEMENT SHES)
- X X X X SAWING CONCRETE
- O O O O SAWING ASPHALT

NOTES

SAW CUT CURB & GUTTER AS SHOWN ON PLANS
OR TO THE NEAREST JOINT.



PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	REMOVAL PLANS - STH 59/164 & CTH Y	SHEET 13	E

2

2

N

STH 181

COUNTY LINE ROAD

EXISTING ROW

PROPOSED LOOP DETECTOR
SEE SIGNAL PLANS

EXCAVATE TO ADJACENT CONCRETE DEPTH.
PAID UNDER CONCRETE PAVT REPAIR OR
REPLACEMENT SHES.

23+00 24+00 25+00 26+00 27+00 28+00 29+00

289+00 288+00 287+00 286+00

NOTES

SAW CUT CURB & GUTTER AS SHOWN ON PLANS
OR TO THE NEAREST JOINT.

LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING CURB & GUTTER
- REMOVING ASPHALTIC SURFACE
- REMOVING PAVEMENT
- REMOVING PAVEMENT (PAID UNDER CONCRETE PAVEMENT REPAIR SHES AND CONCRETE PAVEMENT REPLACEMENT SHES)
- X X X X SAWING CONCRETE
- O O O O SAWING ASPHALT

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	REMOVAL PLANS - STH 181 & COUNTY LINE RD	SHEET 14 E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\021102_RM.DWG
LAYOUT NAME - 01
PLOT DATE : 7/31/2019 6:57 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

CONCRETE STEPS & RAILING REMOVAL
SEE CONSTRUCTION DETAIL

DEKORA
INVESTMENTS LLC

DO NOT DISTURB
PLANTING AREAS

EXISTING ROW

CONC

SIGN

CONCRETE

EXISTING ROW

6'

6'

84+00

LIMITS OF HAZ MAT
PETROLEUM
CONTAMINATED SOIL

85+00

EP 400+00.00

STH 33

2'

CRETE

CONC

EXISTING ROW

BS PROPERTY
INVESTMENTS

CONCRETE STEPS & RAILING REMOVAL
SEE CONSTRUCTION DETAIL

HANDHOLE

4'

EXISTING ROW

CONCRETE

PROPOSED LOOP DETECTOR
SEE SIGNAL PLANS

83+00

ABANDON EXISTING LOOP DETECTOR
SEE SIGNAL PLANS

ONCRETE

GUY

CTH O

EXISTING ROW

DO NOT DISTURB
PLANTING AREAS

ROBERT A BROOKS
DAWN M BROOKS

CONCRETE STEPS & RAILING REMOVAL
SEE CONSTRUCTION DETAIL

REMOVE AND RESTORE BRICK SIDEWALK

20'

EXISTING ROW

BRICK

BRICK

GRAVEL

CONC

CONCRETE

86+00

MH

MH

20'

CONC

EXISTING ROW

EXISTING ROW

VILLAGE OF SAUKVILLE

87+50

CONC

CONC

SIGN

398+00

NOTES

SAW CUT CURB & GUTTER AS SHOWN ON PLANS
OR TO THE NEAREST JOINT.

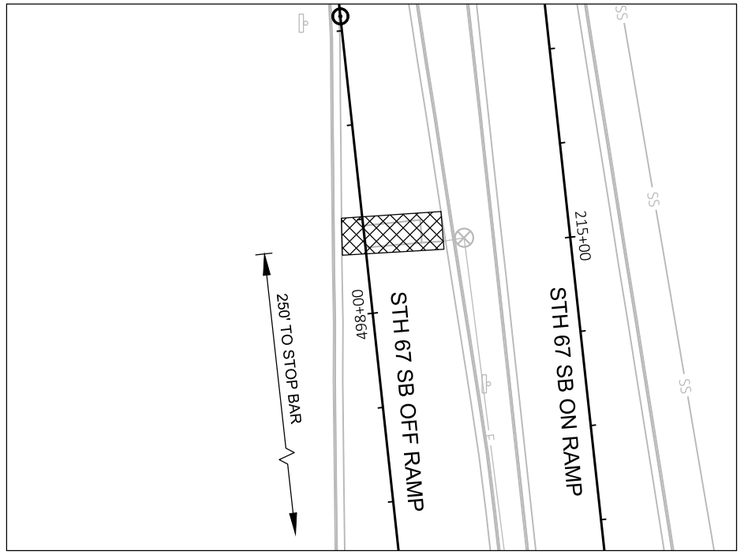
LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING CURB & GUTTER
- REMOVING ASPHALTIC SURFACE
- REMOVING PAVEMENT
- REMOVING PAVEMENT (PAID UNDER CONCRETE PAVEMENT REPAIR SHES AND CONCRETE PAVEMENT REPLACEMENT SHES)
- X X X X SAWING CONCRETE
- O O O O SAWING ASPHALT

N

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	REMOVAL PLANS - STH 33 & CTH O	SHEET 15	E

2



LEGEND

- L — CURB RAMP LANDING AREA
- PED — CONCRETE CURB PEDESTRIAN
- 30A — CONCRETE CURB & GUTTER 30-INCH TYPE A
- 30V — CONCRETE CURB & GUTTER VARIABLE WIDTH TYPE A (SEE CONSTRUCTION DETAIL)
- 18D — CONCRETE CURB & GUTTER 18-INCH TYPE D
- SDW — CONCRETE SIDEWALK 5-INCH
- ISL — ASPHALTIC SURFACE SAFETY ISLANDS
- B — CONCRETE MEDIAN BLUNT NOSE
- S — CONCRETE MEDIAN SLOPED NOSE
- AI — ADJUSTING INLET COVERS
- AM — ADJUSTING MANHOLE COVERS
- CURB RAMP DETECTABLE WARNING FIELD (YELLOW)
- EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH
- CONCRETE PAVEMENT REPLACEMENT SHES
- CONCRETE PAVEMENT REPAIR SHES
- ASPHALTIC SURFACE

N

STH 16 WB

STH 16 EB

STH 67 SB OFF RAMP

STH 67 SB ON RAMP

E. WISCONSIN AVE.

FRONTAGE ROAD

STH 67 OVERPASS

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

496+00 497+00 216+00 217+00 218+00

ISL SDW AM SDW 30A AI

NOTES

ALL STA\OFFSETS BASED OFF STH 16 ALIGNMENT.

MATCH INTO EXISTING GROUND ADJACENT TO PROPOSED SIDEWALK AT 4:1 SLOPE MAX.

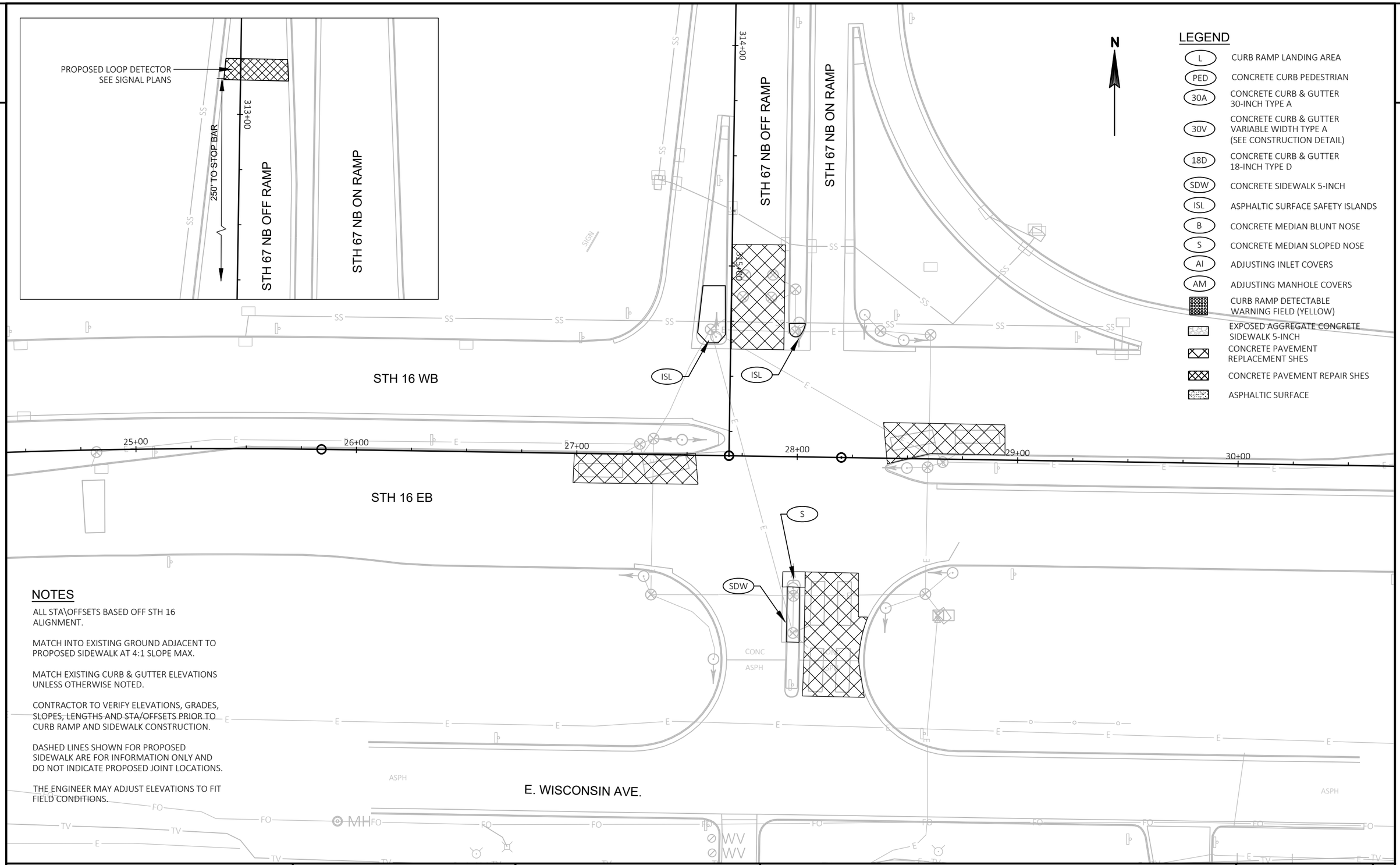
MATCH EXISTING CURB & GUTTER ELEVATIONS UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND STA/OFFSETS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE PROPOSED JOINT LOCATIONS.

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS.

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	INTERSECTION DETAILS - STH 16 & STH 67 SB RAMPS	SHEET 16	E



N

LEGEND

L	CURB RAMP LANDING AREA
PED	CONCRETE CURB PEDESTRIAN
30A	CONCRETE CURB & GUTTER 30-INCH TYPE A
30V	CONCRETE CURB & GUTTER VARIABLE WIDTH TYPE A (SEE CONSTRUCTION DETAIL)
18D	CONCRETE CURB & GUTTER 18-INCH TYPE D
SDW	CONCRETE SIDEWALK 5-INCH
ISL	ASPHALTIC SURFACE SAFETY ISLANDS
B	CONCRETE MEDIAN BLUNT NOSE
S	CONCRETE MEDIAN SLOPED NOSE
AI	ADJUSTING INLET COVERS
AM	ADJUSTING MANHOLE COVERS
	CURB RAMP DETECTABLE WARNING FIELD (YELLOW)
	EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH
	CONCRETE PAVEMENT REPLACEMENT SHES
	CONCRETE PAVEMENT REPAIR SHES
	ASPHALTIC SURFACE

NOTES

ALL STA\OFFSETS BASED OFF STH 16 ALIGNMENT.

MATCH INTO EXISTING GROUND ADJACENT TO PROPOSED SIDEWALK AT 4:1 SLOPE MAX.

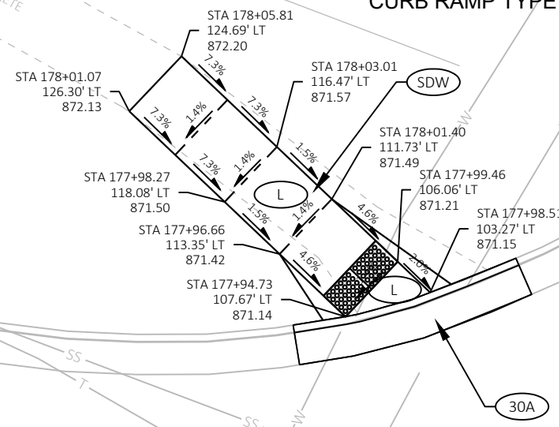
MATCH EXISTING CURB & GUTTER ELEVATIONS UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND STA/OFFSETS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.

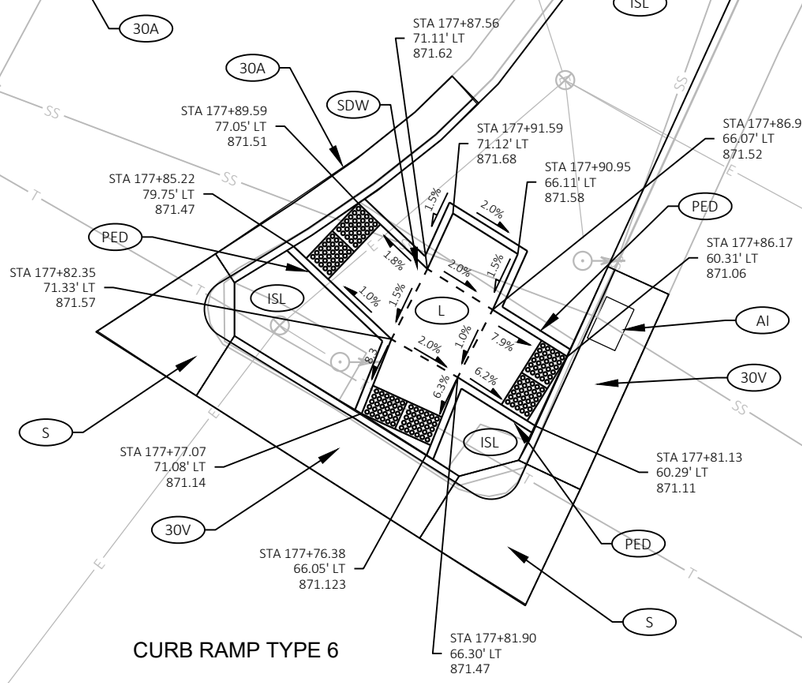
DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE PROPOSED JOINT LOCATIONS.

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS.

CURB RAMP TYPE 4B1



CURB RAMP TYPE 6



LEGEND

L	CURB RAMP LANDING AREA
PED	CONCRETE CURB PEDESTRIAN
30A	CONCRETE CURB & GUTTER 30-INCH TYPE A
30V	CONCRETE CURB & GUTTER VARIABLE WIDTH TYPE A (SEE CONSTRUCTION DETAIL)
18D	CONCRETE CURB & GUTTER 18-INCH TYPE D
SDW	CONCRETE SIDEWALK 5-INCH
ISL	ASPHALTIC SURFACE SAFETY ISLANDS
B	CONCRETE MEDIAN BLUNT NOSE
S	CONCRETE MEDIAN SLOPED NOSE
AI	ADJUSTING INLET COVERS
AM	ADJUSTING MANHOLE COVERS
	CURB RAMP DETECTABLE WARNING FIELD (YELLOW)
	EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH
	CONCRETE PAVEMENT REPLACEMENT SHES
	CONCRETE PAVEMENT REPAIR SHES
	ASPHALTIC SURFACE

NOTES

ALL STA\OFFSETS BASED OFF STH 59/164 ALIGNMENT.

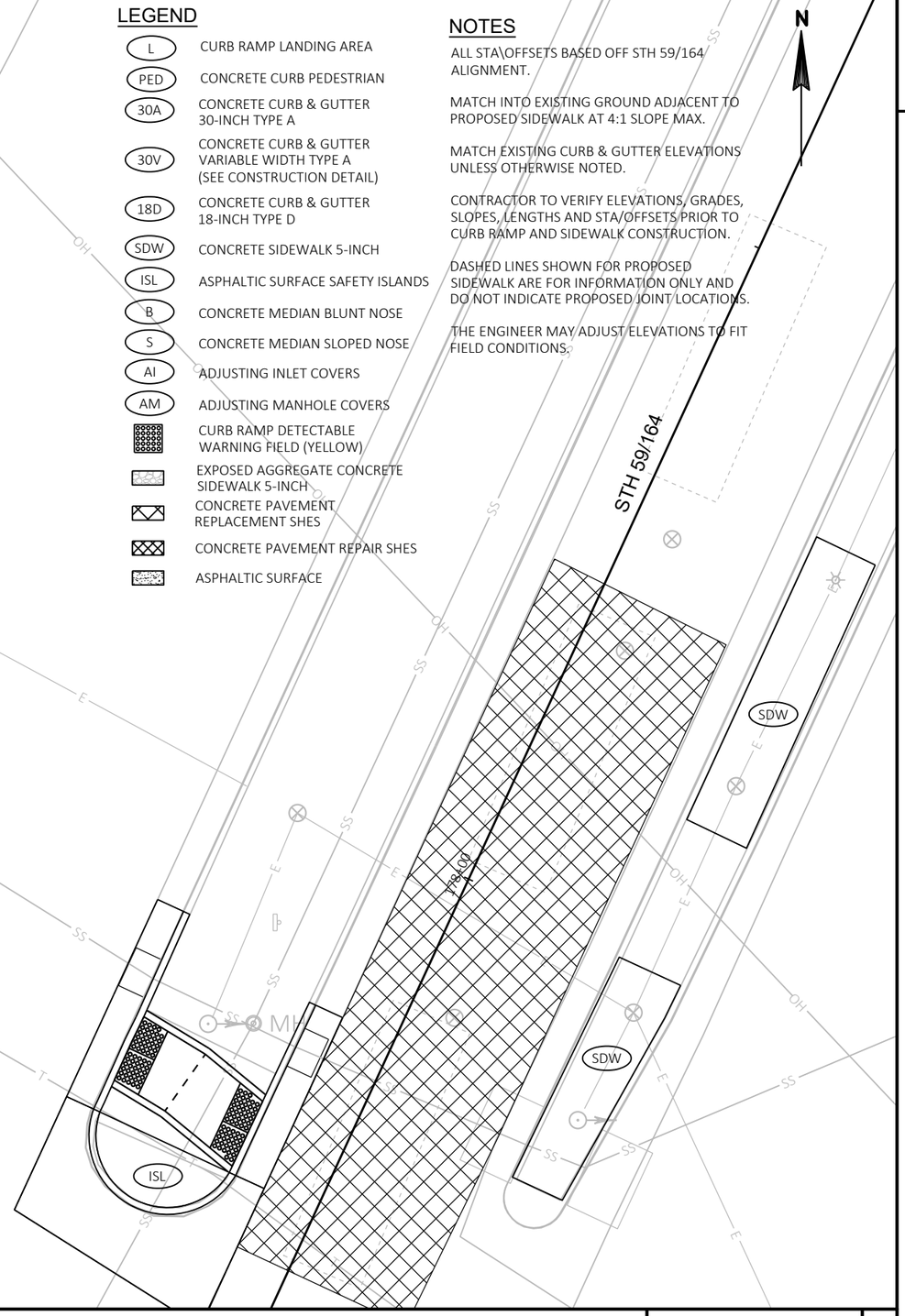
MATCH INTO EXISTING GROUND ADJACENT TO PROPOSED SIDEWALK AT 4:1 SLOPE MAX.

MATCH EXISTING CURB & GUTTER ELEVATIONS UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND STA/OFFSETS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE PROPOSED JOINT LOCATIONS.

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS.



RACINE AVE\CTH Y

MATCHLINE B

2

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	INTERSECTION DETAILS - STH 59/164 & CTH Y	SHEET 18	E

NOTES

ALL STA\OFFSETS BASED OFF STH 59/164 ALIGNMENT.

MATCH INTO EXISTING GROUND ADJACENT TO PROPOSED SIDEWALK AT 4:1 SLOPE MAX.

MATCH EXISTING CURB & GUTTER ELEVATIONS UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND STA/OFFSETS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE PROPOSED JOINT LOCATIONS.

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS.

LEGEND

L	CURB RAMP LANDING AREA
PED	CONCRETE CURB PEDESTRIAN
30A	CONCRETE CURB & GUTTER 30-INCH TYPE A
30V	CONCRETE CURB & GUTTER VARIABLE WIDTH TYPE A (SEE CONSTRUCTION DETAIL)
18D	CONCRETE CURB & GUTTER 18-INCH TYPE D
SDW	CONCRETE SIDEWALK 5-INCH
ISL	ASPHALTIC SURFACE SAFETY ISLANDS
B	CONCRETE MEDIAN BLUNT NOSE
S	CONCRETE MEDIAN SLOPED NOSE
AI	ADJUSTING INLET COVERS
AM	ADJUSTING MANHOLE COVERS
	CURB RAMP DETECTABLE WARNING FIELD (YELLOW)
	EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH
	CONCRETE PAVEMENT REPLACEMENT SHES
	CONCRETE PAVEMENT REPAIR SHES
	ASPHALTIC SURFACE

N

LIMITS OF HAZ MAT
PETROLEUM CONTAMINATED SOIL

STH 59/164

RACINE AVE\CTH Y

177+00

CURB RAMP TYPE 5

AI
PED
STA 177+79.27
6.78' LT
870.69
AI
STA 177+80.62
11.95' LT
870.74
STA 177+81.22
17.09' LT
870.68
30A
STA 177+76.19
17.11' LT
870.66
ISL
SDW
STA 177+75.69
12.87' LT
870.79
PED
B
STA 177+74.11
6.82' LT
870.69
30A
SDW

CURB RAMP TYPE 6

S
ISL
PED
STA 177+61.61
60.83' RT
870.06
STA 177+60.09
66.39' RT
869.73
30V
STA 177+62.47
67.86' RT
869.65
STA 177+56.42
60.85' RT
870.01
30A
ISL
STA 177+59.82
72.10' RT
869.57
STA 177+55.69
63.53' RT
869.78
L
S
PED
PED
STA 177+57.31
70.54' RT
869.84
STA 177+53.82
68.58' RT
869.70
STA 177+51.28
63.64' RT
869.82
30V
STA 177+49.81
68.67' RT
869.75
SDW
ISL

CURB RAMP TYPE 4B1

STA 177+95.71
88.39' RT
869.89
STA 177+91.45
85.76' RT
869.81
STA 177+87.31
83.20' RT
869.47
STA 177+83.48
80.84' RT
869.39
30A
L
STA 177+93.08
92.65' RT
869.82
STA 177+90.58
96.98' RT
869.67
STA 177+80.08
78.73' RT
869.20
L
STA 177+86.35
94.36' RT
869.69
STA 177+88.83
90.02' RT
869.74
SDW
STA 177+84.76
87.32' RT
869.37
STA 177+76.68
82.51' RT
869.05
STA 177+80.84
85.09' RT
869.28

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	INTERSECTION DETAILS STH 59/164 & CTH Y	SHEET 19 E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\021201_ID.DWG
LAYOUT NAME - 04

PLOT DATE : 7/31/2019 7:00 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 42

2

LEGEND

L	CURB RAMP LANDING AREA
PED	CONCRETE CURB PEDESTRIAN
30A	CONCRETE CURB & GUTTER 30-INCH TYPE A
30V	CONCRETE CURB & GUTTER VARIABLE WIDTH TYPE A (SEE CONSTRUCTION DETAIL)
18D	CONCRETE CURB & GUTTER 18-INCH TYPE D
SDW	CONCRETE SIDEWALK 5-INCH
ISL	ASPHALTIC SURFACE SAFETY ISLANDS
B	CONCRETE MEDIAN BLUNT NOSE
S	CONCRETE MEDIAN SLOPED NOSE
AI	ADJUSTING INLET COVERS
AM	ADJUSTING MANHOLE COVERS
	CURB RAMP DETECTABLE WARNING FIELD (YELLOW)
	EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH
	CONCRETE PAVEMENT REPLACEMENT SHES
	CONCRETE PAVEMENT REPAIR SHES
	ASPHALTIC SURFACE

N

STH 59/164

176+00

259+00

CURB RAMP TYPE 6

LIMITS OF HAZ MAT
PETROLEUM CONTAMINATED SOIL

STA 176+71.20
65.11' RT
869.22

STA 176+66.84
65.20' RT
869.17

STA 176+68.17
60.68' RT
869.40

STA 176+69.64
70.14' RT
869.19

STA 176+66.27
70.21' RT
869.09

STA 176+65.04
76.39' RT
868.61

STA 176+63.80
82.64' RT
868.51

STA 176+63.05
60.80' RT
869.44

STA 176+61.72
65.31' RT
869.12

+60.00
75.39' RT

STA 176+60.87
70.33' RT
869.04

STA 176+60.14
75.41' RT
868.66

STA 176+59.19
80.18' RT
868.59

STA 176+58.22
88.23' RT
868.29

STA 176+54.95
84.42' RT
868.31

RACINE AVE\CTH Y

MATCHLINE A

NOTES

ALL STA\OFFSETS BASED OFF STH 59/164 ALIGNMENT.

MATCH INTO EXISTING GROUND ADJACENT TO PROPOSED SIDEWALK AT 4:1 SLOPE MAX.

MATCH EXISTING CURB & GUTTER ELEVATIONS UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND STA/OFFSETS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE PROPOSED JOINT LOCATIONS.

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS.

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	INTERSECTION DETAILS - STH 59/164 & CTH Y	SHEET 20	E

LEGEND

- L — CURB RAMP LANDING AREA
- PED — CONCRETE CURB PEDESTRIAN
- 30A — CONCRETE CURB & GUTTER 30-INCH TYPE A
- 30V — CONCRETE CURB & GUTTER VARIABLE WIDTH TYPE A (SEE CONSTRUCTION DETAIL)
- 18D — CONCRETE CURB & GUTTER 18-INCH TYPE D
- SDW — CONCRETE SIDEWALK 5-INCH
- ISL — ASPHALTIC SURFACE SAFETY ISLANDS
- B — CONCRETE MEDIAN BLUNT NOSE
- S — CONCRETE MEDIAN SLOPED NOSE
- AI — ADJUSTING INLET COVERS
- AM — ADJUSTING MANHOLE COVERS
- CURB RAMP DETECTABLE WARNING FIELD (YELLOW)
- EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH
- CONCRETE PAVEMENT REPLACEMENT SHES
- CONCRETE PAVEMENT REPAIR SHES
- ASPHALTIC SURFACE

NOTES

ALL STA\OFFSETS BASED OFF STH 59/164 ALIGNMENT.

MATCH INTO EXISTING GROUND ADJACENT TO PROPOSED SIDEWALK AT 4:1 SLOPE MAX.

MATCH EXISTING CURB & GUTTER ELEVATIONS UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND STA/OFFSETS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE PROPOSED JOINT LOCATIONS.

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS.

RACINE AVE\CTH Y

EXISTING ROW

STH 59/164

257+00

177+00

N

MH

VLV

CURB RAMP TYPE 4B1

CURB RAMP TYPE 6

STA 176+99.51
71.37' LT
870.62

STA 176+98.98
66.39' LT
870.60

STA 176+94.07
71.64' LT
870.70

STA 176+93.67
66.66' LT
870.66

STA 176+89.31
73.88' LT
870.60

STA 176+92.80
60.21' LT
870.52

STA 176+85.96
75.46' LT
870.38

STA 176+87.72
60.59' LT
870.51

STA 176+84.59
70.58' LT
870.39

STA 176+89.36
68.34' LT
870.58

STA 176+66.03
84.84' LT
870.48

STA 176+59.78
87.79' LT
870.63

STA 176+55.26
89.92' LT
870.70

STA 176+53.13
85.39' LT
870.63

STA 176+57.65
83.26' LT
870.55

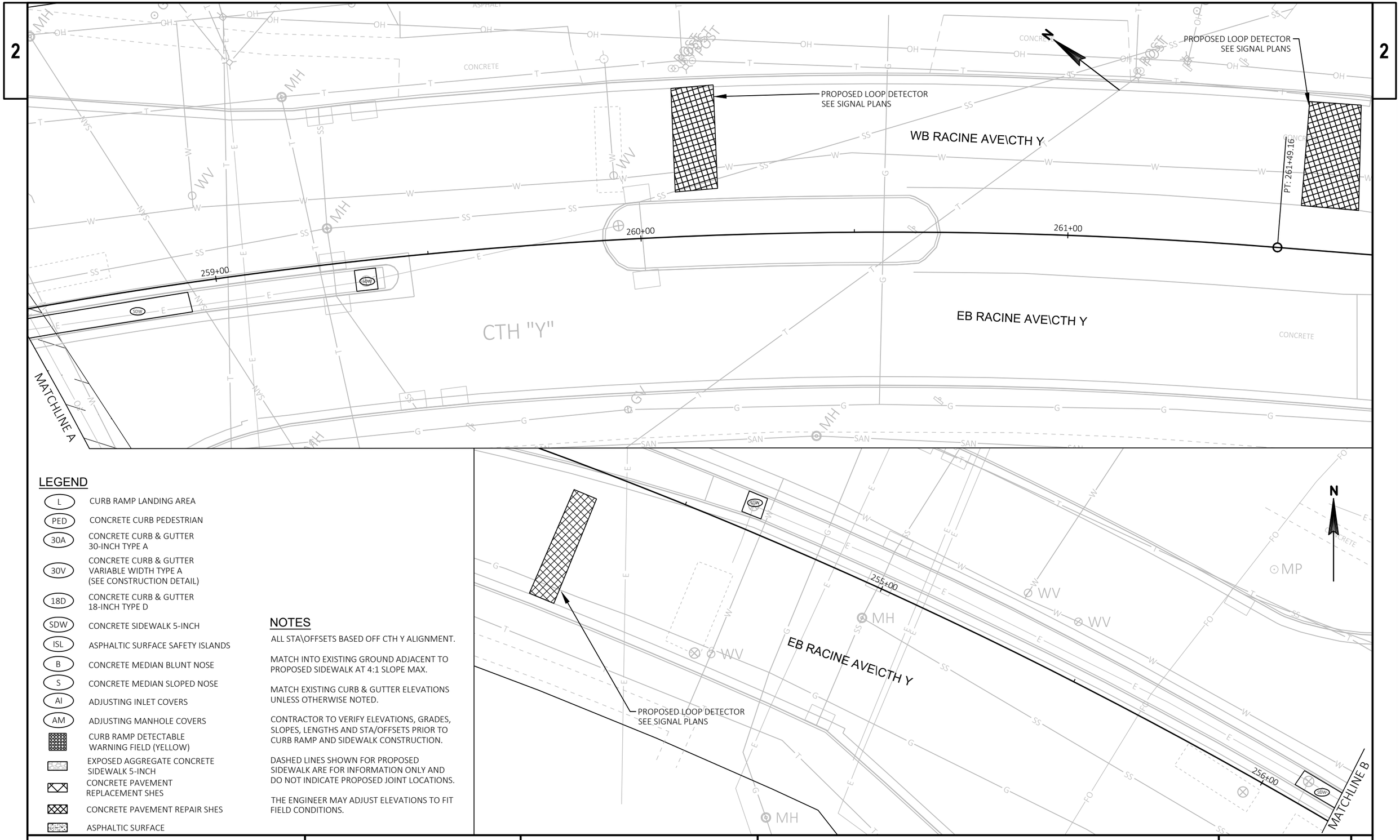
STA 176+63.08
80.72' LT
870.37

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	INTERSECTION DETAILS - STH 59/164 & CTH Y	SHEET 21	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\021201_ID.DWG
LAYOUT NAME - 06

PLOT DATE : 7/31/2019 7:00 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 42



LEGEND

L	CURB RAMP LANDING AREA
PED	CONCRETE CURB PEDESTRIAN
30A	CONCRETE CURB & GUTTER 30-INCH TYPE A
30V	CONCRETE CURB & GUTTER VARIABLE WIDTH TYPE A (SEE CONSTRUCTION DETAIL)
18D	CONCRETE CURB & GUTTER 18-INCH TYPE D
SDW	CONCRETE SIDEWALK 5-INCH
ISL	ASPHALTIC SURFACE SAFETY ISLANDS
B	CONCRETE MEDIAN BLUNT NOSE
S	CONCRETE MEDIAN SLOPED NOSE
AI	ADJUSTING INLET COVERS
AM	ADJUSTING MANHOLE COVERS
	CURB RAMP DETECTABLE WARNING FIELD (YELLOW)
	EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH
	CONCRETE PAVEMENT REPLACEMENT SHES
	CONCRETE PAVEMENT REPAIR SHES
	ASPHALTIC SURFACE

NOTES

ALL STA\OFFSETS BASED OFF CTH Y ALIGNMENT.

MATCH INTO EXISTING GROUND ADJACENT TO PROPOSED SIDEWALK AT 4:1 SLOPE MAX.

MATCH EXISTING CURB & GUTTER ELEVATIONS UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND STA/OFFSETS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE PROPOSED JOINT LOCATIONS.

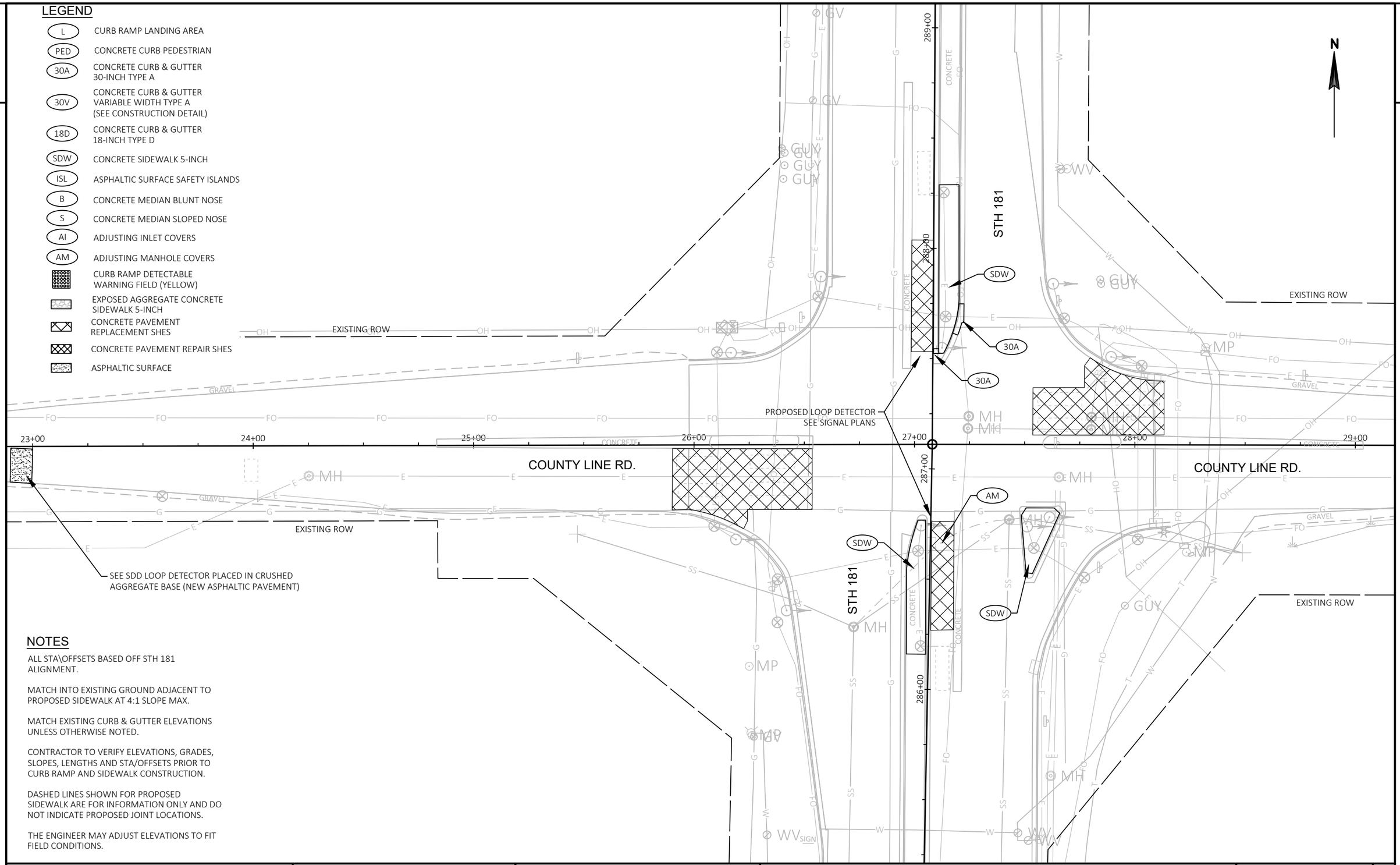
THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS.

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	INTERSECTION DETAILS - STH 59/164 & CTH Y	SHEET 22	E

2

LEGEND

- L — CURB RAMP LANDING AREA
- PED — CONCRETE CURB PEDESTRIAN
- 30A — CONCRETE CURB & GUTTER 30-INCH TYPE A
- 30V — CONCRETE CURB & GUTTER VARIABLE WIDTH TYPE A (SEE CONSTRUCTION DETAIL)
- 18D — CONCRETE CURB & GUTTER 18-INCH TYPE D
- SDW — CONCRETE SIDEWALK 5-INCH
- ISL — ASPHALTIC SURFACE SAFETY ISLANDS
- B — CONCRETE MEDIAN BLUNT NOSE
- S — CONCRETE MEDIAN SLOPED NOSE
- AI — ADJUSTING INLET COVERS
- AM — ADJUSTING MANHOLE COVERS
- CURB RAMP DETECTABLE WARNING FIELD (YELLOW)
- EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH
- CONCRETE PAVEMENT REPLACEMENT SHES
- CONCRETE PAVEMENT REPAIR SHES
- ASPHALTIC SURFACE



NOTES

ALL STA\OFFSETS BASED OFF STH 181 ALIGNMENT.

MATCH INTO EXISTING GROUND ADJACENT TO PROPOSED SIDEWALK AT 4:1 SLOPE MAX.

MATCH EXISTING CURB & GUTTER ELEVATIONS UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND STA/OFFSETS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE PROPOSED JOINT LOCATIONS.

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS.

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	INTERSECTION DETAILS - STH 181 & COUNTY LINE RD	SHEET 23	E

2

LEGEND

- L — CURB RAMP LANDING AREA
- PED — CONCRETE CURB PEDESTRIAN
- 30A — CONCRETE CURB & GUTTER 30-INCH TYPE A
- 30V — CONCRETE CURB & GUTTER VARIABLE WIDTH TYPE A (SEE CONSTRUCTION DETAIL)
- 18D — CONCRETE CURB & GUTTER 18-INCH TYPE D
- SDW — CONCRETE SIDEWALK 5-INCH
- ISL — ASPHALTIC SURFACE SAFETY ISLANDS
- B — CONCRETE MEDIAN BLUNT NOSE
- S — CONCRETE MEDIAN SLOPED NOSE
- AI — ADJUSTING INLET COVERS
- AM — ADJUSTING MANHOLE COVERS
- CURB RAMP DETECTABLE WARNING FIELD (YELLOW)
- EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH
- CONCRETE PAVEMENT REPLACEMENT SHES
- CONCRETE PAVEMENT REPAIR SHES
- ASPHALTIC SURFACE

DEKORA INVESTMENTS LLC

EXISTING ROW

CTH O

N

STA 84+80.42
34.81' LT
754.949

STA 84+80.73
29.54' LT
754.868

STA 84+90.96
39.16' LT
754.418

STA 84+94.46
42.73' LT
754.368

STA 84+94.54
35.67' LT
754.327

STA 84+95.82
49.73' LT
754.829

STA 84+97.60
32.70' LT
754.122

STA 85+00.80
36.56' LT
754.095

STA 85+01.31
49.82' LT
754.563

STA 84+98.05
39.24' LT
754.268

CONCRETE STEPS, RAILING TO BE PROVIDED AND INSTALLED BY OTHERS

TO BE SUPPLIED BY OTHERS

LIMITS OF HAZ MAT PETROLEUM CONTAMINATED SOIL

MATCH EXISTING

STA 85+57.43
46.54' LT
754.797

STA 85+60.70
35.93' LT
754.433

STA 85+58.65
33.73' LT
754.301

STA 85+62.22
30.23' LT
754.376

STA 85+62.43
46.60' LT
754.906

STA 85+64.10
39.58' LT
754.533

STA 85+68.13
43.91' LT
754.660

STA 85+71.79
40.50' LT
754.673

STA 85+67.76
36.18' LT
754.612

STA 85+78.95
33.62' LT
754.985

STA 85+64.35
32.516' LT
754.512

STA 85+78.99
28.47' LT
754.76

ROBERT A BROOKS
DAWN M BROOKS

CONCRETE STEPS, RAILING PIPE

REMOVE AND RESTORE BRICK SIDEWALK

MATCH EXISTING

SEE INSET

STH 33

85+00

86+00

STA. 87+50 LT

NOTES

ALL STA\OFFSETS BASED OFF STH 33 ALIGNMENT.

MATCH INTO EXISTING GROUND ADJACENT TO PROPOSED SIDEWALK AT 4:1 SLOPE MAX.

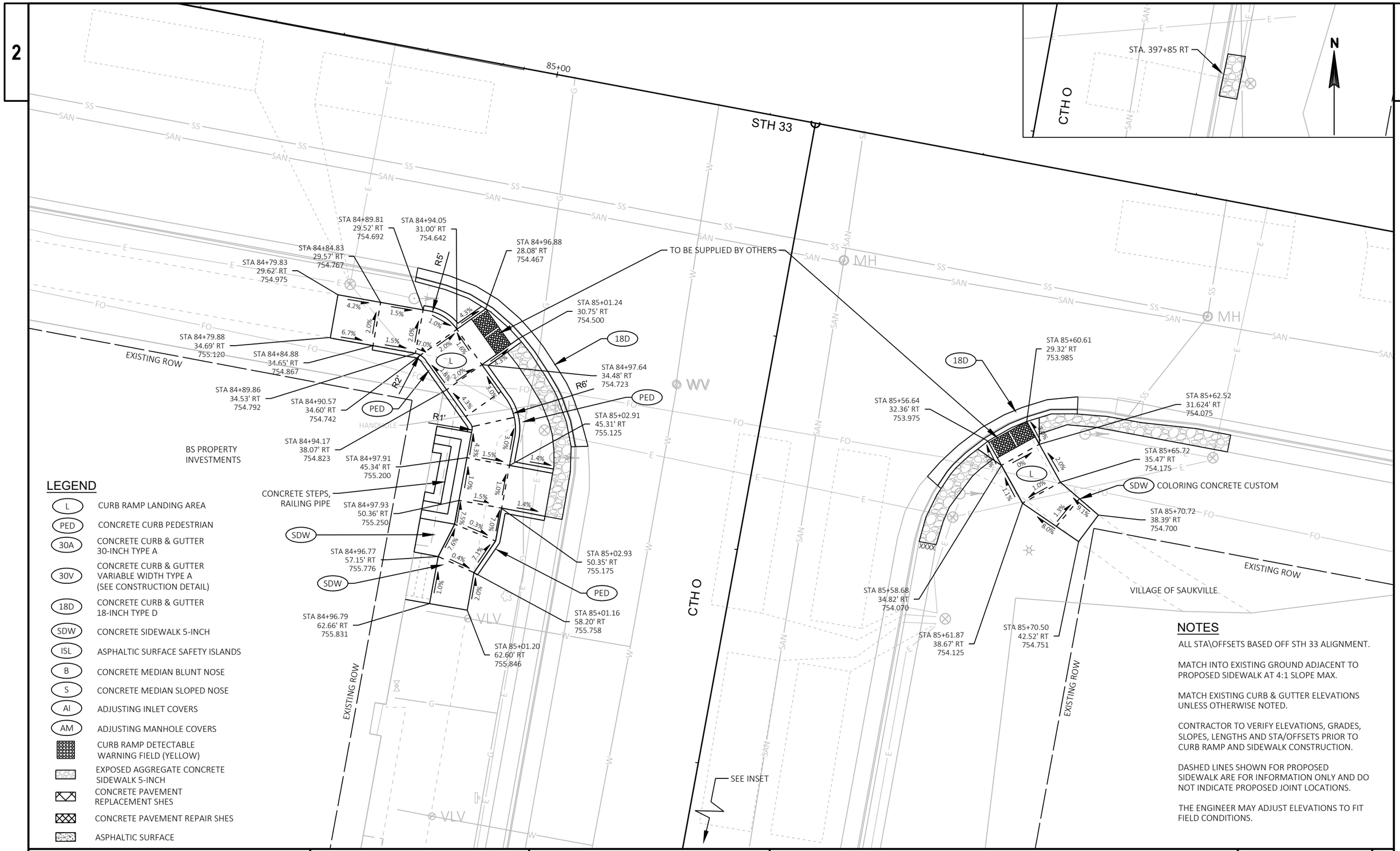
MATCH EXISTING CURB & GUTTER ELEVATIONS UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND STA/OFFSETS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE PROPOSED JOINT LOCATIONS.

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS.

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	INTERSECTION DETAILS - STH 33 & CTH O	SHEET 24	E



LEGEND

- (L) CURB RAMP LANDING AREA
- (PED) CONCRETE CURB PEDESTRIAN
- (30A) CONCRETE CURB & GUTTER 30-INCH TYPE A
- (30V) CONCRETE CURB & GUTTER VARIABLE WIDTH TYPE A (SEE CONSTRUCTION DETAIL)
- (18D) CONCRETE CURB & GUTTER 18-INCH TYPE D
- (SDW) CONCRETE SIDEWALK 5-INCH
- (ISL) ASPHALTIC SURFACE SAFETY ISLANDS
- (B) CONCRETE MEDIAN BLUNT NOSE
- (S) CONCRETE MEDIAN SLOPED NOSE
- (AI) ADJUSTING INLET COVERS
- (AM) ADJUSTING MANHOLE COVERS
- CURB RAMP DETECTABLE WARNING FIELD (YELLOW)
- EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH
- CONCRETE PAVEMENT REPLACEMENT SHES
- CONCRETE PAVEMENT REPAIR SHES
- ASPHALTIC SURFACE

NOTES

ALL STA\OFFSETS BASED OFF STH 33 ALIGNMENT.

MATCH INTO EXISTING GROUND ADJACENT TO PROPOSED SIDEWALK AT 4:1 SLOPE MAX.

MATCH EXISTING CURB & GUTTER ELEVATIONS UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND STA/OFFSETS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE PROPOSED JOINT LOCATIONS.

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS.

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	INTERSECTION DETAILS - STH 33 & CTH O	SHEET 25	E

2

2

NOTES

ALL STA\OFFSETS BASED OFF STH 33 ALIGNMENT.

MATCH INTO EXISTING GROUND ADJACENT TO PROPOSED SIDEWALK AT 4:1 SLOPE MAX.

MATCH EXISTING CURB & GUTTER ELEVATIONS UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS AND STA/OFFSETS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE PROPOSED JOINT LOCATIONS.

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS.

LEGEND

- L — CURB RAMP LANDING AREA
- PED — CONCRETE CURB PEDESTRIAN
- 30A — CONCRETE CURB & GUTTER 30-INCH TYPE A
- 30V — CONCRETE CURB & GUTTER VARIABLE WIDTH TYPE A (SEE CONSTRUCTION DETAIL)
- 18D — CONCRETE CURB & GUTTER 18-INCH TYPE D
- SDW — CONCRETE SIDEWALK 5-INCH
- ISL — ASPHALTIC SURFACE SAFETY ISLANDS
- B — CONCRETE MEDIAN BLUNT NOSE
- S — CONCRETE MEDIAN SLOPED NOSE
- AI — ADJUSTING INLET COVERS
- AM — ADJUSTING MANHOLE COVERS
- CURB RAMP DETECTABLE WARNING FIELD (YELLOW)
- EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH
- CONCRETE PAVEMENT REPLACEMENT SHES
- CONCRETE PAVEMENT REPAIR SHES
- ASPHALTIC SURFACE

N

83+00

STH 33

PROPOSED LOOP DETECTOR
SEE SIGNAL PLANS

EXISTING ROW

STELLAR ABODES LLC

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	INTERSECTION DETAILS - STH 33 & CTH O	SHEET 26	E

2

LEGEND

- TOPSOIL, SEED, FERTILIZER AND EROSION MAT URBAN CLASS I, TYPE B AND WATER
- TOPSOIL, SOD, FERTILIZER AND WATER
- SILT FENCE
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C

N

STH 67 SB OFF RAMP

STH 67 SB ON RAMP

STH 67 SB ON RAMP

STH 67 SB OFF RAMP

EXISTING ROW

EXISTING ROW

STH 16 WB

STH 16 EB

EXISTING ROW

EXISTING ROW

E. WISCONSIN AVE.

FRONTAGE ROAD

STH 67 OVERPASS

6'X20' 3 TURNS

250' TO NEAR RIGHT SIGNAL

250' TO NEAR RIGHT SIGNAL

6'X20' 3 TURNS

2-6'X20' 3 TURNS EACH

2-6'X20' 3 TURNS EACH

4-6'X20' 3 TURNS EACH

4-6'X20' 3 TURNS EACH

6'X15' 5 TURNS

PB1 PB2 PB3 PB4 PB5 PB6 PB7 PB8 PB9 PB10 PB11 PB12 PB13 PB14 PB15 PB16 PB17

SB1 SB2 SB3 SB4 SB5 SB6 SB7 SB8 SB9 SB10 SB11

CB1

MH

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	EROSION CONTROL DETAILS: STH 16 & STH 67 RAMPS	SHEET 27	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 01
PLOT DATE : 7/31/2019 7:13 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

LEGEND

- TOPSOIL, SEED, FERTILIZER AND EROSION MAT URBAN CLASS I, TYPE B AND WATER
- TOPSOIL, SOD, FERTILIZER AND WATER
- SILT FENCE
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C

N

STH 67 NB OFF RAMP

STH 67 NB ON RAMP

STH 67 NB OFF RAMP

STH 67 NB ON RAMP

EXISTING ROW

STH 16 WB

STH 16 EB

STH 16 EB

E. WISCONSIN AVE.

313+00

314+00

315+00

25+00

26+00

27+00

28+00

29+00

30+00

31+00

23+00

30'

55'

55'

50'

250' TO NEAR RIGHT SIGNAL

250' TO NEAR RIGHT SIGNAL

CONC

ASPH

CONC

ASPH

ASPH

ASPH

SS

E

FO

WV

SAN

MH

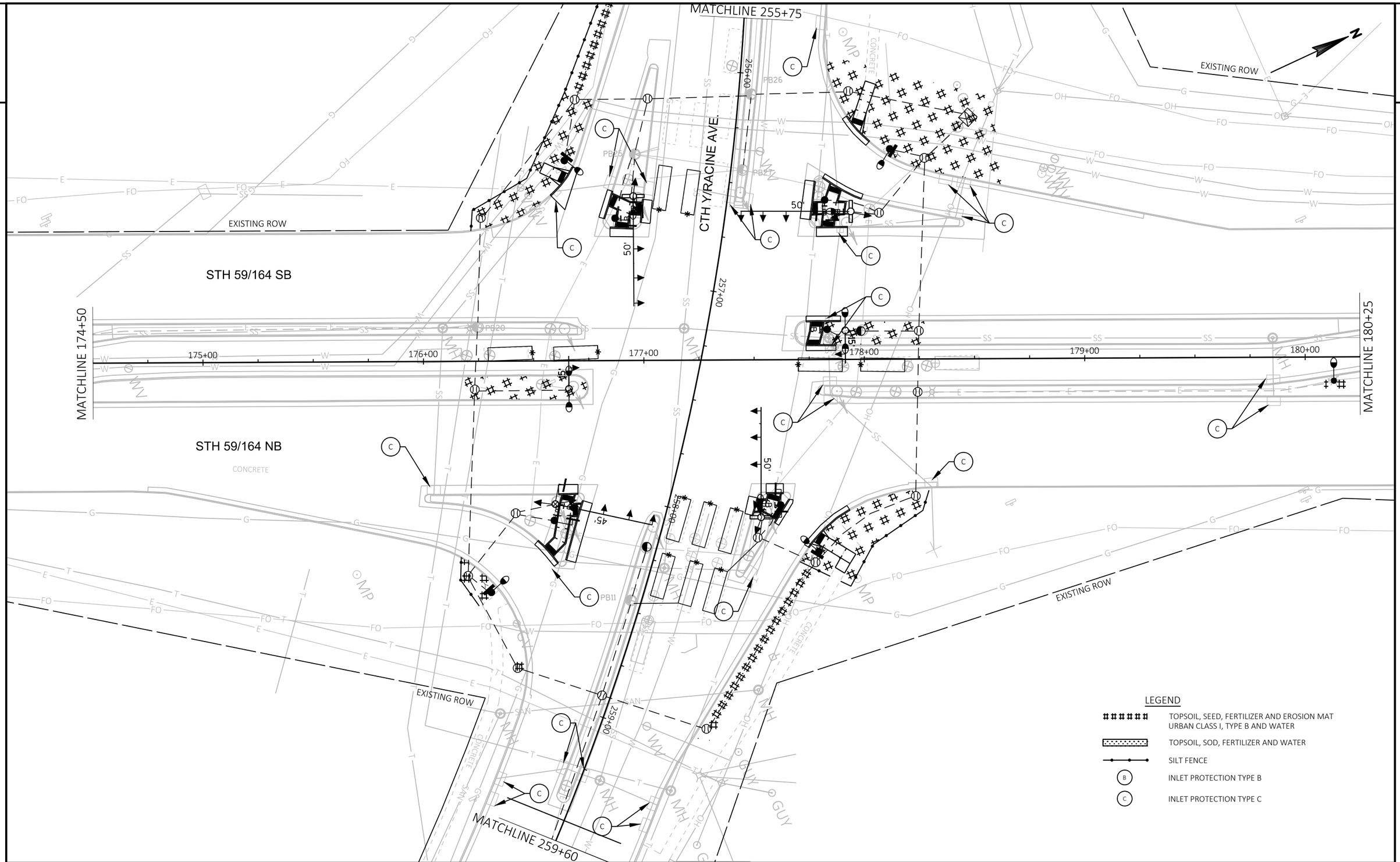
SIGN

TV

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	EROSION CONTROL DETAILS: STH 16 & STH 67 RAMPS	SHEET 28	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 02

PLOT DATE : 7/31/2019 7:14 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:40 FT

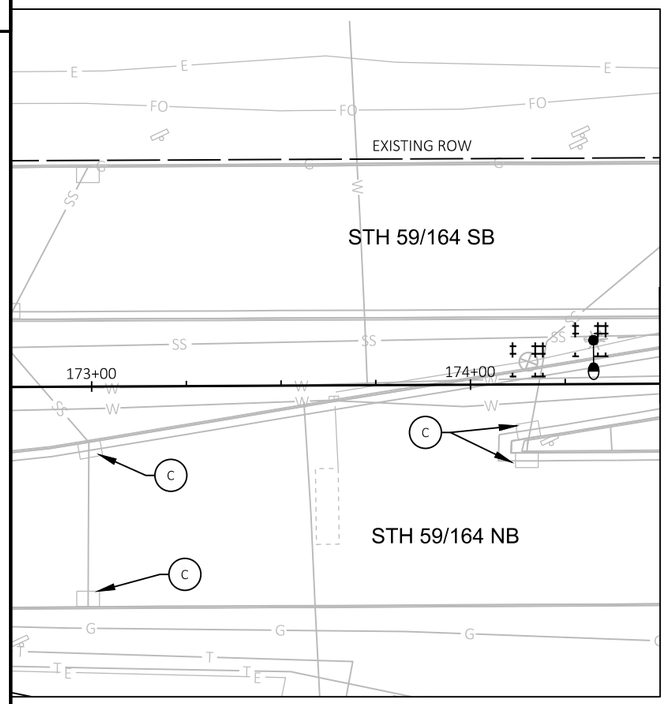


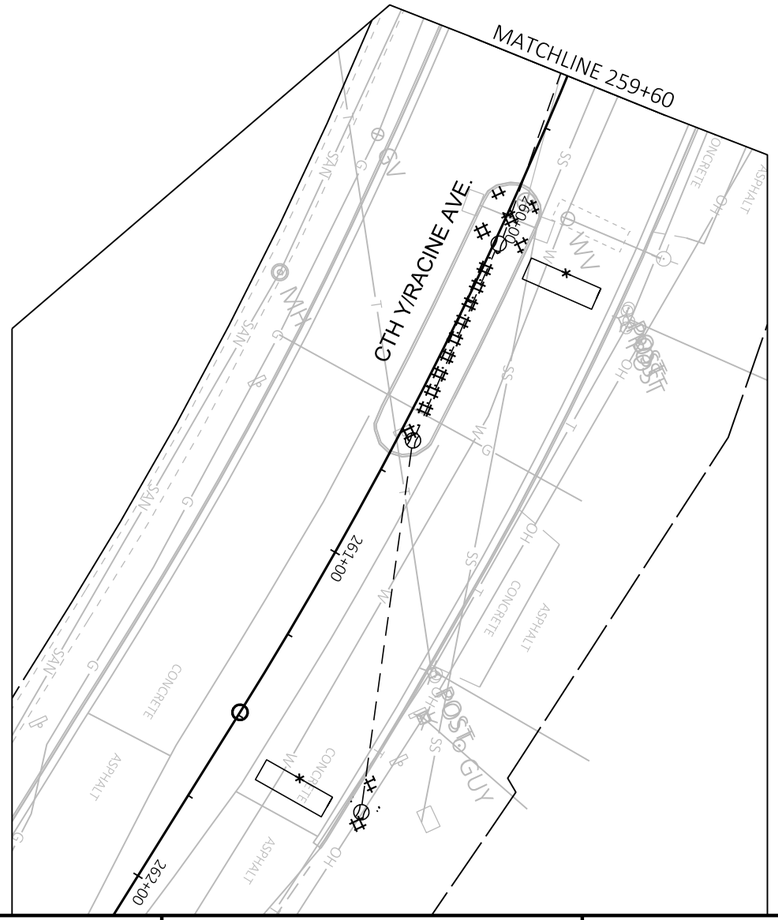
PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	EROSION CONTROL DETAILS: STH 59/164 & CTH Y	SHEET 29	E

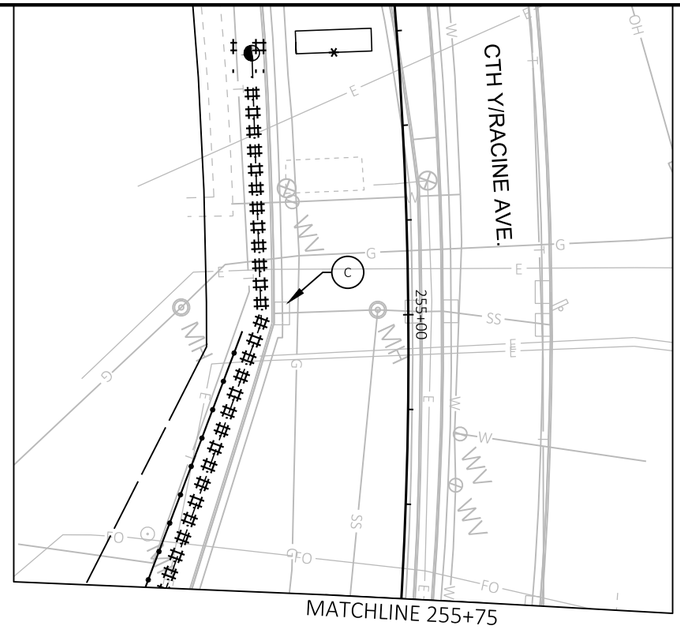
FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 03

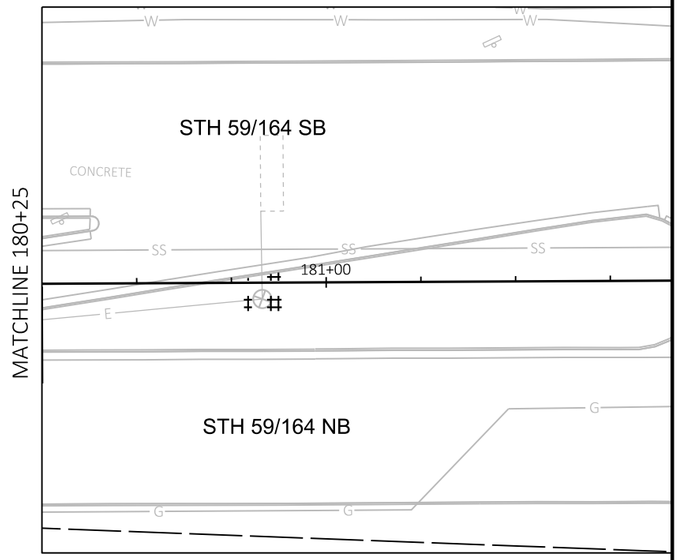
PLOT DATE : 7/31/2019 7:14 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42









LEGEND

- TOPSOIL, SEED, FERTILIZER AND EROSION MAT URBAN CLASS I, TYPE B AND WATER
- TOPSOIL, SOD, FERTILIZER AND WATER
- SILT FENCE
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	EROSION CONTROL DETAILS: STH 59/164 & CTH Y	SHEET 30	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 04

PLOT DATE : 7/31/2019 7:15 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : ##########

LEGEND

- TOPSOIL, SEED, FERTILIZER AND EROSION MAT URBAN CLASS I, TYPE B AND WATER
- TOPSOIL, SOD, FERTILIZER AND WATER
- SILT FENCE
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C

N

STH 181

EXISTING ROW

COUNTY LINE RD.

MATCHLINE 24+25

23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00

286+00 287+00 288+00 289+00 291+00 284+00

30' 40' 35'

GRAVEL ASPHALT CONCRETE

2

LEGEND

- TOPSOIL, SEED, FERTILIZER AND EROSION MAT URBAN CLASS I, TYPE B AND WATER
- TOPSOIL, SOD, FERTILIZER AND WATER
- SILT FENCE
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C

N

ASPHALT
SIGN
EXISTING ROW
C
STH 33
83+00
MH
SAN
SS
OH
CONCRETE
ASPHALT
CONC
EXISTING ROW
S. PARK ST.

CONC
CRETE
EXISTING ROW
CTH O
400+50
30'
BRICK
VLV
WV
GV
40'
85+00
STH 33
86+00
MH
30'
CONC
EXISTING ROW
HANDHOLE
25'
399+50
EXISTING ROW
398+00
CTH O
EXISTING ROW
EXISTING ROW

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	EROSION CONTROL DETAILS: STH 33 & CTH O	SHEET 32	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\022002_EC.DWG
LAYOUT NAME - 05

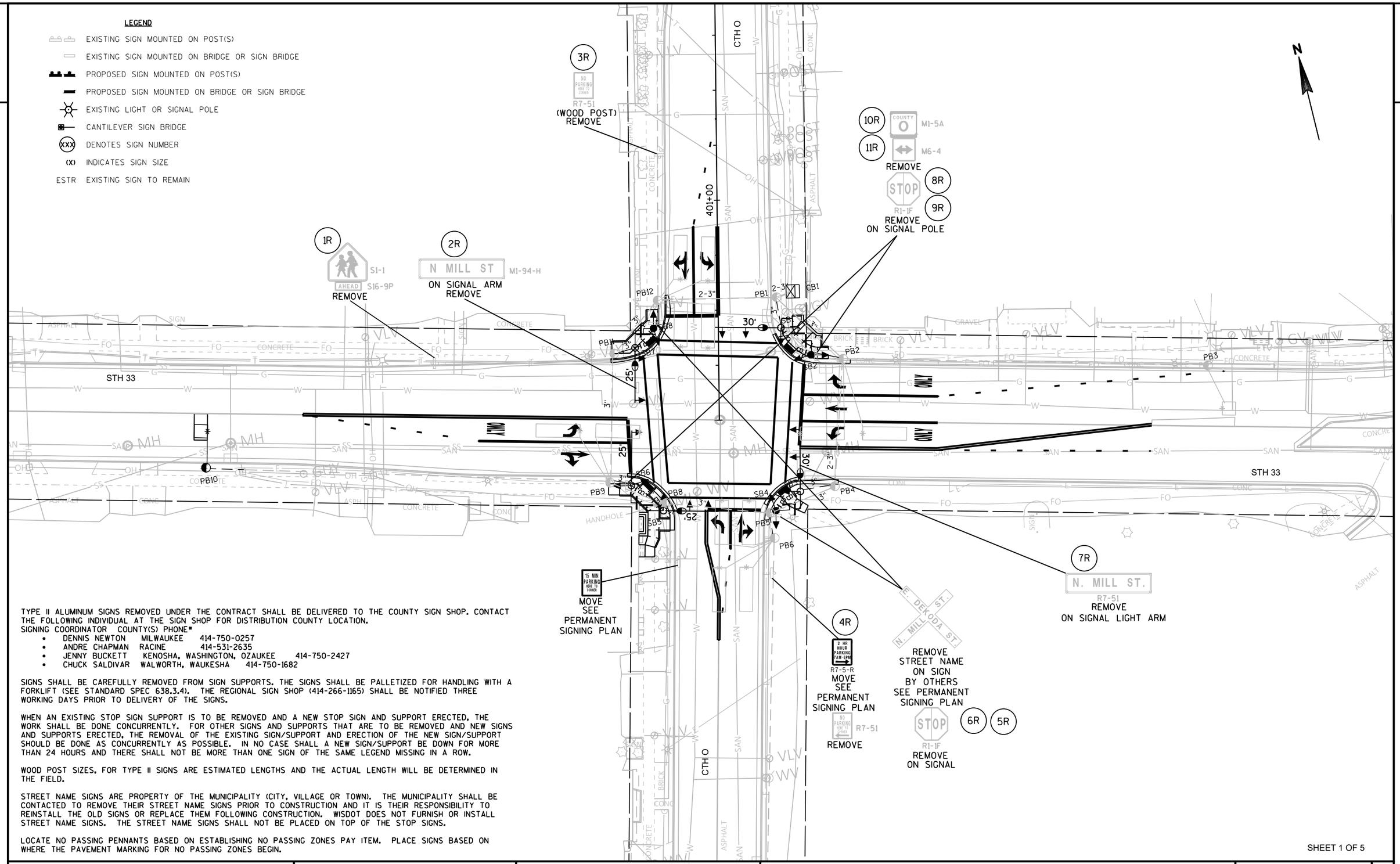
PLOT DATE : 7/31/2019 7:15 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

LEGEND

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

2



TYPE II ALUMINUM SIGNS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE COUNTY SIGN SHOP. CONTACT THE FOLLOWING INDIVIDUAL AT THE SIGN SHOP FOR DISTRIBUTION COUNTY LOCATION.
SIGNING COORDINATOR COUNTY(S) PHONE*

- DENNIS NEWTON MILWAUKEE 414-750-0257
- ANDRE CHAPMAN RACINE 414-531-2635
- JENNY BUCKETT KENOSHA, WASHINGTON, OZAUKEE 414-750-2427
- CHUCK SALDIVAR WALWORTH, WAUKESHA 414-750-1682

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

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

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

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

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

PROJECT NO: 3700-20-80	HWY: STH 33 & CTH O	COUNTY: OZAUKEE	SIGNING REMOVAL PLAN	SHEET 33	E

FILE NAME : N:\PDS\C3D\CAD\37002040\SIGN\023101_PS_16.DWG
LAYOUT NAME - 023101_PS
PLOT DATE : 5/10/2019 8:03 AM
PLOT BY : WAGNER, SCOTT H
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

LEGEND

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

13R 14R R1-1F REMOVE (ON SIGNAL POLE)

12R R1-2 (WOOD POST) REMOVE

34R R1-2 (WOOD POST) REMOVE

19R 15R R1-1F REMOVE (ON SIGNAL POLE)

21R R4-7 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50 REMOVE (ON SIGNAL POLE)

28R 29R 22R

20R R5-1 DO NOT ENTER REMOVE (ON SIGNAL POLE)

30R 31R 32R R1-1F REMOVE (ON SIGNAL POLE)

27R 30R 26R

16R 25R

17R 18R R1-1F REMOVE (ON SIGNAL POLE)

24R 25R R1-1F REMOVE (ON SIGNAL POLE)

136R R1-2 (WOOD POST) REMOVE

PB1 PB2 PB3 PB4 PB5 PB6 PB7 PB8 PB9 PB10 PB11 PB12 PB14 PB15 PB16 PB17 PB18 PB19 PB20 PB22 PB24 PB25 PB26 PB33

SB1 SB2 SB3 SB4 SB5 SB6 SB7 SB8

CB1

CTH Y

STH 59/164

SHEET 2 OF 5

PROJECT NO: 3700-20-80	HWY: STH 164 & CTH Y	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 34	E

FILE NAME : N:\PDS\C3D\CAD\37002040\SIGN\023101_PS_16.DWG
LAYOUT NAME - 023102_PS

PLOT DATE : 5/10/2019 8:03 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

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

2

N

STH 67 OFF RAMP

STH 67 ON RAMP

ONLY

35R DO NOT ENTER R5-1 REMOVE

DOWNTOWN OCONOMOWOC SEE PERMANENT SIGNING PLAN

36R OCONOMOWOC POPULATION 15,759 I2-3 REMOVE

37R RIGHT LANE MUST TURN RIGHT R3-7-R REMOVE

38R ONLY ONLY R3-8-D

39R DO NOT ENTER R5-1

40R WRONG WAY R5-1A REMOVE

41R STOP R1-1F REMOVE

42R STOP R1-1F REMOVE

43R W12-1D REMOVE

44R YIELD R1-2 REMOVE

45R W6-1 REMOVE

46R STOP R1-1F REMOVE

47R DIVIDED HIGHWAY R6-3A REMOVE

48R R4-7 REMOVE

49R END CENTER LANE ONLY R3-9B (MOD) REMOVE

50R MB4-5 TO INTERSTATE 94 M1-1 M3-3 SOUTH M1-6 67 M6-1 JV2-1 REMOVE (STEEL POST)

51R NO THRU TRUCK AHEAD R5-54 REMOVE

52R 53R 54R R4-7 REMOVE

55R STOP R1-1F

56R DIVIDED HIGHWAY R6-3A REMOVE

57R YIELD R1-2 REMOVE

58R W12-1D REMOVE

59R BEGIN LEFT TURN LANE R3-20L REMOVE

60R M3-3 SOUTH TO INTERSTATE 67 94 M1-6 MB6-2 MB4-5 MB1-1 MB6-2 J3-2 REMOVE

61R ALTERNATE WEST INTERSTATE 94 MB4-1 MB3-4 MB1-1 MB5-1 JV3-1 REMOVE

62R STOP R1-1F REMOVE (ON SIGNAL POLE)

63R STOP R1-1F REMOVE (ON SIGNAL POLE)

64R STOP R1-1F REMOVE (ON SIGNAL POLE)

65R ONE WAY R6-2L REMOVE (ON WOOD POST)

66R SPEED LIMIT 35 R2-1 REMOVE (ON WOOD POST)

67R W3-3 REMOVE (ON WOOD POST)

PART OF REMOVAL FOR 35R 48R

STH 16

E. WISCONSIN AVE.

FRONTAGE ROAD

SHEET 3 OF 5

PROJECT NO: 3700-20-80	HWY: STH 16 & STH 67 RAMPS	COUNTY: WAUKESHA	SIGNING REMOVAL PLAN	SHEET 35	E

FILE NAME : N:\PDS\C3D\CAD\37002040\SIGN\023101_PS_16.DWG
LAYOUT NAME - 023103_PS

PLOT DATE : 5/10/2019 8:03 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

LEGEND

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

N

75R W12-1D REMOVE
94R R3-8R REMOVE
93R R1-2 REMOVE
92R FREEWAY ENTRANCE D13-3 REMOVE
72R 73R 74R STOP R1-1F REMOVE
71R STOP R1-1 REMOVE
70R ONE WAY R6-2L REMOVE
91R R3-1 REMOVE
80R W12-1D REMOVE
69R H D9-2 MB6-1 REMOVE
68R W3-3 REMOVE
STH 67 OFF RAMP
STH 67 ON RAMP
ONLY
SS
PB7 PB6 PB5 PB10 PB11 SB5 SB6
2-3" 30'
76R DO NOT ENTER R5-1 REMOVE
77R STOP R1-1F REMOVE
STH 16
55'
82R STOP R1-1F REMOVE (ON SIGNAL POLE)
PB12 PB13
83R 84R 85R R4-7 REMOVE
SB4 PB5
78R J3-2 REMOVE
79R J3-2 REMOVE
80R 81R STOP R1-1F REMOVE (ON SIGNAL POLE)
SB3 PB4 SB2 PB3 SB1 PB2 PB1 SB7 PB14
50'
CONC ASPH
86R R4-7 REMOVE (ON SIGNAL POLE)
137R REMOVE
87R STOP R1-1F REMOVE (ON SIGNAL POLE)
88R ONE WAY R6-2L REMOVE (ON SIGNAL POLE)
PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED R5-57 ESTR (ON WOOD POST)
89R OCONOMOWOC D1-60A (MOD) REMOVE
E. WISCONSIN AVE.
ASPH
FO

SHEET 4 OF 5

PROJECT NO: 3700-20-80	HWY: STH 16 & STH 67 RAMPS	COUNTY: WAUKESHA	SIGNING REMIOVAL PLAN	SHEET 36	E

FILE NAME : N:\PDS\C3D\CAD\37002040\SIGN\023101_PS_16.DWG
LAYOUT NAME - 023104_PS
PLOT DATE : 5/10/2019 8:03 AM
PLOT BY : WAGNER, SCOTT H
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

LEGEND

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

98R COUNTY LINE RD 9600 N — M1-94 MOD — REMOVE
R4-7 — ESTR
99R SPEED LIMIT 45 — R2-1 — REMOVE
100R
103R MILWAUKEE CO. — I2-2
102R MILWAUKEE POPULATION 594,833 — I2-3 — REMOVE
ESTR MEQUON NATURE PRESERVE — M1-85B
105R COUNTY LINE RD — M1-94H — REMOVE
STH 181
NO ENGINE BRAKING EXCEPT IN EMERGENCY — R10-64 — MOVE BY OTHERS (PERMIT SIGN) SEE PERMANENT SIGNING PLAN
122R STOP — R1-1F — REMOVE
121R ONE WAY — R6-2L(2M) — REMOVE
PB11, PB10, SB6
COUNTY LINE RD
123R WEIGHT LIMIT 5 TONS — R12-1 — REMOVE
124R WAUWATOSA RD. — M1-94H — REMOVE
PB14, SB7, CB1, SB1, PB1
125R STOP — R1-1F — REMOVE
126R DO NOT ENTER — R5-1 — REMOVE
131R WRONG WAY — R5-1A — REMOVE
135R BEGIN RIGHT TURN LANE — R3-20R — REMOVE
133R, 134R — W3-3 — REMOVE
132R BEGIN LEFT TURN LANE — R3-20L — REMOVE
25' 50' 100' 60'
106R — PART OF #106R — KEEP RIGHT TURN ONLY — R3-7 — REMOVE
DO NOT ENTER — R5-1 — REMOVE
109R STOP
110R — R1-1 — REMOVE
PB9, SB5, PB8, SB4
113R, 114R, 115R, 116R — R4-7 — REMOVE
PB3, SB2, SB3, PB4
128R NORTH 181 — M3-1, M1-6 — J4-1 — REMOVE
119R ONE WAY — R6-2L — REMOVE
127R COUNTY LINE RD — M1-94H — REMOVE
117R, 118R STOP — R1-1F — REMOVE
120R 181 — M1-6, M6-4 — REMOVE
129R, 130R SPEED LIMIT 45 — R2-1 — REMOVE
30'
111R ONE WAY — R6-2L(2M) — REMOVE
108R — R1-2 — REMOVE
112R WAUWATOSA RD. — M1-94H — REMOVE
COUNTY LINE RD
96R — W3-3 — REMOVE
95R RIGHT TURN LANE — R3-20R — REMOVE
97R COUNTY LINE RD — M1-94H — REMOVE
101R LEFT TURN LANE — R3-20L — REMOVE
105' 15' 165' 80' 119' 200' 122'
2-3" 3' 5' 30' 35' 40'

SHEET 5 OF 5

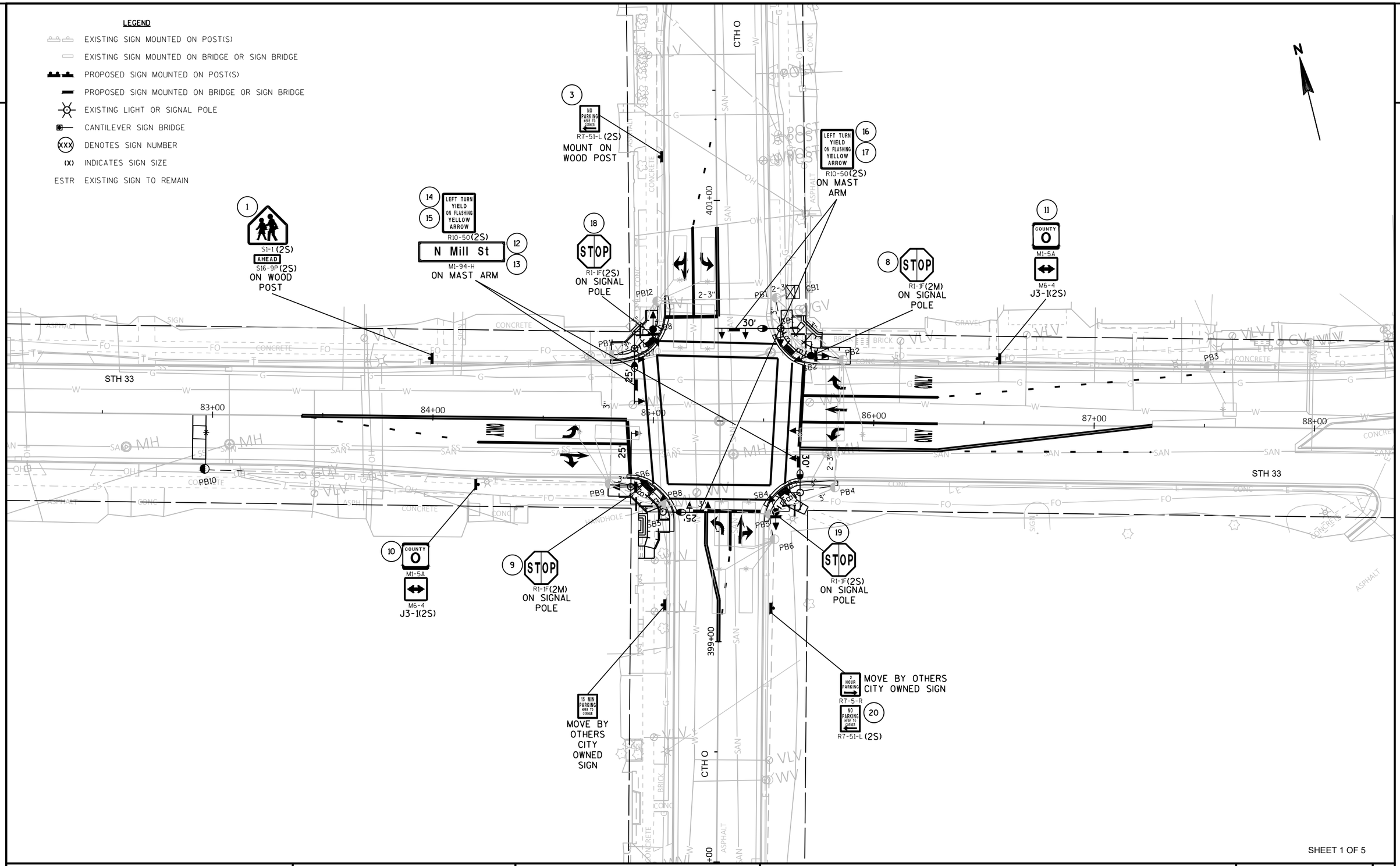
PROJECT NO: 3700-20-80	HWY: STH 181 & COUNTY LINE RD.	COUNTY: MILWAUKEE & OZAUKEE	SIGNING REMOVAL PLAN	SHEET 37	E

FILE NAME : N:\PDS\C3D\CAD\37002040\SIGN\023101_PS_16.DWG
LAYOUT NAME - 023105_PS
PLOT DATE : 5/10/2019 8:03 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

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



SHEET 1 OF 5

PROJECT NO: 3700-20-80	HWY: STH 33 & CTH O	COUNTY: OZAUKEE	PERMANENT SIGNING PLAN	SHEET 38	E

FILE NAME : N:\PDS\C3D\CAD\37002040\SIGN\023201_PS_16.DWG
LAYOUT NAME - 023201_PS

PLOT DATE : 12/3/2019 4:09 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

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

21 R1-2 (2M) ON WOOD POST
169 DIVIDED HIGHWAY R6-3 (2M)
24 STOP R1-1F (2M) ON WOOD POST
25 W12-1D (2M) MOUNTING HEIGHT
23 STOP R1-1F (2M) ON SIGNAL POLE
32 ONE WAY R6-2-L (2M) ON SIGNAL POLE
33 R1-2 (2M) ON WOOD POST
167 DO NOT ENTER R5-1 (2M) ON SIGNAL POLE
22 ONE WAY R6-2-L (2M)
31 R4-7 (2M) ON WOOD POST
34 STOP R1-1F (2M) ON SIGNAL POLE
36 W12-1D (2M) MOUNTING HEIGHT
39 WRONG WAY R5-1A (2M)
168 DIVIDED HIGHWAY R6-3 (2M)
35 STOP R1-1F (2M) ON LIGHT POLE
41 R4-7 (2M) ON WOOD POST
27 28 29 30 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-5D (2M)
38 DO NOT ENTER R5-1 (2M) ON LIGHT POLE
172 DO NOT ENTER R5-1 (2M) ON SIGNAL POLE
37 R4-7 (2M) ON WOOD POST
170 DIVIDED HIGHWAY R6-3 (2M)
42 DO NOT ENTER R5-1 (2M) ON LIGHT POLE
40 STOP R1-1F (2M) ON LIGHT POLE
26 WRONG WAY R5-1A (2M)
43 W12-1D (2M) 2' MOUNTING HEIGHT
45 STOP R1-1F (2M) ON SIGNAL POLE
44 R1-2 (2M) ON WOOD POST
46 ONE WAY R6-2-L (2M) ON SIGNAL POLE
52 ONE WAY R6-2-L (2M) ON WOOD POST
51 R1-2 (2S) ON WOOD POST
50 STOP R1-1F (2M) ON SIGNAL POLE
171 DIVIDED HIGHWAY R6-3 (2M)
48 R4-7 (2M) ON WOOD POST
49 W12-1D (2M) 2' MOUNTING HEIGHT
47 STOP R1-1F (2M) ON WOOD POST

STH 59/164
CTH Y (RACINE AVE)
CONCRETE
SHEET 2 OF 5

PROJECT NO: 3700-20-80	HWY: STH 59/164 & CTH Y	COUNTY: WAUKESHA	PERMANENT SIGNING PLAN	SHEET 39	E

FILE NAME : N:\PDS\C3D\CAD\37002040\SIGN\023201_PS_16.DWG
LAYOUT NAME - 023202_PS
PLOT DATE : 12/3/2019 4:09 PM
PLOT BY : WAGNER, SCOTT H
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

2

2

LEGEND

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

53 R3-8-P (2M)

365' FROM CENTER OF INTERSECTION

55 W12-1D (2S) 2' MOUNT HEIGHT

56 DO NOT ENTER R5-1 (2M)

57 WRONG WAY R5-1A (2S) ON SIGNAL POLE

80 STOP R1-1F (2M) ON SIGNAL POLE

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

STH 67 OFF RAMP

STH 67 ON RAMP

ONLY

174 DIVIDED HIGHWAY R6-3 (2M)

81 STOP R1-1F (2M) ON SIGNAL POLE

83 YIELD R1-2 (2M) ON LIGHT POLE

82 STOP R1-1F (2M) ON SIGNAL POLE

84 W12-1D (2S) 2' MOUNT HEIGHT

85 BEGIN LEFT TURN LANE R3-20-L (2S) ON WOOD POST

86 M3-3 SOUTH TO MB4-5, M1-6 67 INTERSTATE 94 M1-1, MB6-2 MB6-2 J3-2(2) ON WOOD POST

87 ALTERNATE MB4-1 WEST MB3-4 INTERSTATE 94 M1-1 M5-1R JV3-1(2) ON WOOD POST

ESTR DOWNTOWN OCONOMOWOC

88 DO NOT ENTER R5-1 (2M)

59 OCONOMOWOC POPULATION 15,759 I2-3(2)

61 YIELD R1-2 (2M) ON LIGHT POLE

62 W6-1

58 R3-1 (2S) ON MAST ARM

173 DIVIDED HIGHWAY R6-3 (2M)

60 STOP R1-1F (2M) ON WOOD POST

PB8 PB9 PB10 PB12 PB13 SB6 SB7 SB8 SB9 SB10 PB14 PB7 SB5

2-3" 25' 217+00 216+00 218+00 22+00 21+00 20+00 19+00 17+00 16+00

72 R4-7 (2S) ON SIGNAL POLE

177 ONE WAY R6-2-L (2S)

63 LEFT TURN YIELD OR FLASHING YELLOW ARROW R10-5G (2S) ON MAST ARM

71 R4-7 (2S) ON WOOD POST

PB6 SB4 PB4 SB3 PB3 SB2 PB2 SB1 PB1 PB15 SB11 PB17 SB12 CB1

55' 50'

70 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-5G (2S) ON MAST ARM

73 R4-7 (2S) ON LIGHT POLE

175 DIVIDED HIGHWAY R6-3 (2M)

76 STOP R1-1F (2M) ON LIGHT POLE

78 SPEED LIMIT 35 R2-1 (2S) ON WOOD POST

79 W3-3 (2S) ON WOOD POST

77 ONE WAY R6-2-L (2S) ON SIGNAL POLE

176 DIVIDED HIGHWAY R6-3 (2M)

74 STOP R1-1F (2M) ON SIGNAL POLE

69 MB4-5 TO M1-1, M3-3 SOUTH INTERSTATE 94 67 16 M1-6, M6-1, MB6-1, M6-1 J3-3(2)

E. WISCONSIN AVE.

FRONTAGE ROAD

STH 16

68 CENTER LANE END R3-9-B (MOD) (2S)

66 R4-7 (2S) ON WOOD POST

64 65 CENTER LANE ONLY R3-9-B (2S) ON WOOD POST

67 TO MB4-5, INTERSTATE 94 M1-1, SOUTH M3-3, 67 M1-6, M6-1 JV2-1(2) CORE CONCRETE FOR WOOD POST

NO THRU TRUCK AHEAD MOVE BY OTHERS CITY OWNED SIGN

75 STOP R1-1F (2M) ON SIGNAL POLE

SHEET 3 OF 5

PROJECT NO: 3700-20-80	HWY: STH 16 & STH 67 RAMPS	COUNTY: WAUKESHA	PERMANENT SIGNING PLAN	SHEET 40	E

FILE NAME : N:\PDS\C3D\CAD\37002040\SIGN\023201_PS_16.DWG
LAYOUT NAME - 023203_PS

PLOT DATE : 12/3/2019 4:09 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

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

91 ONLY ONLY R3-8-P (2M)

400' FROM CENTER OF INTERSECTION

92 W12-1D (2S) 2' MOUNTING HEIGHT

93 STOP R1-1F (2M) ON SIGNAL POLE

96 STOP R1-1 (2M) ON WOOD POST

89 W3-3 (2S)

90 H D9-2 (2) MB6-1 (2)

110 M3-3 SOUTH TO MB4-5 M1-6 INTERSTATE 67 94 M1-1 M5-1R MB5-1R J2-2(2)

119 ONE WAY R6-2-L (2S) ON WOOD POST

97 DO NOT ENTER R5-1 (2M)

98 WRONG WAY R5-1A (2S) ON SIGNAL POLE

STH 16

314+00

STH 67 OFF RAMP

STH 67 ON RAMP

ONLY

99 YIELD R1-2 (2M)

178 DIVIDED HIGHWAY R6-3 (2M)

94 STOP R1-1F (2M) ON WOOD POST

179 ONE WAY R6-2-L (2S)

100 FREEWAY ENT. D13-3 (2S)

95 STOP R1-1F (2M) ON SIGNAL POLE

101 W12-1D (2S) 2' MOUNTING HEIGHT

102 R3-1 (2M) ON MAST ARM

103 R4-7 (2S) ON WOOD POST

106 STOP R1-1F (2M) ON WOOD POST

118 OCONOMOWOC D1-60A (MOD)

5+00 26+00 27+00 29+00 30+00 31+00

107 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50 (2S) ON MAST ARM

104 R4-7 (2S) ON WOOD POST

105 R4-7 (2S) ON WOOD POST

113 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50 (2S) ON MAST ARM

112 R4-7 (2S) ON WOOD POST

111 M3-4 WEST NORTH M3-1 M1-6 16 67 M1-6 M6-1 M6-1 J3-2(2)

180 DIVIDED HIGHWAY R6-3 (2M)

108 STOP R1-1F (2M) ON WOOD POST

109 STOP R1-1F (2M) ON SIGNAL POLE

184 ONE WAY R6-2-L (2S)

116 STOP R1-1F (2M) ON WOOD POST

117 STOP R1-1F (2M) ON SIGNAL POLE

186 USE PED SIGNAL

114 ONE WAY R6-2-L (2S) ON SIGNAL POLE

ESTR PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED R5-57 ON WOOD POST

115 M3-4 M3-1 NORTH 67 M1-6 M6-1 WEST 16 M6-1 EAST 16 M3-2 M1-6 M6-1 J3-3(2)

185 R4-7 (2S) (MOUNT ON EXISTING STEEL POST 2"X2")

E. WISCONSIN AVE.

STH 16

ASPH CONC FO SS

N

SHEET 4 OF 5

PROJECT NO: 3700-20-80	HWY: STH 16 & STH 67 RAMPS	COUNTY: WAUKESHA	PERMANENT SIGNING PLAN	SHEET 41	E

FILE NAME : N:\PDS\C3D\CAD\37002040\SIGN\023201_PS_16.DWG
LAYOUT NAME - 023204_PS

PLOT DATE : 12/3/2019 4:09 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

LEGEND

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

181 M1-6 M6-4 J3-1(2)

130 STOP R1-1F (2M) ON WOOD POST

132 STOP R1-1F (2M) ON SIGNAL POLE

133 ONE WAY R6-2-L (2M) ON WOOD POST

NO ENGINE BRAKING EXCEPT IN EMERGENCY R10-64 REMOVE BY OTHER CITY OWNED SIGN

Milwaukee Co I2-2(2) 140

MILWAUKEE POPULATION 594,833 135 I2-3(2)

ESTR R4-7

138 County Line Rd 9600 N D1-65 (2) MODIFIED

136 SPEED LIMIT 45 137 R2-1(2S)

122'

ESTR Mequon Nature Preserve M1-85B

134 County Line Rd M1-94-H ON MAST ARM

PB10 PB11 SB6

153 R4-7 ON WOOD POST

165 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50 (2S) ON UPPER SIGNAL POLE

151 R4-7 ON SIGNAL POLE

COUNTY LINE RD

125 WEIGHT LIMIT 6 TONS R12-1 (2S)

126 Wauwatosa Rd M1-94-S ON MAST ARM

131 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50 (2S) ON MAST ARM

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

PB14 SB7 CB1

127 STOP R1-1F (2M)

128 DO NOT ENTER R5-1 (2M)

164 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50 (2S) ON UPPER SIGNAL POLE

152 R4-7 ON SIGNAL POLE

SB1 PB1

124 WRONG WAY R5-1A (2S)

122 BEGIN RIGHT TURN LANE R3-20-R(2S)

120 W3-3 (2S)

A2 25' 50' 100' 60' 200'

123 BEGIN LEFT TURN LANE R3-20-L(2S)

182 183 County Line Rd 9600 N D1-65 (2) MODIFIED

121 W3-3 (2S)

A2

284+00 285+00 286+00 287+00 288+00 289+00 290+00

STH 181

146 STOP R1-1F (2M)

154 R4-7 ON WOOD POST

PB8 SB4 PB9 SB5

147 DO NOT ENTER R5-1(2M) ON SIGNAL POST

PB7 PB6

148 YIELD R1-2(2S)

149 ONE WAY R6-2-L (2M) ON WOOD POST

155 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50 (2S) ON MAST ARM

SB3 PB4

160 County Line Rd M1-94-H ON MAST ARM

161 NORTH M3-1 181 M1-6 J4-1(2)

159 ONE WAY R6-2-L (2M) ON WOOD POST

156 STOP R1-1F (2M) ON WOOD POST

157 STOP R1-1F (2M) ON SIGNAL POST

158 181 M1-6 M6-4 J3-1(2)

105' 15' 165' 86' 119' 200'

142 W3-3(2S)

141 BEGIN RIGHT TURN LANE R3-20-R(2S)

139 County Line Rd 9600 N D1-65 (2) MODIFIED

143 BEGIN LEFT TURN LANE R3-20-L(2S)

144 LEFT LANE MUST TURN LEFT R3-7-L(2S)

150 Wauwatosa Rd M1-94-H ON MAST ARM

COUNTY LINE RD

30' 162 163 SPEED LIMIT 45 R2-1 (2S)

SHEET 5 OF 5

PROJECT NO: 3700-20-80	HWY: STH 181 & COUNTY LINE RD.	COUNTY: MILWAUKEE & OZAUKEE	PERMANENT SIGNING PLAN	SHEET 42	E

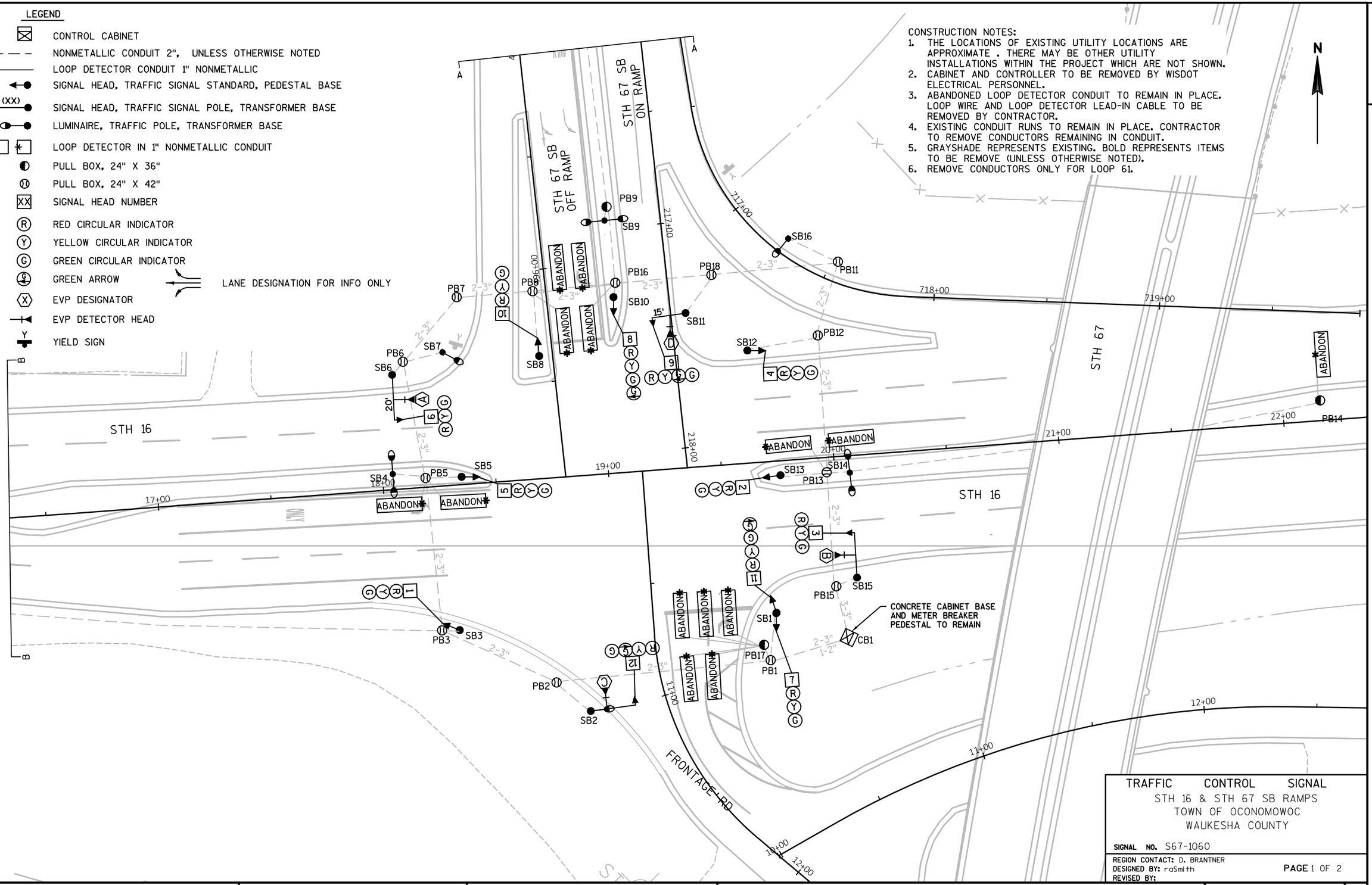
FILE NAME : N:\PDS\C3D\CAD\37002040\SIGN\023201_PS_16.DWG
LAYOUT NAME - 023205_PS
PLOT DATE : 12/3/2019 4:09 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- GREEN ARROW
- LANE DESIGNATION FOR INFO ONLY
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- Y YIELD SIGN

CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING UTILITY LOCATIONS ARE APPROXIMATE . THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. CABINET AND CONTROLLER TO BE REMOVED BY WISDOT ELECTRICAL PERSONNEL.
3. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP WIRE AND LOOP DETECTOR LEAD-IN CABLE TO BE REMOVED BY CONTRACTOR.
4. EXISTING CONDUIT RUNS TO REMAIN IN PLACE. CONTRACTOR TO REMOVE CONDUCTORS REMAINING IN CONDUIT.
5. GRAYSHADE REPRESENTS EXISTING. BOLD REPRESENTS ITEMS TO BE REMOVE (UNLESS OTHERWISE NOTED).
6. REMOVE CONDUCTORS ONLY FOR LOOP 61.



TRAFFIC CONTROL SIGNAL
STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO. S67-1060

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 1 OF 2

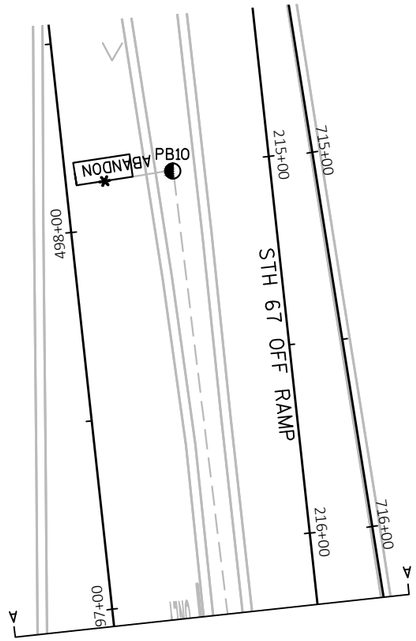
PROJECT NO: 3700-20-80	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 43	E

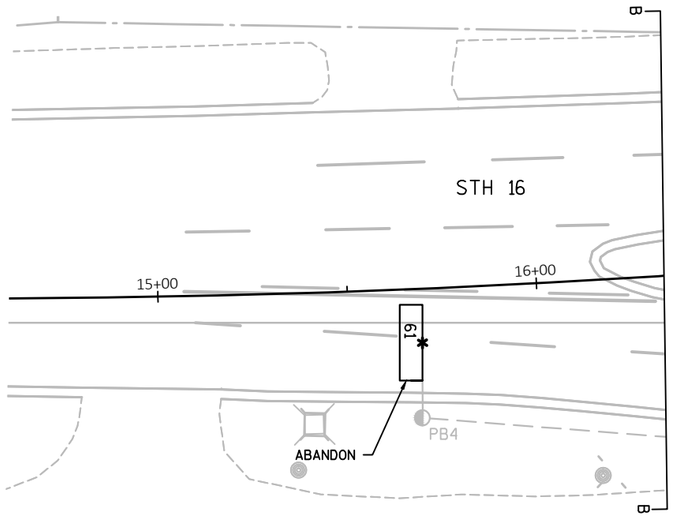
FILE NAME : T:\1162705.02\TRAFFIC\SIGNAL DESIGN\S67-1060_E - REM.DWG
LAYOUT NAME - S67-1060_E - REM - S67-1060_E_PG1

PLOT DATE : 7/22/2019 11:56 AM PLOT BY : GUILLAMA, TINA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2





TRAFFIC CONTROL SIGNAL
STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO. S67-1060

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 3700-20-80	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 44	E

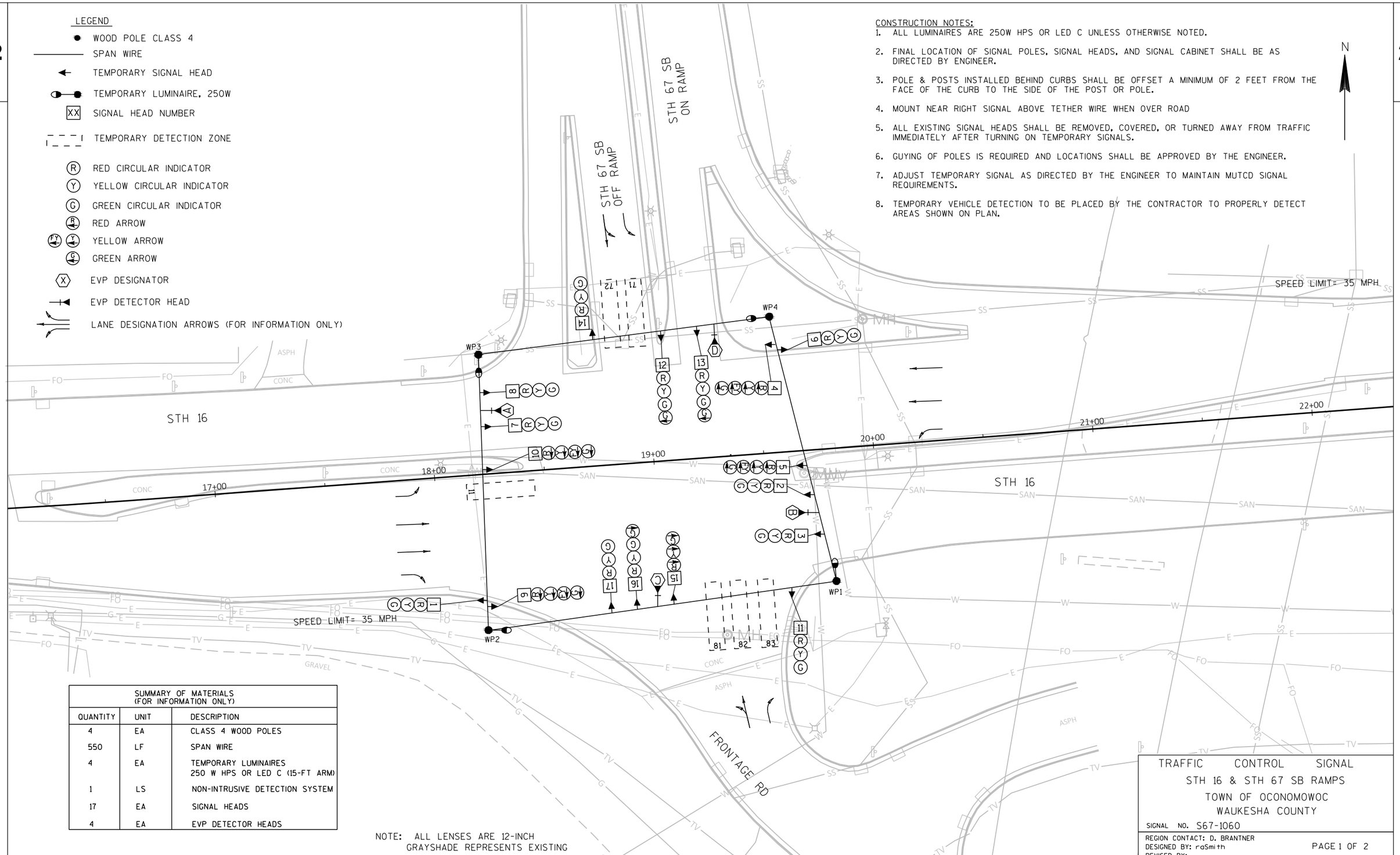
LEGEND

- WOOD POLE CLASS 4
- SPAN WIRE
- TEMPORARY SIGNAL HEAD
- TEMPORARY LUMINAIRE, 250W
- XX SIGNAL HEAD NUMBER
- TEMPORARY DETECTION ZONE
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- (G) GREEN ARROW
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- LANE DESIGNATION ARROWS (FOR INFORMATION ONLY)

CONSTRUCTION NOTES:

1. ALL LUMINAIRES ARE 250W HPS OR LED C UNLESS OTHERWISE NOTED.
2. FINAL LOCATION OF SIGNAL POLES, SIGNAL HEADS, AND SIGNAL CABINET SHALL BE AS DIRECTED BY ENGINEER.
3. POLE & POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF THE CURB TO THE SIDE OF THE POST OR POLE.
4. MOUNT NEAR RIGHT SIGNAL ABOVE TETHER WIRE WHEN OVER ROAD
5. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
6. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
7. ADJUST TEMPORARY SIGNAL AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
8. TEMPORARY VEHICLE DETECTION TO BE PLACED BY THE CONTRACTOR TO PROPERLY DETECT AREAS SHOWN ON PLAN.

N



SUMMARY OF MATERIALS (FOR INFORMATION ONLY)		
QUANTITY	UNIT	DESCRIPTION
4	EA	CLASS 4 WOOD POLES
550	LF	SPAN WIRE
4	EA	TEMPORARY LUMINAIRES 250 W HPS OR LED C (15-FT ARM)
1	LS	NON-INTRUSIVE DETECTION SYSTEM
17	EA	SIGNAL HEADS
4	EA	EVP DETECTOR HEADS

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

TRAFFIC CONTROL SIGNAL
STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO. S67-1060

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 1 OF 2

PROJECT NO: 3700-20-80	HWY: STH 16	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 45	E

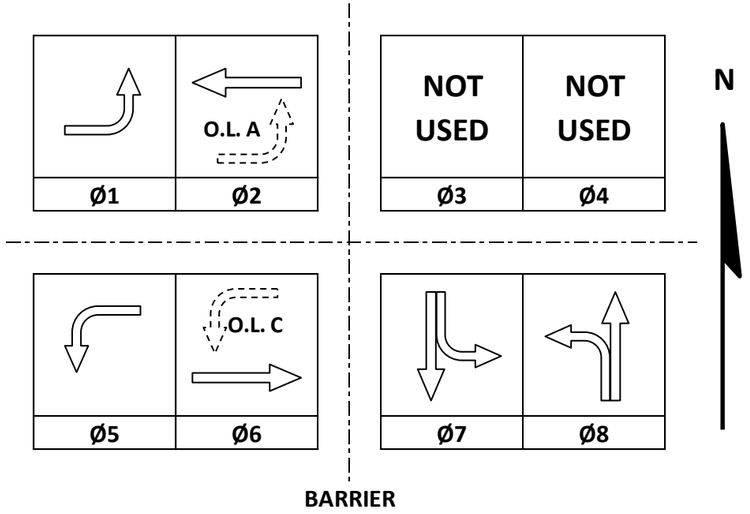
FILE NAME : T:\1162705.02\TRAFFIC\SIGNAL DESIGN\S67-1060_E - TEMP.DWG
LAYOUT NAME - S67-1060_E_PG1

PLOT DATE : 6/4/2019 10:24 AM PLOT BY : GUILLAMA, TINA PLOT NAME : PLOT SCALE : 1 IN:40 FT

	HEAD NUMBERS	FLASH
Ø1	4,5	-
Ø2	6,7,8	R
Ø3		
Ø4		
Ø5	9,10	-
Ø6	1,2,3	R
Ø7	14,15,16,17	R, R ←
Ø8	11,12,13	R
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLA	4,5	R ←
OLB		
OLC	9,10	R ←
OLD		

RING 1

RING 2



DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
11		X			1	1					
71		X			7	7					
72		X			7	7					
81		X			8	8					
82		X			8	8					
83		X			8	8					

CONTROLLER LOGIC

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

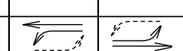
TYPE OF INTERCONNECT/COMMUNICATION	
NONE	X
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	
CELL MODEM	

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

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

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	6+1	7	8

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 7, CONTROLLER SHALL RETURN TO PHASE 7.
AFTER PREEMPTION SEQUENCE 8, CONTROLLER SHALL RETURN TO PHASE 8.

GENERAL NOTES:

1. PHASE 5 IS FOR EVP ONLY.

STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY
SIGNAL NO: S67-1060 CABINET TYPE: TEMP
CONTROLLER TYPE: TEMP
DATE: 8/1/2019 PAGE NO. 2 OF 2

2

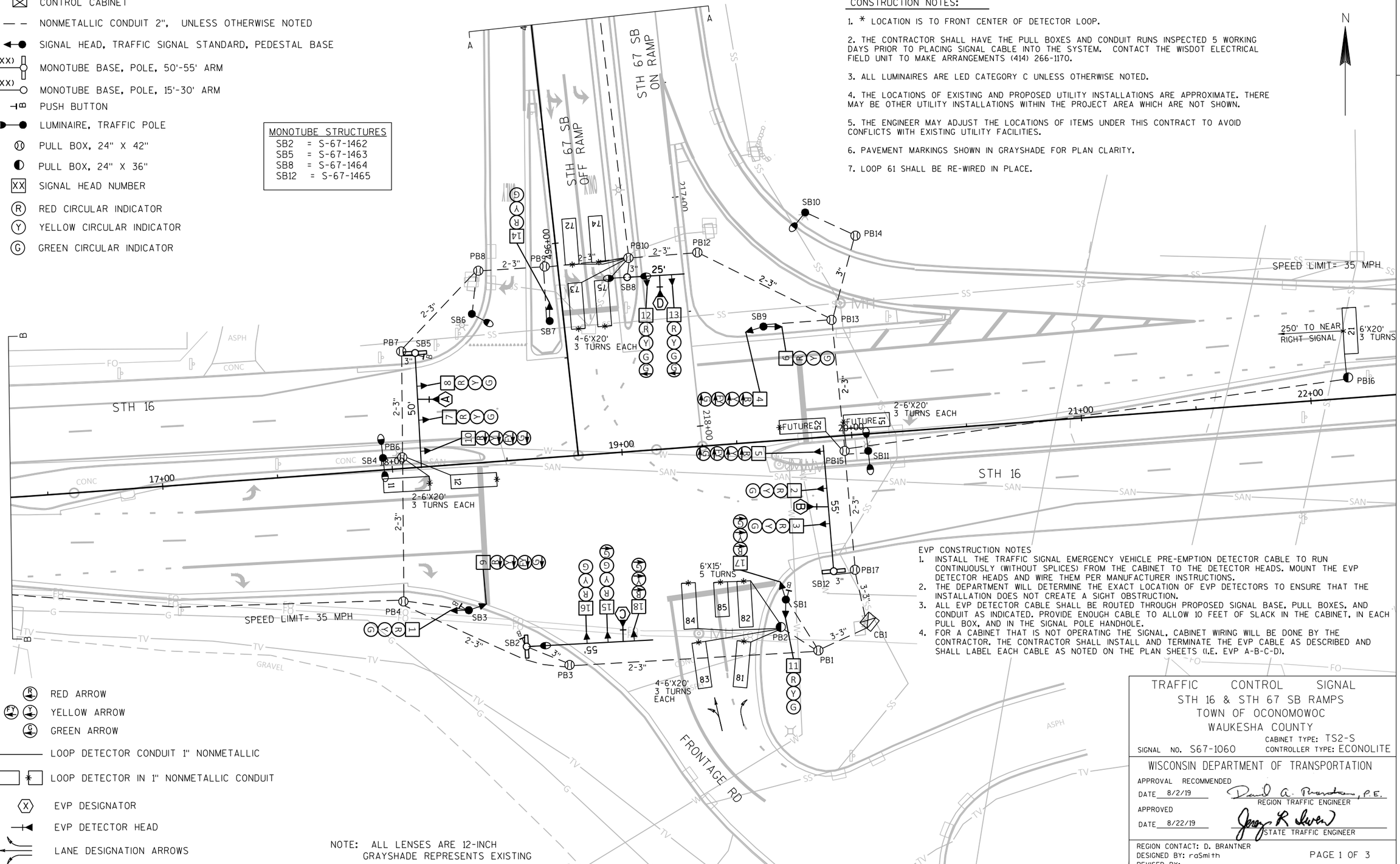
LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 50'-55' ARM
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 36"
- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR

MONOTUBE STRUCTURES
SB2 = S-67-1462
SB5 = S-67-1463
SB8 = S-67-1464
SB12 = S-67-1465

CONSTRUCTION NOTES:

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO THE SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS (414) 266-1170.
3. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
4. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
5. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICTS WITH EXISTING UTILITY FACILITIES.
6. PAVEMENT MARKINGS SHOWN IN GRAYSHADE FOR PLAN CLARITY.
7. LOOP 61 SHALL BE RE-WIRED IN PLACE.



EVP CONSTRUCTION NOTES

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

- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- (G) GREEN ARROW
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- LANE DESIGNATION ARROWS

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

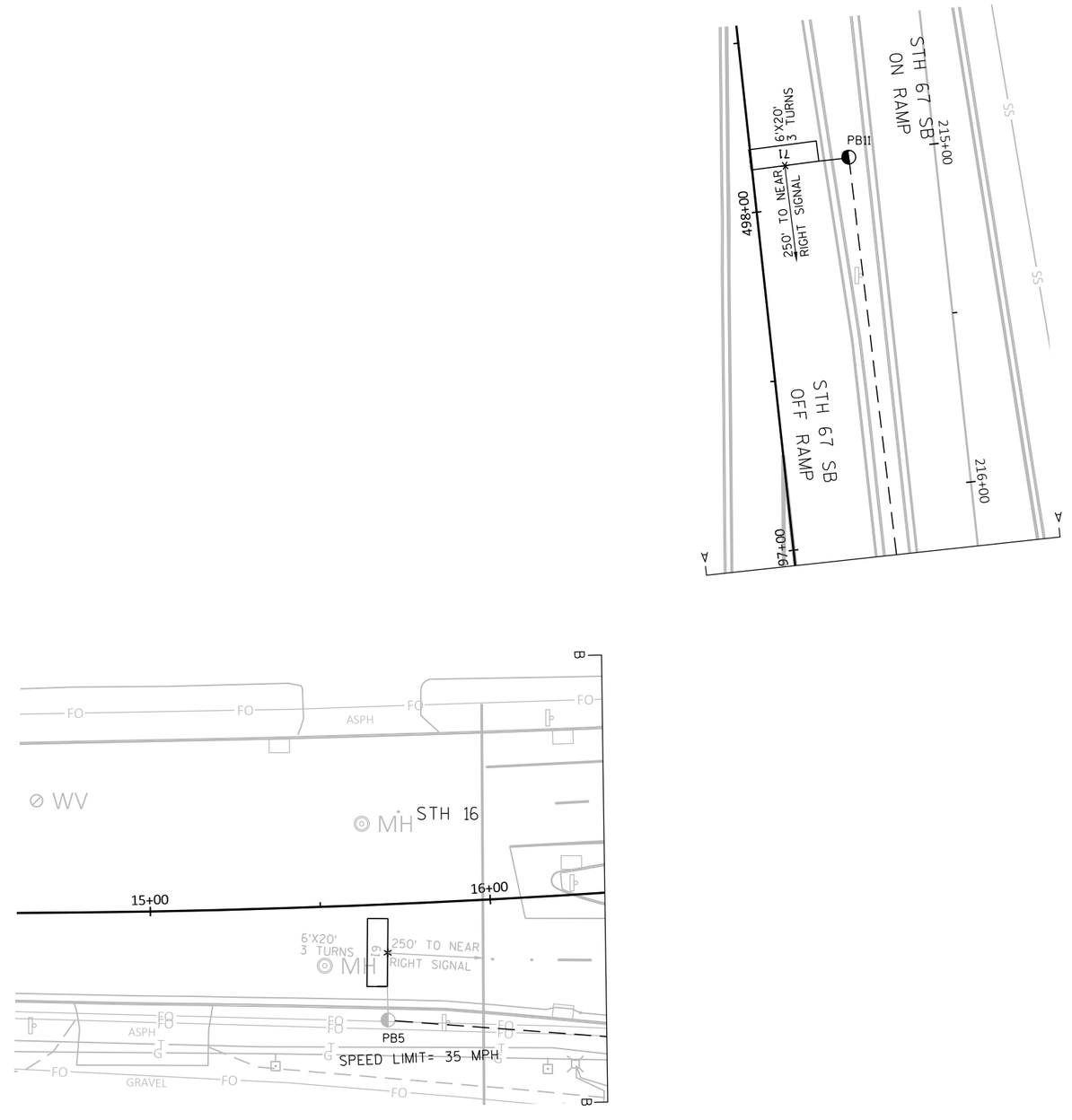
TRAFFIC CONTROL SIGNAL
STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY
SIGNAL NO. S67-1060
CABINET TYPE: TS2-S
CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVAL RECOMMENDED
DATE 8/2/19 David A. Brantner, P.E. REGION TRAFFIC ENGINEER
APPROVED
DATE 8/22/19 Jerry R. Stevens STATE TRAFFIC ENGINEER
REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:
PAGE 1 OF 3

PROJECT NO: 3700-20-80	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 47	E

FILE NAME : N:\PDS\C3D\CAD\00820300\SIG\S67-1060\S67-1060.DWG
LAYOUT NAME - S67-1060_PG1
PLOT DATE : 10/22/2019 9:24 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



TRAFFIC CONTROL SIGNAL
STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

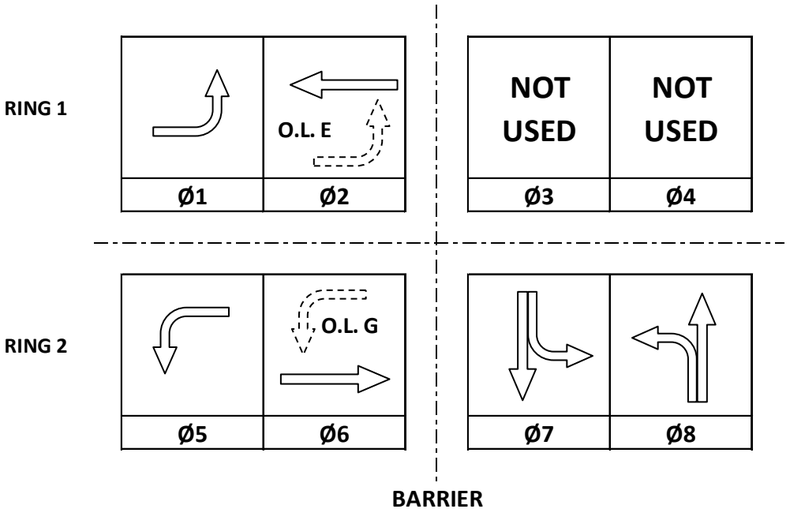
SIGNAL NO. S67-1060

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 3700-20-80	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 48	E

	HEAD NUMBERS	FLASH
Ø1	4,5	R ←
Ø2	6,7,8	R
Ø3		
Ø4		
Ø5	9,10	R ←
Ø6	1,2,3	R
Ø7	14,15,16,17,18	R. R ←
Ø8	11,12,13	R
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLE	4,5	-
OLF		
OLG	9,10	-
OLH		



CONTROLLER LOGIC

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	6+1	7	8

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 7, CONTROLLER SHALL RETURN TO PHASE 7.
AFTER PREEMPTION SEQUENCE 8, CONTROLLER SHALL RETURN TO PHASE 8.

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11	21	51	61	71	73	75	81
CALLED PHASE	1	2	FUTURE	6	7	7	7	8
CALL OPTION	X	X		X		X	X	X
DELAY TIME								X
EXTENSION OPTION	X	X		X	X	X	X	X
EXTEND TIME					X			
USE ADDED INITIAL		X		X				
CROSS SWITCH PHASE	2							

19	17	23	21	27	25	31	29	DETECTOR INPUT
83	85							PLAN LOOP DETECTOR*(S)
8	8							CALLED PHASE
X	X							CALL OPTION
X								DELAY TIME
X	X							EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	12		52		72	74		82
CALLED PHASE	1		FUTURE		7	7		8
CALL OPTION	X				X	X		X
DELAY TIME								X
EXTENSION OPTION	X				X	X		X
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE	2							

20	18	24	22	28	26	32	30	DETECTOR INPUT
84								PLAN LOOP DETECTOR*(S)
8								CALLED PHASE
X								CALL OPTION
X								DELAY TIME
X								EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

GENERAL NOTES:

1. PHASE 5 IS FOR EVP ONLY.
2. PUSH BUTTONS ON SB3 AND SB5 ARE USED TO CALL PHASE 7 GREEN TO ACCOMMODATE BICYCLES.
3. PUSH BUTTONS ON SB1 AND SB2 ARE USED TO CALL PHASE 6 GREEN TO ACCOMMODATE BICYCLES.

STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-1060 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 8/2019 PAGE NO. 3 OF 3

PROJECT ID:	3700-20-80
INTERSECTION:	STH 16 & STH 67 SB Ramps

Signal Wire Color Coding	BLK - black	RED - red	GRN - green
	WHT - white	BLU - blue	ORG - orange

DATE	8/1/19

CB1 TO	JUMPER	# OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR									PED BUTTON
				RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING YELLOW>	D/WALK	WALK	
SB1		12	11	RED	ORG	GRN							
			17				RED/BLK	ORG/BLK	GRN/BLK				
			BUTTON										BLK
SB2		12	15	RED	ORG	GRN			WHT/BLK				
			16	RED	ORG	GRN							
			18				RED/BLK	ORG/BLK	GRN/BLK				
			BUTTON										BLK
SB3		12	1	RED	ORG	GRN							
			9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
			BUTTON										BLK
SB5		12	7	RED	ORG	GRN							
			8	RED	ORG	GRN							
			10				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
			BUTTON										BLK
SB7		7	14	RED	ORG	GRN							
SB8		7	12	RED	ORG	GRN			WHT/BLK				
			13	RED	ORG	GRN			WHT/BLK				
SB9		12	4				RED	ORG	GRN	BLK/WHT			
			6	RED/BLK	ORG/BLK	GRN/BLK							
SB12		12	2	RED	ORG	GRN							
			3	RED	ORG	GRN							
			5				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP

FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB5
SB5	SB7
SB7	SB8
SB8	SB9
SB9	SB12
SB12	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP

FROM	TO
PB1	CB1
PB3	SB2
PB4	SB3
PB6	SB4
PB7	SB5
PB8	SB6
PB9	SB7
PB10	SB8
PB12	SB8
PB13	SB9
PB15	SB11
PB17	SB12

LIGHTING UF 10 AWG W/GROUND

FROM	TO
CB1	SB2
SB2	SB4
SB4	SB6
CB1	SB11
SB11	SB10
SB10	SB8

EVP DETECTOR CABLE

FROM	TO
CB1	HEAD A (SB5)
CB1	HEAD B (SB12)
CB1	HEAD C (SB2)
CB1	HEAD D (SB8)

WISCONSIN
JOHN P. BRUGGEMAN
E-39737
BAYSIDE, WI
PROFESSIONAL ENGINEER
7/31/19

*Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications.
*Ensure the grounded conductor in the feeder cable and the pole cables are both 18" longer than the ungrounded conductors.

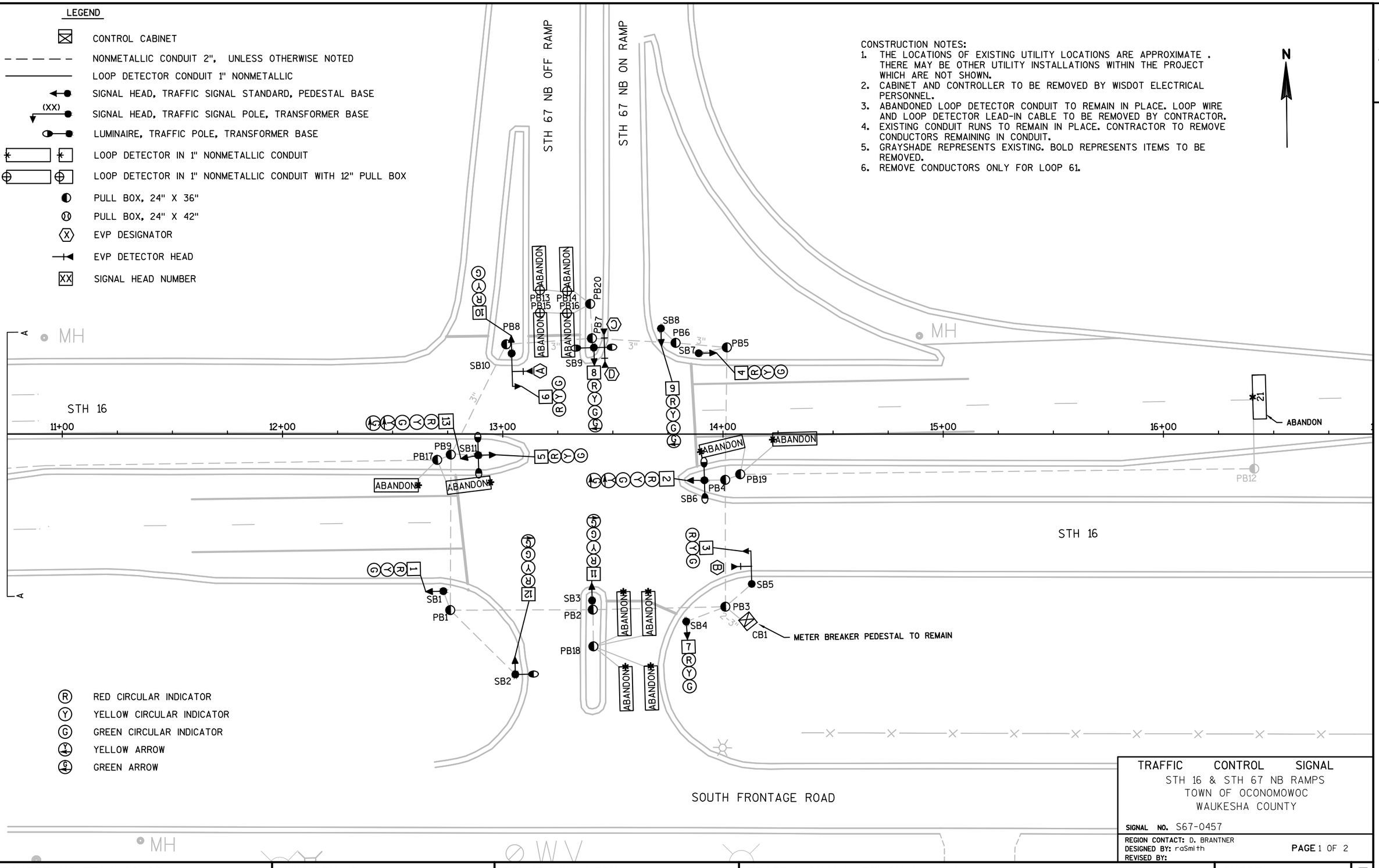
2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT WITH 12" PULL BOX
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- XX SIGNAL HEAD NUMBER

CONSTRUCTION NOTES:
1. THE LOCATIONS OF EXISTING UTILITY LOCATIONS ARE APPROXIMATE . THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. CABINET AND CONTROLLER TO BE REMOVED BY WISDOT ELECTRICAL PERSONNEL.
3. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP WIRE AND LOOP DETECTOR LEAD-IN CABLE TO BE REMOVED BY CONTRACTOR.
4. EXISTING CONDUIT RUNS TO REMAIN IN PLACE. CONTRACTOR TO REMOVE CONDUCTORS REMAINING IN CONDUIT.
5. GRAYSHADE REPRESENTS EXISTING. BOLD REPRESENTS ITEMS TO BE REMOVED.
6. REMOVE CONDUCTORS ONLY FOR LOOP 61.

N



- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- YELLOW ARROW
- GREEN ARROW

TRAFFIC CONTROL SIGNAL
STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO. S67-0457

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 1 OF 2

PROJECT NO: 3700-20-80	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 51	E

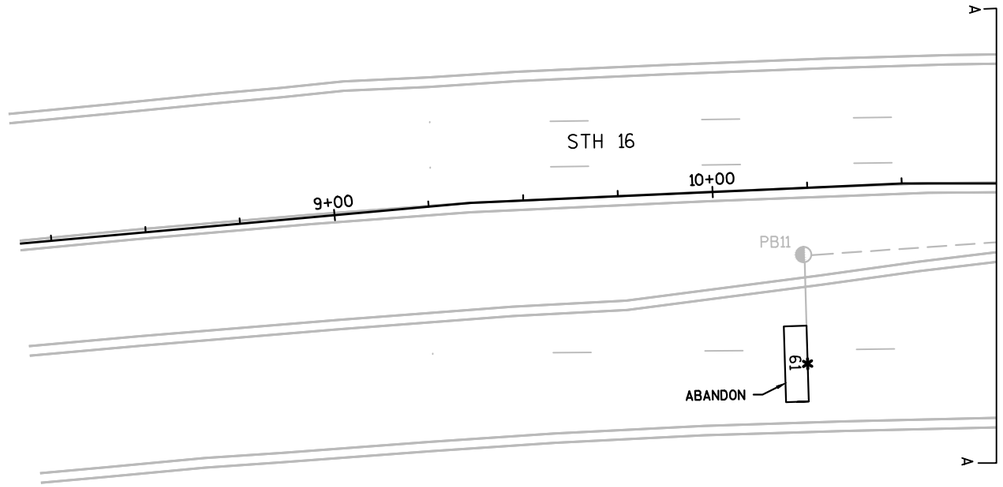
FILE NAME : T:\1162705.02\TRAFFIC\SIGNAL DESIGN\S67-0457_E - REM.DWG
LAYOUT NAME - S67-0457_E - REM - S67-0457_E_PG1

PLOT DATE : 7/25/2019 1:08 PM PLOT BY : UTIC, ANDY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N



TRAFFIC CONTROL SIGNAL
STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO. S67-0457

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 3700-20-80	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 52	E

FILE NAME : T:\1162705.02\TRAFFIC\SIGNAL DESIGN\S67-0457_E - REM.DWG
LAYOUT NAME - S67-0457_E - REM - S67-0457_E_PG2

PLOT DATE : 7/24/2019 10:17 AM PLOT BY : UTIC, ANDY PLOT NAME : PLOT SCALE : 1 IN:40 FT

LEGEND

- WOOD POLE CLASS 4
- SPAN WIRE
- TEMPORARY SIGNAL HEAD
- TEMPORARY LUMINAIRE, 250W
- XX SIGNAL HEAD NUMBER
- TEMPORARY DETECTION ZONE
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RA RED ARROW
- YA YELLOW ARROW
- GA GREEN ARROW

CONSTRUCTION NOTES:

1. ALL LUMINAIRES ARE 250W HPS OR LED C UNLESS OTHERWISE NOTED.
2. FINAL LOCATION OF SIGNAL POLES, SIGNAL HEADS, AND SIGNAL CABINET SHALL BE AS DIRECTED BY ENGINEER.
3. POLE & POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF THE CURB TO THE SIDE OF THE POST OR POLE.
4. MOUNT NEAR RIGHT SIGNAL ABOVE TETHER WIRE WHEN OVER ROAD
5. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
6. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
7. ADJUST TEMPORARY SIGNAL AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
8. TEMPORARY VEHICLE DETECTION TO BE PLACED BY THE CONTRACTOR TO PROPERLY DETECT AREAS SHOWN ON PLAN.

N

STH 67 NB OFF RAMP

STH 67 NB ON RAMP

314+00

398+00

397+00

STH 16

SPEED LIMIT= 35 MPH

SPEED LIMIT= 35 MPH

STH 16

SOUTH FRONTAGE ROAD

WP1 WP2 WP3 WP4

26+00 27+00 28+00 29+00 30+00 31+00

MH SS FO SIGN CONC ASPH

- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- LANE DESIGNATION ARROWS (FOR INFORMATION ONLY)

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

SUMMARY OF MATERIALS
(FOR INFORMATION ONLY)

QUANTITY	UNIT	DESCRIPTION
4	EA	CLASS 4 WOOD POLES
500	LF	SPAN WIRE
4	EA	TEMPORARY LUMINAIRES 250 W HPS OR LED C (15-FT ARM)
1	LS	NON-INTRUSIVE DETECTION SYSTEM
19	EA	SIGNAL HEADS
4	EA	EVP DETECTOR HEADS

TRAFFIC CONTROL SIGNAL
STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO. S67-0457

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 1 OF 2

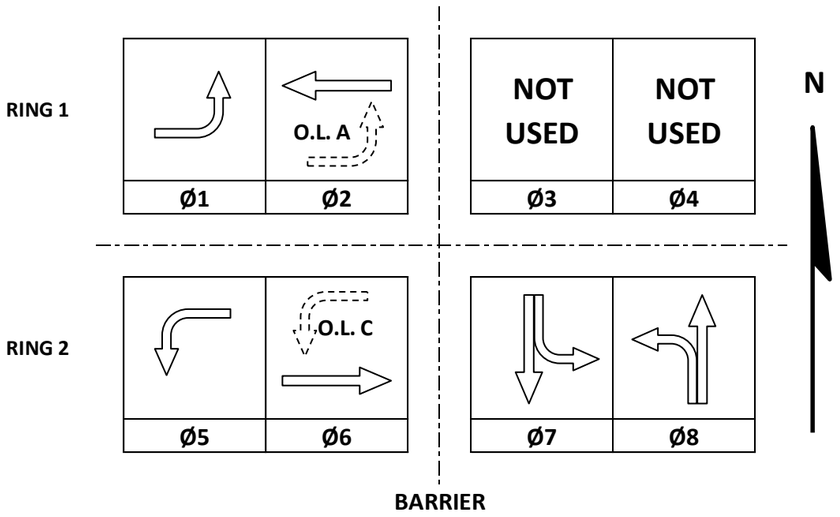
PROJECT NO: 3700-20-80	HWY: STH 16	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 53	E

FILE NAME : T:\1162705.02\TRAFFIC\SIGNAL DESIGN\S67-0457_E - TEMP.DWG
LAYOUT NAME - S67-0457_E_PG1

PLOT DATE : 6/4/2019 11:15 AM PLOT BY : GUILLAMA, TINA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

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



DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
11		X			1	1					
71		X			7	7					
72		X			7	7					
81		X			8	8					
82		X			8	8					

CONTROLLER LOGIC

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

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

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

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

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	6+1	7	8

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 7, CONTROLLER SHALL RETURN TO PHASE 7.
AFTER PREEMPTION SEQUENCE 8, CONTROLLER SHALL RETURN TO PHASE 8.

GENERAL NOTES:

1. PHASE 5 IS FOR EVP ONLY.

STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY
SIGNAL NO: S67-0457 CABINET TYPE: TEMP
CONTROLLER TYPE: TEMP
DATE: 8/1/2019 PAGE NO. 2 OF 2

LEGEND

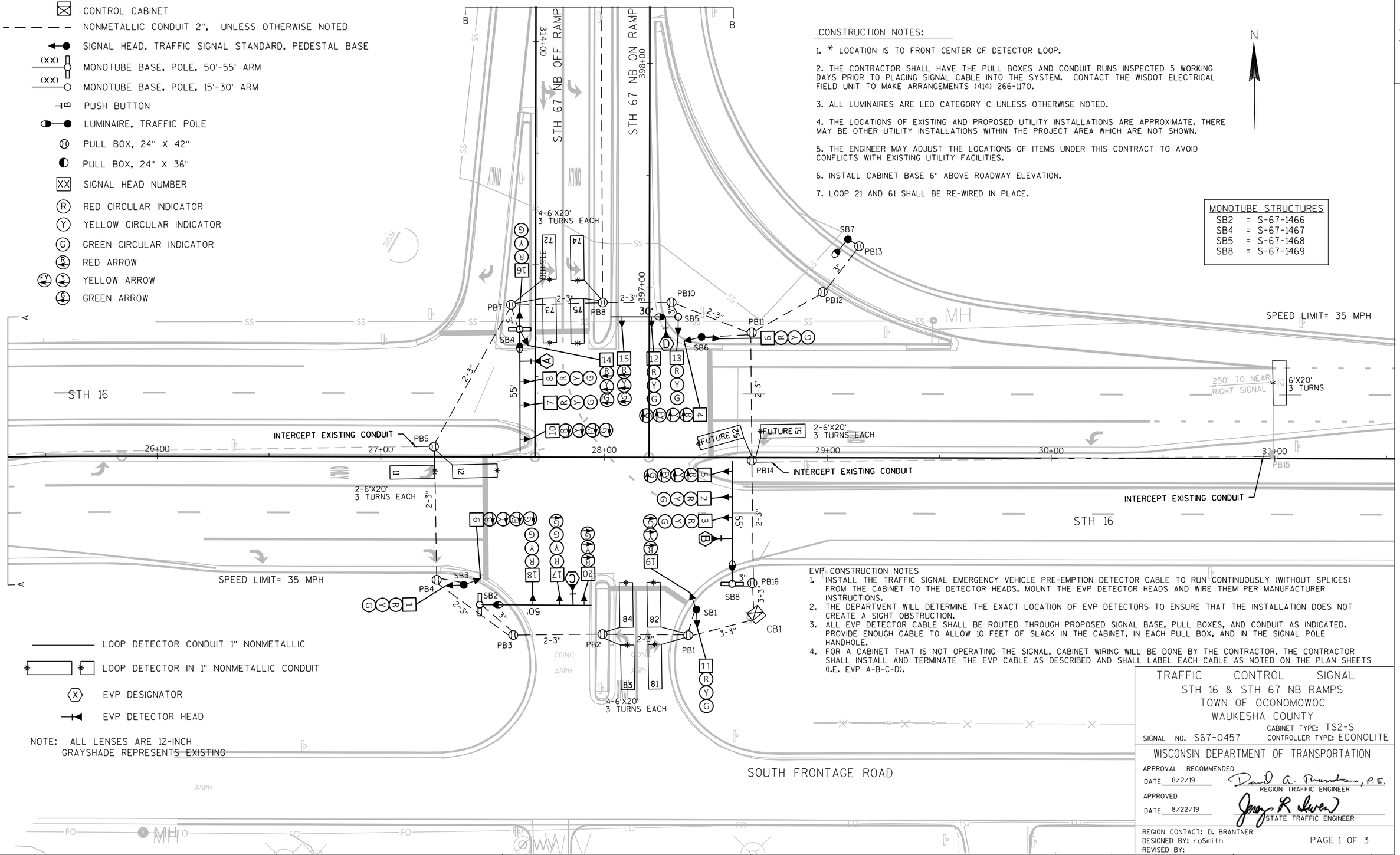
- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 50'-55' ARM
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 36"
- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW

CONSTRUCTION NOTES:

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO THE SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS (414) 266-1170.
3. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
4. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
5. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICTS WITH EXISTING UTILITY FACILITIES.
6. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
7. LOOP 21 AND 61 SHALL BE RE-WIRED IN PLACE.

MONOTUBE STRUCTURES

SB2	= S-67-1466
SB4	= S-67-1467
SB5	= S-67-1468
SB8	= S-67-1469



LOOP DETECTOR CONDUIT 1" NONMETALLIC

LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

(X) EVP DESIGNATOR

EVP DETECTOR HEAD

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

EVP CONSTRUCTION NOTES

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

TRAFFIC CONTROL SIGNAL
STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

CABINET TYPE: TS2-S
SIGNAL NO. S67-0457 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
DATE 8/2/19 David A. Brantner, P.E.
REGION TRAFFIC ENGINEER

APPROVED
DATE 8/22/19 Jerry R. Howen
STATE TRAFFIC ENGINEER

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 1 OF 3

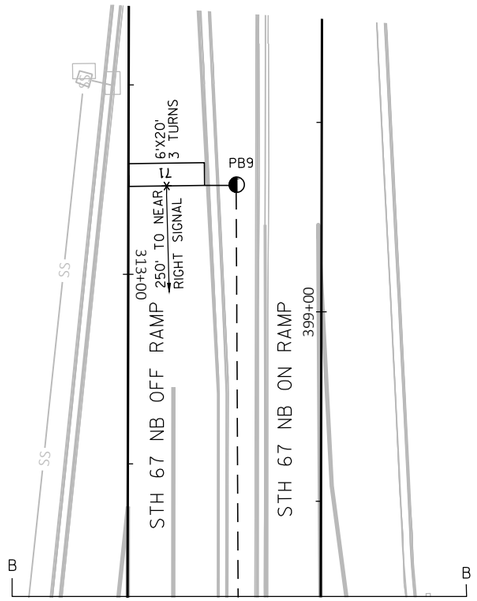
PROJECT NO: 3700-20-80	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 55	E

FILE NAME : N:\PDS\C3D\CAD\00820300\SIG\S67-0457\S67-0457.DWG
LAYOUT NAME - S67-0457_PG1

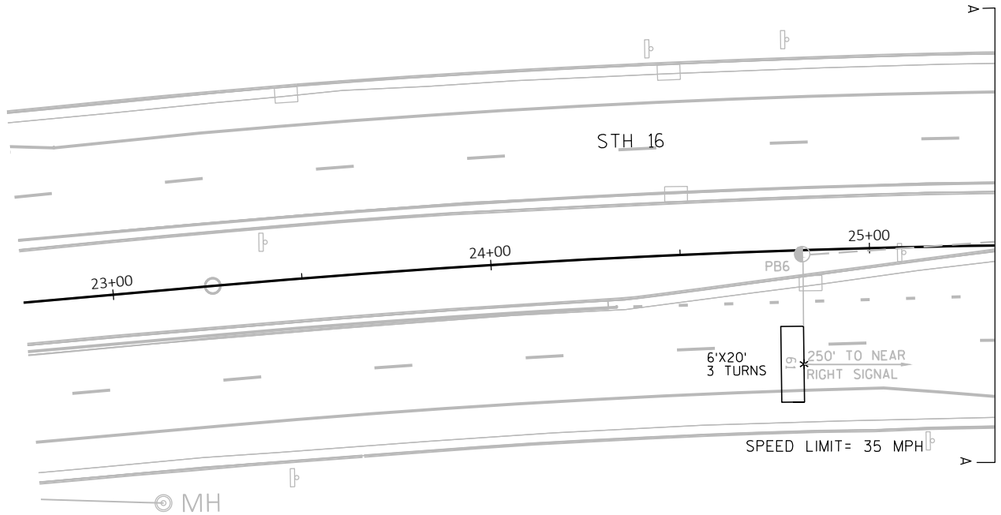
PLOT DATE : 10/22/2019 9:09 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2







TRAFFIC CONTROL SIGNAL
STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

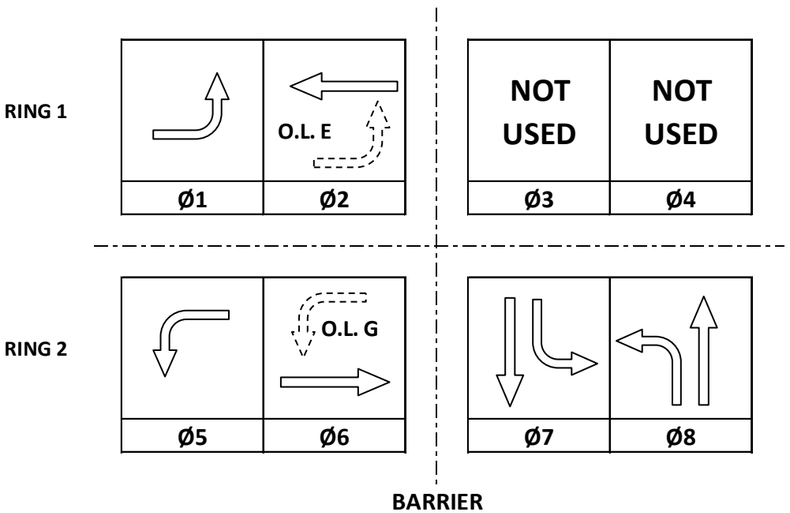
SIGNAL NO. S67-0457

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 3700-20-80	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 56	E

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



CONTROLLER LOGIC

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	6+1	7	8

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 7, CONTROLLER SHALL RETURN TO PHASE 7.
AFTER PREEMPTION SEQUENCE 8, CONTROLLER SHALL RETURN TO PHASE 8.

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11	21	51	61	71	73	75	81
CALLED PHASE	1	2	FUTURE	6	7	7	7	8
CALL OPTION	X	X		X		X	X	X
DELAY TIME								X
EXTENSION OPTION	X	X		X	X	X	X	X
EXTEND TIME					X			
USE ADDED INITIAL		X		X				
CROSS SWITCH PHASE	2							

19	17	23	21	27	25	31	29	DETECTOR INPUT
83								PLAN LOOP DETECTOR*(S)
8								CALLED PHASE
X								CALL OPTION
								DELAY TIME
X								EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	12		52		72	74		82
CALLED PHASE	1		FUTURE		7	7		8
CALL OPTION	X				X	X		X
DELAY TIME								X
EXTENSION OPTION	X				X	X		X
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE	2							

20	18	24	22	28	26	32	30	DETECTOR INPUT
84								PLAN LOOP DETECTOR*(S)
8								CALLED PHASE
X								CALL OPTION
								DELAY TIME
X								EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

GENERAL NOTES:

1. PHASE 5 IS FOR EVP ONLY.

STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY
SIGNAL NO: S67-0457 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 8/2019 PAGE NO. 3 OF 3

PROJECT ID:	3700-20-80
INTERSECTION:	STH 16 & STH 67 NB Ramps

Signal Wire Color Coding	BLK - black	RED - red	GRN - green
	WHT - white	BLU - blue	ORG - orange

DATE	8/1/19

CB1 TO	JUMPER	# OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR									PED BUTTON
				RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING YELLOW>	D/WALK	WALK	
SB1		12	11	RED	ORG	GRN							
			19				RED/BLK	ORG/BLK	GRN/BLK				
SB2		12	17	RED	ORG	GRN			WHT/BLK				
			18	RED	ORG	GRN							
			20				RED/BLK	ORG/BLK	GRN/BLK				
SB3		12	1	RED	ORG	GRN							
			9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB4		15	7	RED/WHT	BLU/WHT	GRN/WHT							
			8	RED/WHT	BLU/WHT	GRN/WHT							
			10				BLU	BLU/BLK	BLK	WHT/BLK			
			14				RED	ORG	GRN				
			16	RED/BLK	ORG/BLK	GRN/BLK							
SB5		12	12	RED	ORG	GRN							
			13	RED	ORG	GRN							
			15				RED/BLK	ORG/BLK	GRN/BLK				
SB6		12	4				RED	ORG	GRN	BLK/WHT			
			6	RED/BLK	ORG/BLK	GRN/BLK							
SB8		12	2	RED	ORG	GRN							
			3	RED	ORG	GRN							
			5				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB8
SB8	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	SB1
PB2	SB1
PB3	SB2
PB4	SB3
PB5	SB3
PB7	SB4
PB8	SB5
PB10	SB5
PB11	SB6
PB14	SB8
PB16	SB8

LIGHTING UF 10 AWG W/GROUND	
FROM	TO
CB1	SB2
SB2	SB4
CB1	SB8
SB8	SB5
SB5	SB7

EVP DETECTOR CABLE	
FROM	TO
CB1	HEAD A (SB4)
CB1	HEAD B (SB8)
CB1	HEAD C (SB2)
CB1	HEAD D (SB5)



*Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications
*Ensure the grounded conductor in the feeder cable and the pole cables are both 18" longer than the ungrounded conductors.

PROJECT NO: 3700-20-80	HWY: STH 16	COUNTY: WAUKESHA	CABLE ROUTING	SHEET NO: 58	E

FILE NAME : T:\(Project #)\Cadd\Quants\030201_mq-signals.ppt PLOT DATE : 7/22/2019 12:24 PM PLOT BY : PLOT NAME : 030201_mq PLOT SCALE : 1.000000:1.000000 WISDOT / CADDS SHEET 42

2

CONSTRUCTION NOTES:
1. THE LOCATIONS OF EXISTING UTILITY LOCATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. CABINET AND CONTROLLER TO BE REMOVED BY WISDOT ELECTRICAL PERSONNEL.
3. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP WIRE AND LOOP DETECTOR LEAD-IN CABLE TO BE REMOVED BY CONTRACTOR.
4. EXISTING CONDUIT RUNS TO REMAIN IN PLACE. CONTRACTOR TO REMOVE CONDUCTORS REMAINING IN CONDUIT.
5. FOR ALL BOLDED PULL BOXES, REMOVE AND REPLACE THE RINGS AND COVERS ONLY, UNLESS OTHERWISE NOTED.
6. FIBER OPTIC INTERCONNECT EQUIPMENT TO REMAIN. CONTRACTOR TO SAFELY STORE FIBER OPTIC CABLE DURING CONSTRUCTION.
7. GRAYSHADE REPRESENTS EXISTING. BOLD REPRESENTS ITEMS TO BE REMOVED (EXCEPT PULL BOXES, SEE NOTE #5).
8. REMOVE CONDUCTORS ONLY FOR ALL LOOPS (COMPLETELY ABANDON LOOP 61).

N

CONCRETE CABINET BASE TO REMAIN

REMOVE ENTIRE PULL BOX STRUCTURE

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 18" X 24"
- PULL BOX, 24" X 36"
- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD

TRAFFIC CONTROL SIGNAL
STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY

SIGNAL NO. S45-0412

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 1 OF 2

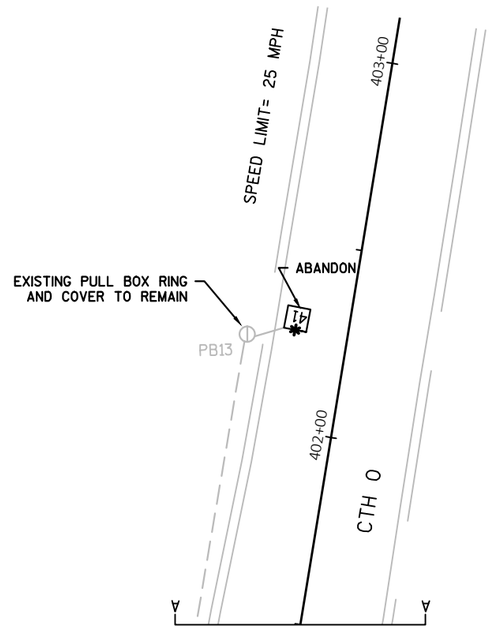
PROJECT NO: 3700-20-80	HWY: STH 33	COUNTY: OZAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 59	E

FILE NAME : T:\1162705.02\TRAFFIC\SIGNAL DESIGN\S45-0412_F -REM.DWG
LAYOUT NAME - S45-0412_F -REM - S45-0412_F_PG1

PLOT DATE : 7/25/2019 1:18 PM PLOT BY : UTIC, ANDY PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

N



TRAFFIC CONTROL SIGNAL
STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY

SIGNAL NO. S45-0412

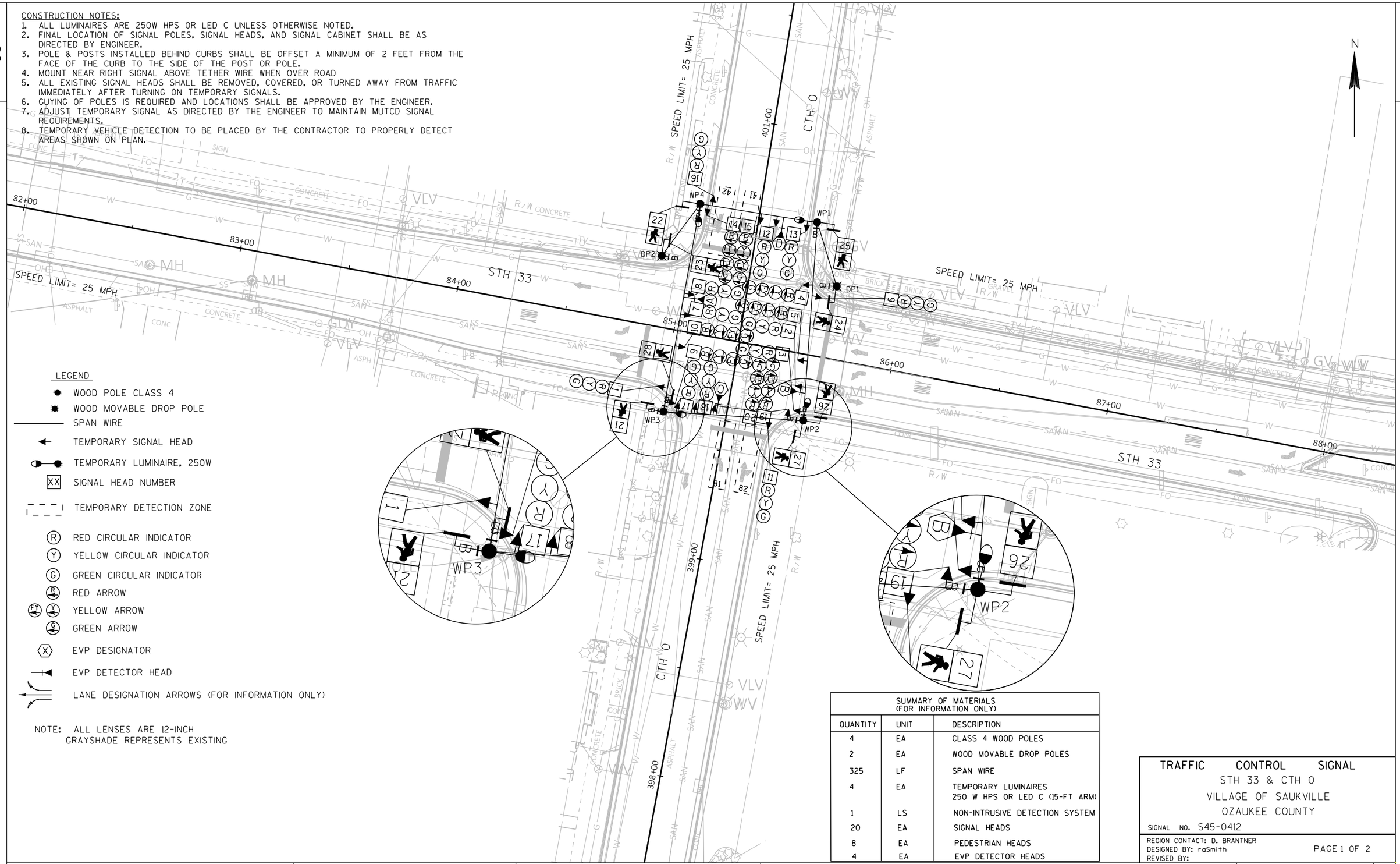
REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 3700-20-80	HWY: STH 33	COUNTY: OZAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 60	E

CONSTRUCTION NOTES:

1. ALL LUMINAIRES ARE 250W HPS OR LED C UNLESS OTHERWISE NOTED.
2. FINAL LOCATION OF SIGNAL POLES, SIGNAL HEADS, AND SIGNAL CABINET SHALL BE AS DIRECTED BY ENGINEER.
3. POLE & POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF THE CURB TO THE SIDE OF THE POST OR POLE.
4. MOUNT NEAR RIGHT SIGNAL ABOVE TETHER WIRE WHEN OVER ROAD
5. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
6. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
7. ADJUST TEMPORARY SIGNAL AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
8. TEMPORARY VEHICLE DETECTION TO BE PLACED BY THE CONTRACTOR TO PROPERLY DETECT AREAS SHOWN ON PLAN.



NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

SUMMARY OF MATERIALS
(FOR INFORMATION ONLY)

QUANTITY	UNIT	DESCRIPTION
4	EA	CLASS 4 WOOD POLES
2	EA	WOOD MOVABLE DROP POLES
325	LF	SPAN WIRE
4	EA	TEMPORARY LUMINAIRES 250 W HPS OR LED C (15-FT ARM)
1	LS	NON-INTRUSIVE DETECTION SYSTEM
20	EA	SIGNAL HEADS
8	EA	PEDESTRIAN HEADS
4	EA	EVP DETECTOR HEADS

TRAFFIC CONTROL SIGNAL
STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY

SIGNAL NO. S45-0412

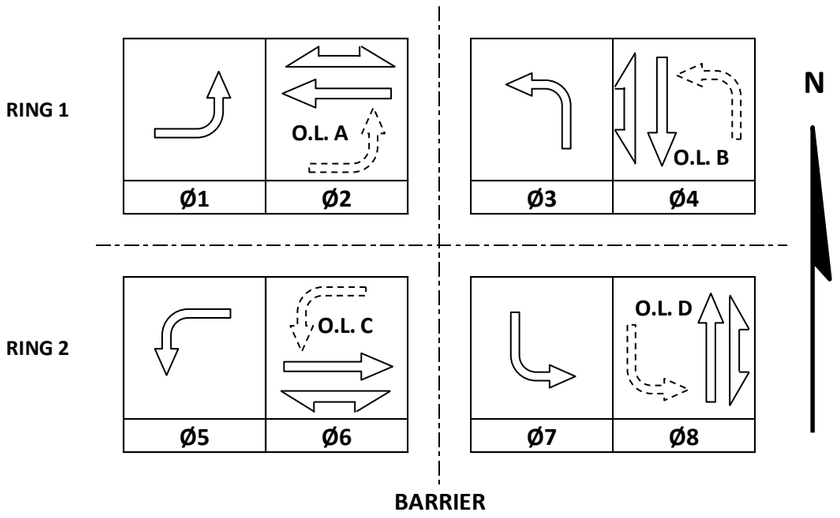
REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PROJECT NO: 3700-20-80	HWY: STH 33	COUNTY: OZAUKEE	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 61	E

FILE NAME : T:\1162705.02\TRAFFIC\SIGNAL DESIGN\S45-0412_F - TEMP.DWG
LAYOUT NAME - S45-0412_F_PG1

PLOT DATE : 6/6/2019 2:24 PM PLOT BY : UTIC, ANDY PLOT NAME : PLOT SCALE : 1 IN:40 FT

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



DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
41		X			4	4					
42		X			4	4					
81		X			8	8					
82		X			8	8					

CONTROLLER LOGIC

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

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

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

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

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

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

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASES 4+8.

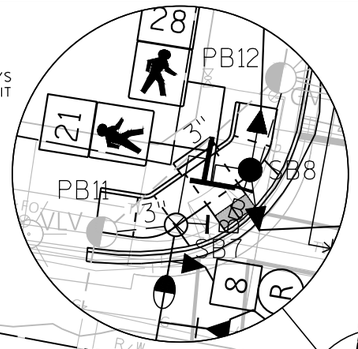
GENERAL NOTES:

1. PHASES 1, 3, 5, AND 7 ARE FOR EVP ONLY.

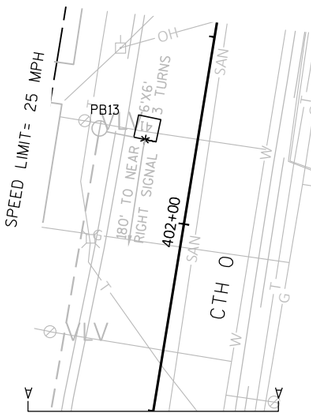
STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY
SIGNAL NO: S45-0412 CABINET TYPE: TEMP
CONTROLLER TYPE: TEMP
DATE: 8/1/2019 PAGE NO. 2 OF 2

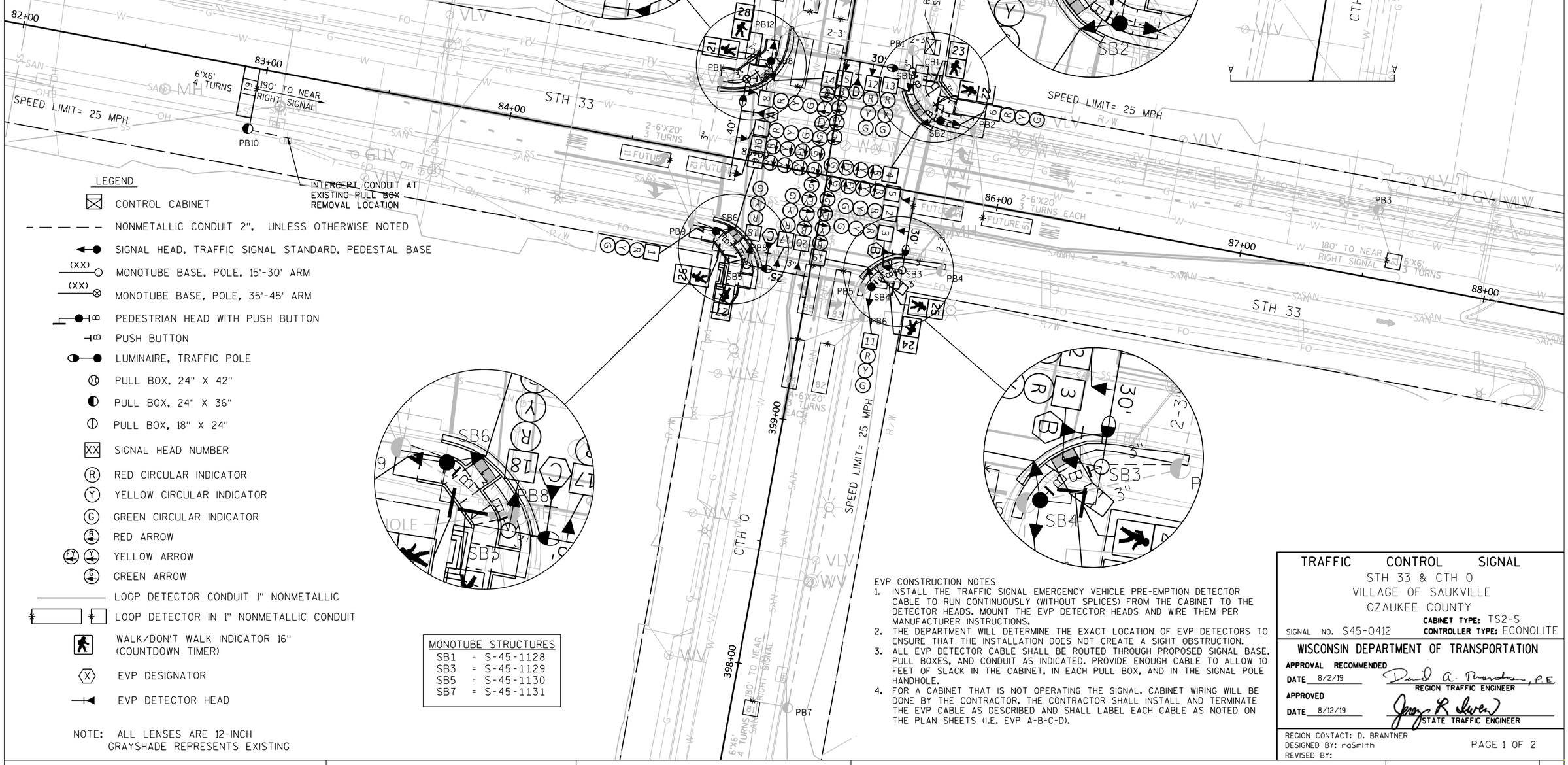
CONSTRUCTION NOTES:

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO THE SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS (414) 266-1170.
3. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
4. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
5. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICTS WITH EXISTING UTILITY FACILITIES.
6. PROPOSED PAVEMENT MARKINGS AND DETECTABLE WARNING FIELDS ARE SHOWN IN GRAYSHADE FOR PLAN CLARITY.
7. ALL LOOPS SHALL BE RE-WIRED IN PLACE, EXCEPT LOOP 61.









LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- (XX) MONOTUBE BASE, POLE, 35'-45' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 36"
- PULL BOX, 18" X 24"
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- Y YELLOW ARROW
- G GREEN ARROW
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- X EVP DESIGNATOR
- EVP DETECTOR HEAD

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

MONOTUBE STRUCTURES

SB1	= S-45-1128
SB3	= S-45-1129
SB5	= S-45-1130
SB7	= S-45-1131

EVP CONSTRUCTION NOTES

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

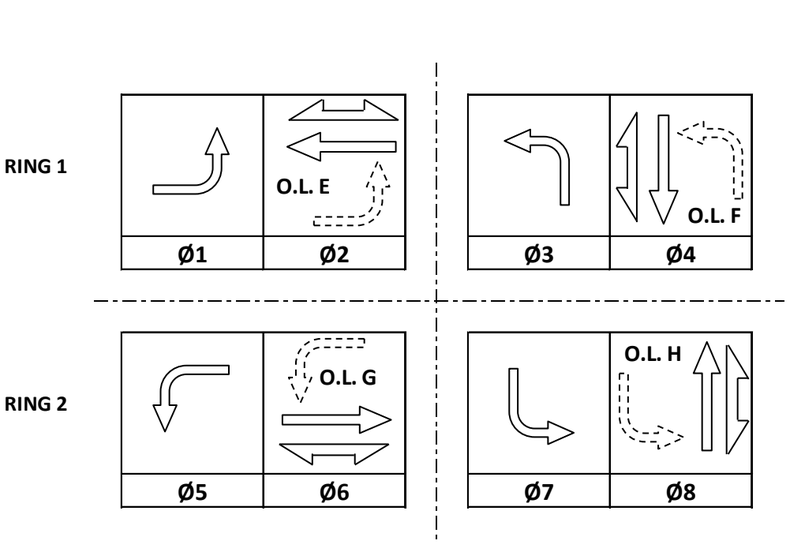
TRAFFIC CONTROL SIGNAL
STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY
SIGNAL NO. S45-0412
CABINET TYPE: TS2-S
CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVAL RECOMMENDED
DATE 8/2/19 David A. Brantner, P.E. REGION TRAFFIC ENGINEER
APPROVED
DATE 8/12/19 Jerry R. Steven STATE TRAFFIC ENGINEER

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:
PAGE 1 OF 2

PROJECT NO: 3700-20-80	HWY: STH 33	COUNTY: OZAUKEE	TRAFFIC SIGNAL PLAN	SHEET 63	E

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



CONTROLLER LOGIC

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

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

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASE 4+8.

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11	21	41	43	45	51	61	81
CALLED PHASE	FUTURE	2	4	4	8	FUTURE	6	8
CALL OPTION		X		X	X		X	
DELAY TIME				X	X			
EXTENSION OPTION		X	X	X	X		X	X
EXTEND TIME			X					X
USE ADDED INITIAL		X					X	
CROSS SWITCH PHASE								

19	17	23	21	27	25	31	29	DETECTOR INPUT
83	85							PLAN LOOP DETECTOR*(S)
8	4							CALLED PHASE
X	X							CALL OPTION
X	X							DELAY TIME
X	X							EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	12		42	44		52		82
CALLED PHASE	FUTURE		4	8		FUTURE		8
CALL OPTION			X	X				X
DELAY TIME								
EXTENSION OPTION			X	X				X
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

20	18	24	22	28	26	32	30	DETECTOR INPUT
84								PLAN LOOP DETECTOR*(S)
4								CALLED PHASE
X								CALL OPTION
								DELAY TIME
X								EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

GENERAL NOTES:

1. PHASES 1, 3, 5, AND 7 ARE FOR PREEMPTION ONLY.

STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY
SIGNAL NO: S45-0412 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 8/2019 PAGE NO. 2 OF 2

PROJECT ID:	3700-20-80
INTERSECTION:	STH 33 & CTH O

Signal Wire Color Coding	BLK - black	RED - red	GRN - green
	WHT - white	BLU - blue	ORG - orange

DATE 8/1/19

CB1 TO	JUMPER	# OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR									PED BUTTON	FUTURE APS
				RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING YELLOW>	D/WALK	WALK		
SB1		15	12	RED	ORG	GRN								
			13	RED	ORG	GRN								
			15				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			23								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB2		15	4				RED	ORG	GRN	BLK/WHT				
			6	RED/BLK	ORG/BLK	GRN/BLK								
			22								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB3		15	2	RED	ORG	GRN								
			3	RED	ORG	GRN								
			5				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			25								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB4		15	11	RED	ORG	GRN								
			19				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			24								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB5		15	17	RED	ORG	GRN								
			18	RED	ORG	GRN								
			20				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			27								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB6		15	1	RED	ORG	GRN								
			9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			26								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB7		15	7	RED	ORG	GRN								
			8	RED	ORG	GRN								
			10				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			21								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB8		15	14				RED	ORG	GRN	BLK/WHT				
			16	RED/BLK	ORG/BLK	GRN/BLK								
			28								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	SB1
PB2	SB2
PB4	SB3
PB5	SB4
PB8	SB5
PB9	SB6
PB11	SB7
PB12	SB8

LIGHTING UF 10 AWG W/GROUND	
FROM	TO
CB1	SB1
SB1	SB3
CB1	SB7
SB7	SB5

EMERGENCY VEHICLE PREEMPTION (EVP) CABLE	
FROM	TO
CB1	HEAD A (SB7)
CB1	HEAD B (SB3)
CB1	HEAD C (SB5)
CB1	HEAD D (SB1)

WISCONSIN
JOHN P. BRUGGEMAN
E-39737
BAYSIDE, WI
PROFESSIONAL ENGINEER
7/31/19

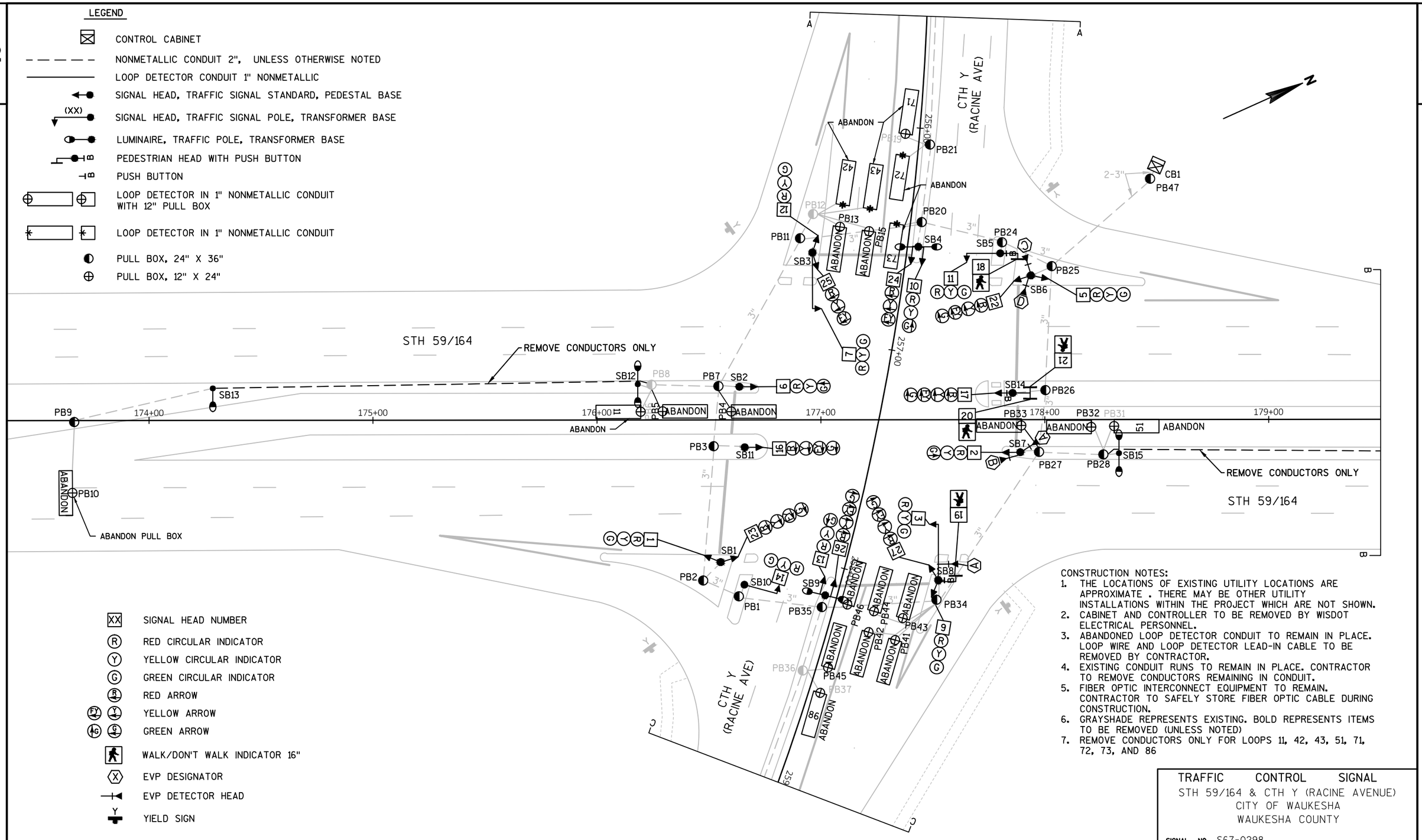
*Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications
*Ensure the grounded conductor in the feeder cable and the pole cables are both 18" longer than the ungrounded conductors.

PROJECT NO: 3700-20-80	HWY: STH 33	COUNTY: OZAUKEE	CABLE ROUTING	SHEET NO: 65	E

2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT WITH 12" PULL BOX
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 12" X 24"



- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- FY YELLOW ARROW
- AG GREEN ARROW
- WALK/DON'T WALK INDICATOR 16"
- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- Y YIELD SIGN

CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING UTILITY LOCATIONS ARE APPROXIMATE . THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. CABINET AND CONTROLLER TO BE REMOVED BY WISDOT ELECTRICAL PERSONNEL.
3. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP WIRE AND LOOP DETECTOR LEAD-IN CABLE TO BE REMOVED BY CONTRACTOR.
4. EXISTING CONDUIT RUNS TO REMAIN IN PLACE. CONTRACTOR TO REMOVE CONDUCTORS REMAINING IN CONDUIT.
5. FIBER OPTIC INTERCONNECT EQUIPMENT TO REMAIN. CONTRACTOR TO SAFELY STORE FIBER OPTIC CABLE DURING CONSTRUCTION.
6. GRAYSHADE REPRESENTS EXISTING. BOLD REPRESENTS ITEMS TO BE REMOVED (UNLESS NOTED)
7. REMOVE CONDUCTORS ONLY FOR LOOPS 11, 42, 43, 51, 71, 72, 73, AND 86

TRAFFIC CONTROL SIGNAL

STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY

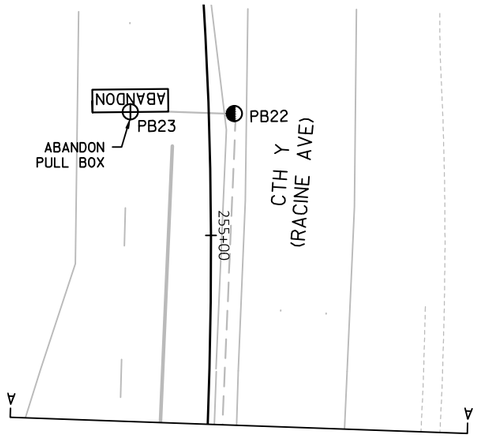
SIGNAL NO. S67-0298

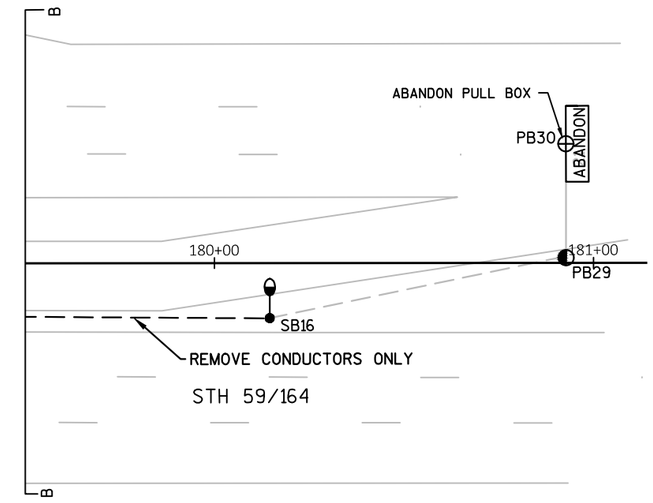
REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

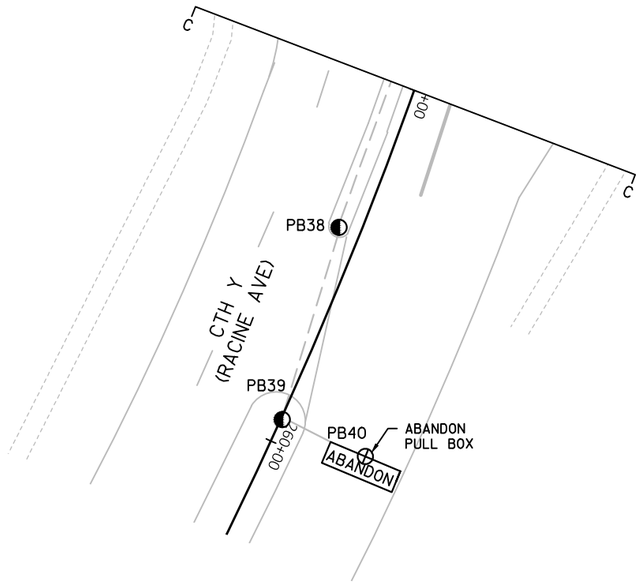
PAGE 1 OF 2

PROJECT NO: 3700-20-80	HWY: STH 59/164	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 66	E

2







TRAFFIC CONTROL SIGNAL
STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY

SIGNAL NO. S67-0298

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

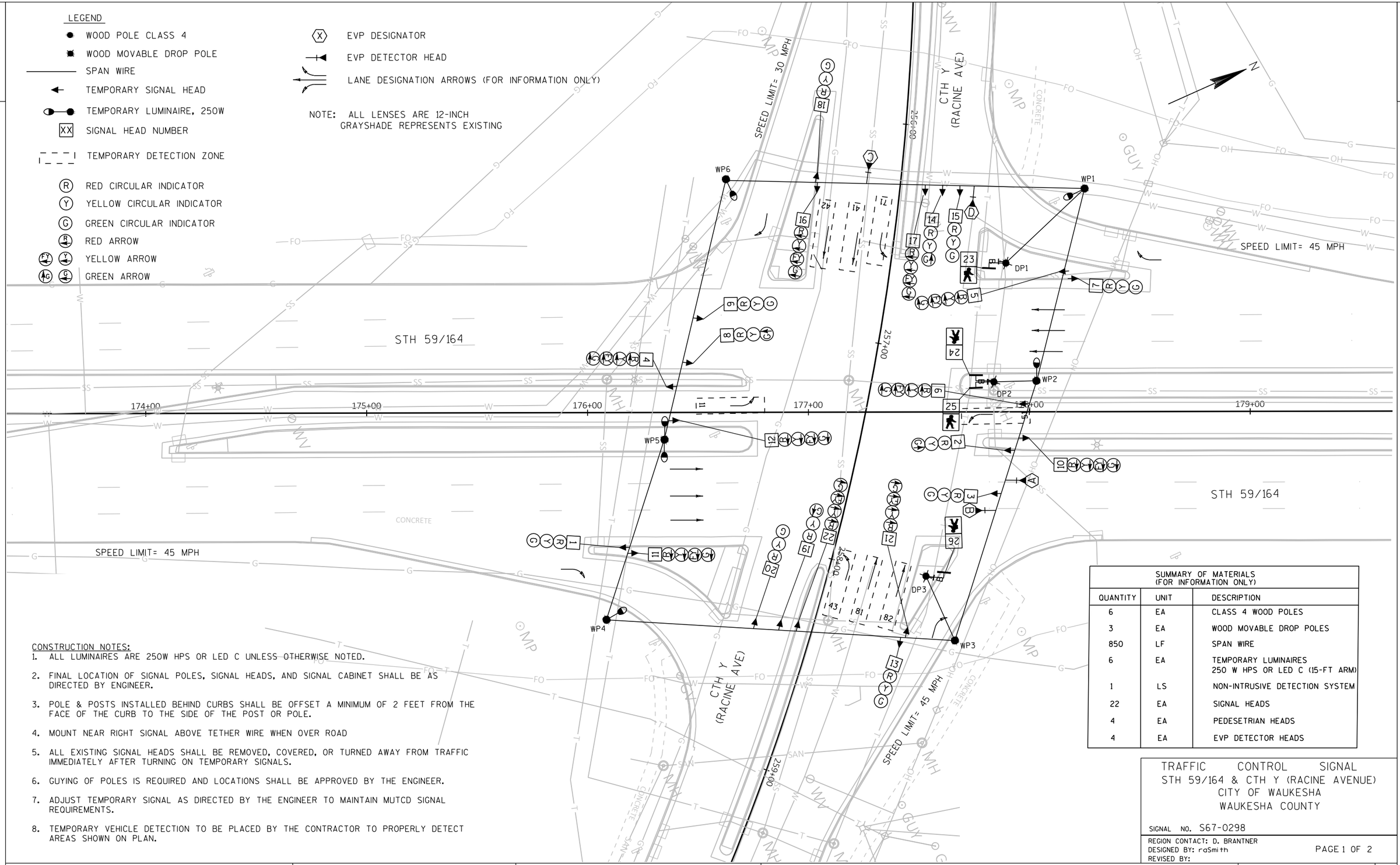
PAGE 2 OF 2

PROJECT NO: 3700-20-80	HWY: STH 59/164	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 67	E

LEGEND

- WOOD POLE CLASS 4
- WOOD MOVABLE DROP POLE
- SPAN WIRE
- TEMPORARY SIGNAL HEAD
- TEMPORARY LUMINAIRE, 250W
- XX SIGNAL HEAD NUMBER
- TEMPORARY DETECTION ZONE
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- LANE DESIGNATION ARROWS (FOR INFORMATION ONLY)

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING



CONSTRUCTION NOTES:

1. ALL LUMINAIRES ARE 250W HPS OR LED C UNLESS OTHERWISE NOTED.
2. FINAL LOCATION OF SIGNAL POLES, SIGNAL HEADS, AND SIGNAL CABINET SHALL BE AS DIRECTED BY ENGINEER.
3. POLE & POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF THE CURB TO THE SIDE OF THE POST OR POLE.
4. MOUNT NEAR RIGHT SIGNAL ABOVE TETHER WIRE WHEN OVER ROAD
5. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
6. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
7. ADJUST TEMPORARY SIGNAL AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
8. TEMPORARY VEHICLE DETECTION TO BE PLACED BY THE CONTRACTOR TO PROPERLY DETECT AREAS SHOWN ON PLAN.

SUMMARY OF MATERIALS
(FOR INFORMATION ONLY)

QUANTITY	UNIT	DESCRIPTION
6	EA	CLASS 4 WOOD POLES
3	EA	WOOD MOVABLE DROP POLES
850	LF	SPAN WIRE
6	EA	TEMPORARY LUMINAIRES 250 W HPS OR LED C (15-FT ARM)
1	LS	NON-INTRUSIVE DETECTION SYSTEM
22	EA	SIGNAL HEADS
4	EA	PEDESETRIAN HEADS
4	EA	EVP DETECTOR HEADS

TRAFFIC CONTROL SIGNAL
STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY

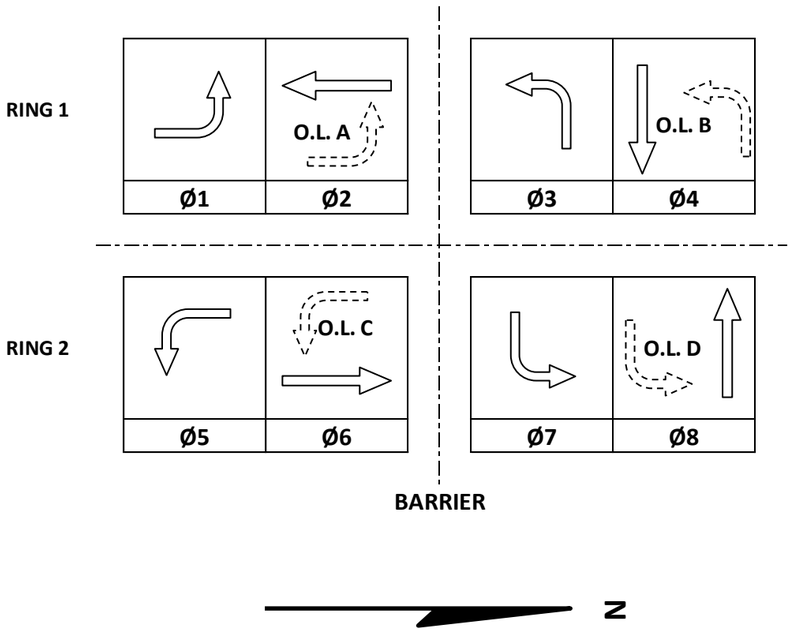
SIGNAL NO. S67-0298

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 1 OF 2

PROJECT NO: 3700-20-80	HWY: STH 59 / 164	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 68	E

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



DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
11		X			1	1					
41		X			4	4					
42		X			4	4					
43		X			4	4					
51		X			5	5					
71		X			7	7					
81		X			8	8					
82		X			8	8					

CONTROLLER LOGIC

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

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

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

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

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

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

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASES 4+8.

GENERAL NOTES:

1. PHASE 3 IS FOR PREEMPTION ONLY.

STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY
SIGNAL NO: S67-0298 CABINET TYPE: TEMP
CONTROLLER TYPE: TEMP
DATE: 8/1/2019 PAGE NO. 2 OF 2

2

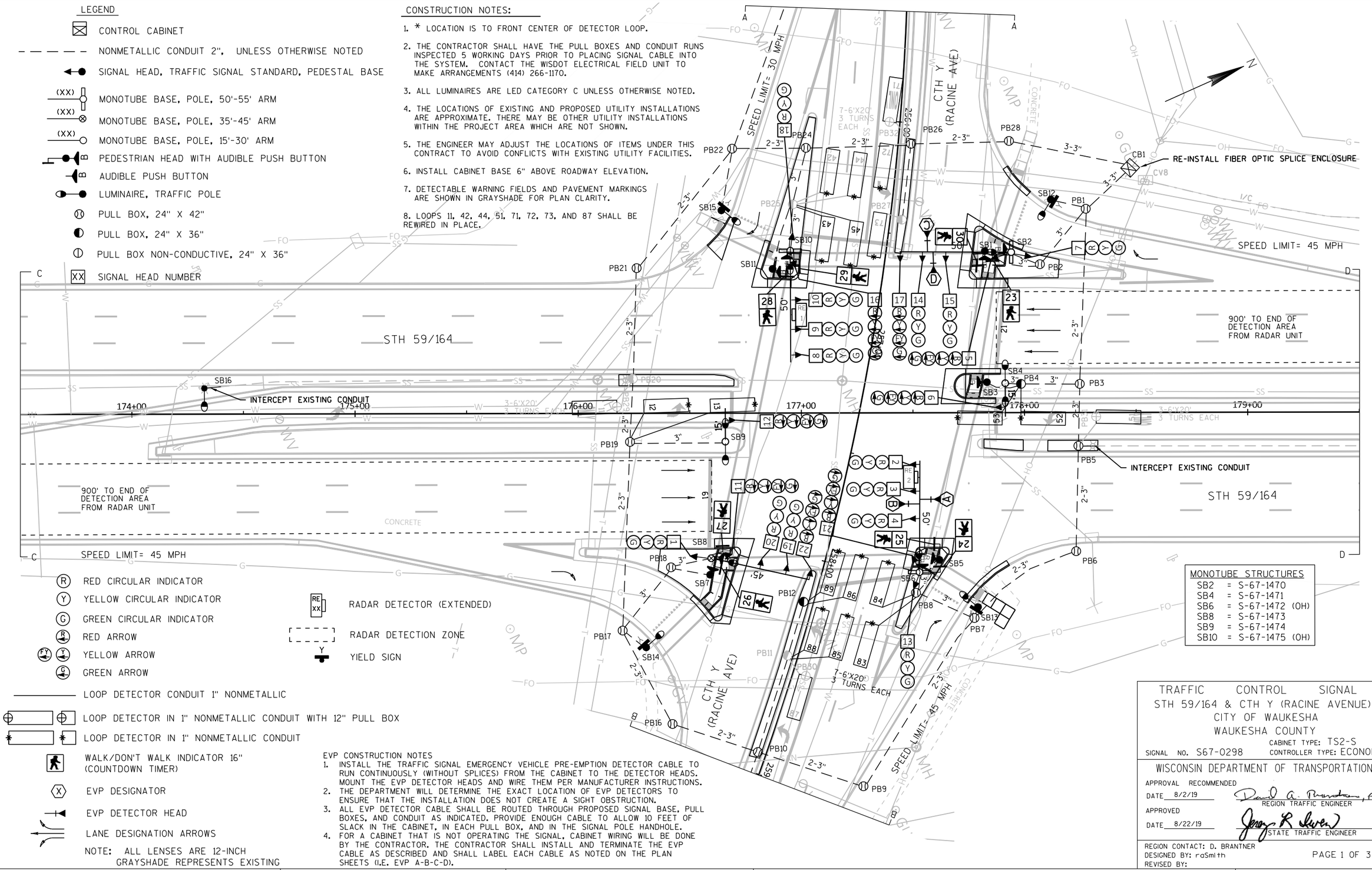
2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 50'-55' ARM
- (XX) MONOTUBE BASE, POLE, 35'-45' ARM
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- PEDESTRIAN HEAD WITH AUDIBLE PUSH BUTTON
- AUDIBLE PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 36"
- PULL BOX NON-CONDUCTIVE, 24" X 36"
- XX SIGNAL HEAD NUMBER

CONSTRUCTION NOTES:

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO THE SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS (414) 266-1170.
3. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
4. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
5. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICTS WITH EXISTING UTILITY FACILITIES.
6. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
7. DETECTABLE WARNING FIELDS AND PAVEMENT MARKINGS ARE SHOWN IN GRAYSHADE FOR PLAN CLARITY.
8. LOOPS 11, 42, 44, 51, 71, 72, 73, AND 87 SHALL BE REWIRED IN PLACE.



MONOTUBE STRUCTURES

SB2	= S-67-1470
SB4	= S-67-1471
SB6	= S-67-1472 (OH)
SB8	= S-67-1473
SB9	= S-67-1474
SB10	= S-67-1475 (OH)

- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- FY Y YELLOW ARROW
- G GREEN ARROW
- RE XX RADAR DETECTOR (EXTENDED)
- RADAR DETECTION ZONE
- Y YIELD SIGN
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT WITH 12" PULL BOX
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- LANE DESIGNATION ARROWS

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

EVP CONSTRUCTION NOTES

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

TRAFFIC CONTROL SIGNAL
STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY
CABINET TYPE: TS2-S
SIGNAL NO. S67-0298 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
DATE 8/2/19 David A. Brantner, P.E. REGION TRAFFIC ENGINEER
APPROVED
DATE 8/22/19 Jerry R. Ihrke STATE TRAFFIC ENGINEER

REGION CONTACT: D. BRANTNER
DESIGNED BY: rdSmith
REVISED BY:

PAGE 1 OF 3

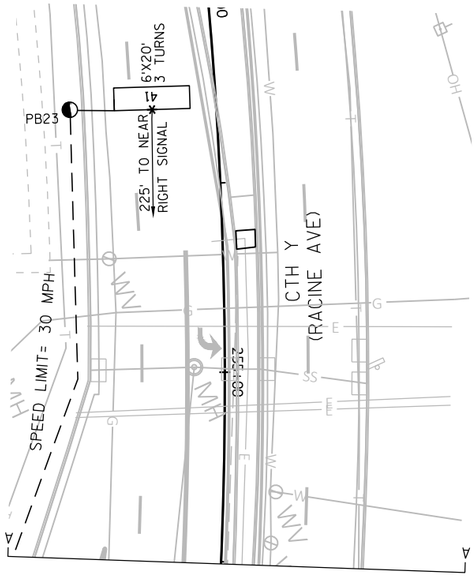
PROJECT NO: 3700-20-80	HWY: STH 59 / 164	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 70	E

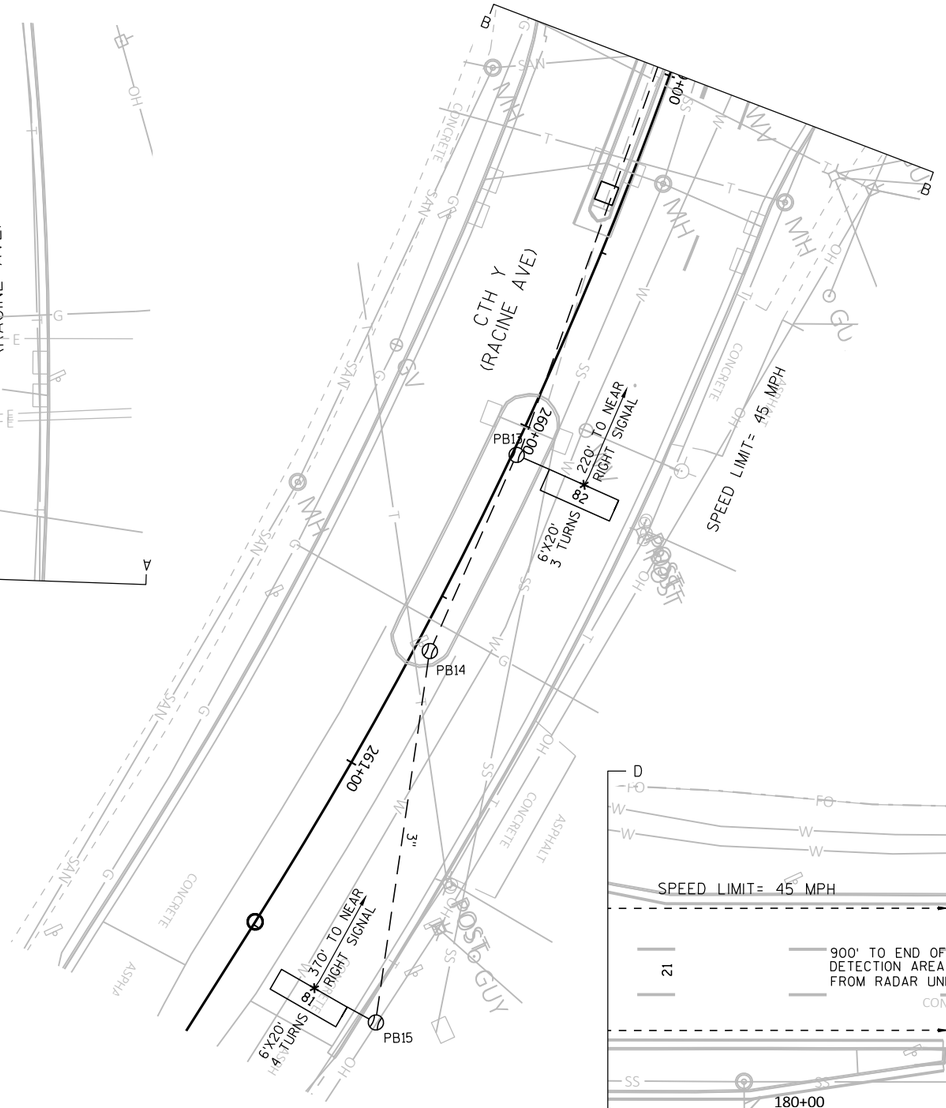
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LAYOUT NAME - S67-0298_PG1

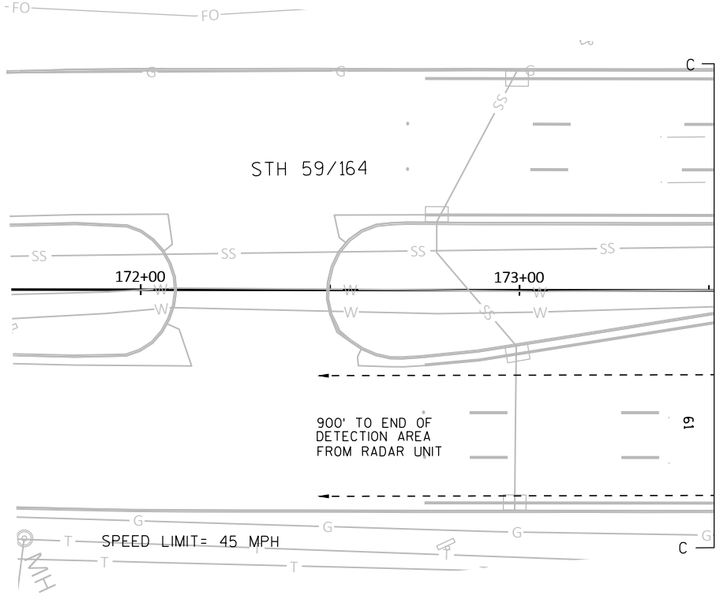
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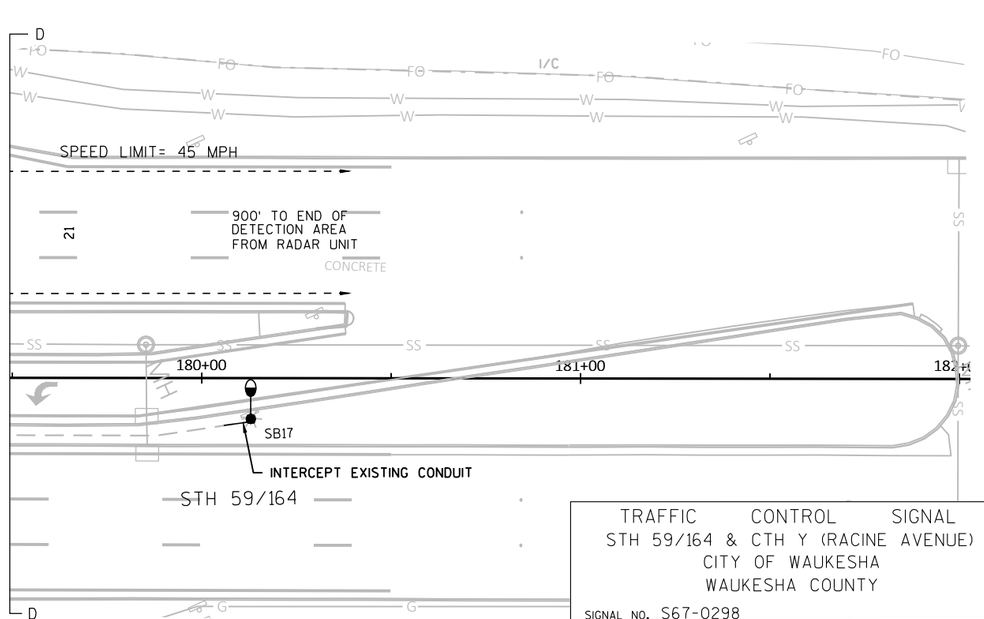
WISDOT/CADDS SHEET 42

2









TRAFFIC CONTROL SIGNAL
STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY

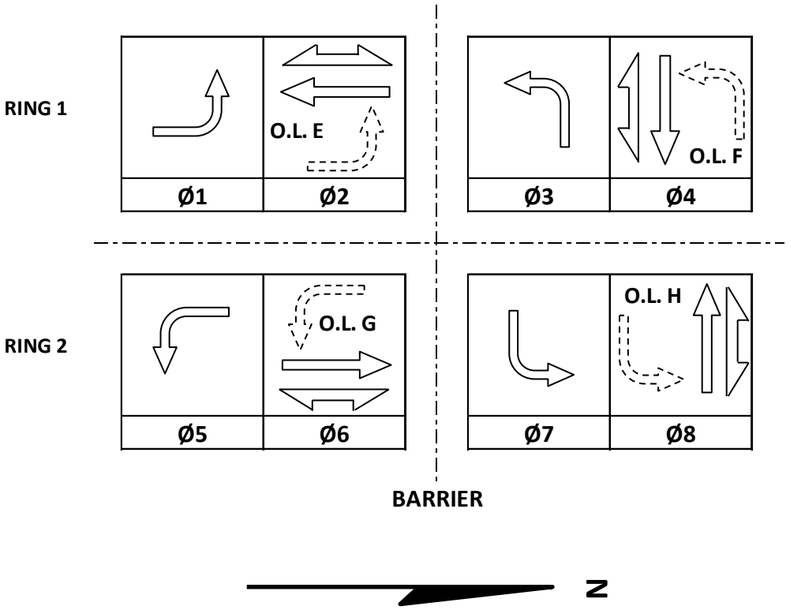
SIGNAL NO. S67-0298

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 3700-20-80	HWY: STH 59 / 164	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET 71	E

	HEAD NUMBERS	FLASH
Ø1	5,6	R ←
Ø2	7,8,9,10	R
Ø3	16,17	R ←
Ø4	18,19,20	R
Ø5	11,12	R ←
Ø6	1,2,3,4	R
Ø7	21,22	R ←
Ø8	13,14,15	R
Ø2P	29,30	
Ø4P	27,28	
Ø6P	25,26	
Ø8P	23,24	
OLE	5,6	-
OLF	16,17	-
OLG	11,12	-
OLH	21,22	-



CONTROLLER LOGIC

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

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

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASE 4+8.

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13	19	17	23	21	27	25	35	33	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	11	13	42	44	51	53	72	81	83	85	87	89				21	PLAN LOOP DETECTOR*(S)
CALLED PHASE	1	1	4	4	5	5	7	8	8	8	8	8				2	CALLED PHASE
CALL OPTION	X	X	X	X	X	X	X		X	X	X	X				X	CALL OPTION
DELAY TIME																	DELAY TIME
EXTENSION OPTION	X	X	X	X	X	X	X	X	X	X	X	X				X	EXTENTION OPTION
EXTEND TIME								X									EXTEND TIME
USE ADDED INITIAL																X	USE ADDED INITIAL
CROSS SWITCH PHASE	2	2			6	6	8										CROSS SWITCH PHASE

DETECTOR INPUT	4	2	8	6	12	10	16	14	20	18	24	22	28	26	36	34	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	12	41	43	45	52	71	73	82	84	86	88					61	PLAN LOOP DETECTOR*(S)
CALLED PHASE	1	4	4	4	5	7	7	8	8	8	8					6	CALLED PHASE
CALL OPTION	X		X	X	X	X	X		X	X	X					X	CALL OPTION
DELAY TIME																	DELAY TIME
EXTENSION OPTION	X	X	X	X	X	X	X	X	X	X	X					X	EXTENTION OPTION
EXTEND TIME		X						X									EXTEND TIME
USE ADDED INITIAL																X	USE ADDED INITIAL
CROSS SWITCH PHASE	2				6	8	8										CROSS SWITCH PHASE

GENERAL NOTES:

1. PHASE 3 IS FOR PREEMPTION ONLY.

STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY
SIGNAL NO: S67-0298 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 8/2019 PAGE NO. 3 OF 3

PROJECT ID:	3700-20-80
INTERSECTION:	STH 59/164 & CTH Y (Racine Avenue)

Signal Wire Color Coding	BLK - black	RED - red	GRN - green
	WHT - white	BLU - blue	ORG - orange

DATE 8/1/19

CB1 TO	JUMPER	# OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR									PED BUTTON	APS
				RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING YELLOW>	D/WALK	WALK		
SB1		12	30								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB2		21	5				RED	ORG	GRN	BLK/WHT				
			7	RED/BLK	ORG/BLK	GRN/BLK								
			14	RED/WHT	BLU/WHT	GRN/WHT								
			15	RED/WHT	BLU/WHT	GRN/WHT								
			17				WHT/RED	ORG/RED	BLU/RED	BLK/RED				
			23								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB3		12	BUTTON										WHT/BLK	BLU/BLK
SB4		7	6				RED	ORG	GRN	BLK				
SB5		12	25								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB6		21	2	RED	ORG	GRN								
			3	RED	ORG	GRN								
			4	RED	ORG	GRN								
			13	RED/WHT	BLU/WHT	GRN/WHT								
			21				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			24								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB7		12	26								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB8		21	1	RED	ORG	GRN								
			11				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			19	RED/WHT	BLU/WHT	GRN/WHT								
			20	RED/WHT	BLU/WHT	GRN/WHT								
			22				WHT/RED	ORG/RED	BLU/RED	BLK/RED				
			27								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB9		7	12				RED	ORG	GRN	BLK				
SB10		21	8	RED	ORG	GRN								
			9	RED	ORG	GRN								
			10	RED	ORG	GRN								
			16				RED/WHT	BLU/WHT	GRN/WHT	BLK/WHT				
			18	RED/BLK	ORG/BLK	GRN/BLK								
			29								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK
SB11		12	28								BLK	BLU		
			BUTTON										WHT/BLK	BLU/BLK

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

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	CB1
PB2	SB2
PB3	SB4
PB4	SB4
PB5	SB4
PB6	SB13
PB7	SB13
PB8	SB6
PB9	SB13
PB10	SB14
PB16	SB14
PB17	SB14
PB18	SB8
PB19	SB9
PB20	SB9
PB21	SB15
PB22	SB15
PB24	SB10
PB25	SB10
PB26	SB10
PB28	CB1

LIGHTING UF 10 AWG W/GROUND	
FROM	TO
CB1	SB12
SB12	SB2
SB2	SB4
SB4	SB17
SB17	SB13
SB13	SB6
CB1	SB10
SB10	SB15
SB15	SB16
SB16	SB9
SB9	SB8
SB8	SB14

EMERGENCY VEHICLE PREEMPTION (EVP) CABLE	
FROM	TO
CB1	HEAD A (SB6)
CB1	HEAD B (SB6)
CB1	HEAD C (SB2)
CB1	HEAD D (SB2)

RADAR DETECTOR UNIT CABLE	
FROM	TO
CB1	RE1 (SB10)
CB1	RE2 (SB6)

*Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications
*Ensure the grounded conductor in the feeder cable and the pole cables are both 18" longer than the ungrounded conductors.

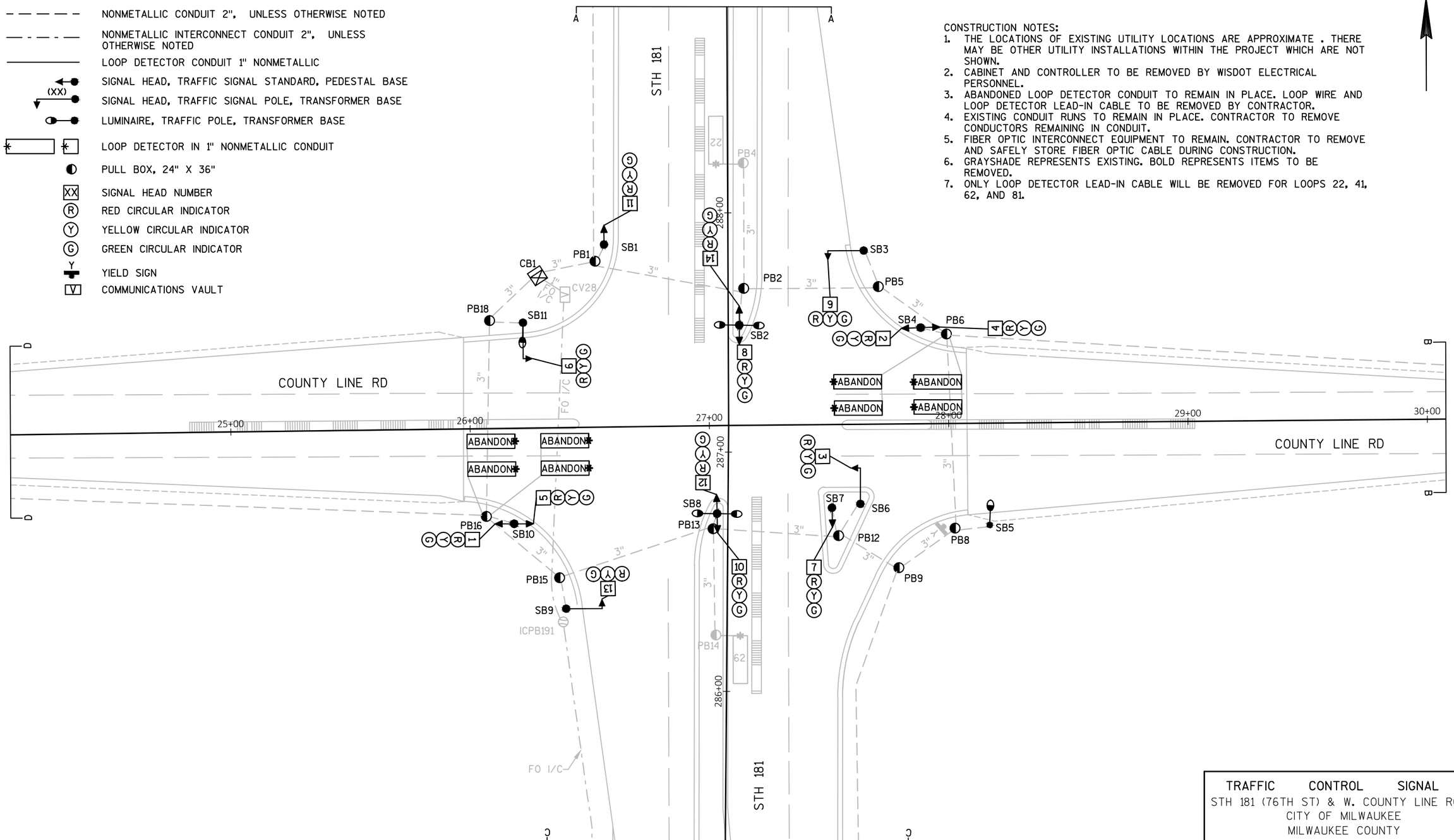
WISCONSIN
JOHN P. BRUGGEMAN
E-39737
BAYSIDE, WI
PROFESSIONAL ENGINEER
7/31/19

2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- Y YIELD SIGN
- V COMMUNICATIONS VAULT

CONSTRUCTION NOTES:
1. THE LOCATIONS OF EXISTING UTILITY LOCATIONS ARE APPROXIMATE . THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. CABINET AND CONTROLLER TO BE REMOVED BY WISDOT ELECTRICAL PERSONNEL.
3. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP WIRE AND LOOP DETECTOR LEAD-IN CABLE TO BE REMOVED BY CONTRACTOR.
4. EXISTING CONDUIT RUNS TO REMAIN IN PLACE. CONTRACTOR TO REMOVE CONDUCTORS REMAINING IN CONDUIT.
5. FIBER OPTIC INTERCONNECT EQUIPMENT TO REMAIN. CONTRACTOR TO REMOVE AND SAFELY STORE FIBER OPTIC CABLE DURING CONSTRUCTION.
6. GRAYSHADE REPRESENTS EXISTING. BOLD REPRESENTS ITEMS TO BE REMOVED.
7. ONLY LOOP DETECTOR LEAD-IN CABLE WILL BE REMOVED FOR LOOPS 22, 41, 62, AND 81.



TRAFFIC CONTROL SIGNAL
STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO. S40-1197

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

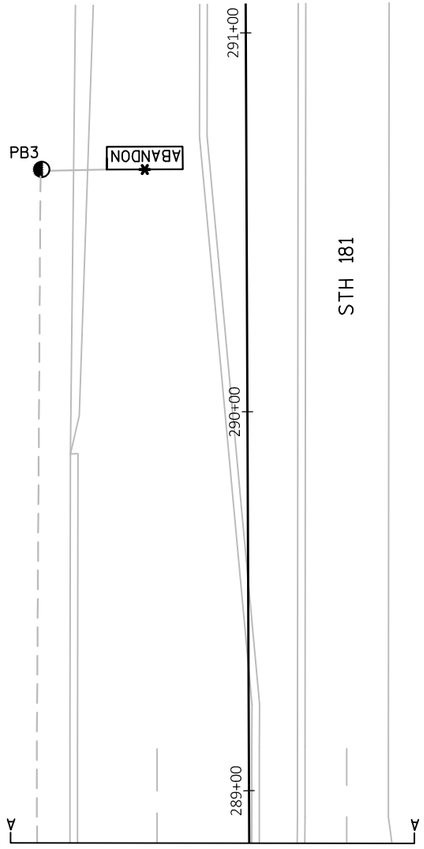
PAGE 1 OF 2

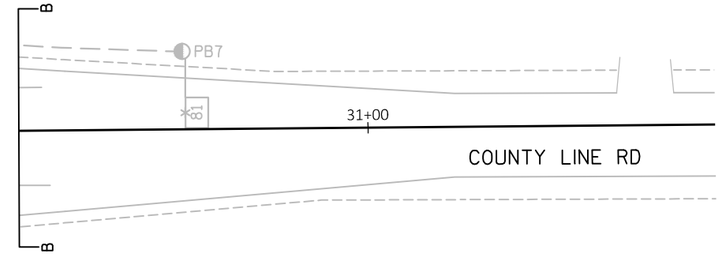
PROJECT NO: 3700-20-80	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 74	E

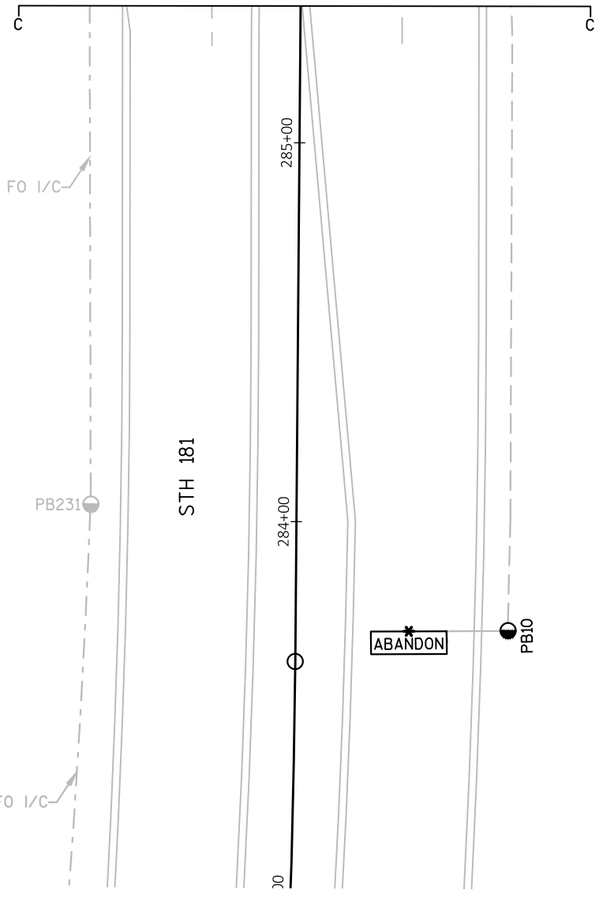
FILE NAME : T:\1162705.02\TRAFFIC\SIGNAL DESIGN\S40-1197_F - REM.DWG
LAYOUT NAME - S40-1197_F - REM - S40-1197_F_PG1

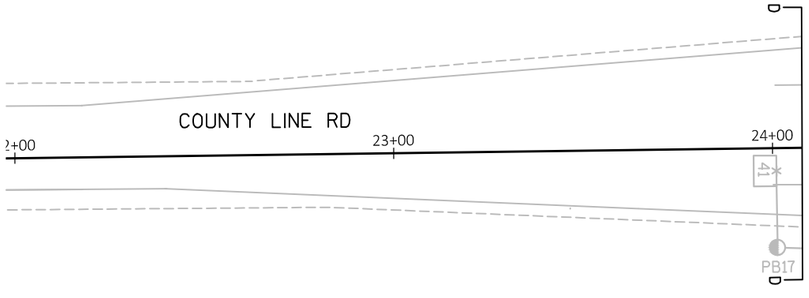
PLOT DATE : 7/25/2019 1:26 PM PLOT BY : UTIC, ANDY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42









TRAFFIC CONTROL SIGNAL
STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO. S40-1197

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 3700-20-80	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 75	E

LEGEND

- WOOD POLE CLASS 4
- SPAN WIRE
- TEMPORARY SIGNAL HEAD
- TEMPORARY LUMINAIRE, 250W
- XX SIGNAL HEAD NUMBER
- TEMPORARY DETECTION ZONE
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- LANE DESIGNATION ARROWS (FOR INFORMATION ONLY)

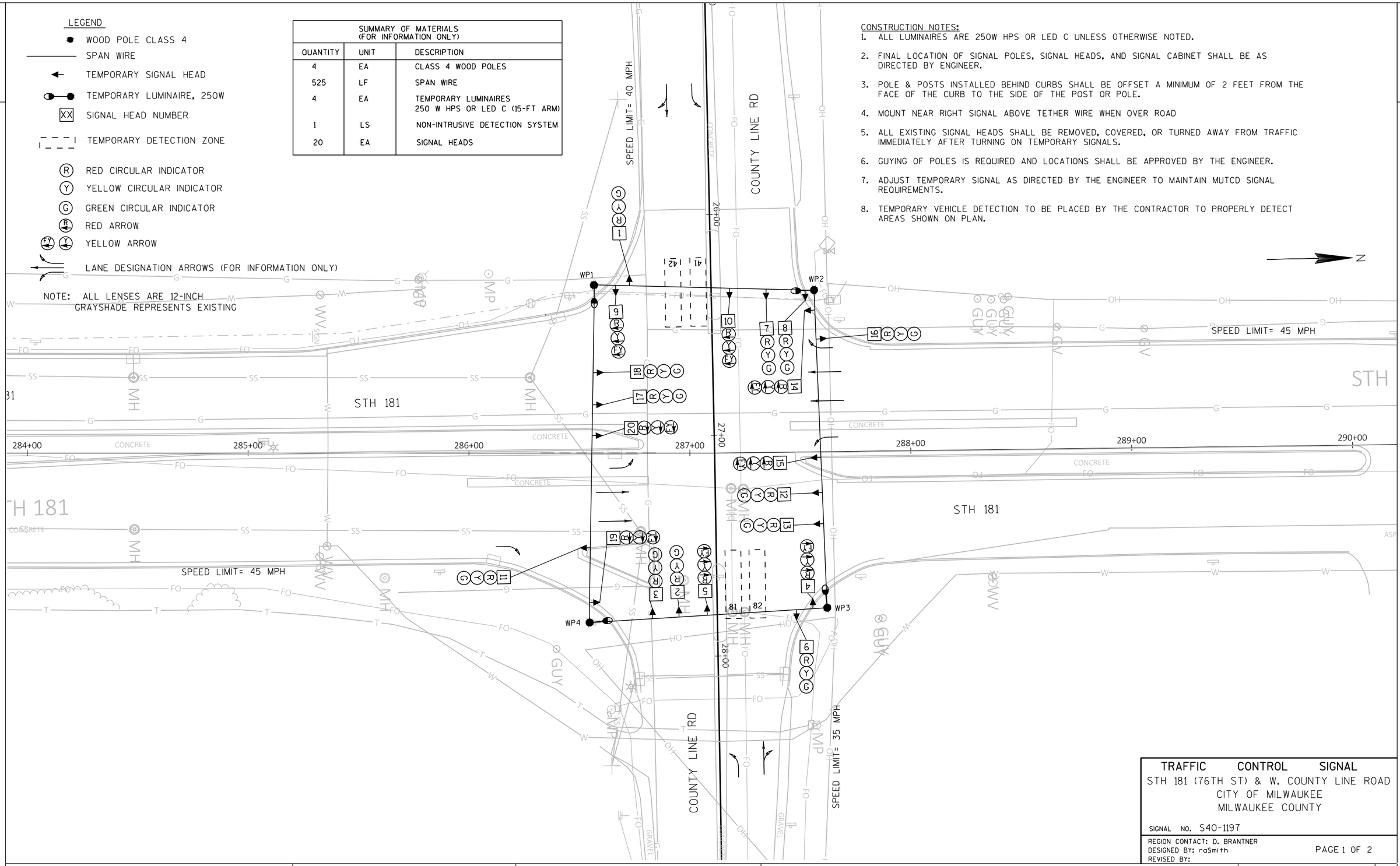
NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

SUMMARY OF MATERIALS
(FOR INFORMATION ONLY)

QUANTITY	UNIT	DESCRIPTION
4	EA	CLASS 4 WOOD POLES
525	LF	SPAN WIRE
4	EA	TEMPORARY LUMINAIRES 250 W HPS OR LED C (15-FT ARM)
1	LS	NON-INTRUSIVE DETECTION SYSTEM
20	EA	SIGNAL HEADS

CONSTRUCTION NOTES:

1. ALL LUMINAIRES ARE 250W HPS OR LED C UNLESS OTHERWISE NOTED.
2. FINAL LOCATION OF SIGNAL POLES, SIGNAL HEADS, AND SIGNAL CABINET SHALL BE AS DIRECTED BY ENGINEER.
3. POLE & POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF THE CURB TO THE SIDE OF THE POST OR POLE.
4. MOUNT NEAR RIGHT SIGNAL ABOVE TETHER WIRE WHEN OVER ROAD
5. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
6. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
7. ADJUST TEMPORARY SIGNAL AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
8. TEMPORARY VEHICLE DETECTION TO BE PLACED BY THE CONTRACTOR TO PROPERLY DETECT AREAS SHOWN ON PLAN.



TRAFFIC CONTROL SIGNAL
STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO. S40-1197

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 1 OF 2

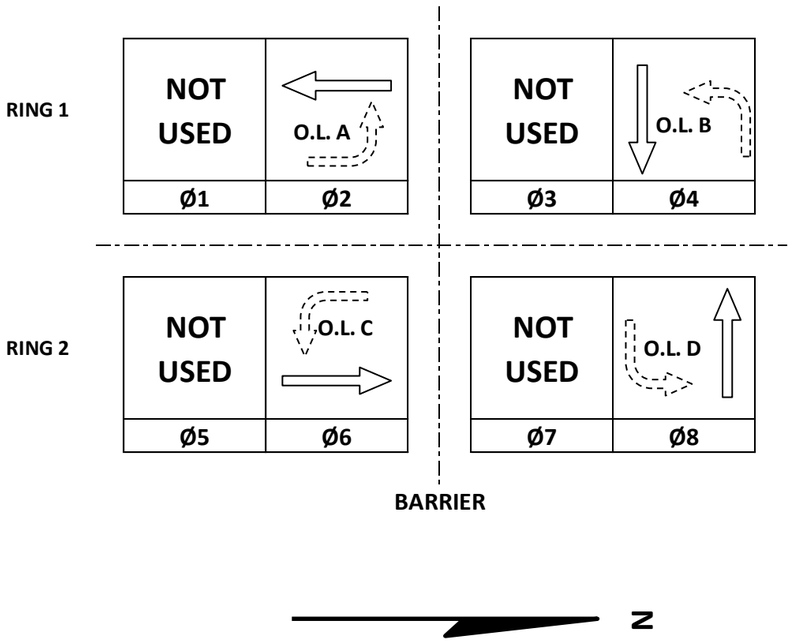
PROJECT NO: 3700-20-80	HWY: STH 181	COUNTY: MILWAUKEE	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 76	E

FILE NAME : T:\1162705.02\TRAFFIC\SIGNAL DESIGN\S40-1197_F - TEMP.DWG
LAYOUT NAME - S40-1197_F_PG1

PLOT DATE : 6/4/2019 12:45 PM PLOT BY : GUILLAMA, TINA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

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



DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
41		X			4	4					
42		X			4	4					
81		X			8	8					
82		X			8	8					

CONTROLLER LOGIC

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

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

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

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

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

STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO: S40-1197 CABINET TYPE: TEMP
CONTROLLER TYPE: TEMP
DATE: 8/1/2019 PAGE NO. 2 OF 2

2

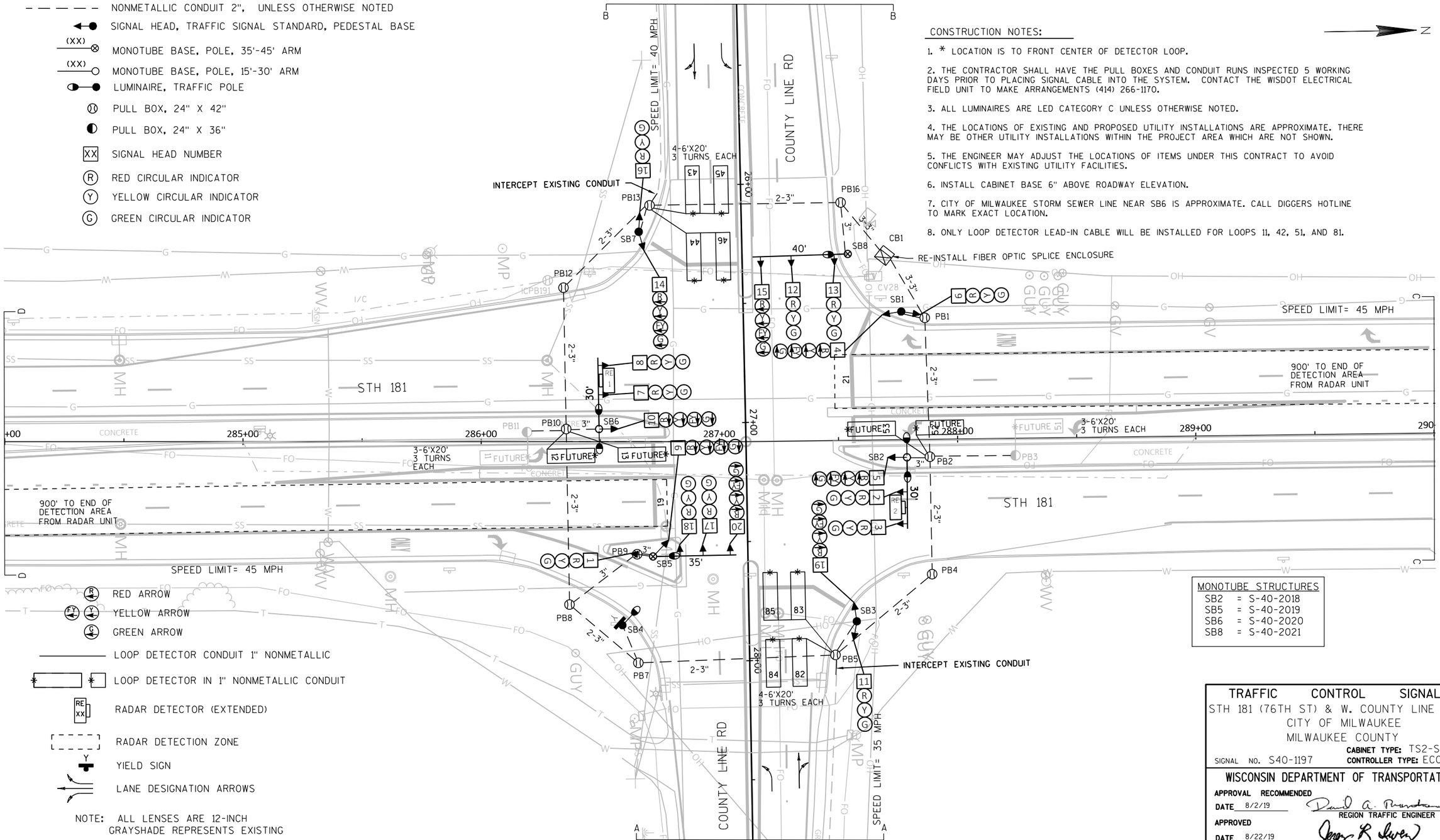
LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-45' ARM
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- LUMINAIRE, TRAFFIC POLE
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 36"
- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR

CONSTRUCTION NOTES:

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO THE SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS (414) 266-1170.
3. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
4. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
5. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICTS WITH EXISTING UTILITY FACILITIES.
6. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
7. CITY OF MILWAUKEE STORM SEWER LINE NEAR SB6 IS APPROXIMATE. CALL DIGGERS HOTLINE TO MARK EXACT LOCATION.
8. ONLY LOOP DETECTOR LEAD-IN CABLE WILL BE INSTALLED FOR LOOPS 11, 42, 51, AND 81.

N



- R RED ARROW
- FY YELLOW ARROW
- G GREEN ARROW
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- RE XX RADAR DETECTOR (EXTENDED)
- RADAR DETECTION ZONE
- Y YIELD SIGN
- LANE DESIGNATION ARROWS

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

MONOTUBE STRUCTURES

SB2	= S-40-2018
SB5	= S-40-2019
SB6	= S-40-2020
SB8	= S-40-2021

TRAFFIC CONTROL SIGNAL

STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO. S40-1197
CABINET TYPE: TS2-S
CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
DATE 8/2/19 — David A. Brantner, P.E. — REGION TRAFFIC ENGINEER

APPROVED
DATE 8/22/19 — Jerry R. Skwerer — STATE TRAFFIC ENGINEER

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

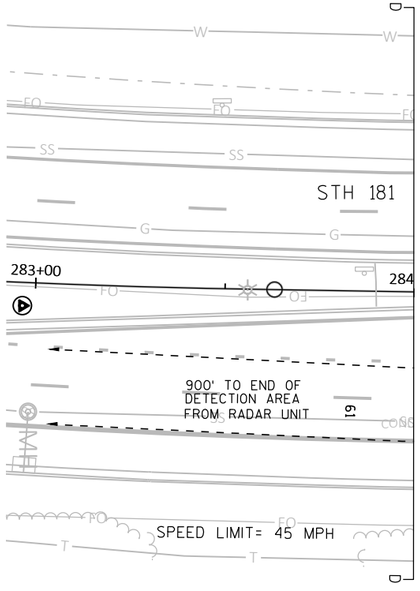
PAGE 1 OF 3

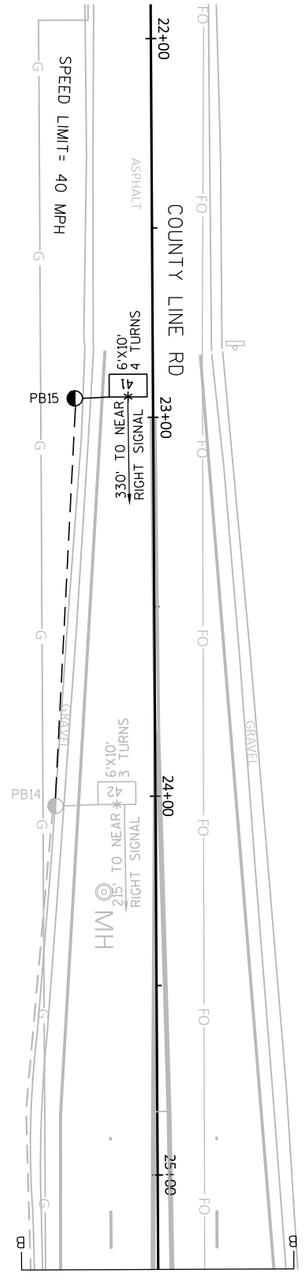
PROJECT NO: 3700-20-80	HWY: STH 181	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 78	E

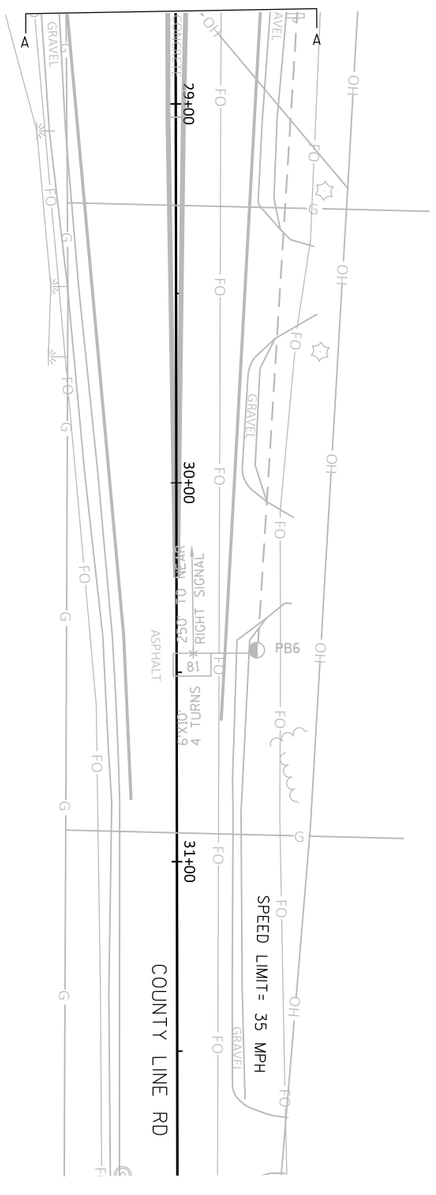
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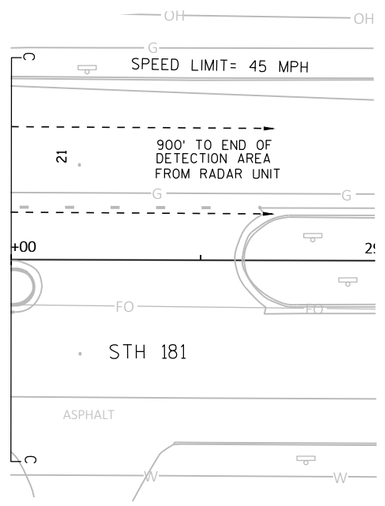
PLOT DATE : 10/21/2019 3:25 PM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1 IN:40 FT

2









N

TRAFFIC CONTROL SIGNAL
STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

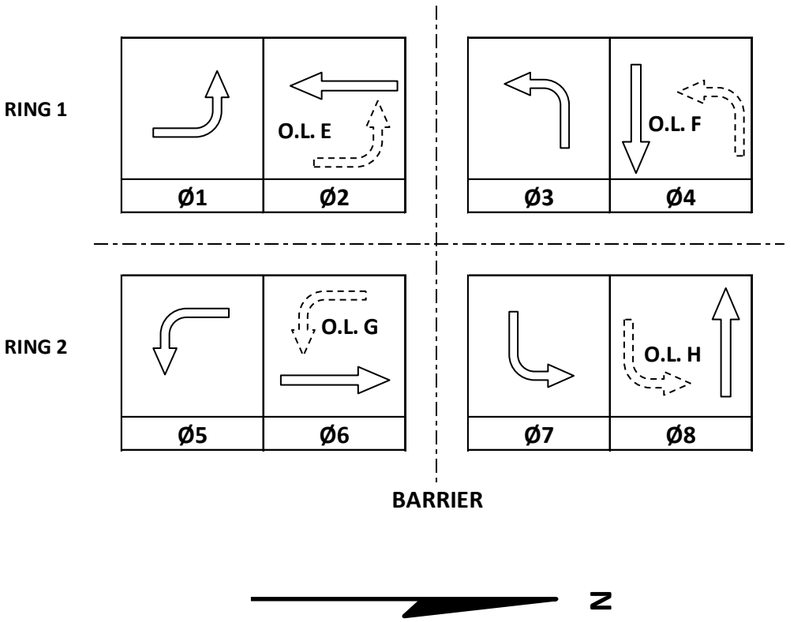
SIGNAL NO. S40-1197

REGION CONTACT: D. BRANTNER
DESIGNED BY: raSmith
REVISED BY:

PAGE 2 OF 3

PROJECT NO:3700-20-80	HWY:STH 181	COUNTY:MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 79	E

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



CONTROLLER LOGIC

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

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11	13	42	44	46	52	81	83
CALLED PHASE	FUTURE	FUTURE	4	4	8	FUTURE	8	8
CALL OPTION				X	X			X
DELAY TIME				X	X			
EXTENSION OPTION			X	X	X		X	X
EXTEND TIME			X				X	
USE ADDED INITIAL								
CROSS SWITCH PHASE								

DETECTOR INPUT	19	17	23	21	27	25	31	29
PLAN LOOP DETECTOR*(S)	85			21	61			
CALLED PHASE	4			2	6			
CALL OPTION	X			X	X			
DELAY TIME	X							
EXTENTION OPTION	X			X	X			
EXTEND TIME								
USE ADDED INITIAL				X	X			
CROSS SWITCH PHASE								

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	12	41	43	45	51	53	82	84
CALLED PHASE	FUTURE	4	4	8	FUTURE	FUTURE	8	4
CALL OPTION			X	X			X	X
DELAY TIME			X					
EXTENSION OPTION		X	X	X			X	X
EXTEND TIME		X						
USE ADDED INITIAL								
CROSS SWITCH PHASE								

DETECTOR INPUT	20	18	24	22	28	26	32	30
PLAN LOOP DETECTOR*(S)								
CALLED PHASE								
CALL OPTION								
DELAY TIME								
EXTENTION OPTION								
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

GENERAL NOTES:

1. PHASES 3 & 7 ARE OMITTED AT ALL TIMES.

STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO: S40-1197 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 8/2019 PAGE NO. 3 OF 3

PROJECT ID:	3700-20-80
INTERSECTION:	STH 181 (76th St) & W. County Line Rd

Signal Wire Color Coding	BLK - black	RED - red	GRN - green
	WHT - white	BLU - blue	ORG - orange

DATE	8/1/19

2

CB1 TO	JUMPER	# OF COND.	HEAD NO.	SIGNAL INDICATION WIRE COLOR									PED BUTTON
				RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING YELLOW>	D/WALK	WALK	
SB1		12	4				RED	ORG	GRN	BLK/WHT			
			6	RED/BLK	ORG/BLK	GRN/BLK							
SB2		12	2	RED	ORG	GRN							
			3	RED	ORG	GRN							
			5				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB3		12	11	RED/BLK	ORG/BLK	GRN/BLK							
			19				RED	ORG	GRN	BLK/WHT			
SB5		21	1	RED	ORG	GRN							
			9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
			17	RED/WHT	BLU/WHT	GRN/WHT							
			18	RED/WHT	BLU/WHT	GRN/WHT							
			20				BLU	BLU/BLK	BLK	WHT/BLK			
SB6		12	7	RED	ORG	GRN							
			8	RED	ORG	GRN							
			10				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB7		12	14				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
			16	RED	ORG	GRN							
SB8		12	12	RED	ORG	GRN							
			13	RED	ORG	GRN							
			15				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	SB1
PB2	SB2
PB4	SB2
PB5	SB3
PB7	SB4
PB8	SB5
PB9	SB5
PB10	SB6
PB12	SB7
PB13	SB7
PB16	SB8

LIGHTING UF 10 AWG W/GROUND	
FROM	TO
CB1	SB2
SB2	SB4
SB4	SB5
CB1	SB8
SB8	SB6

RADAR DETECTOR UNIT CABLE	
FROM	TO
CB1	RE1 (SB6)
CB1	RE2 (SB2)

*Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications
*Ensure the grounded conductor in the feeder cable and the pole cables are both 18" longer than the ungrounded conductors.

WISCONSIN
JOHN P. BRUGGEMAN
E-39737
BAYSIDE, WI
PROFESSIONAL ENGINEER
7/31/19

PROJECT NO: 3700-20-80	HWY: STH 181	COUNTY: MILWAUKEE	CABLE ROUTING	SHEET NO: 81	E

MARKING TO END OF TAPER
MARKING TO END OF TAPER
STA 498+88
MARKING TO END OF TAPER
MARKING TO END OF TAPER
STA 212+68
STH 67 SB OFF RAMP
STH 67 SB ON RAMP
ONLY
ONLY
STH 16 WB
STH 16 EB
E. WISCONSIN AVE.
FRONTAGE ROAD
STH 67 OVERPASS
DOUBLE YELLOW
MATCHLINE 23+75
N

LEGEND

1	MARKING LINE EPOXY 4-INCH (WHITE)	10	MARKING ARROW EPOXY
2	MARKING LINE EPOXY 4-INCH (YELLOW)	11	MARKING WORD EPOXY
3	MARKING LINE EPOXY 4-INCH (WHITE, 12.5' LINE, 37.5' GAP)	12	MARKING CURB EPOXY
5	MARKING LINE EPOXY 8-INCH (WHITE)	13	MARKING ISLAND NOSE EPOXY
6	MARKING LINE EPOXY 8-INCH (WHITE, 3' LINE, 9' GAP)	14	MARKING YIELD LINE EPOXY 18-INCH
7	MARKING DIAGONAL EPOXY 12-INCH (WHITE)	15	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW, 2' LINE, 6' GAP)
8	MARKING STOP LINE EPOXY 18-INCH	16	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE, 2' LINE, 6' GAP)
9	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH	17	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE, 12.5' LINE, 37.5' GAP)
		18	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	PAVEMENT MARKING DETAILS: STH 16 & STH 67 RAMPS	SHEET 82	E

LEGEND

1	MARKING LINE EPOXY 4-INCH (WHITE)
2	MARKING LINE EPOXY 4-INCH (YELLOW)
3	MARKING LINE EPOXY 4-INCH (WHITE, 12.5' LINE, 37.5' GAP)
5	MARKING LINE EPOXY 8-INCH (WHITE)
6	MARKING LINE EPOXY 8-INCH (WHITE, 3' LINE, 9' GAP)
7	MARKING DIAGONAL EPOXY 12-INCH (WHITE)
8	MARKING STOP LINE EPOXY 18-INCH
9	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
10	MARKING ARROW EPOXY
11	MARKING WORD EPOXY
12	MARKING CURB EPOXY
13	MARKING ISLAND NOSE EPOXY
14	MARKING YIELD LINE EPOXY 18-INCH
15	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW, 2' LINE, 6' GAP)
16	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE, 2' LINE, 6' GAP)
17	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE, 12.5' LINE, 37.5' GAP)
18	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)

MARKING TO END OF TAPER STA 312+10

MARKING TO END OF TAPER

STH 67 NB OFF RAMP

STH 67 NB ON RAMP

STH 16 WB

STH 16 EB

E. WISCONSIN AVE.

313+00

314+00

24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00

32+00 33+00

END MARKING STA 32+74

ONLY

SIGN

CONC

ASPH

MATCHLINE 23+75

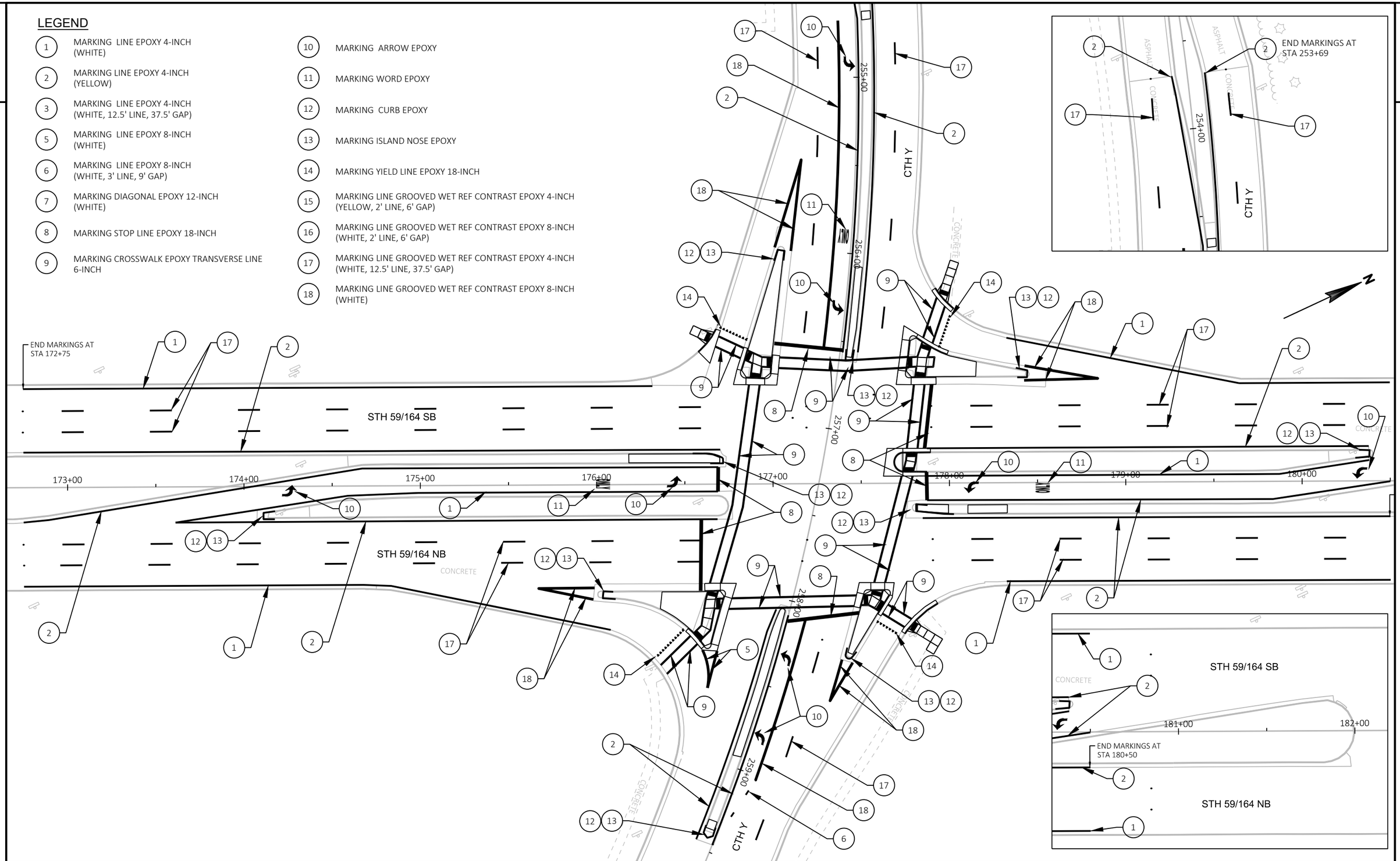
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PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	PAVEMENT MARKING DETAILS: STH 16 & STH 67 RAMPS	SHEET 83	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 02
PLOT DATE : 7/31/2019 7:08 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

LEGEND

1 MARKING LINE EPOXY 4-INCH (WHITE)	10 MARKING ARROW EPOXY
2 MARKING LINE EPOXY 4-INCH (YELLOW)	11 MARKING WORD EPOXY
3 MARKING LINE EPOXY 4-INCH (WHITE, 12.5' LINE, 37.5' GAP)	12 MARKING CURB EPOXY
5 MARKING LINE EPOXY 8-INCH (WHITE)	13 MARKING ISLAND NOSE EPOXY
6 MARKING LINE EPOXY 8-INCH (WHITE, 3' LINE, 9' GAP)	14 MARKING YIELD LINE EPOXY 18-INCH
7 MARKING DIAGONAL EPOXY 12-INCH (WHITE)	15 MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW, 2' LINE, 6' GAP)
8 MARKING STOP LINE EPOXY 18-INCH	16 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE, 2' LINE, 6' GAP)
9 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH	17 MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE, 12.5' LINE, 37.5' GAP)
	18 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)

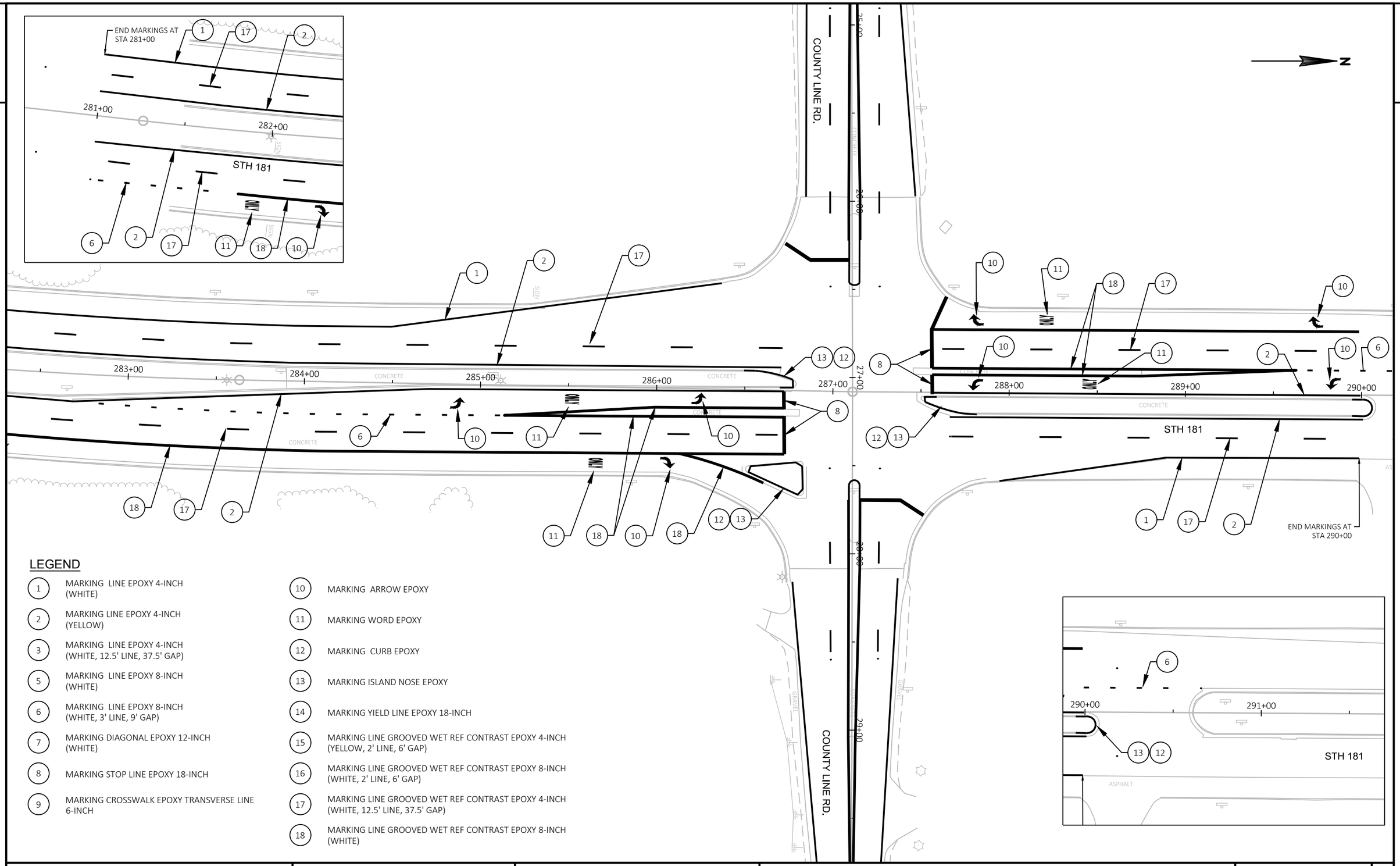


PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	PAVEMENT MARKING DETAILS: STH 59/164 & CTH Y	SHEET 84	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 03

PLOT DATE : 7/31/2019 7:08 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

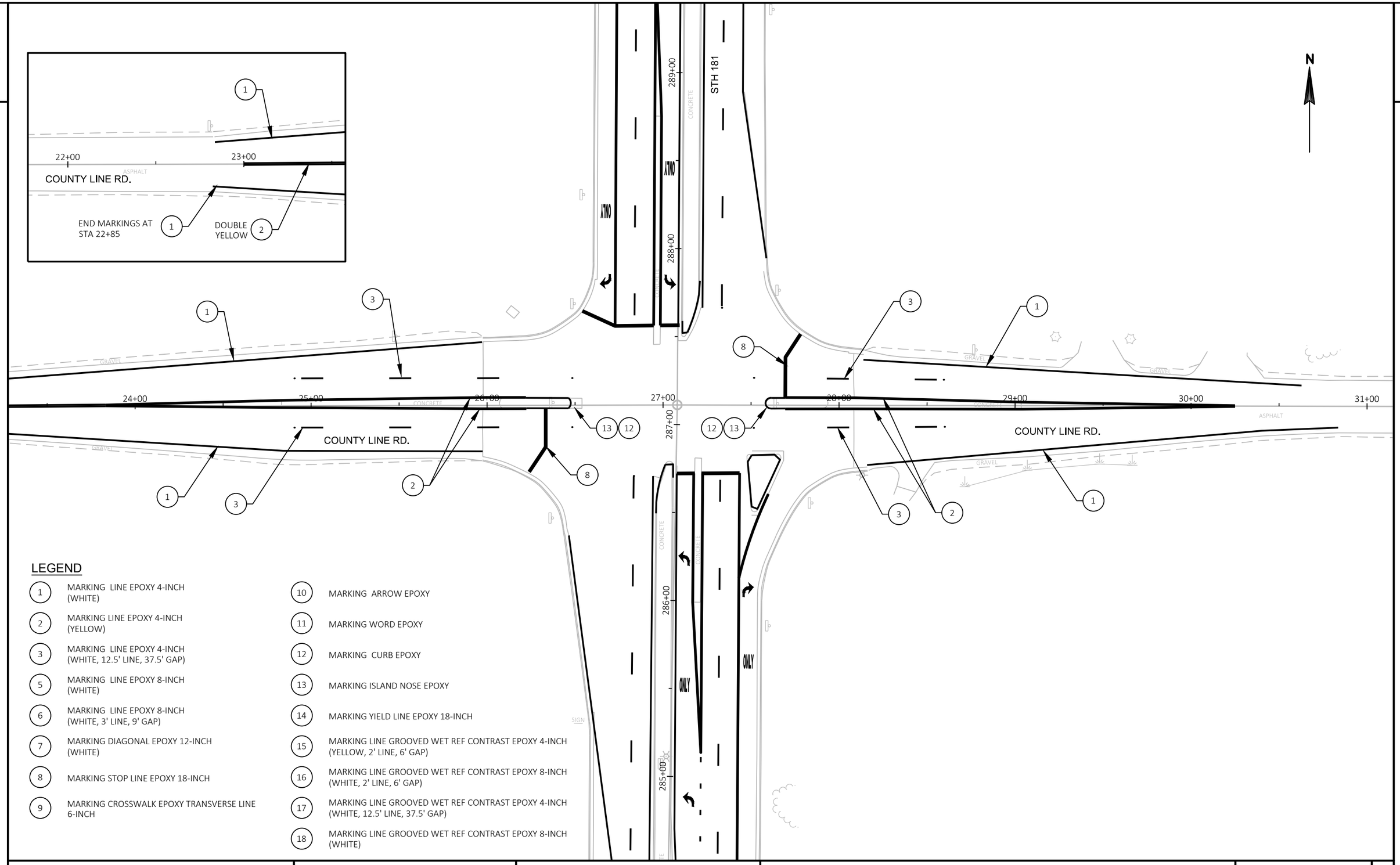


LEGEND

1	MARKING LINE EPOXY 4-INCH (WHITE)
2	MARKING LINE EPOXY 4-INCH (YELLOW)
3	MARKING LINE EPOXY 4-INCH (WHITE, 12.5' LINE, 37.5' GAP)
5	MARKING LINE EPOXY 8-INCH (WHITE)
6	MARKING LINE EPOXY 8-INCH (WHITE, 3' LINE, 9' GAP)
7	MARKING DIAGONAL EPOXY 12-INCH (WHITE)
8	MARKING STOP LINE EPOXY 18-INCH
9	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
10	MARKING ARROW EPOXY
11	MARKING WORD EPOXY
12	MARKING CURB EPOXY
13	MARKING ISLAND NOSE EPOXY
14	MARKING YIELD LINE EPOXY 18-INCH
15	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW, 2' LINE, 6' GAP)
16	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE, 2' LINE, 6' GAP)
17	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE, 12.5' LINE, 37.5' GAP)
18	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	PAVEMENT MARKING DETAILS: STH 181 & COUNTY LINE RD.	SHEET 85 E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 04
PLOT DATE : 7/31/2019 7:08 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42



LEGEND

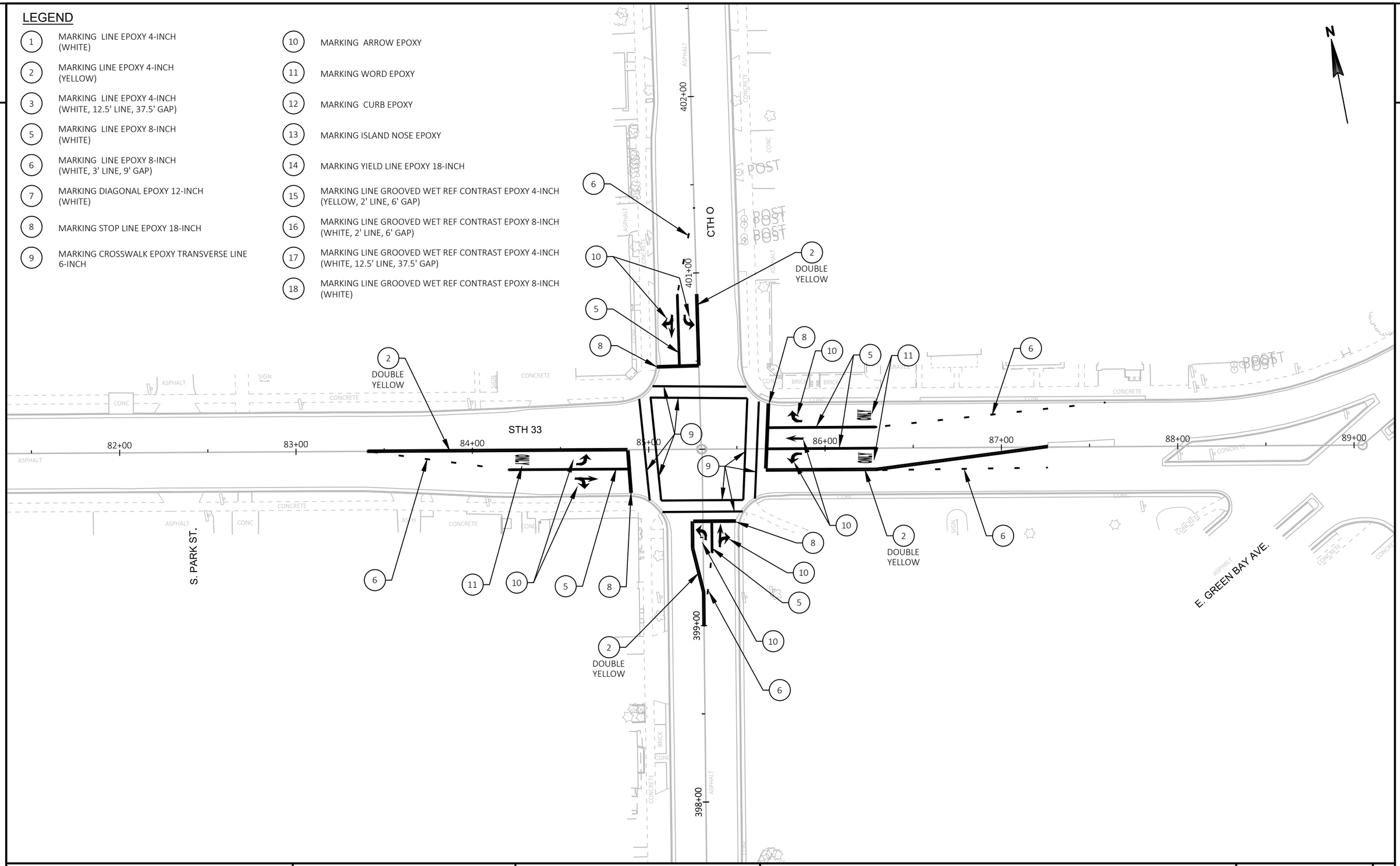
1	MARKING LINE EPOXY 4-INCH (WHITE)
2	MARKING LINE EPOXY 4-INCH (YELLOW)
3	MARKING LINE EPOXY 4-INCH (WHITE, 12.5' LINE, 37.5' GAP)
5	MARKING LINE EPOXY 8-INCH (WHITE)
6	MARKING LINE EPOXY 8-INCH (WHITE, 3' LINE, 9' GAP)
7	MARKING DIAGONAL EPOXY 12-INCH (WHITE)
8	MARKING STOP LINE EPOXY 18-INCH
9	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
10	MARKING ARROW EPOXY
11	MARKING WORD EPOXY
12	MARKING CURB EPOXY
13	MARKING ISLAND NOSE EPOXY
14	MARKING YIELD LINE EPOXY 18-INCH
15	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW, 2' LINE, 6' GAP)
16	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE, 2' LINE, 6' GAP)
17	MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE, 12.5' LINE, 37.5' GAP)
18	MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	PAVEMENT MARKING DETAILS: STH 181 & COUNTY LINE RD.	SHEET 86	E

2

LEGEND

1. MARKING LINE EPOXY 4-INCH (WHITE)
2. MARKING LINE EPOXY 4-INCH (YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE, 12.5' LINE, 37.5' GAP)
5. MARKING LINE EPOXY 8-INCH (WHITE)
6. MARKING LINE EPOXY 8-INCH (WHITE, 3' LINE, 9' GAP)
7. MARKING DIAGONAL EPOXY 12-INCH (WHITE)
8. MARKING STOP LINE EPOXY 18-INCH
9. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
10. MARKING ARROW EPOXY
11. MARKING WORD EPOXY
12. MARKING CURB EPOXY
13. MARKING ISLAND NOSE EPOXY
14. MARKING YIELD LINE EPOXY 18-INCH
15. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (YELLOW, 2' LINE, 6' GAP)
16. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE, 2' LINE, 6' GAP)
17. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE, 12.5' LINE, 37.5' GAP)
18. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)



PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	PAVEMENT MARKING DETAILS: STH 33 & CTH O	SHEET 87	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 06
PLOT DATE : 7/31/2019 7:08 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
- (1) LEFT TURN YIELD ON FLASHING YELLOW ARROW (R10-50L 30"X36") — TO BE PLACED ON TEMP SIGNALS
- (2) STOP (R1-1F 30"X30") — TO BE PLACED ON TEMP SIGNALS
- (3) R3-1 24"X24" — NO RIGHT TURN SIGN

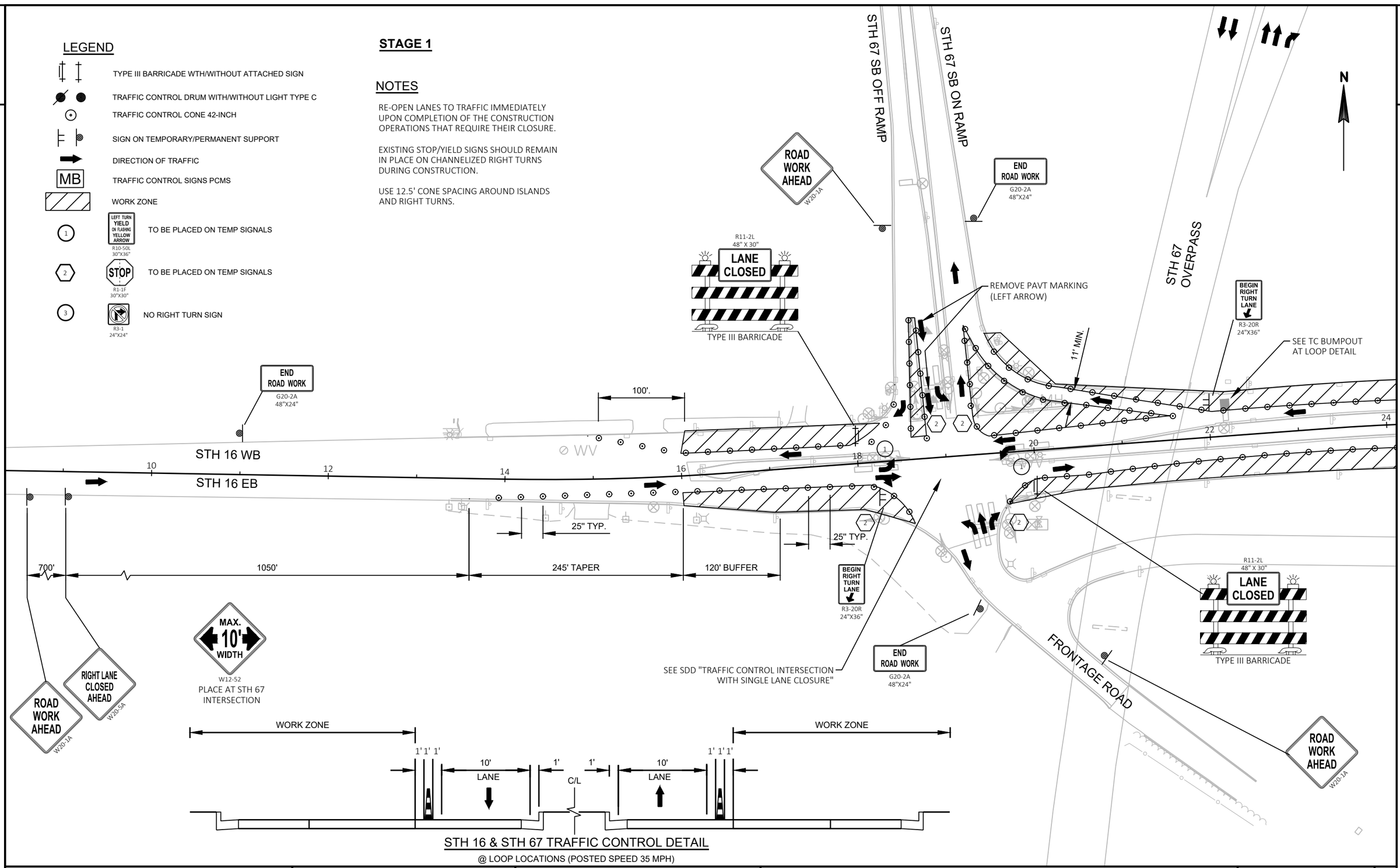
STAGE 1

NOTES

RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

USE 12.5' CONE SPACING AROUND ISLANDS AND RIGHT TURNS.



STH 16 & STH 67 TRAFFIC CONTROL DETAIL

@ LOOP LOCATIONS (POSTED SPEED 35 MPH)

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 16 & STH 67 - STAGE 1	SHEET 88	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026001_TCOV.DWG
LAYOUT NAME - 01
PLOT DATE : 7/31/2019 7:22 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

STAGE 1

NOTES

RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

USE 12.5' CONE SPACING AROUND ISLANDS AND RIGHT TURNS.

LEGEND

- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
- 1 — LEFT TURN YIELD ON FLASHING YELLOW ARROW (R10-50L 30"X36") — TO BE PLACED ON TEMP SIGNALS
- 2 — STOP (R1-1F 30"X30") — TO BE PLACED ON TEMP SIGNALS
- 3 — NO RIGHT TURN SIGN (R3-1 24"X24")

N

MAX. 10' WIDTH
W12-52
PLACE AT CTH P INTERSECTION

STH 67 NB OFF RAMP

STH 67 NB ON RAMP

ROAD WORK AHEAD
W20-1A

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

END ROAD WORK
G20-2A
48"X24"

REMOVE PAVT MARKING (LEFT ARROW)

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

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

11' MIN.

25' TYP.

WO1-6
48" X 24"
TYPE III BARRICADE

120' BUFFER

245' TAPER

25' TYP.

350'

700'

700'

WO4-2R

RIGHT LANE CLOSED AHEAD
W20-5A

ROAD WORK AHEAD
W20-1A

24 26 28 30 32 34 36 38

TEMP PAVT MARKING
4" REMOVABLE TAPE

REMOVE PAVT MARKING

100' TYP.

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

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

E. WISCONSIN AVE.

SEE SDD "TRAFFIC CONTROL INTERSECTION WITH SINGLE LANE CLOSURE"

END ROAD WORK
G20-2A
48"X24"

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

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 16 & STH 67 - STAGE 1	SHEET 89	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026001_TCOV.DWG
LAYOUT NAME - 02

PLOT DATE : 7/31/2019 7:23 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
- 1 — LEFT TURN YIELD ON FLASHING YELLOW ARROW (R10-50L 30"X36") — TO BE PLACED ON TEMP SIGNALS
- 2 — STOP (R1-1F 30"X30") — TO BE PLACED ON TEMP SIGNALS
- 3 — NO RIGHT TURN SIGN (R3-1 24"X24")

STAGE 1A & 1B

NOTES

RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

STAGE 1 TRAFFIC CONTROL SIGNS SHOULD REMAIN FOR STAGES 1A & 1B.

N

STH 67 SB OFF RAMP
STH 67 SB ON RAMP
STH 67 OVERPASS
STH 67 NB OFF RAMP
STH 67 NB ON RAMP
STH 16 WB
STH 16 EB
E. WISCONSIN AVE.
FRONTAGE ROAD
SEE SDD "TRAFFIC CONTROL, EXIT LANE CLOSURE"
STAGE 1A
STAGE 1B
12.5' TYP.
12.5' TYP.
18
20
22
24
26
28
30
R11-2 48" X 30" ROAD CLOSED
TYPE III BARRICADE
R11-2 48" X 30" ROAD CLOSED
TYPE III BARRICADE

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 16 & STH 67 - STAGE 1A & 1B	SHEET 90	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026001_TCOV.DWG
LAYOUT NAME - 03
PLOT DATE : 7/31/2019 7:23 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2

LEGEND

- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
- (1) LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50L 30"X36" — TO BE PLACED ON TEMP SIGNALS
- (2) STOP R1-1F 30"X30" — TO BE PLACED ON TEMP SIGNALS
- (3) R3-1 24"X24" — NO RIGHT TURN SIGN

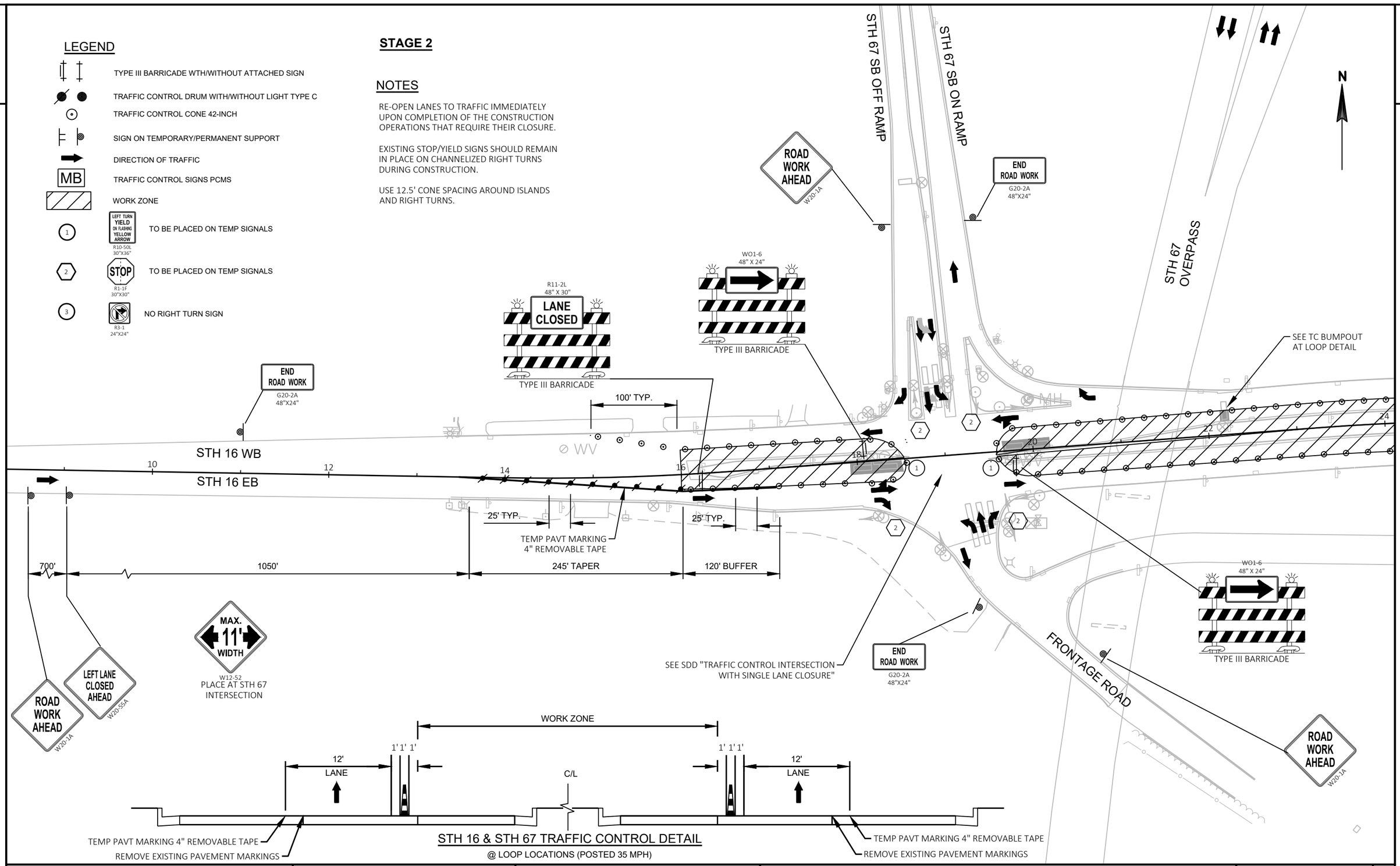
STAGE 2

NOTES

RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

USE 12.5' CONE SPACING AROUND ISLANDS AND RIGHT TURNS.



STH 16 & STH 67 TRAFFIC CONTROL DETAIL

@ LOOP LOCATIONS (POSTED 35 MPH)

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 16 & STH 67 - STAGE 2	SHEET 91	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026001_TCOV.DWG
LAYOUT NAME - 04

PLOT DATE : 7/31/2019 7:23 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

STH 67 NB OFF RAMP

STH 67 NB ON RAMP

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

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

WO1-6
48" X 24"
TYPE III BARRICADE

E. WISCONSIN AVE.

SEE SDD "TRAFFIC CONTROL INTERSECTION WITH SINGLE LANE CLOSURE"

END ROAD WORK
G20-2A
48"X24"

WO1-6
48" X 24"
TYPE III BARRICADE

LEGEND

- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
- 1 — LEFT TURN YIELD ON FLASHING YELLOW ARROW (R10-50L 30"X36") — TO BE PLACED ON TEMP SIGNALS
- 2 — STOP (R1-1F 30"X30") — TO BE PLACED ON TEMP SIGNALS
- 3 — NO RIGHT TURN SIGN (R3-1 24"X24")

STAGE 2

NOTES

RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

USE 12.5' CONE SPACING AROUND ISLANDS AND RIGHT TURNS.

N

MAX. 11' WIDTH
W12-52
PLACE AT CTH P INTERSECTION

WO1-6
48" X 24"
TYPE III BARRICADE

WO4-2L

LEFT LANE CLOSED AHEAD
W20-5SA

ROAD WORK AHEAD
W20-1A

120' BUFFER | 245' TAPER | 350' | 700' | 700'

25' TYP. | 25' TYP.

24 26 28 30 32 34 36 38

TEMP PAVT MARKING
4" REMOVABLE TAPE

100' TYP.

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 16 & STH 67 - STAGE 2	SHEET 92	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026001_TCOV.DWG
LAYOUT NAME - 05

PLOT DATE : 7/31/2019 7:23 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

STAGE 1

NOTES

RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

USE 12.5' CONE SPACING AROUND ISLANDS AND RIGHT TURNS.

N

500'
END ROAD WORK
G20-2A
48"X24"
250
252
CTH Y
100' TYP.
25' TYP.
400'
600'
ROAD WORK AHEAD
W20-1A
RIGHT LANE CLOSED AHEAD
W20-5A
MAX. 10' WIDTH
W12-52
PLACE AT CTH D
(SUNSET DR)
R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE
TEMP PAVT MARKING
4" REMOVABLE TAPE
85' BUFFER
SEE TC BUMPOUT
AT LOOP DETAIL
SEE SDD "TRAFFIC CONTROL INTERSECTION
WITH SINGLE LANE CLOSURE"
BEGIN RIGHT TURN LANE
R3-20R
24"X36"
11' MIN.
50' TYP.
176
174
STH 59/164 SB
STH 59/164 NB
MATCHLINE A
540' TAPER
220' BUFFER
MATCHLINE B
180
256
258
260
262
264
MARKING REMOVAL LINE 8-INCH
(CROSSWALK)
170' BUFFER
1050'
700'

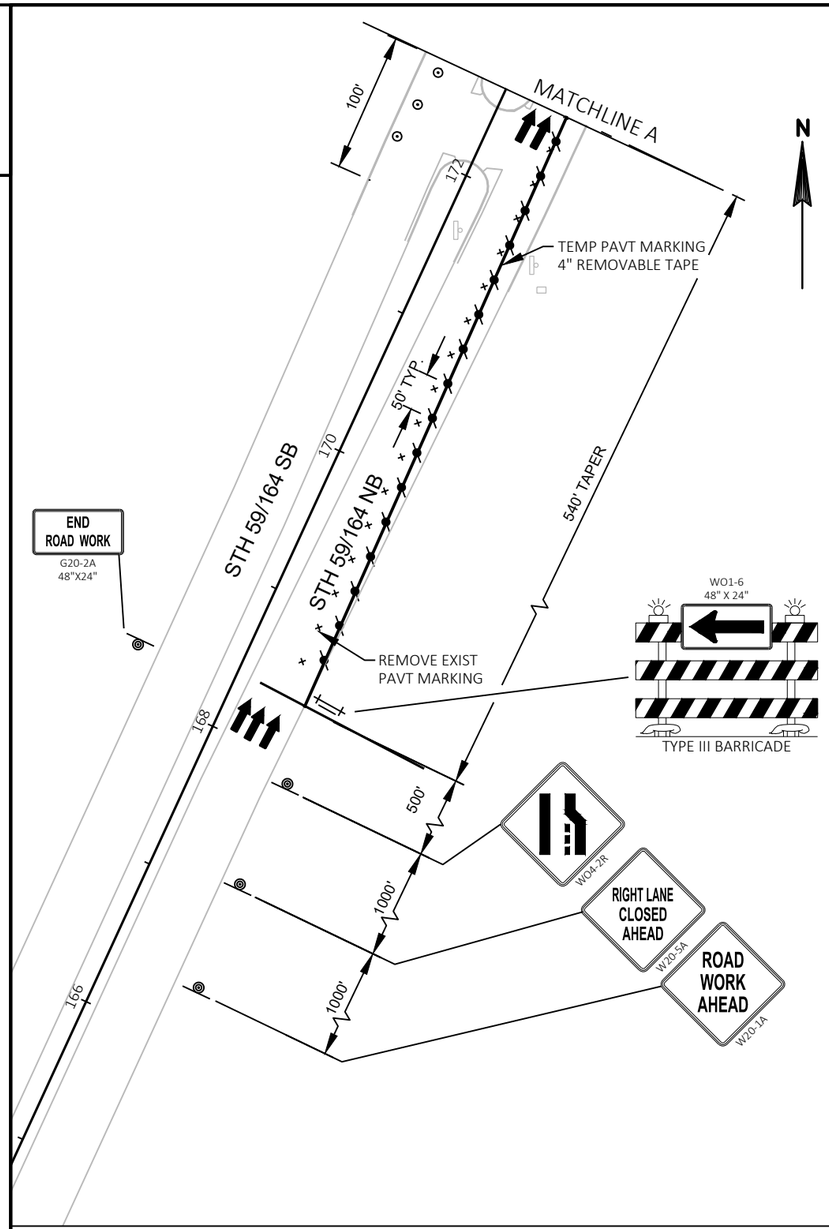
LEGEND

- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
- 1 — LEFT TURN YIELD ON FLASHING YELLOW ARROW (R10-50L 30"X36") — TO BE PLACED ON TEMP SIGNALS
- 2 — STOP (R1-1F 30"X30") — TO BE PLACED ON TEMP SIGNALS
- 3 — NO RIGHT TURN SIGN (R3-1 24"X24")

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 59/164 & CTH Y - STAGE 1	SHEET 93	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026001_TCOV.DWG
LAYOUT NAME - 06
PLOT DATE : 7/31/2019 7:23 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2



STAGE 1

NOTES

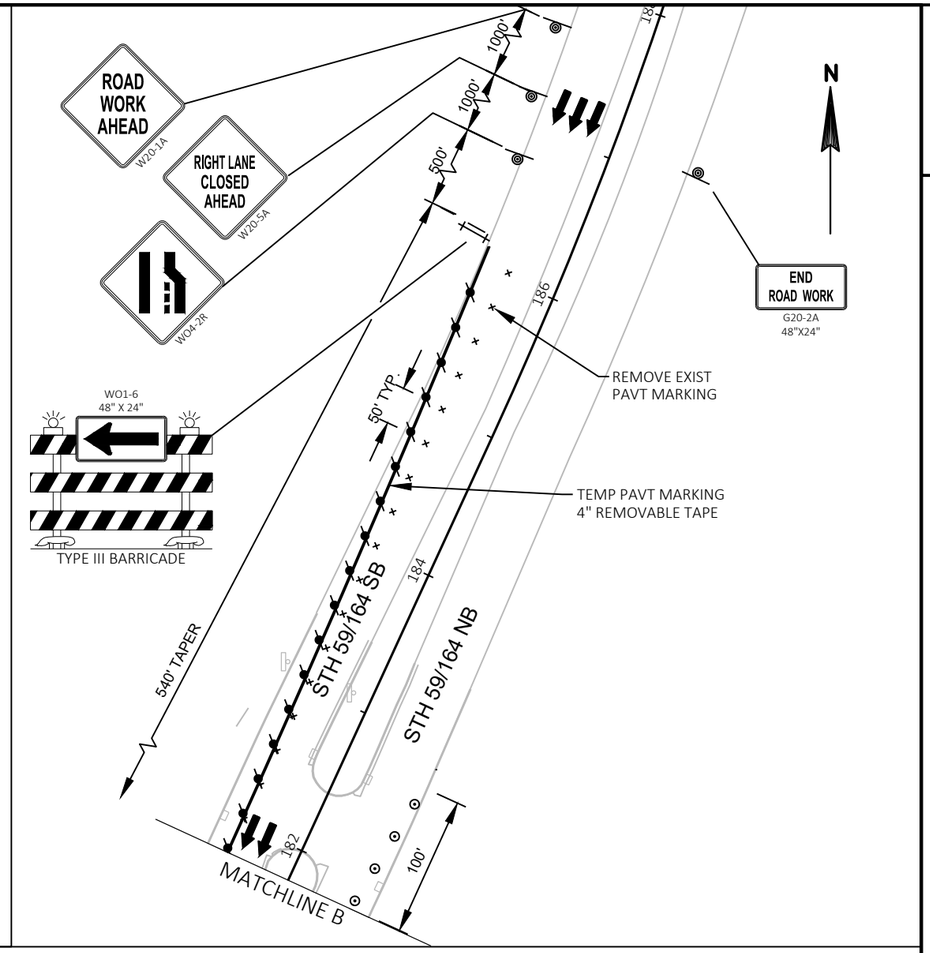
RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

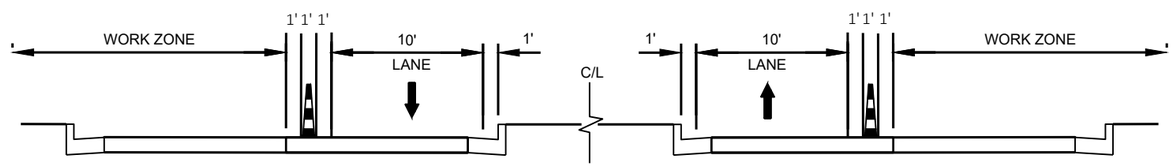
EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

USE 12.5' CONE SPACING AROUND ISLANDS AND RIGHT TURNS.

LEGEND

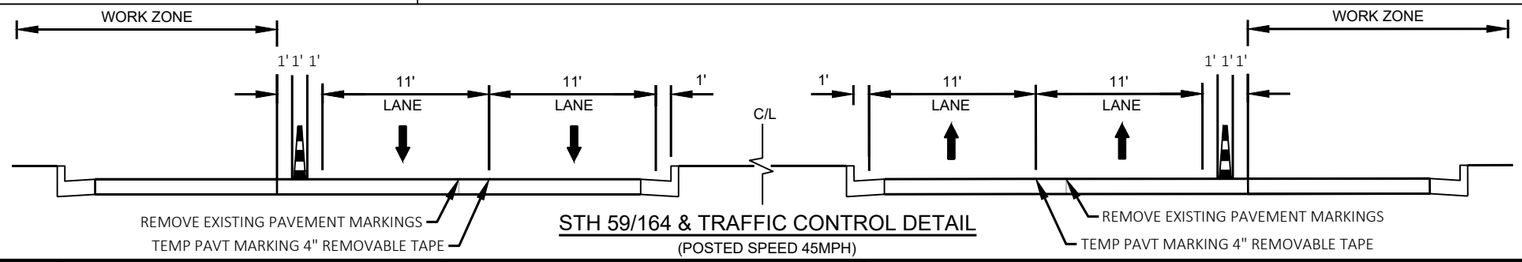
- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
- (1) — LEFT TURN YIELD ON FLASHING YELLOW ARROW (R10-50L 30"X36") — TO BE PLACED ON TEMP SIGNALS
- (2) — STOP (R1-1F 30"X30") — TO BE PLACED ON TEMP SIGNALS
- (3) — NO RIGHT TURN SIGN (R3-1 24"X24")





CTH Y TRAFFIC CONTROL DETAIL

@ LOOP LOCATIONS (POSTED SPEED 40MPH)



STH 59/164 & TRAFFIC CONTROL DETAIL

(POSTED SPEED 45MPH)

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 59/164 & CTH Y - STAGE 1	SHEET 94	E

2

STAGE 2

NOTES

RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

USE 12.5' CONE SPACING AROUND ISLANDS AND RIGHT TURNS.

N

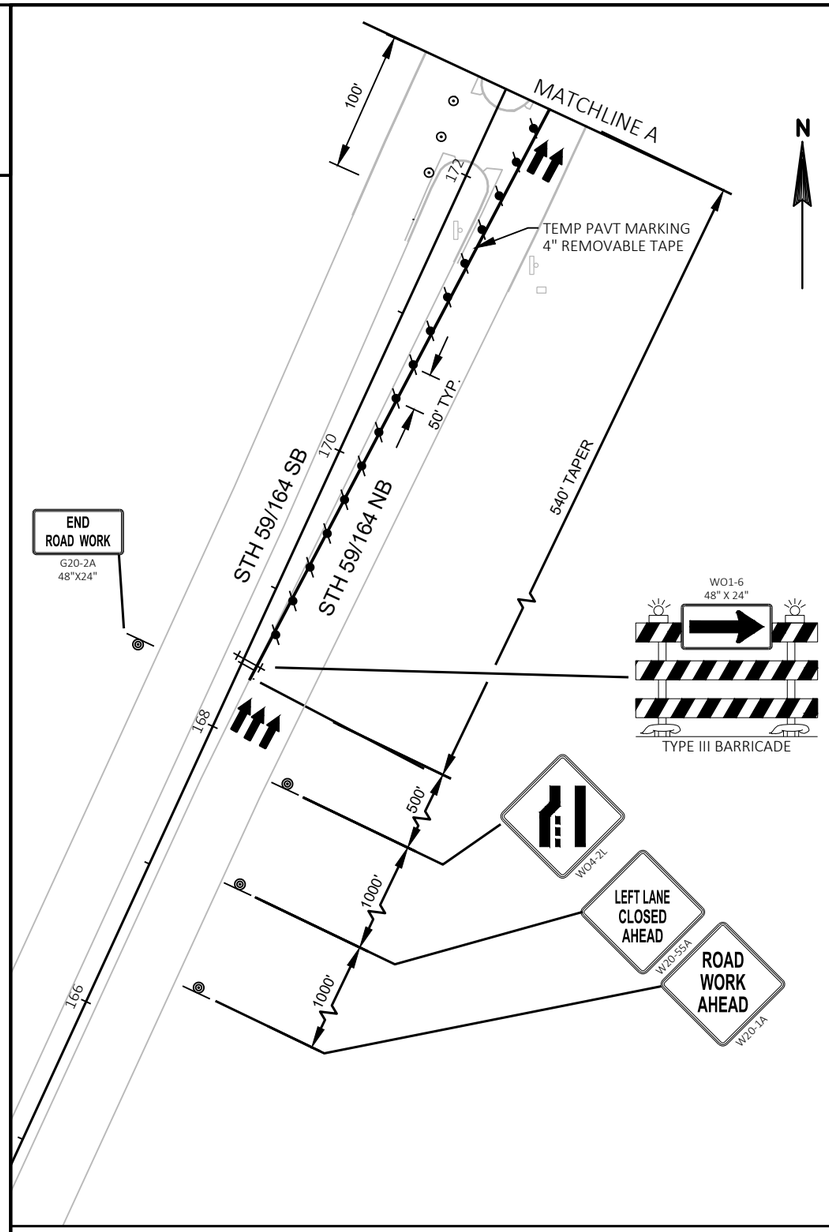
500'
END ROAD WORK
G20-2A
48"X24"
250
252
CTH Y
100' TYP.
25' TYP.
400'
600'
ROAD WORK AHEAD
W20-1A
LEFT LANE CLOSED AHEAD
W20-5A
MAX. 10' WIDTH
W12-52
PLACE AT CTH D
(SUNSET DR)
R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE
TEMP PVT MARKING
4" REMOVABLE TAPE
85' BUFFER
25' TYP.
254
256
SEE TC BUMPOUT
AT LOOP DETAIL
SEE SDD "TRAFFIC CONTROL INTERSECTION
WITH SINGLE LANE CLOSURE"
WO1-6
48" X 24"
TYPE III BARRICADE
540' TAPER
220' BUFFER
MATCHLINE B
STH 59/164 SB
STH 59/164 NB
TEMP PVT MARKING
4" REMOVABLE TAPE
50' TYP.
178
180
WO1-6
48" X 24"
TYPE III BARRICADE
SEE TC BUMPOUT
AT LOOP DETAIL
176
258
1
2
50' TYP.
260
CTH Y
R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE
MAX. 10' WIDTH
W12-52
PLACE AT CTH D
(CLEVELAND AVE)
TEMP PVT MARKING
4" REMOVABLE TAPE
MATCHLINE A
STH 59/164 SB
STH 59/164 NB
174
220' BUFFER
540' TAPER
R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE
50' TYP.
262
100' TYP.
500'
170' BUFFER
1050'
700'
LEFT LANE CLOSED AHEAD
W20-5SA
ROAD WORK AHEAD
W20-1A
END ROAD WORK
G20-2A
48"X24"
264

LEGEND

- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
- 1 — LEFT TURN YIELD ON FLASHING YELLOW ARROW (R10-50L 30"X36") — TO BE PLACED ON TEMP SIGNALS
- 2 — STOP (R1-1F 30"X30") — TO BE PLACED ON TEMP SIGNALS
- 3 — NO RIGHT TURN SIGN (R3-1 24"X24")

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 59/164 & CTH Y - STAGE 2	SHEET 95	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026001_TCOV.DWG
LAYOUT NAME - 08
PLOT DATE : 7/31/2019 7:23 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42



STAGE 2

NOTES

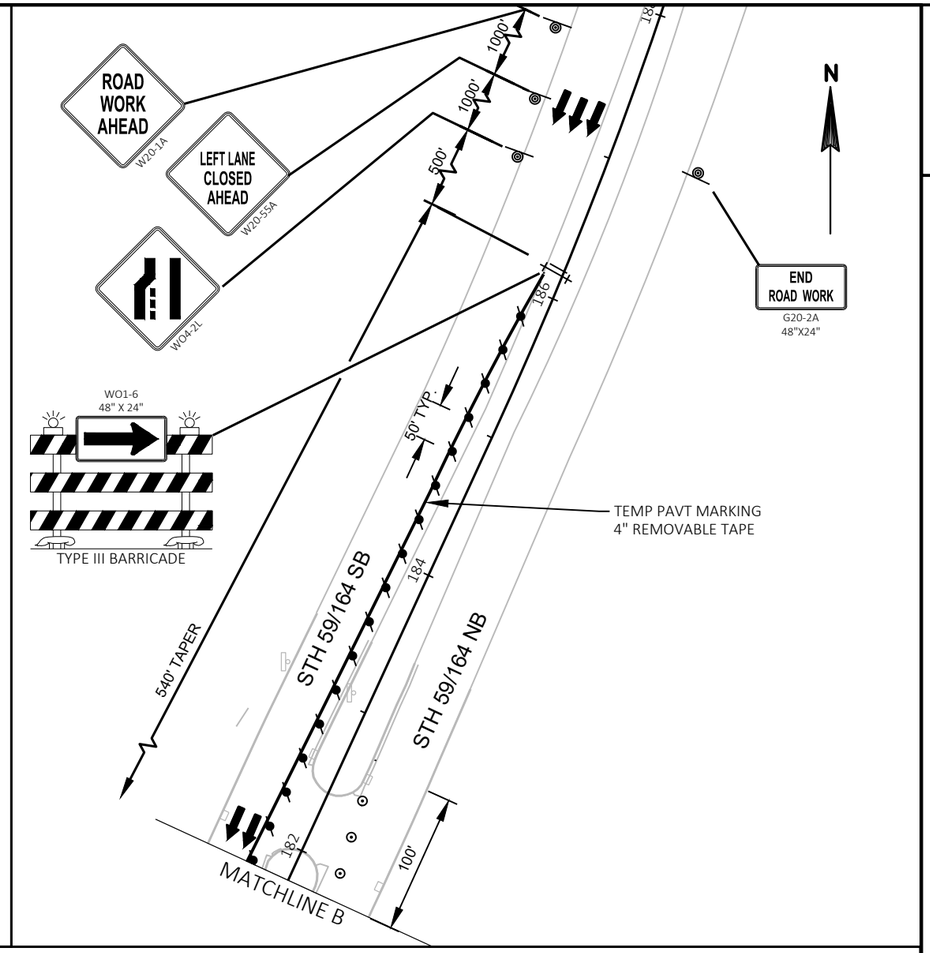
RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

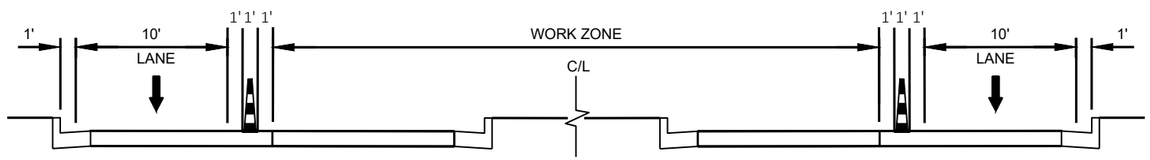
EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

USE 12.5' CONE SPACING AROUND ISLANDS AND RIGHT TURNS.

LEGEND

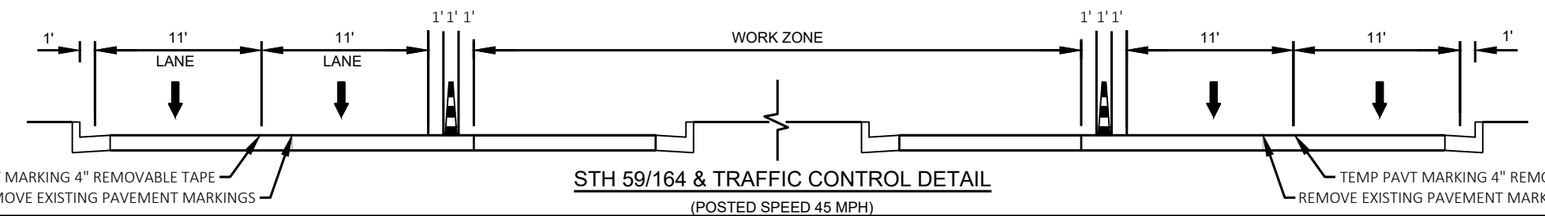
- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
- (1) — LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50L 30"X36" — TO BE PLACED ON TEMP SIGNALS
- (2) — STOP R1-1F 30"X30" — TO BE PLACED ON TEMP SIGNALS
- (3) — R3-1 24"X24" — NO RIGHT TURN SIGN





CTH Y TRAFFIC CONTROL DETAIL

@ LOOP LOCATIONS (POSTED SPEED 40MPH)



STH 59/164 & TRAFFIC CONTROL DETAIL

(POSTED SPEED 45 MPH)

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 59/164 & CTH Y - STAGE 2	SHEET 96	E

LEGEND

- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
- (1) LEFT TURN YIELD ON FLASHING YELLOW ARROW (R10-50L 30"X36") — TO BE PLACED ON TEMP SIGNALS
- (2) STOP (R1-1F 30"X30") — TO BE PLACED ON TEMP SIGNALS
- (3) NO RIGHT TURN SIGN (R3-1 24"X24")

STAGE 1

NOTES

RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

USE 12.5' CONE SPACING AROUND ISLANDS AND RIGHT TURNS.

N

MAX. 11' WIDTH — W12-52 — PLACE AT CTH M

ROAD WORK AHEAD — W20-1A

RIGHT LANE CLOSED AHEAD — W20-5A

END ROAD WORK — G20-2A 48"X24"

SEE STAGE 1A

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

700' | 1050' | 170' BUFFER | 50' TYP. | 500' | 100'

COUNTY LINE RD.

11' MIN. | 50' TYP.

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

WO1-6 48" X 24" — TYPE III BARRICADE

MAX. 11' WIDTH — W12-52 — PLACE AT STH 67

END ROAD WORK — G20-2A 48"X24"

500' | 100'

MATCHLINE A

TEMP PAVT MARKING 4" REMOVABLE TAPE

STH 181

REMOVE PAVT MARKING

280 | 282 | 284 | 286 | 288 | 290 | 292

50' TYP.

170' TAPER | 245' BUFFER

MATCHLINE B

245' TAPER | 170' BUFFER

WO1-6 48" X 24" — TYPE III BARRICADE

MAX. 11' WIDTH — W12-52 — PLACE AT STH 100

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

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

SEE SDD "TRAFFIC CONTROL INTERSECTION WITH SINGLE LANE CLOSURE"

SEE STAGE 1B

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

MAX. 11' WIDTH — W12-52 — PLACE AT STH 57

RIGHT LANE CLOSED AHEAD — W20-5A

ROAD WORK AHEAD — W20-1A

500' | 1000' | 1000'

END ROAD WORK — G20-2A 48"X24"

COUNTY LINE RD.

MATCHLINE A

276 | 278 | 294

1000' | 1000' | 500'

ROAD WORK AHEAD — W20-1A

RIGHT LANE CLOSED AHEAD — W20-5A

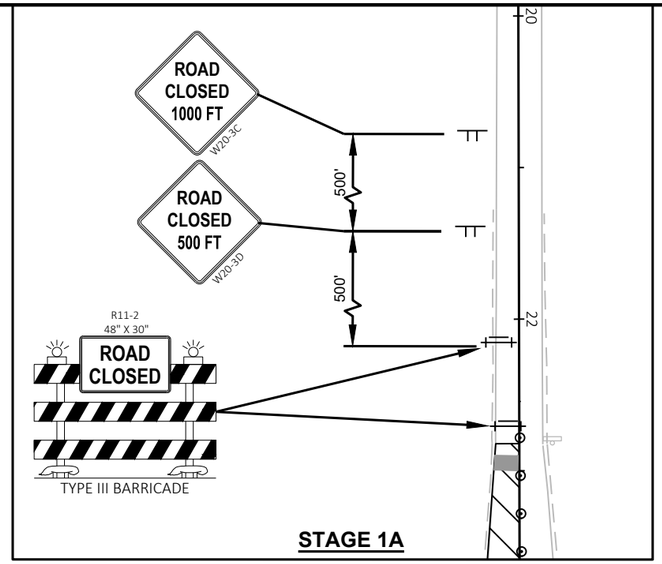
W04-2R

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 181 & COUNTY LINE RD. - STAGE 1	SHEET 97	E

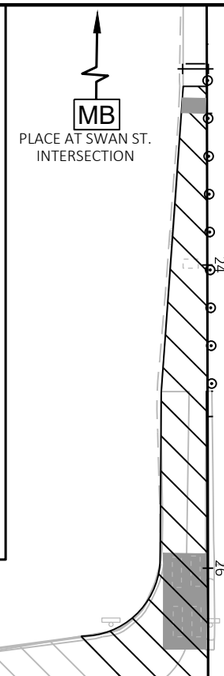
2

LEGEND

- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
- 1 — LEFT TURN YIELD ON FLASHING YELLOW ARROW (R10-50L 30"X36") — TO BE PLACED ON TEMP SIGNALS
- 2 — STOP (R1-1F 30"X30") — TO BE PLACED ON TEMP SIGNALS
- 3 — NO RIGHT TURN SIGN (R3-1 24"X24")



STAGE 1A



STAGE 1A & 1B

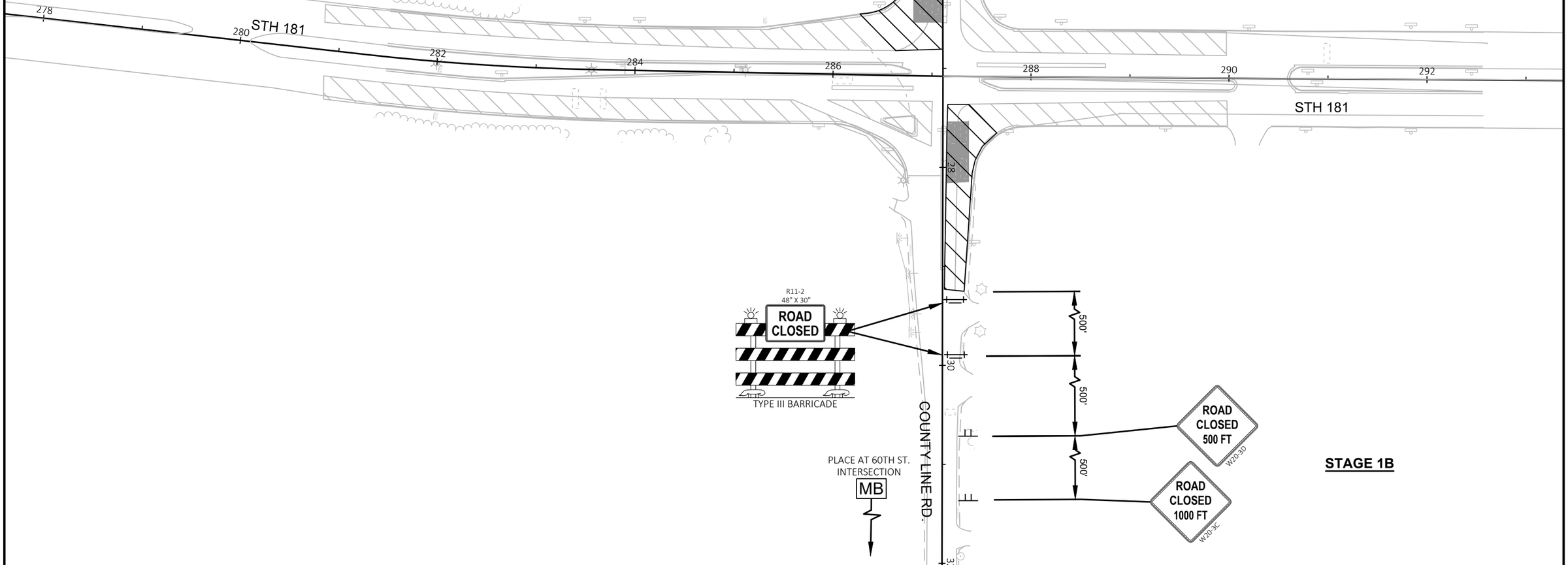
N

NOTES

RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

USE 12.5' CONE SPACING AROUND ISLANDS AND RIGHT TURNS.



STAGE 1B

2

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 181 & COUNTY LINE RD. - STAGE 1A & 1B	SHEET 98	E

LEGEND

- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
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- 2 — STOP (R1-1F 30"X30") — TO BE PLACED ON TEMP SIGNALS
- 3 — NO RIGHT TURN SIGN (R3-1 24"X24")

STAGE 2

N

NOTES

RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

USE 12.5' CONE SPACING AROUND ISLANDS AND RIGHT TURNS.

MAX. 11' WIDTH — W12-52 — PLACE AT CTH M

ROAD WORK AHEAD W20-1A — 700' — 1050' — LEFT LANE CLOSED AHEAD W20-55A

170' BUFFER — 50' TYP. — COUNTY LINE RD. — 500' — 100'

END ROAD WORK G20-2A 48"X24"

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

11' MIN. — 50' TYP. — SEE SDD "TRAFFIC CONTROL INTERSECTION WITH SINGLE LANE CLOSURE"

WO1-6 48" X 24" — TYPE III BARRICADE

MAX. 11' WIDTH — W12-52 — PLACE AT STH 67

WO1-6 48" X 24" — TYPE III BARRICADE

STH 181 (WEST)

MATCHLINE A — 500' — 100' — END ROAD WORK G20-2A 48"X24"

280 — 282 — 284 — 286 — 50' TYP.

TEMP PVT MARKING 4" REMOVABLE TAPE — 50' TYP. — 245' TAPER — 11' MIN. — 170' BUFFER

WO1-6 48" X 24" — TYPE III BARRICADE

MAX. 11' WIDTH — W12-52 — PLACE AT STH 100

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

276 — 278 — MATCHLINE A — 1000' — 1000' — 500'

ROAD WORK AHEAD W20-1A — LEFT LANE CLOSED AHEAD W20-55A — W04-2L

STH 181 (EAST)

170' BUFFER — 245' TAPER — 50' TYP. — 11' MIN. — 50' TYP.

TEMP PVT MARKING 4" REMOVABLE TAPE

288 — 290 — 292 — MATCHLINE B

100' — 500' — END ROAD WORK G20-2A 48"X24"

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

500' — 100' — 50' TYP. — COUNTY LINE RD.

MAX. 11' WIDTH — W12-52 — PLACE AT STH 57

170' BUFFER — 50' TYP. — 1050' — 700'

LEFT LANE CLOSED AHEAD W20-55A — ROAD WORK AHEAD W20-1A

END ROAD WORK G20-2A 48"X24"

W04-2L — LEFT LANE CLOSED AHEAD W20-55A — ROAD WORK AHEAD W20-1A

500' — 1000' — 1000' — MATCHLINE B — 294

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 181 & COUNTY LINE RD. - STAGE 2	SHEET 99	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026001_TCOV.DWG
LAYOUT NAME - 12

PLOT DATE : 7/31/2019 7:23 PM — PLOT BY : MCKINNEY, SEAN W — PLOT NAME : — PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

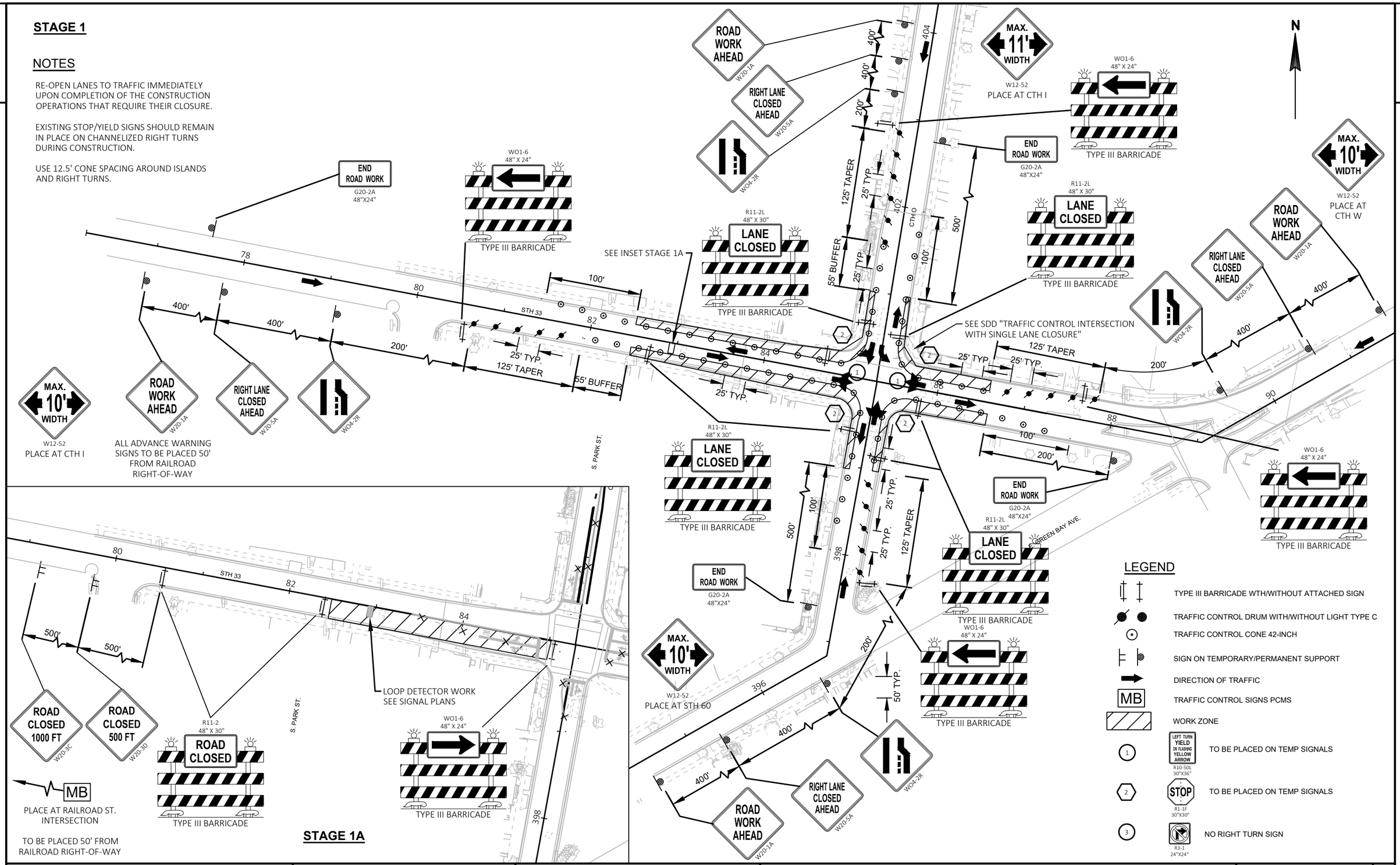
STAGE 1

NOTES

RE-OPEN LANES TO TRAFFIC IMMEDIATELY UPON COMPLETION OF THE CONSTRUCTION OPERATIONS THAT REQUIRE THEIR CLOSURE.

EXISTING STOP/YIELD SIGNS SHOULD REMAIN IN PLACE ON CHANNELIZED RIGHT TURNS DURING CONSTRUCTION.

USE 12.5' CONE SPACING AROUND ISLANDS AND RIGHT TURNS.



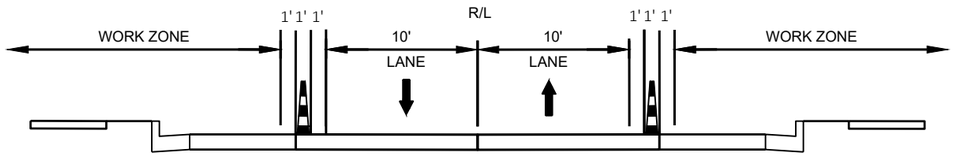
STAGE 1A

LEGEND

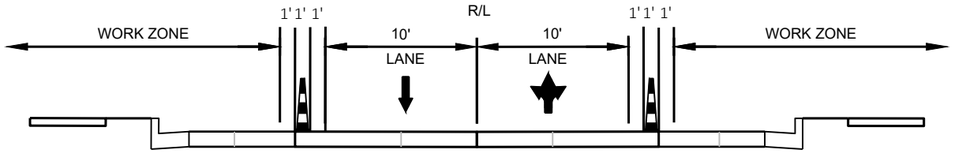
- TYPE III BARRICADE WTH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT TYPE C
- TRAFFIC CONTROL CONE 42-INCH
- SIGN ON TEMPORARY/PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS
- WORK ZONE
- (1) LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50L 30"X36" — TO BE PLACED ON TEMP SIGNALS
- (2) STOP R1-1F 30"X30" — TO BE PLACED ON TEMP SIGNALS
- (3) R3-1 24"X24" — NO RIGHT TURN SIGN

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 33 & CTH O - STAGE 1	SHEET 100	E

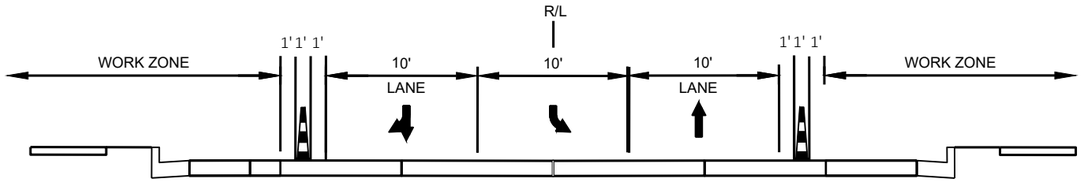
2



STH 33 TRAFFIC CONTROL DETAIL



CTH O NORTHBOUND TRAFFIC CONTROL DETAIL



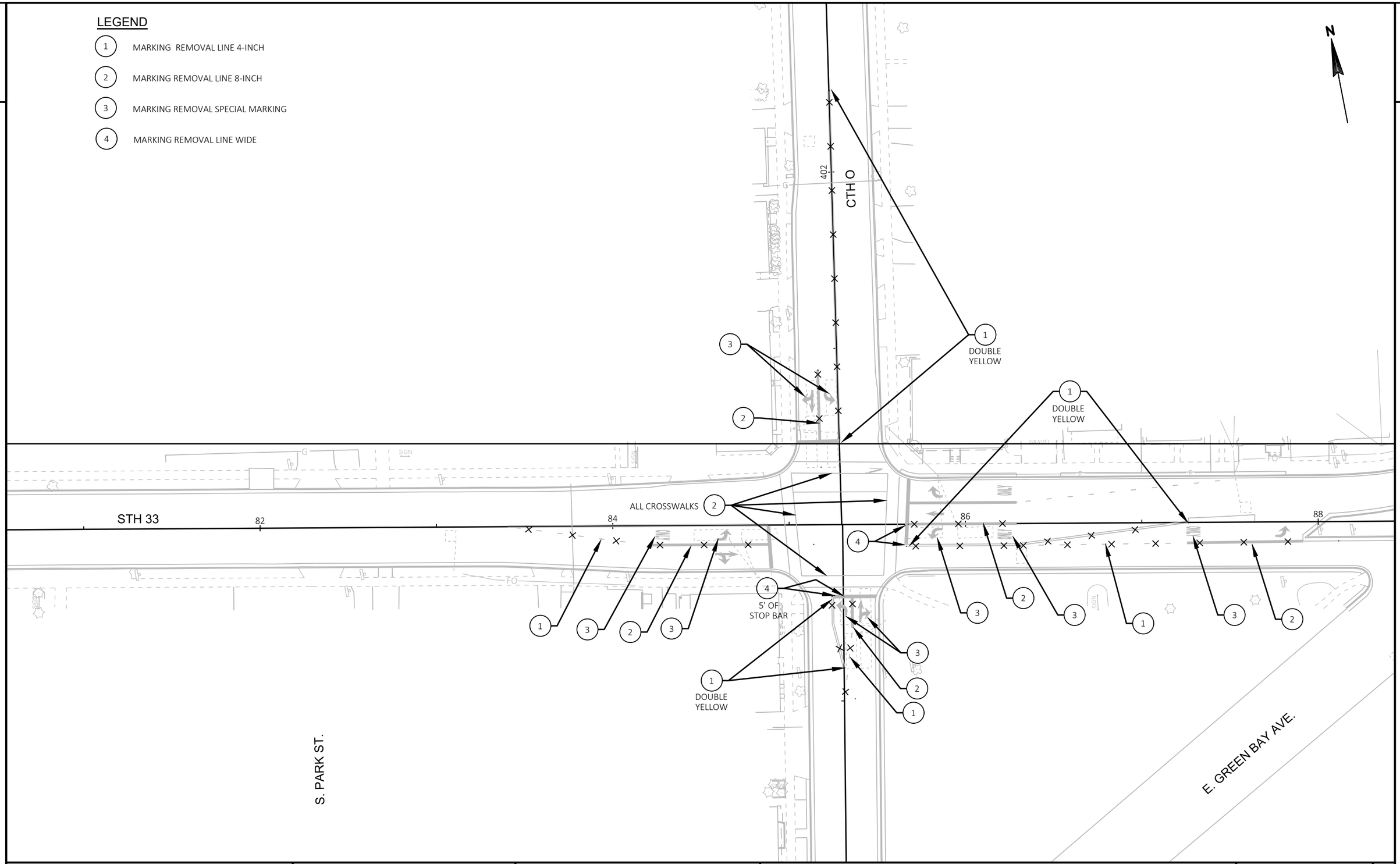
CTH O SOUTHBOUND TRAFFIC CONTROL DETAIL

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 33 & CTH O - STAGE 1	SHEET 101	E

2

LEGEND

1. MARKING REMOVAL LINE 4-INCH
2. MARKING REMOVAL LINE 8-INCH
3. MARKING REMOVAL SPECIAL MARKING
4. MARKING REMOVAL LINE WIDE



PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 33 & CTH O MARKING REMOVALS	SHEET 102	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026001_TCOV.DWG
LAYOUT NAME - 15

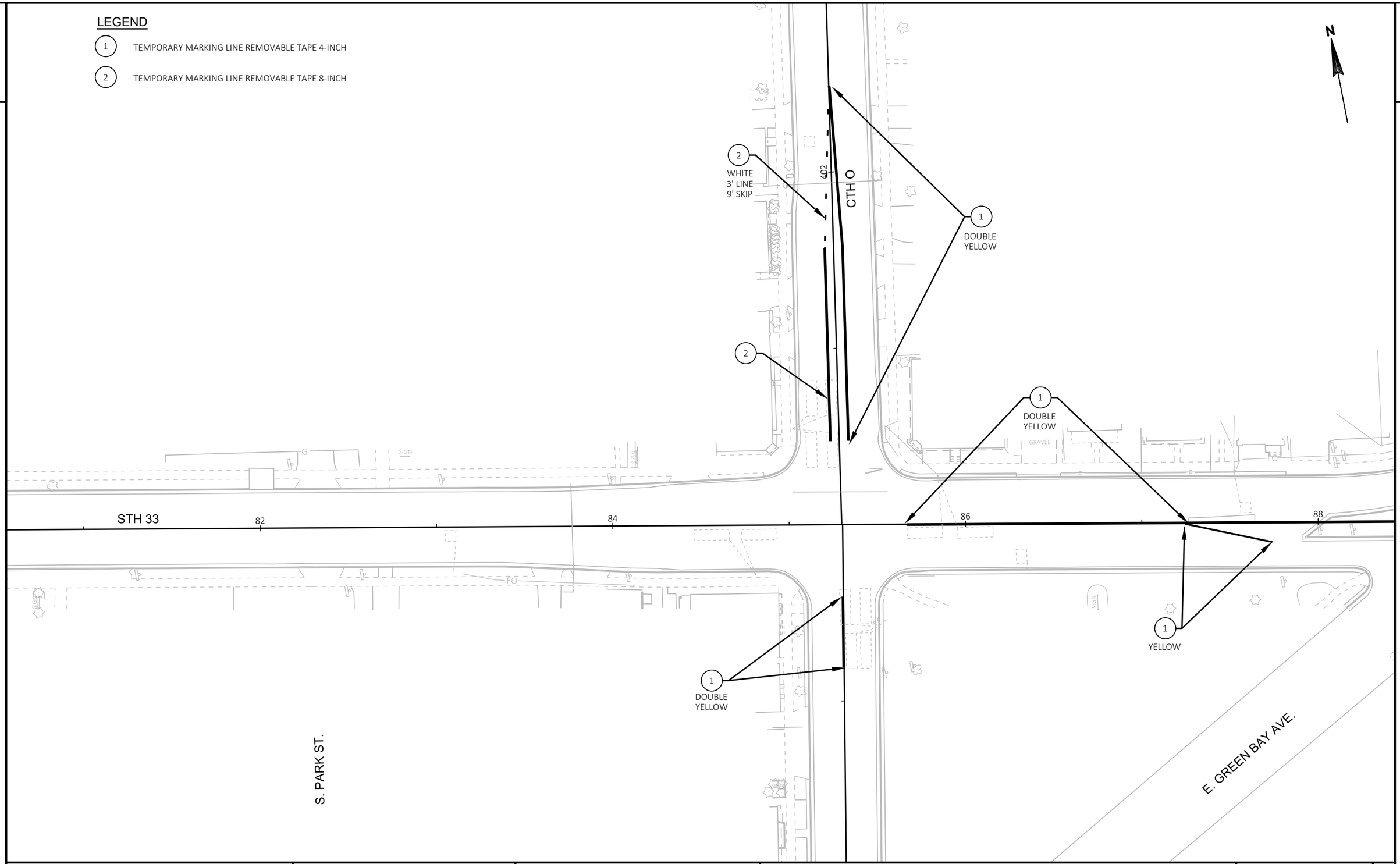
PLOT DATE : 7/31/2019 7:24 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

2

LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH
2. TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH



2

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 33 & CTH O TEMPORARY MARKING	SHEET 103	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026001_TCOV.DWG
LAYOUT NAME - 16

PLOT DATE : 7/31/2019 7:24 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:50 FT

TEMPORARY CURB RAMP
SEE SDD "TRAFFIC CONTROL, TEMPORARY PEDESTRIAN ACCOMMODATION"

SIDEWALK CLOSED
CROSS HERE
R9-11A
48"X24"

SEE TEMPORARY ASPHALT SIDEWALK DETAIL

CTH Y

STH 59/164 SB

STH 59/164 NB

254+00
255+00
256+00
257+00
176+00
177+00
178+00
179+00
258+00
259+00
260+00

N

LEGEND

- WORK ZONE
- TEMPORARY PEDESTRIAN SURFACE ASPHALT
- TRAFFIC FLOW ARROW
- PEDESTRIAN FLOW ARROW
- TEMPORARY PEDESTRIAN BARRICADE
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL BARRICADE TYPE II WITH SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT

STAGE 1 OVERVIEW

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 59/164 & CTH Y - CURB RAMPS STAGE 1	SHEET 104	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026002_TCOV_PED.DWG
LAYOUT NAME - 01
PLOT DATE : 7/31/2019 7:24 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

2

N

254+00

255+00

256+00

CTH Y

257+00

179+00

178+00

177+00

176+00

259+00

260+00

SIDEWALK CLOSED
CROSS HERE
R9-11A
48"X24"

SIDEWALK CLOSED
CROSS HERE
R9-11A
48"X24"

SIDEWALK CLOSED
CROSS HERE
R9-11A
48"X24"

SIDEWALK CLOSED
CROSS HERE
R9-11A
48"X24"

WORK IN THESE AREAS SHALL NOT BE DONE AT THE SAME TIME.

EDGE OF TRAVEL WAY

EDGE OF TRAVEL WAY

STH 59/164 SB

STH 59/164 NB

CTH Y

STAGE TO MAINTAIN CONTINUAL PEDESTRIAN ACCESS.

STAGE 2 OVERVIEW

LEGEND

- WORK ZONE
- TEMPORARY PEDESTRIAN SURFACE ASPHALT
- TRAFFIC FLOW ARROW
- PEDESTRIAN FLOW ARROW
- TEMPORARY PEDESTRIAN BARRICADE
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL BARRICADE TYPE II WITH SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 59/164 & CTH Y - CURB RAMPS STAGE 2	SHEET 105	E

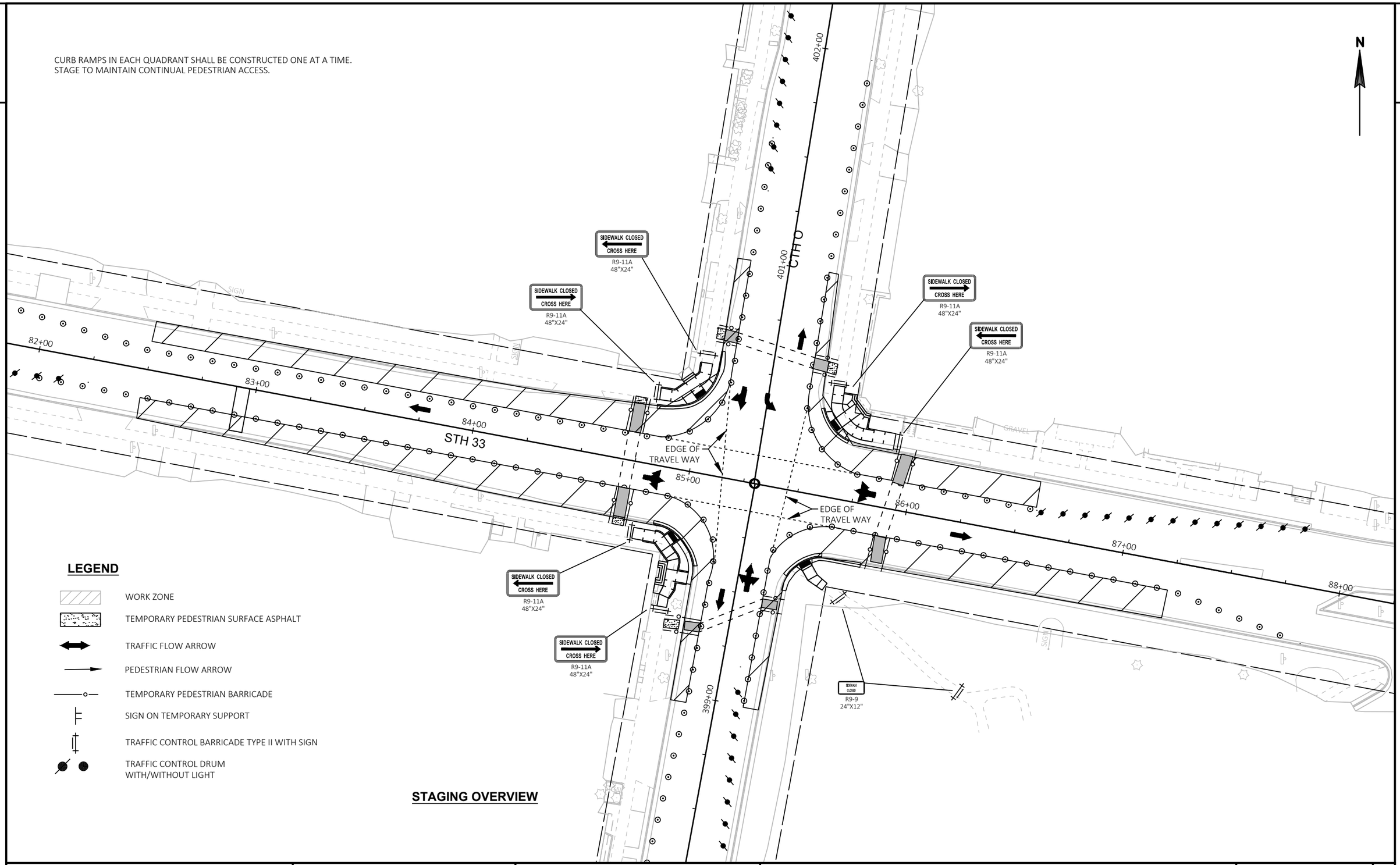
FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026002_TCOV_PED.DWG
LAYOUT NAME - 02

PLOT DATE : 7/31/2019 7:24 PM PLOT BY : MCKINNEY, SEAN W PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

CURB RAMPS IN EACH QUADRANT SHALL BE CONSTRUCTED ONE AT A TIME.
STAGE TO MAINTAIN CONTINUAL PEDESTRIAN ACCESS.



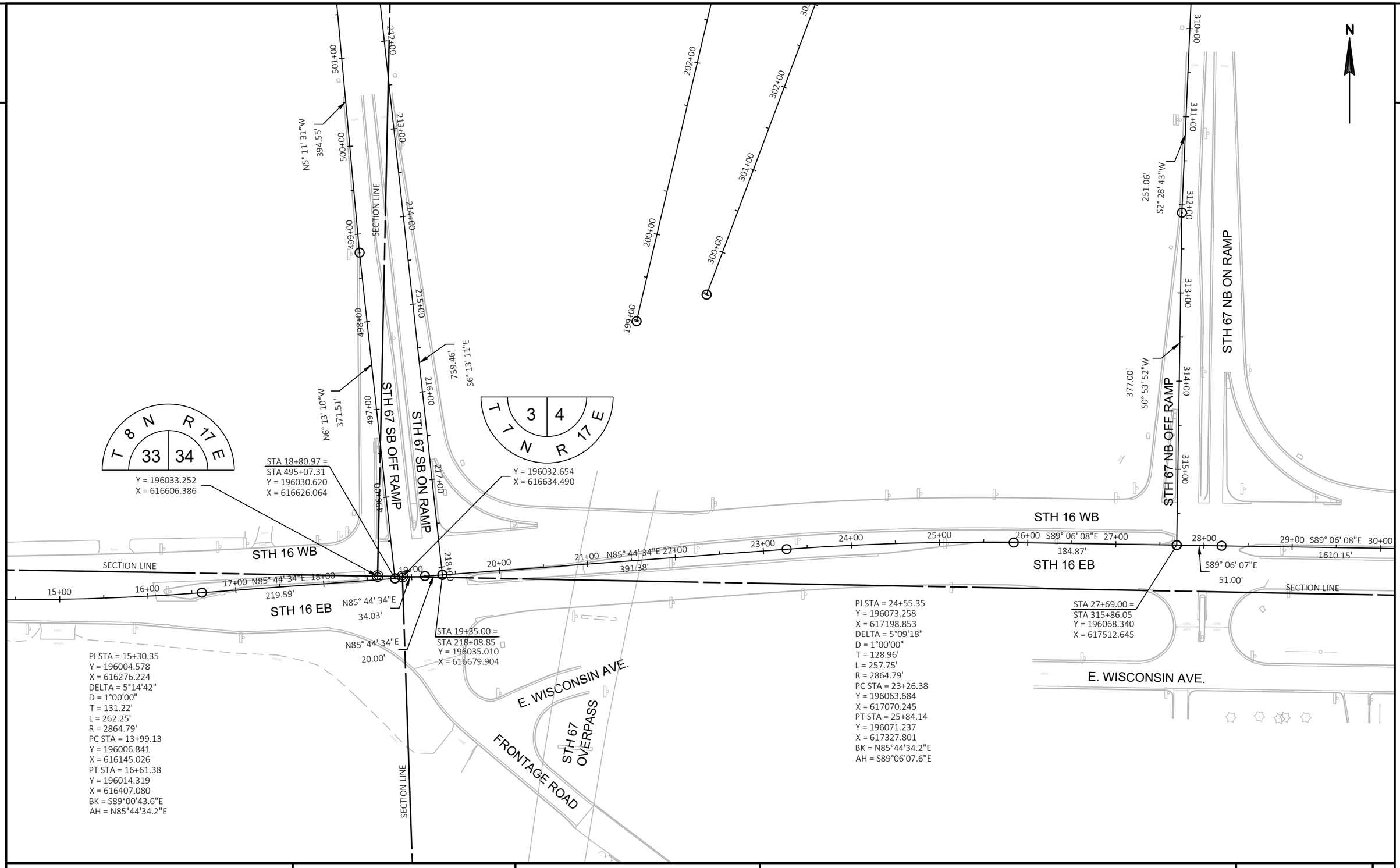
LEGEND

- WORK ZONE
- TEMPORARY PEDESTRIAN SURFACE ASPHALT
- TRAFFIC FLOW ARROW
- PEDESTRIAN FLOW ARROW
- TEMPORARY PEDESTRIAN BARRICADE
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL BARRICADE TYPE II WITH SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT LIGHT

STAGING OVERVIEW

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	TRAFFIC CONTROL - STH 33 & CTH O - CURB RAMPS STAGE 1	SHEET 106	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\026002_TCOV_PED.DWG
LAYOUT NAME - 03
PLOT DATE : 7/31/2019 7:24 PM
PLOT BY : MCKINNEY, SEAN W
PLOT NAME :
PLOT SCALE : 1 IN:40 FT



PROJECT NO: XXXX-XX-XX	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	ALIGNMENT DETAILS: STH 16 & STH 67 RAMPS	SHEET 107	E

2

2

N

180+00

179+00

178+00

CONCRETE

ASPHALT

CONCRETE

CONCRETE

STA 177+25.92 =
STA 257+31.70
Y = 155630.244
X = 691329.130

258+00

259+00

260+00

257+00

CTH Y

256+00

255+00

254+00

253+00

177+00

ASPHALT

CONCRETE

ASPHALT

CONCRETE

CONCRETE

PI STA = 256+43.67
Y = 155831.841
X = 691287.672
DELTA = 55°14'21"
D = 2°29'55"
T = 599.90'
L = 1105.39'
R = 1146.54'
PC STA = 250+43.77
Y = 155849.849
X = 690688.047
PT STA = 261+49.16
Y = 155328.957
X = 691614.755
BK = S88°16'47.2"E
AH = S33°02'26.2"E

N24° 47' 39"E

2889.88'

176+00

175+00

STH 59/164 SB

STH 59/164 NB

CONCRETE

T 6 N
11 12
R 19 E

Y = 155392.742
X = 689856.848

T 6 N
12
R 19 E

Y = 155368.201
X = 692499.634

SECTION LINE

PROJECT NO: XXXX-XX-XX	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	ALIGNMENT DETAILS: STH 59/164 & CTH Y	SHEET 108	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\027201_AD.DWG
LAYOUT NAME - 02

PLOT DATE : 7/26/2019 6:43 AM PLOT BY : ORNER, THOMAS EDWIN PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

2

2

N

COUNTY LINE RD.

25+00

N68° 25' 03"E

2658.06'

26+00

T 7 N R 21 E

4 3

Y = 355700.422
X = 580774.730

SECTION LINE

SECTION LINE 27+00

283+00

284+00

285+00

N1° 05' 59"E

348.07'

286+00

287+00

288+00

N0° 23' 05"E

2653.94'

289+00

290+00

SECTION LINE

STH 181

CONCRETE

PI STA = 282+44.74
Y = 355234.048
X = 580822.057
DELTA = 5°19'32"
D = 1°07'28"
T = 118.50'
L = 236.83'
R = 2548.00'
PC STA = 281+26.24
PT STA = 283+63.07

28+00

2573.00'

S89° 52' 57"E

29+00

GRAVEL

STA 287+11.14 =
STA 27+08.06
Y = 355700.531
X = 580831.011

T 9 N R 21 E

33 34

PROJECT NO: XXXX-XX-XX	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	ALIGNMENT DETAILS: STH 181 & COUNTY LINE RD.	SHEET 109	E

2

SECTION LINE

SECTION LINE

Y = 424926.293
X = 597748.427

11 N
26 25
35 36
T R 21 E

DOUBLE YELLOW

403+00

402+00

401+00

N9° 18' 05"E
700.00'

CTH O

POST

ASPH

ASPHALT

CONCRETE

CONC

STA 85+29.81 =
STA 400+00.00
Y = 424587.718
X = 597938.596

GRAVEL

BRICK

SIGN

STH 33

82+00 83+00 S79° 21' 33"E 84+00 85+00 86+00 87+00 88+00 89+00

1286.89'

STA 85+30.31 =
STA 400+00.00
Y = 424587.626
X = 597939.088

S. PARK ST.

E. GREEN BAY AVE.

399+00

N10° 22' 57"E
316.32'

N

2

PROJECT NO: XXXX-XX-XX	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	ALIGNMENT DETAILS: STH 33 & CTH O	SHEET 110	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\027201_AD.DWG
LAYOUT NAME - 04

PLOT DATE : 7/26/2019 6:43 AM PLOT BY : ORNER, THOMAS EDWIN PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

2

N

CP 301
1000 mm BERSTEN FENO MONUMENT WITH 2" CAP
STA. 502+70.13, 6.90' LT
N = 196789.02
E = 616543.54
ELEV. = 892.91

BM 22
SET MAG IN TOP OF 15" CMP,
WEST SIDE OF SB STH 67 OFF RAMP.
STA. 502+26.45, 17.34' LT
N = 196744.576
E = 616537.086
ELEV. = 893.18

BM 23
SET BOX SW CORNER OF CONC. WALL,
WEST SIDE OF DWY OPENING.
STA. 13+41.29, 62.74' LT
N = 196070.571
E = 616088.272
ELEV. = 880.028

CP 302
1000 mm BERSTEN FENO MONUMENT WITH 2" CAP
STA. 13+21.92, 57.66' LT
N = 196065.824
E = 616068.817
ELEV. = 878.20

STA 18+80.97 =
STA 495+07.31
Y = 196030.620
X = 616626.064

STA 19+35.00 =
STA 218+08.85
Y = 196035.010
X = 616679.904

CP 303
1000 mm BERSTEN FENO MONUMENT WITH 2" CAP
STA. 22+41.93, 402.60' RT
N = 195655.929
E = 617015.907
ELEV. = 891.31

BM 24
SET BOX ON NW CORNER OF ELEC, TRANS, PAD,
APPROX. 40' NW OF DWY OPENING.
STA. 23+36.28, 452.84' RT
N = 195612.697
E = 617112.171
ELEV. = 890.34

CP 300
1000 mm BERSTEN FENO MONUMENT WITH 2" ALUMINUM CAP
STA. 309+68.77, 63.93' LT
N = 196682.59
E = 617592816
ELEV. = 901.493

BM 21
SET "BOX" SOUTH SIDE OF CATCH
BASIN ON SE CORNER ON CONC.
STA. 310+00.98, 6.82' RT
N = 196653.467
E = 617520.742
ELEV. = 898.952

STA 27+29.00 =
STA 315+86.05
Y = 196068.340
X = 617512.645

CP 304
1000 mm BERSTEN FENO MONUMENT WITH 2" CAP
STA. 33+65.12, 105.60' RT
N = 195953.415
E = 618107.028
ELEV. = 889.361

BM 25
SET BOX EAST SIDE OF CATCH BASIN,
APPROX. 670' EAST AND 22' SOUTH OF INTERSECTION.
STA. 35+02.70, 68.78' RT
N = 195988.072
E = 6118245.168
ELEV. = 883.671

STH 67 SB OFF RAMP
STH 67 SB ON RAMP
STH 67 NB OFF RAMP
STH 67 NB ON RAMP
STH 16 WB
STH 16 EB
STH 67 OVERPASS
FRONTAGE ROAD
E. WISCONSIN AVE.

PROJECT NO: XXXX-XX-XX	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	SURVEY CONTROL: STH 16 & STH 67 RAMPS	SHEET 111	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\027202_AD.DWG
LAYOUT NAME - 01
PLOT DATE : 7/26/2019 6:43 AM
PLOT BY : ORNER, THOMAS EDWIN
PLOT NAME :
PLOT SCALE : 1 IN:200 FT

2

2

CP 403
1000 MM BERSTEN FENO MONUMENT WITH 2" ALUMINUM CAP
STA. 183+65.40, 1.57' RT
N = 156210.518
E = 691597.878
ELEV. = 884.605

CP 402
STA. 257+84.23, 109.24' LT
1000 MM BERSTEN FENO MONUMENT WITH 2" ALUMINUM CAP
N = 155683.556
E = 691439.193
ELEV. = 869.23

BM 103
SET MAG SPIKE ON SOUTH SIDE OF
PP#88-10804
STA. 258+50.47, 63.71' LT
N = 155602.742
E = 691463.965
ELEV. = 869.767

BM 104
FOUND RR SPIKE EAST SIDE OF
PP#88-10823
STA, 183+86.66, 77.54' LT
N = 156217.478
E = 691513.995
ELEV. = 889.789

BM 102
SET "X" NW FLANGE BOLT OF HYDRANT
STA. 263+37.54, 72.32' RT
N = 155131.608
E = 691656.840
ELEV. = 875.265

CP 401
1000 mm BERSTEN FENO MONUMENT
WITH 2" ALUMINUM CAP
STA. 263+61.19, 43.83' RT
N = 155127.318
E = 691693.618
ELEV. = 874.062

STA 177+25.92 =
STA 257+31.70
Y = 155630.244
X = 691329.130

BM 106
SET CHISELED BOX ON NW CORNER OF CONC. INLET
STA. = 171+52.33, 76.07' RT
N = 155077.378
E = 391158.465
ELEV. = 867.64

CP 400
1000 MM BERSTEN FENO MONUMENT
WITH 2" ALUMINUM CAP
STA. = 170+97.66, 4.69' RT
N = 155057.552
E = 691070.758
ELEV. = 868.49

BM 105
SET "X" ON NE FLANGE BOLT OF HYDRANT
STA. 252+35.03, 25.90' LT
N = 155853.623
E = 690882.926
ELEV. = 877.84

CP 404
1000 MM BERSTEN FENO MONUMENT WITH 2" ALUMINUM CAP
STA. 250+86.67, 38.27' RT
N = 155809.578
E = 690728.318
ELEV. = 877.91

CTH Y

STH 59/164 NB

STH 59/164 SB

POST

POST

GRAVEL

PROJECT NO: XXXX-XX-XX	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	ALIGNMENT DETAILS: STH 59/164 & CTH Y	SHEET 112	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\027202_AD.DWG
LAYOUT NAME - 02
PLOT DATE : 7/26/2019 6:44 AM
PLOT BY : ORNER, THOMAS EDWIN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

2

MATCHLINE 24+00

N

BM 11
CHISELED "X" ON EAST SIDE OF
SANITARY MH RIM
STA. 279+28.57, 56.24' LT
N = 354926.160
E = 580730.787
ELEV. = 701.08

CP 202
1000 MM BERNSTEN FENO MONUMENT
WITH 2" ALUMINUM CAP
STA. 287+55.98, 73.51' LT
N = 355745.859
E = 580757.808
ELEV. = 684.114

CP 200
1000 MM BERNSTEN FENO MONUMENT
WITH 2" ALUMINUM CAP
STA. 293+25.01, 4.85' LT
N = 356314.423
E = 580830.280
ELEV. = 678.035

279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294

STH 181

STA 287+11.14 =
STA 27+08.06
Y = 355700.531
X = 580831.011

CP 203
1000 MM BERNSTEN FENO MONUMENT
WITH 2" ALUMINUM CAP
STA. 281+51.26, 5.31' RT
N = 355140.629
E = 580816.753
ELEV. = 694.78

BM 13
SET "X" ON NW FLANGE BOLT OF HYDRANT
STA. 293+78.40, 61.08' RT
N = 356367.369
E = 580896.574
ELEV. = 678.45

25 26 27 28 29 30 31 32 33

COUNTY LINE RD.

BM 12
SET MAG SPIKE ON SOUTH SIDE OF
PP#72-2279
STA. 32+18.26, 24.00' LT
N = 355723.480
E = 581341.259
ELEV. = 680.45

CP 204
1000 MM BERNSTEN FENO MONUMENT
WITH 2" ALUMINUM CAP
STA. 32+96.95, 22.35' LT
N = 355676.968
E = 581419.856
ELEV. = 676.99

N

BM 10
SET MAG SPIKE ON SOUTH SIDE OF
PP#91-01102
STA. 17+74.69, 53.27' LT
N = 355751.640
E = 579897.523
ELEV. = 689.92

18 19 20 21 22 23

COUNTY LINE RD.

MATCHLINE 24+00

CP 201
1000 mm BERNSTEN FENO MONUMENT WITH 2" ALUMINUM CAP
STA. 18+35.43, 28.57' RT
N = 355669.948
E = 579958.455
ELEV. = 690.96

PROJECT NO: XXXX-XX-XX	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	ALIGNMENT DETAILS: STH 181 & COUNTY LINE RD.	SHEET 113	E

FILE NAME : N:\PDS\C3D\37002040\SHEETSPLAN\027202_AD.DWG
LAYOUT NAME - 03

PLOT DATE : 7/26/2019 6:44 AM PLOT BY : ORNER, THOMAS EDWIN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

N

CP 100
1000 MM BERSTEN FENO ALUMINUM
MONUMENT WITH 2" ALUMINUM CAP
STA. 405+82.48, 25.26' LT
N = 425166.625
E = 598007.816
ELEV. = 755.09

BM 1
SET "X" ON SE FLANGE BOLT OF HYDRANT
STA. 404+85.65, 24.99' RT
N = 425062.944
E = 598041.755
ELEV. = 756.30

CP 104
1000 MM BERSTEN FENO ALUMINUM
MONUMENT WITH 2" ALUMINUM CAP
STA. 90+92.26, 35.93' LT
N = 424642.257
E = 598452.448
ELEV. = 757.26

CP 103
1000 mm BERSTEN FENO ALUMINUM
MONUMENT WITH 2" ALUMINUM CAP
STA. 79+70.17, 25.96' LT
N = 424716.572
E = 597393.375
ELEV. = 757.62

BM 3
SET "X" NE FLANGE BOLT OF HYDRANT
STA. 79+85.64, 25.08' LT
N = 424712.843
E = 597408.418
ELEV. = 758.49

STA 85+29.81 =
STA 400+00.00
Y = 424587.718
X = 597938.596

STA 85+30.31 =
STA 400+00.00
Y = 424587.626
X = 597939.088

CTH O

STH 33

S. PARK ST.

E. GREEN BAY AVE.

CP 101
1000 MM BERSTEN FENO ALUMINUM
MONUMENT WITH 2" ALUMINUM CAP
STA. 399+71.02, 43.06' RT
N = 424551.364
E = 597976.222
ELEV. = 754.36

BM 4
SET "X" SW FLANGE BOLT OF HYDRANT
STA. 90+12.70, 29.29' RT
N = 424546.273
E = 298415.428
ELEV. = 758.51

BM 5
SET "X" SE FLANGE BOLT OF HYDRANT
STA. 398+37.18, 23.71' RT
N = 424423.195
E = 597933.064
ELEV. = 755.89

MATCHLINE 397+00

CP 102
1000 mm BERSTEN FENO MONUMENT
WITH 2" ALUMINUM CAP.
STA. 393+91.67, 24.35' LT
N = 424153.174
E = 597616.272
ELEV. = 753.36

BM 2
SET "X" NW FLANGE BOLT OF
HYDRANT IN NE QUADRANT.
STA. 393+62.87, 24.10' LT
N = 424138.711
E = 597591.361
ELEV. = 755.25

MATCHLINE 397+00

PROJECT NO: XXXX-XX-XX	HWY: VARIOUS	COUNTY: WAUKESHA/MILWAUKEE/OZAUKEE	ALIGNMENT DETAILS: STH 33 & CTH O	SHEET 114	E

3700-20-80

Line	Item	Item Description	Unit	Total	Qty
0002	204.0100	Removing Pavement	SY	61.000	61.000
0004	204.0110	Removing Asphaltic Surface	SY	309.000	309.000
0006	204.0150	Removing Curb & Gutter	LF	401.000	401.000
0008	204.0155	Removing Concrete Sidewalk	SY	637.000	637.000
0010	204.0195	Removing Concrete Bases	EACH	65.000	65.000
0012	204.9105.S	Removing (item description) 01. Traffic Signals STH 16 & STH 67 SB Ramps	LS	1.000	1.000
0014	204.9105.S	Removing (item description) 02. Traffic Signals STH 16 & STH WIS 67 NB Ramps	LS	1.000	1.000
0016	204.9105.S	Removing (item description) 03. Traffic Signals STH 33 & CTH O	LS	1.000	1.000
0018	204.9105.S	Removing (item description) 04. Traffic Signals STH 59/164 & CTH Y	LS	1.000	1.000
0020	204.9105.S	Removing (item description) 05. Traffic Signals STH 181 & County Line Rd	LS	1.000	1.000
0022	204.9105.S	Removing (item description) 06. Loop Detector Wire and Lead-In Cable STH 16 & STH 67 SB Ramps	LS	1.000	1.000
0024	204.9105.S	Removing (item description) 07. Loop Detector Wire and Lead-In Cable STH 16 & STH 67 NB Ramps	LS	1.000	1.000
0026	204.9105.S	Removing (item description) 08. Loop Detector Wire and Lead-In Cable STH 33 & CTH O	LS	1.000	1.000
0028	204.9105.S	Removing (item description) 09. Loop Detector Wire and Lead-In Cable STH 59/164 & CTH Y	LS	1.000	1.000
0030	204.9105.S	Removing (item description) 10. Loop Detector Wire and Lead-In Cable STH 181 & County Line Rd	LS	1.000	1.000
0032	205.0100	Excavation Common	CY	8.000	8.000
0034	205.0501.S	Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	TON	10.360	10.360
0036	213.0100	Finishing Roadway (project) 01. 3700-20-80	EACH	1.000	1.000
0038	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	126.000	126.000
0040	405.0200	Coloring Concrete Custom	CY	1.200	1.200
0042	416.0610	Drilled Tie Bars	EACH	680.000	680.000
0044	416.0620	Drilled Dowel Bars	EACH	528.000	528.000
0046	416.1715	Concrete Pavement Repair SHES	SY	180.000	180.000
0048	416.1725	Concrete Pavement Replacement SHES	SY	1,941.000	1,941.000
0050	455.0605	Tack Coat	GAL	1.000	1.000
0052	465.0105	Asphaltic Surface	TON	4.000	4.000
0054	465.0305	Asphaltic Surface Safety Islands	TON	39.000	39.000
0056	513.2001	Railing Pipe	LF	15.500	15.500
0058	601.0407	Concrete Curb & Gutter 18-Inch Type D	LF	118.000	118.000
0060	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	159.000	159.000
0062	601.0600	Concrete Curb Pedestrian	LF	299.000	299.000

3700-20-80

Line	Item	Item Description	Unit	Total	Qty
0064	602.0410	Concrete Sidewalk 5-Inch	SF	5,153.000	5,153.000
0066	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	170.000	170.000
0068	602.1500	Concrete Steps	SF	77.000	77.000
0070	611.8110	Adjusting Manhole Covers	EACH	3.000	3.000
0072	611.8115	Adjusting Inlet Covers	EACH	7.000	7.000
0074	619.1000	Mobilization	EACH	1.000	1.000
0076	620.0200	Concrete Median Blunt Nose	SF	120.000	120.000
0078	620.0300	Concrete Median Sloped Nose	SF	424.000	424.000
0080	625.0100	Topsoil	SY	3,774.000	3,774.000
0082	627.0200	Mulching	SY	850.000	850.000
0084	628.1504	Silt Fence	LF	1,663.000	1,663.000
0086	628.1520	Silt Fence Maintenance	LF	1,663.000	1,663.000
0088	628.1905	Mobilizations Erosion Control	EACH	20.000	20.000
0090	628.1910	Mobilizations Emergency Erosion Control	EACH	10.000	10.000
0092	628.2008	Erosion Mat Urban Class I Type B	SY	3,656.000	3,656.000
0094	628.6510	Soil Stabilizer Type B	ACRE	0.200	0.200
0096	628.7010	Inlet Protection Type B	EACH	8.000	8.000
0098	628.7015	Inlet Protection Type C	EACH	106.000	106.000
0100	629.0210	Fertilizer Type B	CWT	2.850	2.850
0102	630.0130	Seeding Mixture No. 30	LB	66.000	66.000
0104	630.0200	Seeding Temporary	LB	16.000	16.000
0106	630.0500	Seed Water	MGAL	50.000	50.000
0108	631.0300	Sod Water	MGAL	3.000	3.000
0110	631.1000	Sod Lawn	SY	118.000	118.000
0112	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	102.000	102.000
0114	637.2210	Signs Type II Reflective H	SF	1,090.778	1,090.778
0116	637.2215	Signs Type II Reflective H Folding	SF	238.720	238.720
0118	637.2230	Signs Type II Reflective F	SF	96.500	96.500
0120	638.2102	Moving Signs Type II	EACH	5.000	5.000
0122	638.2602	Removing Signs Type II	EACH	105.000	105.000
0124	638.3000	Removing Small Sign Supports	EACH	68.000	68.000
0126	643.0300	Traffic Control Drums	DAY	3,400.000	3,400.000
0128	643.0410	Traffic Control Barricades Type II	DAY	145.000	145.000
0130	643.0420	Traffic Control Barricades Type III	DAY	2,680.000	2,680.000
0132	643.0705	Traffic Control Warning Lights Type A	DAY	2,660.000	2,660.000
0134	643.0715	Traffic Control Warning Lights Type C	DAY	3,030.000	3,030.000
0136	643.0900	Traffic Control Signs	DAY	5,060.000	5,060.000
0138	643.0910	Traffic Control Covering Signs Type I	EACH	4.000	4.000
0140	643.1050	Traffic Control Signs PCMS	DAY	60.000	60.000
0142	643.1070	Traffic Control Cones 42-Inch	DAY	30,595.000	30,595.000

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Line	Item	Item Description	Unit	Total	Qty
0144	643.5000	Traffic Control	EACH	1.000	1.000
0146	644.1410	Temporary Pedestrian Surface Asphalt	SF	448.000	448.000
0148	644.1601	Temporary Pedestrian Curb Ramp	DAY	155.000	155.000
0150	644.1810	Temporary Pedestrian Barricade	LF	1,114.000	1,114.000
0152	646.1020	Marking Line Epoxy 4-Inch	LF	18,206.000	18,206.000
0154	646.1545	Marking Line Grooved Wet Ref Contrast Epoxy 4-Inch	LF	1,363.000	1,363.000
0156	646.3020	Marking Line Epoxy 8-Inch	LF	3,203.000	3,203.000
0158	646.3545	Marking Line Grooved Wet Ref Contrast Epoxy 8-Inch	LF	2,172.000	2,172.000
0160	646.5020	Marking Arrow Epoxy	EACH	50.000	50.000
0162	646.5120	Marking Word Epoxy	EACH	18.000	18.000
0164	646.6120	Marking Stop Line Epoxy 18-Inch	LF	800.000	800.000
0166	646.6220	Marking Yield Line Epoxy 18-Inch	EACH	5.000	5.000
0168	646.7120	Marking Diagonal Epoxy 12-Inch	LF	184.000	184.000
0170	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	1,282.000	1,282.000
0172	646.8120	Marking Curb Epoxy	LF	862.000	862.000
0174	646.8220	Marking Island Nose Epoxy	EACH	30.000	30.000
0176	646.9000	Marking Removal Line 4-Inch	LF	828.000	828.000
0178	646.9100	Marking Removal Line 8-Inch	LF	1,340.000	1,340.000
0180	646.9200	Marking Removal Line Wide	LF	17.000	17.000
0182	646.9300	Marking Removal Special Marking	EACH	13.000	13.000
0184	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	9,110.000	9,110.000
0186	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	124.000	124.000
0188	650.8500	Construction Staking Electrical Installations (project) 01. 3700-20-80	LS	1.000	1.000
0190	650.9000	Construction Staking Curb Ramps	EACH	21.000	21.000
0192	650.9910	Construction Staking Supplemental Control (project) 01. 3700-20-80	LS	1.000	1.000
0194	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	2,115.000	2,115.000
0196	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	2,311.000	2,311.000
0198	652.0615	Conduit Special 3-Inch	LF	4,010.000	4,010.000
0200	652.0700.S	Install Conduit into Existing Item	EACH	17.000	17.000
0202	652.0800	Conduit Loop Detector	LF	3,852.000	3,852.000
0204	653.0135	Pull Boxes Steel 24x36-Inch	EACH	9.000	9.000
0206	653.0140	Pull Boxes Steel 24x42-Inch	EACH	58.000	58.000
0208	653.0905	Removing Pull Boxes	EACH	90.000	90.000
0210	654.0101	Concrete Bases Type 1	EACH	19.000	19.000
0212	654.0105	Concrete Bases Type 5	EACH	12.000	12.000
0214	654.0110	Concrete Bases Type 10	EACH	9.000	9.000
0216	654.0113	Concrete Bases Type 13	EACH	9.000	9.000
0218	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	3.000	3.000

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Line	Item	Item Description	Unit	Total	Qty
0220	655.0230	Cable Traffic Signal 5-14 AWG	LF	3,460.000	3,460.000
0222	655.0240	Cable Traffic Signal 7-14 AWG	LF	3,006.000	3,006.000
0224	655.0260	Cable Traffic Signal 12-14 AWG	LF	4,896.000	4,896.000
0226	655.0270	Cable Traffic Signal 15-14 AWG	LF	1,675.000	1,675.000
0228	655.0290	Cable Traffic Signal 21-14 AWG	LF	1,798.000	1,798.000
0230	655.0320	Cable Type UF 2-10 AWG Grounded	LF	5,539.000	5,539.000
0232	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	10,296.000	10,296.000
0234	655.0610	Electrical Wire Lighting 12 AWG	LF	5,253.000	5,253.000
0236	655.0700	Loop Detector Lead In Cable	LF	18,813.000	18,813.000
0238	655.0800	Loop Detector Wire	LF	17,222.000	17,222.000
0240	655.0900	Traffic Signal EVP Detector Cable	LF	4,564.000	4,564.000
0242	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. STH 33 & CTH O	LS	1.000	1.000
0244	656.0200	Electrical Service Meter Breaker Pedestal (location) 02. STH 59/164 & CTH Y	LS	1.000	1.000
0246	656.0200	Electrical Service Meter Breaker Pedestal (location) 03. STH 181 & County Line Rd	LS	1.000	1.000
0248	657.0100	Pedestal Bases	EACH	19.000	19.000
0250	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	12.000	12.000
0252	657.0322	Poles Type 5-Aluminum	EACH	12.000	12.000
0254	657.0405	Traffic Signal Standards Aluminum 3.5-FT	EACH	1.000	1.000
0256	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	3.000	3.000
0258	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	11.000	11.000
0260	657.0430	Traffic Signal Standards Aluminum 10-FT	EACH	4.000	4.000
0262	657.0605	Luminaire Arms Single Member 4 1/2-Inch Clamp 4-FT	EACH	2.000	2.000
0264	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	12.000	12.000
0266	658.0173	Traffic Signal Face 3S 12-Inch	EACH	64.000	64.000
0268	658.0174	Traffic Signal Face 4S 12-Inch	EACH	36.000	36.000
0270	658.0416	Pedestrian Signal Face 16-Inch	EACH	16.000	16.000
0272	658.0500	Pedestrian Push Buttons	EACH	12.000	12.000
0274	658.5069	Signal Mounting Hardware (location) 01. STH 16 & STH 67 SB Ramps	LS	1.000	1.000
0276	658.5069	Signal Mounting Hardware (location) 02. STH 16 & STH 67 NB Ramps	LS	1.000	1.000
0278	658.5069	Signal Mounting Hardware (location) 03. STH 33 & CTH O	LS	1.000	1.000
0280	658.5069	Signal Mounting Hardware (location) 04. STH 59/164 & CTH Y	LS	1.000	1.000
0282	658.5069	Signal Mounting Hardware (location) 05. STH 181 & County Line Rd	LS	1.000	1.000
0284	659.1125	Luminaires Utility LED C	EACH	39.000	39.000

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Line	Item	Item Description	Unit	Total	Qty
0286	661.0200	Temporary Traffic Signals for Intersections (location) 01. STH 16 & STH 67 SB Ramps	LS	1.000	1.000
0288	661.0200	Temporary Traffic Signals for Intersections (location) 02. STH 16 & STH 67 NB Ramps	LS	1.000	1.000
0290	661.0200	Temporary Traffic Signals for Intersections (location) 03. STH WIS 33 & CTH O	LS	1.000	1.000
0292	661.0200	Temporary Traffic Signals for Intersections (location) 04. STH 59/164 & CTH Y	LS	1.000	1.000
0294	661.0200	Temporary Traffic Signals for Intersections (location) 05. STH 181 & County Line Rd	LS	1.000	1.000
0296	690.0150	Sawing Asphalt	LF	242.000	242.000
0298	690.0250	Sawing Concrete	LF	3,361.000	3,361.000
0300	SPV.0060	Special 01. Concrete Base Type 10 Special	EACH	4.000	4.000
0302	SPV.0060	Special 02. Install Poles Type 10	EACH	9.000	9.000
0304	SPV.0060	Special 03. Install Poles Type 10 Special	EACH	4.000	4.000
0306	SPV.0060	Special 04. Install Poles Type 12	EACH	2.000	2.000
0308	SPV.0060	Special 05. Install Poles Type 13	EACH	5.000	5.000
0310	SPV.0060	Special 06. Install Poles Type 13-Over Height	EACH	2.000	2.000
0312	SPV.0060	Special 07. Install Monotube Arms 15-FT	EACH	2.000	2.000
0314	SPV.0060	Special 08. Install Monotube Arms 25-FT	EACH	2.000	2.000
0316	SPV.0060	Special 09. Install Monotube Arms 30-FT	EACH	5.000	5.000
0318	SPV.0060	Special 10. Install Monotube Arms 35-FT	EACH	1.000	1.000
0320	SPV.0060	Special 11. Install Monotube Arms 40-FT	EACH	2.000	2.000
0322	SPV.0060	Special 12. Install Monotube Arms 45-FT	EACH	1.000	1.000
0324	SPV.0060	Special 13. Install Monotube Arms 50-FT	EACH	5.000	5.000
0326	SPV.0060	Special 14. Install Monotube Arms 55-FT	EACH	4.000	4.000
0328	SPV.0060	Special 15. Install Luminaire Arms Steel 15-FT	EACH	25.000	25.000
0330	SPV.0060	Special 16. Pull Boxes Steel Lids & Frames	EACH	11.000	11.000
0332	SPV.0060	Special 17. Expose Existing Utility	EACH	9.000	9.000
0334	SPV.0060	Special 18. Abandoning Pull Boxes	EACH	4.000	4.000
0336	SPV.0090	Special 01. Concrete Curb and Gutter Variable Width Type A	LF	125.000	125.000
0338	SPV.0090	Special 02. Removing Railing	LF	14.000	14.000
0340	SPV.0105	Special 01. Trans & Inst State Furnished Traffic Sgnl Cabinet STH16 & STH 67 SB Ramps	LS	1.000	1.000
0342	SPV.0105	Special 02. Trans & Inst State Furnished Traffic Sgnl Cabinet STH16 & STH 67 NB Ramps	LS	1.000	1.000
0344	SPV.0105	Special 03. Trans & Inst State Furnished Traffic Sgnl Cabinet STH 33 & CTH O	LS	1.000	1.000
0346	SPV.0105	Special 04. Trans & Inst State Furnished Traffic Sgnl Cabinet STH 59/164 & CTH Y	LS	1.000	1.000
0348	SPV.0105	Special 05. Trans & Inst State Furnished Traffic Sgnl	LS	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
		Cabinet STH 181 & County Line Rd			
0350	SPV.0105	Special 06. Temporary Vehicle Detection STH 16 & STH 67 SB Ramps	LS	1.000	1.000
0352	SPV.0105	Special 07. Temporary Vehicle Detection STH 16 & STH 67 NB Ramps	LS	1.000	1.000
0354	SPV.0105	Special 08. Temporary Vehicle Detection STH 33 & CTH O	LS	1.000	1.000
0356	SPV.0105	Special 09. Temporary Vehicle Detection STH 59/164 & CTH Y	LS	1.000	1.000
0358	SPV.0105	Special 10. Temporary Vehicle Detection STH 181 & County Line Rd	LS	1.000	1.000
0360	SPV.0105	Special 11. Trans & Inst State Furnished Radar Detection System STH 59/164 & CTH Y	LS	1.000	1.000
0362	SPV.0105	Special 12. Trans & Inst State Furnished Radar Detection System STH 181 & County Line Rd	LS	1.000	1.000
0364	SPV.0105	Special 13. Trans & Inst State Frnshd Emerg Veh Pre Dtcr Heads STH 16 & STH 67 SB Ramps	LS	1.000	1.000
0366	SPV.0105	Special 14. Trans & Inst State Frnshd Emerg Veh Pre Dtcr Heads STH 16 & STH 67 NB Ramps	LS	1.000	1.000
0368	SPV.0105	Special 15. Trans & Inst State Frnshd Emerg Veh Pre Dtcr Heads STH 33 & CTH O	LS	1.000	1.000
0370	SPV.0105	Special 16. Trans & Inst State Frnshd Emerg Veh Pre Dtcr Heads STH 59/164 & CTH Y	LS	1.000	1.000
0372	SPV.0105	Special 17. Trans Traffic Signal & Int Lighting Materials STH 16 & STH 67 SB Ramps	LS	1.000	1.000
0374	SPV.0105	Special 18. Trans Traffic Signal & Int Lighting Materials STH 16 & STH 67 NB Ramps	LS	1.000	1.000
0376	SPV.0105	Special 19. Trans Traffic Sgnl & Int Lighting Materials STH 33 & CTH O	LS	1.000	1.000
0378	SPV.0105	Special 20. Trans Traffic Sgnl & Int Lighting Materials STH 59/164 & CTH Y	LS	1.000	1.000
0380	SPV.0105	Special 21. Trans Traffic Sgnl & Int Lighting Materials STH181 & County Line Rd	LS	1.000	1.000
0382	SPV.0105	Special 22. Remove Salvage & Reinst Fiber Optic Traff Sgnl Equip STH 33 & CTH O	LS	1.000	1.000
0384	SPV.0105	Special 23. Remove Salvage & Reinst Fiber Optic Traff Sgnl Equip STH 59/164 & CTH Y	LS	1.000	1.000
0386	SPV.0105	Special 24. Remove Salvage & Reinst Fiber Optic Traff Sgnl Equip STH181 & County Line Rd	LS	1.000	1.000
0388	SPV.0105	Special 25. Transprt & Install State Frnshd Audible Ped Signal System STH 59/164 & CTH Y	LS	1.000	1.000
0390	SPV.0105	Special 26. Temporary Emergency Vehicle Preemption (EVP) System STH 16 & STH 67 SB Ramps	LS	1.000	1.000
0392	SPV.0105	Special 27. Temporary Emergency Vehicle Preemption	LS	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
		(EVP) System STH 16 & STH 67 NB Ramps			
0394	SPV.0105	Special 28. Temporary Emergency Vehicle Preemption (EVP) System STH 33 & CTH O	LS	1.000	1.000
0396	SPV.0105	Special 29. Temporary Emergency Vehicle Preemption (EVP) System STH 59/164 & CTH Y	LS	1.000	1.000
0398	SPV.0165	Special 01. Exposed Aggregate Concrete Sidewalk 5-inch	SF	179.000	179.000
0400	SPV.0165	Special 02. Remove and Restore Brick Sidewalk	SF	20.000	20.000

EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL

CATEGORY	LOCATION	205.0501.S TON
0010	STH 16 & STH 67 SB RAMPS	-
0010	STH 16 & STH 67 NB RAMPS	-
0010	STH 59/STH 164 & RACINE AVE/CTH Y	9.47
0010	STH 181 & COUNTY LINE ROAD	-
0010	STH 33 & CTH O	0.89
	TOTAL 0010	10.36

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REMOVALS

CATEGORY	LOCATION	204.0100 REMOVING PAVEMENT SY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0150 * REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
0010	STH 16 & STH 67 SB RAMPS	-	77	11	91	62	692
0010	STH 16 & STH 67 NB RAMPS	8	35	-	16	61	634
0010	STH 59/STH 164 & RACINE AVE/CTH Y	53	180	256	228	27	1172
0010	STH 181 & COUNTY LINE ROAD	-	17	16	159	92	573
0010	STH 33 & CTH O	-	-	118	143	-	290
	TOTAL 0010	61	309	401	637	242	3361

* EXISTING CURB IS VARIABLE WIDTH

ADJUSTING COVERS

CATEGORY	LOCATION	611.8110 ADJUSTING MANHOLE COVERS EACH	611.8115 ADJUSTING INLET COVERS EACH
0010	STH 16 & STH 67 SB RAMPS	1	1
0010	STH 16 & STH 67 NB RAMPS	-	-
0010	STH 59/STH 164 & RACINE AVE/CTH Y	1	5
0010	STH 181 & COUNTY LINE ROAD	1	-
0010	STH 33 & CTH O	-	1
	TOTAL 0010	3	7

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ASPHALT ITEMS

CATEGORY	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON	465.0305 ASPHALTIC SURFACE SAFETY ISLANDS TON
0010	STH 16 & STH 67 SB RAMPS	-	-	10
0010	STH 16 & STH 67 NB RAMPS	-	-	7
0010	STH 59/STH 164 & RACINE AVE/CTH Y	-	-	22
0010	STH 181 & COUNTY LINE ROAD	1	4	-
0010	STH 33 & CTH O	-	-	-
	TOTAL 0010	1	4	39

BASE AGGREGATE DENSE 1 1/4-INCH

CATEGORY	LOCATION	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
0010	STH 16 & STH 67 SB RAMPS	18
0010	STH 16 & STH 67 NB RAMPS	7
0010	STH 59/STH 164 & RACINE AVE/CTH Y	52
0010	STH 181 & COUNTY LINE ROAD	21
0010	STH 33 & CTH O	12
0010	UNDISTRIBUTED	10
	TOTAL 0010	120

QUANTITIES ALSO SHOWN IN PEDESTRIAN TRAFFIC CONTROL CHART

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CONCRETE ITEMS

CATEGORY	LOCATION	** 405.0200 COLORING CONCRETE CUSTOM CY	601.0407 CONCRETE CURB & GUTTER 18-INCH TYPE D LF	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0600 CONCRETE CURB PEDESTRIAN LF	602.0410 CONCRETE SIDEWALK 5-INCH SF	* 602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	602.1500 CONCRETE STEPS SF	620.0200 CONCRETE MEDIAN BLUNT NOSE SF	620.0300 CONCRETE MEDIAN SLOPED NOSE SF	SPV.0090.01 CONCRETE CURB AND GUTTER VARIABLE WIDTH TYPE A LF	SPV.0165.01 EXPOSED AGGREGATE CONCRETE SIDEWALK 5-INCH SF
0010	STH 16 & STH 67 SB RAMPS	-	-	11	-	816	-	-	-	-	-	-
0010	STH 16 & STH 67 NB RAMPS	-	-	-	-	141	-	-	-	72	-	-
0010	STH 59/STH 164 & RACINE AVE/CTH Y	-	-	132	208	1919	170	-	120	352	125	-
0010	STH 181 & COUNTY LINE ROAD	-	-	16	-	1432	-	-	-	-	-	-
0010	STH 33 & CTH O	1.2	118	-	91	845	-	77	-	-	-	179
	TOTAL 0010	1.2	118	159	299	5153	170	77	120	424	125	179

* CURB RAMP DETECTABLE WARNING FIELDS TO BE SUPPLIED BY OTHERS AT STH 33 & CTH O

** COLORING CONCRETE CUSTOM SIDEWALK IS 5-INCHES IN DEPTH

EROSION CONTROL & RESTORATION

CATEGORY	LOCATION	** 625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	STH 16 & STH 67 SB RAMPS	1080	270	351	351	3	1
0010	STH 16 & STH 67 NB RAMPS	475	44	169	169	3	1
0010	STH 59/STH 164 & RACINE AVE/CTH Y	770	192	280	280	3	1
0010	STH 181 & COUNTY LINE ROAD	600	150	530	530	3	1
0010	STH 33 & CTH O	94	24	-	-	3	1
0010	UNDISTRIBUTED	755	170	333	333	5	5
	TOTAL 0010	3774	850	1663	1663	20	10

EROSION CONTROL & RESTORATION

CATEGORY	LOCATION	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.6510 SOIL STABILIZER TYPE B ACRE	628.7010 INLET PROTECTION TYPE B EACH	628.7015 INLET PROTECTION TYPE C EACH	*** 629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	* *** 630.0500 SEED WATER MGAL	* 631.0300 SOD WATER MGAL	631.1000 SOD LAWN SY
0010	STH 16 & STH 67 SB RAMPS	1080	0.06	3	25	0.68	19	5	12	-	-
0010	STH 16 & STH 67 NB RAMPS	475	0.02	3	15	0.30	9	2	5	-	-
0010	STH 59/STH 164 & RACINE AVE/CTH Y	770	0.04	-	31	0.48	14	3	9	-	-
0010	STH 181 & COUNTY LINE ROAD	600	0.03	-	6	0.38	11	3	7	-	-
0010	STH 33 & CTH O	-	0.01	-	8	0.06	-	-	-	2	94
0010	UNDISTRIBUTED	731	0.04	2	21	0.95	13	3	17	1	24
	TOTAL 0010	3656	0.20	8	106	2.85	66	16	50	3	118

* WATER FOR 30 DAYS AFTER SEED GERMINATION OR SOD HAS ROOTED
** USE MINIMIM OF 6" TOPSOIL DEPTH AT STH 33 & CTH O, 4" TOPSOIL DEPTH AT OTHER RURAL AREAS
*** INCLUDES ADDITIONAL QUANTITIES FOR TEMPORARY SEEDING APPLICATIONS

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LOOP DETECTOR REPLACEMENT

CATEGORY	LOCATION	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	416.1715 CONCRETE PAVEMENT REPAIR SHES SY	416.1725 CONCRETE PAVEMENT REPLACEMENT SHES SY
0010	STH 16 & STH 67 SB RAMPS	180	128	56	554
0010	STH 16 & STH 67 NB RAMPS	178	96	31	459
0010	STH 59/STH 164 & RACINE AVE/CTH Y	150	200	79	441
0010	STH 181 & COUNTY LINE ROAD	170	88	-	487
0010	STH 33 & CTH O	2	16	14	-
	TOTAL 0010	680	528	180	1941

* FOR CONCRETE PAVEMENT REPAIR, INSTALL DRILLED TIE BARS 30" C-C WHERE ADJACENT TO CURB AND GUTTER OR CONCRETE LANE.

PAVEMENT MARKING REMOVALS

CATEGORY	LOCATION	646.9000 MARKING REMOVAL LINE 4-INCH LF	646.9100 MARKING REMOVAL LINE 8-INCH LF	646.9200 MARKING REMOVAL LINE WIDE LF	646.9300 MARKING REMOVAL SPECIAL MARKING EACH
0010	STH 16 & STH 67	234	-	-	4
0010	STH 59/STH 164 & RACINE AVE/CTH Y	470	244	-	-
0010	STH 181 & COUNTY LINE ROAD	124	-	-	-
0010	STH 33 & CTH O	-	1096	17	9
	TOTAL 0010	828	1340	17	13

3

PAVEMENT MARKING

CATEGORY	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE 12.5' LINE 37.5' GAP LF	646.1020 MARKING LINE EPOXY 4-INCH YELLOW LF	646.1020 MARKING LINE EPOXY 4-INCH WHITE LF	646.1545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH YELLOW 2' LINE 6' GAP LF	646.1545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH WHITE 12.5' LINE 37.5' LF	646.3020 MARKING LINE EPOXY 8-INCH WHITE LF	646.3020 MARKING LINE EPOXY 8-INCH WHITE 3' LINE 9' GAP LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH WHITE 2' LINE 6' GAP LF	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH WHITE LF
0010	STH 16 & STH 67 SB RAMPS	1843	1913	325	28	-	1035	105	38	-
0010	STH 16 & STH 67 NB RAMPS	1990	1781	425	22	-	1453	102	32	-
0010	STH 59/STH 164 & RACINE AVE/CTH Y	1634	2689	-	-	888	44	9	-	588
0010	STH 181 & COUNTY LINE ROAD	1887	2774	125	-	425	-	108	-	1514
0010	STH 33 & CTH O	-	820	-	-	-	245	102	-	-
	SUBTOTAL	7354	9977	875	50	1313	2777	426	70	2102
	TOTAL 0010		18206		1363		3203		2172	

PAVEMENT MARKING

CATEGORY	LOCATION	646.5020 MARKING ARROW EPOXY EACH	646.5120 MARKING WORD EPOXY EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.6220 MARKING YIELD LINE EPOXY 18-INCH EACH	646.7120 MARKING DIAGONAL EPOXY 12-INCH LF	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF	646.8120 MARKING CURB EPOXY LF	646.8220 MARKING ISLAND NOSE EPOXY EACH
0010	STH 16 & STH 67 SB RAMPS	12	2	165	1	78	-	174	6
0010	STH 16 & STH 67 NB RAMPS	13	5	175	-	106	-	225	8
0010	STH 59/STH 164 & RACINE AVE/CTH Y	8	3	188	4	-	870	192	10
0010	STH 181 & COUNTY LINE ROAD	8	5	162	-	-	-	271	6
0010	STH 33 & CTH O	9	3	110	-	-	412	-	-
	SUBTOTAL								
	TOTAL 0010	50	18	800	5	184	1282	862	30

3

PEDESTRIAN TRAFFIC CONTROL

CATEGORY	LOCATION	205.0100 EXCAVATION COMMON CY	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	643.0410 TRAFFIC CONTROL BARRICADES TYPE II DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	644.1410 TEMPORARY PEDESTRIAN SURFACE ASPHALT SF	644.1601 TEMPORARY CURB RAMP EACH	644.1810 TEMPORARY PEDESTRIAN BARRICADE LF
0010	STH 16 & STH 67	-	-	-	-	-	-	-
0010	STH 59/STH 164 & RACINE AVE/CTH Y	5	4	105	105	287	75	900
0010	STH 181 & COUNTY LINE ROAD	-	-	-	-	-	-	-
0010	STH 33 & CTH O	3	2	40	40	161	80	214
	TOTAL 0010	8	6	145	145	448	155	1114

NOTES:
TRAFFIC CONTROL SIGN QUANTITIES ARE ALSO IN TRAFFIC CONTROL CHART
TEMP PEDESTRIAN SURFACE ASPHALT IS 2" IN DEPTH
BASE AGGREGATE DENSE 1 1/4 INCH IS 4" IN DEPTH FOR TEMPORARY PEDESTRIAN SURFACE ASPHALT
EXCAVATION COMMON IS 6" IN DEPTH
BASE AGGREGATE DENSE 1 1/4-INCH QUANTITIES ALSO SHOWN IN SEPARATE CHART

3

TRAFFIC CONTROL

CATEGORY	LOCATION	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.09 TRAFFIC CONTROL SIGNS DAY	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.1070 TRAFFIC CONTROL CONES 42-INCH DAY	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH WHITE LF	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH YELLOW LF	649.0250 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH LF
0010	STH 16 & STH 67	1070	370	740	700	2020	4	24	15230	665	1030	-
0010	STH 59/STH 164 & RACINE AVE/CTH Y	1210	1700	700	1210	1090	-	-	10800	2235	2670	-
0010	STH 181 & COUNTY LINE ROAD	720	395	790	720	1160	-	24	3345	830	830	-
0010	STH 33 & CTH O	400	215	430	400	645	-	12	1220	-	850	124
	SUBTOTAL									3730	5380	
	TOTAL 0010	3400	2680	2660	3030	4915	4	60	30595	9110		124

NOTES:
TRAFFIC CONTROL SIGN QUANTITIES ARE ALSO FOUND IN PEDESTRIAN TRAFFIC CONTROL
FOLDING STOP SIGNS, R1-1F(3), AND FLASHING YELLOW ARROW SIGNS, R10-50(2M), SHOWN ON TEMP TRAFFIC SIGNAL PLANS ARE PAID AS TRAFFIC CONTROL SIGNS AND REMOVED WITH TEMP SIGNAL POLES

3

CONSTRUCTION STAKING

CATEGORY	LOCATION	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) LS	650.9000 CONSTRUCTION STAKING CURB RAMPS EACH	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) LS
0010	STH 16 & STH 67 SB RAMPS	-	-	-
0010	STH 16 & STH 67 NB RAMPS	-	-	-
0010	STH 59/STH 164 & RACINE AVE/CTH Y	-	17	-
0010	STH 181 & COUNTY LINE ROAD	-	-	-
0010	STH 33 & CTH O	-	4	-
0010	ENTIRE PROJECT LIMITS	1	-	1
	TOTAL 0010	1	21	1

RAILING

CATEGORY	LOCATION	513.2001 RAILING PIPE LF	SPV.0090.02 REMOVING RAILING LF
0010	STH 16 & STH 67 SB RAMPS	-	-
0010	STH 16 & STH 67 NB RAMPS	-	-
0010	STH 59/STH 164 & RACINE AVE/CTH Y	-	-
0010	STH 181 & COUNTY LINE ROAD	-	-
0010	STH 33 & CTH O	15.5	14.0
	TOTAL 0010	15.5	14.0

3

SPECIAL(REMOVE AND RESTORE BRICK SIDEWALK)

CATEGORY	LOCATION	SPV.0165.02 REMOVE AND RESTORE BRICK SIDEWALK SF
0010	STH 16 & STH 67 SB RAMPS	-
0010	STH 16 & STH 67 NB RAMPS	-
0010	STH 59/STH 164 & RACINE AVE/CTH Y	-
0010	STH 181 & COUNTY LINE ROAD	-
0010	STH 33 & CTH O	20
	TOTAL 0010	20

3

SUMMARY OF STATE FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
1	EACH	POLES TYPE 10
2	EACH	POLES TYPE 12
1	EACH	POLES TYPE 13
1	EACH	MONOTUBE ARMS 25-FT
1	EACH	MONOTUBE ARMS 50-FT
2	EACH	MONOTUBE ARMS 55-FT
3	EACH	LUMINAIRE ARMS STEEL 15-FT
1	EACH	TRAFFIC SIGNAL CONTROLLER, FULLY ACTUATED, 8-PHASE
4	EACH	EVP DETECTOR HEADS
1	EACH	TRAFFIC SIGNAL CABINET

NOTE: THIS TABLE IS FOR INFORMATION ONLY.

CONDUIT ITEMS

LOCATION	FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615 CONDUIT SPECIAL 3-INCH LF	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH
STH 16 & STH 67 SB RAMPS	CB1	PB1	--	75	--	--
	PB1	SB1	26	--	--	--
	PB1	PB2	19	--	--	--
	PB1	PB3	--	--	216	--
	PB3	SB2	--	20	--	--
	PB3	PB4	--	156	--	--
	PB4	SB3	29	--	--	--
	PB4	PB5	234	--	--	1
	PB4	PB6	--	--	126	--
	PB6	SB4	9	--	--	--
	PB6	PB7	--	--	92	--
	PB7	SB5	--	6	--	--
	PB7	PB8	--	98	--	--
	PB8	SB6	19	--	--	--
	PB8	PB9	--	--	58	--
	PB9	SB7	24	--	--	--
	PB9	PB10	--	--	74	--
	PB10	SB8	--	8	--	--
	PB10	PB11	223	--	--	--
	PB10	PB12	--	--	60	--
	PB12	PB13	--	130	--	--
	PB13	SB9	30	--	--	--
	PB13	PB14	--	--	38	--
	PB14	SB10	24	--	--	--
	PB13	PB15	--	--	114	--
	PB15	SB11	10	--	--	--
	PB15	PB16	221	--	--	--
	PB15	PB17	--	--	104	--
	PB17	SB12	--	9	--	--
	PB17	CB1	--	66	--	--
TOTAL			868	568	882	1

REMOVAL QUANTITIES

LOCATION	ITEM NO.	204.0195 REMOVING CONCRETE BASES EACH	653.0905 REMOVING PULL BOXES EACH
STH 16 & STH 67 SB RAMPS	PB1	--	1
	PB2	--	1
	PB3	--	1
	PB5	--	1
	PB6	--	1
	PB7	--	1
	PB8	--	1
	PB9	--	1
	PB10	--	1
	PB11	--	1
	PB12	--	1
	PB13	--	1
	PB14	--	1
	PB15	--	1
	PB16	--	1
	PB17	--	1
	PB18	--	1
	SB1	1	--
	SB2	1	--
	SB3	1	--
	SB4	1	--
	SB5	1	--
	SB6	1	--
	SB7	1	--
	SB8	1	--
	SB9	1	--
	SB10	1	--
	SB11	1	--
	SB12	1	--
	SB13	1	--
	SB14	1	--
	SB15	1	--
	SB16	1	--
TOTAL		16	17



All items are category 0010

STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-1060 PAGE 1 OF 7

PROJECT NO: 3700-20-80	HWY: STH 16	COUNTY: WAUKESHA	MISCELLANEOUS QUANTITIES	SHEET NO:

3

3

TRAFFIC DETECTOR LOOPS

LOCATION	LOOP NO.	HOME RUN PB	STATION/OFFSET**	SIZE	SDD INSTALLATION REFERENCE	NO. OF TURNS	PAVEMENT TYPE	652.0800 CONDUIT LOOP DETECTOR LF	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE L.F
STH 16 & STH 67 SB RAMPS	11	PB6	18+16; 7.3' RT	6'X20'	9F15-A	3	CONCRETE	66	282	196
	12	PB6	18+45; 7.8' RT	6'X20'	9F15-A	3	CONCRETE	74	282	212
	21	PB16	22+16; 29.2' LT	6'X20'	9F15-A	3	CONCRETE	63	305	190
	51 (FUTURE)	PB15	19+97; 5.9' LT	6'X20'	9F15-A	3	CONCRETE	62	82	188
	52 (FUTURE)	PB15	19+69; 5.7' LT	6'X20'	9F15-A	3	CONCRETE	64	82	192
	61	PB5	-	-	RE-WIRE LOOP ONLY	3	-	-	454	188
	71	PB11	18+80; 305' LT	6'X20'	9F15-A	3	CONCRETE	61	458	186
	72	PB10	18+85; 82.7' LT	6'X20'	9F15-B	3	CONCRETE	74	236	212
	73	PB10	18+85; 54.7' LT	6'X20'	9F15-B	3	CONCRETE	73	236	210
	74	PB10	18+96; 83.1' LT	6'X20'	9F15-A	3	CONCRETE	65	236	194
	75	PB10	18+97; 55.0' LT	6'X20'	9F15-A	3	CONCRETE	62	236	188
	81	PB2	19+47; 85.9' RT	6'X20'	9F15-A	3	ASPHALT	67	52	198
	82	PB2	19+49; 59.8' RT	6'X20'	9F15-A	3	CONCRETE	64	52	192
	83	PB2	19+27; 84.9' RT	6'X20'	9F15-B	3	CONCRETE	85	52	234
	84	PB2	19+24; 58.8' RT	6'X20'	9F15-B	3	CONCRETE	89	52	242
	85	PB2	19+38; 59.5' RT	6'X15'	9F15-B	5	CONCRETE	77	52	272
	TOTAL							1046	3149	3294

NOTES: FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD
SDD 9F15-4A: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
SDD 9F15-4B: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)

*LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.

**STH 16 ALIGNMENT

PULL BOXES

LOCATION	PULL BOX NO.	ALIGNMENT	STATION	OFFSET	653.0135 PULL BOXES STEEL 24" x 36" EACH	653.0140 PULL BOXES STEEL 24" x 42" EACH
STH 16 & STH 67 SB RAMPS	PB1	STH 16	19+79	92' RT	--	1
	PB2	STH 16	19+63	81' RT	1	--
	PB3	STH 16	18+70	90' RT	--	1
	PB4	STH 16	18+00	58' RT	--	1
	PB6	STH 16	18+04	5' LT	--	1
	PB7	STH 16	18+08	51' LT	--	1
	PB8	STH 16	18+44	83' LT	--	1
	PB9	STH 16	18+72	83' LT	--	1
	PB10	STH 16	19+09	84' LT	--	1
	PB11	STH 16	18+99	307' LT	1	--
	PB12	STH 16	19+39	84' LT	--	1
	PB13	STH 16	19+95	51' LT	--	1
	PB14	STH 16	20+08	86' LT	--	1
	PB15	STH 16	19+96	7' RT	--	1
	PB16	STH 16	22+17	9' LT	1	--
	PB17	STH 16	19+97	58' RT	--	1
TOTAL					3	13

TRAFFIC SIGNAL MOUNTING HARDWARE

LOCATION	658.5069.01 TRAFFIC SIGNAL MOUNTING HARDWARE (STH 16 & STH 67 SB RAMPS) LS
STH 16 & STH 67 SB RAMPS	1
TOTAL	1

STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-1060

SIGNAL BASES AND POLES

LOCATION	SIG. BASE NO.	657.0100 PEDESTAL BASE EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2 INCH EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	SPV.0060.02 INSTALL POLES TYPE 10 EACH	SPV.0060.04 INSTALL POLES TYPE 12 EACH	SPV.0060.05 INSTALL POLES TYPE 13 EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	SPV.0060.08 INSTALL MONOTUBE ARMS 25-FT EACH	SPV.0060.13 INSTALL MONOTUBE ARMS 50-FT EACH	SPV.0060.14 INSTALL MONOTUBE ARMS 55-FT EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	SPV.0060.15 INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	659.1125 LUMINAIRES UTILITY LED C EACH
STH 16 & STH 67 SB RAMPS	SB1	1	--	--	--	--	--	1	--	--	--	--	--	--	1	--
	SB2	--	--	--	--	--	1	--	--	--	--	1	--	1	1	1
	SB3	1	--	--	--	--	--	--	1	--	--	--	--	--	1	--
	SB4	--	1	1	--	--	--	--	--	--	--	--	2	--	--	2
	SB5	--	--	--	--	1	--	--	--	--	1	--	--	--	1	--
	SB6	--	1	1	--	--	--	--	--	--	--	--	1	--	--	1
	SB7	1	--	--	--	--	--	1	--	--	--	--	--	--	--	--
	SB8	--	--	--	1	--	--	--	--	1	--	--	--	2	--	2
	SB9	1	--	--	--	--	--	--	1	--	--	--	--	--	--	--
	SB10	--	1	1	--	--	--	--	--	--	--	--	1	--	--	1
	SB11	--	1	1	--	--	--	--	--	--	--	--	2	--	--	2
	SB12	--	--	--	--	1	--	--	--	--	--	1	--	--	--	--
TOTAL		4	4	4	1	2	1	2	2	1	1	2	6	3	4	9

CONCRETE BASES

LOCATION	SIGNAL BASE NO.	ALIGNMENT	STATION	OFFSET	654.0101 CONCRETE BASES TYPE 1 EACH	654.0105 CONCRETE BASES TYPE 5 EACH	654.0110 CONCRETE BASES TYPE 10 EACH	654.0113 CONCRETE BASES TYPE 13 EACH
STH 16 & STH 67 SB RAMPS	SB1	STH 16	19+66	69' RT	1	--	--	--
	SB2	STH 16	18+52	81' RT	--	--	--	1
	SB3	STH 16	18+29	64' RT	1	--	--	--
	SB4	STH 16	17+96	5' LT	--	1	--	--
	SB5	STH 16	18+14	50' LT	--	--	--	1
	SB6	STH 16	18+40	64' LT	--	1	--	--
	SB7	STH 16	18+73	59' LT	1	--	--	--
	SB8	STH 16	19+08	76' LT	--	--	1	--
	SB9	STH 16	19+65	50' LT	1	--	--	--
	SB10	STH 16	19+87	98' LT	--	1	--	--
	SB11	STH 16	20+07	7' RT	--	1	--	--
	SB12	STH 16	19+88	58' RT	--	--	--	1
TOTAL					4	4	1	3

STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-1060

3

3

TRAFFIC SIGNAL CABLE

LOCATION	LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF.	655.0320 CABLE TYPE UF 2-10 AWG GROUNDED L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	(INCIDENTAL) LOOP DETECTOR LEAD-IN CABLE L.F.	655.0900+ TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
STH 16 & STH 67 SB RAMPS	CB1		SB1	--	--	79	--	79	--	--	--
	CB1		SB2	--	--	196	196	--	--	--	276
	CB1		SB3	--	--	298	--	--	--	--	--
	CB1		SB5	--	--	414	--	--	--	--	489
	CB1		SB7	--	390	--	--	--	--	--	--
	CB1		SB8	--	322	--	--	--	--	--	372
	CB1		SB9	--	--	219	--	--	--	--	--
	CB1		SB11	--	--	--	127	--	--	--	--
	CB1		SB12	--	--	59	--	59	--	--	139
	SB1		SB2	--	--	--	--	194	--	--	--
	SB2		SB3	--	--	--	--	167	--	--	--
	SB2		SB4	--	--	--	225	--	--	--	--
	SB3		SB5	--	--	--	--	199	--	--	--
	SB4		SB6	--	--	--	178	--	--	--	--
	SB5		SB7	--	--	--	--	162	--	--	--
	SB7		SB8	--	--	--	--	109	--	--	--
	SB8		SB9	--	--	--	--	188	--	--	--
	SB8		SB10	--	--	--	235	--	--	--	--
	SB9		SB12	--	--	--	--	188	--	--	--
	SB10		SB11	--	--	--	184	--	--	--	--
	PB1		CB1	--	--	--	--	44	--	--	--
	PB3		SB2	--	--	--	--	40	--	--	--
	PB4		SB3	--	--	--	--	49	--	--	--
	PB6		SB4	--	--	--	--	29	--	--	--
	PB7		SB5	--	--	--	--	26	--	--	--
	PB8		SB6	--	--	--	--	39	--	--	--
	PB9		SB7	--	--	--	--	44	--	--	--
	PB10		SB8	--	--	--	--	28	--	--	--
	PB12		SB8	--	--	--	--	73	--	--	--
	PB13		SB9	--	--	--	--	50	--	--	--
	PB15		SB11	--	--	--	--	30	--	--	--
	PB17		SB12	--	--	--	--	29	--	--	--

(CONTINUED ON NEXT PAGE)

+EVP DETECTOR CABLE IS MEASURED FROM CB1 TO THE EVP DETECTOR HEADS.

STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-1060

TRAFFIC SIGNAL CABLE **(CONTINUED FROM PREVIOUS PAGE)**

LOCATION	LOC.	TO LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF.	655.0320 CABLE TYPE UF 2-10 AWG GROUNDED L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	(INCIDENTAL) LOOP DETECTOR LEAD-IN CABLE L.F.	655.0900+ TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
STH 16 & STH 67 SB RAMPS	SB1	HEAD 11	19	--	--	--	--	--	--	--
	SB1	HEAD 17	19	--	--	--	--	--	--	--
	SB1	PUSH BUTTON	--	--	--	--	--	--	6	--
	SB2	HEAD 15	--	81	--	--	--	--	--	--
	SB2	HEAD 16	80	--	--	--	--	--	--	--
	SB2	HEAD 18	80	--	--	--	--	--	--	--
	SB2	PUSH BUTTON	--	--	--	--	--	--	6	--
	SB2	LUMINAIRE	--	--	--	--	--	145	--	--
	SB3	HEAD 1	21	--	--	--	--	--	--	--
	SB3	HEAD 9	--	22	--	--	--	--	--	--
	SB3	PUSH BUTTON	--	--	--	--	--	--	6	--
	SB4	LUMINAIRE	--	--	--	--	--	234	--	--
	SB5	HEAD 7	75	--	--	--	--	--	--	--
	SB5	HEAD 8	75	--	--	--	--	--	--	--
	SB5	HEAD 10	--	76	--	--	--	--	--	--
	SB5	PUSH BUTTON	--	--	--	--	--	--	6	--
	SB6	LUMINAIRE	--	--	--	--	--	117	--	--
	SB7	HEAD 14	19	--	--	--	--	--	--	--
	SB8	HEAD 12	--	51	--	--	--	--	--	--
	SB8	HEAD 13	--	51	--	--	--	--	--	--
	SB8	LUMINAIRE	--	--	--	--	--	288	--	--
	SB9	HEAD 4	--	22	--	--	--	--	--	--
	SB9	HEAD 6	21	--	--	--	--	--	--	--
	SB10	LUMINAIRE	--	--	--	--	--	117	--	--
	SB11	LUMINAIRE	--	--	--	--	--	234	--	--
	SB12	HEAD 2	80	--	--	--	--	--	--	--
	SB12	HEAD 3	80	--	--	--	--	--	--	--
	SB12	HEAD 5	--	81	--	--	--	--	--	--
INTERSECTION TOTAL			569	1096	1265	1145	1826	1135	24	1276

+EVP DETECTOR CABLE IS MEASURED FROM CB1 TO THE EVP DETECTOR HEADS.

STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-1060

3

3

SIGNAL FACES

LOCATION	SIG. BASE NO.	SIG. HEAD NO.	TYPE OF MOUNT	658.0173 TRAFFIC SIGNAL FACE 3S 12-INCH EACH	658.0174 TRAFFIC SIGNAL FACE 4S 12-INCH EACH	* LED RED BALL EACH	* LED YELLOW BALL EACH	* LED GREEN BALL EACH	* LED RED ARROW EACH	* LED YELLOW ARROW EACH	* LED GREEN ARROW EACH	* BCKPLT 3-SEC. EACH	* BCKPLT 4-SEC. EACH
STH 16 & STH 67 SB RAMPS	SB1	11	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB1	17	POST MOUNT VERTICAL	1	--	--	--	--	1	1	1	1	--
	SB2	15	MONOTUBE ARM MOUNT VERTICAL	--	1	1	1	1	--	--	1	--	1
	SB2	16	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB2	18	MONOTUBE ARM MOUNT VERTICAL	1	--	--	--	--	1	1	1	1	--
	SB3	1	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB3	9	POST MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
	SB5	7	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB5	8	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB5	10	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
	SB7	14	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB8	12	MONOTUBE ARM MOUNT VERTICAL	--	1	1	1	1	--	--	1	--	1
	SB8	13	MONOTUBE ARM MOUNT VERTICAL	--	1	1	1	1	--	--	1	--	1
	SB9	4	POST MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
	SB9	6	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB12	2	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB12	3	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB12	5	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
TOTAL				11	7	12	12	12	6	10	9	11	7

*INCIDENTAL TO ITEM 658.0173 OR 658.0174

REMOVING TRAFFIC SIGNALS

LOCATION	204.9105.S.01 REMOVING TRAFFIC SIGNALS (STH 16 & STH 67 SB RAMPS) LS
STH 16 & STH 67 SB RAMPS	1
TOTAL	1

REMOVING LOOP DETECTOR WIRE AND LEAD-IN CABLE

LOCATION	204.9105.S.06 REMOVING LOOP DETECTOR AND LEAD-IN CABLE (STH 16 & STH 67 SB RAMPS) LS
STH 16 & STH 67 SB RAMPS	1
TOTAL	1

STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-1060

3

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS

LOCATION	661.0200.01 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (STH 16 & STH 67 SB RAMPS) LS
STH 16 & STH 67 SB RAMPS	1
TOTAL	1

TRANSPRT & INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET

LOCATION	SPV.0105.01 TRANSPRT & INSTALL STATE FURNISHED TRAFFIC SGNL CABINET (STH 16 & STH 67 SB RAMPS) LS
STH 16 & STH 67 SB RAMPS	1
TOTAL	1

3

TEMPORARY VEHICLE DETECTION

LOCATION	SPV.0105.06 TEMPORARY VEHICLE DETECTION (STH 16 & STH 67 SB RAMPS) LS
STH 16 & STH 67 SB RAMPS	1
TOTAL	1

TRANSPORT & INSTALL STATE FURNISHED EMERG VEH PREEMPTION DETECTOR HEADS

LOCATION	SPV.0105.13 TRANSPRT & INSTALL STATE FRNSHD EMERG VEH PRE DTCR HEADS (STH 16 & STH 67 SB RAMPS) LS
STH 16 & STH 67 SB RAMPS	1
TOTAL	1

TRANSPORT TRAFFIC SIGNAL & INTERSECTION LIGHTING MATERIALS

LOCATION	SPV.0105.17 TRANSPORT TRAFFIC SGNL & INTERSECTION LIGHTING MATERIALS (STH 16 & STH 67 SB RAMPS) LS
STH 16 & STH 67 SB RAMPS	1
TOTAL	1

TEMPORARY EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM

LOCATION	SPV.0105.26 TEMPORARY EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM (STH 16 & STH 67 SB RAMPS) LS
STH 16 & STH 67 SB RAMPS	1
TOTAL	1

STH 16 & STH 67 SB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-1060

3

SUMMARY OF STATE FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
1	EACH	POLES TYPE 10
3	EACH	POLES TYPE 13
1	EACH	MONOTUBE ARMS 30-FT
1	EACH	MONOTUBE ARMS 50-FT
2	EACH	MONOTUBE ARMS 55-FT
4	EACH	LUMINAIRE ARMS STEEL 15-FT
1	EACH	TRAFFIC SIGNAL CONTROLLER, FULLY ACTUATED, 8-PHASE
4	EACH	EVP DETECTOR HEADS
1	EACH	TRAFFIC SIGNAL CABINET

NOTE: THIS TABLE IS FOR INFORMATION ONLY.

REMOVAL QUANTITIES

LOCATION	ITEM NO.	204.0195 REMOVING CONCRETE BASES EACH	653.0905 REMOVING PULL BOXES EACH
STH 16 & STH 67 NB RAMPS	PB1	--	1
	PB2	--	1
	PB3	--	1
	PB4	--	1
	PB5	--	1
	PB6	--	1
	PB7	--	1
	PB8	--	1
	PB9	--	1
	PB13	--	1
	PB14	--	1
	PB15	--	1
	PB16	--	1
	PB17	--	1
	PB18	--	1
	PB19	--	1
	PB20	--	1
	CB1	1	--
	SB1	1	--
	SB2	1	--
	SB3	1	--
	SB4	1	--
	SB5	1	--
	SB6	1	--
	SB7	1	--
	SB8	1	--
	SB9	1	--
	SB10	1	--
	SB11	1	--
TOTAL		12	17



CONDUIT ITEMS

LOCATION	FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615 CONDUIT SPECIAL 3-INCH LF	SPV.0060.17 EXPOSE EXISTING UTILITY EACH
STH 16 & STH 67 NB RAMPS	CB1	PB1	--	93	--	--
	PB1	SB1	12	--	--	--
	PB1	PB2	--	--	76	--
	PB2	PB3	--	--	80	--
	PB3	SB2	--	20	--	--
	PB3	PB4	--	84	--	--
	PB4	SB3	12	--	--	--
	PB4	PB5	--	--	118	--
	PB5	PB6	20	--	--	1
	PB5	PB7	--	--	144	--
	PB7	SB4	--	12	--	--
	PB7	PB8	--	--	82	--
	PB8	PB9	241	--	--	--
	PB8	PB10	--	--	62	--
	PB10	SB5	--	7	--	--
	PB10	PB11	--	76	--	--
	PB11	SB6	23	--	--	--
	PB11	PB12	37	--	--	--
	PB12	PB13	--	--	26	--
	PB13	SB7	6	--	--	--
	PB11	PB14	--	--	114	--
	PB14	PB15	20	--	--	2
	PB14	PB16	--	--	110	--
	PB16	SB8	--	9	--	--
	PB16	CB1	--	39	--	--
TOTAL			371	340	812	3

3

All items are category 0010

STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-0457 PAGE 1 OF 7

PROJECT NO: 3700-20-80 | HWY: STH 16 | COUNTY: WAUKESHA | MISCELLANEOUS QUANTITIES | SHEET NO:

PLOT DATE : 12/3/2019 11:33 AM PLOT BY : PLOT NAME : 030201_mq PLOT SCALE : 1.000000:1.000000
WISDOT / CADDS SHEET 42

3

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TRAFFIC DETECTOR LOOPS

LOCATION	LOOP NO.	HOME RUN PB	ALIGNMENT	STATION/OFFSET	SIZE	SDD INSTALLATION REFERENCE	NO. OF TURNS	PAVEMENT TYPE	652.0800 CONDUIT LOOP DETECTOR LF	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE L.F
STH 16 & STH 67 NB RAMPS	11	PB5	STH 16	27+24; 6.8' RT	6'X20'	9F15-A	3	CONCRETE	62	219	188
	12	PB5	STH 16	27+52; 6.1' RT	6'X20'	9F15-A	3	CONCRETE	64	219	192
	21	PB15	-	-	-	RE-WIRE LOOP ONLY	3	-	-	311	214
	51 (FUTURE)	PB14	STH 16	28+70; 11.6' LT	6'X20'	9F15-A	3	CONCRETE	66	76	196
	52 (FUTURE)	PB14	STH 16	28+42; 6.2' LT	6'X20'	9F15-A	3	CONCRETE	63	76	190
	61	PB6	-	-	-	RE-WIRE LOOP ONLY	3	-	-	461	206
	71	PB9	NB OFF-RAMP	312+77; 10.0' LT	6'X20'	9F15-A	3	CONCRETE	60	443	184
	72	PB7	NB OFF-RAMP	315+07; 6.3' LT	6'X20'	9F15-A	3	CONCRETE	71	243	206
	73	PB7	NB OFF-RAMP	315+35; 6.6' LT	6'X20'	9F15-A	3	CONCRETE	66	243	196
	74	PB8	NB OFF-RAMP	315+07; 18.9' LT	6'X20'	9F15-A	3	CONCRETE	67	202	198
	75	PB8	NB OFF-RAMP	315+35; 19.0' LT	6'X20'	9F15-A	3	CONCRETE	61	202	186
	81	PB1	STH 16	28+23; 83.8' RT	6'X20'	9F15-A	3	ASPHALT	67	39	198
	82	PB1	STH 16	28+22; 56.0' RT	6'X20'	9F15-A	3	CONCRETE	65	39	194
	83	PB2	STH 16	28+10; 84.0' RT	6'X20'	9F15-A	3	ASPHALT	62	77	188
	84	PB2	STH 16	28+10; 56.2' RT	6'X20'	9F15-A	3	CONCRETE	60	77	184
	TOTAL								834	2927	2920

*LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.

NOTES: FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD
SDD 9F15-4A: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)

PULL BOXES

LOCATION	PULL BOX NO.	ALIGNMENT	STATION	OFFSET	653.0135 PULL BOXES STEEL 24" x 36" EACH	653.0140 PULL BOXES STEEL 24" x 42" EACH
STH 16 & STH 67 NB RAMPS	PB1	STH 16	28+38	79' RT	--	1
	PB2	STH 16	27+99	79' RT	--	1
	PB3	STH 16	27+59	80' RT	--	1
	PB4	STH 16	27+25	55' RT	--	1
	PB5	STH 16	27+24	5' LT	--	1
	PB7	STH 16	27+58	68' LT	--	1
	PB8	STH 16	27+99	69' LT	--	1
	PB9	NB ON-RAMP	399+34	22' LT	1	--
	PB10	STH 16	28+30	69' LT	--	1
	PB11	STH 16	28+66	56' LT	--	1
	PB12	NB ON-RAMP	396+98	78' RT	--	1
	PB13	NB ON-RAMP	397+18	94' RT	--	1
	PB14	STH 16	28+66	1' RT	--	1
	PB16	STH 16	28+66	56' RT	--	1
TOTAL					1	13

TRAFFIC SIGNAL MOUNTING HARDWARE

LOCATION	658.5069.02 TRAFFIC SIGNAL MOUNTING HARDWARE (STH 16 & STH 67 NB RAMPS) LS
STH 16 & STH 67 NB RAMPS	1
TOTAL	1

STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-0457

PLOT DATE : 12/3/2019 11:33 AM PLOT BY : PLOT NAME : 030201_mq PLOT SCALE : 1.000000:1.000000
WISDOT / CADDS SHEET 42

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SIGNAL BASES AND POLES

LOCATION	SIG. BASE NO.	657.0100 PEDESTAL BASE EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	SPV.0060.02 INSTALL POLES TYPE 10 EACH	SPV.0060.05 INSTALL POLES TYPE 13 EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	SPV.0060.09 INSTALL MONOTUBE ARMS 30-FT EACH	SPV.0060.13 INSTALL MONOTUBE ARMS 50-FT EACH	SPV.0060.14 INSTALL MONOTUBE ARMS 55-FT EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	SPV.0060.15 INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	659.1125 LUMINAIRES UTILITY LED C EACH
STH 16 & STH 67 NB RAMPS	SB1	1	--	--	--	--	1	--	--	--	--	--	--	--
	SB2	--	--	--	--	1	--	--	--	1	--	--	1	1
	SB3	1	--	--	--	--	--	1	--	--	--	--	--	--
	SB4	--	--	--	--	1	--	--	--	--	1	--	1	1
	SB5	--	--	--	1	--	--	--	1	--	--	--	1	1
	SB6	1	--	--	--	--	--	1	--	--	--	--	--	--
	SB7	--	1	1	--	--	--	--	--	--	--	1	--	1
	SB8	--	--	--	--	1	--	--	--	--	1	--	1	1
TOTAL		3	1	1	1	3	1	2	1	1	2	1	4	5

CONCRETE BASES

LOCATION	SIGNAL BASE NO.	ALIGNMENT	STATION	OFFSET	654.0101 CONCRETE BASES TYPE 1 EACH	654.0105 CONCRETE BASES TYPE 5 EACH	654.0110 CONCRETE BASES TYPE 10 EACH	654.0113 CONCRETE BASES TYPE 13 EACH	654.0217 CONCRETE CONTROL CABINET BASE TYPE 9 SPECIAL EACH
STH 16 & STH 67 NB RAMPS	CB1	STH 16	28+66	70' RT	--	--	--	--	1
	SB1	STH 16	28+41	68' RT	1	--	--	--	--
	SB2	STH 16	27+44	66' RT	--	--	--	1	--
	SB3	STH 16	27+37	57' RT	1	--	--	--	--
	SB4	STH 16	27+62	57' LT	--	--	--	1	--
	SB5	STH 16	28+33	63' LT	--	--	1	--	--
	SB6	STH 16	28+43	54' LT	1	--	--	--	--
	SB7	NB ON-RAMP	397+21	89' RT	--	1	--	--	--
	SB8	STH 16	28+57	57' RT	--	--	--	1	--
TOTAL					3	1	1	3	1

STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-0457

TRAFFIC SIGNAL CABLE

LOCATION	LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF.	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG LF.	655.0320 CABLE TYPE UF 2-10 AWG GROUNDED L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	655.0900+ TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
STH 16 & STH 67 NB RAMPS	CB1		SB1	--	--	71	--	--	71	--	--
	CB1		SB2	--	--	187	--	--	--	--	267
	CB1		SB3	--	--	236	--	--	--	--	--
	CB1		SB4	--	--	--	350	--	--	--	430
	CB1		SB5	--	--	243	--	--	--	--	298
	CB1		SB6	--	--	206	--	--	--	--	--
	CB1		SB8	--	--	50	--	--	50	--	130
	SB1		SB2	--	--	--	--	--	165	--	--
	SB2		SB3	--	--	--	--	--	114	--	--
	SB2		SB4	--	--	--	--	275	--	--	--
	SB3		SB4	--	--	--	--	--	210	--	--
	SB4		SB5	--	--	--	--	--	146	--	--
	SB5		SB6	--	--	--	--	--	108	--	--
	SB5		SB7	--	--	--	--	184	--	--	--
	SB5		SB8	--	--	--	--	236	--	--	--
	SB6		SB8	--	--	--	--	--	184	--	--
	PB1		SB1	--	--	--	--	--	32	--	--
	PB2		SB1	--	--	--	--	--	85	--	--
	PB3		SB2	--	--	--	--	--	40	--	--
	PB4		SB3	--	--	--	--	--	32	--	--
	PB5		SB3	--	--	--	--	--	106	--	--
	PB7		SB4	--	--	--	--	--	32	--	--
	PB8		SB5	--	--	--	--	--	73	--	--
	PB10		SB5	--	--	--	--	--	27	--	--
	PB11		SB6	--	--	--	--	--	43	--	--
	PB14		SB8	--	--	--	--	--	99	--	--
	PB16		SB8	--	--	--	--	--	29	--	--

(CONTINUED ON NEXT PAGE)

+EVP DETECTOR CABLE IS MEASURED FROM CB1 TO THE EVP DETECTOR HEADS.

STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-0457

TRAFFIC SIGNAL CABLE **(CONTINUED FROM PREVIOUS PAGE)**

LOCATION	LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF.	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG LF.	655.0320 CABLE TYPE UF 2-10 AWG GROUNDED L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	655.0900+ TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
STH 16 & STH 67 NB RAMPS	SB1		HEAD 11	19	--	--	--	--	--	--	--
	SB2		HEAD 19	19	--	--	--	--	--	--	--
	SB2		HEAD 17	--	75	--	--	--	--	--	--
	SB2		HEAD 18	75	--	--	--	--	--	--	--
	SB2		HEAD 20	75	--	--	--	--	--	--	--
	SB2		LUMINAIRE	--	--	--	--	--	--	145	--
	SB3		HEAD 1	21	--	--	--	--	--	--	--
	SB3		HEAD 9	--	22	--	--	--	--	--	--
	SB4		HEAD 7	80	--	--	--	--	--	--	--
	SB4		HEAD 8	80	--	--	--	--	--	--	--
	SB4		HEAD 10	--	81	--	--	--	--	--	--
	SB4		HEAD 14	26	--	--	--	--	--	--	--
	SB4		HEAD 16	26	--	--	--	--	--	--	--
	SB4		LUMINAIRE	--	--	--	--	--	--	145	--
	SB5		HEAD 12	55	--	--	--	--	--	--	--
	SB5		HEAD 13	26	--	--	--	--	--	--	--
	SB5		HEAD 15	55	--	--	--	--	--	--	--
	SB5		LUMINAIRE	--	--	--	--	--	--	145	--
	SB6		HEAD 4	--	22	--	--	--	--	--	--
	SB6		HEAD 6	21	--	--	--	--	--	--	--
	SB7		LUMINAIRE	--	--	--	--	--	--	117	--
	SB8		HEAD 2	80	--	--	--	--	--	--	--
	SB8		HEAD 3	80	--	--	--	--	--	--	--
	SB8		HEAD 5	--	81	--	--	--	--	--	--
	SB8		LUMINAIRE	--	--	--	--	--	--	145	--
INTERSECTION TOTAL				738	281	993	350	695	1646	697	1125

+EVP DETECTOR CABLE IS MEASURED FROM CB1 TO THE EVP DETECTOR HEADS.

STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-0457

3

3

SIGNAL FACES

LOCATION	SIG. BASE NO.	SIG. HEAD NO.	TYPE OF MOUNT	658.0173 TRAFFIC SIGNAL FACE 3S 12-INCH EACH	658.0174 TRAFFIC SIGNAL FACE 4S 12-INCH EACH	* LED RED BALL EACH	* LED YELLOW BALL EACH	* LED GREEN BALL EACH	* LED RED ARROW EACH	* LED YELLOW ARROW EACH	* LED GREEN ARROW EACH	* BCKPLT 3-SEC. EACH	* BCKPLT 4-SEC. EACH
STH 16 & STH 67 NB RAMPS	SB1	11	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB1	19	POST MOUNT VERTICAL	1	--	--	--	--	1	1	1	1	--
	SB2	17	MONOTUBE ARM MOUNT VERTICAL	--	1	1	1	1	--	--	1	--	1
	SB2	18	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB2	20	MONOTUBE ARM MOUNT VERTICAL	1	--	--	--	--	1	1	1	1	--
	SB3	1	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB3	9	POST MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
	SB4	7	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB4	8	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB4	10	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
	SB4	14	MONOTUBE POLE MOUNT VERTICAL	1	--	--	--	--	1	1	1	1	--
	SB4	16	MONOTUBE POLE MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB5	12	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB5	13	MONOTUBE POLE MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB5	15	MONOTUBE ARM MOUNT VERTICAL	1	--	--	--	--	1	1	1	1	--
	SB6	4	POST MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
	SB6	6	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB8	2	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB8	3	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB8	5	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
TOTAL				15	5	12	12	12	8	12	9	15	5

*INCIDENTAL TO ITEM 658.0173 OR 658.0174

REMOVING TRAFFIC SIGNALS

LOCATION	204.9105.S.02 REMOVING TRAFIC SIGNALS (STH 16 & STH 67 NB RAMPS) LS
STH 16 & STH 67 NB RAMPS	1
TOTAL	1

REMOVING LOOP DETECTOR WIRE AND LEAD-IN CABLE

LOCATION	204.9105.S.07 REMOVING LOOP DETECTOR WIRE AND LEAD-IN CABLE (STH 16 & STH 67 NB RAMPS) LS
STH 16 & STH 67 NB RAMPS	1
TOTAL	1

STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-0457

PLOT DATE : 12/3/2019 11:33 AM PLOT BY : PLOT NAME : 030201_mq PLOT SCALE : 1.000000:1.000000 WISDOT / CADDS SHEET 42

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TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS

LOCATION	661.0200.02 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (STH 16 & STH 67 NB RAMPS) LS
STH 16 & STH 67 NB RAMPS	1
TOTAL	1

TRANSPORT & INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET

LOCATION	SPV.0105.02 TRANSPRT & INSTALL STATE FURNISHED TRAFFIC SGNL CABINET (STH 16 & STH 67 NB RAMPS) LS
STH 16 & STH 67 NB RAMPS	1
TOTAL	1

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TEMPORARY VEHICLE DETECTION

LOCATION	SPV.0105.07 TEMPORARY VEHICLE DETECTION (STH 16 & STH 67 NB RAMPS) LS
STH 16 & STH 67 NB RAMPS	1
TOTAL	1

TRANSPORT & INSTALL STATE FURNISHED EMERGENCY VEHICLE PREEMPTION DETECTOR HEADS

LOCATION	SPV.0105.14 TRANSPRT & INSTALL STATE FRNSHD EMERG VEH PRE DTCT HEADS (STH 16 & STH 67 NB RAMPS) LS
STH 16 & STH 67 NB RAMPS	1
TOTAL	1

TRANSPORT TRAFFIC SIGNAL & INTERSECTION LIGHTING MATERIALS

LOCATION	SPV.0105.18 TRANSPORT TRAFFIC SGNL & INTERSECTION LIGHTING MATERIALS (STH 16 & STH 67 NB RAMPS) LS
STH 16 & STH 67 NB RAMPS	1
TOTAL	1

TEMPORARY EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM

LOCATION	SPV.0105.27 TEMPORARY EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM (STH 16 & STH 67 NB RAMPS) LS
STH 16 & STH 67 NB RAMPS	1
TOTAL	1

STH 16 & STH 67 NB RAMPS
TOWN OF OCONOMOWOC
WAUKESHA COUNTY

SIGNAL NO: S67-0457

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SUMMARY OF STATE FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
3	EACH	POLES TYPE 10
1	EACH	POLES TYPE 10 SPECIAL
1	EACH	MONOTUBE ARMS 25-FT
2	EACH	MONOTUBE ARMS 30-FT
1	EACH	MONOTUBE ARMS 40-FT
4	EACH	LUMINAIRE ARMS STEEL 15-FT
1	EACH	TRAFFIC SIGNAL CONTROLLER, FULLY ACTUATED, 8-PHASE
4	EACH	EVP DETECTOR HEADS
1	EACH	TRAFFIC SIGNAL CABINET

NOTE: THIS TABLE IS FOR INFORMATION ONLY.

REMOVAL QUANTITIES

LOCATION	ITEM NO.	204.0195 REMOVING CONCRETE BASES EACH	653.0905# REMOVING PULL BOXES EACH
STH 33 & CTH O	PB1	--	1
	PB2	--	1
	PB3	--	1
	PB4	--	1
	PB5	--	1
	PB6	--	1
	PB7	--	1
	PB8	--	1
	PB9	--	1
	PB10	--	1
	PB11	--	1
	PB12	--	1
	SB1	1	--
	SB2	1	--
	SB3	1	--
	SB4	1	--
	SB5	1	--
	SB6	1	--
	SB7	1	--
	SB8	1	--
TOTAL		8	12

#SEE REMOVAL PLANS FOR SPECIFIC REMOVAL DETAILS

WISCONSIN
JOHN P. BRUGGEMAN
E-39737
BAYSIDE, WI
PROFESSIONAL ENGINEER
12/4/19

CONDUIT ITEMS

LOCATION	FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH	SPV.0060.17 EXPOSE EXISTING UTILITY EACH
STH 33 & CTH O	PB1	SB1	--	14	1	--
	PB2	SB2	15	--	1	--
	PB4	SB3	--	16	1	--
	PB5	SB4	5	--	1	--
	PB8	SB5	--	5	1	--
	PB9	SB6	10	--	1	--
	PB11	SB7	--	10	1	--
	PB12	SB8	13	--	1	--
	EXISTING*	PB10	17	--	--	1
	TOTAL		60	45	8	1

*INTERCEPT EXISTING CONDUIT AT APPROXIMATE STATION 83+14, 25.3' RT

REMOVING TRAFFIC SIGNALS

LOCATION	204.9105.S.03 REMOVING TRAFFIC SIGNALS (STH 33 & CTH O) LS
STH 33 & CTH O	1
TOTAL	1

REMOVING LOOP DETECTOR WIRE AND LEAD-IN CABLE

LOCATION	204.9105.S.08 REMOVING LOOP DETECTOR WIRE AND LEAD-IN CABLE (STH 33 & CTH O) LS
STH 33 & CTH O	1
TOTAL	1

All items are category 0010

STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY

SIGNAL NO: S45-0412 PAGE 1 OF 7

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PULL BOXES, STEEL FRAMES, & LIDS

LOCATION	PULL BOX NO.	STATION**	OFFSET	653.0135 PULL BOXES STEEL 24" x 36" EACH	SPV.0060.16 PULL BOXES STEEL FRAMES & LIDS EACH
STH 33 & CTH O	PB1	-	-	--	1
	PB2	-	-	--	1
	PB3	-	-	--	1
	PB4	-	-	--	1
	PB5	-	-	--	1
	PB6	-	-	--	1
	PB7	-	-	--	1
	PB8	-	-	--	1
	PB9	-	-	--	1
	PB10	82+97	24.6' RT	1	--
	PB11	-	-	--	1
	PB12	-	-	--	1
TOTAL				1	11

**STH 33 ALIGNMENT

ELECTRICAL SERVICE METER BREAKER PEDESTAL

LOCATION	656.0200.01 ELECTRICAL SERVICE METER BREAKER PEDESTAL (STH 33 & CTH O) LS
STH 33 & CTH O	1
TOTAL	1

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TRAFFIC DETECTOR LOOPS

LOCATION	LOOP NO.	HOME RUN PB	STATION/OFFSET**	SIZE	SDD INSTALLATION REFERENCE	NO. OF TURNS	PAVEMENT TYPE	652.0800 CONDUIT LOOP DETECTOR LF	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE L.F
STH 33 & CTH O	11 (FUTURE)	PB9	-	-	RE-WIRE ONLY	3	-	-	158	218
	12 (FUTURE)	PB9	-	-	RE-WIRE ONLY	3	-	-	158	212
	21	PB3	-	-	RE-WIRE ONLY	3	-	-	221	120
	41	PB13	-	-	RE-WIRE ONLY	3	-	-	235	102
	42	PB12	-	-	RE-WIRE ONLY	3	-	-	69	192
	43	PB12	-	-	RE-WIRE ONLY	3	-	-	69	182
	44	PB12	-	-	RE-WIRE ONLY	3	-	-	69	212
	45	PB12	-	-	RE-WIRE ONLY	3	-	-	69	208
	51 (FUTURE)	PB2	-	-	RE-WIRE ONLY	3	-	-	56	232
	52 (FUTURE)	PB2	-	-	RE-WIRE ONLY	3	-	-	56	230
	61	PB10	82+97; 8.1' RT	6'X6'	9F15-4B	4	ASPHALT	38	342	136
	81	PB7	-	-	RE-WIRE ONLY	4	-	-	318	132
	82	PB6	-	-	RE-WIRE ONLY	3	-	-	157	202
	83	PB6	-	-	RE-WIRE ONLY	3	-	-	157	186
	84	PB6	-	-	RE-WIRE ONLY	3	-	-	157	220
	85	PB6	-	-	RE-WIRE ONLY	3	-	-	157	212
	TOTAL							38	2448	2996

**STH 33 ALIGNMENT

*LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.

NOTES: FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD
SDD 9F15-4B: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)

STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY

SIGNAL NO: S45-0412

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SIGNAL BASES AND POLES

LOCATION	SIG. BASE NO.	657.0100 PEDESTAL BASE EACH	SPV.0060.02 INSTALL POLES TYPE 10 EACH	SPV.0060.03 INSTALL POLES TYPE 10 SPECIAL EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	SPV.0060.08 INSTALL MONOTUBE ARMS 25-FT EACH	SPV.0060.09 INSTALL MONOTUBE ARMS 30-FT EACH	SPV.0060.11 INSTALL MONOTUBE ARMS 40-FT EACH	SPV.0060.15 INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	659.1125 LUMINAIRES UTILITY LED C EACH
STH 33 & CTH O	SB1	--	1	--	--	--	1	--	1	1	1
	SB2	1	--	--	1	--	--	--	--	1	--
	SB3	--	1	--	--	--	1	--	1	1	1
	SB4	1	--	--	1	--	--	--	--	1	--
	SB5	--	1	--	--	1	--	--	1	1	1
	SB6	1	--	--	1	--	--	--	--	1	--
	SB7	--	--	1	--	--	--	1	1	1	1
	SB8	1	--	--	1	--	--	--	--	1	--
TOTAL		4	3	1	4	1	2	1	4	8	4

CONCRETE BASES

LOCATION	SIGNAL BASE NO.	ALIGNMENT	STATION	OFFSET	654.0101 CONCRETE BASES TYPE 1 EACH	654.0110 CONCRETE BASES TYPE 10 EACH	SPV.0060.01 CONCRETE BASES TYPE 10 SPECIAL EACH
STH 33 & CTH O	SB1	STH 33	85+56	48' LT	--	1	--
	SB2	STH 33	85+71	30' LT	1	--	--
	SB3	STH 33	85+67	32' RT	--	1	--
	SB4	STH 33	85+56	41' RT	1		--
	SB5	STH 33	85+05	42' RT	--	1	--
	SB6	STH 33	84+90	30' RT	1	--	--
	SB7	STH 33	84+91	32' LT	--	--	1
	SB8	STH 33	84+99	41' LT	1	--	--
TOTAL					4	3	1

STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY

SIGNAL NO: S45-0412

TRAFFIC SIGNAL CABLE

LOCATION	LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG LF.	655.0320 CABLE TYPE UF 2-10 AWG GROUNDED L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	(INCIDENTAL) LOOP DETECTOR LEAD-IN CABLE L.F.	655.0900[+] TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
STH 33 & CTH O	CB1		SB1	--	--	49	49	49	--	--	104
	CB1		SB2	--	--	106	--	--	--	--	--
	CB1		SB3	--	--	180	--	--	--	--	235
	CB1		SB4	--	--	216	--	--	--	--	--
	CB1		SB5	--	--	263	--	--	--	--	313
	CB1		SB6	--	--	234	--	--	--	--	--
	CB1		SB7	--	--	160	160	--	--	--	225
	CB1		SB8	--	--	117	--	117	--	--	--
	SB1		SB2	--	--	--	--	110	--	--	--
	SB1		SB3	--	--	--	184	--	--	--	--
	SB2		SB3	--	--	--	--	129	--	--	--
	SB3		SB4	--	--	--	--	93	--	--	--
	SB4		SB5	--	--	--	--	97	--	--	--
	SB5		SB6	--	--	--	--	82	--	--	--
	SB5		SB7	--	--	--	156	--	--	--	--
	SB6		SB7	--	--	--	--	119	--	--	--
	SB7		SB8	--	--	--	--	94	--	--	--
	PB1		SB1	--	--	--	--	34	--	--	--
	PB2		SB2	--	--	--	--	35	--	--	--
	PB4		SB3	--	--	--	--	36	--	--	--
	PB5		SB4	--	--	--	--	25	--	--	--
	PB8		SB5	--	--	--	--	25	--	--	--
	PB9		SB6	--	--	--	--	30	--	--	--
	PB11		SB7	--	--	--	--	30	--	--	--
	PB12		SB8	--	--	--	--	33	--	--	--

(CONTINUED ON NEXT PAGE)

[+]EVP DETECTOR CABLE IS MEASURED FROM CB1 TO THE EVP DETECTOR HEADS.

STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY

SIGNAL NO: S45-0412

TRAFFIC SIGNAL CABLE **(CONTINUED FROM PREVIOUS PAGE)**

LOCATION	LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG LF.	655.0320 CABLE TYPE UF 2-10 AWG GROUNDED L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	(INCIDENTAL) LOOP DETECTOR LEAD-IN CABLE L.F.	655.0900+ TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
STH 33 & CTH O	SB1		HEAD 12	55	--	--	--	--	--	--	--
	SB1		HEAD 13	55	--	--	--	--	--	--	--
	SB1		HEAD 15	--	56	--	--	--	--	--	--
	SB1		HEAD 23	15	--	--	--	--	--	--	--
	SB1		PUSH BUTTON	--	--	--	--	--	--	6	--
	SB1		LUMINAIRE	--	--	--	--	--	145	--	--
	SB2		HEAD 4	--	22	--	--	--	--	--	--
	SB2		HEAD 6	21	--	--	--	--	--	--	--
	SB2		HEAD 22	15	--	--	--	--	--	--	--
	SB2		PUSH BUTTON	--	--	--	--	--	--	6	--
	SB3		HEAD 2	55	--	--	--	--	--	--	--
	SB3		HEAD 3	55	--	--	--	--	--	--	--
	SB3		HEAD 5	--	56	--	--	--	--	--	--
	SB3		HEAD 25	15	--	--	--	--	--	--	--
	SB3		PUSH BUTTON	--	--	--	--	--	--	6	--
	SB3		LUMINAIRE	--	--	--	--	--	145	--	--
	SB4		HEAD 11	21	--	--	--	--	--	--	--
	SB4		HEAD 19	--	22	--	--	--	--	--	--
	SB4		HEAD 24	15	--	--	--	--	--	--	--
	SB4		PUSH BUTTON	--	--	--	--	--	--	6	--
	SB5		HEAD 17	50	--	--	--	--	--	--	--
	SB5		HEAD 18	26	--	--	--	--	--	--	--
	SB5		HEAD 20	--	50	--	--	--	--	--	--
	SB5		HEAD 27	15	--	--	--	--	--	--	--
	SB5		PUSH BUTTON	--	--	--	--	--	--	6	--
	SB5		LUMINAIRE	--	--	--	--	--	145	--	--
	SB6		HEAD 1	21	--	--	--	--	--	--	--
	SB6		HEAD 9	--	22	--	--	--	--	--	--
	SB6		HEAD 26	15	--	--	--	--	--	--	--
	SB6		PUSH BUTTON	--	--	--	--	--	--	6	--
	SB7		HEAD 7	65	--	--	--	--	--	--	--
	SB7		HEAD 8	65	--	--	--	--	--	--	--
	SB7		HEAD 10	--	66	--	--	--	--	--	--
	SB7		HEAD 21	15	--	--	--	--	--	--	--
	SB7		PUSH BUTTON	--	--	--	--	--	--	6	--
	SB7		LUMINAIRE	--	--	--	--	--	145	--	--
	SB8		HEAD 14	--	22	--	--	--	--	--	--
	SB8		HEAD 16	21	--	--	--	--	--	--	--
	SB8		HEAD 28	15	--	--	--	--	--	--	--
	SB8		PUSH BUTTON	--	--	--	--	--	--	6	--
INTERSECTION TOTAL				630	316	1325	549	1138	580	48	877

+EVP DETECTOR CABLE IS MEASURED FROM CB1 TO THE EVP DETECTOR HEADS.

STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY

SIGNAL NO: S45-0412

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SIGNAL FACES

LOCATION	SIG. BASE NO.	SIG. HEAD NO.	TYPE OF MOUNT	658.0173 TRAFFIC SIGNAL FACE 3S 12-INCH EACH	658.0174 TRAFFIC SIGNAL FACE 4S 12-INCH EACH	* LED RED BALL EACH	* LED YELLOW BALL EACH	* LED GREEN BALL EACH	* LED RED ARROW EACH	* LED YELLOW ARROW EACH	* LED GREEN ARROW EACH	* BCKPLT 3-SEC. EACH	* BCKPLT 4-SEC. EACH	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH EACH	** PEDESTRIAN COUNTDOWN TIMER 16" EACH
STH 33 & CTH O	SB1	12	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB1	13	MONOTUBE POLE MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB1	15	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB1	23	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB2	4	POST MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB2	6	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB2	22	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB3	2	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB3	3	MONOTUBE POLE MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB3	5	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB3	25	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB4	11	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB4	19	POST MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB4	24	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB5	17	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB5	18	MONOTUBE POLE MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB5	20	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB5	27	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB6	1	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB6	9	POST MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB6	26	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB7	7	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB7	8	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB7	10	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB7	21	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB8	14	POST MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB8	16	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB8	28	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
TOTAL				12	8	12	12	12	8	16	8	12	8	8	8

*INCIDENTAL TO ITEM 658.0173 OR 658.0174
**INCIDENTAL TO ITEM 658.0416

TRAFFIC SIGNAL MOUNTING HARDWARE

LOCATION	658.5069.03 TRAFFIC SIGNAL MOUNTING HARDWARE (STH 33 & CTH O) LS
STH 33 & CTH O	1
TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS

LOCATION	661.0200.03 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (STH 33 & CTH O) LS
STH 33 & CTH O	1
TOTAL	1

STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY

SIGNAL NO: S45-0412

PLOT DATE : 12/3/2019 11:35 AM PLOT BY : PLOT NAME : 030201_mq PLOT SCALE : 1.000000:1.000000
WISDOT / CADDS SHEET 42

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TRANSPORT & INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET

LOCATION	SPV.0105.03 TRANSPRT & INSTALL STATE FURNISHED TRAFFIC SGNL CABINET (STH 33 & CTH O) LS
STH 33 & CTH O	1
TOTAL	1

TEMPORARY VEHICLE DETECTION

LOCATION	SPV.0105.08 TEMPORARY VEHICLE DETECTION (STH 33 & CTH O) LS
STH 33 & CTH O	1
TOTAL	1

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TRANSPORT & INSTALL STATE FURNISHED EMERGENCY VEHICLE PREEMPTION DETECTOR HEADS

LOCATION	SPV.0105.15 TRANSPRT & INSTALL STATE FRNSHD EMERG VEH PRE DTCR HEADS (STH 33 & CTH O) LS
STH 33 & CTH O	1
TOTAL	1

TRANSPORT TRAFFIC SIGNAL & INTERSECTION LIGHTING MATERIALS

LOCATION	SPV.0105.19 TRANSPORT TRAFFIC SGNL & INTERSECTION LIGHTING MATERIALS (STH 33 & CTH O) LS
STH 33 & CTH O	1
TOTAL	1

REMOVE, SALVAGE & REINSTALL FIBER OPTIC TRAFFIC SIGNAL EQUIPMENT

LOCATION	SPV.0105.22 REMOVE, SALVAGE, AND REINSTALL FIBER OPTIC TRAFF SGNL EQUIP (STH 33 & CTH O) LS
STH 33 & CTH O	1
TOTAL	1

TEMPORARY EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM

LOCATION	SPV.0105.28 TEMPORARY EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM (STH 33 & CTH O) LS
STH 33 & CTH O	1
TOTAL	1

STH 33 & CTH O
VILLAGE OF SAUKVILLE
OZAUKEE COUNTY

SIGNAL NO: S45-0412

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REMOVAL QUANTITIES

LOCATION	ITEM NO.	204.0195 REMOVING CONCRETE BASES EACH	SPV.0060.18 ABANDONING PULL BOXES EACH	653.0905 REMOVING PULL BOXES EACH
STH 59/164 & CTH Y	PB1	--	--	1
	PB2	--	--	1
	PB3	--	--	1
	PB4	--	--	1
	PB5	--	--	1
	PB7	--	--	1
	PB9	--	--	1
	PB10	--	1	--
	PB11	--	--	1
	PB13	--	--	1
	PB15	--	--	1
	PB20	--	--	1
	PB21	--	--	1
	PB22	--	--	1
	PB23	--	1	--
	PB24	--	--	1
	PB25	--	--	1
	PB26	--	--	1
	PB27	--	--	1
	PB29	--	--	1
	PB30	--	1	--
	PB32	--	--	1
	PB33	--	--	1
	PB34	--	--	1
	PB35	--	--	1
	PB38	--	--	1
	PB39	--	--	1
	PB40	--	1	--
	PB41	--	--	1
	PB42	--	--	1
	PB43	--	--	1
	PB44	--	--	1
	PB45	--	--	1
	PB46	--	--	1
	PB47	--	--	1
	CB1	1	--	--
	SB1	1	--	--
	SB2	1	--	--
	SB3	1	--	--
	SB4	1	--	--
	SB5	1	--	--
	SB6	1	--	--
	SB7	1	--	--
	SB8	1	--	--
	SB9	1	--	--
	SB10	1	--	--
	SB11	1	--	--
	SB12	1	--	--
	SB13	1	--	--
	SB14	1	--	--
	SB15	1	--	--
	SB16	1	--	--
TOTAL		17	4	31

SUMMARY OF STATE FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
2	EACH	POLES TYPE 10
1	EACH	POLES TYPE 10 SPECIAL
1	EACH	POLES TYPE 13
2	EACH	POLES TYPE 13-OVER HEIGHT
2	EACH	MONOTUBE ARMS 15-FT
1	EACH	MONOTUBE ARMS 45-FT
3	EACH	MONOTUBE ARMS 50-FT
8	EACH	LUMINAIRE ARMS STEEL 15-FT
1	EACH	TRAFFIC SIGNAL CONTROLLER, FULLY ACTUATED, 8-PHASE
4	EACH	EVP DETECTOR HEADS
2	EACH	RADAR DETECTION UNITS
1	EACH	TRAFFIC SIGNAL CABINET
9	EACH	AUDIBLE PEDESTRIAN PUSH BUTTONS

NOTE: THIS TABLE IS FOR INFORMATION ONLY.

PULL BOXES

LOCATION	PULL BOX NO.	ALIGNMENT	STATION	OFFSET	653.0135 PULL BOXES STEEL 24" x 36" EACH	653.0140 PULL BOXES STEEL 24" x 42" EACH
STH 59/164 & CTH Y	PB1	RACINE AVE	256+30	87' LT	--	1
	PB2	RACINE AVE	256+55	69' LT	--	1
	PB3	RACINE AVE	257+02	95' LT	--	1
	PB4	RACINE AVE	257+06	69' LT	1	--
	PB5	RACINE AVE	257+27	99' LT	--	1
	PB6	RACINE AVE	257+70	108' LT	--	1
	PB7	RACINE AVE	258+07	71' LT	--	1
	PB8	RACINE AVE	258+03	43' LT	--	1
	PB9	RACINE AVE	258+90	46' LT	--	1
	PB10	RACINE AVE	258+91	4' RT	--	1
	PB12	RACINE AVE	258+20	4' RT	1	--
	PB13	RACINE AVE	260+08	1' LT	--	1
	PB14	RACINE AVE	260+64	4' LT	--	1
	PB15	RACINE AVE	261+55	41' LT	--	1
	PB16	RACINE AVE	258+91	44' RT	--	1
	PB17	RACINE AVE	258+57	78' RT	--	1
	PB18	RACINE AVE	258+21	66' RT	--	1
	PB19	RACINE AVE	257+68	98' RT	--	1
	PB21	RACINE AVE	256+83	110' RT	--	1
	PB22	RACINE AVE	256+19	74' RT	--	1
	PB23	RACINE AVE	254+28	39' RT	1	--
	PB24	RACINE AVE	256+16	41' RT	--	1
	PB26	RACINE AVE	256+09	6' LT	--	1
	PB28	RACINE AVE	256+04	49' LT	--	1
TOTAL					3	21

WISCONSIN
JOHN P. BRUGGEMAN
E-39737
BAYSIDE, WI
PROFESSIONAL ENGINEER
12/4/19

All items are category 0010

STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY

SIGNAL NO: S67-0298 PAGE 1 OF 8

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CONDUIT ITEMS

LOCATION	FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615 CONDUIT SPECIAL 3-INCH LF	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH	SPV.0060.17 EXPOSE EXISTING UTILITY EACH
STH 59/164 & CTH Y	CB1	PB1	--	78	--	--	--
	PB1	PB2	--	--	32	--	--
	PB2	SB1	26	--	--	--	--
	PB2	SB2	--	14	--	--	--
	PB1	SB12	16	--	--	--	--
	PB1	PB3	--	--	158	--	--
	PB3	PB4	--	26	--	--	--
	PB3	PB5	--	--	56	--	--
	PB4	SB3	16	--	--	--	--
	PB4	SB4	--	7	--	--	--
	PB5	PB6	--	--	94	--	--
	PB5	SB17	20	--	--	--	1
	PB6	PB7	--	112	--	--	--
	PB7	SB13	7	--	--	--	--
	PB7	PB8	--	--	29	--	--
	PB7	PB9	--	182	--	--	--
	PB8	SB5	18	--	--	--	--
	PB8	SB6	--	9	--	--	--
	PB9	PB10	--	--	100	--	--
	PB10	PB13	--	--	117	--	--
	PB10	PB11	46	--	--	1	--
	PB11	PB12	25	--	--	--	--
	PB13	PB14	57	--	--	--	--
	PB14	PB15	--	--	100	--	--
	PB10	PB16	--	--	80	--	--
	PB16	PB17	--	--	96	--	--
	PB17	SB14	13	--	--	--	--
	PB17	PB18	--	--	36	--	--
	PB18	SB7	18	--	--	--	--
	PB18	SB8	--	19	--	--	--
	PB17	PB19	--	--	170	--	--
	PB19	SB9	--	43	--	--	--
	PB19	PB20	--	--	56	1	--
	PB20	SB16	10	--	--	--	1
	PB20	PB21	--	--	100	--	--
	PB21	PB22	--	138	--	--	--
	PB22	SB15	34	--	--	--	--
	PB22	PB23	188	--	--	--	--
	PB22	PB24	--	--	66	--	--
	PB24	PB25	--	26	--	1	--
	PB25	SB10	--	20	--	--	--
	PB25	SB11	30	--	--	--	--
	PB24	PB26	--	--	94	1	--
	PB26	PB27	34	--	--	1	--
	PB26	PB28	--	--	88	--	--
	PB28	CB1	--	165	--	--	--
TOTAL			558	839	1472	5	2

REMOVING TRAFFIC SIGNALS

LOCATION	204.9105.S.04 REMOVING TRAFFIC SIGNALS (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

REMOVING LOOP DETECTOR WIRE AND LEAD-IN CABLE

LOCATION	204.9105.S.09 REMOVING LOOP DETECTOR WIRE AND LEAD-IN CABLE (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

ELECTRICAL SERVICE METER BREAKER PEDESTAL

LOCATION	656.0200.02 ELECTRICAL SERVICE METER BREAKER PEDESTAL (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY

SIGNAL NO: S67-0298

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TRAFFIC DETECTOR LOOPS

LOCATION	LOOP NO.	HOME RUN PB	ALIGNMENT	STATION/OFFSET	SIZE	SDD INSTALLATION REFERENCE	NO. OF TURNS	PAVEMENT TYPE	652.0800 CONDUIT LOOP DETECTOR LF	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE L.F
STH 59/164 & CTH Y	11	PB20	-	-	-	RE-WIRE LOOP ONLY	3	-	-	305	192
	12	PB19	STH 59	176+49; 4' LT	6'X20'	9F15-4A	3	CONCRETE	67	333	198
	13	PB19	STH 59	176+79; 4' LT	6'X20'	9F15-4A	3	CONCRETE	91	333	246
	41	PB23	RACINE AVE	254+30; 17' RT	6'X20'	9F15-4A	3	CONCRETE	64	374	192
	42	PB25	-	-	-	RE-WIRE LOOP ONLY	3	-	-	180	194
	43	PB25	RACINE AVE	256+67; 28' RT	6'X20'	9F15-4A	3	CONCRETE	64	180	192
	44	PB25	-	-	-	RE-WIRE LOOP ONLY	3	-	-	180	218
	45	PB25	RACINE AVE	256+67; 15' RT	6'X20'	9F15-4B	3	CONCRETE	77	180	218
	51	PB5	-	-	-	RE-WIRE LOOP ONLY	3	-	-	139	194
	52	PB4	STH 59	177+98; 2' RT	6'X20'	9F15-4A	3	CONCRETE	65	139	194
	53	PB4	STH 59	177+70; 2' RT	6'X20'	9F15-4A	3	CONCRETE	67	139	198
	71	PB26	-	-	-	RE-WIRE LOOP ONLY	3	-	-	106	192
	72	PB26	-	-	-	RE-WIRE LOOP ONLY	3	-	-	106	184
	73	PB27	-	-	-	RE-WIRE LOOP ONLY	3	-	-	140	182
	81	PB15	RACINE AVE	261+56; 23' LT	6'X20'	9F15-4A	4	CONCRETE	61	658	238
	82	PB13	RACINE AVE	260+07; 21' LT	6'X20'	9F15-4A	3	CONCRETE	61	502	186
	83	PB8	RACINE AVE	258+21; 28' LT	6'X20'	9F15-4A	3	CONCRETE	75	271	214
	84	PB8	RACINE AVE	257+93; 28' LT	6'X20'	9F15-4A	3	CONCRETE	65	271	194
	85	PB11	RACINE AVE	258+21; 16' LT	6'X20'	9F15-4B	3	CONCRETE	73	432	210
	86	PB12	RACINE AVE	257+94; 15' LT	6'X20'	9F15-4B	3	CONCRETE	74	457	212
	87	PB11	-	-	-	RE-WIRE LOOP ONLY	3	-	-	432	188
	88	PB11	RACINE AVE	258+21; 5' LT	6'X20'	9F15-4A	3	CONCRETE	60	432	184
	89	PB12	RACINE AVE	257+94; 5' LT	6'X20'	9F15-4A	3	CONCRETE	62	457	188
TOTAL									1026	6746	4608

*LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.

NOTES: FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD
SDD 9F15-4A: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
SDD 9F15-4B: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)

TRAFFIC SIGNAL MOUNTING HARDWARE

LOCATION	658.5069.04 TRAFFIC SIGNAL MOUNTING HARDWARE (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS

LOCATION	661.0200.04 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY

SIGNAL NO: S67-0298

SIGNAL BASES AND POLES

LOCATION	SIG. BASE NO.	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	657.0405 TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT EACH	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	SPV.0060.02 INSTALL POLES TYPE 10 EACH	SPV.0060.03 INSTALL POLES TYPE 10 SPECIAL EACH	SPV.0060.05 INSTALL POLES TYPE 13 EACH	SPV.0060.06 INSTALL POLES TYPE 13-OVER HEIGHT EACH	SPV.0060.07 INSTALL MONOTUBE ARMS 15-FT EACH	SPV.0060.12 INSTALL MONOTUBE ARMS 45-FT EACH	SPV.0060.13 INSTALL MONOTUBE ARMS 50-FT EACH	657.0605 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 4-FT EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	SPV.0060.15 INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	(INCIDENTAL) PEDESTRIAN PUSH BUTTONS SPECIAL EACH	659.1125 LUMINAIRES UTILITY LED C EACH
STH 59/164 & CTH Y	SB1	1	--	--	--	1	--	--	--	--	--	--	--	--	--	--	1	--
	SB2	--	--	--	--	--	--	--	1	--	--	--	1	--	--	1	1	1
	SB3	1	--	--	1	--	--	--	--	--	--	--	--	--	--	--	1	--
	SB4	--	--	--	--	--	1	--	--	--	1	--	--	--	--	2	--	2
	SB5	1	--	--	--	1	--	--	--	--	--	--	--	--	--	--	1	--
	SB6	--	--	--	--	--	--	--	--	1	--	--	1	--	--	1	1	1
	SB7	1	--	--	--	1	--	--	--	--	--	--	--	--	--	--	1	--
	SB8	--	--	--	--	--	--	1	--	--	--	1	--	--	--	1	1	1
	SB9	--	--	--	--	--	1	--	--	--	1	--	--	--	--	2	--	2
	SB10	--	--	--	--	--	--	--	--	1	--	--	1	--	--	1	1	1
	SB11	1	--	--	--	1	--	--	--	--	--	--	--	--	--	--	1	--
	SB12	--	1	1	--	--	--	--	--	--	--	--	--	--	--	1	--	1
	SB13	--	1	1	--	--	--	--	--	--	--	--	--	--	--	1	--	1
	SB14	--	1	1	--	--	--	--	--	--	--	--	--	--	--	1	--	1
	SB15	--	1	1	--	--	--	--	--	--	--	--	--	--	--	1	--	1
	SB16	--	1	1	--	--	--	--	--	--	--	--	--	1	--	--	--	1
	SB17	--	1	1	--	--	--	--	--	--	--	--	--	1	--	--	--	1
TOTAL		5	6	6	1	4	2	1	1	2	2	1	3	2	4	8	9	14

CONCRETE BASES

LOCATION	SIGNAL BASE NO.	ALIGNMENT	STATION	OFFSET	654.0101 CONCRETE BASES TYPE 1 EACH	654.0105 CONCRETE BASES TYPE 5 EACH	654.0110 CONCRETE BASES TYPE 10 EACH	SPV.0060.01 CONCRETE BASES TYPE 10 SPECIAL EACH	654.0113 CONCRETE BASES TYPE 13 EACH	654.0217 CONCRETE CONTROL CABINET BASE TYPE 9 SPECIAL EACH
STH 59/164 & CTH Y	CB1	RACINE AVE	256+12	104' LT	--	--	--	--	--	1
	SB1	RACINE AVE	256+53	44' LT	1	--	--	--	--	--
	SB2	RACINE AVE	256+52	56' LT	--	--	--	--	1	--
	SB3	RACINE AVE	257+08	54' LT	1	--	--	--	--	--
	SB4	RACINE AVE	257+07	62' LT	--	--	1	--	--	--
	SB5	RACINE AVE	257+87	49' LT	1	--	--	--	--	--
	SB6	RACINE AVE	257+94	42' LT	--	--	--	--	1	--
	SB7	RACINE AVE	258+20	48' RT	1	--	--	--	--	--
	SB8	RACINE AVE	258+12	50' RT	--	--	--	1	--	--
	SB9	RACINE AVE	257+57	56' RT	--	--	1	--	--	--
	SB10	RACINE AVE	256+64	43' RT	--	--	--	--	1	--
	SB11	RACINE AVE	256+72	49' RT	1	--	--	--	--	--
	SB12	RACINE AVE	256+27	71' LT	--	1	--	--	--	--
	SB13	RACINE AVE	258+02	72' LT	--	1	--	--	--	--
	SB14	RACINE AVE	258+61	66' RT	--	1	--	--	--	--
	SB15	RACINE AVE	256+49	76' RT	--	1	--	--	--	--
	SB16	STH 59	174+32	12' LT	--	1	--	--	--	--
	SB17	STH 59	180+13	11' RT	--	1	--	--	--	--
TOTAL					5	6	2	1	3	1

STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY

SIGNAL NO: S67-0298

TRAFFIC SIGNAL CABLE

LOCATION	LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0290 CABLE TRAFFIC SIGNAL 21-14 AWG L.F.	655.0320 CABLE TYPE UF 2-10 AWG GROUNDED L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	(INCIDENTAL) LOOP DETECTOR LEAD-IN CABLE L.F.	655.0900+ TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.	(INCIDENTAL)++ RADAR DETECTOR UNIT CABLE L.F.
STH 59/164 & CTH Y	CB1		SB1	--	--	127	--	--	127	--	--	--	--
	CB1		SB2	--	--	--	121	--	--	--	--	382	--
	CB1		SB3	--	--	205	--	--	--	--	--	--	--
	CB1		SB4	--	195	--	--	--	--	--	--	--	--
	CB1		SB5	--	--	386	--	--	--	--	--	--	--
	CB1		SB6	--	--	--	377	--	--	--	--	904	452
	CB1		SB7	--	--	598	--	--	--	--	--	--	--
	CB1		SB8	--	--	--	598	--	--	--	--	--	--
	CB1		SB9	--	487	--	--	--	--	--	--	--	--
	CB1		SB10	--	--	--	264	--	--	--	--	--	339
	CB1		SB11	--	--	276	--	--	276	--	--	--	--
	CB1		SB12	--	--	--	--	70	--	--	--	--	--
	SB1		SB2	--	--	--	--	--	65	--	--	--	--
	SB2		SB4	--	--	--	--	228	228	--	--	--	--
	SB2		SB12	--	--	--	--	102	--	--	--	--	--
	SB3		SB4	--	--	--	--	--	48	--	--	--	--
	SB3		SB5	--	--	--	--	--	320	--	--	--	--
	SB4		SB17	--	--	--	--	306	--	--	--	--	--
	SB5		SB6	--	--	--	--	--	53	--	--	--	--
	SB6		SB7	--	--	--	--	--	434	--	--	--	--
	SB6		SB13	--	--	--	--	83	83	--	--	--	--
	SB7		SB8	--	--	--	--	--	62	--	--	--	--
	SB8		SB9	--	--	--	--	238	238	--	--	--	--
	SB8		SB14	--	--	--	--	107	--	--	--	--	--
	SB9		SB10	--	--	--	--	--	368	--	--	--	--
	SB9		SB16	--	--	--	--	303	--	--	--	--	--
	SB10		SB11	--	--	--	--	--	76	--	--	--	--
	SB10		SB15	--	--	--	--	163	--	--	--	--	--
	SB13		SB17	--	--	--	--	353	--	--	--	--	--
	SB15		SB16	--	--	--	--	393	--	--	--	--	--
	PB1		CB1	--	--	--	--	--	45	--	--	--	--
	PB2		SB2	--	--	--	--	--	34	--	--	--	--
	PB3		SB4	--	--	--	--	--	69	--	--	--	--
	PB4		SB4	--	--	--	--	--	27	--	--	--	--
	PB5		SB4	--	--	--	--	--	111	--	--	--	--
	PB6		SB13	--	--	--	--	--	98	--	--	--	--
	PB7		SB13	--	--	--	--	--	27	--	--	--	--
	PB8		SB6	--	--	--	--	--	29	--	--	--	--
	PB9		SB13	--	--	--	--	--	133	--	--	--	--
	PB10		SB14	--	--	--	--	--	151	--	--	--	--
	PB16		SB14	--	--	--	--	--	96	--	--	--	--
	PB17		SB14	--	--	--	--	--	33	--	--	--	--
	PB18		SB8	--	--	--	--	--	38	--	--	--	--
	PB19		SB9	--	--	--	--	--	63	--	--	--	--
	PB20		SB9	--	--	--	--	--	106	--	--	--	--
	PB21		SB15	--	--	--	--	--	139	--	--	--	--
	PB22		SB15	--	--	--	--	--	54	--	--	--	--
	PB24		SB10	--	--	--	--	--	82	--	--	--	--
	PB26		SB10	--	--	--	--	--	144	--	--	--	--
	PB28		CB1	--	--	--	--	--	77	--	--	--	--

(CONTINUED ON NEXT PAGE)

+EVP DETECTOR CABLE IS MEASURED FROM CB1 TO THE EVP DETECTOR HEADS.

++RADAR DETECTOR UNIT CABLE IS MEASURED FROM CB1 TO THE RADAR DETECTOR UNIT.

STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY

SIGNAL NO: S67-0298

TRAFFIC SIGNAL CABLE **(CONTINUED FROM PREVIOUS PAGE)**

LOCATION	LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF.	655.0290 CABLE TRAFFIC SIGNAL 21-14 AWG L.F.	655.0320 CABLE TYPE UF 2-10 AWG GROUNDED L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	(INCIDENTAL) LOOP DETECTOR LEAD-IN CABLE L.F.	655.0900+ TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.	(INCIDENTAL)++ RADAR DETECTOR UNIT CABLE L.F.
STH 59/164 & CTH Y	SB1		HEAD 30	15	--	--	--	--	--	--	--	--	--
	SB1		PUSH BUTTON	--	--	--	--	--	--	--	6	--	--
	SB2		HEAD 5	--	27	--	--	--	--	--	--	--	--
	SB2		HEAD 7	26	--	--	--	--	--	--	--	--	--
	SB2		HEAD 14	70	--	--	--	--	--	--	--	--	--
	SB2		HEAD 15	70	--	--	--	--	--	--	--	--	--
	SB2		HEAD 17	--	71	--	--	--	--	--	--	--	--
	SB2		HEAD 23	15	--	--	--	--	--	--	--	--	--
	SB2		PUSH BUTTON	--	--	--	--	--	--	--	6	--	--
	SB2		LUMINAIRE	--	--	--	--	--	--	145	--	--	--
	SB3		PUSH BUTTON	--	--	--	--	--	--	--	6	--	--
	SB4		HEAD 6	--	40	--	--	--	--	--	--	--	--
	SB4		LUMINAIRE	--	--	--	--	--	--	288	--	--	--
	SB5		HEAD 25	15	--	--	--	--	--	--	--	--	--
	SB5		PUSH BUTTON	--	--	--	--	--	--	--	6	--	--
	SB6		HEAD 2	75	--	--	--	--	--	--	--	--	--
	SB6		HEAD 3	75	--	--	--	--	--	--	--	--	--
	SB6		HEAD 4	75	--	--	--	--	--	--	--	--	--
	SB6		HEAD 13	26	--	--	--	--	--	--	--	--	--
	SB6		HEAD 21	--	27	--	--	--	--	--	--	--	--
	SB6		HEAD 24	15	--	--	--	--	--	--	--	--	--
	SB6		PUSH BUTTON	--	--	--	--	--	--	--	6	--	--
	SB6		LUMINAIRE	--	--	--	--	--	--	145	--	--	--
	SB7		HEAD 26	15	--	--	--	--	--	--	--	--	--
	SB7		PUSH BUTTON	--	--	--	--	--	--	--	6	--	--
	SB8		HEAD 1	26	--	--	--	--	--	--	--	--	--
	SB8		HEAD 11	--	27	--	--	--	--	--	--	--	--
	SB8		HEAD 19	75	--	--	--	--	--	--	--	--	--
	SB8		HEAD 20	75	--	--	--	--	--	--	--	--	--
	SB8		HEAD 22	--	76	--	--	--	--	--	--	--	--
	SB8		HEAD 27	15	--	--	--	--	--	--	--	--	--
	SB8		PUSH BUTTON	--	--	--	--	--	--	--	6	--	--
	SB8		LUMINAIRE	--	--	--	--	--	--	145	--	--	--
	SB9		HEAD 12	--	40	--	--	--	--	--	--	--	--
	SB9		LUMINAIRE	--	--	--	--	--	--	288	--	--	--
	SB10		HEAD 8	75	--	--	--	--	--	--	--	--	--
	SB10		HEAD 9	75	--	--	--	--	--	--	--	--	--
	SB10		HEAD 10	75	--	--	--	--	--	--	--	--	--
	SB10		HEAD 16	--	27	--	--	--	--	--	--	--	--
	SB10		HEAD 18	26	--	--	--	--	--	--	--	--	--
	SB10		HEAD 29	15	--	--	--	--	--	--	--	--	--
	SB10		PUSH BUTTON	--	--	--	--	--	--	--	6	--	--
	SB10		LUMINAIRE	--	--	--	--	--	--	145	--	--	--
	SB11		HEAD 28	15	--	--	--	--	--	--	--	--	--
	SB11		PUSH BUTTON	--	--	--	--	--	--	--	6	--	--
	SB12		LUMINAIRE	--	--	--	--	--	--	117	--	--	--
	SB13		LUMINAIRE	--	--	--	--	--	--	117	--	--	--
	SB14		LUMINAIRE	--	--	--	--	--	--	117	--	--	--
	SB15		LUMINAIRE	--	--	--	--	--	--	117	--	--	--
	SB16		LUMINAIRE	--	--	--	--	--	--	117	--	--	--
	SB17		LUMINAIRE	--	--	--	--	--	--	117	--	--	--
INTERSECTION TOTAL				964	1017	1592	1360	2346	3934	1858	54	1286	791

+EVP DETECTOR CABLE IS MEASURED FROM CB1 TO THE EVP DETECTOR HEADS.

++RADAR DETECTOR UNIT CABLE IS MEASURED FROM CB1 TO THE RADAR DETECTOR UNIT.

STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY

SIGNAL NO: S67-0298

SIGNAL FACES

LOCATION	SIG. BASE NO.	SIG. HEAD NO.	TYPE OF MOUNT	658.0173 TRAFFIC SIGNAL FACE 3S 12-INCH EACH	658.0174 TRAFFIC SIGNAL FACE 4S 12-INCH EACH	* LED RED BALL EACH	* LED YELLOW BALL EACH	* LED GREEN BALL EACH	* LED RED ARROW EACH	* LED YELLOW ARROW EACH	* LED GREEN ARROW EACH	* BCKPLT 3-SEC. EACH	* BCKPLT 4-SEC. EACH	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH EACH	** PEDESTRIAN COUNTDOWN TIMER 16" EACH
STH 59/164 & CTH Y	SB1	30	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB2	5	MONOTUBE POLE MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB2	7	MONOTUBE POLE MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB2	14	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB2	15	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB2	17	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB2	23	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB4	6	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	
	SB5	25	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB6	2	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB6	3	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB6	4	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB6	13	MONOTUBE POLE MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB6	21	MONOTUBE POLE MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB6	24	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB7	26	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB8	1	MONOTUBE POLE MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB8	11	MONOTUBE POLE MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB8	19	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB8	20	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB8	22	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB8	27	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB9	12	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB10	8	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB10	9	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB10	10	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB10	16	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1	--	--
	SB10	18	MONOTUBE POLE MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--	--	--
	SB10	29	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
	SB11	28	PEDESTRIAN	--	--	--	--	--	--	--	--	--	--	1	1
TOTAL				14	8	14	14	14	8	16	8	14	8	8	8

*INCIDENTAL TO ITEM 658.0173 OR 658.0174
**INCIDENTAL TO ITEM 658.0416

TRANSPORT & INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET

LOCATION	SPV.0105.04 TRANSPRT & INSTALL STATE FURNISHED TRAFFIC SGNL CABINET (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

TEMPORARY VEHICLE DETECTION

LOCATION	SPV.0105.09 TEMPORARY VEHICLE DETECTION (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY

SIGNAL NO: S67-0298

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TRANSPORT & INSTALL STATE FURNISHED RADAR DETECTION SYSTEM

LOCATION	SPV.0105.11 TRANSPRT & INSTALL STATE FURNISHED RADAR DETECTION SYST (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

TRANSPORT & INSTALL STATE FURNISHED EMERGENCY VEHICLE PREEMPTION DETECTOR HEADS

LOCATION	SPV.0105.16 TRANSPRT & INSTALL STATE FRNSHD EMERG VEH PRE DTCR HEADS (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

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TRANSPORT TRAFFIC SIGNAL & INTERSECTION LIGHTING MATERIALS

LOCATION	SPV.0105.20 TRANSPORT TRAFFIC SGNL & INTERSECTION LIGHTING MATERIALS (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

REMOVE, SALVAGE & REINSTALL FIBER OPTIC TRAFFIC SIGNAL EQUIPMENT

LOCATION	SPV.0105.23 REMOVE, SALVAGE, AND REINSTALL FIBER OPTIC TRAFF SGNL EQUIP (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

TRANSPORT & INSTALL STATE FURNISHED AUDIBLE PEDESTRIAN SIGNAL SYSTEM

LOCATION	SPV.0105.25 TRANSPRT & INSTALL STATE FRNSHD AUDIBLE PED SIGNAL SYSTEM (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

TEMPORARY EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM

LOCATION	SPV.0105.29 TEMPORARY EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM (STH 59/164 & CTH Y) LS
STH 59/164 & CTH Y	1
TOTAL	1

STH 59/164 & CTH Y (RACINE AVENUE)
CITY OF WAUKESHA
WAUKESHA COUNTY

SIGNAL NO: S67-0298

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SUMMARY OF STATE FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
2	EACH	POLES TYPE 10
2	EACH	POLES TYPE 10 SPECIAL
2	EACH	MONOTUBE ARMS 30-FT
1	EACH	MONOTUBE ARMS 35-FT
1	EACH	MONOTUBE ARMS 40-FT
6	EACH	LUMINAIRE ARMS STEEL 15-FT
1	EACH	TRAFFIC SIGNAL CONTROLLER, FULLY ACTUATED, 8-PHASE
2	EACH	RADAR DETECTION UNITS
1	EACH	TRAFFIC SIGNAL CABINET

NOTE: THIS TABLE IS FOR INFORMATION ONLY.

REMOVAL QUANTITIES

LOCATION	ITEM NO.	204.0195 REMOVING CONCRETE BASES EACH	653.0905 REMOVING PULL BOXES EACH
STH 181 & COUNTY LINE RD	PB1	--	1
	PB2	--	1
	PB3	--	1
	PB5	--	1
	PB6	--	1
	PB8	--	1
	PB9	--	1
	PB10	--	1
	PB12	--	1
	PB13	--	1
	PB15	--	1
	PB16	--	1
	PB18	--	1
	CB1	1	--
	SB1	1	--
	SB2	1	--
	SB3	1	--
	SB4	1	--
	SB5	1	--
	SB6	1	--
	SB7	1	--
	SB8	1	--
	SB9	1	--
	SB10	1	--
	SB11	1	--
TOTAL		12	13



CONDUIT ITEMS

LOCATION	FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615 CONDUIT SPECIAL 3-INCH LF	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH	SPV.0060.17 EXPOSE EXISTING UTILITY EACH
STH 181 & COUNTY LINE RD	CB1	PB1	--	93	--	--	--
	PB1	SB1	10	--	--	--	--
	PB1	PB2	--	--	118	--	--
	PB2	SB2	--	10	--	--	--
	PB2	PB3	36	--	--	1	--
	PB2	PB4	--	--	98	--	--
	PB4	PB5	--	106	--	--	--
	PB5	SB3	17	--	--	--	--
	PB5	PB6	20	--	--	--	1
	PB5	PB7	--	--	166	--	--
	PB7	SB4	18	--	--	--	--
	PB7	PB8	--	76	--	--	--
	PB8	PB9	--	--	36	--	--
	PB9	SB5	--	7	--	--	--
	PB8	PB10	--	--	148	--	--
	PB10	SB6	--	18	--	--	--
	PB10	PB11	17	--	--	1	--
	PB10	PB12	--	--	118	--	--
	PB12	PB13	--	100	--	--	--
	PB13	SB7	12	--	--	--	--
	PB13	PB14	20	--	--	--	2
	PB14	PB15	108	--	--	1	--
	PB13	PB16	--	--	160	--	--
	PB16	SB8	--	22	--	--	--
	PB16	CB1	--	87	--	--	--
TOTAL			258	519	844	3	3

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REMOVING TRAFFIC SIGNALS

LOCATION	204.9105.S.05 REMOVING TRAFFIC SIGNALS (STH 181 & COUNTY LINE RD) LS
STH 181 & COUNTY LINE RD	1
TOTAL	1

All items are category 0010

STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO: S40-1197 PAGE 1 OF 7

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TRAFFIC DETECTOR LOOPS

LOCATION	LOOP NO.	HOME RUN PB	ALIGNMENT	STATION/OFFSET	SIZE	SDD INSTALLATION REFERENCE	NO. OF TURNS	PAVEMENT TYPE	652.0800 CONDUIT LOOP DETECTOR LF	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE L.F
STH 181 & COUNTY LINE RD	11 (FUTURE)	PB11	-	-	-	LOOP LEAD-IN CABLE ONLY	3	-	-	247	184
	12 (FUTURE)	PB10	STH 181	286+48; 5.7' RT	6'X20'	9F15-4A	3	CONCRETE	63	230	190
	13 (FUTURE)	PB10	STH 181	286+77; 5.2' RT	6'X20'	9F15-4A	3	CONCRETE	75	230	214
	41	PB15	COUNTY LINE RD	22+95; 6.6' RT	6'X10'	9F15-4A	4	ASPHALT	41	436	158
	42	PB14	-	-	-	LOOP LEAD-IN CABLE ONLY	3	-	-	327	130
	43	PB13	COUNTY LINE RD	26+12; 20.2' RT	6'X20'	9F15-4A	3	CONCRETE	68	120	200
	44	PB13	COUNTY LINE RD	26+40; 20.3' RT	6'X20'	9F15-4A	3	CONCRETE	71	120	206
	45	PB13	COUNTY LINE RD	26+12' 8.2' RT	6'X20'	9F15-4B	3	CONCRETE	81	120	226
	46	PB13	COUNTY LINE RD	26+40; 8.0' RT	6'X20'	9F15-4B	3	CONCRETE	82	120	228
	51 (FUTURE)	PB3	-	-	-	LOOP LEAD-IN CABLE ONLY	3	-	-	132	186
	52 (FUTURE)	PB2	STH 181	287+83; 4.9' LT	6'X20'	9F15-4A	3	CONCRETE	63	100	190
	53 (FUTURE)	PB2	STH 181	287+54; 4.7' LT	6'X20'	9F15-4A	3	CONCRETE	69	100	202
	81	PB6	-	-	-	LOOP LEAD-IN CABLE ONLY	4	-	-	449	244
	82	PB5	COUNTY LINE RD	27+91; 20.9' LT	6'X20'	9F15-4A	3	CONCRETE	66	203	196
	83	PB5	COUNTY LINE RD	27+63; 20.7' LT	6'X20'	9F15-4A	3	CONCRETE	71	203	206
	84	PB5	COUNTY LINE RD	27+91; 9.8' LT	6'X20'	9F15-4B	3	CONCRETE	78	203	220
	85	PB5	COUNTY LINE RD	27+63; 9.1' LT	6'X20'	9F15-4B	3	CONCRETE	80	203	224
	TOTAL								908	3543	3404

NOTES: FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD
SDD 9F15-4A: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
SDD 9F15-4B: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)

*LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.

PULL BOXES

LOCATION	PULL BOX NO.	ALIGNMENT	STATION	OFFSET	653.0135 PULL BOXES STEEL 24" x 36" EACH	653.0140 PULL BOXES STEEL 24" x 42" EACH
STH 181 & COUNTY LINE RD	PB1	STH 181	287+87	51' LT	--	1
	PB2	STH 181	287+88	7' RT	--	1
	PB4	STH 181	287+89	57' RT	--	1
	PB5	STH 181	287+48	90' RT	--	1
	PB7	STH 181	286+66	93' RT	--	1
	PB8	STH 181	286+37	68' RT	--	1
	PB9	STH 181	286+66	47' RT	--	1
	PB10	STH 181	286+36	5' LT	--	1
	PB12	STH 181	286+35	65' LT	--	1
	PB13	STH 181	286+71	99' LT	--	1
	PB15	COUNTY LINE RD	22+95	21' RT	1	--
	PB16	STH 181	287+52	100' LT	--	1
TOTAL					1	11

ELECTRICAL SERVICE METER BREAKER PEDESTAL

LOCATION	656.0200.03 ELECTRICAL SERVICE METER BREAKER PEDESTAL (STH 181 & COUNTY LINE RD) LS
STH 181 & COUNTY LINE RD	1
TOTAL	1

STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO: S40-1197

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SIGNAL BASES AND POLES

LOCATION	SIG. BASE NO.	657.0100 PEDESTAL BASE EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	SPV.0060.02 INSTALL POLES TYPE 10 EACH	SPV.0060.03 INSTALL POLES TYPE 10 SPECIAL EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	SPV.0060.09 INSTALL MONOTUBE ARMS 30-FT EACH	SPV.0060.10 INSTALL MONOTUBE ARMS 35-FT EACH	SPV.0060.11 INSTALL MONOTUBE ARMS 40-FT EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	SPV.0060.15 INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	659.1125 LUMINAIRES UTILITY LED C EACH
STH 181 & COUNTY LINE RD	SB1	1	--	--	--	--	1	--	--	--	--	--	--
	SB2	--	--	--	1	--	--	1	--	--	--	2	2
	SB3	1	--	--	--	--	1	--	--	--	--	--	--
	SB4	--	1	1	--	--	--	--	--	--	1	--	1
	SB5	--	--	--	--	1	--	--	1	--	--	1	1
	SB6	--	--	--	1	--	--	1	--	--	--	2	2
	SB7	1	--	--	--	--	1	--	--	--	--	--	--
	SB8	--	--	--	--	1	--	--	--	1	--	1	1
TOTAL		3	1	1	2	2	3	2	1	1	1	6	7

CONCRETE BASES

LOCATION	SIGNAL BASE NO.	ALIGNMENT	STATION	OFFSET	654.0101 CONCRETE BASES TYPE 1 EACH	654.0105 CONCRETE BASES TYPE 5 EACH	654.0110 CONCRETE BASES TYPE 10 EACH	SPV.0060.01 CONCRETE BASES TYPE 10 SPECIAL EACH	654.0217 CONCRETE CONTROL CABINET BASE TYPE 9 SPECIAL EACH
STH 181 & COUNTY LINE RD	CB1	STH 181	287+70	77' LT	--	--	--	--	1
	SB1	STH 181	287+77	54' LT	1	--	--	--	--
	SB2	STH 181	287+79	7' RT	--	--	1	--	--
	SB3	STH 181	287+57	76' RT	1	--	--	--	--
	SB4	STH 181	286+59	77' RT	--	1	--	--	--
	SB5	STH 181	286+72	48' RT	--	--	--	1	--
	SB6	STH 181	286+50	5' LT	--	--	1	--	--
	SB7	STH 181	286+66	88' LT	1	--	--	--	--
	SB8	STH 181	287+55	78' LT	--	--	---	1	--
TOTAL					3	1	2	2	1

STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO: S40-1197

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TRAFFIC SIGNAL CABLE

LOCATION	LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF.	655.0270 CABLE TRAFFIC SIGNAL 21-14 AWG LF.	655.0320 CABLE TYPE UF 2-10 AWG GROUNDED L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	(INCIDENTAL)+ RADAR DETECTION UNIT CABLE L.F.
STH 181 & COUNTY LINE RD	CB1		SB1	--	--	69	--	--	69	--	--
	CB1		SB2	--	--	143	--	143	--	--	193
	CB1		SB3	--	--	282	--	--	--	--	--
	CB1		SB5	--	--	--	438	--	--	--	--
	CB1		SB6	--	--	309	--	--	--	--	359
	CB1		SB7	--	--	164	--	--	--	--	--
	CB1		SB8	--	--	79	--	79	79	--	--
	SB1		SB2	--	--	--	--	--	119	--	--
	SB2		SB3	--	--	--	--	--	184	--	--
	SB2		SB4	--	--	--	--	283	--	--	--
	SB3		SB5	--	--	--	--	--	250	--	--
	SB4		SB5	--	--	--	--	--	--	--	--
	SB5		SB6	--	--	--	--	--	190	--	--
	SB6		SB7	--	--	--	--	--	194	--	--
	SB6		SB8	--	--	--	--	299	--	--	--
	SB7		SB8	--	--	--	--	--	154	--	--
	PB1		SB1	--	--	--	--	--	30	--	--
	PB2		SB2	--	--	--	--	--	30	--	--
	PB4		SB2	--	--	--	--	--	79	--	--
	PB5		SB3	--	--	--	--	--	37	--	--
	PB7		SB4	--	--	--	--	--	38	--	--
	PB8		SB5	--	--	--	--	--	63	--	--
	PB9		SB5	--	--	--	--	--	27	--	--
	PB10		SB6	--	--	--	--	--	38	--	--
	PB12		SB7	--	--	--	--	--	97	--	--
	PB13		SB7	--	--	--	--	--	32	--	--
	PB16		SB8	--	--	--	--	--	42	--	--

(CONTINUED ON NEXT PAGE)

+RADAR DETECTOR UNIT CABLE IS MEASURED FROM CB1 TO THE RADAR DETECTOR UNIT.

STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO: S40-1197

3

TRAFFIC SIGNAL CABLE **(CONTINUED FROM PREVIOUS PAGE)**

LOCATION	LOC.	TO	LOC.	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF.	655.0270 CABLE TRAFFIC SIGNAL 21-14 AWG LF.	655.0320 CABLE TYPE UF 2-10 AWG GROUNDED L.F.	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	(INCIDENTAL)+ RADAR DETECTION UNIT CABLE L.F.
STH 181 & COUNTY LINE RD	SB1		HEAD 4	--	22	--	--	--	--	--	--
	SB1		HEAD 6	21	--	--	--	--	--	--	--
	SB2		HEAD 2	55	--	--	--	--	--	--	--
	SB2		HEAD 3	55	--	--	--	--	--	--	--
	SB2		HEAD 5	--	56	--	--	--	--	--	--
	SB2		LUMINAIRE	--	--	--	--	--	--	288	--
	SB3		HEAD 11	21	--	--	--	--	--	--	--
	SB3		HEAD 19	--	22	--	--	--	--	--	--
	SB4		LUMINAIRE	--	--	--	--	--	--	117	--
	SB5		HEAD 1	26	--	--	--	--	--	--	--
	SB5		HEAD 9	--	22	--	--	--	--	--	--
	SB5		HEAD 17	60	--	--	--	--	--	--	--
	SB5		HEAD 18	60	--	--	--	--	--	--	--
	SB5		HEAD 20	--	61	--	--	--	--	--	--
	SB5		LUMINAIRE	--	--	--	--	--	--	145	--
	SB6		HEAD 7	55	--	--	--	--	--	--	--
	SB6		HEAD 8	55	--	--	--	--	--	--	--
	SB6		HEAD 10	--	26	--	--	--	--	--	--
	SB6		LUMINAIRE	--	--	--	--	--	--	288	--
	SB7		HEAD 14	--	22	--	--	--	--	--	--
	SB7		HEAD 16	21	--	--	--	--	--	--	--
	SB8		HEAD 12	65	--	--	--	--	--	--	--
	SB8		HEAD 13	65	--	--	--	--	--	--	--
	SB8		HEAD 15	--	65	--	--	--	--	--	--
	SB8		LUMINAIRE	--	--	--	--	--	--	145	--
INTERSECTION TOTAL				559	296	1046	438	804	1752	983	552

+RADAR DETECTOR UNIT CABLE IS MEASURED FROM CB1 TO THE RADAR DETECTOR UNIT.

STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO: S40-1197

3

SIGNAL FACES

LOCATION	SIG. BASE NO.	SIG. HEAD NO.	TYPE OF MOUNT	658.0173 TRAFFIC SIGNAL FACE 3S 12-INCH EACH	658.0174 TRAFFIC SIGNAL FACE 4S 12-INCH EACH	* LED RED BALL EACH	* LED YELLOW BALL EACH	* LED GREEN BALL EACH	* LED RED ARROW EACH	* LED YELLOW ARROW EACH	* LED GREEN ARROW EACH	* BCKPLT 3-SEC. EACH	* BCKPLT 4-SEC. EACH
STH 181 & COUNTY LINE RD	SB1	4	POST MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
		6	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB2	2	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
		3	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
		5	MONOTUBE POLE MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
	SB3	11	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
		19	POST MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
	SB5	1	MONOTUBE POLE MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
		9	MONOTUBE POLE MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
		17	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
		18	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
		20	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
	SB6	7	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
		8	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
		10	MONOTUBE POLE MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
	SB7	14	POST MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
		16	POST MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
	SB8	12	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
		13	MONOTUBE ARM MOUNT VERTICAL	1	--	1	1	1	--	--	--	1	--
		15	MONOTUBE ARM MOUNT VERTICAL	--	1	--	--	--	1	2	1	--	1
TOTAL				12	8	12	12	12	8	16	8	12	8

*INCIDENTAL TO ITEM 658.0173 OR 658.0174

REMOVING LOOP DETECTOR WIRE AND LEAD-IN CABLE

LOCATION	204.9105.S.10 REMOVING LOOP DETECTOR WIRE AND LEAD-IN CABLE (STH 181 & COUNTY LINE RD) LS
STH 181 & COUNTY LINE RD	1
TOTAL	1

TRAFFIC SIGNAL MOUNTING HARDWARE

LOCATION	658.5069.05 TRAFFIC SIGNAL MOUNTING HARDWARE (STH 181 & COUNTY LINE RD) LS
STH 181 & COUNTY LINE RD	1
TOTAL	1

STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO: S40-1197

3

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS

LOCATION	661.0200.05 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (STH 181 & COUNTY LINE RD.) LS
STH 181 & COUNTY LINE RD	1
TOTAL	1

TRANSPORT & INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET

LOCATION	SPV.0105.05 TRANSPRT & INSTALL STATE FURNISHED TRAFFIC SGNL CABINET (STH 181 & COUNTY LINE RD) LS
STH 181 & COUNTY LINE RD	1
TOTAL	1

3

TEMPORARY VEHICLE DETECTION

LOCATION	SPV.0105.10 TEMPORARY VEHICLE DETECTION (STH 181 & COUNTY LINE RD) LS
STH 181 & COUNTY LINE RD	1
TOTAL	1

TRANSPORT & INSTALL STATE FURNISHED RADAR DETECTION SYSTEM

LOCATION	SPV.0105.12 TRANSPRT & INSTALL STATE FURNISHED RADAR DETECTION SYST (STH 181 & COUNTY LINE RD) LS
STH 181 & COUNTY LINE RD	1
TOTAL	1

TRANSPORT TRAFFIC SIGNAL & INTERSECTION LIGHTING MATERIALS

LOCATION	SPV.0105.21 TRANSPORT TRAFFIC SGNL & INTERSECTION LIGHTING MATERIALS (STH 181 & COUNTY LINE RD.) LS
STH 181 & COUNTY LINE RD	1
TOTAL	1

REMOVE, SALVAGE & REINSTALL FIBER OPTIC TRAFFIC SIGNAL EQUIPMENT

LOCATION	SPV.0105.24 REMOVE, SALVAGE, AND REINSTALL FIBER OPTIC TRAFF SGNL EQUIP (STH 181 & COUNTY LINE RD.) LS
STH 181 & COUNTY LINE RD	1
TOTAL	1

STH 181 (76TH ST) & W. COUNTY LINE ROAD
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO: S40-1197

TYPE II SIGN REMOVAL **3700-20-80 ,VAR.SIGNALS**

SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	FINAL TOTALS CONTINUE ON NEXT SHEET REMARKS / SIGN LOCATION
1R	S1-1	--	1	1	--
	S16-9P				
2R	M1-94-H	N MILL ST	1	--	OVERHEAD SIGN REMOVAL
3R	R7-51	--	1	1	--
4R	R7-5	--	1	1	--
	R7-51				
5R	R1-1F	--	1	--	ON SIGNAL POLE
6R	R1-1F	--	1	--	ON SIGNAL POLE
7R	M1-94-H	N MILL ST	1	--	OVERHEAD SIGN REMOVAL
8R	R1-1F	--	1	--	ON SIGNAL POLE
9R	R1-1F	--	1	--	ON SIGNAL POLE
10R	J3-1	CO. "O" / <-->	1	--	ON SIGNAL POLE
11R	J3-1	CO. "O" / <-->	1	--	ON SIGNAL POLE
12R	R1-2	--	1	1	--
13R	R1-1F	--	1	--	ON SIGNAL POLE
14R	R1-1F	--	1	--	ON SIGNAL POLE
15R	R5-1	--		--	SIGN REMOVAL IS A PART OF SIGN # 14R
16R	R5-1	--	1	--	ON LIGHT POLE
17R	R1-1F	--		--	SIGN REMOVAL IS A PART OF SIGN # 16R
18R	R1-1F	--	1	--	ON SIGNAL POLE
19R	R1-1F	--	1	1	WOOD POST
20R	R4-7	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 19R
21R	R4-7	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 13R
22R	R4-7	--	1	--	ON SIGNAL POLE
23R	R1-1F	--		--	SIGN REMOVAL IS A PART OF SIGN # 22R
24R	R1-1F	--	1	--	ON SIGNAL POLE
25R	R5-1	--		--	SIGN REMOVAL IS A PART OF SIGN # 22R
26R	R5-1	--	1	--	ON LIGHT POLE
27R	R10-50	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 19R
28R	R10-50	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 14R
29R	R10-50	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 26R
30R	R1-1F	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 26R
31R	R1-1F	--	1	1	WOOD POST
32R	R1-1F	--	1	--	ON SIGNAL POLE
33R	R10-50	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 22R
34R	R1-2	--	1	1	--
35R	R5-1		1	1	WOOD POST
	R3-9B	--			SIGN REMOVAL IS A PART OF SIGN # 35R
36R	I2-3	OCONOMOWOC. POP. XXXX	1	2	WOOD POST
37R	R3-8-D	--	1	1	--
38R	R3-7-R	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 37R
39R	R5-1	--	1		SIGNAL POLE
40R	R5-1A	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 39R
41R	R1-1F	--	1	--	ON LIGHT POLE
42R	R1-1F	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 39R
43R	W12-1D	--	1	1	WOOD POST
44R	R1-2	--	1	1	--
45R	W6-1	--	1	1	--
46R	--	SIGN #'S NOT USED	--	--	--
47R	--	SIGN #'S NOT USED	--	--	--
48R	R4-7	--	1	1	--
	R3-9B	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 48R
49R	R3-9B		1	1	
50R	JV2-1	TO 94/ SO. STH 67 ARROW	1	1	--
51R	R5-54	--	1	1	WOOD POST
52R	R4-7	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 41R
53R	R4-7	--	1	--	ON SIGNAL POLE
54R	R4-7	--	1	--	ON SIGNAL POLE
55R	R1-1F	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 53R

PROJECT NO:3700-20-80	HWY: VARIOUS	COUNTY: VARIOUS	MISCELLANEOUS QUANTITIES – SIGNING REMOVAL	SHEET:	E

SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	REMARKS / SIGN LOCATION
56R	R6-3A	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 53R
57R	R1-2	--	1	--	ON LIGHT POLE
58R	W12-1D	--	1	1	WOOD POST
59R	R3-20L	--	1	1	WOOD POST
60R	J3-2	SO / STH 60/ <--/ TO/ IH94/ <--	1	1	WOOD POST
61R	JV3-1	ALT/WEST/ IH 94/ ARROW	1	1	WOOD POST
62R	R--1F	--	1	--	SIGNAL POLE
63R	R--1F	--	1	--	SIGNAL POLE
64R	R--1F	--		--	SIGN REMOVAL IS A PART OF SIGN # 54R
65R	R6-2L	--	1	1	WOOD POST
66R	R2-1	--	1	1	WOOD POST
67R	W3-3	--	1	1	WOOD POST
68R	W3-3	--	1	1	WOOD POST
69R	D9-2	--	1	1	WOOD POST
	MB6-1				SIGN REMOVAL IS A PART OF SIGN # 69R
70R	R6-2L	--	1	1	WOOD POST
71R	R1-1F	--	1	1	WOOD POST
72R	RI-1F	--	1	--	ON SIGNAL POLE
73R	RI-1F	--	1	--	ON SIGNAL POLE
74R	RI-1F	--	1	--	ON SIGNAL POLE
75R	W12-1D	--	1	1	WOOD POST
76R	R5-1	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 72R
77R	R1-1F	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 72R
78R	J3-2	SO./STH67/ARRW-TO/IH94/ARRW	1	1	WOOD POST
79R	J3-2	W/STH67/ ARRW-N /STH67/ARRW	1	1	WOOD POST
80R	R1-1F	--	1	--	ON SIGNAL POLE
81R	R1-1F	--	1	--	ON SIGNAL POLE
82R	RI-1F	--	1	--	ON SIGNAL POLE
83R	R4-7	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 80R
84R	R4-7	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 73R
85R	R4-7	--		--	SIGN REMOVAL IS A PART OF SIGN # 82R
86R	R4-7	--	1	--	ON SIGNAL POLE
87R	R1-17	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 86R
88R	R6-2L	--	1	--	ON LIGHT POLE
89R	D1-60A	ARRW OCONOMOWOC	1	2	WOOD POST
90R	W12-1D	--	1	1	WOOD POST
91R	R3-1		1		ON SIGNAL POLE
92R	D13-3	FREEWAY ENTRANCE	1	2	WOOD POST
93R	R1-2	--	1	1	WOOD POST
94R	R2-8B	--	1	1	WOOD POST
95R	R3--20R	--	1	1	WOOD POST
96R	W3-3	--	1	1	WOOD POST
97R	M1-94-H	COUNTY LINE RD	1	2	WOOD POST
98R	M1-94 MOD	COUNTY LINE RD - 9600 N	1	2	WOOD POST
99R	R2-1	SPD LIM. 45	1	1	WOOD POST
100R	R2-1	SPD LIM. 45	1	1	WOOD POST
101R	R3-20L	--	1	1	WOOD POST
102R	I2-3	MILW. POP. XX,XXX	1	2	WOOD POST
103R	I2-2	MILWAUKEE CO.	--	--	SIGN REMOVAL IS A PART OF SIGN # 102R
104R	--	SIGN #'S NOT USED	--	--	--
105R	M1-94-H	COUNTY LINE RD	1	--	ON MAST ARM
106R	R3-7-R	--	1	1	WOOD POST
	R5-1	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 106R
107R		SIGN #'S NOT USED			
108R	R1-2	--	1	1	WOOD POST
109R	RI-1F	--	1	--	ON SIGNAL POLE
110R	RI-1F	--	1	--	ON SIGNAL POLE
111R	R6-2L	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 110R
112R	M1-94-H	WAUWATOSA RD	1	--	ON MAST ARM
113R	R4-7	--	1	1	WOOD POST
114R	R4-7	--	1	1	WOOD POST
115R	R4-7	--	1	--	ON SIGNAL POLE
116R	R4-7	--	--	--	ON SIGNAL POLE
117R	R1-1F	--	--	--	SIGN REMOVAL IS A PART OF SIGN # 114R
118R	R1-1F	--	1	--	ON SIGNAL POLE
119R	R6-2L	--	1	1	WOOD POST
120R	J3-1	STH 181 / <---->	1	1	WOOD POST
121R	R6-2L	--	1	1	WOOD POST
122R	R1-1F	--	1	--	ON SIGNAL POLE
123R	R12-1	--	1	1	WOOD POST
124R	M1-94-H	WAUWATOSA RD	1	--	ON MAST ARM
125R	R1-1F	--	1	--	ON SIGNAL POLE
126R	R5-1	--	1	1	WOOD POST
127R	M1-94-H	COUNTY LINE RD	1	--	ON MAST ARM
128R	J4-1	--	1	1	WOOD POST
129R	R2-1	SPD LIM. 45	1	1	WOOD POST
130R	R2-1	SPD LIM. 45	1	1	WOOD POST
131R	R5-1A	--	1	1	WOOD POST
132R	R3-20L	--	1	1	WOOD POST
133R	W3-3	--	1	1	WOOD POST
134R	W3-3	--	1	1	WOOD POST
135R	R3-20R	--	1	1	WOOD POST
136R	R1-2	--	1	1	SEE SHT2 OF 6 / WOOD POST
137R	R4-7	--	1	--	SHT 4 OF 5
TOTALS			105	68	

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	TOTALS CONTINUE ON NEXT SHEET REMARKS / NEW SIGN LOCATION
1	-- S1-1(2)	--	36	x	36		6.750	--	1	--	--	--
	-- S16-9P(2S)	--	30	x	18		3.750	--	--	--	1	--
2	-- NOT USED	--	--	x	--	--	--	--	--	--	--	--
3	-- R7-51L(2S)	--	18	x	24	3.000		--	1	--	--	--
4 THRU 7	-- NOT USED	--	--	x	--	--	--	--	--	--	--	--
8	-- R1-1F (2M)	--	36	x	36			7.460	--	--	--	MOUNTED ON SIGNAL POLE
9	-- R1-1F(2M)	--	36	x	36			7.460	--	--	--	MOUNTED ON SIGNAL POLE
10	J3-1 (2)	--	24	x	45	7.500		--	1	--		
--	-- M1-5A	CTH O	24	x	24			--	--	--	--	--
--	-- M6-4	--	21	x	21			--	--	--	--	--
11	J3-1 (2)	--	24	x	45	7.500		--	1	--		
--	-- M1-5A	CTH O	24	x	24			--	--	--	--	--
--	-- M6-4	--	21	x	21			--	--	--	--	--
12	-- M1-94-H	N MILL ST	54	x	18	6.750		--	--	--	--	MOUNT ON MAST ARM
13	-- M1-94-H	N MILL ST	54	x	18	6.750		--	--	--	--	MOUNT ON MAST ARM
14	-- R10-50L(2S)	--	30	x	36	7.500		--	--	--	12	MOUNT ON MAST ARM
15	-- R10-50L(2S)	--	30	x	36	7.500		--	--	--	13	MOUNT ON MAST ARM
16	-- R10-50L(2S)	--	30	x	36	7.500		--	--	--	--	MOUNT ON MAST ARM
17	-- R10-50L(2S)	--	30	x	36	7.500		--	--	--	--	MOUNT ON MAST ARM
18	-- R1-1F (2M)	--	36	x	36			7.460	--	--	--	MOUNTED ON SIGNAL POLE
19	-- R1-1F (2M)	--	36	x	36			7.460	--	--	--	MOUNTED ON SIGNAL POLE
20	-- R7-51L(2S)	--	18	x	24	3.000		--	1	--	--	--
21	-- R1-2(2M)	--	48	x	42	7.000		--	1	--	--	--
22	-- R6-2L(2M)	--	30	x	36	7.500		--	1	--	--	--
23	-- R1-1F (2M)	--	36	x	36			7.460	--	--	--	MOUNTED ON SIGNAL POLE
24	-- R1-1F (2M)	--	36	x	36			7.460	1	--	--	--
25	-- W12-1D(2M)	--	24	x	24		4.000	--	1	--	--	2' MOUNTING HIGHT
26	-- R5-1A(2M)		42	x	30	8.750		--	1	--	--	--
27	-- R10-50L(2M)	--	30	x	36	7.500		--	--	--	--	MOUNT ON LIGHT POLE
28	-- R10-50L(2M)	--	30	x	36	7.500		--	--	--	--	MOUNT ON MAST ARM
29	-- R10-50L(2M)	--	30	x	36	7.500		--	--	--	--	MOUNTED ON LIGHT POLE
30	-- R10-50L(2M)	--	30	x	36	7.500		--	--	--	--	MOUNT ON MAST ARM
31	-- R4-7(2M)	--	24	x	30	5.000		--	--	--	24	--
32	-- R6-2L(2M)	--	30	x	36	7.500		--	--	--	--	ON SIGNAL POLE
33	-- R1-2(2M)	--	48	x	42	7.000		--	1	--	--	--
34	-- R1-1F (2M)	--	36	x	36			7.460	--	--	--	ON SIGNAL POLE
35	-- R1-1F (2M)	--	36	x	36			7.460	--	--	29	ON LIGHT POLE
36	-- W12-1D(2M)	--	24	x	24		4.000	--	1	--	--	2' MOUNTING HIGHT
37	-- R4-7(2M)	--	24	x	30	5.000		--	1	--	--	--
38	-- R5-1(2M)	--	36	x	36	9.000		--	--	--	29	--
39	-- R5-1A(2M)		42	x	30	8.750		--	1	--	--	--
40	-- R1-1F (2M)	--	36	x	36			7.460	--	--	27	--
41	-- R4-7(2M)	--	24	x	30	5.000		--	1	--	--	--
42	-- R5-1(2M)	--	36	x	36	9.000		--	--	--	27	--
43	-- W12-1D(2M)	--	24	x	24		4.000	--	1	--	--	2' MOUNTING HIGHT
44	-- R1-2(2M)	--	48	x	42	7.000		--	1	--	--	--
45	-- R1-1F (2M)	--	36	x	36			7.460	--	--	--	MOUNTED ON SIGNAL POLE
46	-- R6-2L(2M)	--	30	x	36	7.500		--	--	--	45	ON SIGNAL POLE
47	-- R1-1F (2M)	--	36	x	36			7.460	1	--	--	WOOD POST
48	-- R4-7(2M)	--	24	x	30	5.000		--	--	--	47	--
49	-- W12-1D(2M)	--	24	x	24		4.000	--	1	--	--	2' MOUNTING HIGHT
50	-- R1-1F (2M)	--	36	x	36			7.460	--	--	--	MOUNTED ON SIGNAL POLE
51	-- R1-2(2M)	--	48	x	42	7.000		--	1	--	--	--
52	-- R6-2L(2M)	--	30	x	36	7.500		--	1	--	--	--
53	-- R3-8P(2M)	--	30	x	54	11.250		--	2	--	--	INSTALL 365' FROM INTERSECTION
54	-- R6-2L(2M)	--	30	x	36	7.500		--	--	--	--	MOUNTED ON SIGNAL POLE
55	-- W12-1D(2M)	--	24	x	24		4.000	--	1	--	--	2' MOUNTING HIGHT
56	-- R5-1(2M)	--	36	x	36	9.000		--	--	--	--	MOUNTED ON SIGNAL POLE
57	-- R5-1A(2S)	--	36	x	24	6.000		--	--	--	56	--
58	-- R3-1(2S)	--	24	x	24	4.000		--	--	--	--	MOUNT ON MAST ARM
59	-- I2-3(2)	OCONOMOWOC / POP. 15,759	84	x	24	14.000		--	1	--	--	--
60	-- R1-1F (2M)	--	36	x	36			7.460	1	--	--	WOOD POST
61	-- R1-2(2S)	--	48	x	42	7.000		--	--	--	--	ON LIGHT POLE
62	-- W6-1(2M)	--	36	x	36		9.000	--	1	--	--	WOOD POST
63	-- R10-50L(2S)	--	30	x	36	7.500		--	--	--	--	MOUNT ON MAST ARM
64	-- R3-9B(2S)	--	24	x	36	6.000		--	1	--	--	--
65	-- R3-9B(2S)	--	24	x	36	6.000		--	1	--	--	--
66	-- R4-7(2S)	--	24	x	30	5.000		--	--	--	64	--
67	JV2-1(2)	--	24	x	93	15.500		--	1	--	--	CORE CONCRETE FOR WOOD POST
--	-- MB4-5	--	24	x	12			--	--	--	--	--
--	-- M1-1	IH 94	24	x	24			--	--	--	--	--
--	-- M3-3	--	24	x	12			--	--	--	--	--
--	-- M1-6	STH 67	24	x	24			--	--	--	--	--
--	-- M6-1	--	21	x	21			--	--	--	--	--
68	-- R3-9B (MOD) (2S)	--	24	x	36	6.000		--	1	--	--	--
69	J3-3(2)	--	72	x	57	28.500		--	2	--	--	--
--	-- MB4-5	--	24	x	12			--	--	--	--	--
--	-- M1-1	IH 94	24	x	24			--	--	--	--	--
--	-- MB6-1	--	21	x	21			--	--	--	--	--
--	-- M3-3	--	24	x	12			--	--	--	--	--
--	-- M1-6	STH 67	24	x	24			--	--	--	--	--
--	-- M6-1	--	21	x	21			--	--	--	--	--
--	-- M1-6	STH 67	24	x	24			--	--	--	--	--
--	-- M6-1	--	21	x	21			--	--	--	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	FINAL TOTALS CONTINUE ON NEXT SHEET REMARKS / NEW SIGN LOCATION
70	-- R10-50L(2S)	--	30 x 36	7.500		--	--	--	--	MOUNT ON MAST ARM
71	-- R4-7(2S)	--	24 x 30	5.000		--	--	--	60	ON WOOD POST
72	-- R4-7(2M)	--	24 x 30	5.000		--	--	--		ON SIGNAL POLE
73	-- R4-7(2M)	--	24 x 30	5.000		--	--	--		ON LIGHT POLE
74	-- R1-1F (2M)	--	36 x 36			7.460	--	--	--	ON SIGNAL POLE
75	-- R1-1F (2M)	--	36 x 36			7.460	--	--	--	ON SIGNAL POLE
76	-- R1-1F (2M)	--	36 x 36			7.460	--	--	73	ON LIGHT POLE
77	-- R6-2L(2M)	--	24 x 30	5.000		--	--	--	--	ON SIGNAL POLE
78	-- R2-1(2S)	35 mph	24 x 30	5.000		--	1	--	--	--
79	-- W3-3(2S)	--	36 x 36		9.000	--	1	--	--	--
80	-- R1-1F (2M)	--	36 x 36			7.460	--	--	56	ON SIGNAL POLE
81	-- R1-1F (2M)	--	36 x 36			7.460	--	--	72	ON SIGNAL POLE
82	-- R1-1F (2M)	--	36 x 36			7.460	--	--		ON SIGNAL POLE
83	-- R1-2(2M)	--	48 x 42	7.000		--	--	--	--	ON LIGHT POLE
84	-- W12-1D(2M)	--	24 x 24		4.000	--	1	--	--	2' MOUNTING HIGHT
85	-- R3-20L(2S)	--	24 x 36	6.000		--	1	--	--	--
86	J3-2(2)	--	48 x 57	19.000		--	1	--	--	--
--	-- M3-3	--	24 x 12			--	--	--	--	--
--	-- M1-6	STH 67	24 x 24			--	--	--	--	--
--	-- M6-2	--	21 x 21			--	--	--	--	--
--	-- MB4-5	--	24 x 12			--	--	--	--	--
--	-- M1-1	IH 94	24 x 24			--	--	--	--	--
--	-- MB6-2	--	21 x 21			--	--	--	--	--
87	JV3-1(2)	--	24 x 60	10.000		--	1	--	--	--
--	-- MB4-1	--	24 x 12			--	--	--	--	--
--	-- MB3-4	--	24 x 12			--	--	--	--	--
--	-- M1-1	IH 94	24 x 24			--	--	--	--	--
--	-- MB5-1R	--	21 x 21			--	--	--	--	--
88	-- R5-1(2M)	--	36 x 36	9.000		--	--	--	64	WOOD POST
89	-- W3-3(2S)	--	36 x 36		9.000	--	1	--	--	--
90	-- D9-2(2)	--	24 x 24	4.000		--	1	--	--	--
--	-- MB6-1(2)	--	21 x 21	3.063		--	--	--	90	--
91	-- R3-8P(2M)	--	30 x 54	11.250		--	2	--	--	INSTALL 400' FROM INTERSECTION
92	-- W12-1D(2M)	--	24 x 24		4.000	--	1	--	--	2' MOUNTING HIGHT
93	-- R1-1F (2M)	--	36 x 36			7.460	--	--		ON SIGNAL POLE
94	-- R1-1F (2M)	--	36 x 36			7.460	1	--		WOOD POST
95	-- R1-1F (2M)	--	36 x 36			7.460	--	--		ON SIGNAL POLE
96	-- R1-1 (2M)	--	36 x 36	7.460		--	1	--	--	--
97	-- R5-1(2M)	--	36 x 36	9.000		--	--	--	93	ON SIGNAL POLE
98	-- R5-1A(2S)	--	36 x 24	6.000		--	--	--	97	--
99	-- R1-2(2M)	--	48 x 42	7.000		--	1	--	--	--
100	-- D13-3(2)	FREEWAY ENT.	60 x 30	12.500		--	2	--	--	--
101	-- W12-1D(2M)	--	24 x 24		4.000	--	1	--	--	2' MOUNTING HIGHT
102	-- R3-1(2M)	--	36 x 36	9.000		--	--	--	--	MOUNT ON MAST ARM
103	-- R4-7(2S)	--	24 x 30	5.000		--	--	--	94	WOOD POST
104	-- R4-7(2S)	--	24 x 30	5.000		--	1	--	--	--
105	-- R4-7(2S)	--	24 x 30	5.000		--	1	--	--	--
106	-- R1-1F (2M)	--	36 x 36			7.460	--	--	104	--
107	-- R10-50L(2S)	--	30 x 36	7.500		--	--	--	--	MOUNT ON MAST ARM
108	-- R1-1F (2M)	--	36 x 36			7.460	--	--	105	WOOD POST
109	-- R1-1F (2M)	--	36 x 36			7.460	--	--	--	ON SIGNAL POLE
110	J2-2(2)	--	48 x 57	19.000		--	1	--	--	--
--	-- M3-3	--	24 x 12			--	--	--	--	--
--	-- M1-6	STH 67	24 x 24			--	--	--	--	--
--	-- M5-1R	--	21 x 21			--	--	--	--	--
--	-- MB4-5	--	24 x 12			--	--	--	--	--
--	-- M1-1	IH 94	24 x 24			--	--	--	--	--
--	-- MB5-1R	--	21 x 21			--	--	--	--	--
111	J3-2 (2)	--	48 x 57	19.000		--	1	--	--	--
--	-- M3-4	--	24 x 12			--	--	--	--	--
--	-- M1-6	STH 16	24 x 24			--	--	--	--	--
--	-- M6-1	--	21 x 21			--	--	--	--	--
--	-- M3-1	--	24 x 12			--	--	--	--	--
--	-- M1-6	STH 67	24 x 24			--	--	--	--	--
--	-- M6-1	--	21 x 21			--	--	--	--	--
112	-- R4-7(2S)	--	24 x 30	5.000		--	1	--	--	CORE CONCRETE FOR WOOD POST
113	-- R10-50L(2S)	--	30 x 36	7.500		--	--	--	--	MOUNT ON MAST ARM
114	-- R6-2L(2M)	--	24 x 30	5.000		--	--	--	--	ON SIGNAL POLE
115	J3-3(2)	--	72 x 57	28.500		--	2	--	--	--
--	-- M3-1	--	24 x 12			--	--	--	--	--
--	-- M1-6	STH 67	24 x 24			--	--	--	--	--
--	-- M6-1	--	21 x 21			--	--	--	--	--
--	-- M3-4	--	24 x 12			--	--	--	--	--
--	-- M1-6	STH 16	24 x 24			--	--	--	--	--
--	-- M6-1	--	21 x 21			--	--	--	--	--
--	-- M3-2	--	24 x 12			--	--	--	--	--
--	-- M1-6	STH16	24 x 24			--	--	--	--	--
--	-- M6-1	--	21 x 21			--	--	--	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
116	-- R1-1F (2M)	--	36 x 36			7.460	--	--	112	WOOD POST
117	-- R1-1F (2M)	--	36 x 36			7.460	--	--		ON SIGNAL POLE
118	-- D1-60A(MOD)	OCONOMOWOC	108 x 21	15.750		--	2	--	--	--
119	-- R6-2L(2M)	--	30 x 36	7.500		--	1	--	--	--
120	-- W3-3(2S)	--	36 x 36		9.000	--	1	--	--	--
121	-- W3-3(2S)	--	36 x 36		9.000	--	1	--	--	--
122	-- R3-20R(2S)	--	24 x 36	6.000		--	1	--	--	--
123	-- R3-20L(2S)	--	24 x 36	6.000		--	1	--	--	--
124	-- R5-1A(2S)	--	36 x 24	6.000		--	1	--	--	--
125	-- R12-1(2S)	WT, LIMIT 6 TONS	24 x 30	5.000		--	1	--	--	--
126	-- M1-94 - H	STH 181 / WAUWATOSA RD	108 x 18	13.500		--	--	--	--	ON MAST ARM
127	-- R1-1F (2M)	--	36 x 36			7.460	--	--		ON SIGNAL POLE
128	-- R5-1(2M)	--	36 x 36	9.000		--	1	--		WOOD POST
129	-- R6-2L(2M)	--	30 x 36	7.500		--	--	--	--	ON SIGNAL POLE
130	-- R1-1F (2M)	--	36 x 36			7.460	--	--	112	WOOD POST
131	-- R10-50L(2S)	--	30 x 36	7.500		--	--	--	--	MOUNT ON MAST ARM
132	-- R1-1F (2M)	--	36 x 36			7.460	1	--	--	--
133	-- R6-2L(2M)	--	30 x 36	7.500		--	1	--	--	--
134	-- M1-94-H	COUNTY LINE RD	102 x 18	12.750		--	--	--	--	ON MAST ARM
135	-- I2-3(2)	MILW. POP. 594833	72 x 24	12.000		--	2	--	--	--
136	-- R2-1(2S)	45 mph	24 x 30	5.000		--	1	--	--	--
137	-- R2-1(2S)	45 mph	24 x 30	5.000		--	1	--	--	--
138	-- D1-65(2) (MOD)	CO. LINE RD / 9600 N/ ARROWS	114 x 36	28.500		--	2	--	--	--
139	-- D1-65(2) (MOD)	CO. LINE RD / 9600 N/ ARROWS	114 x 36	28.500		--	2	--	--	--
140	-- I2-2	MILWAUKEE CO.	102 x 21	14.875		--		--	135	WOOD POST
141	-- R3-20R(2S)	--	24 x 36	6.000		--	1	--	--	--
142	-- W3-3(2S)	--	36 x 36		9.000	--	1	--	--	--
143	-- R3-20L(2S)	--	24 x 36	6.000		--	1	--	--	--
144	-- R3-7(2S)	--	30 x 30	6.250		--	1	--	--	--
145	-- R1-1F (2M)	--	36 x 36			7.460	--	--	--	ON SIGNAL POLE
146	-- R1-1F (2M)	--	36 x 36			7.460	--	--	--	ON SIGNAL POLE
147	-- R5-1(2M)	--	36 x 36	9.000		--	1	--		ON SIGNAL POLE
148	-- R1-2(2S)	--	36 x 31	3.880		--	1	--	--	--
149	-- R6-2L(2S)	--	24 x 30	5.000		--	1	--	--	--
150	-- M1-94 - H	STH 181 / WAUWATOSA RD	108 x 18	13.500		--	--	--	--	ON MAST ARM
151	-- R4-7(2S)	--	24 x 30	5.000		--		--	145	ON SIGNAL POLE
152	-- R4-7(2S)	--	24 x 30	5.000		--	--	--	--	ON SIGNAL POLE
153	-- R4-7(2S)	--	24 x 30	5.000		--	--	--	130	WOOD POST
154	-- R4-7(2S)	--	24 x 30	5.000		--	1	--	--	--
155	-- R10-50L(2S)	--	30 x 36	7.500		--	--	--	--	MOUNT ON MAST ARM
156	-- R1-1F (2M)	--	36 x 36			7.460	--	--	154	WOOD POST
157	-- R1-1F (2M)	--	36 x 36			7.460	--	--	--	ON SIGNAL POLE
158	J3-1(2)	--	24 x 45	7.500		--	1	--	--	
	M1-6	STH 181	24 x 24							
	M6-4		21 x 21							
159	-- R6-2L(2S)	--	24 x 30	5.000		--	1	--	--	--
160	-- M1-94-H	COUNTY LINE RD	102 x 18	12.750		--	--	--	--	ON MAST ARM
161	J3-1(2)	--	24 x 45	7.500		--	1	--	--	
	M1-6	STH 181	24 x 24							
	M6-4		21 x 21							
162	-- R2-1(2S)	45 mph	24 x 30	5.000		--	1	--	--	--
163	-- R2-1(2S)	45 mph	24 x 30	5.000		--	1	--	--	--
164	-- R10-50L(2S)	--	30 x 36	7.500		--	--	--	152	ON UPPER SIGNAL POLE
165	-- R10-50L(2S)	--	30 x 36	7.500		--	--	--	145	ON UPPER SIGNAL POLE
166&177	--	SIGN NUMBER NOT USED	-- x --	--	--	--	--	--	--	--
167	-- R5-1(2M)	--	36 x 36	9.000		--	--	--	23	SEE SHEET 2 OF 5
168	-- R6-3(2M)	--	30 x 24	5.000		--	--	--	29	SEE SHEET 2 OF 5
169	-- R6-3(2M)	--	30 x 24	5.000		--	--	--	24	SEE SHEET 2 OF 5
170	-- R6-3(2M)	--	30 x 24	5.000		--	--	--	27	SEE SHEET 2 OF 5
171	-- R6-3(2M)	--	30 x 24	5.000		--	--	--	47	SEE SHEET 2 OF 5
172	-- R5-1(2M)	--	36 x 36	9.000		--	--	--	50	SEE SHEET 2 OF 5
173	-- R6-3(2M)	--	30 x 24	5.000		--	1	--		SEE SHEET 3 OF 5
174	-- R6-3(2M)	--	30 x 24	5.000		--	--	--	81	SEE SHEET 3 OF 5
175	-- R6-3(2M)	--	30 x 24	5.000		--	--	--	73	SEE SHEET 3 OF 5
176	-- R6-3(2M)	--	30 x 24	5.000		--	--	--	74	SEE SHEET 3 OF 5 / ABOVE THE R1-1F
178	-- R6-3(2M)	--	30 x 24	5.000		--	--	--	94	--
179	-- R6-2L(2S)	--	24 x 30	5.000		--	1	--	--	--
180	-- R6-3(2M)	--	30 x 24	5.000		--	--	--	104	SEE SHEET 4 OF 5
181	J3-1(2)	--	24 x 45	7.500		--	1	--	--	SEE SHEET 5 OF 5
	M1-6	STH 181	24 x 24							
	M6-4		21 x 21							
182	-- D1-65(2) (MOD)	CO. LINE RD / 9600 N/ ARROWS	114 x 36	28.500		--	2	--	--	SEE SHEET 5 OF 5
183	-- D1-65(2) (MOD)	CO. LINE RD / 9600 N/ ARROWS	114 x 36	28.500		--	2	--	--	SEE SHEET 5 OF 5
184	-- R6-2L(2S)	--	24 x 30	5.000		--	--	--	--	SEE SHEET 4 OF 5/ ON LIGHT POLE
185	-- R4-7(2S)	--	24 x 30	5.000		--	--	--		SHT 4 OF 5 / ON EXISTING STEEL POST
186	R9-5	--	12 x 18	1.500			1	--	--	
		UNDISTRIBUTED			**--**	**--**	**5**	**5**	**--**	**--**
TOTALS				**1090.778**	**96.500**	**238.720**	**102.000**	**5.000**		**FINAL TOTALS**

SHEET 3 OF 3

PROJECT NO:3700-20-80	HWY: VARIOUS	COUNTY: VARIOUS	MISCELLANEOUS QUANTITIES PERMANENT SIGNING	SHEET:	E

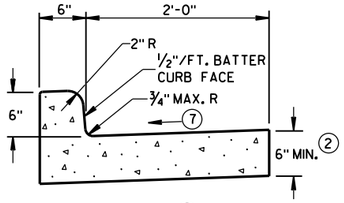
Standard Detail Drawing List

08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-20A	CURB RAMPS TYPES 1 AND 1-A
08D05-20B	CURB RAMPS TYPES 2 AND 3
08D05-20C	CURB RAMPS TYPES 4A AND 4A1
08D05-20D	CURB RAMPS TYPE 4B AND 4B1
08D05-20E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-20F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-20G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-10	CONDUIT
09B04-11	PULL BOX
09C02-09	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C11-10	CONCRETE BASE TYPE 10
09C12-09A	CONCRETE BASE TYPE 13
09C12-09B	CONCRETE BASE TYPE 13
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09E01-15D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-15G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-06	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-06	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-08B	TYPE 10 POLE 15'-30' MONOTUBE ARM
09E08-08C	TYPE 12 POLE 35'-55' MONOTUBE ARM
09E08-08D	TYPE 13 POLE 35'-55' MONOTBE ARM
09E08-08E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09E12-01D	OVER HEIGHT TYPE 13 POLE 35'-55' MONOTBE ARM
09E12-01E	GENERAL NOTES AND HARDWARE DETAILS FOR OVER HEIGHT TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F15-04A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09F15-04B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
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
10A18-05A	LUMINAIRE ARMS, SINGLE MEMBER 6-INCH CLAMP
10A18-05B	LUMINAIRE ARMS, TRUSS TYPE 6-INCH CLAMP
11B02-02	CONCRETE MEDIAN NOSE
13C09-15A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-15B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-15C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07E	OFF RAMP LANE CLOSURE
15C02-07F	ADVANCED WIDTH RESTRICTION SIGNING
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-14B	PAVEMENT MARKING WORDS
15C07-14C	PAVEMENT MARKING ARROWS
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C08-19C	PAVEMENT MARKING (TURN LANES)
15C11-07A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C18-04	MEDIAN ISLAND MARKING
15C20-02	YIELD MARKING
15C27-03A	DOUBLE ARROW WARNING SIGN PLACEMENT
15C27-03B	PAVEMENT MARKING (ISLANDS)
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D16-04	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

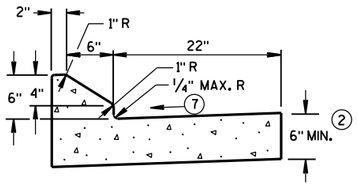
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Standard Detail Drawing List

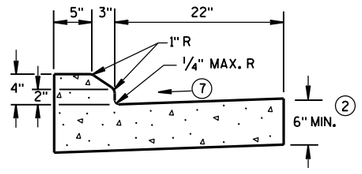
15D21-06A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-06B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D30-05A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-05B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-05C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



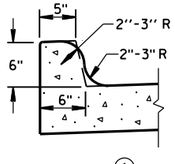
TYPES A (1) & D



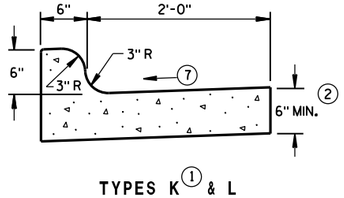
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

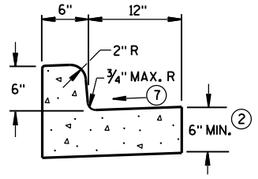


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



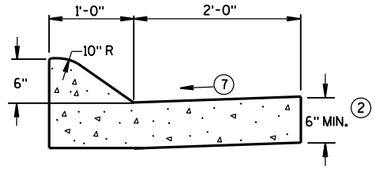
TYPES K (1) & L

CONCRETE CURB & GUTTER 30"

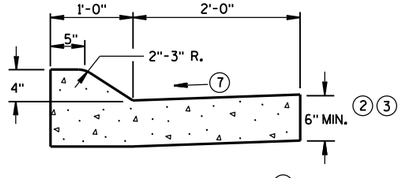


TYPES A (1) & D

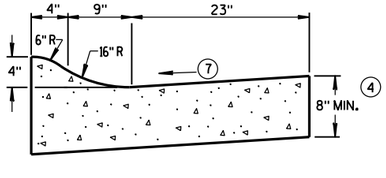
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A (1) & D

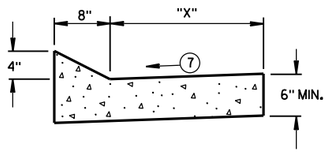


4" SLOPED CURB TYPES A (1) & D



4" SLOPED CURB TYPES R (1) & T (5)

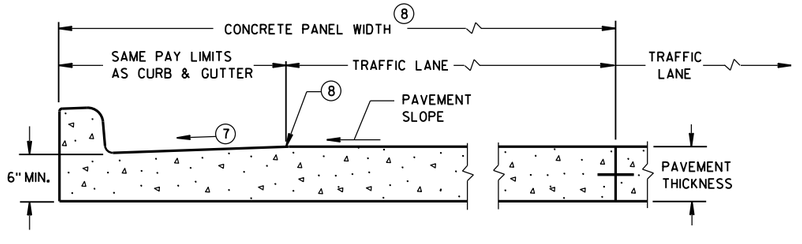
CONCRETE CURB & GUTTER 36"



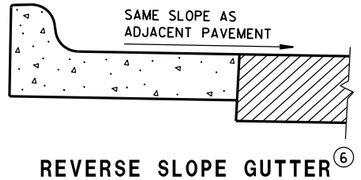
TYPES TBT & TBTT (1)

CONCRETE CURB & GUTTER

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



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB & GUTTER



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

GENERAL NOTES

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

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

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

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

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

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

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

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

(5) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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

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

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

PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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

* BIKE LANE IS NOT SHOWN.

CONCRETE CURB & GUTTER

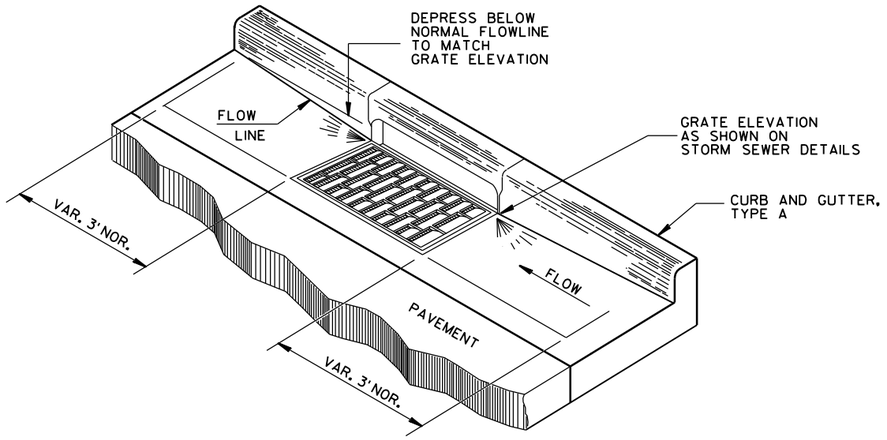
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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S.D.D. 8 D 1-20a

6

S.D.D. 8 D 1-20a



DETAIL OF CURB AND GUTTER AT INLETS

(TYPE H INLET COVER SHOWN)

GENERAL NOTES

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

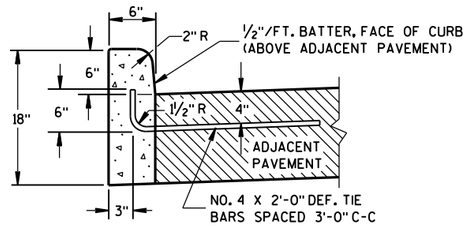
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

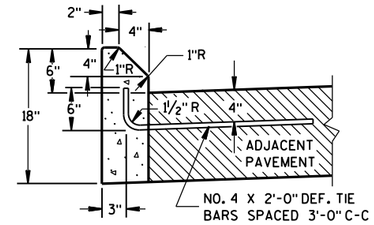
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

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

(9) REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

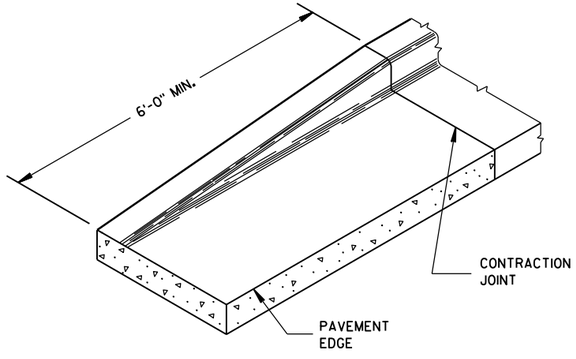


TYPES A (1) & D

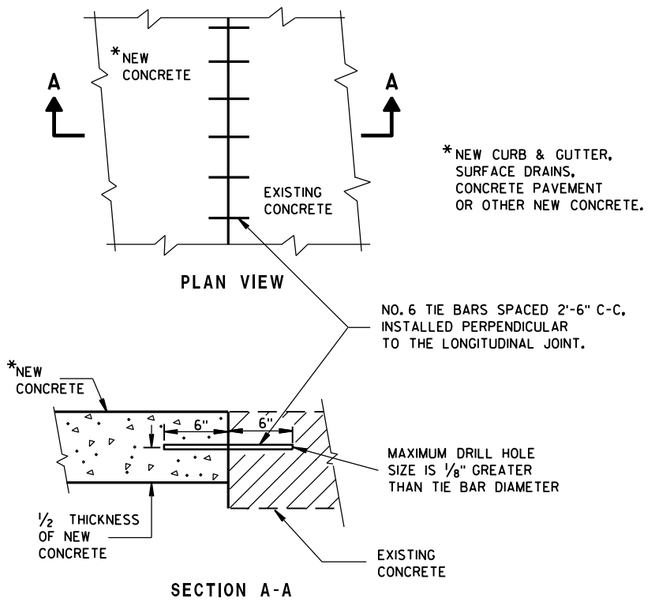


TYPES G (1) & J

CONCRETE CURB



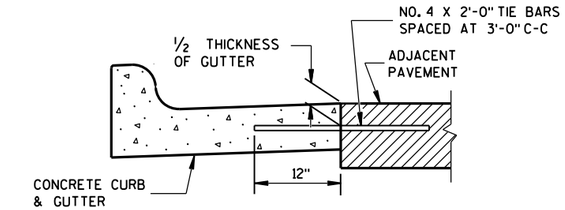
END SECTION CURB & GUTTER



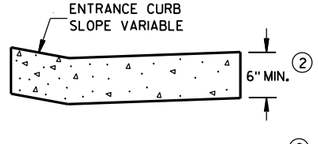
PLAN VIEW

SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

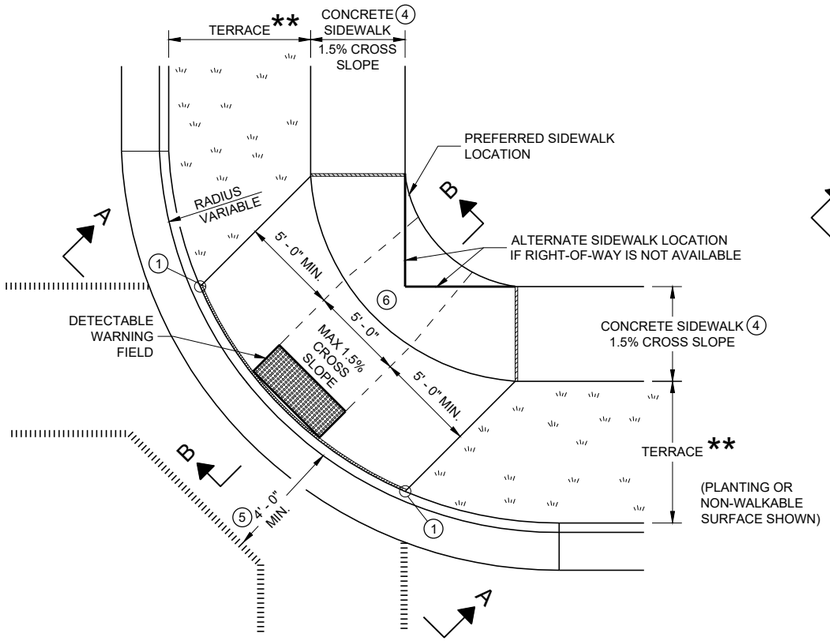
CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2017 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

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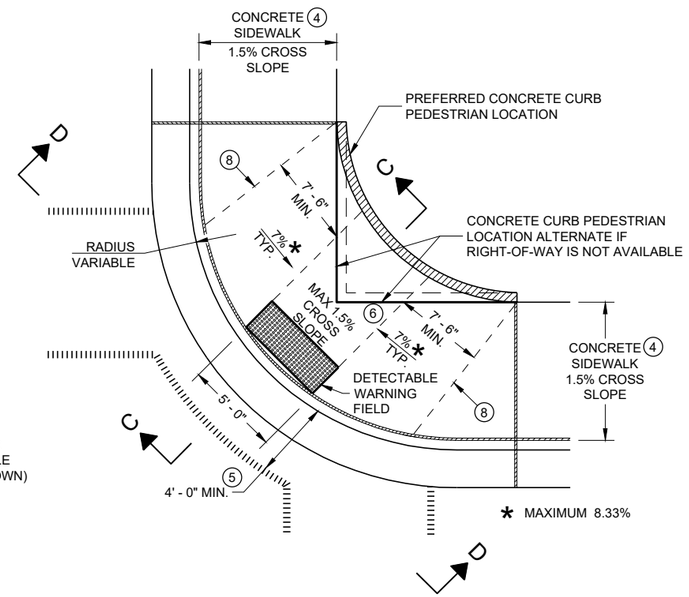
S.D.D. 8 D 1-20b



PLAN VIEW

CURB RAMP TYPE 1

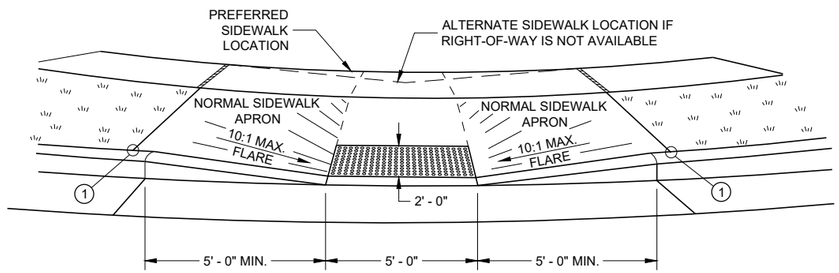
(CENTER OF CORNER RADIUS)



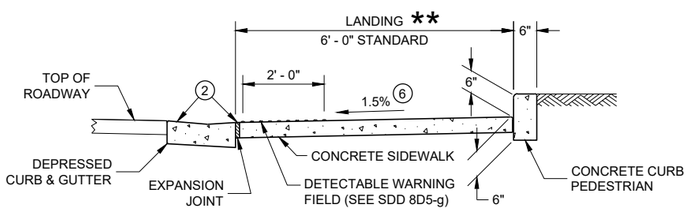
PLAN VIEW

CURB RAMP TYPE 1 - A

(NO TERRACE)

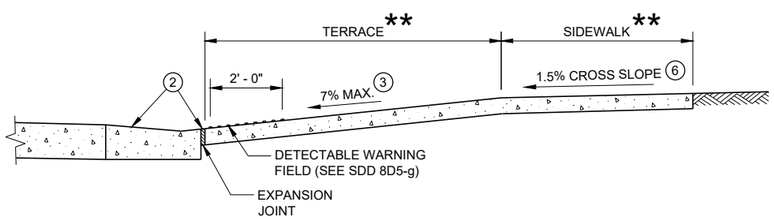


VIEW A - A FOR TYPE 1

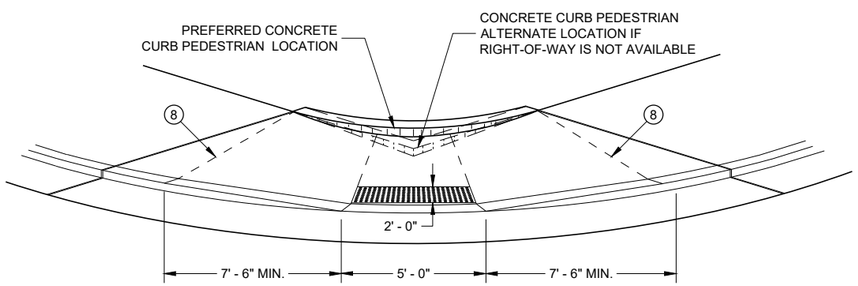


SECTION C - C FOR TYPE 1 - A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B - B FOR TYPE 1



VIEW D - D FOR TYPE 1 - A

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 CURB RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FILED SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAR FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD"

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

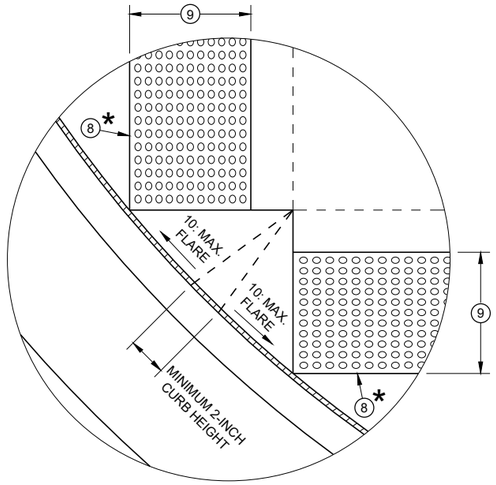
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPE 1 AND 1-A

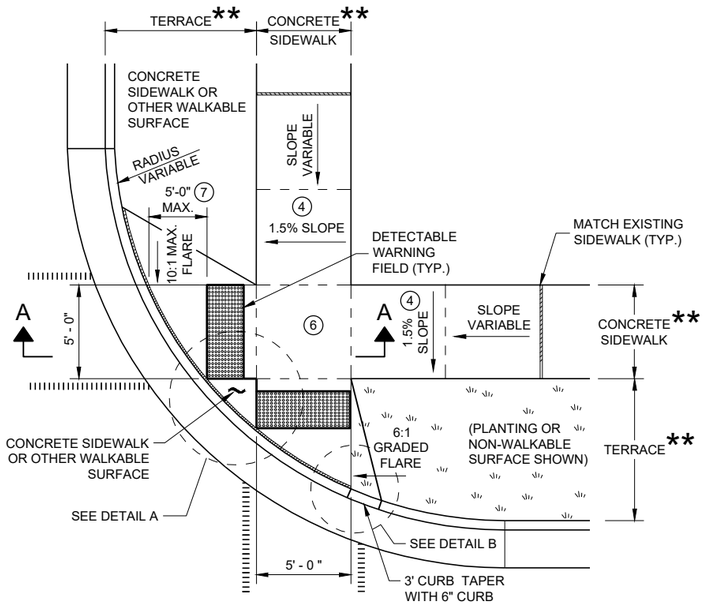
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 08D05 - 20a



DETAIL A



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

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.

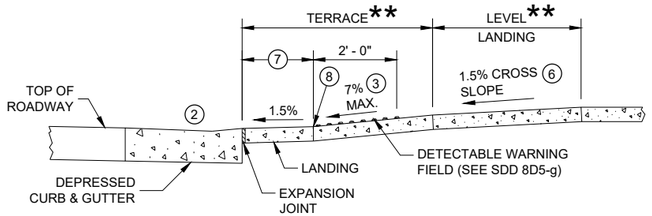
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.

(7) WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

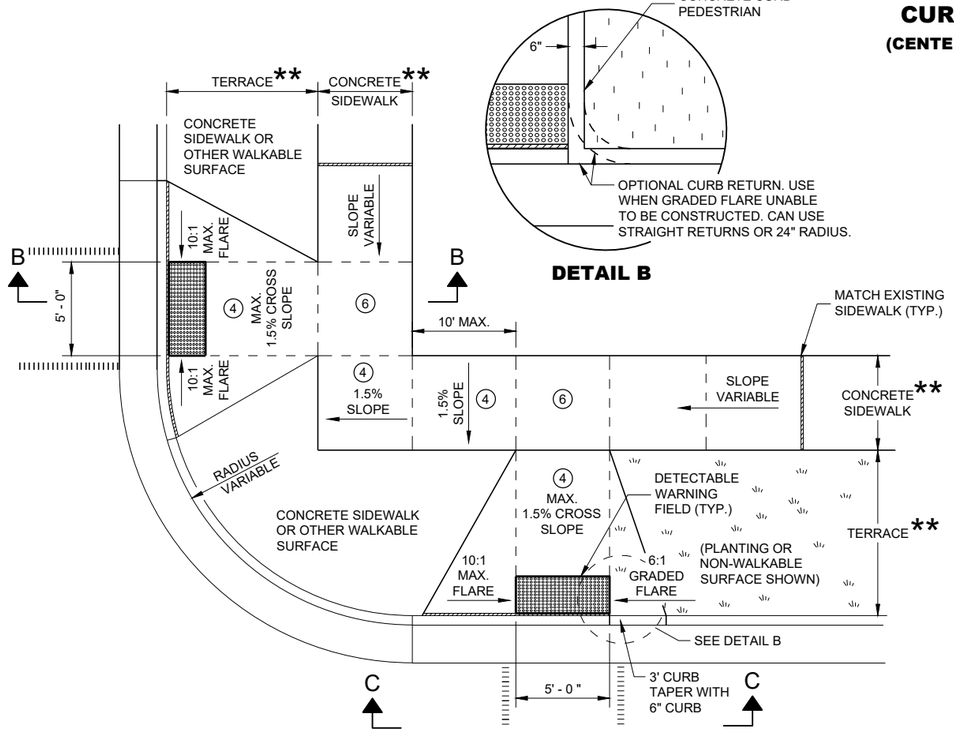
(9) WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.



SECTION A - A FOR TYPE 2

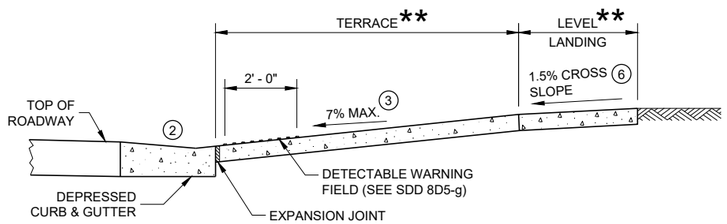
* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS

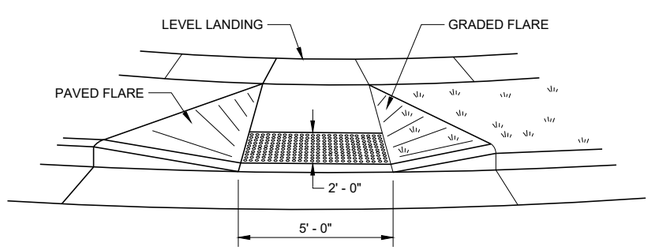


DETAIL B

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



SECTION B - B FOR TYPE 3



VIEW C - C FOR TYPE 3

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 2 AND 3

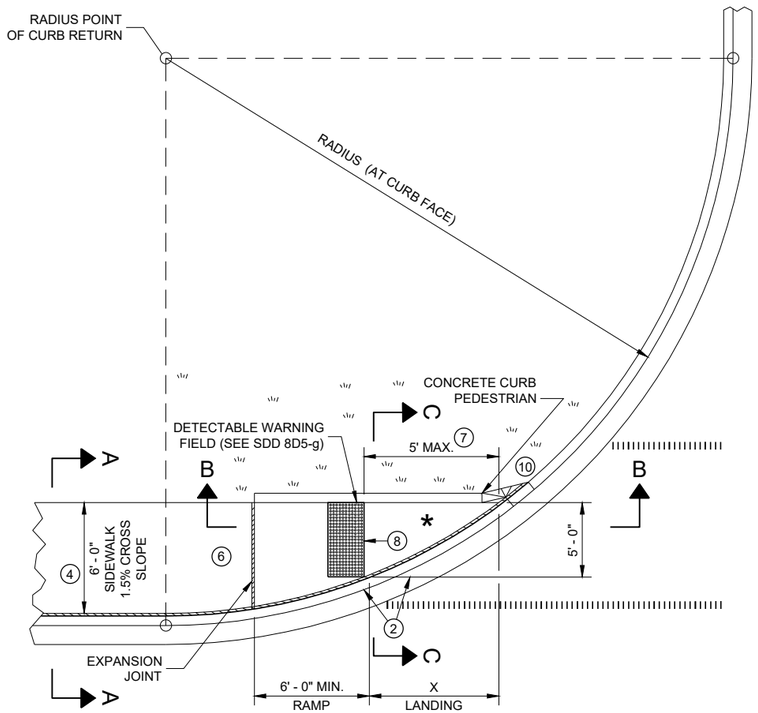
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D05 - 20b

6

SDD 08D05 - 20b

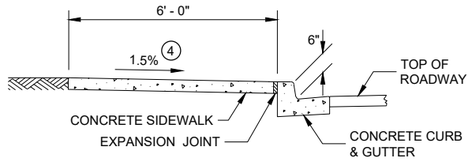


PLAN VIEW

CURB RAMP TYPE 4A

RADIUS (AT CURB FACE)	X
10 FEET	4' - 7"
15 FEET	6' - 5½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A - A FOR TYPE 4A

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

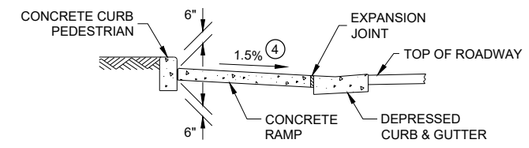
(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

LEGEND

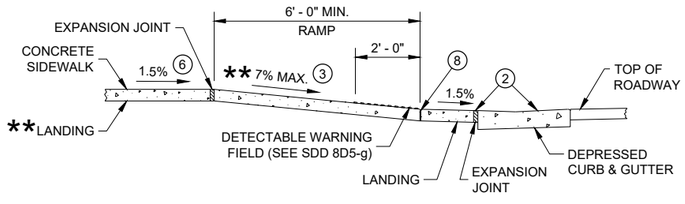
½" EXPANSION JOINT SIDEWALK

CONTRACTION JOINT SIDEWALK

PAVEMENT MARKING CROSSWALK (WHITE)



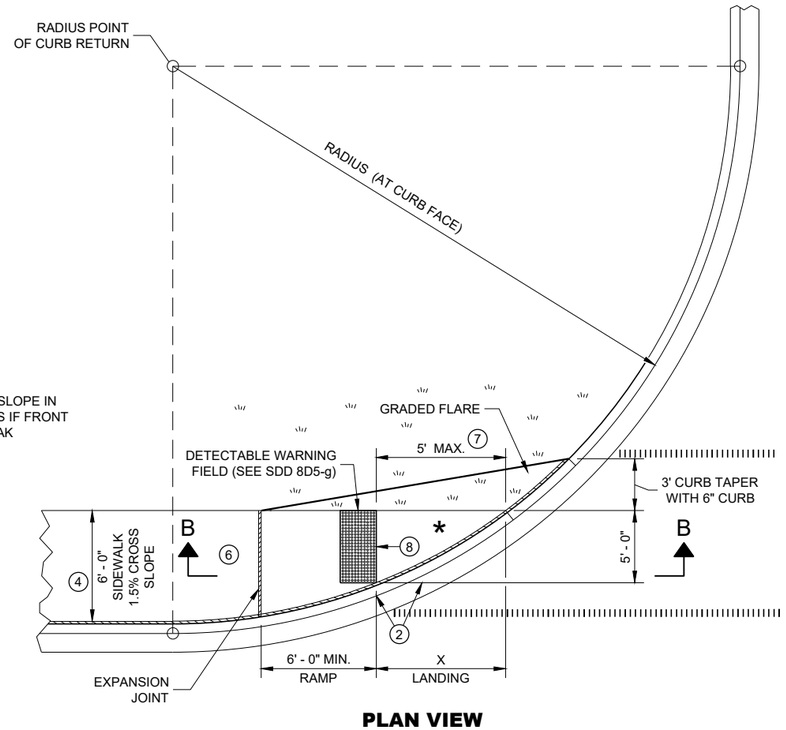
SECTION C - C FOR TYPE 4A



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

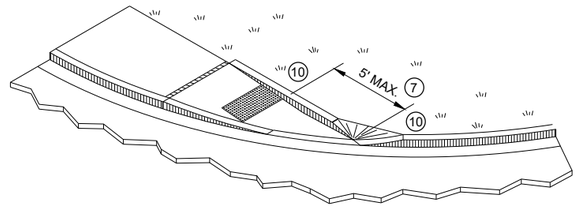
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

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

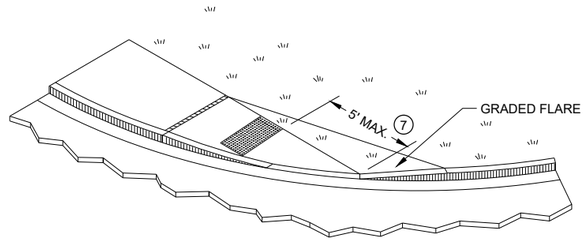


PLAN VIEW

CURB RAMP TYPE 4A1



ISOMETRIC VIEW FOR TYPE 4A



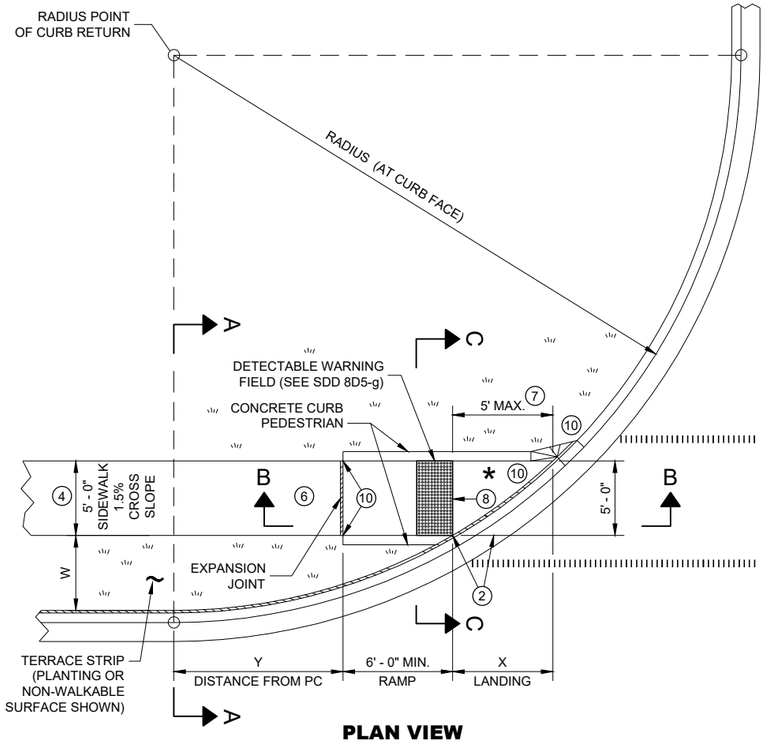
ISOMETRIC VIEW FOR TYPE 4A1

CURB RAMPS
TYPE 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D05 - 20c

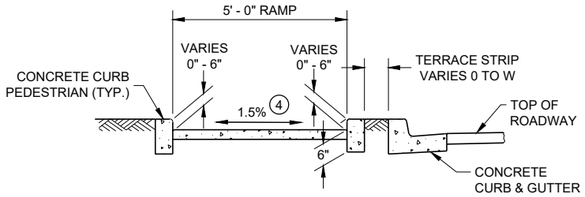


PLAN VIEW

CURB RAMP TYPE 4B

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 ¼"	0' - 5"	2' - 1"	1' - 4 ½"	1' - 5"	2' - 1"	0' - 10"	2' - 7 ½"	0' - 3 ¼"	3' - 0 ¼"						
15 FEET	4' - 6 ¾"	2' - 1 ¾"	3' - 9"	3' - 5 ¾"	3' - 1 ¼"	4' - 6"	2' - 6 ¾"	5' - 4 ½"	2' - 1"	6' - 1"	1' - 8"	6' - 8 ½"	1' - 3 ¼"	7' - 2 ½"	0' - 10 ¾"	7' - 7 ¼"
20 FEET	5' - 9 ¾"	3' - 6 ½"	4' - 11 ½"	5' - 1 ¾"	4' - 3 ¼"	6' - 5 ½"	3' - 8 ¾"	7' - 7"	3' - 3"	8' - 6 ½"	2' - 10"	9' - 4 ½"	2' - 5 ½"	10' - 1 ¼"	2' - 1 ¼"	10' - 9"
30 FEET			6' - 9 ¼"	7' - 11 ¼"	6' - 0 ¼"	9' - 8"	5' - 5"	11' - 1 ¾"	4' - 10 ¾"	12' - 5 ¾"	4' - 5 ½"	13' - 7 ¾"	4' - 0 ¾"	14' - 8 ½"	3' - 8 ½"	15' - 8 ¼"
40 FEET									6' - 1 ¾"	15' - 8 ½"	5' - 8"	17' - 2"	5' - 3"	18' - 5 ¾"	4' - 10 ¾"	19' - 8 ¼"
50 FEET															5' - 10 ¼"	23' - 2"

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



SECTION C - C FOR TYPE 4B

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

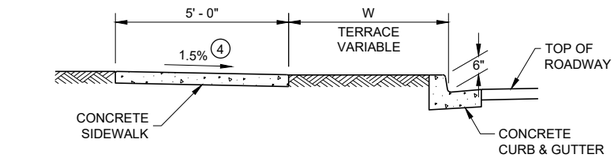
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

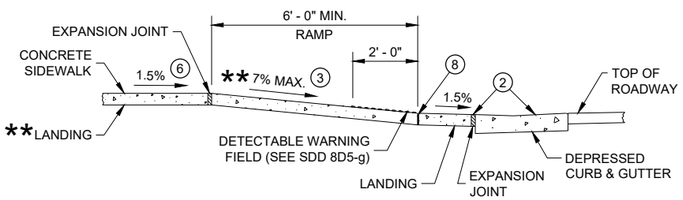
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



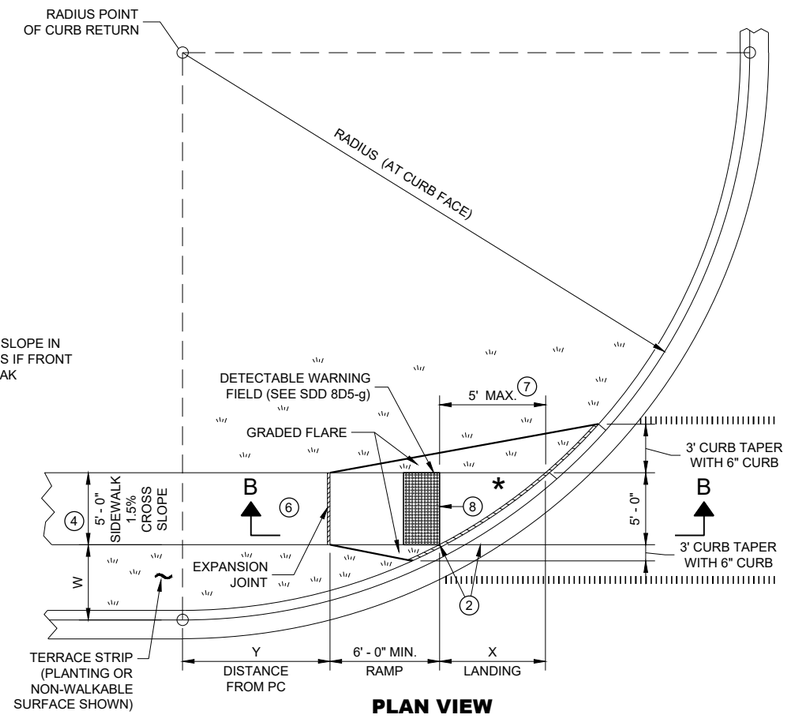
SECTION A - A FOR TYPE 4B



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

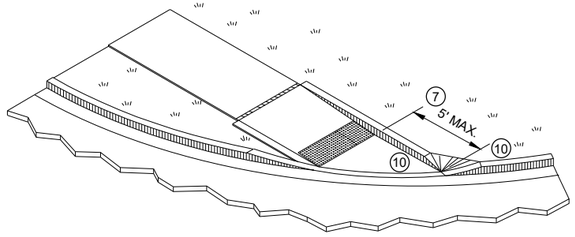
SECTION B - B FOR TYPE 4B AND TYPE 4B1

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

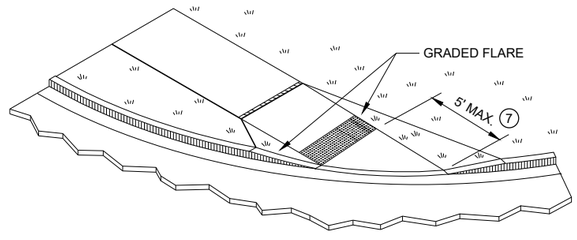


PLAN VIEW

CURB RAMP TYPE 4B1



ISOMETRIC VIEW FOR TYPE 4B

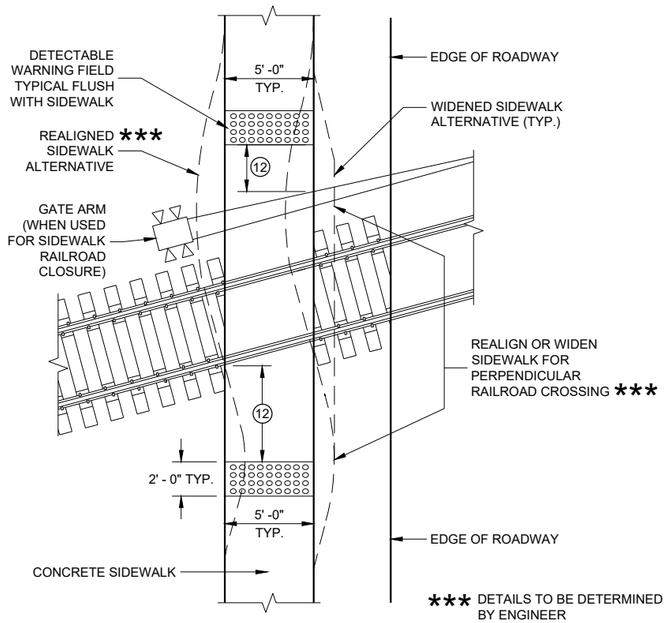


ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

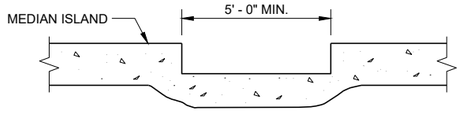
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 08D05 - 20d

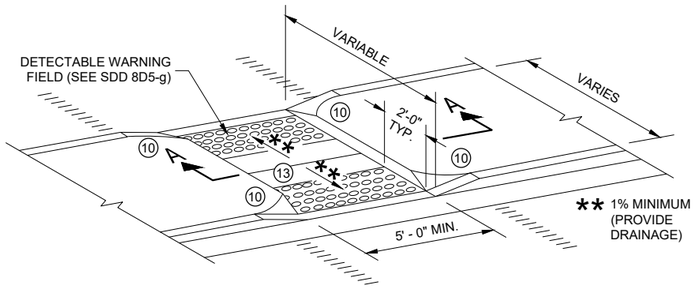


CURB RAMP TYPE 8

DETECTABLE WARNINGS AT RAILROAD CROSSING



SECTION A - A FOR TYPE 5



CURB RAMP TYPE 5

MEDIAN ISLAND NON-ELEVATED PEDESTRIAN CROSSING

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ½ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

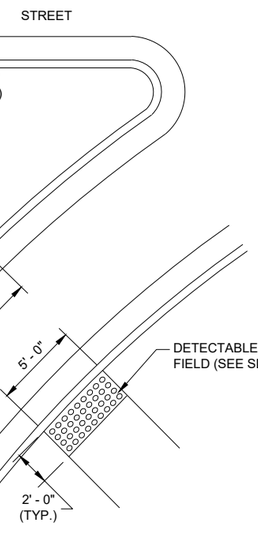
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

LEGEND

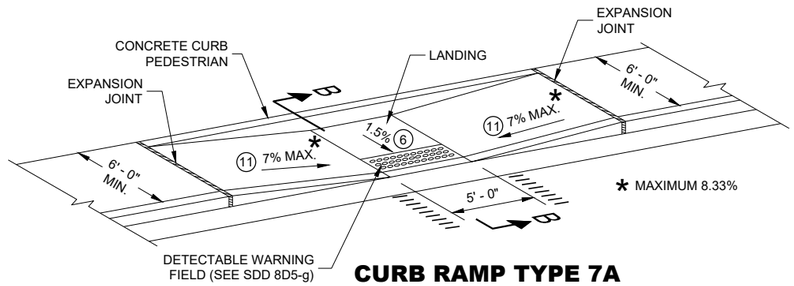
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



CURB RAMP TYPE 6

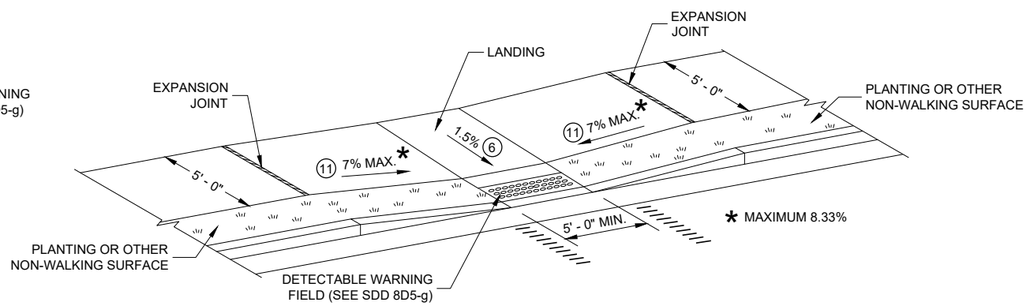
DETECTABLE WARNING AT ISLANDS

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



CURB RAMP TYPE 7A

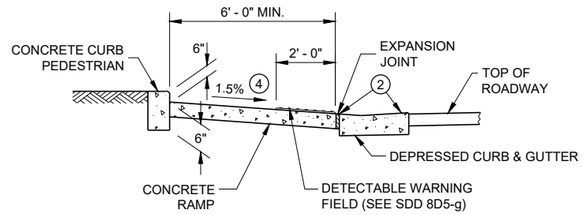
MID BLOCK CROSSING



CURB RAMP TYPE 7B

MID BLOCK CROSSING

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.



SECTION B - B FOR TYPE 7A

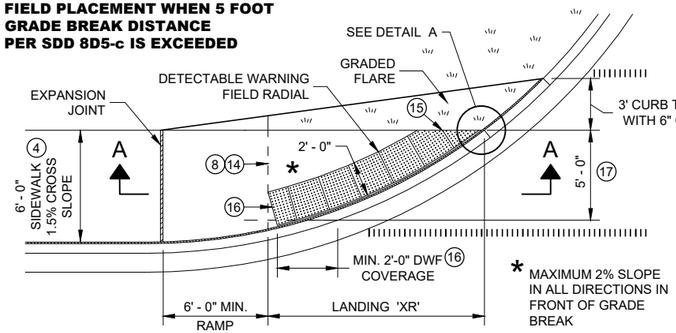
CURB RAMPS TYPE 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D05 - 20e

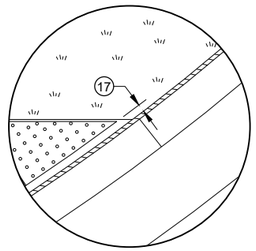
RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-c IS EXCEEDED



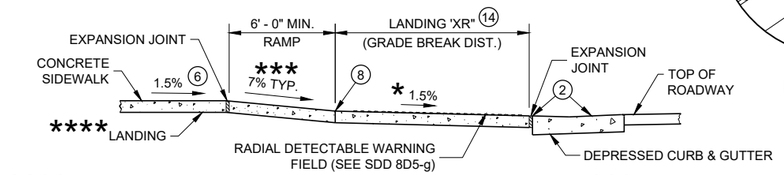
PLAN VIEW

CURB RAMP TYPE 4A1

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



DETAIL A

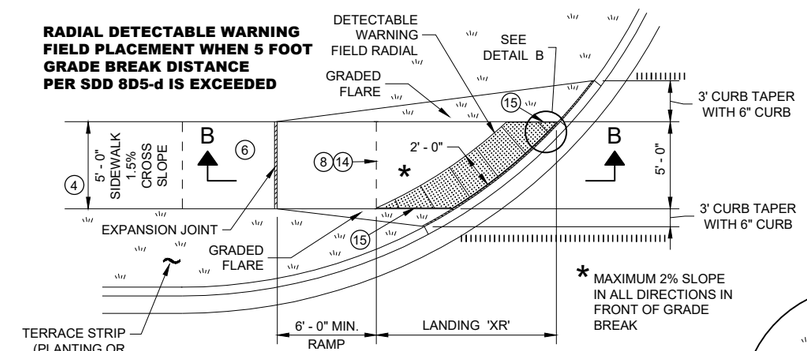


**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%

SECTION A - A FOR TYPE 4A1

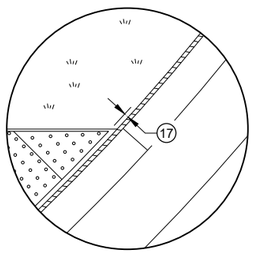
RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-d IS EXCEEDED



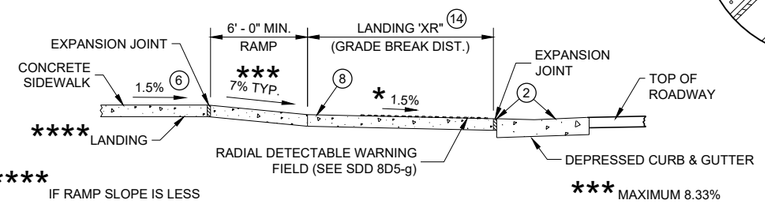
PLAN VIEW

CURB RAMP TYPE 4B1

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



DETAIL B



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

*** MAXIMUM 8.33%

SECTION B - B FOR TYPE 4B1

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AD ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

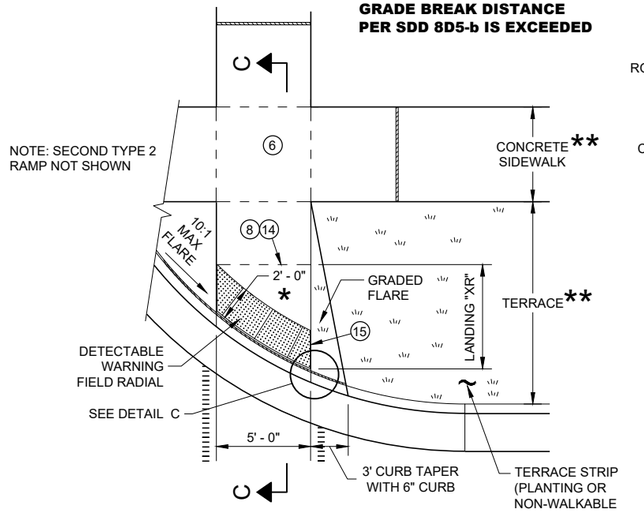
(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

(16) USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.

(17) A MAXIMUM 3 INCH CONCRETE BORDER WITH IS ALLOWABLE IN FROM OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

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

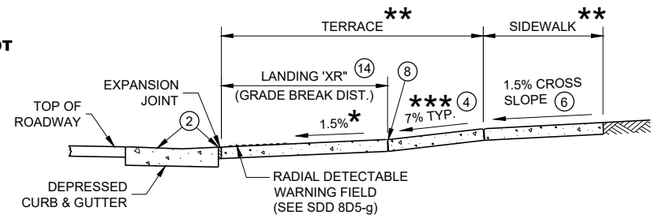


PLAN VIEW

CURB RAMP TYPE 2

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)

(ON LINE WITH SIDEWALK)

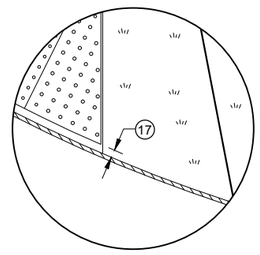


SECTION C - C FOR TYPE 2

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

** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** MAXIMUM 8.33%



DETAIL C

CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS

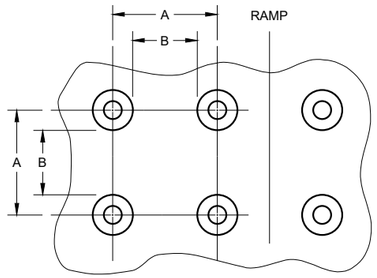
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D05 - 20f

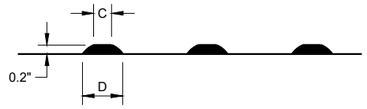
SDD 08D05 - 20f

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

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

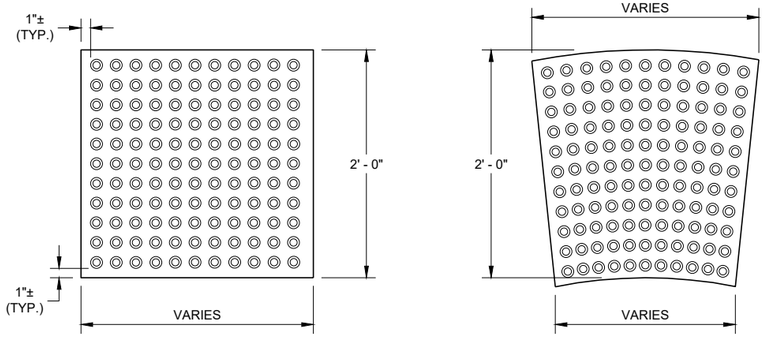


PLAN VIEW



ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



RECTANGULAR PLATES

RADIAL PLATES

PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

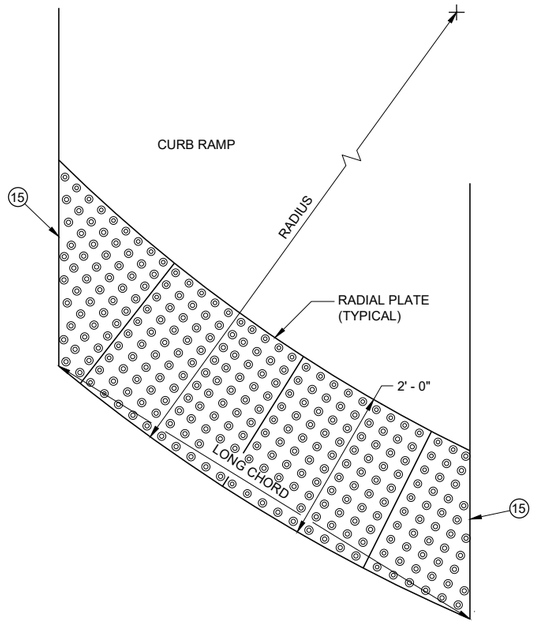
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

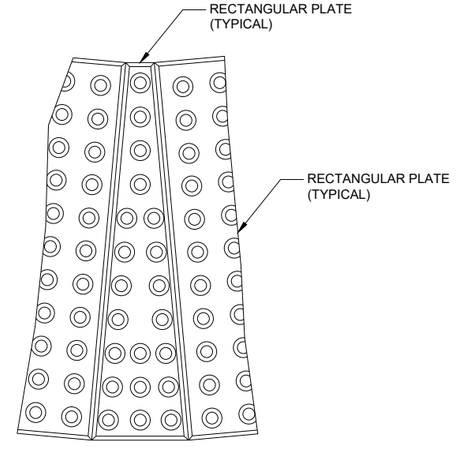
REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.



PLAN VIEW
RADIAL DETECTABLE WARNING FIELD ATTRIBUTES



PLAN VIEW
RADIAL WEDGE PLATE CONNECTION DETAIL

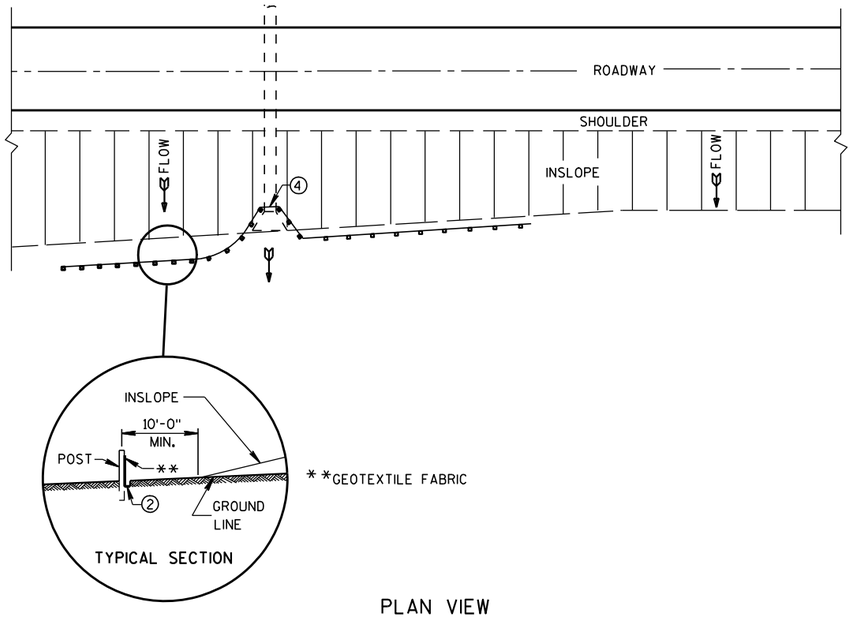
CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE UNIT SUPERVISOR

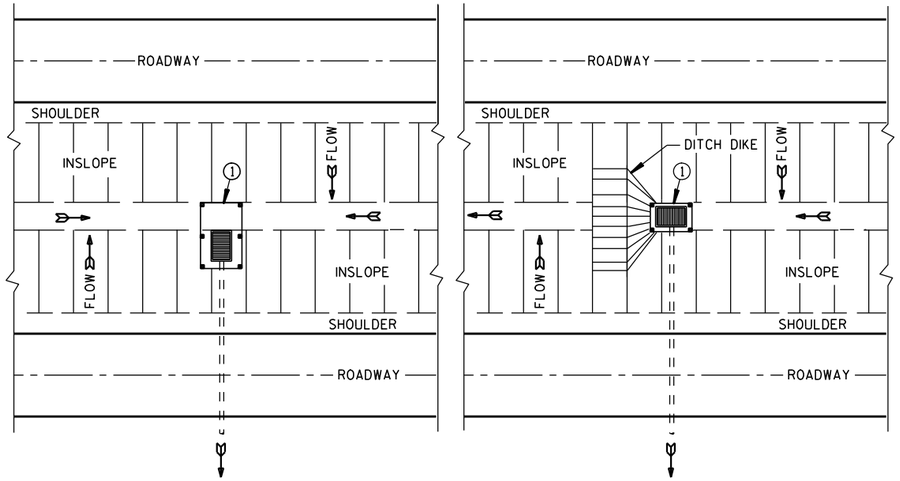
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SDD 08D05 - 20g



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



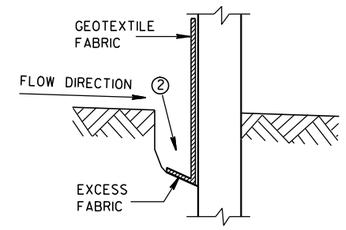
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

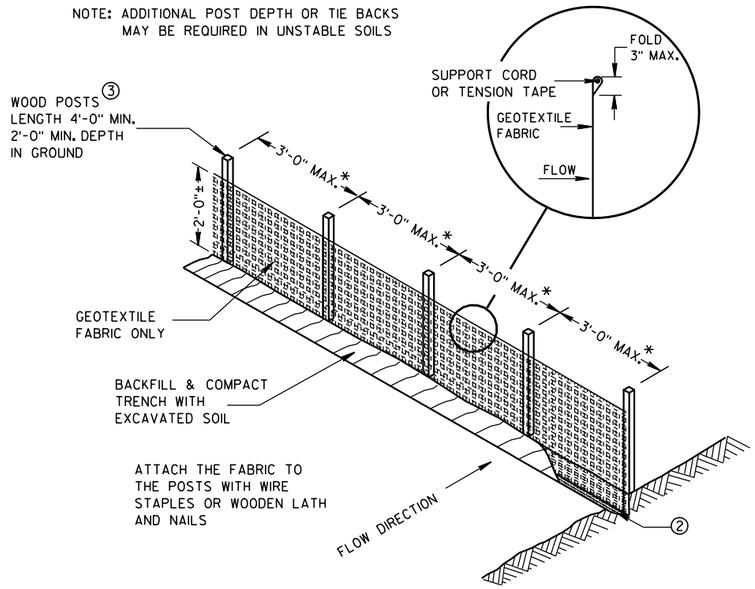
GENERAL NOTES

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

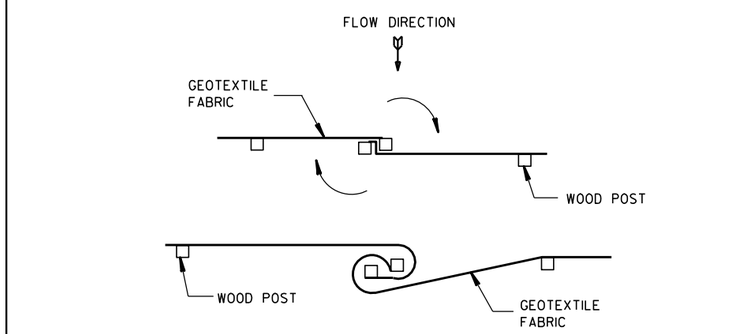
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



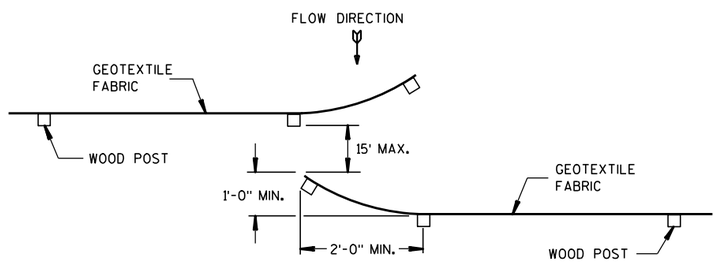
TRENCH DETAIL



SILT FENCE

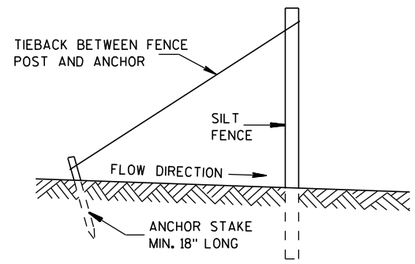


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

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DEPARTMENT OF TRANSPORTATION

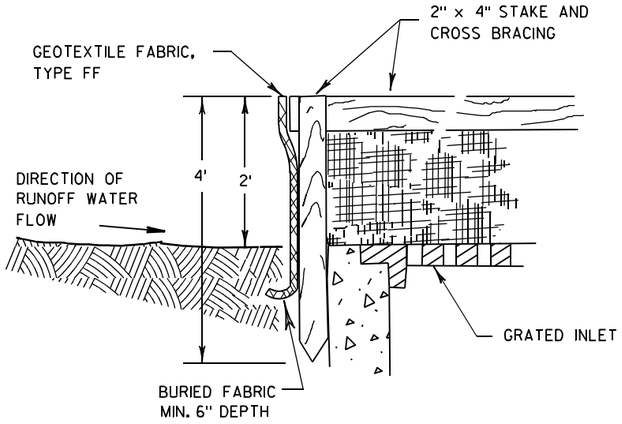
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

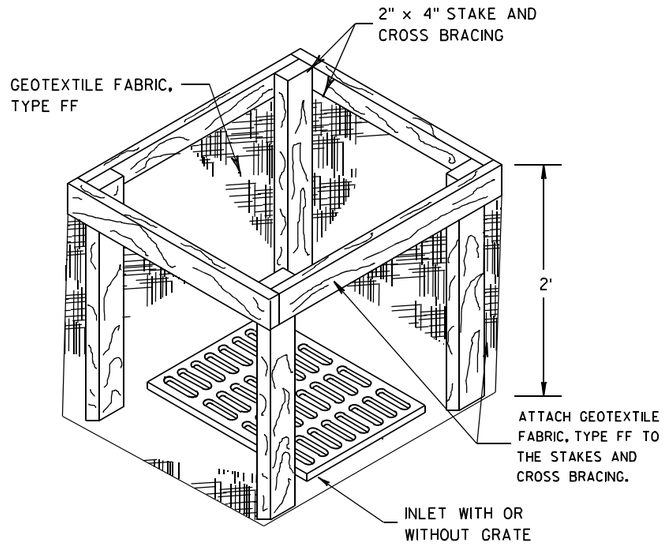
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S.D.D. 8 E 9-6

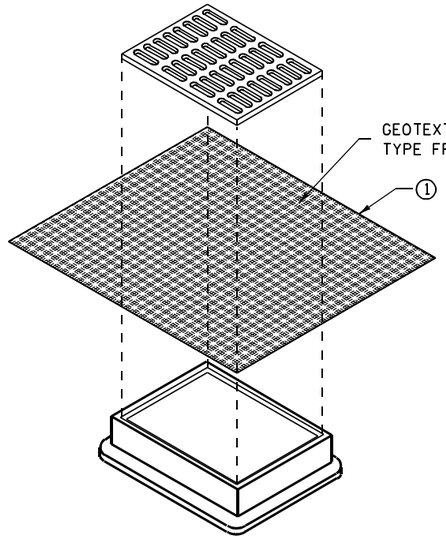
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S.D.D. 8 E 9-6



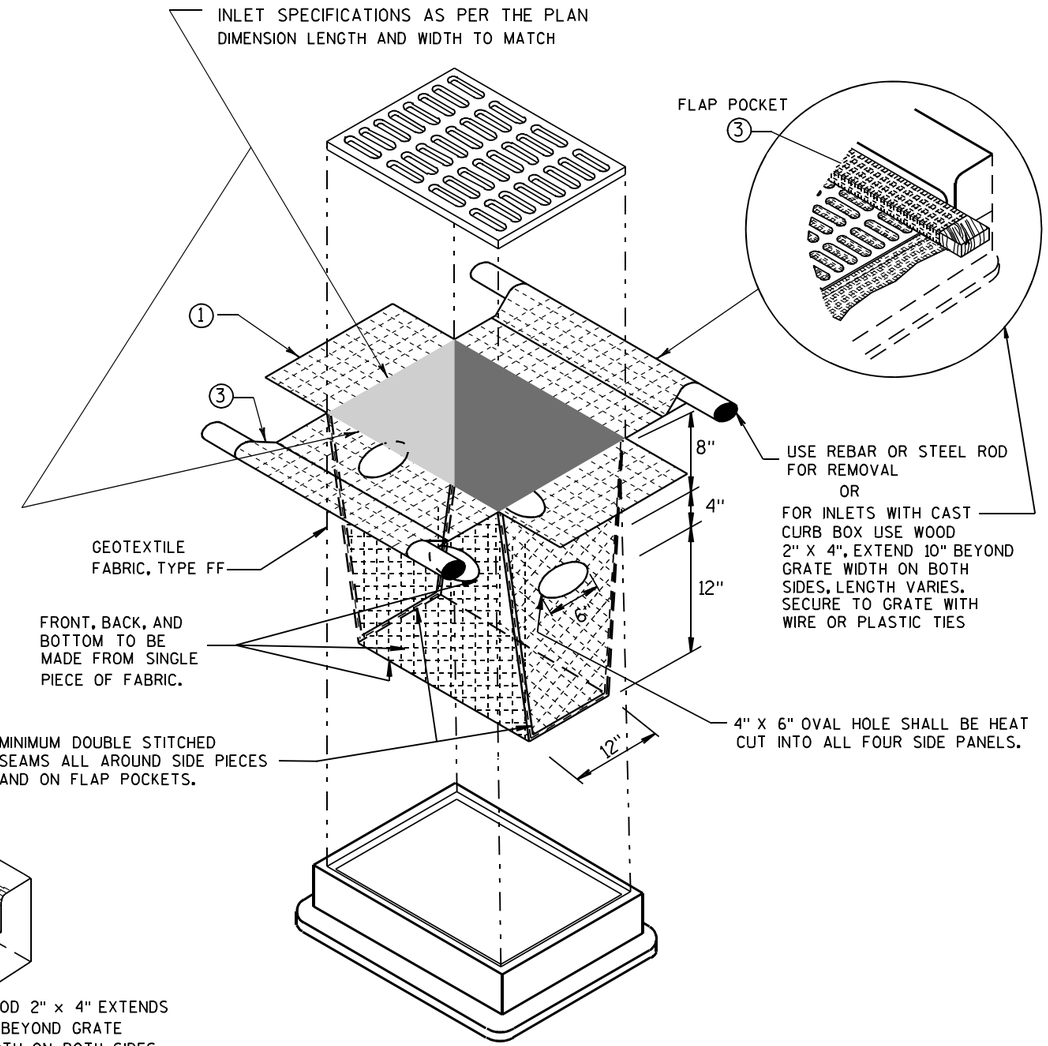


INLET PROTECTION, TYPE A



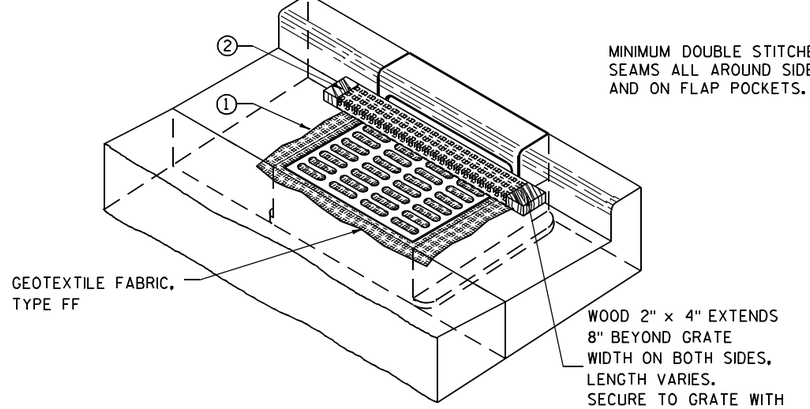
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

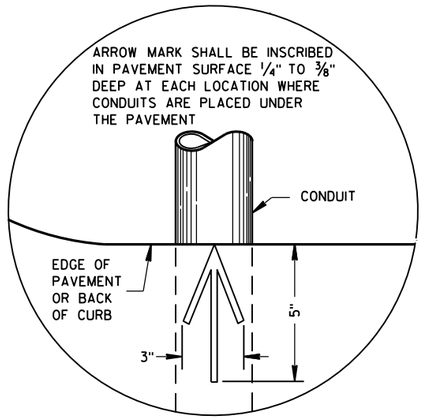
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

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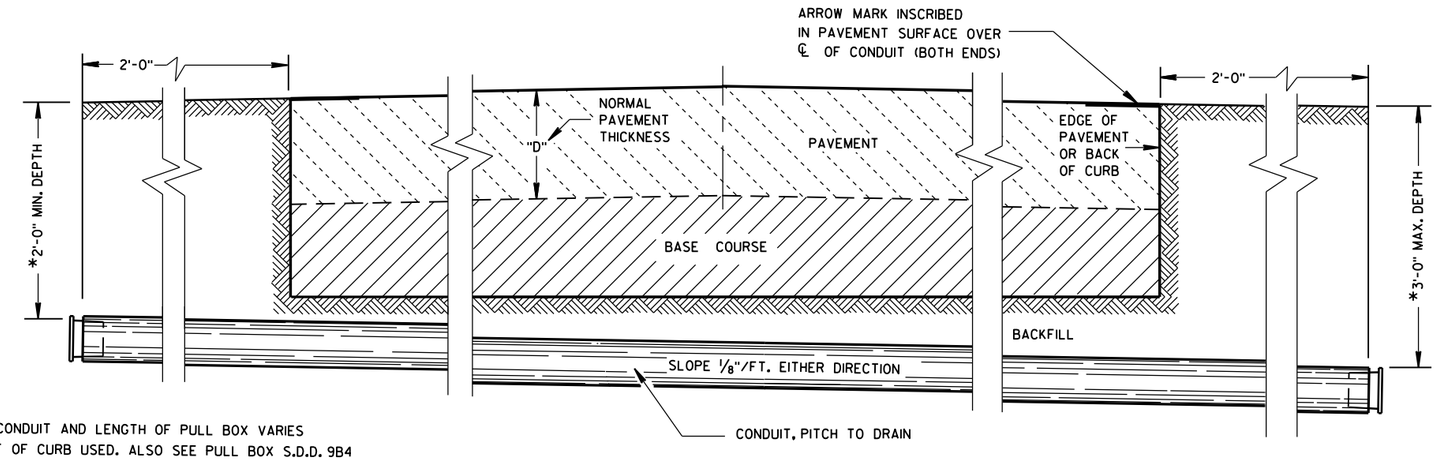
APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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



PLAN VIEW

ARROW MARK



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

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

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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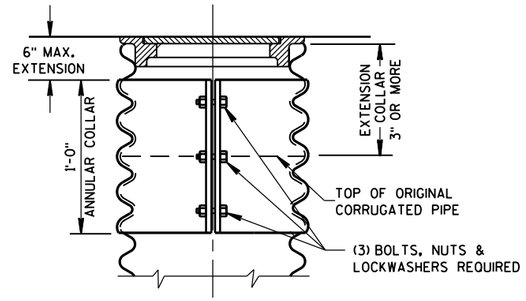
S.D.D. 9 B 2-10

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

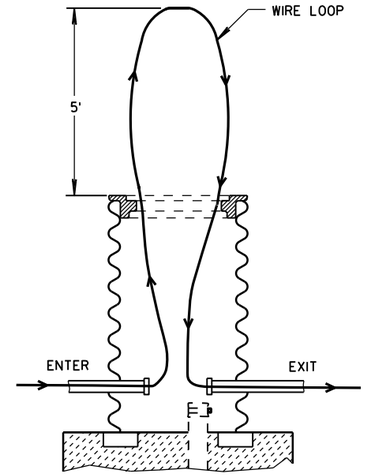
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

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

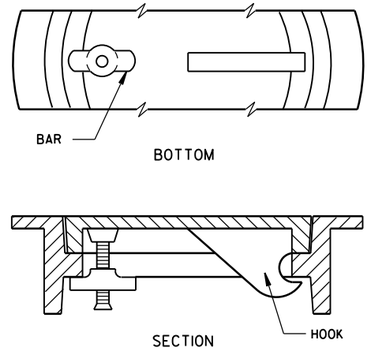
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

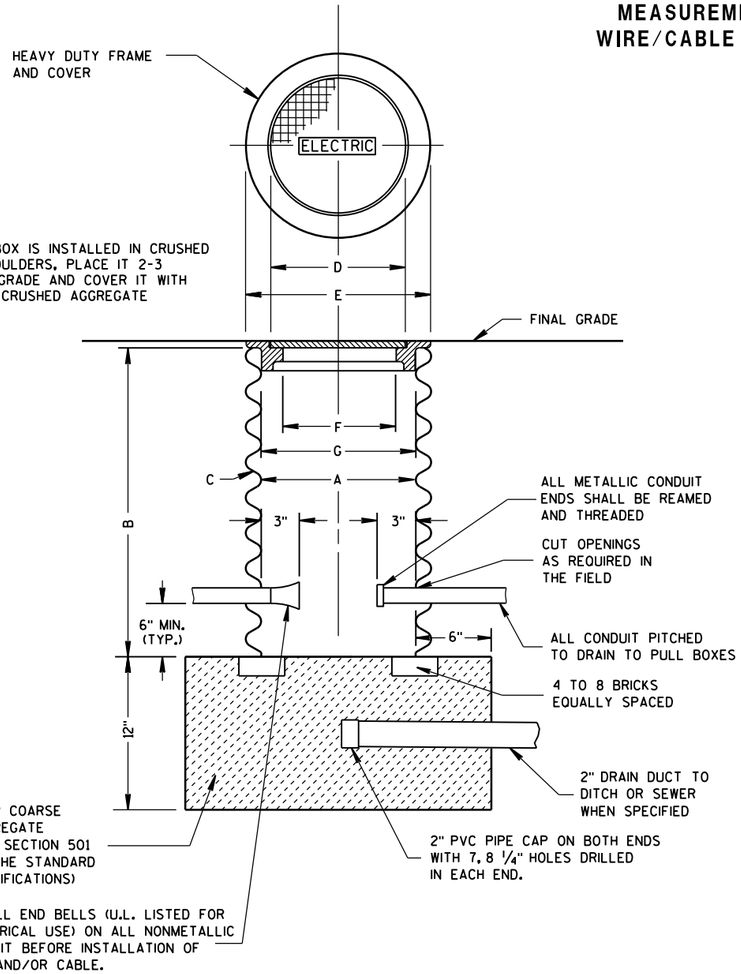


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



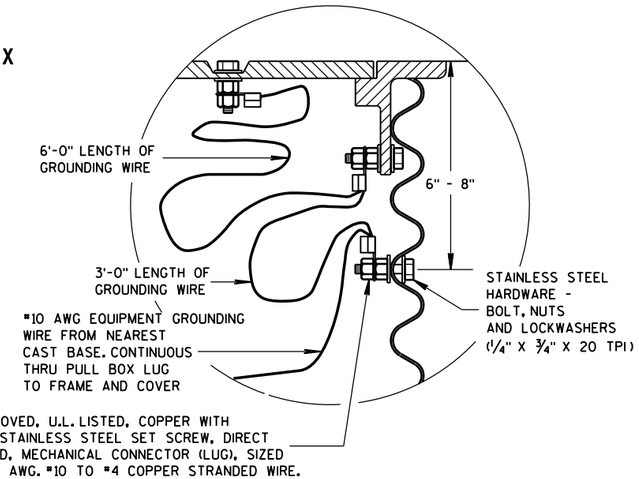
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

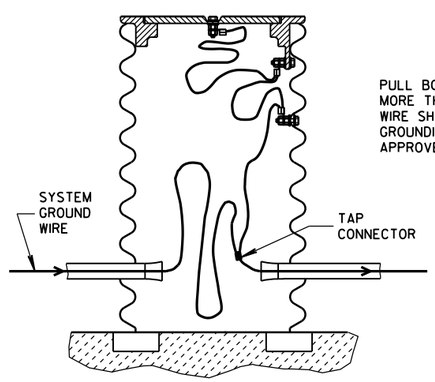


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



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

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

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

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

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

PULL BOX

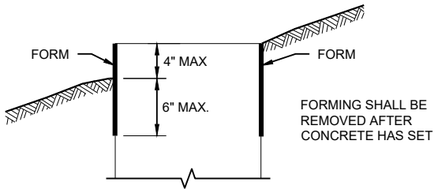
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
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6

S.D.D. 9 B 4-11

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS

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

ENDS OF CONDUIT INSTALLED BELOW GRADE FRO FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.

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

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

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

BELL BENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION.

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

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2, TYPE 5 AND TYPE 6 BASES.

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

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

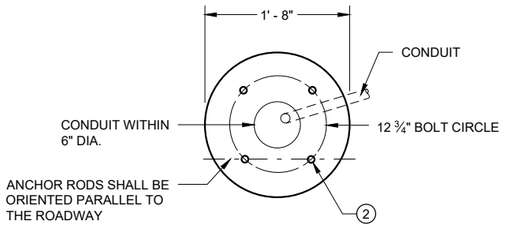
WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

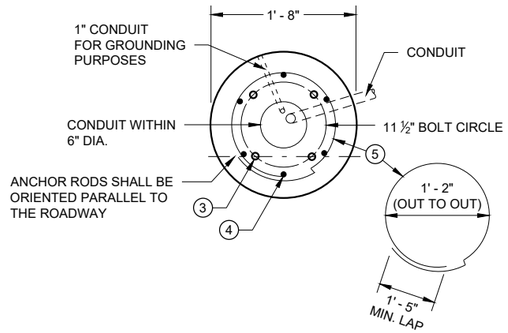
WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH"L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

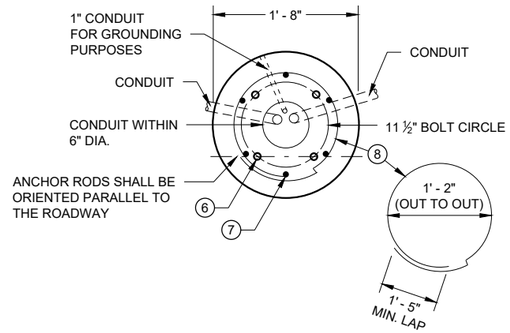
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

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

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







1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL OF THE ENGINEER.

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

3 (4) 1" DIA. X 5' - 0" ANCHOR RODS.

4 (6) NO. 6 X 6' - 8" BAR STEEL REINFORCEMENT.

5 (7) NO. 4 X 5' - 1" BAR STEEL REINFORCEMENT @ 1' - 0" C - C.

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

7 (6) NO. 4 X 4' - 8" BAR STEEL REINFORCEMENT.

8 (5) NO. 4 X 5' - 1" BAR STELL REINFORCEMENT @ 1' - 0" C -C.

9 EXOTHERMIC CONNECTION TO EUIPMENT GROUNDING CONDUCTOR

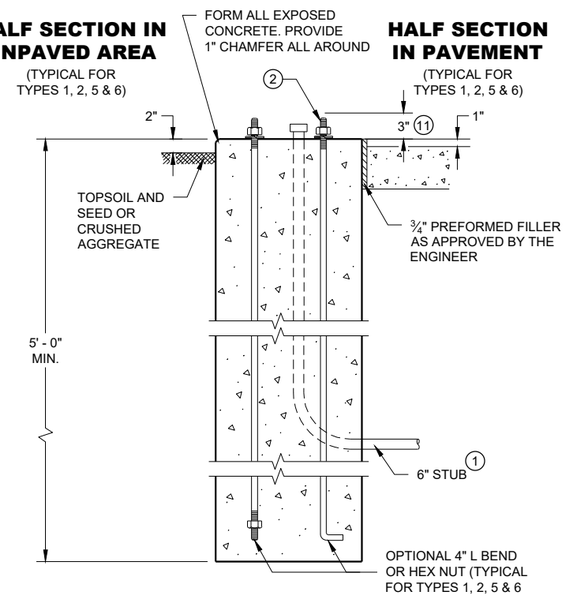
10 ⅝" DIA. X 8' -0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED

11 ANY ANCHOR ROD PROJECTION SHORTER THAN 2 ¾" OR LONGER THAN 3 ¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

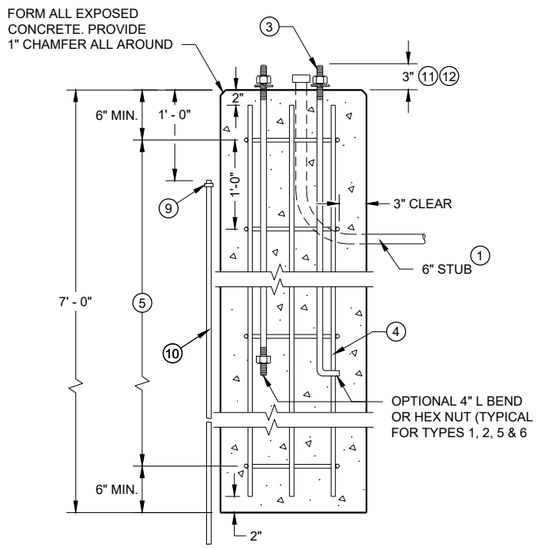
12 FOR NON - BREAKAWAY INSTALLATIONS, 4 ½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

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

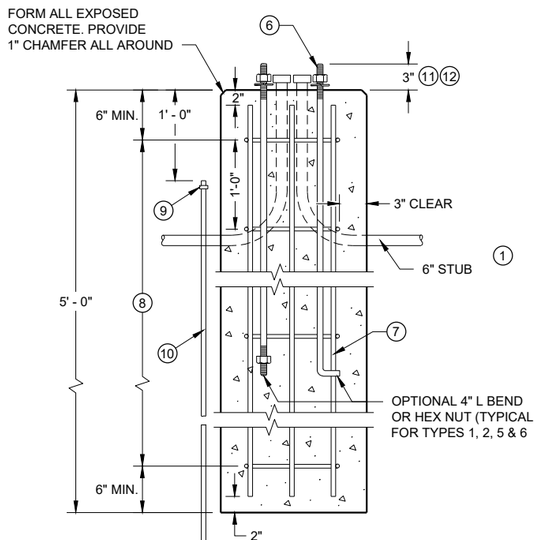
HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5 & 6)



TYPE 1



TYPE 2



TYPE 5 & 6

CONCRETE BASES

CONCRETE BASES
TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

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 641.2.2 OF THE STANDARD SPECIFICATIONS.

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

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

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

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

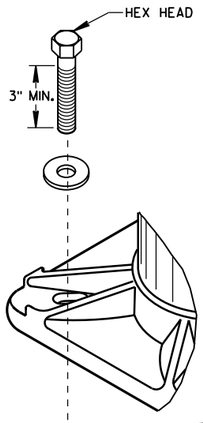
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

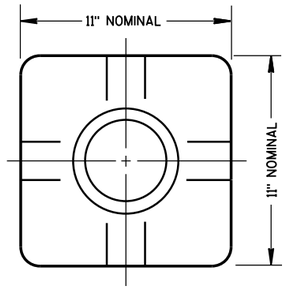
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

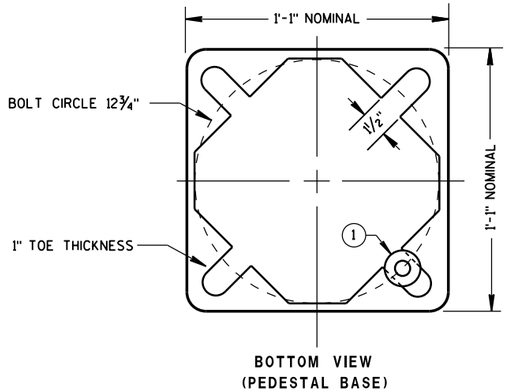
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

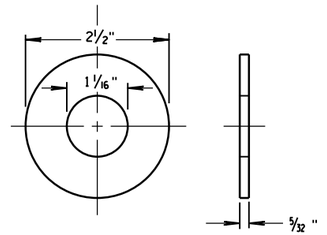




TOP VIEW
(PEDESTAL BASE)

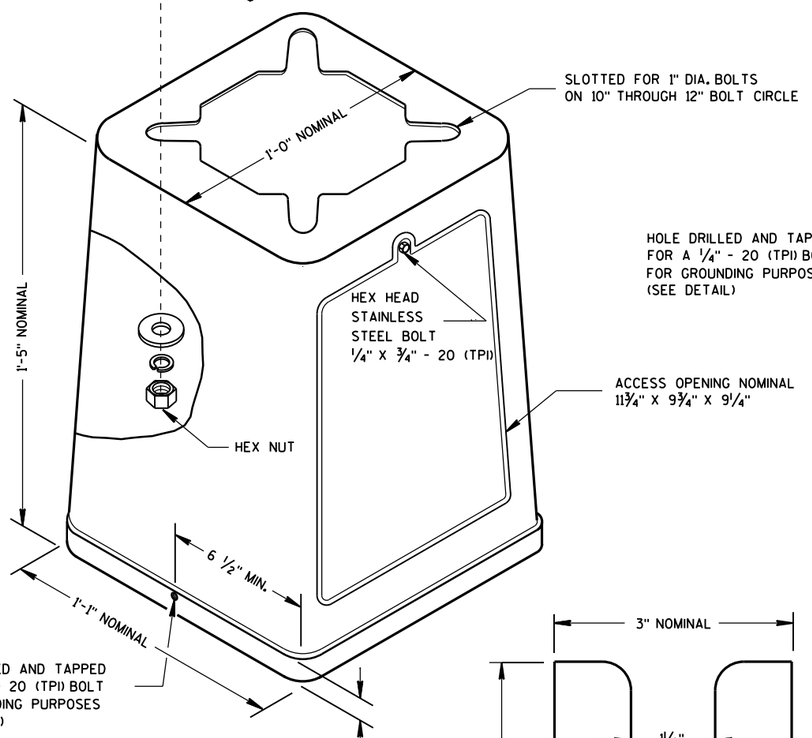


BOTTOM VIEW
(PEDESTAL BASE)

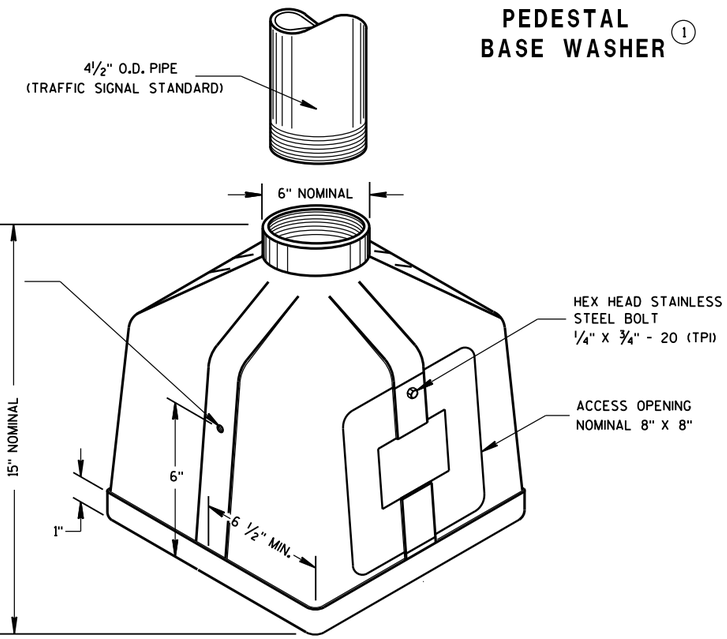


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

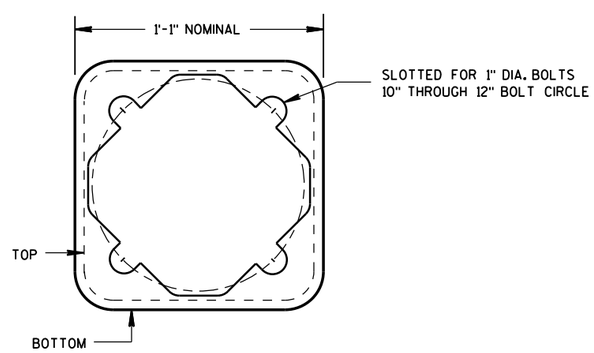


ISOMETRIC VIEW

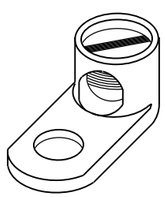


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

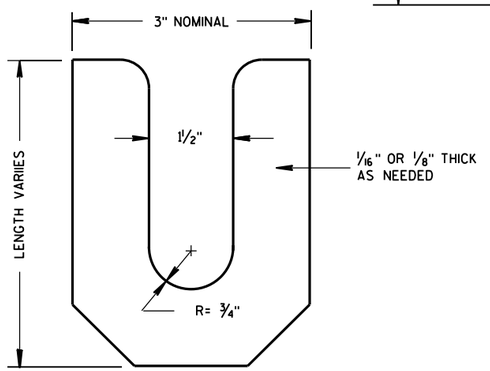


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

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



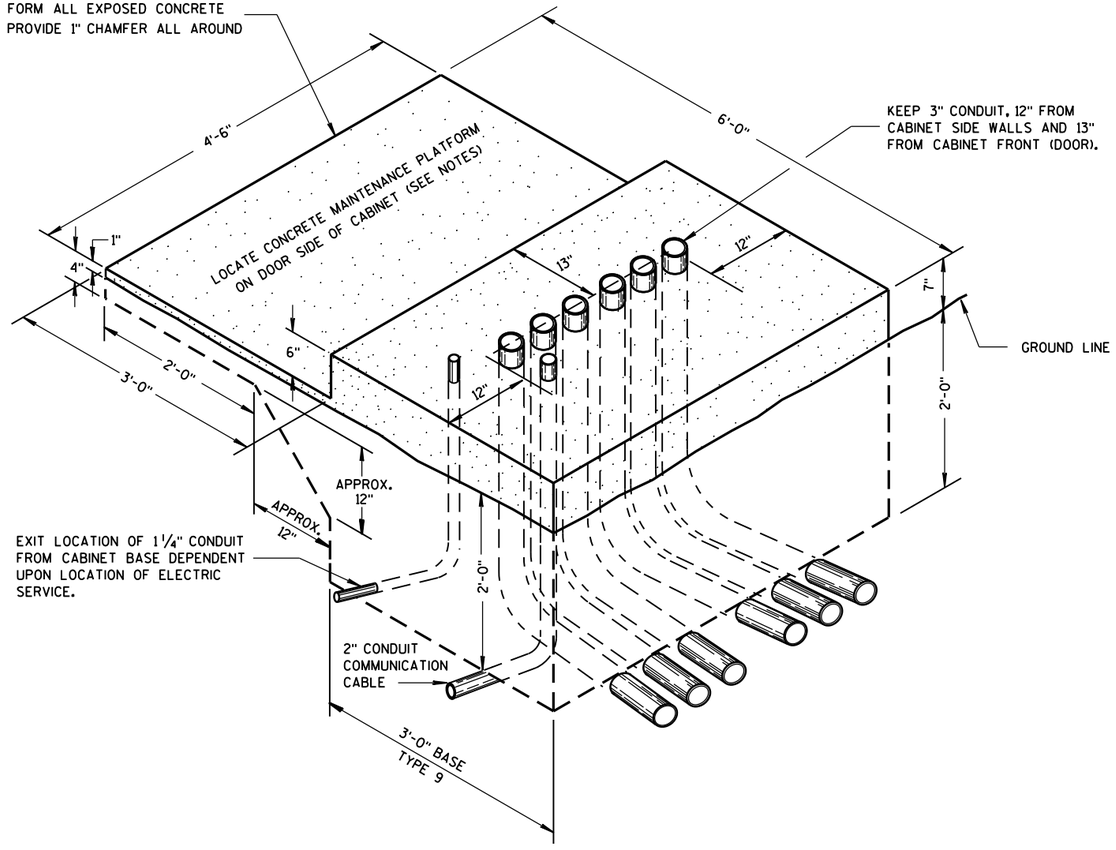
LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

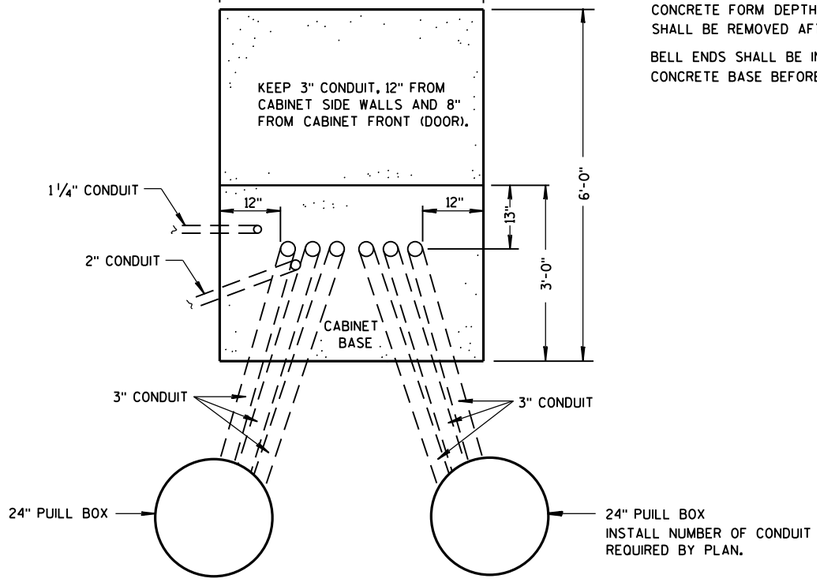
6
S.D.D. 9 C 3-4



ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

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

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

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED AND LEVEL.

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

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

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

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4 INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL END INSTALLED. ALL CONDUIT SHALL BE SLOPED TO PULL BOX.

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

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

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

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

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

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

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

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

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

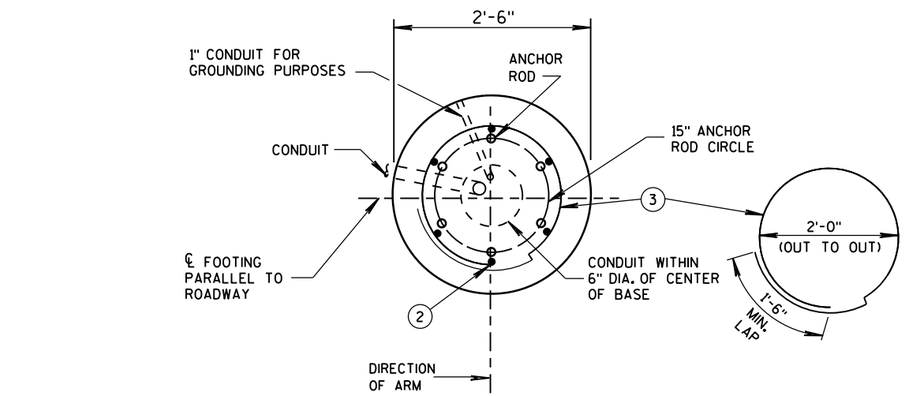
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

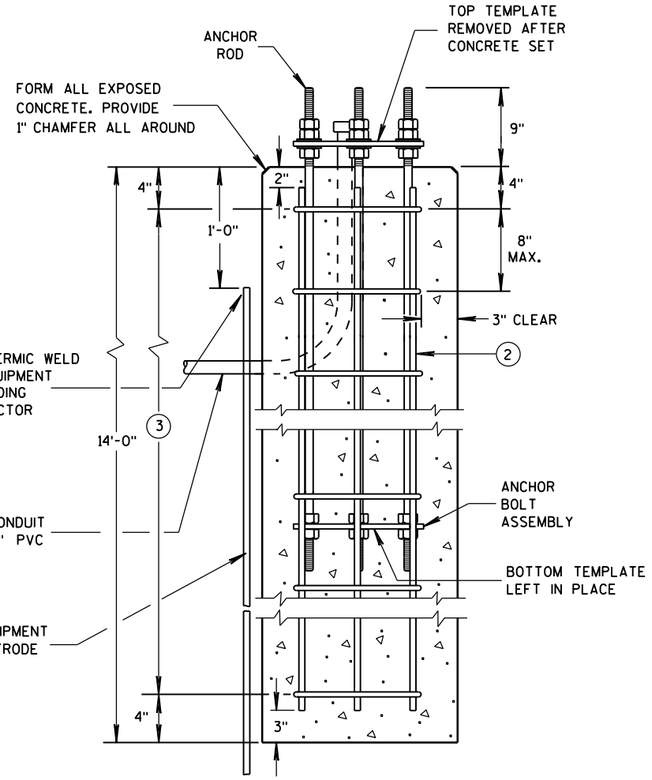
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN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

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

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

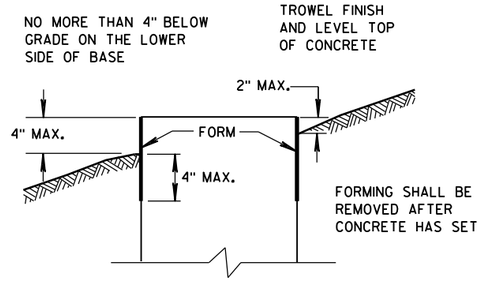
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 641.2.2.3 OF THE STANDARD SPECIFICATION)	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.



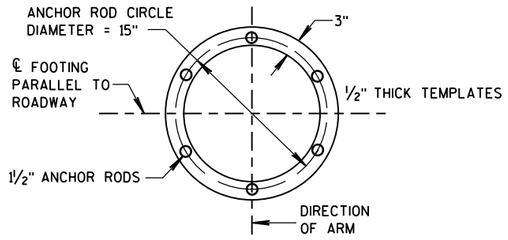


CONCRETE BASE TYPE 10
(FOR TYPE 9 & 10 & OVER HEIGHT (OH) POLES)

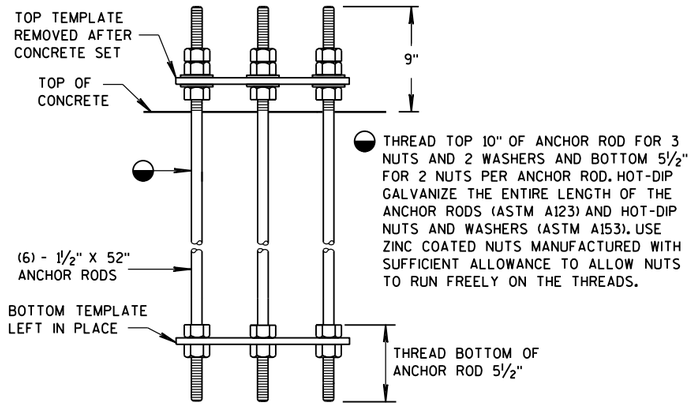
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



FORMING DETAIL



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 10 ANCHOR ASSEMBLY

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

CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

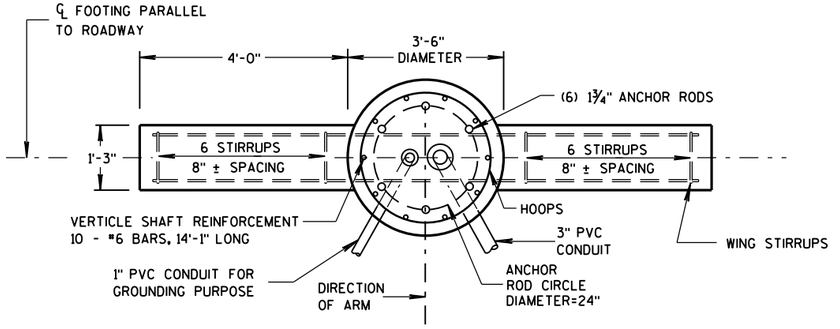
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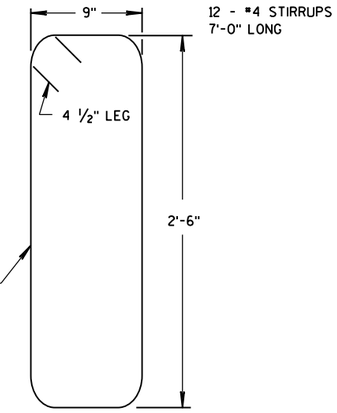
S.D.D. 9 C 11-10

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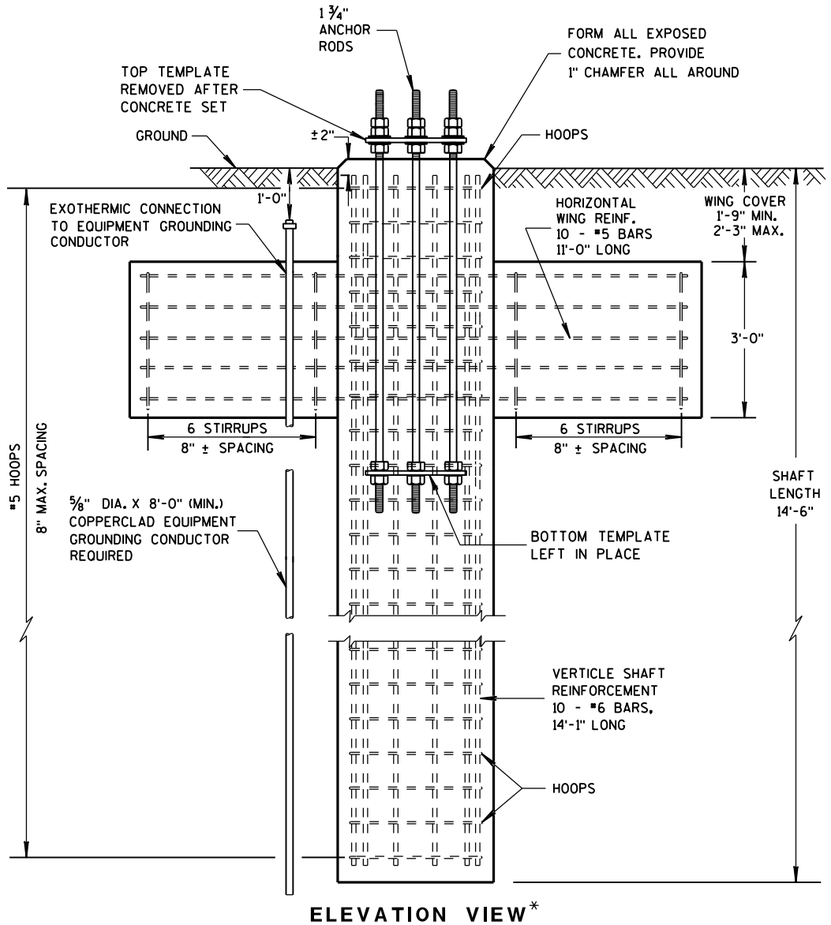
S.D.D. 9 C 11-10



PLAN VIEW

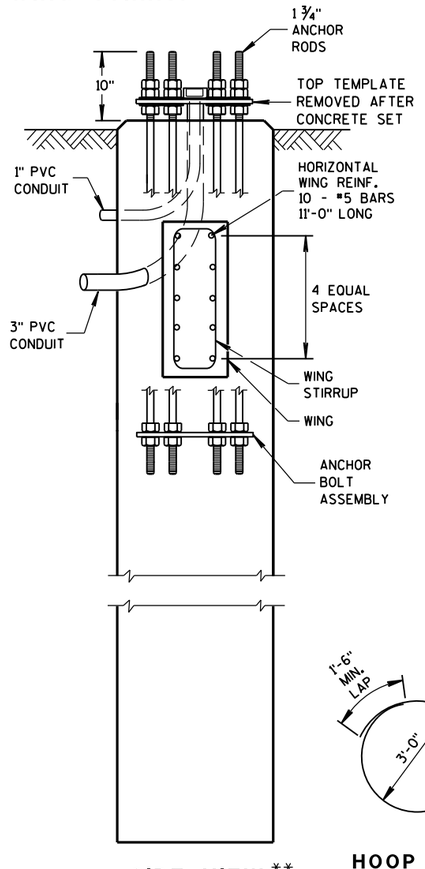


WING STIRRUP



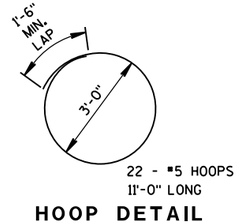
ELEVATION VIEW*

* CONDUITS ARE NOT SHOWN ON THIS VIEW FOR CLARITY



SIDE VIEW**

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



HOOP DETAIL

GENERAL NOTES

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

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

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

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

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

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

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

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

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

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4½" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

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

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

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

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

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

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

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

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

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 641.2.2.3 OF THE STANDARD SPECIFICATIONS	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36	fy=36,000 p.s.i.

(FOR TYPE 12 & 13 & OVER HEIGHT (OH) POLES)

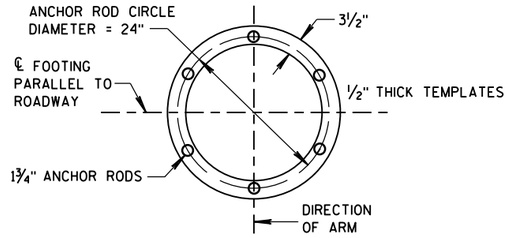
CONCRETE = 6.3 C.Y.
H.S. REINFORCEMENT = 635 LBS.

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.
SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

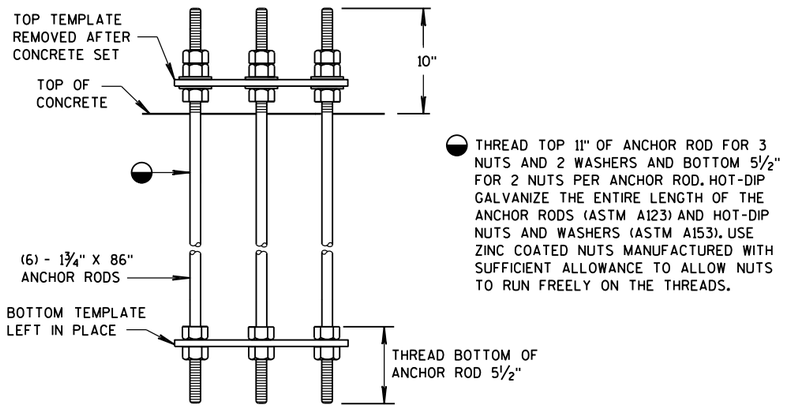
CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 9 C 12-9a

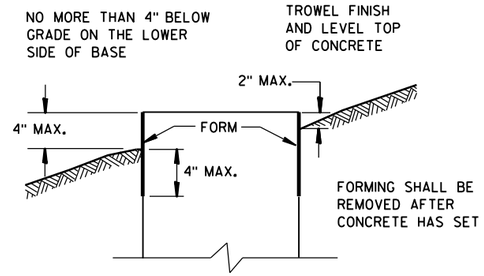


TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY



FORMING DETAIL

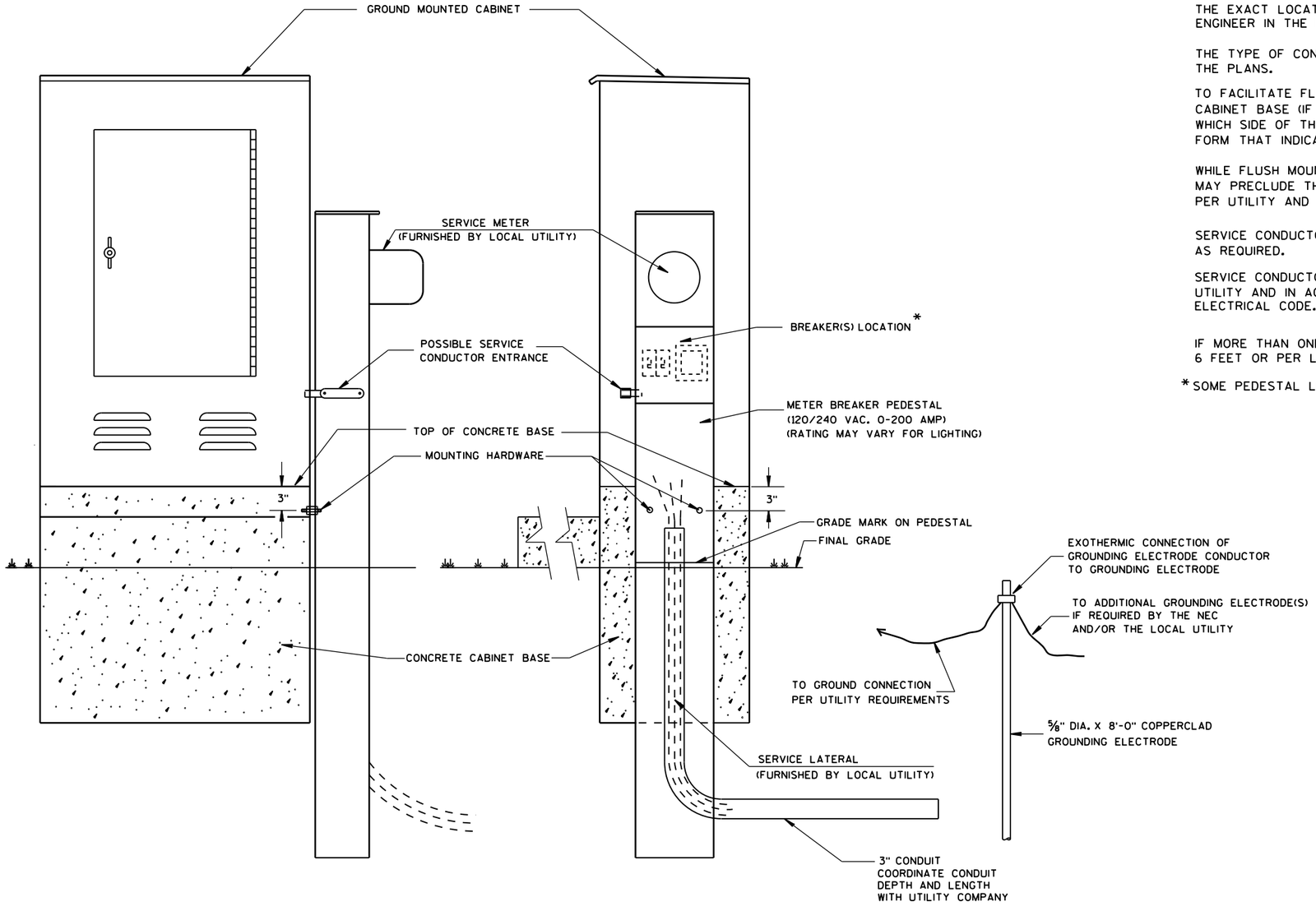
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CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2017 — DATE
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FHWA

S.D.D. 9 C 12-9b



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

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

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

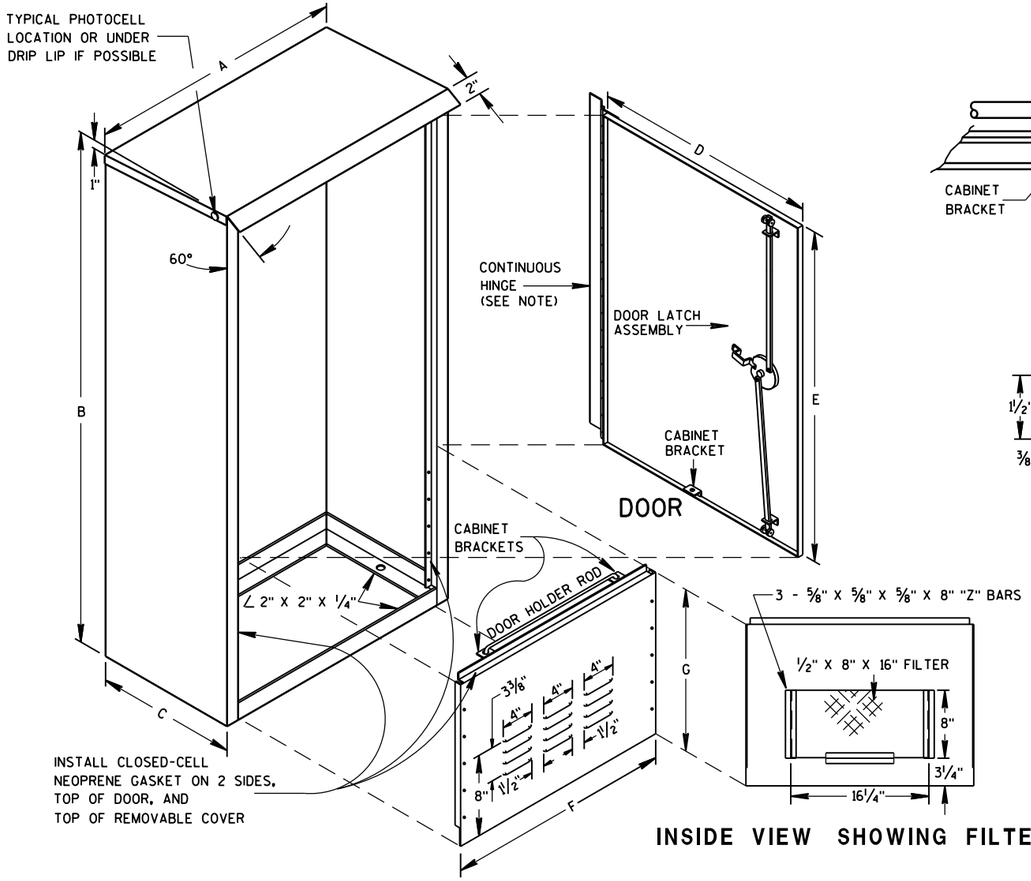
* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

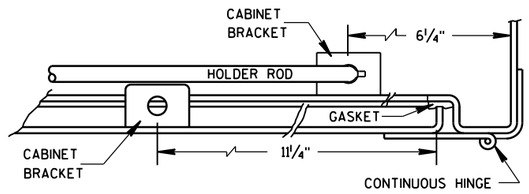
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 D 1-5

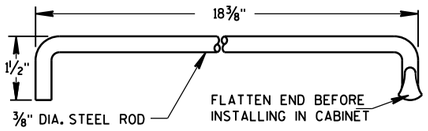


REMOVABLE COVER

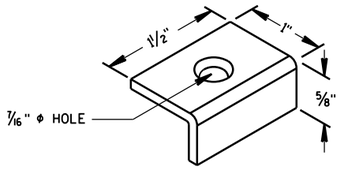
INSIDE VIEW SHOWING FILTER



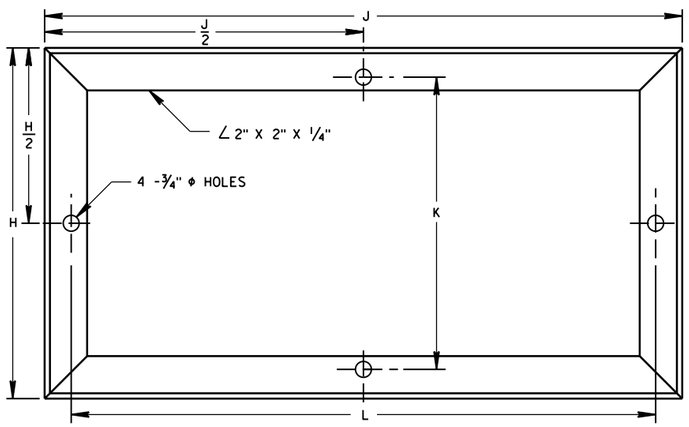
HINGE & DOOR HOLDER



HOLDER ROD



CABINET BRACKET



MOUNTING BASE

TABLE OF DIMENSIONS (INCHES)

MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2

GENERAL NOTES

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

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

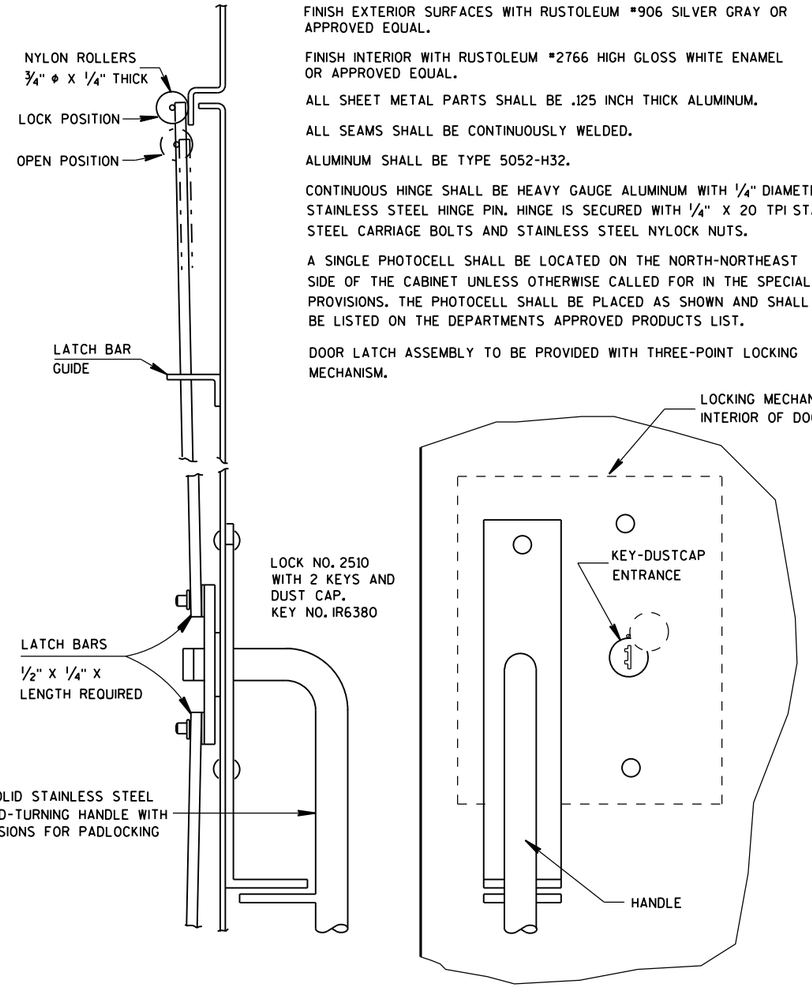
ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH 1/4" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST.

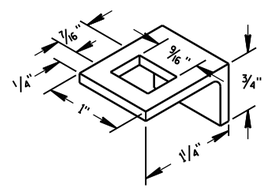
DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.



SIDE VIEW

FRONT VIEW

LATCH ASSEMBLY



LATCH BAR GUIDE

SIGNAL CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

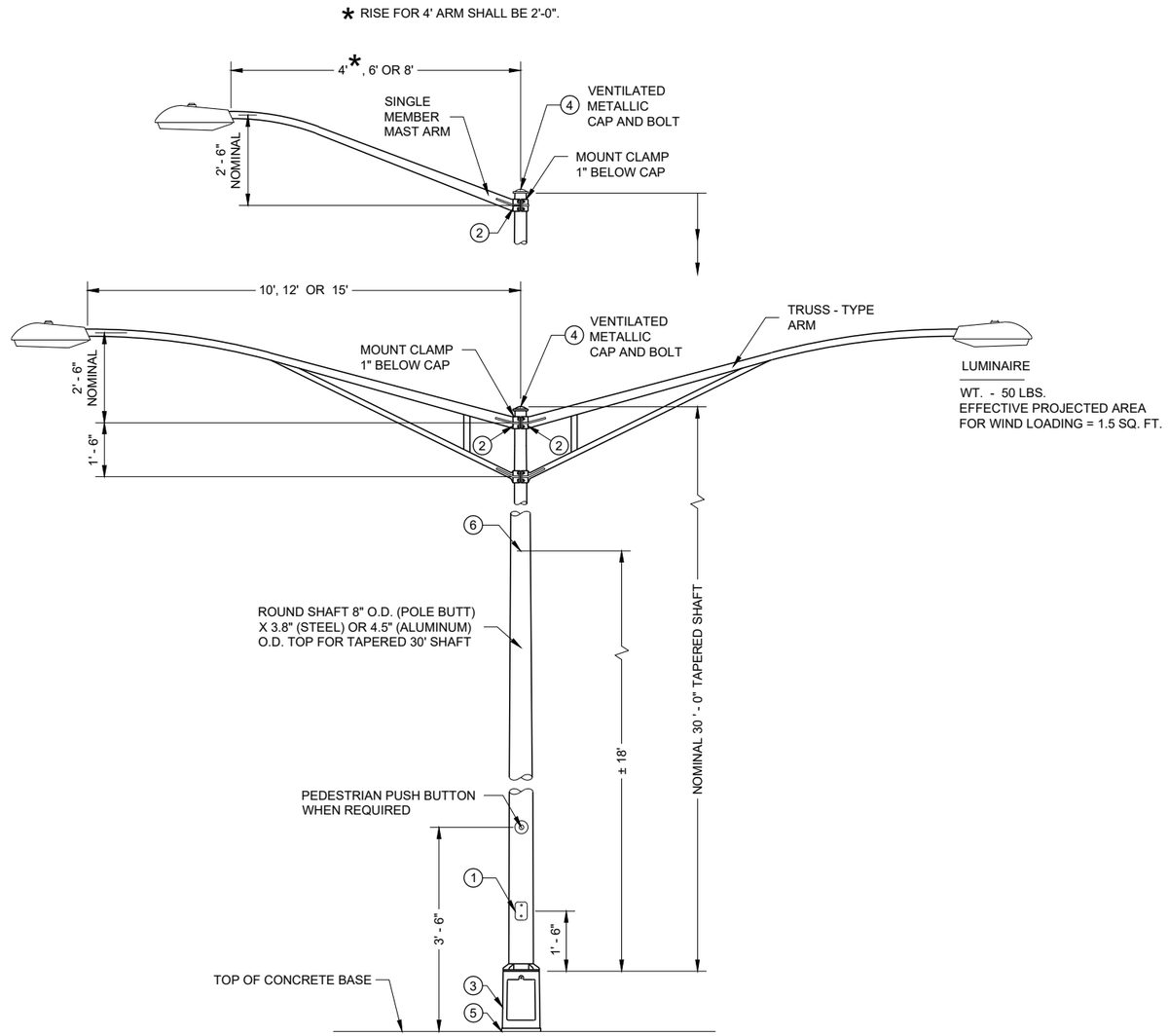
FHWA

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S.D.D. 9 D 2-3

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S.D.D. 9 D 2-3



TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY

GENERAL NOTES

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

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

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

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063 - T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.1888".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (0.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 ⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

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

(1) 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) ¼" X ¾" - 20 TPI , STAINLESS STEEL, HEX HEAD BOLTS.

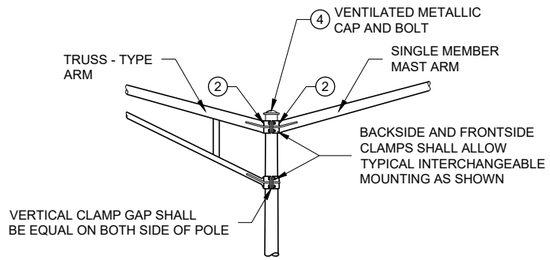
(2) GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 ⅜" HOLE IN POLE SHAFT FOR WIRING.

(3) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(4) FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.

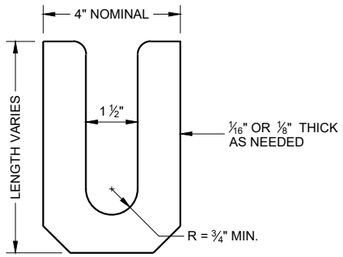
(6) INTERNAL DUMBBELL - TYPE VIBRATION DAMPER.



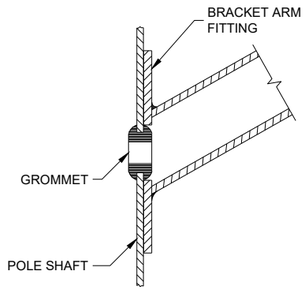
INTERCHANGEABLE MOUNTING DETAIL

POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)

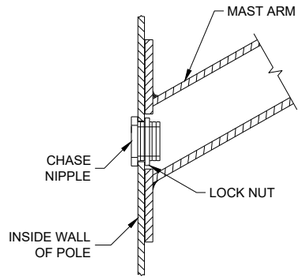
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SDD 09E01 - 15d



LEVELING SHIM (1)
SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

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

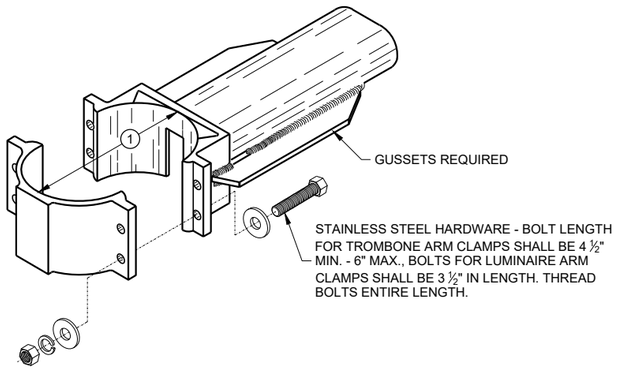
(1) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP. 6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(2) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

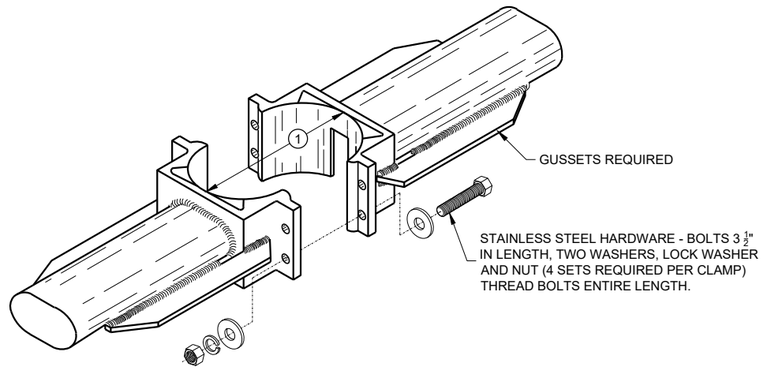
(3) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(4) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

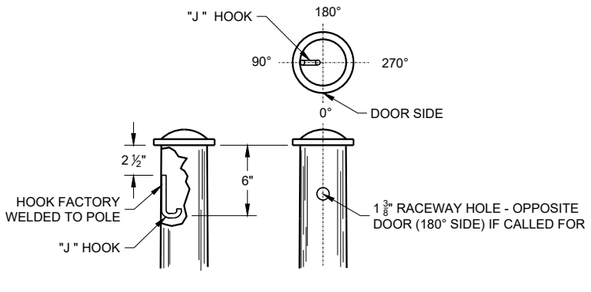
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



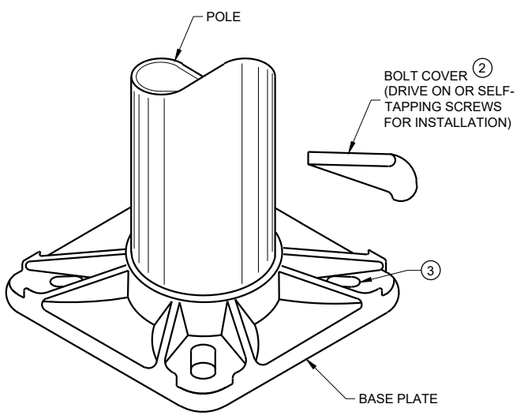
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



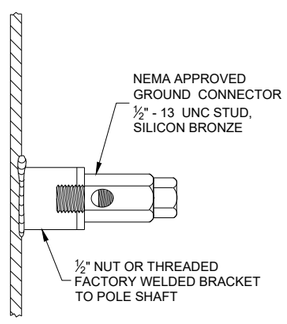
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

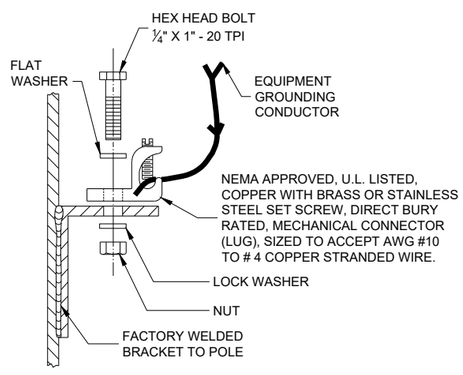


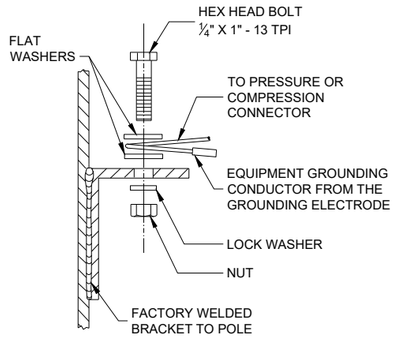
TYPICAL "J" HOOK LOCATION



BASE PLATE







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

HARDWARE DETAILS FOR POLE MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI 194

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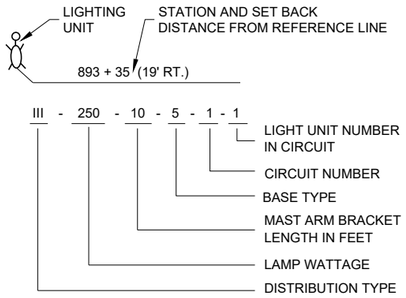
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SDD 09A01 - 15g

GENERAL NOTES

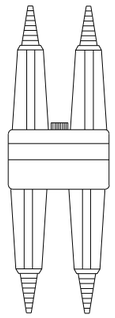
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

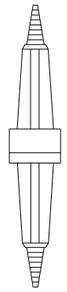
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.



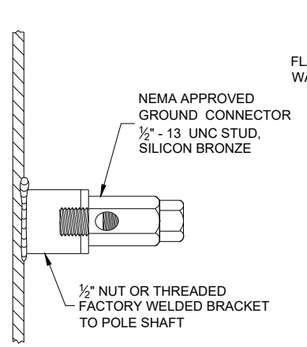
LIGHTING UNIT CODE
(TYPICAL)



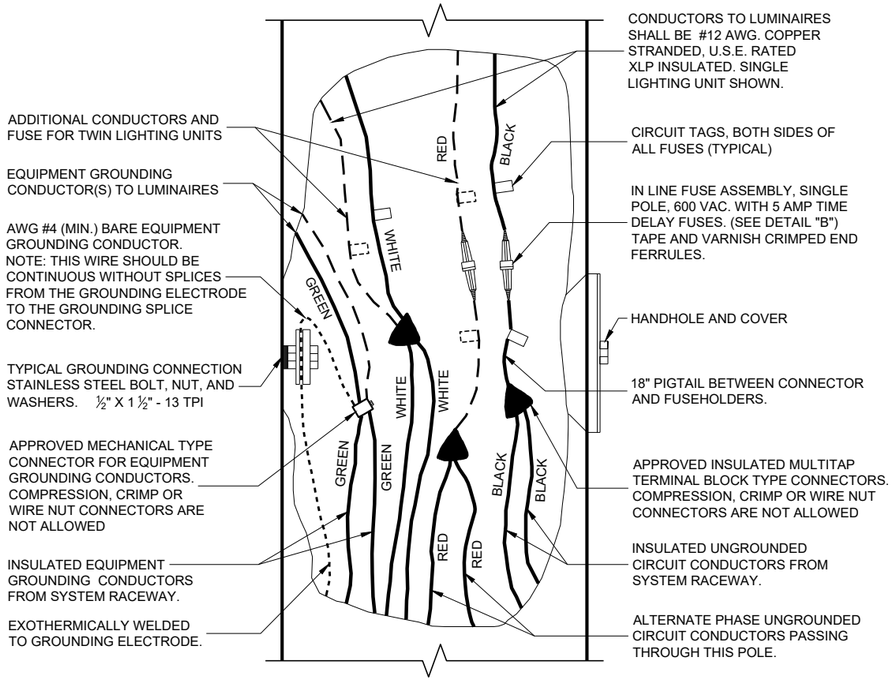
DETAIL "A"
BREAKAWAY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



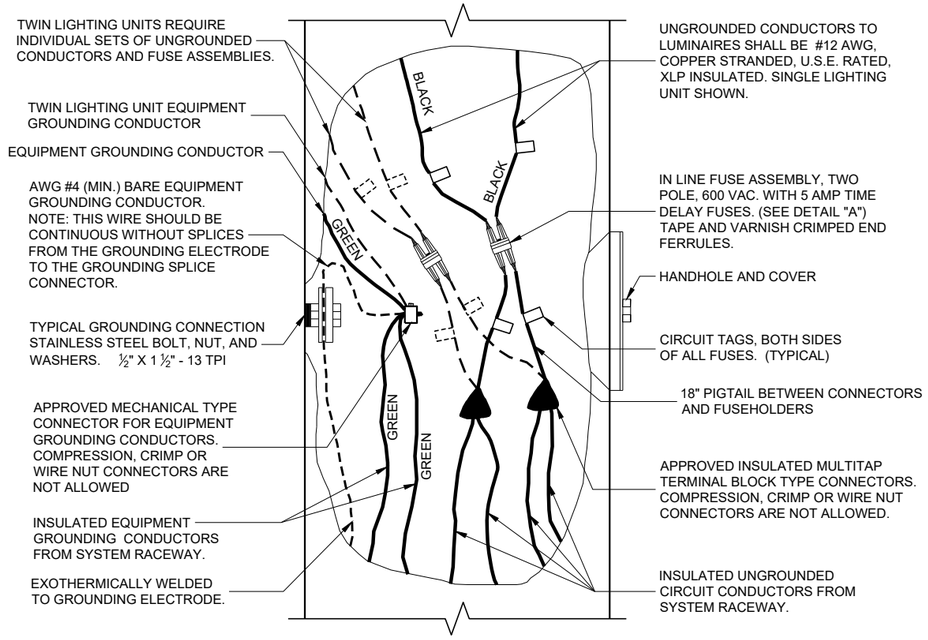
DETAIL "B"
BREAKAWAY SINGLE POLE WITH WATERPROOF INSULATING BOOT



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



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH GROUNDING CONDUCTOR AND EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

NON - FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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November 2018
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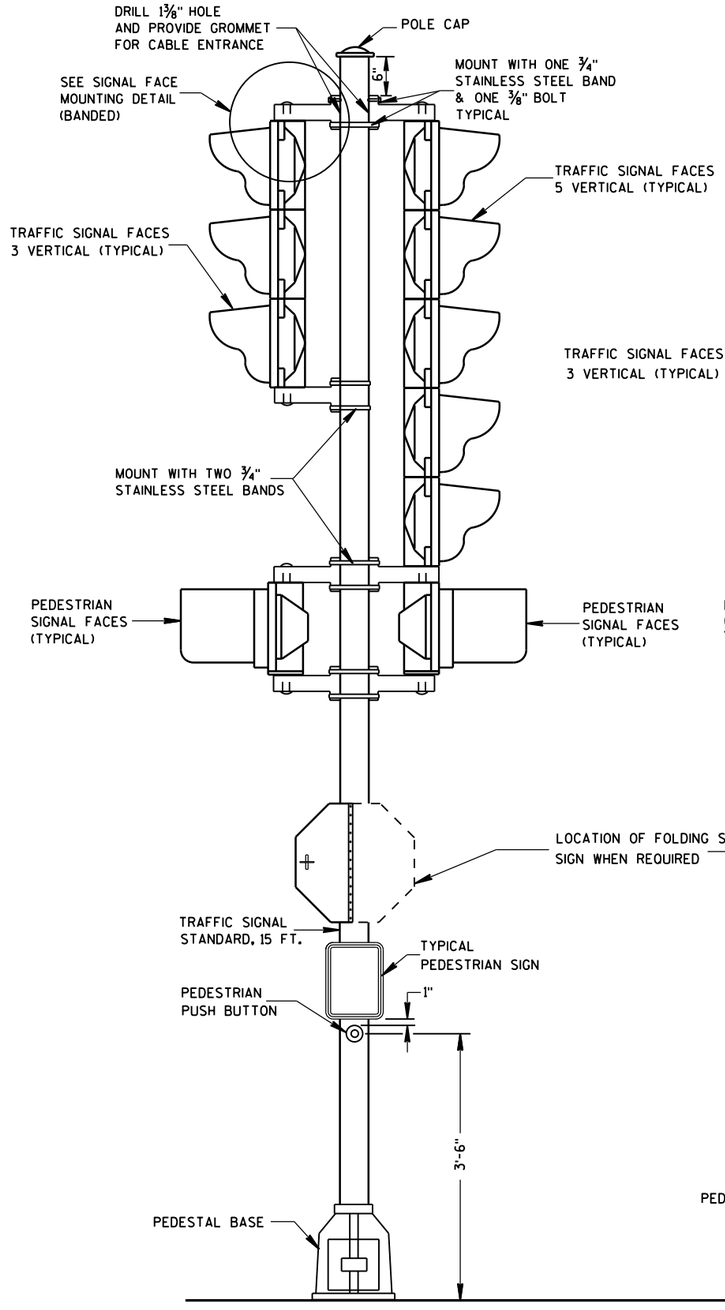
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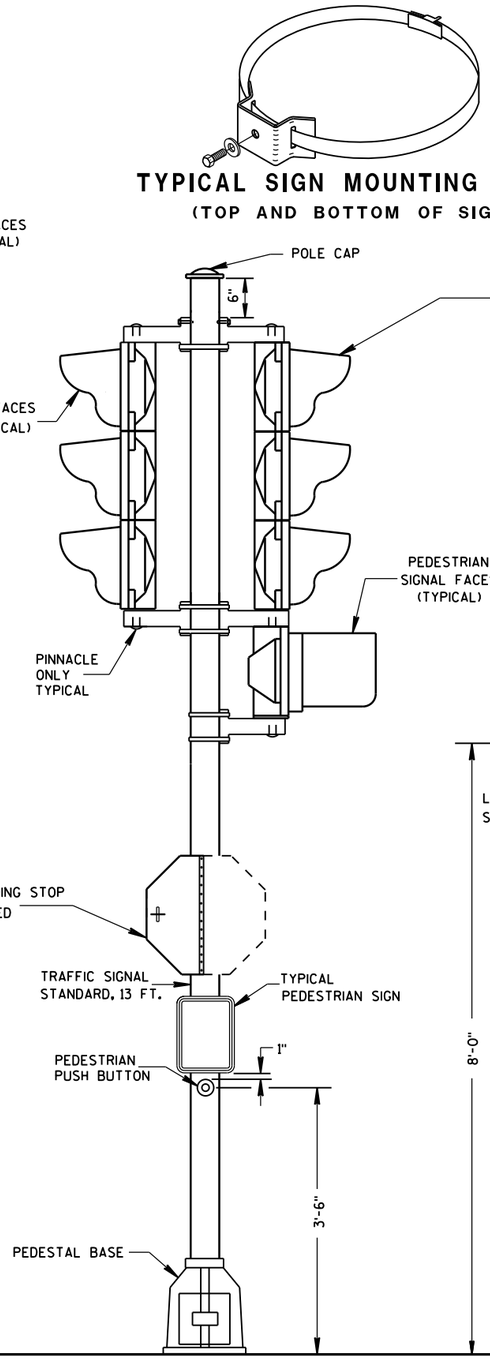
SDD 09E03 - 06

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SDD 09E03 - 06

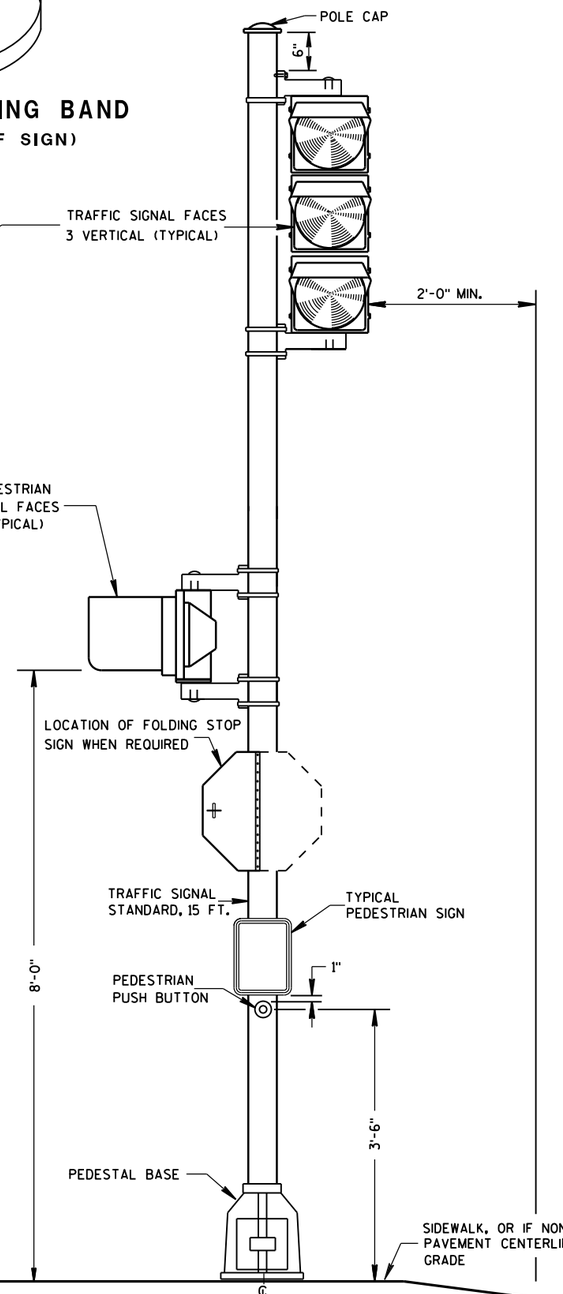


TRAFFIC SIGNAL STANDARD-15 FT.



TRAFFIC SIGNAL STANDARD-13 FT.

TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



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

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

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

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

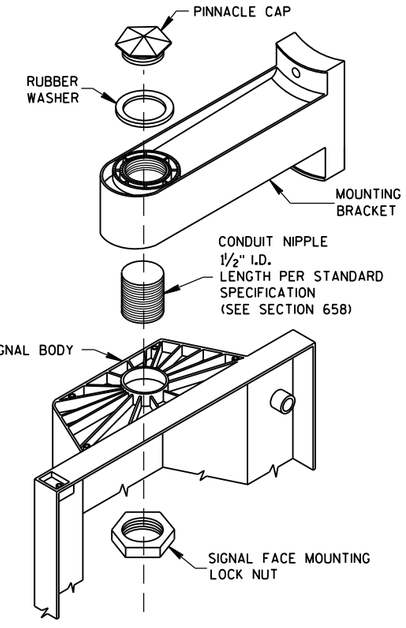
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

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

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

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



SIGNAL FACE MOUNTING DETAIL
(BANDED)

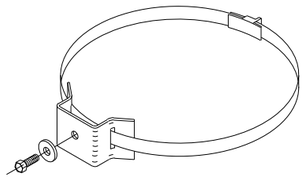
TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

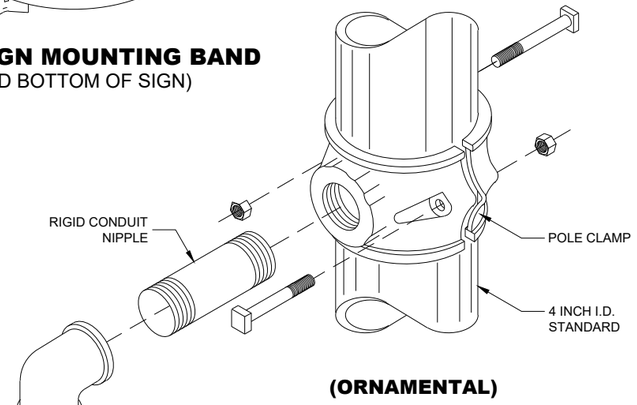
APPROVED
2/28/2013 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
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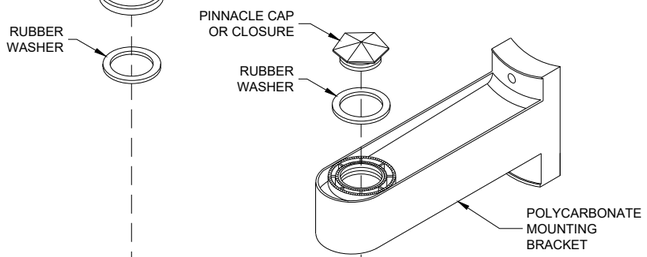
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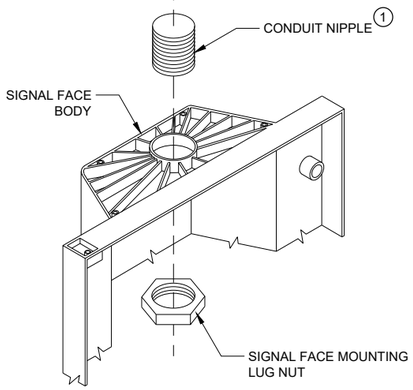
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



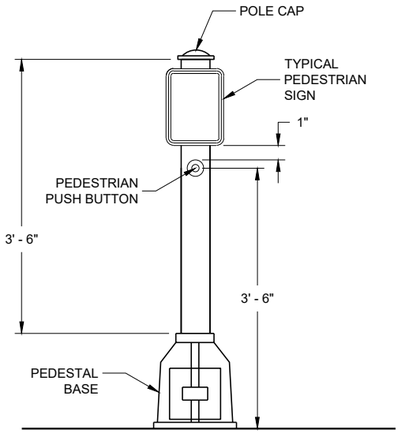
(ORNAMENTAL)



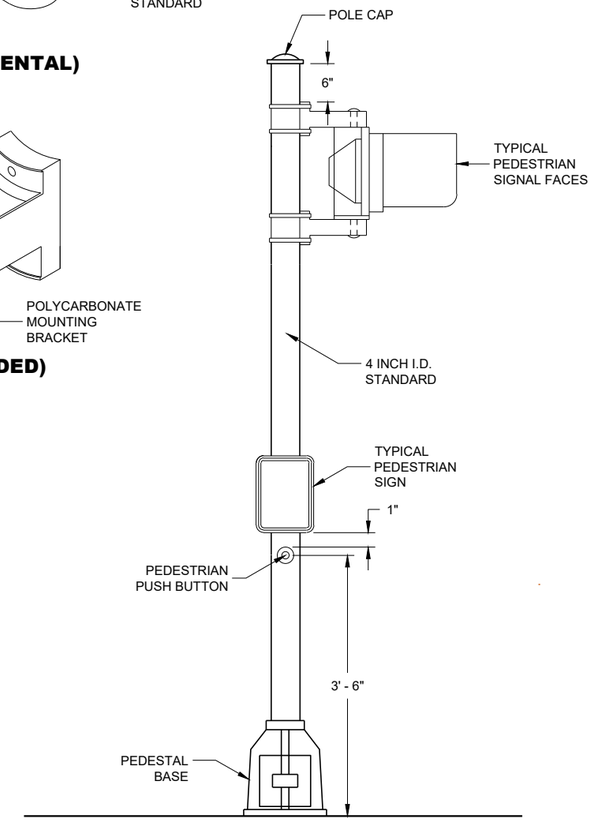
(BANDED)



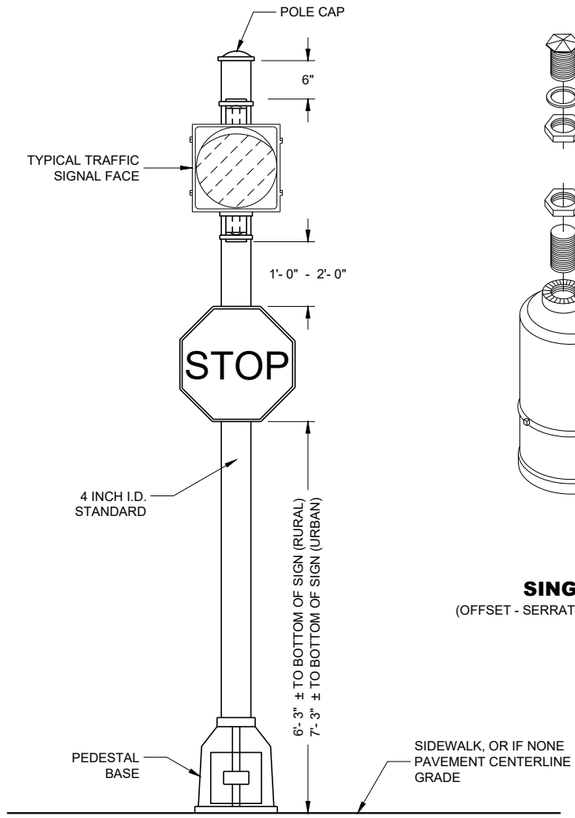
SIGNAL FACE MOUNTING DETAILS



PEDESTRIAN PUSH BUTTON TYPICAL MOUNTING



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



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

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

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

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

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

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

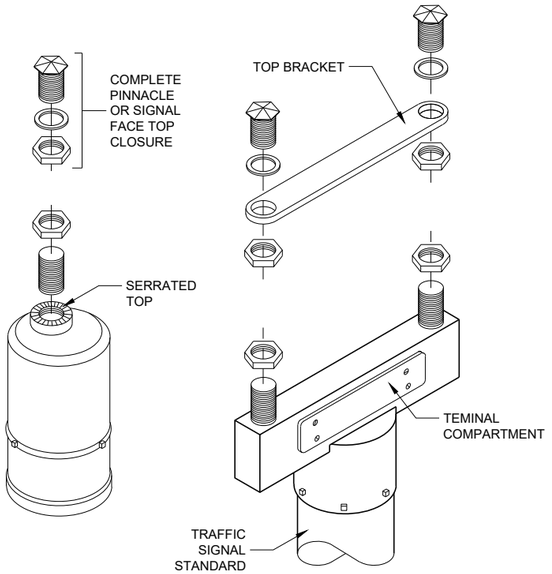
LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

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

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(1) USE 1 ½" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 ½" OPENING IN SIGNAL FACESAND BRACKET ENDS.



SINGLE
(OFFSET - SERRATED MOUNTING)

DOUBLE
(SERRATED MOUNTING)

SLIPFITTERS

TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

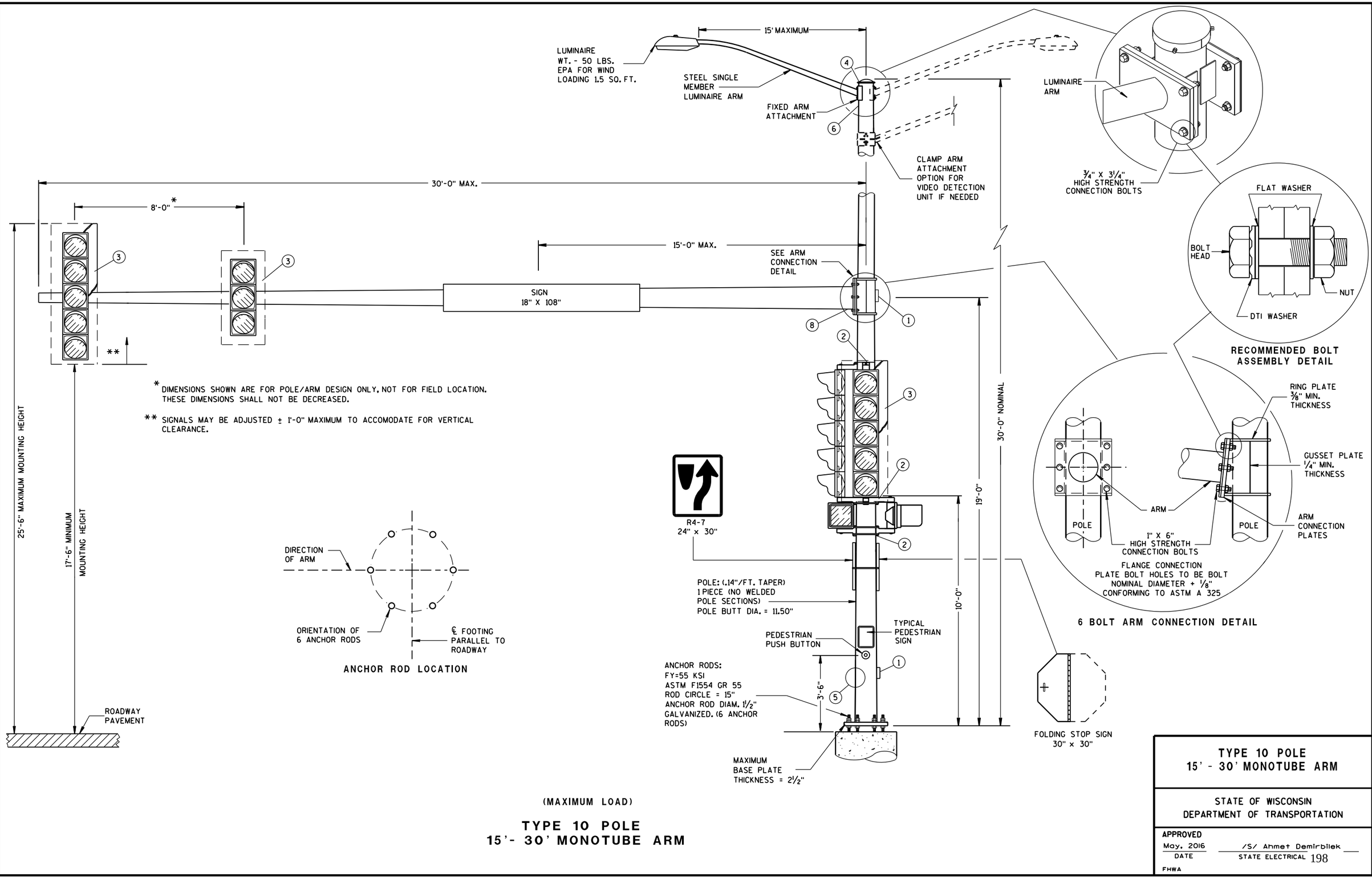
/S/ Ahmet Demirbilek
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SDD 09E07 - 06

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

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

(MAXIMUM LOAD)

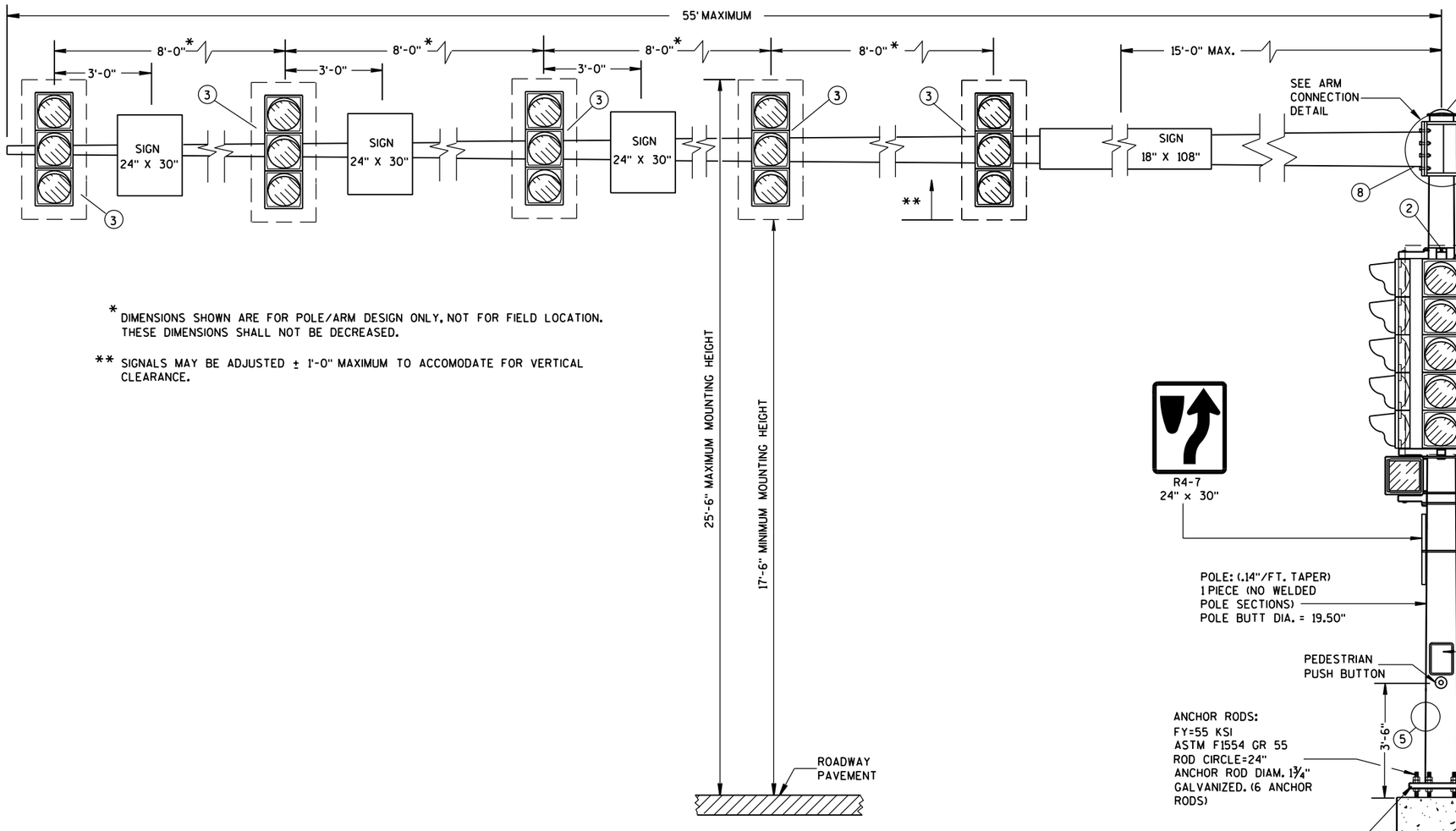
TYPE 10 POLE
15'- 30' MONOTUBE ARM

TYPE 10 POLE
15' - 30' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

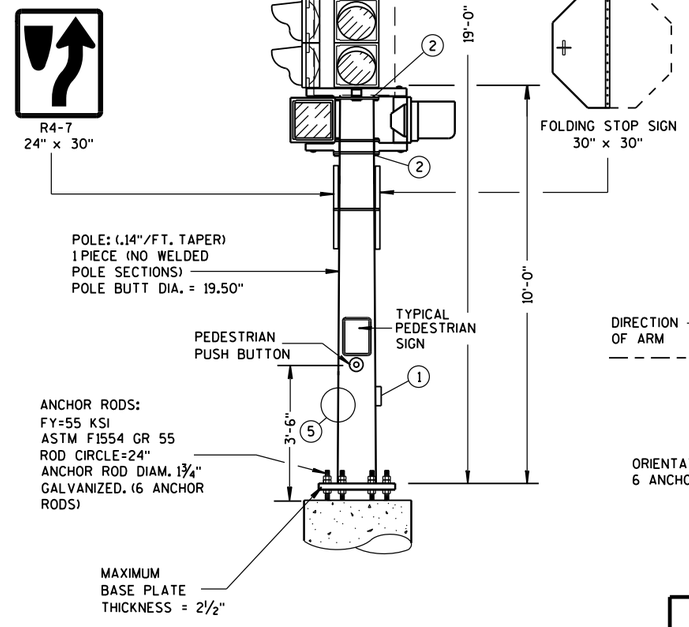
APPROVED
May, 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

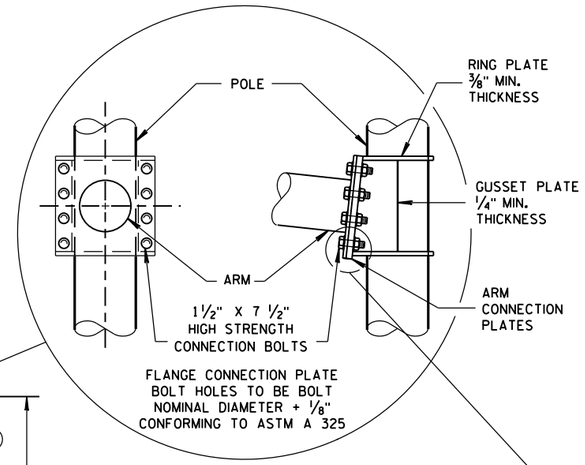
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S.D.D. 9 E 8-8b



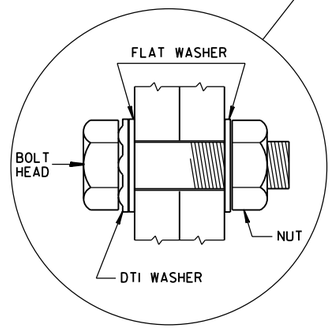
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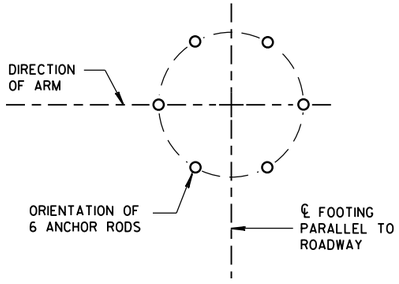




8 BOLT ARM CONNECTION DETAIL



RECOMMENDED
BOLT ASSEMBLY
DETAIL



ANCHOR ROD LOCATION

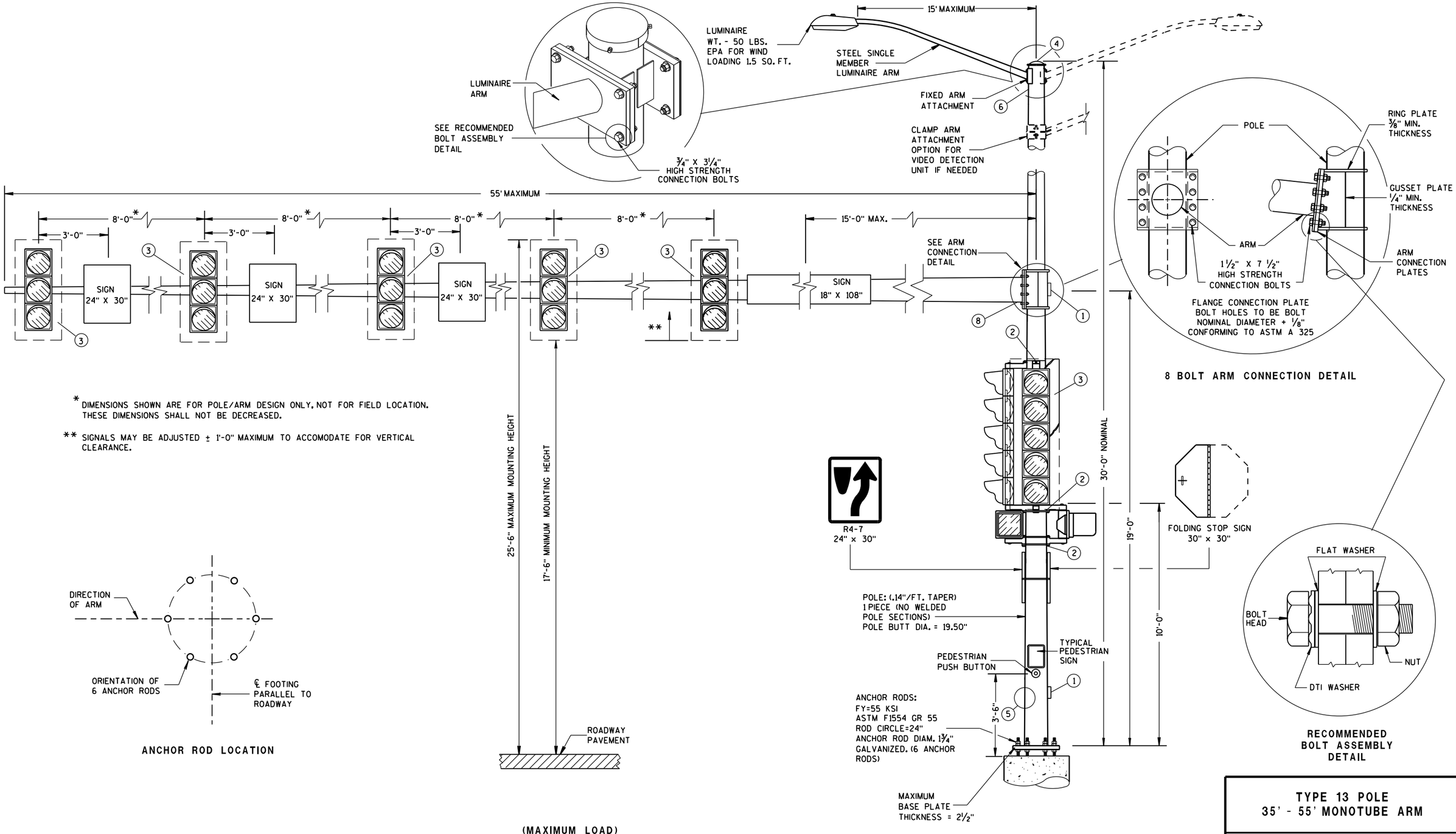
(MAXIMUM LOAD)

TYPE 12 POLE 35'- 55' MONOTUBE ARM

TYPE 12 POLE 35' - 55' MONOTUBE ARM
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED May, 2015 — DATE /S/ Ahmet Demirbilek — STATE ELECTRICAL
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S.D.D. 9 E 8-8c



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

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

8 BOLT ARM CONNECTION DETAIL

RECOMMENDED BOLT ASSEMBLY DETAIL

ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 13 POLE 35'- 55' MONOTUBE ARM

TYPE 13 POLE
35' - 55' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 E 8-8d

GENERAL NOTES

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

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

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

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

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

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

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

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

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO 2013 6TH EDITION AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

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

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

(1) DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).

(3) SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

(5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

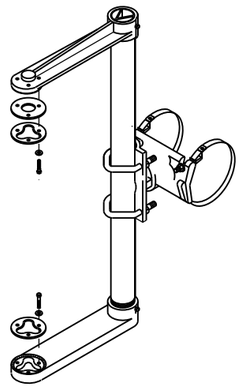
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

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

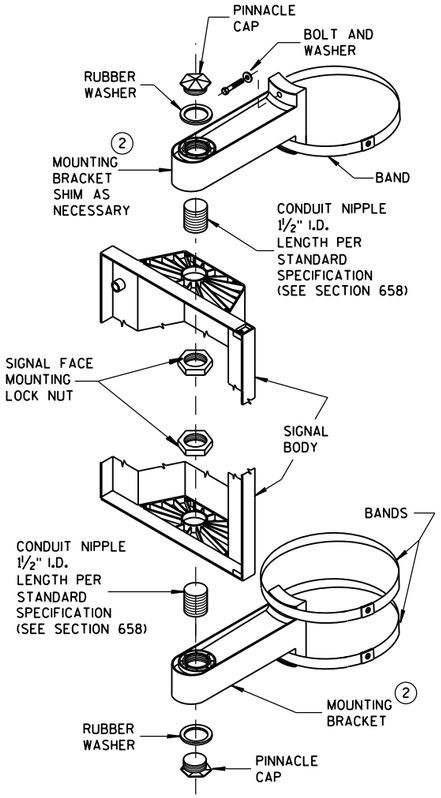
MOUNTING HEIGHT SHALL BE 6'-0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

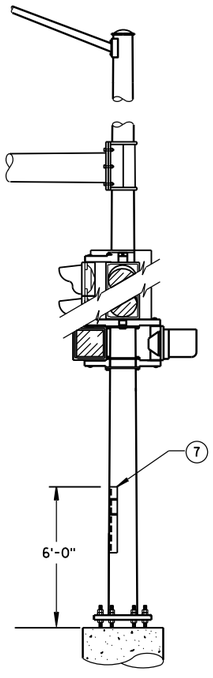


SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

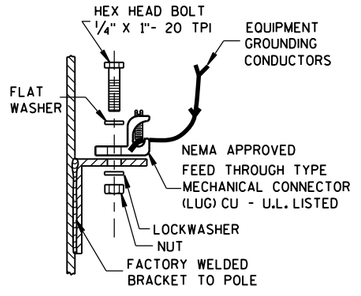
(MOUNT PER MANUFACTURER'S RECOMMENDATION)



SIGNAL FACE VERTICAL MOUNTING DETAIL

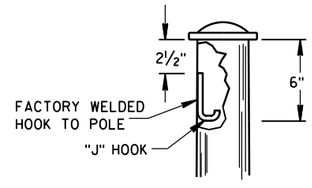


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



"J" HOOK WIRE SUPPORT (6)

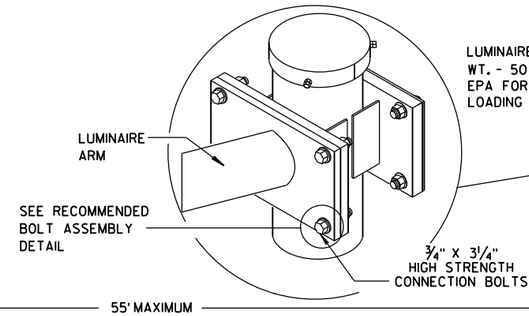
GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

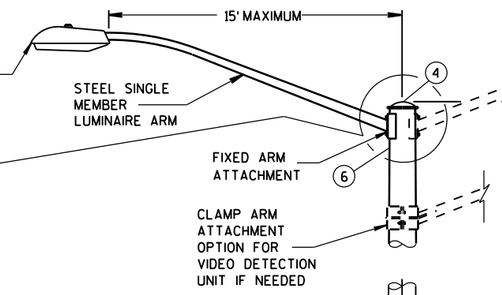
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

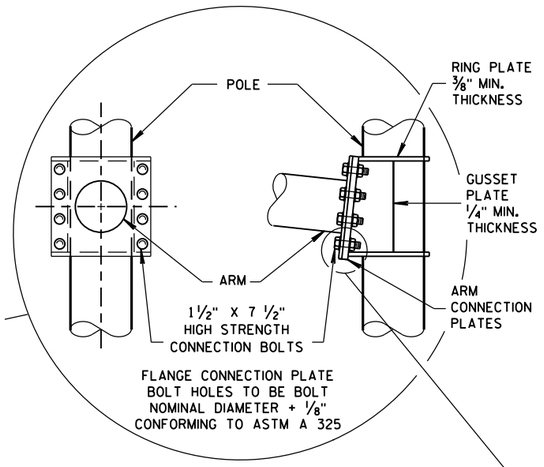
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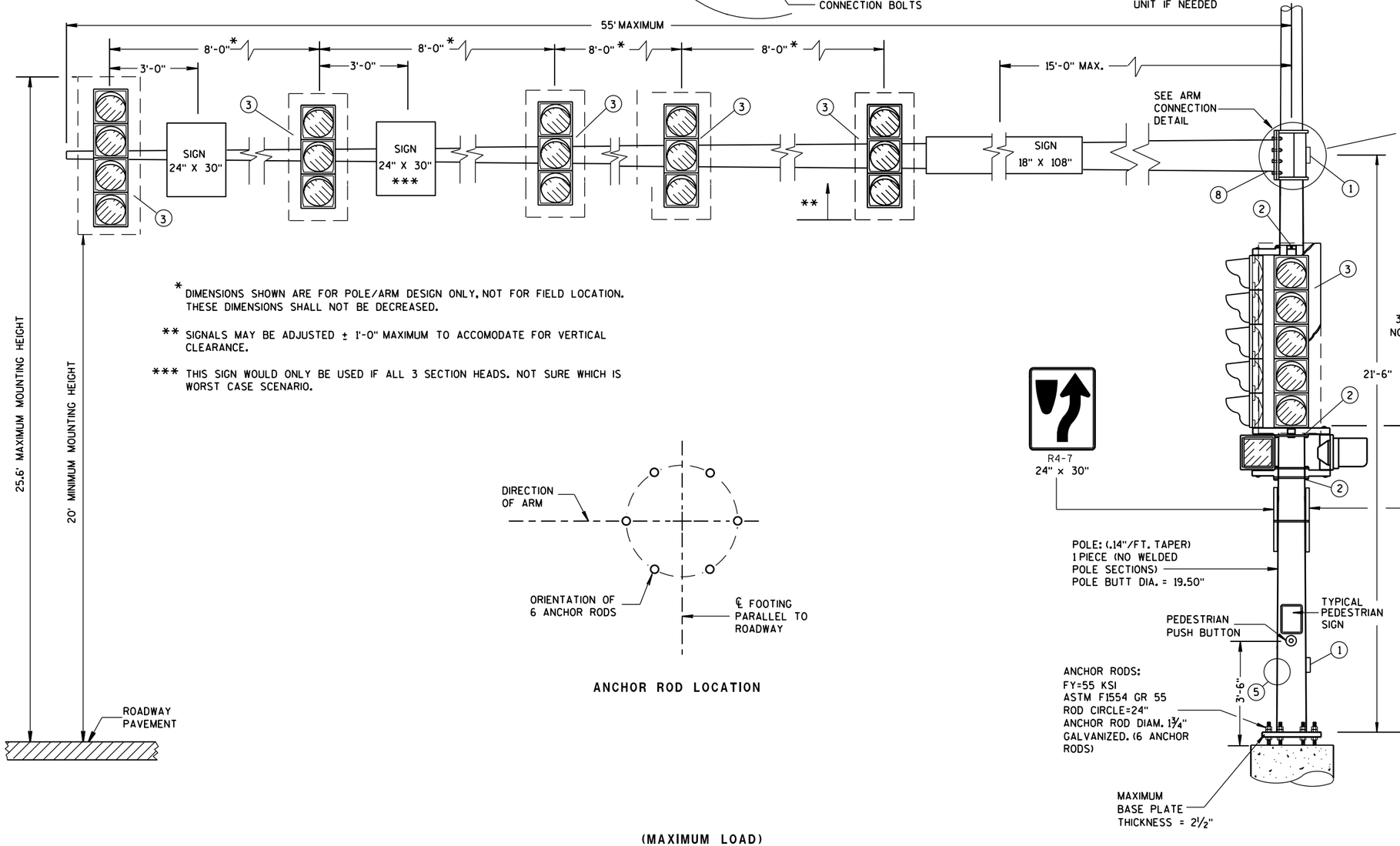
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8 BOLT ARM CONNECTION DETAIL

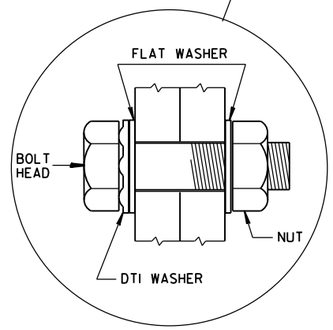


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY. NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

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

*** THIS SIGN WOULD ONLY BE USED IF ALL 3 SECTION HEADS. NOT SURE WHICH IS WORST CASE SCENARIO.

ANCHOR ROD LOCATION



RECOMMENDED BOLT ASSEMBLY DETAIL

(MAXIMUM LOAD)

OVER HEIGHT TYPE 13 POLE 35'- 55' MONOTUBE ARM

OVER HEIGHT TYPE 13 POLE 35' - 55' MONOTUBE ARM

STATE OF WISCONSIN
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S.D.D. 9 E 12-1d

GENERAL NOTES

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

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

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

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

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

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

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

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

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING 2017 INTERIM REVISIONS) AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

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

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

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(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).

(3) SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

(5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

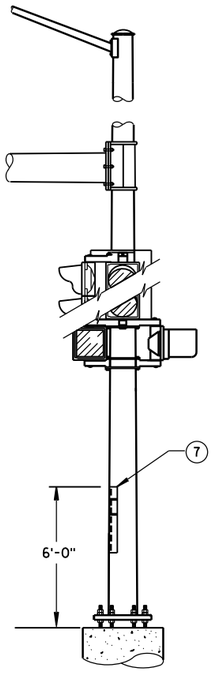
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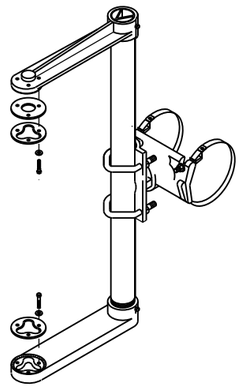
STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

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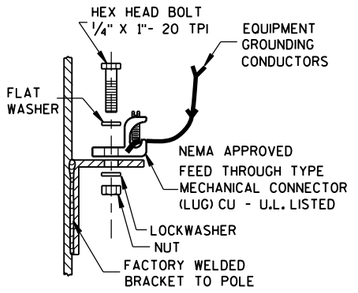


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



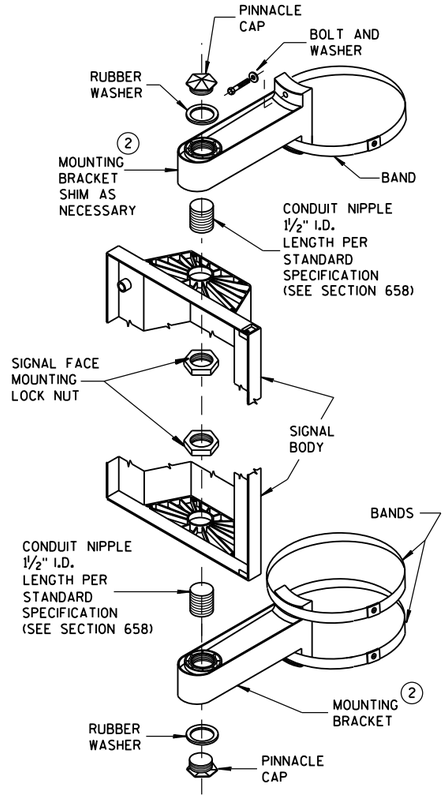
SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

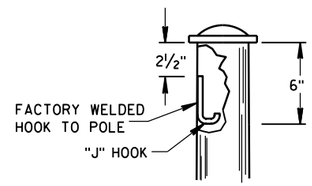


TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



SIGNAL FACE VERTICAL MOUNTING DETAIL



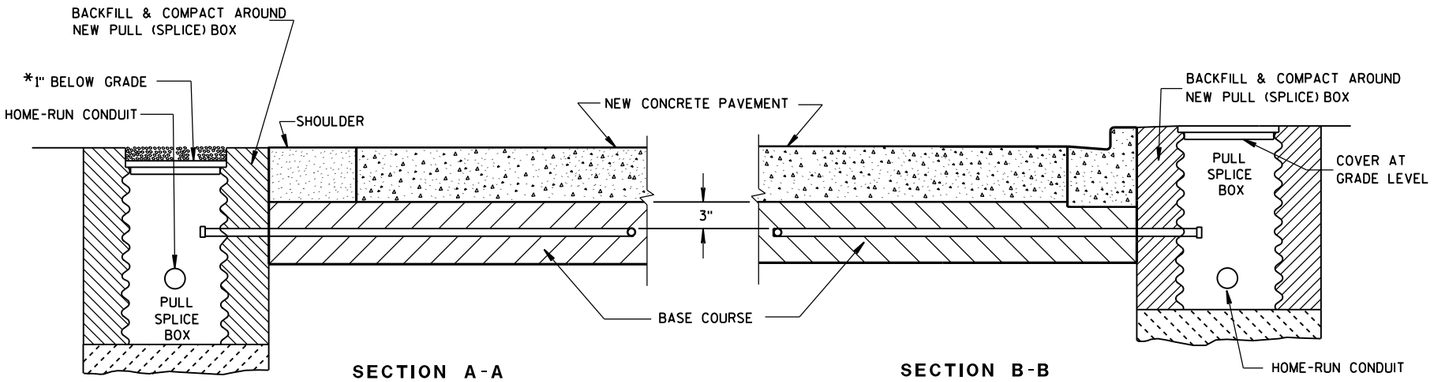
"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR OVER HEIGHT TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 E 12-1e



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

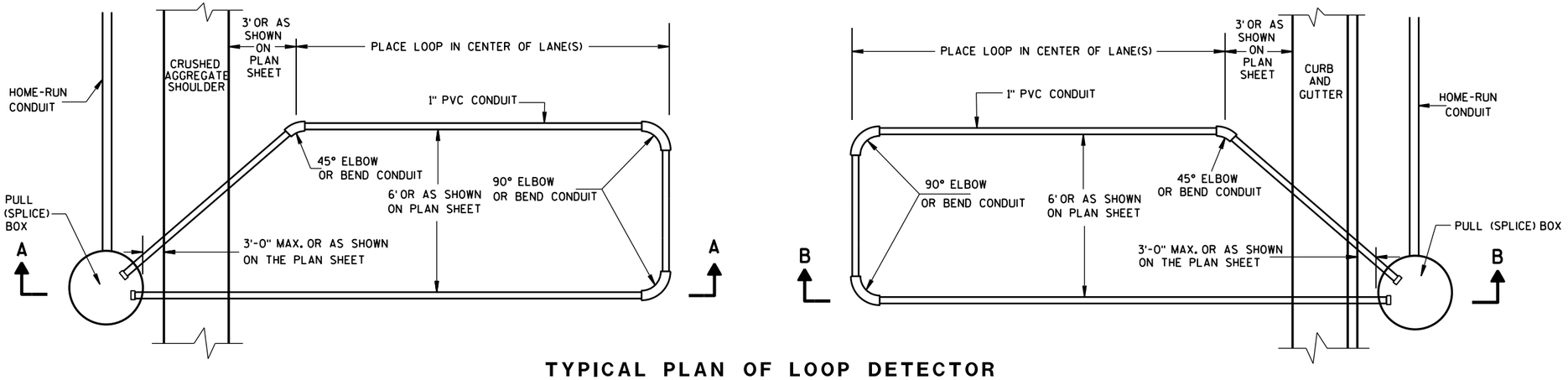
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICE CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT IN THE BASE COURSE, SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN OF LOOP DETECTOR WITH 18" OR 24" PULL (SPLICE) BOX

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

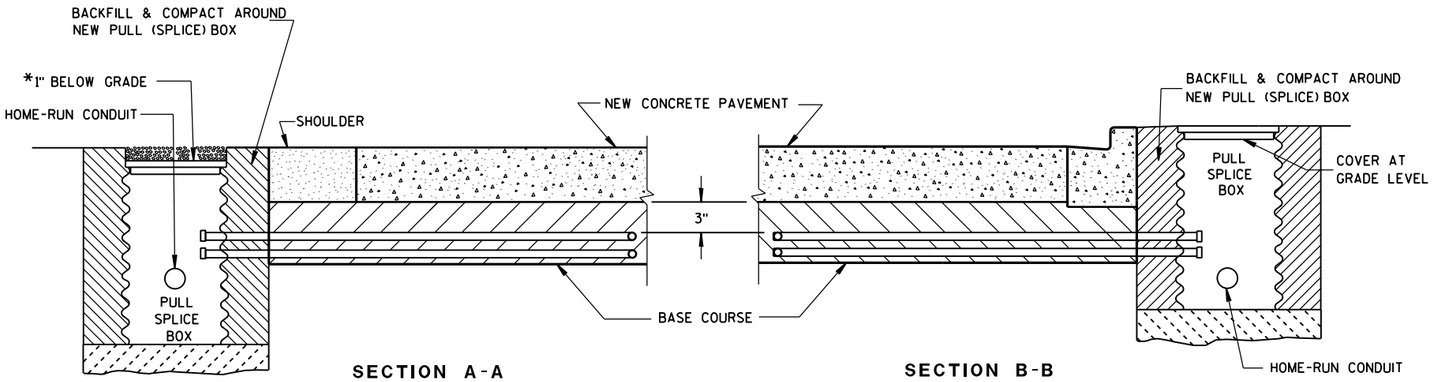
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 F 15-4a

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S.D.D. 9 F 15-4a



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

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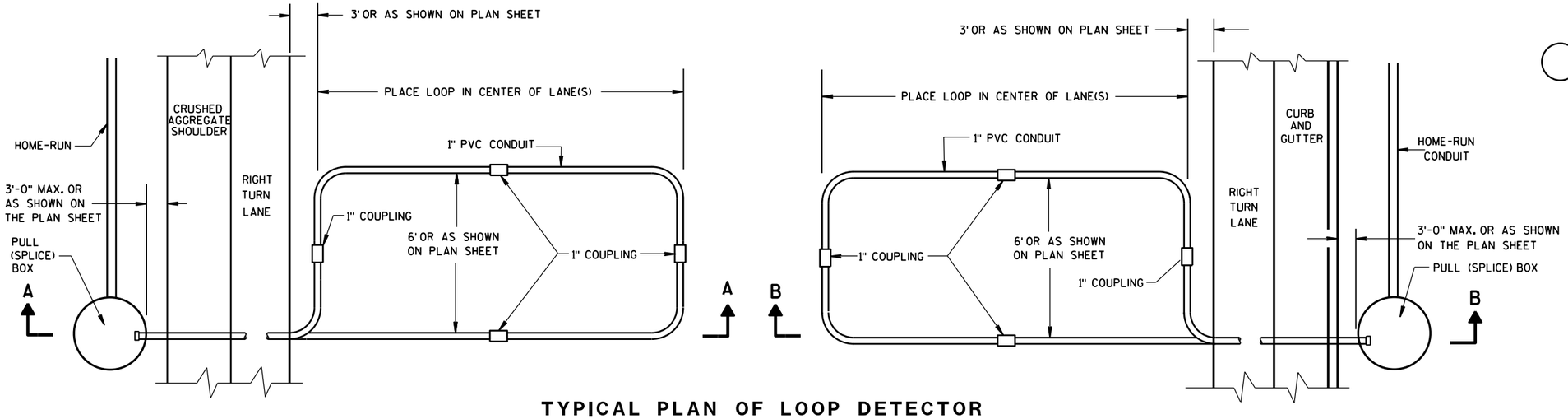
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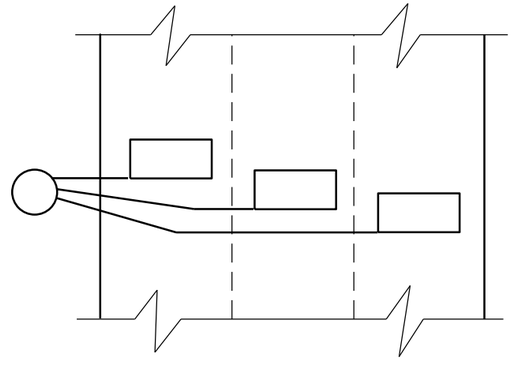
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PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



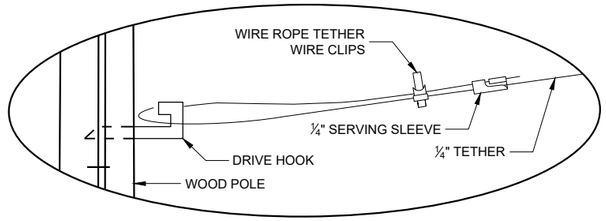
TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED Sept. 2014 DATE — /S/ Ahmet Demirbilek STATE ELECTRICAL FHWA

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

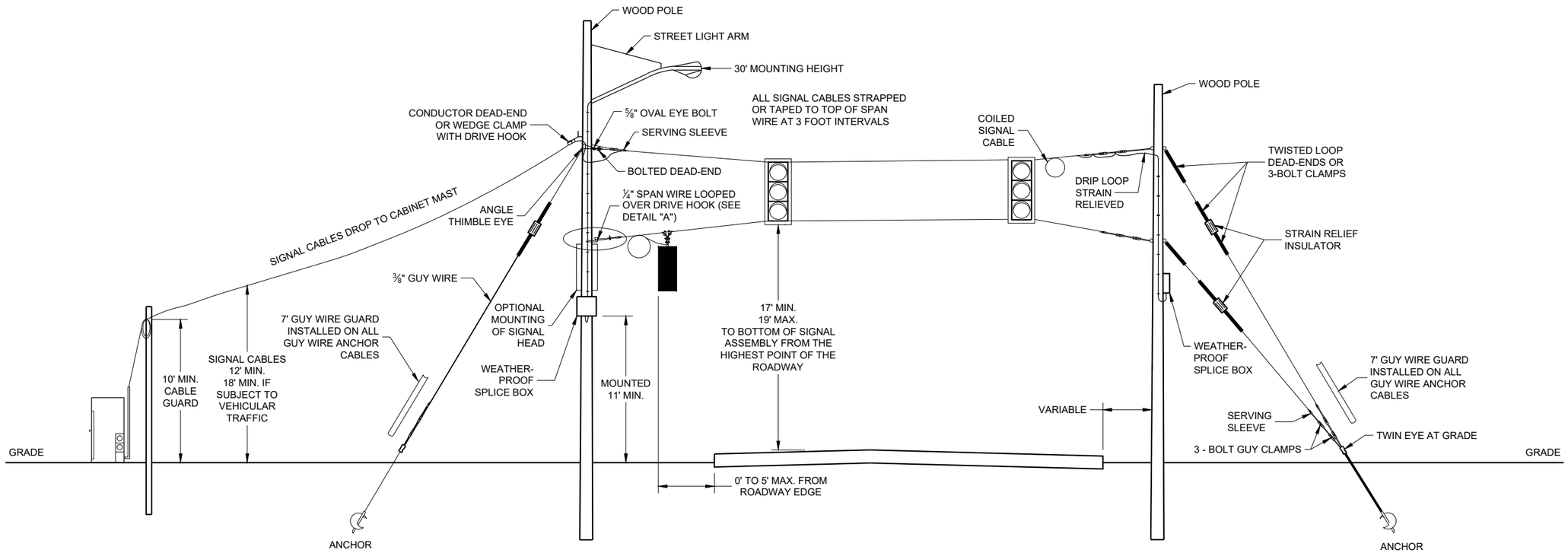


DETAIL "A"

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

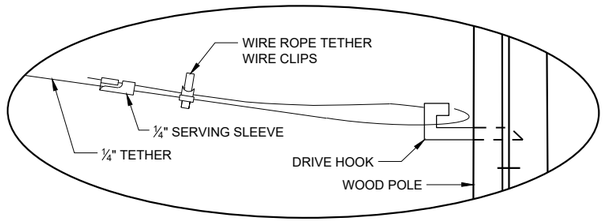
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June 2015
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MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

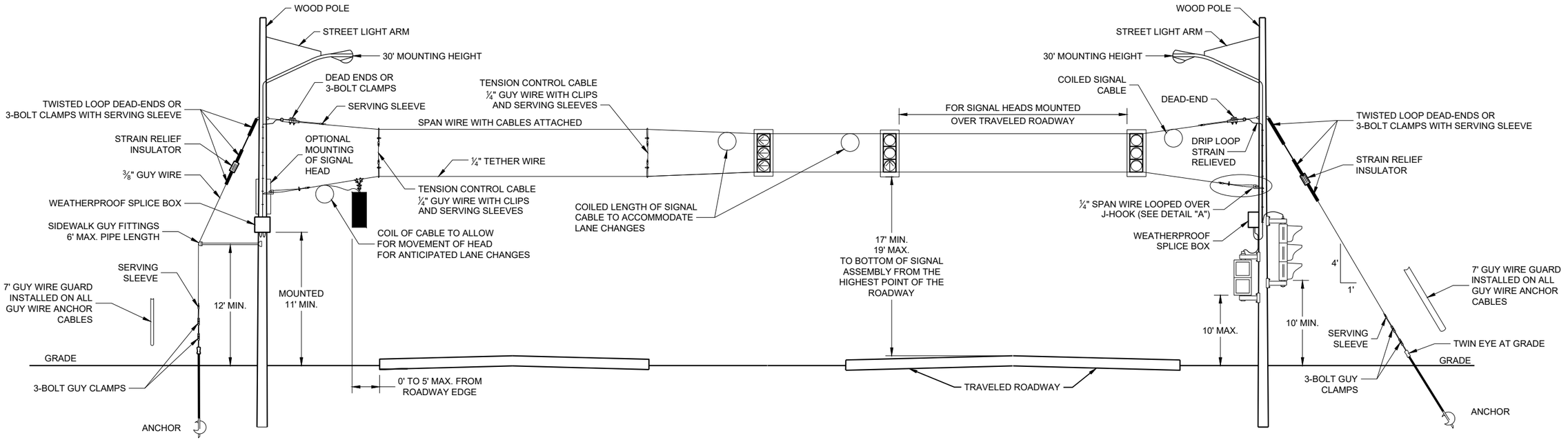


DETAIL "A"

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.
   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL 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

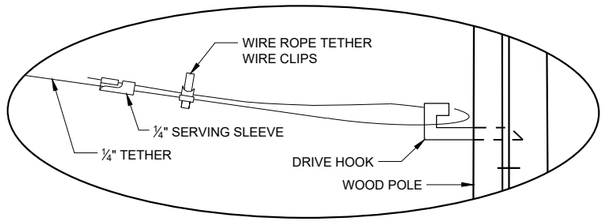
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June 2015
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MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

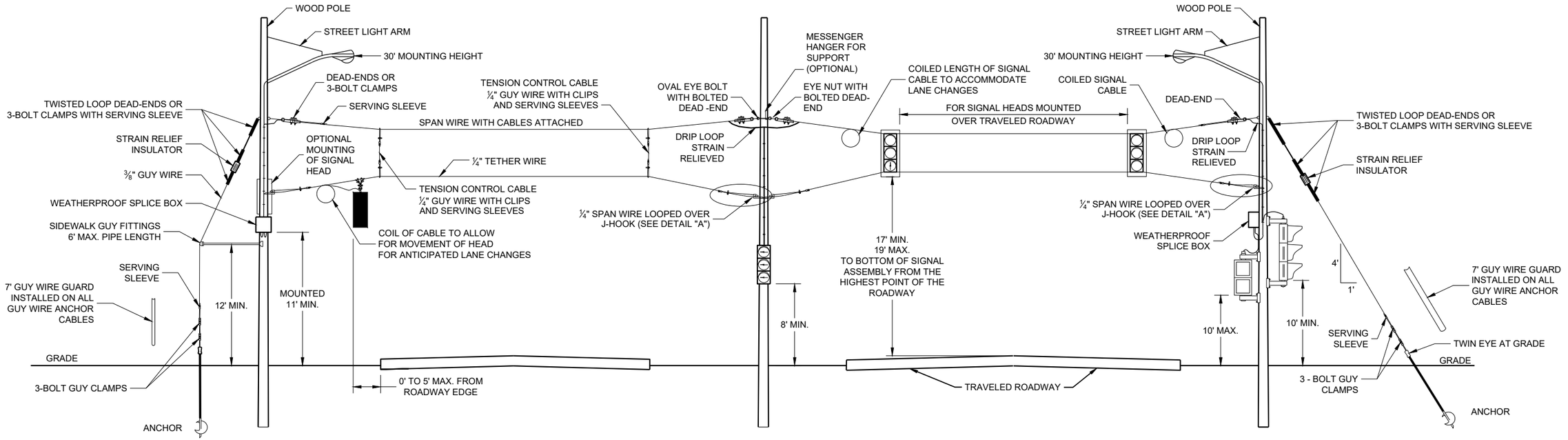


DETAIL "A"

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:
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   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL 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

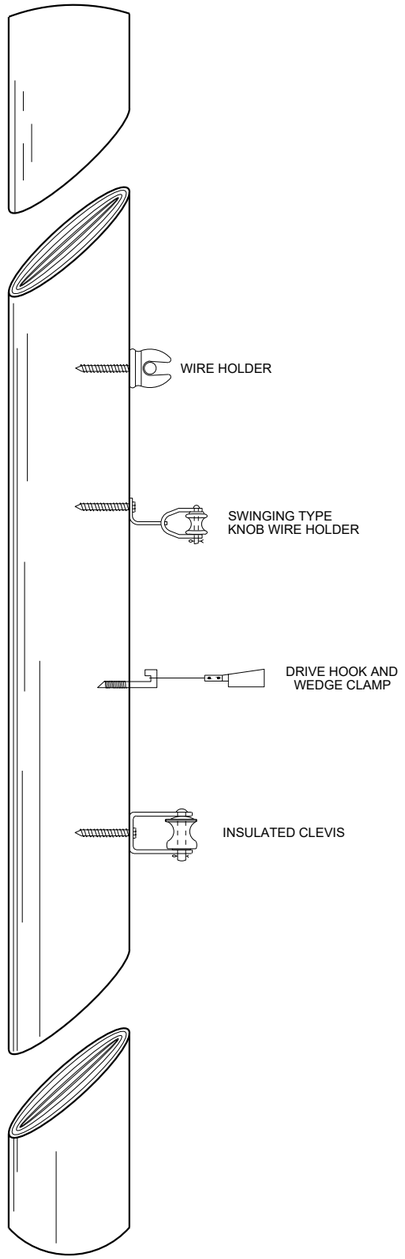
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

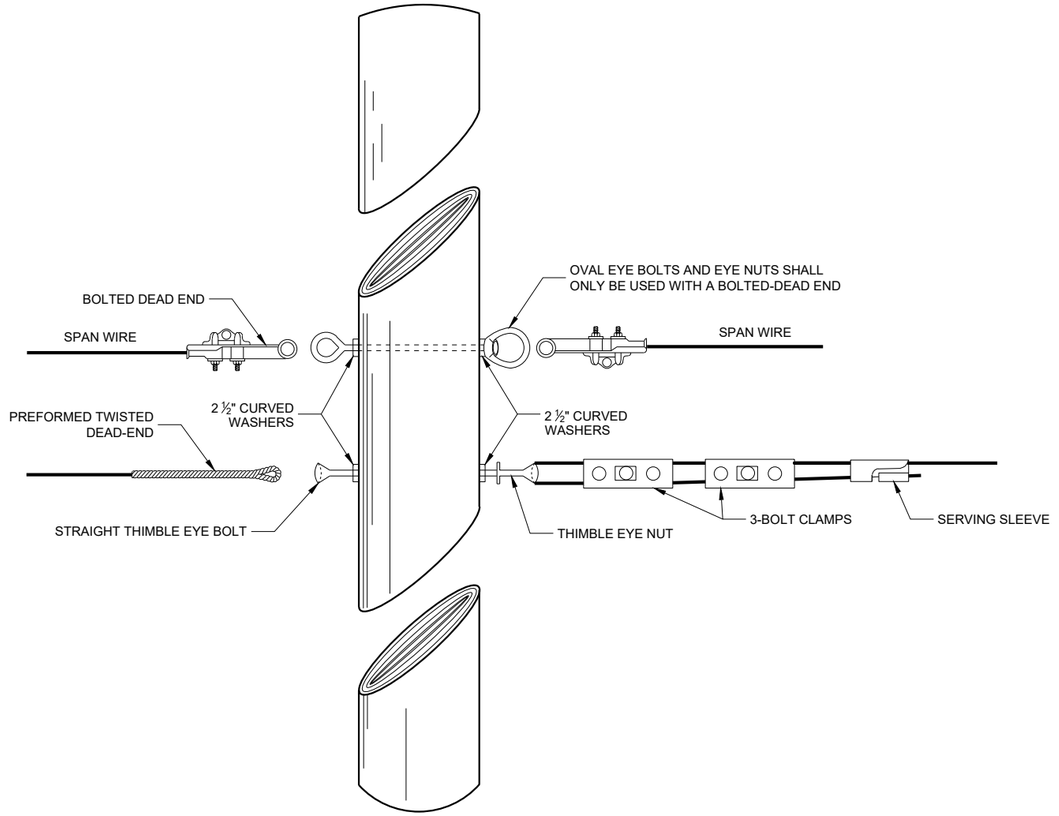
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June 2015
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SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2015
DATE

/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

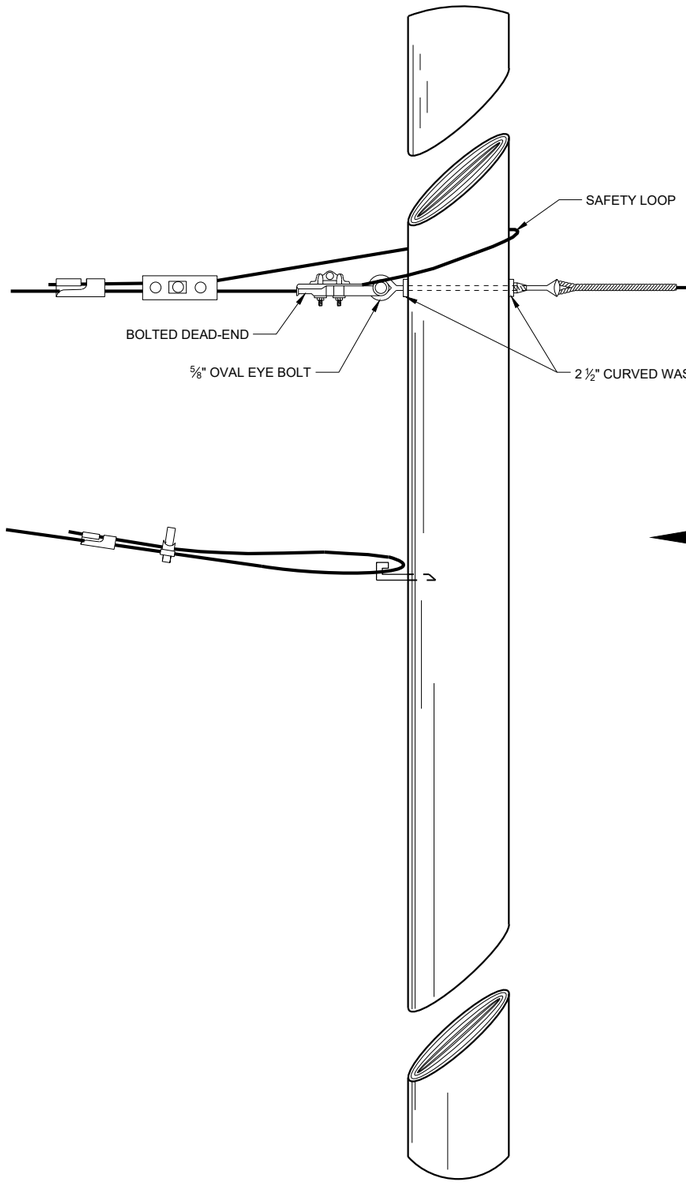
SDD 09G01 - 4d

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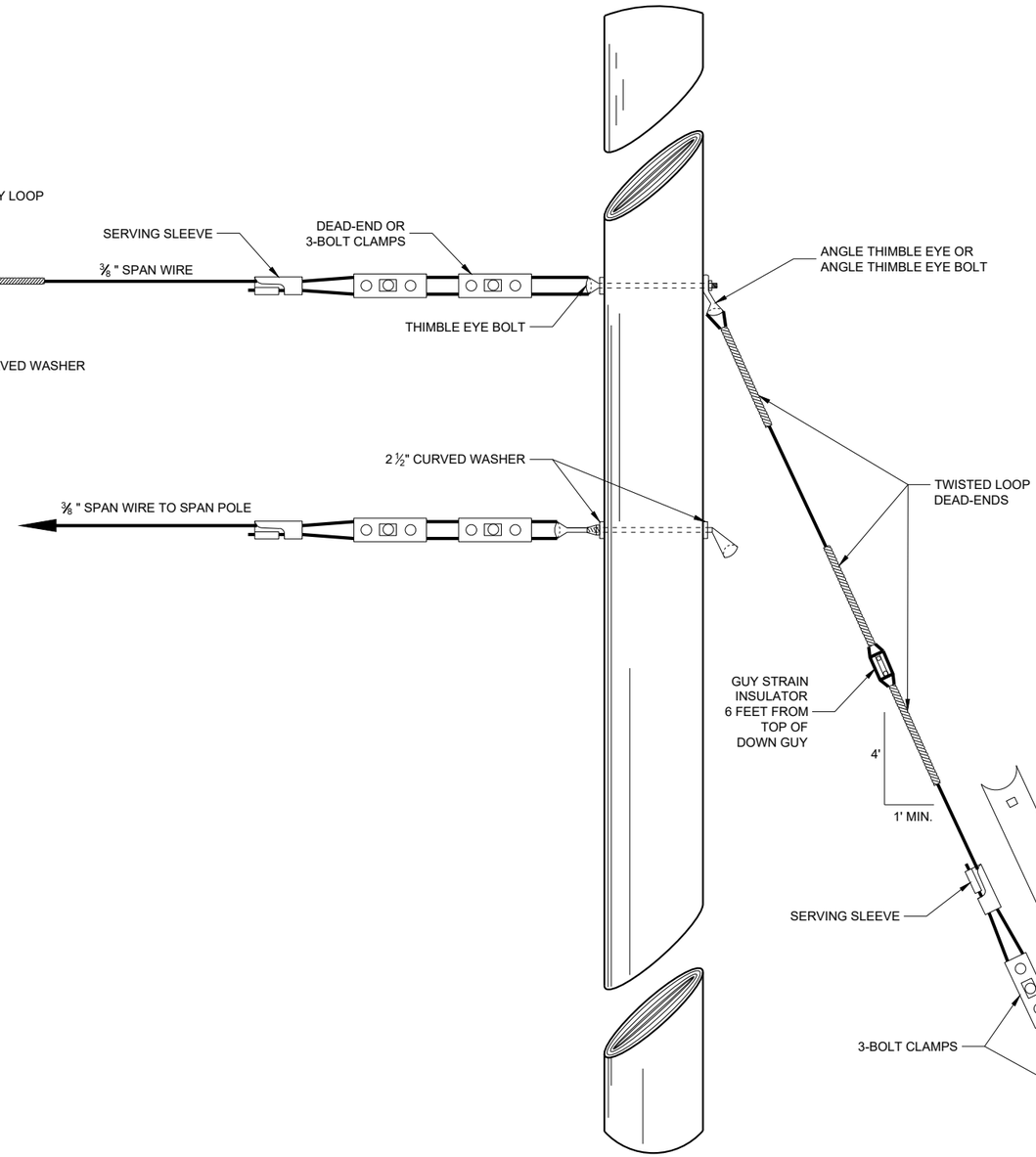
SDD 09G01 - 4d

GENERAL NOTES

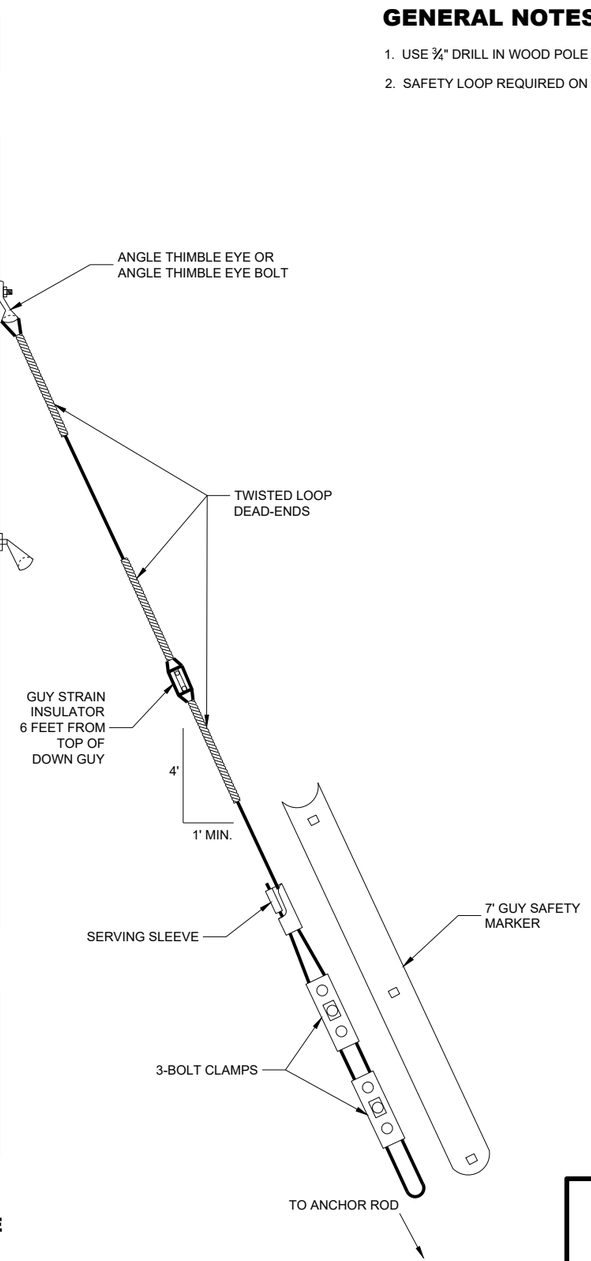
1. USE ¾" DRILL IN WOOD POLE TO PROVIDE FOR ⅝" BOLTS.
2. SAFETY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.



SPAN WIRE POLE



GUY POLE



TYPICAL DEAD-ENDINGS OR GUYING

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

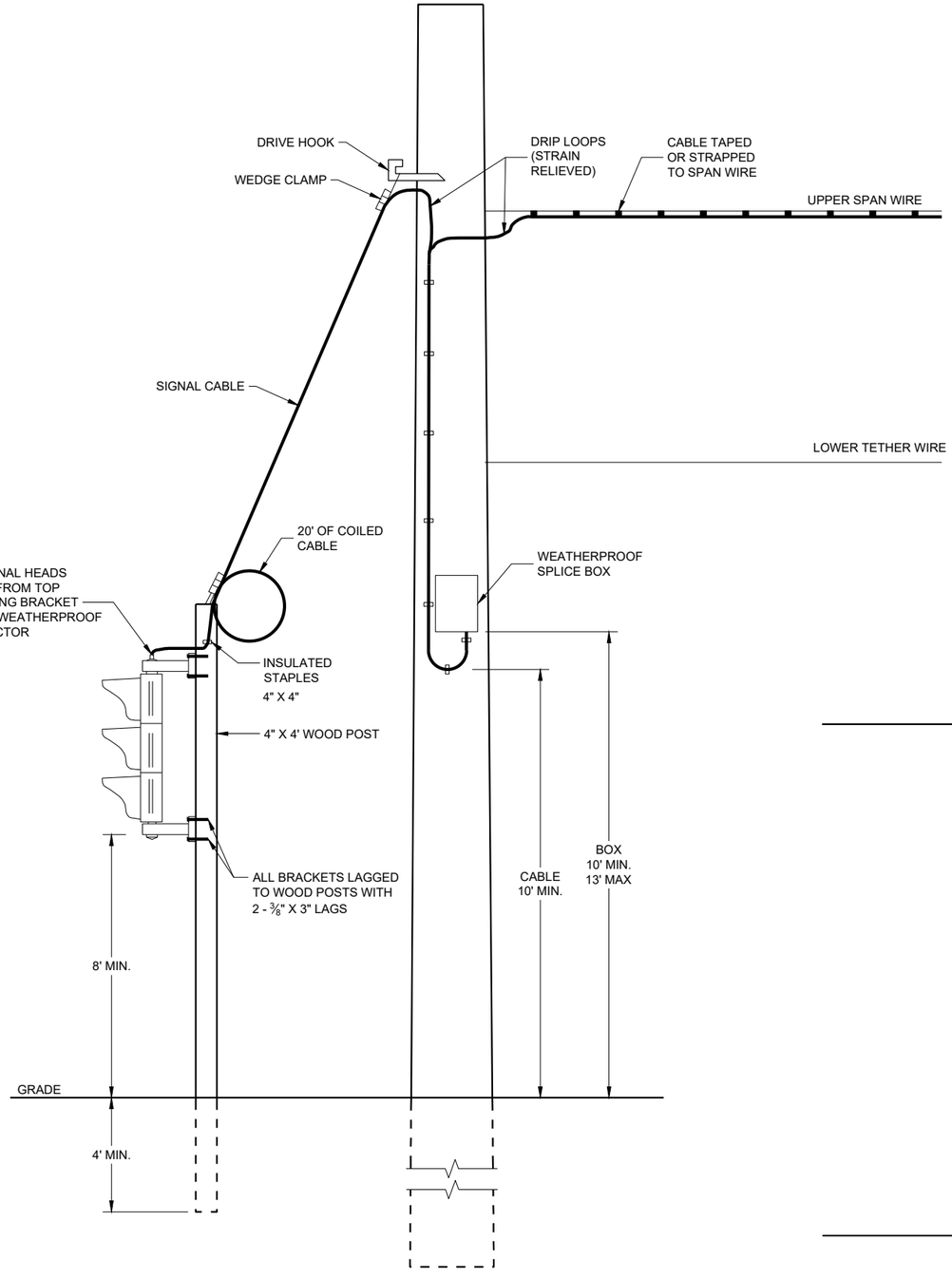
APPROVED
June 2015 — DATE
/S/ Ahmet Demerbilek — ROADWAY STANDARDS DEVE ENGINEER
FHWA

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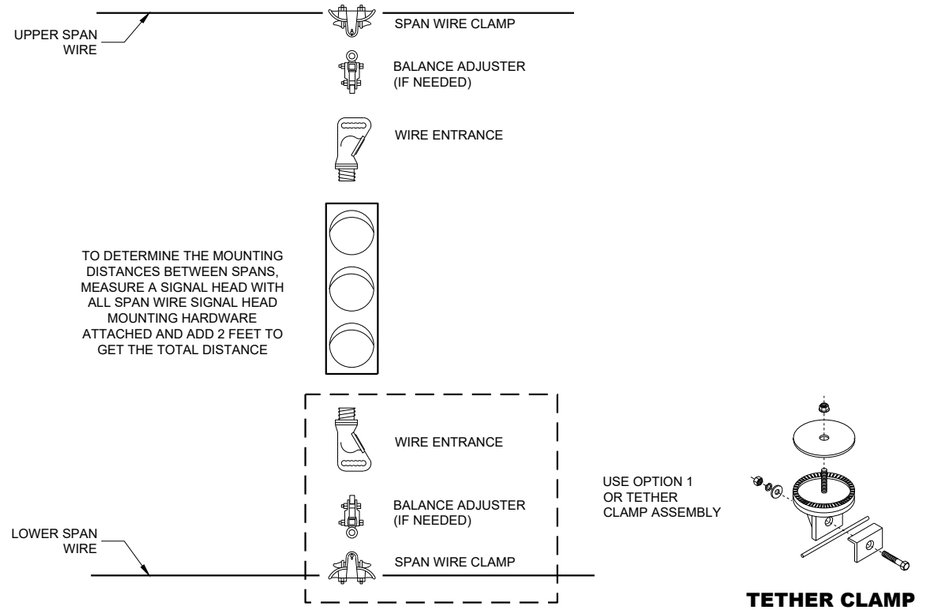
SDD 09G01 - 4e

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SDD 09G01 - 4e



TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL

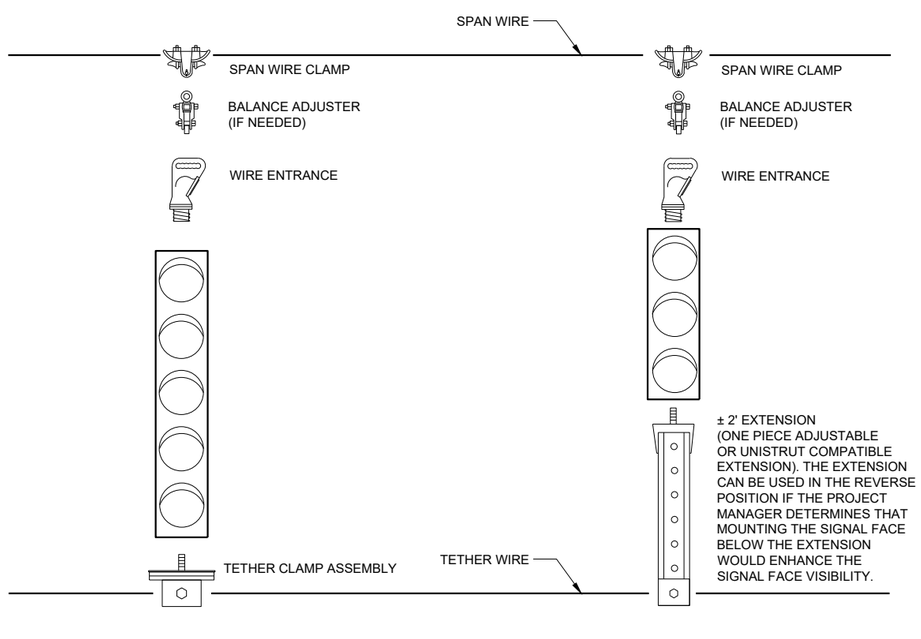


OPTION 1

USE OPTION 1 OR TETHER CLAMP ASSEMBLY

TETHER CLAMP ASSEMBLY OPTION

TYPICAL SPAN WIRE MOUNTING HARDWARE



5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

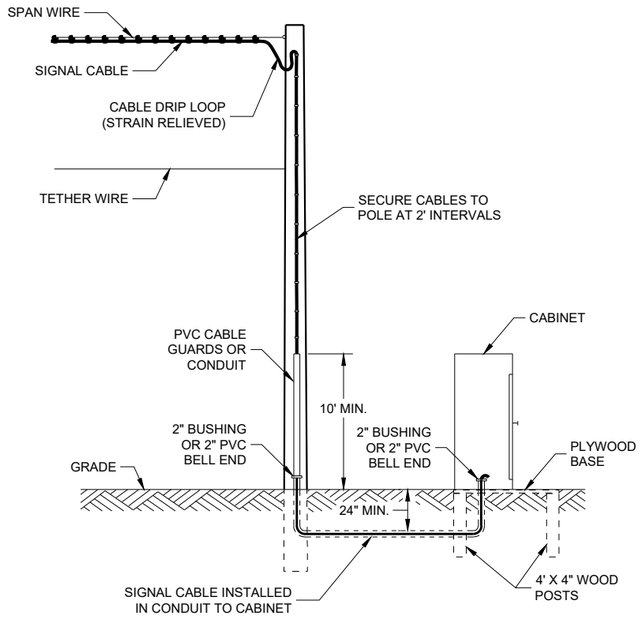
APPROVED
June 2015
DATE

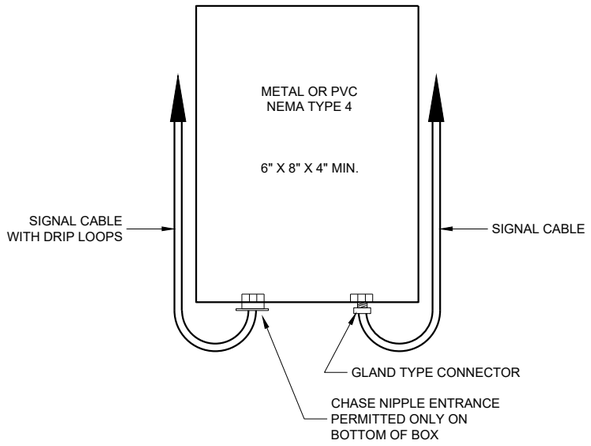
/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE ENGINEER

FHWA

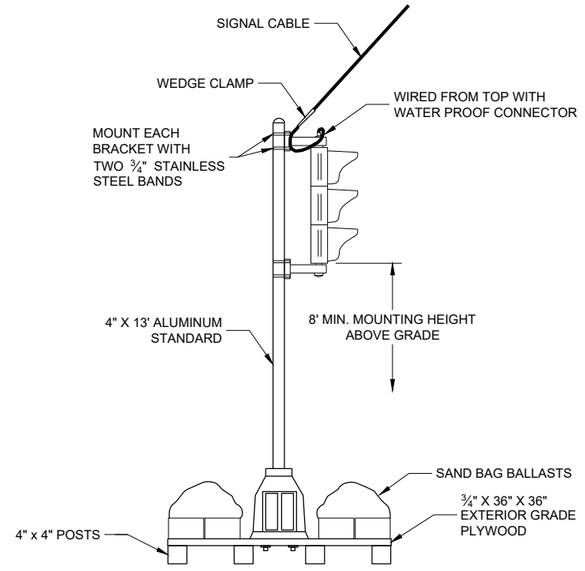
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SDD 09G01 - 4f

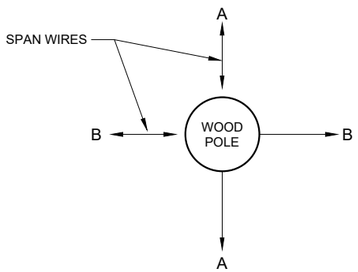




SPLICE BOX

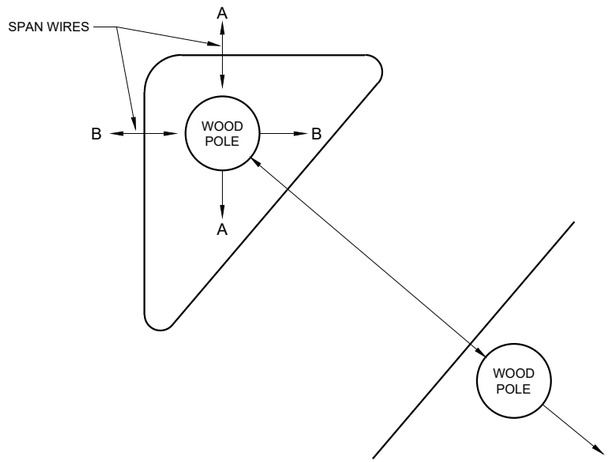


TYPICAL SKID TYPE TEMPORARY

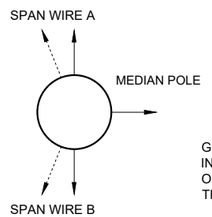


ALL DOWN OR SIDEWALK GUYS
SHALL BE INSTALLED IN THE
OPOSITE DIRECTION OF THE
STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



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

MEDIAN POLES

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

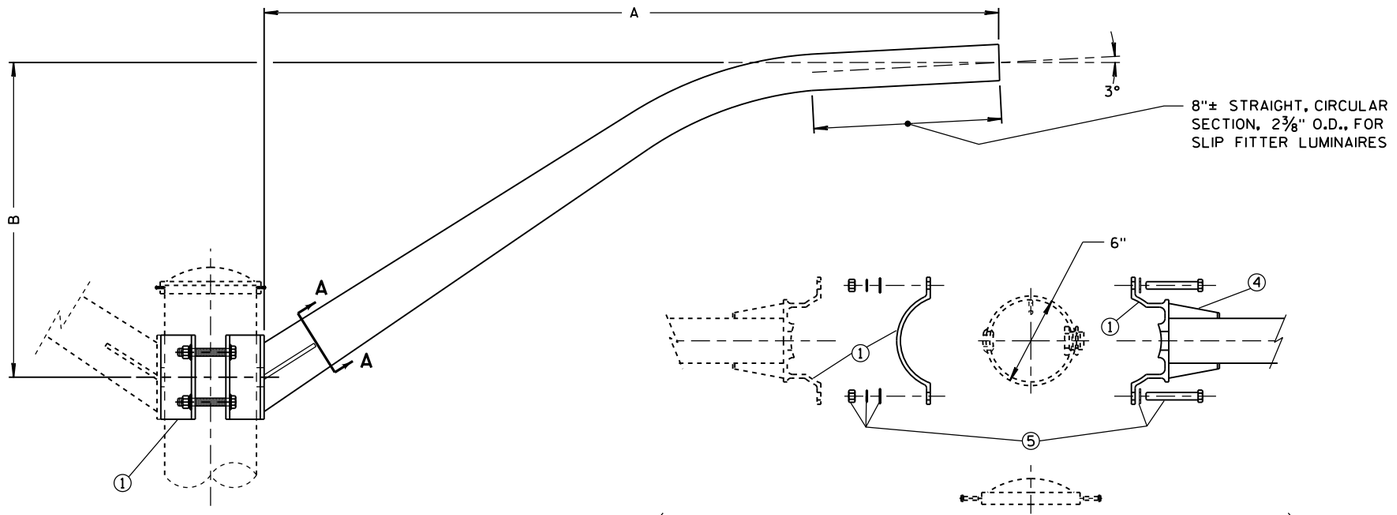
June 2015
DATE

/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE ENGINEER

FHWA

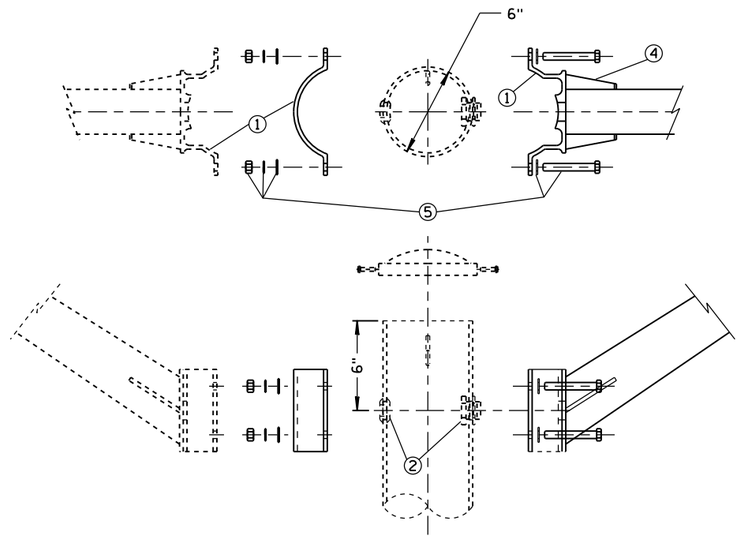
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SDD 09G01 - 4g



LUMINAIRE ARMS, SINGLE MEMBER, 6-INCH CLAMP - FOR POLES, TYPE 7, A OR E

VARIOUS LENGTHS (SEE TABLE)



CLAMP ASSEMBLY

SINGLE MEMBER CLAMP SHOWN

TYPE	DIM. A NOMINAL ARM LENGTH (FT)	DIM. B APPROX. RISE (FT)
SINGLE MEMBER	4.0	2.0
SINGLE MEMBER	8.0	3.0
SINGLE MEMBER	10.0	3.0
SINGLE MEMBER	15.0	3.0

GENERAL NOTES

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

ARMS AND CLAMP EXTRUSIONS SHALL BE CONSTRUCTED OF NATURAL FINISH 6063-T6 ALUMINUM.

HEAT TREATMENT OF WELDS IN STRUCTURAL AREAS IS REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A..

① CLAMPS SHALL BE EXTRUDED ALUMINUM.

② RACE WAY: 1 3/8" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET) PER EACH REQUIRED LUMINAIRE ARM. PROVIDE 1 1/2" HOLE IN CLAMP EXTRUSION TO CONTINUE RACEWAY.

③ STIFFENER

④ GUSSETS REQUIRED.

⑤ CLAMP BOLT ASSEMBLY (BOLT - 1/2"-13 UNC, 2 EACH - FLAT WASHER, LOCK WASHER, NUT) - 4 EACH PER CLAMP.

6

S.D.D. 10 A 18-5a

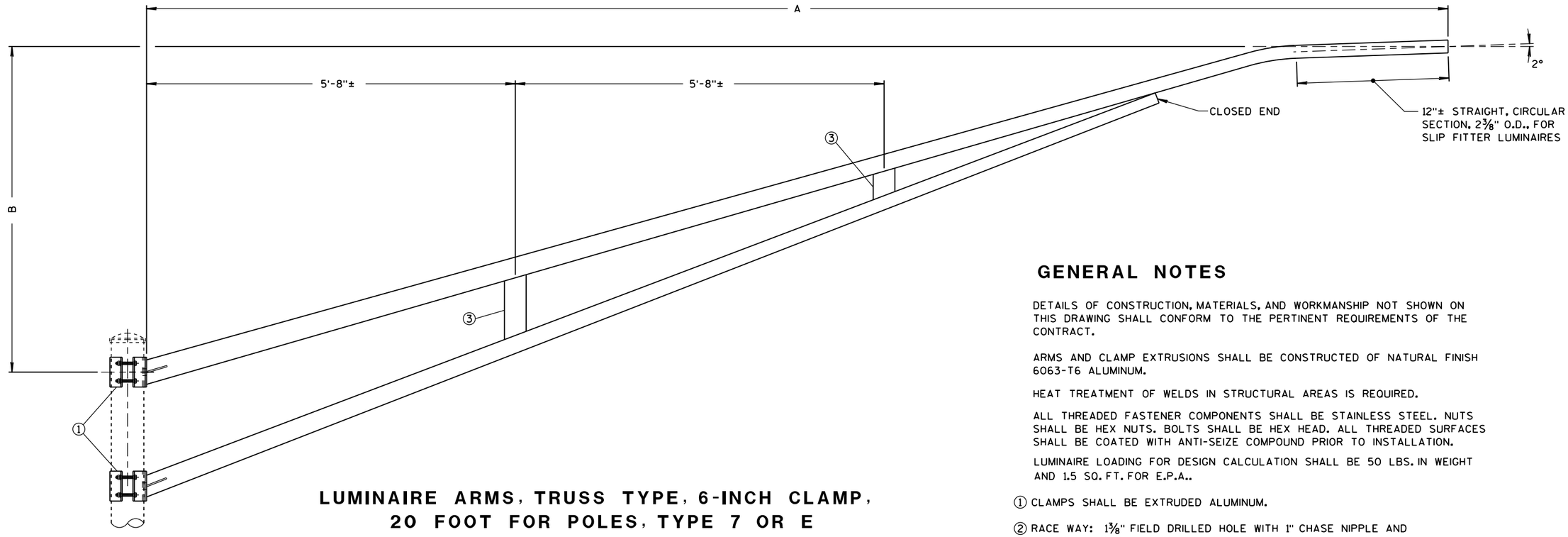
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S.D.D. 10 A 18-5a

LUMINAIRE ARMS, SINGLE MEMBER 6-INCH CLAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA



LUMINAIRE ARMS, TRUSS TYPE, 6-INCH CLAMP, 20 FOOT FOR POLES, TYPE 7 OR E

UPPER AND LOWER TRUSS CHORD CLAMPS SIMILIAR

TYPE	DIM. A NOMINAL ARM LENGTH (FT)	DIM. B APPROX. RISE (FT)
TRUSS TYPE	20.0	5.0

GENERAL NOTES

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

ARMS AND CLAMP EXTRUSIONS SHALL BE CONSTRUCTED OF NATURAL FINISH 6063-T6 ALUMINUM.

HEAT TREATMENT OF WELDS IN STRUCTURAL AREAS IS REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A..

① CLAMPS SHALL BE EXTRUDED ALUMINUM.

② RACE WAY: 1⅜" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET) PER EACH REQUIRED LUMINAIRE ARM. PROVIDE 1½" HOLE IN CLAMP EXTRUSION TO CONTINUE RACEWAY. NOTE: NO RACEWAY ON LOWER TRUSS CORD CLAMP. FOR INFORMATION ONLY.

③ STIFFENER.

④ GUSSETS REQUIRED.

⑤ CLAMP BOLT ASSEMBLY (BOLT - ½"-13 UNC, 2 EACH - FLAT WASHER, LOCK WASHER, NUT) - 4 EACH PER CLAMP.

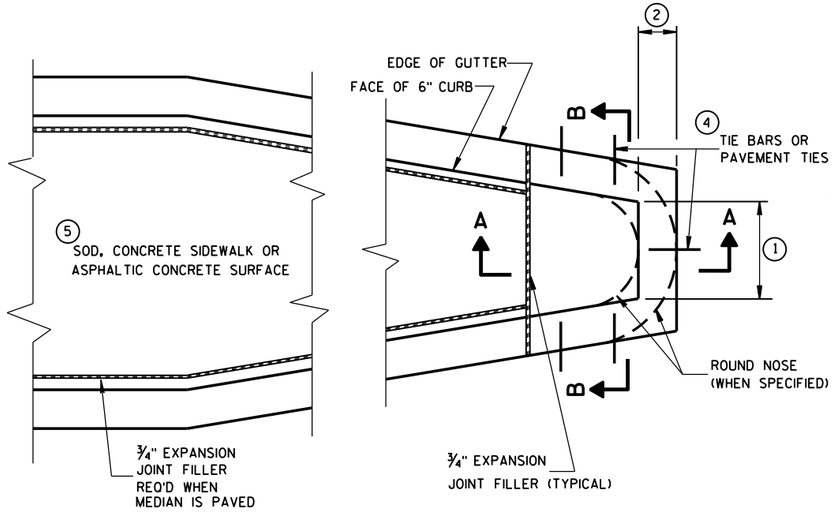
LUMINAIRE ARMS, TRUSS TYPE 6-INCH CLAMP

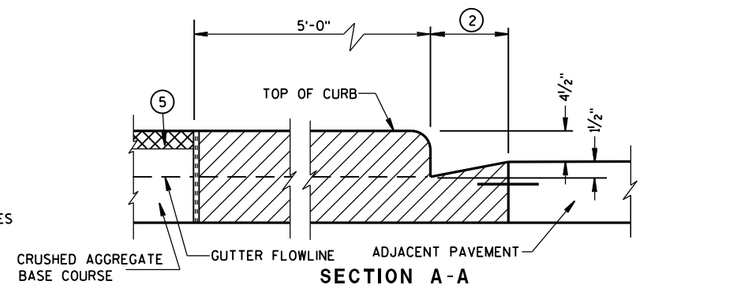
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

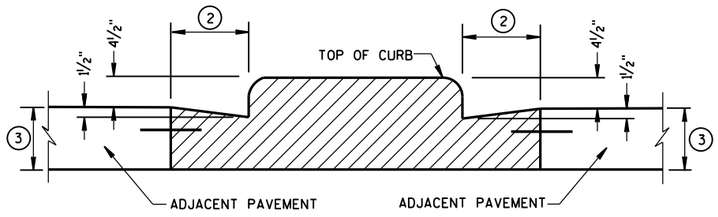
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 10 A 18-5b







CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

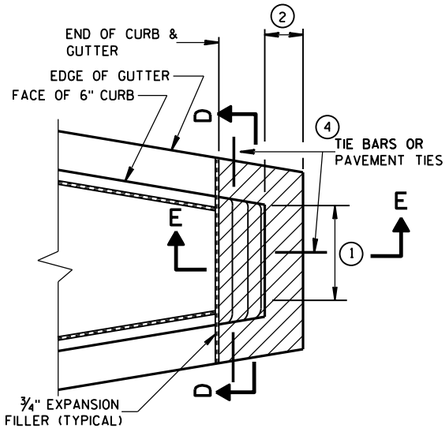
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

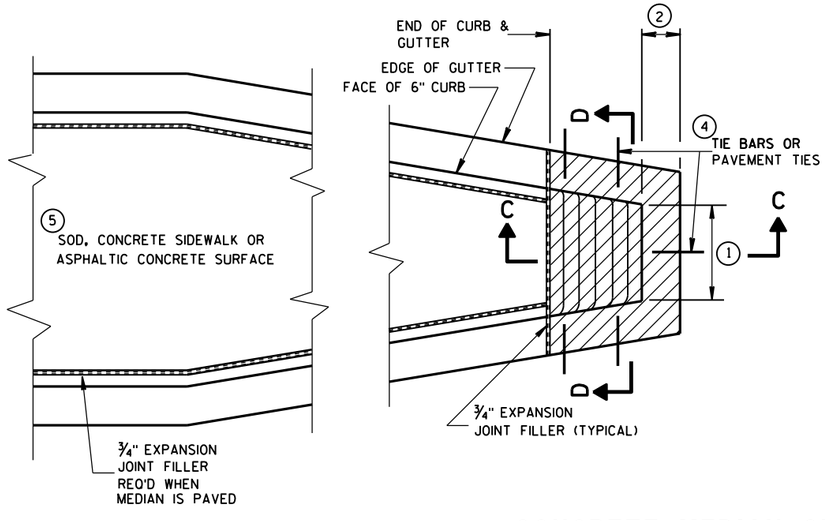
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

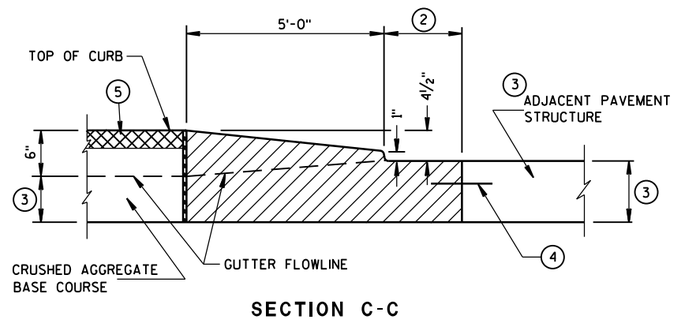
(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

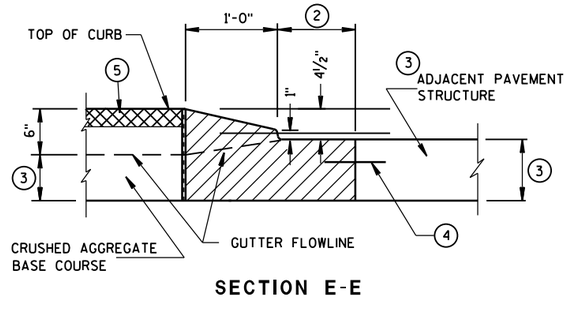
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.



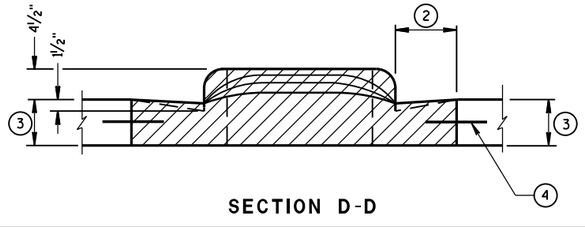






CONCRETE MEDIAN SLOPED NOSE TYPE 2

CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/8/2006
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 11 B 2-2

6

S.D.D. 11 B 2-2

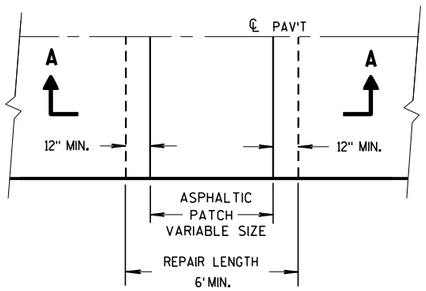
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

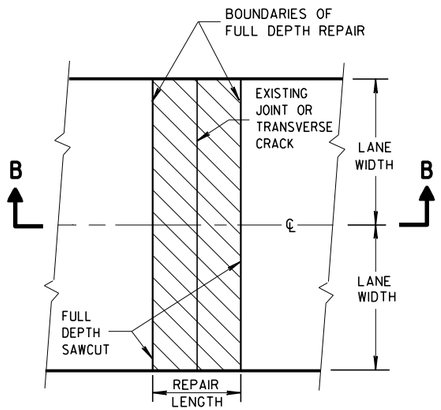
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

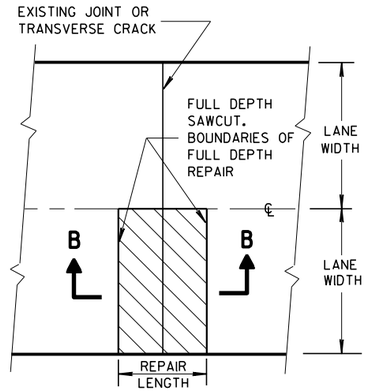
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

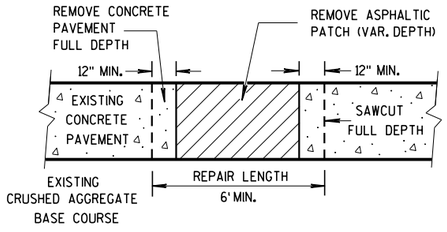


PLAN VIEW
(DOUBLE LANE REPAIR)



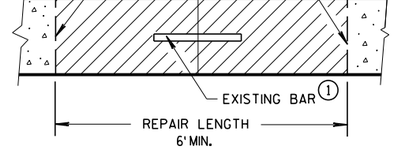
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

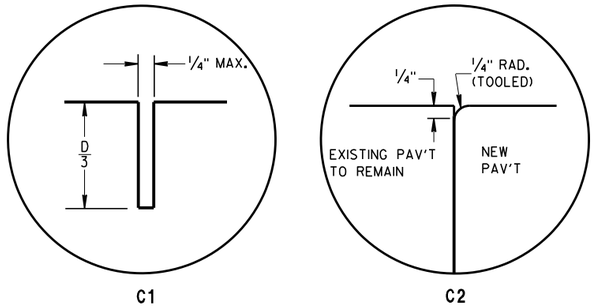
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 9-15a



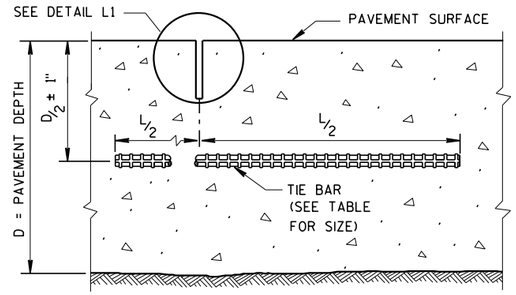
TRANSVERSE JOINTS

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

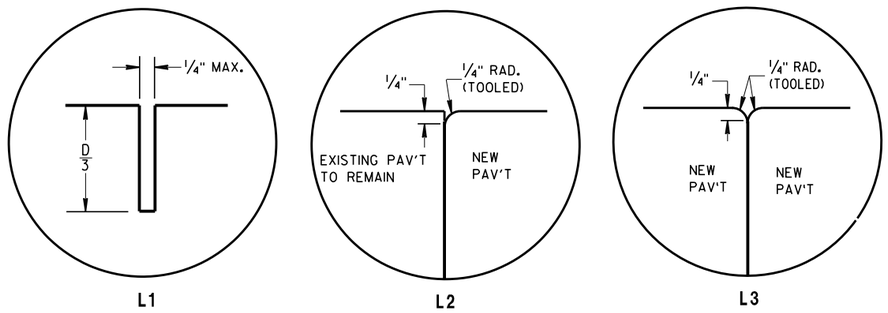
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

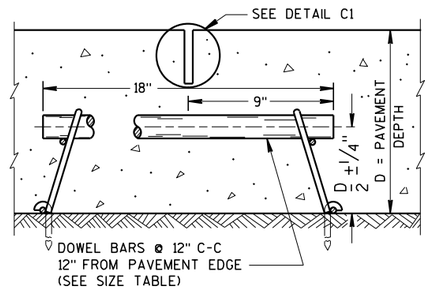
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

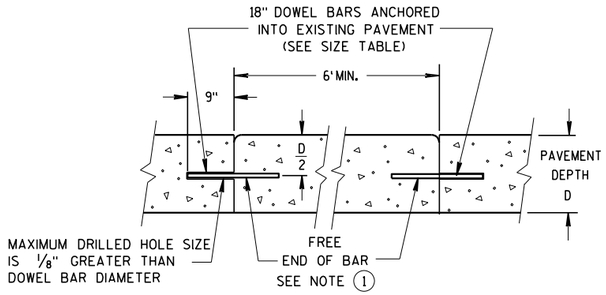


LONGITUDINAL JOINTS

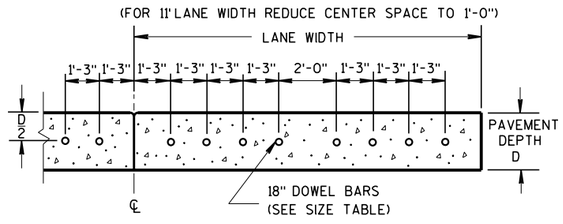


SECTION F-F

CONTRACTION JOINT



SECTION D-D

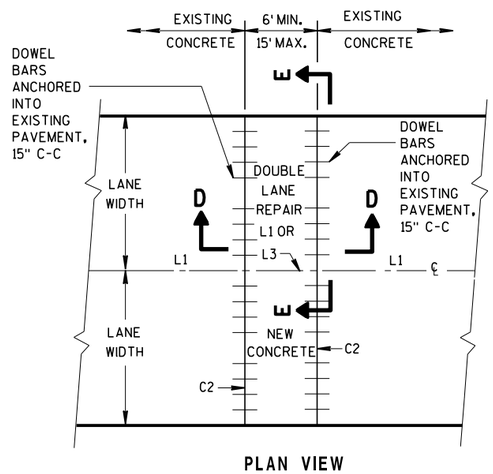


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

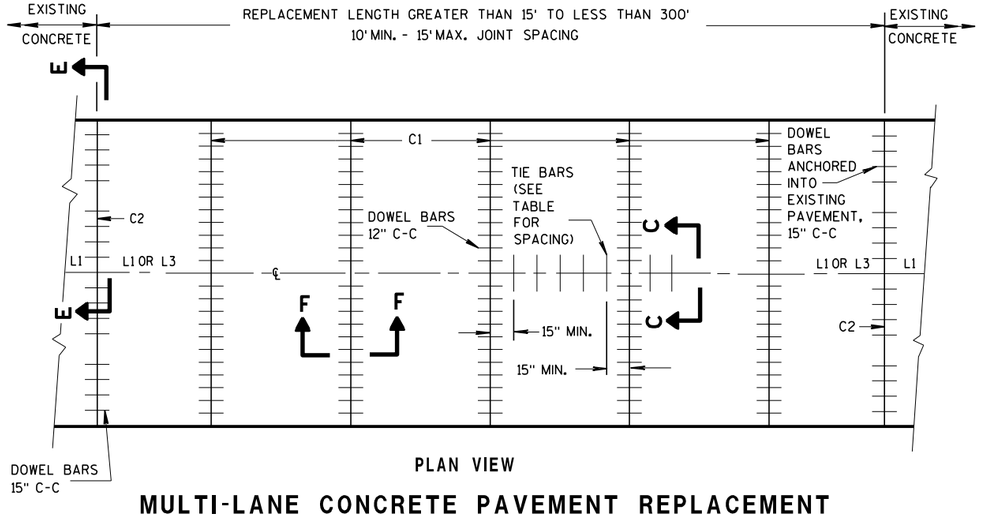
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	DRILLED DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	NONE	12'
7", 7 1/2"	1"	1"	14'
8", 8 1/2"	1 1/4"	1 1/4"	15'
9", 9 1/2"	1 1/4"	1 1/4"	15'
10" & ABOVE	1 1/2"	1 1/4"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

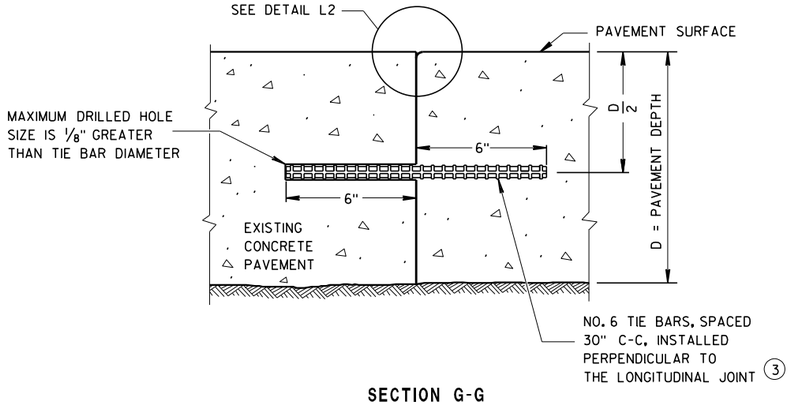
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 9-15b

6

S.D.D. 13 C 9-15b



SECTION G-G

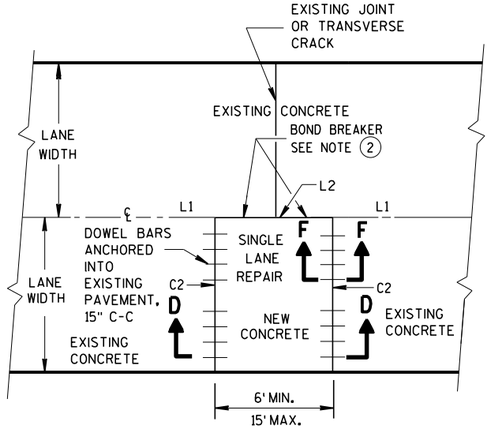
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

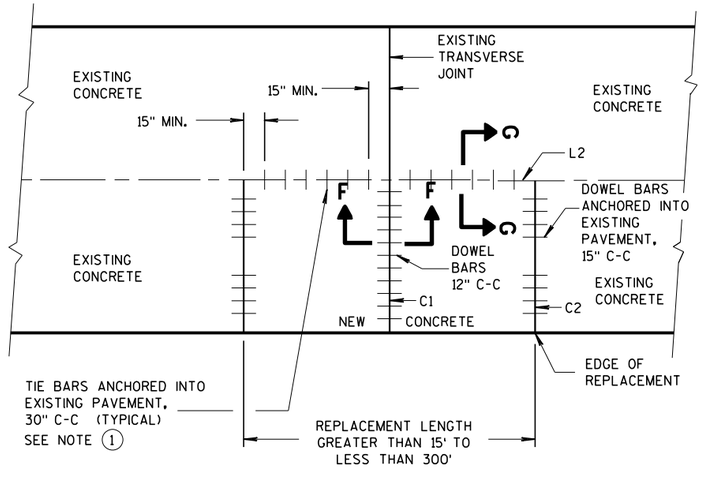
(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

(3) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

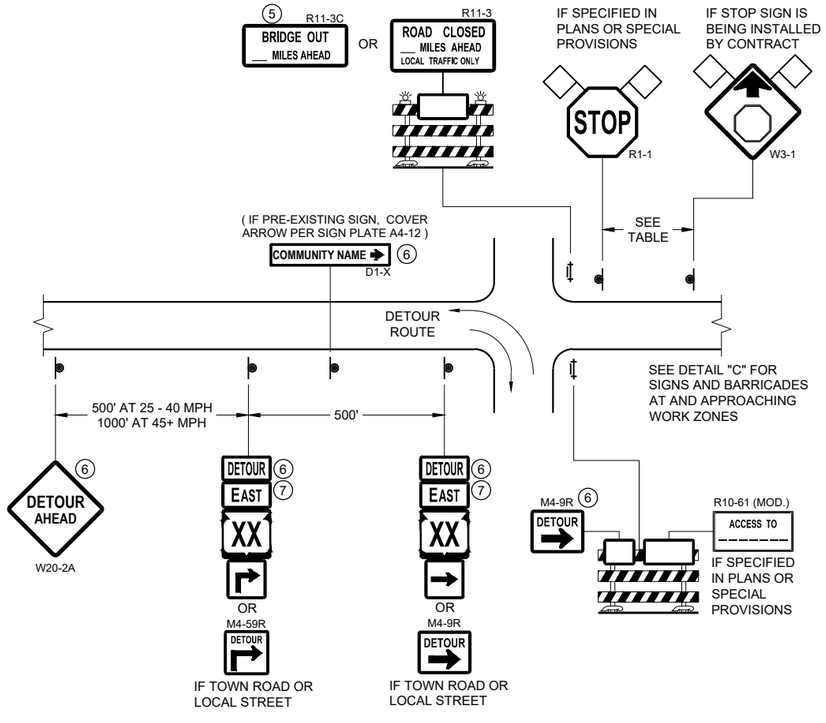
March 2018 — DATE

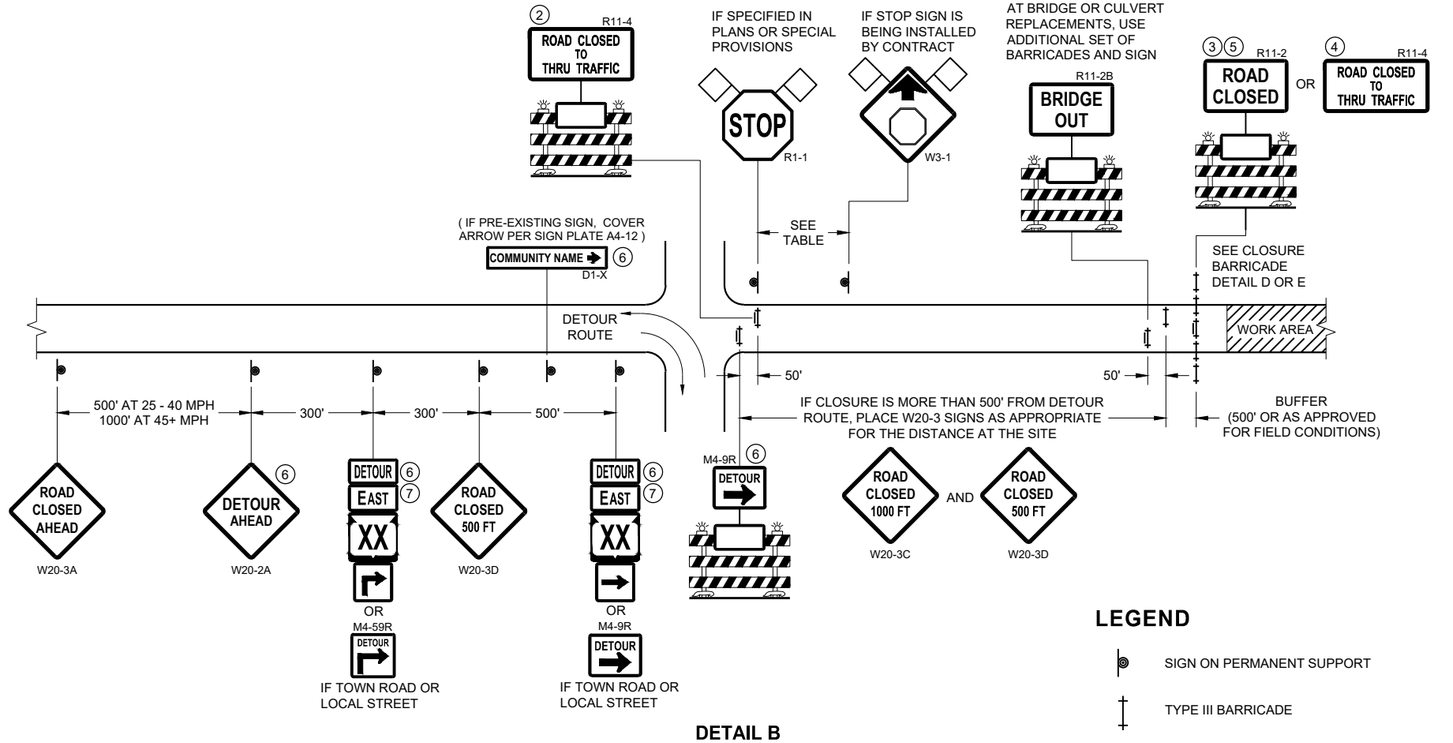
/S/ Peter Ken... P.E. — PAVEMENT SUPE...

FHWA

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S.D.D. 13 C 9-15c



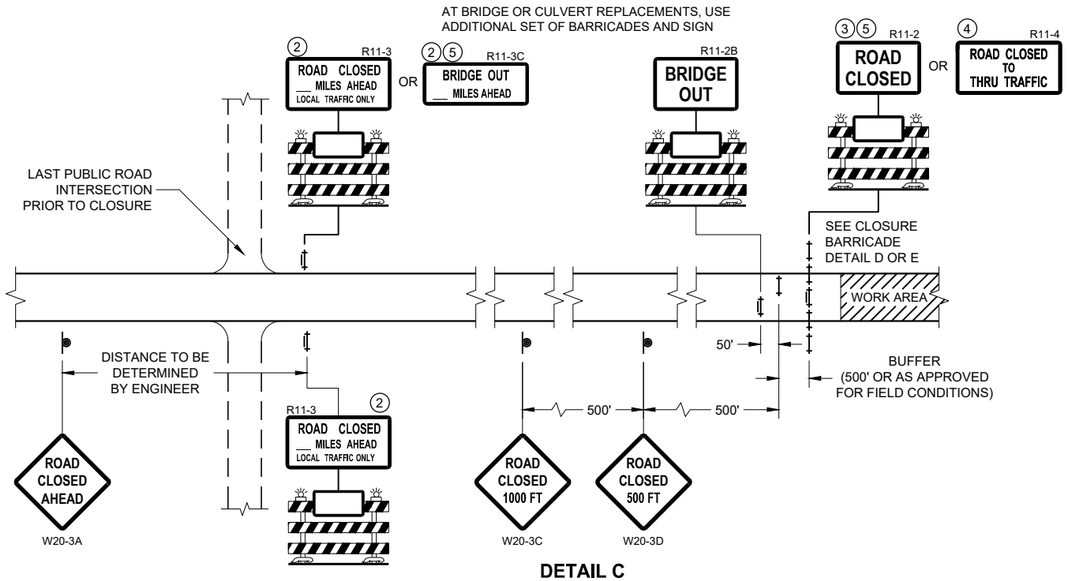


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

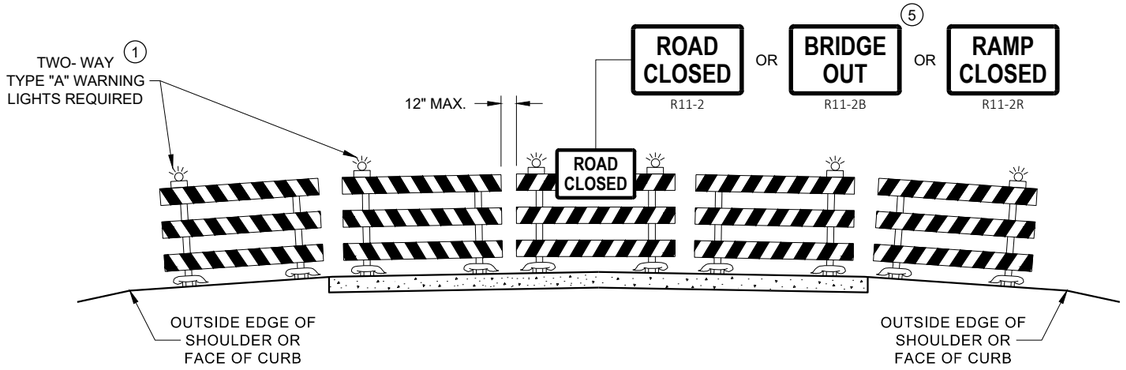
APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

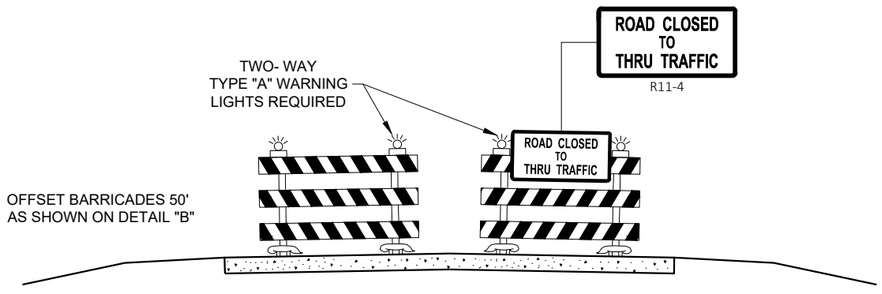
6

SDD 15C02 - 07a

SDD 15C02 - 07a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

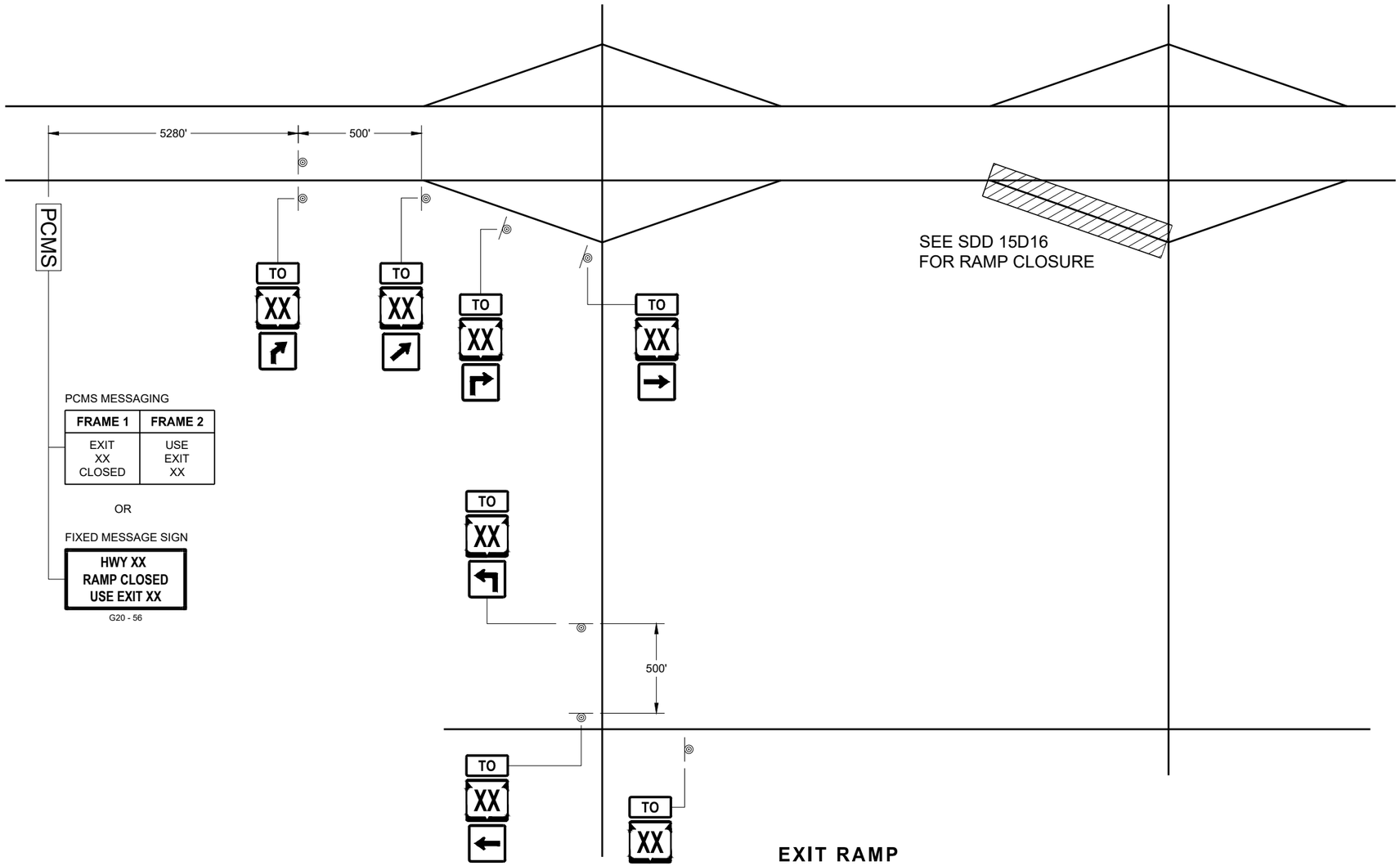
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SDD 15C02 - 07b

6

SDD 15C02 - 07b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL TO SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.



PCMS MESSAGING

FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX
RAMP CLOSED
USE EXIT XX

G20 - 56

EXIT RAMP CLOSURE

LEGEND

SIGN ON PERMANENT SUPPORT

PCMS PORTABLE CHANGEABLE MESSAGE SIGN

TO MO4 - 5

XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A

M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2

GENERAL NOTES

SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL " IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOW:

MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
M1 - 4, M1 - 5A, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).

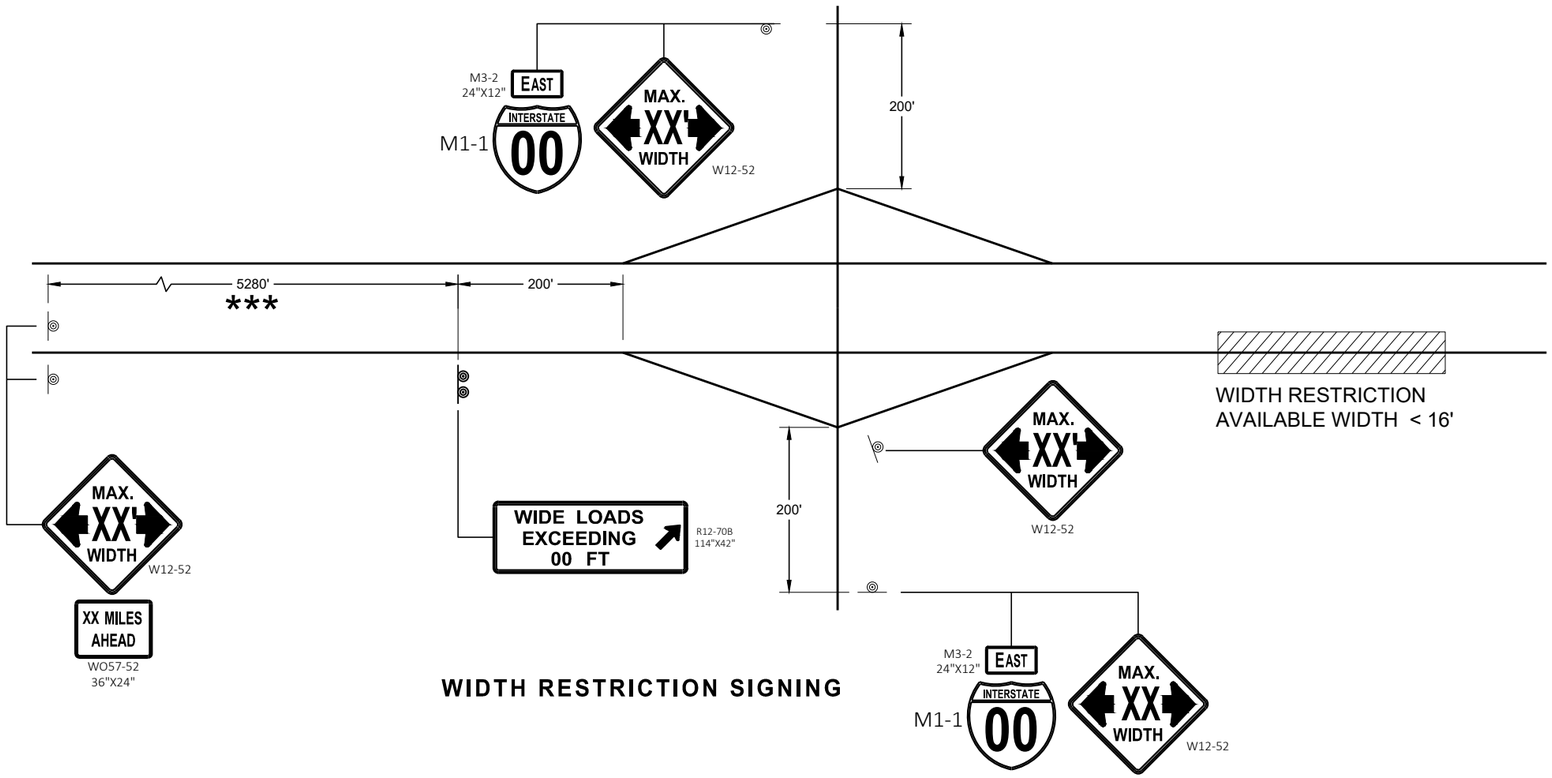
OFF RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 DATE
/S/ Andrew Heidtke WORK ZONE ENGINEE
FHWA

SDD 15C02 - 07e

SDD 15C02 - 07e



WIDTH RESTRICTION SIGNING

LEGEND

SIGN ON PERMANENT SUPPORT

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL " IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

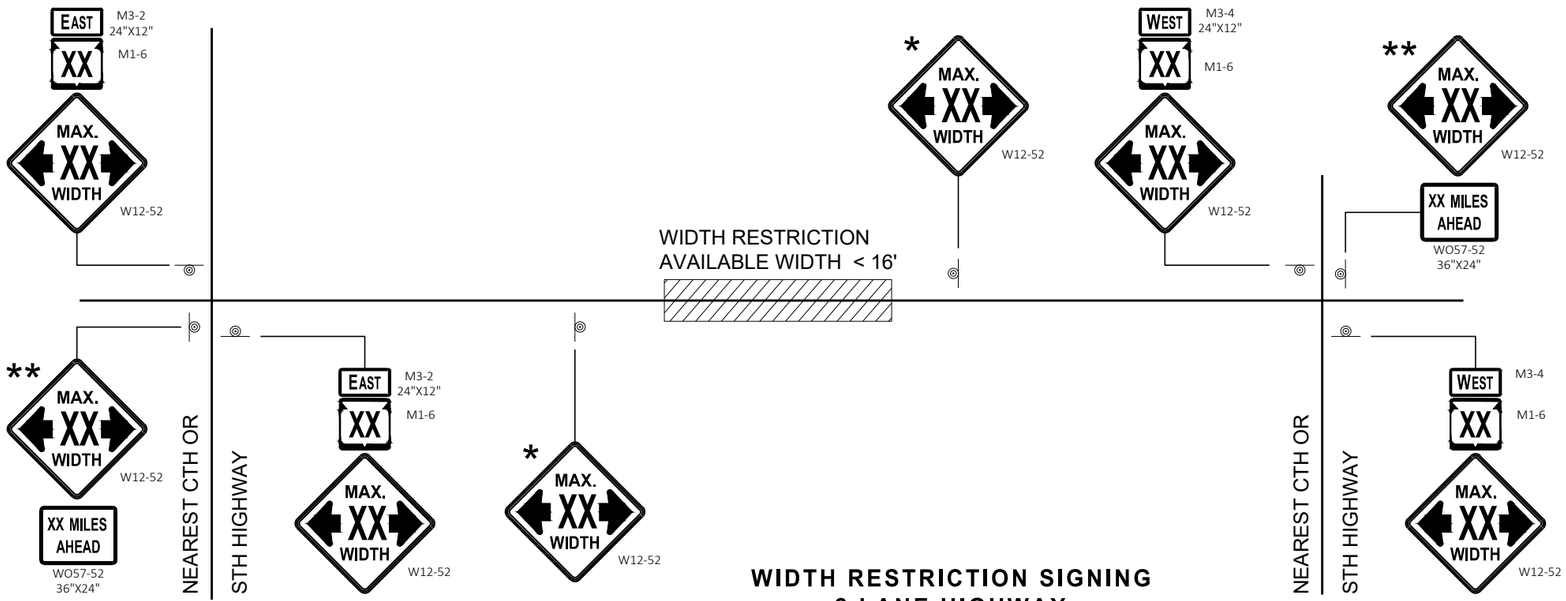
* PLACE 500 FEET BEFORE THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.



WIDTH ON SIGN TO BE APPROX. 1 - FOOT LESS THAN AVAILABLE WIDTH



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

ADVANCED WIDTH RESTRICTION SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

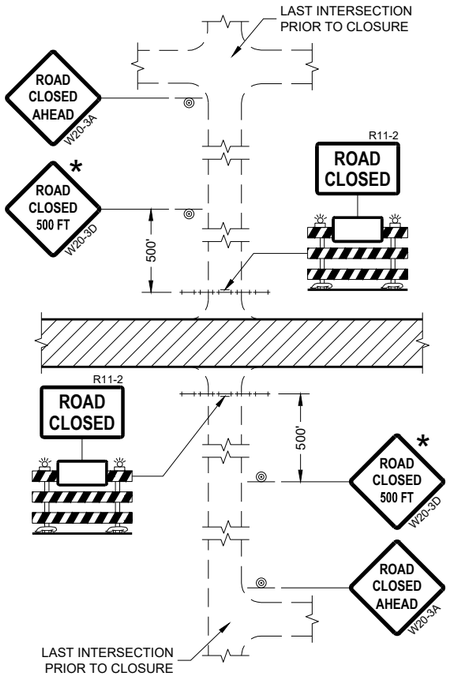
APPROVED
November 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

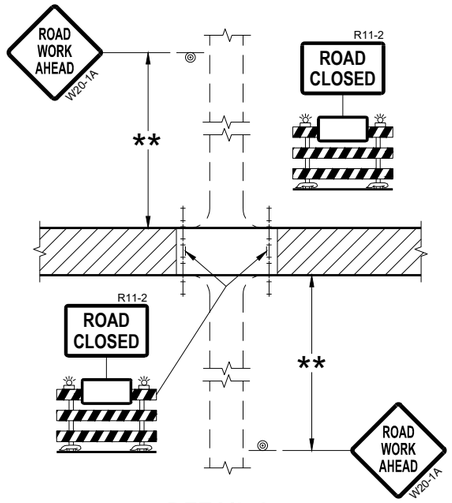
FHWA

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SDD 15C02 - 07f



DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)

GENERAL NOTES

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

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

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

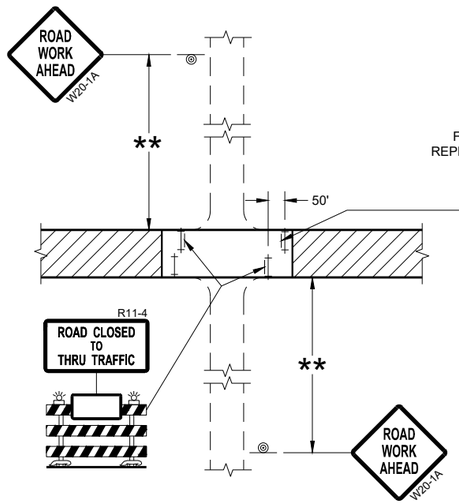
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

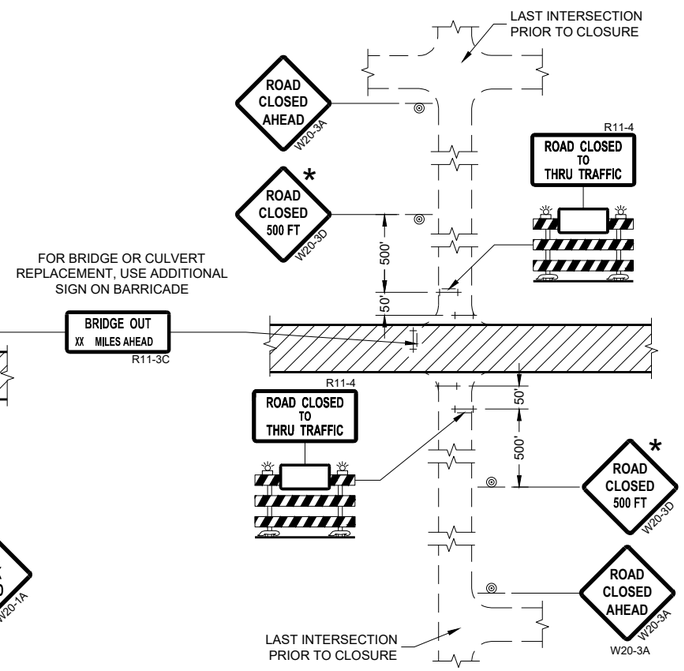
THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.





DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C03 - 05

SDD 15C03 - 05

GENERAL NOTES

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

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

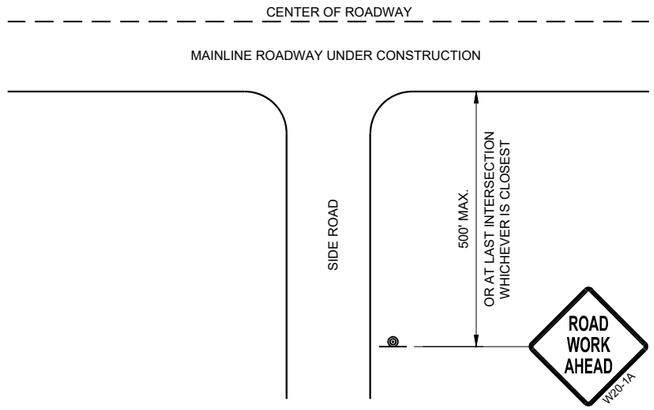
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

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

** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



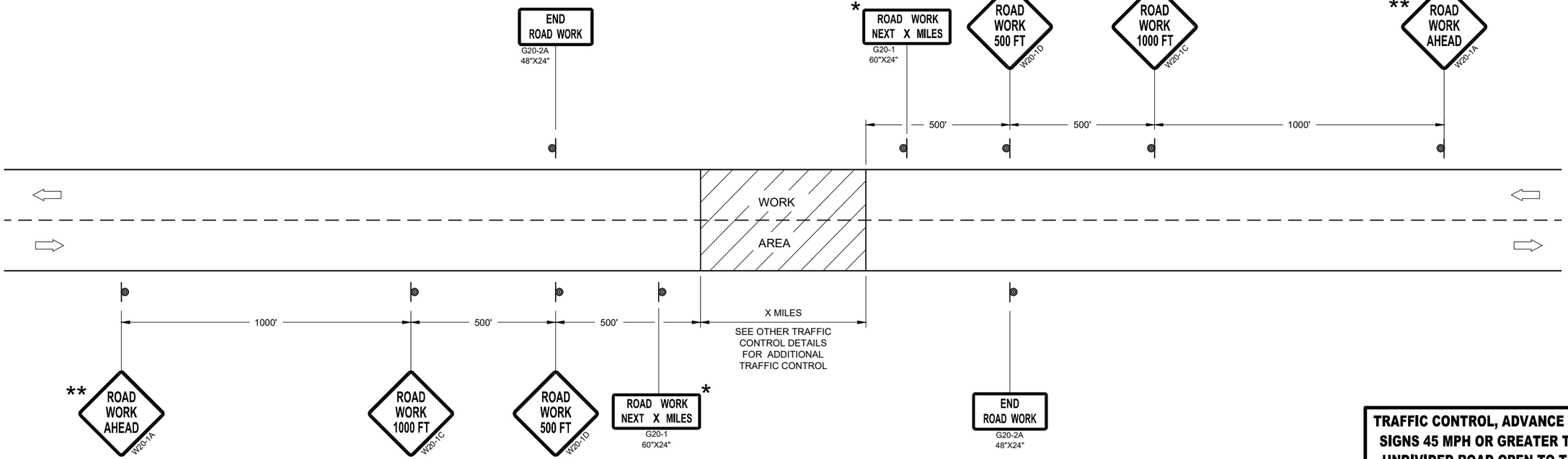
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C04 - 05

GENERAL NOTES

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

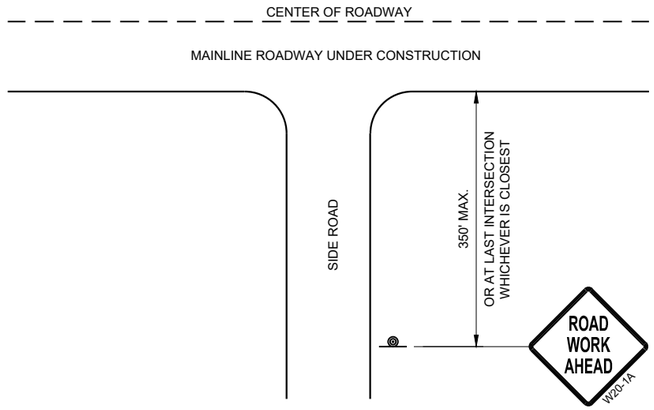
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



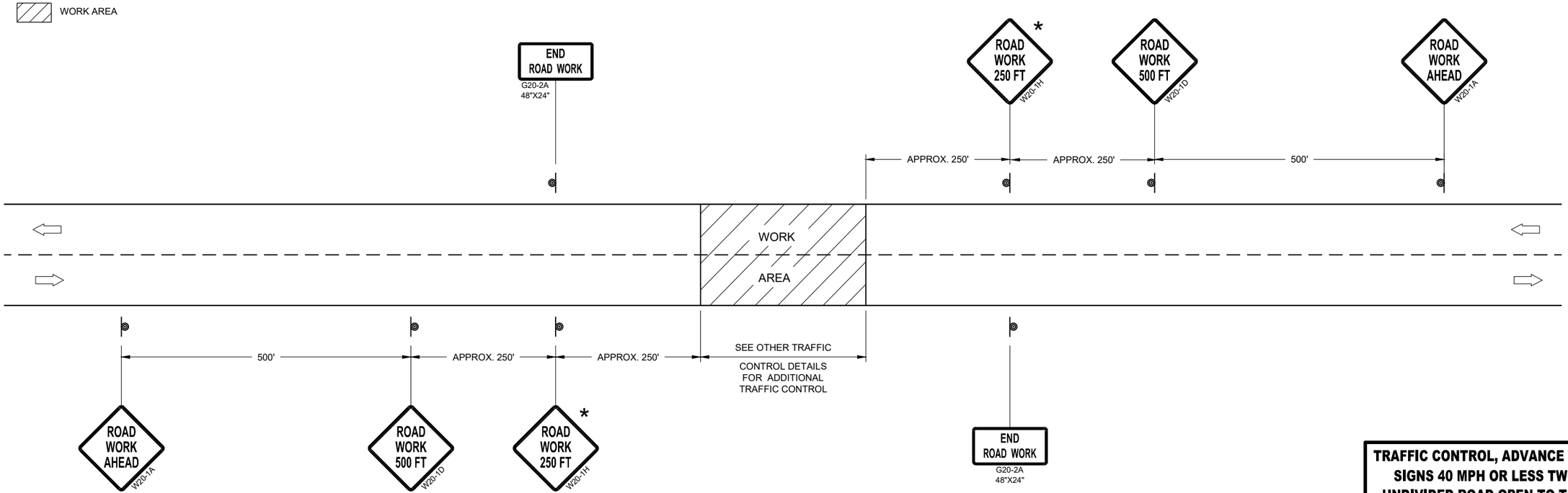
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

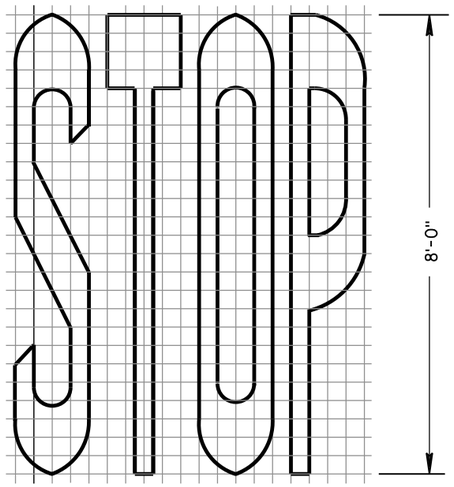
FHWA

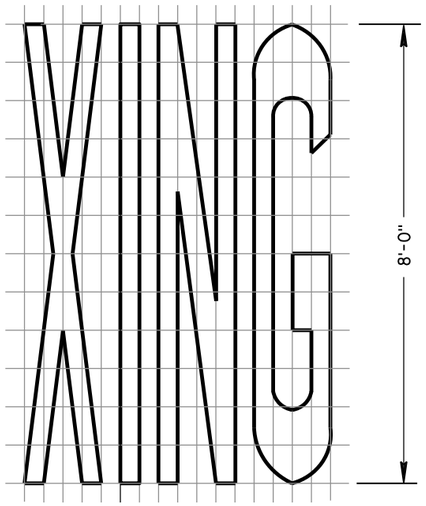
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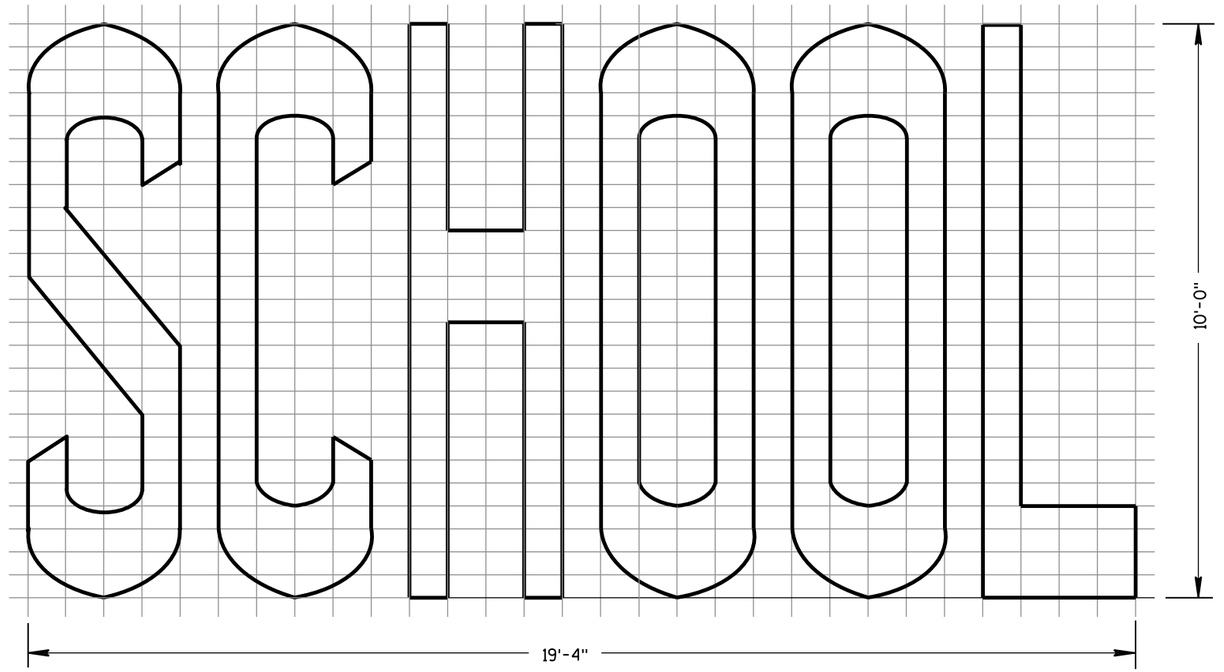
SDD 15C05 - 05

GENERAL NOTES

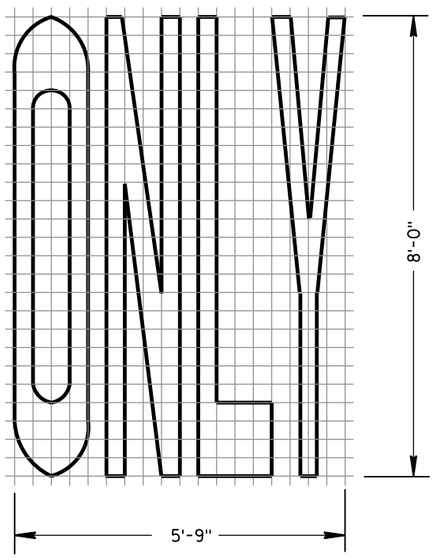
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

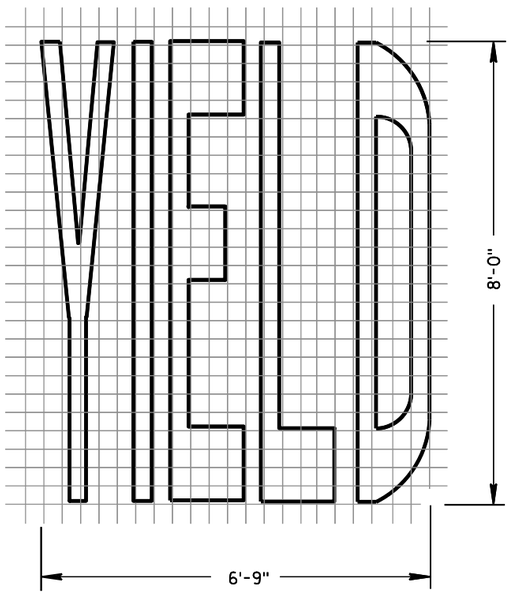


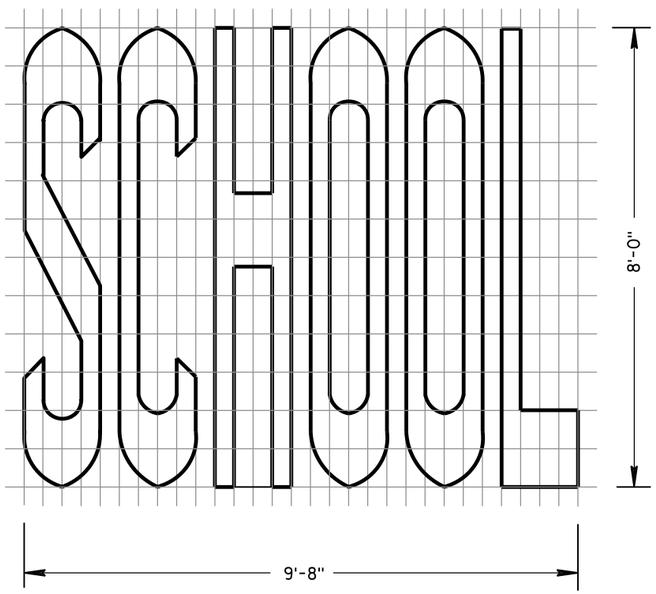




TWO-LANE







SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
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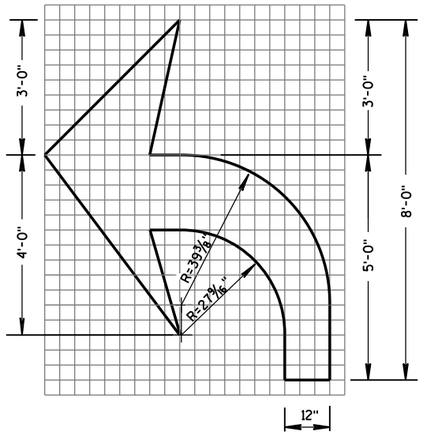
S.D.D. 15 C 7-14b

6

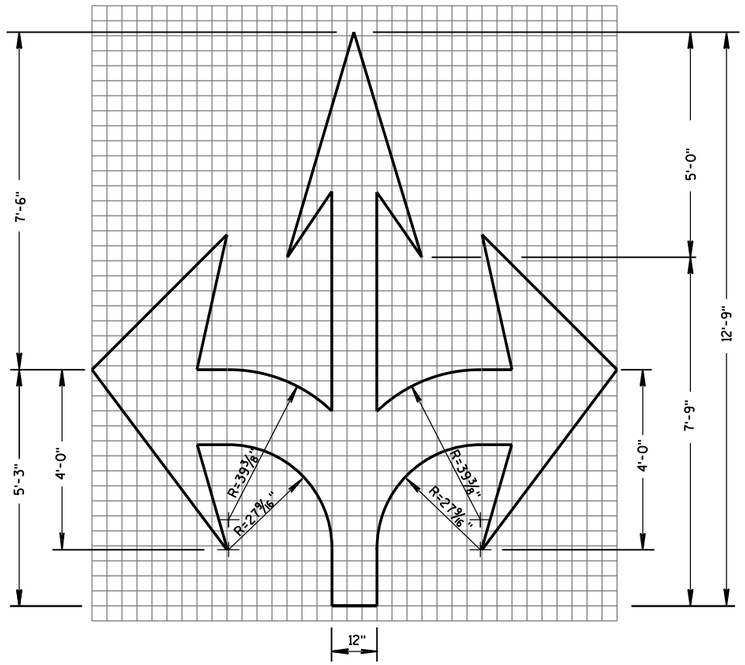
S.D.D. 15 C 7-14b

GENERAL NOTES

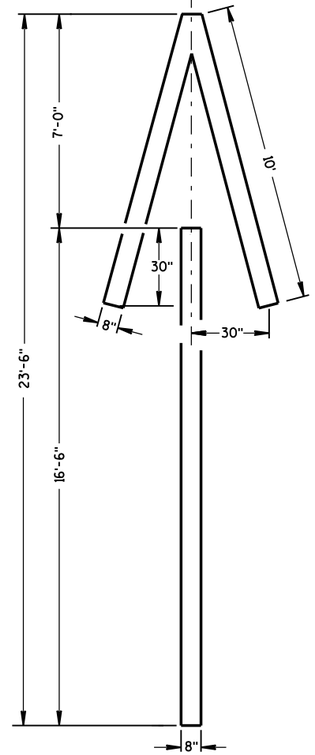
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



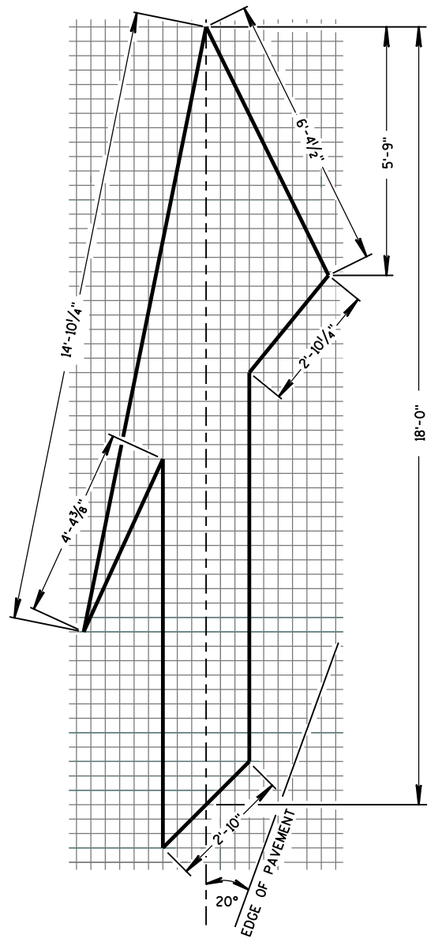
TYPE 2



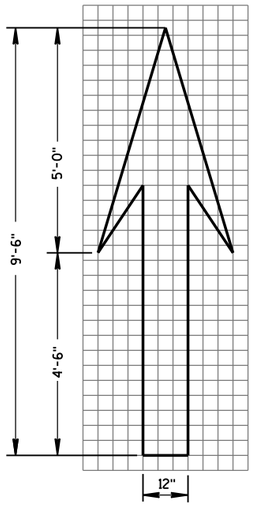
TYPE 6



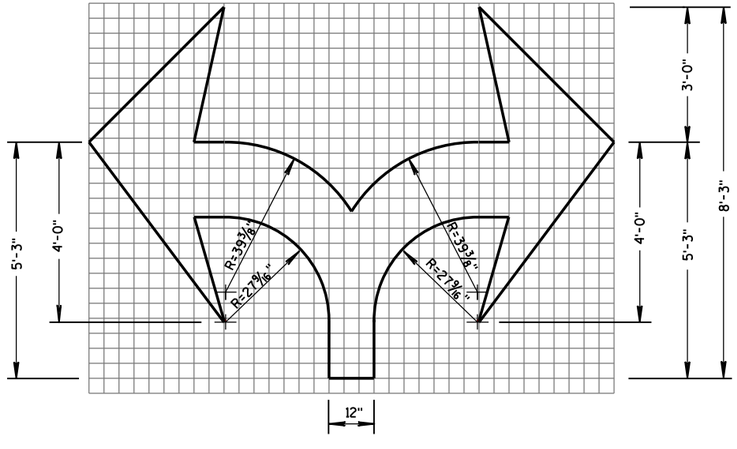
TYPE 4



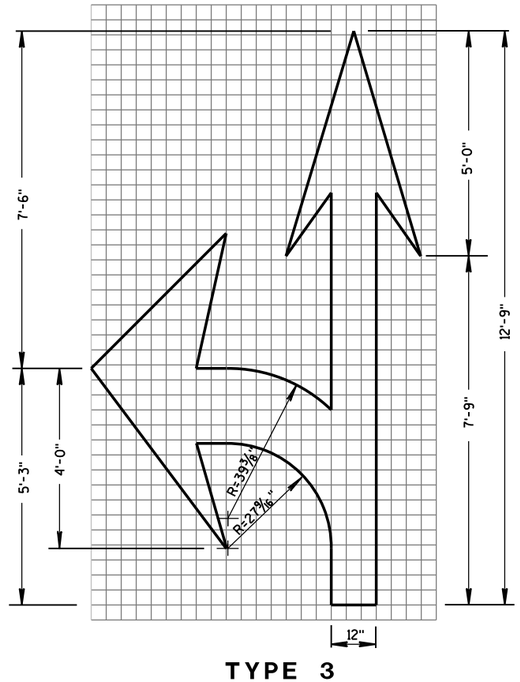
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
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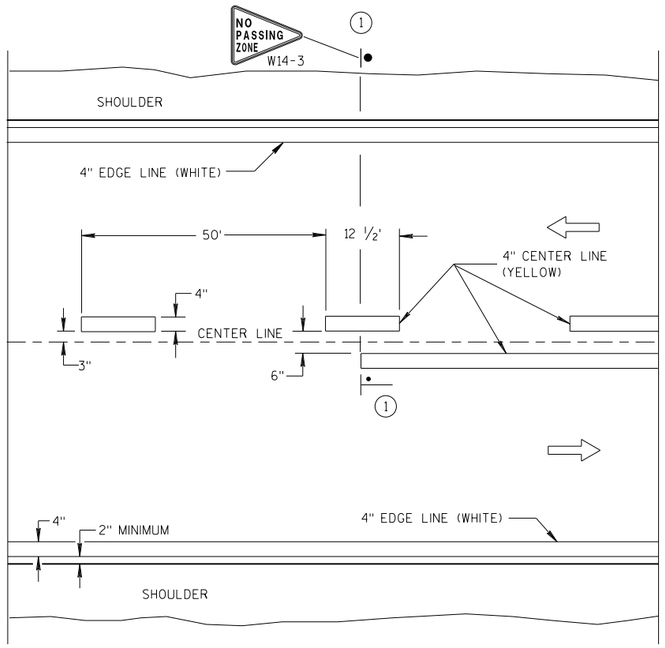
227

6

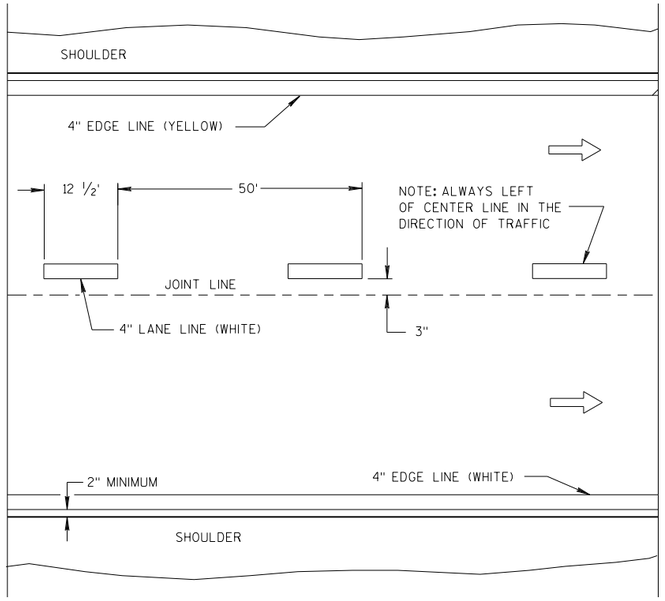
S.D.D. 15 C 7-14c

6

S.D.D. 15 C 7-14c



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

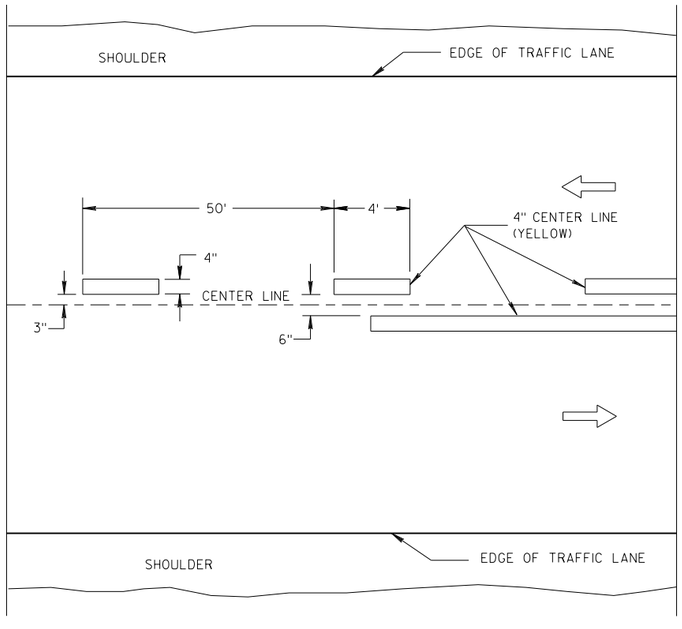
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

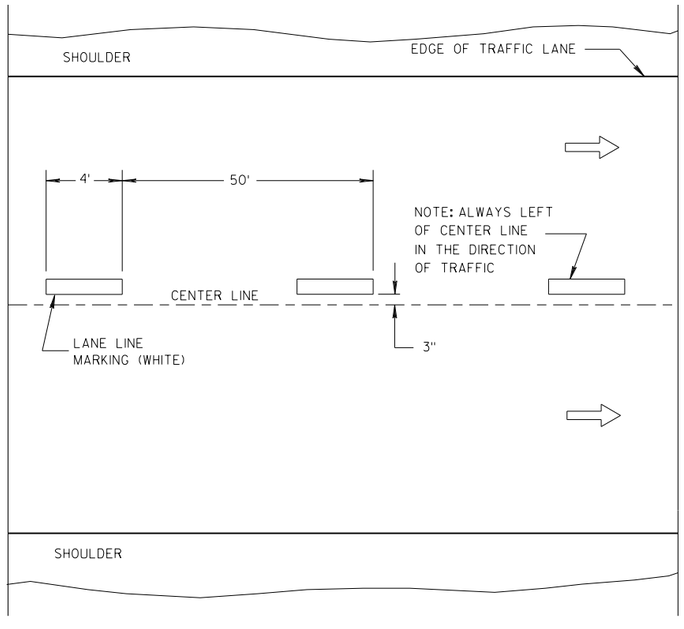
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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7/2018 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER

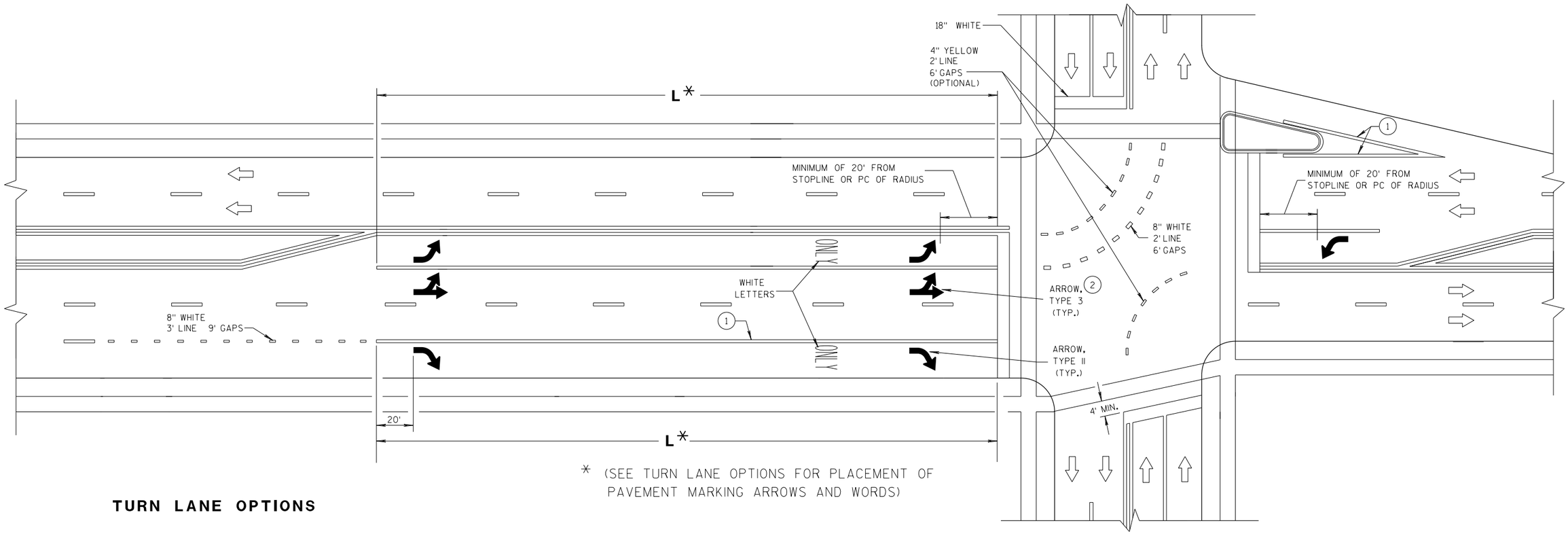
FHWA

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S.D.D. 15 C 8-19a

6

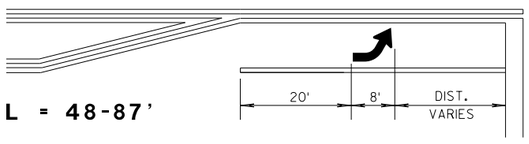
S.D.D. 15 C 8-19a



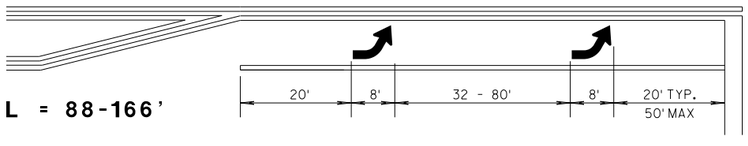
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

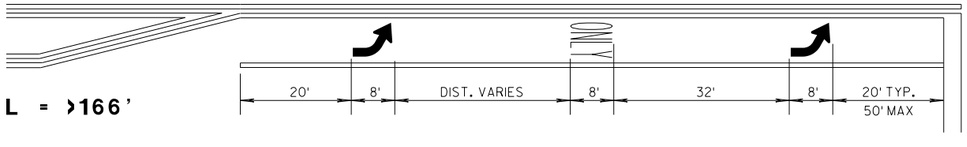
LENGTH OF TURN BAY (**L**) OF 0-47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48-87'



L = 88-166'



L = >166'

GENERAL NOTES

1. 8" WHITE
2. QUANTITY AND LOCATION OF TYPE 3 ARROW ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION, THE ARROWS AND ONLY MARKING ARE ELIMINATED.

⇨ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

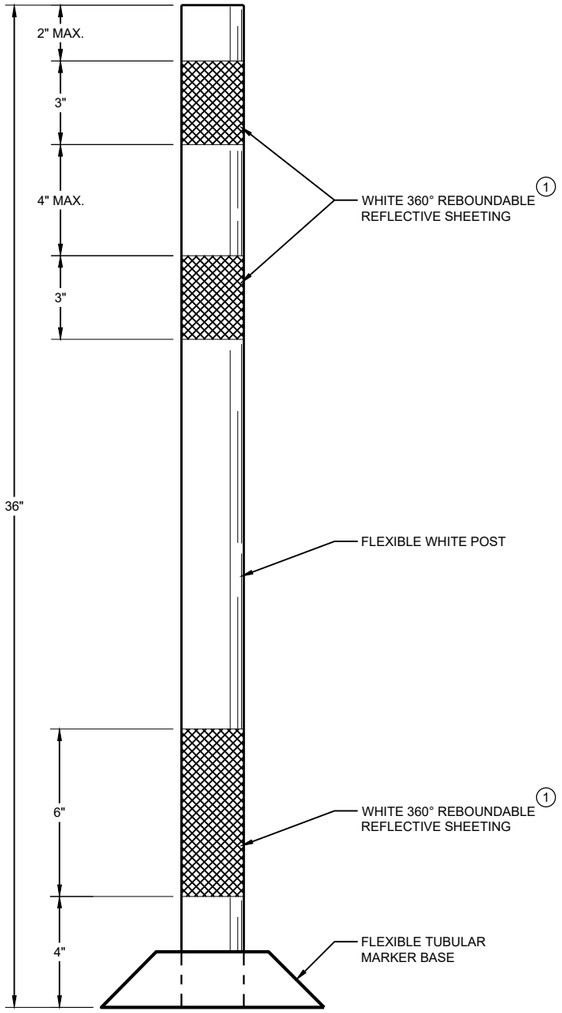
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORT

6

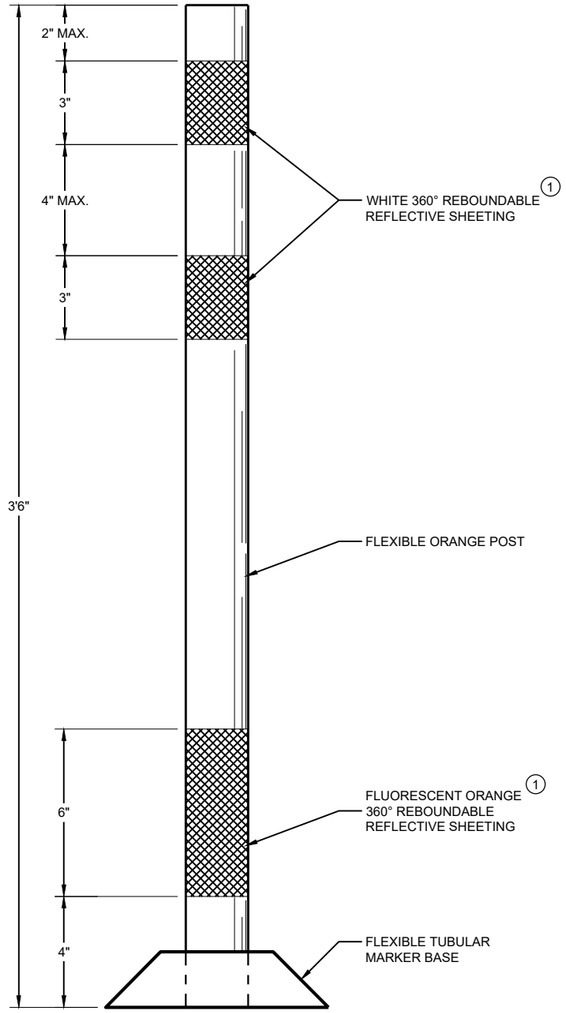
S.D.D. 15 C 8-19c

6

S.D.D. 15 C 8-19c



FLEXIBLE TUBULAR MARKER POST PERMANENT CROSSOVER



FLEXIBLE TUBULAR MARKER POST WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

6

SDD 15C11 - 07a

CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

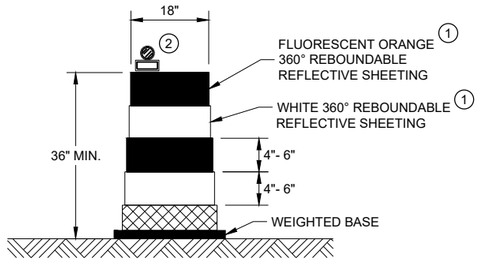
FHWA

6

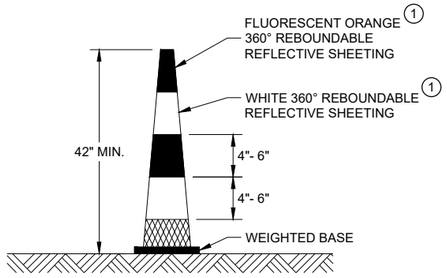
SDD 15C11 - 07a

GENERAL NOTES

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

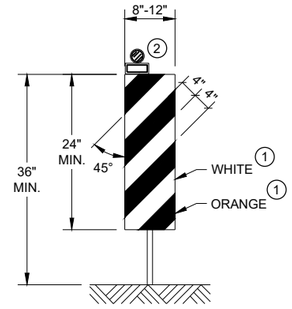


DRUM



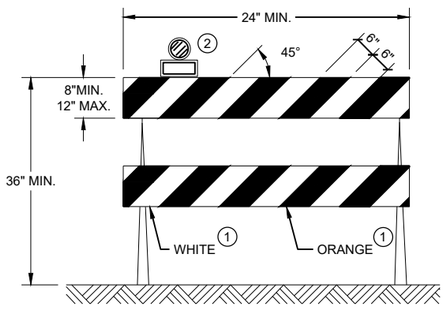
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



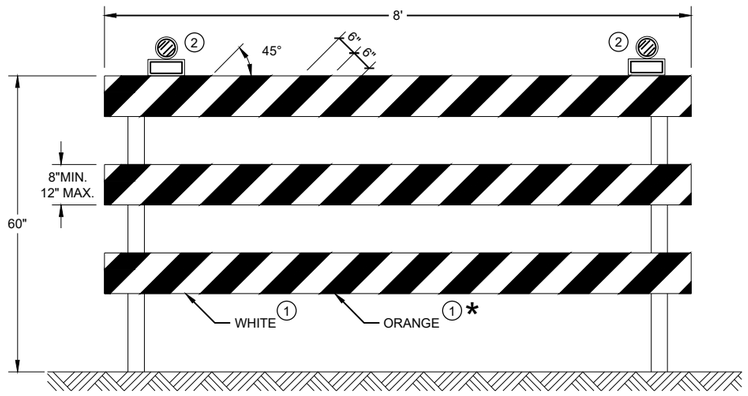
VERTICAL PANEL

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



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

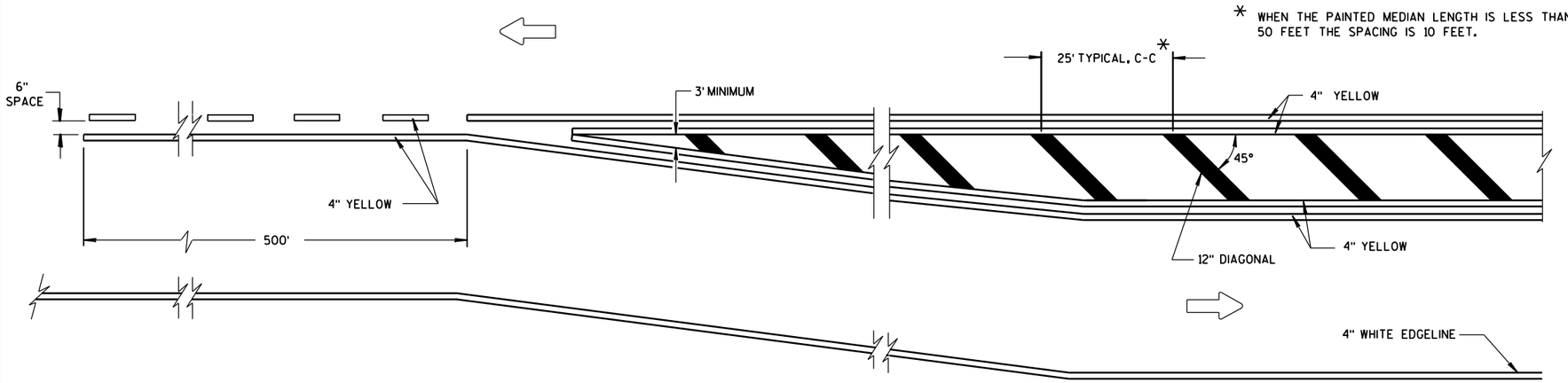
APPROVED
June 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

SDD 15C11 - 07b

6

SDD 15C11 - 07b

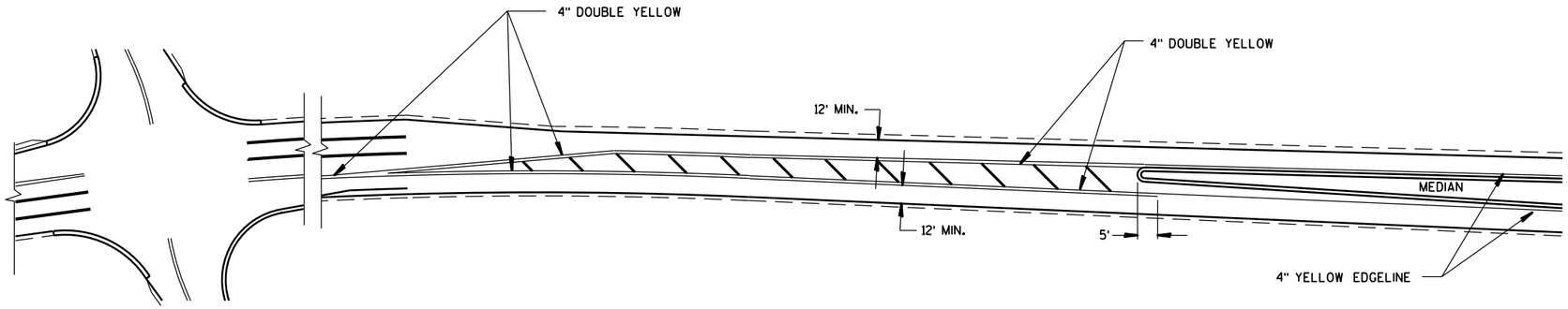


MEDIAN ISLAND DETAIL

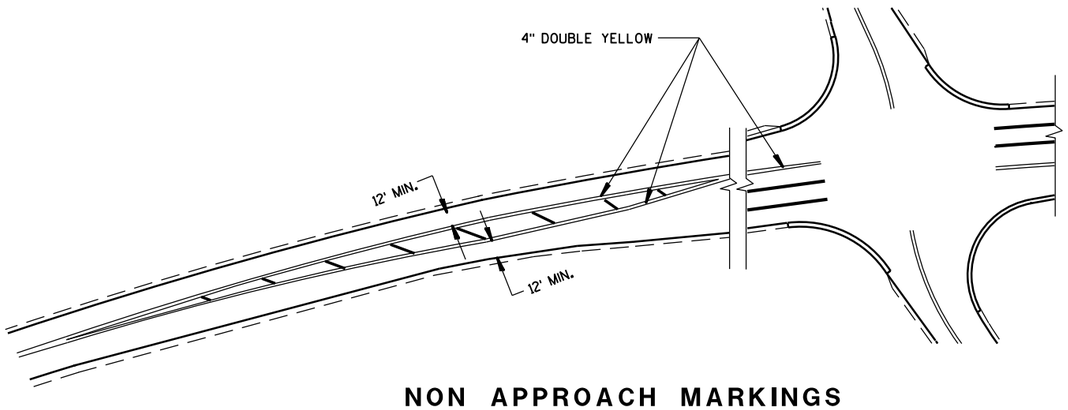
GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

DIRECTION OF TRAVEL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

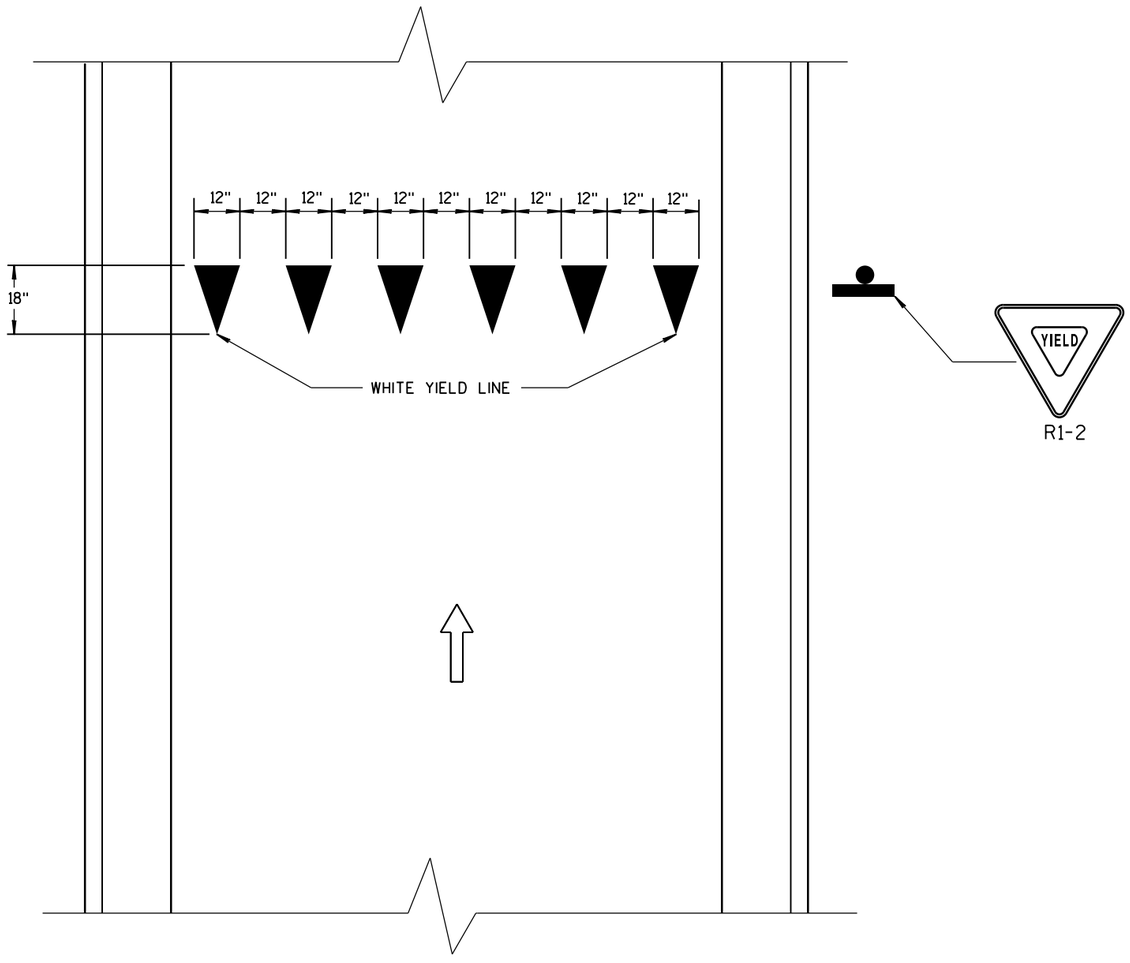
MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE FHWA	/S/ Matthew Rauch STATE SIGNING AND MARK EER

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S.D.D. 15 C 18-4

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S.D.D. 15 C 18-4



R1-2

DIRECTION OF TRAVEL

YIELD LINE

6

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S.D.D. 15 C 20-2

S.D.D. 15 C 20-2

YIELD MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

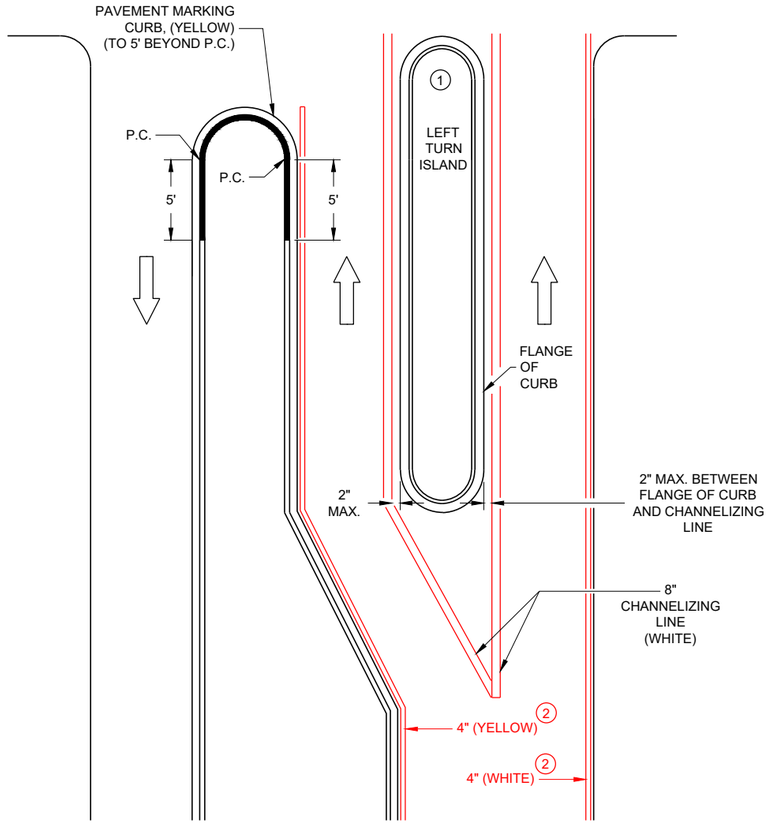
APPROVED

4-18-2016
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARI 233 IEER

FHWA

REQUIREMENTS FOR EDGE LINES		
POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED



LEFT TURN & MEDIAN ISLAND

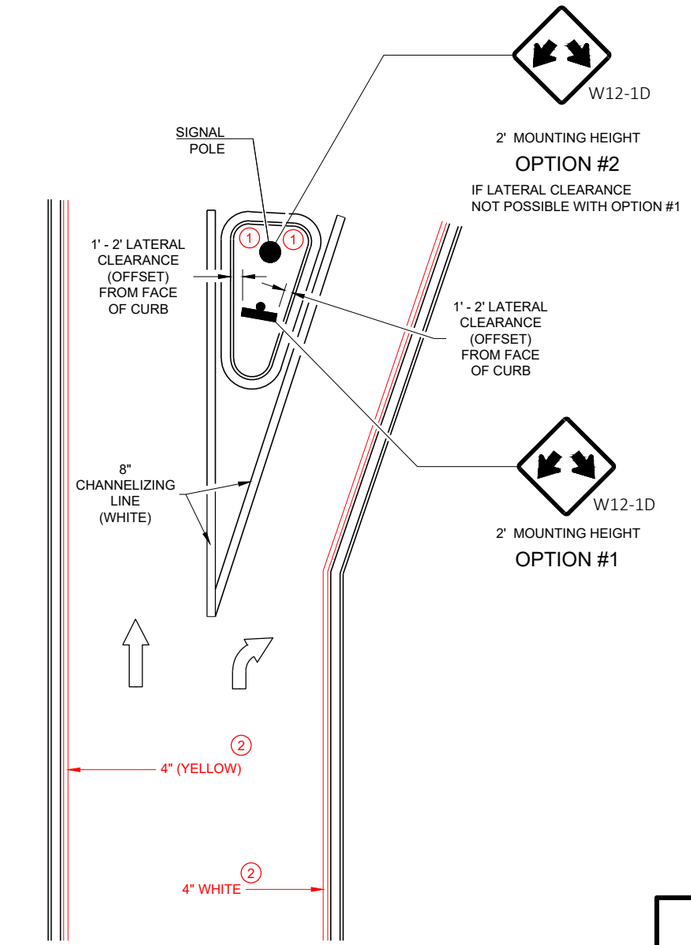
GENERAL NOTES

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

1. MARK CURB NOSES YELLOW.
2. MARK ACCORDING TO TABLE.

DIRECTION OF TRAVEL



RIGHT TURN ISLAND

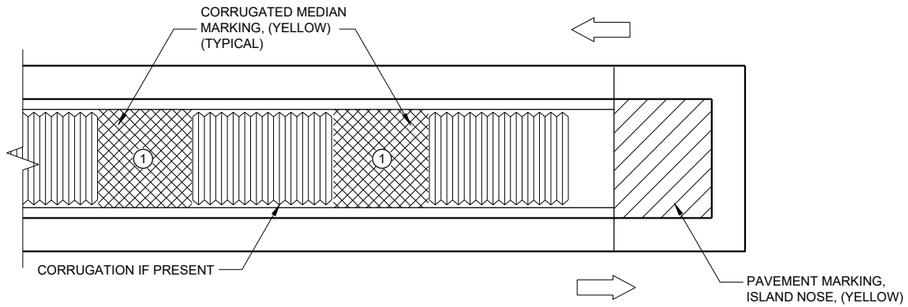
DOUBLE ARROW
WARNING SIGN PLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

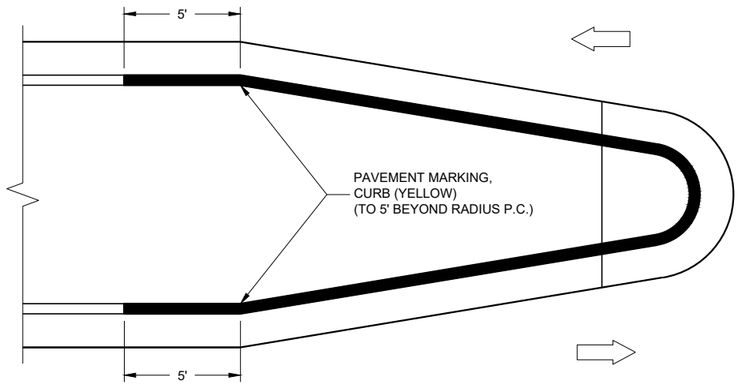
APPROVED
7/2018
DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAF ENGINEER
FHWA

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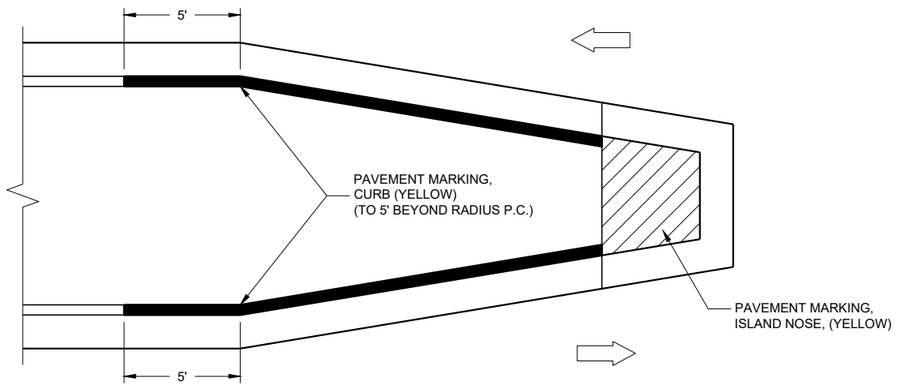
SDD 15C27 - 03a



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF
PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

PAVEMENT MARKINGS
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAF ENGINEER

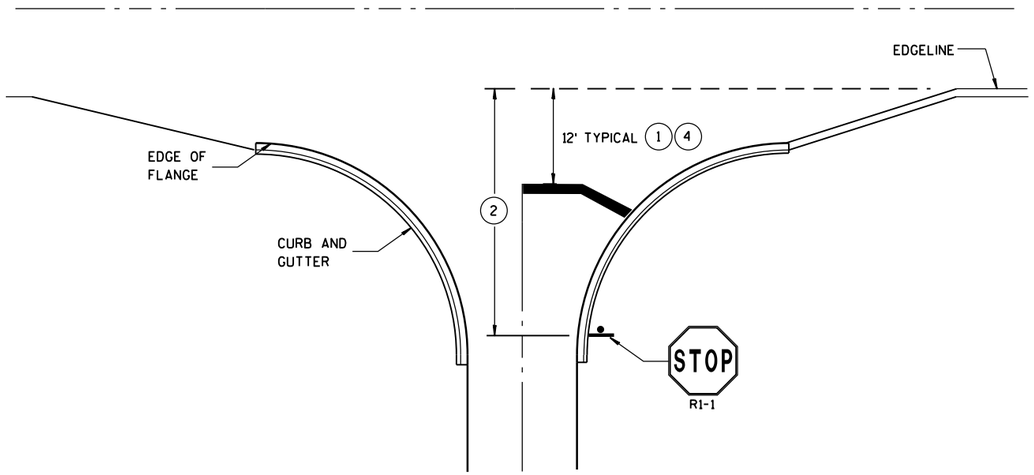
FHWA

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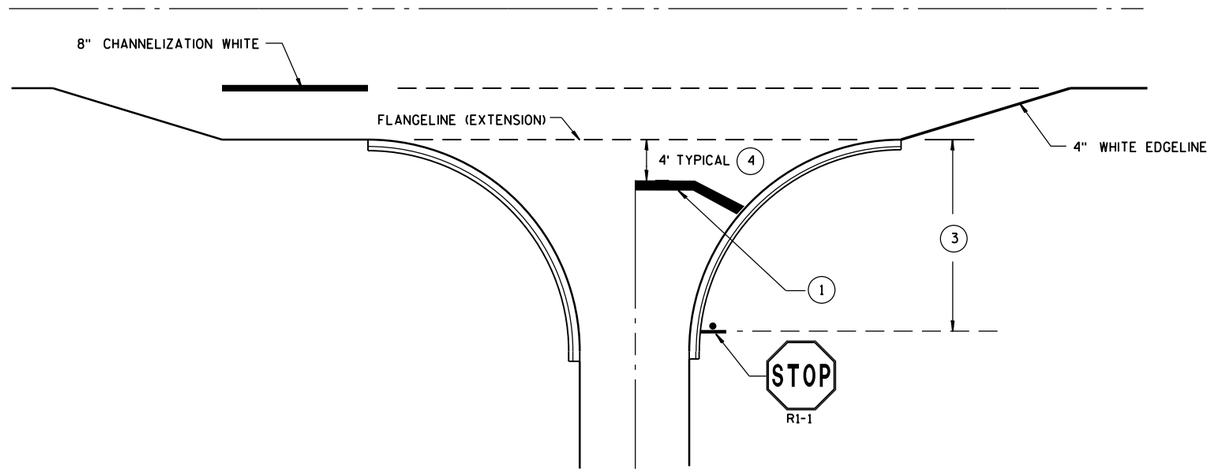
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SDD 15C27 - 03b

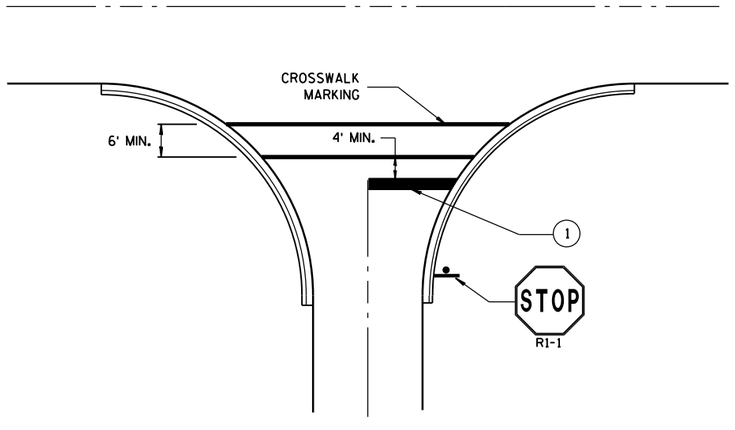
SDD15C27 - 03b



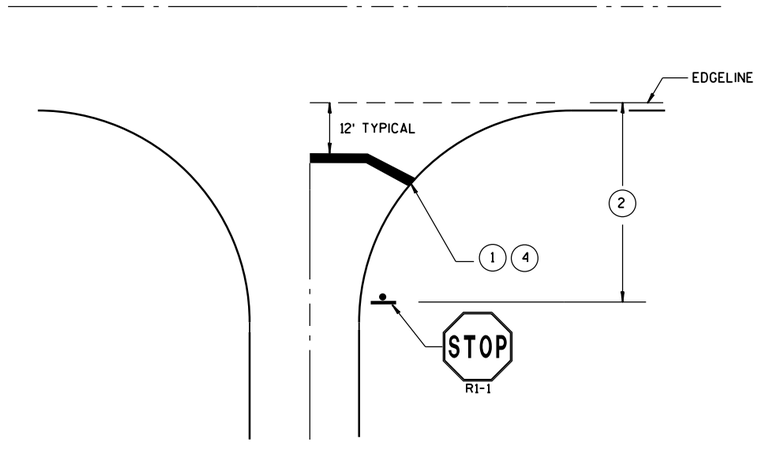
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

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 PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.

(2) IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.

(3) IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.

(4) MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2017 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MAR ENGINEER

FHWA

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S.D.D. 15 C 33-3

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

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

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

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

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

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

ANY SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

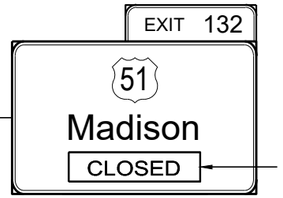
* W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



G20 - 60
108" X 24"

OR



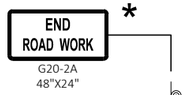
G20 - 60
108" X 24"

PLACE SIGN G20 - 60 OVER MILEAGE ON EXISTING E1 - 1A SIGN



COVER ARROW ON EXISTING E4 - 1 SIGN (COVERING SIGNS TYPE I)

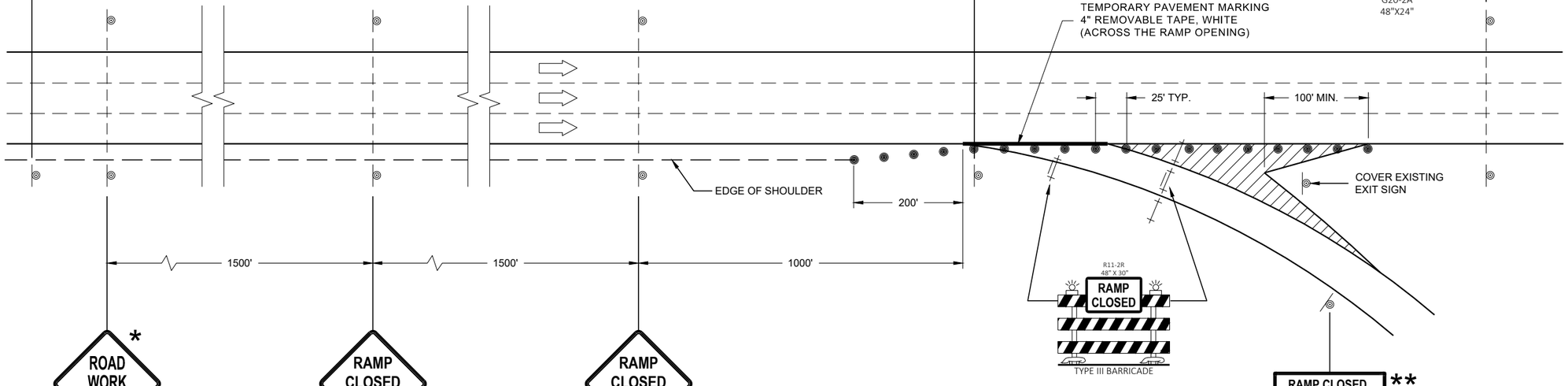
G20 - 61
120 ' X 30"



*

G20-2A
48"X24"

TEMPORARY PAVEMENT MARKING
4" REMOVABLE TAPE, WHITE
(ACROSS THE RAMP OPENING)



*

**

RAMP CLOSED BEGINNING XXX - XX

G20 - 58

OR

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

TRAFFIC CONTROL EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

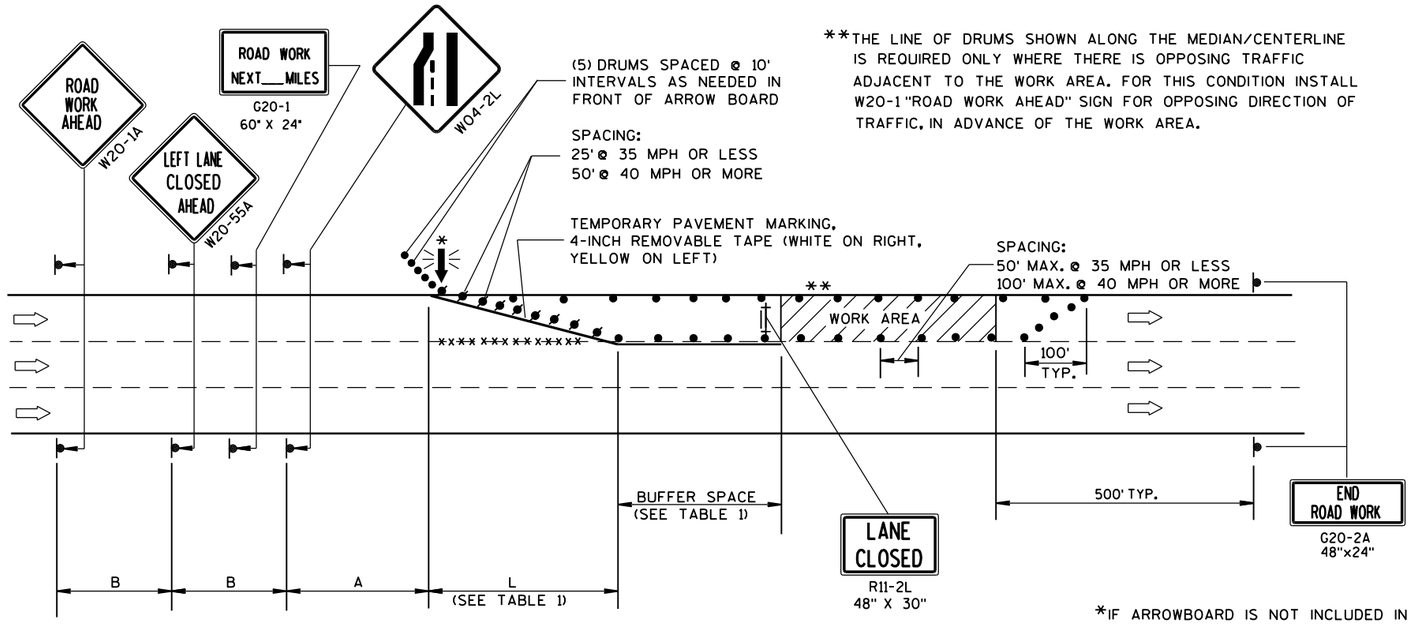
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D16 - 04

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SDD 15D16 - 04



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

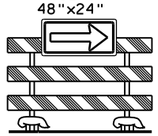


TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

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.

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

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

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

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

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.

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

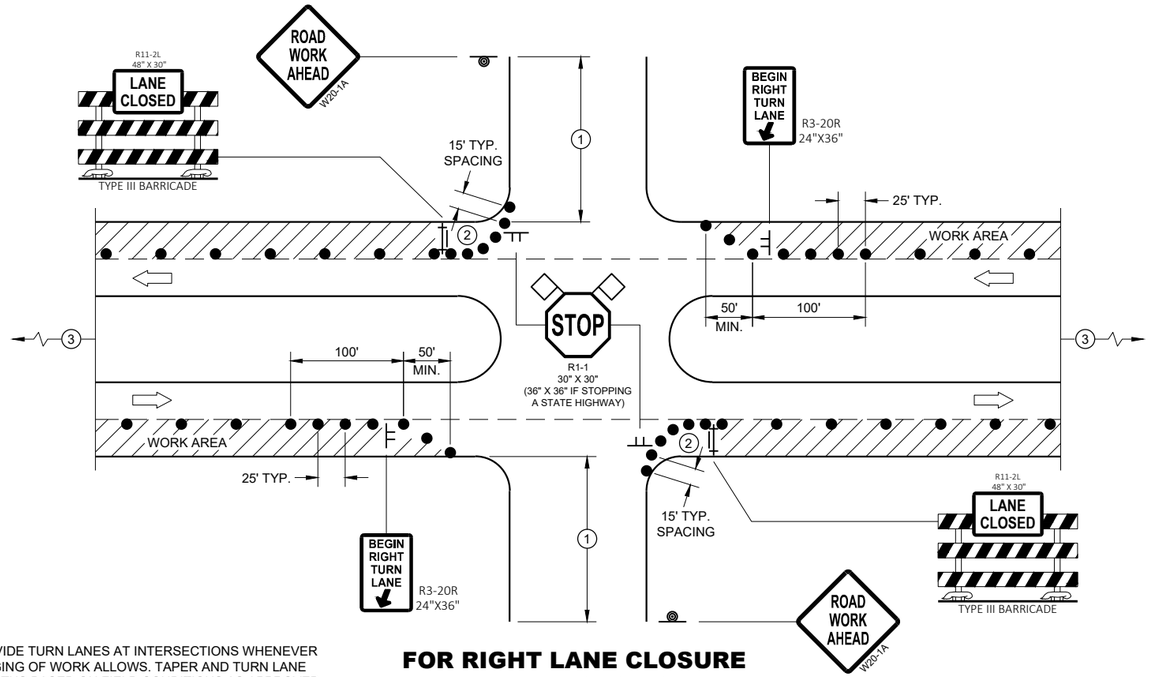
TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

6

S.D.D. 15 D 20-4



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

FOR RIGHT LANE CLOSURE AT INTERSECTION

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.

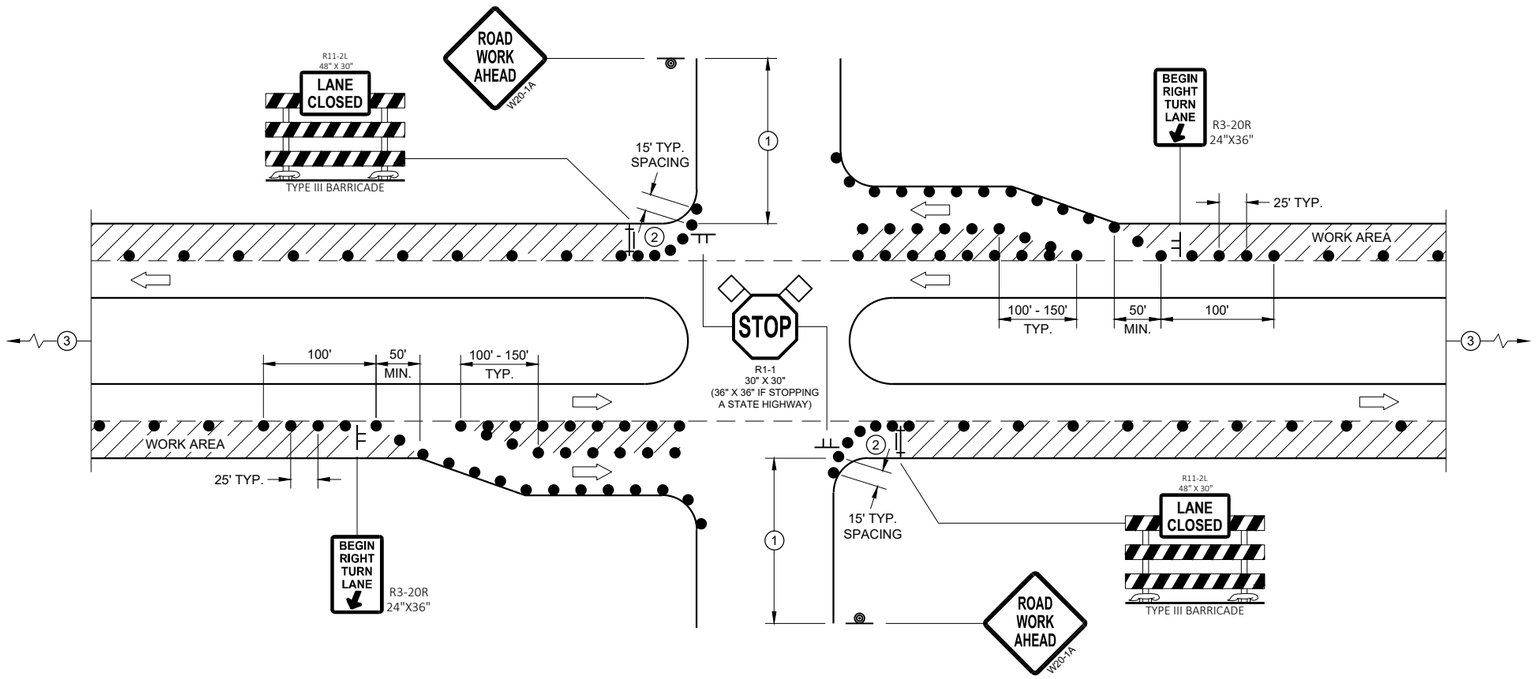
(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

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



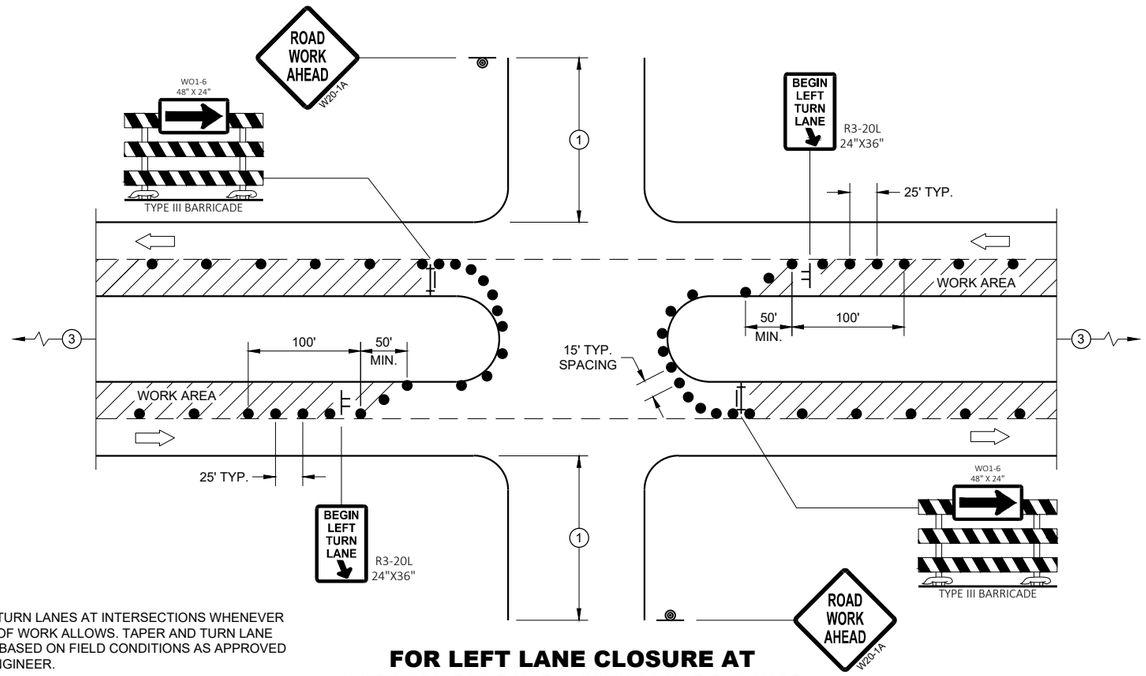
FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 15D21 - 06a

SDD 15D21 - 06a



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.

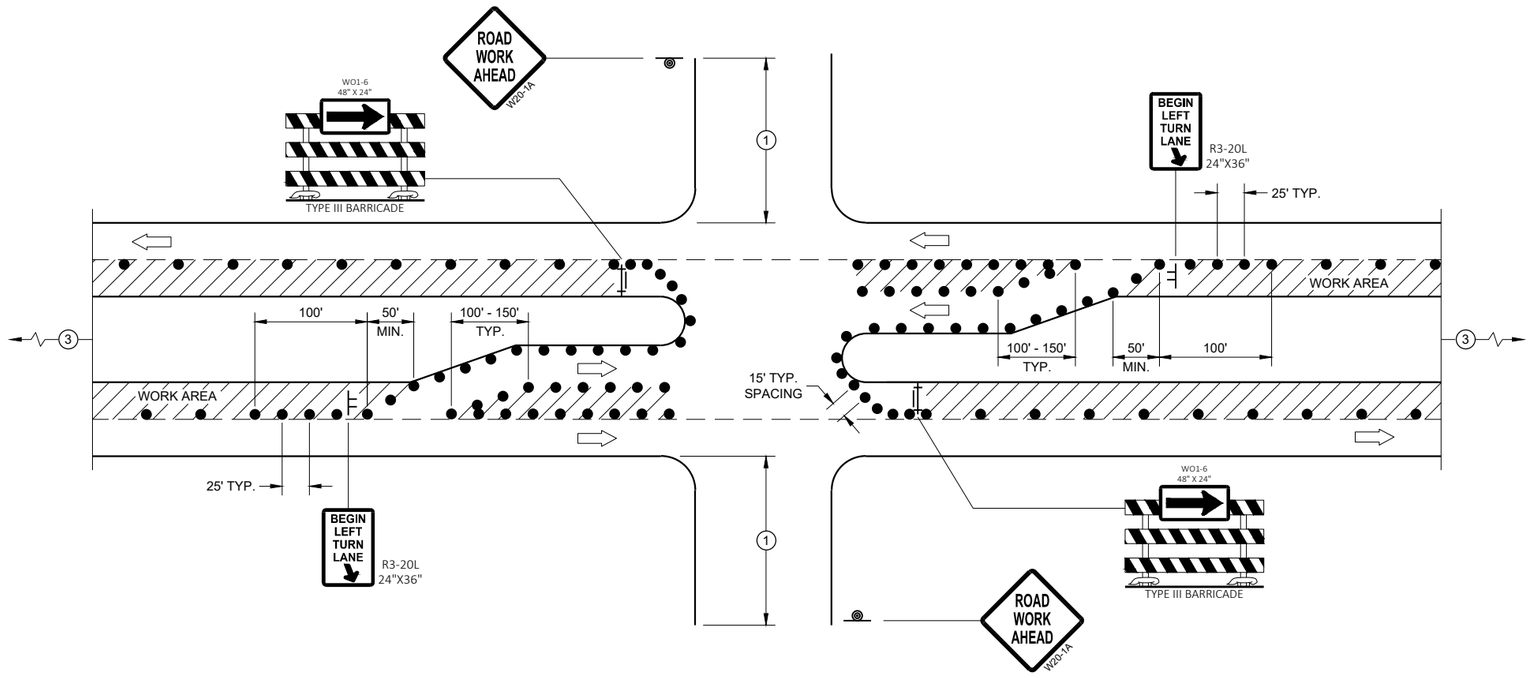
(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

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



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

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

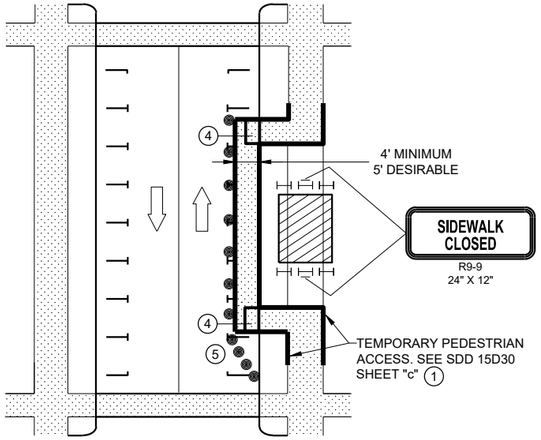
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D21 - 06b

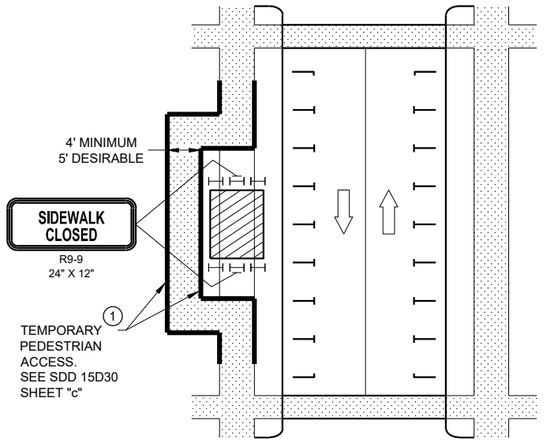
SDD 15D21 - 06b

NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

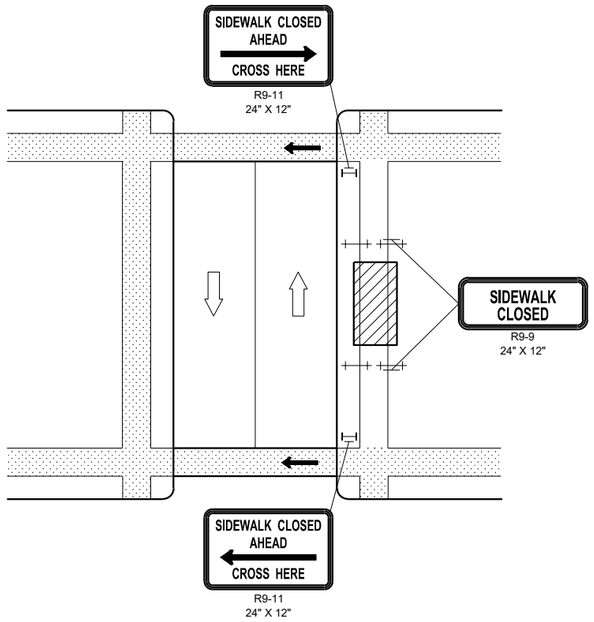


MID-BLOCK SIDEWALK SIDEWALK CLOSURE IN PARKING LANE

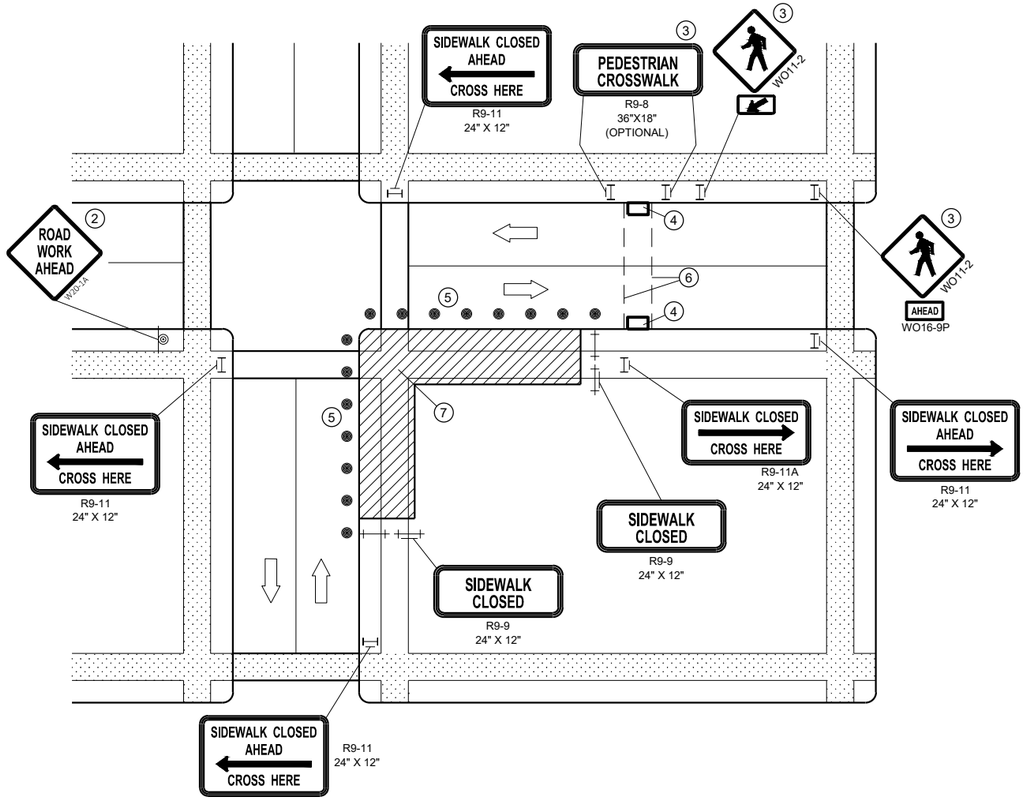
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

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

FOR NIGHTIME CLOSURE, USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

ALTERNATE SIDEWALK WORK BETWEEK LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

(1) IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE

(2) "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

(3) IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND WO11-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.

(4) TEMPORARY CURB RAMPS. SEE SDD 15D30 SHEET "b'.

(5) DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.

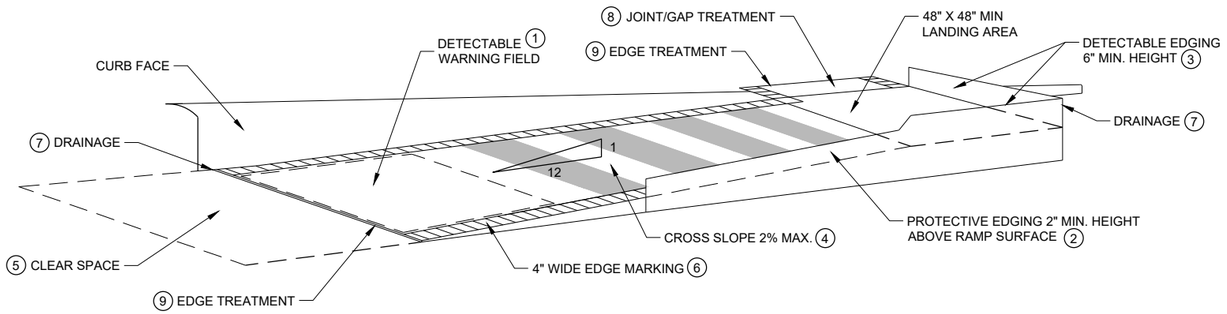
(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(7) LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

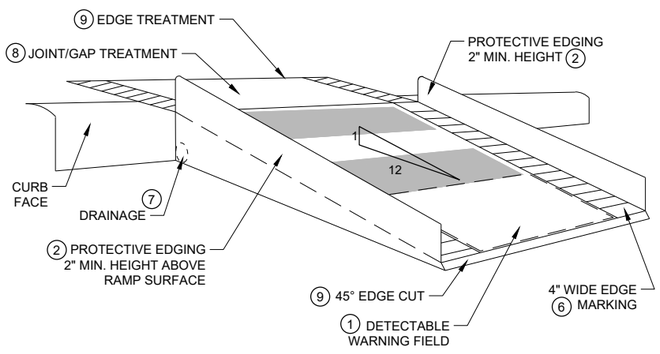
LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- DIRECTION OF TRAFFIC

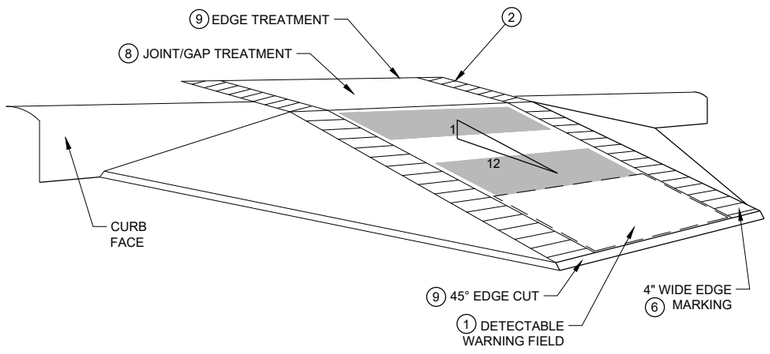
TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION



TEMPORARY CURB RAMP PARALLEL TO CURB



WITH PROTECTIVE EDGE



WITH SIDE APRON

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

LEGEND

TRAFFIC CONTROL DRUM

TYPE III BARRICADE

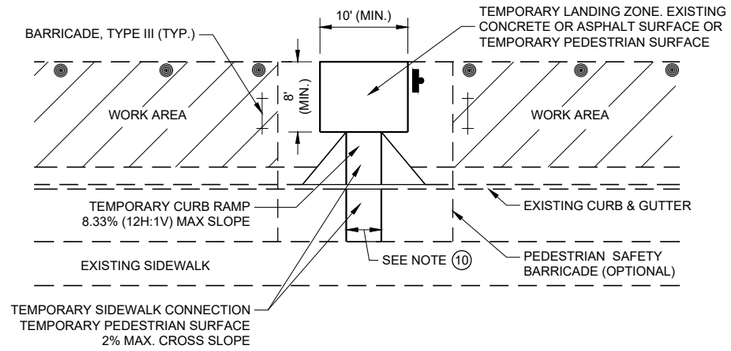
WORK AREA

GENERAL NOTES

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

1. CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 08D05, SHEET "e".
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. CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.
5. CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.
7. DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES SHALL BE VERTICAL UP TO ¼" HIGH AND BEVELED AT 1:2 BETWEEN ¼" AND ½".
10. 5" WIDE MIN. WITH PEDESTRIAN SAFETY BARRICADE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY BARRICADE.



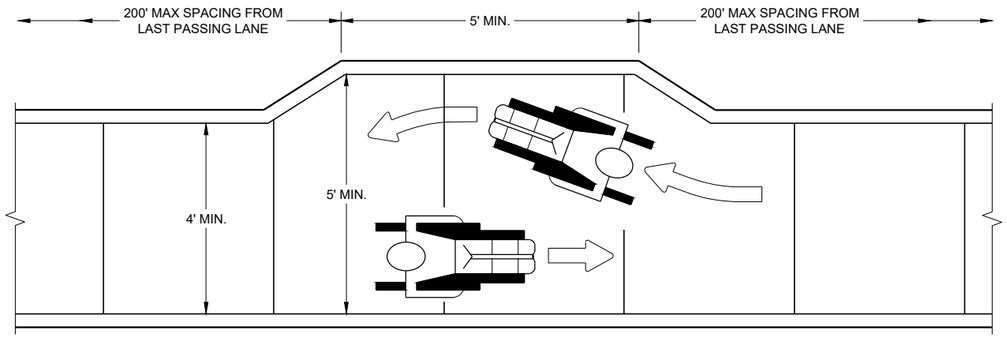
TEMPORARY BUS STOP PAD

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

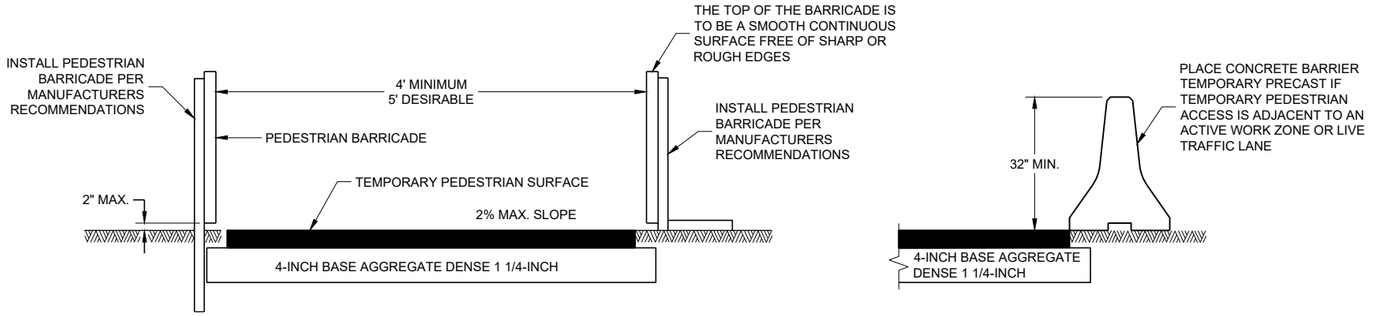
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 15D30 - 05b

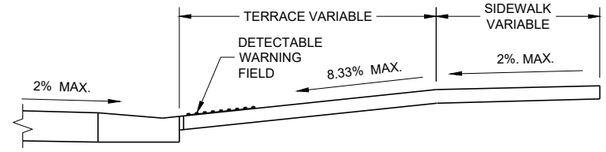
SDD 15D30 - 05b



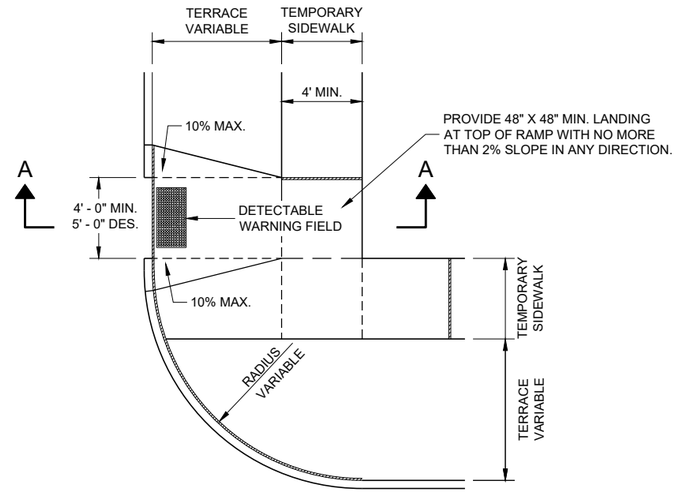
NARROW SIDEWALK PASSING DETAIL



TEMPORARY PEDESTRIAN ACCESS



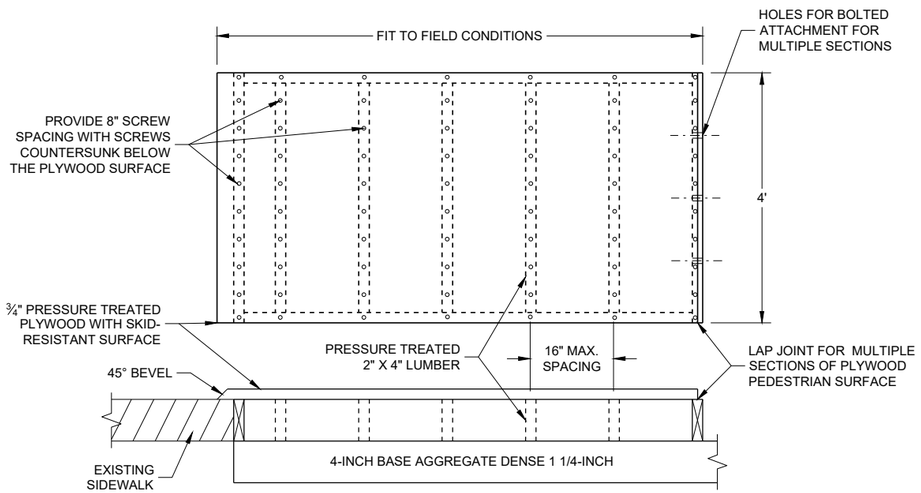
SECTION A - A



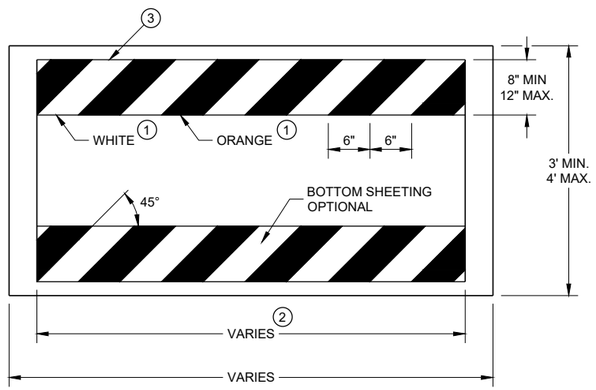
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



TEMPORARY PEDESTRIAN BARRICADE *

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.

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

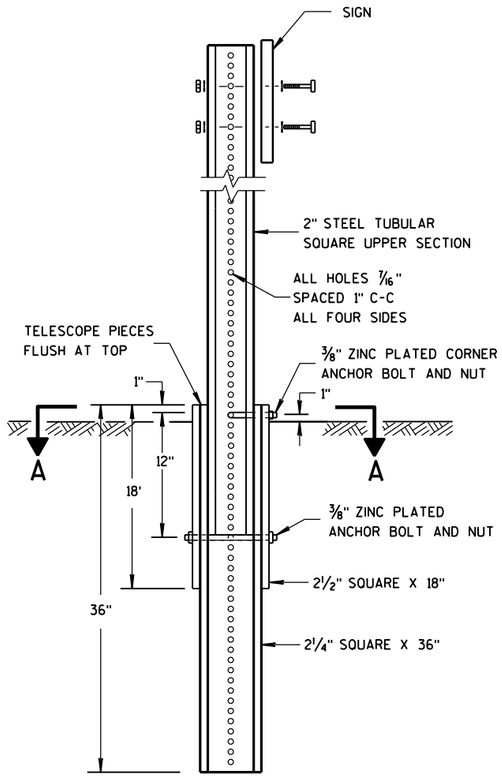
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

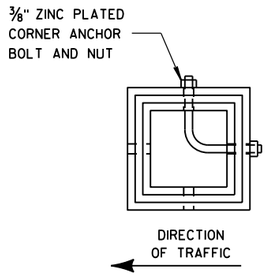
SDD 15D30 - 05c

6

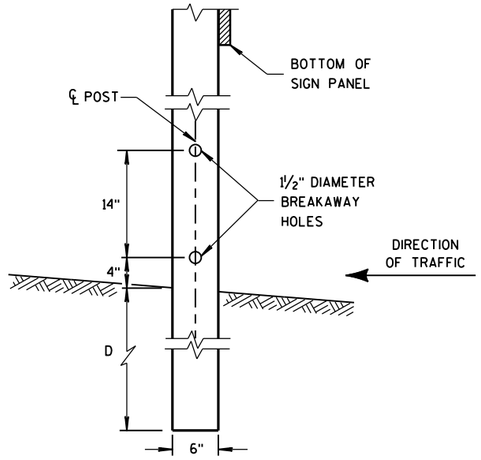
SDD 15D30 - 05c



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



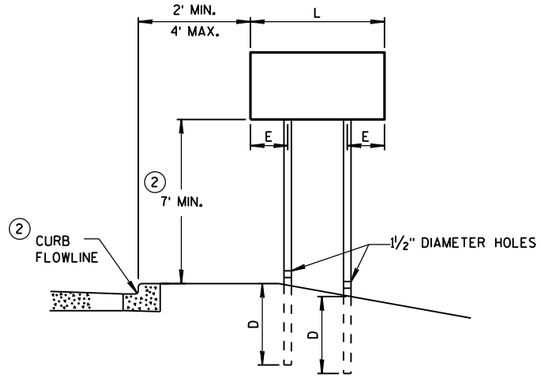
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

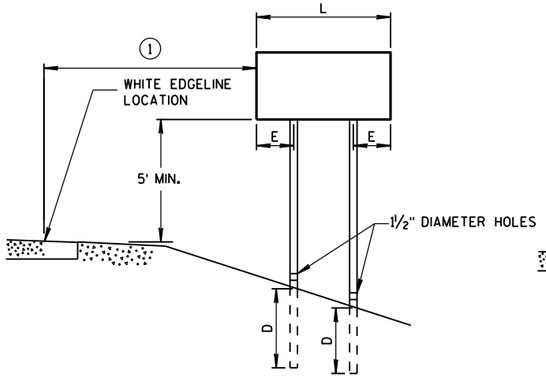
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

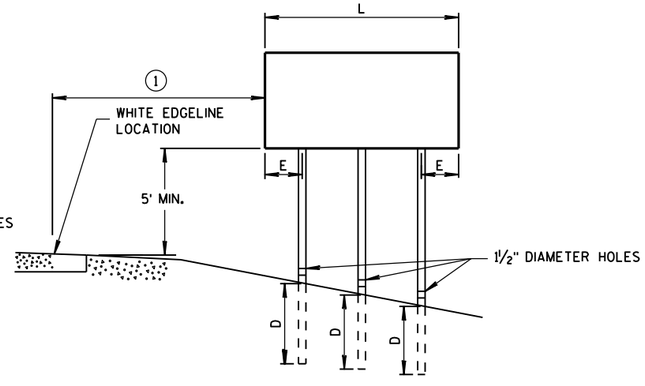
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

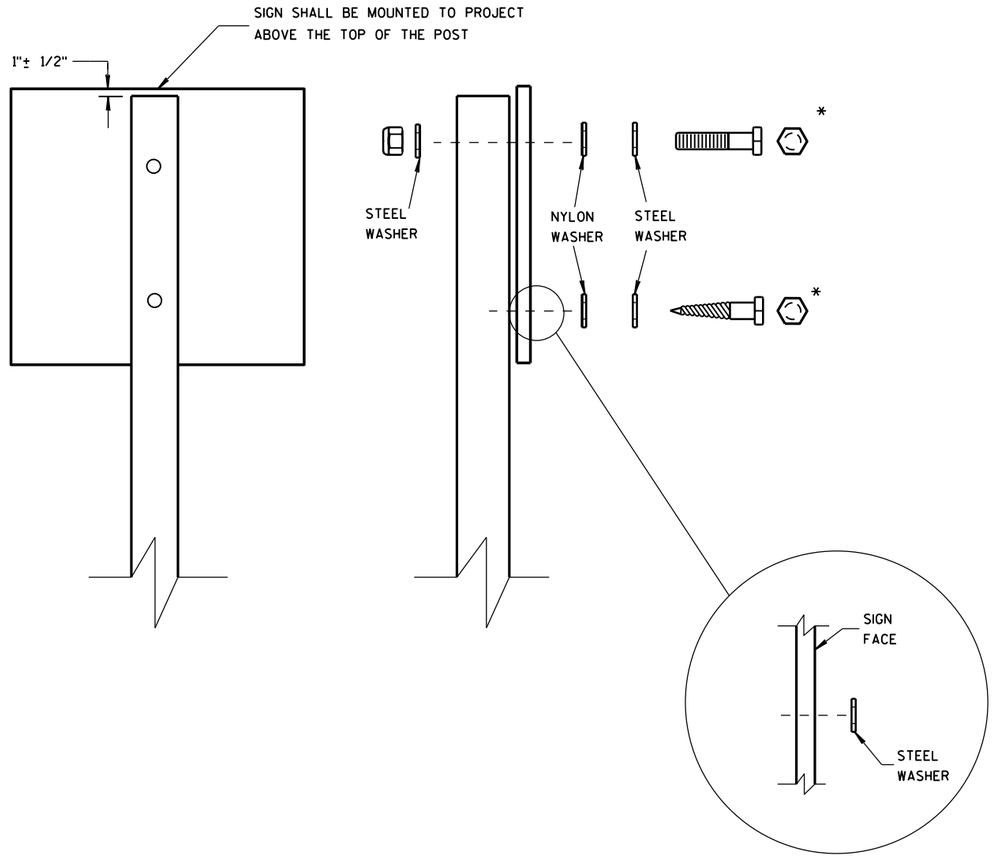
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

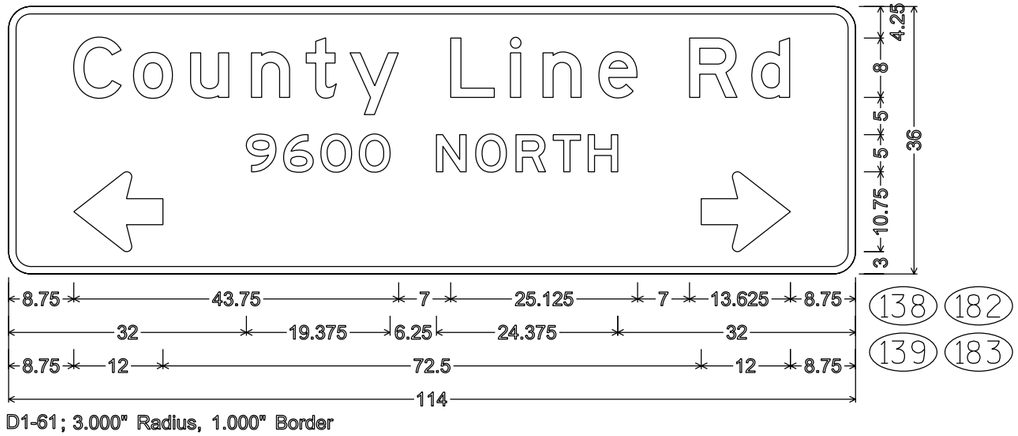
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

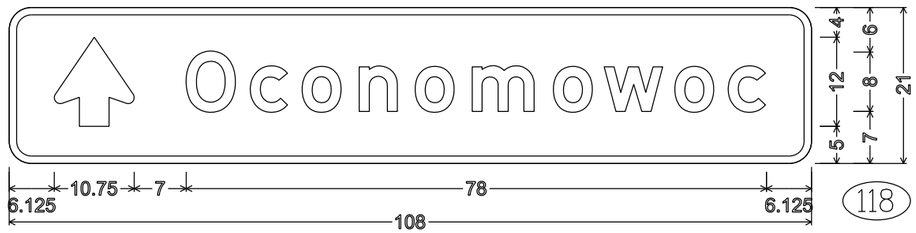
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

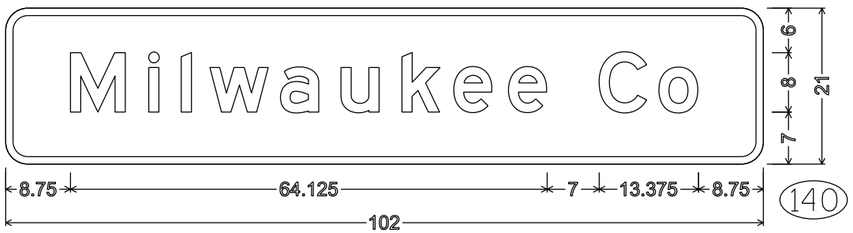
FHWA



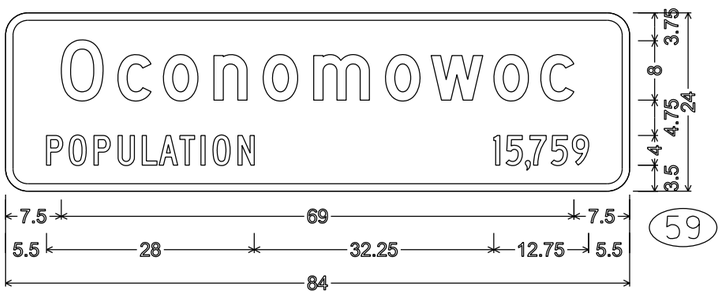
D1-61; 3.000" Radius, 1.000" Border



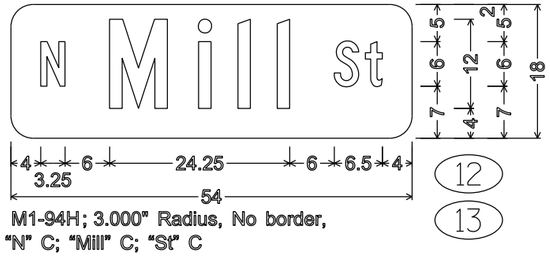
D1-1; 3.000" Radius, 1.000" Border



I2-2 ; 3.000" Radius, 1.000" Border



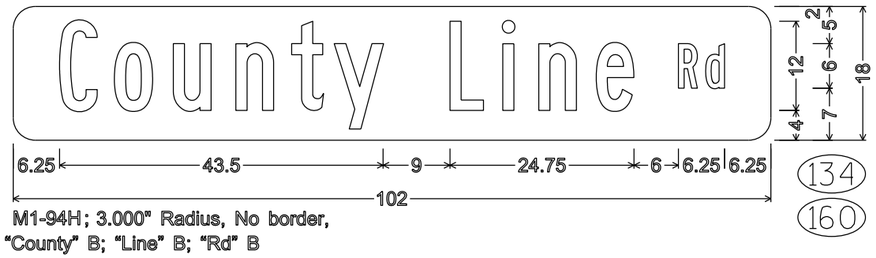
I2-3; 3.000" Radius, 1.000" Border,
"Oconomowoc" D; "POPULATION" C; "15,759" C



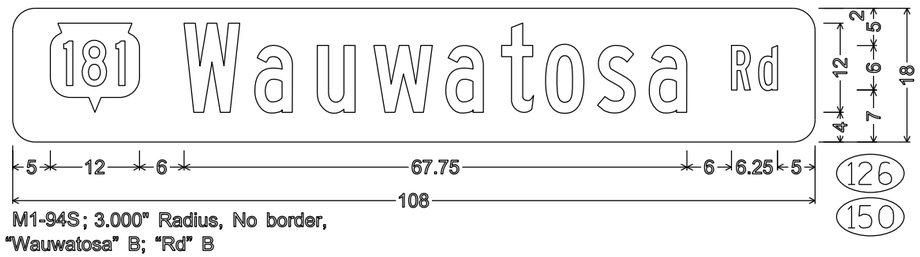
M1-94H; 3.000" Radius, No border,
"N" C; "Mill" C; "St" C

NOTES

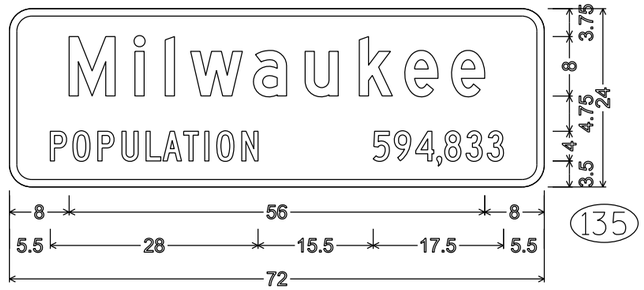
1. All Signs Type II - Type H Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E except as noted



M1-94H; 3.000" Radius, No border,
"County" B; "Line" B; "Rd" B



M1-94S; 3.000" Radius, No border,
"Wauwatosa" B; "Rd" B



I2-3; 3.000" Radius, 1.000" Border,
"Milwaukee" D; "POPULATION" C; "594,833" C

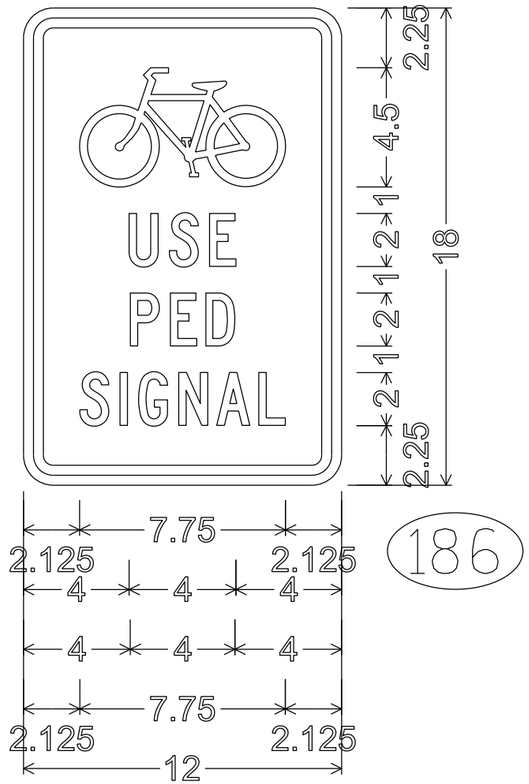
7

7

PROJECT NO: 3700-20-80	HWY: VARIOUS	COUNTY: VARIOUS	PERMANENT SIGNING	SHEET NO: 246	E

NOTES

1. All Signs Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C

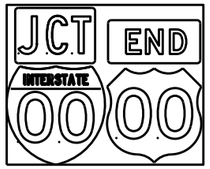


1.125" Radius, 0.375" Border, 0.375" Indent

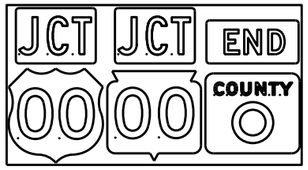
TYPICAL ASSEMBLIES



J1-1



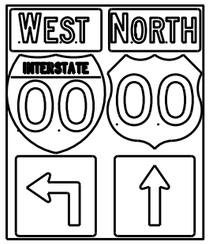
J1-2



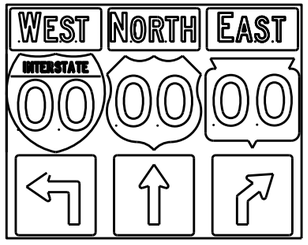
J1-3



J2-1



J2-2

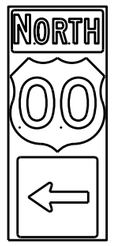


J2-3

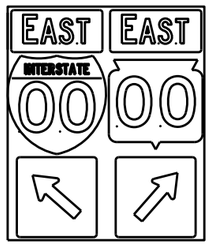


JV

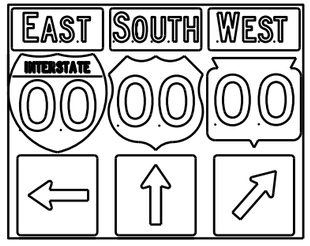
(Typical Vertical J-Assembly
See Note 10 and 11)



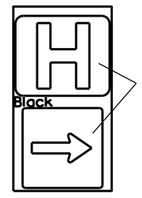
J3-1



J3-2



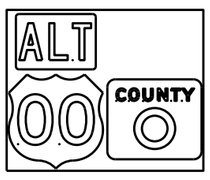
J3-3



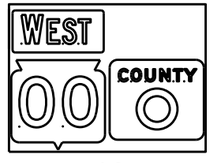
JH-1



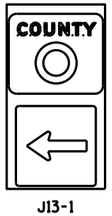
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

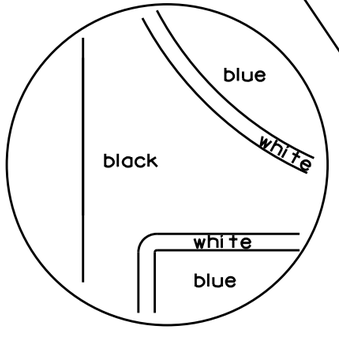


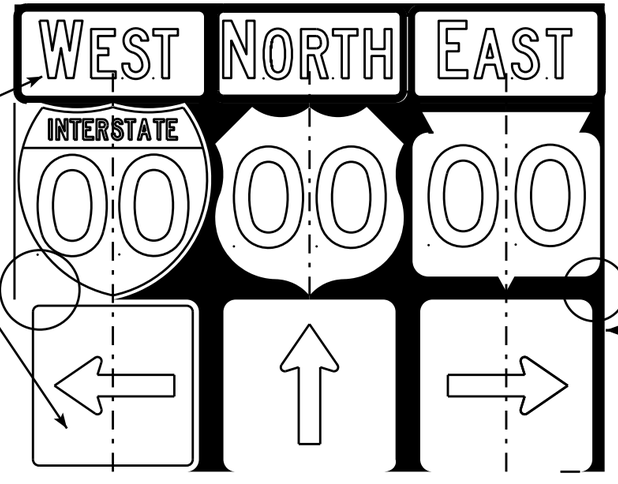
J23-1

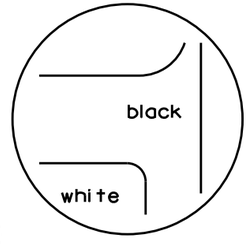


J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

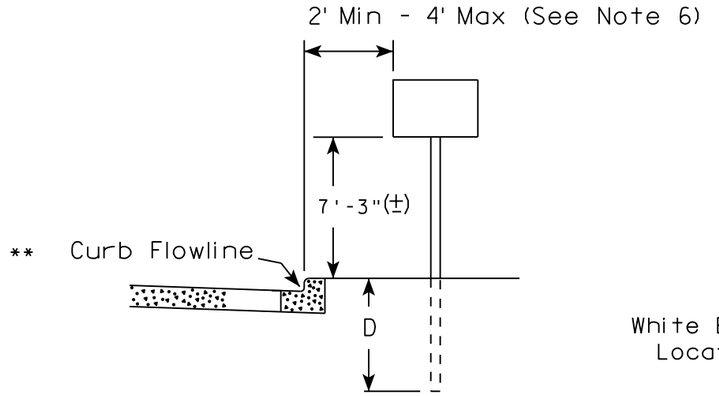
APPROVED Matthew R Rauch
for State Traffic Engineer

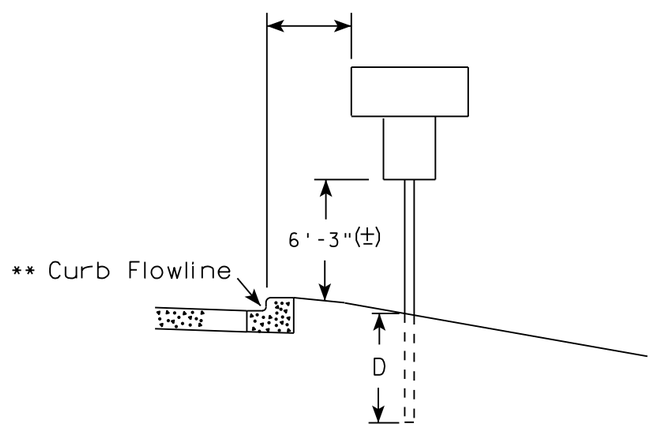
DATE 2/06/14 PL... A2-1S.8

PROJECT NO: SHEET NO: E

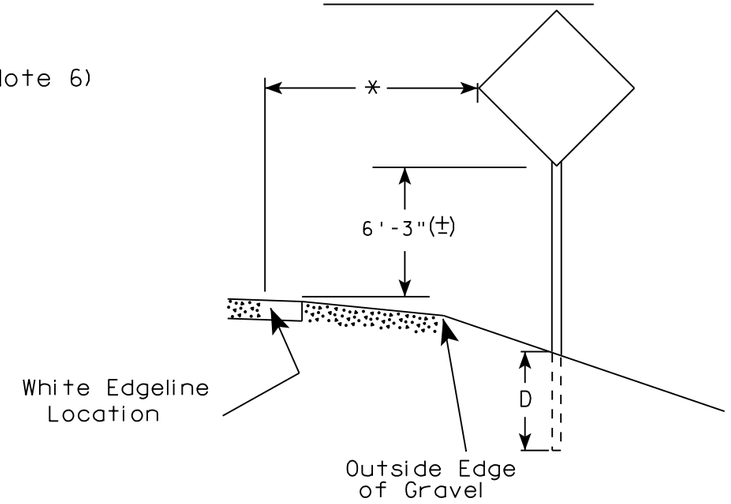
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :
WISDOT/CADDS SHEET 42

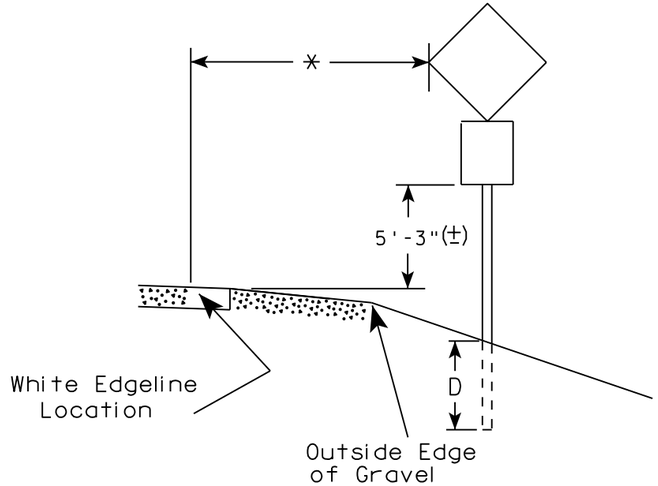
URBAN AREA





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 barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

** 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

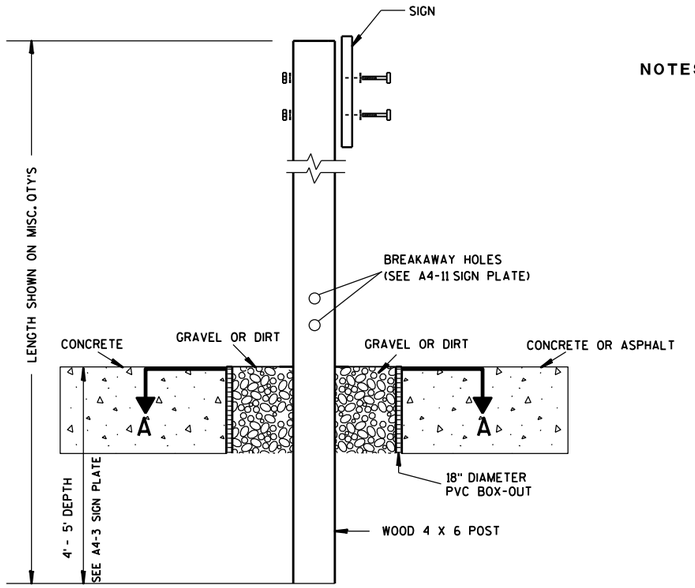
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

7

7

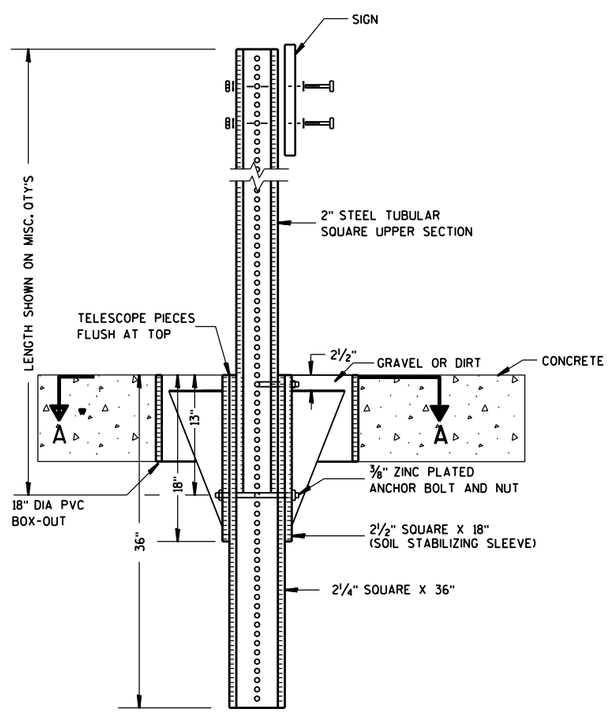
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 249	E



ELEVATION VIEW

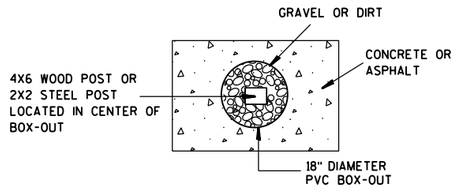
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

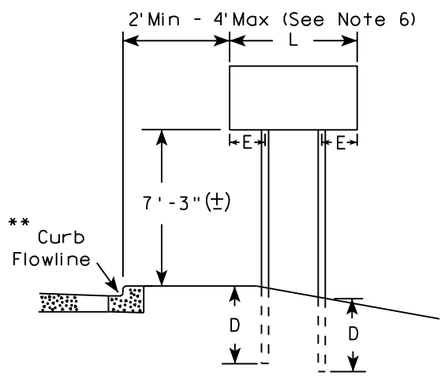
APPROVED Matthew R Rauch
for State Traffic Engineer

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

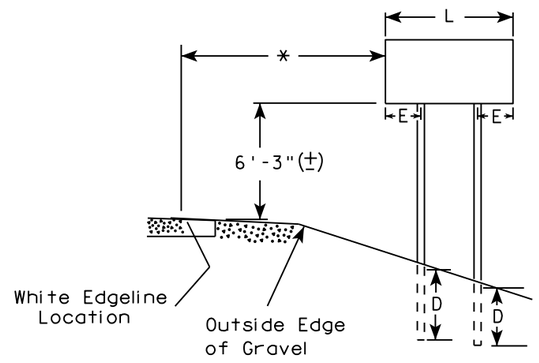
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

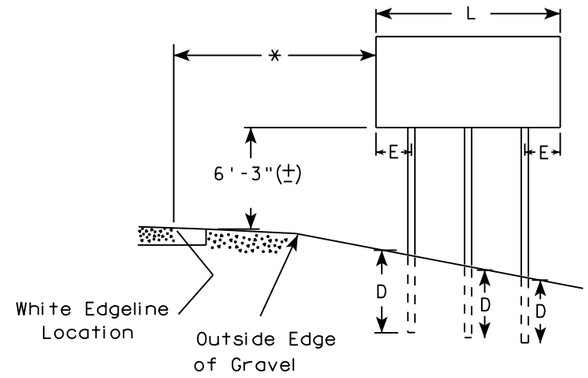
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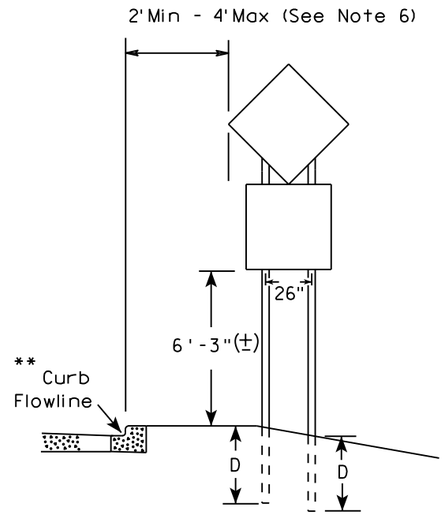
URBAN AREA



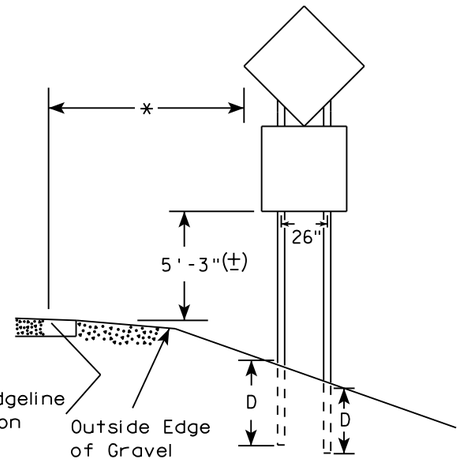
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

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

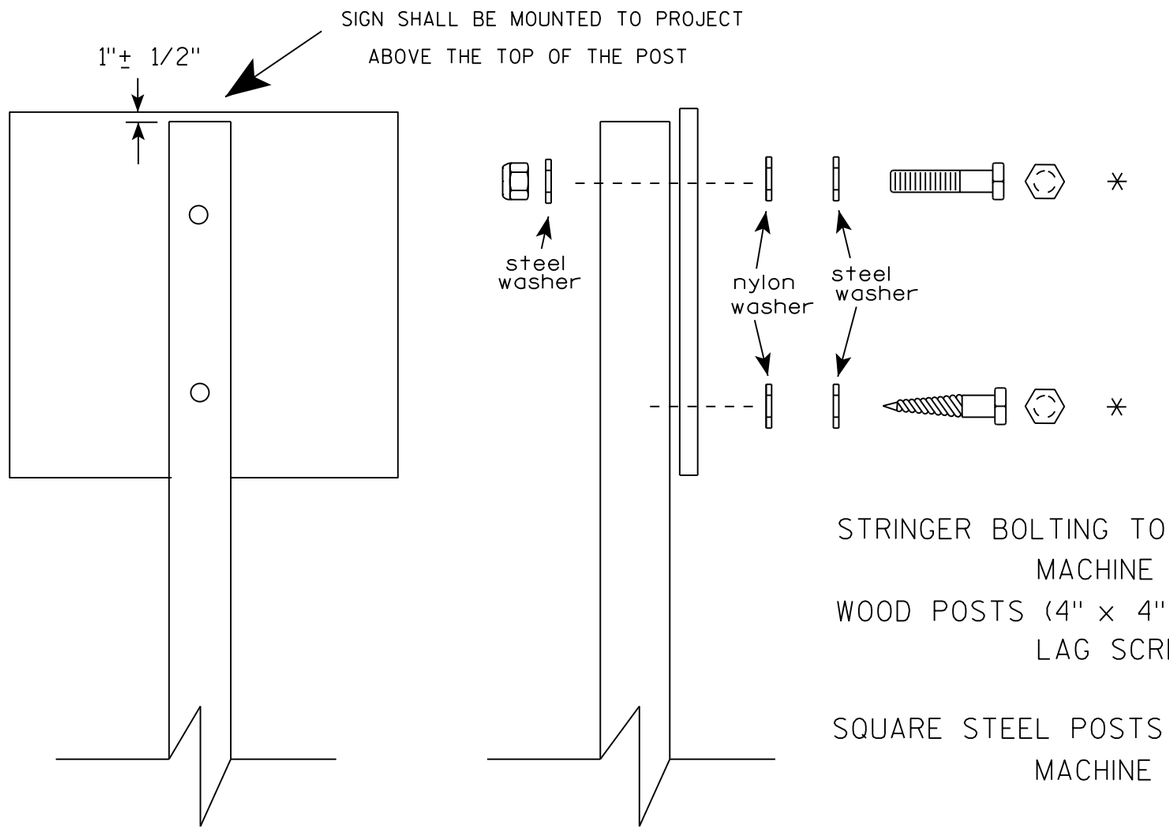
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 251	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)
SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

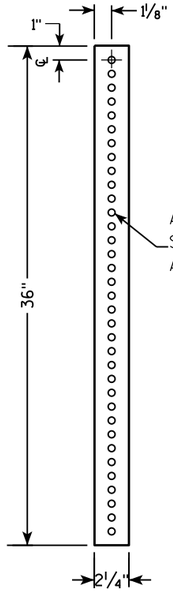
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

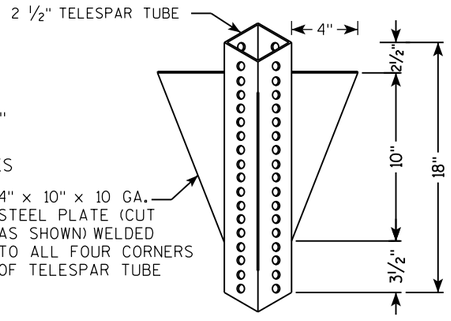
FILE NAME : C:\CADfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

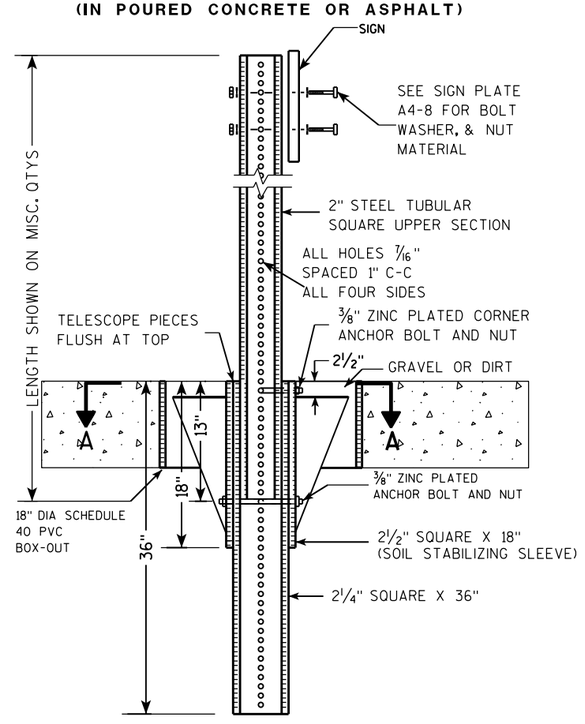
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



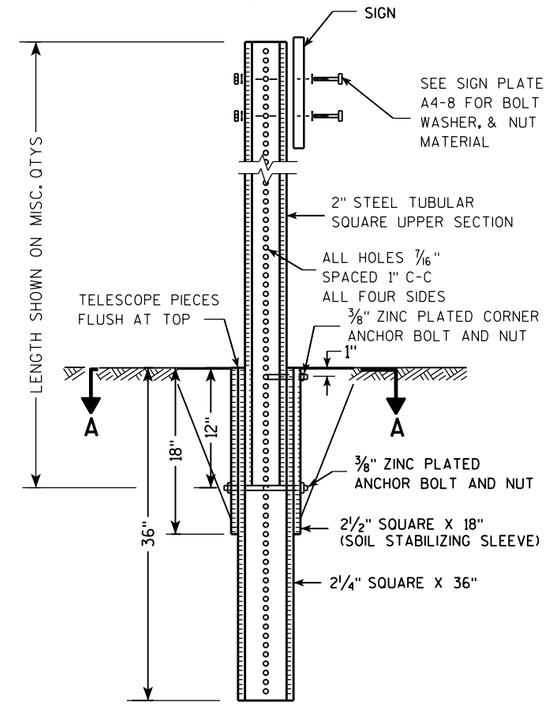
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

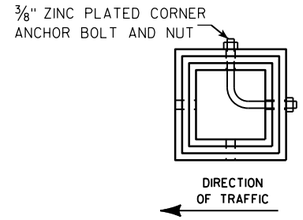


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

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

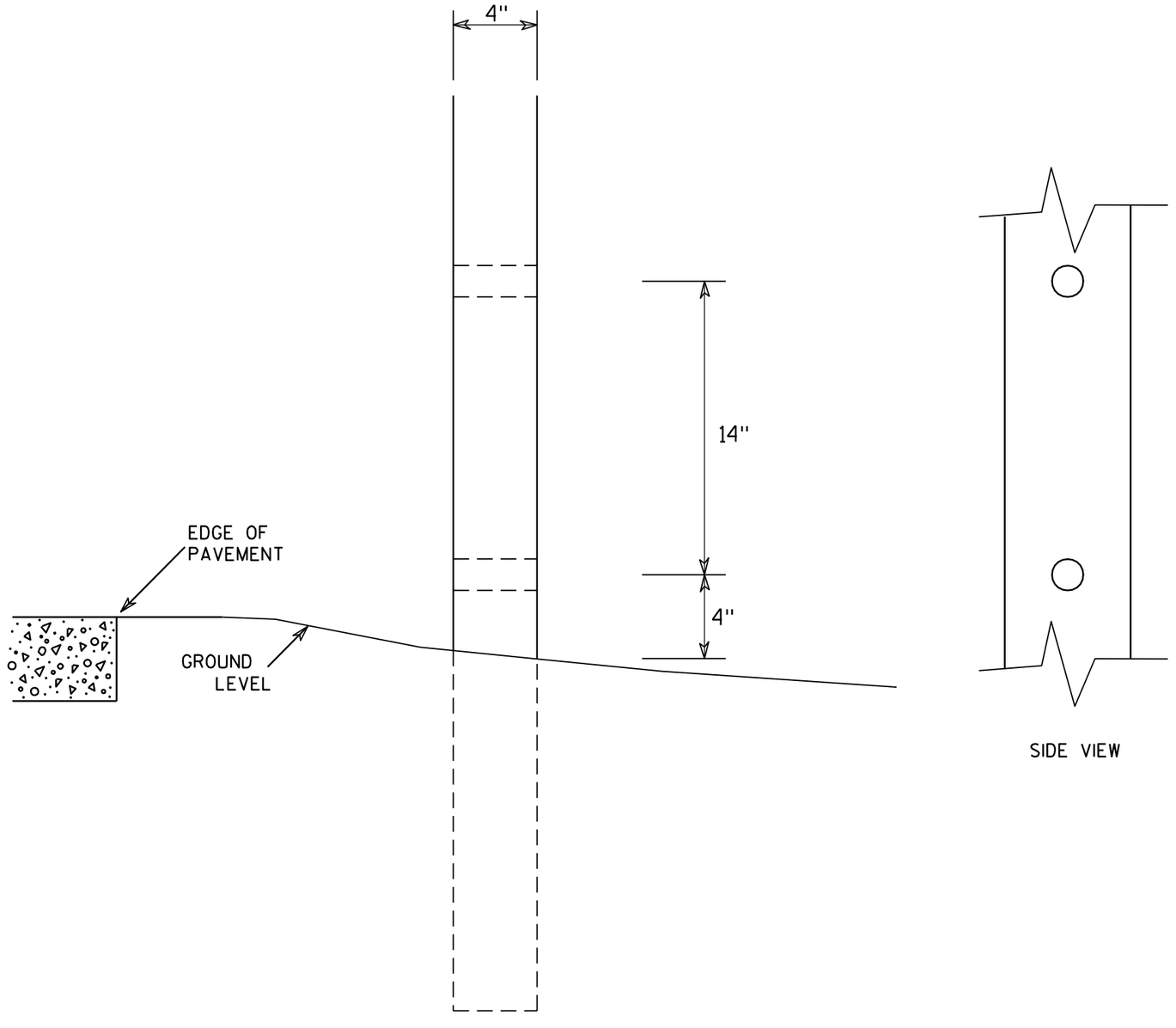
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 253 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

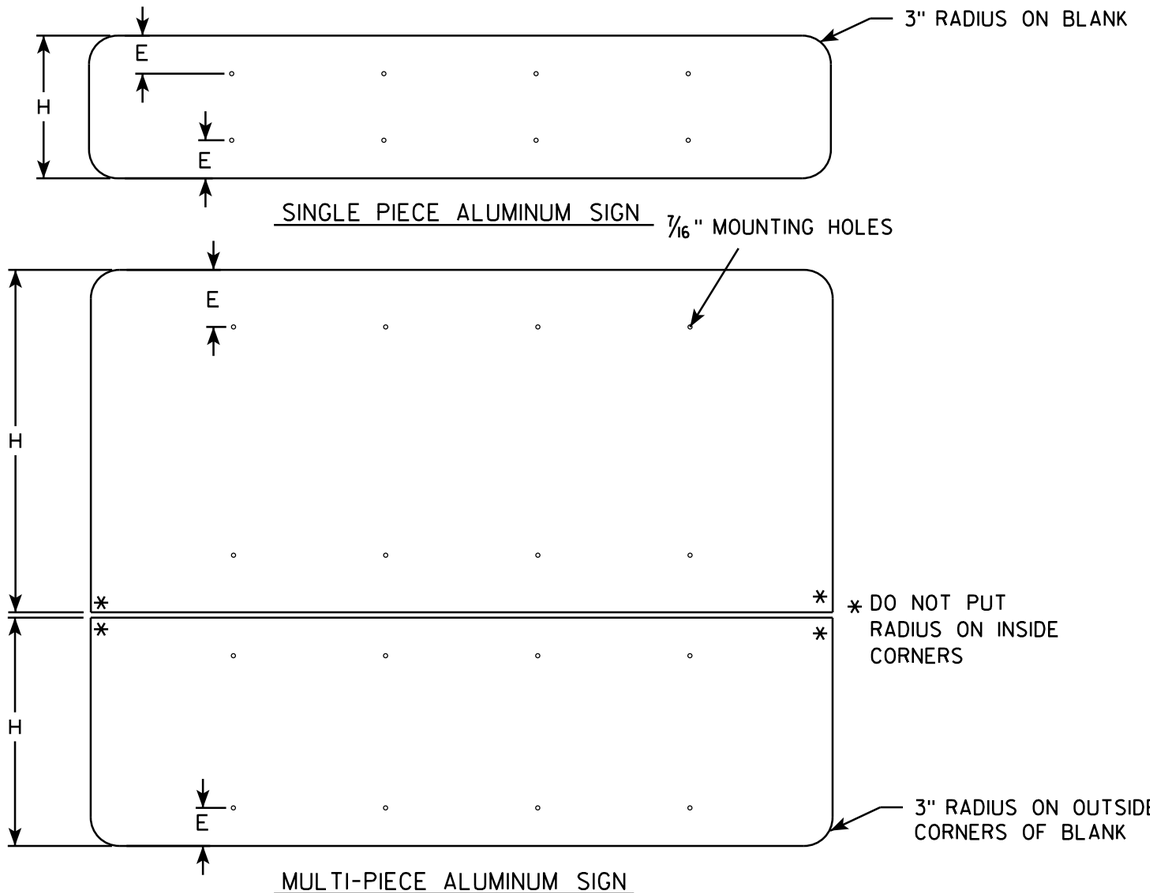
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

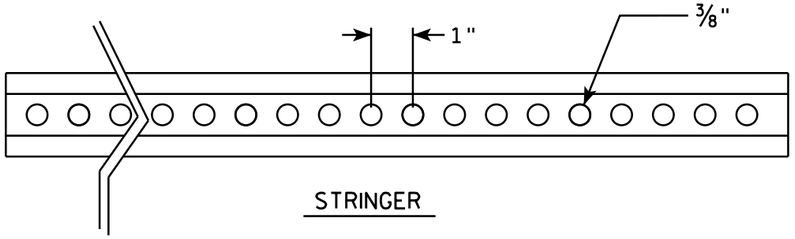
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 254	E



GENERAL NOTES

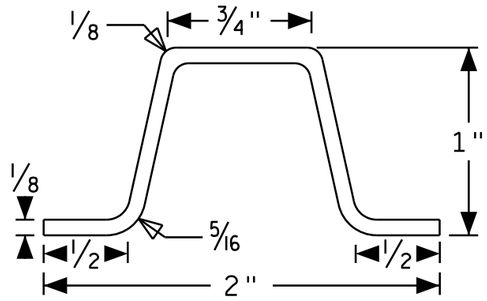
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16½" 33½" 50½" 67½"
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19½" 38½" 57½" 76½"
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22½" 43½" 64½" 85½"
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

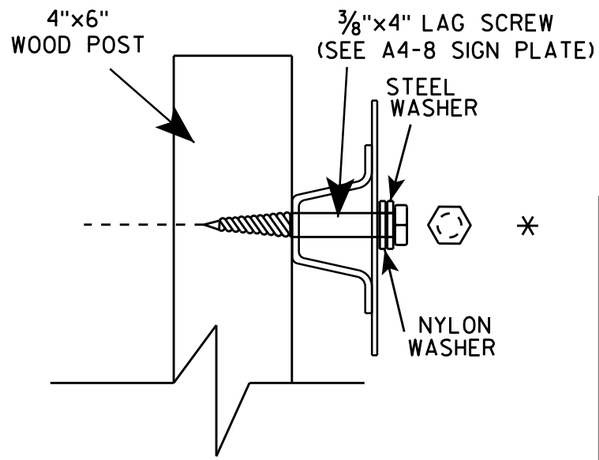


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

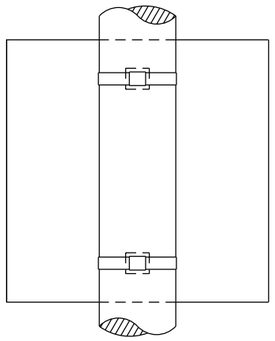
DATE 4/26/16 PLATE NO A4-18.1

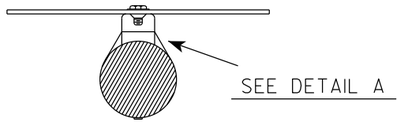
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

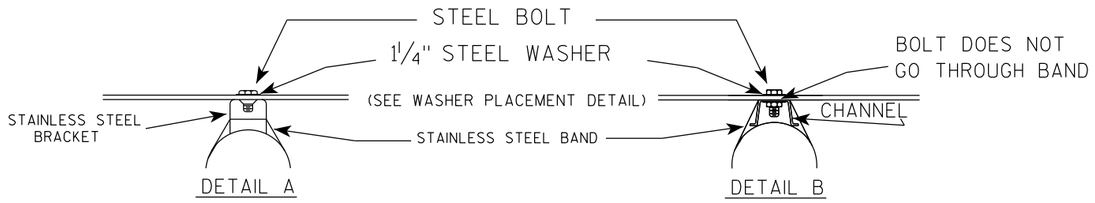
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A418.dgn PLOT DATE : 27-APR-2016 13:56 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 41.805205:1.000000 WISDOT/CADDS SHEET 42

BANDING

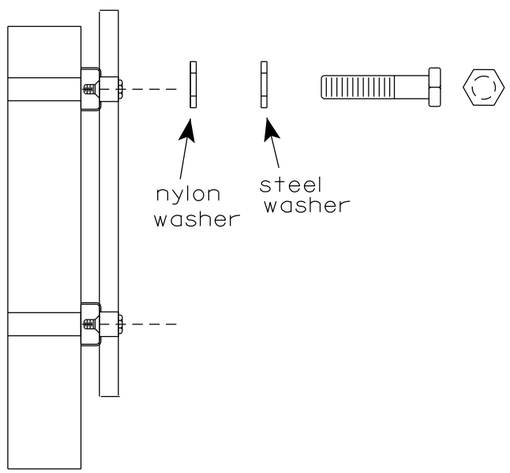
SINGLE SIGN







WASHER PLACEMENT

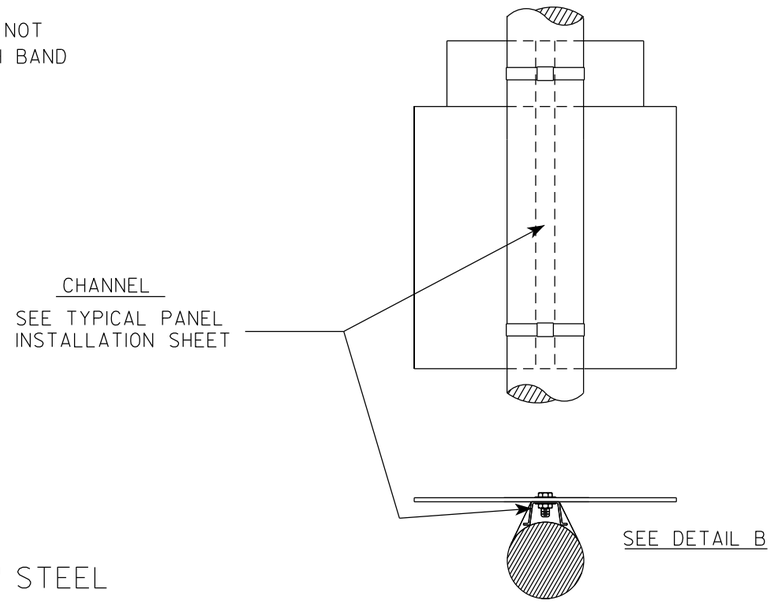


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

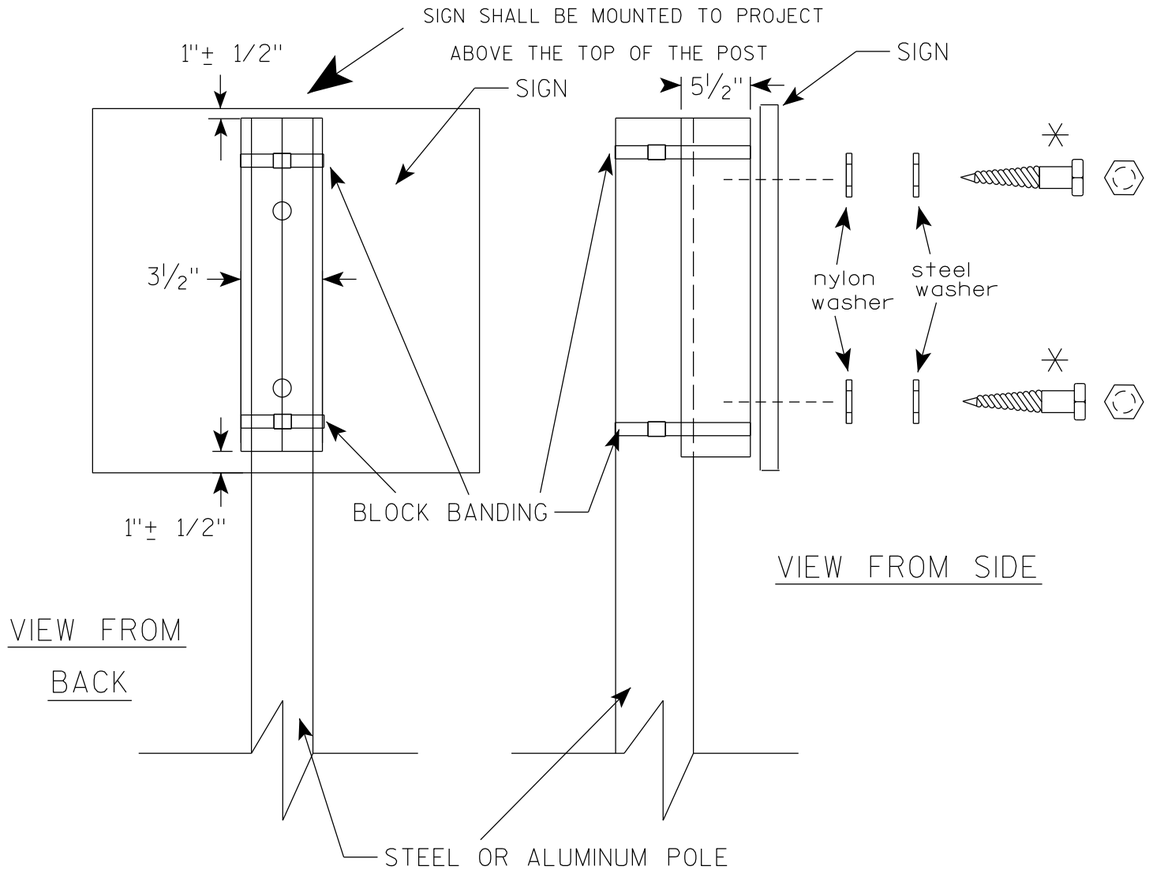
WISCONSIN DEPT OF TRANSPORTATION

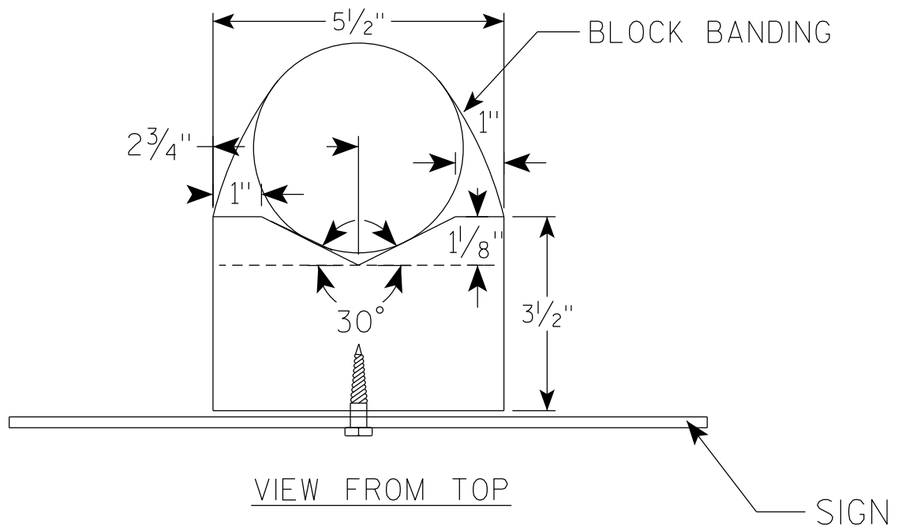
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 256	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

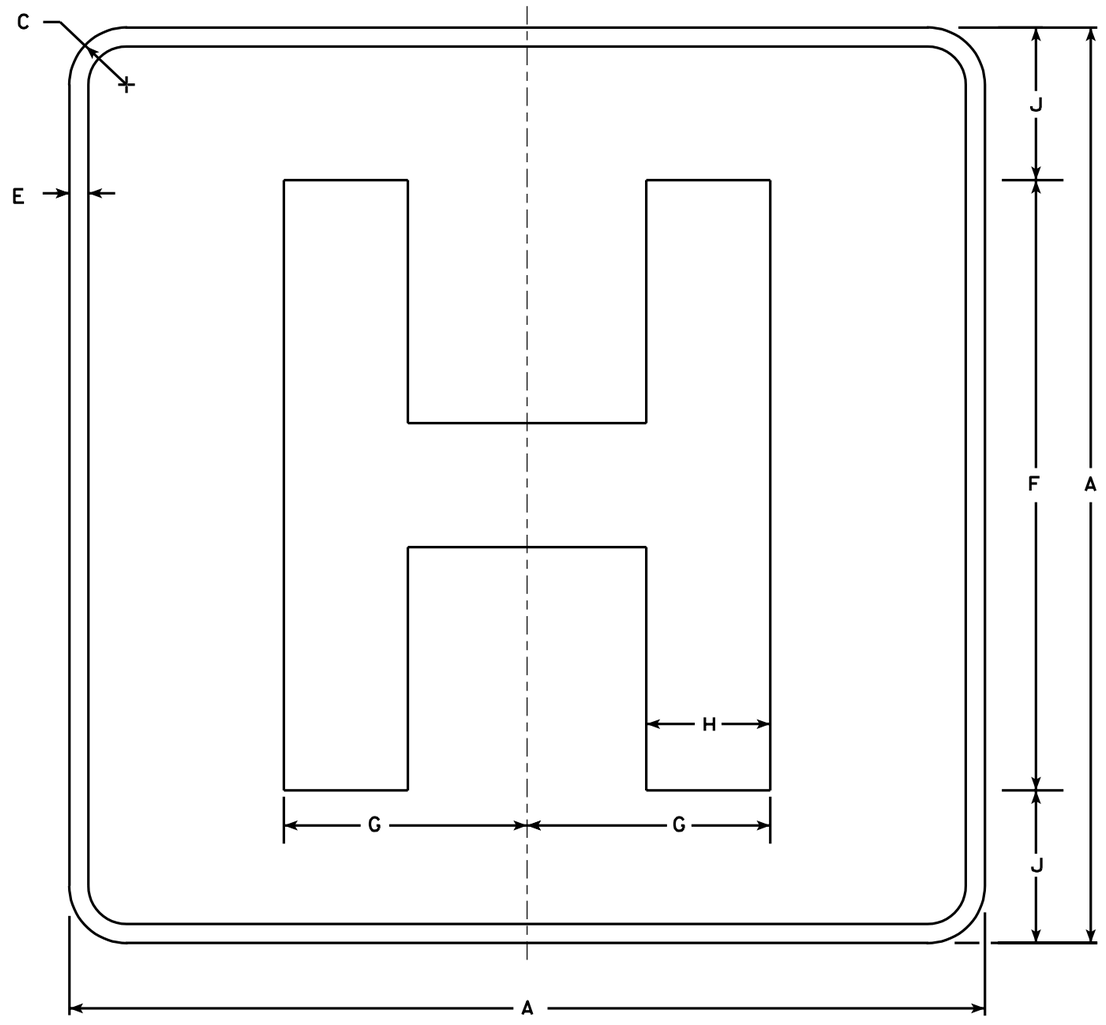
DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO: | SHEET NO: 257 | E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A510.dgn PLOT DATE : 10-JUN 2019 4:15 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42

7 7



D9-2

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	450 mmX 450 mm
2	600 mmX 600 mm
3	900 mmX 900 mm
4	X
5	X

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		1 1/8		1/2	12	4 3/4	2 3/8		3																	4.0
2	24		1 1/2		1/2	16	6 3/8	3 1/4		4																	4.0
3	36		2 1/4		3/4	24	9 1/2	4 7/8		6																	9.0
4																											
5																											

STANDARD SIGN
D9-2

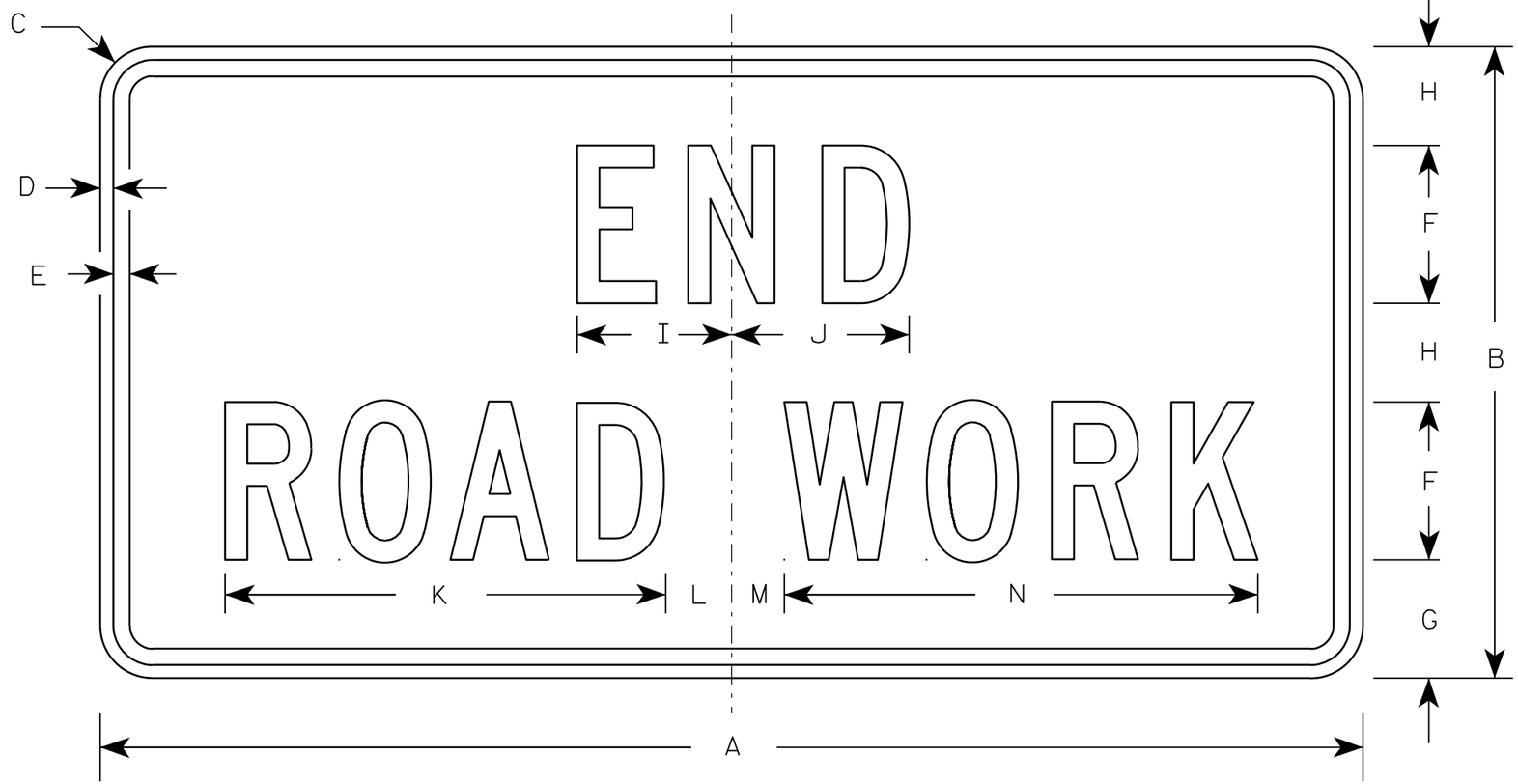
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spong for State Traffic Engineer

DATE 1/15/02 PLATE NO. D9-2.4

PROJECT NO:

SHEET NO: 258 E



G20-2A

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

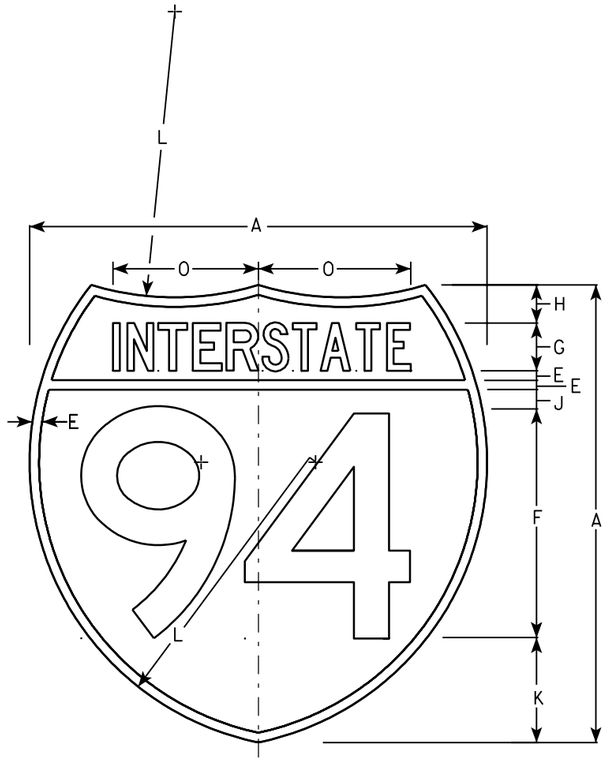
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

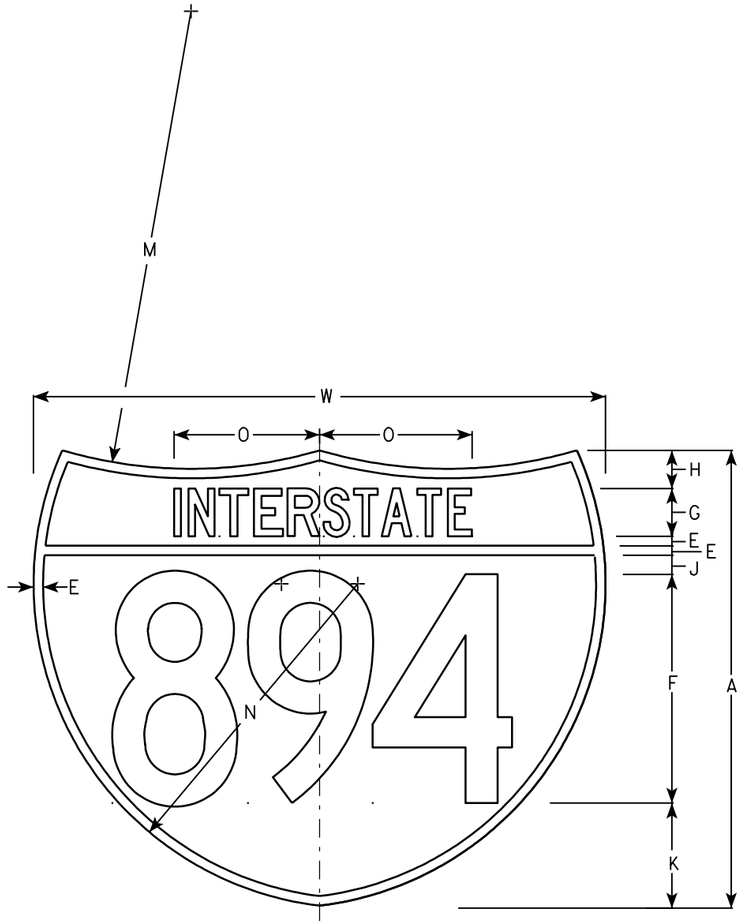
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 259	E



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

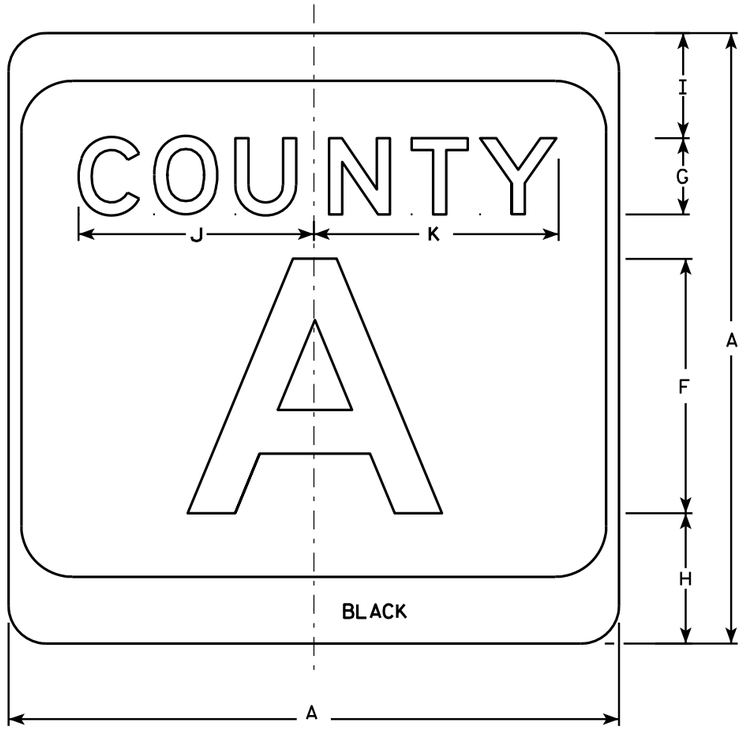
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

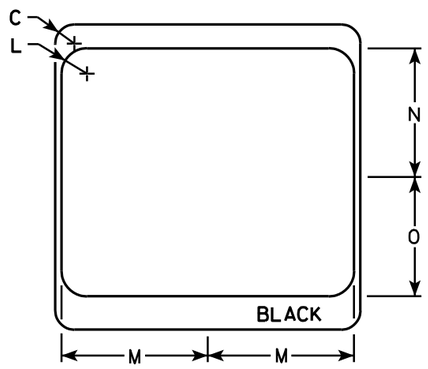
APPROVED Matthew R Rauch
for State Traffic Engineer

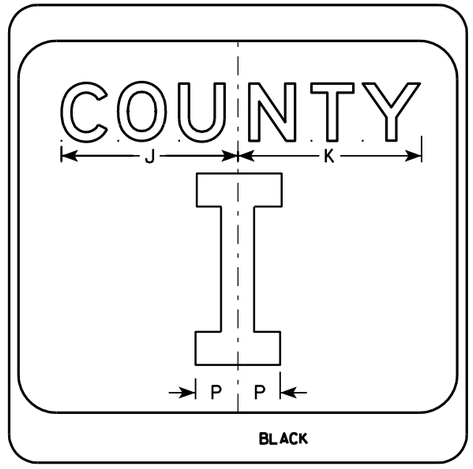
DATE 08/23/05 PLATE NO. M1-1.8

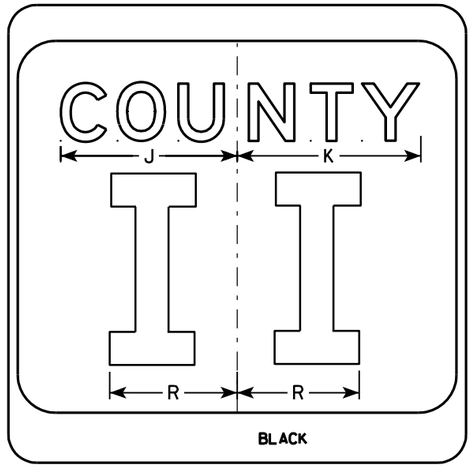
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 260	E



M1-5A







NOTES

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

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

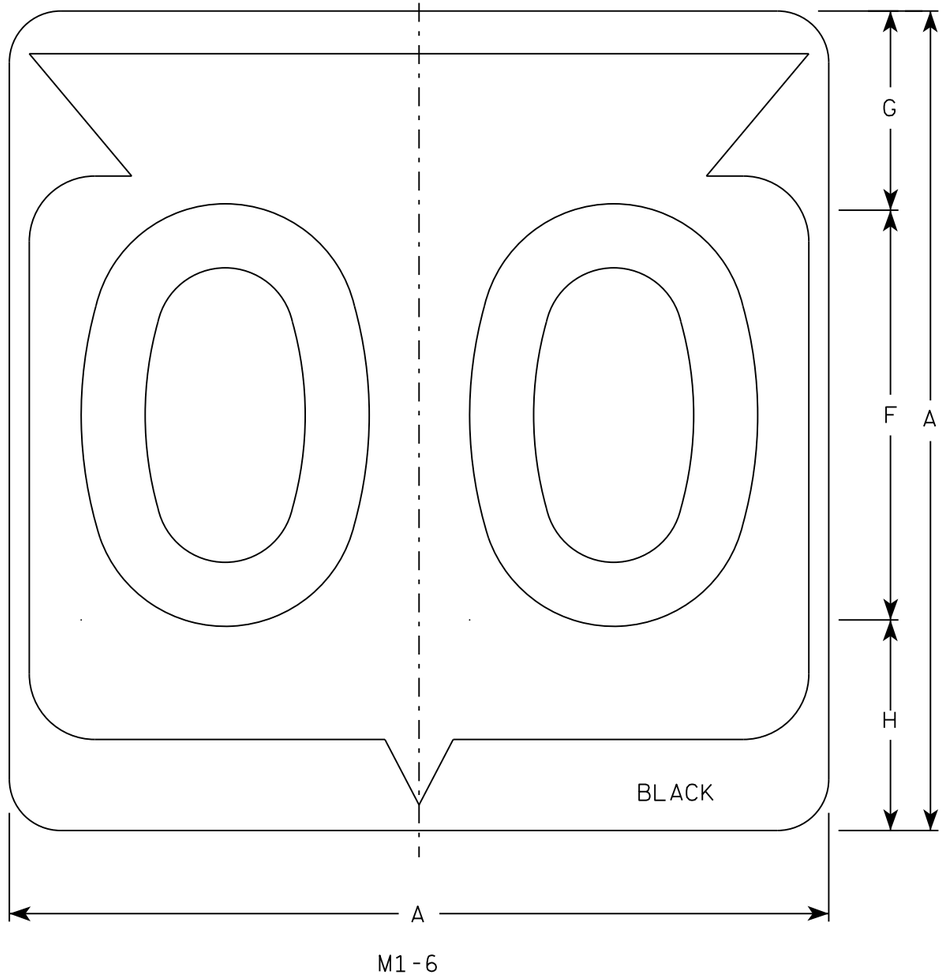
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

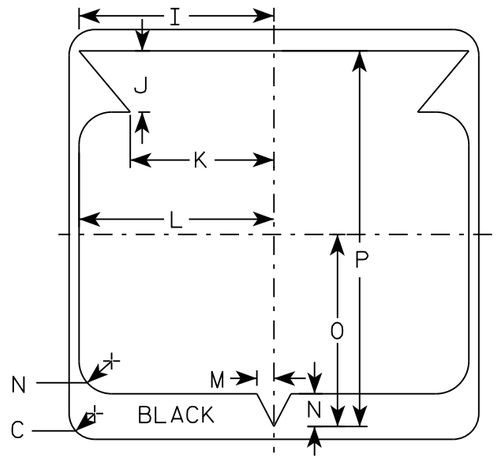
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 261	E



M1-6

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs 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																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

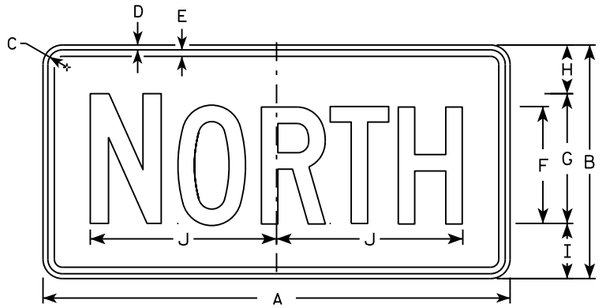
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

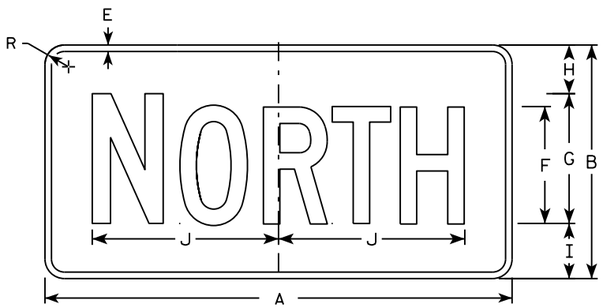
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 262 | E



M3-1
MM3-1
MP3-1



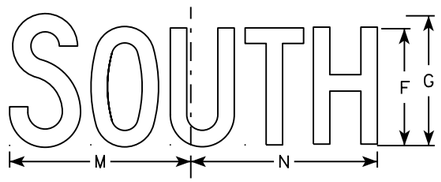
MB3-1
MK3-1
MN3-1



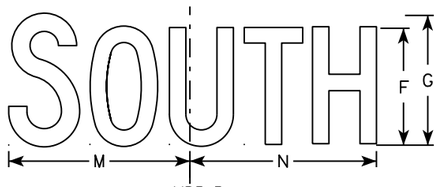
M3-2
MM3-2
MP3-2



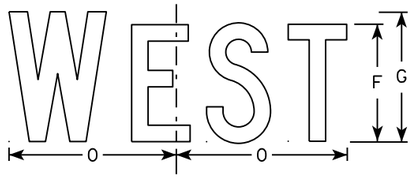
MB3-2
MK3-2
MN3-2



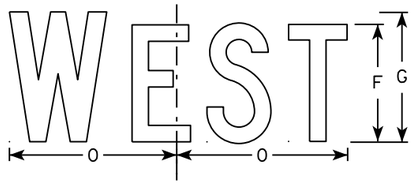
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

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

STANDARD SIGNS
M3-1 thur M3-4
SERIES

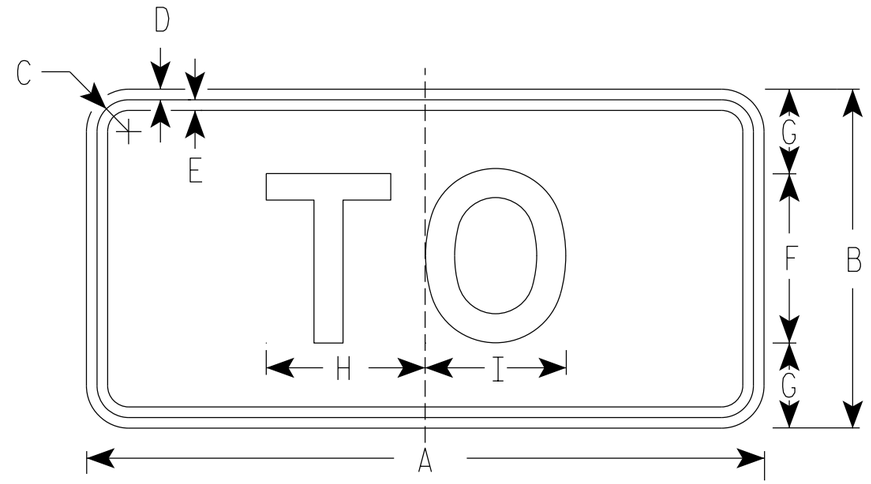
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

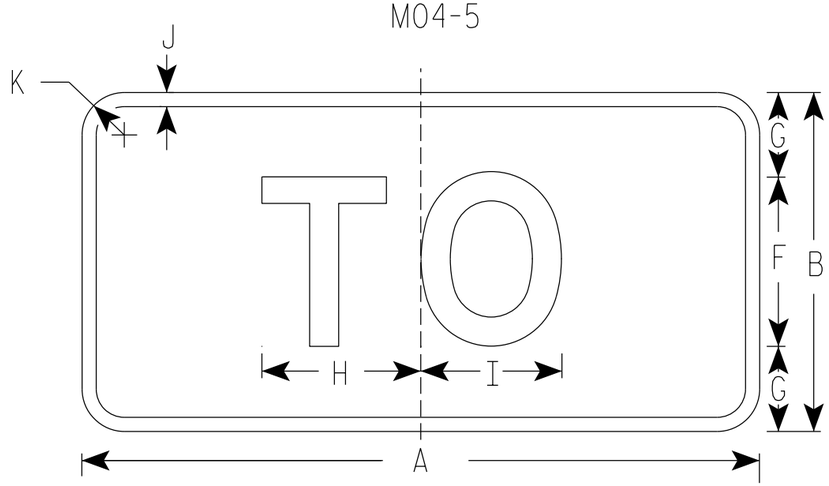
DATE 10/15/15 PLATE NO M3-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-5
MM4-5
MP4-5
M04-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

   M04-5 Background - Orange Type F Reflective
   Message - Black

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

STANDARD SIGN
M4-5

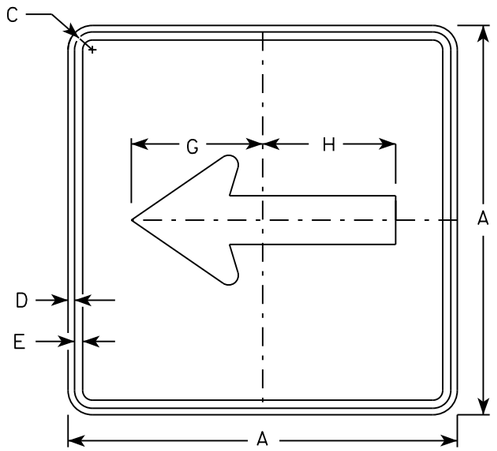
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

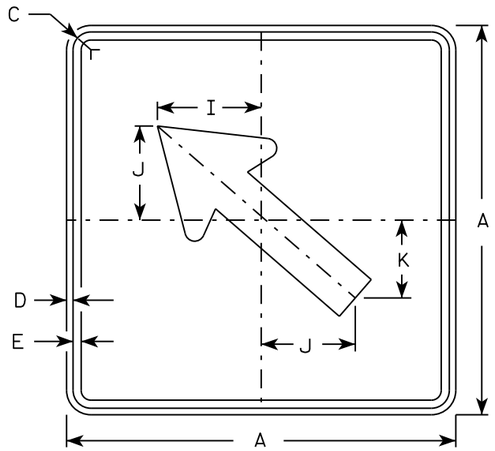
DATE 03/7/19 PLATE NO. M4-5.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 264 | E

7



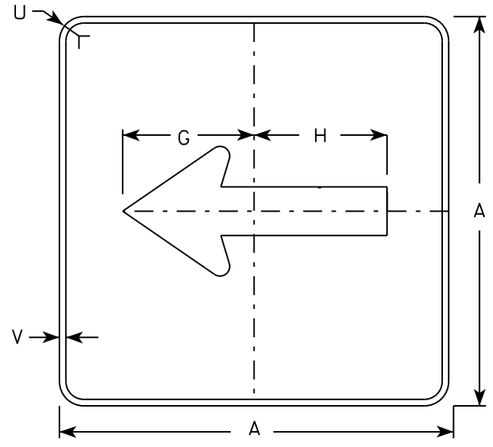
M6-1
MM6-1
MO6-1
MP6-1



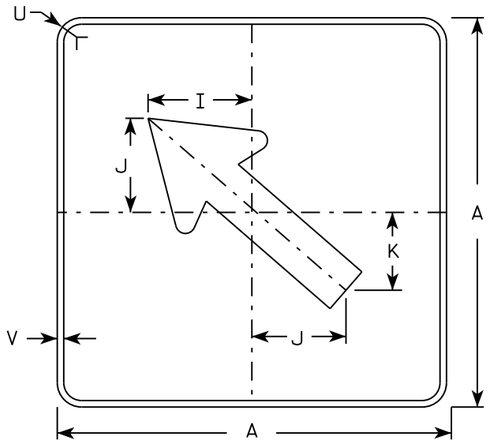
M6-2
MM6-2
MO6-2
MP6-2

NOTES

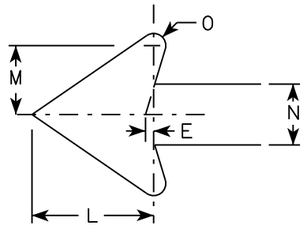
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

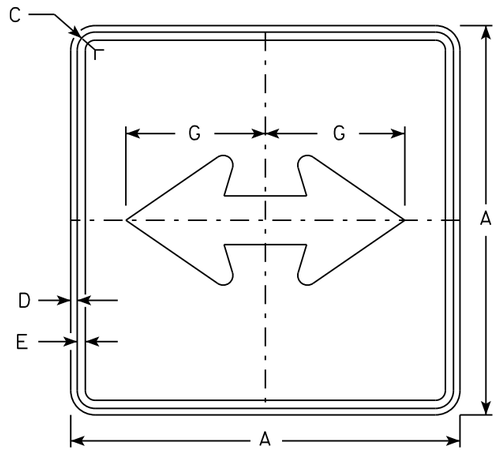
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

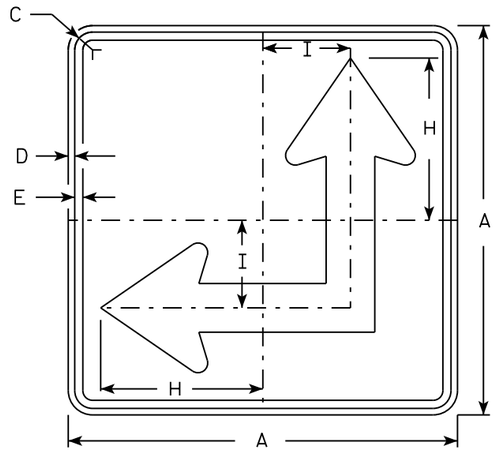
DATE 10/15/15 PLATE 265 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



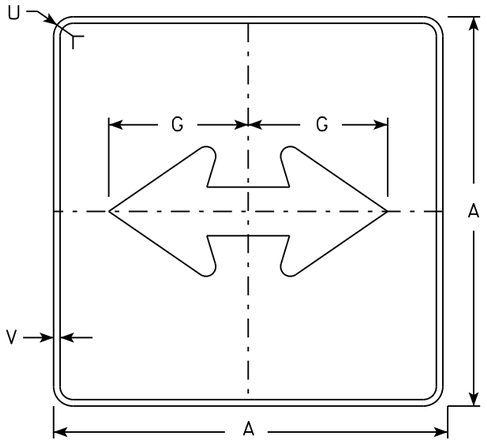
M6-4
MM6-4
MO6-4
MP6-4



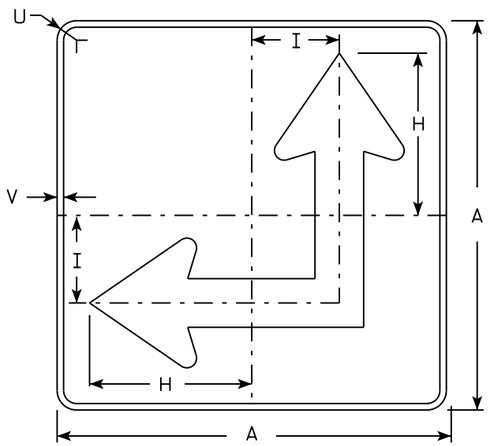
M6-6
MM6-6
MO6-6
MP6-6

NOTES

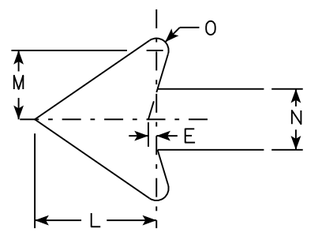
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



MB6-4
MK6-4
MN6-4
MR6-4



MB6-6
MK6-6
MN6-6
MR6-6



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN
M6-4 & M6-6
SERIES

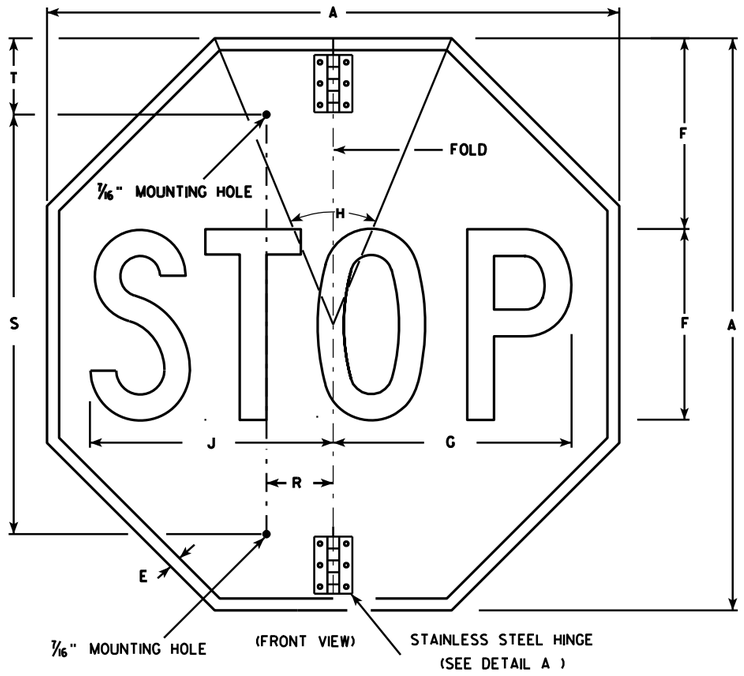
WISCONSIN DEPT OF TRANSPORTATION

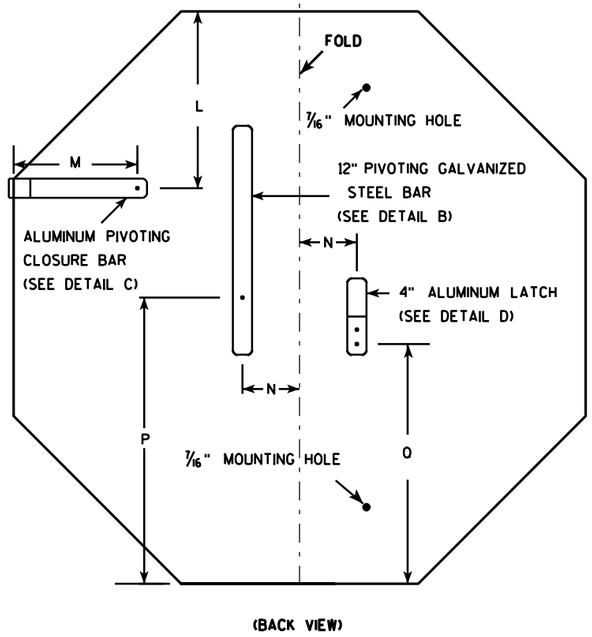
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 10/15/15 PLATE 266 M6-4.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

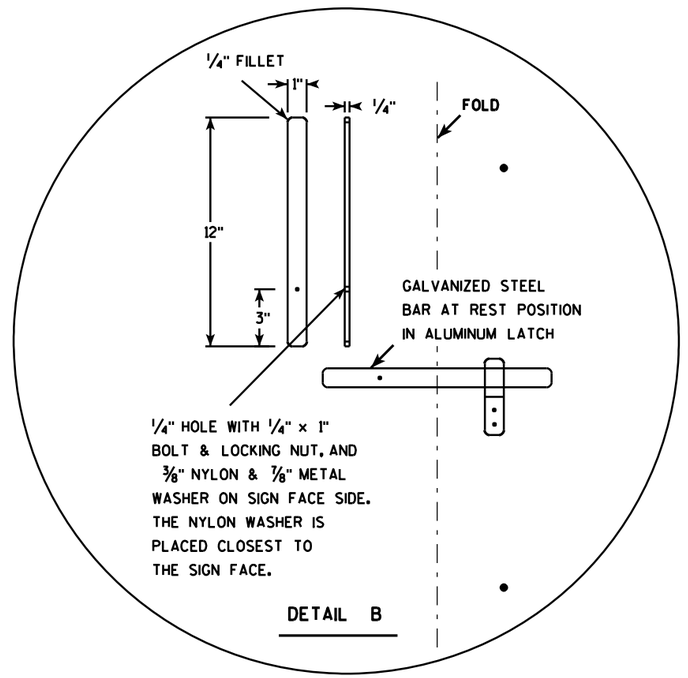
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M64.DGN PLOT DATE : 01-DEC-2015 17:58 PLOT BY : $$ platuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000

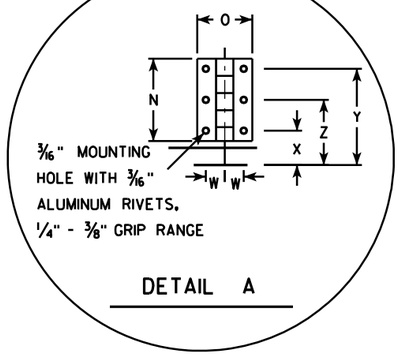


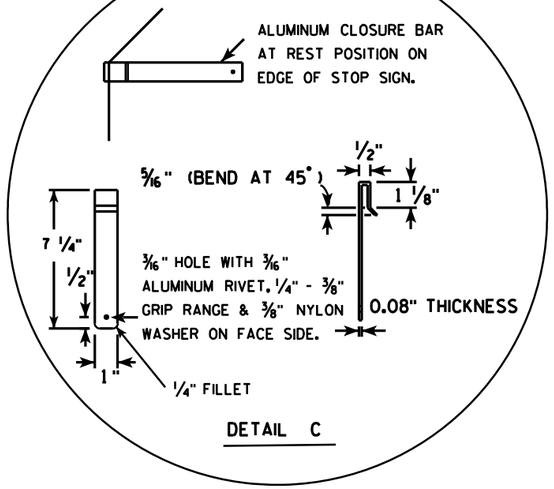


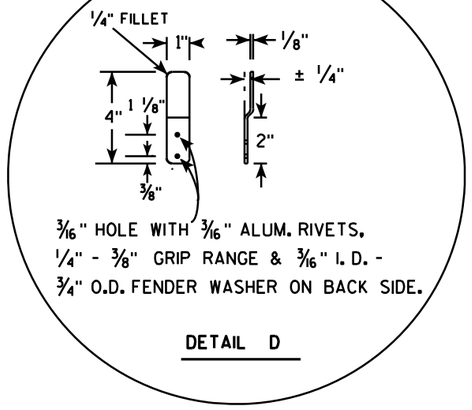
NOTES

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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

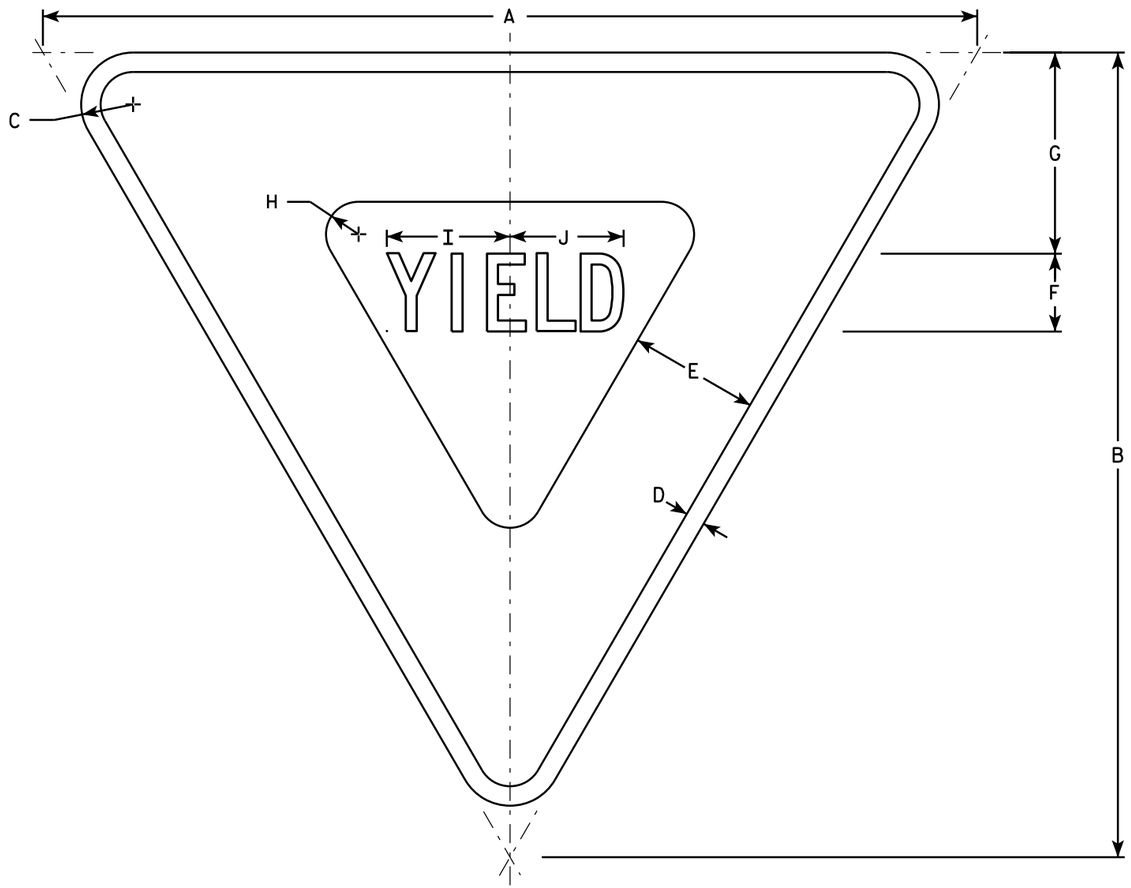
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 267	E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

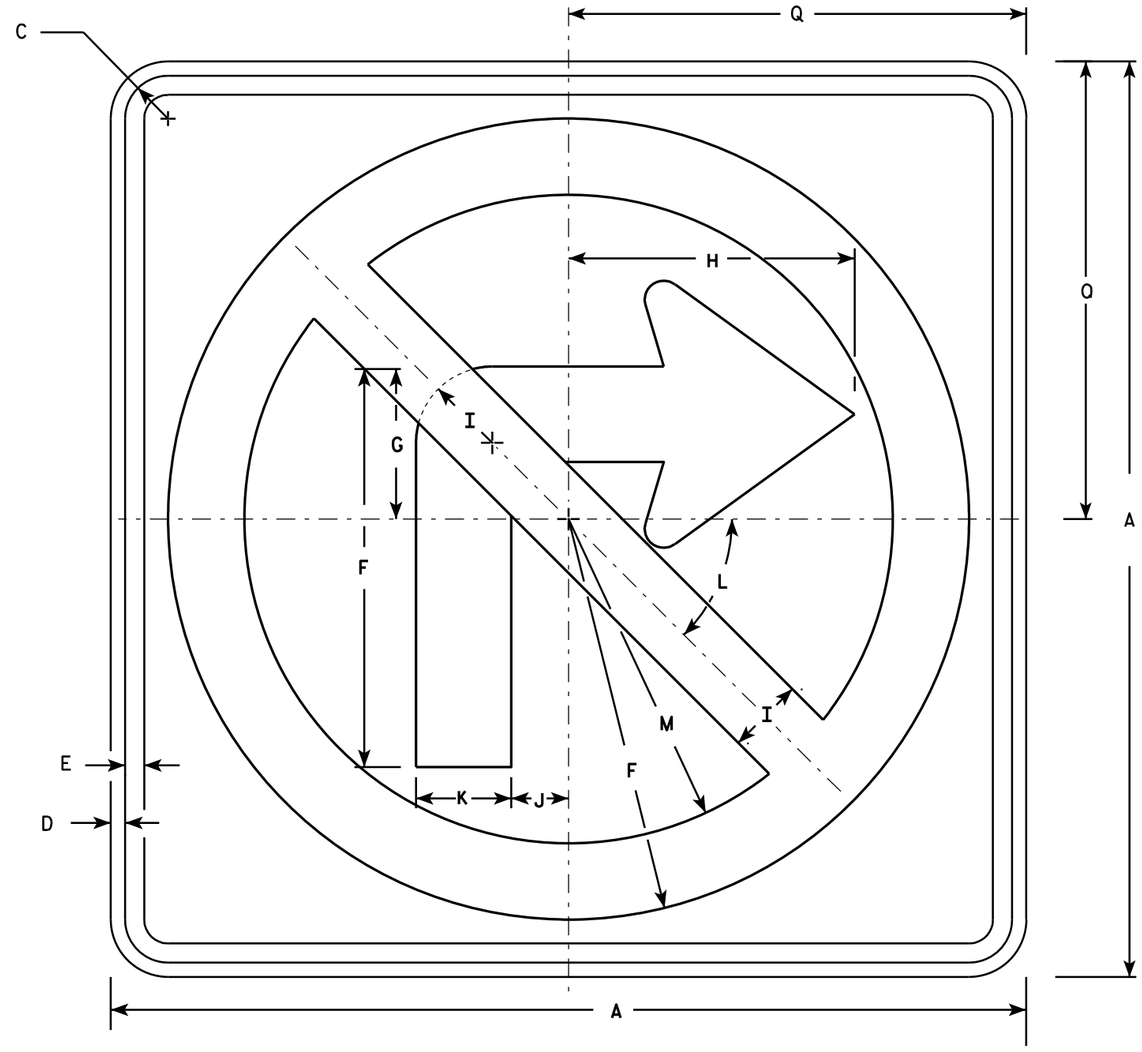
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

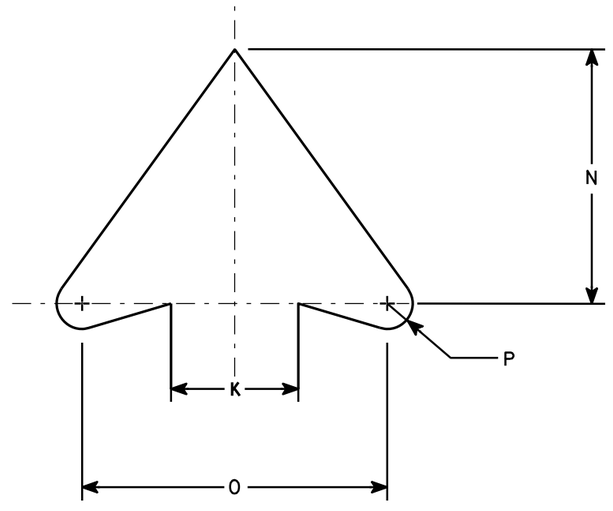
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



R3-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

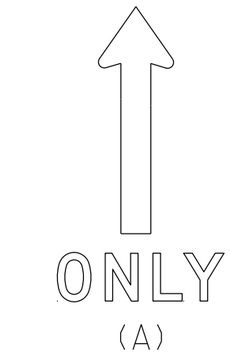
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

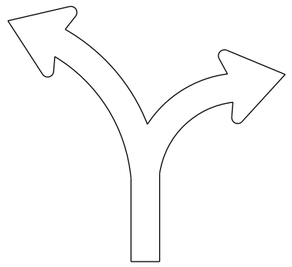
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 269 | E

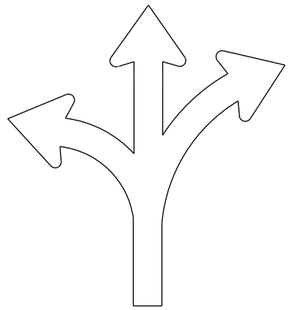


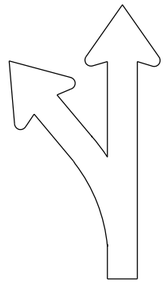
(A)

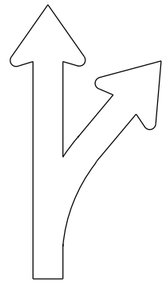


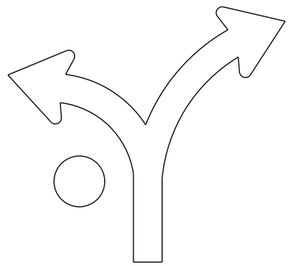
(B)

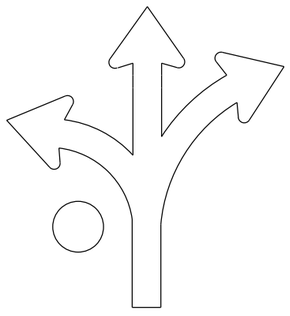

(C)

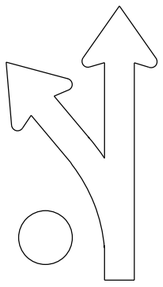

(D)


(E)


(F)

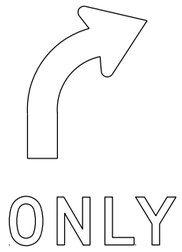

(G)


(H)

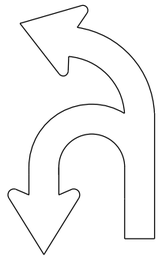

(I)



(L)



(R)


(U)

NOTES

1. Sigs are Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Use appropriate Letter for Sign Code
   Each letter added makes sign wider. Example R3-8EAR
5. Square footage of sign varies by letters

1	Letter =	3.75 sq ft for Size 2
		6.0 sq ft for Size 3
		10.0 sq ft for Size 4 or 5
2	Letters =	7.5 sq ft for Size 2
		12.0 sq ft for Size 3
		20.0 sq ft for Size 4 or 5
3	Letters =	11.25 sq ft for Size 2
		18.0 sq ft for Size 3
		30.0 sq ft for Size 4 or 5
4	Letters =	15.0 sq ft for Size 2
		24.0 sq ft for Size 3
		40.0 sq ft for Size 4 or 5
5	Letters =	18.75 sq ft for Size 2
		30.0 sq ft for Size 3
		50.0 sq ft for Size 4 or 5
6	Letters =	22.5 sq ft for Size 2
		36.0 sq ft for Size 3
		60.0 sq ft for Size 4 or 5

6. When letters C,D,G,H are used on the Left or Right end of the sign the Sq. Ft. changes.
   Add the amounts when these letters are used:
   1.25 sq ft for Size 2
   1.5 sq ft for Size 3
   2.0 sq ft for Size 4 or 5

STANDARD SIGN
R3-8 Series

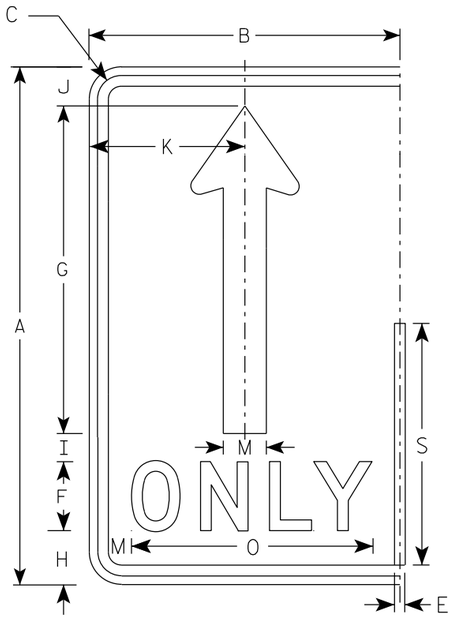
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

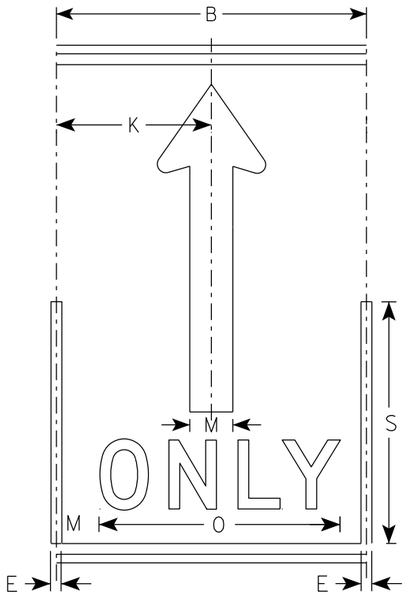
DATE 5/21/19 PLATE NO. R3-8.1

NOTES

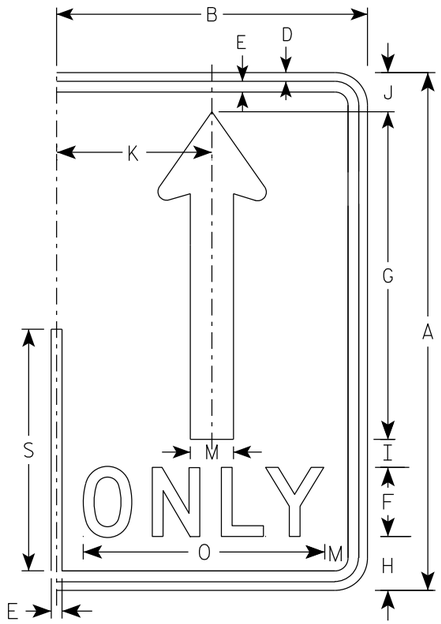
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D



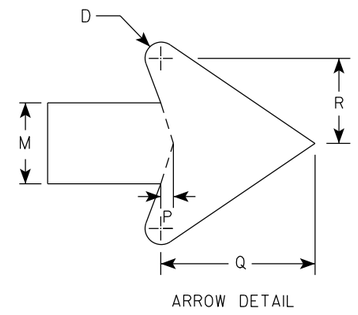
(A)



(A)



(A)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8	5	22 3/4	3 3/4	1 3/4	2 3/4	12		3		17 5/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN
R3-8 (A) Arrow

WISCONSIN DEPT OF TRANSPORTATION

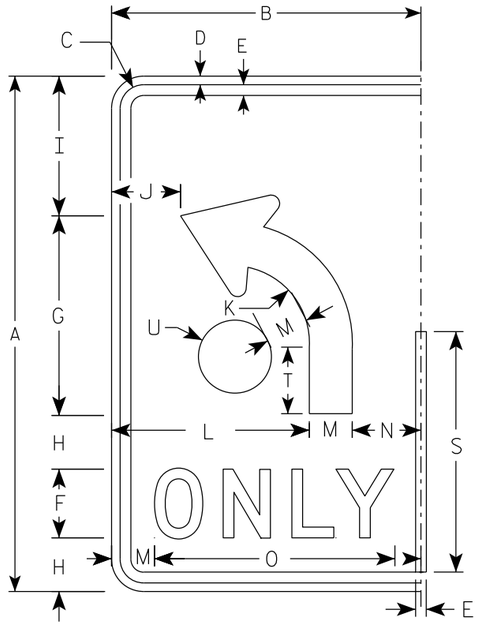
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

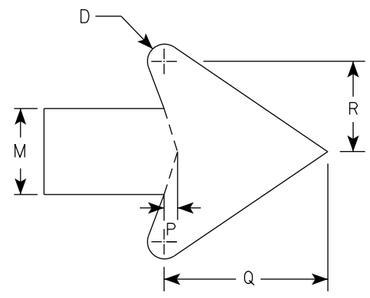
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 271 | E

NOTES

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



(B)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8	2 1/8						3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8	2 1/8						3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8	2 1/2						6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4	3 3/8						10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4	3 3/8						10.0

STANDARD SIGN

R3-8 (B) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

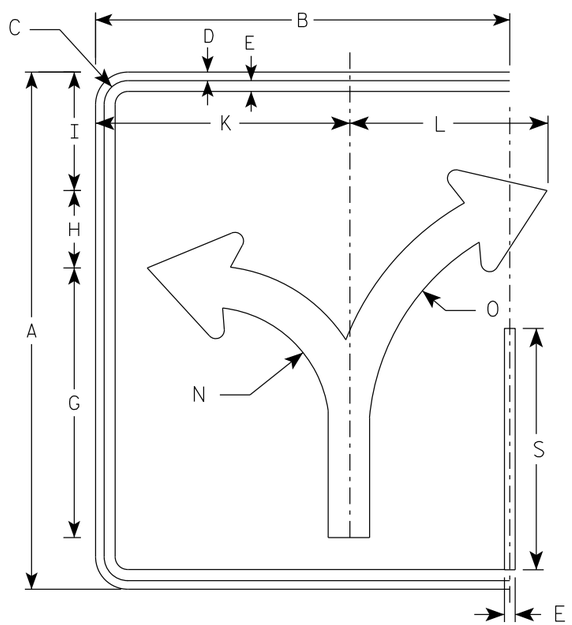
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO:

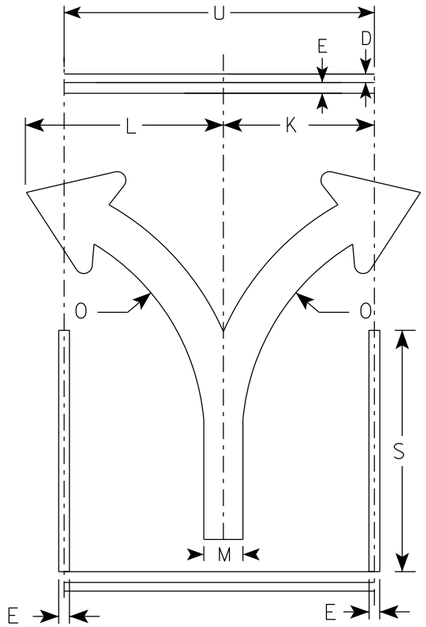
SHEET NO: 272 E

NOTES

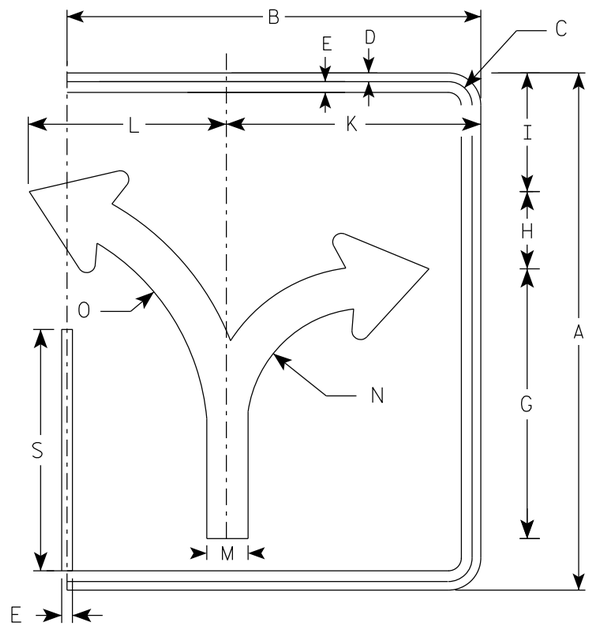
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



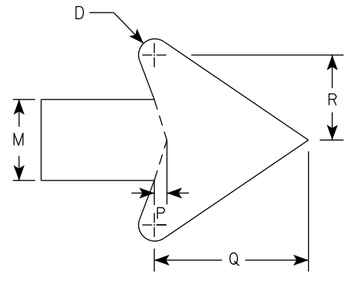
(C)



(C)



(C)



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	ENDS Area sq. ft.	MIDDLE Area sq. ft.
1																												
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24						7.5	6.0
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0

STANDARD SIGN
R3-8 (C) Arrow

WISCONSIN DEPT OF TRANSPORTATION

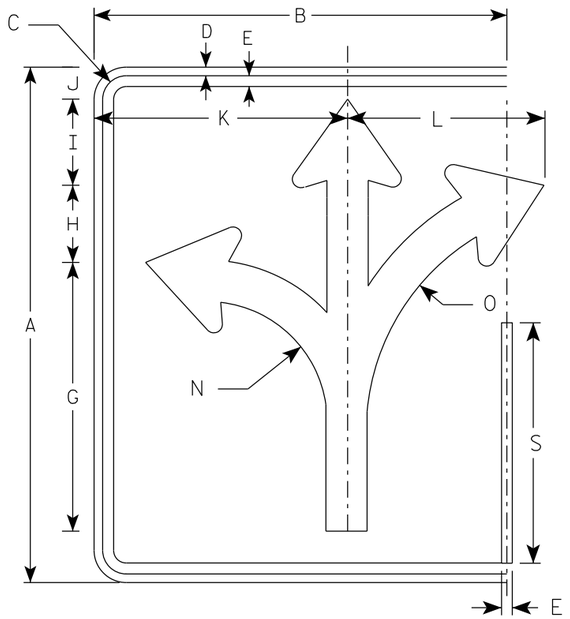
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

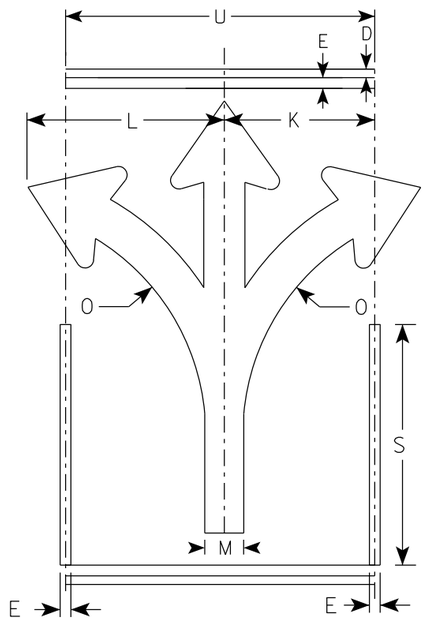
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 273 | E

NOTES

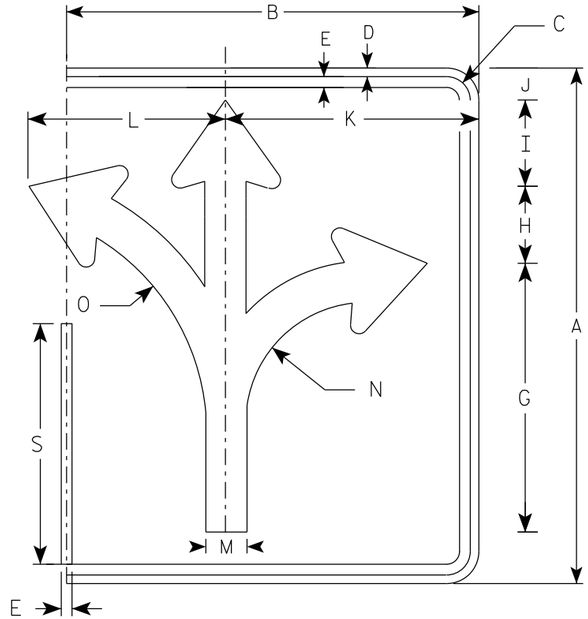
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



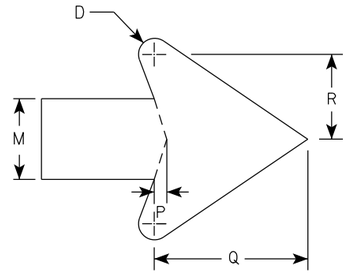
(D)



(D)



(D)



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	ENDS Area sq. ft.	MIDDLE Area sq. ft.
1																												
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	6	2 1/4	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24						7.5	6.0
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0

STANDARD SIGN
R3-8 (D) Arrow

WISCONSIN DEPT OF TRANSPORTATION

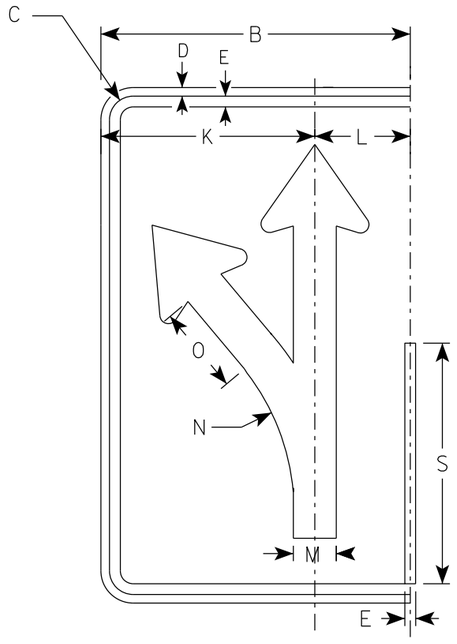
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

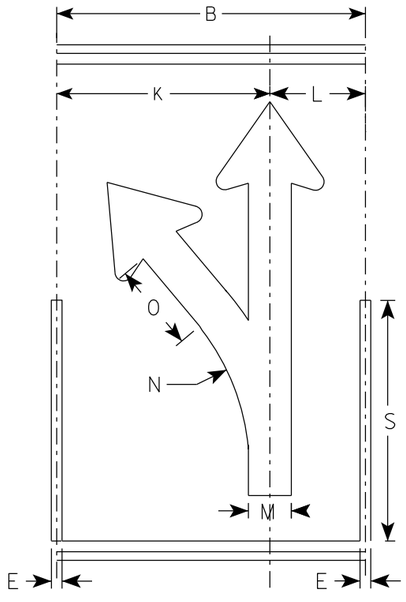
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 274 | E

NOTES

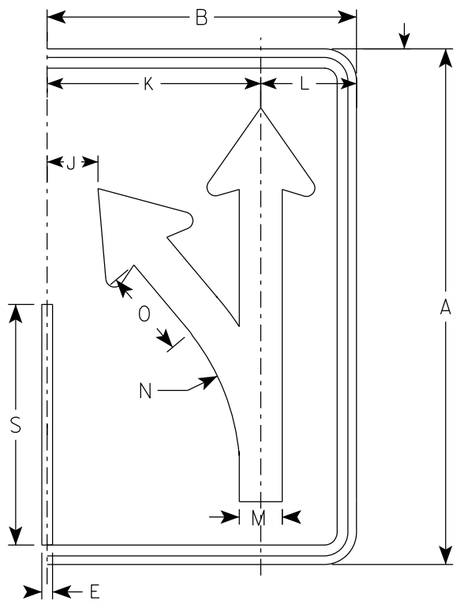
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



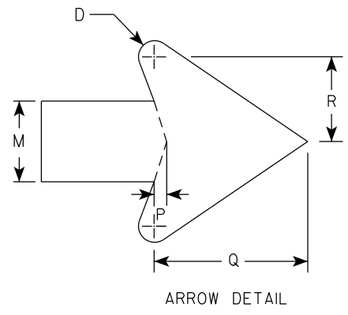
(E)



(E)



(E)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN
R3-8 (E) Arrow

WISCONSIN DEPT OF TRANSPORTATION

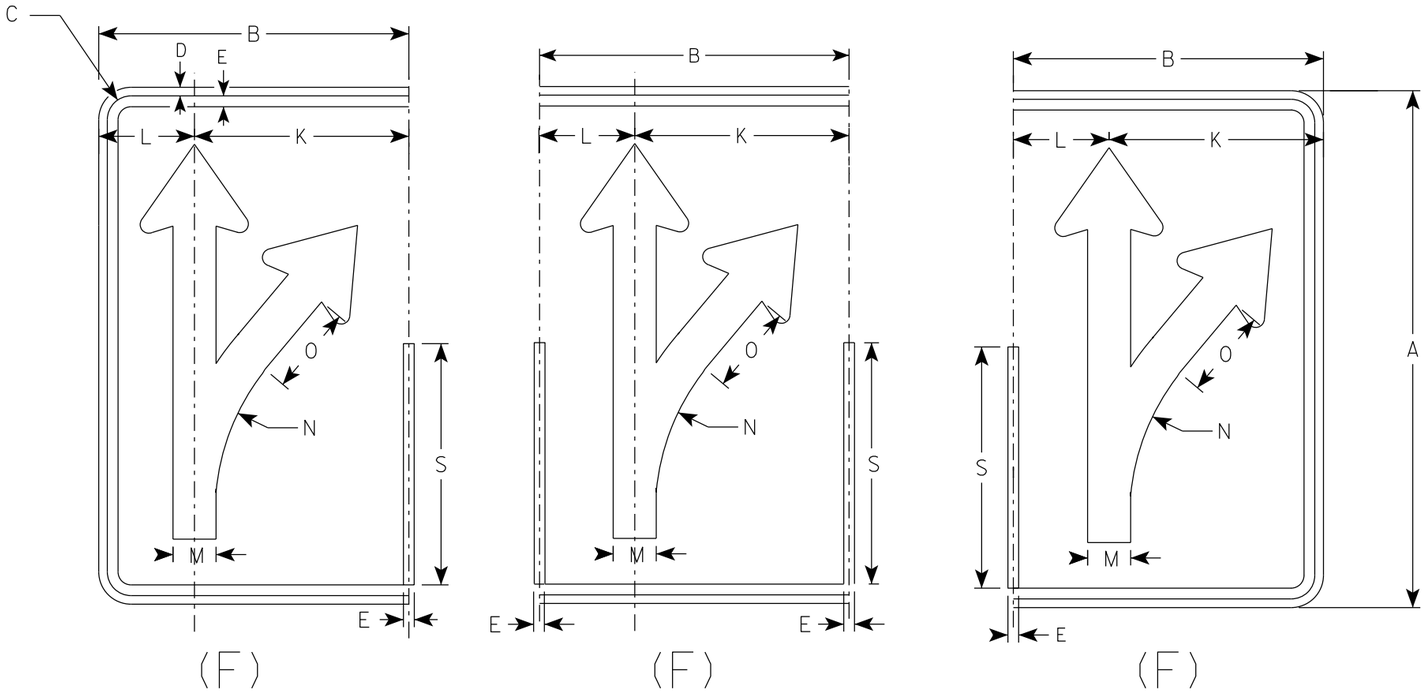
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

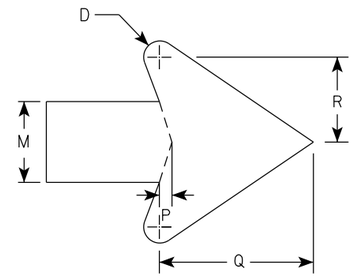
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 275 | E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(F) (F) (F)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN
R3-8 (F) Arrow

WISCONSIN DEPT OF TRANSPORTATION

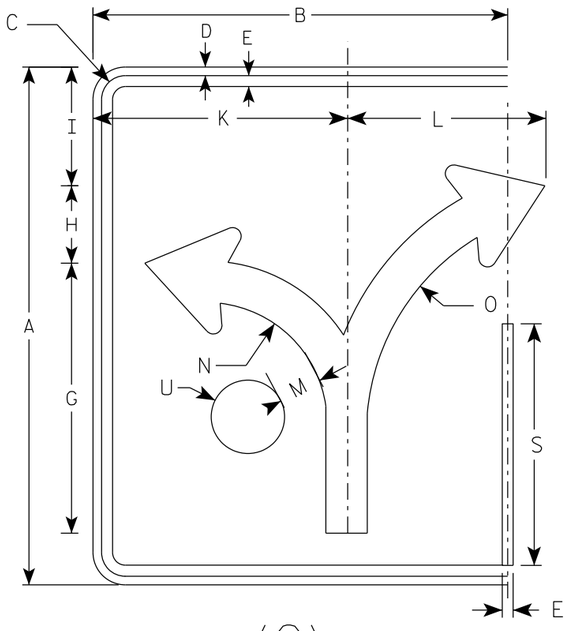
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

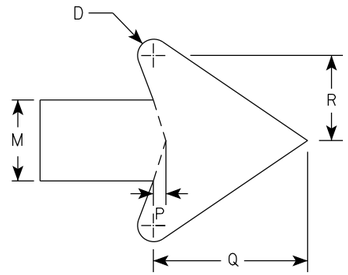
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 276 | E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(G)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		2 1/2						7.5
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0

STANDARD SIGN
R3-8 (G) Arrow

WISCONSIN DEPT OF TRANSPORTATION

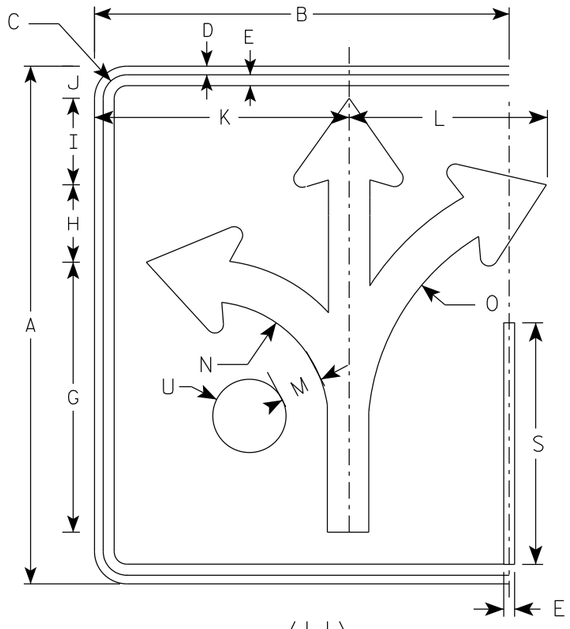
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

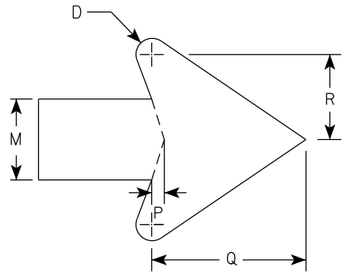
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 277 | E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(H)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	6	3 1/8	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		2 1/2						7.5
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0

STANDARD SIGN
R3-8 (H) Arrow

WISCONSIN DEPT OF TRANSPORTATION

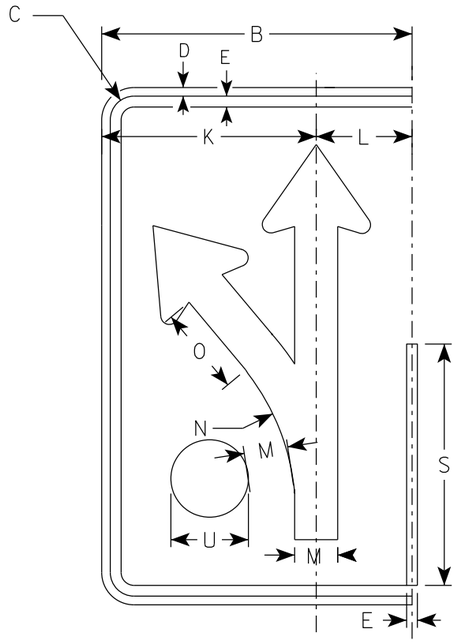
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

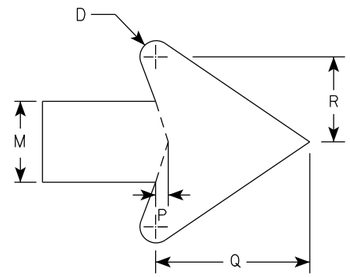
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 278	E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(I)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14		2 1/8						3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14		2 1/8						3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4		2 1/2						6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8		3 3/8						10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8		3 3/8						10.0

STANDARD SIGN
R3-8 (I) Arrow

WISCONSIN DEPT OF TRANSPORTATION

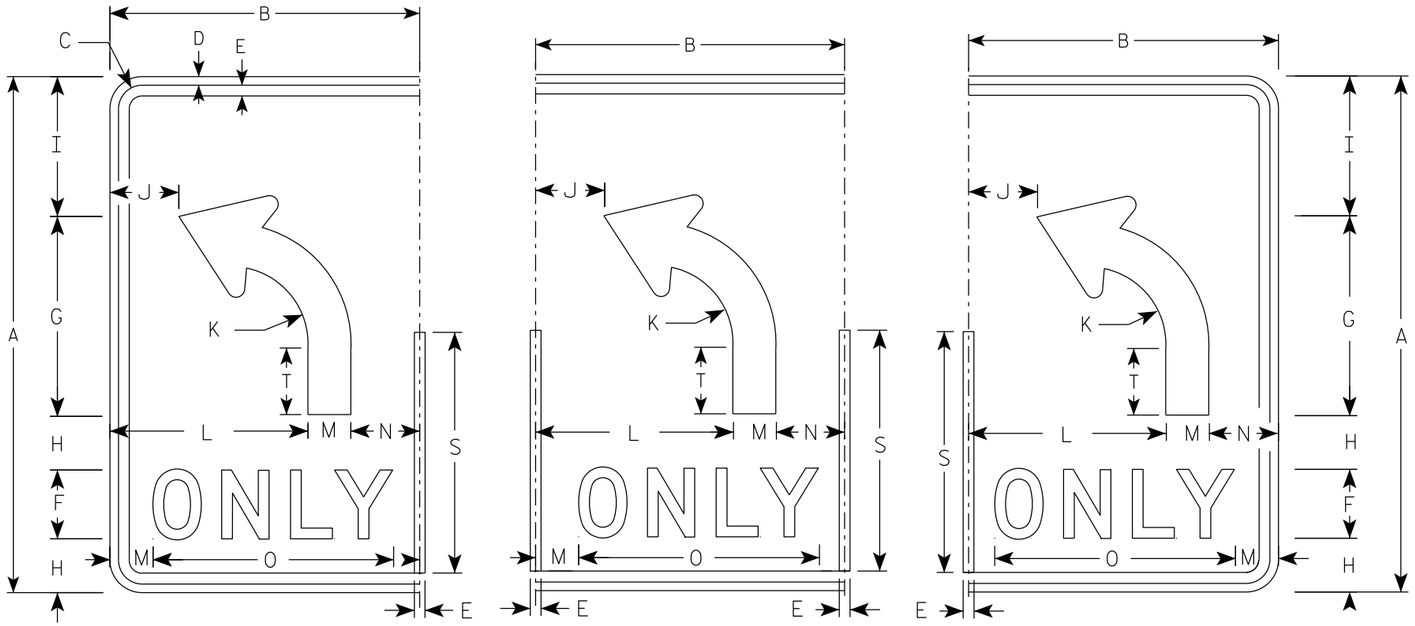
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

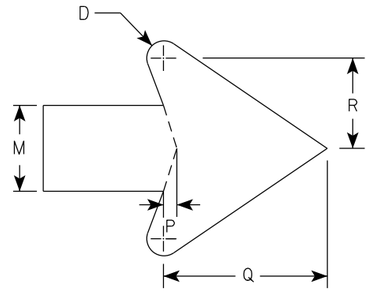
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 279 | E

NOTES

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



(L) (L) (L)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4		5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN

R3-8 (L) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

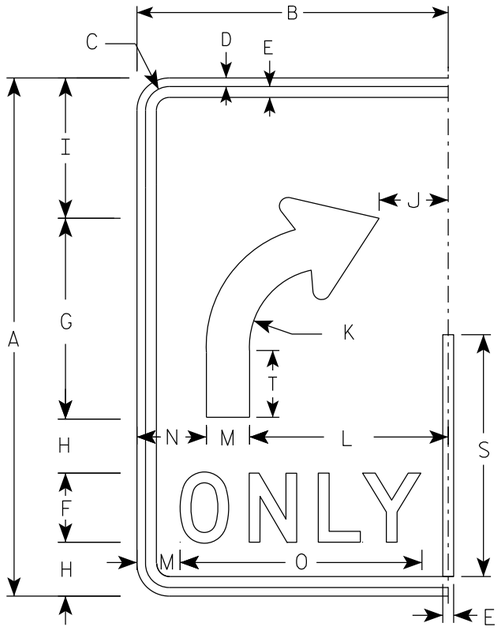
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO:

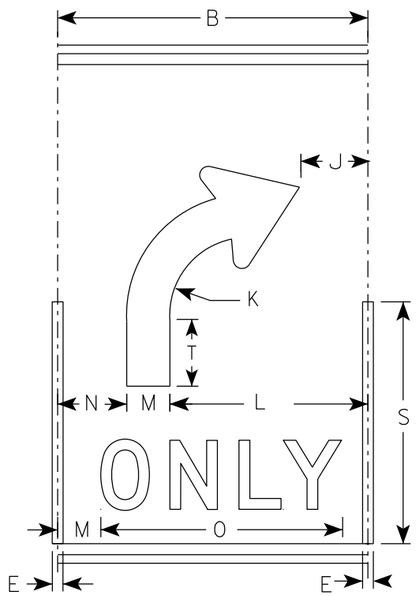
SHEET NO: 280 E

NOTES

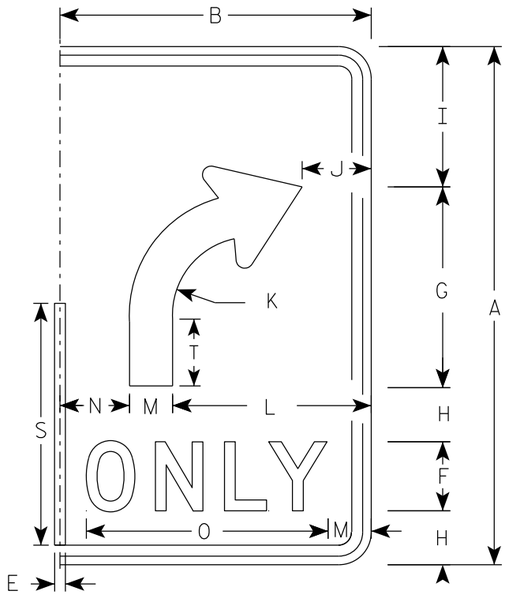
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D



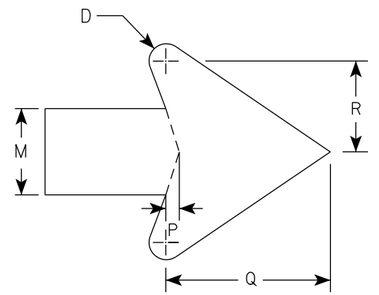
(R)



(R)



(R)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN
R3-8 (R) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

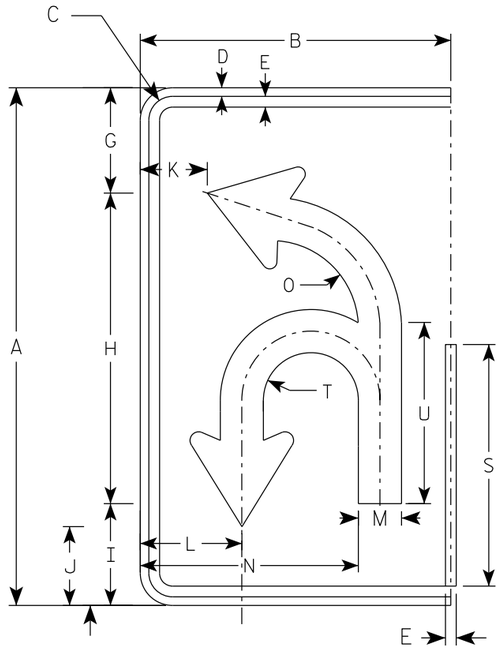
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO:

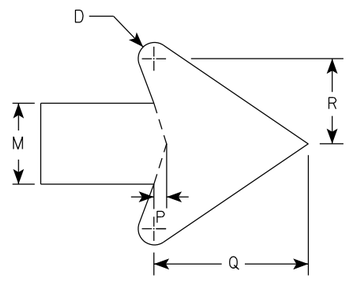
SHEET NO: 281 **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(U)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		6 1/8	18	5 7/8	4 5/8	3 7/8	5 7/8	2 1/2	12 5/8	5 1/8	3/8	4 3/4	2 5/8	14	2 3/4	10 1/2						3.75
2M	30	18	1 3/8	1/2	5/8		6 1/8	18	5 7/8	4 5/8	3 7/8	5 7/8	2 1/2	12 5/8	5 1/8	3/8	4 3/4	2 5/8	14	2 3/4	10 1/2						3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	21 5/8	7 1/8	5 1/2	5 7/8	8 1/4	3	16 3/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4	3 1/4	12 5/8						6.0
4	48	30	2 1/4	3/4	1		29 1/8	28 3/4	9 3/8	7 1/4	6 7/8	10	4	20 7/8	8 1/8	5/8	7 5/8	4 1/4	22 3/8	4 3/8	16 3/4						10.0
5	48	30	2 1/4	3/4	1		29 1/8	28 3/4	9 3/8	7 1/4	6 7/8	10	4	20 7/8	8 1/8	5/8	7 5/8	4 1/4	22 3/8	4 3/8	16 3/4						10.0

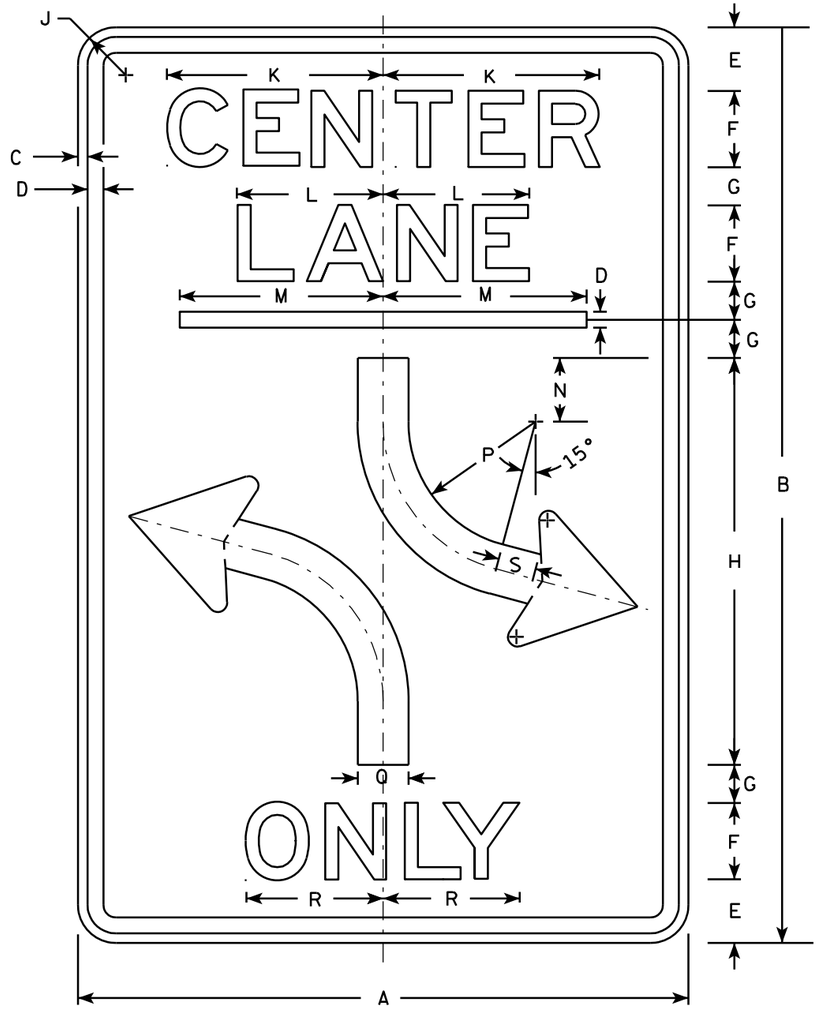
STANDARD SIGN
R3-8 (U) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

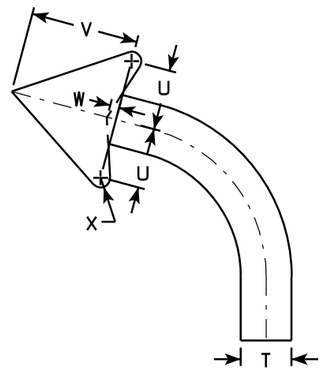
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 282 | E



R3-9B

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	3/8	1/2	2 1/2	3	1 1/2	16		1 1/2	8 1/2	5 3/4	8	2 1/2		6	2	5 1/8	1 1/2		2 3/8	4 3/8	3/8				6.0
2M	24	36	3/8	1/2	2 1/2	3	1 1/2	16		1 1/2	8 1/2	5 3/4	8	2 1/2		6	2	5 1/8	1 1/2		2 3/8	4 3/8	3/8				6.0
3	36	48	5/8	7/8	3 1/2	5	1 1/2	20		2 1/4	14 1/8	9 1/2	12	3		4	3	9 7/8	2		3 1/2	6 1/8	1/2				12.0
4																											
5																											

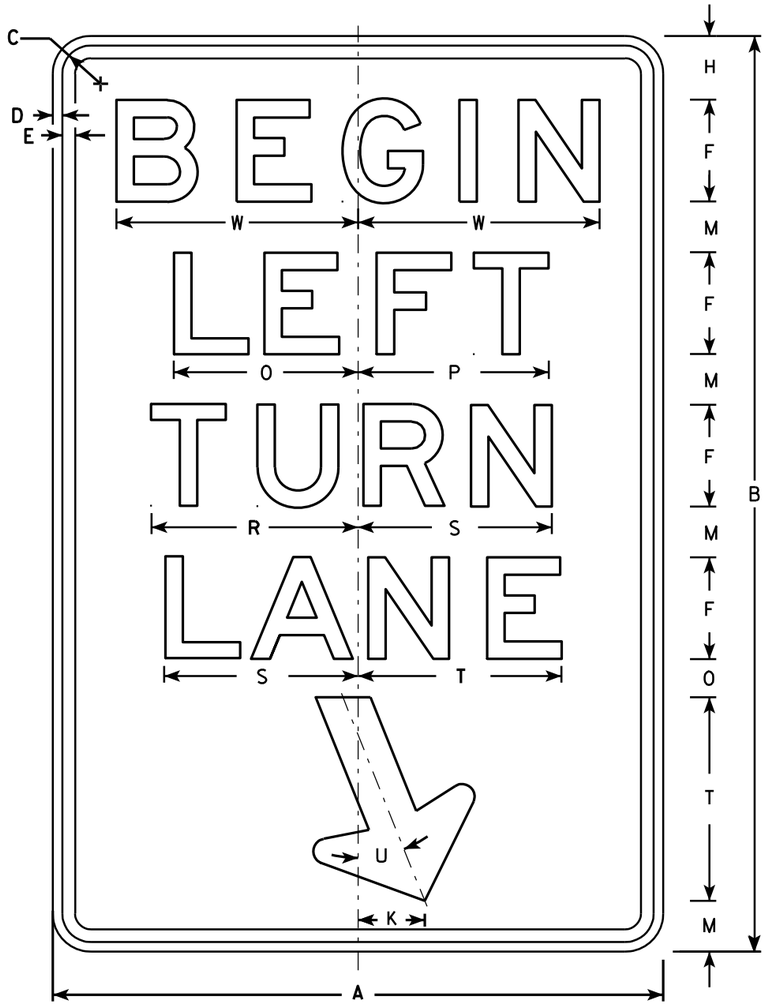
STANDARD SIGN
R3-9B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-9B.5

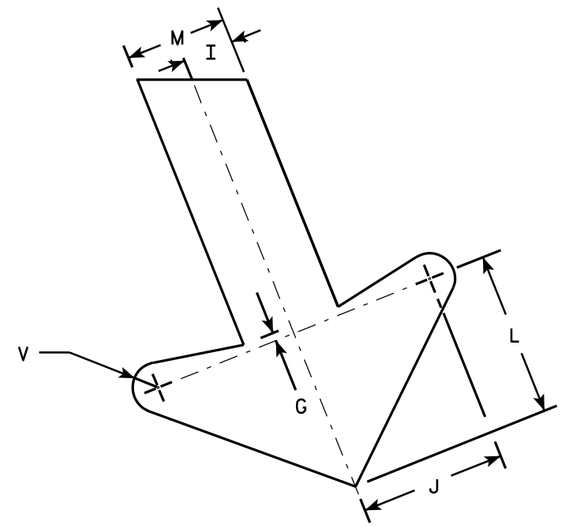
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 283 | E



R3-20L

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

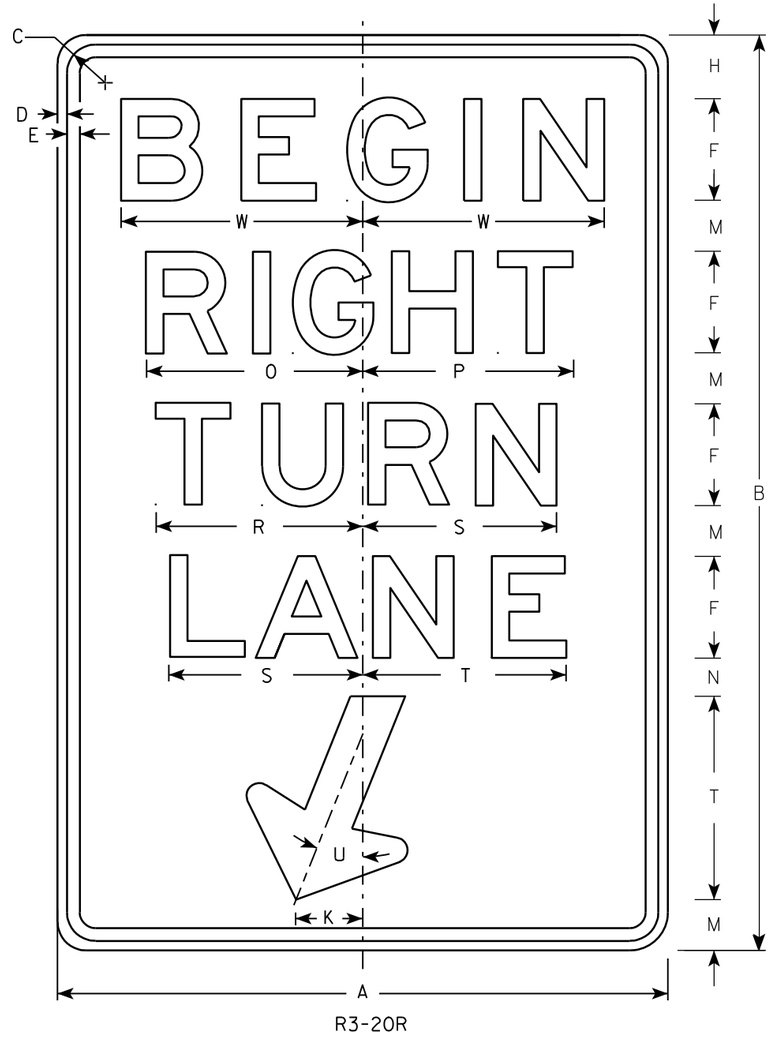
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

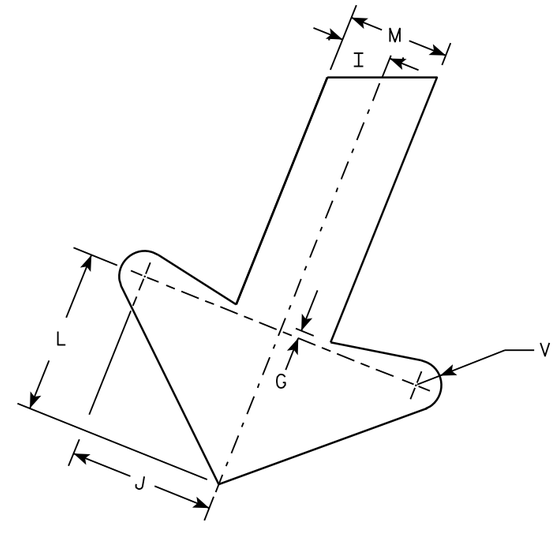
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 284 | E



R3-20R

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

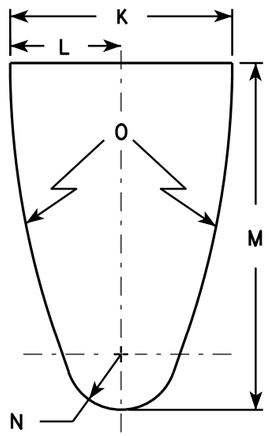
APPROVED Matthew R Rauch
for State Traffic Engineer

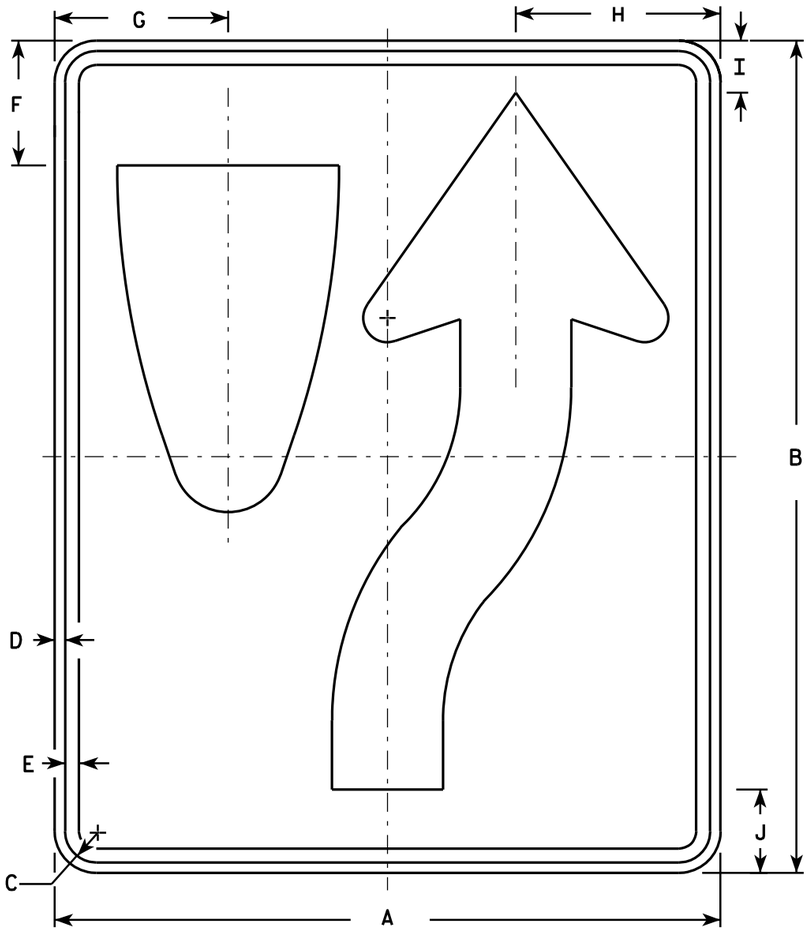
DATE 10/18/10 PLATE NO. R3-20R.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 285 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R320R.DGN PLOT DATE : 15-OCT-2010 14:59 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 5.959043:1.000000

WISDOT/CADDS SHEET 42

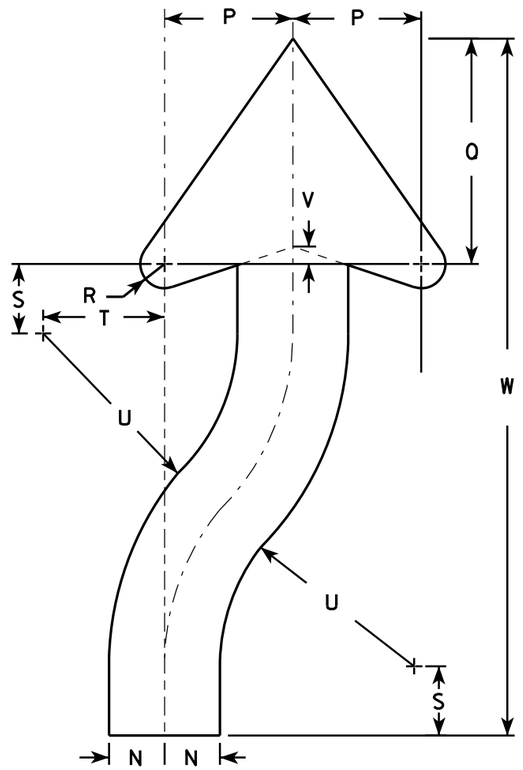




R4-7

NOTES

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



ARROW DETAIL

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

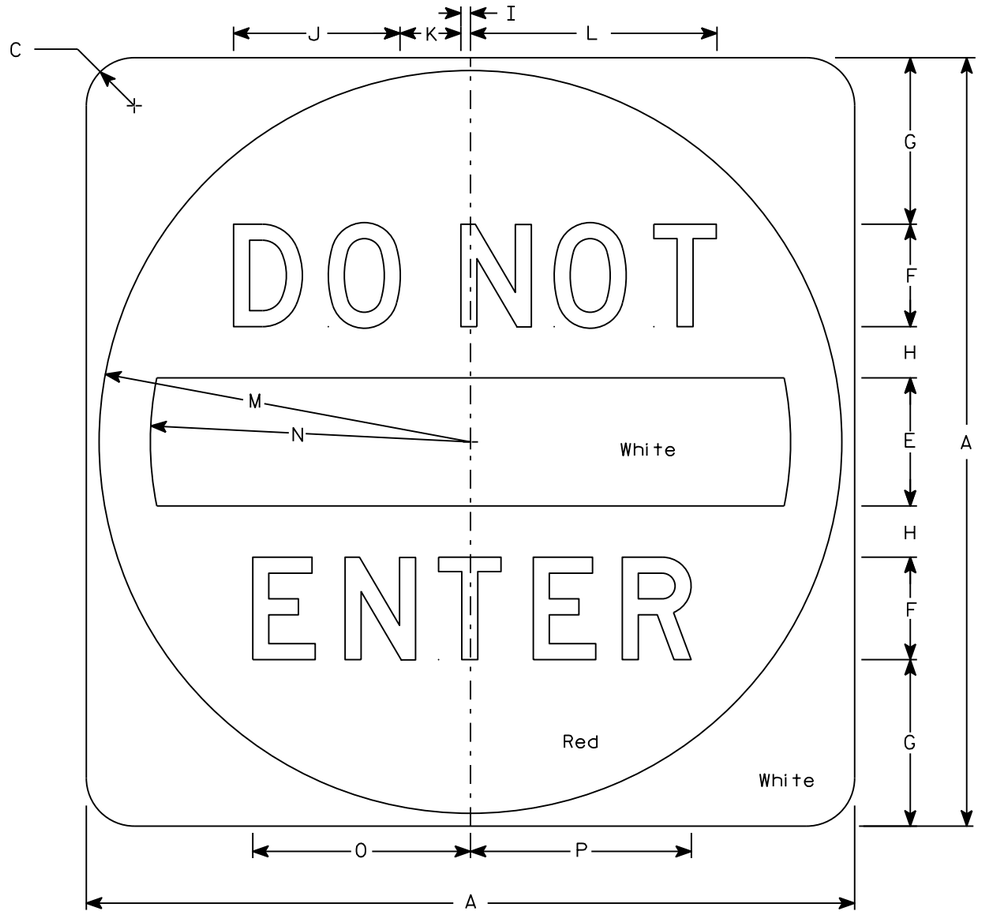
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 286	E



R5-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.25
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

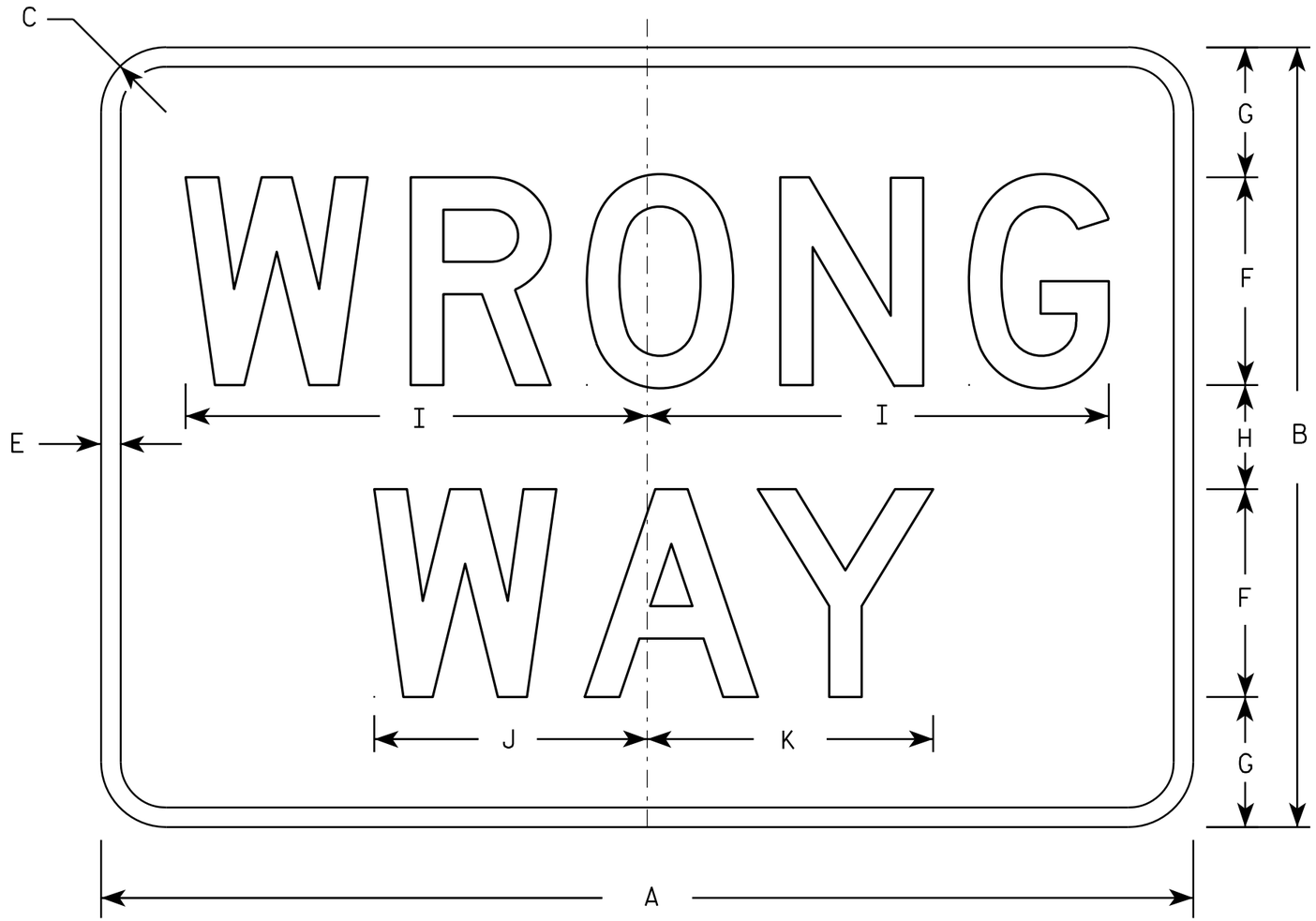
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 287 | E



R5-1A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

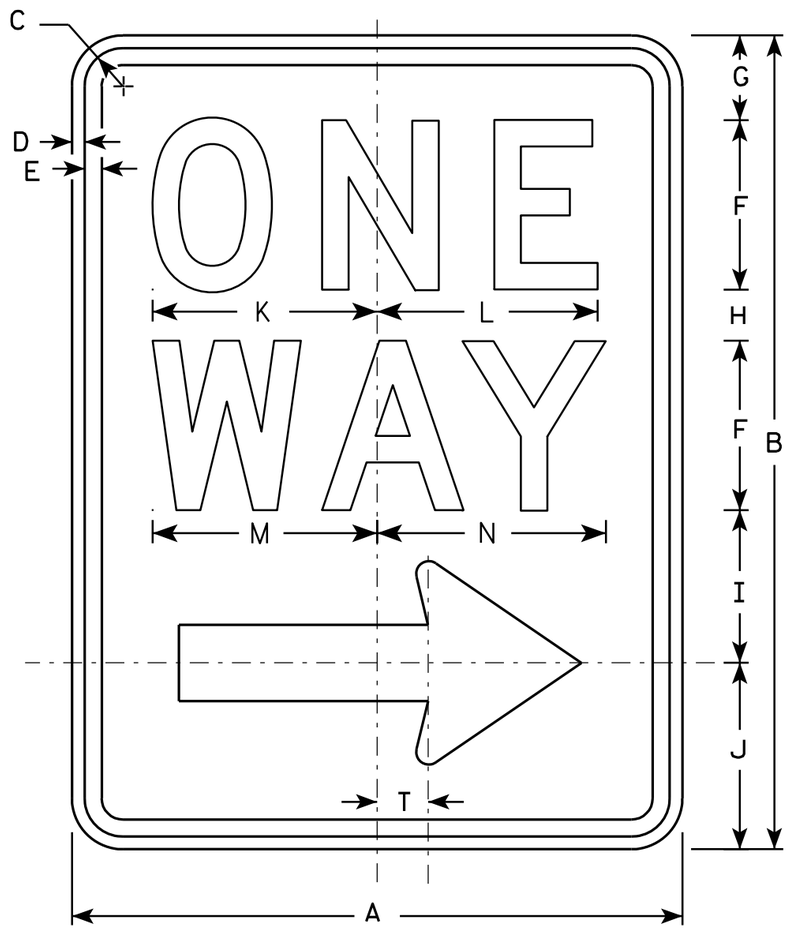
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

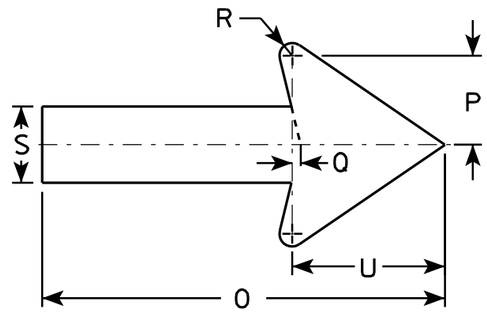
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 288	E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

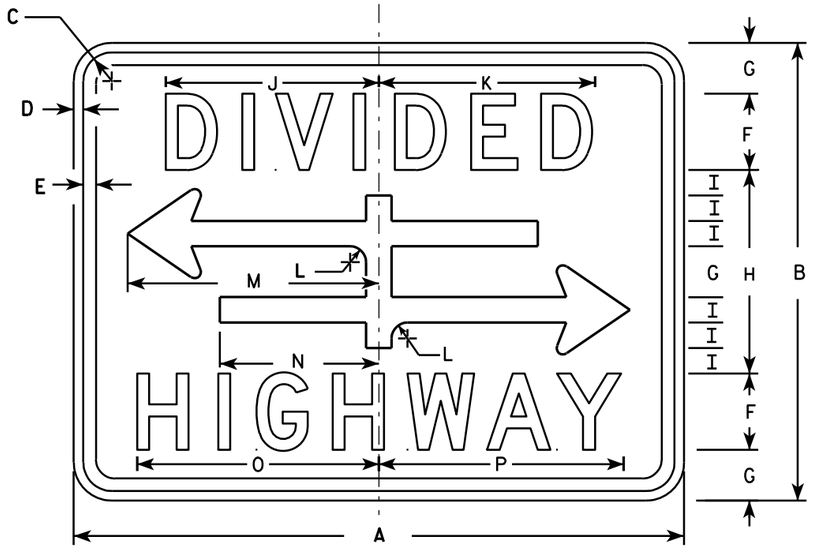
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

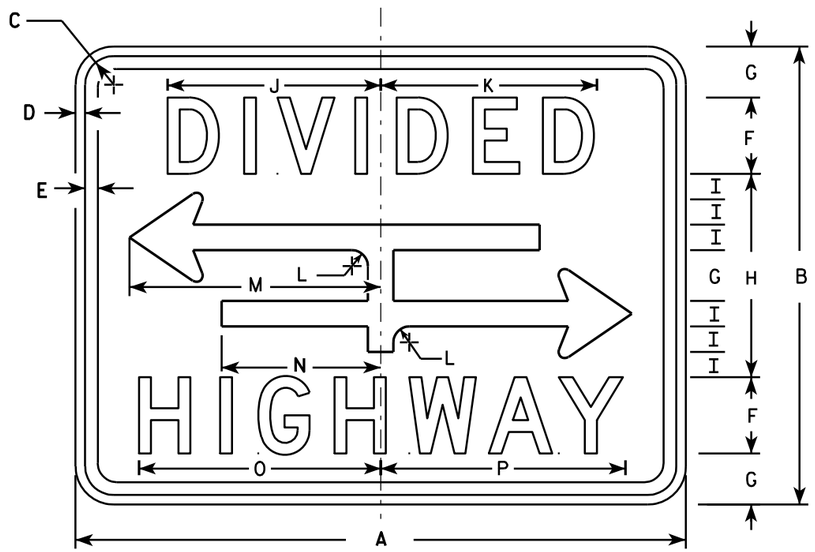
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 289	E



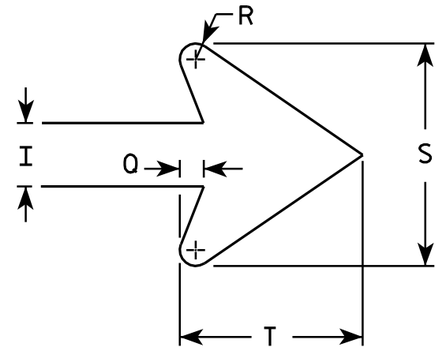
R6-3

NOTES

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



R6-3A



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	18	1 1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

STANDARD SIGN
R6-3 & R6-3A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

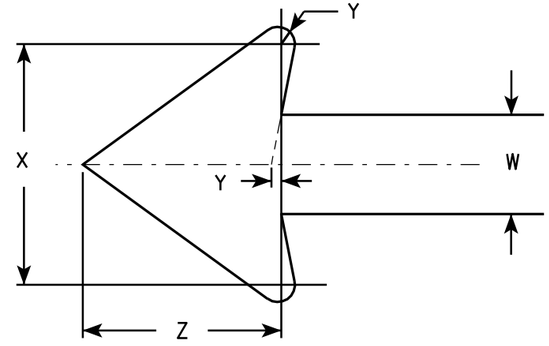
SHEET NO: 290 E



R7-51

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 - Red
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R7-51D (double arrow)
   R7-51R (right arrow)
   R7-51L (left arrow)
6. Lines 1, 3 and 4 are Series C.
   Line 2 is Series B.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	4 7/8	5/8	1 3/4	2 1/2	4 3/8	3 7/8	3/4	1 3/4	1/8	1 1/2	1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	5 3/4	1 1/8	1 1/2	3 1/8	5 1/2	5 7/8	1 1/8	2 5/8	1/4	2 1/4	3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	7 1/8	1 1/4	2	3 3/4	6 1/2	7 3/4	1 1/2	3 1/2	1/4	3	5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	7 1/8	1 1/4	2	3 3/4	6 1/2	7 3/4	1 1/2	3 1/2	1/4	3	5.0
4																											
5																											

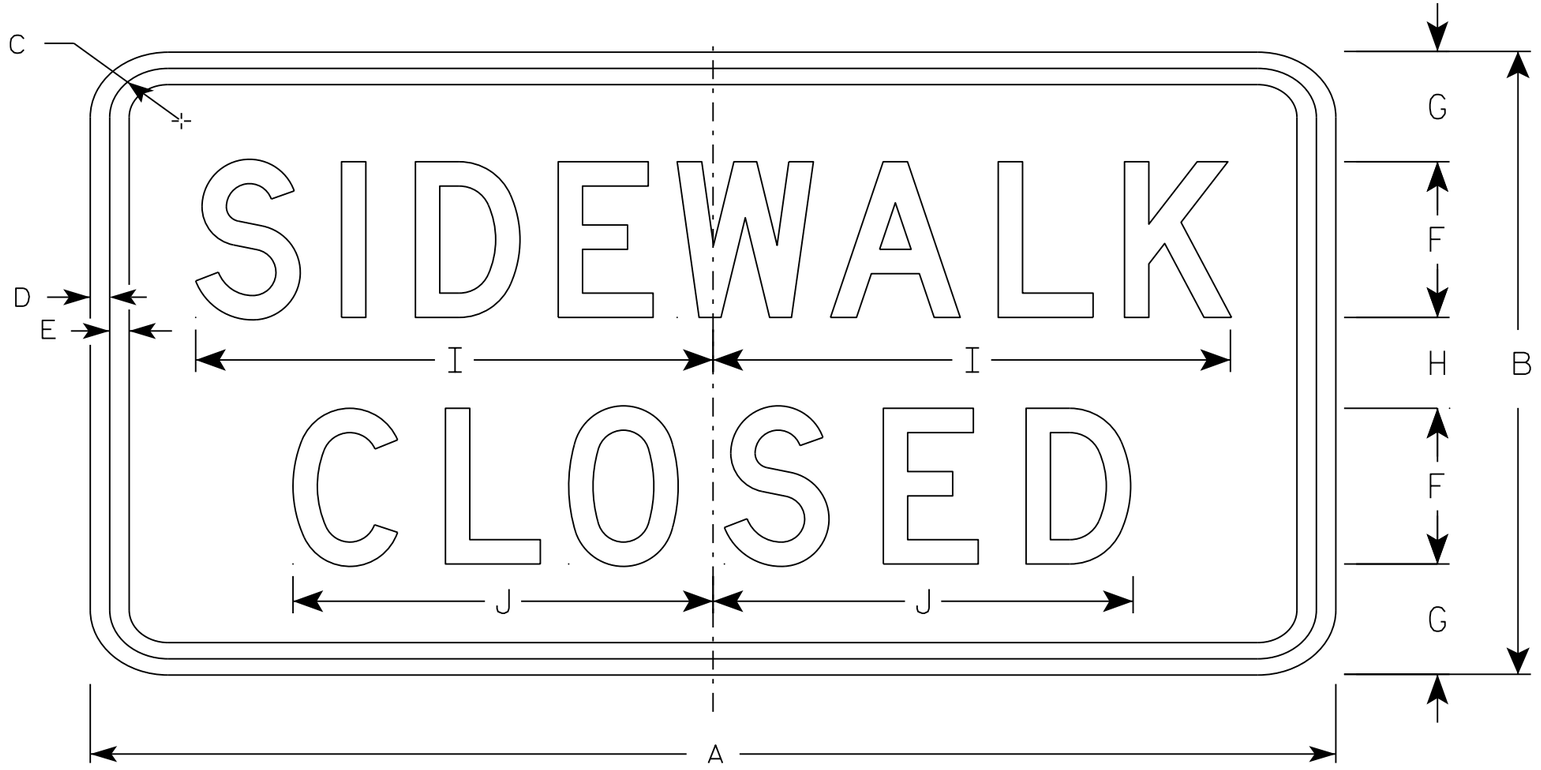
STANDARD SIGN
R7-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-51.6

PROJECT NO:	HWY:	COUNTY:			SHEET NO: 291	E



R9-9

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4																											
5																											

STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

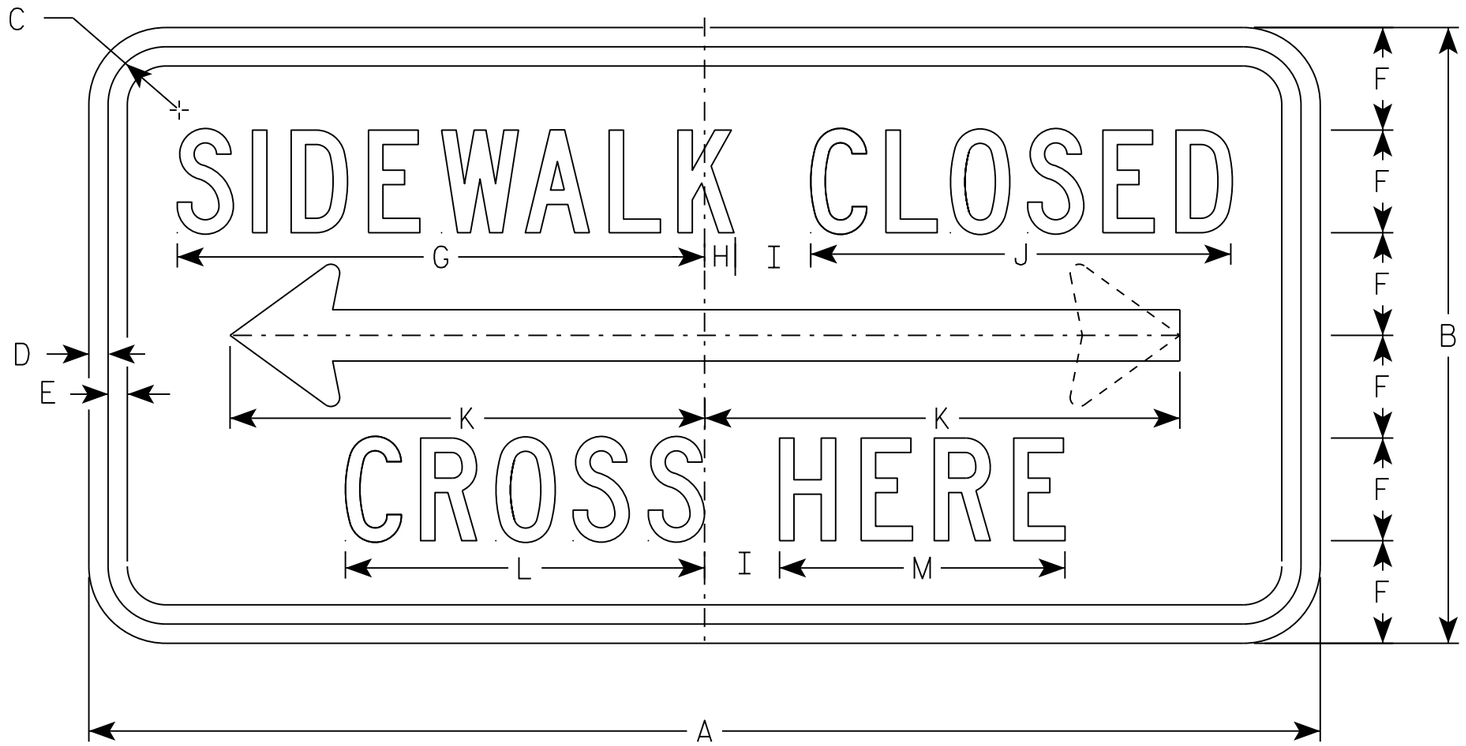
DATE 8/11/16 PLATE 292 R9-9.6

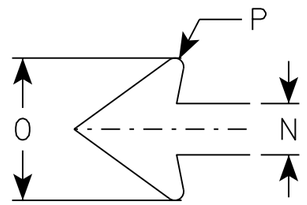
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R99.DGN PLOT DATE : 11-AUG-2016 11:33 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 2.918761:1.000000

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for paths and Trails.





R9-11A

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	2	10 1/4	5/8	1 1/2	8 1/4	9 1/4	7	5 5/8	1	2 3/4	1/8											2.0
2M	24	12	1 1/8	3/8	3/8	2	10 1/4	5/8	1 1/2	8 1/4	9 1/4	7	5 5/8	1	2 3/4	1/8											2.0
3	30	15	1 1/8	3/8	1/2	2	13	3/4	2	10 1/4	12 3/8	8 7/8	6 7/8	1 1/4	3 5/8	1/4											3.125
4																											
5																											

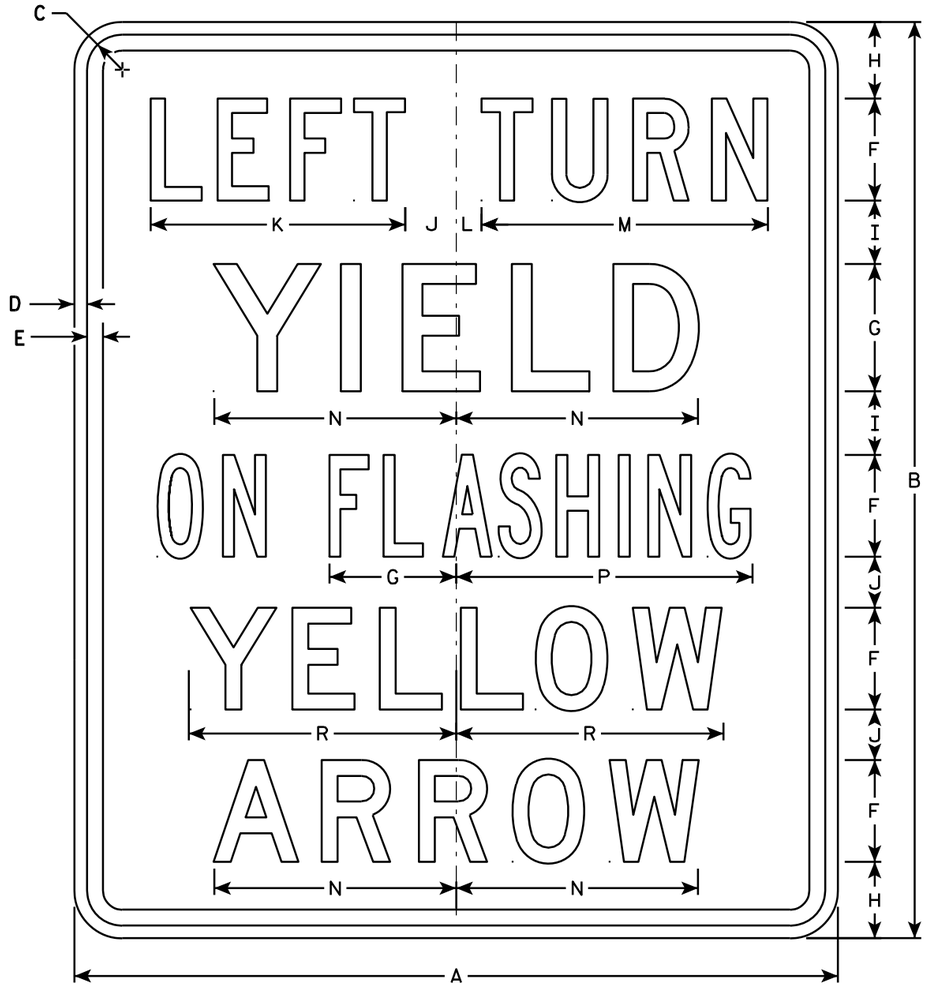
STANDARD SIGN
R9-11A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/29/16 PLATE NO. R9-11A.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 293 E

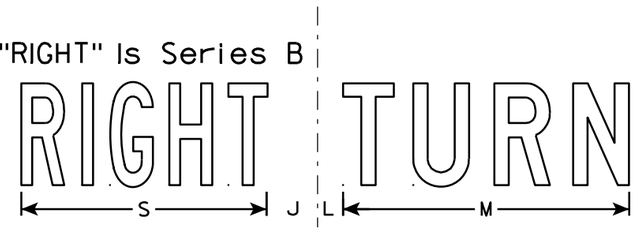


R10-50L

NOTES

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

"RIGHT" Is Series B



R10-50R

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2	9 5/8								7.5
2M	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2	9 5/8								7.5
3																											
4																											
5																											

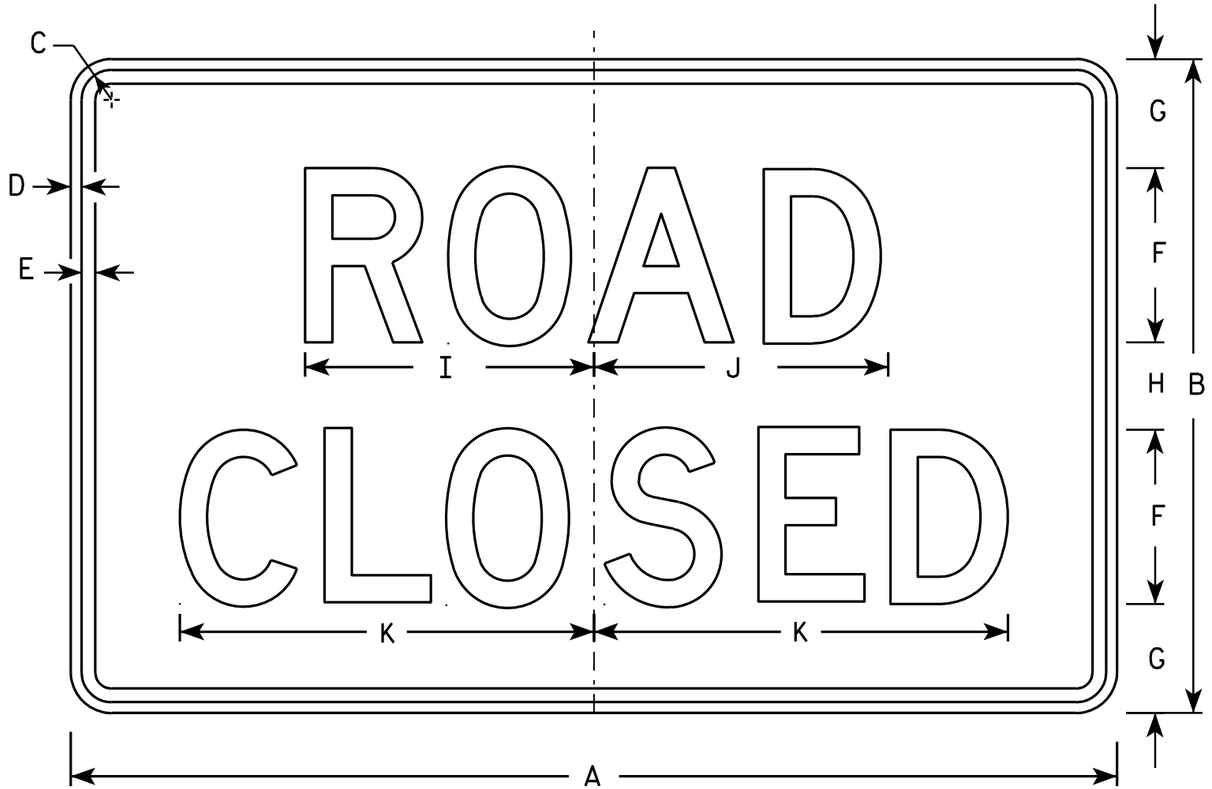
STANDARD SIGN
R10-50

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/11/13 PLATE NO. R10-50.2

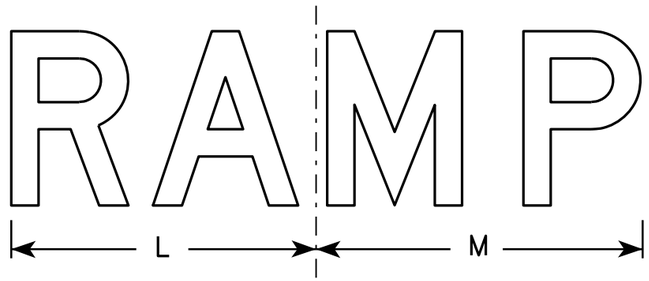
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 294	E



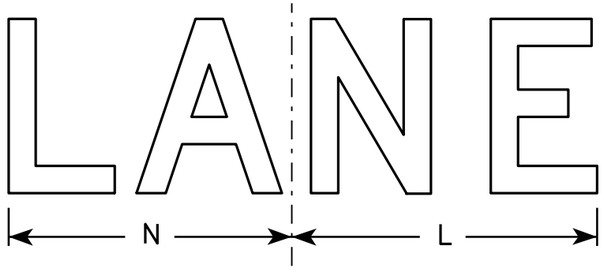
R11-2

NOTES

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



R11-2R



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

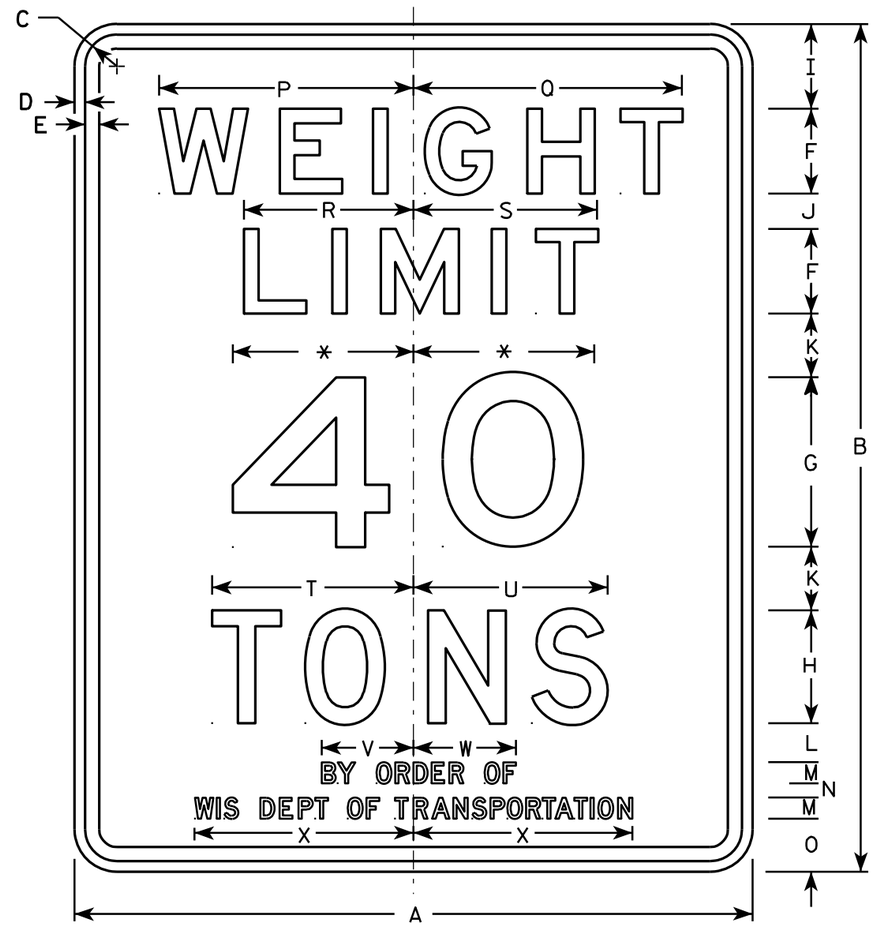
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 295	E



R12-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 2 & 3 are series E
   Lines 4, 5, & 6 are series D.
6. Substitute appropriate numeral and optically adjust spacing to achieve proper balance.
7. Substitute name of county or town on County Trunk and Town Highways respectively. Community name on City or Village Streets including Connecting Highways is optional.

* Varies (see note 6)

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	30	1 1/8	3/8	1/2	3	6	4	3	1 1/4	2 1/4	1 3/8	3/4	1/2	1 7/8	9	9 1/2	6	6 1/2	7 1/8	6 7/8	3 1/4	3 5/8	7 3/4			5.0
2S	24	30	1 1/8	3/8	1/2	3	6	4	3	1 1/4	2 1/4	1 3/8	3/4	1/2	1 7/8	9	9 1/2	6	6 1/2	7 1/8	6 7/8	3 1/4	3 5/8	7 3/4			5.0
2M	24	30	1 1/8	3/8	1/2	3	6	4	3	1 1/4	2 1/4	1 3/8	3/4	1/2	1 7/8	9	9 1/2	6	6 1/2	7 1/8	6 7/8	3 1/4	3 5/8	7 3/4			5.0
3	36	48	1 3/8	1/2	5/8	6	10	8	4 1/2	2 1/2	2 1/4	1 1/2	3/4	1/2	3	13 1/2	14 1/4	9	9 3/4	10 5/8	10 1/4	3 1/4	3 5/8	7 3/4			12.0
4	48	60	2 1/4	3/4	1	6	12	8	6	2 1/2	4 1/2	2 3/4	1 1/2	1	3 3/4	18	19	12	13	14 1/4	13 3/4	6 1/2	7 1/4	15 1/2			20.0
5																											

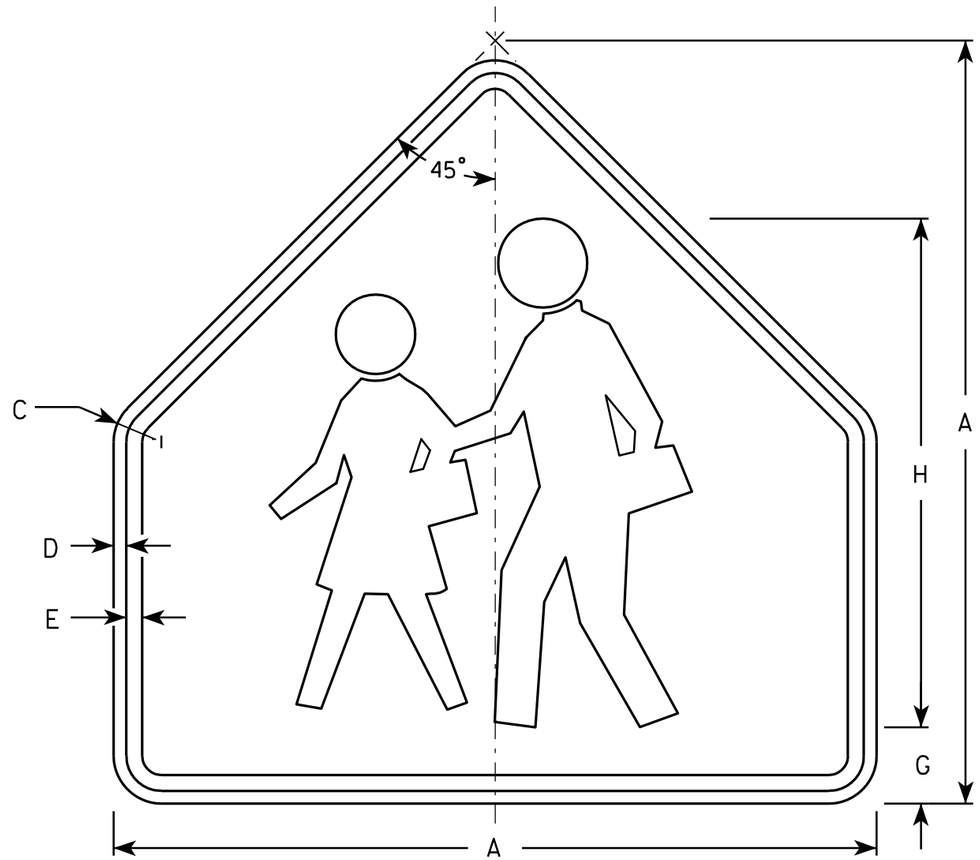
STANDARD SIGN
R12-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R12-1.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 296 | E



S1-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow-Green
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3	20																			4.69
2	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
3	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
4	48		2 1/4	3/4	1		4 3/4	32																			12
5																											

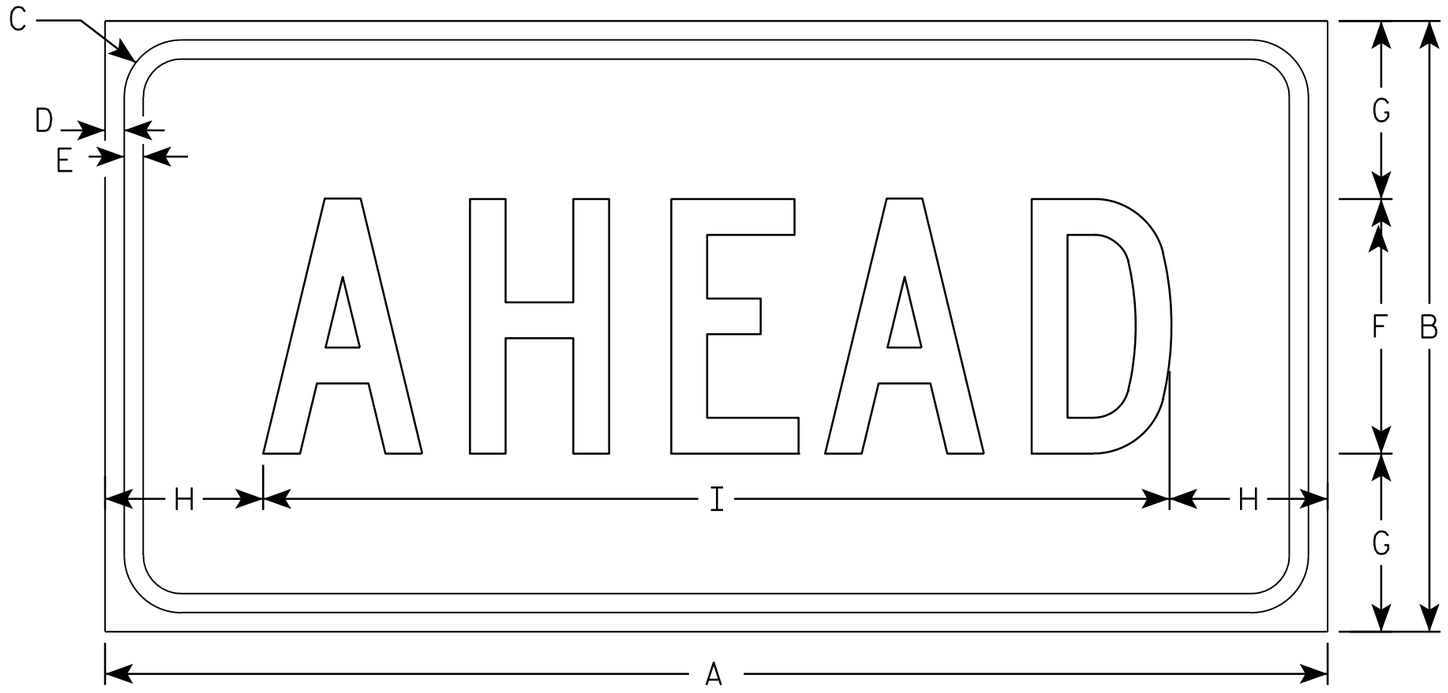
STANDARD SIGN
S1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/30/05 PLATE NO. S1-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 297	E



S16-9P

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow-Green
   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	24	12	1 1/8	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
2S	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
2M	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
3	30	18	1 1/8	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
4	48	24	1 3/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5																											

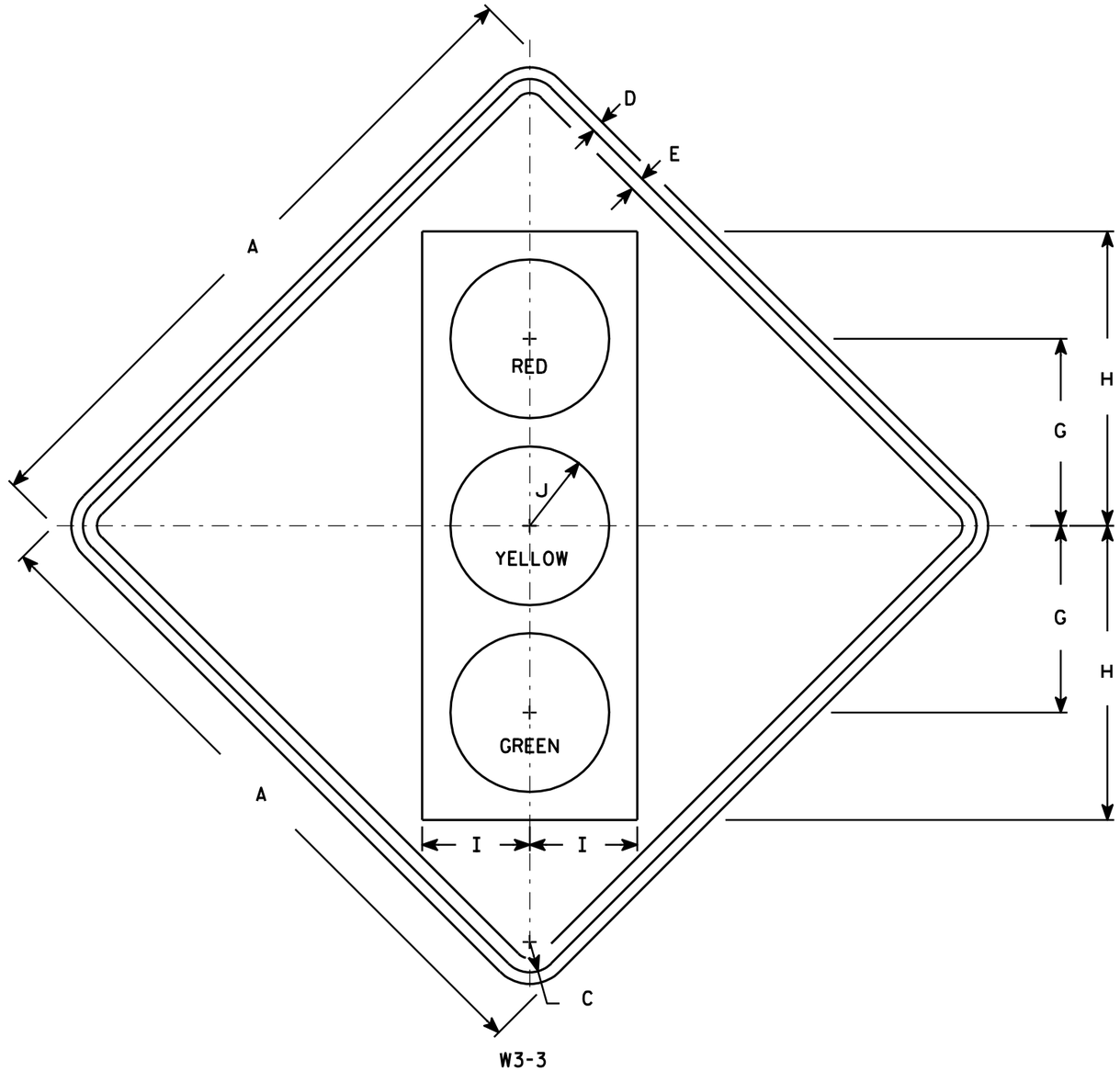
STANDARD SIGN
S16-9P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/22/13 PLATE NO. S16-9P.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 298 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

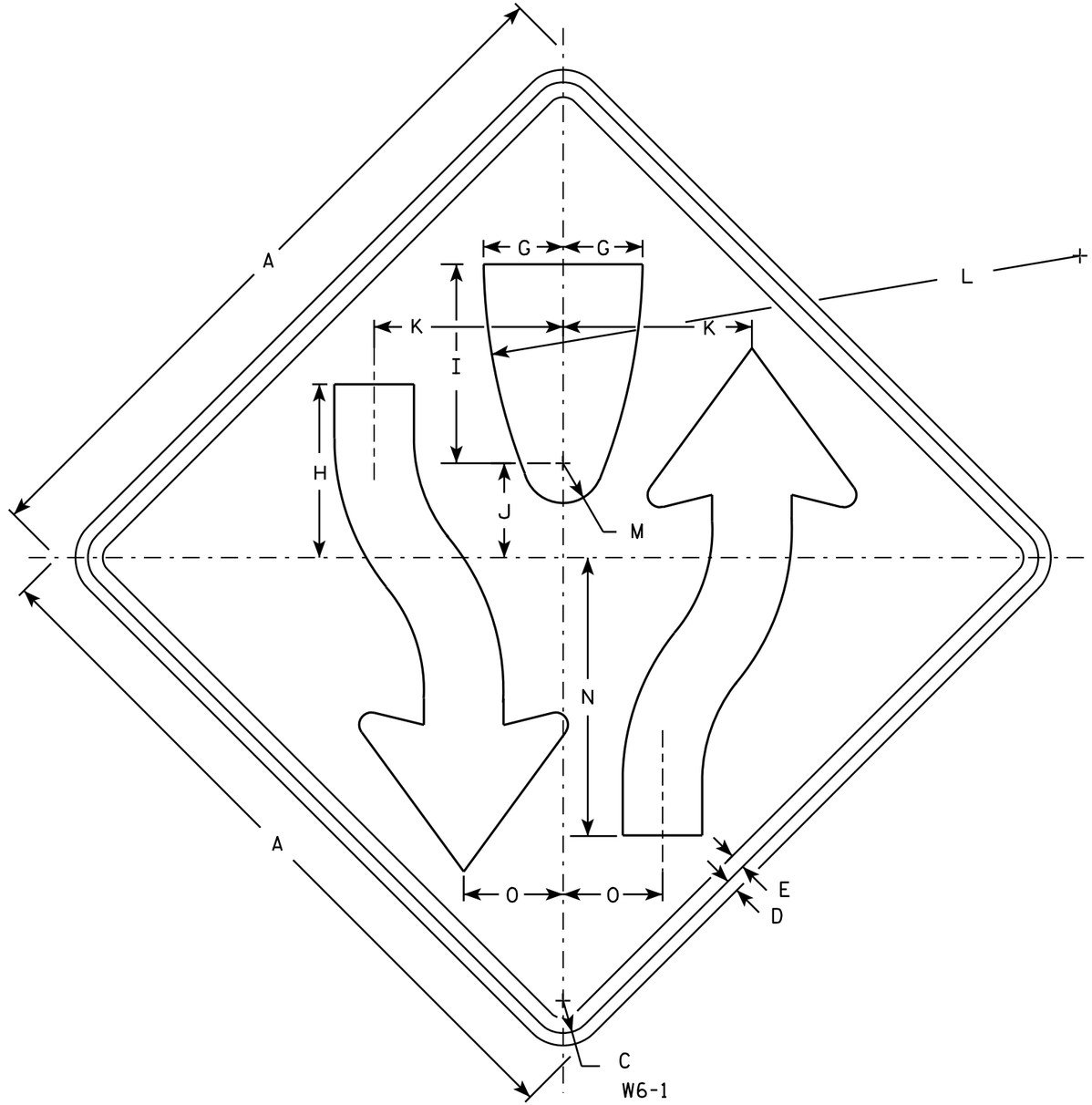
STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

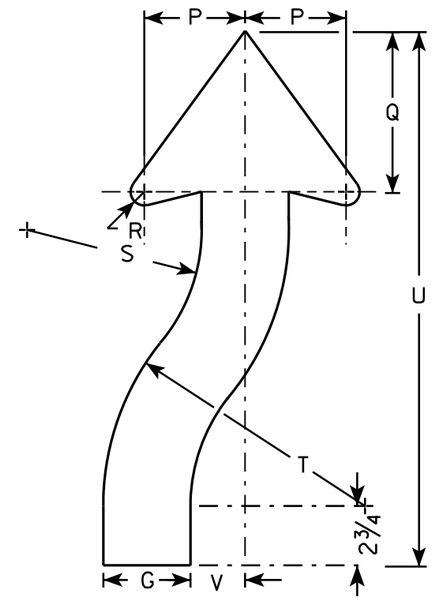
DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 299 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W6-2 same as W6-1 but is rotated 180° when mounted.



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	30		1 3/8	1/2	5/8		3 1/4	8	8 1/4	4 1/8	7 7/8	25	1 3/4	11 5/8	4 1/8	3 7/8	6 3/4	5/8	6 5/8	9 7/8	21 5/8	2					6.25
2S	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2M	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
3																											
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W6-1 & W6-2

WISCONSIN DEPT OF TRANSPORTATION

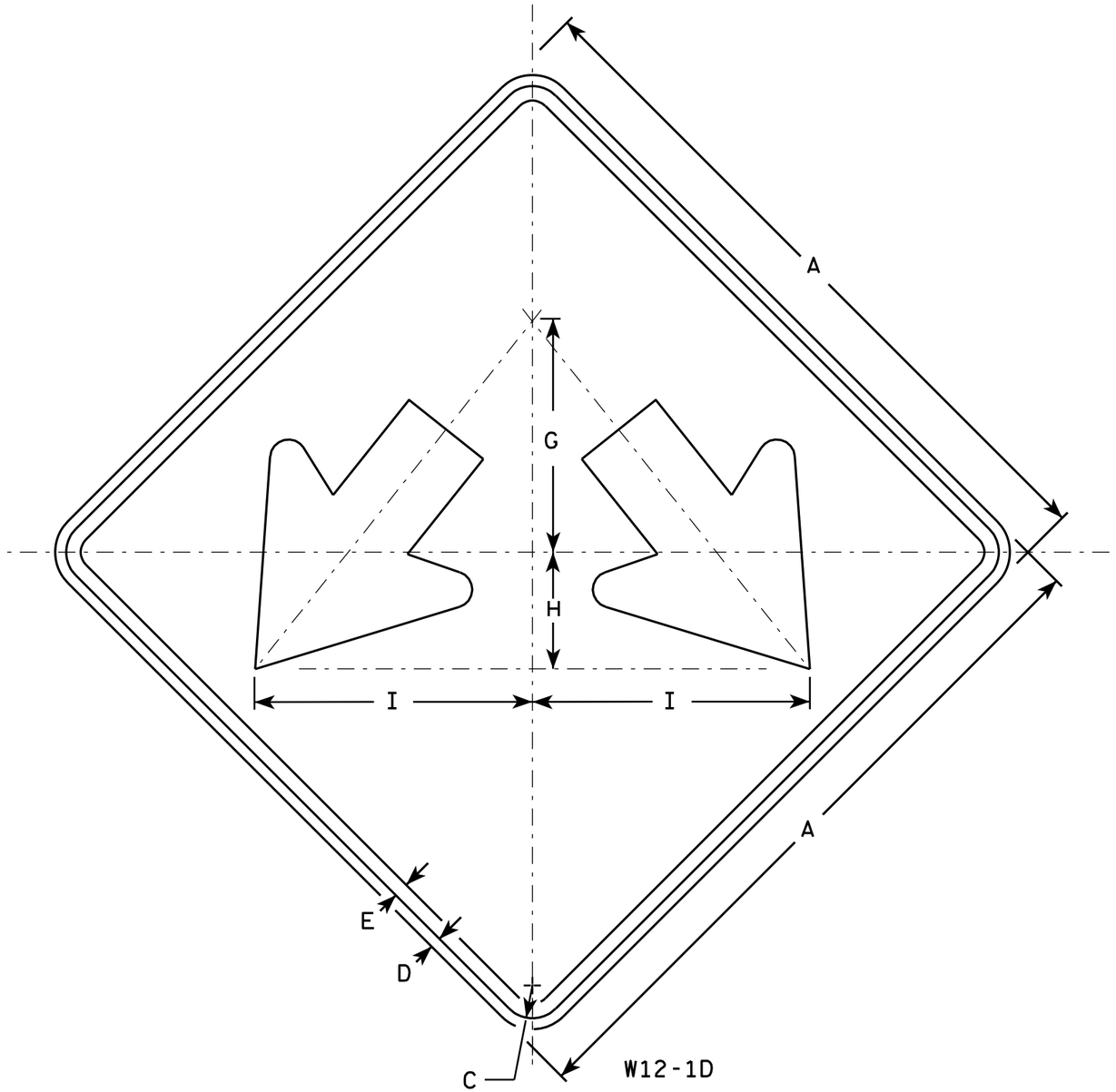
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 300	E

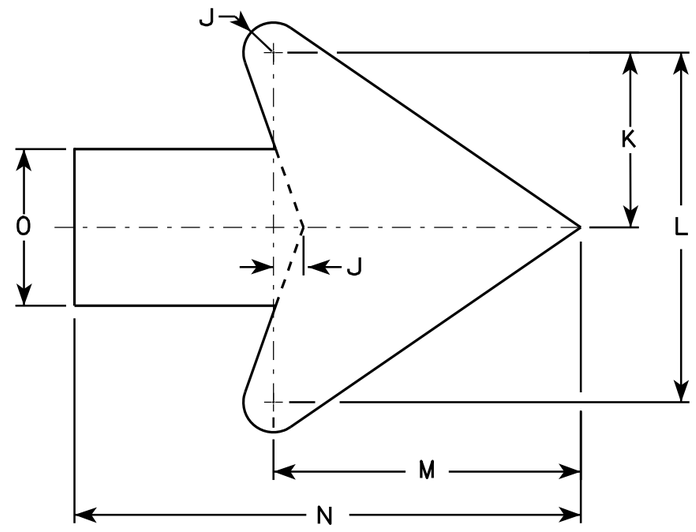
7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W61.DGN PLOT DATE : 12-MAR-2013 14:02 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.946657:1.000000
WISDOT/CADDS SHEET 42



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

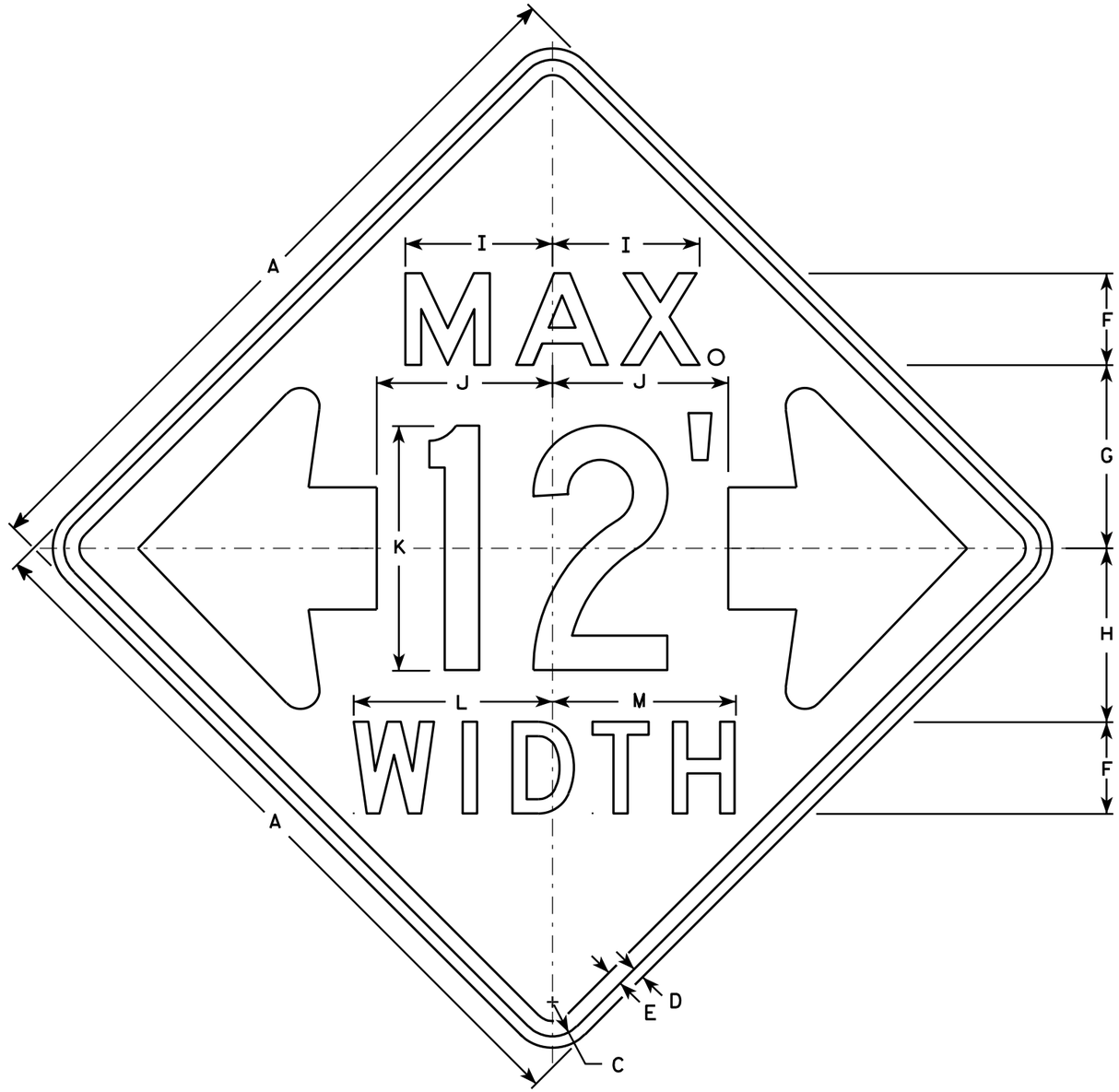
STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15

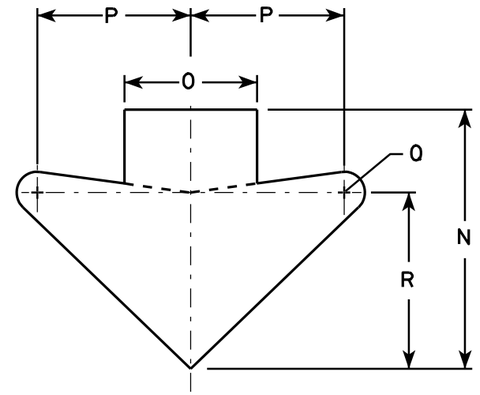
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 301	E



W12-52

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

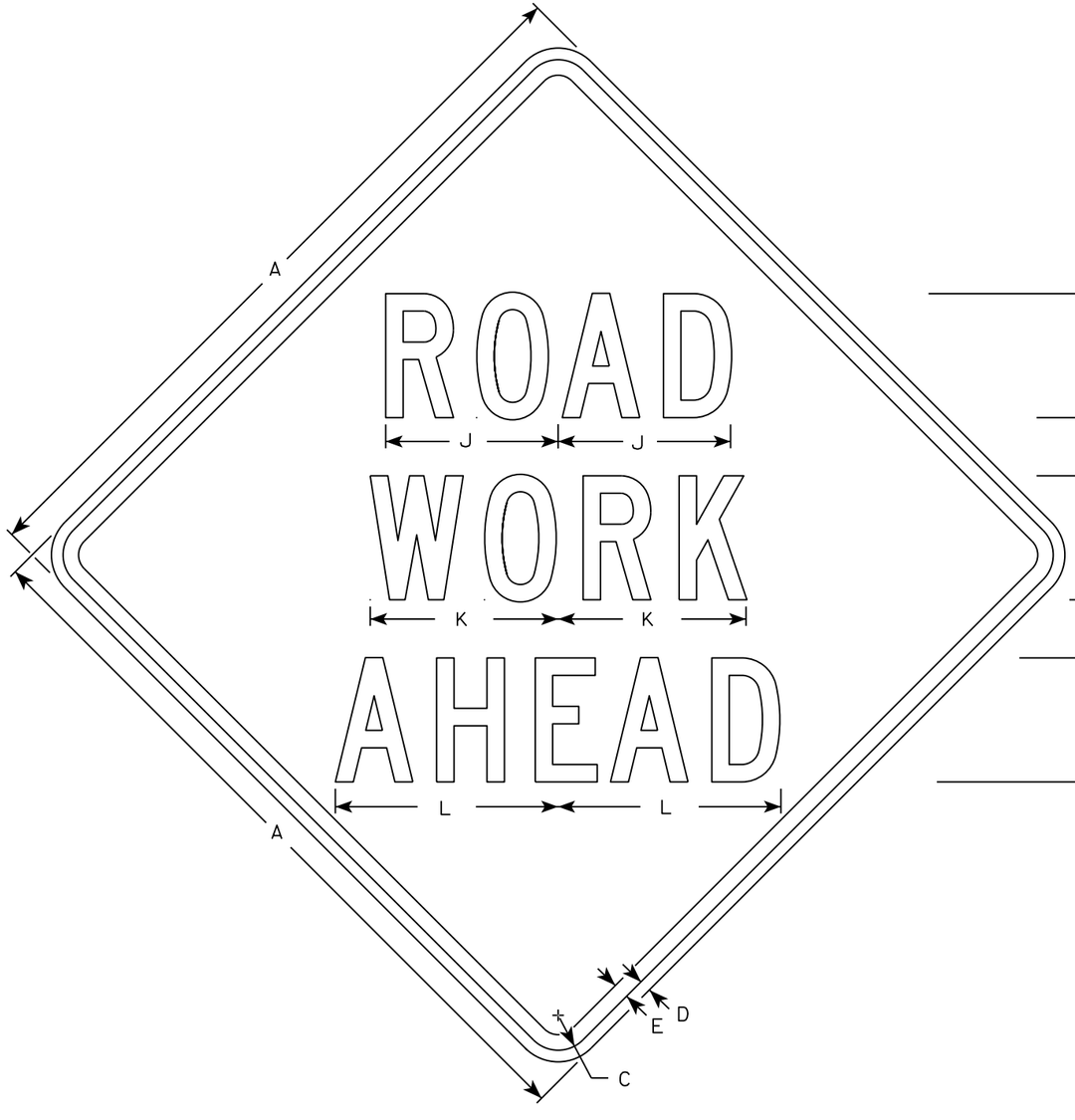
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

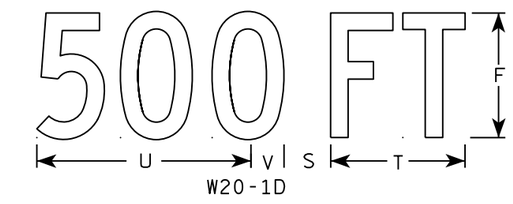
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 302 | E

7

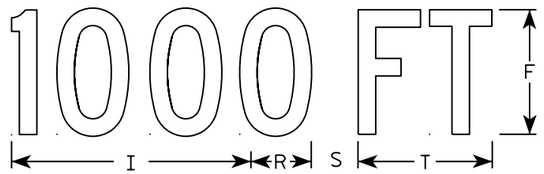
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000
WISDOT/CADDS SHEET 42



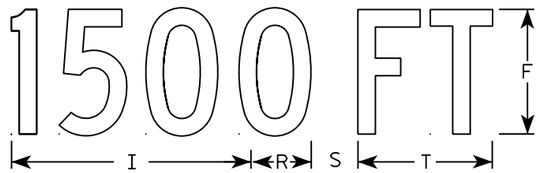
W20-1A



W20-1D



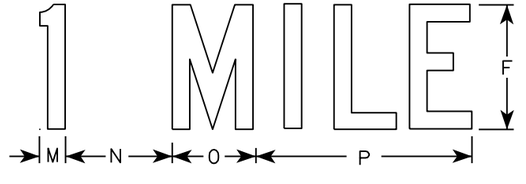
W20-1C



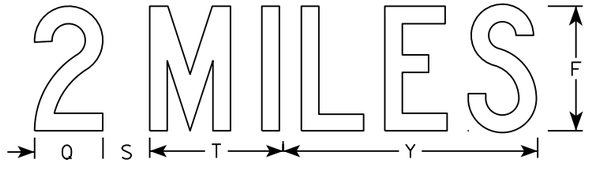
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

WISCONSIN DEPT OF TRANSPORTATION

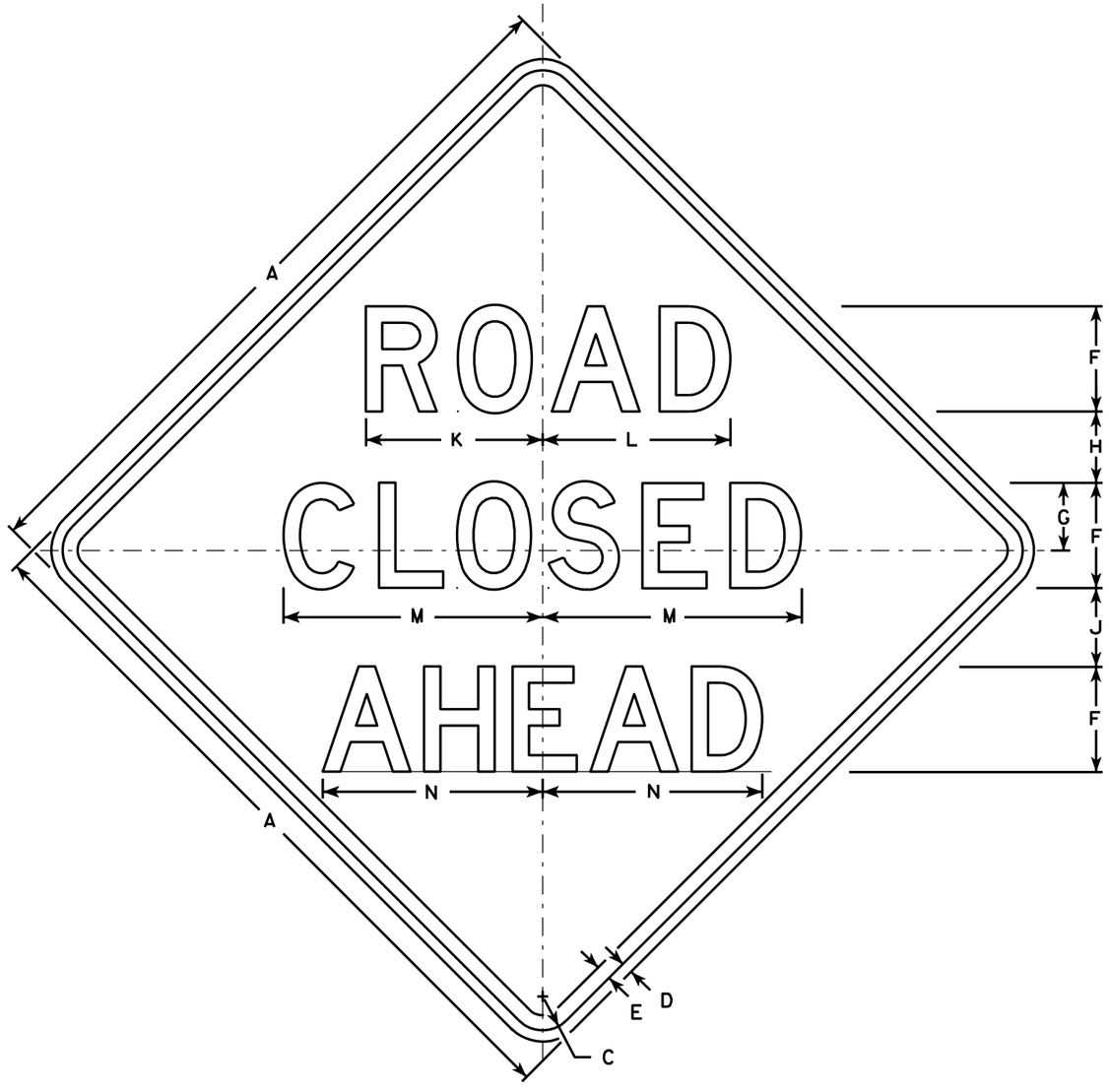
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

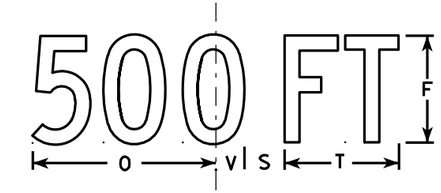
PROJECT NO:

SHEET NO: E

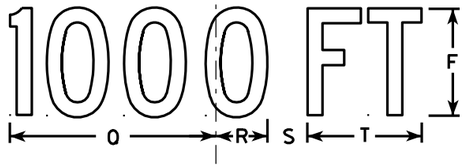
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



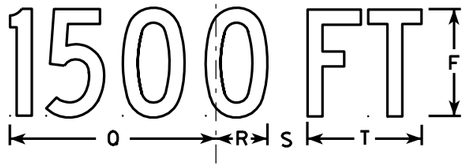
W20-3A



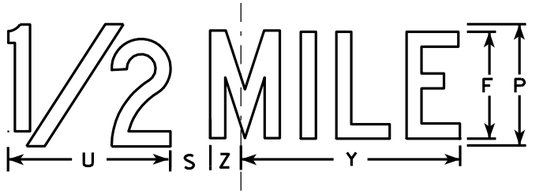
W20-3D



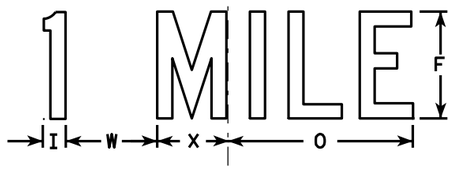
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

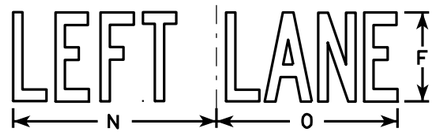
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 304 | E

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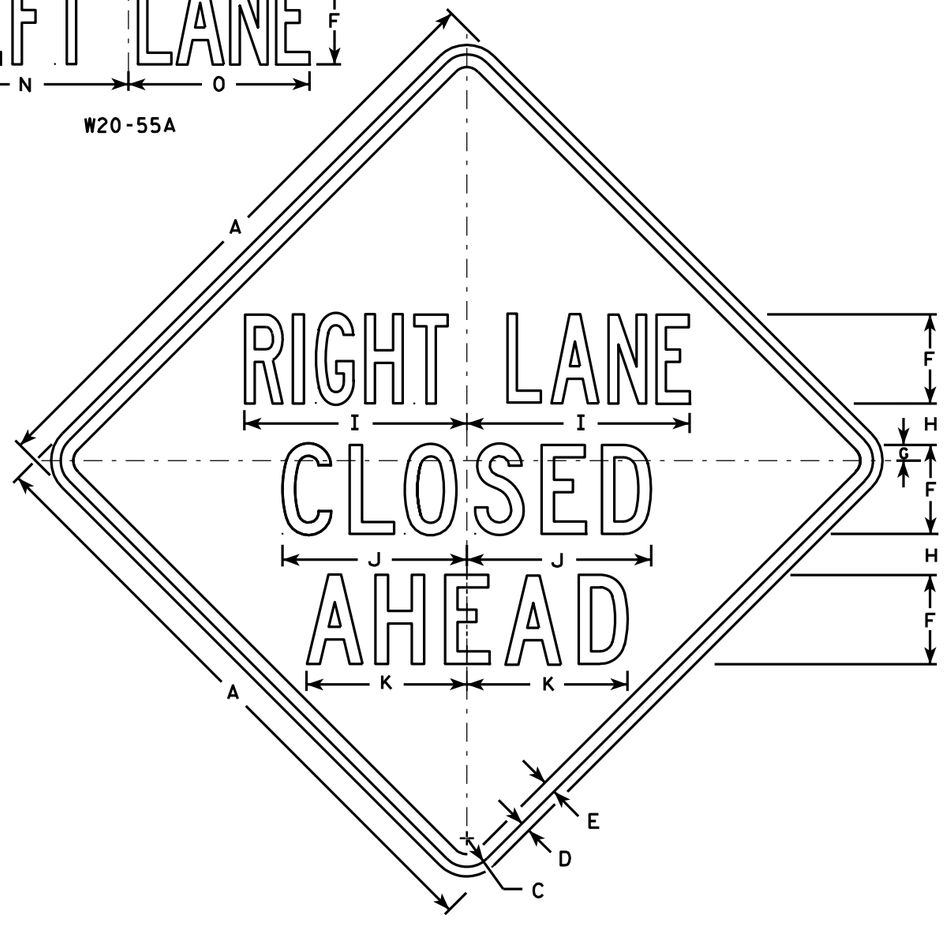
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



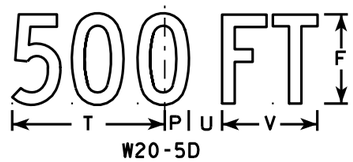
W20-56A



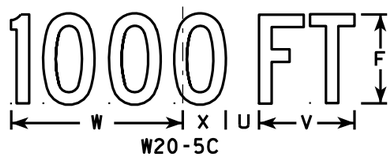
W20-55A



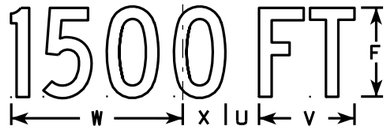
W20-5A



W20-5D



W20-5C



W20-5B



W20-5G



W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

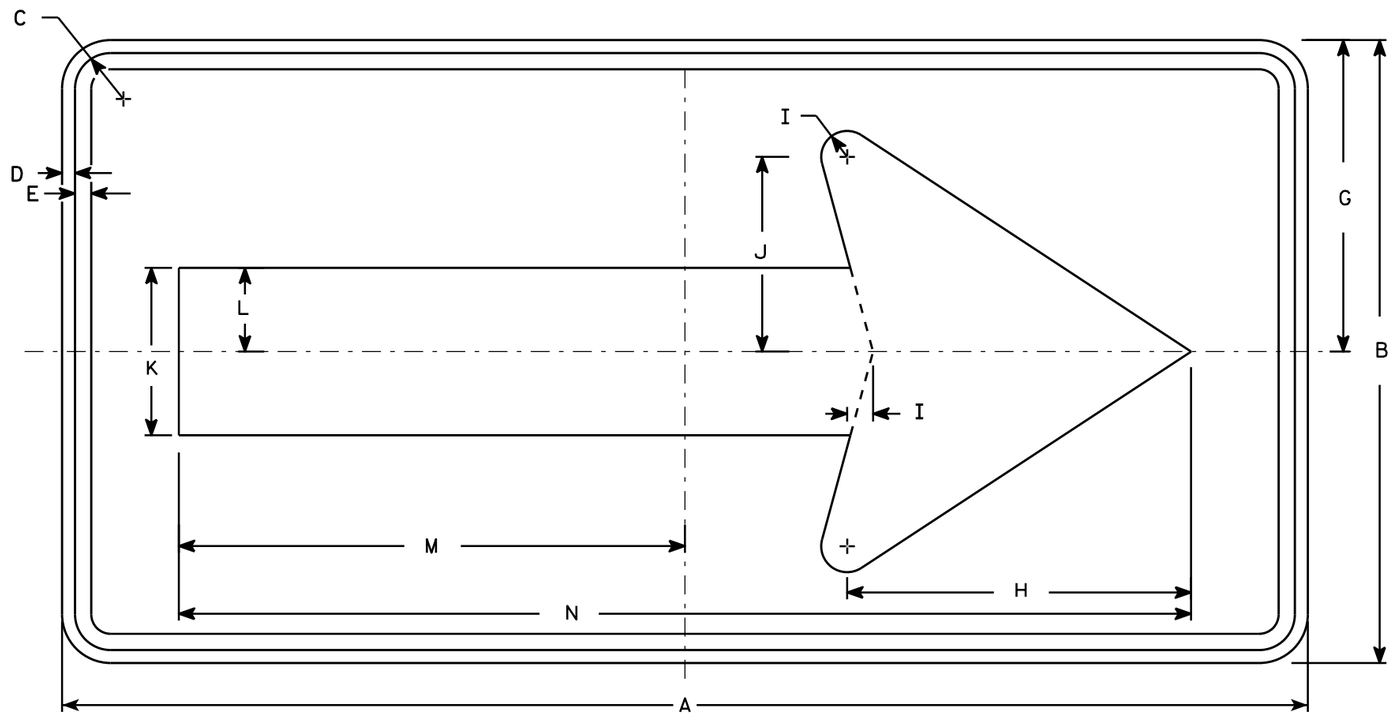
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 305	E

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FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W01-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

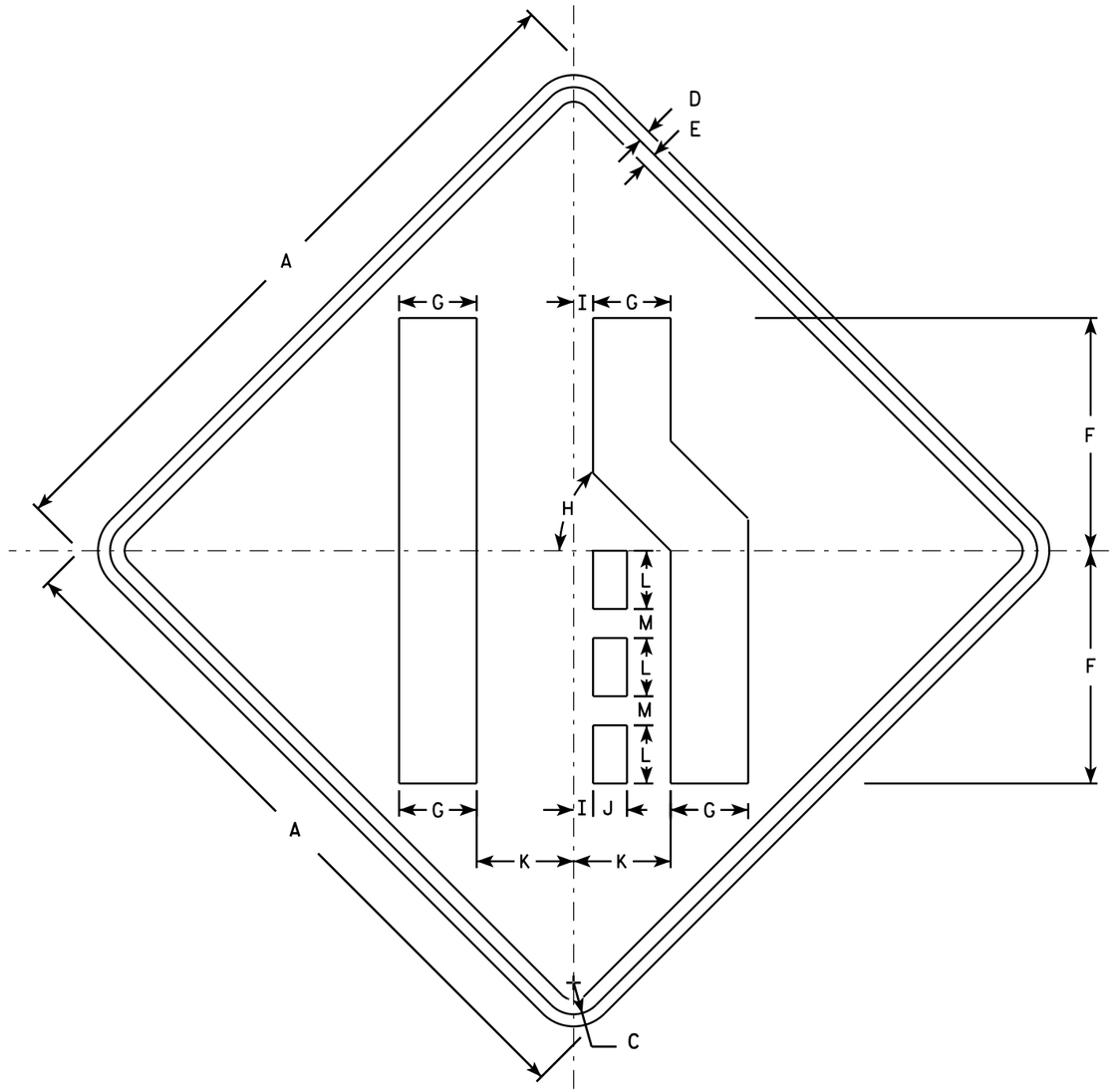
STANDARD SIGN
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE W01-6.1

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 symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 307 W04-2.1

PROJECT NO:

SHEET NO: E

Wisconsin Department of Transportation

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