WKE

MAY 2015

PROJECT ID: 3700-20-72

WITH: N/A

COUNTY: WALWORTH

ORDER OF SHEETS

TOTAL SHEETS = 92

3700-20-72

DESIGN DESIGNATION

A.A.D.T.	2014	=	10,550
A.A.D.T.	20__	=	__
D.H.V.	20__	=	__
D.D.		=	__
T.		=	__
DESIGN SPEED		=	50 MPH
ESALS		=	__

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

IH 43

NEW SIGNAL, IH 43 & STH 67

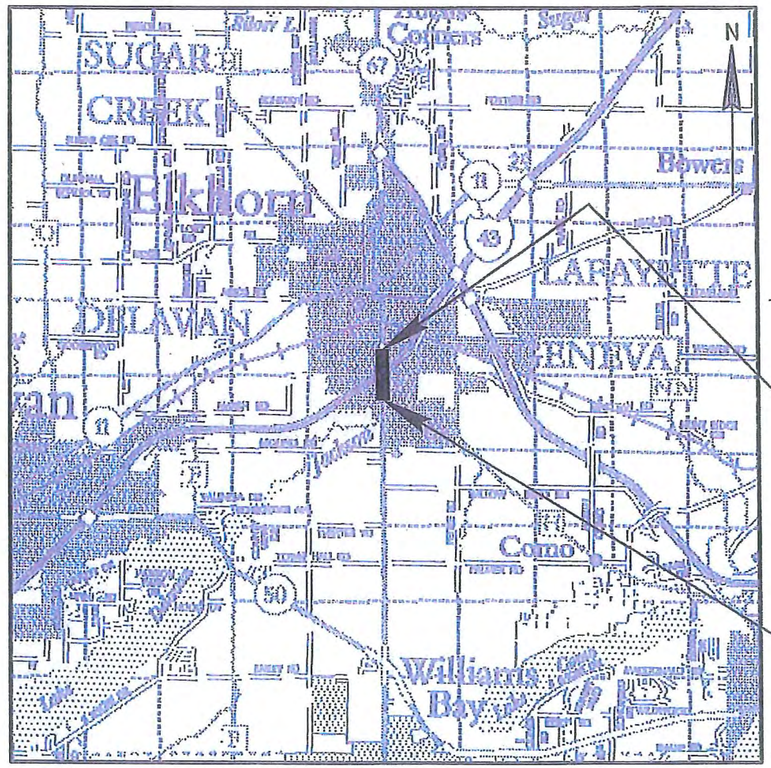
STH 67

WALWORTH COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3700-20-72		

STATE PROJECT NUMBER

3700-20-72



END PROJECT 3700-20-72
STA 110+00.00

BEGIN PROJECT 3700-20-72
STA 91+00.00
Y = 358,553.74
X = 763,101.36

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, WALWORTH COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES. VERTICAL DATUM BASED ON USGS (NAVD 88)

ORIGINAL PLANS PREPARED BY

SEH
Building a Better World for All of Us®
Short Elliott Hendrickson Inc.
6808 Odana Road, Suite 200
Madison, WI 53719-1137
608.620.6199 main | 888.908.8166 fax
800.732.4362 toll free | www.sehinc.com

WISCONSIN PROFESSIONAL ENGINEER
JILLENE J. FEHRMAN
E-31565
BEAVER DAM
WISCONSIN

1/29/2015 (Date) Jillene J. Fehrman (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	M SQUARED ENGINEERING
Designer	SEH
Project Manager	JUSTIN EFFINGER
Regional Examiner	
Regional Supervisor	JOHN HAUG
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 1/30/15 (Signature) Scott R. Effinger

E

UTILITY CONTACT LIST:

ATC MANAGEMENT, INC. - ELECTRICITY
W234 N2000 RIDGEVIEW PKWY COURT
WAUKESHA, WI 53188-1000
PH: (262) 506-6814
ATTENTION: ANTHONY MARCINIAK
EMAIL: AMARCINIAK@ATCLLC.COM

CHARTER COMMUNICATIONS - COMMUNICATION LINE
510 BELOIT STREET
WALWORTH, WI 53184
PH: (608) 209-3195
ATTENTION: BRANDON OPHEIM
EMAIL: BRANDON.OPHEIM@CHARTER.COM

CITY OF ELKHORN - ELECTRICITY
SEND ALL CORRESPONDENCE TO:

JOHN MURPHY
400 KOOPMAN LN
ELKHORN, WI 53121
PH: (262) 741-5129
EMAIL: JMURPHY@CITYOFELKHORN.ORG

CONSTRUCTION FIELD CONTACT:
TIM LEACH
400 KOOPMAN LN
ELKHORN, WI 53121
PH: (262) 741-5221
EMAIL: TLEACH@CITYOFELKHORN.ORG

CITY OF ELKHORN - SEWER
9 SOUTH BROAD STREET
ELKHORN, WI 53121
PH: (262) 723-2223
ATTENTION: MARTIN NUSS
EMAIL: MNUSS@CITYOFELKHORN.ORG

CITY OF ELKHORN - WATER
SEND ALL CORRESPONDENCE TO:

JOHN MURPHY
400 KOOPMAN LN
ELKHORN, WI 53121
PH: (262) 741-5129
EMAIL: JMURPHY@CITYOFELKHORN.ORG

CONSTRUCTION FIELD CONTACT:
TIM LEACH
400 KOOPMAN LN
ELKHORN, WI 53121
PH: (262) 741-5221
EMAIL: TLEACH@CITYOFELKHORN.ORG

STATE LONG DISTANCE TELEPHONE CO - COMMUNICATION LINE
20875 CROSSROADS CIR - SUITE 800
WAUKESHA, WI 53186
PH: (262) 754-3052
ATTENTION: MICHAEL JOHNSON
EMAIL:
MICHAEL.JOHNSON@TDSTELECOM.COM

WALWORTH COUNTY METRO SEWAGE DISTRICT - SEWER
975 W WALWORTH AVE
DELEVAN, WI 53115
PH: (262) 728-4140
ATTENTION: BRAD HUZA
EMAIL: BHUZA@WALCOMET.COM

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

DIGGERS HOTLINE

Dial 811 or (800)242-8511

www.DiggersHotline.com

NOTE: WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

WISDOT REGION CONTACT:

WISDOT SOUTHEAST REGION
WAUKESHA OFFICE
141 NW BARSTOW ST
WAUKESHA, WI 53187
PH: (262) 548-5676
ATTENTION: JUSTIN EFFINGER
EMAIL: JUSTIN.EFFINGER@DOT.WI.GOV

DESIGN CONTACT:

SEH INC.
6808 ODANA ROAD SUITE 200
MADISON, WI 53719
PH: (608) 620-6183
ATTENTION: JILL FEHRMAN
EMAIL: JFEHRMAN@SEHINC.COM

WI DNR CONTACT:

WI DEPARTMENT OF NATURAL RESOURCES
141 NW BARSTOW
ROOM 180
WAUKESHA, WI 53188
PH: (262) 574-2141
ATTENTION: CRAIG WEBSTER
EMAIL: CRAIG.WEBSTER@WISCONSIN.GOV

ORDER OF SHEETS - SECTION 2:

2

STANDARD ABBREVIATIONS:

ABUT	ABUTMENT
AC	ACRE
AGG	AGGREGATE
AECPRC	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
AECPCS	APRON ENDWALL FOR CULVERT PIPE CORRUGATED STEEL
ASPH	ASPHALTIC
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BF	BACK FACE
BM	BENCH MARK
BR	BRIDGE
CE	COMMERCIAL ENTRANCE
CL OR C/L OR ℄	CENTER LINE
Δ	CENTRAL ANGLE OR DELTA
CONC	CONCRETE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPCS	CULVERT PIPE CORRUGATED STEEL
CR	CREEK
CY	CUBIC YARD
C & G	CURB AND GUTTER
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DISCH	DISCHARGE
DG	DITCH GRADE
DWY	DRIVEWAY
X	EAST GRID COORDINATE
EAT	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
EOR	END POINT OF RADIUS
EL	ELEVATION
ENT	ENTRANCE
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FC	FACE OF CURB
FF	FACE TO FACE
FERT	FERTILIZE
FE	FIELD ENTRANCE
FL	FLOW LINE
FO	FIBER OPTIC
CWT	HUNDREDWEIGHT
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE OR PIN
LHF	LEFT-HAND FORWARD
L	LENGTH OF CURVE
LF	LINEAR FOOT
LC	LONG CHORD OF CURVE
LS	LUMP SUM
MH	MANHOLE
MOR	MID POINT OF RADIUS
MCE	MARKERS CULVERT END
NC	NORMAL CROWN
NO	NUMBER
OBLIT	OBLITERATE
PAVT	PAVEMENT
PE	PRIVATE ENTRANCE
PVRC	POINT OF VERTICAL REVERSE CURVE
QOR	QUARTER POINT OF RADIUS
R	RADIUS
REQ'D	REQUIRED
RES	RESIDENCE OR RESIDENTIAL
RHF	RIGHT-HAND FORWARD
R/W	RIGHT-OF-WAY
R	RIVER
RDWY	ROADWAY
R/L OR ℞	REFERENCE LINE
SALV	SALVAGED
SAN	SANITARY SEWER
SF	SQUARE FEET
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STA	STATION
SS	STORM SEWER
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SE	SUPERELEVATION RATE
TC	TOP OF CURB
T OR TN	TOWN
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
VAR	VARIABLE
VC	VERTICAL CURVE
Y	NORTH GRID COORDINATE
YD	YARD

GENERAL NOTES:

1. NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

2. 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.

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

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

5. RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.

6. STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

7. EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

8. REMOVAL OF EROSION CONTROL DEVICES IS INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.

9. DISTURBED AREAS AMOUNTING TO GREATER THAN 25 SQUARE FEET WILL BE PROTECTED WITH SILT FENCE ON THE DOWN SLOPE AND SHALL BE TOPSOILED, FERTILIZED, SEEDED AND HAVE EROSION MAT PLACED ON THE AREA.

10. A CONVERSION FACTOR OF 112 LBS/IN/SY IS USED TO ESTIMATE QUANTITIES FOR ASPHALTIC SURFACE SAFETY ISLANDS.

2

N

825'B'

IH 43 NB OFF RAMP

830'B'

IH 43 NB

IH 43 SB

830'XSB'

830'C'

IH 43 SB ON RAMP

835'C'

R/W

835'XSB'

R/W

R/W

R/W

90

95

100

105

110

115

STH 67 (S LINCOLN ST)

STH 67 (S LINCOLN ST)

R/W

BEGIN PROJECT
STA 91+00.00

R/W

835'A'

STRUCTURE
B-64-0109

840'D'

IH 43 SB OFF RAMP

R/W

END PROJECT
STA 110+00.00

R/W

840'XSB'

IH 43 NB

IH 43 SB

845'D'

R/W

840'A'

IH 43 NB ON RAMP

845'XSB'

845'A'

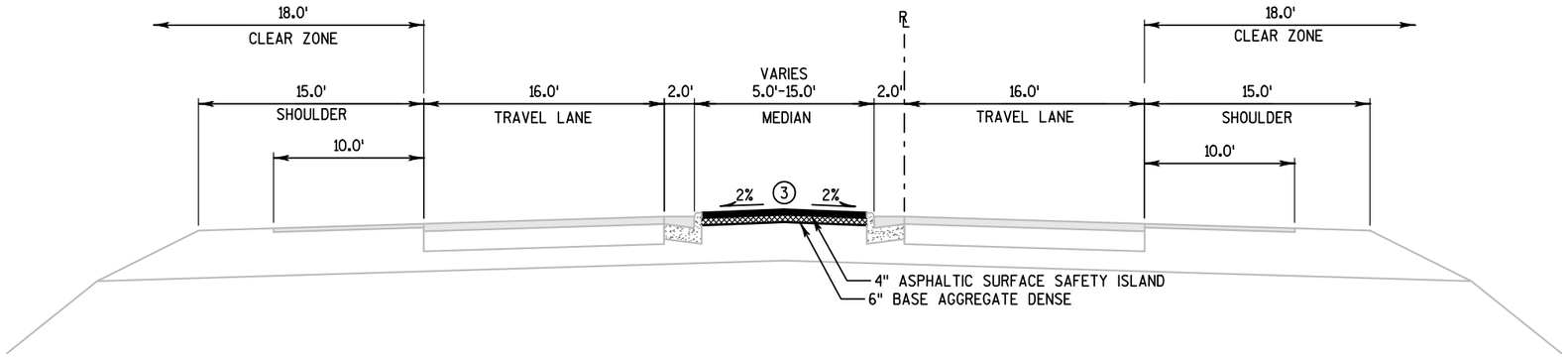
850'D'

PROJECT NO: 3700-20-72	HWY: STH 67	COUNTY: WALWORTH	PROJECT OVERVIEW	SHEET	E

FILE NAME : 020201_PO (PROJ OVERVIEW).DWG PLOT DATE : 1/26/2015 12:06 PM PLOT BY : ---- LAYOUT NAME : 020201_PO PLOT SCALE : 1 IN:200 FT

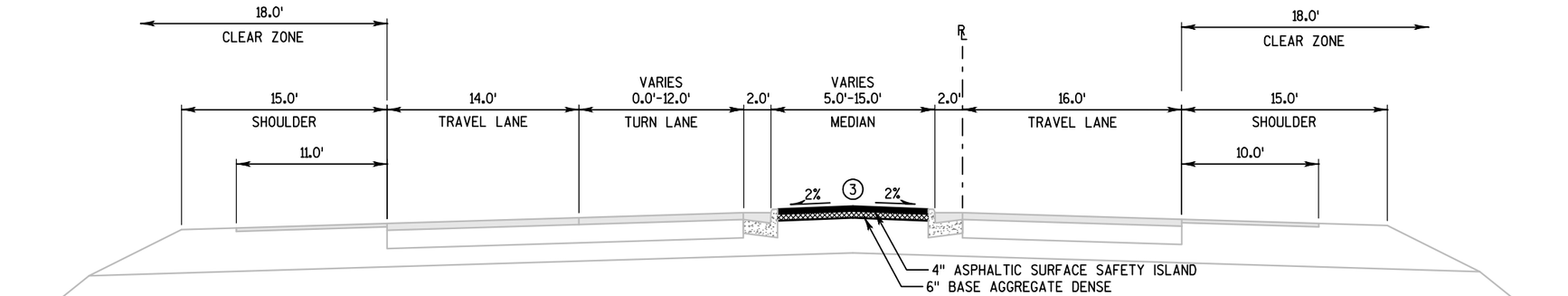
WISDOT/CADDS SHEET 42

SAVE FOLDER PATH: \\SEHMADISON\PROJECTS\UZ\WW\WITSE\128729\15-CIVIL 3D\37002002\SHEETSPLAN\SEC 02 TYPICAL SECTIONS AND DETAILS



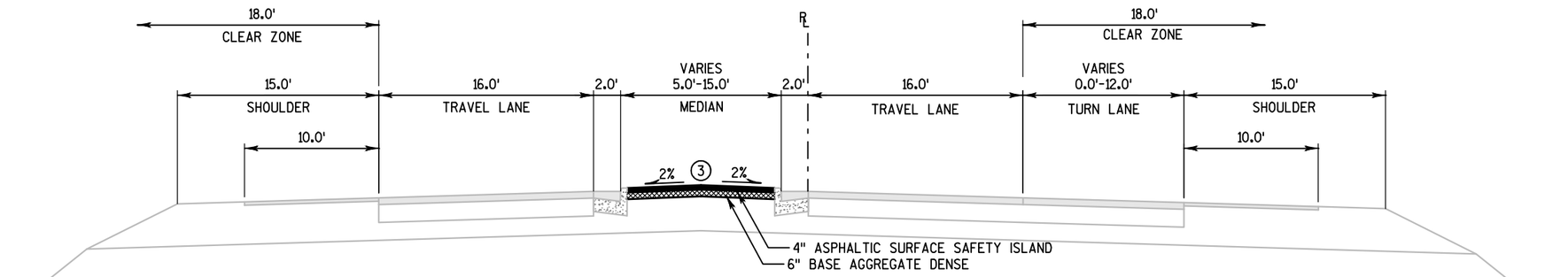
TYPICAL EXISTING SECTION - STH 67

STA 91+00 TO STA 93+24
STA 106+80 TO STA 110+00



TYPICAL EXISTING SECTION - STH 67 LEFT TURN LANE

STA 95+50 TO STA 98+94.60 (2)
STA 101+05.72 TO STA 104+75



TYPICAL EXISTING SECTION - STH 67 RIGHT TURN LANE

STA 93+24 TO STA 95+50 (1)
STA 104+75 TO STA 106+80

NOTES:

1. (1) MIRROR FOR SOUTH RAMP TERMINAL LOCATIONS
2. (2) MIRROR FOR NORTH RAMP TERMINAL LOCATIONS
3. (3) ASPHALTIC SURFACE SAFETY ISLANDS AND BASE AGGREGATE DENSE TO BE PLACED IN EXISTING PAVED MEDIANS AT SIGNAL BASE INSTALLATION LOCATIONS

PROJECT NO: 3700-20-72	HWY: STH 67	COUNTY: WALWORTH	TYPICAL SECTIONS	SHEET 4	E

SAVE FOLDER PATH: \\SEHMADISON\PROJECTS\UZ\W\WITSE\128729\15-CIVIL 3D\37002002\SHEETSPLANS\TSPLAN\SEC 02 TYPICAL SECTIONS AND DETAILS

FILE NAME : 020301_TS (TYP SECTIONS).DWG PLOT DATE : 1/26/2015 12:06 PM PLOT BY : SEH INC LAYOUT NAME : 020301_TS PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 42

GENERAL NOTES: EROSION CONTROL

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONSERVATION PRACTICE STANDARDS.
2. WHEN POSSIBLE, THE SILT FENCE SHALL BE CONSTRUCTED IN AN ARC OR HORSESHOE SHAPE WITH ENDS POINTING UPSLOPE TO MAXIMIZE BOTH STRENGTH AND EFFECTIVENESS.
3. CONTRACTOR SHALL CHECK ALL SILT FENCE INSTALLATION AFTER A STORM EVENT AND PROVIDE ANY MAINTENANCE REQUIRED FOR CONFORMANCE WITH THIS PLAN.
4. SEEDING SHALL BEGIN WITHIN 7 DAYS AFTER FINAL GRADING IS COMPLETED.
5. SEEDING SHALL CONFORM TO REQUIREMENTS OF SECTION 630 OF THE STANDARD SPECIFICATIONS. A NO. 10 MIXTURE SHALL BE APPLIED AT A RATE OF 1-1/2 POUNDS PER 1000 S.F.
6. PLACE MULCH ON ALL SEEDED AREAS IN ACCORDANCE WITH SECTION 627, OF STANDARD SPECIFICATIONS.

SYMBOL LEGEND: EROSION CONTROL

- EROSION MAT CLASS I (TYPE A)
- SILT FENCE
- INLET PROTECTION TYPE C
- SURFACE WATER FLOW

N

832'B'

IH 43 NB OFF RAMP

833'B'

STH 67 (S LINCOLN ST)

95

96

STH 67 (S LINCOLN ST)

834'A'

IH 43 NB ON RAMP

835'A'

IH 43 SB ON RAMP

838'C'

STH 67 (S LINCOLN ST)

104

105

106

107

839'D'

STH 67 (S LINCOLN ST)

INLET PROTECTION
REQUIRED STA 108+00

IH 43 SB OFF RAMP

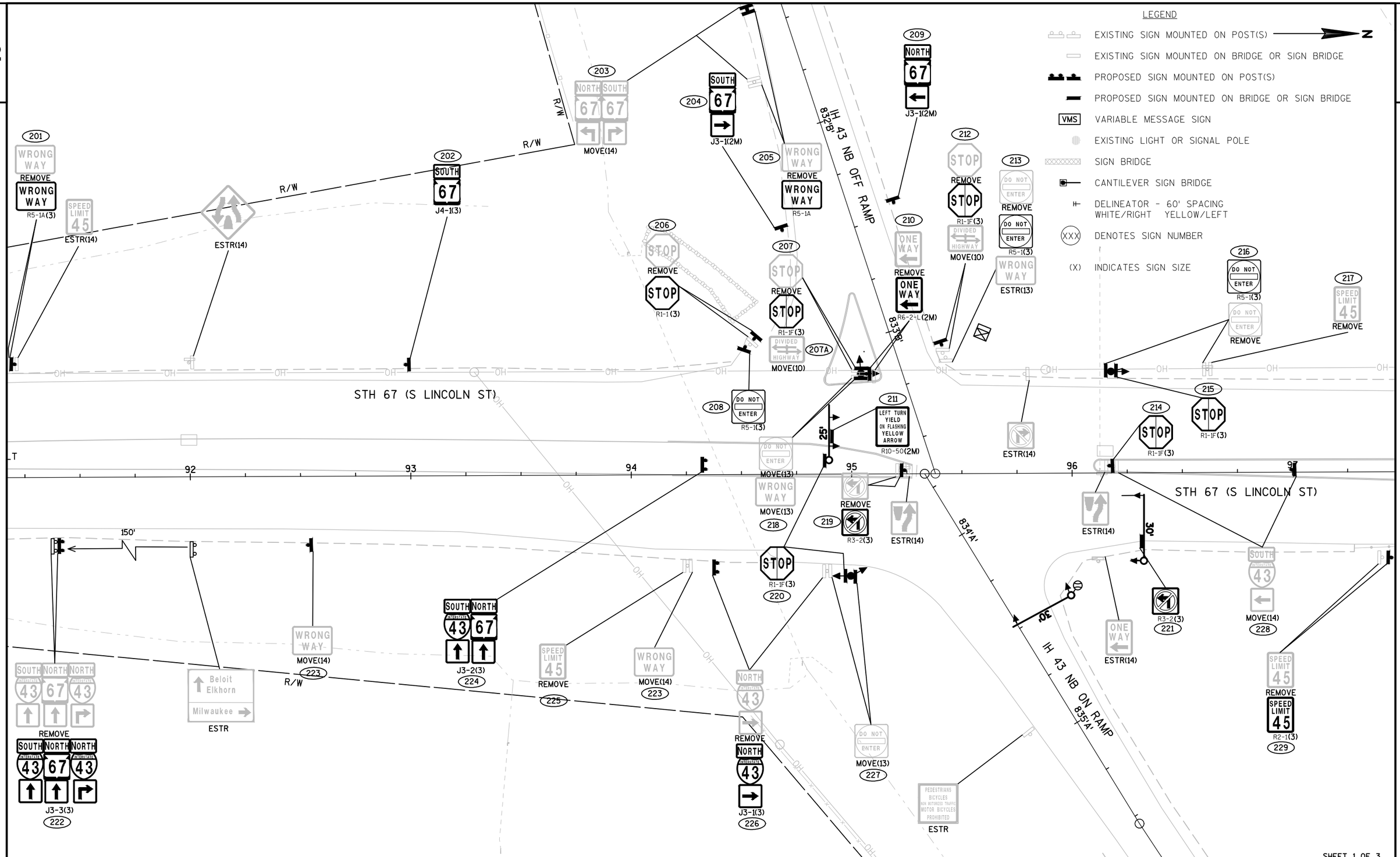
840'D'

PROJECT NO: 3700-20-72	HWY: STH 67	COUNTY: WALWORTH	EROSION CONTROL PLAN	SHEET 5	E

FILE NAME : 022000_EC (EROSION CONTROL).DWG | PLOT DATE : 1/26/2015 12:06 PM | PLOT BY : SEH INC | LAYOUT NAME : 022001_EC | PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

SAVE FOLDER PATH: \\SEHMADISON\PROJECTS\UZ\WWITSE\128729\15-CIVIL 3D\37002002\SHEETSPLAN\SEC 02 TYPICAL SECTIONS AND DETAILS



PROJECT NO: 3700-20-72	HWY: IH 43 @ STH 67	COUNTY: WALWORTH	PERMANENT SIGNING	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\37002072\SIGNING\023201_PS.DWG
LAYOUT NAME - ****
PLOT DATE : 1/21/2015 12:32 PM PLOT BY : WALKER, KRISTINE V PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

N

230
WRONG WAY
R5-1A(3)
WRONG WAY
REMOVE

IH 43 NB

IH 43 SB

ESTR

231B
NORTH
43
REMOVE

231C
NORTH
43
J2-1(3)

Milwaukee
ESTR

SPEED LIMIT 45
ESTR(14)

STH 67 (S LINCOLN ST)

97 98 99 100 101 102 103

ST)

SOUTH
43
J2-1(3)
231

SOUTH
43
REMOVE
231A

Beloit
ESTR

ESTR

IH 43 NB

IH 43 SB

WRONG WAY
ESTR(14)

LEGEND

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

SHEET 2 OF 3

PROJECT NO: 3700-20-72	HWY: IH 43 & STH 67	COUNTY: WALWORTH	PERMANENT SIGNING	SHEET 7	E

FILE NAME : N:\PDS\C3D\CAD\37002072\SIGNING\023201_PS.DWG
LAYOUT NAME - ####

PLOT DATE : 1/21/2015 12:32 PM PLOT BY : WALKER, KRISTINE V 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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

837'C'

IH 43 SB ON RAMP

838'C'

839'D'

840'D'

IH 43 SB OFF RAMP

841'D'

10°

STH 67 (S LINCOLN ST)

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
ESTR

235 SOUTH INTERSTATE 43 MOVE(14)

NORTH INTERSTATE 43 ESTR(14)

232 ONE WAY MOVE(14)

237 R3-2(3)

233 DO NOT ENTER REMOVE
DO NOT ENTER R5-1(3)

236 STOP R1-1F(3)

238 WRONG WAY REMOVE
WRONG WAY R5-1A(3)

239 SPEED LIMIT 45 REMOVE
SPEED LIMIT 45 R2-1(3)

OH OH OH OH OH HO HO HO HO

103 104 105 106 107 108

15'

ESTR(14) ESTR(14) ESTR(14)

234 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50(2M)

(2M)

10'

DO NOT ENTER MOVE(13)
WRONG WAY MOVE(13)
247

SOUTH INTERSTATE 43 REMOVE
SOUTH INTERSTATE 43 J3-1(3)
240

REMOVE R3-1(3)
241

DO NOT ENTER MOVE(14)
242

DO NOT ENTER REMOVE
DO NOT ENTER R5-1(3)
WRONG WAY MOVE(13)
243A

243

STOP 244 REMOVE
STOP R1-1F(3)
DIVIDED HIGHWAY MOVE(10)
244A

ONE WAY REMOVE
ONE WAY R6-2-L(2M)
245

STOP 246 REMOVE
STOP R1-1F(3)
DIVIDED HIGHWAY MOVE(10)
246A

STOP REMOVE
STOP R1-1(3)
248

NORTH INTERSTATE 67 REMOVE
NORTH 67 J4-1(3)
249

SPEED LIMIT 45 REMOVE
SPEED LIMIT 45 R2-1(3)
250

SHEET 3 OF 3

PROJECT NO: 3700-20-02	HWY: IH 43 @ STH 67	COUNTY: WALWORTH	PERMANENT SIGNING	SHEET 8	E

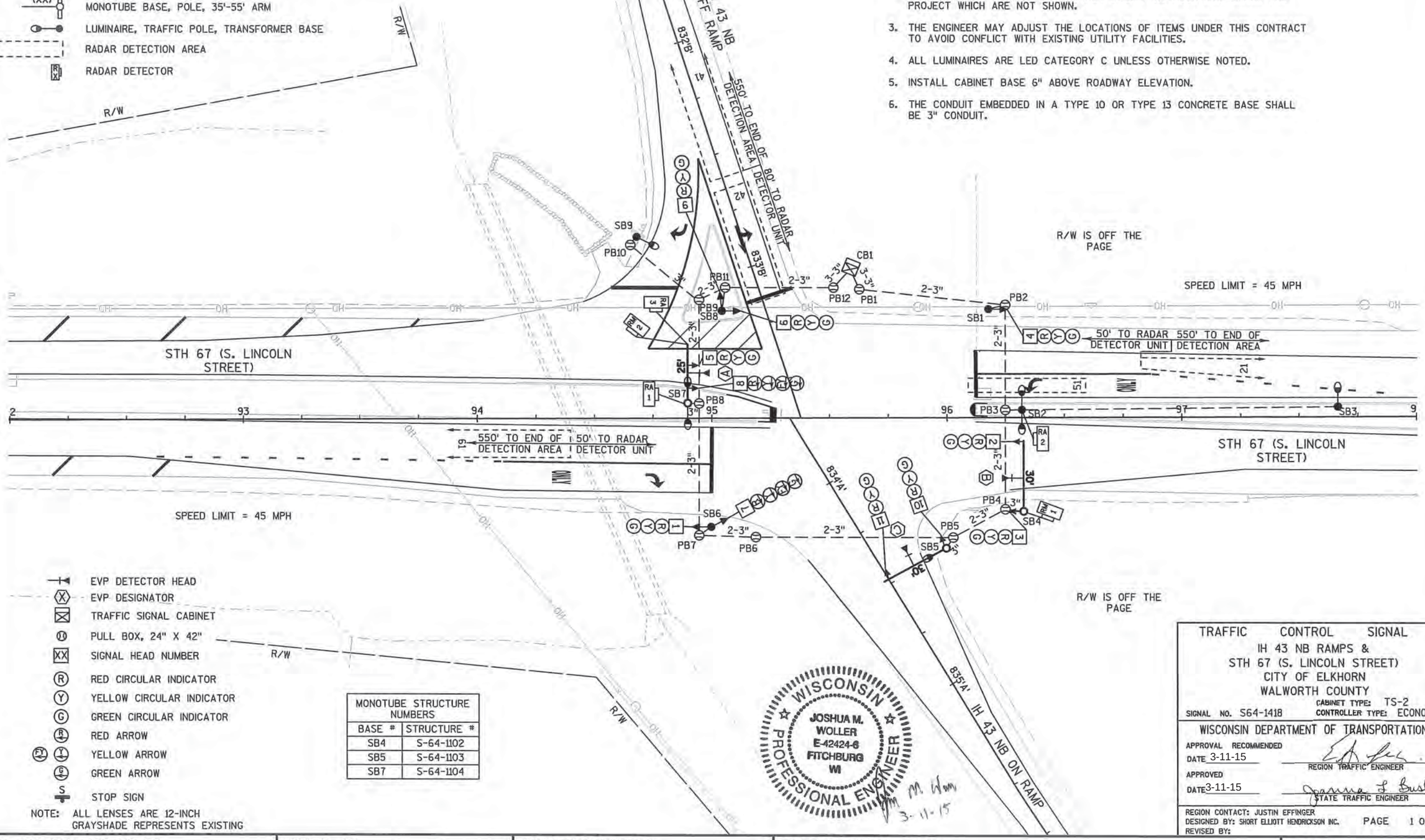
LEGEND

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- MONOTUBE BASE, POLE, 15'-30' ARM
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- RADAR DETECTION AREA
- RADAR DETECTOR

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
5. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
6. THE CONDUIT EMBEDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3" CONDUIT.

N



- EVP DETECTOR HEAD
- EVP DESIGNATOR
- TRAFFIC SIGNAL CABINET
- PULL BOX, 24" X 42"
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RA RED ARROW
- YA YELLOW ARROW
- GA GREEN ARROW
- S STOP SIGN

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

MONOTUBE STRUCTURE NUMBERS	
BASE #	STRUCTURE #
SB4	S-64-1102
SB5	S-64-1103
SB7	S-64-1104

WISCONSIN
JOSHUA M. WOLLER
E-42424-6
FITCHBURG
WI
PROFESSIONAL ENGINEER
3-11-15

TRAFFIC CONTROL SIGNAL
IH 43 NB RAMPS &
STH 67 (S. LINCOLN STREET)
CITY OF ELKHORN
WALWORTH COUNTY
SIGNAL NO. S64-1418
CABINET TYPE: TS-2
CONTROLLER TYPE: ECONOLITE

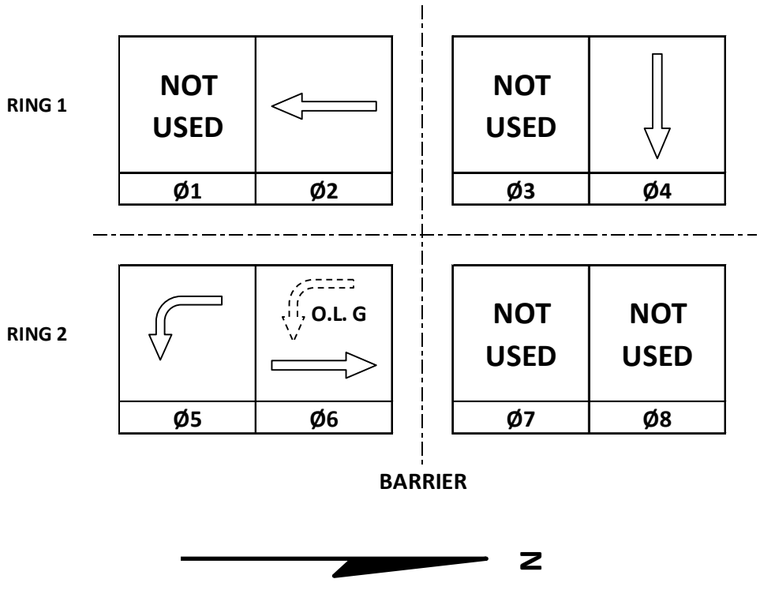
WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVAL RECOMMENDED
DATE 3-11-15 REGION TRAFFIC ENGINEER
APPROVED
DATE 3-11-15 STATE TRAFFIC ENGINEER
REGION CONTACT: JUSTIN EFFINGER
DESIGNED BY: SHORT ELLIOTT HENDRICKSON INC.
REVISED BY:
PAGE 1 OF 2

PROJECT NO: 3700-20-72	HWY: IH 43	COUNTY: WALWORTH	TRAFFIC SIGNAL PLAN	SHEET E

FILE NAME : 024000_SP (SIG PLAN).DWG
PLOT DATE : 3/11/2015 10:34 AM
PLOT BY : SEH INC
LAYOUT NAME : 024015_SP
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

SAVE FOLDER PATH: P:\UZ\W\WITSE\128729\15-CIVIL 3D\37002002\SHEETSPLAN\SEC 02 TYPICAL SECTIONS AND DETAILS

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



CONTROLLER LOGIC

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C
MOVEMENT	←	⇄	↓
PHASE	2+5	6+2	4

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

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

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	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	21	42	61					
CALLED PHASE	2	4	6					
CALL OPTION	X	X	X					
DELAY TIME								
EXTENTION OPTION	X	X	X					
EXTEND TIME								
USE ADDED INITIAL	X		X					
CROSS SWITCH PHASE								

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

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	41	51						
CALLED PHASE	4	5						
CALL OPTION		X						
DELAY TIME								
EXTENTION OPTION	X	X						
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE		6						

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

IH 43 NB RAMPS & STH 67 (S. LINCOLN STREET)
CITY OF ELKHORN
WALWORTH COUNTY
SIGNAL NO: S64-1418 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 03/15 PAGE NO. 2 OF 2

PROJECT ID:	3700-20-72
INTERSECTION:	IH 43 NB RAMPS & STH 67 (S. LINCOLN STREET)

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

			SIGNAL INDICATION WIRE COLOR									
CB_TO	AWG 14# OF	HEAD NO.	RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING> <YELLOW>	D/WALK	WALK	PED BUTTON
SB1	12	4	RED	ORG	GRN							
SB4	12	2	RED	ORG	GRN							
		3	RED	ORG	GRN							
SB5	12	10	RED	ORG	GRN							
		11	RED	ORG	GRN							
SB6	12	1	RED	ORG	GRN							
		7				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK			
SB7	12	5	RED	ORG	GRN							
		8				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK			
SB8	12	6	RED	ORG	GRN							
		9	RED/BLK	ORG/BLK	GRN/BLK							

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GREEN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	SB9
SB9	CB1

PULL BOX BONDING JUMPER 10 AWG GREEN XLP	
FROM	TO
PB1	CB1
PB2	SB1
PB3	SB2
PB4	SB4
PB5	SB5
PB6	SB6
PB7	SB6
PB8	SB7
PB9	SB8
PB10	SB9
PB11	SB8
PB12	CB1

LIGHTING UF 2-10 AWG W/ GROUND	
FROM	TO
CB1	SB2
SB2	SB3
SB2	SB5
CB1	SB9
SB9	SB7

RADAR DETECTION CABLE	
FROM	TO
CB1	RA1 (SB7)
CB1	RA2 (SB4)
CB1	RA3 (SB7)
CB1	RM1 (SB4)
CB1	RM2 (SB7)

EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB7 (HEAD A)
CB1	SB4 (HEAD B)
CB1	SB5 (HEAD C)

*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 12" LONGER THAN THE UNGROUNDED CONDUCTORS.
*AT THE SIGNAL BASES, CONNECT ONE TERMINAL FROM THE PEDESTRAIN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.
"OTHER" COLUMN MAY INCLUDE SHADOW BOX SIGN

WISCONSIN PROFESSIONAL ENGINEER
JOSHUA M. WOLLER
E-42424-6
FITCHBURG
WI
3-11-15

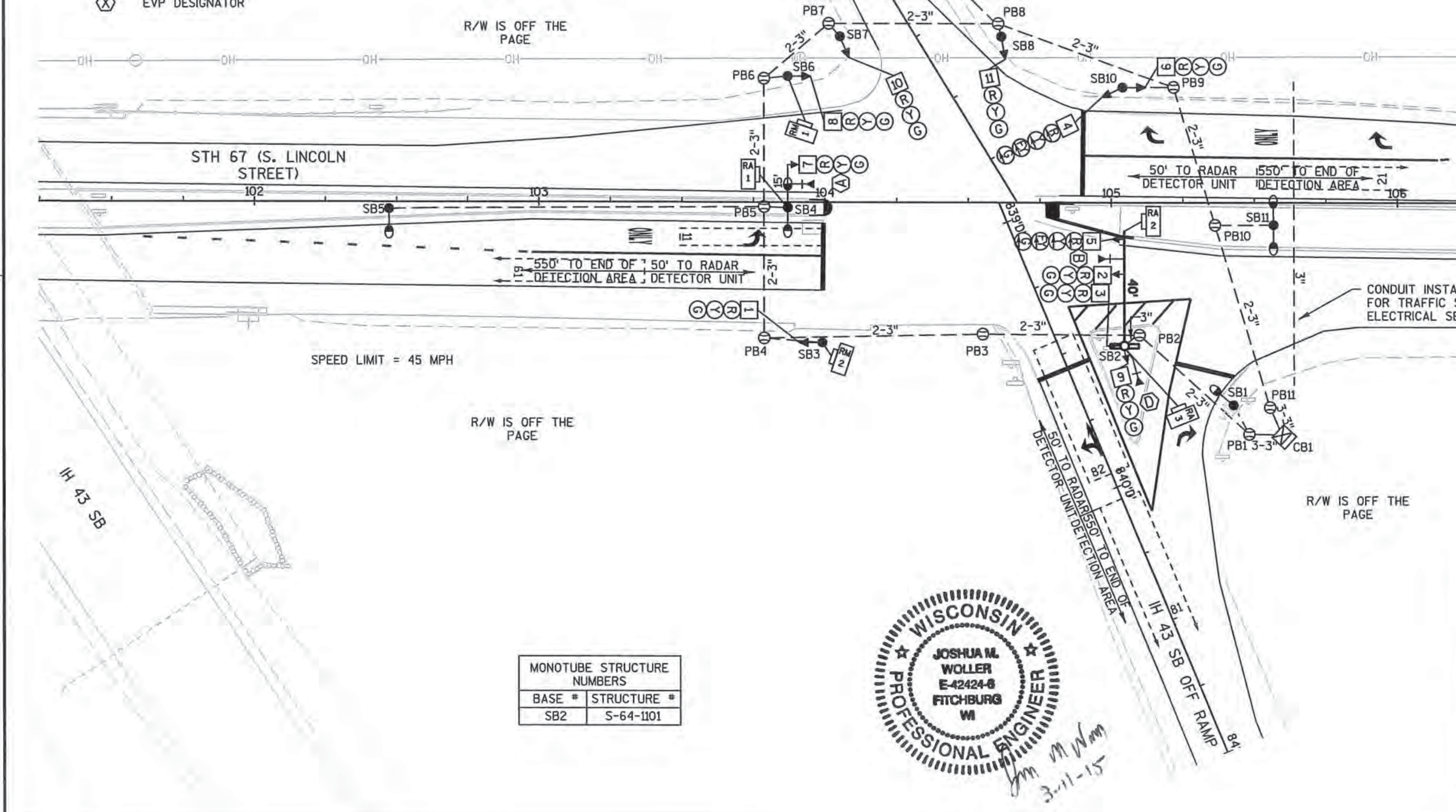
LEGEND

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- RADAR DETECTION AREA
- RADAR DETECTOR
- TRAFFIC SIGNAL CABINET
- EVP DETECTOR HEAD
- EVP DESIGNATOR
- PULL BOX, 24" X 42"
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- S STOP SIGN

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
5. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
6. THE CONDUIT EMBEDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3" CONDUIT.



MONOTUBE STRUCTURE NUMBERS	
BASE #	STRUCTURE #
SB2	S-64-1101

TRAFFIC CONTROL SIGNAL
IH 43 SB RAMPS &
STH 67 (S. LINCOLN STREET)
CITY OF ELKHORN
WALWORTH COUNTY

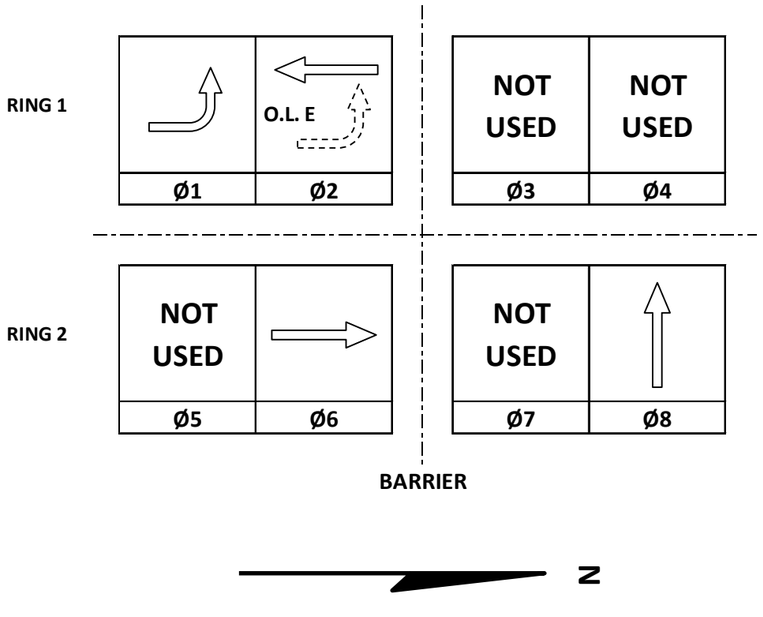
SIGNAL NO. S64-1417
CABINET TYPE: TS-2
CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
DATE 3-11-15 — REGION TRAFFIC ENGINEER
APPROVED
DATE 3-11-15 — Joanna L. Bush, STATE TRAFFIC ENGINEER

REGION CONTACT: JUSTIN EFFINGER
DESIGNED BY: SHORT ELLIOTT HENDRICKSON INC.
REVISED BY:
PAGE 1 OF 2

	HEAD NUMBERS	FLASH
Ø1	4,5	R ←
Ø2	6,7,8	R
Ø3		
Ø4		
Ø5		
Ø6	1,2,3	R
Ø7		
Ø8	9,10,11	R
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLE	4,5	-
OLF		
OLG		
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				
6	X	2	MIN	X
7				
8				X

EMERGENCY VEHICLE PREEMPTION SEQUENCE

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

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

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

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	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11	61	82					
CALLED PHASE	1	6	8					
CALL OPTION	X	X	X					
DELAY TIME								
EXTENTION OPTION	X	X	X					
EXTEND TIME								
USE ADDED INITIAL		X						
CROSS SWITCH PHASE	2							

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

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	21	81						
CALLED PHASE	2	8						
CALL OPTION	X							
DELAY TIME								
EXTENTION OPTION	X	X						
EXTEND TIME		X						
USE ADDED INITIAL	X							
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								

IH 43 SB RAMPS & STH 67 (S. LINCOLN STREET)
CITY OF ELKHORN
WALWORTH COUNTY
SIGNAL NO: S64-1417 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 03/15 PAGE NO. 2 OF 2

PROJECT ID:	3700-20-72
INTERSECTION:	IH 43 SB RAMPS & STH 67 (S. LINCOLN STREET)

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

			SIGNAL INDICATION WIRE COLOR									
CB_TO	AWG 14 # OF	HEAD NO.	RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING> <YELLOW>	D/WALK	WALK	PED BUTTON
SB2	15	2	RED	ORG	GRN							
		3	RED	ORG	GRN							
		5				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK			
		9	RED/WHT	BLK/WHT	GRN/WHT							
SB3	12	1	RED	ORG	GRN							
SB4	7	7	RED	ORG	GRN							
SB6	12	8	RED	ORG	GRN							
SB7	12	10	RED	ORG	GRN							
SB8	12	11	RED	ORG	GRN							
SB10	12	4				RED	ORG	GRN	BLU/BLK			
		6	RED/BLK	ORG/BLK	GRN/BLK							

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GREEN XLP	
FROM	TO
CB1	SB2
SB2	SB3
SB3	SB4
SB4	SB6
SB6	SB7
SB7	SB8
SB8	SB10
SB10	SB11
SB11	CB1

PULL BOX BONDING JUMPER 10 AWG GREEN XLP	
FROM	TO
PB1	CB1
PB2	SB2
PB3	SB2
PB4	SB3
PB5	SB4
PB6	SB6
PB7	SB7
PB8	SB8
PB9	SB10
PB10	SB11
PB11	CB1

LIGHTING UF 2-10 AWG W/ GROUND	
FROM	TO
CB1	SB1
SB1	SB4
SB4	SB5
CB1	SB11
SB11	SB9

RADAR DETECTION CABLE	
FROM	TO
CB1	RA1 (SB4)
CB1	RA2 (SB2)
CB1	RA3 (SB2)
CB1	RM1 (SB6)
CB1	RM2 (SB3)

EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB4 (HEAD A)
CB1	SB2 (HEAD B)
CB1	SB2 (HEAD D)

*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 12" LONGER THAN THE UNGROUNDED CONDUCTORS.
*AT THE SIGNAL BASES, CONNECT ONE TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.
"OTHER" COLUMN MAY INCLUDE SHADOW BOX SIGN

WISCONSIN
JOSHUA M. WOLLER
E-42424-6
FITCHBURG
WI
PROFESSIONAL ENGINEER

3-11-15

PROJECT NO: 3700-20-72	HWY: STH 67	COUNTY: WALWORTH	CABLE ROUTING	SHEET	E

KEYNOTE LEGEND: PAVEMENT MARKING	
1	PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2	PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3	PAVEMENT MARKING GROOVED PREFORMED PLASTIC TAPE 8-INCH (WHITE)
5	PAVEMENT MARKING GROOVED PREFORMED PLASTIC TAPE 8-INCH (WHITE) 3 FT LINE 9 FT SKIP)
10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH (WHITE)
11	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE) (50 FT C-C)
12	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE) (10 FT C-C)

BEGIN PAVMENT MARKING
STA 828+25'B'

IH 43 NB OFF RAMP

832'B'

833'B'

ATC
CHARTER

STH 67 (S LINCOLN ST)

BEGIN PROJECT 3700-20-72
STA 91+00.00
BEGIN PAVEMENT MARKING
STA 91+00.00

STATE LONG DISTANCE
TELEPHONE COMPANY

ATC

MATCH LINE 95+50

KEYNOTE LEGEND: PAVEMENT MARKING	
20	PAVEMENT MARKING CURB EPOXY (YELLOW)
21	PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
26	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE)
27	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 3 (WHITE)
28	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)
31	REMOVING PAVEMENT MARKINGS ARROWS

PROJECT NO: 3700-20-72	HWY: STH 67	COUNTY: WALWORTH	PAVEMENT MARKING PLAN	SHEET 15	E

FILE NAME : 024500_PM (PAVEMENT MARKING).DWG | PLOT DATE : 3/11/2015 8:27 AM | PLOT BY : SEH INC | LAYOUT NAME : 024501_PM | PLOT SCALE : 1 IN:40 FT | WISDOT/CADDS SHEET 42

SAVE FOLDER PATH: P:\UZ\WW\TSE\128729\15-CIVIL 3D\37002002\SHEETSPLAN\SEC 02 TYPICAL SECTIONS AND DE

2

N

IH 43 NB

IH 43 SB

ATC CHARTER

STH 67 (S LINCOLN ST)

STH 67 (S LINCOLN ST)

MATCH LINE 95+50

MATCH LINE 101+50

IH 43 NB ON RAMP 835'A'

IH 43 NB

END PAVMENT MARKING
STA 839+25'A'

836'A'

834'A'

96 97 98 99 100 101

+12 +40 +80 +98 +65 +27 +27 +46

RA 2 RM 1

KEYNOTE LEGEND: PAVEMENT MARKING	
1	PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2	PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3	PAVEMENT MARKING GROOVED PREFORMED PLASTIC TAPE 8-INCH (WHITE)
5	PAVEMENT MARKING GROOVED PREFORMED PLASTIC TAPE 8-INCH (WHITE) 3 FT LINE 9 FT SKIP)
10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH (WHITE)
20	PAVEMENT MARKING CURB EPOXY (YELLOW)
21	PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
26	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE)
28	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)

PROJECT NO: 3700-20-72	HWY: STH 67	COUNTY: WALWORTH	PAVEMENT MARKING PLAN	SHEET 16	E

FILE NAME : 024500_PM (PAVEMENT MARKING).DWG PLOT DATE : 3/11/2015 8:25 AM PLOT BY : SEH INC LAYOUT NAME : 024502_PM PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

SAVE FOLDER PATH: P:\UZ\WI\TSE\128729\15-CIVIL 3D\37002002\SHEETSPLAN\SEC 02 TYPICAL SECTIONS AND DETAILS

2

N

BEGIN PAVMENT MARKING
STA 833+50'C'

837'C'

IH 43 SB ON RAMP

838'C'

ATC
CHARTER

MATCH LINE 101+50

MATCH LINE 107+00

STH 67 (S LINCOLN ST)

STH 67 (S LINCOLN ST)

839'D'

840'D'

IH 43 SB OFF RAMP

IH 43 SB

END PAVMENT MARKING
STA 844+50'D'

KEYNOTE LEGEND: PAVEMENT MARKING	
1	PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2	PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3	PAVEMENT MARKING GROOVED PREFORMED PLASTIC TAPE 8-INCH (WHITE)
5	PAVEMENT MARKING GROOVED PREFORMED PLASTIC TAPE 8-INCH (WHITE) 3 FT LINE 9 FT SKIP)
10	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH (WHITE)
12	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE) (10 FT C-C)
20	PAVEMENT MARKING CURB EPOXY (YELLOW)
21	PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
26	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE)
27	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 3 (WHITE)
28	PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)
31	REMOVING PAVEMENT MARKINGS ARROWS

PROJECT NO:3700-20-72	HWY: STH 67	COUNTY: WALWORTH	PAVEMENT MARKING PLAN	SHEET 17	E

KEYNOTE LEGEND: PAVEMENT MARKING	
1	PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2	PAVEMENT MARKING EPOXY 4-INCH (WHITE)
20	PAVEMENT MARKING CURB EPOXY (YELLOW)
21	PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)

N

ATC CHARTER

END PROJECT 3700-20-72
STA 110+00.00

END PAVEMENT MARKING
STA 111+50

MATCH LINE 107+00

STH 67 (S LINCOLN ST)

WALWORTH COUNTY METRO SEWAGE DISTRICT-SEWER

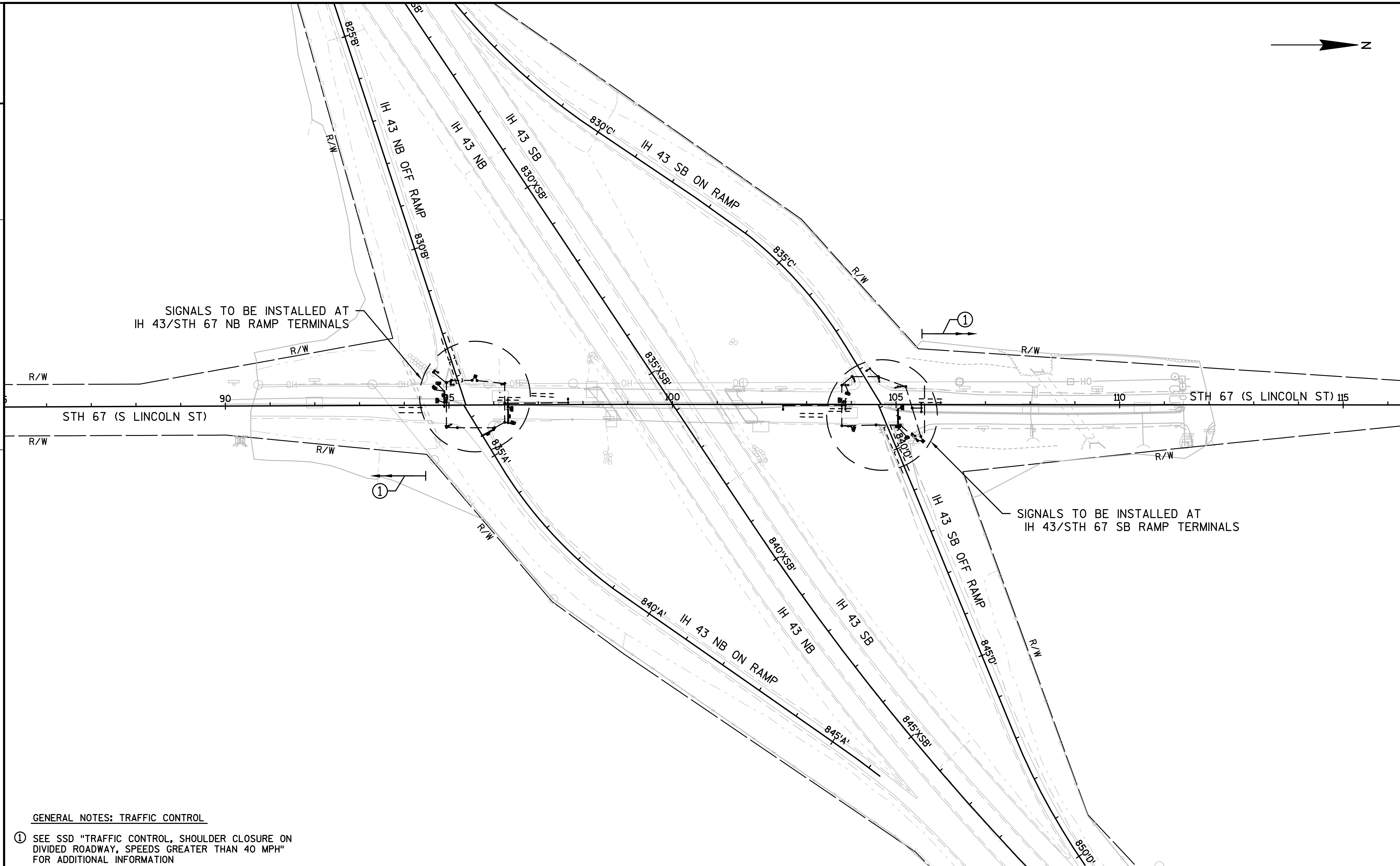
+19 +20 +20 +21

PROJECT NO: 3700-20-72	HWY: STH 67	COUNTY: WALWORTH	PAVEMENT MARKING PLAN	SHEET 18	E

FILE NAME : 024500_PM (PAVEMENT MARKING).DWG | PLOT DATE : 1/28/2015 8:09 AM | PLOT BY : SEH INC | LAYOUT NAME : 024504_PM | PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

SAVE FOLDER PATH: P:\UZ\WI\WITSE\128729\15-CIVIL 3D\3700200Z\SHEETSPLAN\SEC 02 TYPICAL SECTIONS AND DETAILS



GENERAL NOTES: TRAFFIC CONTROL

① SEE SSD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH" FOR ADDITIONAL INFORMATION

PROJECT NO:3700-20-72	HWY:STH 67	COUNTY:WALWORTH	TRAFFIC CONTROL - IH 43/STH 67 INTERCHANGE OVERVIEW	SHEET 19	E

2

2

N

IH 43 NB OFF RAMP

IH 43 SB ON RAMP

IH 43 SB

IH 43 NB

STA 830+00.00'C' POT:
Y=359,287.492
X=762,488.442

STA 825+00.00'B' POT:
Y=358,721.165
X=762,275.070

825'B'

N71°49'55"E

830'B'

830'C'

N34°01'27"E

N35°29'36"E

PI: 832+63.73'C'

PC: 834+09.41'C'

PI: 835+72.89'C'

835'C'

N58°34'49"E

PT: 837+33.25'C'

STA 104+67.05 =
STA 838+92.61'C'
Y=359,920.792
X=763,098.440

C2

PI: 98+89.25

STA 98+89.25
Y=(359,342.990)
X=(763,098.009)

BP: 72+45.28

STA 72+45.28
Y=(356,699.099)
X=(763,109.222)

STA 95+37.97 =
STA 833+67.69'B'
Y=358,991.716
X=763,099.499

STA 125+35.53
Y=(361,989.268)
X=(763,099.985)

EP: 125+35.53

STH 67

75 80 85 N00°14'35"W 90 95 100 105 110 N00°02'34"E 115 120 125

℄ STH 67 COINCIDENT
WITH TOWN LINE

℄ STH 67 COINCIDENT
WITH TOWN LINE

STA 95+33.11 =
STA 833+67.69'A'
Y=358,986.854
X=763,099.519

835'A'

C1

PC: 835+53.98'A'

PI: 837+29.14'A'

PT: 839+00.57'A'

840'A' N34°54'46"E

845'A'

FOUND ALUM. CAP
(SECTION CORNER
WITNESS MONUMENT)
STA 98+64.04, 35.23'RT
Y=359,317.928
X=763,133.349
Z=974.028

STA 840+00.00'A' POT:
Y=359,401.818
X=763,566.529

PC: 842+65.76'A'

STA 104+60.58 =
STA 838+92.61'D'
Y=359,914.319
X=763,098.436
N67°23'21"E

840'D'

PI: 840+97.93'D'

Y=359,993.258
X=763,287.975

N67°42'07"E 845'D'

STA 845+00.00'D' POT:
Y=360,145.813
X=763,659.979

PC: 846+91.33'D'

850'D'

IH 43 NB ON RAMP

IH 43 SB OFF RAMP

STA 840+00.00'A' POT:
Y=359,401.818
X=763,566.529

T 12 N R 17 E 7

T 12 N R 16 E 12

T 12 N R 16 E 1

T 12 N R 16 E 6

C1	C2
PI STA = 837+29.14'A'	PI STA = 835+72.89'C'
Y = 359179.613	Y = 359751.866
X = 763405.253	X = 762823.312
DELTA = 20°28'07"	DELTA = 19°23'55"
D = 5°54'20"	D = 5°59'25"
T = 175.16'	T = 163.48'
L = 346.59'	L = 323.84'
R = 970.18'	R = 956.49'
PC STA = 835+53.98'A'	PC STA = 834+09.41'C'
PT STA = 839+00.57'A'	PT STA = 837+33.25'C'

NOTE: RECORDED COORDINATES SHOWN IN BRACKETS

PROJECT NO: 3700-20-72	HWY: STH 67	COUNTY: WALWORTH	ALIGNMENT DETAIL	SHEET	E

FILE NAME : 027200_AD (ALIGNMENT DETAIL).DWG
PLOT DATE : 1/26/2015 12:08 PM
PLOT BY : SEH INC
LAYOUT NAME : 027201_AD
PLOT SCALE : 1 IN:400 FT
WISDOT/CADDS SHEET 42

SAVE FOLDER PATH: \\SEHMADISON\PROJECTS\UZ\WWITSE\128729\15-CIVIL 3D\3700200Z\SHEETSPLAN\SEC 02 TYPICAL SECTIONS AND DETAILS

DATE 12MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	3700-20-72 QUANTITY
0010	204.0110	Removing Asphaltic Surface	SY	135.000	135.000
0020	213.0100	Finishing Roadway (project) 01. 3700-20-72	EACH	1.000	1.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	5.000	5.000
0040	465.0305	Asphaltic Surface Safety Islands	TON	30.000	30.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0060	625.0100	Topsoil	SY	600.000	600.000
0070	628.1504	Silt Fence	LF	835.000	835.000
0080	628.1520	Silt Fence Maintenance	LF	835.000	835.000
0090	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0100	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0110	628.2002	Erosion Mat Class I Type A	SY	720.000	720.000
0120	628.7015	Inlet Protection Type C	EACH	3.000	3.000
0130	629.0210	Fertilizer Type B	CWT	0.410	0.410
0140	630.0130	Seeding Mixture No. 30	LB	13.100	13.100
0150	630.0200	Seeding Temporary	LB	26.200	26.200
0160	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	9.000	9.000
0170	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	21.000	21.000
0180	637.2210	Signs Type II Reflective H	SF	368.920	368.920
0190	637.2215	Signs Type II Reflective H Folding	SF	59.680	59.680
0200	638.2102	Moving Signs Type II	EACH	13.000	13.000
0210	638.2602	Removing Signs Type II	EACH	30.000	30.000
0220	638.3000	Removing Small Sign Supports	EACH	26.000	26.000
0230	642.5001	Field Office Type B	EACH	1.000	1.000
0240	643.0100	Traffic Control (project) 01. 3700-20-72	EACH	1.000	1.000
0250	643.0300	Traffic Control Drums	DAY	4,914.000	4,914.000
0260	643.0715	Traffic Control Warning Lights Type C	DAY	4,914.000	4,914.000
0270	643.0800	Traffic Control Arrow Boards	DAY	52.000	52.000
0280	643.0900	Traffic Control Signs	DAY	624.000	624.000
0290	646.0106	Pavement Marking Epoxy 4-Inch	LF	11,121.000	11,121.000
0300	646.0600	Removing Pavement Markings	LF	79.000	79.000
0310	647.0456	Pavement Marking Curb Epoxy	LF	119.000	119.000
0320	647.0606	Pavement Marking Island Nose Epoxy	EACH	5.000	5.000
0330	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	241.000	241.000
0340	647.0955	Removing Pavement Markings Arrows	EACH	6.000	6.000
0350	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	165.000	165.000
0360	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	731.000	731.000
0370	652.0605	Conduit Special 2-Inch	LF	270.000	270.000
0380	652.0615	Conduit Special 3-Inch	LF	1,520.000	1,520.000
0390	653.0140	Pull Boxes Steel 24x42-Inch	EACH	23.000	23.000
0400	654.0101	Concrete Bases Type 1	EACH	6.000	6.000
0410	654.0102	Concrete Bases Type 2	EACH	3.000	3.000
0420	654.0105	Concrete Bases Type 5	EACH	7.000	7.000
0430	654.0110	Concrete Bases Type 10	EACH	3.000	3.000
0440	654.0113	Concrete Bases Type 13	EACH	1.000	1.000
0450	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	2.000	2.000
0460	655.0230	Cable Traffic Signal 5-14 AWG	LF	517.000	517.000
0470	655.0240	Cable Traffic Signal 7-14 AWG	LF	484.000	484.000
0480	655.0260	Cable Traffic Signal 12-14 AWG	LF	2,715.000	2,715.000
0490	655.0270	Cable Traffic Signal 15-14 AWG	LF	115.000	115.000
0500	655.0320	Cable Type UF 2-10 AWG Grounded	LF	1,472.000	1,472.000

3

DATE 12MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	3700-20-72 QUANTITY
0510	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	3,070.000	3,070.000
0520	655.0615	Electrical Wire Lighting 10 AWG	LF	1,854.000	1,854.000
0530	655.0900	Traffic Signal EVP Detector Cable	LF	1,598.000	1,598.000
0540	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. Ih 43 Nb & Sth 67	LS	1.000	1.000
0550	656.0200	Electrical Service Meter Breaker Pedestal (location) 02. Ih 43 Sb & Sth 67	LS	1.000	1.000
0560	657.0100	Pedestal Bases	EACH	6.000	6.000
0570	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	10.000	10.000
0580	657.0305	Poles Type 2	EACH	2.000	2.000
0590	657.0310	Poles Type 3	EACH	1.000	1.000
0600	657.0322	Poles Type 5-Aluminum	EACH	7.000	7.000
0610	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	4.000	4.000
0620	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	2.000	2.000
0630	657.0585	Trombone Arms 15-FT	EACH	1.000	1.000
0640	657.0609	Luminaire Arms Single Member 4-Inch Clamp 6-FT	EACH	2.000	2.000
0650	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	9.000	9.000
0660	657.1345	Install Poles Type 9	EACH	1.000	1.000
0670	657.1350	Install Poles Type 10	EACH	2.000	2.000
0680	657.1355	Install Poles Type 12	EACH	1.000	1.000
0690	657.1525	Install Monotube Arms 25-FT	EACH	1.000	1.000
0700	657.1530	Install Monotube Arms 30-FT	EACH	2.000	2.000
0710	657.1540	Install Monotube Arms 40-FT	EACH	1.000	1.000
0720	657.1808	Install Luminaire Arms Steel 8-FT	EACH	3.000	3.000
0730	658.0110	Traffic Signal Face 3-12 Inch Vertical	EACH	18.000	18.000
0740	658.0115	Traffic Signal Face 4-12 Inch Vertical	EACH	4.000	4.000
0750	658.0215	Backplates Signal Face 3 Section 12-Inch	EACH	18.000	18.000
0760	658.0220	Backplates Signal Face 4 Section 12-Inch	EACH	4.000	4.000
0770	658.0600	Led Modules 12-Inch Red Ball	EACH	18.000	18.000
0780	658.0605	Led Modules 12-Inch Yellow Ball	EACH	18.000	18.000
0790	658.0610	Led Modules 12-Inch Green Ball	EACH	18.000	18.000
0800	658.0615	Led Modules 12-Inch Red Arrow	EACH	4.000	4.000
0810	658.0620	Led Modules 12-Inch Yellow Arrow	EACH	8.000	8.000
0820	658.0625	Led Modules 12-Inch Green Arrow	EACH	4.000	4.000
0830	658.5069	Signal Mounting Hardware (location) 01. Ih 43 Nb & Sth 67	LS	1.000	1.000
0840	658.5069	Signal Mounting Hardware (location) 02. Ih 43 Sb & Sth 67	LS	1.000	1.000
0850	659.1125	Luminaires Utility LED C	EACH	14.000	14.000
0860	690.0150	Sawing Asphalt	LF	110.000	110.000
0870	SPV.0060	Special 01. Grooved Preformed Thermoplastic Arrows Type 2	EACH	7.000	7.000
0880	SPV.0060	Special 02. Grooved Preformed Thermoplastic Arrows Type 3	EACH	2.000	2.000
0890	SPV.0060	Special 03. Grooved Preformed Thermoplastic Words	EACH	4.000	4.000
0900	SPV.0060	Special 04. Install Wireless Modem Ih 43 Nb & Sth 67	EACH	1.000	1.000
0910	SPV.0060	Special 05. Install Wireless Modem Ih 43 Sb & Sth 67	EACH	1.000	1.000

3

DATE 12MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	3700-20-72 QUANTITY
0920	SPV.0090	Special 01. Grooved Preformed Plastic Tape 8-Inch	LF	928.000	928.000
0930	SPV.0090	Special 02. Grooved Thermoplastic Stop Line 18-Inch	LF	380.000	380.000
0940	SPV.0105	Special 01. Transporting Signal And Lighting Materials Ih 43 Nb & Sth 67	LS	1.000	1.000
0950	SPV.0105	Special 02. Transporting Signal And Lighting Materials Ih 43 Sb & Sth 67	LS	1.000	1.000
0960	SPV.0105	Special 03. Install State Furnished Traffic Signal Cabinet Ih 43 Nb & Sth 67	LS	1.000	1.000
0970	SPV.0105	Special 04. Install State Furnished Traffic Signal Cabinet Ih 43 Sb & Sth 67	LS	1.000	1.000
0980	SPV.0105	Special 05. Transport & Install State Furnished Radar Detection System Ih 43 Nb & Sth 67	LS	1.000	1.000
0990	SPV.0105	Special 06. Transport & Install State Furnished Radar Detection System Ih 43 Sb & Sth 67	LS	1.000	1.000
1000	SPV.0105	Special 07. Survey Project 3700-20-72	LS	1.000	1.000
1010	SPV.0105	Special 08. Install State Furnished EVP Detector Heads IH 43 NB	LS	1.000	1.000
1020	SPV.0105	Special 09. Install State Furnished EVP Detector Heads IH 43 SB	LS	1.000	1.000

3

REMOVING ASPHALTIC SURFACE

STATION - STATION	LOCATION	204.0110 SY
STH 67		
94+83 - 95+01	LT/RT	26
96+18 - 96+38	LT	12
97+60 - 97+73	LT/RT	10
102+41 - 102+53	LT/RT	10
103+72 - 103+94	LT/RT	12
STH 67 RAMPS		
'NB'	RT	37
'ND'	LT	27
TOTAL		135

BASE AGGREGATE DENSE - 1 1/4-INCH

STATION - STATION	LOCATION	TON	REMARKS
STH 67			
94+83 - 95+01	LT/RT	1.0	
96+18 - 96+38	LT	0.4	
97+60 - 97+73	LT/RT	0.4	
102+41 - 102+53	LT/RT	0.4	
103+72 - 103+94	LT/RT	0.4	
STH 67 RAMPS			
'NB'	RT	1.4	SPLITTER ISLAND
'ND'	LT	1.0	SPLITTER ISLAND
TOTAL		5	

ASPHALTIC SURFACE SAFETY ISLANDS

STATION - STATION	LOCATION	465.0305 TON	REMARKS
STH 67			
94+83 - 95+01	LT/RT	6	
96+18 - 96+38	LT	3	
97+60 - 97+73	LT/RT	2	
102+41 - 102+53	LT/RT	2	
103+72 - 103+94	LT/RT	3	
STH 67 RAMPS			
'NB'	RT	8	SPLITTER ISLAND
'ND'	LT	6	SPLITTER ISLAND
TOTAL		30	

RESTORATION ITEMS

LOCATION	625.0100 TOPSOIL SY	628.2002 EROSION MAT CLASS I TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB
STH 67					
105+57	19	19	0.01	0.3	0.7
107+25	11	11	0.01	0.2	0.4
RAMP 'A'					
SE QUADRANT	53	53	0.03	1.0	1.9
NE QUADRANT	53	53	0.03	1.0	1.9
RAMP 'B'					
SW QUADRANT	6	6	0.01	0.1	0.2
NW QUADRANT	149	149	0.09	2.7	5.4
RAMP 'C'					
SW QUADRANT	63	63	0.04	1.1	2.3
NW QUADRANT	121	121	0.08	2.2	4.4
RAMP 'D'					
SE QUADRANT	76	76	0.05	1.4	2.7
NE QUADRANT	49	49	0.03	0.9	1.8
UNDISTRIBUTED		118	0.06	2.3	4.5
ITEM TOTALS	600	720	0.41	13.1	26.2

EROSION CONTROL ITEMS

LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7015 INLET PROTECTION TYPE C EACH	REMARKS
STH 67 (S LINCOLN ST)			3	STA 96+15, 103+95, 105+85
RAMP 'A'			-	
SE QUADRANT	85	85		
NE QUADRANT	54	54		
RAMP 'B'			-	
SW QUADRANT	55	55		
NW QUADRANT	135	135		
RAMP 'C'			-	
SW QUADRANT	56	56		
NW QUADRANT	111	111		
RAMP 'D'			-	
SE QUADRANT	117	117		
NE QUADRANT	84	84		
UNDISTRIBUTED	138	138		
ITEM TOTALS	835	835	3	

EROSION CONTROL MOBILIZATIONS

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT (3700-20-72)	2	1
ITEM TOTALS	2	1

TRAFFIC CONTROL

STATION - STATION	LOCATION	DRUMS	DAYS	643.0300 DRUMS DAYS	643.0715 WARNING LIGHTS TYPE C DAYS	643.0800 ARROW BOARDS DAYS	643.0900 SIGNS DAYS
STH 67							
91+00 - 110+00	LT	55	26	1430	1430	26	208
91+00 - 110+00	RT	55	26	1430	1430	26	208
STH 67 RAMP TERMINALS							
RAMP 'A'		16	26	416	416		52
RAMP 'B'		15	26	390	390		52
RAMP 'C'		31	26	806	806		52
RAMP 'D'		17	26	442	442		52
TOTALS				4914	4914	52	624

PROJECT NO: 3700-20-72	HWY: STH 67	COUNTY: WALWORTH	MISCELLANEOUS QUANTITIES	SHEET 24	E

TYPE I & II PERMANENT SIGNING

CATEGORY CODE 1000

SIGN NO.	SIGN CODE	SIGN MESSAGE	TYPE II SIGN SIZE W x H [IN.] x [IN.]	**637.2210** SIGNS TYPE II REFLECTIVE H [SF]	**637.2215** SIGNS TYPE II REFLECTIVE H FOLDING [SF]	**634.0616** POSTS WOOD 4X6-INCH X 16-FT [EA]	**634.0618** POSTS WOOD 4X6-INCH X 18-FT [EA]	**638.2602** REMOVING SIGNS TYPE II [EA]	**638.3000** REMOVING SMALL SIGN SUPPORTS [EA]	**638.2102** MOVING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
201	R5-1A(3)	--	42 x 30	8.75	--	--	--	1	--	--	ESTR	--
202	J4-1(3)	--	36 x 54	13.50	--	--	1	--	--	--	--	--
	M3-3	--	36 x 18	--	--	--	--	--	--	--	--	--
	M1-6	STH 67	36 x 36	--	--	--	--	--	--	--	--	--
203	J2-2	--	-- x --	--	--	--	1	--	1	1	205	--
204	J3-1(2M)	--	24 x 57	9.50	--	--	1	--	--	--	--	--
	M3-3	--	24 x 12	--	--	--	--	--	--	--	--	--
	M1-6	STH 67	24 x 24	--	--	--	--	--	--	--	--	--
	M6-1	--	21 x 21	--	--	--	--	--	--	--	--	--
205	R5-1A(2M)	--	42 x 30	8.75	--	1	--	1	1	--	--	--
206	R1-1(3)	--	36 x 36	7.46	--	1	--	1	1	--	--	--
207	R1-1F(3)	--	36 x 36	--	7.46	--	--	1	1	--	--	ON SIGNAL POLE
207A	R6-3	--	-- x --	--	--	--	--	--	--	1	--	ON SIGNAL POLE
208	R5-1(3)	--	36 x 36	9.00	--	1	--	--	--	--	--	--
209	J3-1(2M)	--	24 x 57	9.50	--	--	1	--	--	--	--	--
	M3-1	--	24 x 12	--	--	--	--	--	--	--	--	--
	M1-6	STH 67	24 x 24	--	--	--	--	--	--	--	--	--
	M6-1	--	21 x 21	--	--	--	--	--	--	--	--	--
210	R6-2L(2M)	--	30 x 36	7.50	--	1	--	1	1	--	--	--
211	R10-50(3)		30 x 36	7.50	--	--	--	--	--	--	--	MOUNT ON SIGNAL ARM
212	R1-1F(3)	--	36 x 36	--	7.46	--	--	1	1	--	--	ON SIGNAL POLE
212A	R6-3	--	-- x --	--	--	--	--	--	--	1	--	ON SIGNAL POLE
213	R5-1(3)	--	36 x 36	9.00	--	--	--	1	--	--	ESTR	--
214	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	--	--	ESTR	--
215	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	--	--	--	ON SIGNAL POLE
216	R5-1(3)	--	36 x 36	9.00	--	--	--	1	1	--	--	ON SIGNAL POLE
217	R2-1	45 MPH	-- x --	--	--	--	--	1	1	--	--	--
218	R5-1, R5-1A	--	-- x --	--	--	--	--	--	--	1	--	ON SIGNAL POLE
219	R3-2(3)	--	36 x 36	9.00	--	--	--	1	--	--	ESTR	--
220	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	--	--	--	ON SIGNAL POLE
221	R3-2(3)	--	36 x 36	9.00	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
222	J3-3(3)	--	108 x 84	--	--	--	2	1	2	--	--	--
	MB3-3	--	36 x 18	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	36 x 36	--	--	--	--	--	--	--	--	--
	MB6-1	--	30 x 30	--	--	--	--	--	--	--	--	--
	M3-1	--	36 x 18	--	--	--	--	--	--	--	--	--
	M1-6	STH 67	36 x 36	--	--	--	--	--	--	--	--	--
	M6-1	--	30 x 30	--	--	--	--	--	--	--	--	--
	MB3-1	--	36 x 18	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	36 x 36	--	--	--	--	--	--	--	--	--

TYPE I & II PERMANENT SIGNING

CATEGORY CODE 1000

SIGN NO.	SIGN CODE	SIGN MESSAGE	TYPE II SIGN SIZE W x H [IN.] x [IN.]	**637.2210** SIGNS TYPE II REFLECTIVE H [SF]	**637.2215** SIGNS TYPE II REFLECTIVE H FOLDING [SF]	**634.0616** POSTS WOOD 4X6-INCH X 16-FT [EA]	**634.0618** POSTS WOOD 4X6-INCH X 18-FT [EA]	**638.2602** REMOVING SIGNS TYPE II [EA]	**638.3000** REMOVING SMALL SIGN SUPPORTS [EA]	**638.2102** MOVING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
	MB5-1L	--	30 x 30	--	--	--	--	--	--	--	--	--
223	R5-1A	--	-- x --	--	--	1	--	--	--	1	--	--
224	J3-2(3)	--	72 x 84	42.00	--	--	2	--	--	--	--	--
	MB3-3	--	36 x 18	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	36 x 36	--	--	--	--	--	--	--	--	--
	MB6-1	--	30 x 30	--	--	--	--	--	--	--	--	--
	M3-1	--	36 x 18	--	--	--	--	--	--	--	--	--
	M1-6	CTH 67	36 x 36	--	--	--	--	--	--	--	--	--
	M6-1	--	30 x 30	--	--	--	--	--	--	--	--	--
225	R2-1	--	-- x --	--	--	--	--	1	1	--	--	--
226	J3-1(3)	--	36 x 84	21.00	--	--	2	1	1	--	--	--
	MB3-1	--	36 x 18	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	36 x 36	--	--	--	--	--	--	--	--	--
	MB6-1	--	30 x 30	--	--	--	--	--	--	--	--	--
227	R5-1	--	-- x --	--	--	--	--	--	--	1	--	--
228	J3-1	--	-- x --	--	--	--	1	--	--	1	--	--
229	R2-1(3)	45 MPH	36 x 48	12.00	--	--	1	1	1	--	--	--
230	R5-1A(3)	--	42 x 30	8.75	--	1	--	1	1	--	--	--
231	J2-1(3)	--	36 x 84	21.00	--	--	2	--	--	--	--	--
	MB3-3	--	36 x 18	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	36 x 36	--	--	--	--	--	--	--	--	--
	MB5-1L	--	30 x 30	--	--	--	--	--	--	--	--	--
231A	J2-1		-- x --	--	--	--	--	1	--	--	--	--
231B	J2-1		-- x --	--	--	--	--	1	--	--	--	--
231C	J2-1(3)	--	36 x 84	21.00	--	--	2	--	--	--	--	--
	MB3-1	--	36 x 18	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	36 x 36	--	--	--	--	--	--	--	--	--
	MB5-1L	--	30 x 30	--	--	--	--	--	--	--	--	--
232	R6-2L	--	-- x --	--	--	--	--	1	1	--	--	ON SIGNAL POLE
233	R5-1(3)	--	36 x 36	9.00	--	--	--	1	1	--	--	--
234	R10-50(3)		30 x 36	7.50	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
235	J3-1	--	-- x --	--	--	--	1	--	--	1	--	--
236	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	--	--	--	ON SIGNAL POLE
237	R3-2(3)	--	36 x 36	9.00	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
238	R5-1A(3)	--	42 x 30	8.75	--	1	--	1	1	--	--	ON SIGNAL POLE
239	R2-1(3)	45 MPH	36 x 48	12.00	--	--	1	1	1	--	--	--
240	J3-1(3)	--	36 x 84	21.00	--	--	--	1	--	--	--	ON SIGNAL POLE
	MB3-3	--	36 x 18	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	36 x 36	--	--	--	--	--	--	--	--	--
	MB6-1	--	30 x 30	--	--	--	--	--	--	--	--	--

TYPE I & II PERMANENT SIGNING

CATEGORY CODE 1000

SIGN NO.	SIGN CODE	SIGN MESSAGE	TYPE II SIGN SIZE W x H [IN.] x [IN.]	**637.2210** SIGNS TYPE II REFLECTIVE H [SF]	**637.2215** SIGNS TYPE II REFLECTIVE H FOLDING [SF]	**634.0616** POSTS WOOD 4X6-INCH X 16-FT [EA]	**634.0618** POSTS WOOD 4X6-INCH X 18-FT [EA]	**638.2602** REMOVING SIGNS TYPE II [EA]	**638.3000** REMOVING SMALL SIGN SUPPORTS [EA]	**638.2102** MOVING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
241	R3-1(3)	--	36 x 36	9.00	--	--	--	1	1	--	--	ON SIGNAL POLE
242	R5-1	--	-- x --	--	--	--	--	--	--	1	--	ON SIGNAL POLE
243	R5-1(3)	--	36 x 36	9.00	--	--	1	1	1	--	--	--
243A	R5-1A	--	-- x --	--	--	--	--	--	--	1	--	--
244	R1-1F(3)	--	36 x 36	--	7.46	--	--	1	1	--	--	ON SIGNAL POLE
244A	R6-3	--	-- x --	--	--	--	--	--	--	1	--	ON SIGNAL POLE
245	R6-2L(2M)	--	30 x 36	7.50	--	1	--	1	1	--	--	--
246	R1-1F(3)	--	36 x 36	--	7.46	--	--	1	1	--	--	ON SIGNAL POLE
246A	R6-3	--	-- x --	--	--	--	--	--	--	1	--	ON SIGNAL POLE
247	R5-1, R5-1A	--	-- x --	--	--	--	--	--	--	1	--	ON SIGNAL POLE
248	R1-1(3)	--	36 x 36	7.46	--	1	--	1	1	--	--	--
249	J4-1(3)	--	36 x 54	13.50	--	--	1	1	1	--	--	--
	M3-1	--	36 x 18	--	--	--	--	--	--	--	--	--
	M1-6	STH 67	36 x 36	--	--	--	--	--	--	--	--	--
250	R2-1(3)	45 MPH	36 x 48	12.00	--	--	1	1	1	--	--	--
--	--	--	x	--	--	--	--	--	--	--	--	--
	TOTALS			368.92	59.68	9	21	30	26	13	--	--

SHEET 3 OF 3

PROJECT NO: 3700-20-72	HWY: STH 67 @ IH 43	COUNTY: WALWORTH	MISCELLANEOUS QUANTITIES – PERMANENT SIGNING	SHEET: 27	E

FILE NAME N:\PDS\C3D\CAD\37002072\SIGNING\QUANTITIES\STH67_IH43_MQ.PPT
PLOT DATE : 1/21/2015 12:43:43 PM PLOT BY : MSCKVW PLOT NAME : 030214_mq_fm3 PLOT SCALE : 1:1

PAVEMENT MARKING

STATION - STATION	LOCATION	646.0106 EPOXY 4-INCH EDGELINE YELLOW LF	646.0106 EPOXY 4-INCH EDGELINE WHITE LF	646.0600 REMOVING PAVEMENT MARKINGS LF	647.0456 CURB EPOXY LF	647.0606 ISLAND NOSE EPOXY EACH	647.0726 DIAGONAL EPOXY 12-INCH WHITE LF	647.0955 REMOVING ARROWS EACH	SPV.0060.01 GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 EACH	SPV.0060.02 GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 3 EACH	SPV.0060.03 GROOVED PREFORMED THERMOPLASTIC WORDS EACH	SPV.0090.01 GROOVED PREFORMED PLASTIC TAPE 8-INCH 3' SKIPS LF	SPV.0090.01 GROOVED PREFORMED PLASTIC TAPE 8-INCH LF	SPV.0090.02 GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH LF	REMARKS
STH 67															
91+00 - 95+25	RT & LT	852	704	-	-	-	-	-	-	-	-	-	90	28	
90+68 - 92+68	RT	-	-	-	-	-	58	-	-	-	-	-	-	-	50 FT C-C
91+15 - 93+75	LT	-	-	-	-	-	77	-	-	-	-	-	-	-	50 FT C-C
92+64 - 94+10	RT	-	-	-	-	-	-	-	-	-	-	39	-	-	
94+35	RT	-	-	-	-	-	-	-	-	-	1	-	-	-	"ONLY"
94+72	RT	-	-	-	-	-	-	-	1	-	-	-	-	-	
95+27	CL	-	-	-	10	1	-	-	-	-	-	-	-	-	
96+10	CL	-	-	-	18	1	-	-	-	-	-	-	-	-	
96+12 - 104+06	RT & LT	1575	1567	-	-	-	-	-	-	-	-	-	177	43	
96+40	LT	-	-	-	-	-	-	-	1	-	-	-	-	-	
96+75	LT	-	-	-	-	-	-	-	-	-	1	-	-	-	"ONLY"
96+88 - 97+87	LT	-	-	-	-	-	-	-	-	-	-	27	-	-	
101+61 - 102+96	RT	-	-	-	-	-	-	-	-	-	-	36	-	-	
103+35	RT	-	-	-	-	-	-	-	-	-	1	-	-	-	"ONLY"
103+71	RT	-	-	-	-	-	-	-	1	-	-	-	-	-	
104+02	CL	-	-	-	19	1	-	-	-	-	-	-	-	-	
104+77	CL	-	-	-	32	1	-	-	-	-	-	-	-	-	
104+82 - 111+20	RT & LT	1256	1204	-	-	-	-	-	-	-	-	-	124	30	
105+18	LT	-	-	-	-	-	-	-	1	-	-	-	-	-	
105+54	LT	-	-	-	-	-	-	-	-	-	1	-	-	-	"ONLY"
105+98	LT	-	-	-	-	-	-	-	1	-	-	-	-	-	
106+15 - 106+90	LT	-	-	-	-	-	-	-	-	-	-	21	-	-	
111+44	CL	-	-	-	40	1	-	-	-	-	-	-	-	-	
NB ON RAMP															
834+23'A' - 839+25'A'	RT & LT	478	506	-	-	-	-	-	-	-	-	-	-	-	
NB OFF RAMP															
828+25'B' - 833+35'B'	RT & LT	490	497	38	-	-	65	3	-	-	-	-	219	48	DIAGONAL 10 FT C-C
832+66'B'	RT	-	-	-	-	-	-	-	1	1	-	-	-	-	
SB ON RAMP															
833+50'C' - 838+77'C'	RT & LT	470	537	-	-	-	-	-	-	-	-	-	-	-	
SB OFF RAMP															
839+35'D' - 844+50'D'	RT & LT	495	490	41	-	-	41	3	-	-	-	-	195	41	DIAGONAL 10 FT C-C
839+98'D'	LT	-	-	-	-	-	-	-	1	1	-	-	-	-	
BID ITEM TOTAL		5,616	5,505									123	805	190	
ITEM TOTALS		11,121		79	119	5	241	6	7	2	4	928		380	

SAWING

STATION	LOCATION	690.0150 ASPHALT LF
STH 67		
94+83	LT/RT	14
94+88 - 95+01	LT/RT	12
95+01	LT	16
96+18	LT	5
96+38	LT	6
97+60	LT/RT	7
97+73	LT/RT	7
102+41	LT/RT	8
102+53	LT/RT	7
103+72	LT/RT	5
103+94	LT/RT	5
104+97 - 105+15	RT	18
	TOTAL	110

3

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
1	EACH	POLES, TYPE 9
2	EACH	POLES, TYPE 10
1	EACH	MONOTUBE ARMS, 25-FOOT
2	EACH	MONOTUBE ARMS, 30-FOOT
3	EACH	LUMINAIRE ARMS STEEL, 8-FOOT
1	LS	RADAR DETECTION SYSTEM
3	EACH	EVP DETECTOR HEADS
1	EACH	WIRELESS MODEM

WISCONSIN
JOSHUA M. WOLLER
E-42424-6
FITCHBURG
WI
PROFESSIONAL ENGINEER

3-11-15

CONDUIT

FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0605 CONDUIT SPECIAL 2-INCH LF	652.0615 CONDUIT SPECIAL 3-INCH LF
CB1	PB1	—	24	—	—
PB1	PB2	—	124	—	—
PB2	PB3	—	—	—	88
PB3	PB4	—	—	—	84
PB4	PB5	—	50	—	—
PB5	PB6	—	—	—	168
PB6	PB7	—	48	—	—
PB7	PB8	—	—	—	112
PB8	PB9	—	—	—	88
PB9	PB10	—	—	—	37
PB9	PB11	—	24	—	—
PB11	PB12	—	—	—	92
PB12	CB1	—	30	—	—
PB2	SB1	8	—	—	—
PB3	SB2	8	—	—	—
SB2	SB3	—	—	138	—
PB4	SB4	—	8	—	—
PB5	SB5	—	6	—	—
PB7	SB6	7	—	—	—
PB8	SB7	—	5	—	—
PB10	SB9	4	—	—	—
PB11	SB8	10	—	—	—
***TOTAL		37	319	138	669

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PULL BOXES STEEL

PULL BOX NUMBER	STATION	LOCATION	653.0140 PULL BOXES STEEL 24 X 42 - INCH EACH
PB1	95+62.9	54.6' LT	1
PB2	96+25.0	47.8' LT	1
PB3	96+24.8	3.2' LT	1
PB4	96+24.6	39.0' RT	1
PB5	96+02.4	50.9' RT	1
PB6	95+18.5	50.6' RT	1
PB7	94+94.3	49.8' RT	1
PB8	94+94.5	6.2' LT	1
PB9	94+94.7	50.3' LT	1
PB10	94+65.7	73.6' LT	1
PB11	95+05.9	55.5' LT	1
PB12	95+51.9	55.3' LT	1
		***TOTAL	12

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

CONCRETE BASES

BASE NUMBER	STATION	LOCATION	654.0101 CONCRETE BASES TYPE 1 EACH	654.0105 CONCRETE BASES TYPE 5 EACH	654.0110 CONCRETE BASES TYPE 10 EACH	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
SB1	96+17.8	46.1' LT	1	—	—	—
SB2	96+31.9	3.2' LT	—	1	—	—
SB3	97+66.5	4.2' LT	—	1	—	—
SB4	96+32.4	39.9' RT	—	—	1	—
SB5	95+99.4	55.5' RT	—	—	1	—
SB6	94+99.5	46.2' RT	1	—	—	—
SB7	94+89.8	6.4' LT	—	—	1	—
SB8	95+04.4	45.6' LT	1	—	—	—
SB9	94+68.4	76.9' LT	—	1	—	—
CB1	95+59.1	63.1' LT	—	—	—	1
		***TOTAL	3	3	3	1

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC SIGNAL CABLE NO. 14 (ABOVE GROUND)

FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 5 - 14 AWG LF	655.0240 CABLE TRAFFIC SIGNAL 7 - 14 AWG LF
SB1	HEAD 4	19	—
SB4	HEAD 2	70	—
SB4	HEAD 3	19	—
SB5	HEAD 10	19	—
SB5	HEAD 11	56	—
SB6	HEAD 1	21	—
SB6	HEAD 7	—	22
SB7	HEAD 5	47	—
SB7	HEAD 8	—	35
SB8	HEAD 6	19	—
SB8	HEAD 9	19	—
	***TOTAL	289	57

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

SIGNAL NO. S64-1418
IH 43 NB & STH 67
PAGE 1 OF 3

3

TRAFFIC SIGNAL CABLE NO. 14 (BELOW GROUND)

FROM	TO	655.0260 CABLE TRAFFIC SIGNAL 12 - 14 AWG LF
CB1	SB1	121
CB1	SB4	239
CB1	SB5	278
CB1	SB6	266
CB1	SB7	192
CB1	SB8	109
	***TOTAL	1205

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL SERVICE METER BREAKER PEDESTAL
IH 43 NB RAMPS & STH 67

BASE NUMBER	656.0200.01 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS
CB1	1
TOTAL	1

LIGHTING WIRE

FROM	TO	655.0320 CABLE TYPE UF 2 - 10 AWG GROUNDED LF	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF
CB1	SB2	103	---
SB2	LUMIN	---	288
SB2	SB3	146	---
SB3	LUMIN	---	117
SB2	SB5	137	---
SB5	LUMIN	---	117
CB1	SB9	184	---
SB9	LUMIN	---	117
SB9	SB7	146	---
SB7	LUMIN	---	288
	***TOTAL	613	927

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRIC WIRE TRAFFIC SIGNALS, NO. 10

FROM	TO	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB1	105
SB1	SB2	99
SB2	SB4	97
SB4	SB5	79
SB5	SB6	177
SB6	SB7	108
SB7	SB8	127
SB8	SB9	119
SB9	CB1	185
PB1	CB1	31
PB2	SB1	28
PB3	SB2	27
PB4	SB4	28
PB5	SB5	26
PB6	SB6	67
PB7	SB6	27
PB8	SB7	25
PB9	SB8	58
PB10	SB9	24
PB11	SB8	30
PB12	CB1	33
	***TOTAL	1500

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE LF
CB1	SB7 (HEAD A)	247
CB1	SB4 (HEAD B)	299
CB1	SB5 (HEAD C)	338
	***TOTAL	884

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

BASES, POLES, MONOTUBE ARMS, PUSH BUTTONS, AND LUMINAIRES

SIGNAL BASE NUMBER	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2 INCH BOLT CIRCLE EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13 - FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15 - FT EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FOOT EACH	657.1345 INSTALL POLES TYPE 9 EACH	657.1350 INSTALL POLES TYPE 10 EACH	657.1525 INSTALL MONOTUBE ARMS 25-FT EACH	657.1530 INSTALL MONOTUBE ARMS 30-FT EACH	657.1808 INSTALL LUMINAIRE ARMS STEEL 8-FT EACH	659.1125 LUMINAIRES UTILITY LED C EACH
SB1	1	---	---	1	---	---	---	---	---	---	---	---
SB2	---	1	1	---	---	2	---	---	---	---	---	2
SB3	---	1	1	---	---	1	---	---	---	---	---	1
SB4	---	---	---	---	---	–	1	---	---	1	---	---
SB5	---	---	---	---	---	---	---	1	---	1	1	1
SB6	1	---	---	---	1	---	---	---	---	---	---	---
SB7	---	---	---	---	---	---	---	1	1	---	2	2
SB8	1	---	---	1	---	---	---	---	---	---	---	---
SB9	---	1	1	---	---	1	---	---	---	---	---	1
***TOTAL	3	3	3	2	1	4	1	2	1	2	3	7

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

SIGNAL NO. S64-1418
IH 43 NB & STH 67
PAGE 2 OF 3

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES

SIGNAL HEAD NUMBER	SIGNAL BASE NUMBER	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.022 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH YELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH	658.0615 LED MODULES 12-INCH RED ARROW EACH	658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	658.0625 LED MODULES 12-INCH GREEN ARROW EACH
1	SB6	1	---	1	---	1	1	1	---	---	---
2	SB4	1	---	1	---	1	1	1	---	---	---
3	SB4	1	---	1	---	1	1	1	---	---	---
4	SB1	1	---	1	---	1	1	1	---	---	---
5	SB7	1	---	1	---	1	1	1	---	---	---
6	SB8	1	---	1	---	1	1	1	---	---	---
7	SB6	---	1	---	1	---	---	---	1	2	1
8	SB7	---	1	---	1	---	---	---	1	2	1
9	SB8	1	---	1	---	1	1	1	---	---	---
10	SB5	1	---	1	---	1	1	1	---	---	---
11	SB5	1	---	1	---	1	1	1	---	---	---
	***TOTAL	9	2	9	2	9	9	9	2	4	2

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

SIGNAL MOUNTING HARDWARE
IH 43 NB RAMPS & STH 67

LOCATION	658.5069.01 SIGNAL MOUNTING HARDWARE LS
IH 43 NB RAMPS & STH 67	1
TOTAL	1

INSTALL WIRELESS MODEM
IH 43 NB RAMPS & STH 67

	SPV.0060.04 INSTALL WIRELESS MODEM EACH
IH 43 NB RAMPS & STH 67	1
***TOTAL	1

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRANSPORTING SIGNAL AND LIGHTING MATERIALS
IH 43 NB RAMPS & STH 67

	SPV.0105.01 TRANSPORTING SIGNAL AND LIGHTING MATERIALS LS
IH 43 NB RAMPS & STH 67	1
TOTAL	1

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
IH 43 NB RAMPS & STH 67

	SPV.0105.03 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
IH 43 NB RAMPS & STH 67	1
TOTAL	1

TRANSPORT AND INSTALL RADAR DETECTION SYSTEM
IH 43 NB RAMPS & STH 67

	SPV.0105.05 TRANSPORT AND INSTALL STATE FURNISHED RADAR DETECTION SYSTEM LS
IH 43 NB RAMPS & STH 67	1
TOTAL	1

INSTALL STATE FURNISHED EVP DETECTOR HEADS
IH 43 NB RAMPS & STH 67

	SPV.0105.08 INSTALL STATE FURNISHED EVP DETECTOR HEADS LS
IH 43 NB RAMPS & STH 67	1
TOTAL	1

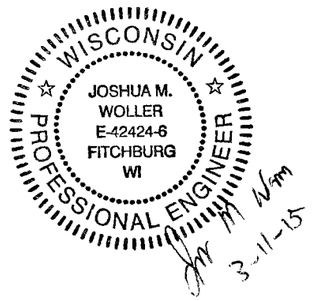
ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

SIGNAL NO. S64-1418
IH 43 NB & STH 67
PAGE 3 OF 3

3

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
1	EACH	POLES, TYPE 12
1	EACH	MONOTUBE ARMS, 40-FOOT
1	LS	RADAR DETECTION SYSTEM
3	EACH	EVP DETECTOR HEADS
1	EACH	WIRELESS MODEM



CONDUIT

FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0605 CONDUIT SPECIAL 2-INCH LF	652.0615 CONDUIT SPECIAL 3-INCH LF
CB1	PB1	—	30	—	—
PB1	PB2	—	—	—	104
PB2	PB3	—	—	—	110
PB3	PB4	—	152	—	—
PB4	PB5	—	—	—	92
PB5	PB6	—	—	—	90
PB6	PB7	—	60	—	—
PB7	PB8	—	—	—	118
PB8	PB9	—	130	—	—
PB9	PB10	—	—	—	100
PB10	PB11	—	—	—	132
PB11	CB1	—	30	—	—
SERVICE CONDUIT		—	—	—	105
PB1	SB1	12	—	—	—
PB2	SB2	—	10	—	—
PB4	SB3	21	—	—	—
PB5	SB4	9	—	—	—
PB5	SB5	—	—	132	—
PB6	SB6	9	—	—	—
PB7	SB7	6	—	—	—
PB8	SB8	5	—	—	—
PB8	SB9	27	—	—	—
PB9	SB10	18	—	—	—
PB10	SB11	21	—	—	—
***TOTAL		128	412	132	851

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PULL BOXES STEEL

PULL BOX NUMBER	STATION	LOCATION	653.0140 PULL BOXES STEEL 24 X 42 - INCH EACH
PB1	105+48.2	8.7' RT	1
PB2	105+09.9	46.2' RT	1
PB3	104+55.0	45.9' RT	1
PB4	103+78.7	47.4' RT	1
PB5	103+78.7	1.6' RT	1
PB6	103+78.7	43.1' LT	1
PB7	104+01.3	62.3' LT	1
PB8	104+60.4	62.3' LT	1
PB9	105+21.7	40.2' LT	1
PB10	105+36.2	7.9' RT	1
PB11	105+55.4	71.3' RT	1
		***TOTAL	11

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

CONCRETE BASES

BASE NUMBER	STATION	LOCATION	654.0101 CONCRETE BASES TYPE 1 EACH	654.0102 CONCRETE BASES TYPE 2 EACH	654.0105 CONCRETE BASES TYPE 5 EACH	654.0113 CONCRETE BASES TYPE 13 EACH	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
SB1	105+42.7	70.6' RT	—	—	1	—	—
SB2	105+04.7	50.0' RT	—	—	—	1	—
SB3	103+99.0	49.0' RT	—	1	—	—	—
SB4	103+86.9	1.9' RT	—	1	—	—	—
SB5	102+47.3	2.5' RT	—	—	1	—	—
SB6	103+86.9	43.9' LT	—	1	—	—	—
SB7	104+05.1	57.8' LT	1	—	—	—	—
SB8	104+61.5	57.8' LT	1	—	—	—	—
SB9	104+41.4	80.4' LT	—	—	1	—	—
SB10	105+04.0	40.1' LT	1	—	—	—	—
SB11	105+56.7	7.8' RT	—	—	1	—	—
CB1	105+59.6	80.9' RT	—	—	—	—	1
		***TOTAL	3	3	4	1	1

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC SIGNAL CABLE NO. 14 (ABOVE GROUND)

FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 5 - 14 AWG LF	655.0240 CABLE TRAFFIC SIGNAL 7 - 14 AWG LF
SB2	HEAD 2	53	—
SB2	HEAD 3	19	—
SB2	HEAD 5	—	66
SB2	HEAD 9	19	—
SB3	HEAD 1	19	—
SB4	HEAD 7	40	—
SB6	HEAD 8	19	—
SB7	HEAD 10	19	—
SB8	HEAD 11	19	—
SB10	HEAD 4	—	22
SB10	HEAD 6	21	—
	***TOTAL	228	88

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

SIGNAL NO. S64-1417
IH 43 SB & STH 67
PAGE 1 OF 3

3

TRAFFIC SIGNAL CABLE NO. 14 (BELOW GROUND)

FROM	TO	655.0240 CABLE TRAFFIC SIGNAL 7 - 14 AWG LF	655.0260 CABLE TRAFFIC SIGNAL 12 - 14 AWG LF	655.0270 CABLE TRAFFIC SIGNAL 15 - 14 AWG LF
CB1	SB2	---	---	115
CB1	SB3	---	289	---
CB1	SB4	339	---	---
CB1	SB6	---	400	---
CB1	SB7	---	347	---
CB1	SB8	---	271	---
CB1	SB10	---	203	---
	***TOTAL	339	1510	115

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL SERVICE METER BREAKER PEDESTAL
IH 43 SB RAMPS & STH 67

BASE NUMBER	656.0200.02 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS
CB1	1
TOTAL	1

LIGHTING WIRE

FROM	TO	655.0320 CABLE TYPE UF 2 - 10 AWG GROUNDED LF	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF
CB1	SB1	49	---
SB1	LUMIN	---	117
SB1	SB4	338	---
SB4	LUMIN	---	288
SB4	SB5	165	---
SB5	LUMIN	---	117
CB1	SB11	137	---
SB11	LUMIN	---	288
SB11	SB9	219	—
SB9	LUMIN	—	117
	***TOTAL	859	927

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRIC WIRE TRAFFIC SIGNALS, NO. 10

FROM	TO	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB2	115
SB2	SB3	218
SB3	SB4	116
SB4	SB6	103
SB6	SB7	85
SB7	SB8	110
SB8	SB10	128
SB10	SB11	129
SB11	CB1	140
PB1	CB1	33
PB2	SB2	30
PB3	SB2	101
PB4	SB3	41
PB5	SB4	29
PB6	SB6	29
PB7	SB7	26
PB8	SB8	25
PB9	SB10	38
PB10	SB11	41
PB11	CB1	33
	***TOTAL	1570

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE LF
CB1	SB4 (HEAD A)	384
CB1	SB2 (HEAD B)	185
CB1	SB2 (HEAD D)	145
	***TOTAL	714

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

BASES, POLES, MONOTUBE ARMS, PUSH BUTTONS, AND LUMINAIRES

SIGNAL BASE NUMBER	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2 INCH BOLT CIRCLE EACH	657.0305 POLES TYPE 2 EACH	657.0310 POLES TYPE 3 EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13 - FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15 - FT EACH	657.0585 TROMBONE ARMS 15-FT EACH	657.0609 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FOOT EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FOOT EACH	657.1355 INSTALL POLES TYPE 12 EACH	657.1540 INSTALL MONOTUBE ARMS 40-FT EACH	659.1125 LUMINAIRES UTILITY LED C EACH
SB1	---	1	---	---	1	---	---	---	---	1	---	---	1
SB2	---	---	---	---	---	---	---	---	---	---	1	1	---
SB3	---	1	1	---	---	---	---	---	---	---	---	---	---
SB4	---	1	---	1	---	---	---	1	2	–	---	---	2
SB5	---	1	---	---	1	---	---	---	---	1	---	---	1
SB6	---	1	1	---	---	---	---	---	---	---	---	---	---
SB7	1	---	---	---	---	1	---	---	---	---	---	---	---
SB8	1	---	---	---	---	1	---	---	---	---	---	---	---
SB9	---	1	---	---	1	---	---	---	---	1	---	---	1
SB10	1	---	---	---	---	---	1	---	---	---	---	---	---
SB11	---	1	---	---	1	---	---	---	---	2	---	---	2
***TOTAL	3	7	2	1	4	2	1	1	2	5	1	1	7

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

SIGNAL NO. S64-1417
IH 43 SB & STH 67
PAGE 2 OF 3

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES

SIGNAL HEAD NUMBER	SIGNAL BASE NUMBER	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.022 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH YELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH	658.0615 LED MODULES 12-INCH RED ARROW EACH	658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	658.0625 LED MODULES 12-INCH GREEN ARROW EACH
1	SB3	1	---	1	---	1	1	1	---	---	---
2	SB2	1	---	1	---	1	1	1	---	---	---
3	SB2	1	---	1	---	1	1	1	---	---	---
4	SB10	---	1	---	1	---	---	---	1	2	1
5	SB2	---	1	---	1	---	---	---	1	2	1
6	SB10	1	---	1	---	1	1	1	---	---	---
7	SB4	1	---	1	---	1	1	1	---	---	---
8	SB6	1	---	1	---	1	1	1	---	---	---
9	SB2	1	---	1	---	1	1	1	---	---	---
10	SB7	1	---	1	---	1	1	1	---	---	---
11	SB8	1	---	1	---	1	1	1	---	---	---
	***TOTAL	9	2	9	2	9	9	9	2	4	2

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

SIGNAL MOUNTING HARDWARE
IH 43 SB RAMPS & STH 67

LOCATION	658.5069.02 SIGNAL MOUNTING HARDWARE LS
IH 43 SB RAMPS & STH 67	1
TOTAL	1

INSTALL WIRELESS MODEM
IH 43 SB RAMPS & STH 67

	SPV.0060.05 INSTALL WIRELESS MODEM EACH
IH 43 SB RAMPS & STH 67	1
***TOTAL	1

***ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRANSPORTING SIGNAL AND LIGHTING MATERIALS
IH 43 SB RAMPS & STH 67

	SPV.0105.02 TRANSPORTING SIGNAL AND LIGHTING MATERIALS LS
IH 43 SB RAMPS & STH 67	1
TOTAL	1

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
IH 43 SB RAMPS & STH 67

	SPV.0105.04 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
IH 43 SB RAMPS & STH 67	1
TOTAL	1

TRANSPORT AND INSTALL RADAR DETECTION SYSTEM
IH 43 SB RAMPS & STH 67

	SPV.0105.06 TRANSPORT AND INSTALL STATE FURNISHED RADAR DETECTION SYSTEM LS
IH 43 SB RAMPS & STH 67	1
TOTAL	1

INSTALL STATE FURNISHED EVP DETECTOR HEADS
IH 43 SB RAMPS & STH 67

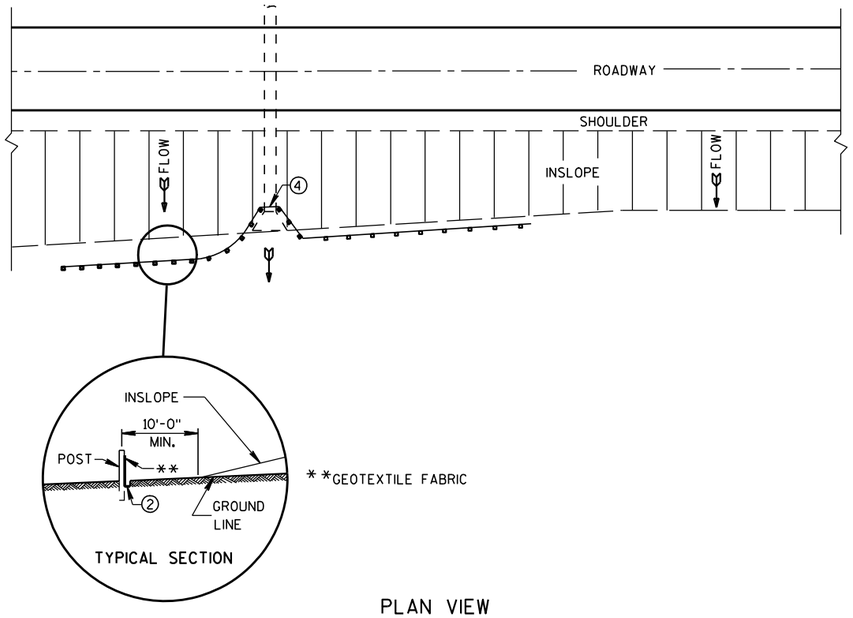
	SPV.0105.09 INSTALL STATE FURNISHED EVP DETECTOR HEADS LS
IH 43 SB RAMPS & STH 67	1
TOTAL	1

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010

SIGNAL NO. S64-1417
IH 43 SB & STH 67
PAGE 3 OF 3

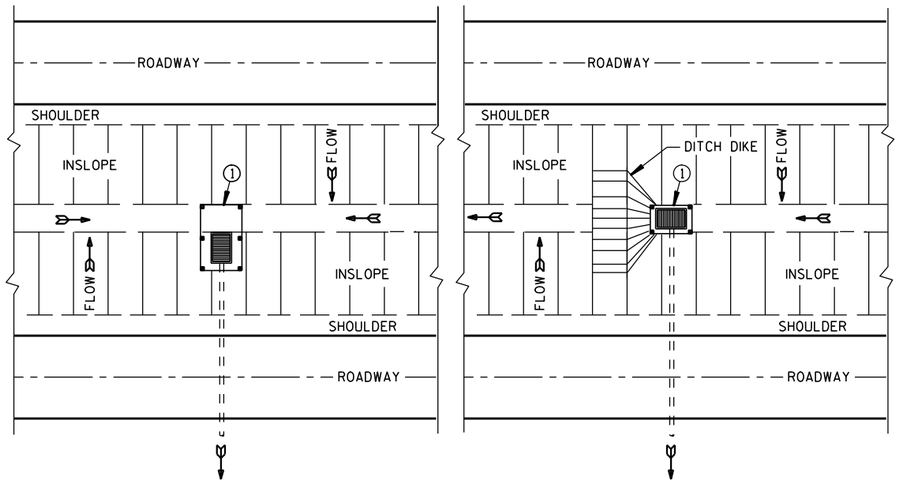
Standard Detail Drawing List

08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-08	CONDUIT UNDER PAVED HIGHWAYS
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C11-05	CONCRETE BASE TYPE 10
09C12-05A	CONCRETE BASE TYPE 13
09C12-05B	CONCRETE BASE TYPE 13
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09E01-13A	POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2
09E01-13B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)
09E01-13D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-13G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E08-06A	TYPE 9 POLE 15'-30' MONOTUBE ARM
09E08-06B	TYPE 10 POLE 15'-30' MONOTUBE ARM
09E08-06C	TYPE 12 POLE 35'-55' MONOTUBE ARM
09E08-06E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C18-03	MEDIAN ISLAND MARKING
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D21-03	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

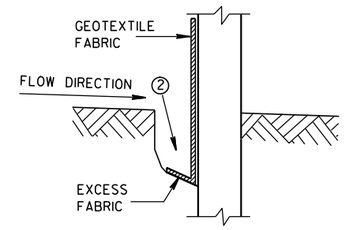
(1) HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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

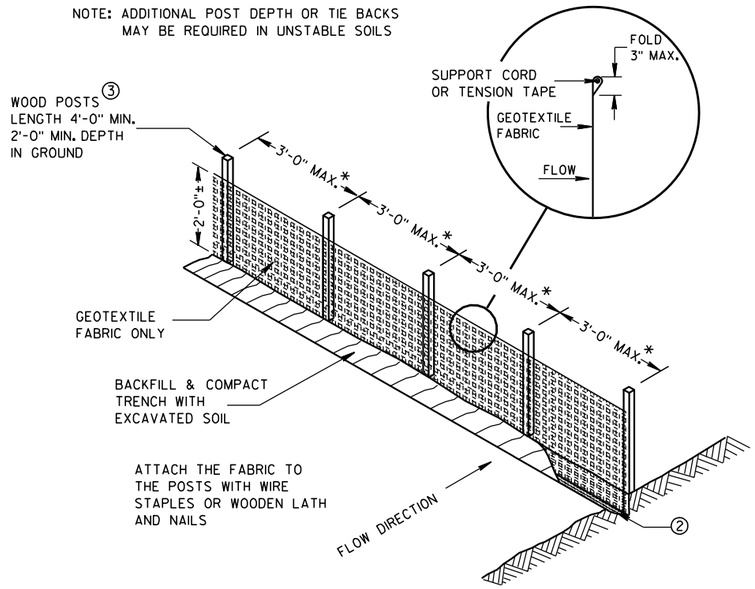
(3) WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

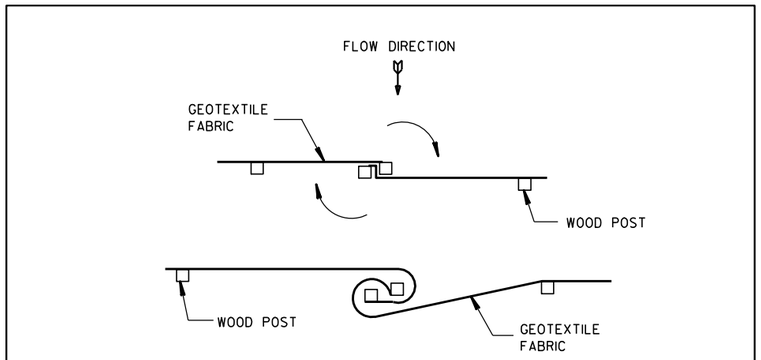
(5) CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



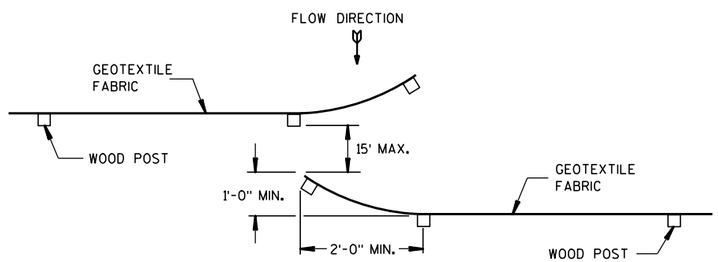
TRENCH DETAIL



SILT FENCE

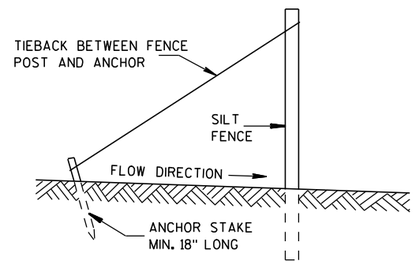


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

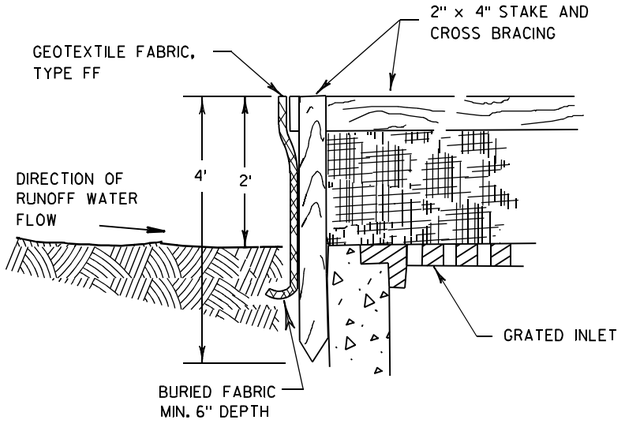
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

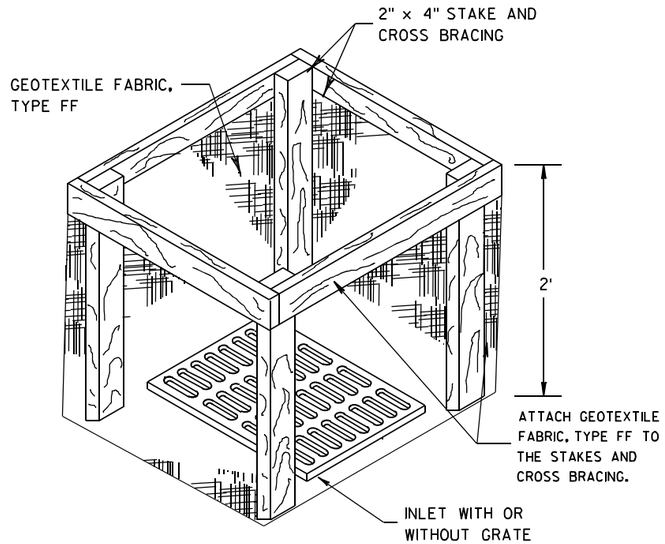
6

S.D.D. 8 E 9-6

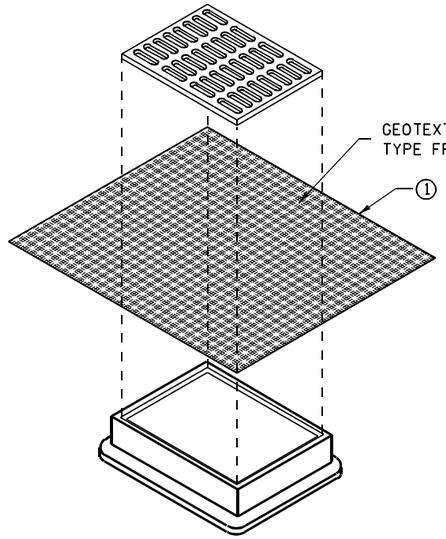
6

S.D.D. 8 E 9-6



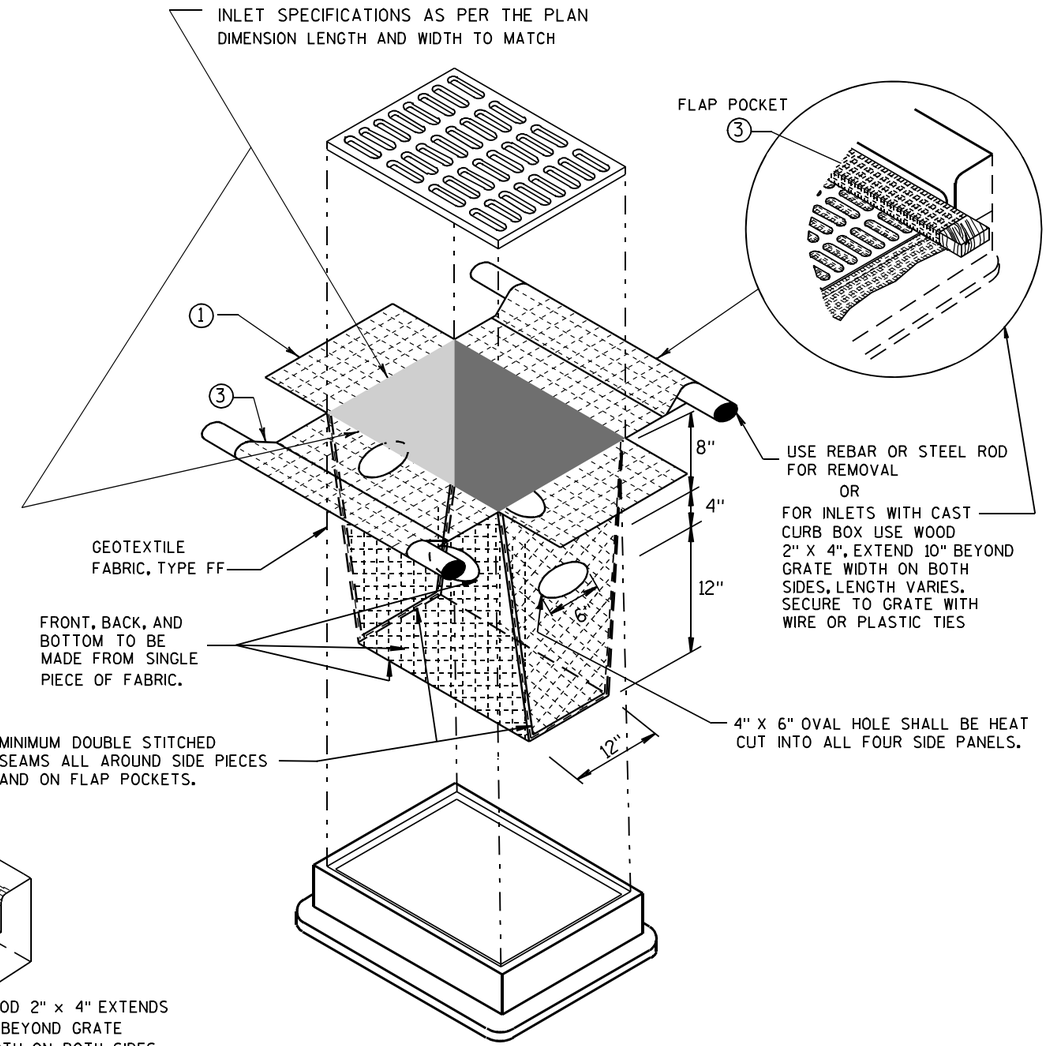


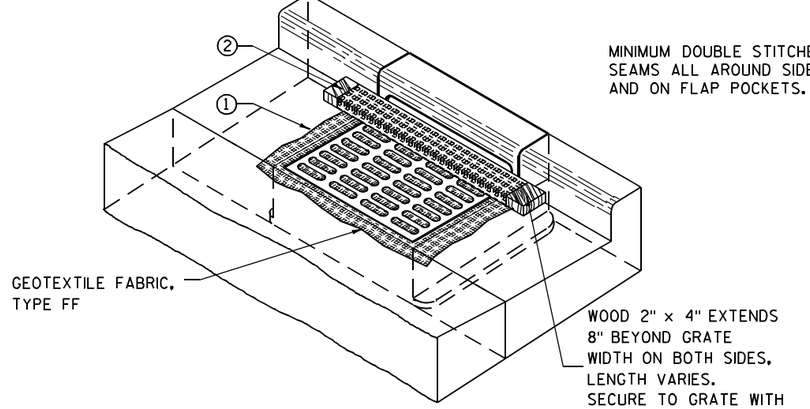
INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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





INLET PROTECTION, TYPE C (WITH CURB BOX)

INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

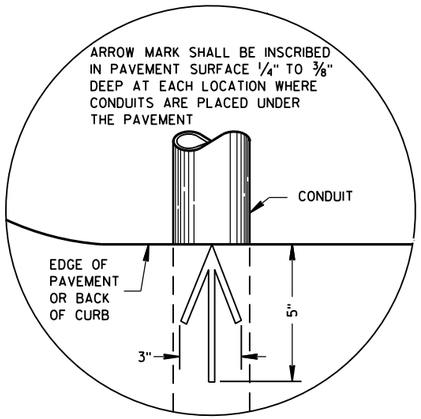
APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

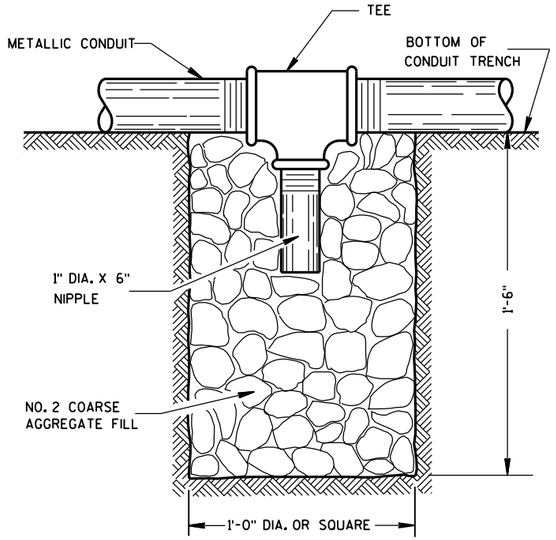
FHWA

6
S.D.D. 8 E 10-2



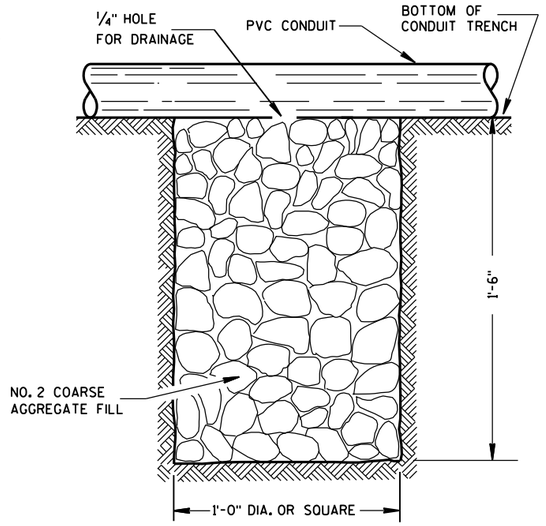
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

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

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

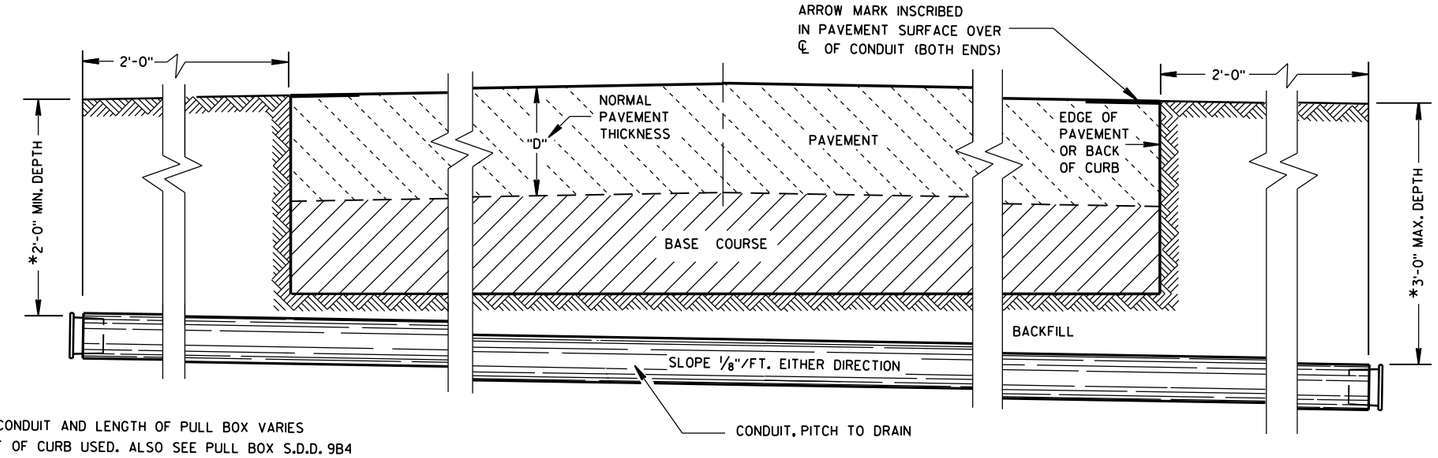
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT UNDER PAVED HIGHWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

6

S.D.D. 9 B 2-8

6

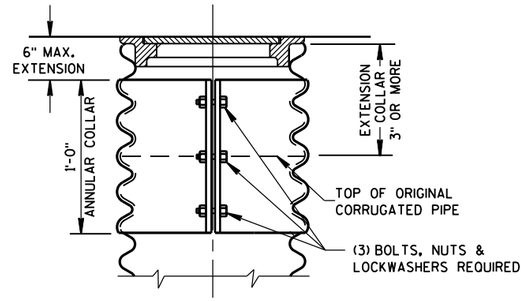
S.D.D. 9 B 2-8

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

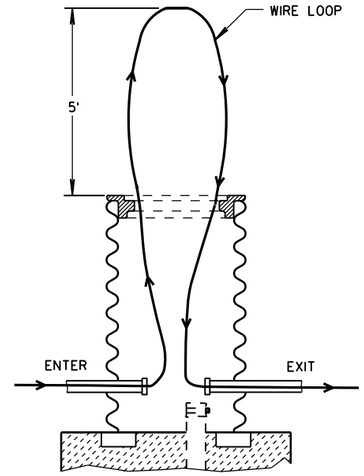
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	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.

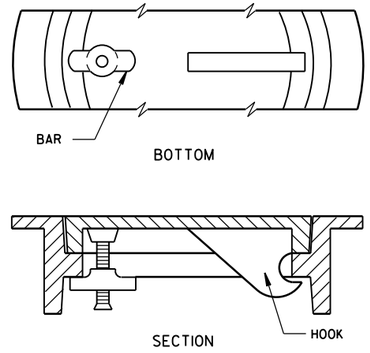
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

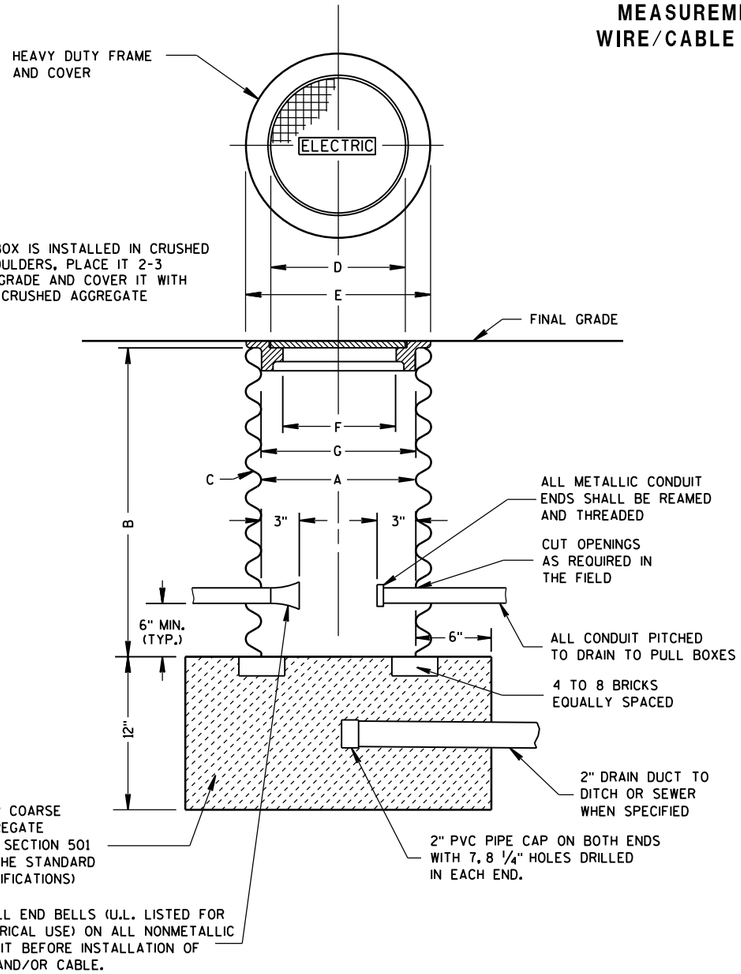


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



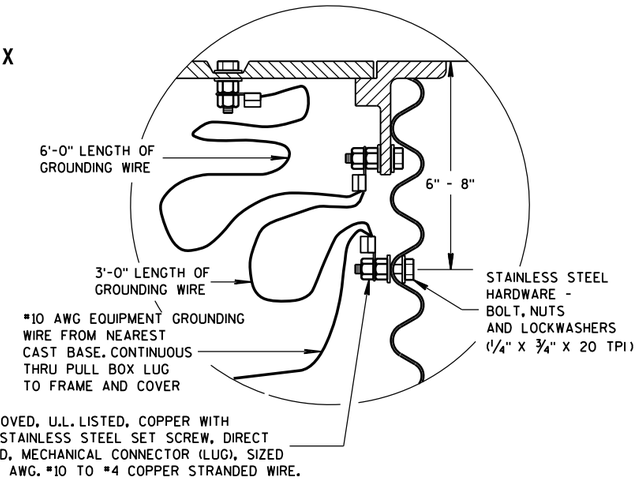
ALTERNATE COVER (LOCKING)

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

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

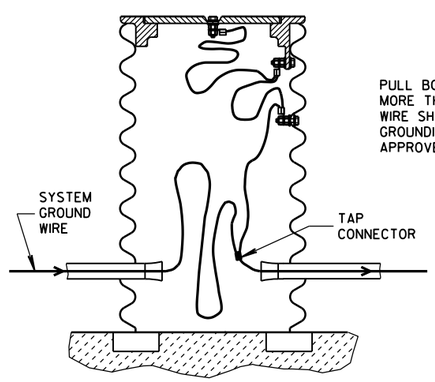
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

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

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

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



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

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

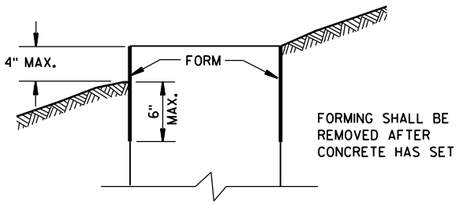
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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 DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

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

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

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

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

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

GENERAL NOTES (CONTINUED)

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

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

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

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 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" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

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

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

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

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

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

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

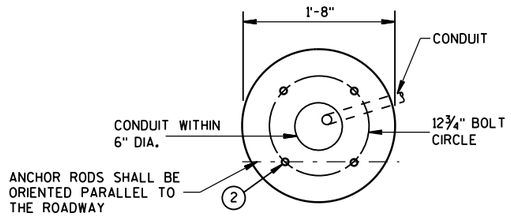
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

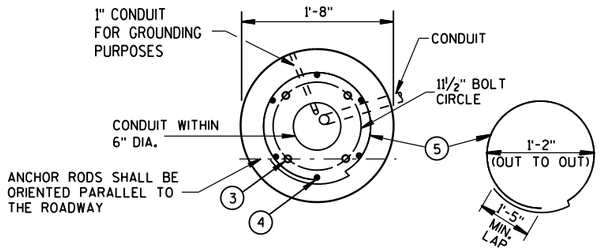
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

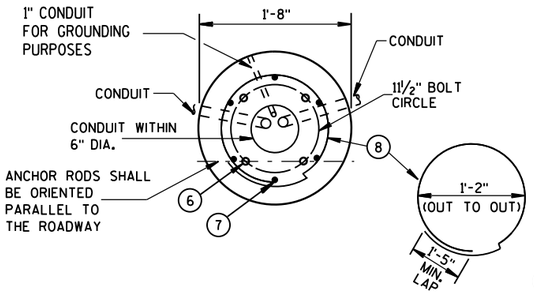
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



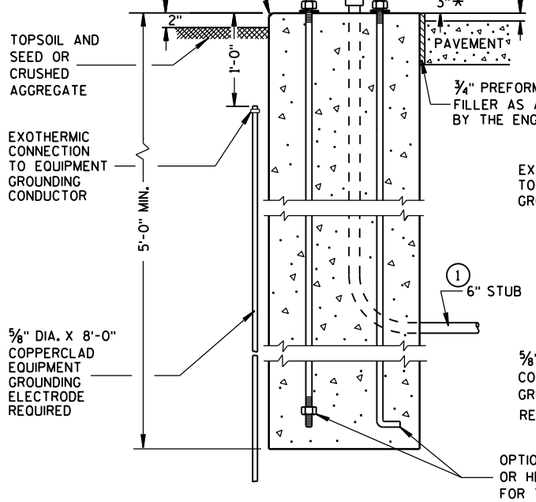




FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

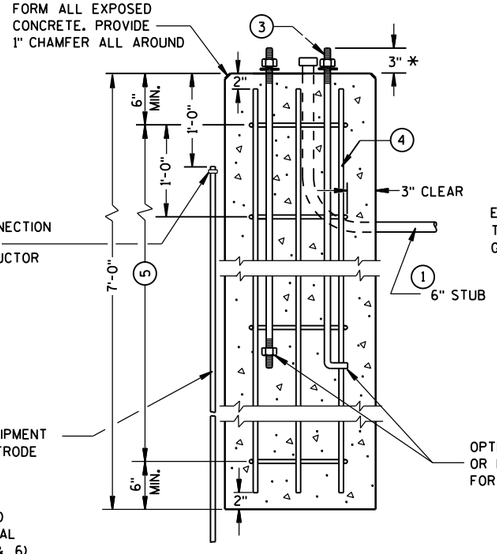
HALF SECTION IN UNPAVED AREA

(TYPICAL FOR TYPES 1, 2, 5, & 6)

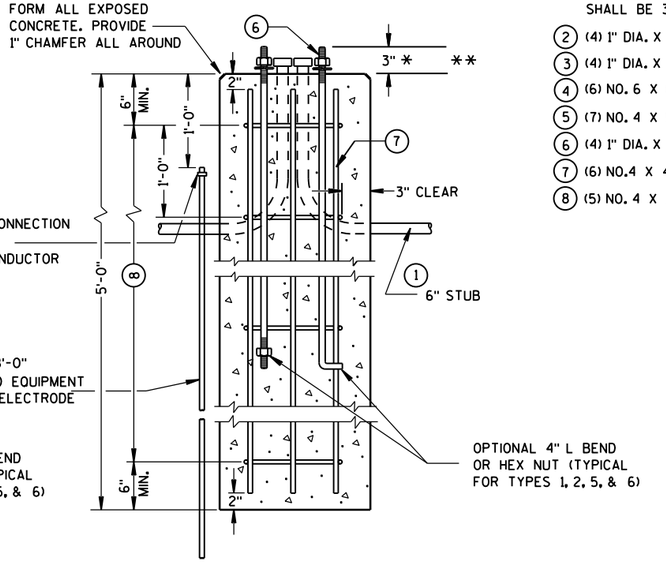


HALF SECTION IN PAVEMENT

(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 2-7

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.

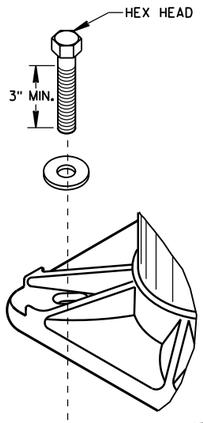
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

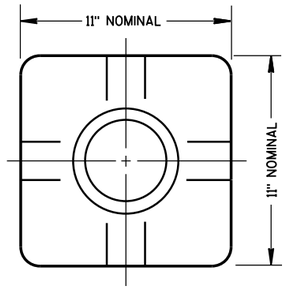
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

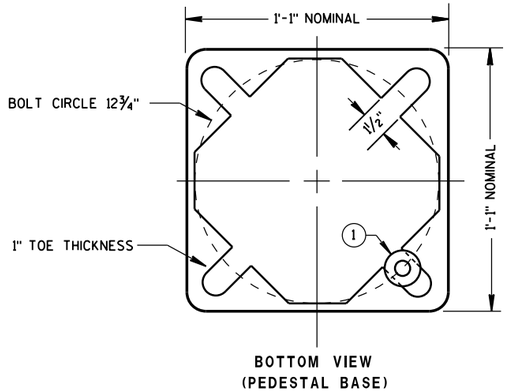
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

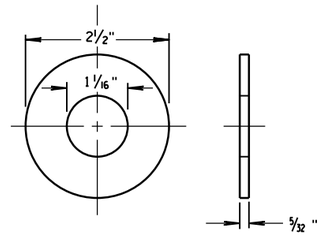




TOP VIEW
(PEDESTAL BASE)

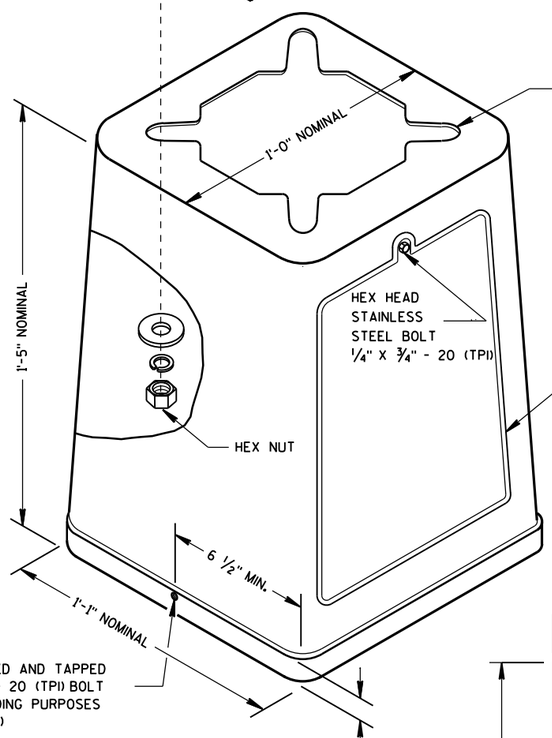


BOTTOM VIEW
(PEDESTAL BASE)

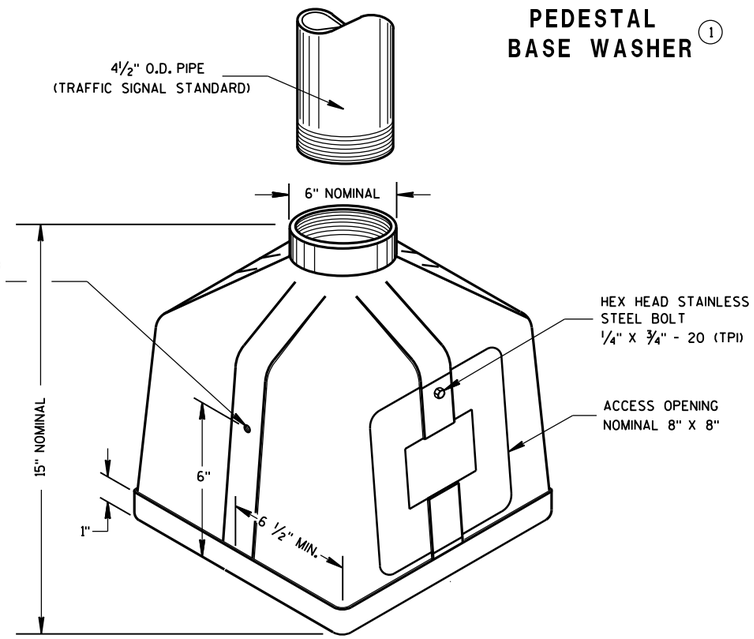


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

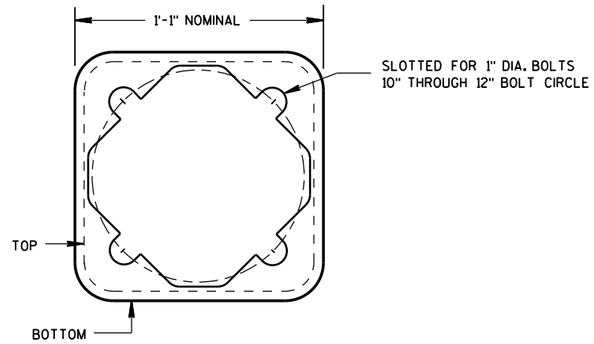


ISOMETRIC VIEW

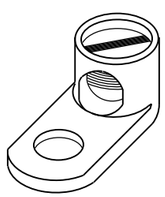


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

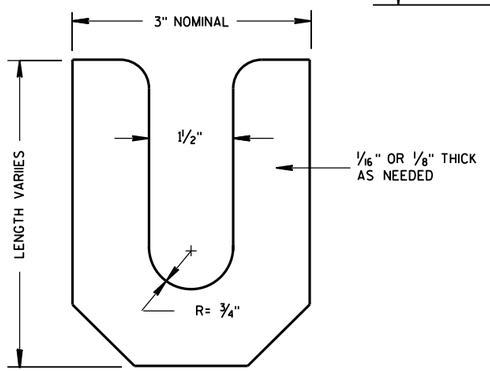


TYPICAL MECHANICAL CONNECTOR LUG

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

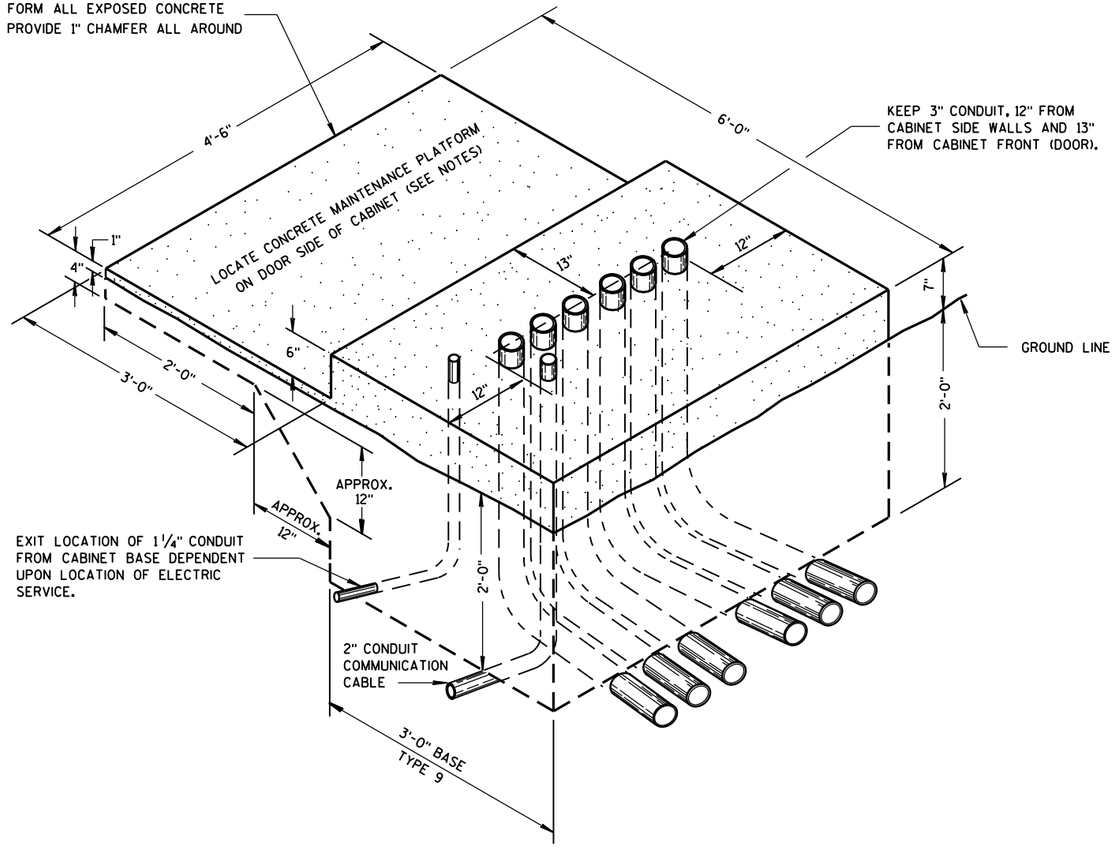
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 3-4

6

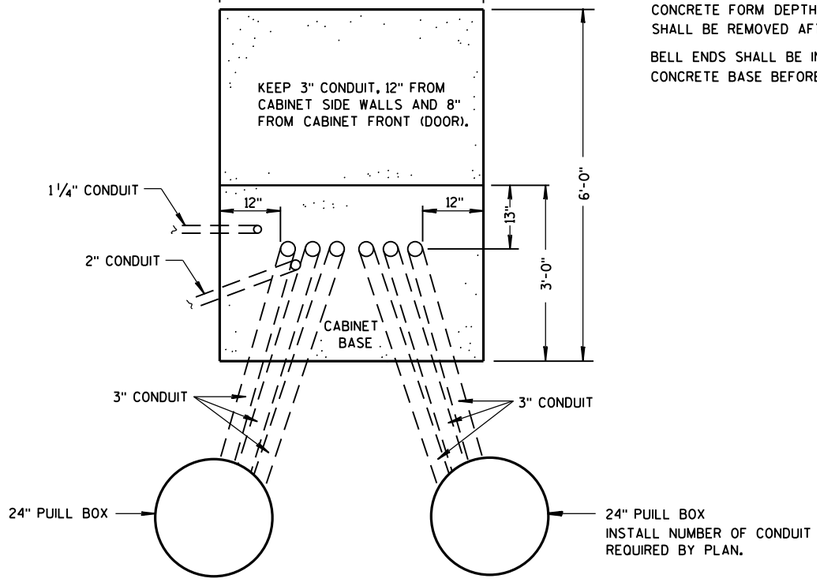
S.D.D. 9 C 3-4



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).

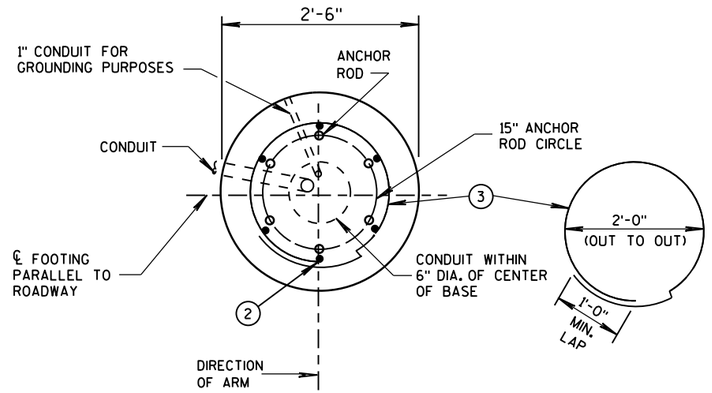
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

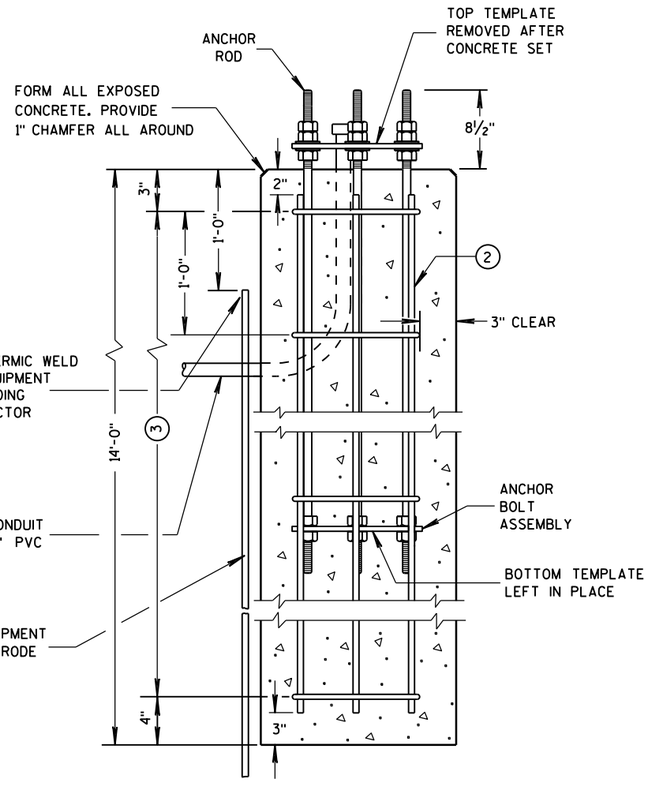
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN 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) (15) NO. 4 X 7'-4" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

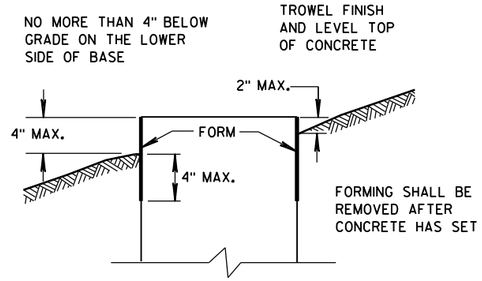
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.



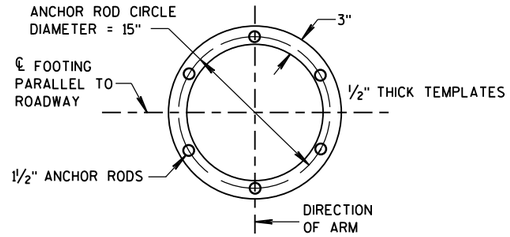


CONCRETE BASE TYPE 10
(FOR TYPE 9 & 10 POLES)

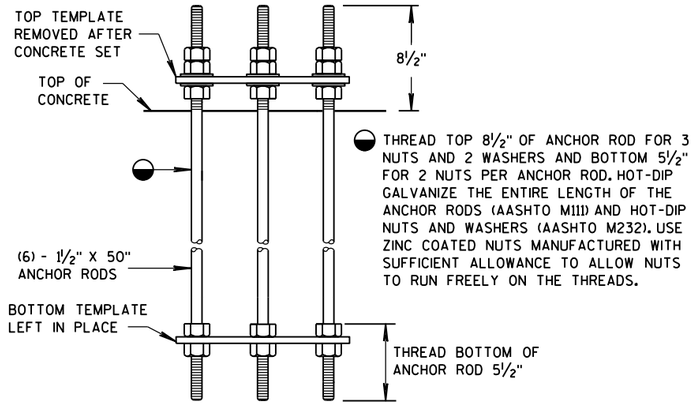
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



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	69
LBS. OF VERTICAL BAR STEEL	122

CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

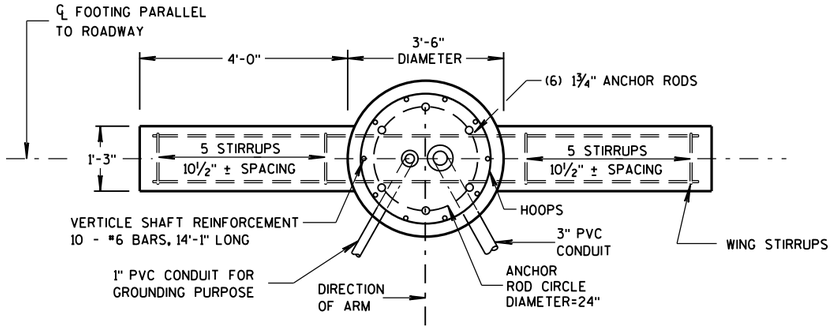
Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

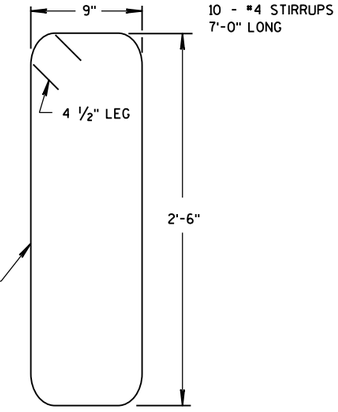
FHWA

6

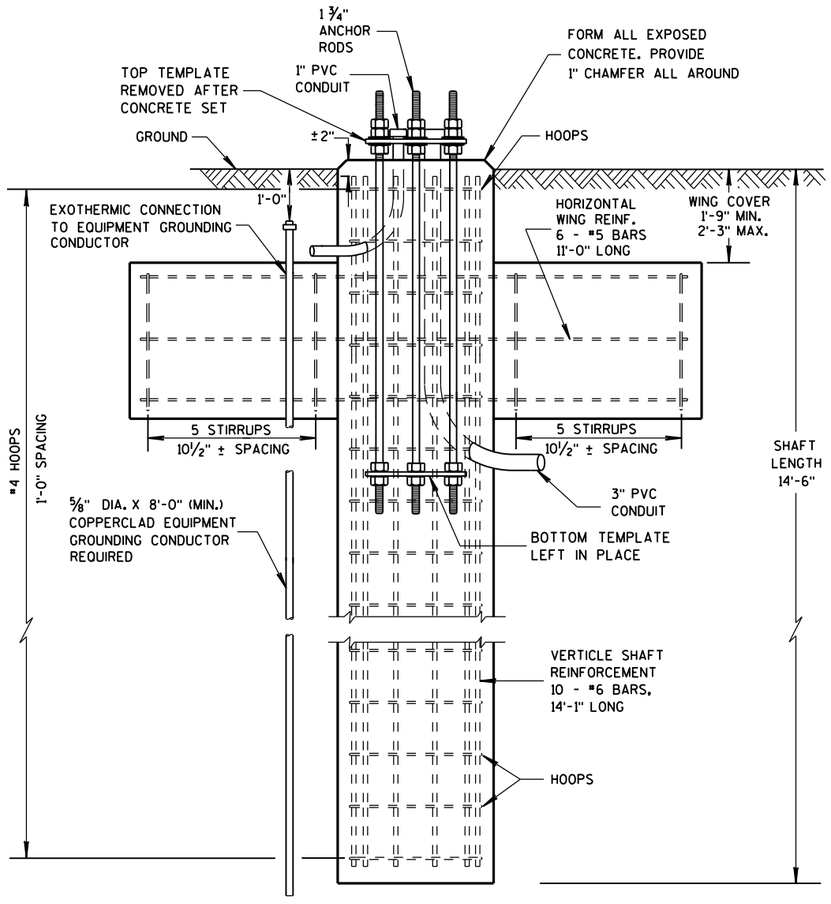
S.D.D. 9 C 11-5



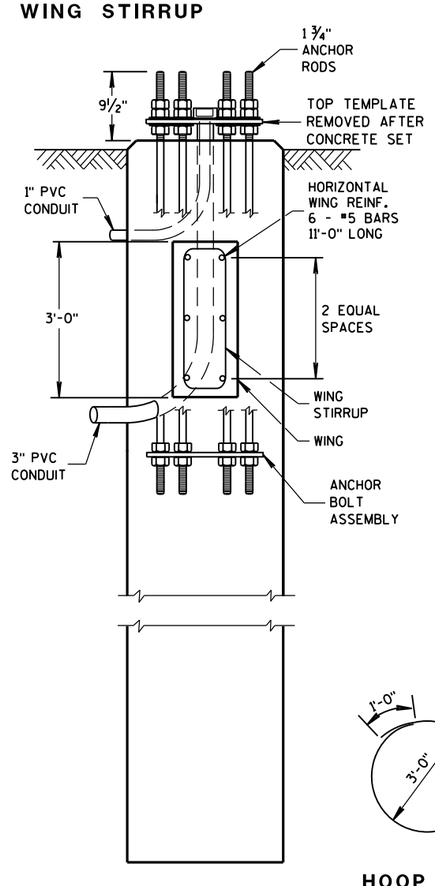
PLAN VIEW



WING STIRRUP

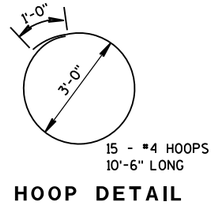


ELEVATION VIEW



SIDE VIEW

DOES NOT SHOW HOOPS OR VERTICAL SHAFT REINFORCEMENT



15 - #4 HOOPS 10'-6" LONG

HOOP DETAIL

GENERAL NOTES

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

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

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36	fy=36,000 p.s.i.

(FOR TYPE 12 & 13 POLES)

CONCRETE = 6.3 C.Y.
H.S. REINFORCEMENT = 433 LBS.

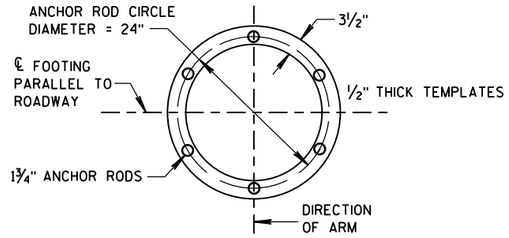
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.
SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

CONCRETE BASE TYPE 13

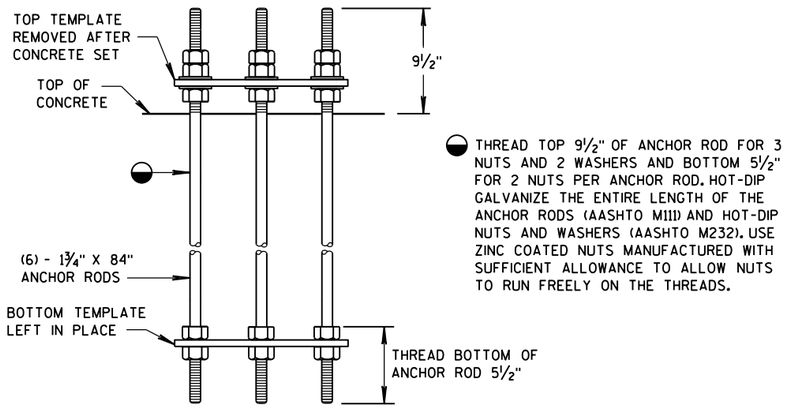
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 9 C 12-5a

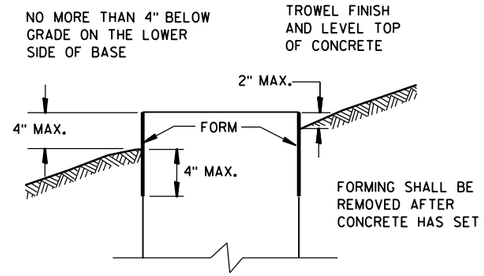


TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY

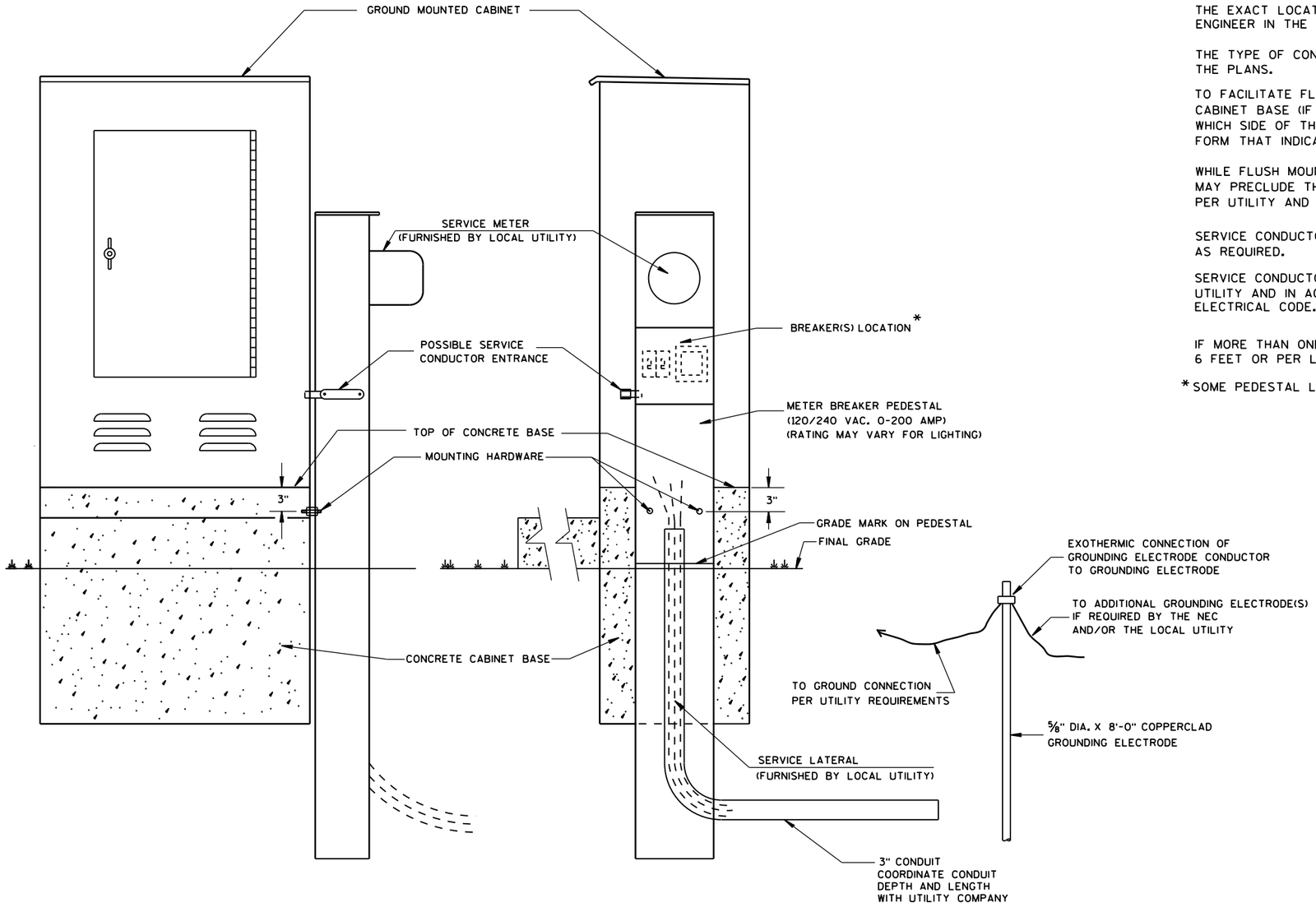


FORMING DETAIL

CONCRETE BASE TYPE 13	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE FHWA	/S/ Ahmet Demirbilek STATE ELECTRICAL

6

S.D.D. 9 C 12-5b



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.

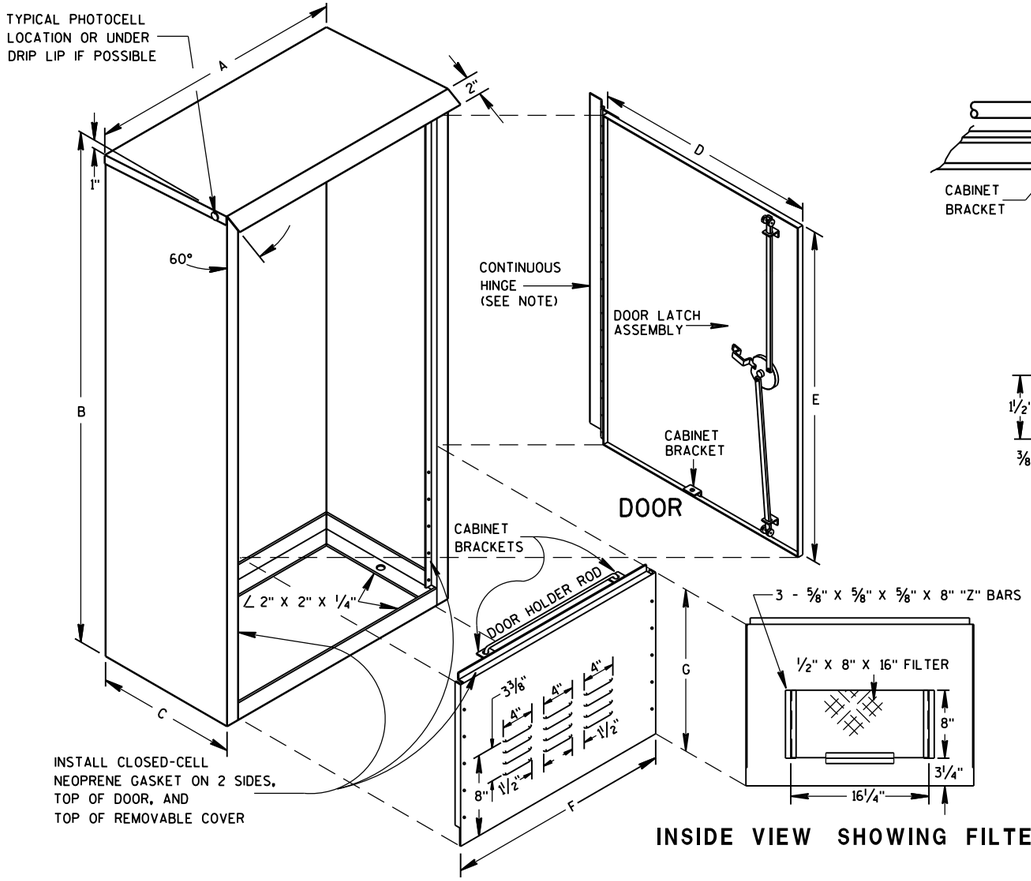
* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

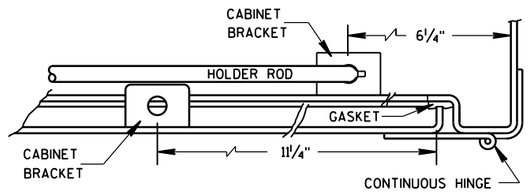
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6
S.D.D. 9 D 1-5

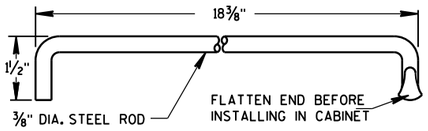


REMOVABLE COVER

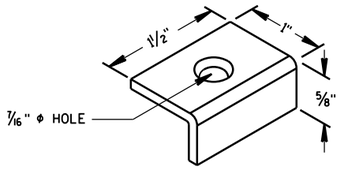
INSIDE VIEW SHOWING FILTER



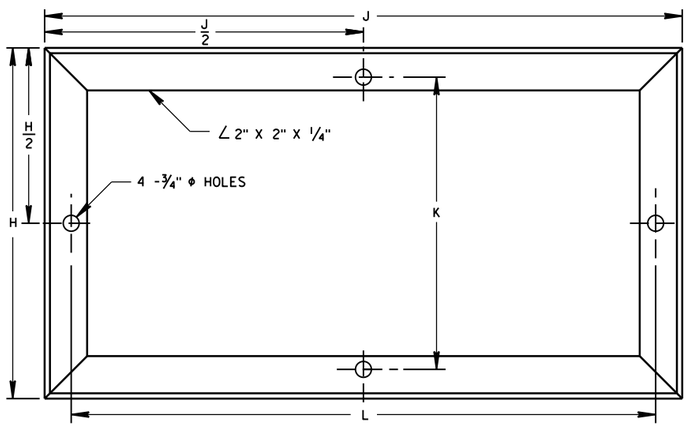
HINGE & DOOR HOLDER



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.

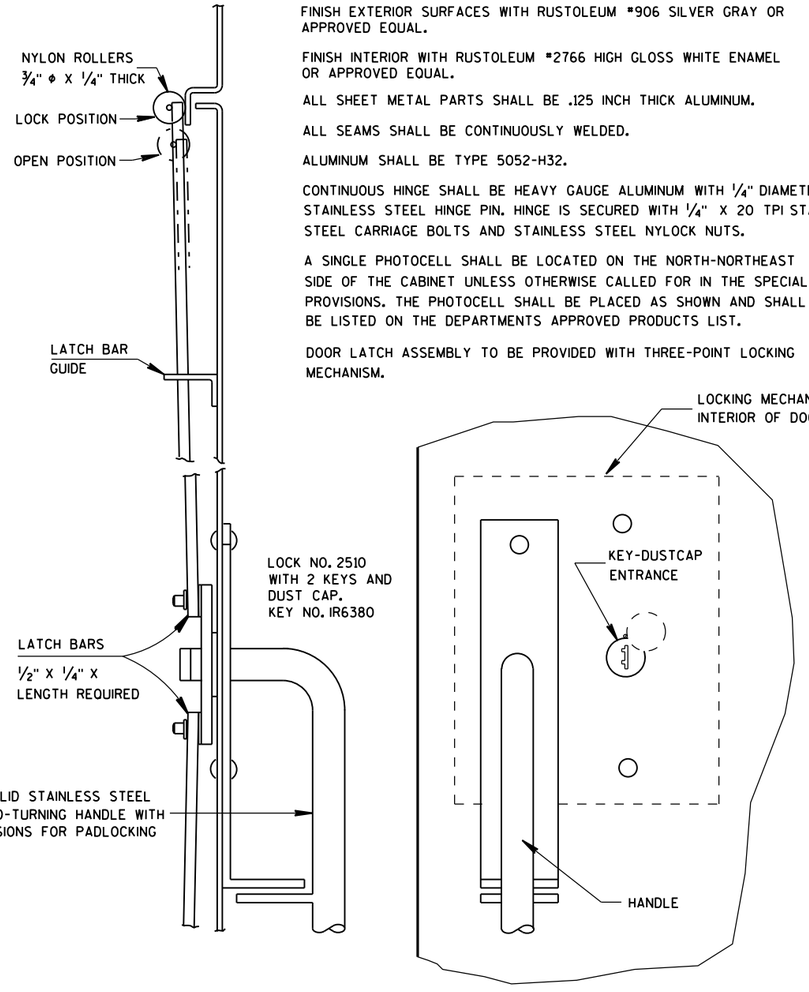
ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

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.

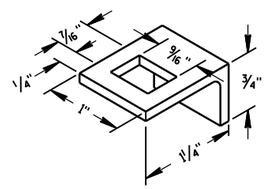
DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.



SIDE VIEW

FRONT VIEW

LATCH ASSEMBLY



LATCH BAR GUIDE

SIGNAL CONTROL CABINET

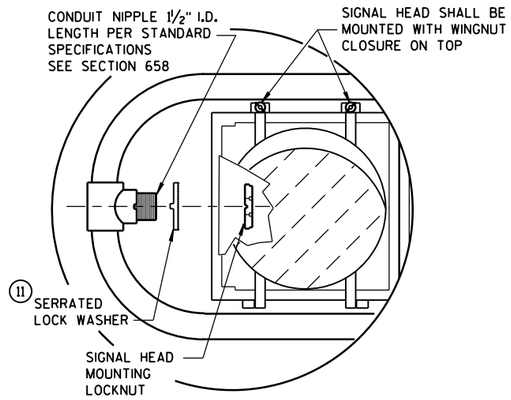
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

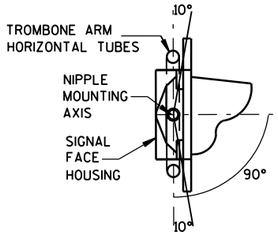
FHWA

6
S.D.D. 9 D 2-3



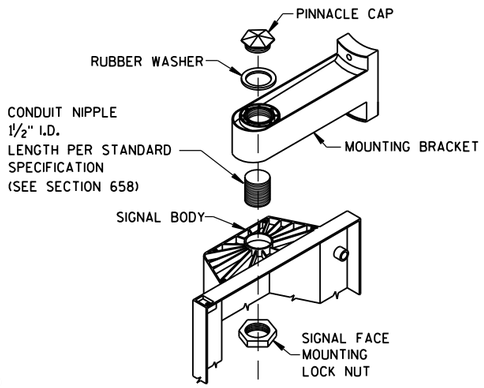
HORIZONTAL SIGNAL HEAD MOUNTING DETAIL *

* SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR



SECTION A-A

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



SIGNAL FACE MOUNTING DETAIL

(BANDED)

GENERAL NOTES

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

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

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

A PULL WIRE/ROPE IN ACCORDANCE WITH STANDARD SPECIFICATION 652 SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

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

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

(1) 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)

(3) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACES.

(6) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(7) MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1½ INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658).

(8) VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (¼" X ¾" LONG - 20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.

(9) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

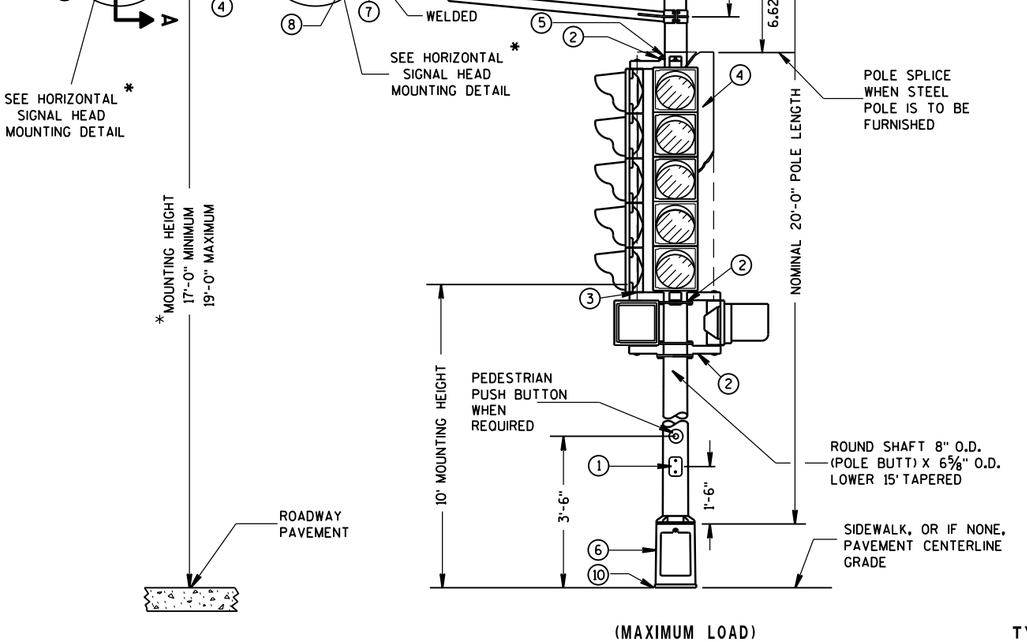
(10) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(11) USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.

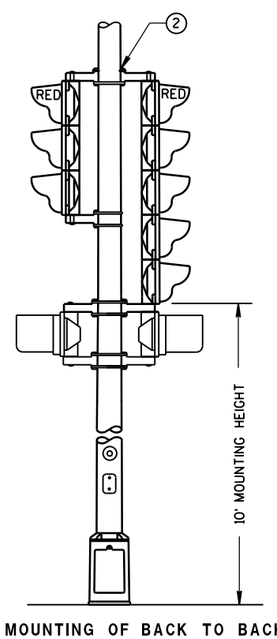
*MOUNTING HEIGHT LIMITATION DIMENSIONS OF THE TROMBONE MAST ARM WILL BE DEPENDENT UPON THE USE/NON-USE OF A TRANSFORMER BASE.

FOR MANUFACTURERS USE ONLY

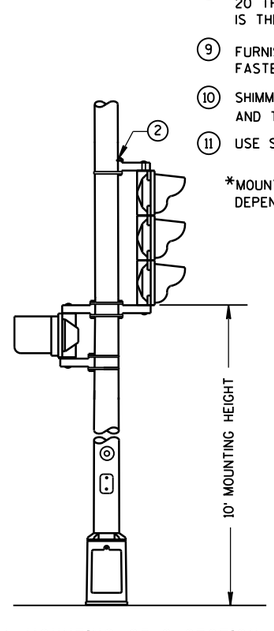
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.



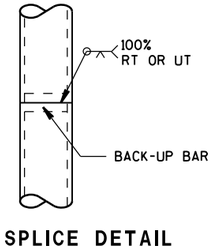
(MAXIMUM LOAD)



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



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE



POLE SPLICE DETAIL

TYPE 2 POLE MOUNTING CONFIGURATION

POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

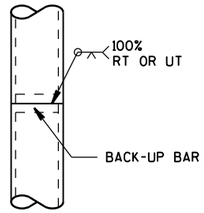
6

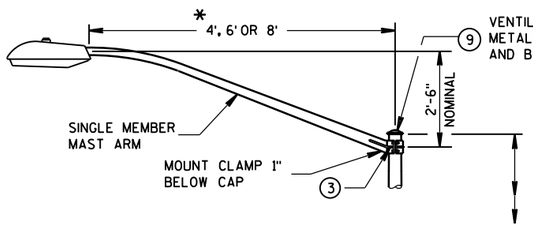
S.D.D. 9 E 1-13a

FOR MANUFACTURERS USE ONLY

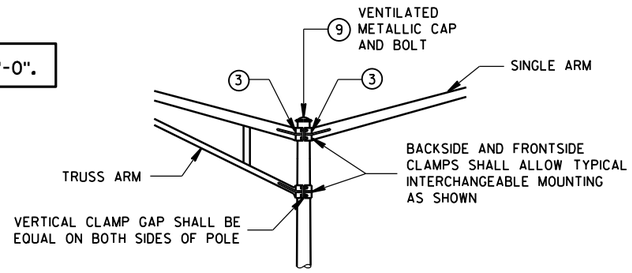
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.

*RISE FOR 4' ARM SHALL BE 2'-0".





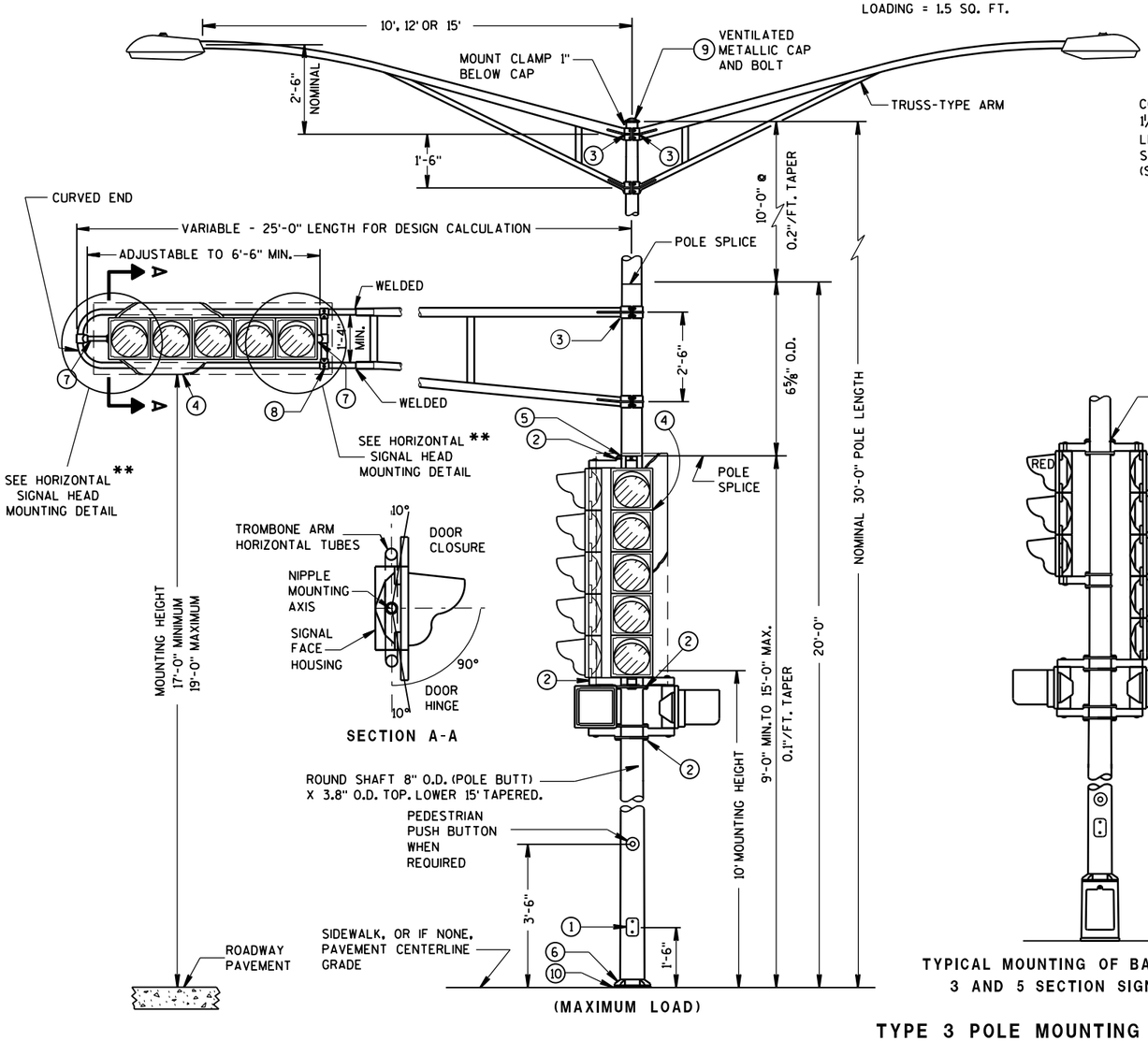
POLE SPLICE DETAIL

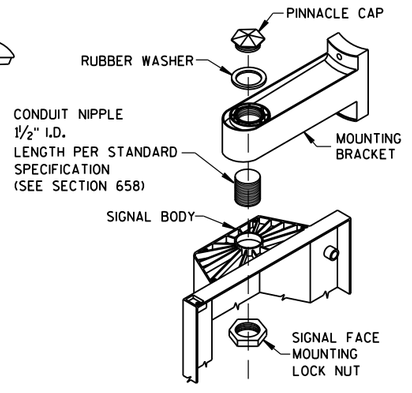


INTERCHANGEABLE MOUNTING DETAIL

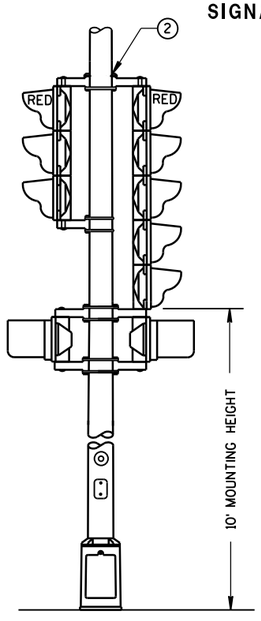
LUMINAIRE

WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.

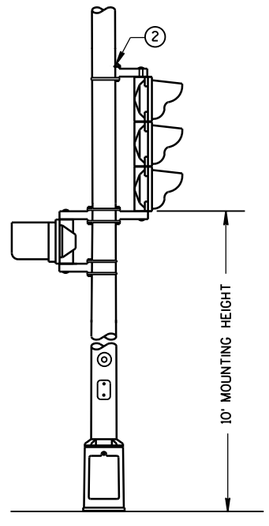




SIGNAL FACE MOUNTING DETAIL
(BANDED)



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



TYPICAL MOUNTING OF 3 SECTION
SIGNAL FACE

GENERAL NOTES

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

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

POLES SHALL BE GALVANIZED STEEL.

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

A PULL WIRE/ROPE IN ACCORDANCE WITH STANDARD SPECIFICATION 652, SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE 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 & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) SIGNAL FACE MOUNTING BRACKETS, MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)

(3) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.

(6) TYPE 3 POLE CONFIGURATIONS SHALL BE MOUNTED DIRECTLY TO THEIR CONCRETE BASES.

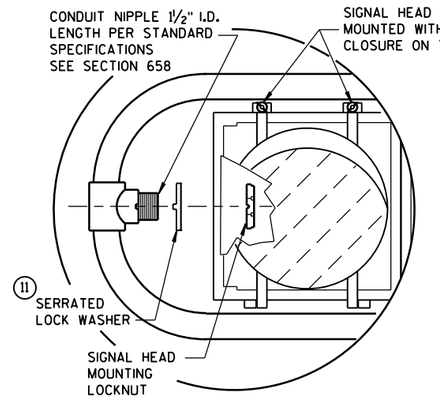
(7) MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1½ INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658)

(8) VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (1/4 " X ¾" -20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.

(9) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(10) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.

(11) USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.



HORIZONTAL SIGNAL HEAD MOUNTING DETAIL **

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

TYPE 3 POLE MOUNTING CONFIGURATION

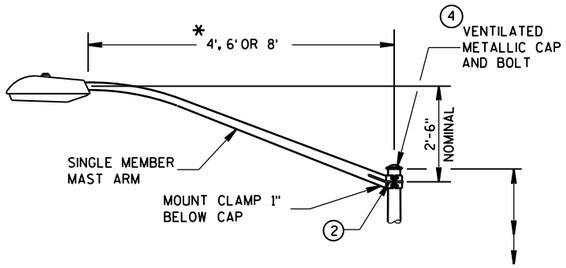
POLE MOUNTINGS FOR
TRAFFIC SIGNALS AND
LIGHTING UNITS, TYPE 3
(HEAVY DUTY)

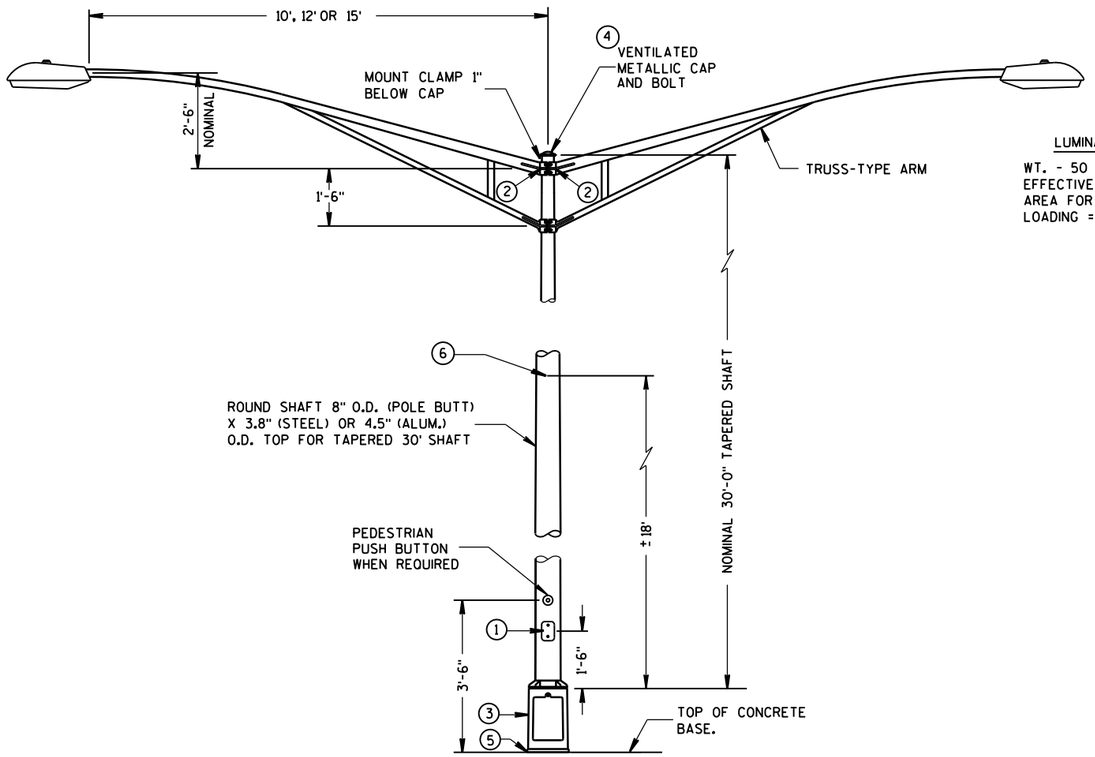
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

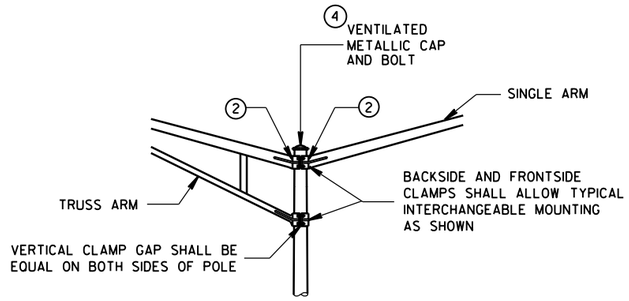
S.D.D. 9 E 1-13b

*RISE FOR 4' ARM SHALL BE 2'-0".





TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

LUMINAIRE

WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.

GENERAL NOTES

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

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

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

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

(1) 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) 1/4" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(3) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(4) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(6) INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

6

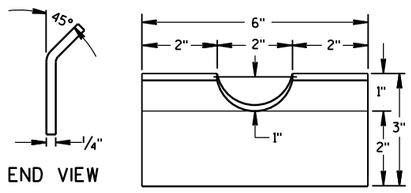
S.D.D. 9 E 1-13d

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 9 E 1-13d

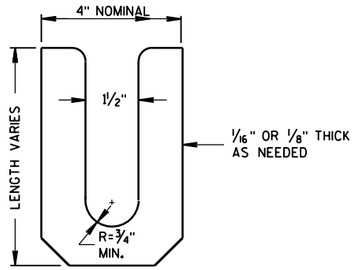


END VIEW

FRONT VIEW

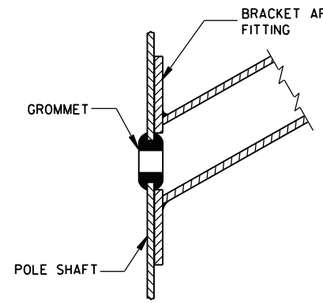
RECTANGULAR CLAMP SHIM

(4 TO A SET)

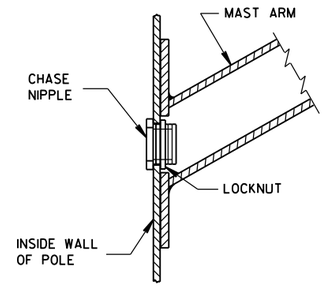


LEVELING SHIM (15)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

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

(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)

(14) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")

SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".

SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".

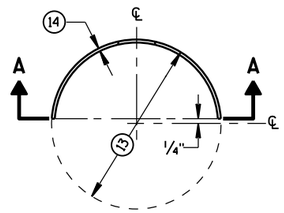
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.

SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.

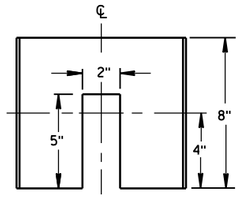
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

(15) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

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



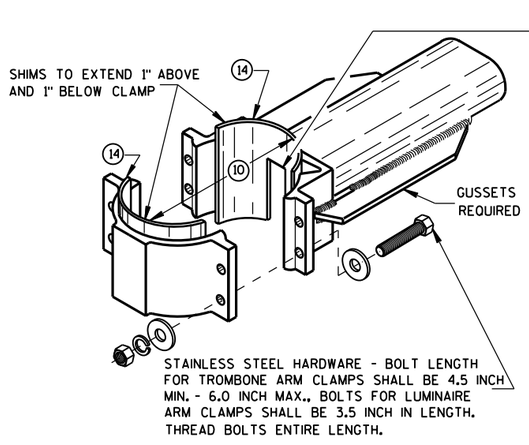
PLAN VIEW



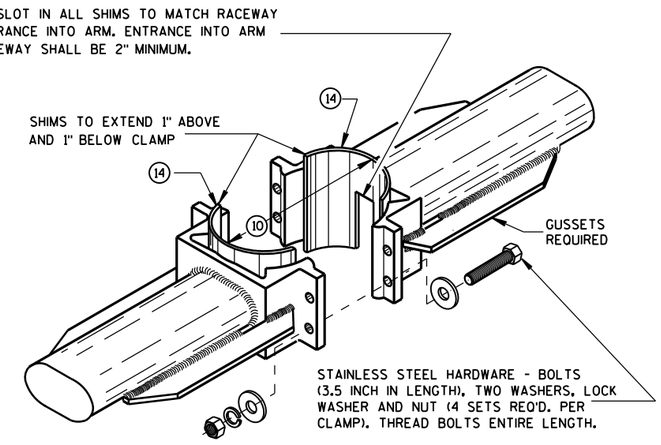
SECTION A-A

CIRCULAR CLAMP SHIM

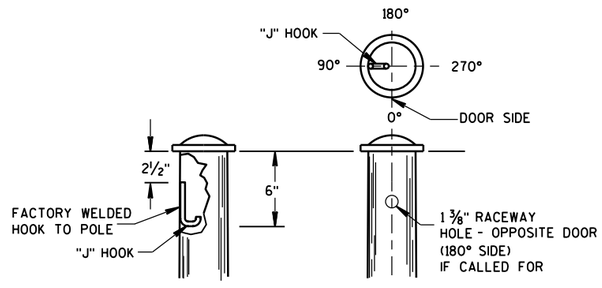
(2 TO A SET)



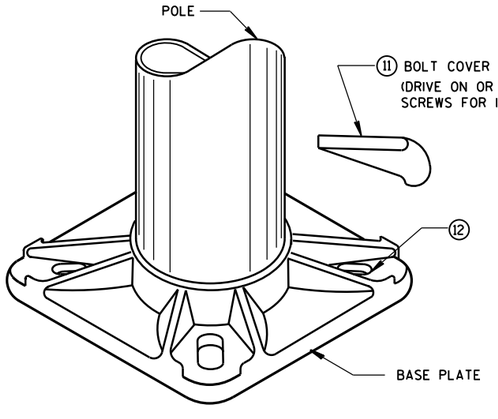
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



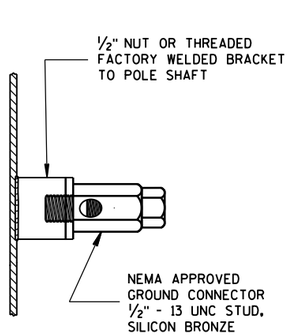
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

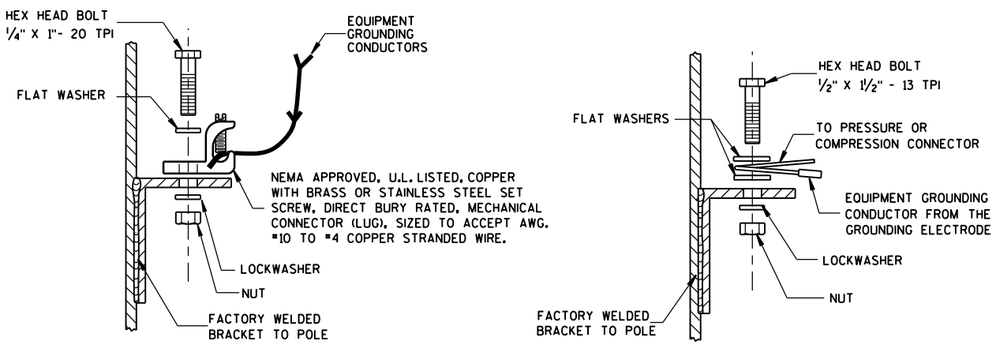


TYPICAL "J" HOOK LOCATION



BASE PLATE





TYPICAL GROUNDING CONNECTIONS

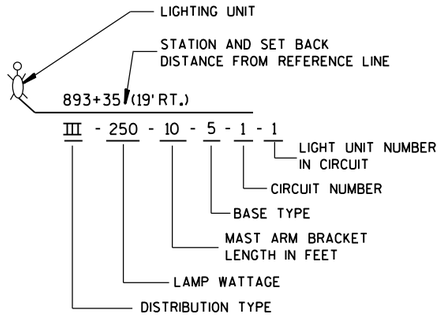
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

HARDWARE DETAILS FOR POLE MOUNTINGS

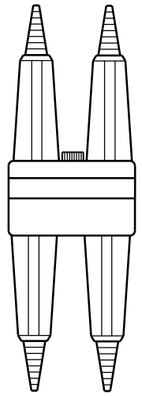
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

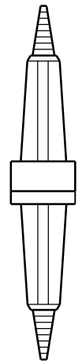
6
S.D.D. 9 E 1-13g



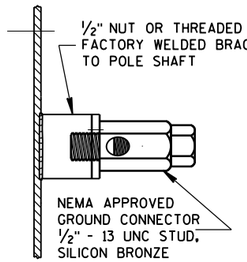
LIGHTING UNIT CODE
(TYPICAL)

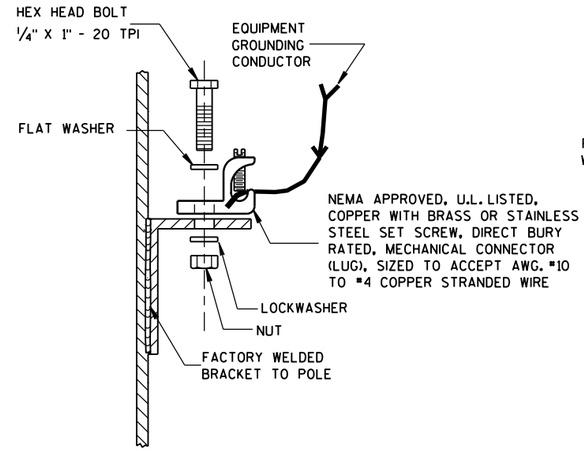


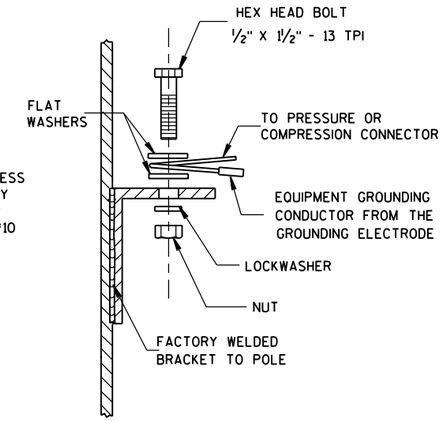
DETAIL "A"
BREAKAWY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



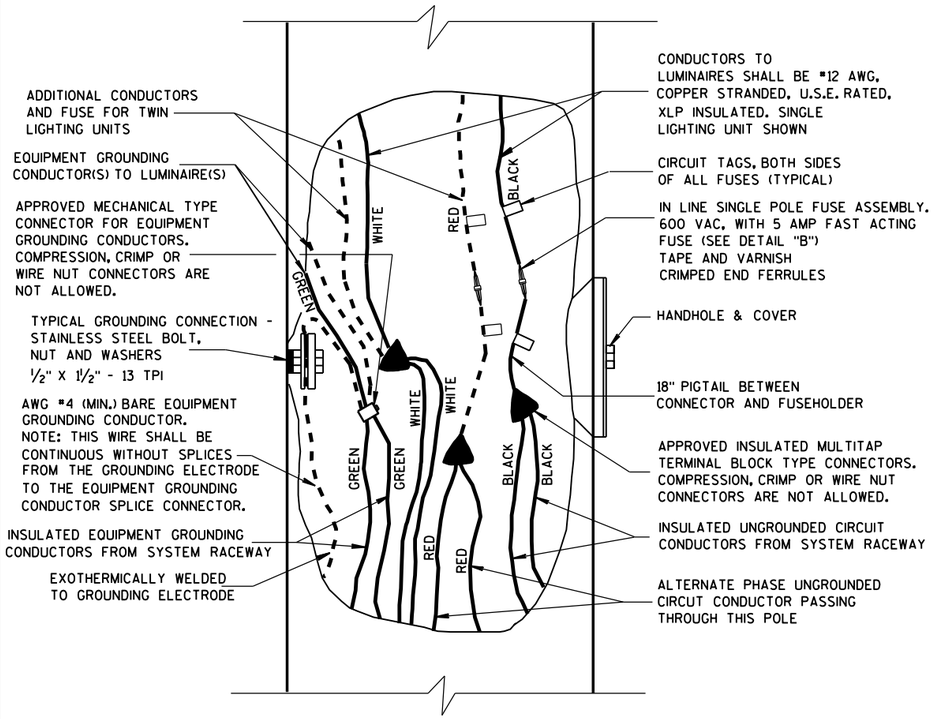
DETAIL "B"
BREAKAWY SINGLE POLE WITH WATERPROOF INSULATING BOOT



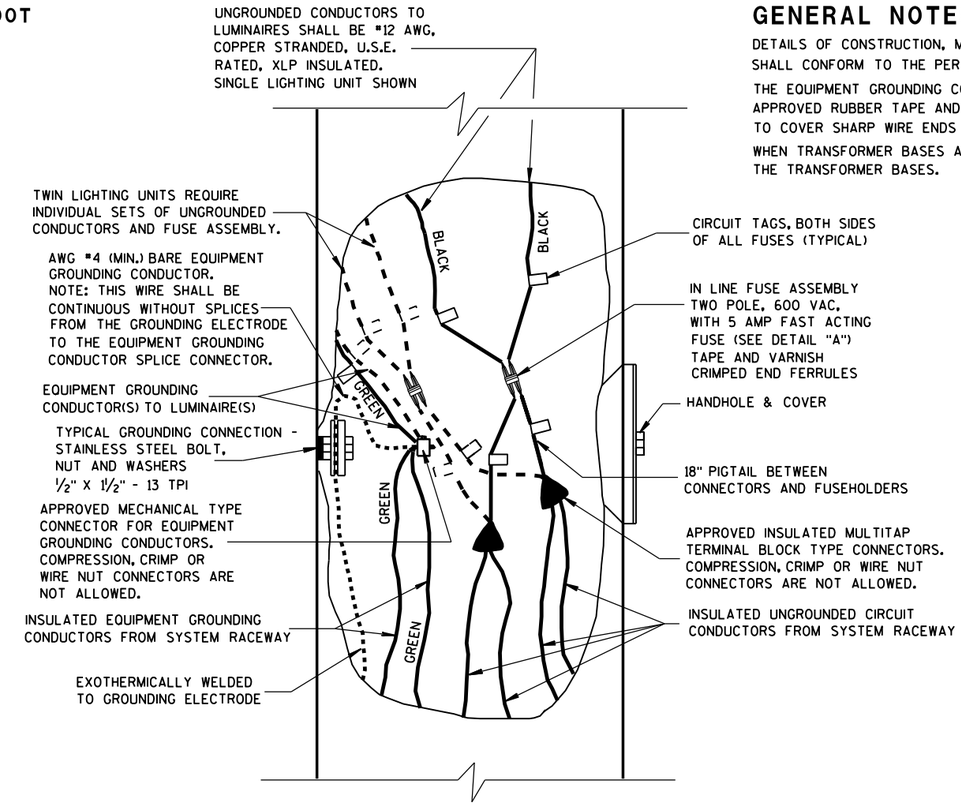




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

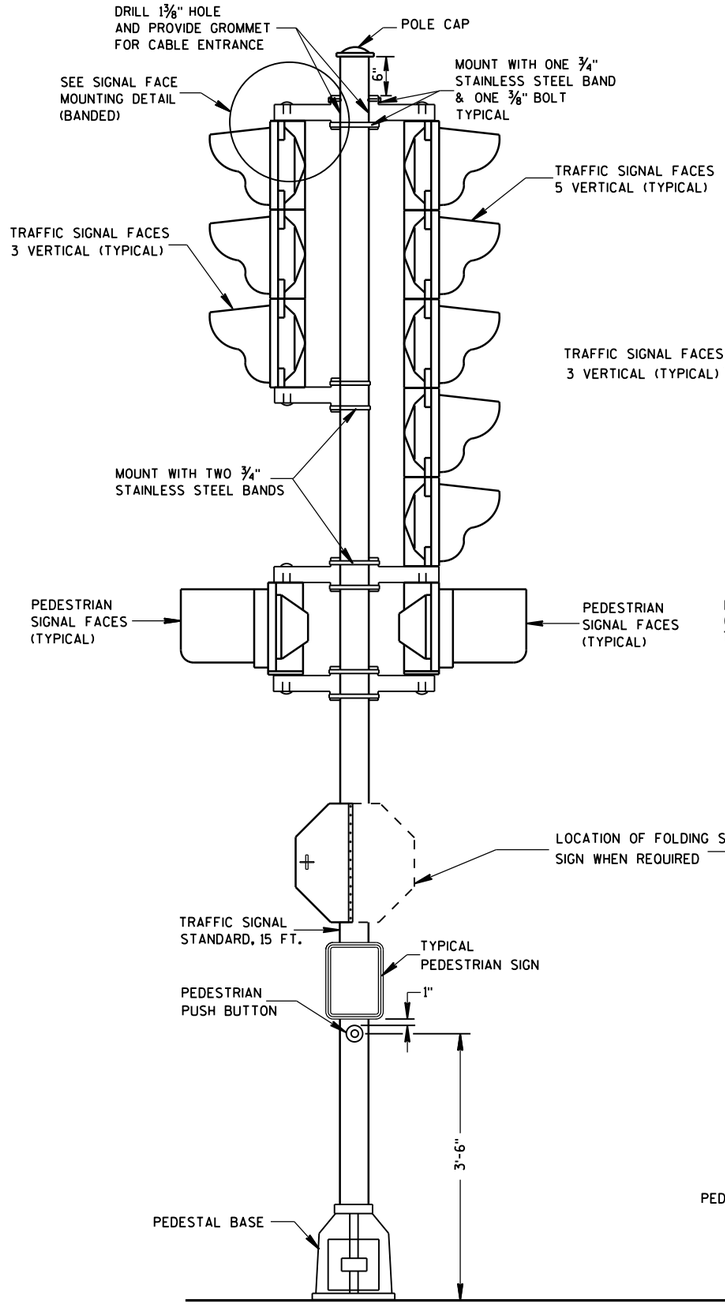
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

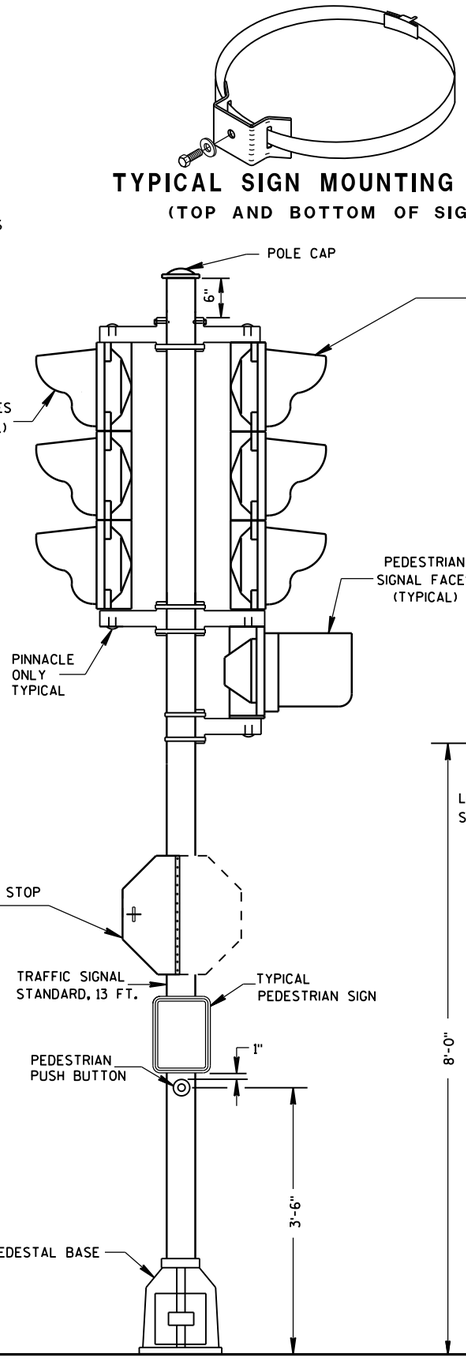
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6
S.D.D. 9 E 3-5

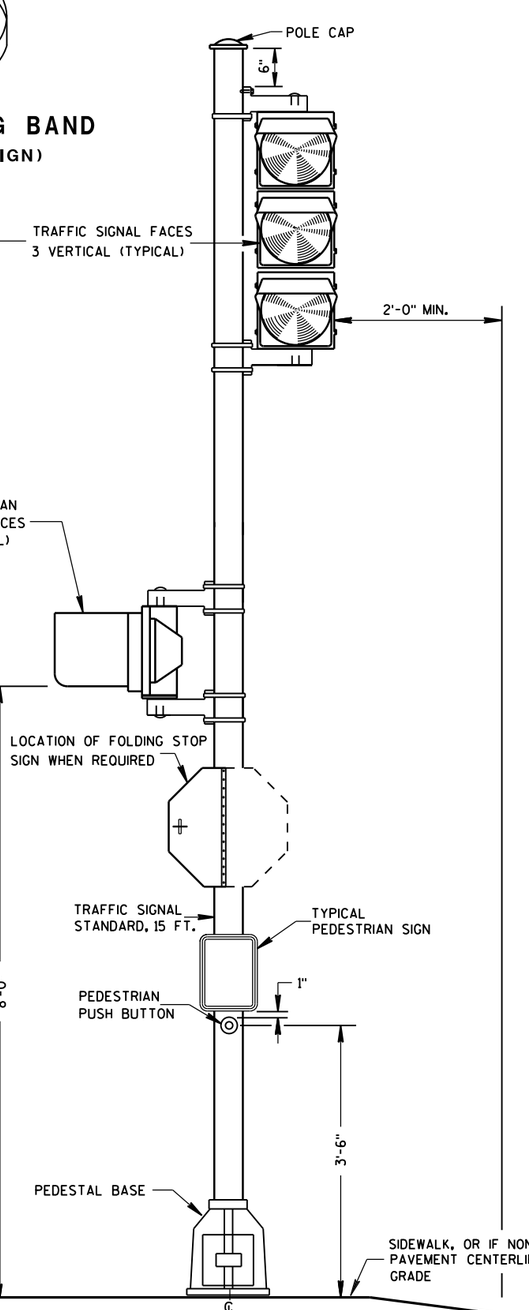


TRAFFIC SIGNAL STANDARD-15 FT.



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.

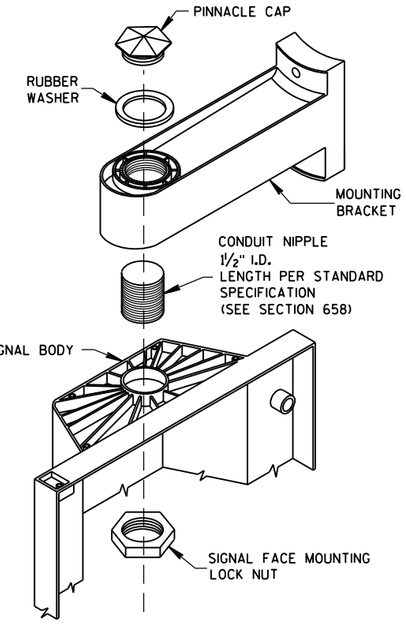
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

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)

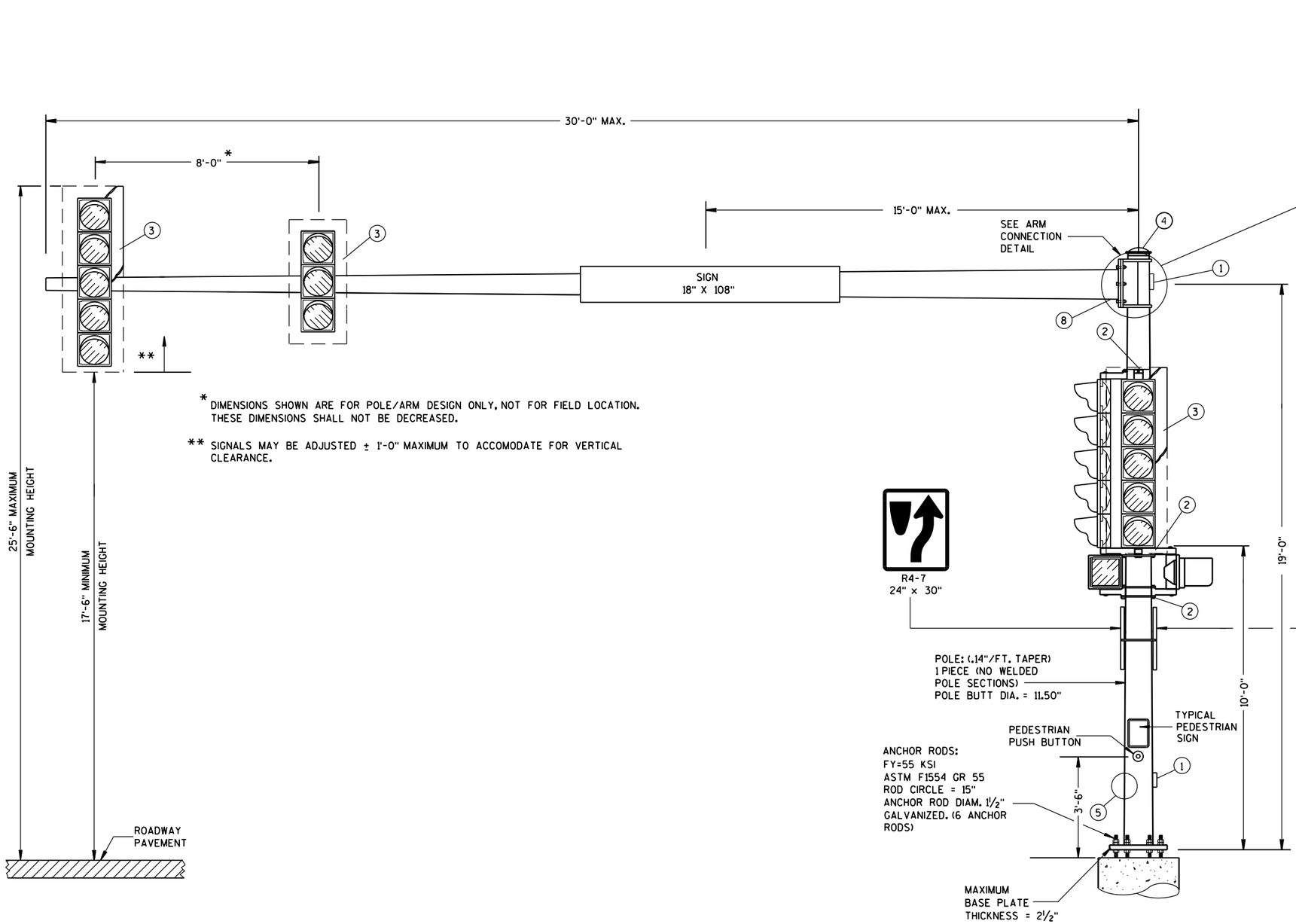
TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/28/2013 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

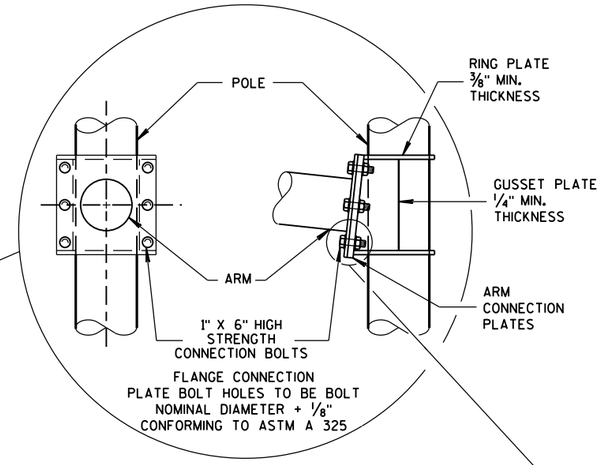
6

S.D.D. 9 E 6-5

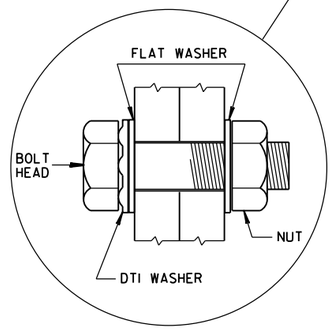


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

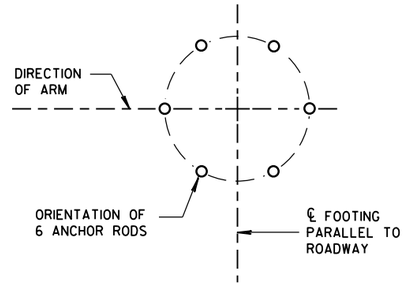
** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 9 POLE 15'- 30' MONOTUBE ARM

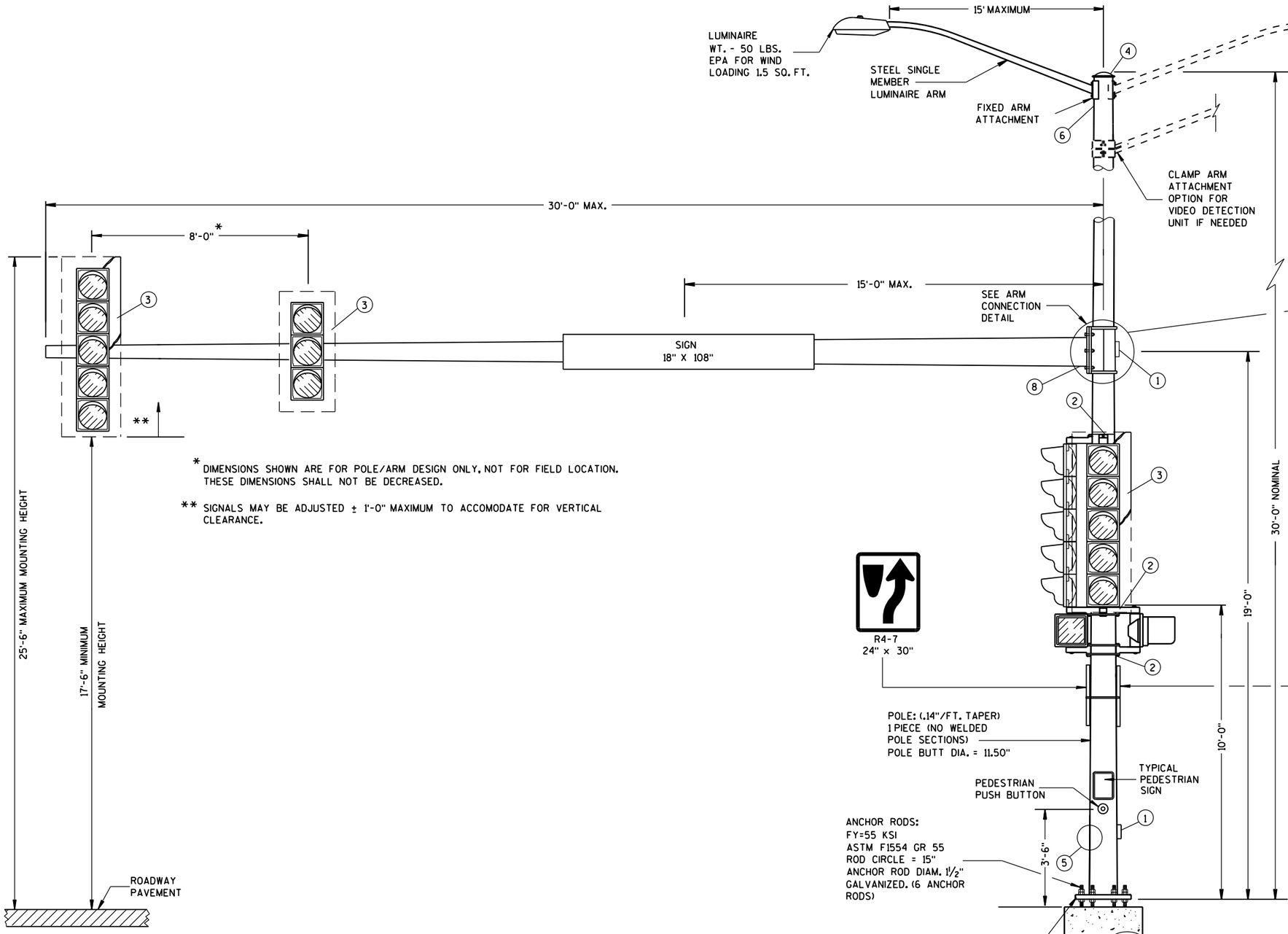
TYPE 9 POLE
15' - 30' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

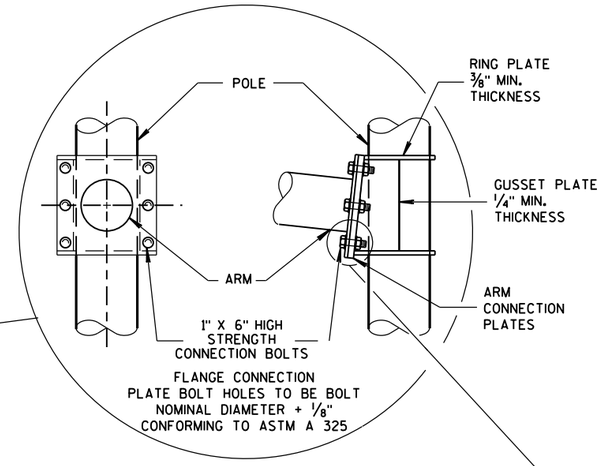
S.D.D. 9 E 8-6a

S.D.D. 9 E 8-6a

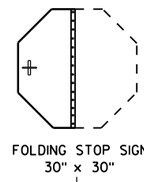


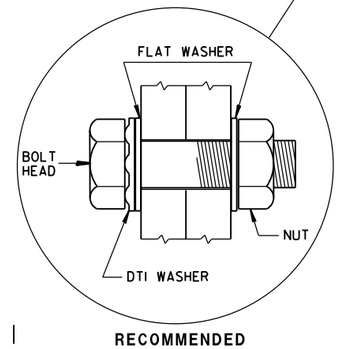
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

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

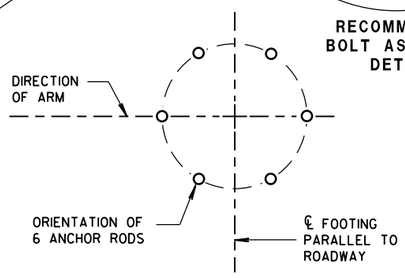


6 BOLT ARM CONNECTION DETAIL





RECOMMENDED
BOLT ASSEMBLY
DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 10 POLE
15'- 30' MONOTUBE ARM

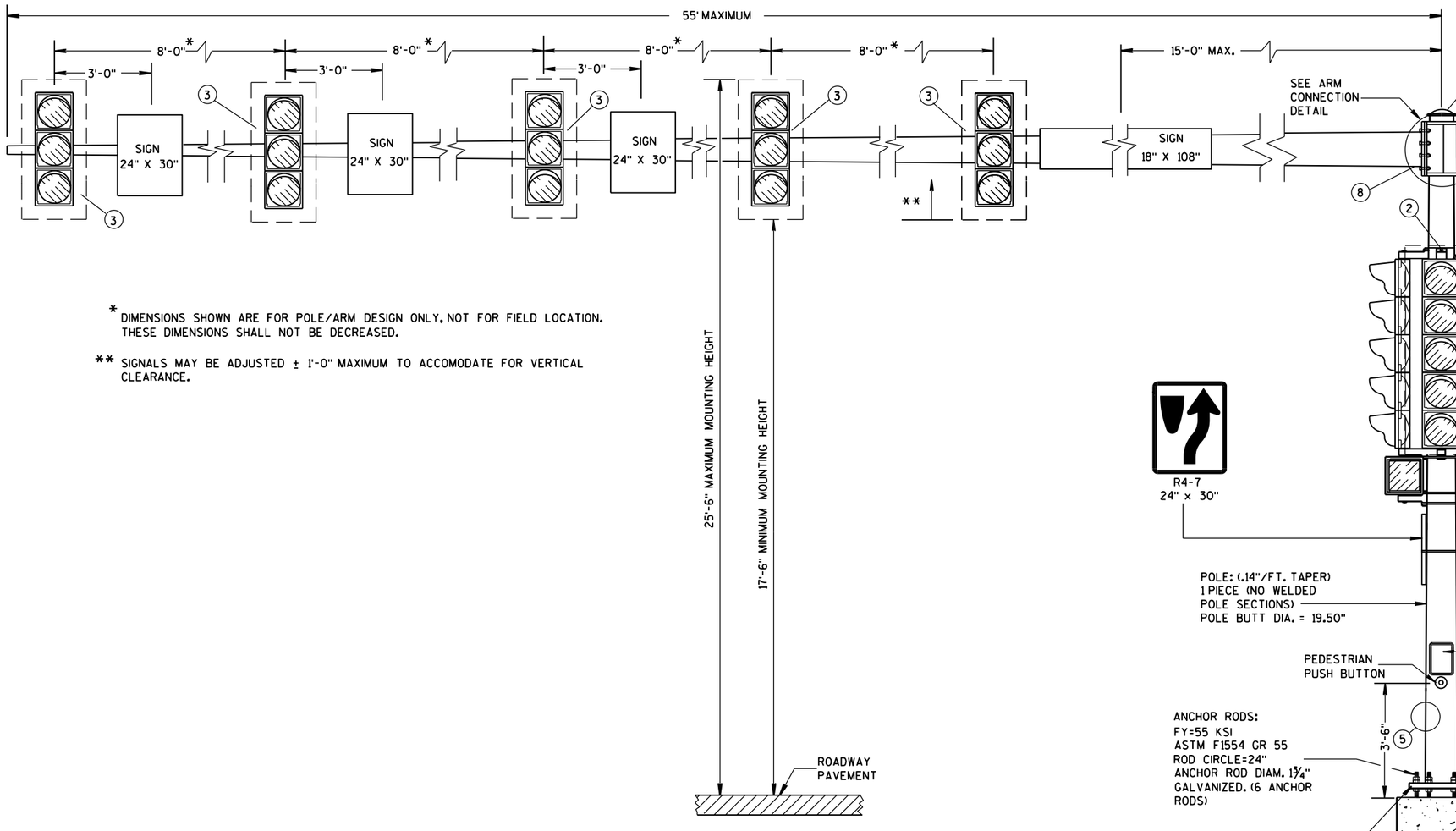
TYPE 10 POLE 15' - 30' MONOTUBE ARM
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED Sept. 2014 — DATE /S/ Ahmet Demirbilek — STATE ELECTRICAL 55 FHWA

6

S.D.D. 9 E 8-6b

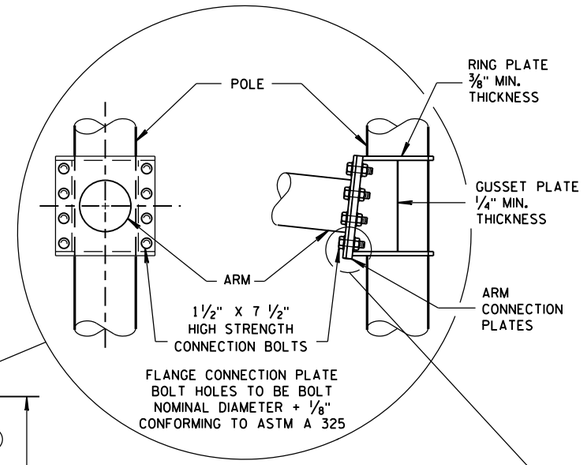
6

S.D.D. 9 E 8-6b

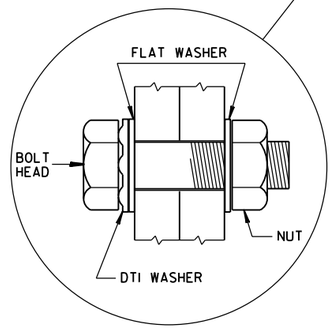


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

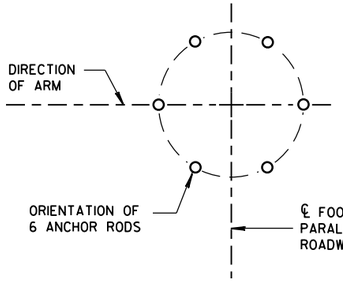
** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



8 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 12 POLE 35'- 55' MONOTUBE ARM

TYPE 12 POLE 35' - 55' MONOTUBE ARM
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED Sept. 2014 — DATE /S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 E 8-6c

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.

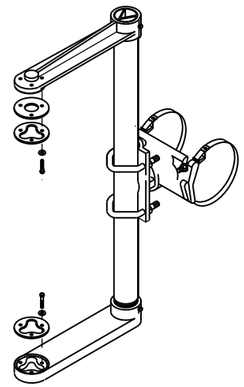
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

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

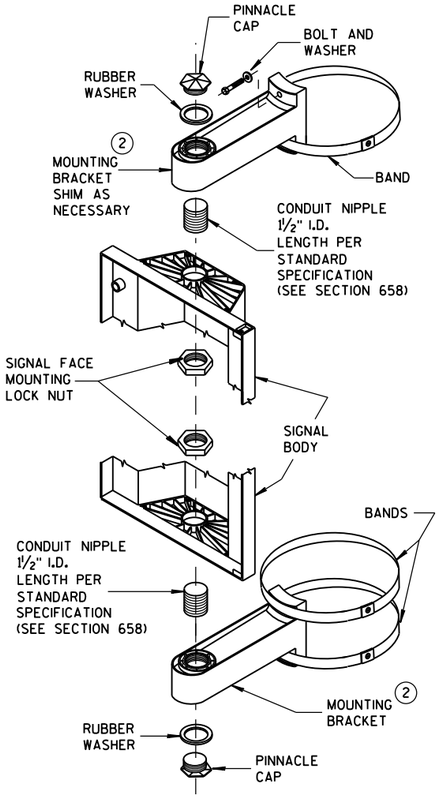
MOUNTING HEIGHT SHALL BE 5'-0" ABOVE THE CURB OR SHOULDER . ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

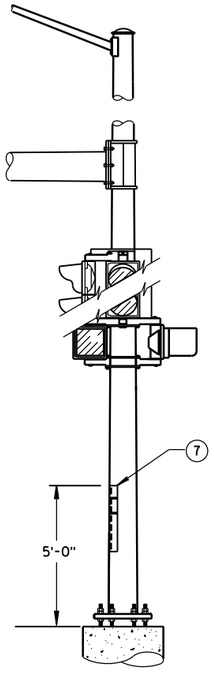


SIGNAL FACE MOUNTING BRACKET
DETAIL FOR MONOTUBE ARM

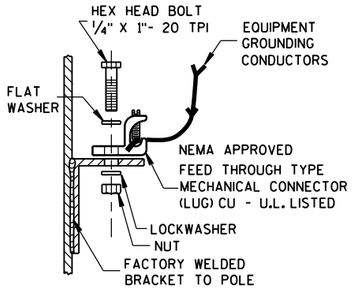
(MOUNT PER MANUFACTURER'S RECOMMENDATION)



SIGNAL FACE
VERTICAL MOUNTING DETAIL

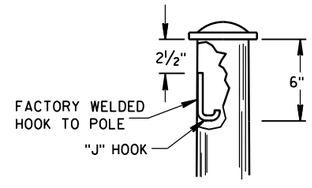


STRUCTURAL IDENTIFICATION
PLAQUE PLACEMENT



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

APPROVED

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

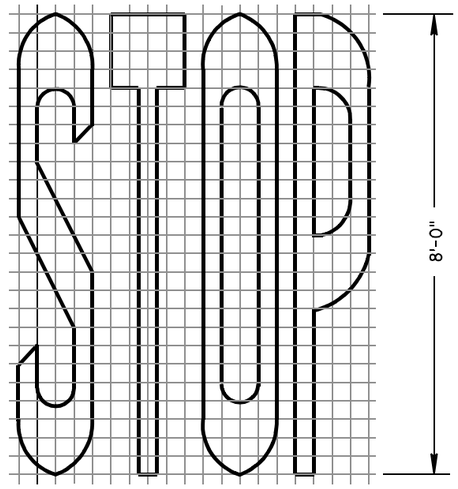
6

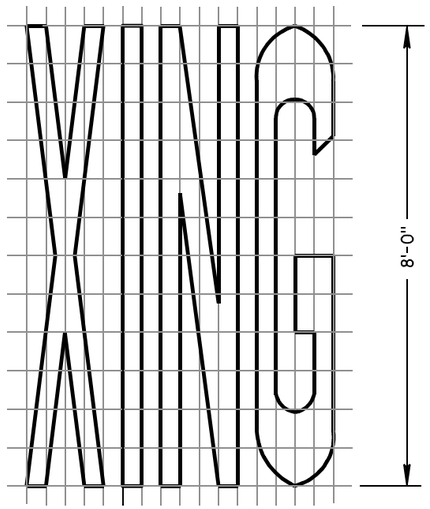
S.D.D. 9 E 8-6e

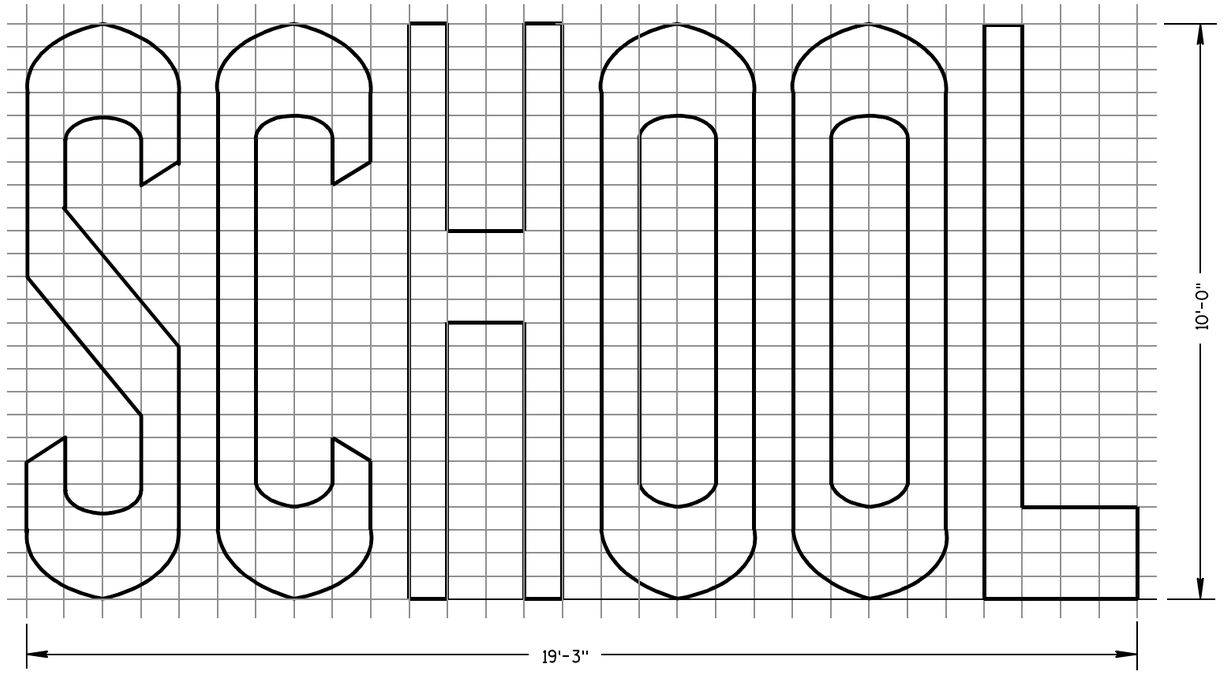
GENERAL NOTES

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

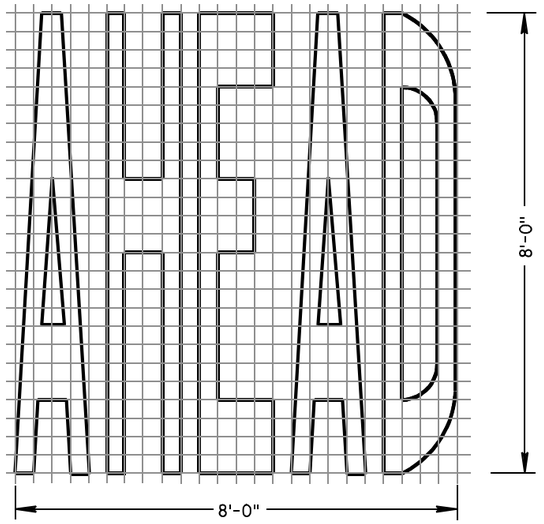
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

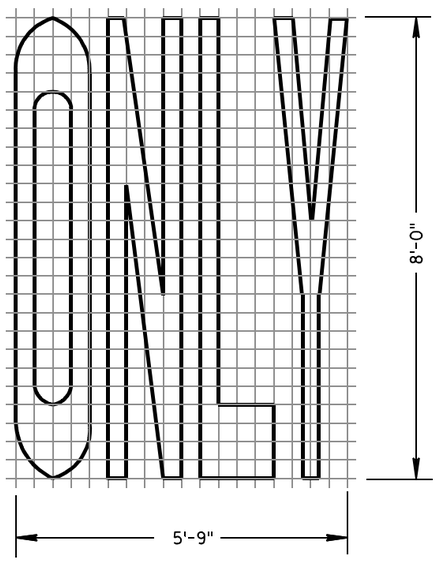


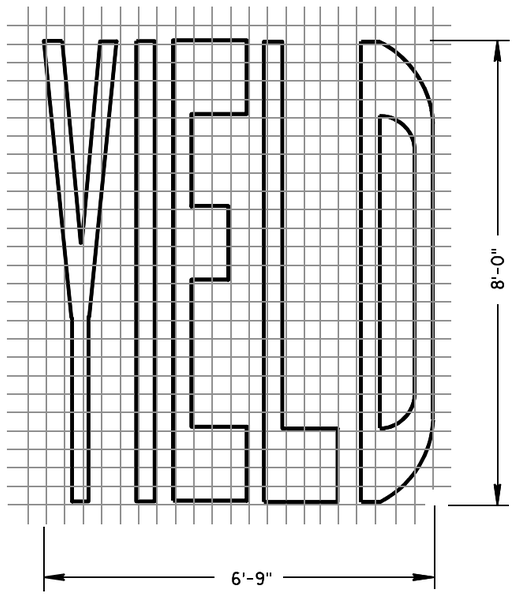


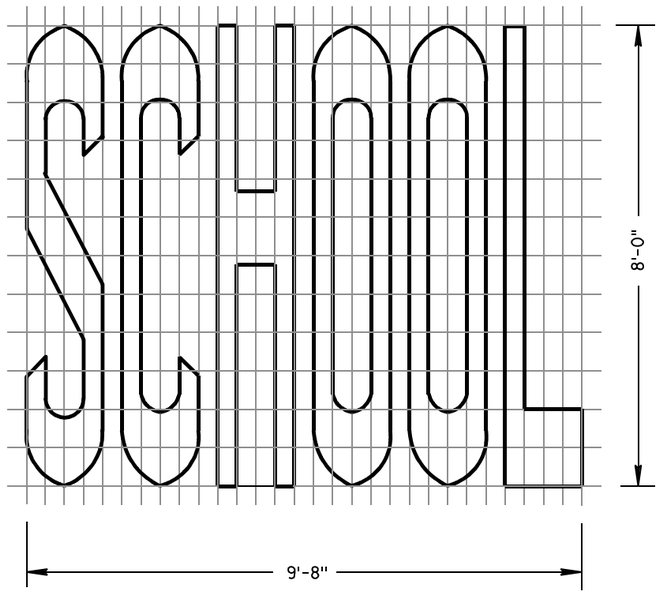


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 — DATE

/S/ Thomas N. Nothohm — STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 7-12b

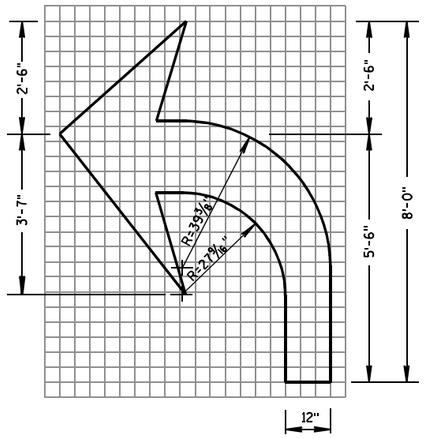
6

S.D.D. 15 C 7-12b

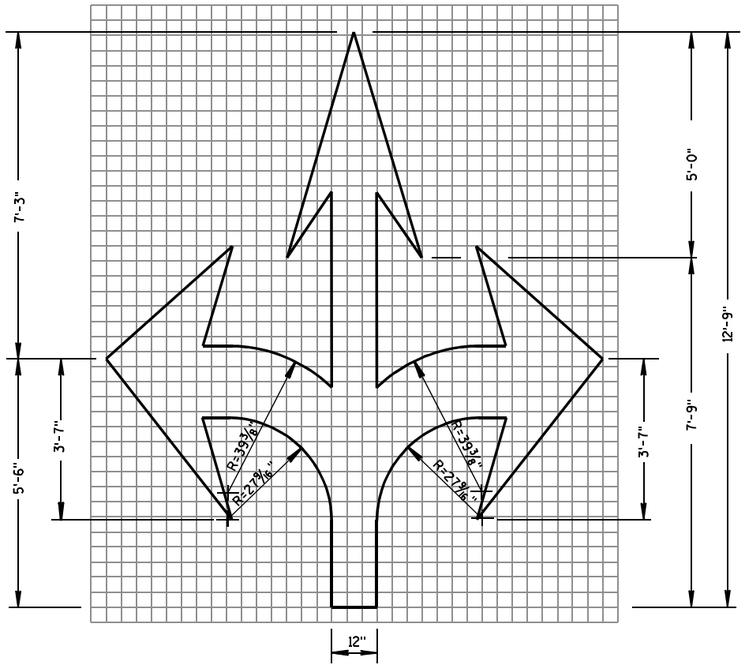
GENERAL NOTES

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

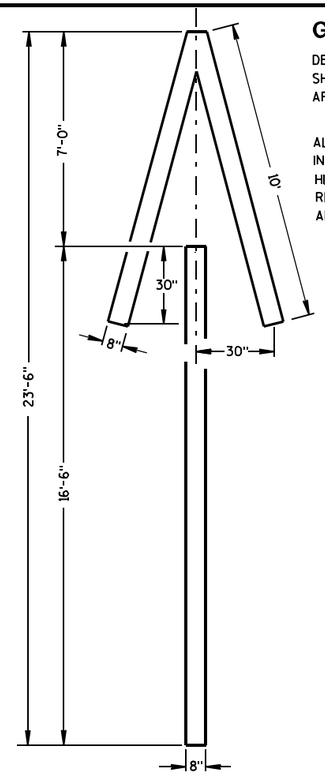
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



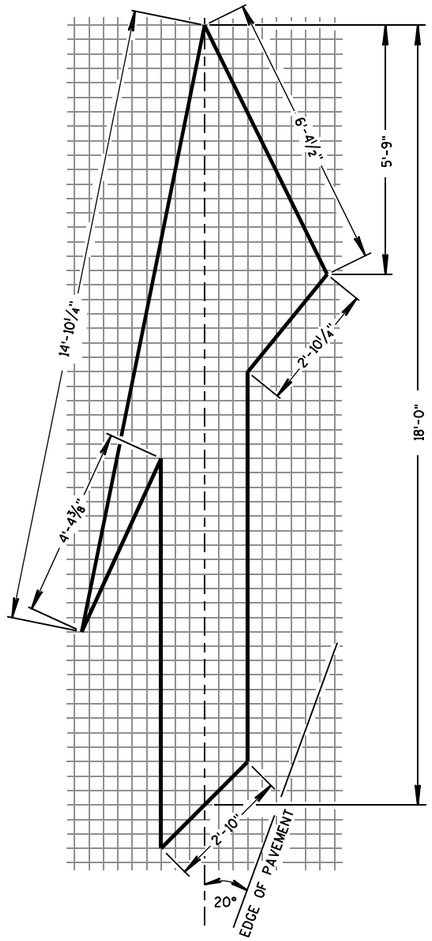
TYPE 2



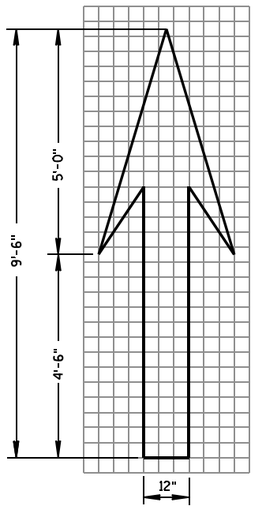
TYPE 6



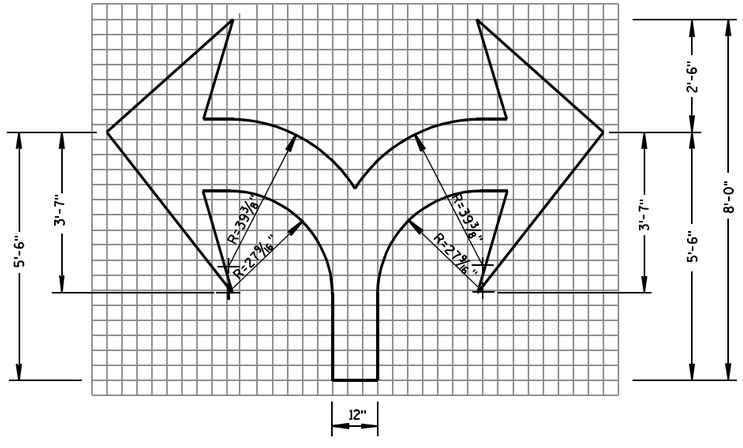
TYPE 4



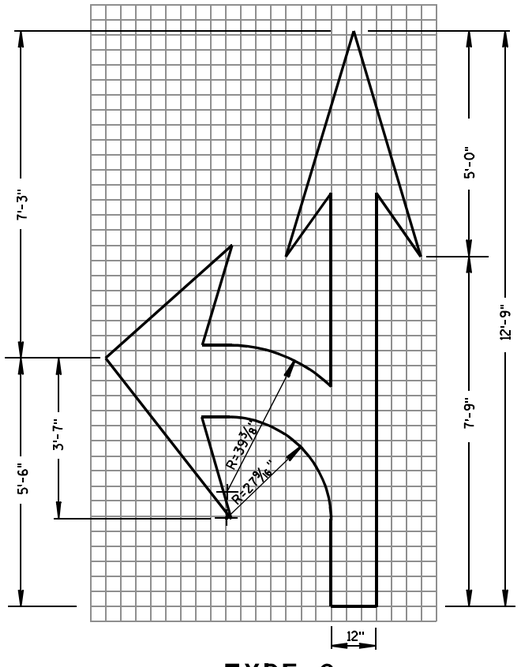
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

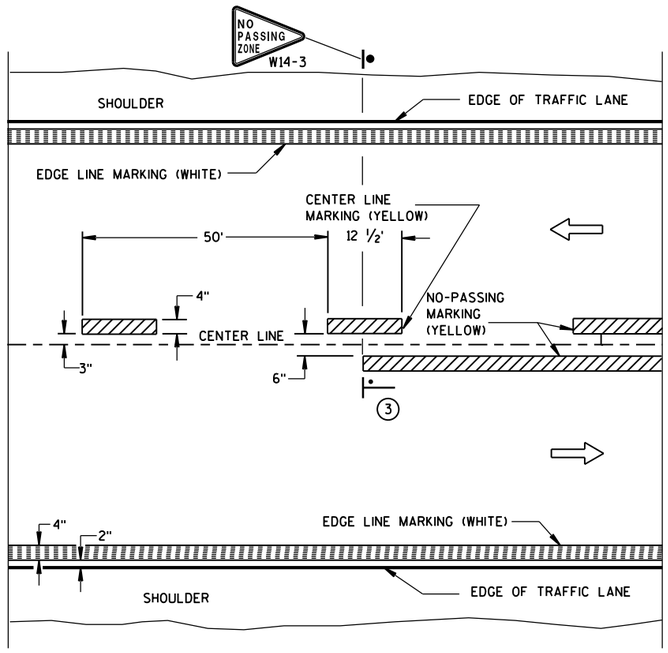
7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

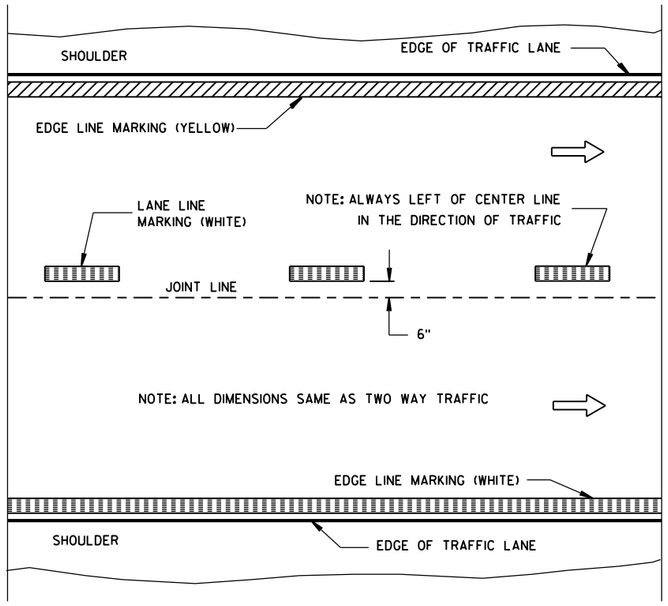
FHWA

6

S.D.D. 15 C 7-12c

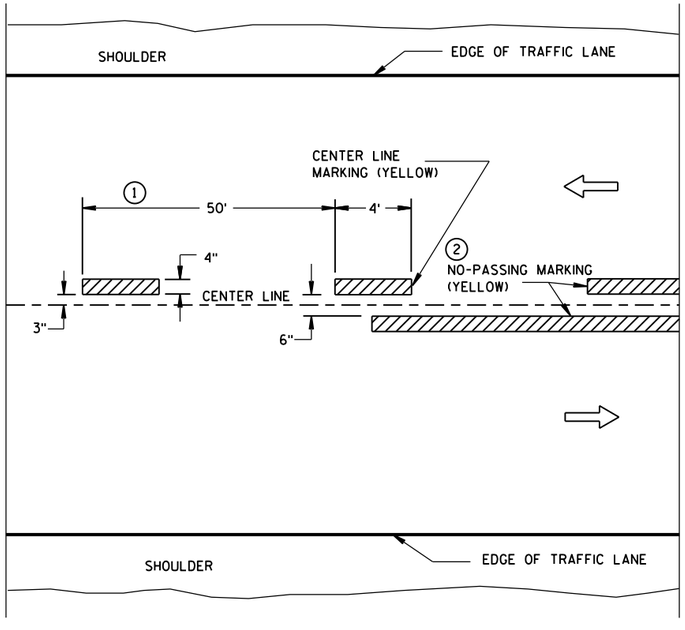


TWO WAY TRAFFIC

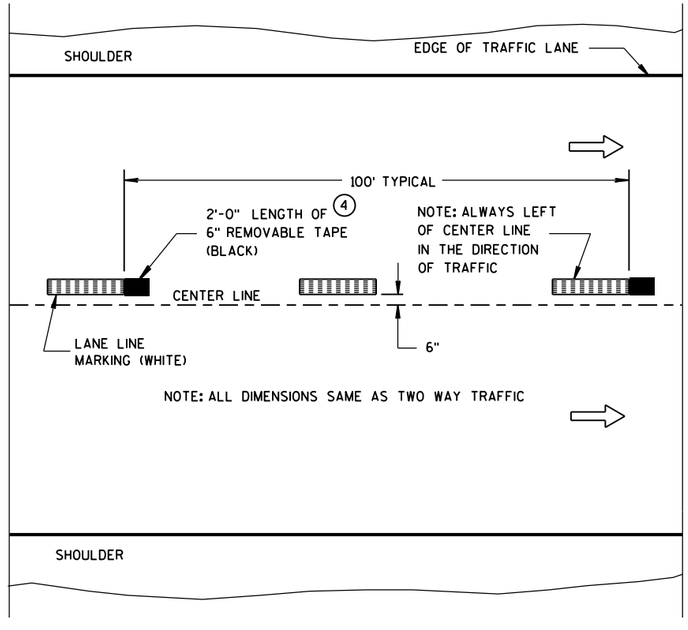


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

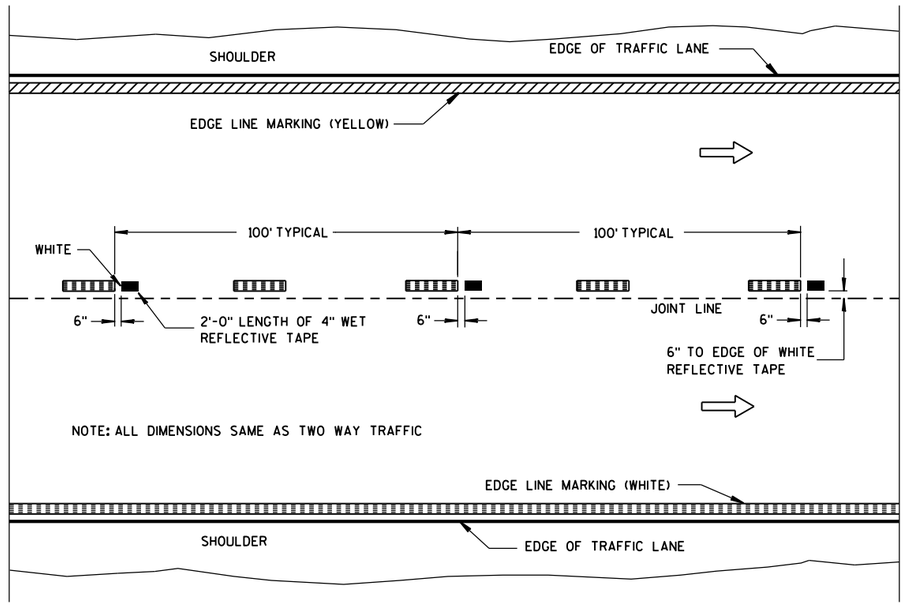
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

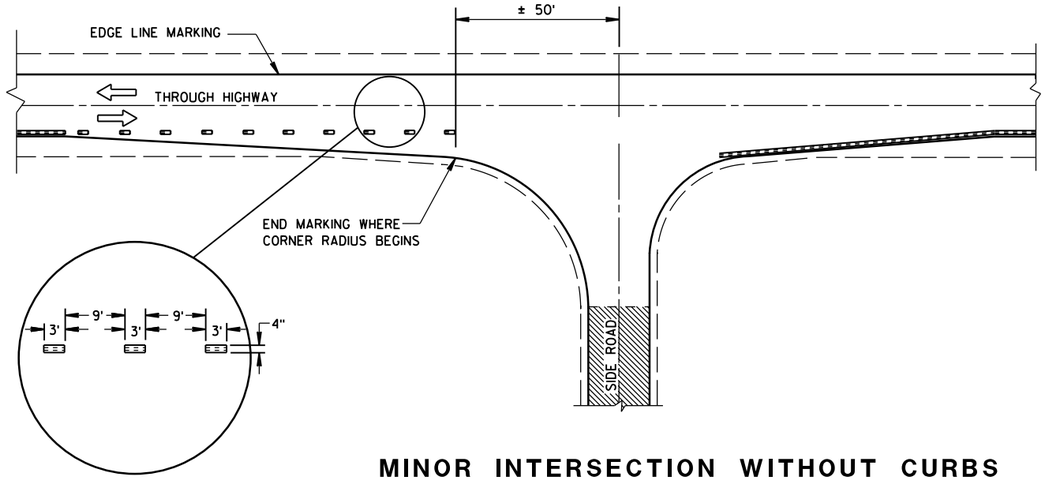
FHWA

6

S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

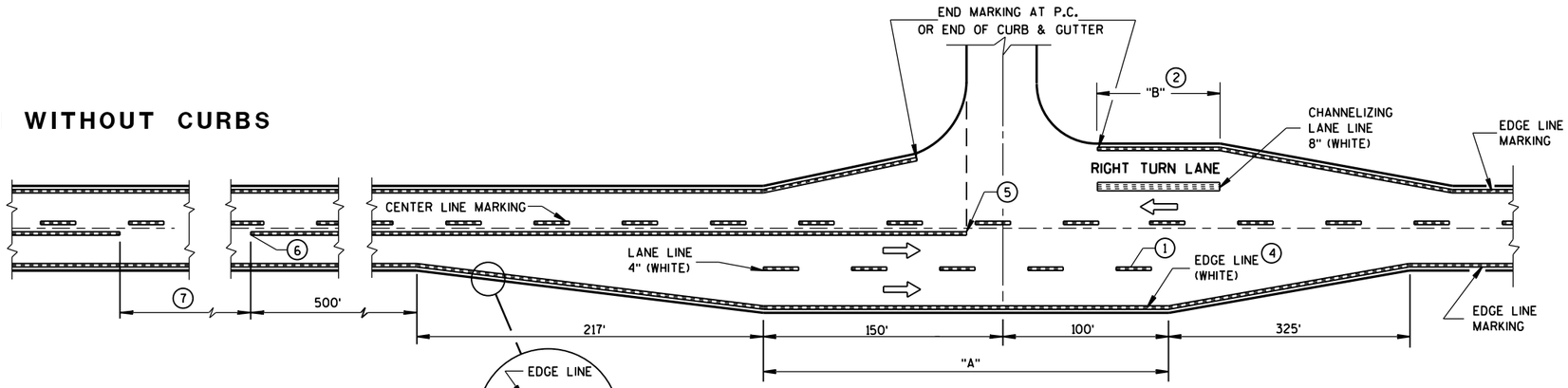
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

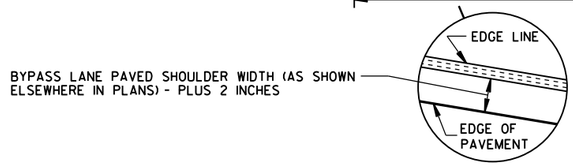
(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

(7)

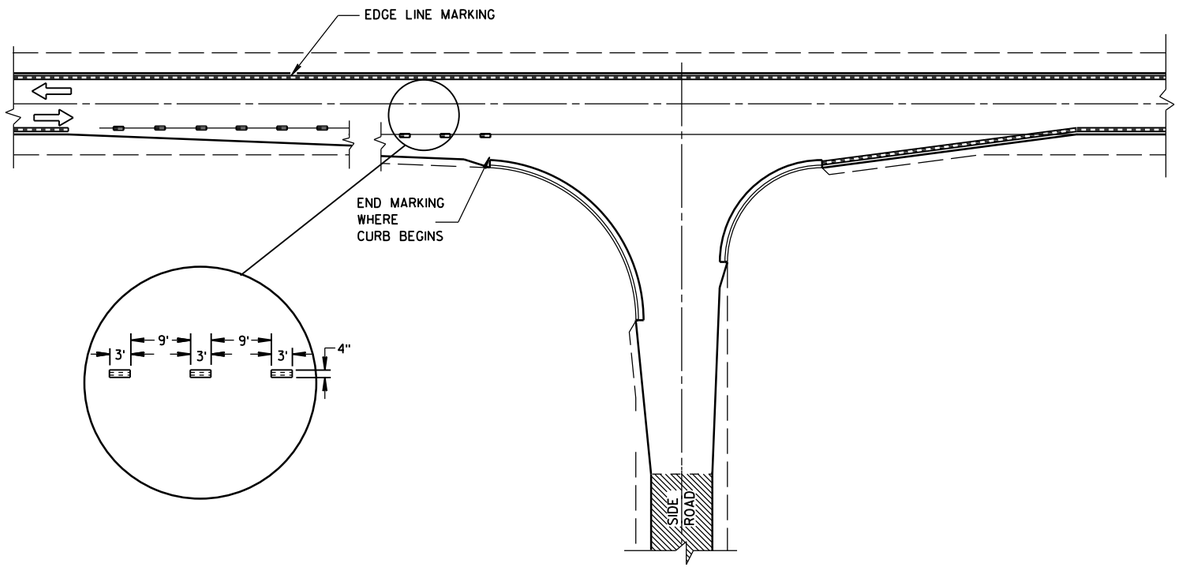
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792





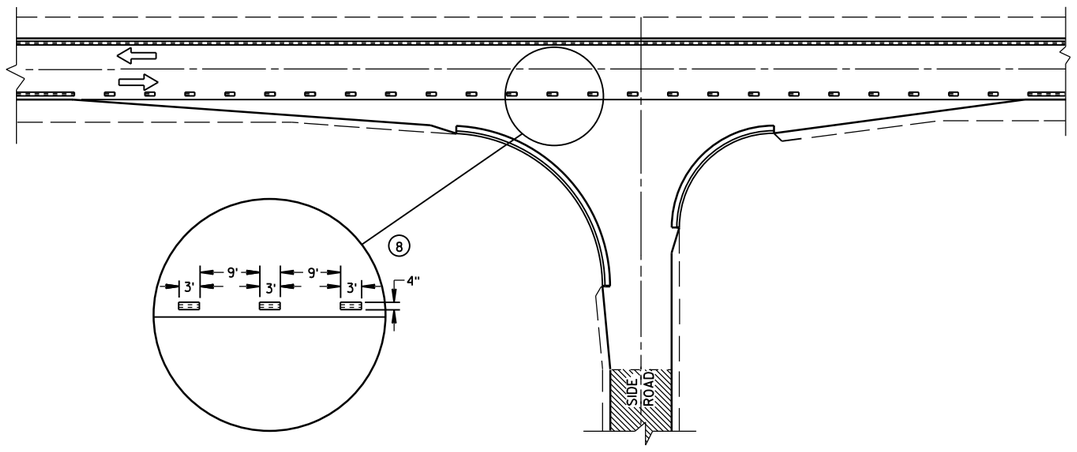
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

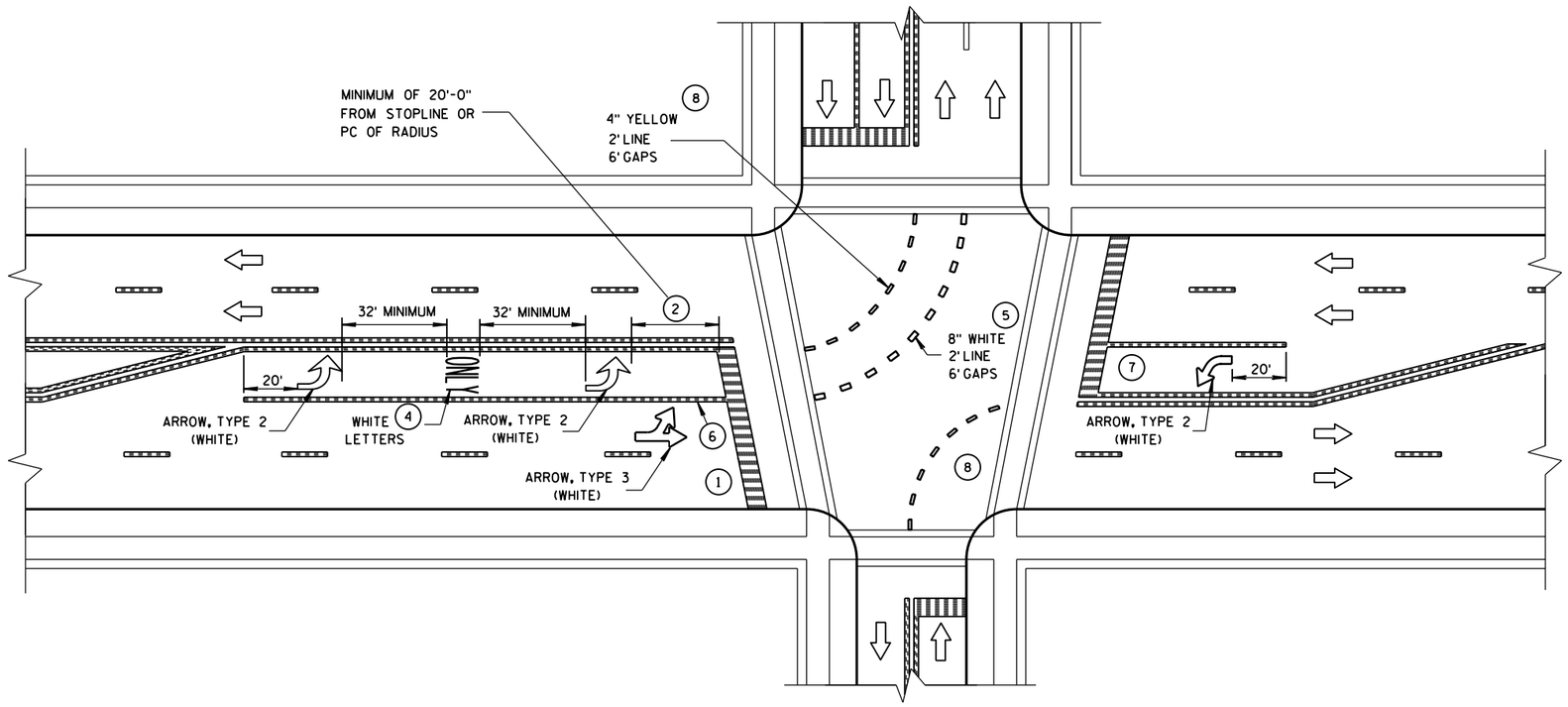
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 8-16b

6

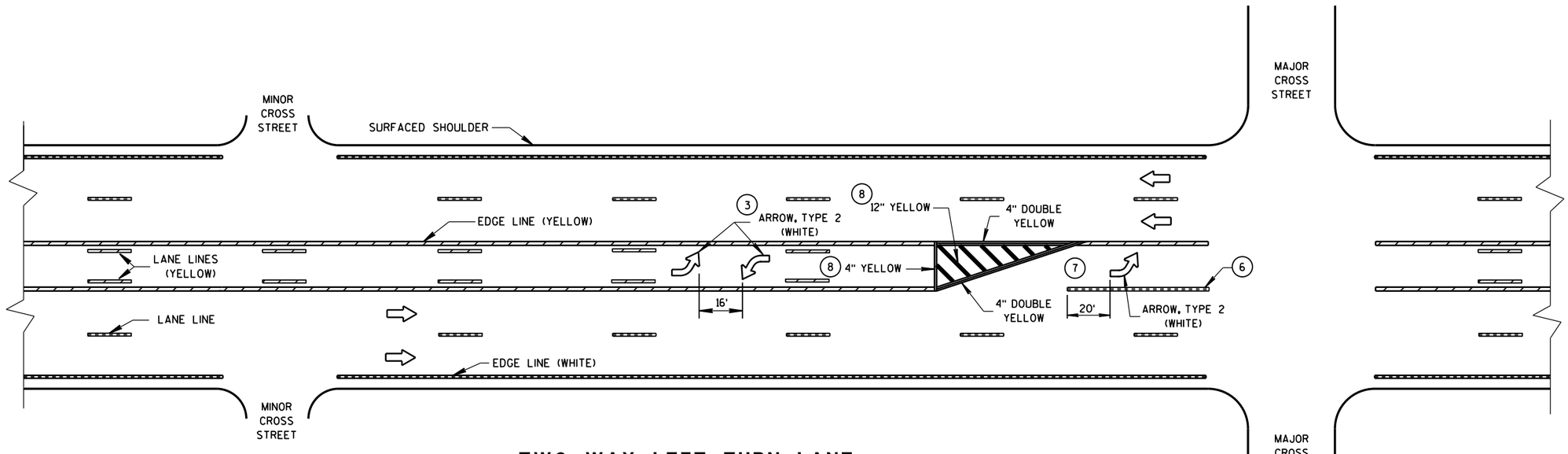
S.D.D. 15 C 8-16b



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

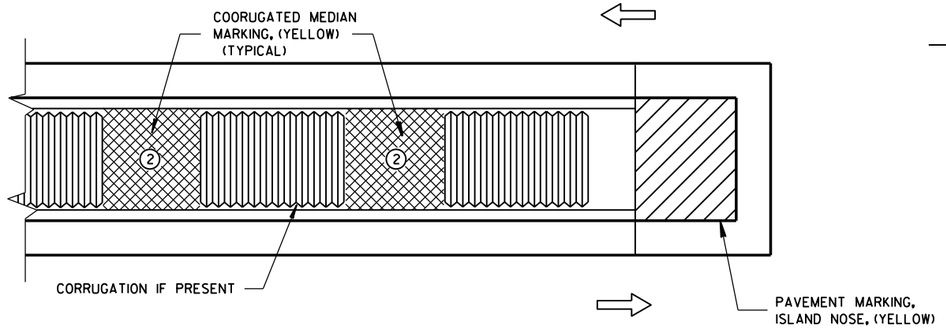
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

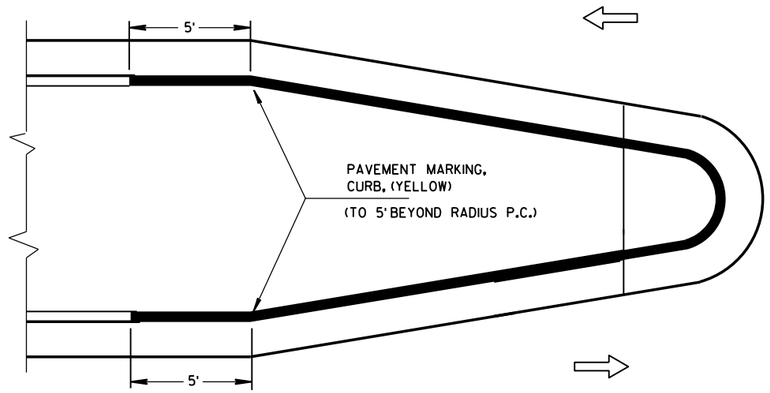
S.D.D. 15 C 8-16e

6

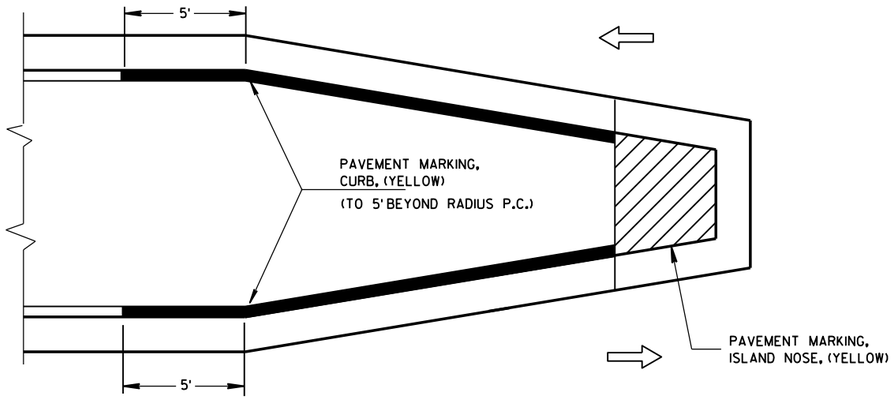
S.D.D. 15 C 8-16e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

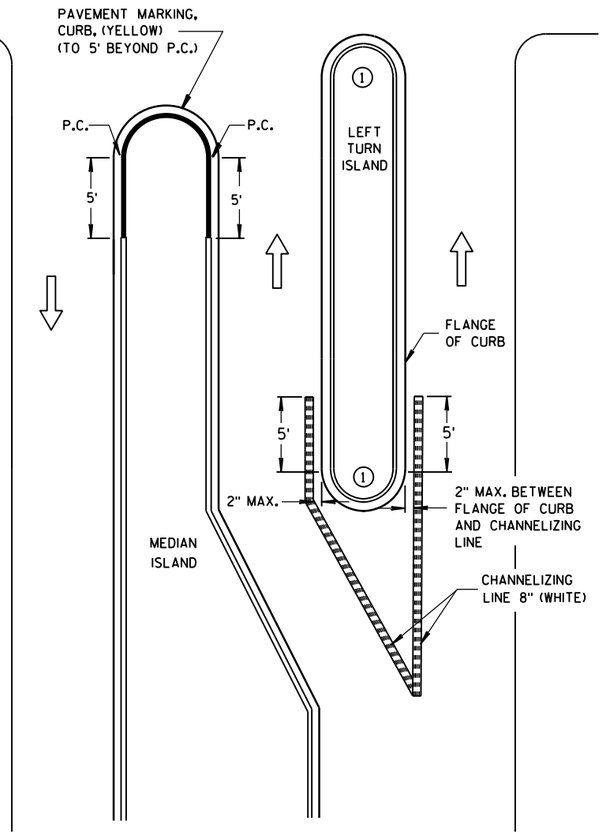


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

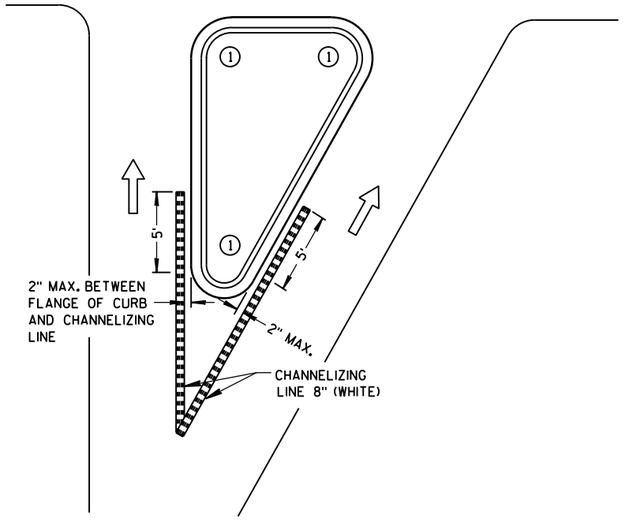


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. 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 AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

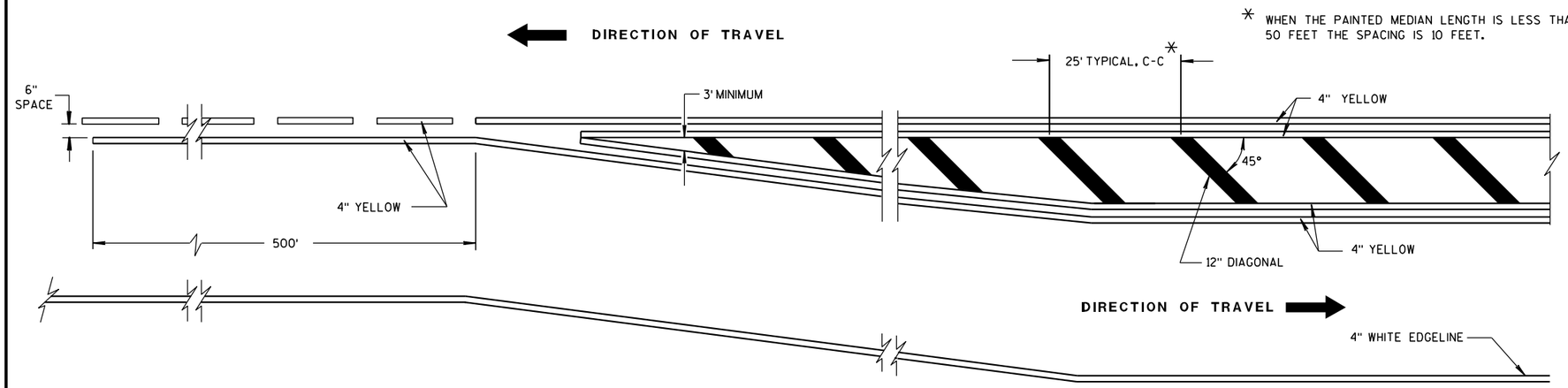
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 C 8-16f

6

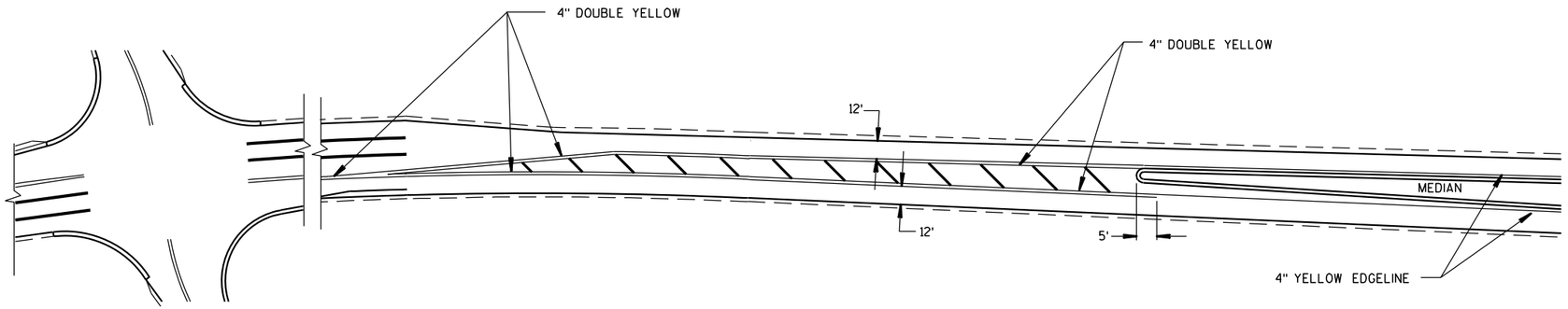
S.D.D. 15 C 8-16f



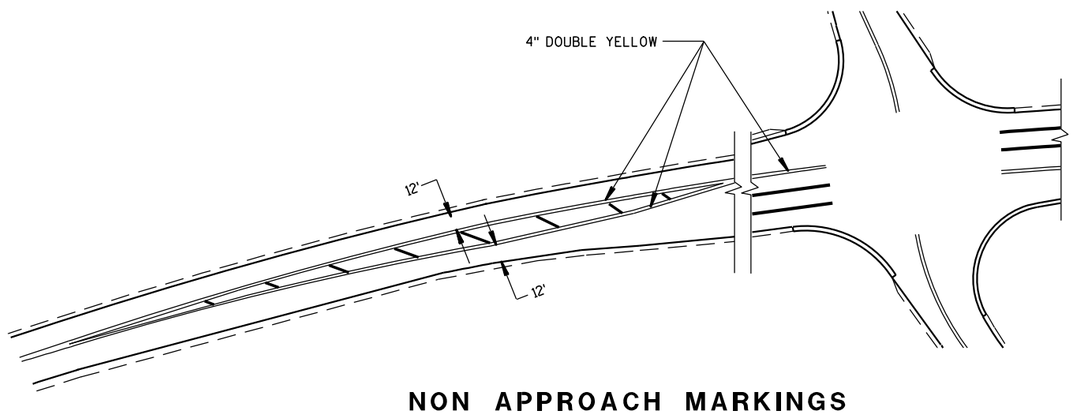
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

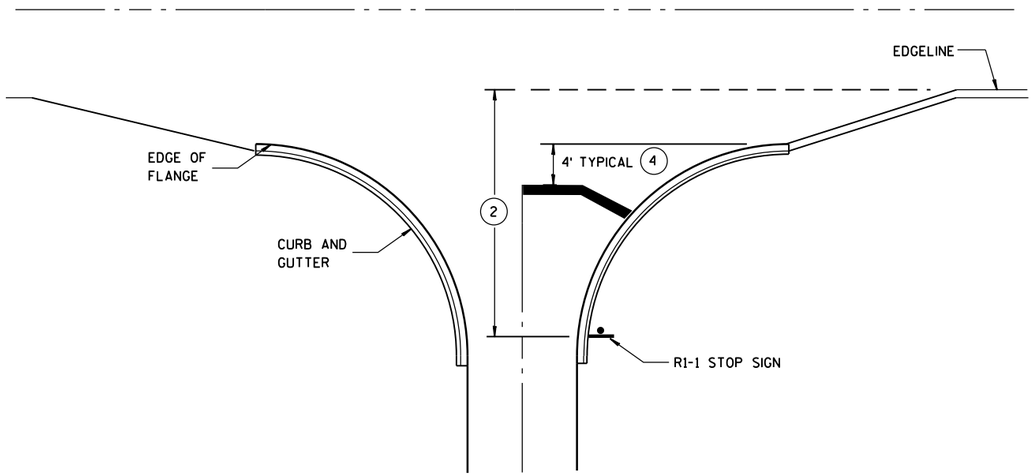
MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER 64 IGN
FHWA	

6

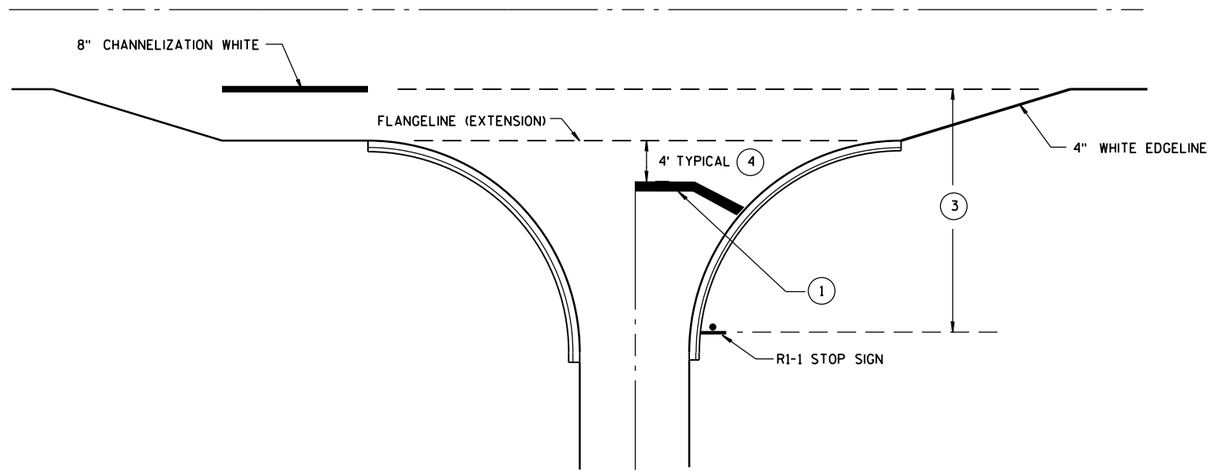
6

S.D.D. 15 C 18-3

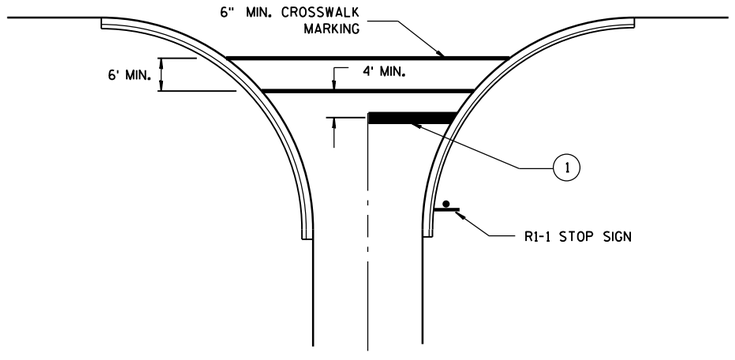
S.D.D. 15 C 18-3



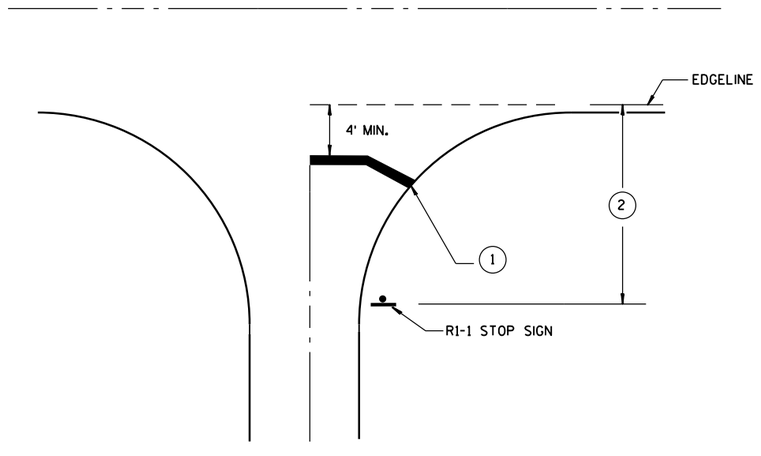
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013
DATE

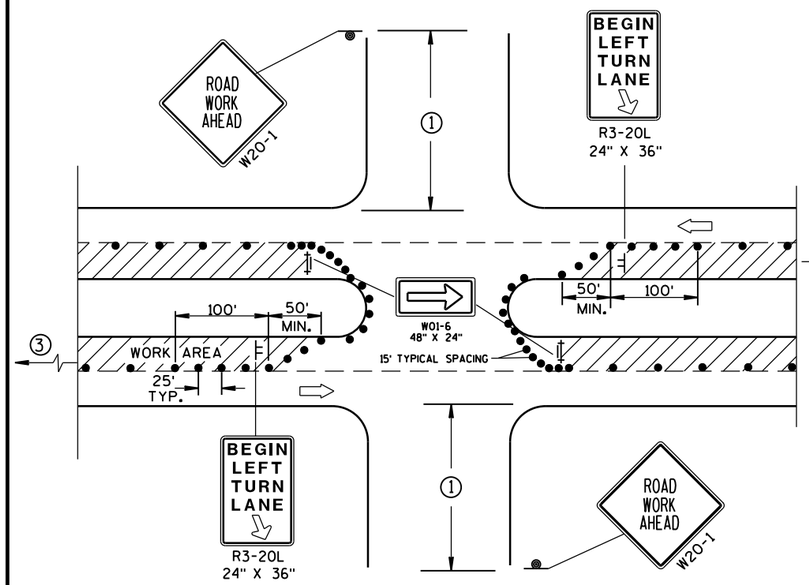
/S/ Travis Feltes
STATE TRAFFIC E

FHWA

6

S.D.D. 15 C 33-1

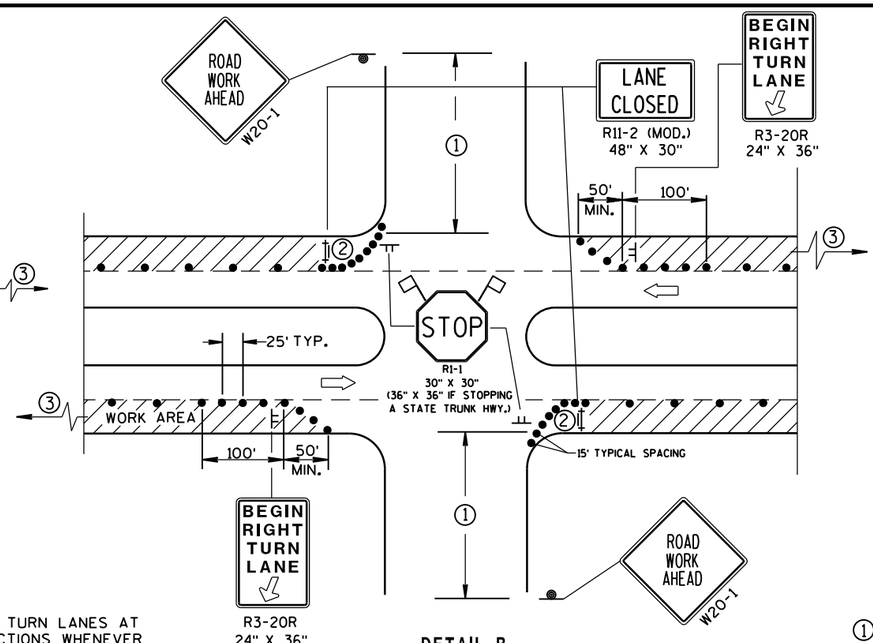
S.D.D. 15 C 33-1



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

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



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

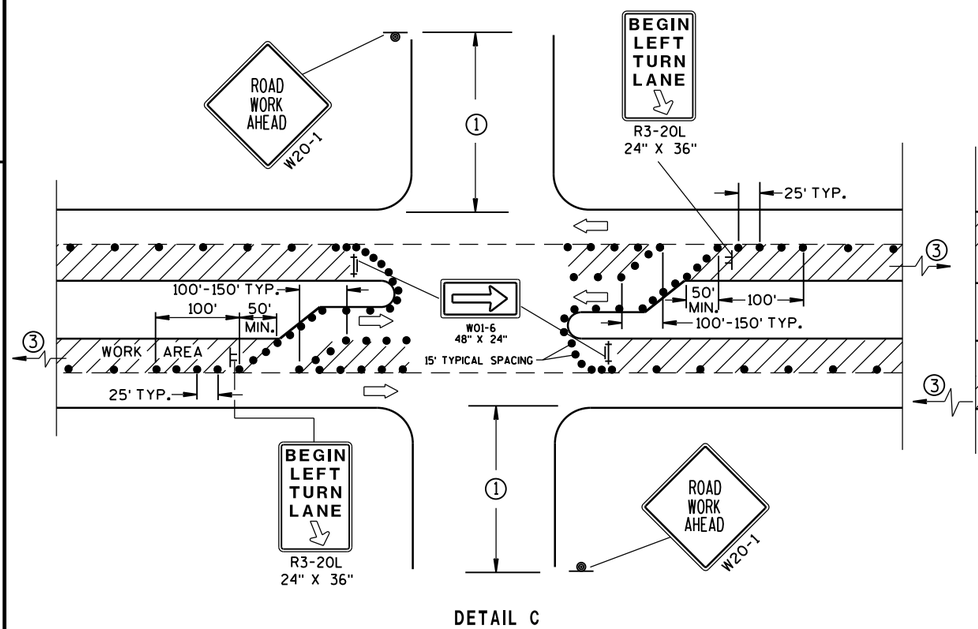
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

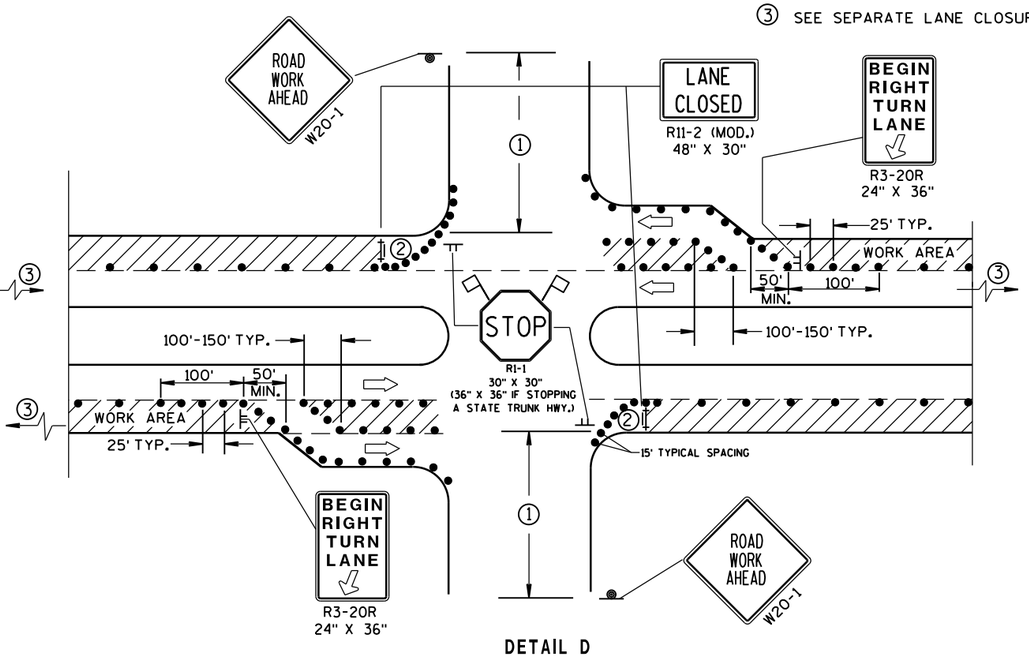
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

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



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 D 21-3

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

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

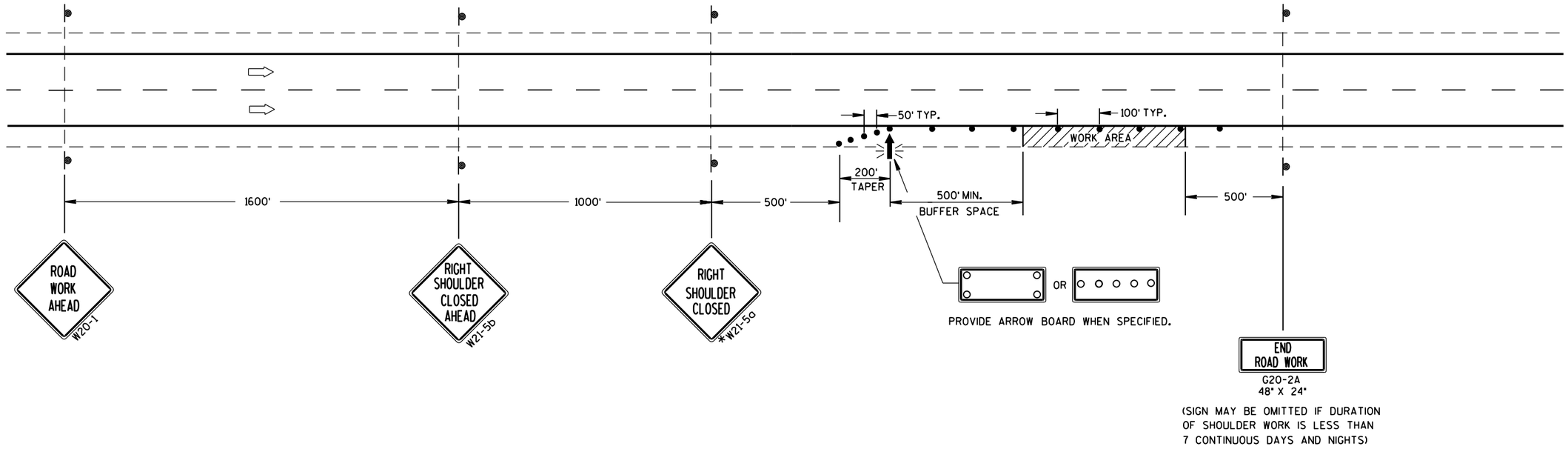
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

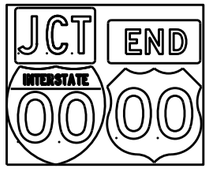
FHWA

6

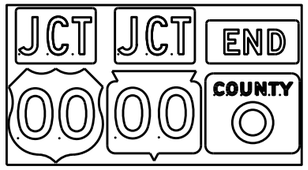
S.D.D. 15 D 27-2

TYPICAL ASSEMBLIES

J1-1

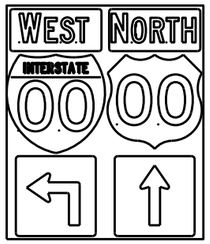


J1-2

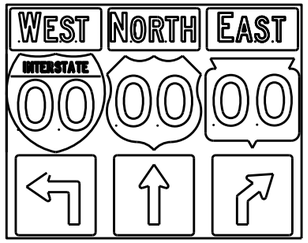


J1-3

J2-1



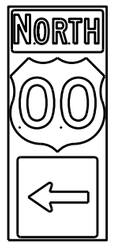
J2-2



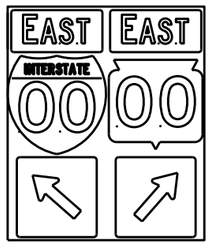
J2-3

JV

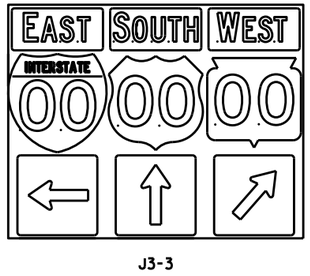
(Typical Vertical J-Assembly
See Note 10 and 11)



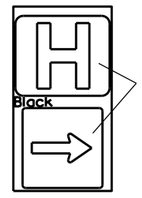
J3-1



J3-2



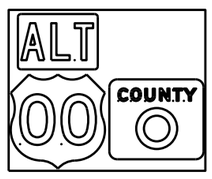
J3-3



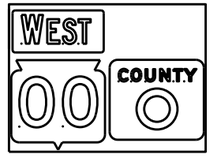
Blue Background

JH-1

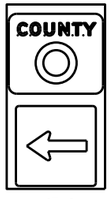
J4-1



J4-2



J4-2



J13-1

J12-1

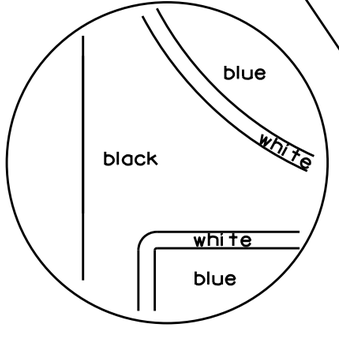
J32-1

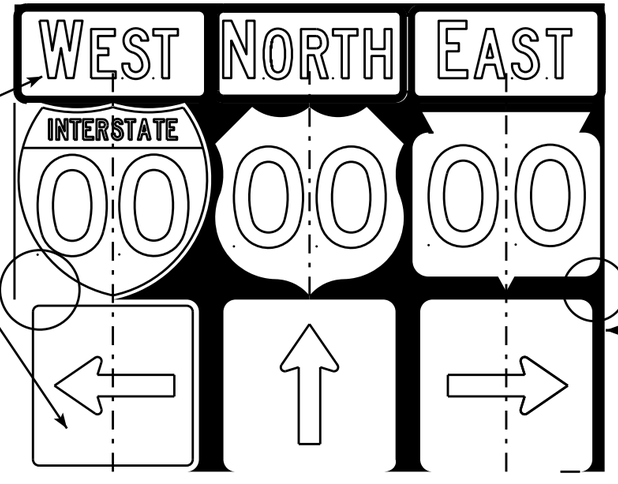
J33-1

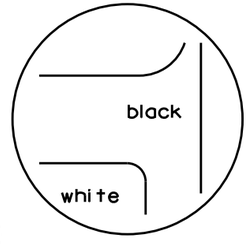
J23-1

J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

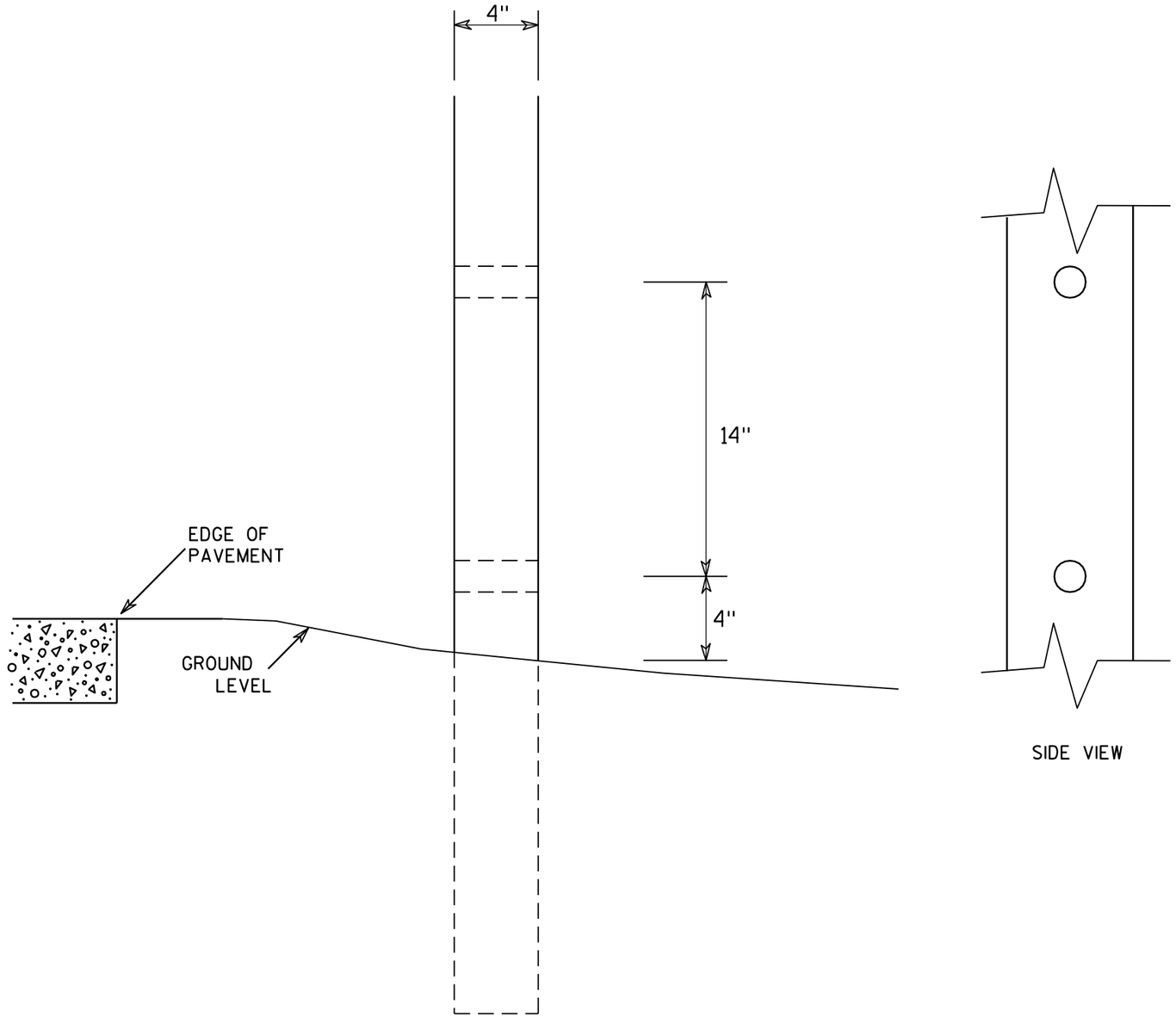
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL... A2-1S.8

PROJECT NO: | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

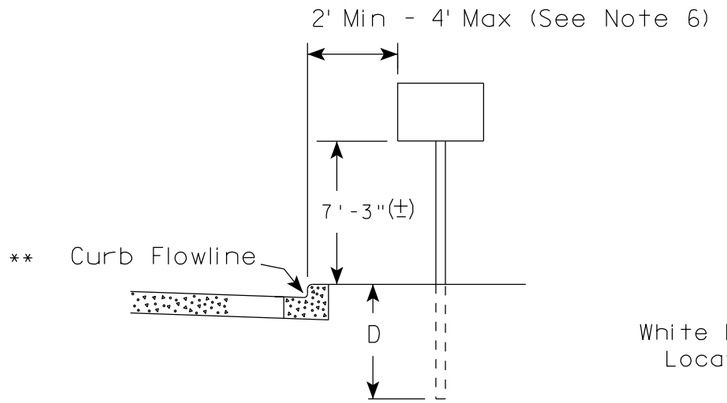
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

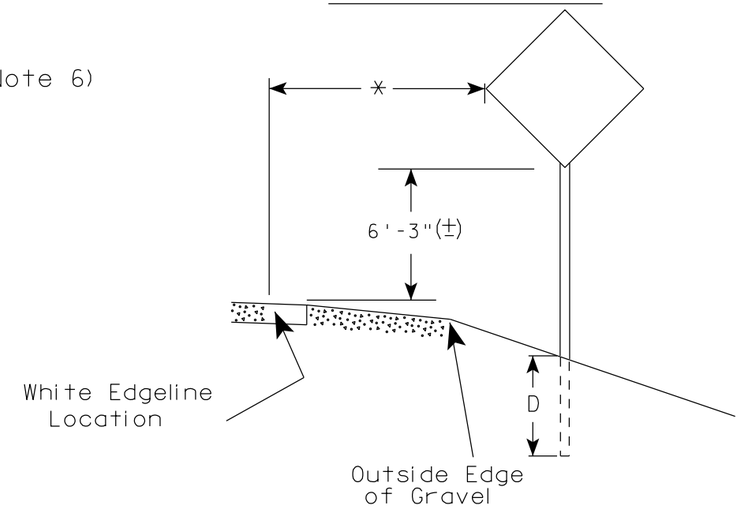
DATE 3/27/97 PLATE NO. A4-11.2

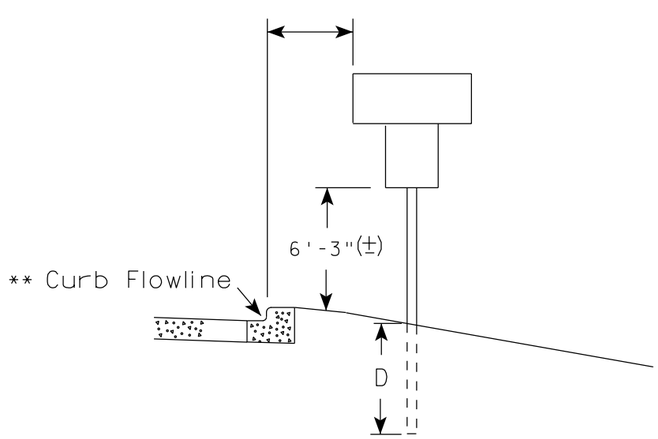
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 69	E

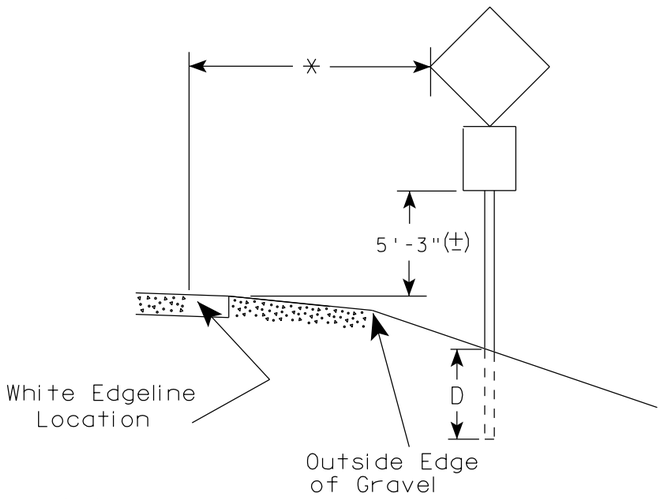
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding 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.

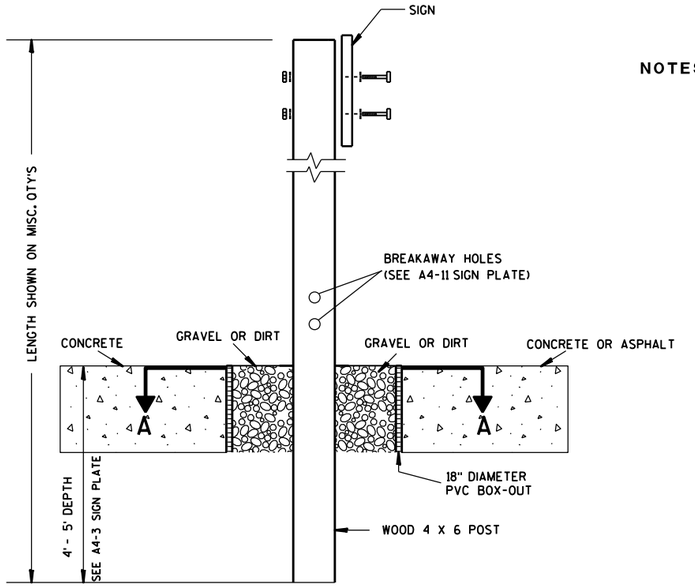
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19

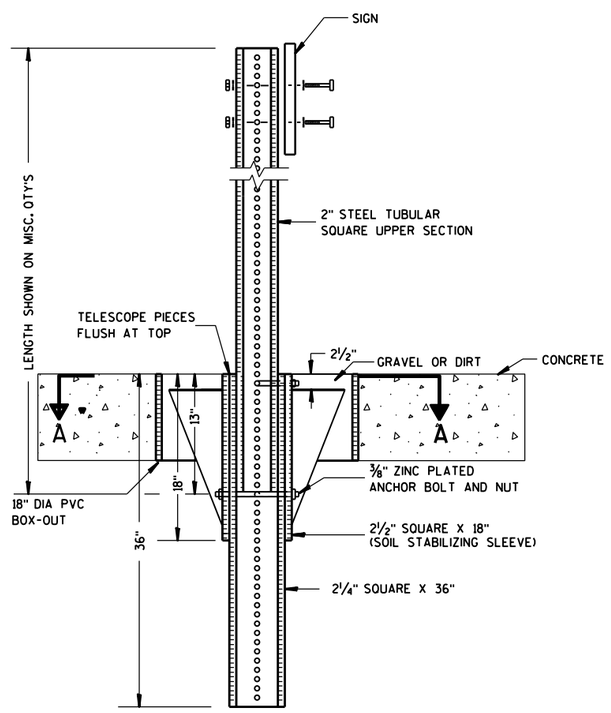
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

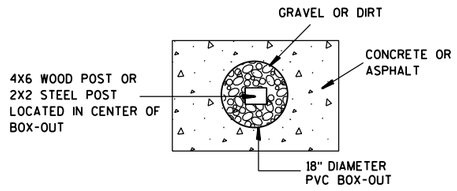
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

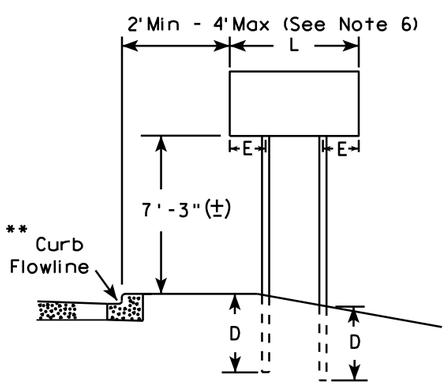
APPROVED Matthew R Rauch
for State Traffic Engineer

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

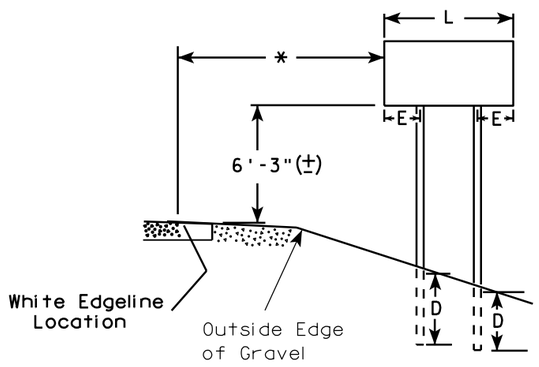
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

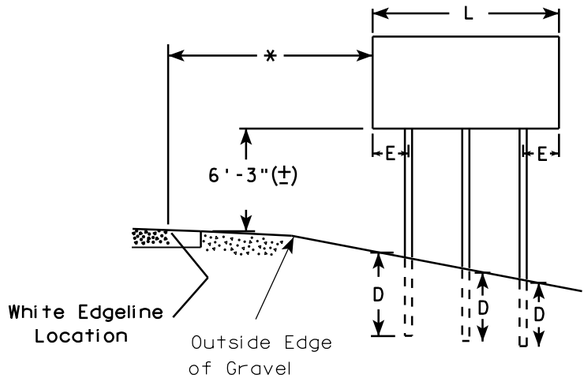
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

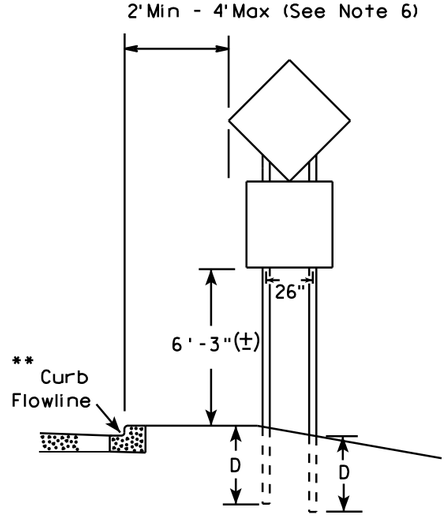
URBAN AREA



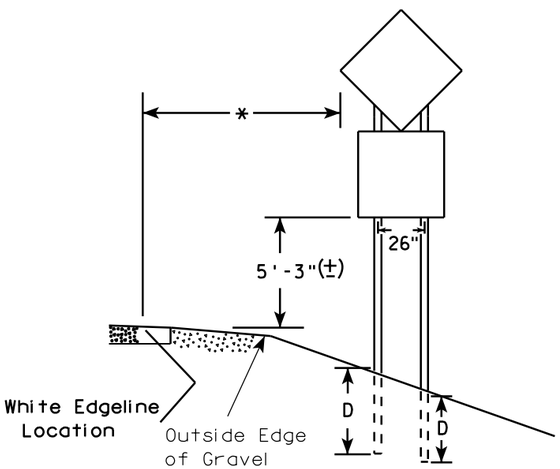
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
	L	E
	Greater than 48" Less than 60"	12"
	60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding 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 or 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

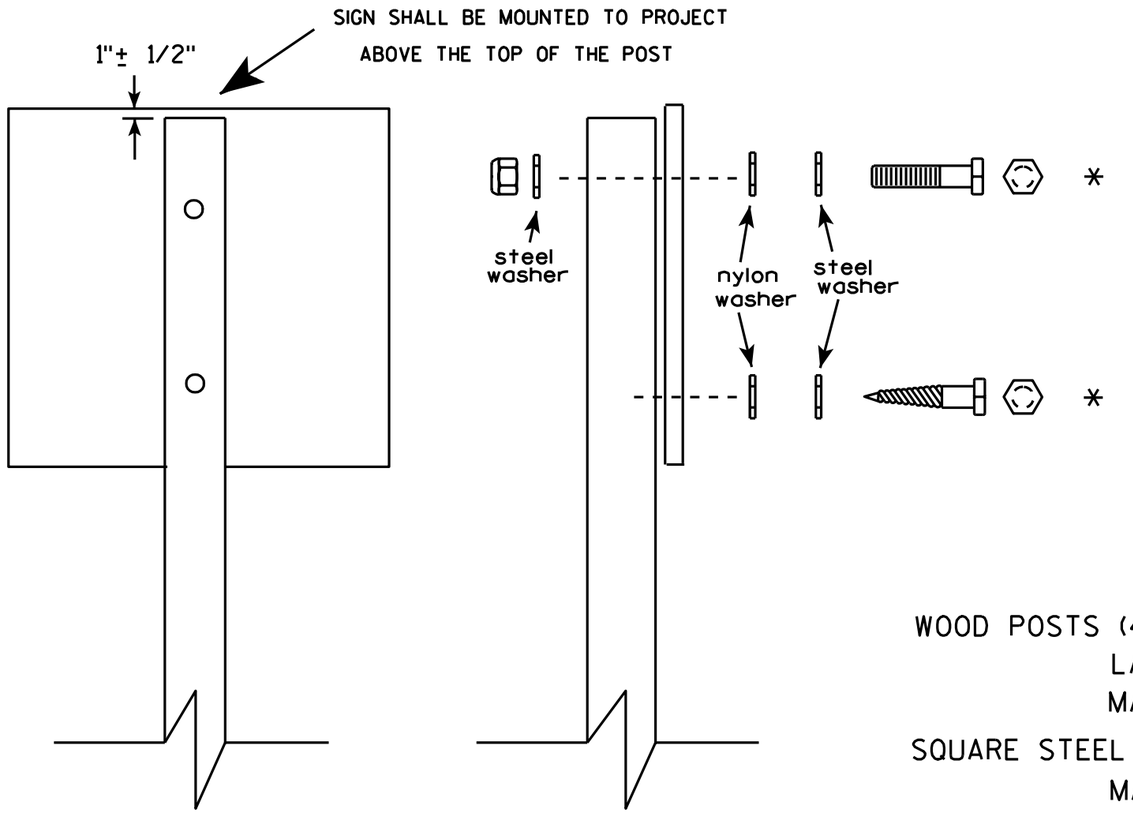
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-4 13-72

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 12-NOV-2014 14:01 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 107.021305:1.000000

WISDOT/CADDS SHEET 42



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

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

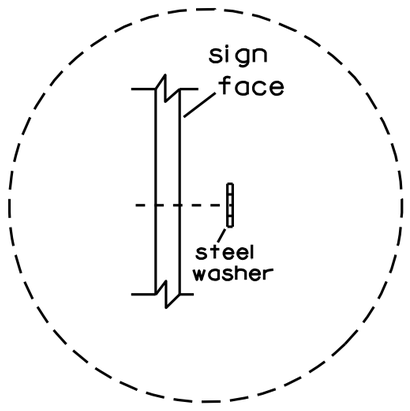
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

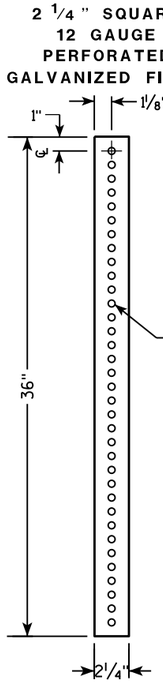
7

PROJECT NO:

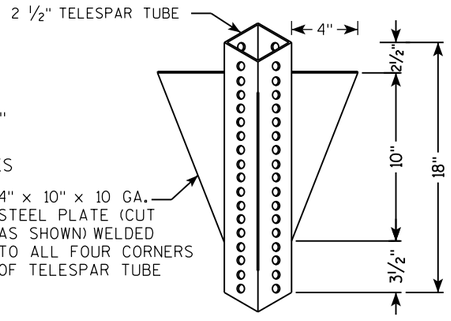
SHEET NO: 73 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

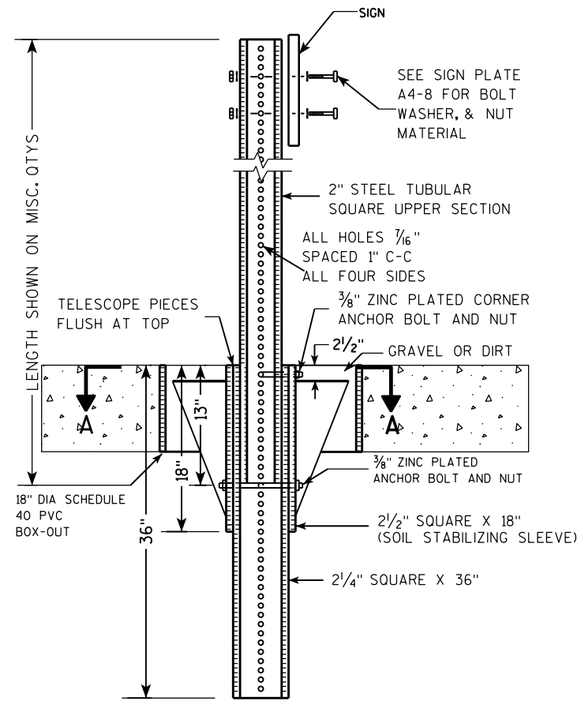
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



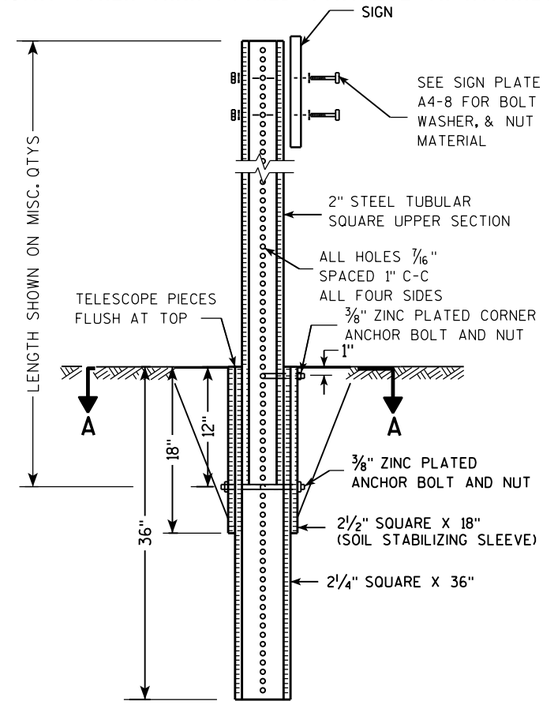
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

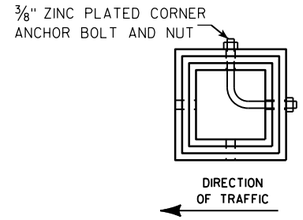


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

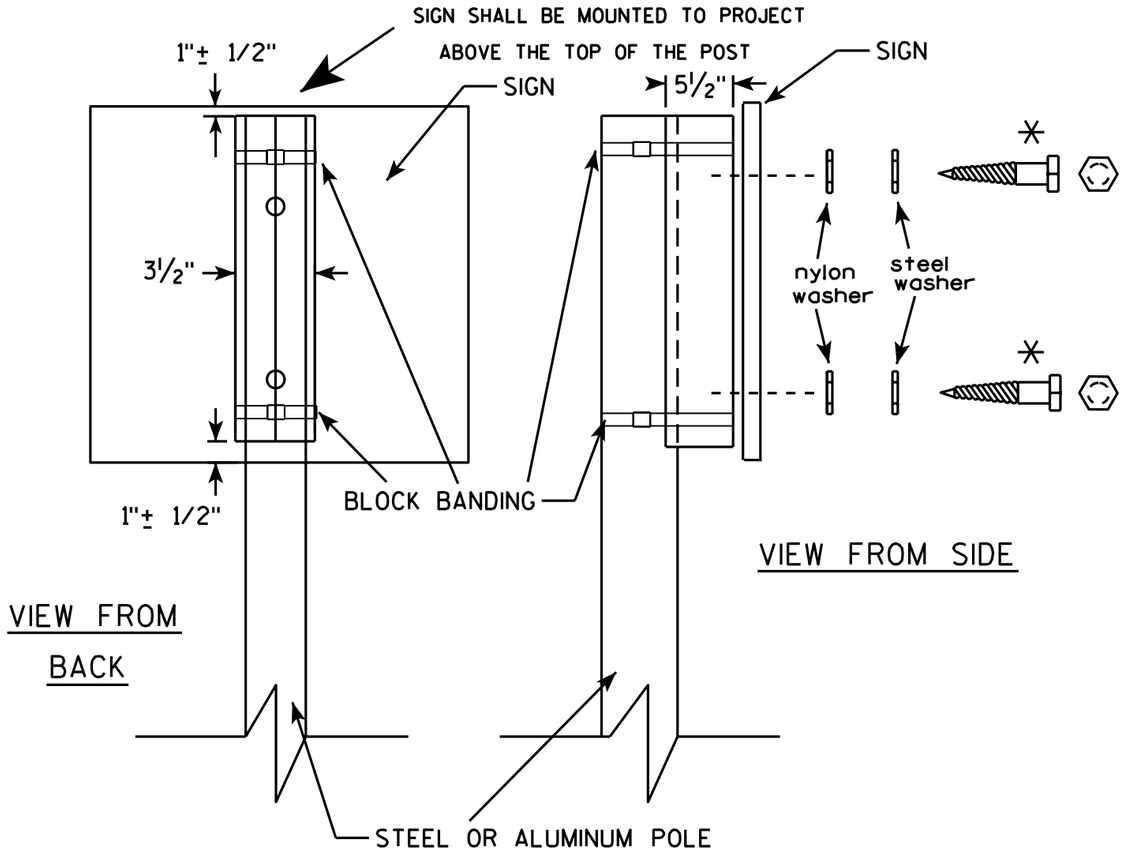
TUBULAR STEEL
SIGN POST
A4-9

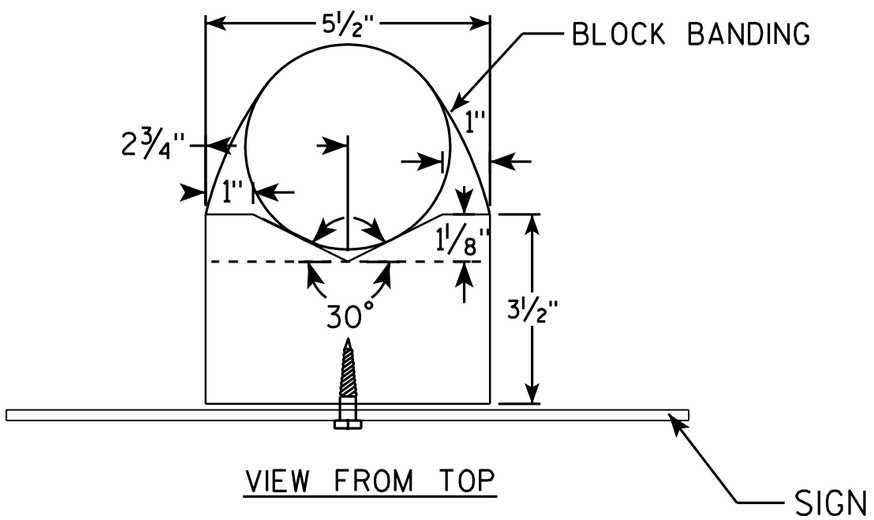
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 74 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

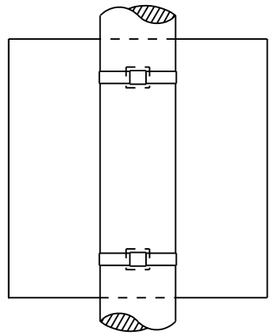
DATE 7/12/07 PLATE NO. A5-10.1

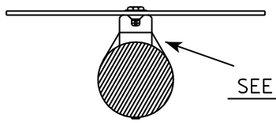
PROJECT NO:

SHEET NO: 75 E

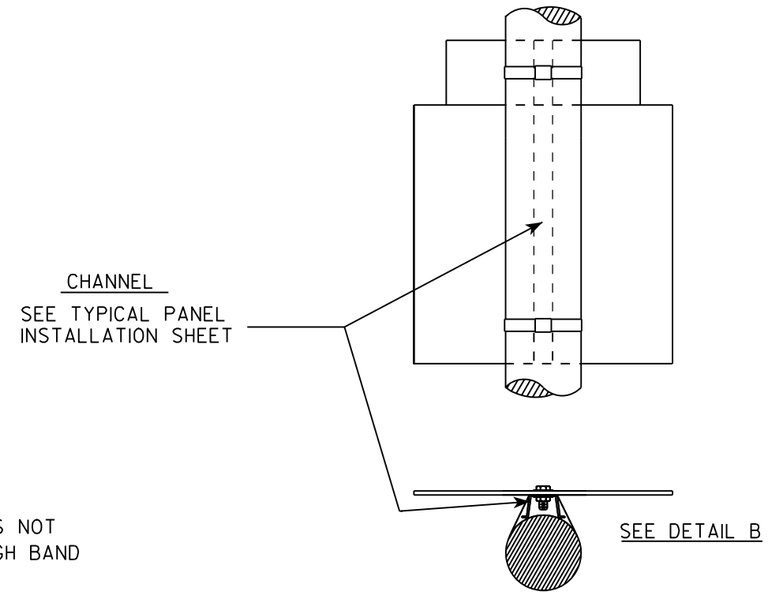
BANDING

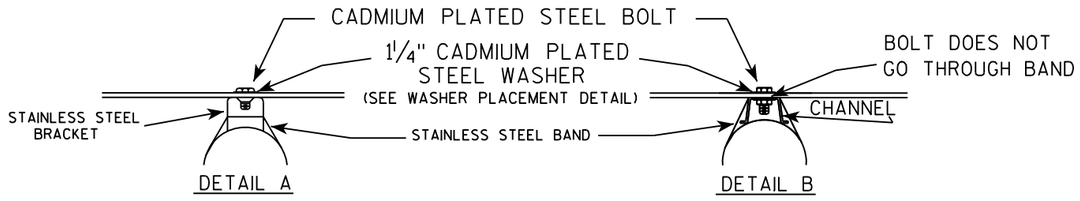
SINGLE SIGN



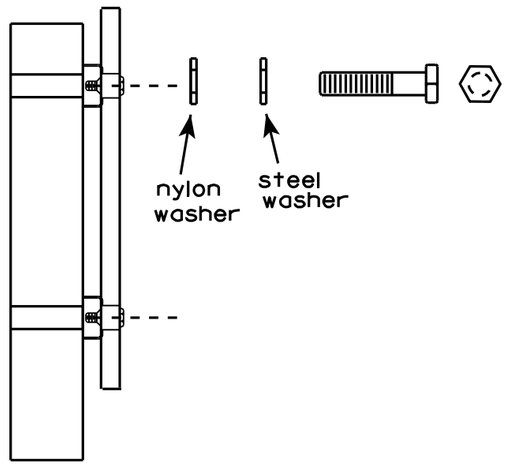


"J" ASSEMBLY





WASHER PLACEMENT



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

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

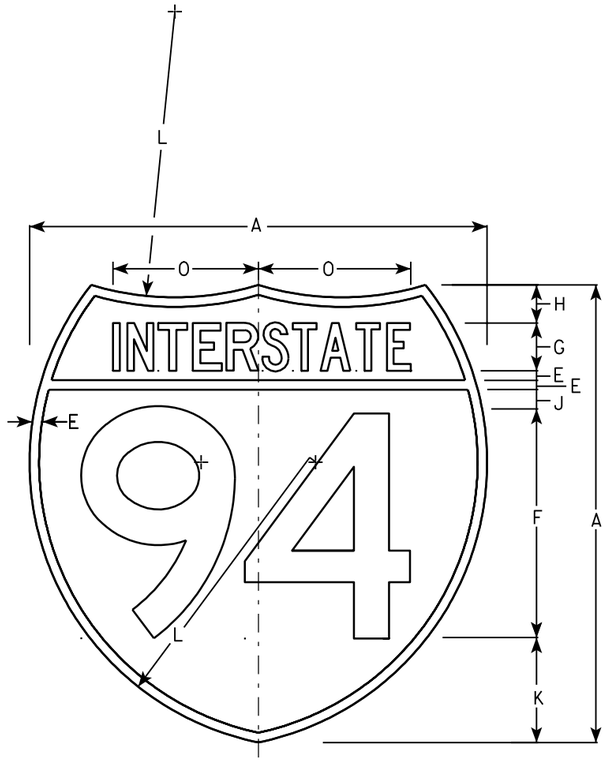
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

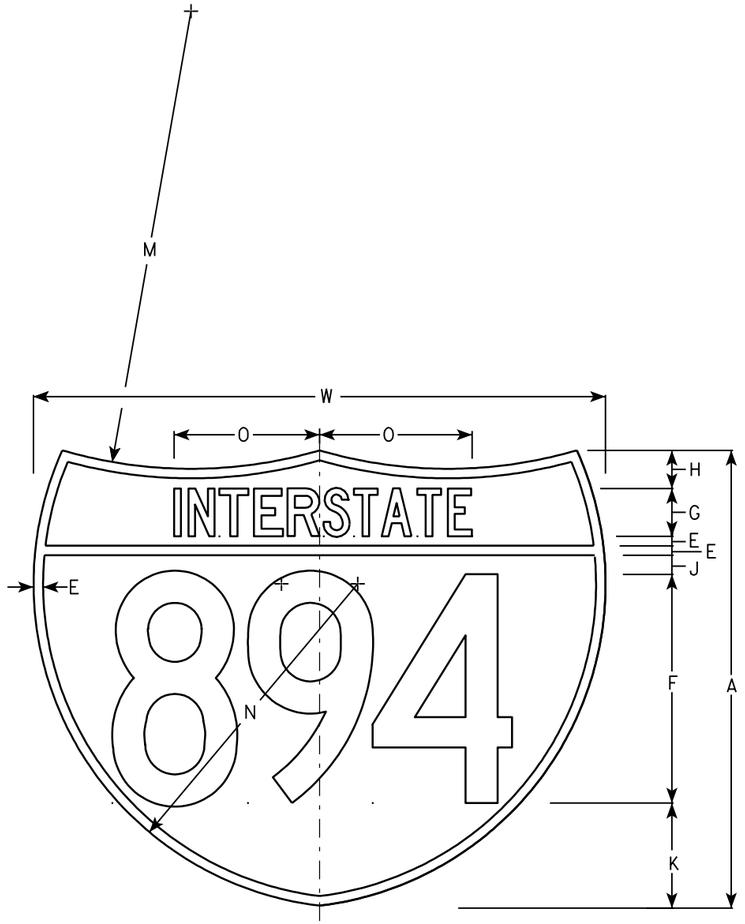
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 76	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

7

7

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

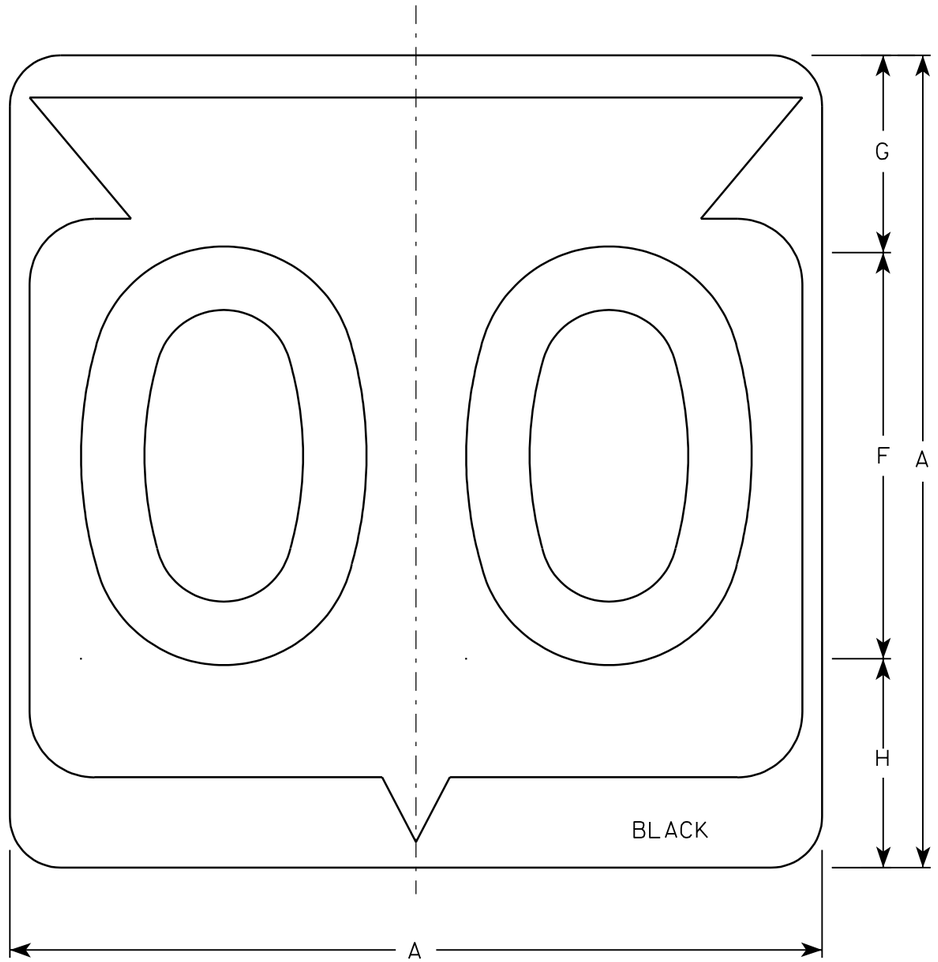
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

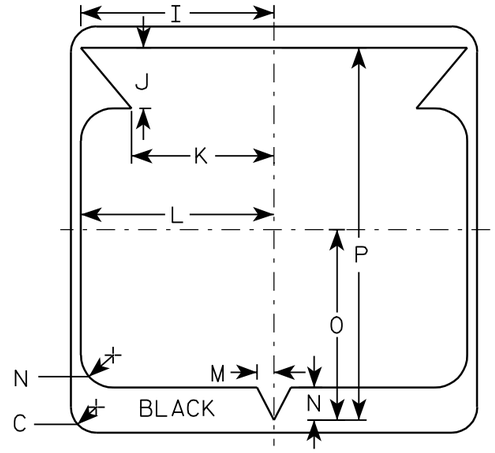
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 77	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

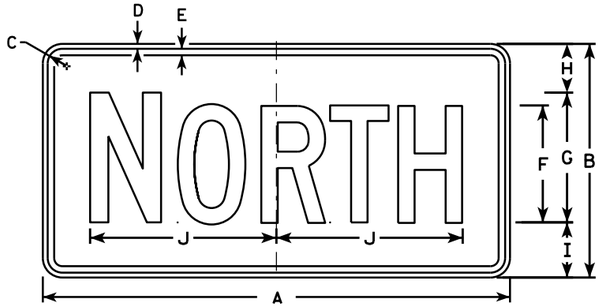
STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

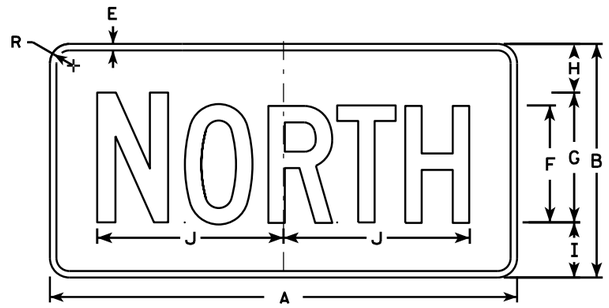
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 78	E

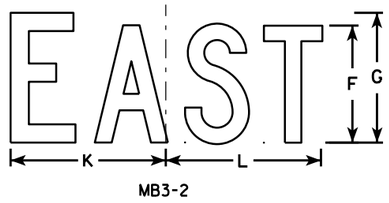


M3-1
MK3-1
MM3-1
MN3-1

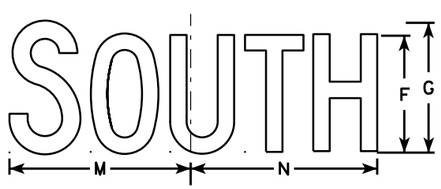


MB3-1

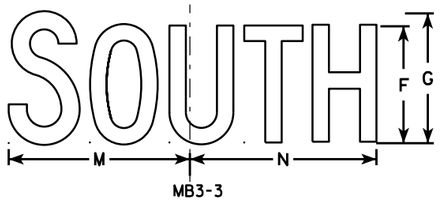
M3-2
MK3-2
MM3-2
MN3-2



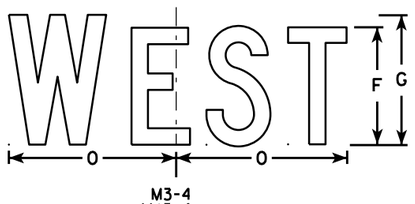
MB3-2



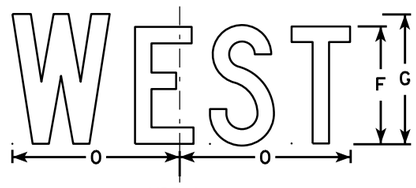
M3-3
MK3-3
MM3-3
MN3-3



MB3-3



M3-4
MK3-4
MM3-4
MN3-4



MB3-4

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
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

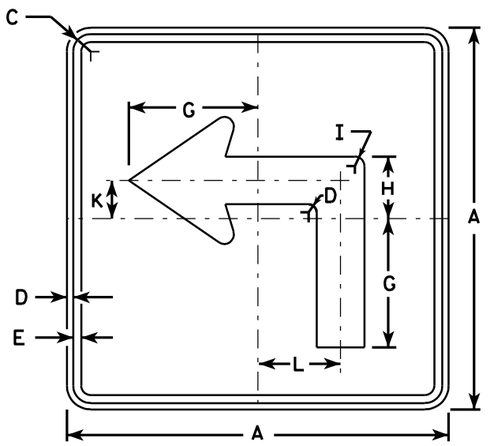
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

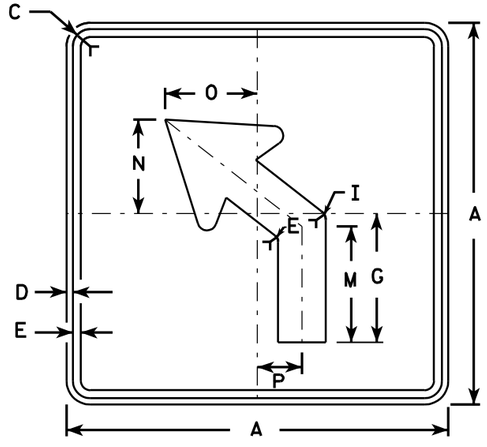
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/30/14 PLATE NO M3-1.13

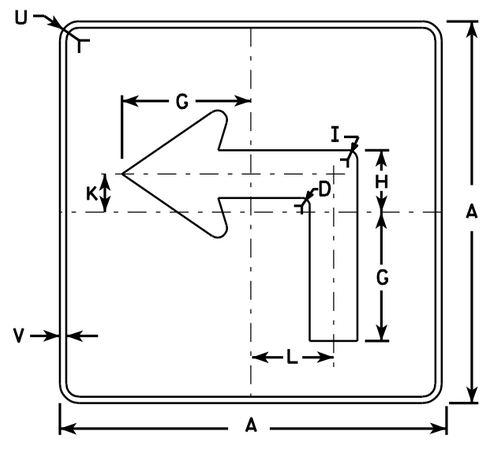
PROJECT NO: | HWY: | COUNTY: | | SHEET NO: E



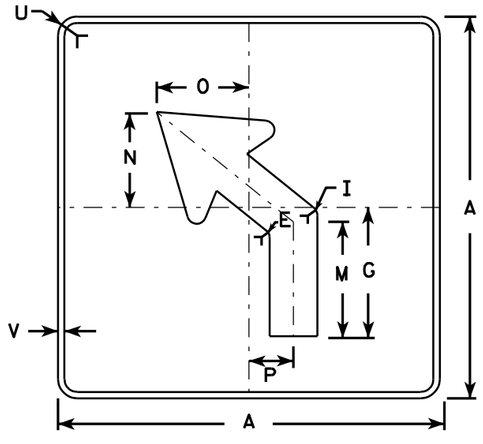
M5-1L
MK5-1L
MM5-1L
MO5-1L
MP5-1L
MR5-1L



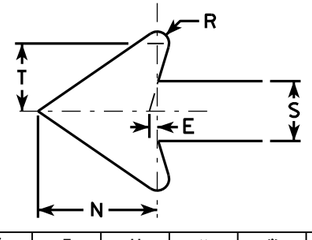
M5-2L
MK5-2L
MM5-2L
MO5-2L
MP5-2L
MR5-2L



MB5-1L
MG5-1L
MN5-1L



MB5-2L
MG5-2L
MN5-2L



NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White - Type H Reflective
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White - Type H Reflective
   MG5-1 and MG5-2 Background - Green
   Message - White - Type H Reflective
   MK5-1 and MK5-2 Background - Green
   Message - White Type H Reflective
   MM5-1 and MM5-2 Background - White - Type H Reflective
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White - Type H Reflective
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

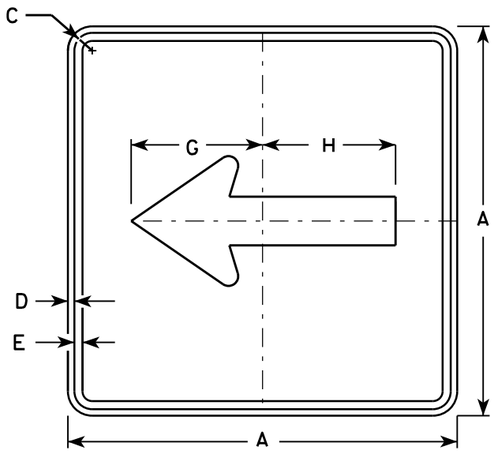
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

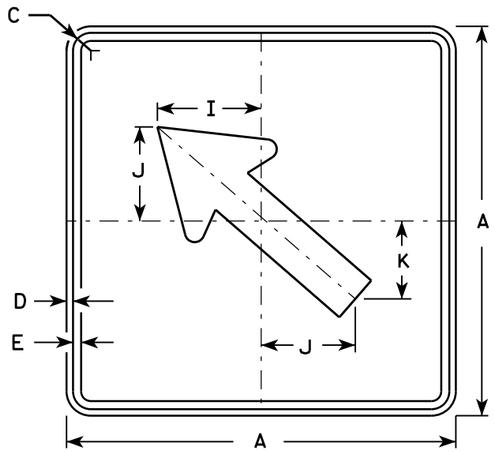
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M5-1.12

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 80 | E



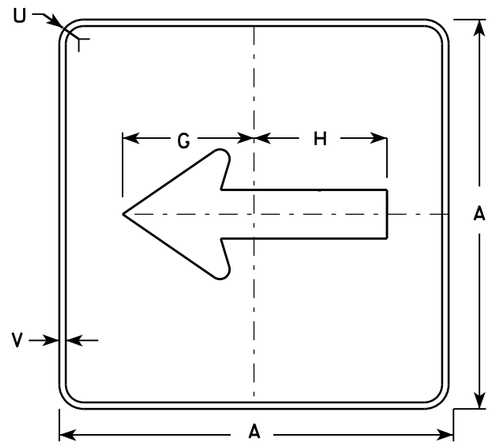
M6-1
MK6-1
MM6-1
MN6-1
MO6-1
MP6-1
MR6-1



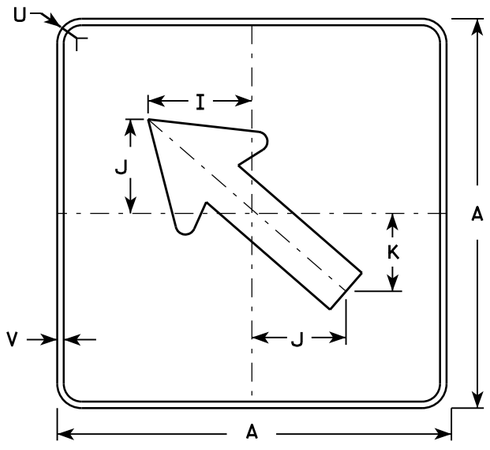
M6-2
MK6-2
MM6-2
MN6-2
MO6-2
MP6-2
MR6-2

NOTES

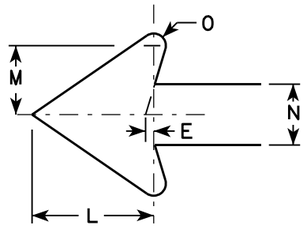
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MG6-1 and MG6-2 Background - Green
   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



MB6-2



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

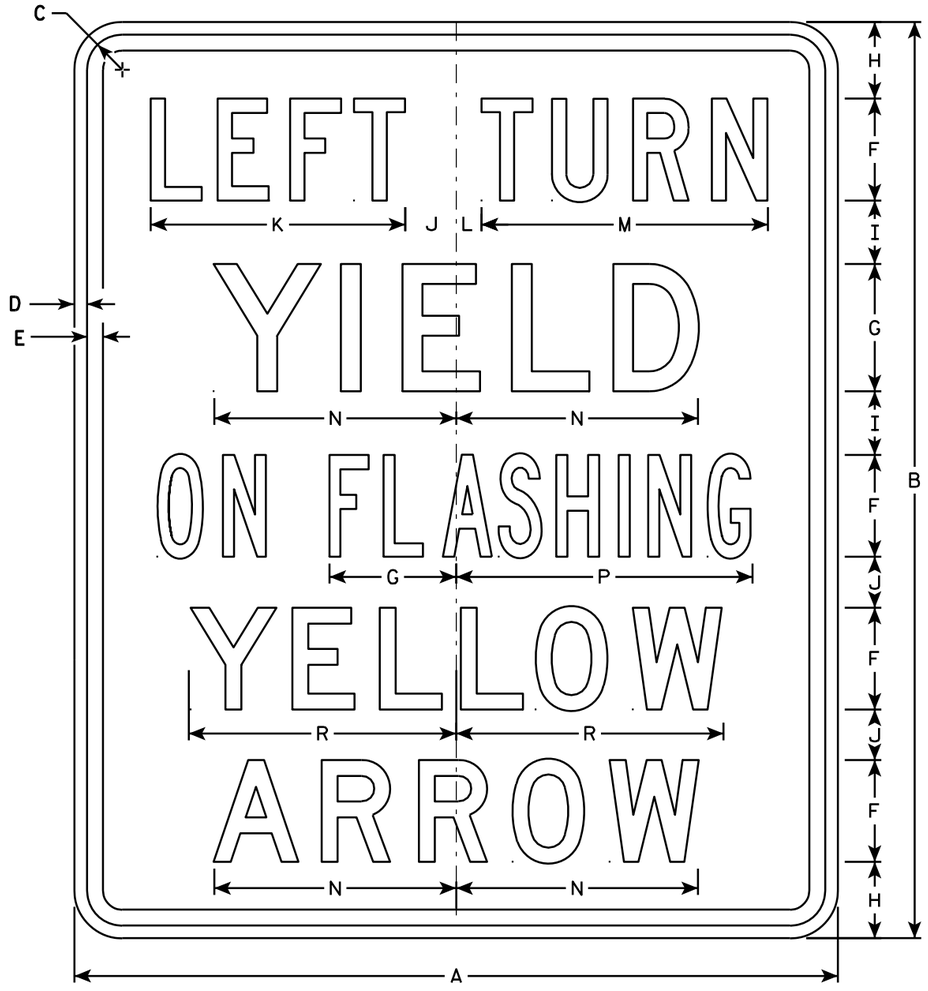
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/03/14 PLATE 81 M6-1.14

PROJECT NO: | HWY: | COUNTY: | | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 03-JUL-2014 14:28 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.675051:1.000000
WISDOT/CADDS SHEET 42

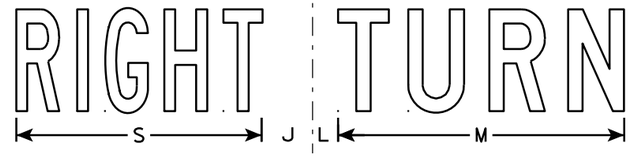


R10-50L

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																											

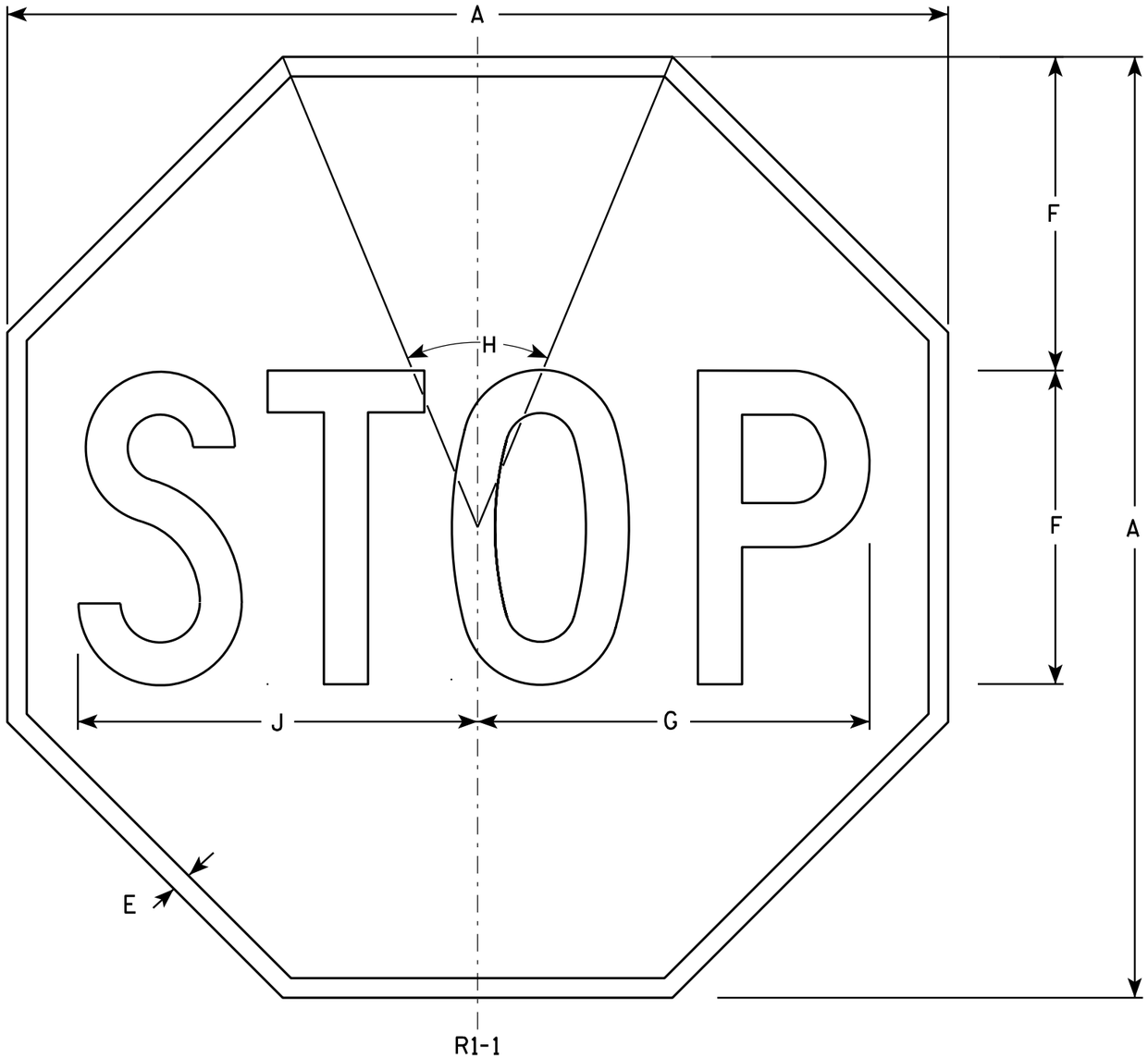
STANDARD SIGN
R10-50

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: 82	E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

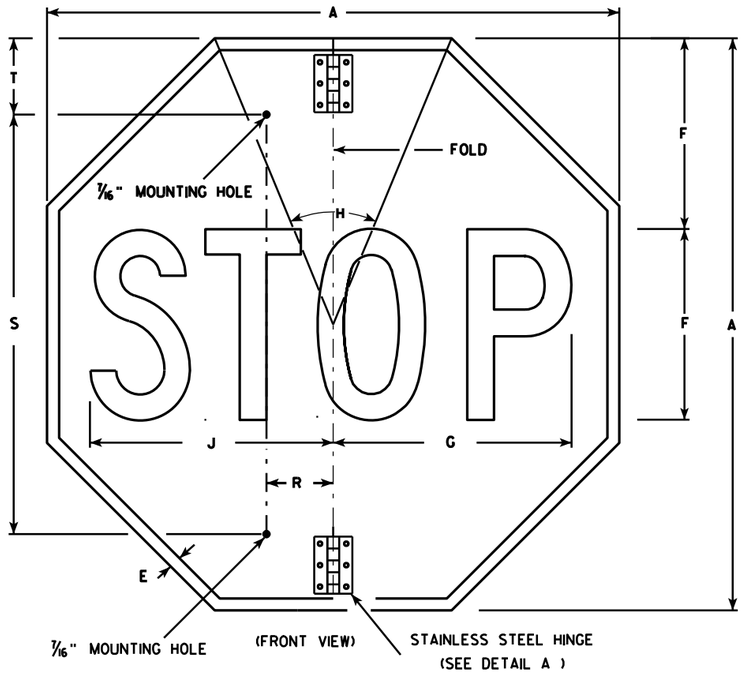
STANDARD SIGN
R1-1

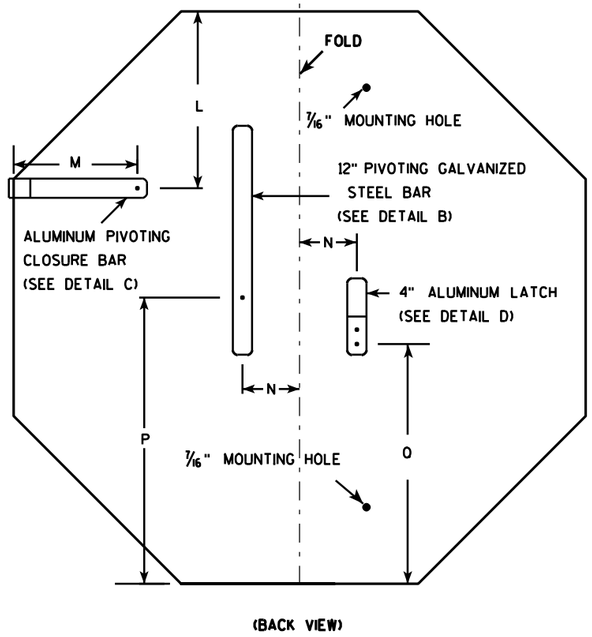
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

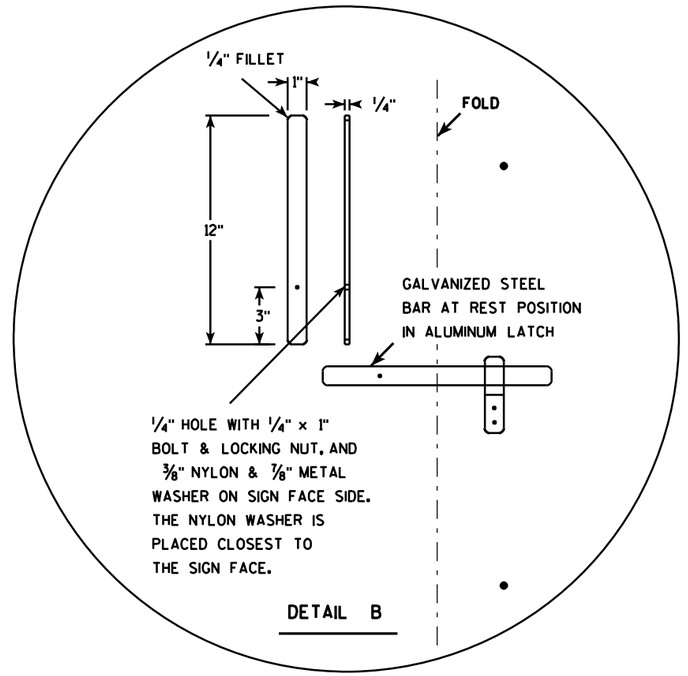
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 83	E

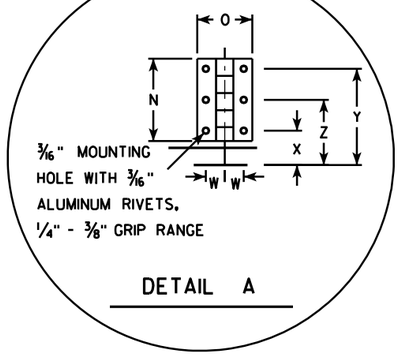


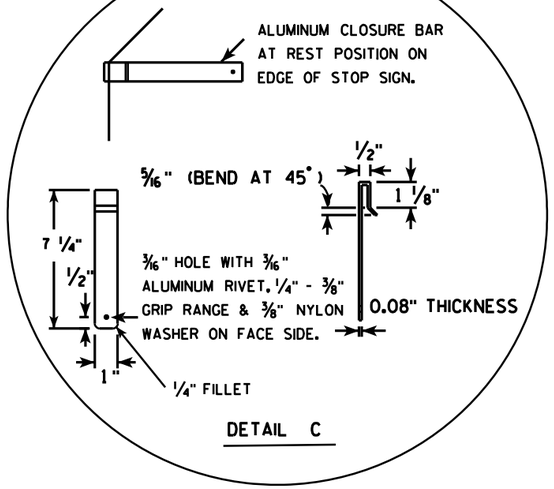


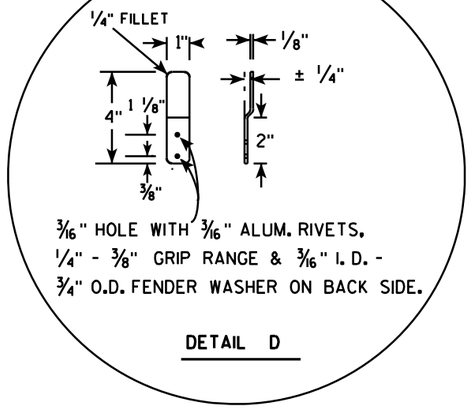
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.









SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	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																											

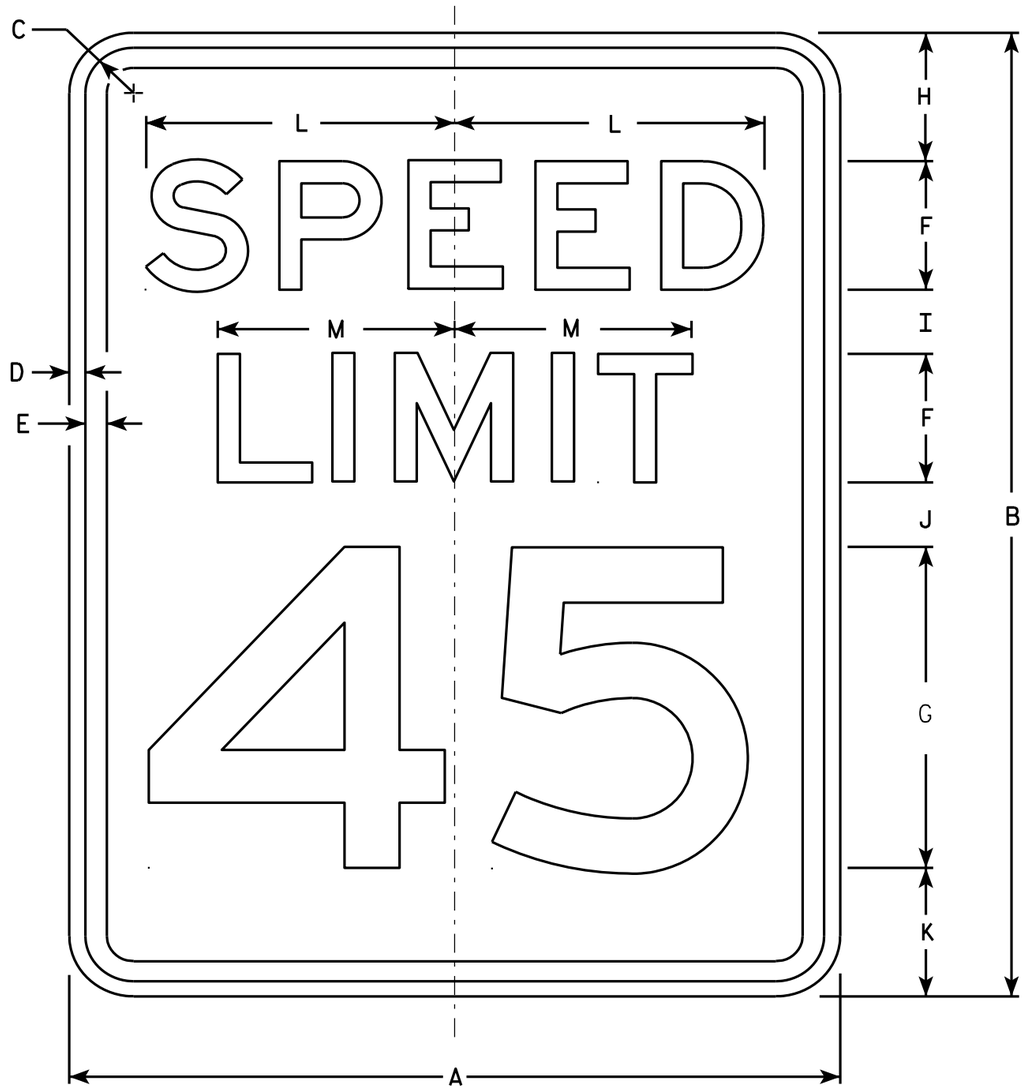
STANDARD SIGN
R1-1F

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: 84 | E



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

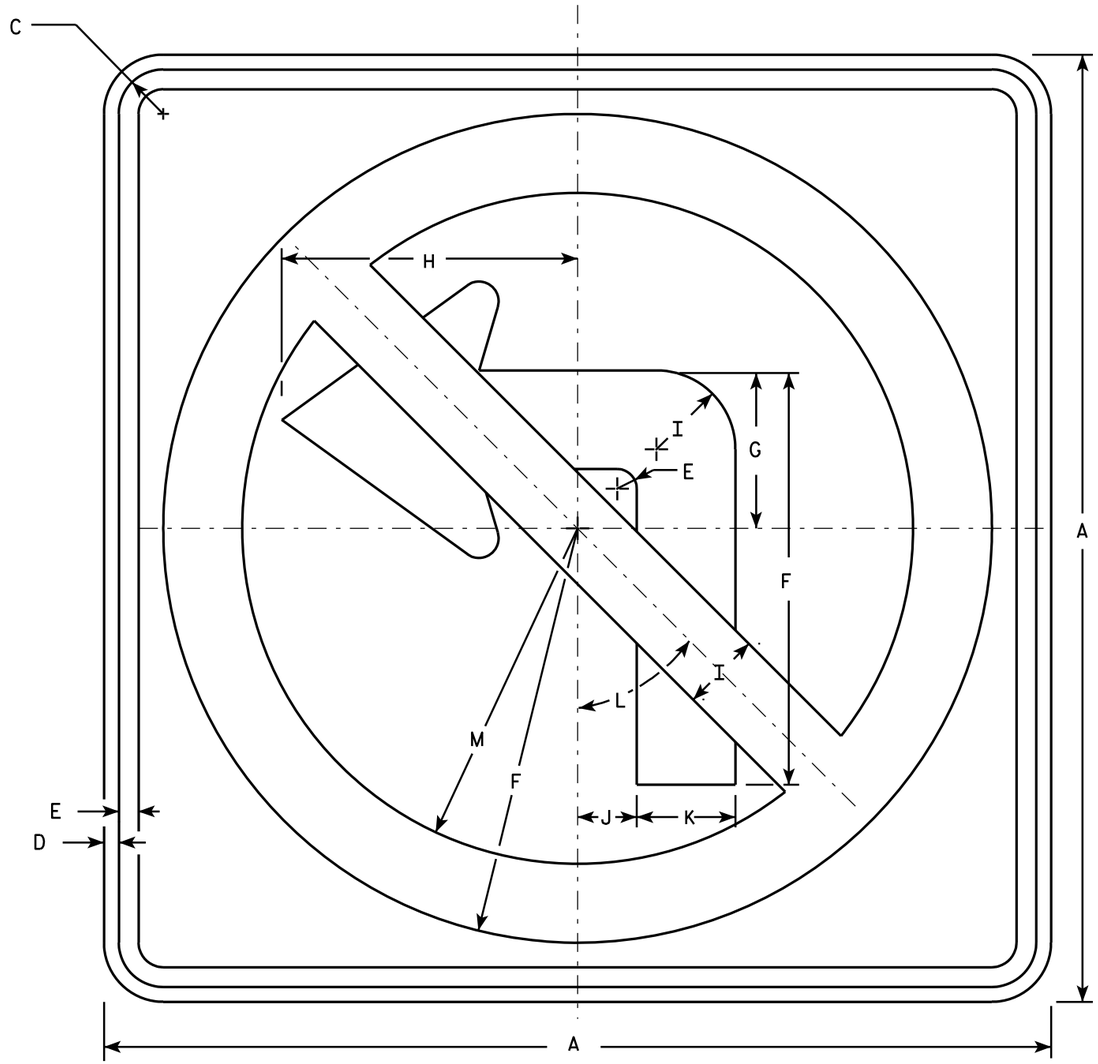
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

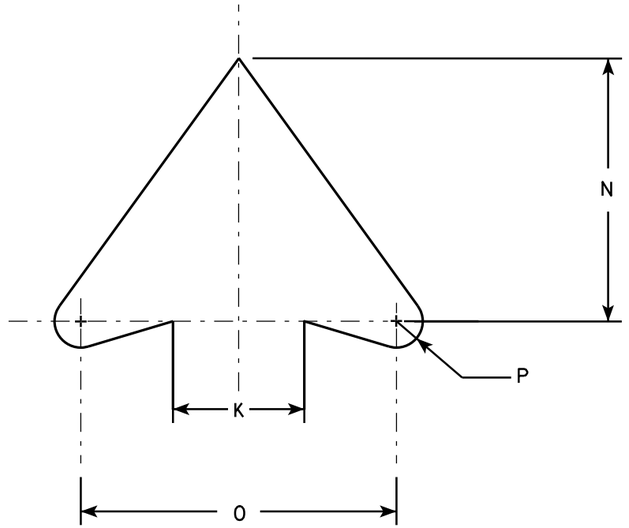
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 85	E



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

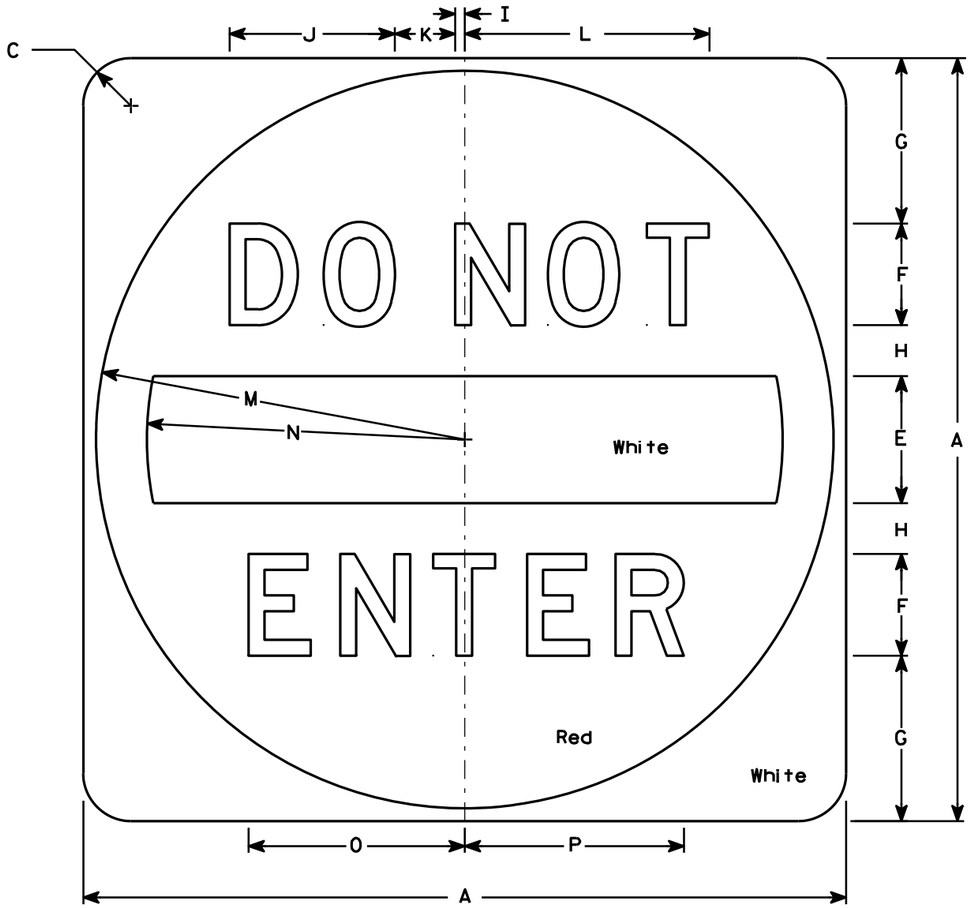
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 86	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See detail
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the cornors shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

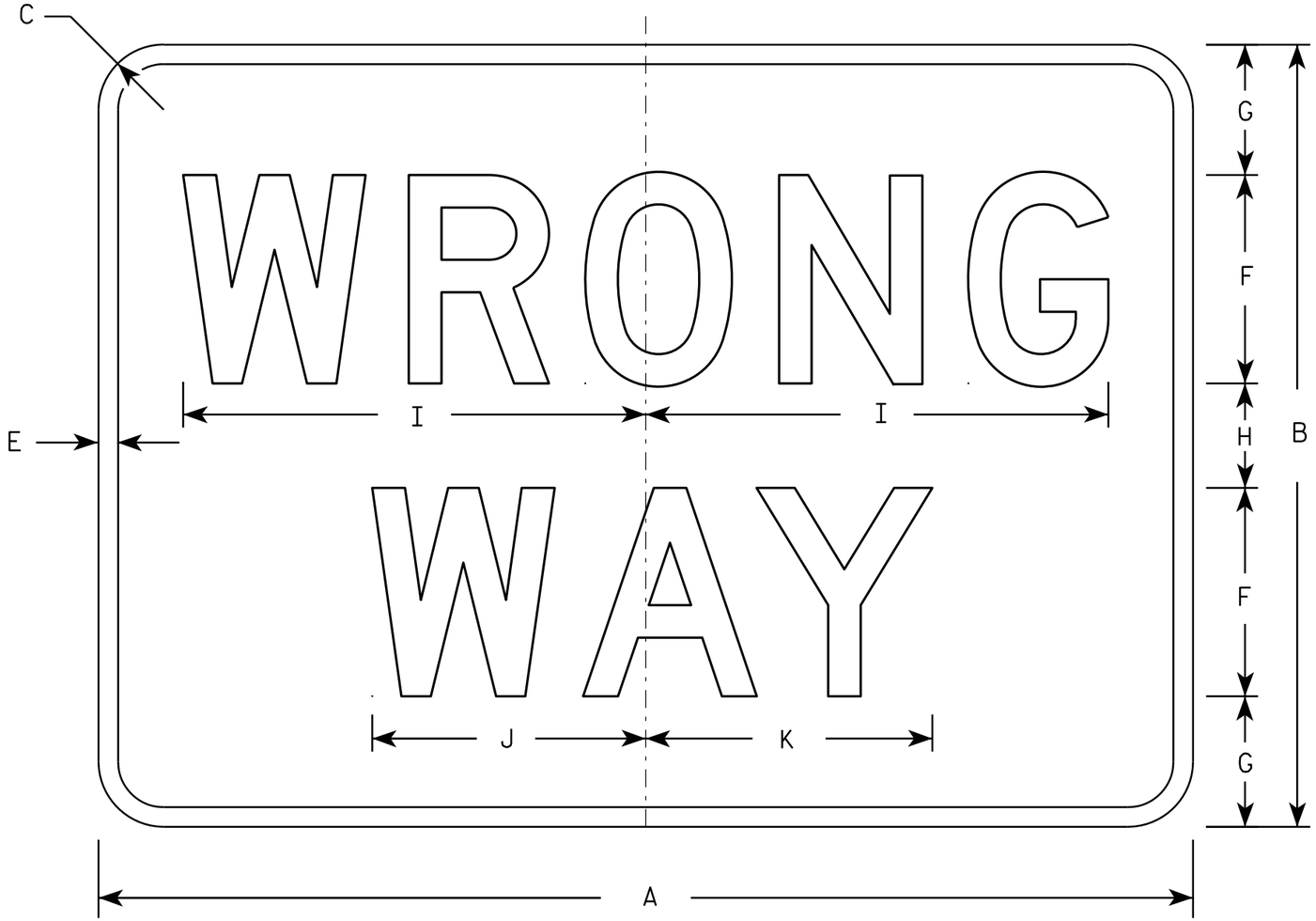
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 87 | 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

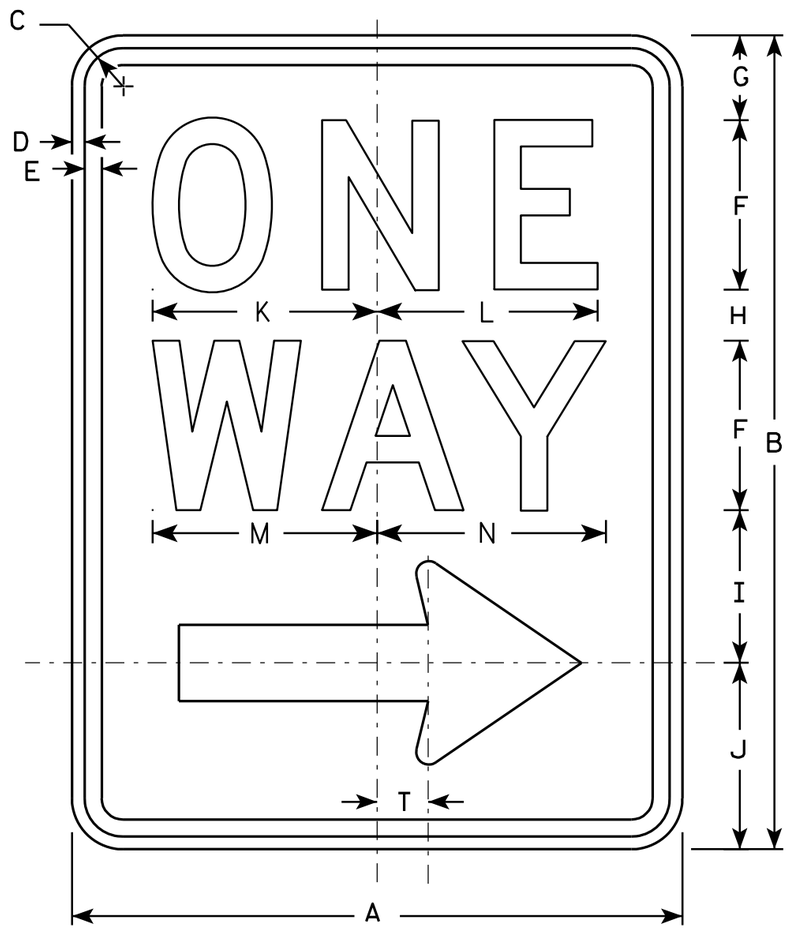
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

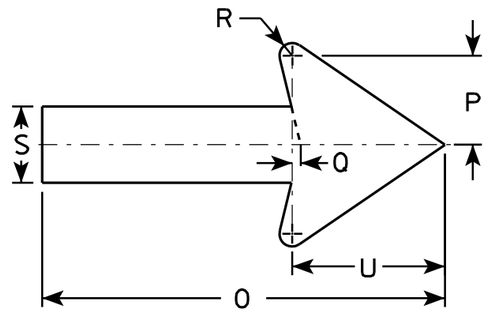
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 88 | E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

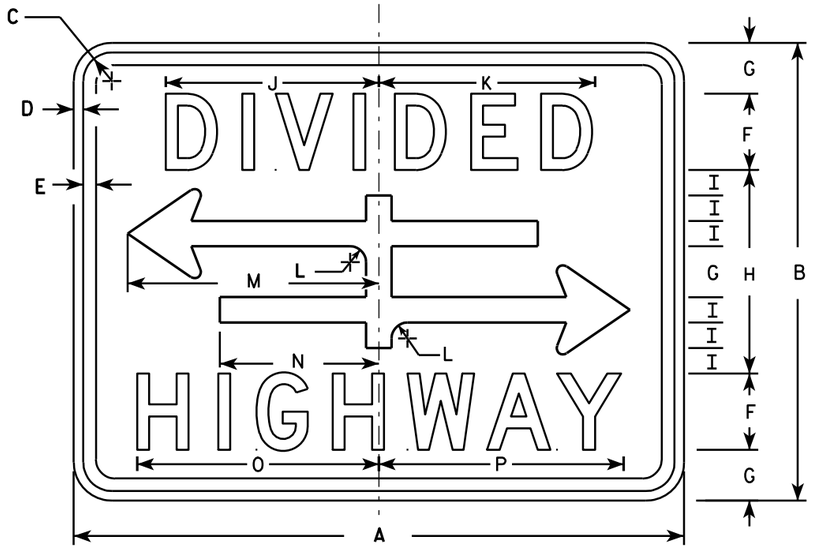
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

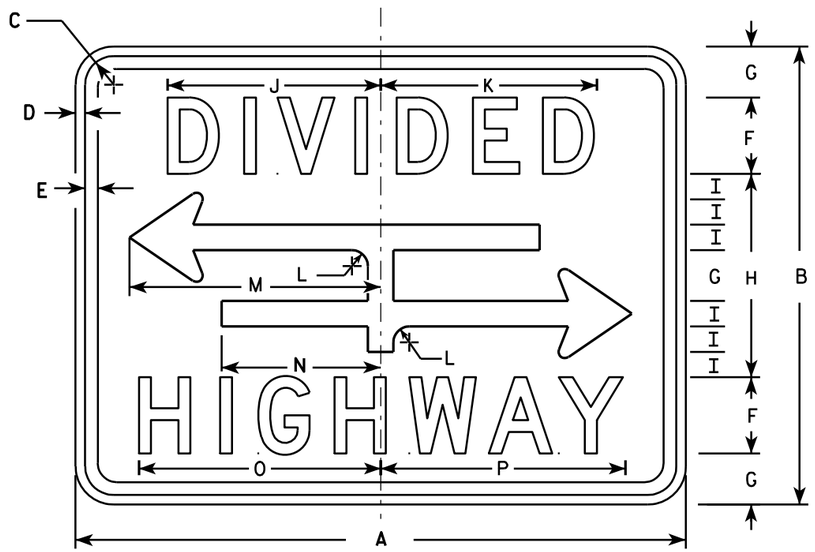
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 89	E



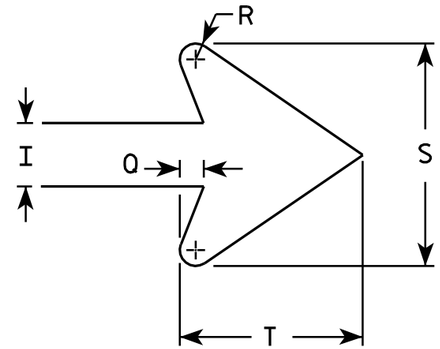
R6-3

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: 90 E

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov