

SWL

PROJECT ID: 5992-09-76
WITH: N/A

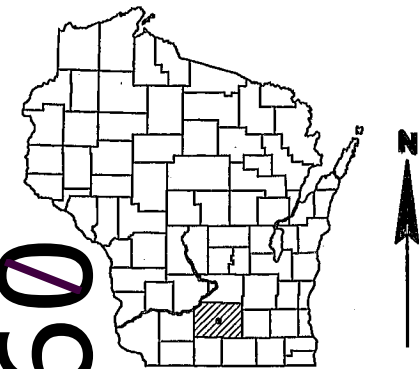
COUNTY: DANE

JULY 2016

ORDER OF SHEETS

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

TOTAL SHEETS = 50



DESIGN DESIGNATION

	ABERG AVENUE	SHOPKO DRIVE
A.A.D.T. (2014)	= 33,217	N/A
A.A.D.T. (2035)	= N/A	N/A
D.H.V. (2035)	= N/A	N/A
D.D.	= 50/50	50/50
T.	= N/A	N/A
DESIGN SPEED	= 45 MPH	25 MPH
ESALS	= N/A	N/A

CONVENTIONAL SYMBOLS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

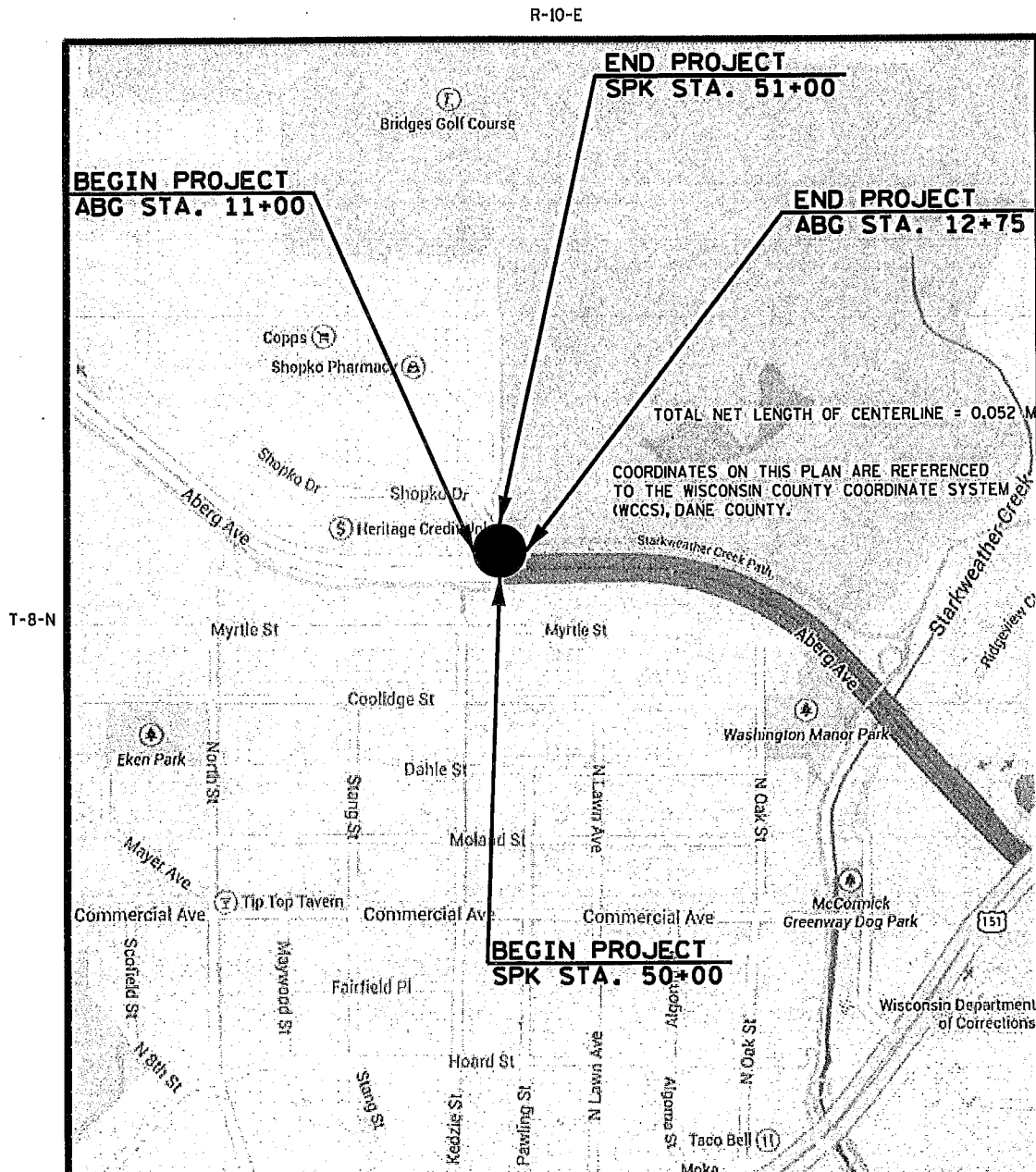
CITY OF MADISON, ABERG AVENUE

(SHOPKO DRIVE INTERSECTION)

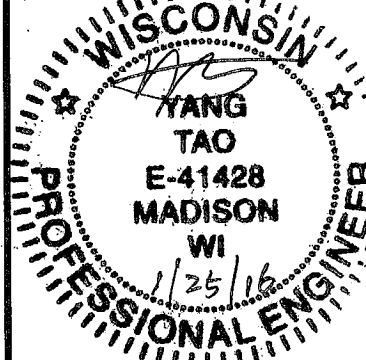
LOCAL STREET

DANE COUNTY

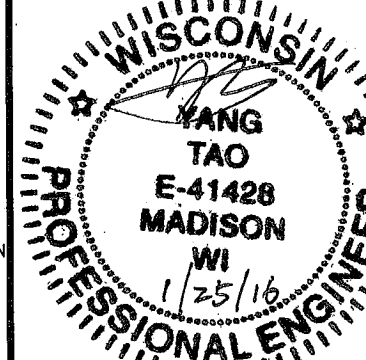
STATE PROJECT NUMBER
5992-09-76



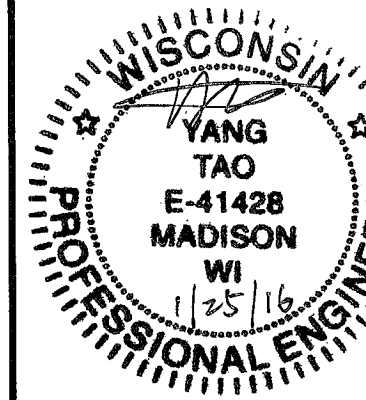
TRAFFIC SIGNAL
DESIGNED BY: CITY OF MADISON



STREET LIGHTING
DESIGNED BY: CITY OF MADISON



PAVEMENT MARKING
DESIGNED BY: CITY OF MADISON



ACCEPTED FOR

CITY of MADISON

1/25/16
(Date) (City Engineer)

ORIGINAL PLANS PREPARED BY:

CITY OF MADISON
TRAFFIC ENGINEERING
DIVISION



DATE: 1/25/16
(Professional Engineer)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor BURSE SURVEYING & ENGINEERING
Designer CITY OF MADISON
Project Manager CITY OF MADISON
MANAGEMENT CONSULTANT KL ENGINEERING, INC.

APPROVED FOR THE DEPARTMENT
DATE: 1/29/16
MANAGEMENT CONSULTANT

STANDARD ABBREVIATIONS

AC ACRES
AH AHEAD
ALUM. ALUMINUM
A.P. ACCESS POINT
BK BACK
BLK BLOCK
BM BENCHMARK
CL or C/L CENTERLINE
Δ CENTRAL ANGLE or DELTA
CSM CERTIFIED SURVEY MAP
D DEGREE OF CURVE
E EAST
X EAST GRID COORDINATE
EB EASTBOUND
ET AL AND OTHERS
EXIST EXISTING
FT FOOT
GN GRID NORTH
IN INCH
IP IRON PIPE
L LENGTH
L LENGTH OF CURVE
LF LINEAL FEET
LC LONG CHORD
LCB LONG CHORD BEARING
LT LEFT
MH MANHOLE
MI MILE
MON MONUMENT
N NORTH
Y NORTH GRID COORDINATE
NB NORTHBOUND
NO NUMBER
PT POINT
PC POINT OF CURVATURE
PI POINT OF INTERSECTION
PT POINT OF TANGENCY
PL PROPERTY LINE
PLE PERMANENT LIMITED EASEMENT
POB POINT OF BEGINNING
R RADIUS
RP RADIUS POINT
R RANGE
RL or R/L REFERENCE LINE
REQ'D REQUIRED
RT RIGHT
R/W RIGHT-OF-WAY
RD ROAD
SAN SANITARY SEWER
S SOUTH
SB SOUTHBOUND
SQ SQUARE
FT2 SQUARE FEET
STD STANDARD
SEC SECTION
STA STATION
STM STORM SEWER
STR STRUCTURE
T TANGENT
TAN TANGENT
TEMP TEMPORARY
TLE TEMPORARY LIMITED EASEMENT
T or TN TOWN
TYP TYPICAL
WM WATERMAIN
WV WATER VALVE
W WEST
WB WESTBOUND

UTILITY CONTACTS

WATERMAIN:
CITY OF MADISON WATER UTILITY
ATTN: DENNIS CAWLEY
119 E. OLIN AVENUE
MADISON, WI 53713
PHONE: (608) 261-9243
FAX: (608) 266-4426
E-MAIL: dcawley@madisonwater.org

SANITARY SEWER:
CITY OF MADISON ENGINEERING DIVISION
ATTN: MARK MODER
CITY-COUNTY BUILDING, ROOM 115
210 MARTIN LUTHER KING JR. BOULEVARD
MADISON, WI 53703
PHONE: (608) 261-9250
FAX: (608) 264-9275
E-MAIL: mmoder@cityofmadison.com

ELECTRIC:
MG&E
ATTN: RICH PARKER
P.O. BOX 1231
MADISON, WI 53701-1231
PHONE: (608) 252-7379
E-MAIL: rparker@mge.com

MADISON GAS AND ELECTRIC (MG&E) 24-HOUR EMERGENCY NUMBER: 608-252-7111

COMMUNICATIONS:
TDS METROCOM
ATTN: ERIK BORGEN
2 FEN OAK COURT
MADISON, WI 53718-8810
PHONE: (608) 664-4438
E-MAIL: erik.borgen@tdstelecom.com

TELEPHONE:
AT&T WISCONSIN
ATTN: CAROL ANASON
316 W. WASHINGTON AVE.
MADISON, WI 53703
PHONE: (608) 252-2385
E-MAIL: CA2624@att.com

COMMUNICATIONS:
US SIGNAL
ATTN: CHRIS LENTINE
201 IONIA, SW
GRAND RAPIDS, MI 49503
PHONE: (616) 988-7194
E-MAIL: clentine@ussignal.com

STORM SEWER:
CITY OF MADISON ENGINEERING DIVISION
ATTN: ERIC DUNDEE
CITY-COUNTY BUILDING, ROOM 115
210 MARTIN LUTHER KING JR. BOULEVARD
MADISON, WI 53703
PHONE: (608) 266-4913
FAX: (608) 264-9275
E-MAIL: edundee@cityofmadison.com

TRAFFIC SIGNALS & STREET LIGHTING:
CITY OF MADISON TRAFFIC ENGINEERING DIVISION
ATTN: YANG TAO
MADISON MUNICIPAL BUILDING, SUITE 100
215 MARTIN LUTHER KING JR. BOULEVARD
MADISON, WI 53703
PHONE: (608) 266-4815
FAX: (608) 267-1158
E-MAIL: ytao@cityofmadison.com

GAS:
MG&E
ATTN: STEVE BEVERSDORF
P.O. BOX 1231
MADISON, WI 53701-1231
PHONE: (608) 252-1552
E-MAIL: sbeverdsdorf@mge.com

CABLE TELEVISION:
CHARTER COMMUNICATIONS
ATTN: BRANDON STORM
2701 DANIELS ST.
MADISON, WI 53718
PHONE: (608) 274-3822 ex 6642
E-MAIL: brandon.storm@chartercom.com

TELEPHONE:
AT&T TRANSMISSION
ATTN: EMMET LUKASIK
316 W. WASHINGTON AVE., ROOM 209
MADISON, WI 53703
PHONE: (608) 252-2106
E-MAIL: el1345@att.com

GENERAL NOTES

ABBREVIATIONS FOR THE ALIGNMENTS ARE AS FOLLOWS:
"ABG" = ABERG AVENUE
"SPK" = SHOPKO DRIVE

OFFSETS FOR BASES AND PULLBOXES ARE GIVEN TO THE CENTER OF STRUCTURE.

BASE AND PULLBOX LOCATIONS SHOWN ON THE PLANS WILL BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS. CALL YANG TAO (608-266-4815) A MINIMUM OF TWO WORKING DAYS PRIOR TO POUR THE BASES OR SET THE PULLBOXES.

EROSION CONTROL SHALL BE SET UP PRIOR TO ANY EXCAVATION. IT INCLUDES TYPE D INLET PROTECTION FOR INLETS NEAR EXCAVATION. SEE MISCELLANEOUS QUANTITIES.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

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

ALL EXISTING POLES, SIGNAL HEADS, STREETLIGHTS, CONDUITS, BASES AND PULLBOXES SHALL BE SAVED UNLESS BEING DESIGNATED AS BEING REMOVED.

SECTION 2 ORDER OF SHEETS

GENERAL NOTES (INCL. EROSION CONTROL)
CONSTRUCTION DETAILS
TRAFFIC SIGNAL PLAN
STREET LIGHTING PLAN
MARKING PLAN
SUGGESTED TRAFFIC CONTROL STAGING CONCEPT
TEMPORARY TRAFFIC SIGNAL PLAN

**NOT A MEMBER OF DIGGERS HOTLINE

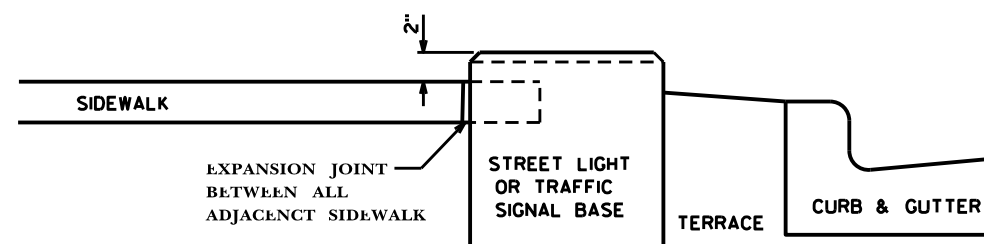
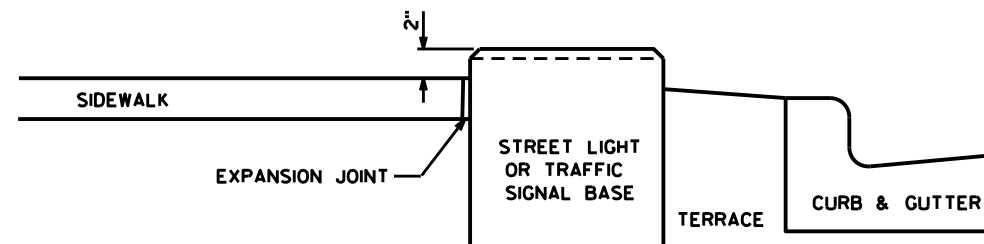
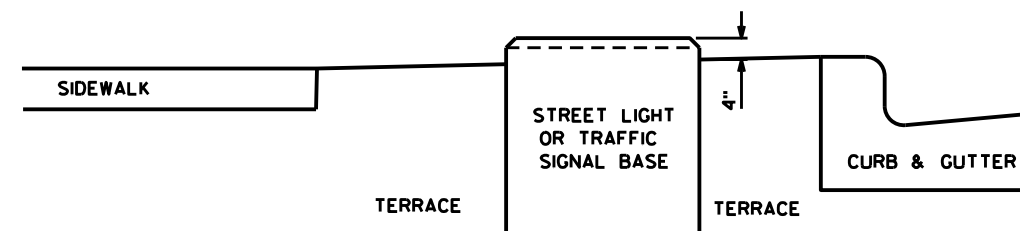
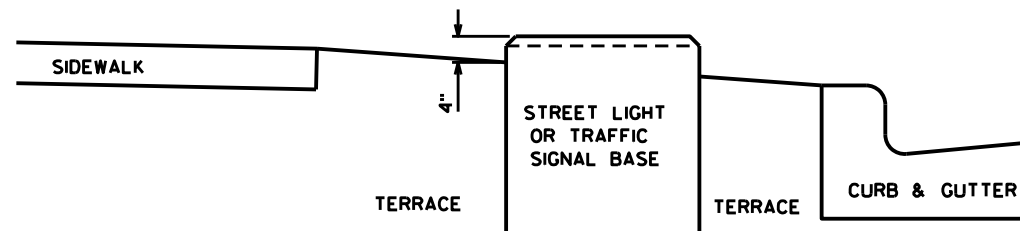
DESIGN CONTACT

CITY OF MADISON TRAFFIC ENGINEERING DIVISION
ATTN: YANG TAO, PH.D., P.E.
MADISON MUNICIPAL BUILDING, SUITE 100
215 MARTIN LUTHER KING JR. BOULEVARD
MADISON, WI 53703
PHONE: (608) 266-4815
FAX: (608) 267-1158
E-MAIL: ytao@cityofmadison.com

DNR LIAISON

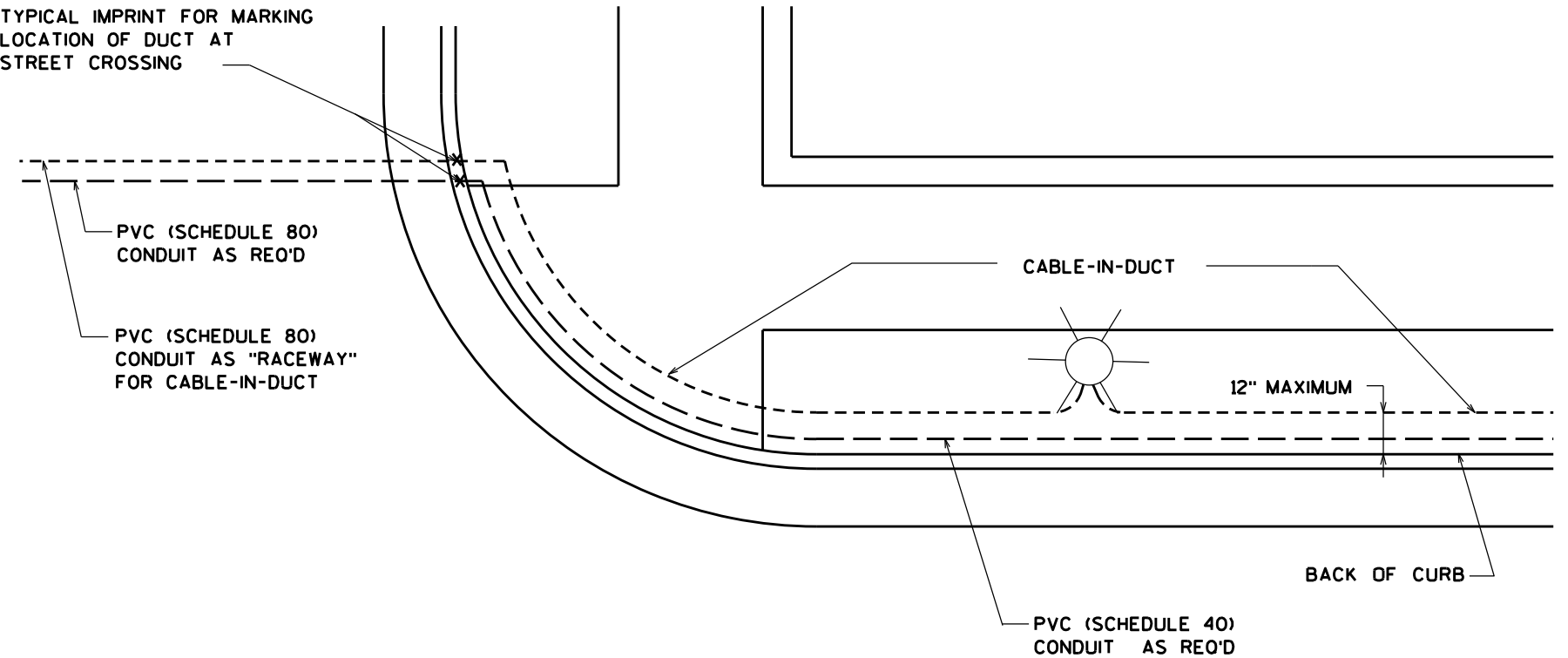
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
ATTN: ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PHONE: (608) 275-3301
EMAIL: eric.heggelund@wisconsin.gov



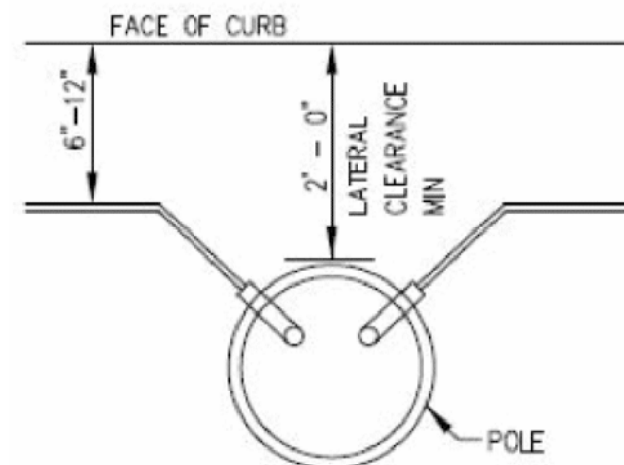


ELEVATION DETAIL FOR CONCRETE BASES

TYPICAL IMPRINT FOR MARKING
LOCATION OF DUCT AT
STREET CROSSING

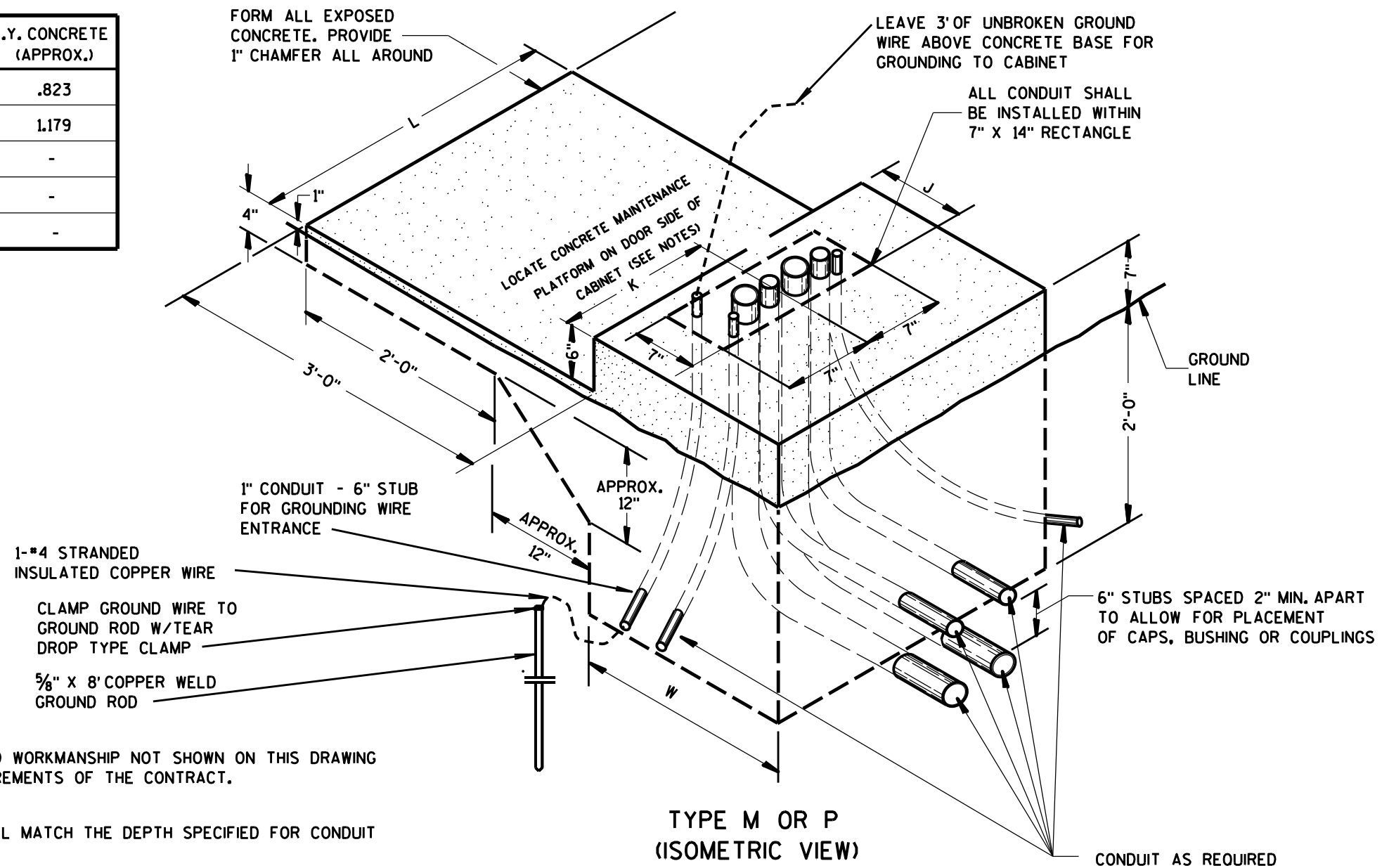


TYPICAL CONDUIT DETAIL



SIGNAL/LIGHT POLE LOCATION

CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	L	W	J	K	
TYPE M	40"	30"	12"	20"	.823
TYPE P	48"	30"	16"	24"	1.179
TYPE M MODIFIED	-	-	-	-	-
TYPE P MODIFIED	-	-	-	-	-
TYPE OTHER	-	-	-	-	-



GENERAL NOTES

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

ALL CONDUIT SHALL BE PVC, SCHEDULE 40

DEPTH OF CONDUIT EXITING THE BASE SHALL MATCH THE DEPTH SPECIFIED FOR CONDUIT INSTALLATION.

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

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED AND LEVEL.

MAINTENANCE PLATFORM SHALL NOT BE INSTALLED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

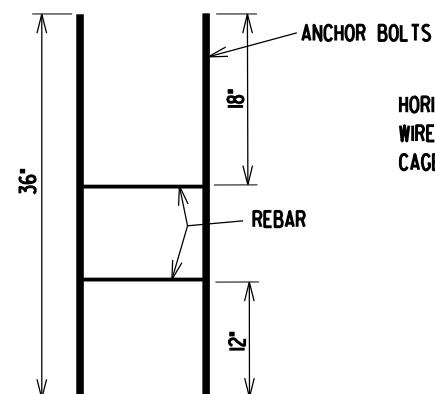
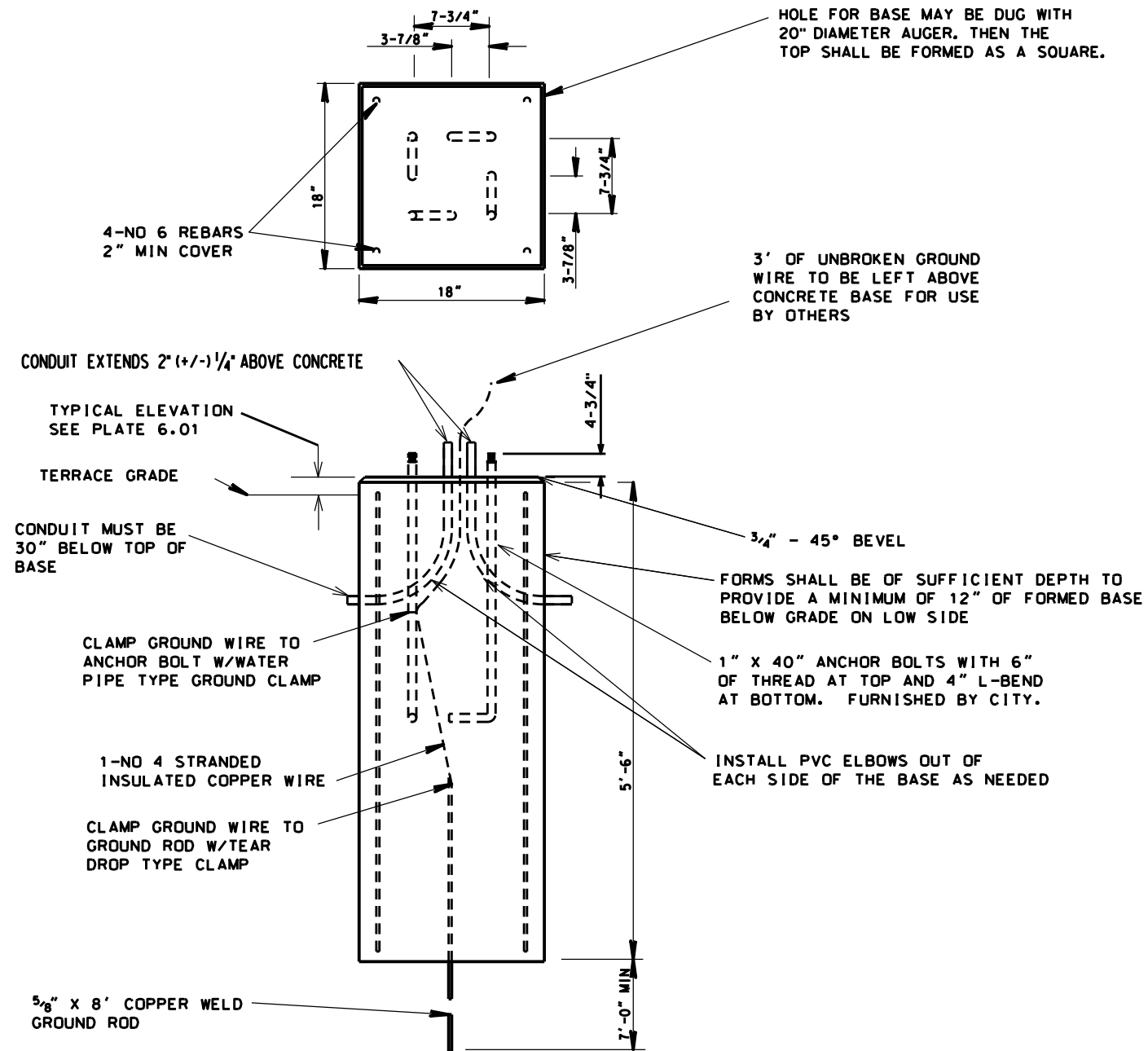
ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MINIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

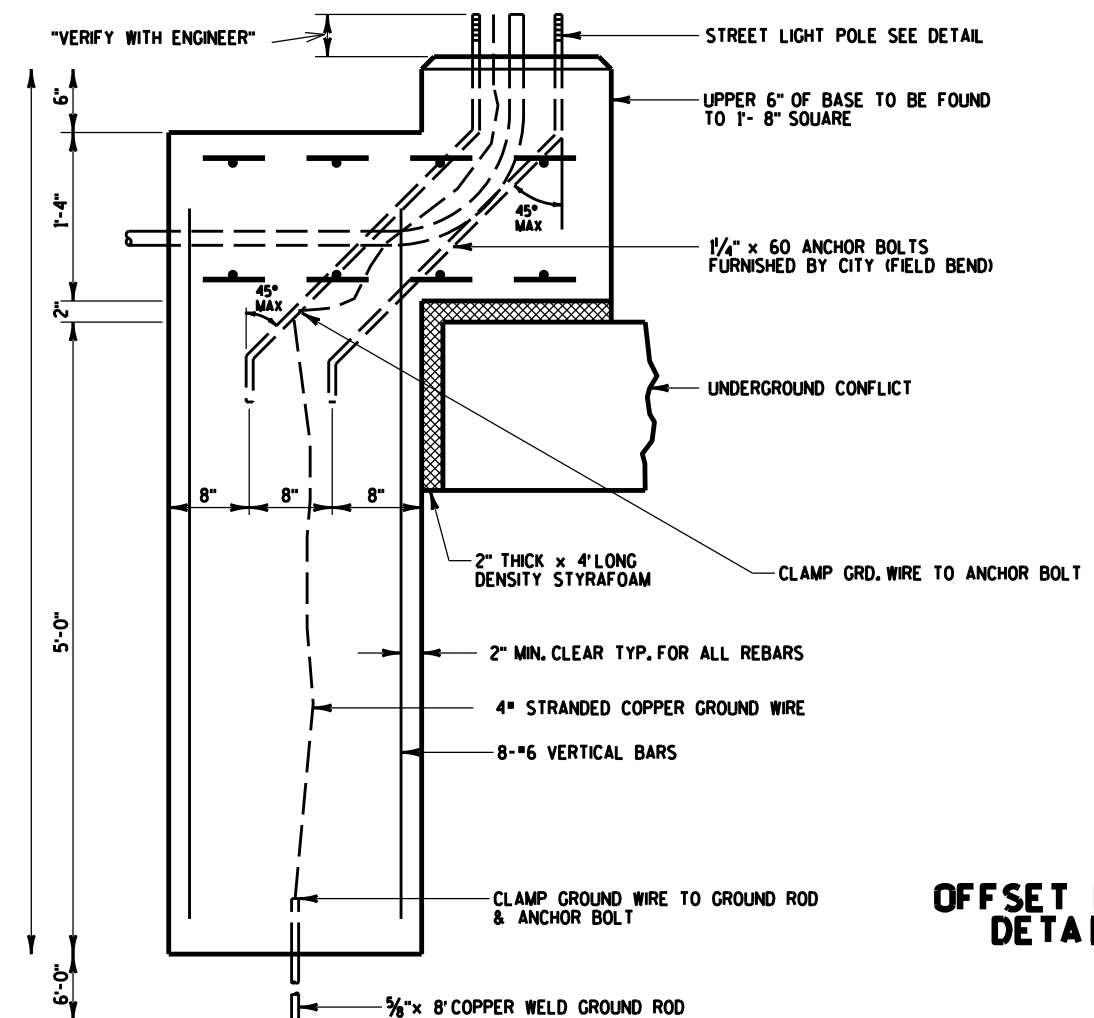
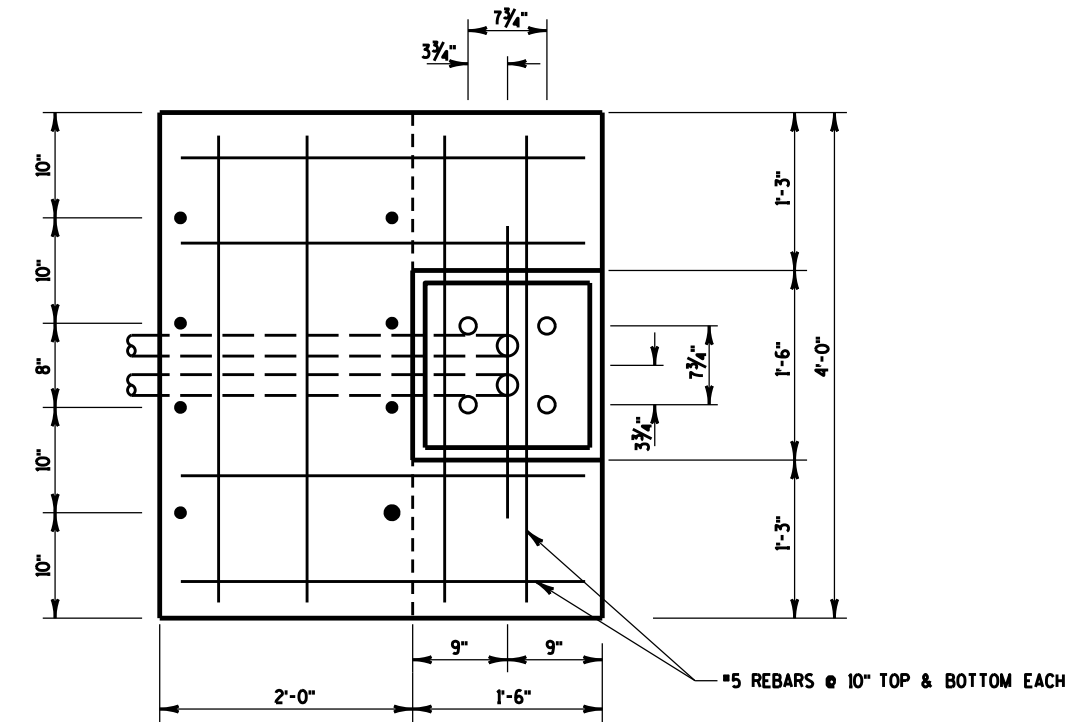
CONDUITS SHALL EXIT THE BASE IN THE DIRECTION OF THE STRUCTURE IT IS TERMINATING INTO.

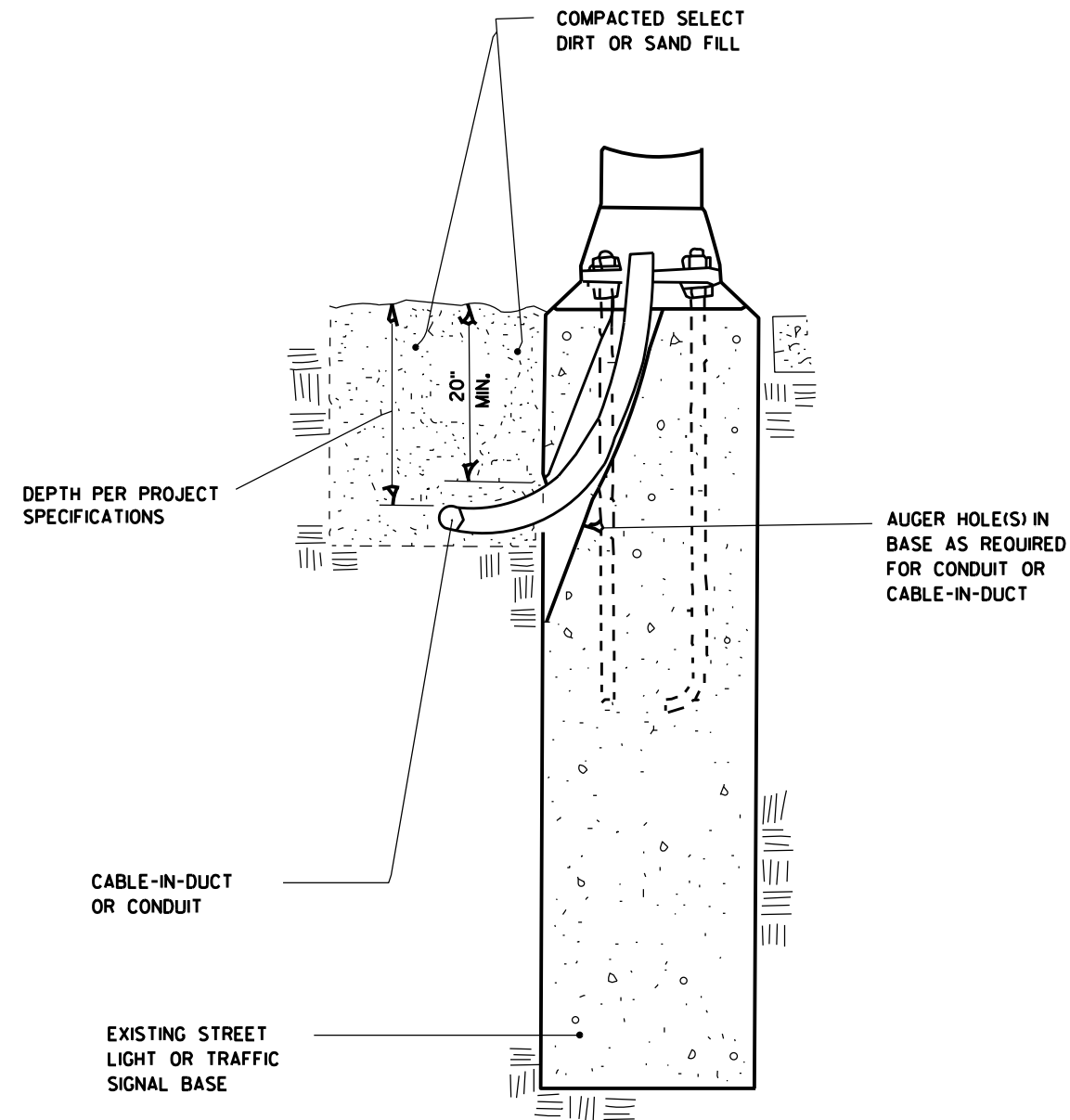
MAINTENANCE PLATFORM SIZE MAY VARY ON ACCOUNT OF CONDITIONS. VERIFY THE MAINTENANCE PLATFORM SIZE WITH ENGINEER PRIOR TO POURING BASE.

TYPE "M" AND "P" CONTROLLER BASE DETAIL

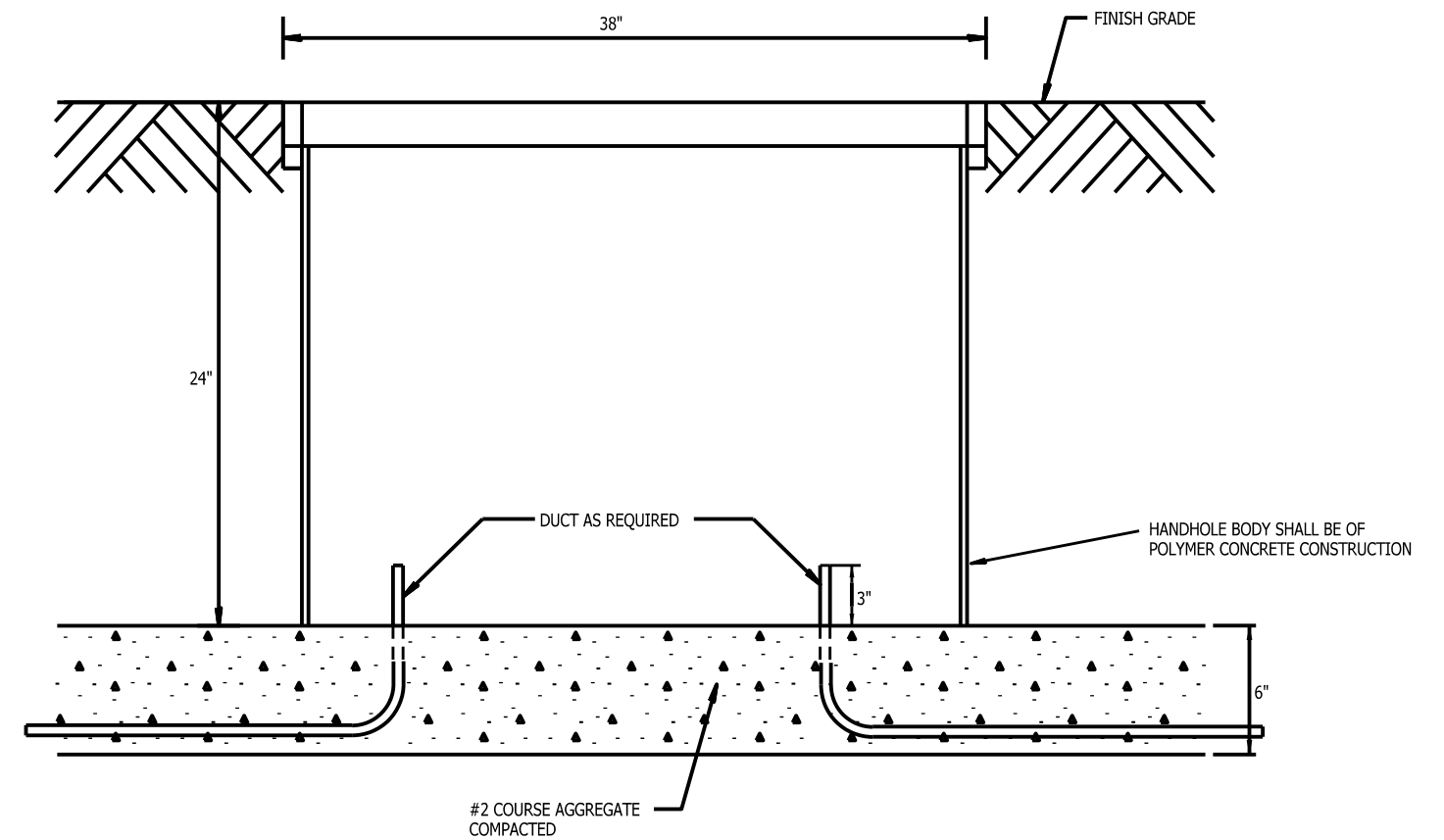
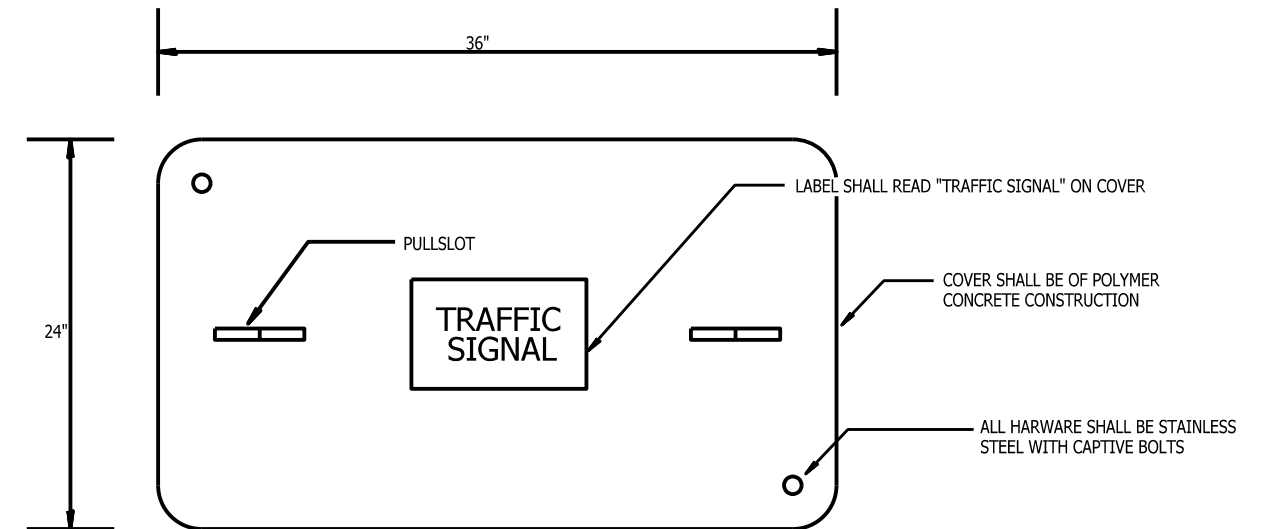


LB-3 BASE DETAIL

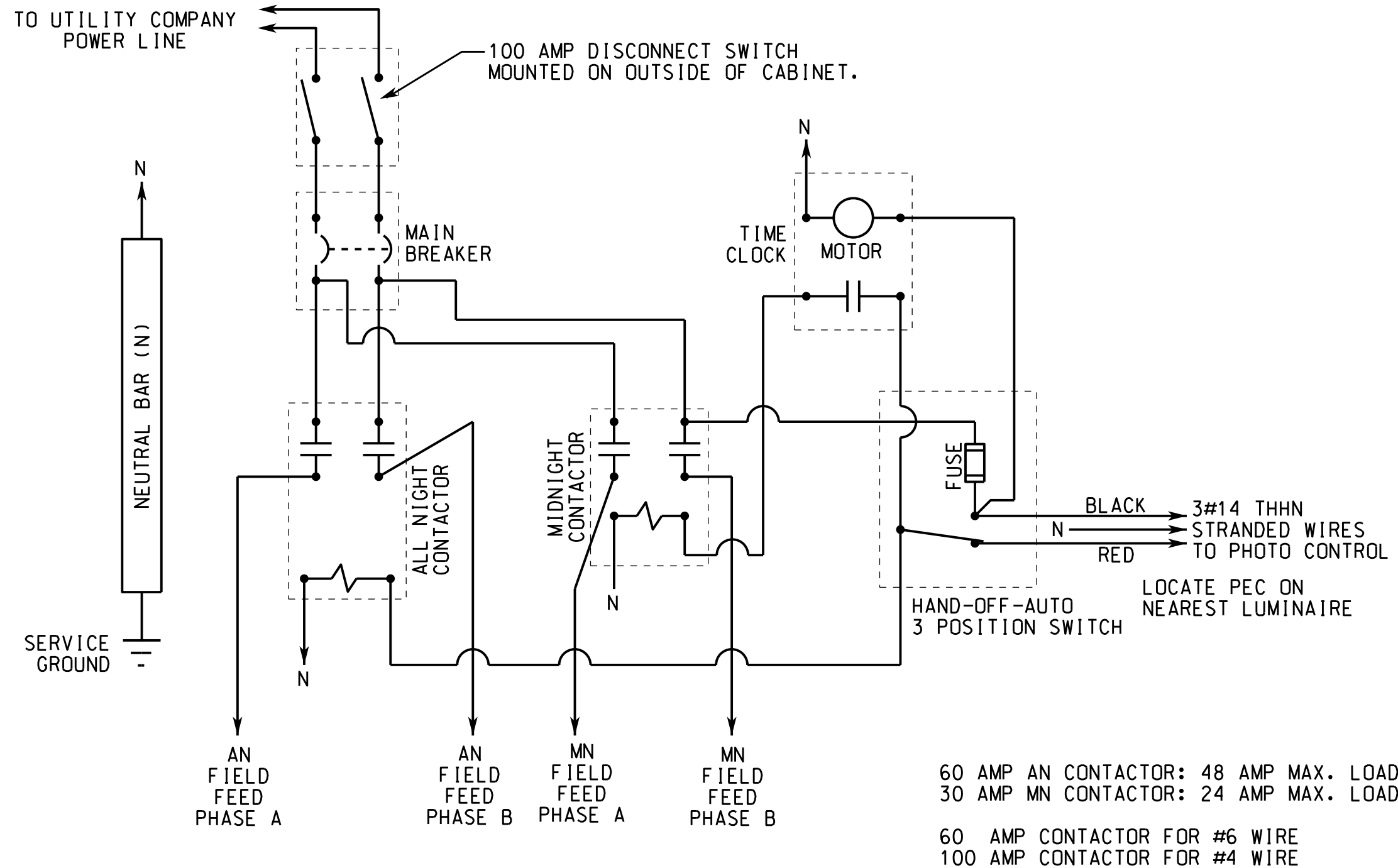
OFFSET BASE
DETAIL



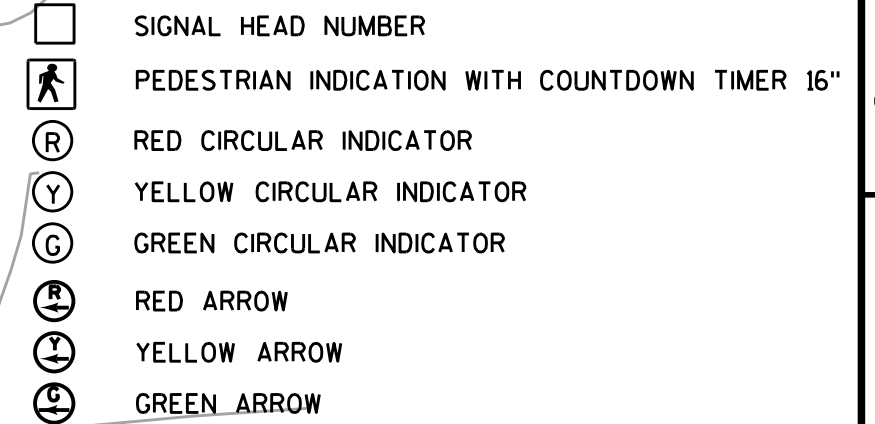
**TYPICAL DETAIL FOR AUGERING A HOLE(S)
IN EXISTING BASE FOR DUCT ENTRANCE**



TYPE V HANDHOLE DETAIL

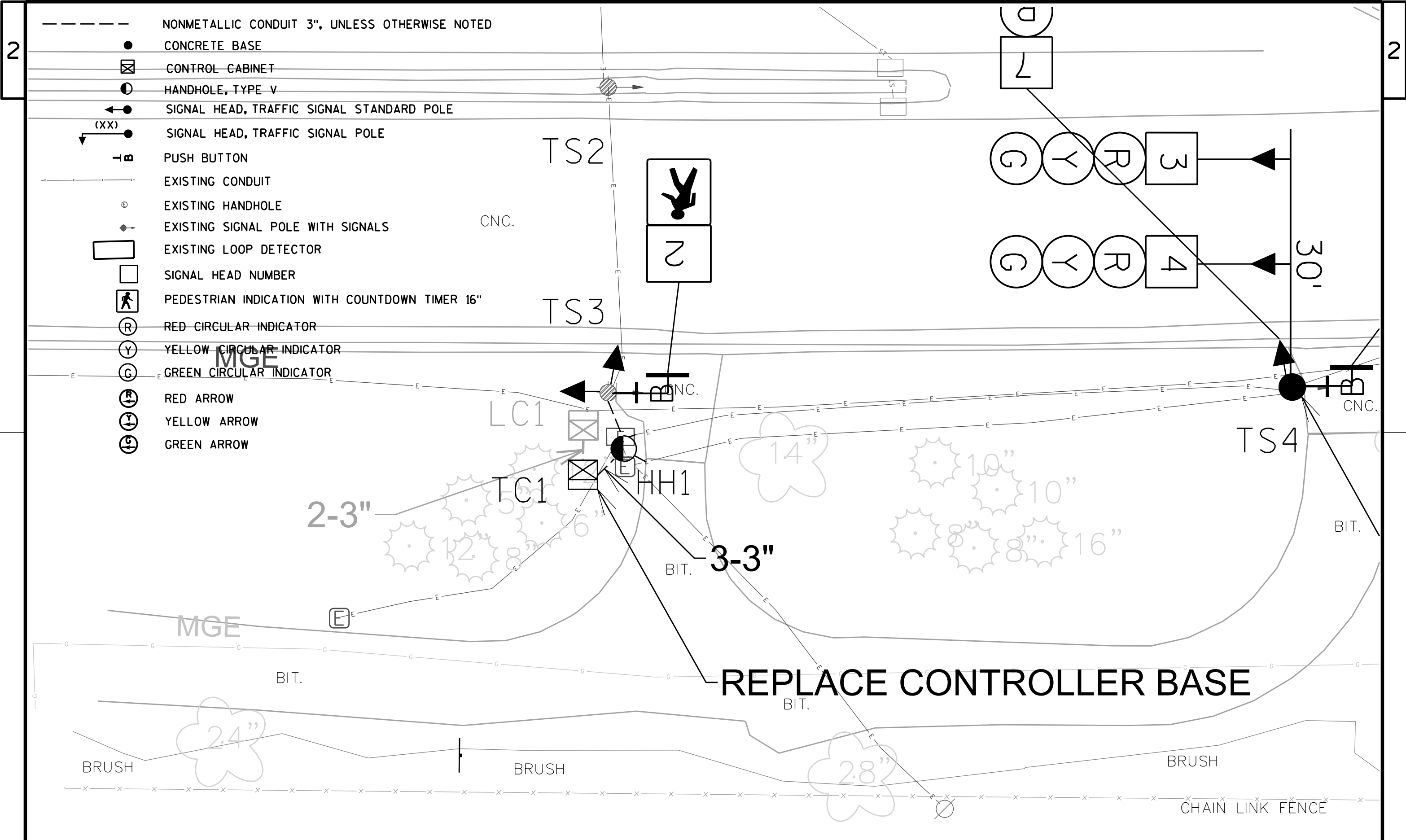


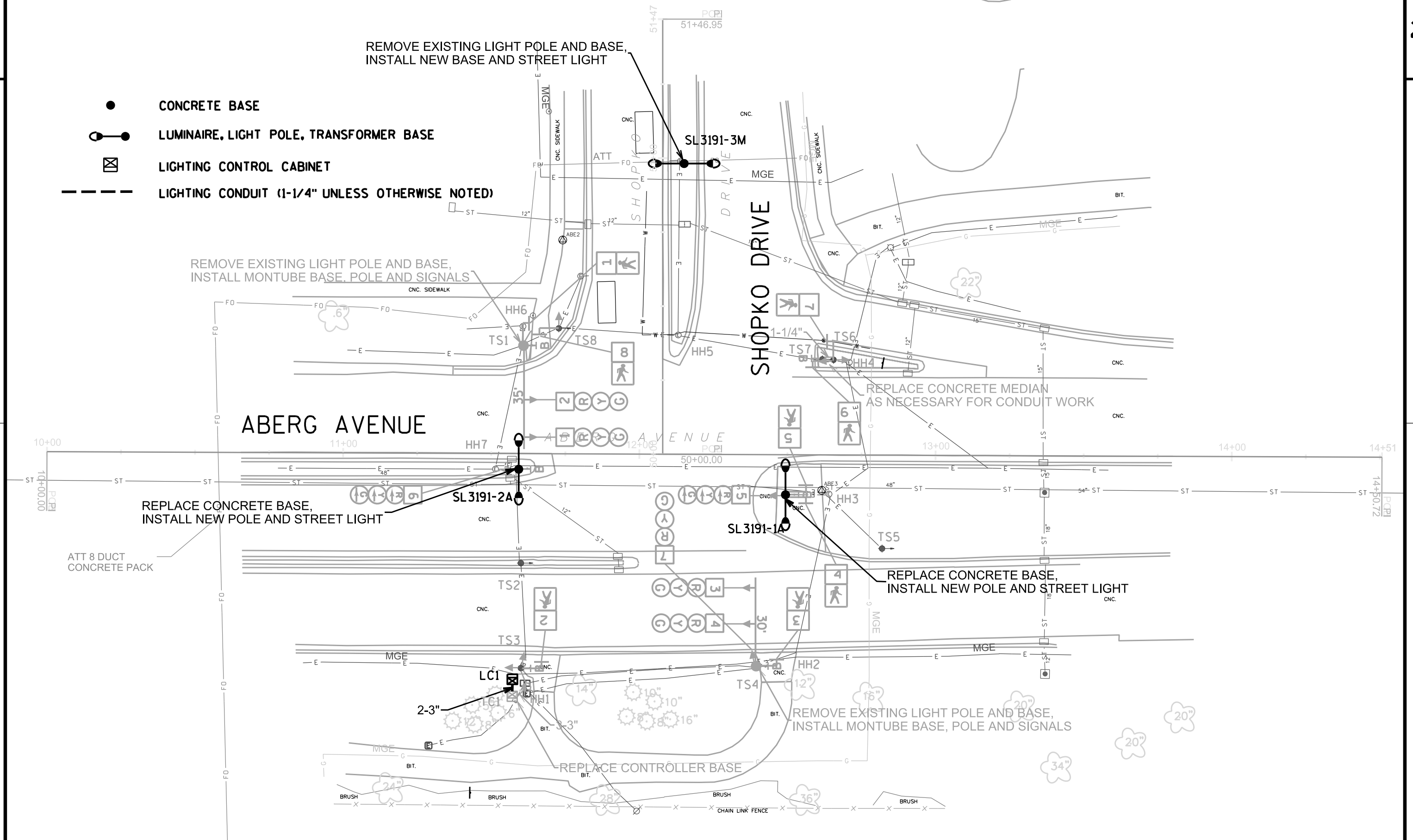
120V STREET LIGHT CONTROL PANEL ELECTRICAL SERVICE DETAIL

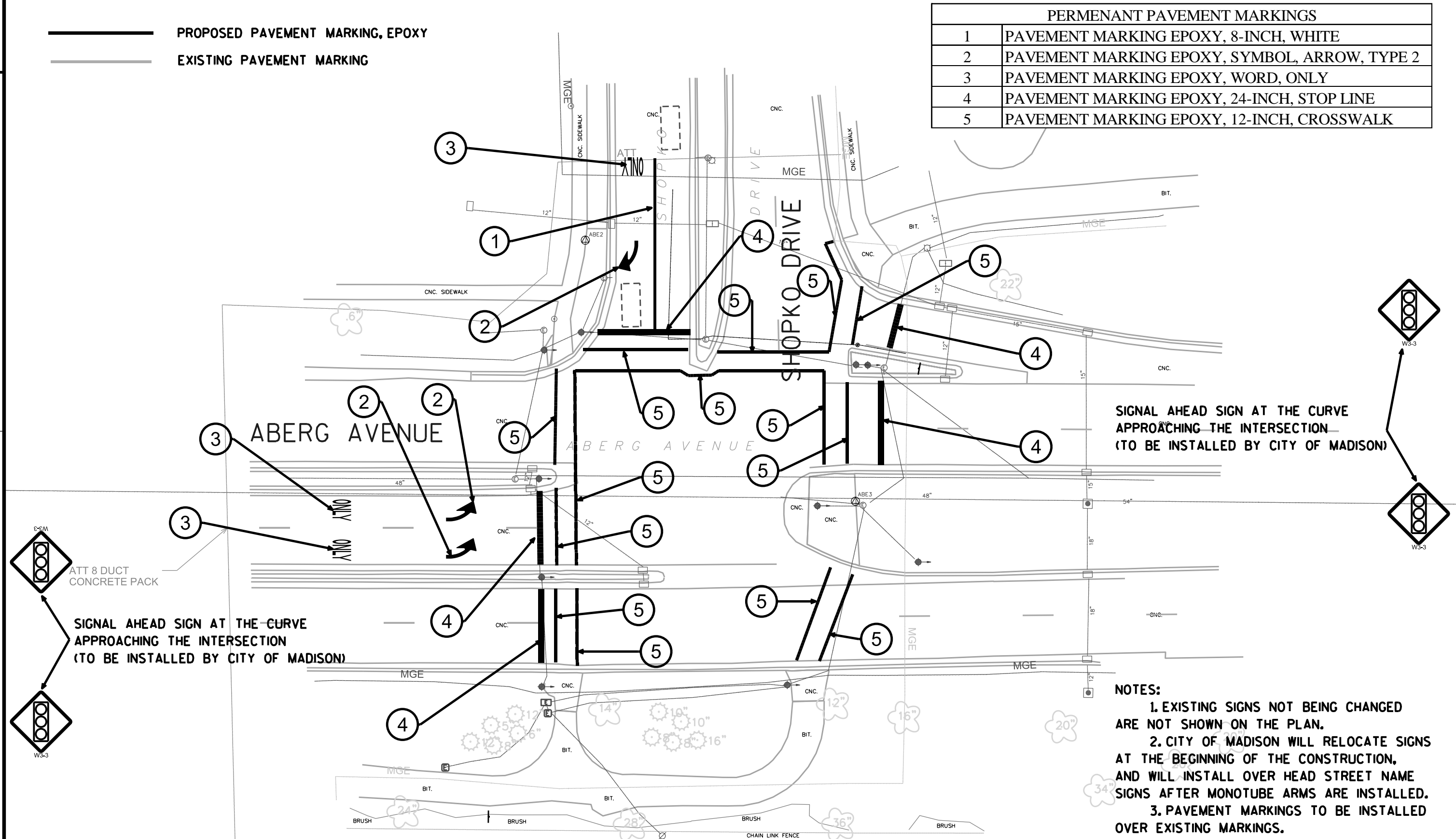


NOTES:
1. DETAILS OF EXISTING SIGNAL HEADS NOT BEING
CHANGED ARE NOT SHOWN ON THIS PLAN.
2. CITY OF MADISON CREW WILL REMOVE EXISTING
SIGNAL HEADS ON TS1, TS2 AND TS4; ALL EXISTING
PEDESTRIAN SIGNAL HEADS; EXISTING SIGNAL CABINET
AT TC1; AND EXISTING SIGNAL POLES/HEADS AT
TS7, SL3191-1A AND SL3191-1A.



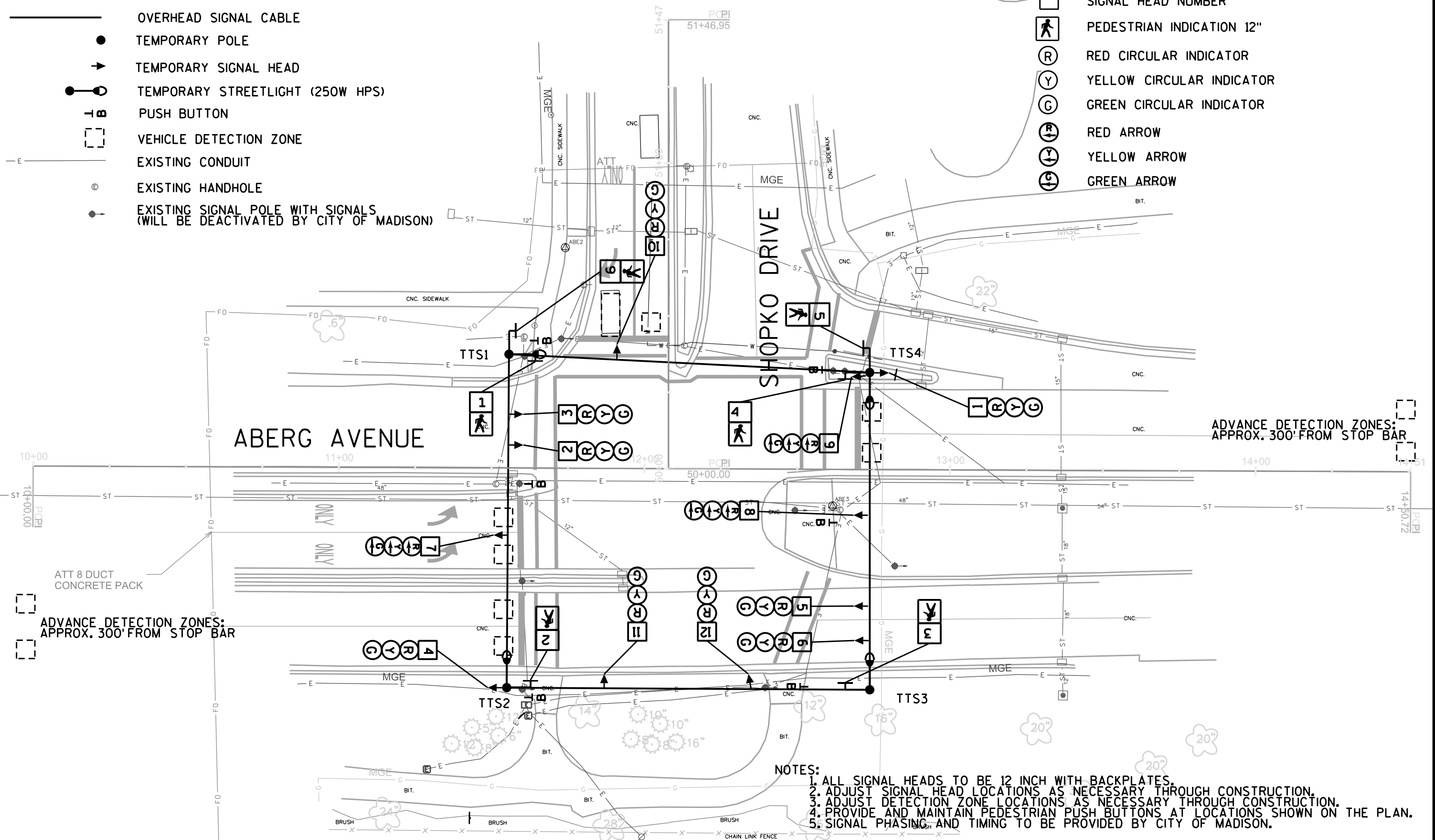






- OVERHEAD SIGNAL CABLE
- TEMPORARY POLE
- ➔ TEMPORARY SIGNAL HEAD
- TEMPORARY STREETLIGHT (250W HPS)
- B— PUSH BUTTON
- VEHICLE DETECTION ZONE
- E— EXISTING CONDUIT
- ⊙ EXISTING HANDHOLE
- EXISTING SIGNAL POLE WITH SIGNALS
(WILL BE DEACTIVATED BY CITY OF MADISON)

- SIGNAL HEAD NUMBER
- ⤴ PEDESTRIAN INDICATION 12"
- Ⓡ RED CIRCULAR INDICATOR
- Ⓢ YELLOW CIRCULAR INDICATOR
- Ⓢ GREEN CIRCULAR INDICATOR
- ➔ RED ARROW
- ➔ YELLOW ARROW
- ➔ GREEN ARROW



PEAK TRAFFIC HOURS (7AM-8:30AM AND 3:30PM-6PM, WEEKDAYS):

- ALL LANES WILL BE OPEN TO TRAFFIC

NON-PEAK HOURS (8:30AM TO 3:30PM ON WEEKDAYS,
OR ALL DAY ON WEEKENDS EXCEPT BADGER FOOTBALL HOME GAME DAYS):

- MOBILE OPERATION SETUP
- MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC FOR EASTBOUND ABERG AVENUE.
- MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC FOR WESTBOUND ABERG AVENUE AND ONE LANE OF TRAFFIC FOR WESTBOUND RIGHT-TURN TRAFFIC FROM ABERG AVENUE TO SHOPKO DRIVE.
- MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC FOR EASTBOUND LEFT-TURN FROM ABERG AVENUE TO SHOPKO DRIVE
- MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC FOR NB SHOPKO DRIVE

ATT 8 DUCT
CONCRETE PACK

ABERG AVENUE

ABERG AVENUE

SHOPKO DRIVE

WORK ZONE

TRAFFIC FLOW ARROW

PEAK TRAFFIC HOURS (7AM-8:30AM AND 3:30PM-6PM, WEEKDAYS):

- ALL LANES WILL BE OPEN TO TRAFFIC

NON-PEAK HOURS (8:30AM TO 3:30PM ON WEEKDAYS, OR

ALL DAY ON WEEKENDS EXCEPT BADGER FOOTBALL HOME GAME DAYS)

- AS SHOWN ON THIS PLAN

ATT 8 DUCT
CONCRETE PACK

ABERG AVENUE

ABERG AVENUE

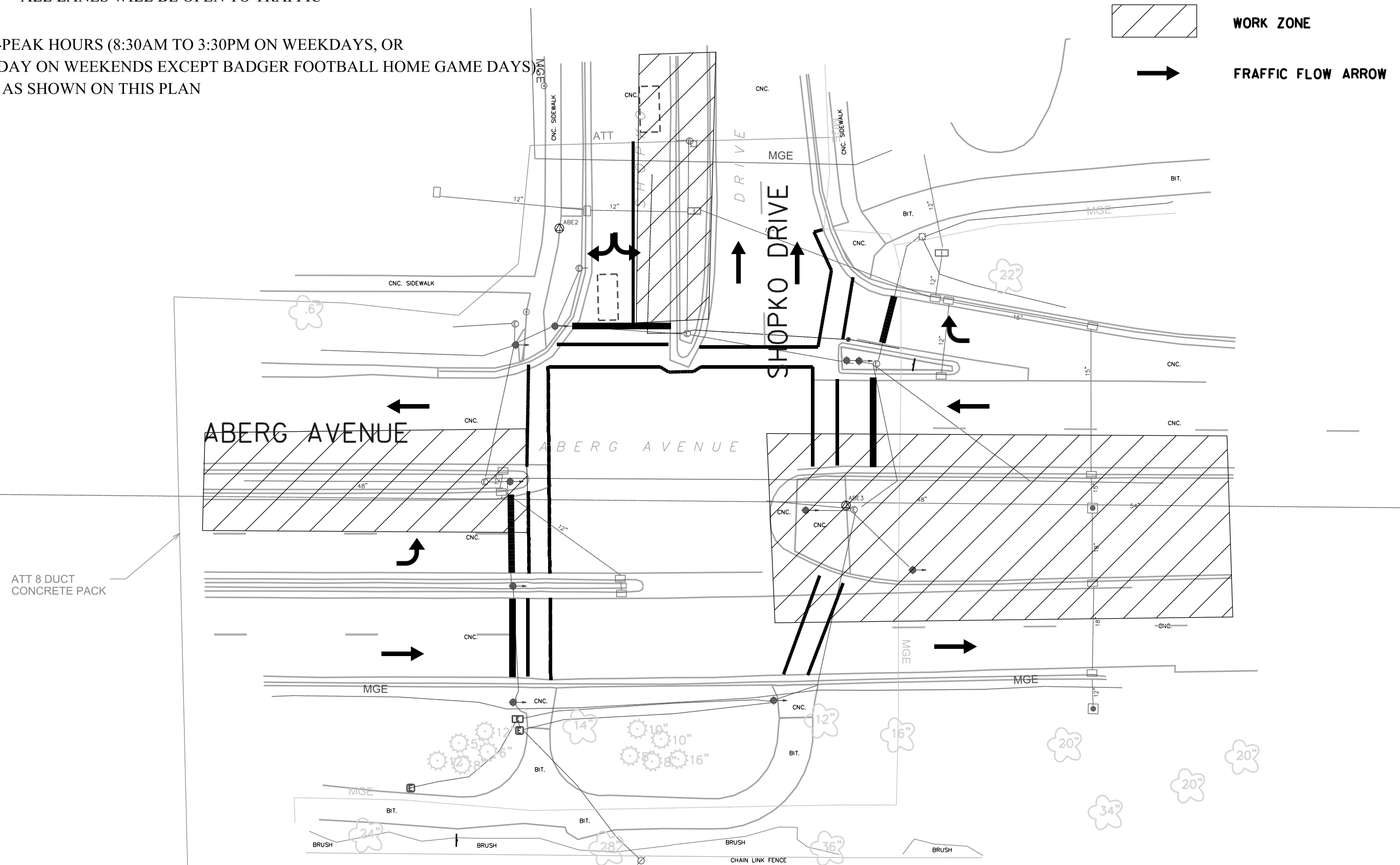
SHOPKO DRIVE

WORK ZONE

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ALL DAY ON WEEKENDS EXCEPT BADGER FOOTBALL HOME GAME DAYS)
- AS SHOWN ON THIS PLAN



DATE 05MAY16		E S T I M A T E O F Q U A N T I T I E S			
LINE					5992-09-76
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	204.0155	Removing Concrete Sidewalk	SY	4.000	4.000
0020	204.0195	Removing Concrete Bases	EACH	7.000	7.000
0030	619.1000	Mobilization	EACH	1.000	1.000
0040	620.0200	Concrete Median Blunt Nose	SF	35.000	35.000
0050	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0060	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0070	628.7020	Inlet Protection Type D	EACH	10.000	10.000
0080	642.5001	Field Office Type B	EACH	1.000	1.000
0090	643.0100	Traffic Control (project) 01. 5992-09-76	EACH	1.000	1.000
0100	643.0800	Traffic Control Arrow Boards	DAY	56.000	56.000
0110	646.0126	Pavement Marking Epoxy 8-Inch	LF	60.000	60.000
0120	646.0600	Removing Pavement Markings	LF	100.000	100.000
0130	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	3.000	3.000
0140	647.0356	Pavement Marking Words Epoxy	EACH	3.000	3.000
0150	647.0576	Pavement Marking Stop Line Epoxy 24-Inch	LF	125.000	125.000
0160	647.0776	Pavement Marking Crosswalk Epoxy 12-Inch	LF	570.000	570.000
0170	650.8500	Construction Staking Electrical Installations (project) 01. 5992-09-76	LS	1.000	1.000
0180	652.0215	Conduit Rigid Nonmetallic Schedule 40 1 1/4-Inch	LF	60.000	60.000
0190	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	100.000	100.000
0200	652.0335	Conduit Rigid Nonmetallic Schedule 80 3-Inch	LF	50.000	50.000
0210	654.0110	Concrete Bases Type 10	EACH	2.000	2.000
0220	655.0205	Cable Traffic Signal 3-12 AWG	LF	10.000	10.000
0230	655.0230	Cable Traffic Signal 5-14 AWG	LF	330.000	330.000
0240	655.0260	Cable Traffic Signal 12-14 AWG	LF	470.000	470.000
0250	655.0270	Cable Traffic Signal 15-14 AWG	LF	230.000	230.000
0260	655.0615	Electrical Wire Lighting 10 AWG	LF	200.000	200.000
0270	655.0620	Electrical Wire Lighting 8 AWG	LF	360.000	360.000
0280	655.0630	Electrical Wire Lighting 4 AWG	LF	1,080.000	1,080.000
0290	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. Aberg - Shopko	LS	1.000	1.000
0300	657.0100	Pedestal Bases	EACH	1.000	1.000
0310	657.0405	Traffic Signal Standards Aluminum 3.5-FT	EACH	1.000	1.000
0320	658.0500	Pedestrian Push Buttons	EACH	6.000	6.000
0330	658.5069	Signal Mounting Hardware (location) 01. Aberg - Shopko	LS	1.000	1.000
0340	690.0250	Sawing Concrete	LF	10.000	10.000
0350	SPV.0060	Special 01. REMOVE STREET LIGHT	EACH	3.000	3.000
0360	SPV.0060	Special 02. LED LUMINAIRE TYPE 1	EACH	6.000	6.000
0370	SPV.0060	Special 03. POLE 30-FOOT, 11 GAUGE	EACH	3.000	3.000
0380	SPV.0060	Special 04. ELECTRICAL PULLBOX TYPE 5	EACH	1.000	1.000
0390	SPV.0060	Special 05. CONCRETE BASE TYPE LB-3	EACH	3.000	3.000
0400	SPV.0060	Special 06. CONCRETE BASE TYPE P	EACH	1.000	1.000
0410	SPV.0060	Special 07. CONCRETE BASE TYPE M	EACH	1.000	1.000
0420	SPV.0060	Special 08. CONCRETE BASE OFFSET	EACH	1.000	1.000
0430	SPV.0060	Special 09. TRANSFORMER BASE STEEL, 16-INCH	EACH	3.000	3.000
0440	SPV.0060	Special 10. MONOTUBE POLE, TYPE 9	EACH	2.000	2.000
0450	SPV.0060	Special 11. MONOTUBE ARM, 30-FOOT	EACH	1.000	1.000
0460	SPV.0060	Special 12. MONOTUBE ARM, 35-FOOT	EACH	1.000	1.000
0470	SPV.0060	Special 13. TRAFFIC SIGNAL CONTROL CABINET	EACH	1.000	1.000

DATE 05MAY16			E S T I M A T E O F Q U A N T I T I E S			
LINE						5992-09-76
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	
0480	SPV. 0060	Speci al 14. TRAFFI C SIGNAL CONTROLLER	EACH	1. 000	1. 000	
0490	SPV. 0060	Speci al 15. MALFUNCTION MANAGEMENT UNIT	EACH	1. 000	1. 000	
0500	SPV. 0060	Speci al 16. TRAFFI C SIGNAL ETHERNET SWI TCH	EACH	1. 000	1. 000	
0510	SPV. 0060	Speci al 17. TRAFFI C SIGNAL HEADS 12-INCH, 3-SECTION	EACH	7. 000	7. 000	
0520	SPV. 0060	Speci al 18. TRAFFI C SIGNAL HEADS 16-INCH, PEDESTRIAN	EACH	8. 000	8. 000	
0530	SPV. 0060	Speci al 19. BACKPLATES SIGNAL FACE 3-SECTION, 12-INCH	EACH	13. 000	13. 000	
0540	SPV. 0060	Speci al 20. VIDEO VEHI CLE DETECTION SYSTEM	EACH	1. 000	1. 000	
0550	SPV. 0060	Speci al 21. PTZ DOME NETWORK CAMERA	EACH	1. 000	1. 000	
0560	SPV. 0060	Speci al 22. LIGHTING CONTROL CABINET	EACH	1. 000	1. 000	
0570	SPV. 0090	Speci al 23. LOOP DETECTOR LEAD-IN CABLE SPECIAL	LF	800. 000	800. 000	
0580	SPV. 0105	Speci al 01. TEMPORARY TRAFFI C SIGNALS ABERG-SHOPKO	LS	1. 000	1. 000	
0590	SPV. 0105	Speci al 02. TEMPORARY VEHI CLE DETECTION ABERG-SHOPKO	LS	1. 000	1. 000	

REMOVING CONCRETE SIDEWALK				
CATEGORY	STATION - STATION	LOCATION	204.0155 SY	
0010	10+60 - 10+64	LT	2	
	UNDISTRIBUTED	PROJECT	2	
PROJECT TOTAL			4	

NOTE: QUANTITIES INCLUDE CONCRETE REMOVAL IN THE CONCRETE MEDIAN.

OTHER REMOVALS					
CATEGORY	STRUCTURE	STATION	OFFSET	204.0195 REMOVING CONCRETE BASE EACH	SPV.0060.01 REMOVE STREET LIGHT EACH
0010	TS1	11+61	37.00' LT	1	1
	SL3191-2A	11+58	5.62' RT	1	-
	TS2	-	-	-	-
	TS3	-	-	-	-
	LC1	11+60	75.77' RT	-	-
	TC1	11+60	81.88' RT	1	-
	TS4	12+38	71.89' RT	1	1
	SL3191-1A	12+49	13.79' RT	1	-
	TS6	-	-	-	-
	TS7	-	-	-	-
	TS8	-	-	-	-
	SL3191-3M	50+98	7.50' RT	1	1
	TS5	-	-	1	-
PROJECT TOTAL				7	3

CONCRETE MEDIAN BLUNT NOSE			
CATEGORY	STATION	LOCATION	620. 0200 SF
0010	12+60	LT	20
	UNDI STRI BUTED	PROJECT	15
PROJECT TOTAL			<u>35</u>

MOBI LI ZAI ONS		
CATEGORY	628. 1905 EROSION CONTROL	628. 1910 EMERGENCY EROSION CONTROL
10	1	1
PROJECT TOTAL	<u>1</u>	<u>1</u>

EROSION CONTROL					
					(628.7020) INLET PROTECTION TYPE D EACH
CATEGORY	STATION	TO	STATION	LOCATION	
0010	11+50	-	12+50	ABERG-SHOPKO INTERSECTION	4
	12+50	-	13+50	ABERG AVENUE	5
	50+50	-	51+50	SHOPKO DRIVE	1
PROJECT TOTAL					<u>10</u>

TRAFFIC CONTROL DEVICES			
CATEGORY	STAGE	DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS
10	1	7	14
	2	7	14
	3	7	14
	4	7	14
PROJECT TOTAL		28	56

PAVEMENT MARKING EPOXY									
CATEGORY	STATION	STATION	LOCATION	646.0600 REMOVE PAVEMENT MARKINGS LF	646.0126 8-INCH (WHITE) LF	647.0166 ARROWS TYPE 2 LF	647.0356 WORDS LF	647.0576 STOP LINE 24-INCH LF	647.0776 CROSSWALK 12-INCH LF
0010	11+00	12+00	ABERG AVENUE	-	-	2	2	30	160
	50+00	51+00	SHOPKO DRIVE	-	60	1	1	95	410
UNDISTRIBUTED				100					
PROJECT TOTALS				100	60	3	3	125	570

CONDUIT											
CATEGORY	FROM	STATION	OFFSET	TO	STATION	OFFSET	652.0235	652.0215	652.0335	COMMENT	
							SCHEDULE 40		SCHEDULE 80		
							3"	1 1/4"	3"		
							(LF)	(LF)	(LF)		
0010	HH1	11+62	78.54' RT	TC1	11+60	81.88' RT	30	-	-	3-3"	
	TC1	11+60	81.88' RT	LC1	11+60	75.77' RT	20	-	-	2-3"	
	TS6	12+65	32.01' LT	TS7	11+60	32.66' LT	-	10	-	1-1 1/4"	
UNDISTRIBUTED							50	50	50	-	
PROJECT TOTAL							100	60	50		

STREET LIGHTING					
				SPV.0060.03	SPV.0060.02
				POLE	LED
				30-FOOT	LUMINAIRE
				11-GAUGE	TYPE-1
CATEGORY	STRUCTURE	STATION	OFFSET	EACH	EACH
0010	SL3191-1A	12+49	13.79' RT	1	2
	SL3191-2A	11+58	5.62' RT	1	2
	SL3191-3M	50+98	7.50' RT	1	2
PROJECT TOTAL				3	6

ELECTRICAL WIRE LIGHTING				
CATEGORY	FROM	TO	655.0620	655.0630
			ELECTRICAL	ELECTRICAL
			WIRE LIGHTING	WIRE LIGHTING
			8 AWG	4 AWG
			(LF)	(LF)
0010	LC1	SL3191-1A	210	630
	LC1	SL3191-2A	120	360
	LC1	SL3191-3M*	30	90
PROJECT TOTAL			360	1080
* USE EXISTING WIRES TO SL3191-3M.				

CABLE AND WIRE						
SPV.0090.23						
LOOP DETECTOR						
LEAD-IN CABLE						
SPECIAL						
CATEGORY	FROM	TO	655.0205 3-12 AWG (LF)	655.0260 12-14 AWG (LF)	655.0270 15-14 AWG (LF)	655.0615 10 AWG (LF)
0010	TC1	TS1	-	-	130	-
	TC1	SL3191-2A	-	80	-	-
	TC1	TS4	-	-	100	-
	TC1	TS3	-	10	-	-
	TC1	SL3191-1A	-	180	-	-
	TC1	TS6	-	200	-	-
	TS6	TS7	10	-	-	-
	SYSTEM GROUND	UNDISTRIBUTED	-	-	-	100
	SYSTEM NEUTRAL	UNDISTRIBUTED	-	-	-	100
	DETECTOR LOOP LEAD-IN	UNDISTRIBUTED	-	-	-	800
PROJECT TOTAL			10	470	230	200

CABLE TRAFFIC SIGNAL			
CATEGORY	AT POLE #	TO HEAD #	655.0230 5-14 AWG (LF)
0010	TS1	1	55
	TS1	2	45
	TS1	P1	10
	TS4	3	50
	TS4	4	40
	TS4	7	15
	TS4	P3	10
	SL3191-1A	5	15
	SL3191-1A	P5	10
	SL3191-2A	6	15
UNDISTRIBUTED			65
PROJECT TOTAL			330

PULLBOX					
SPV.0060.04					
TYPE 5					
CATEGORY	STRUCTURE	STATION	OFFSET	EACH	COMMENTS
0010	HH1	11+62	78.54 RT	1	-
	HH2	12+54	67.75 RT	-	EXISTING
	HH3	12+64	12.58 RT	-	EXISTING
	HH4	12+71	30.85 LT	-	EXISTING
	HH5	12+13	40.54 LT	-	EXISTING
	HH6	11+61	43.41 LT	-	EXISTING
	HH7	11+63	4.53 LT	-	EXISTING
PROJECT TOTAL				1	

CONCRETE BASE									
				654.0110	SPV.0060.05	SPV.0060.06	SPV.0060.07	SPV.0060.08	SPV.0060.09
				TRANSFORMER					
				BASE, STEEL					
CATEGORY	STRUCTURE	STATION	OFFSET	TYPE 10 EACH	TYPE LB-3 EACH	TYPE P EACH	TYPE M EACH	OFFSET* EACH	16-INCH EACH
0010	TS1	11+61	37.00' LT	1	-	-	-	-	-
	SL3191-2A	11+58	5.62' RT	-	1	-	-	-	1
	TS2	-	-	-	-	-	-	-	-
	TS3	-	-	-	-	-	-	-	-
	LC1	11+60	75.77' RT	-	-	-	1	-	-
	TC1	11+60	81.88' RT	-	-	1	-	-	-
	TS4	12+38	71.89' RT	1	-	-	-	-	-
	SL3191-1A	12+49	13.79' RT	-	1	-	-	-	1
	TS6	-	-	-	-	-	-	-	-
	TS7	-	-	-	-	-	-	-	-
	TS8	-	-	-	-	-	-	-	-
	SL3191-3M	50+98	7.50' RT	-	1	-	-	-	1
		UNDISTRIBUTED		-	-	-	-	1	-
PROJECT TOTAL				2	3	1	1	1	3

*THE OFFSET BASE IS ONLY NEEDED WHEN CONFLICTS IN FIELD PREVENT INSTALLATION OF A TYPE-3 BASE, AND THEN AN OFFSET BASE IS USED IN LIEU OF A TYPE LB-3 BASE.

TRAFFIC SIGNAL POLES						
		657.0100	SPV.0060.10	657.0405	SPV.0060.11	SPV.0060.12
		TRAFFIC SIGNAL				
		MONOTUBE				
		STANDARDS				
		ALUMINUM				
		BASE	POLE	3.5 FT	30-FOOT	35-FOOT
CATEGORY	STRUCTURE	PEDESTAL EACH	TYPE 9 EACH	EACH	EACH	EACH
0010	TS1	-	1	-	-	1
	SL3191-2A	-	-	-	-	-
	TS2	-	-	-	-	-
	TS3	-	-	-	-	-
	TS4	-	1	-	1	-
	SL3191-1A	-	-	-	-	-
	TS6	-	-	-	-	-
	TS7	1	-	1	-	-
	TS8	-	-	-	-	-
	SL3191-3M	-	-	-	-	-
PROJECT TOTAL		1	2	1	1	1

TRAFFIC SIGNALS						
		SPV.0060.17	SPV.0060.18	SPV.0060.19	SPV.0060.21	658.0500
		BACKPLATES				
		12-INCH		12-INCH	PTZ DOME	PEDESTRIAN
		3-SECTION	PEDESTRIAN	3-SECTION	NETWORK	PUSH
CATEGORY	STRUCTURE	EACH	EACH	EACH	CAMERA	BUTTON
		EACH			EACH	EACH
0010	TS1	2	1	2	-	1
	SL3191-2A	1	-	1	-	1
	TS2	-	-	1	-	-
	TS3	-	1	2	-	1
	TS4	3	1	3	-	1
	SL3191-1A	1	2	1	1	1
	TS6	-	2	2	-	-
	TS7	-	-	-	-	1
	TS8	-	1	1	-	-
	SL3191-3M	-	-	-	-	-
PROJECT TOTAL		7	8	13	1	6

SAWCUTTING				
				690.0250
				SAWING
				CONCRETE
CATEGORY	STATION	STATION	LOCATION	LF
0010	12+64	--	ABERG AVENUE	5
	UNDISTRIBUTED	SAWCUTTING	PROJECT	5
PROJECT TOTAL				10

ADDITIONAL ITEMS						
CATEGORY	STATION	OFFSET	ITEM NUMBER	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
0010	11+60	82.00' RT	656.0200	ELEC SERVICE METER BREAKER PED (ABERG-SHOPKO)	LS	1
	N/A	N/A	658.5069	SIGNAL MOUNTING HARDWARE (ABERG-SHOPKO)	LS	1
	11+60	81.88' RT	SPV.0060.13	TRAFFIC SIGNAL CONTROL CABINET	EACH	1
	11+60	81.88' RT	SPV.0060.14	TRAFFIC SIGNAL CONTROLLER	EACH	1
	11+60	81.88' RT	SPV.0060.15	MALFUNCTION MANAGEMENT UNIT	EACH	1
	11+60	81.88' RT	SPV.0060.16	TRAFFIC SIGNAL ETHERNET SWITCH	EACH	1
	N/A	N/A	SPV.0060.20	VIDEO VEHICLE DETECTION SYSTEM	LS	1
	11+60	76.88' RT	SPV.0060.22	LIGHTING CONTROL CABINET	EACH	1
	N/A	N/A	SPV.0105.01	TEMPORARY TRAFFIC SIGNALS (ABERG-SHOPKO)	LS	1
	N/A	N/A	SPV.0105.02	TEMPORARY VEHICLE DETECTION (ABERG-SHOPKO)	LS	1



REMOVE EXISTING LIGHT POLE AND BASE,
INSTALL NEW BASE AND STREET LIGHT

0810-314-2201-7
KELLEY WILLIAMSON COMPANY
2601 Shopko Dr

0810-323-0083-2
DANE COUNTY
AIRPORT
2702 Shopko Dr #LAND

PIE STARKWEATHER CREEK
BIKE PATH PLAN 53A6071

REPLACE CONCRETE MEDIAN
AS NECESSARY

SAWCUT

REPLACE CONCRETE BASE,
INSTALL NEW POLE AND STREET LIGHT

REPLACE CONCRETE BASE,
INSTALL NEW POLE AND STREET LIGHT

ATT 8 DUCT
CONCRETE PACK

0810-314-0220-9
SCANLAN, THOMAS A
CARA A SCANLAN
2630 Myrtle St

0810-314-0221-7
LESPERANCE, MARK G
1002 Kedzie St

0810-314-0301-7
PERKINS, SCOTT
SOPHIE WILD
1001 Kedzie St

0810-314-0302-5
ALT, ANTHONY J
2706 Myrtle St

0810-314-0303-3
RENO, MARGARET M
2710 Myrtle St

0810-314-0304-1
TREINEN, DENNIS
2714 Myrtle St

0810-314-0305-9
MOREJON, ROCIO E
2718 Myrtle St

0810-314-0306-7
MORIN, STEPHEN
2722 Myrtle St

0810-314-0307-5
BECKMAN, CASSANDRA
2726 Myrtle St

0810-314-0308-3
GOODROAD, RANEE M
2730 Myrtle St

0810-314-0309-1
ERICKSON, THEODORE W
& LESLIE A ERICKSON
2734 Myrtle St

0810-314-0310-8
ELLIS, JENNIFER L
2738 Myrtle St

PROJECT NO: 5992-09-76

HWY: ABERG AVENUE

COUNTY: DANE

PLAN

SHEET

E

FILE NAME : M:\DESIGN\Projects\10839\Streets\Design\10839EN-Plan**.dgn

PLOT DATE : 1/28/2016

PLOT BY : encwd

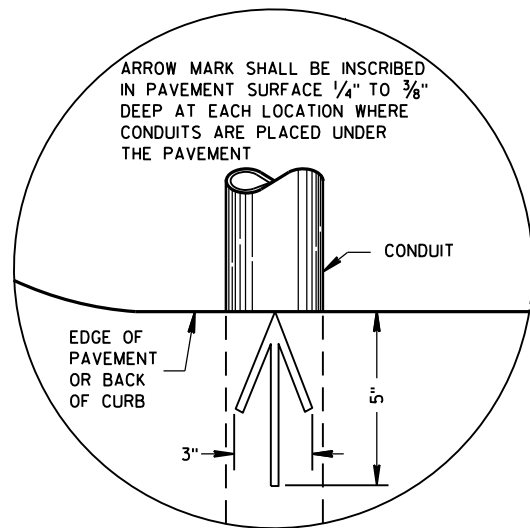
PLOT NAME : _____

PLOT SCALE : 39.9999 sf / in.

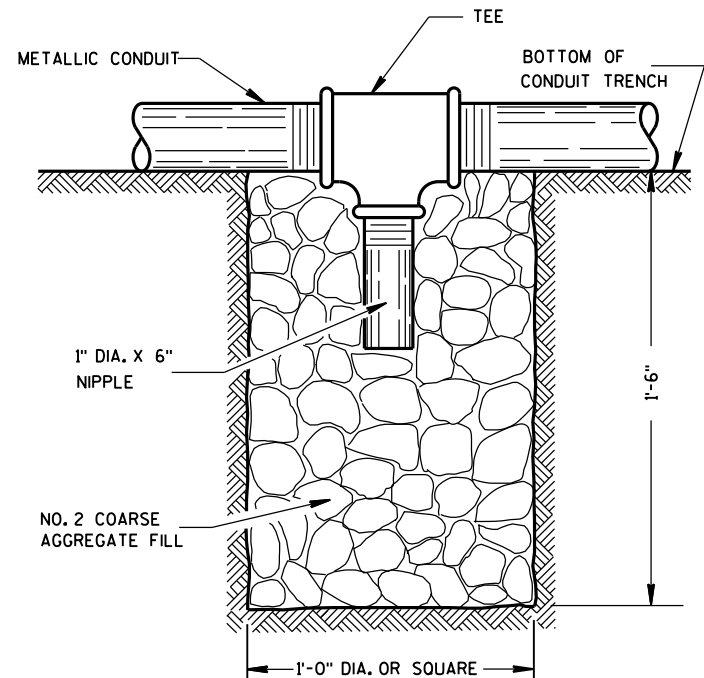
WISDOT/CADDIS SHEET 46

Standard Detail Drawing List

09B02-09	CONDUIT
09C03-04	TRANSFORMER/PEDESTAL BASES
09C11-08	CONCRETE BASE TYPE 10
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E08-07A	TYPE 9 POLE 15' -30' MONOTUBE ARM
09E08-07E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09G01-04A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09H03-01	2 CIRCUIT METER BREAKER PEDESTAL
11B02-02	CONCRETE MEDIAN NOSE
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D20-03	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-03	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

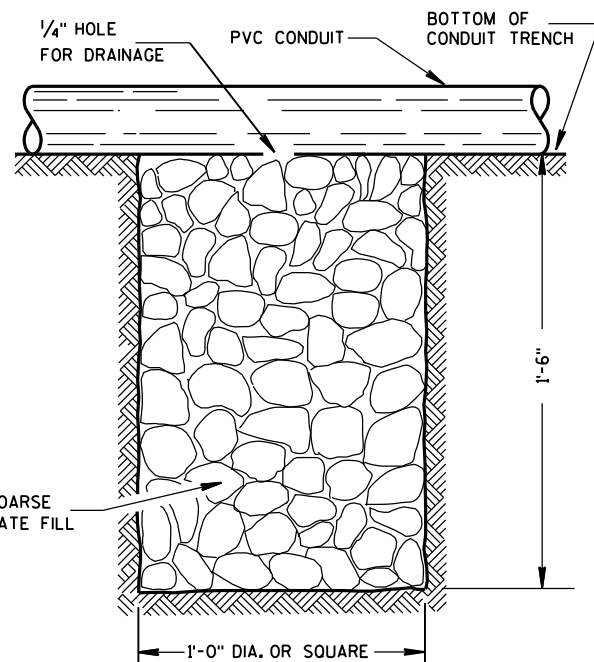


PLAN VIEW
ARROW MARK



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.

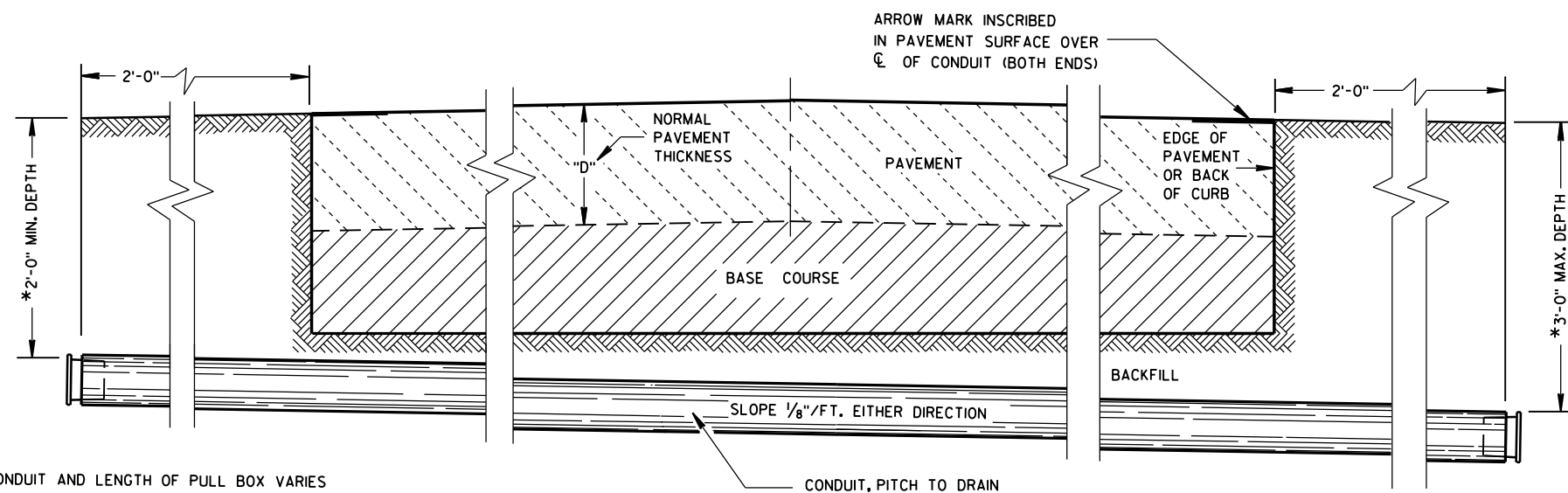
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

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



*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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA

GENERAL NOTES

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

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

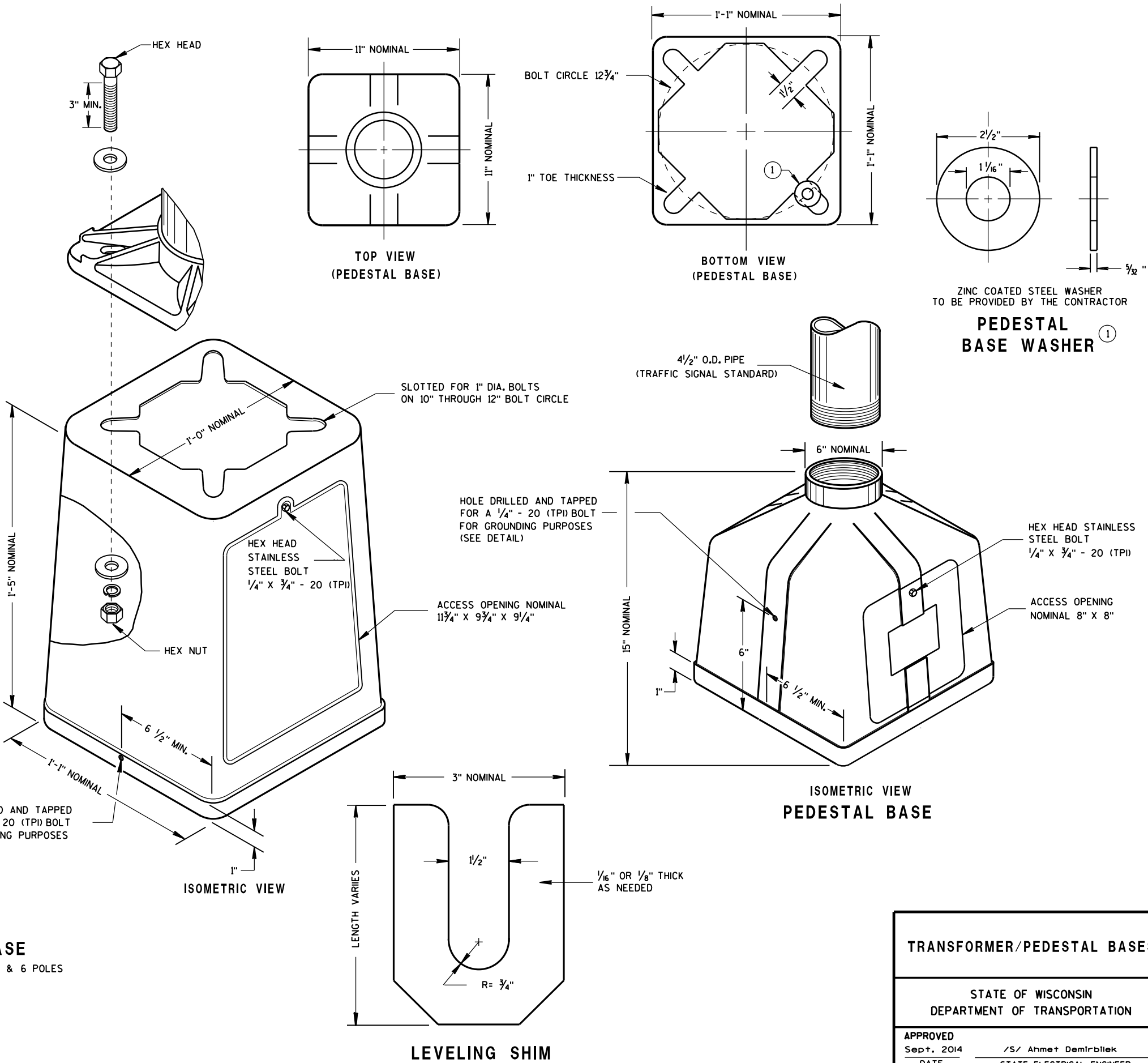
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

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 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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



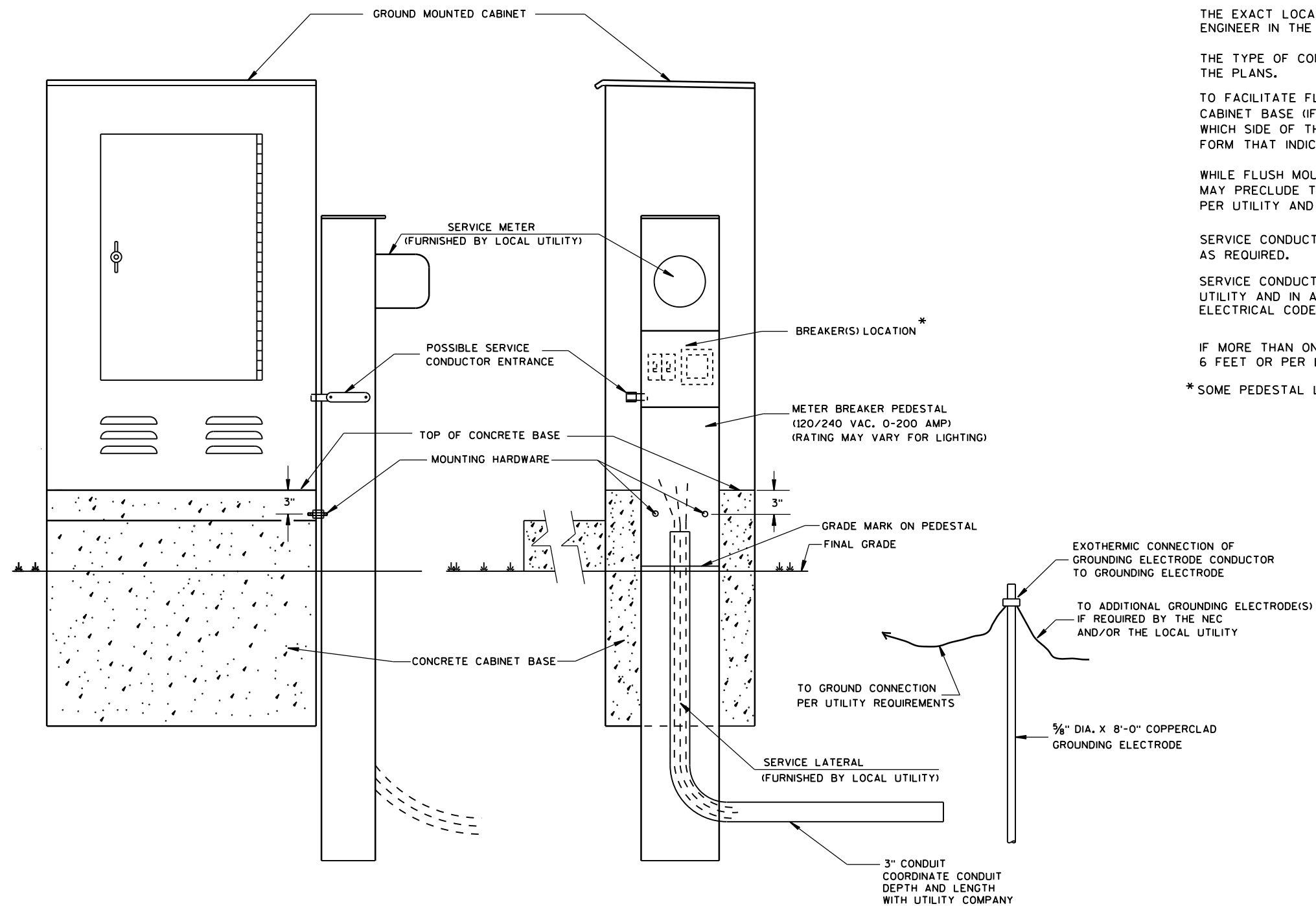
TYPICAL MECHANICAL
CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

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

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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.

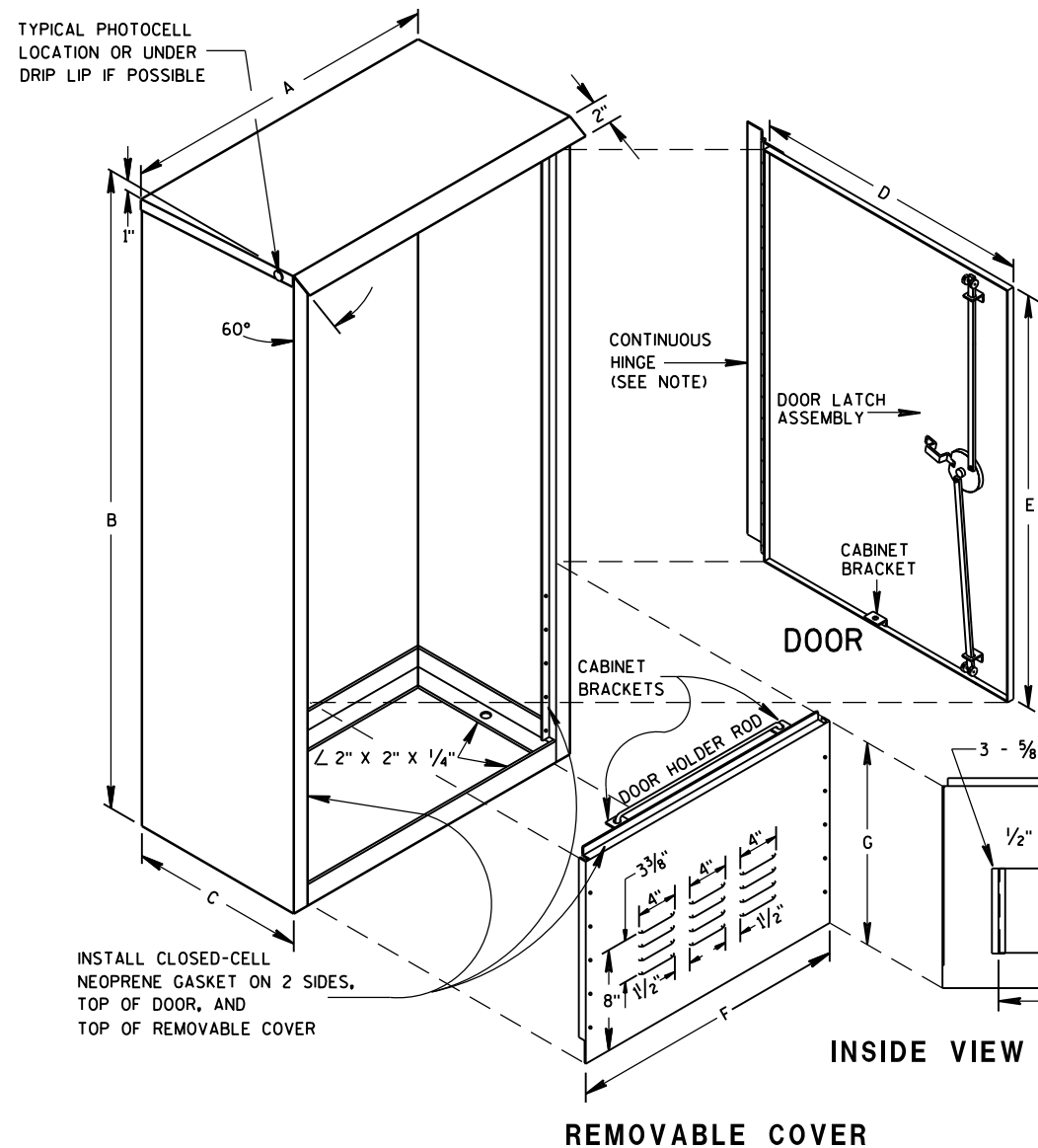
CABINET SERVICE INSTALLATION
(METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

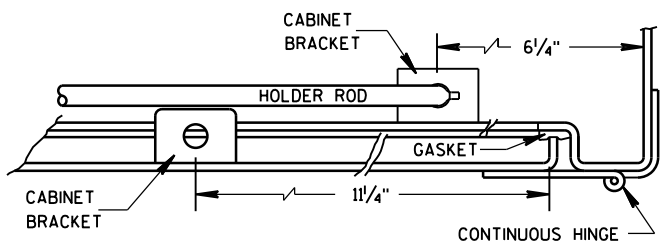
APPROVED
Sept. 2014
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

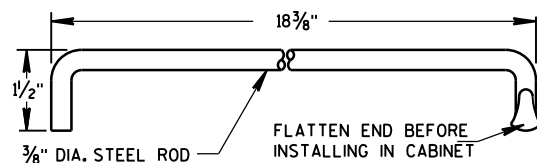
FHWA



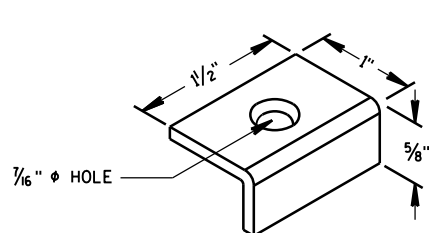
INSTALL CLOSED-CELL NEOPRENE GASKET ON 2 SIDES, TOP OF DOOR, AND TOP OF REMOVABLE COVER



HINGE & DOOR HOLDER



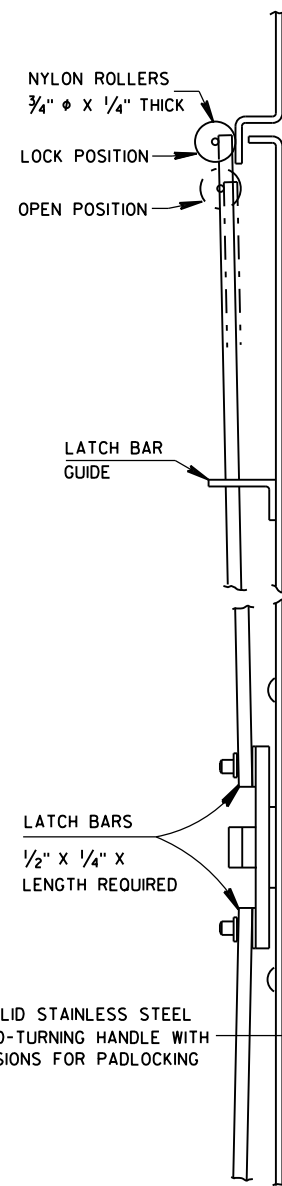
HOLDER ROD



CABINET BRACKET

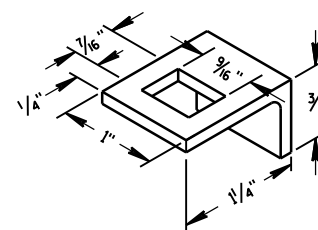
TABLE OF DIMENSIONS (INCHES)

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



SIDE VIEW

FRONT VIEW
LATCH ASSEMBLY



LATCH BAR GUIDE

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.

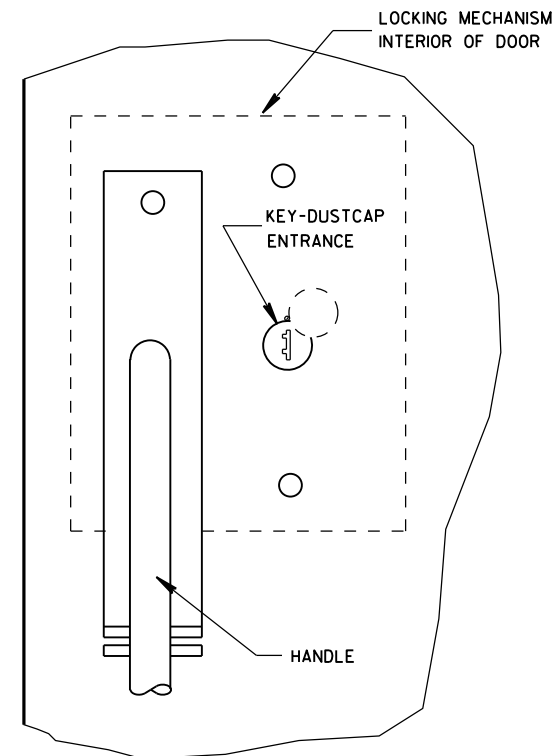
ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

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.

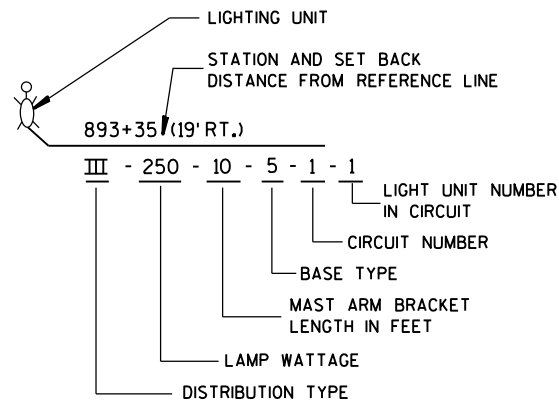
A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST.

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

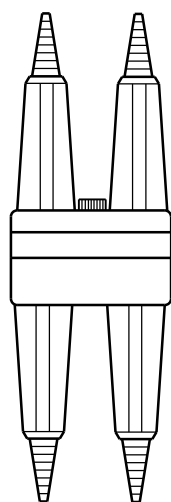


FRONT VIEW

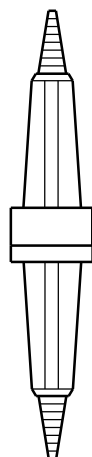
SIGNAL CONTROL CABINET	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	



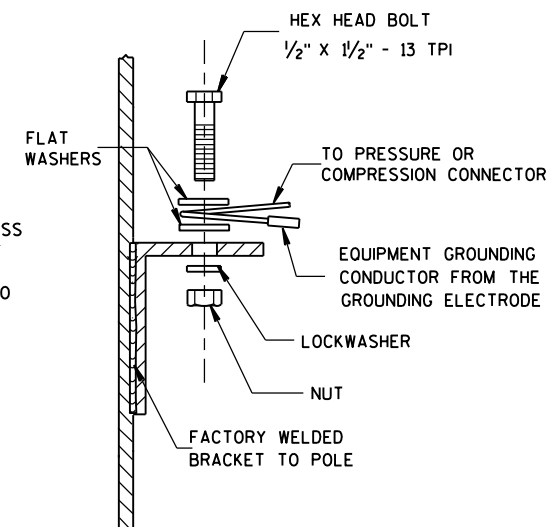
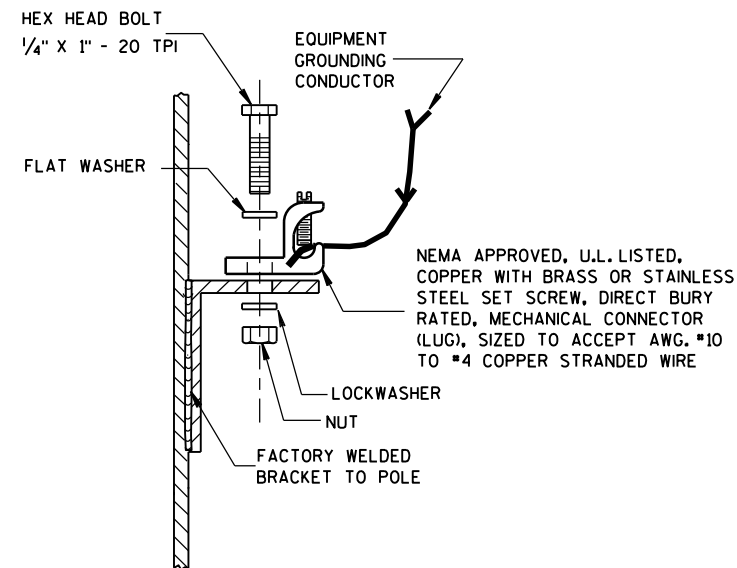
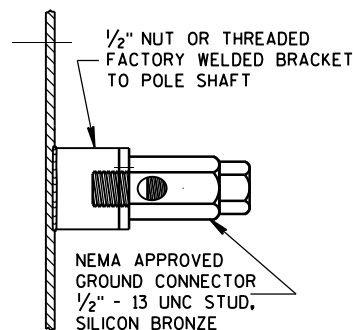
LIGHTING UNIT CODE
(TYPICAL)



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

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.

ADDITIONAL CONDUCTORS
AND FUSE FOR TWIN
LIGHTING UNITS

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPICE CONNECTOR.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

CONDUCTORS TO
LUMINAIRES SHALL BE #12 AWG,
COPPER STRANDED, U.S.E. RATED,
XLP INSULATED. SINGLE
LIGHTING UNIT SHOWN

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE SINGLE POLE FUSE ASSEMBLY.
600 VAC, WITH 5 AMP FAST ACTING
FUSE (SEE DETAIL "B")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTOR AND FUSEHOLDER

APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

ALTERNATE PHASE UNGROUNDED
CIRCUIT CONDUCTOR PASSING
THROUGH THIS POLE

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

TWIN LIGHTING UNITS REQUIRE
INDIVIDUAL SETS OF UNGROUNDED
CONDUCTORS AND FUSE ASSEMBLY.

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPICE CONNECTOR.

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

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

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE FUSE ASSEMBLY
TWO POLE, 600 VAC,
WITH 5 AMP FAST ACTING
FUSE (SEE DETAIL "A")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTORS AND FUSEHOLDERS

APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

**NON-FREEWAY LIGHTING UNIT
POLE WIRING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



APPROVED
June, 2015 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FWWA

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 ½ ± 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:

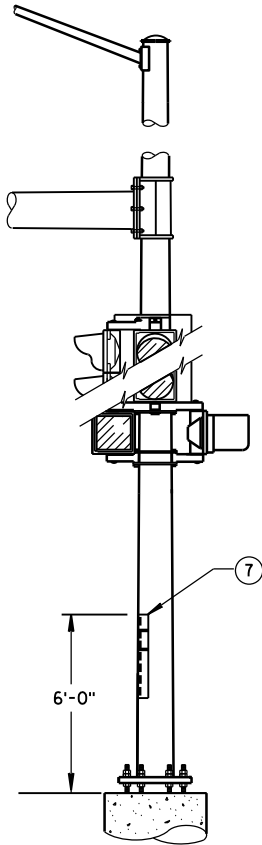
- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 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.

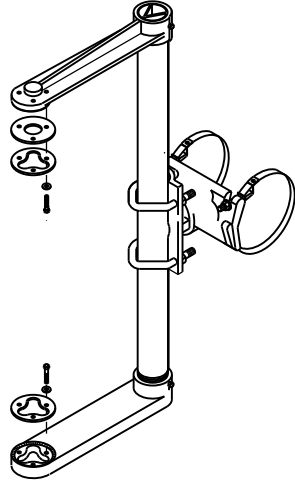
INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

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.

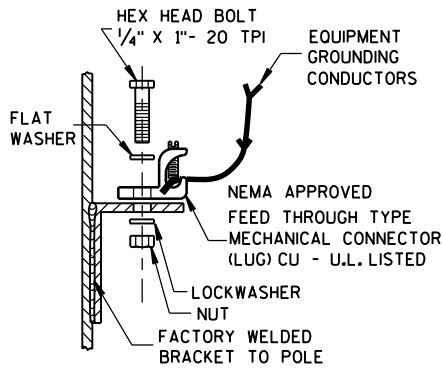


STRUCTURAL IDENTIFICATION
PLAQUE PLACEMENT



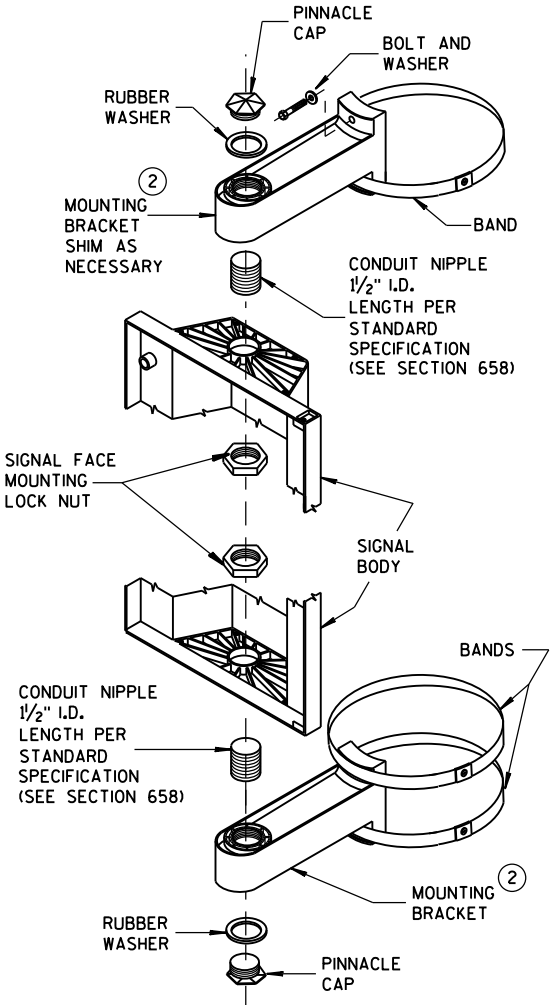
SIGNAL FACE MOUNTING BRACKET
DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

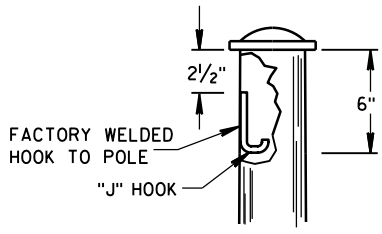


TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL
BE STAINLESS STEEL



SIGNAL FACE
VERTICAL MOUNTING DETAIL



"J" HOOK WIRE SUPPORT

- DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO ¼" x ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
- SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).
- SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.
- 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.
- 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.
- FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.
- INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

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

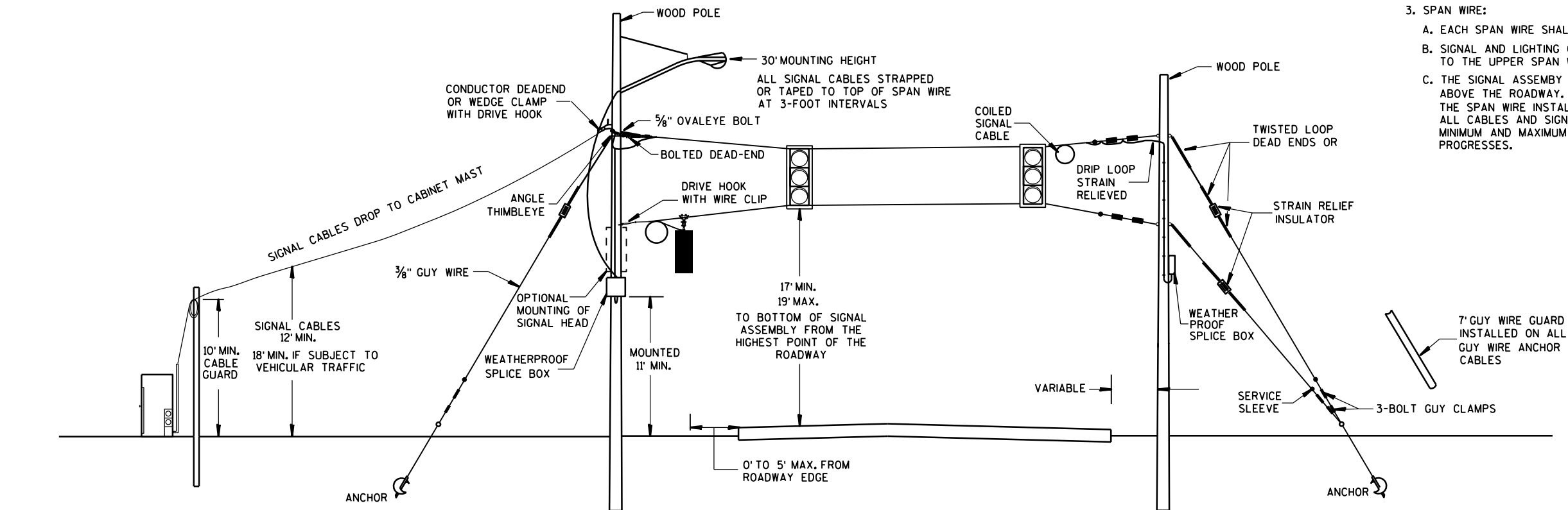
MOUNTING HEIGHT SHALL BE 6'-0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

- FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

GENERAL NOTES AND HARDWARE
DETAILS FOR TYPE 9, 10, 12 & 13
POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



SPAN WIRE
TEMPORARY SIGNALS

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

GENERAL NOTES

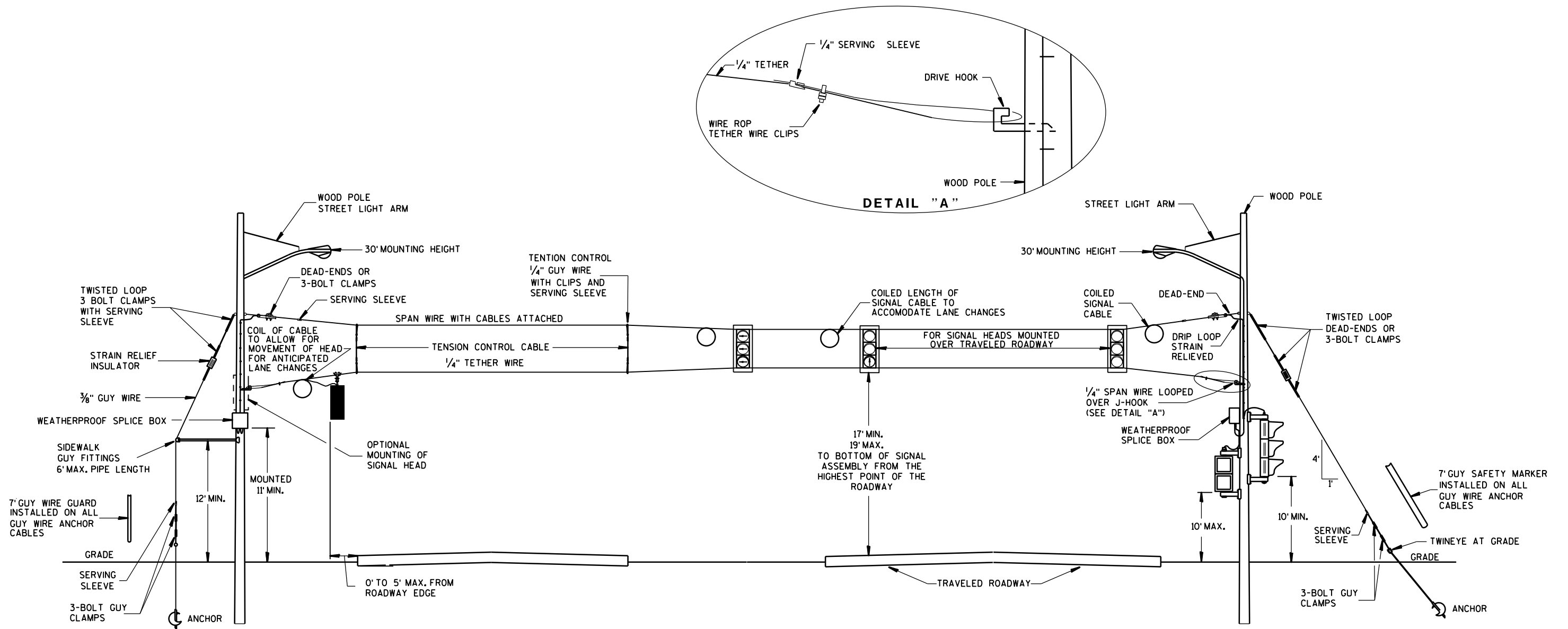
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.

2. SIGNAL FACES:

A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.

B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.

C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.

D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.

E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.

3. SPAN WIRE:

A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.

B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.

C. THE SIGNAL ASSEMBLY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.

SPAN WIRE TEMPORARY SIGNALS 4 LANE ROADWAYS

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

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

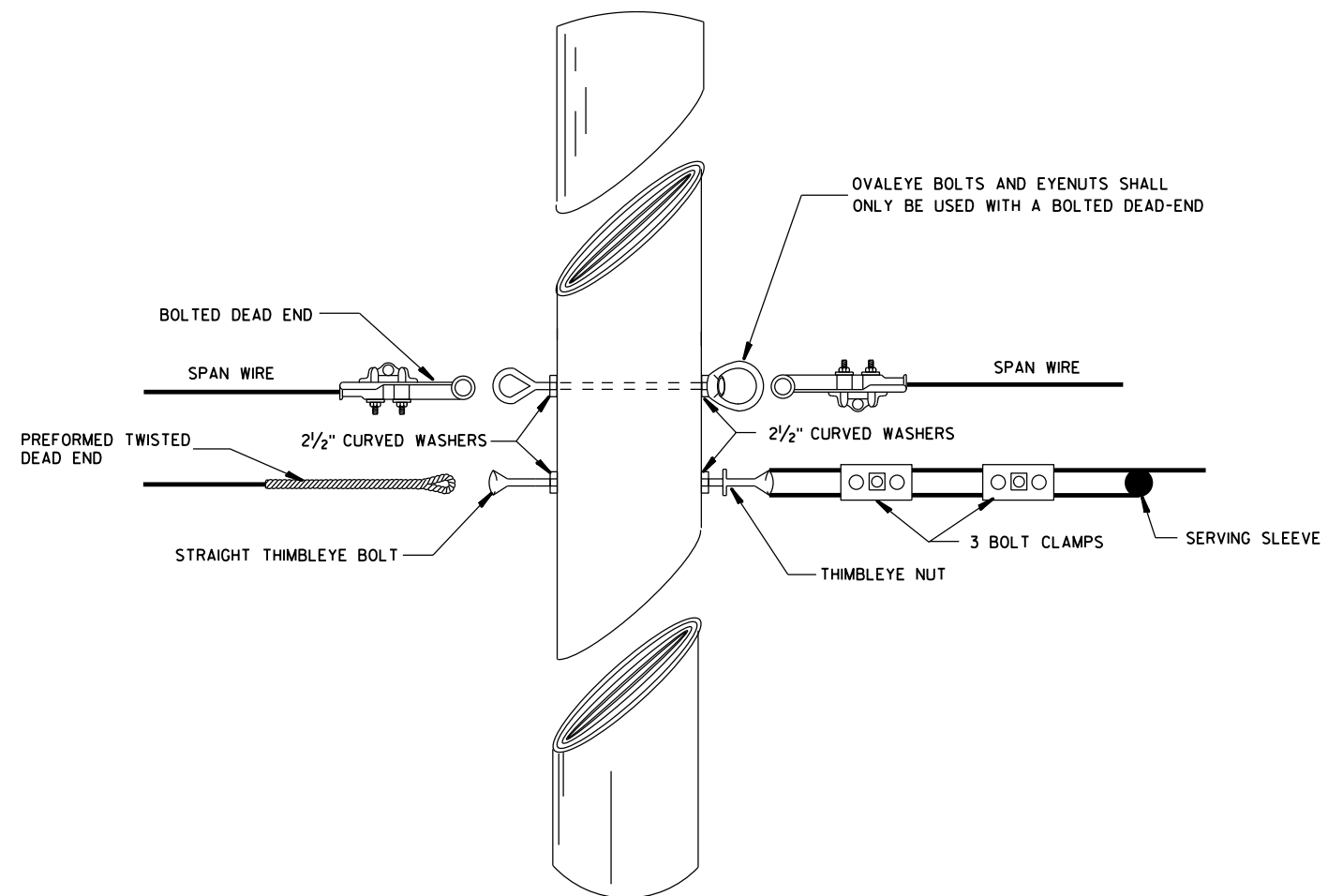
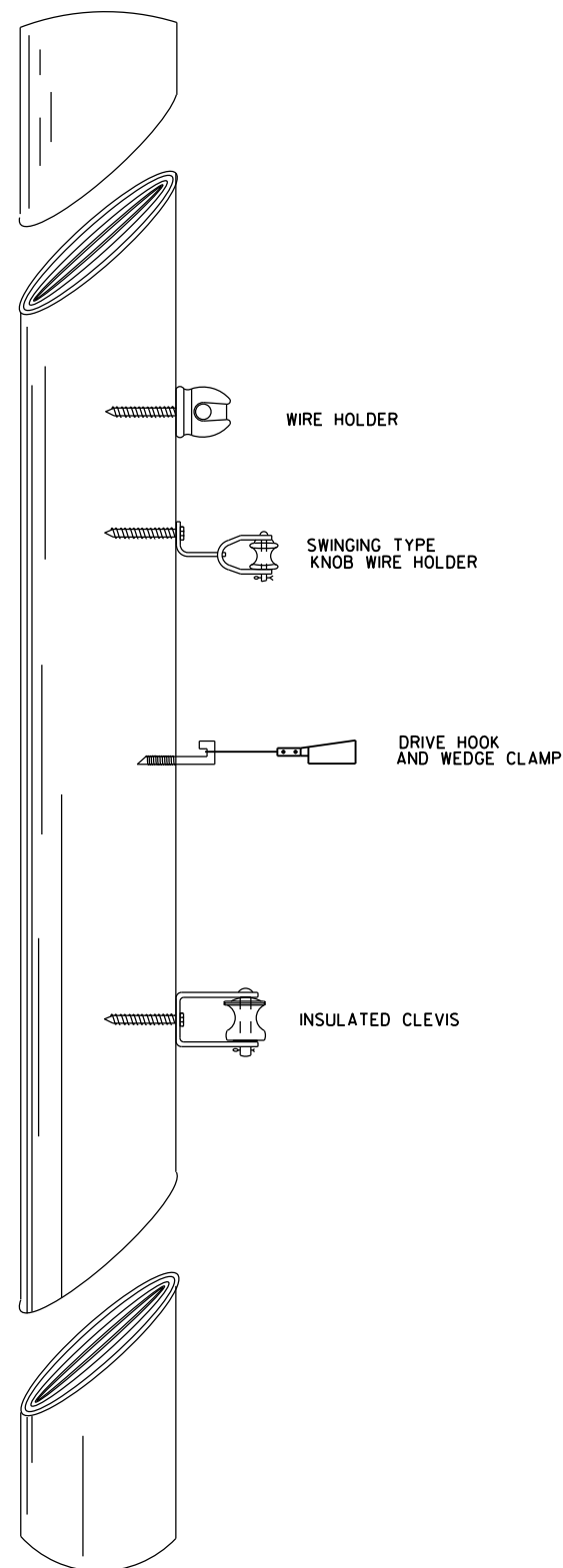
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STATE ELECTRICAL ENGINEER

TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

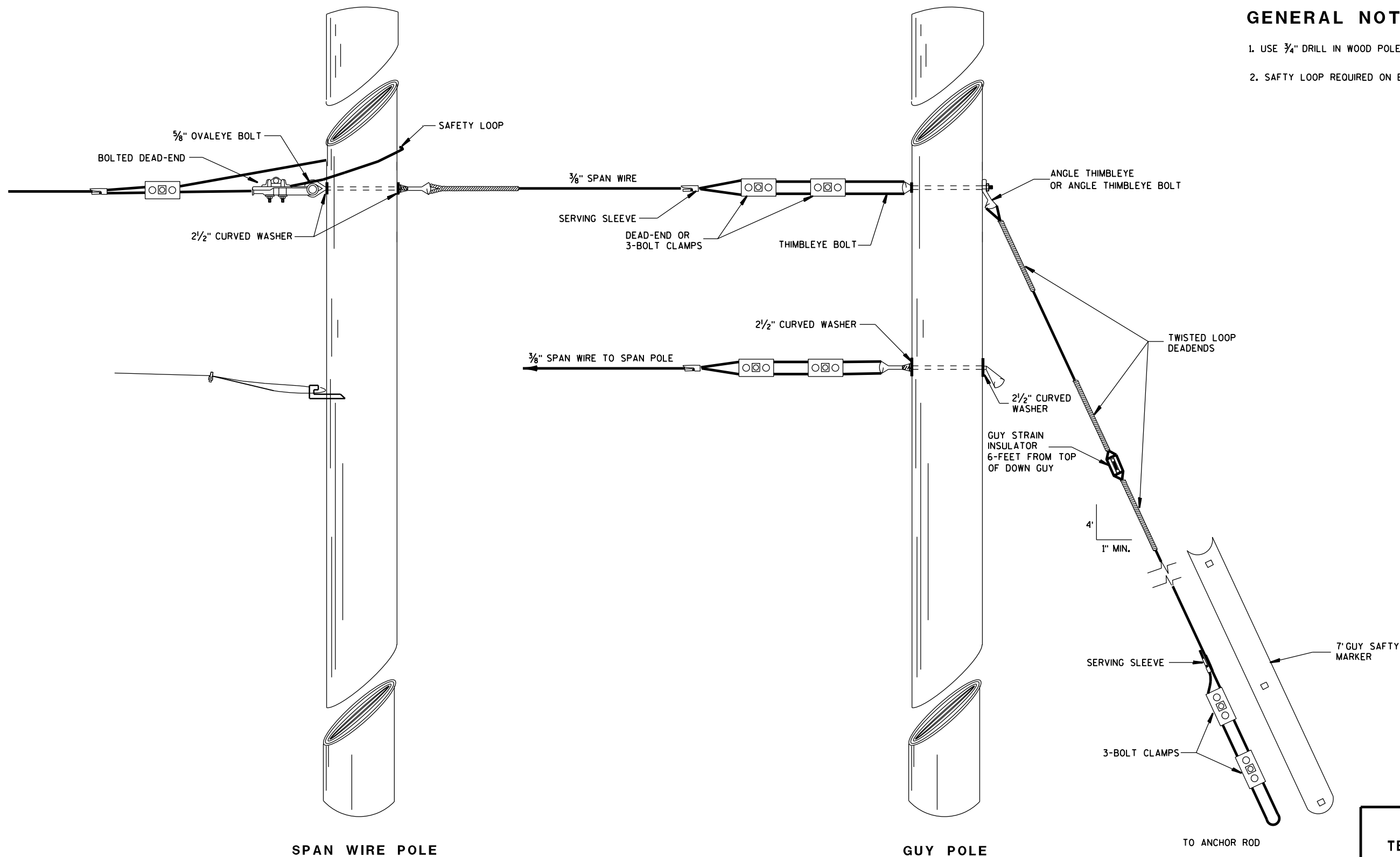
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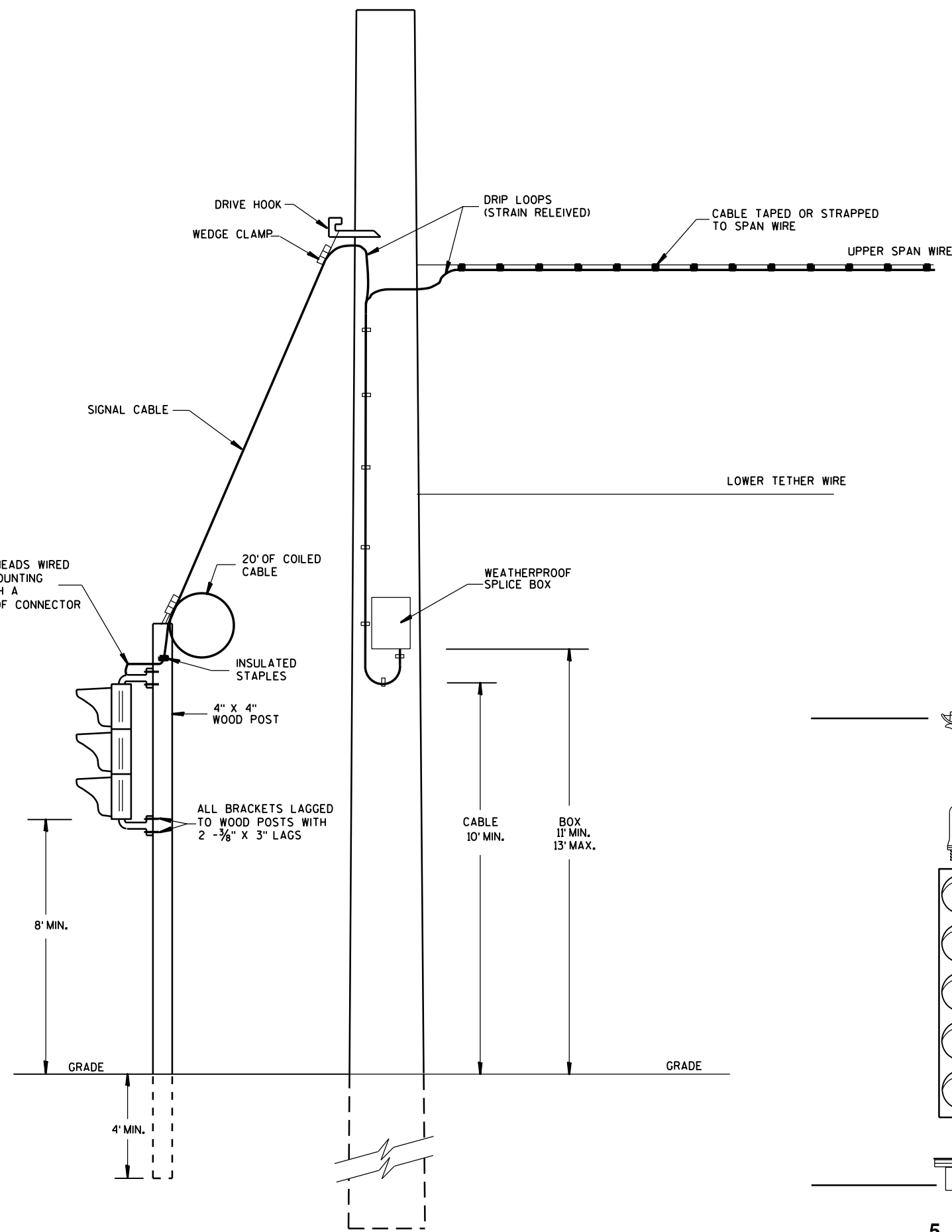


TYPICAL DEAD-ENDINGS OR GUYING

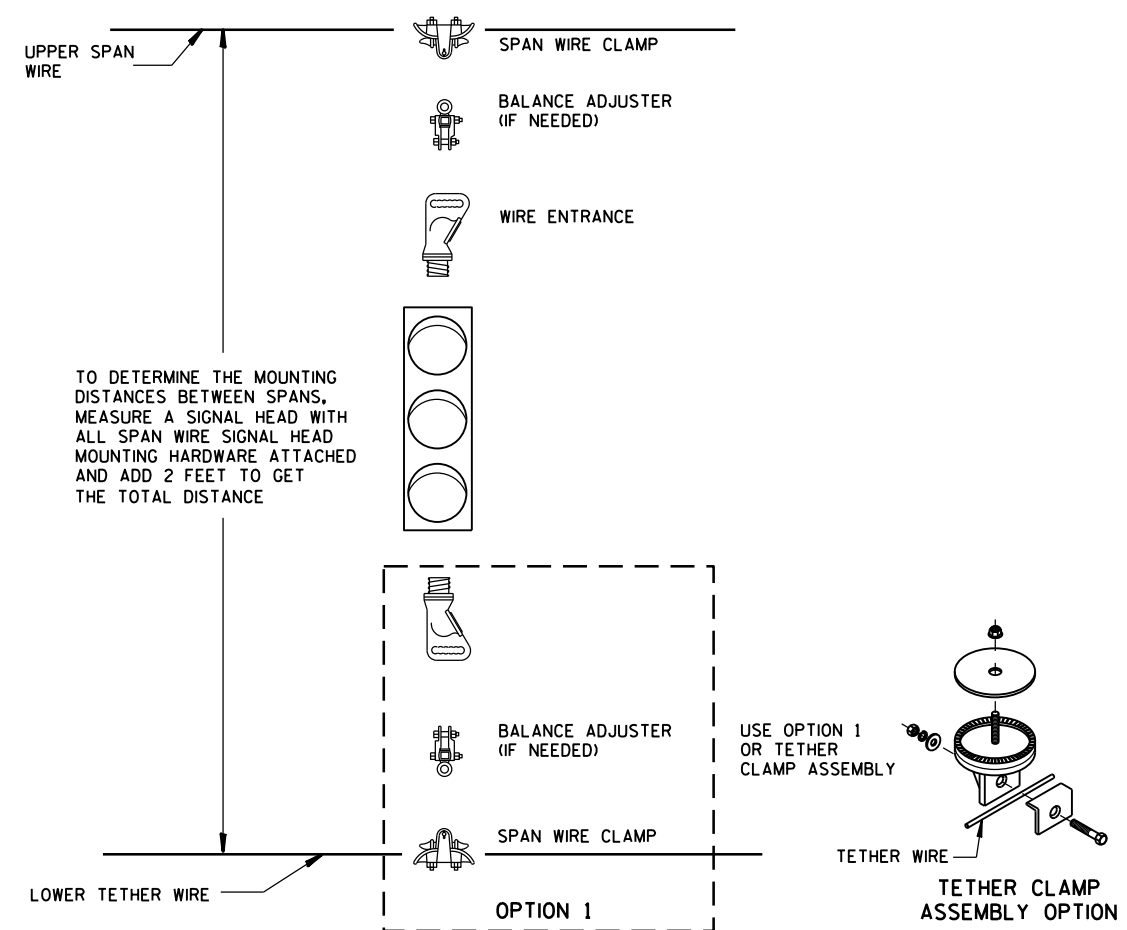
GENERAL NOTES

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

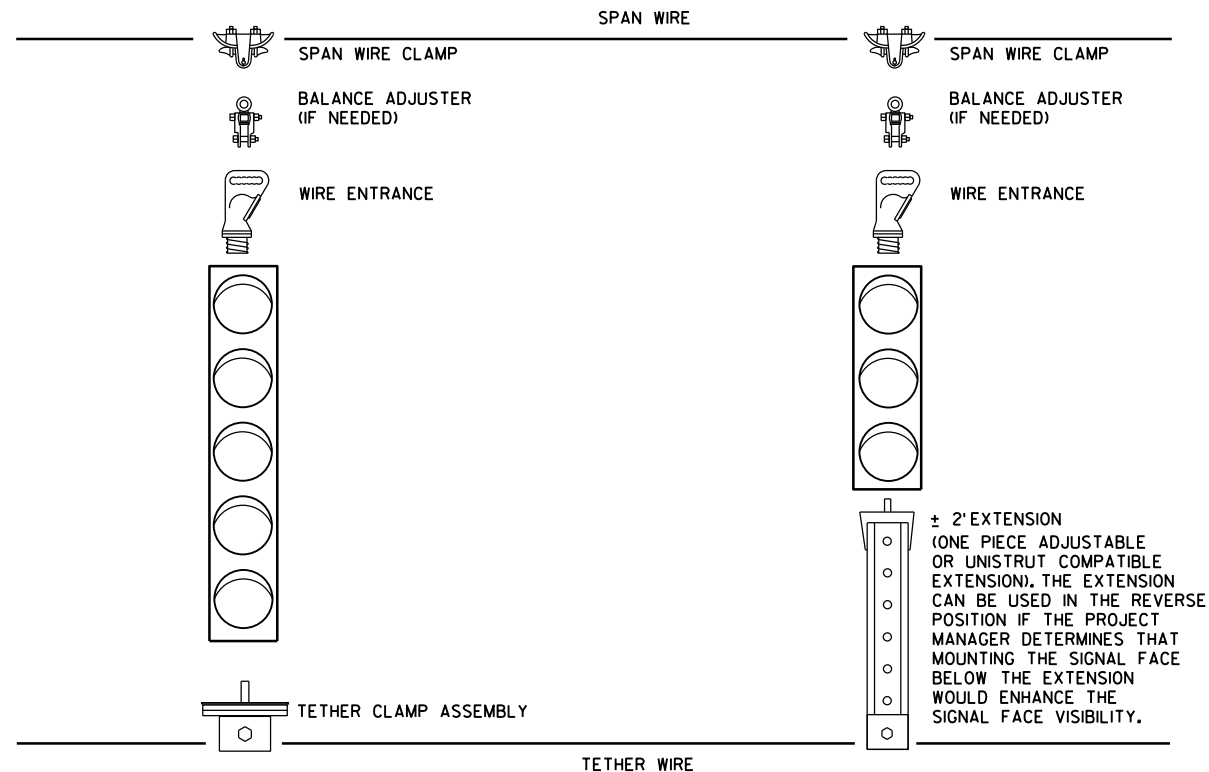
SPAN WIRE TEMPORARY TRAFFIC SIGNAL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June, 2015 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	



TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL

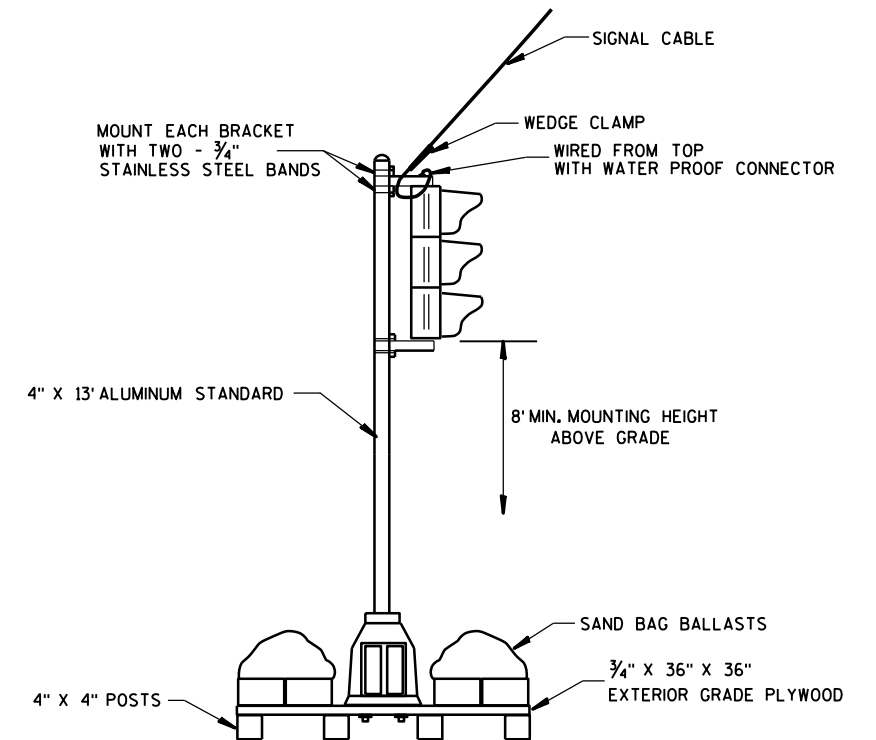
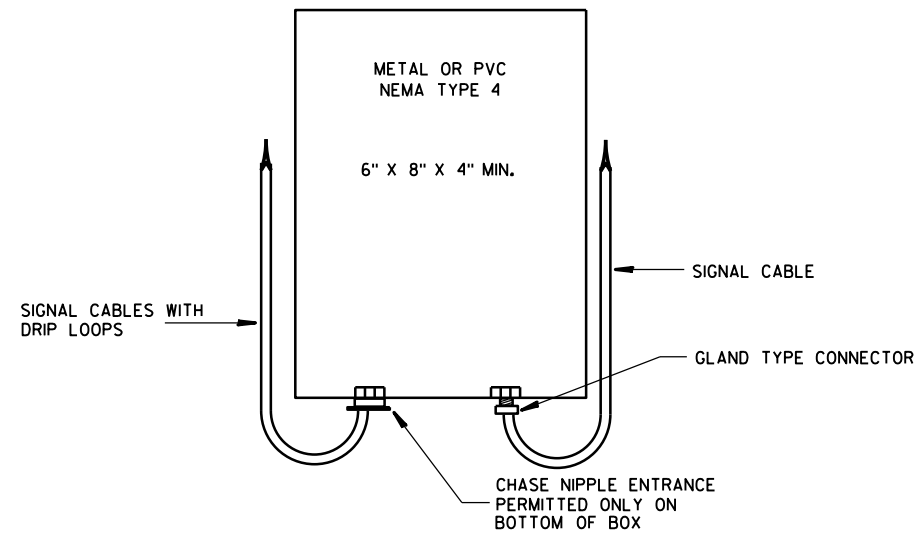
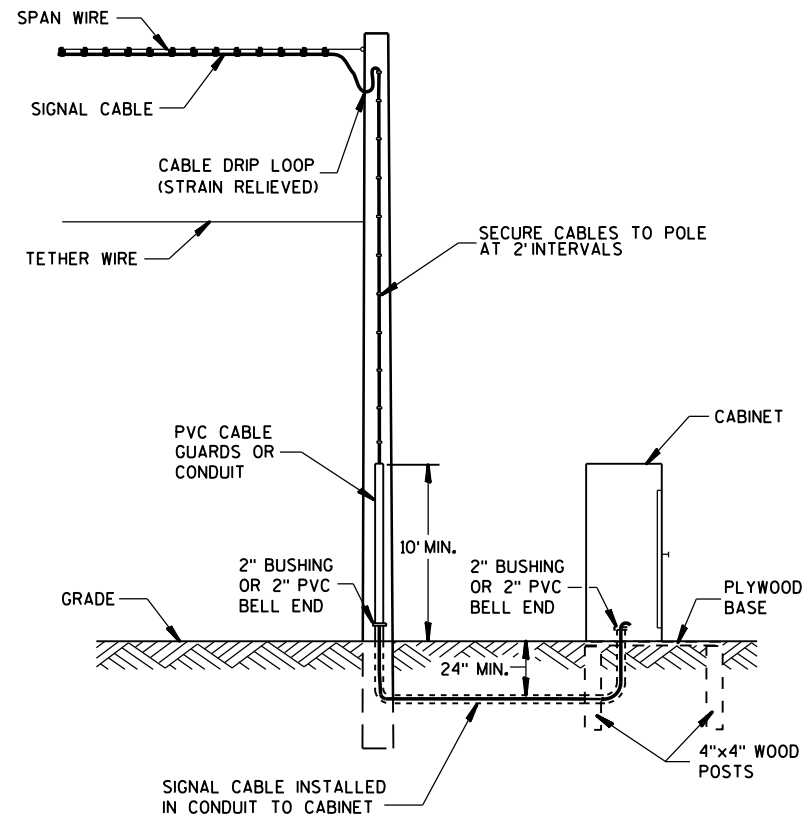


TYPICAL SPAN WIRE MOUNTING HARDWARE



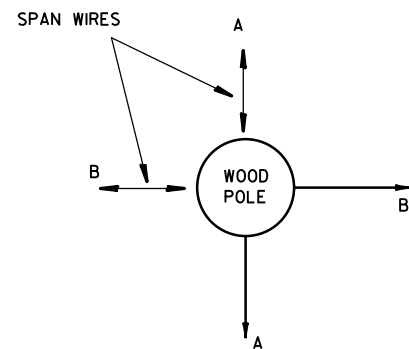
5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

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



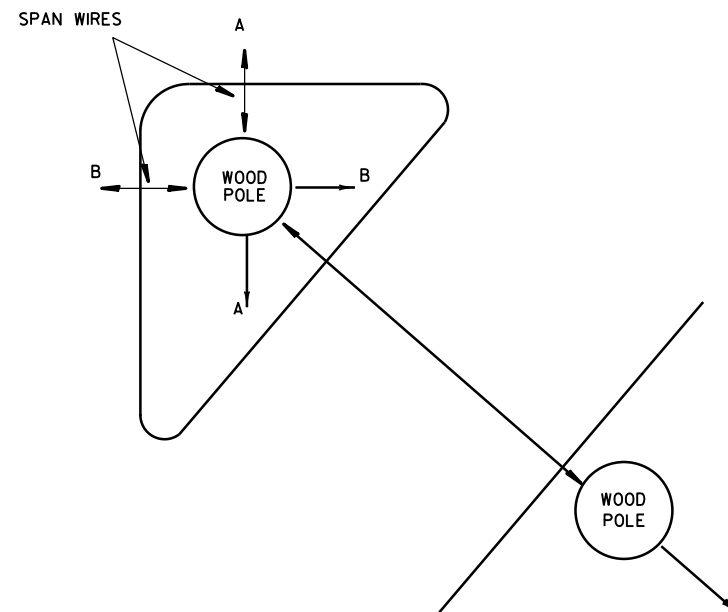
SPLICE BOX

TYPICAL SKID TYPE TEMPORARY

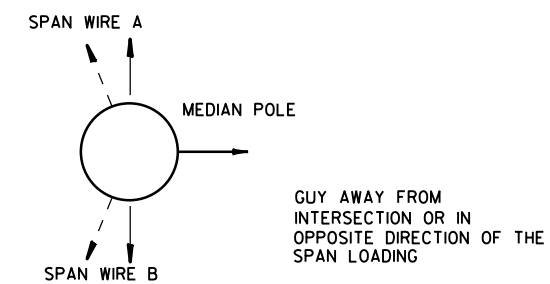


ALL DOWN OR SIDEWALK GUYS SHALL BE INSTALLED IN THE OPPOSITE DIRECTION OF THE STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



MEDIAN POLES

**SPAN WIRE
TEMPORARY TRAFFIC SIGNAL**

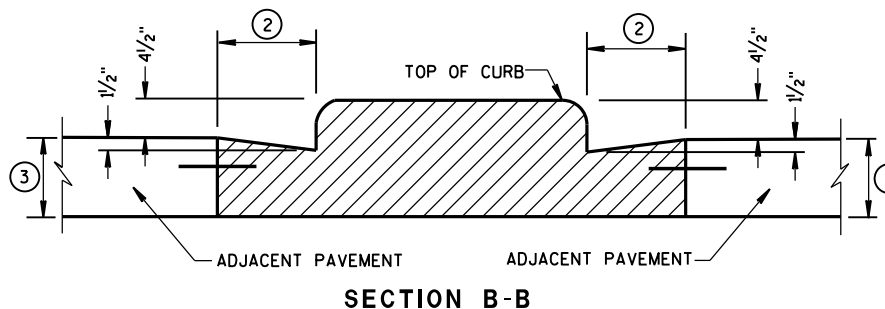
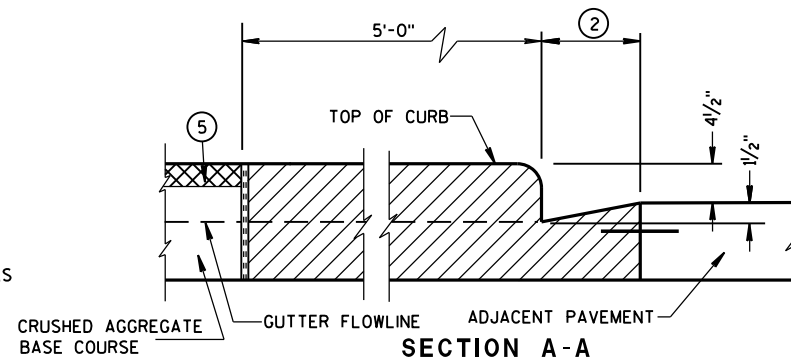
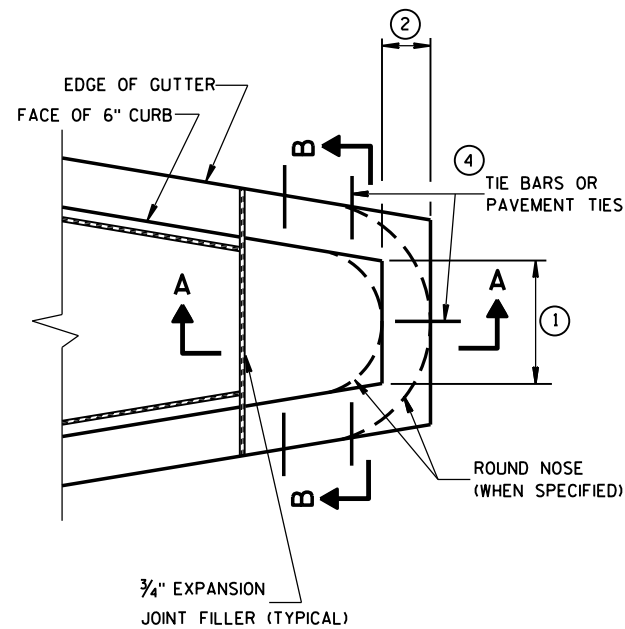
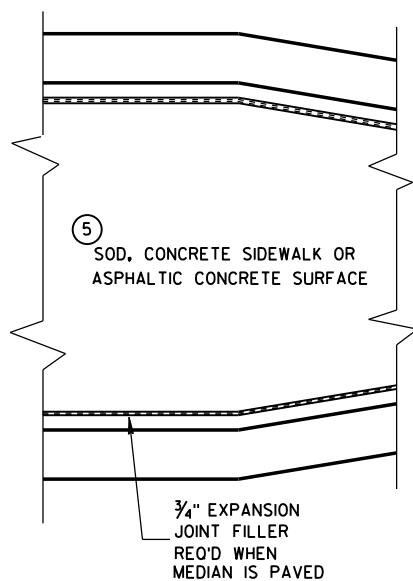
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
FHWA

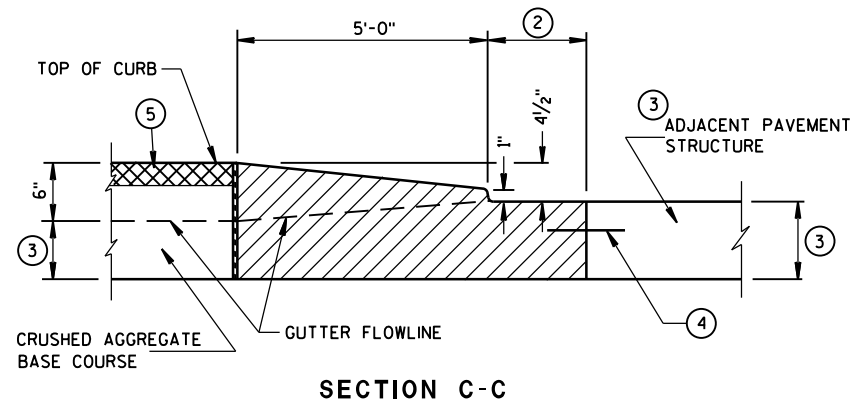
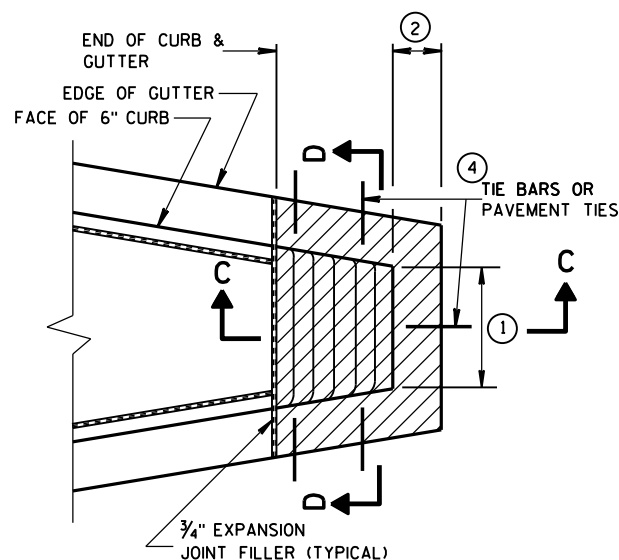
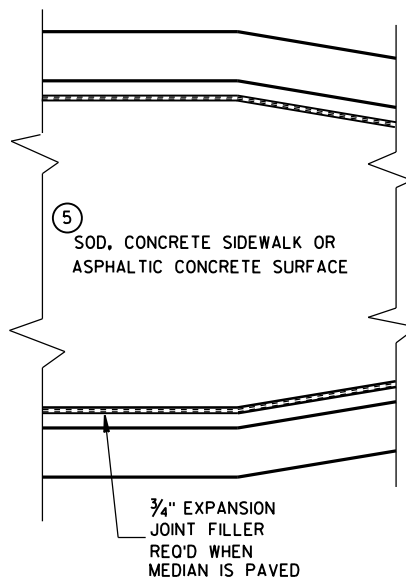
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER



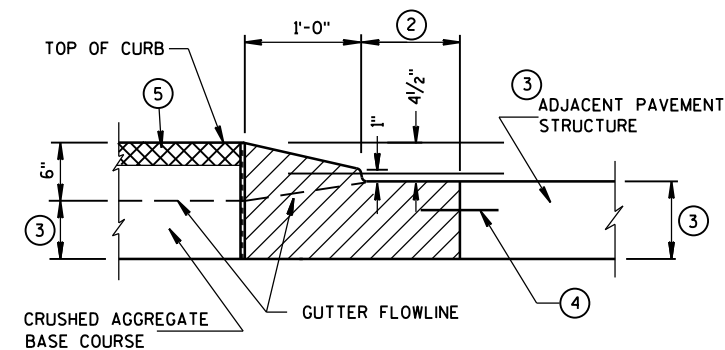
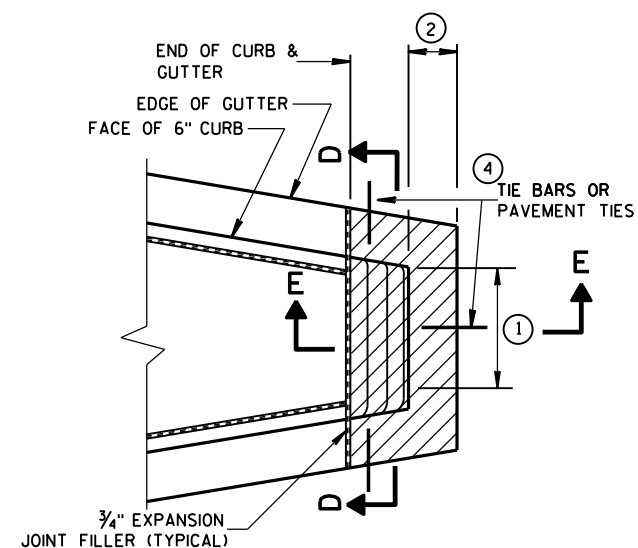
<p style="text-align: center;">2 CIRCUIT METER BREAKER PEDESTAL</p>	
<p style="text-align: center;">STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p>APPROVED Sept. 2014</p> <hr/> <p>DATE</p>	<p>/S/ Ahmet Demirbilek</p> <hr/> <p>STATE ELECTRICAL ENGINEER</p>
<p>FHWA</p>	



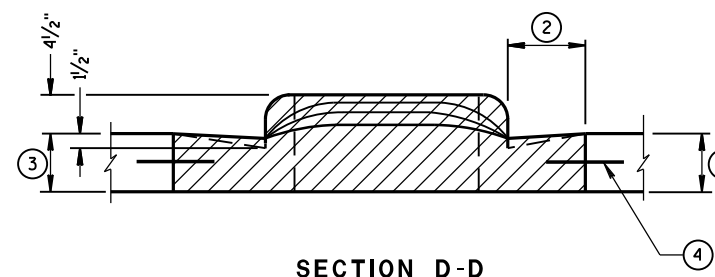
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 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 THE APPLICABLE SPECIAL PROVISIONS.

- ① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
 - (1) NEW OR EXISTING CONCRETE PAVEMENT.
 - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
 - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/8/2006

DATE

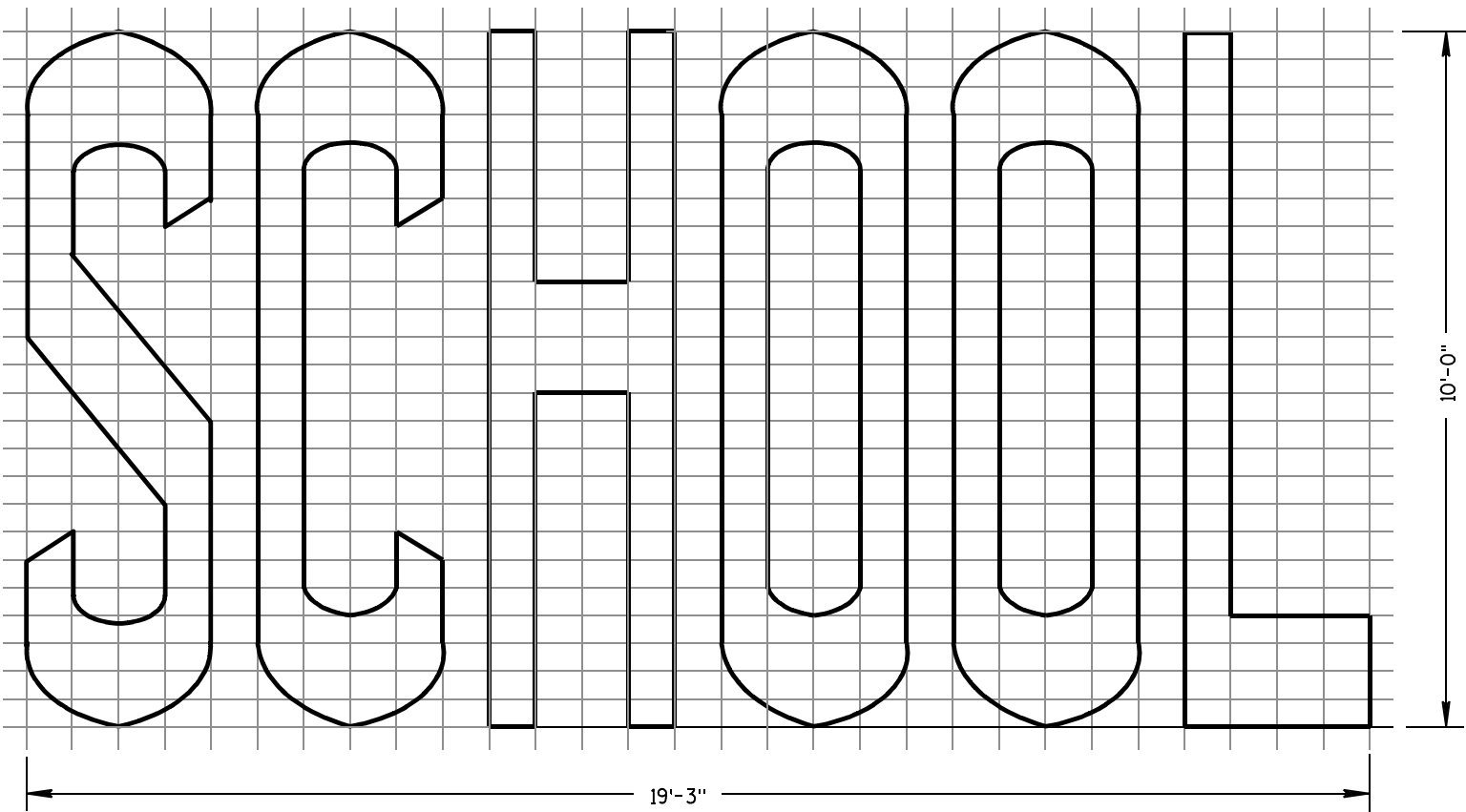
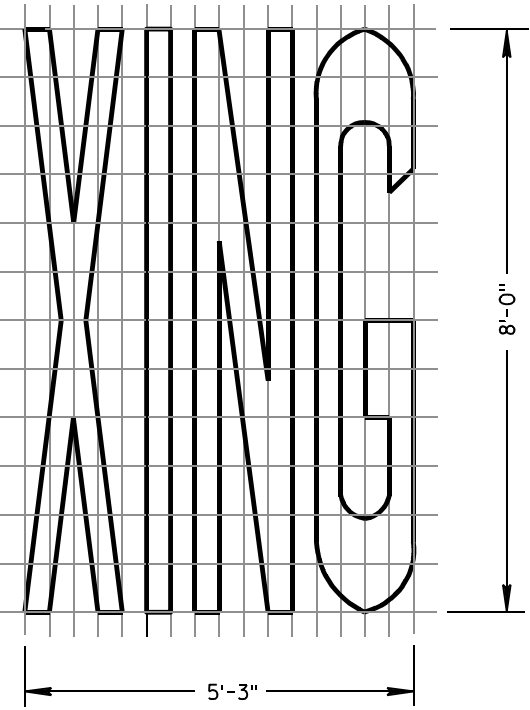
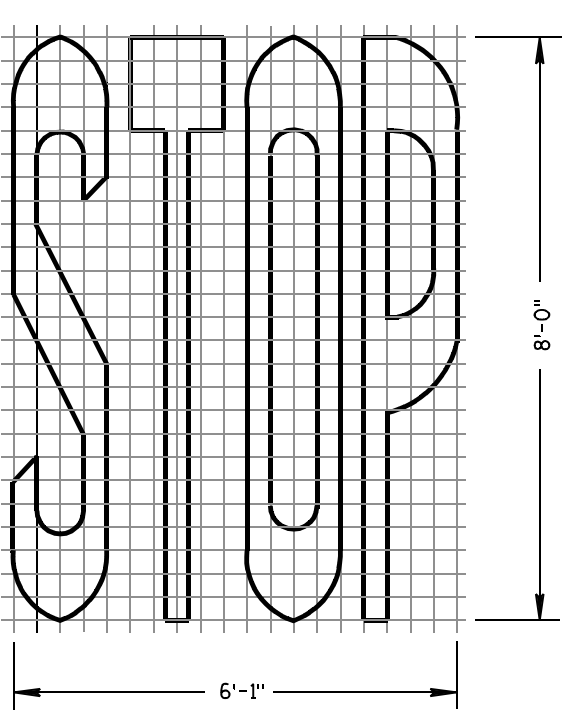
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

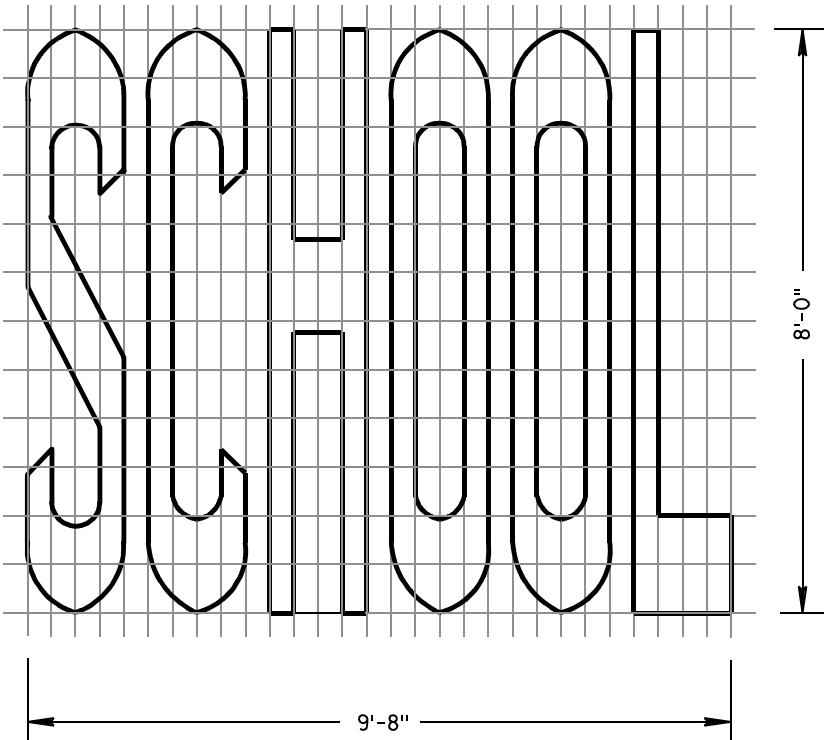
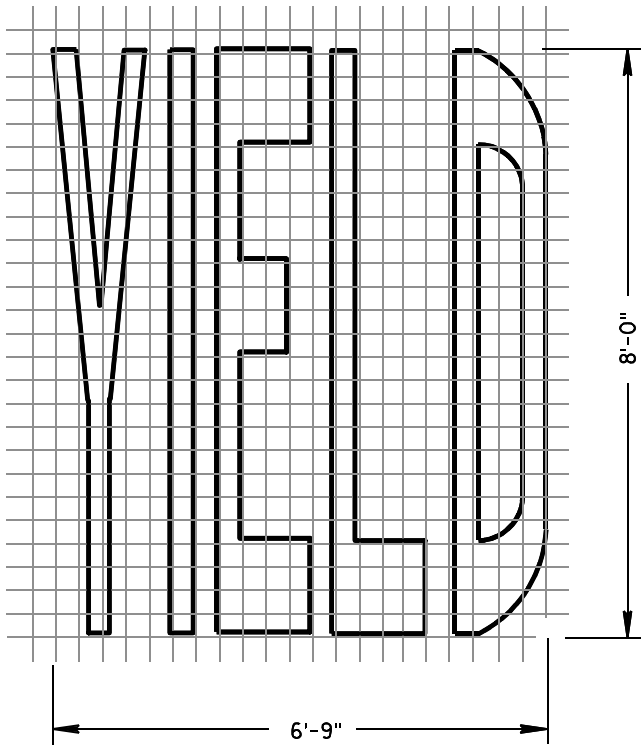
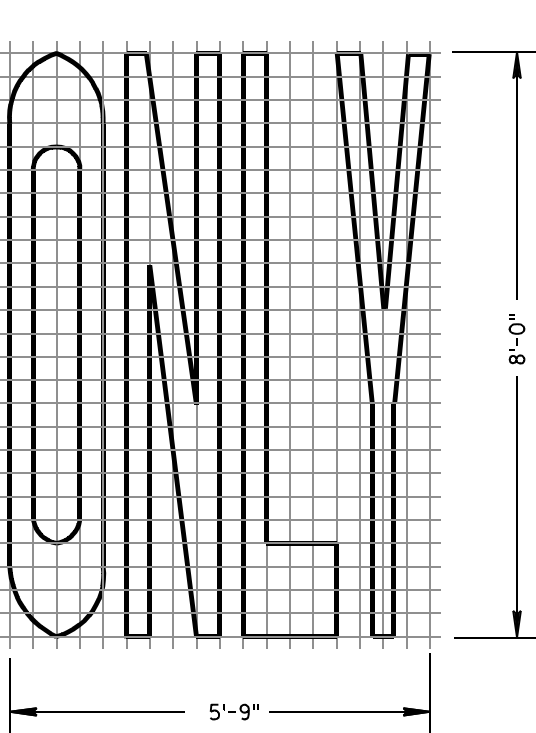
GENERAL NOTES

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.

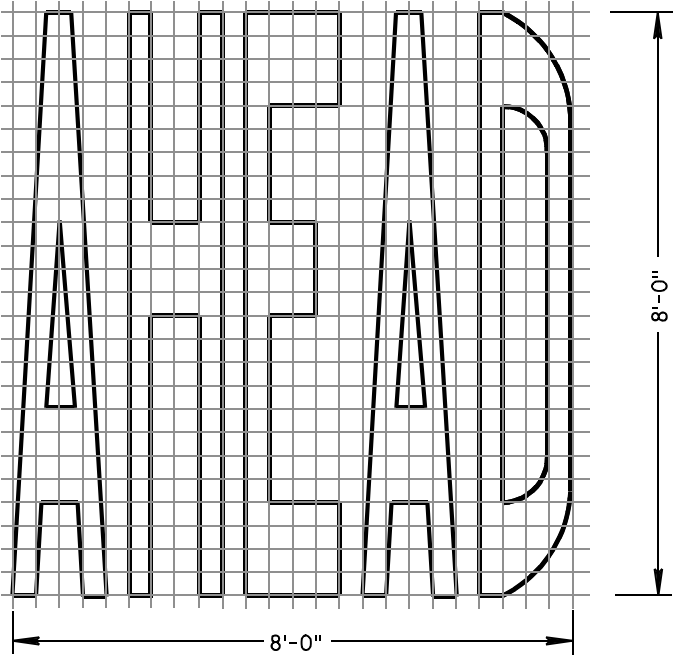
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



TWO-LANE



SINGLE-LANE



PAVEMENT MARKING WORDS

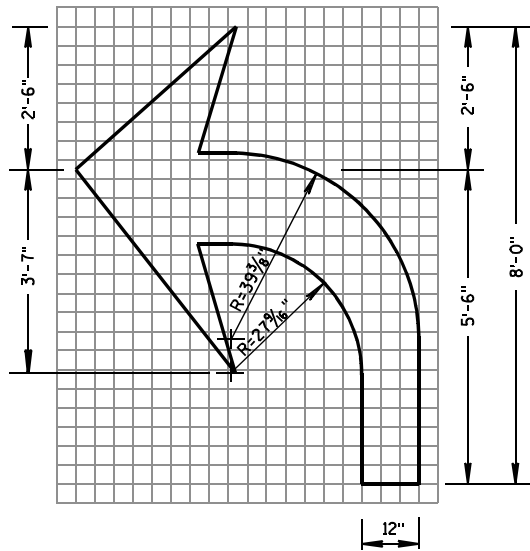
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

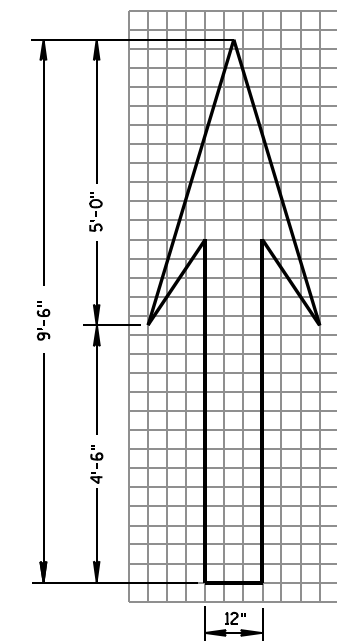
7-1-11
DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

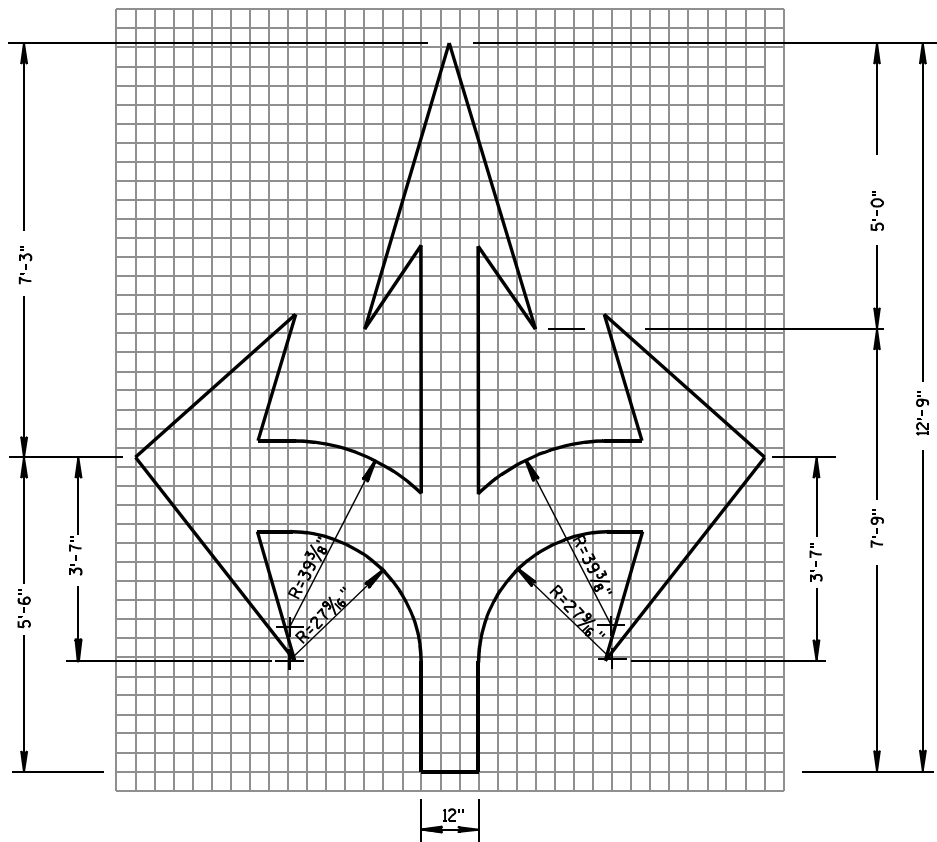
FHWA



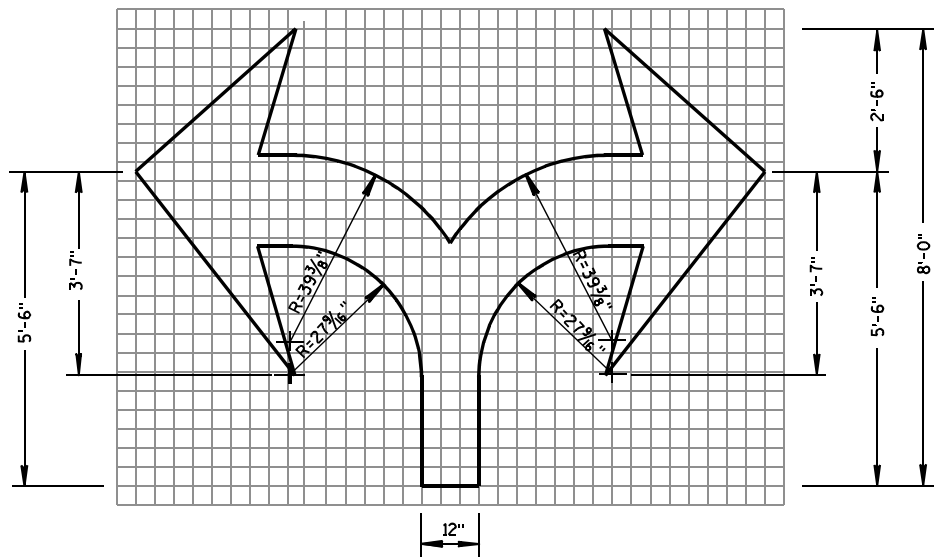
TYPE 2



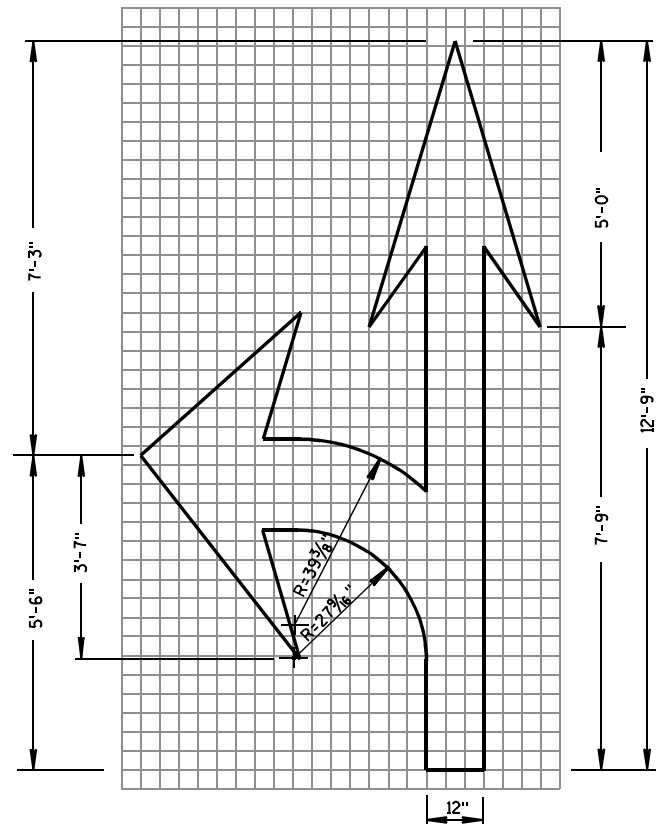
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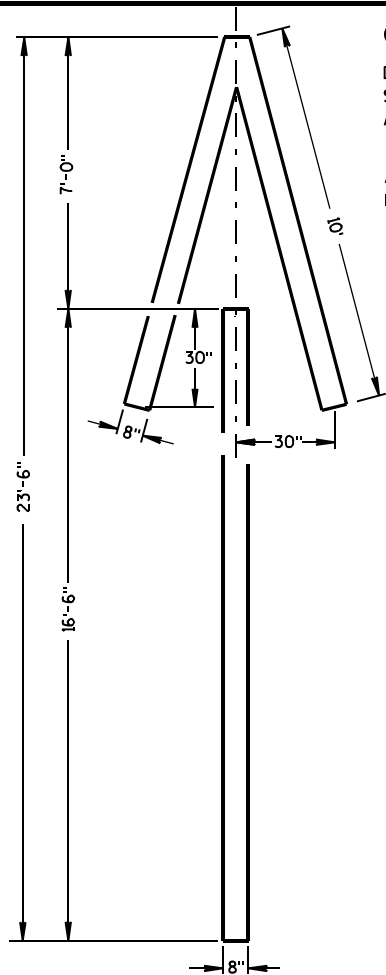
TYPE 6



TYPE 7



TYPE 3

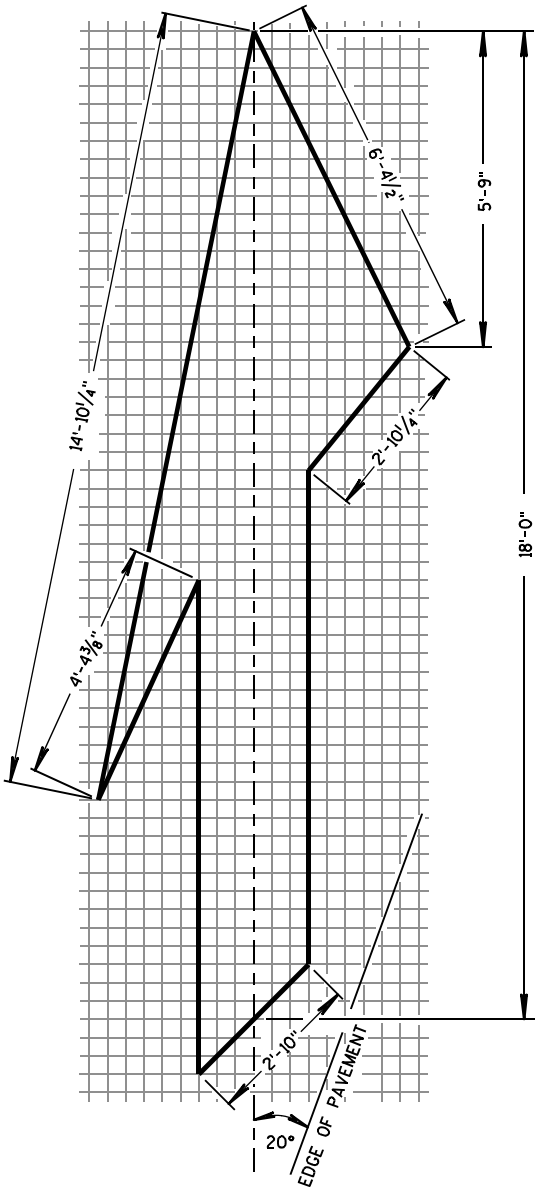


TYPE 4

GENERAL NOTES

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

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 5 LANE DROP ARROW

PAVEMENT MARKING ARROWS

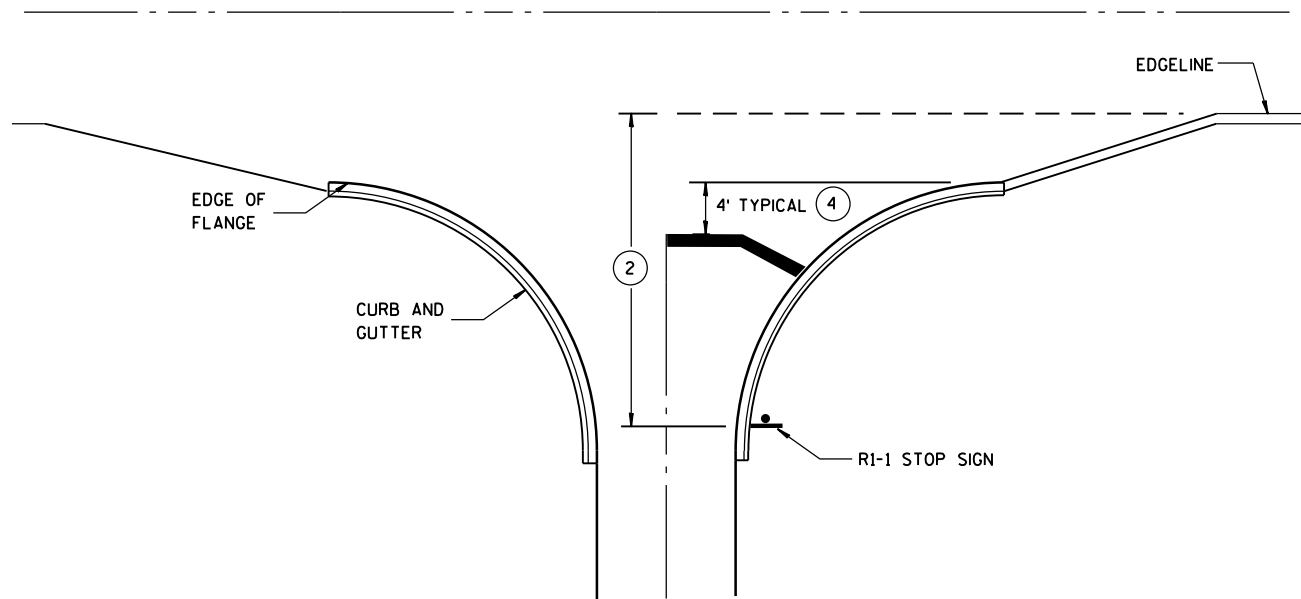
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

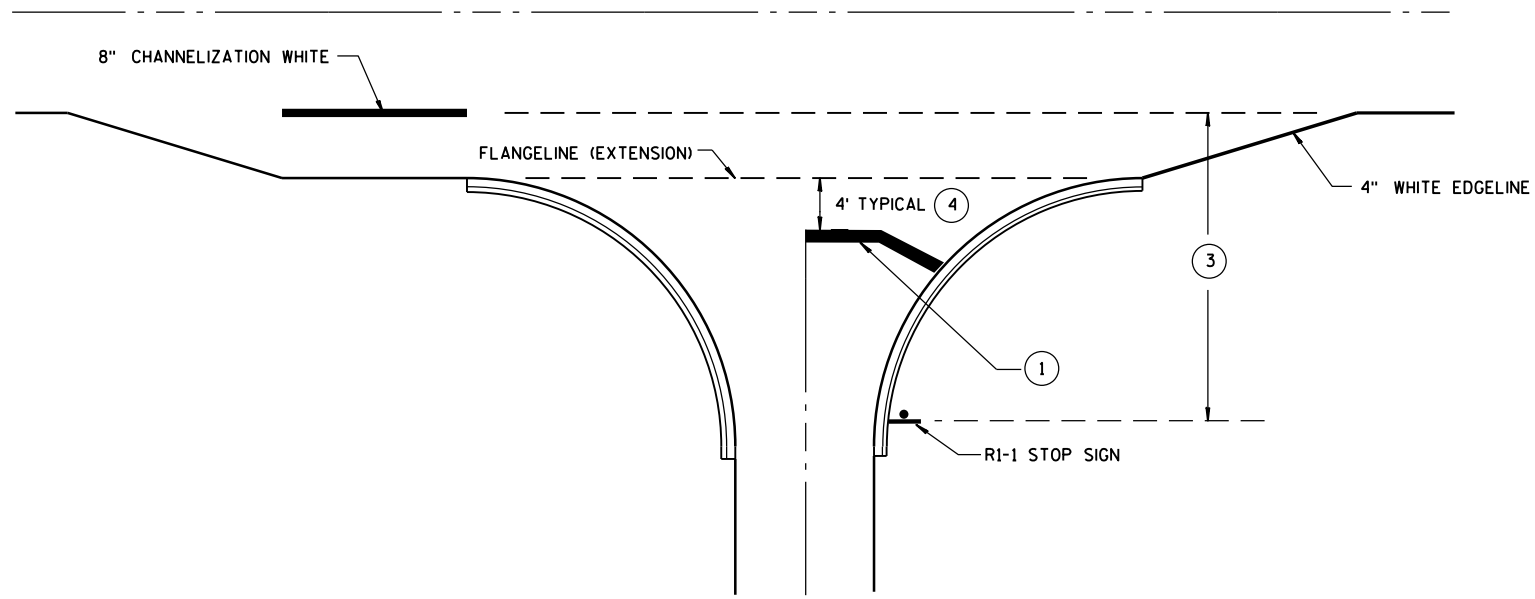
7/1/11
DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

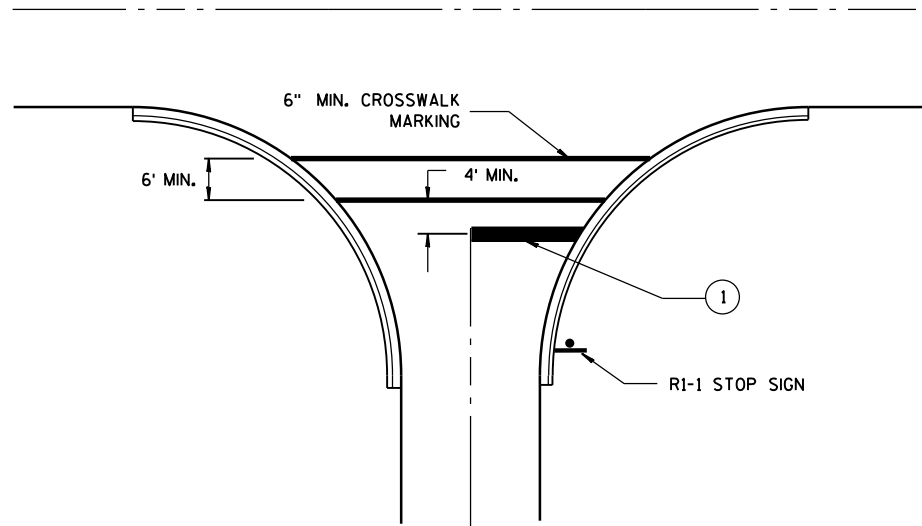
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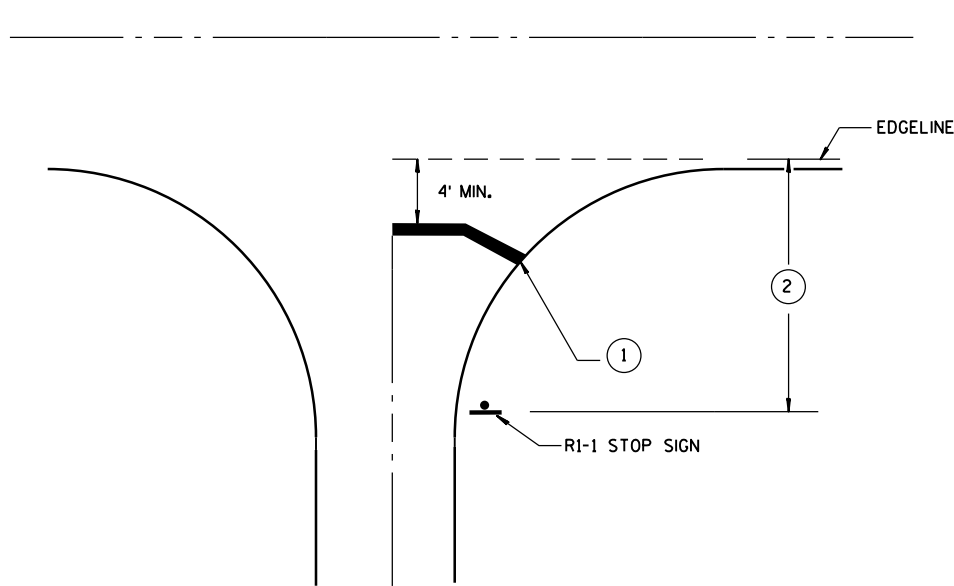
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



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

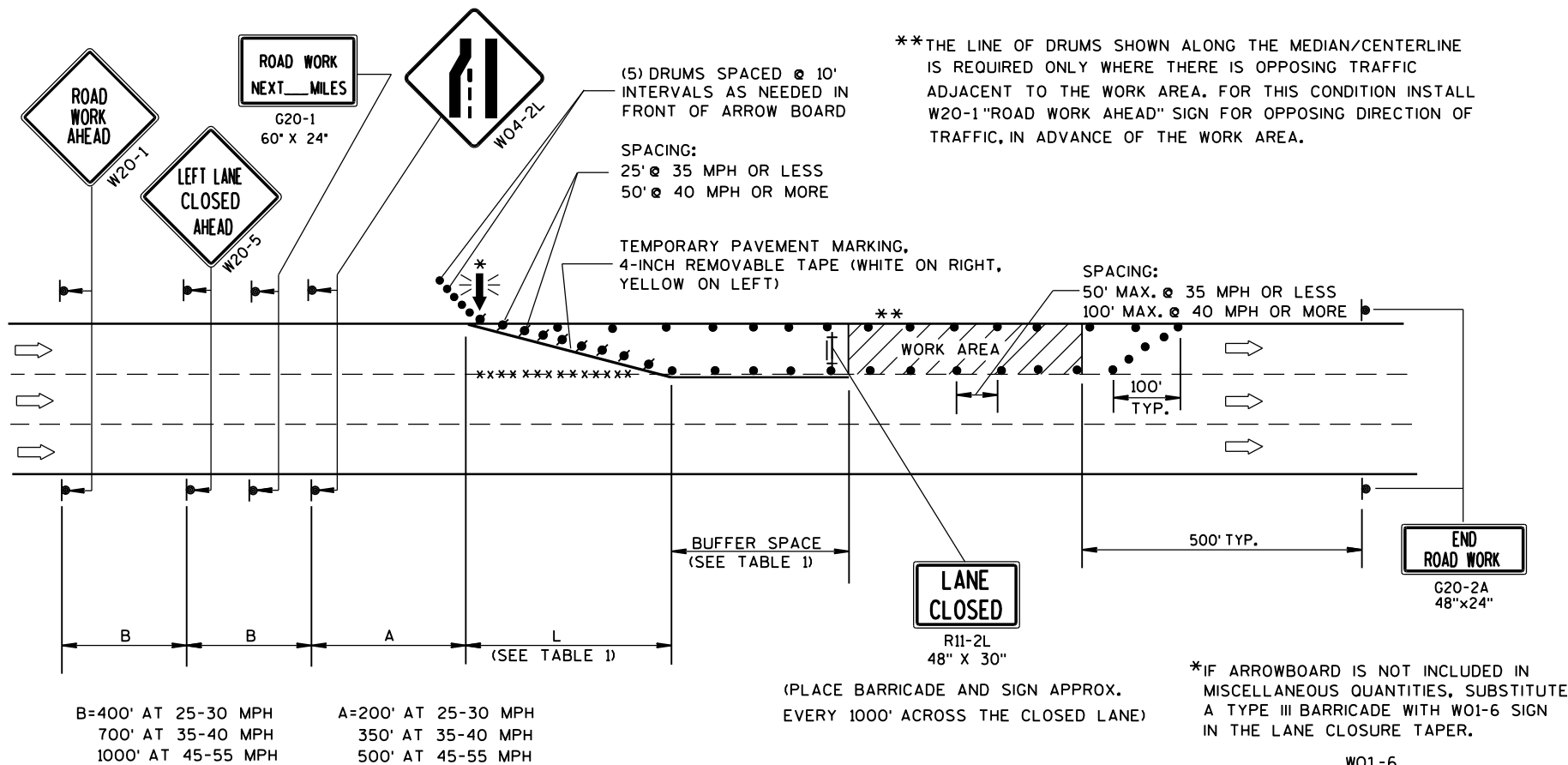
GENERAL NOTES

- 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 EDGE LINE 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 Feltz
STATE TRAFFIC ENGINEER
FHWA



GENERAL NOTES

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

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

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

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

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

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

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

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

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

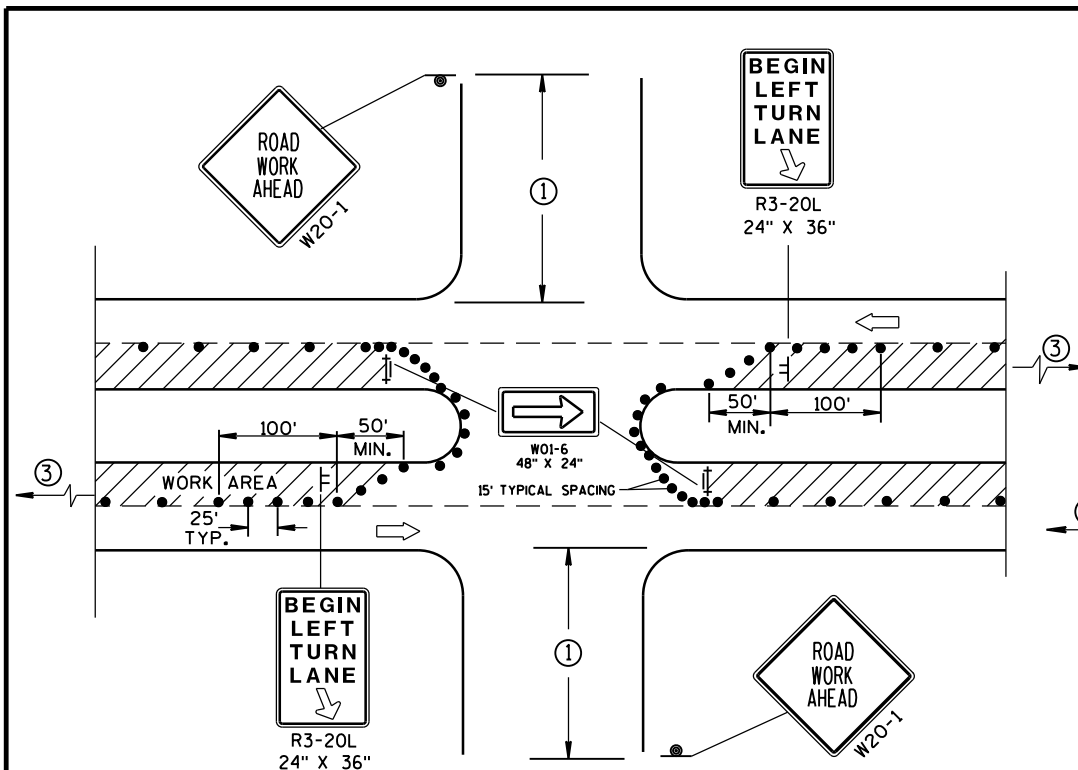
LEGEND

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

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

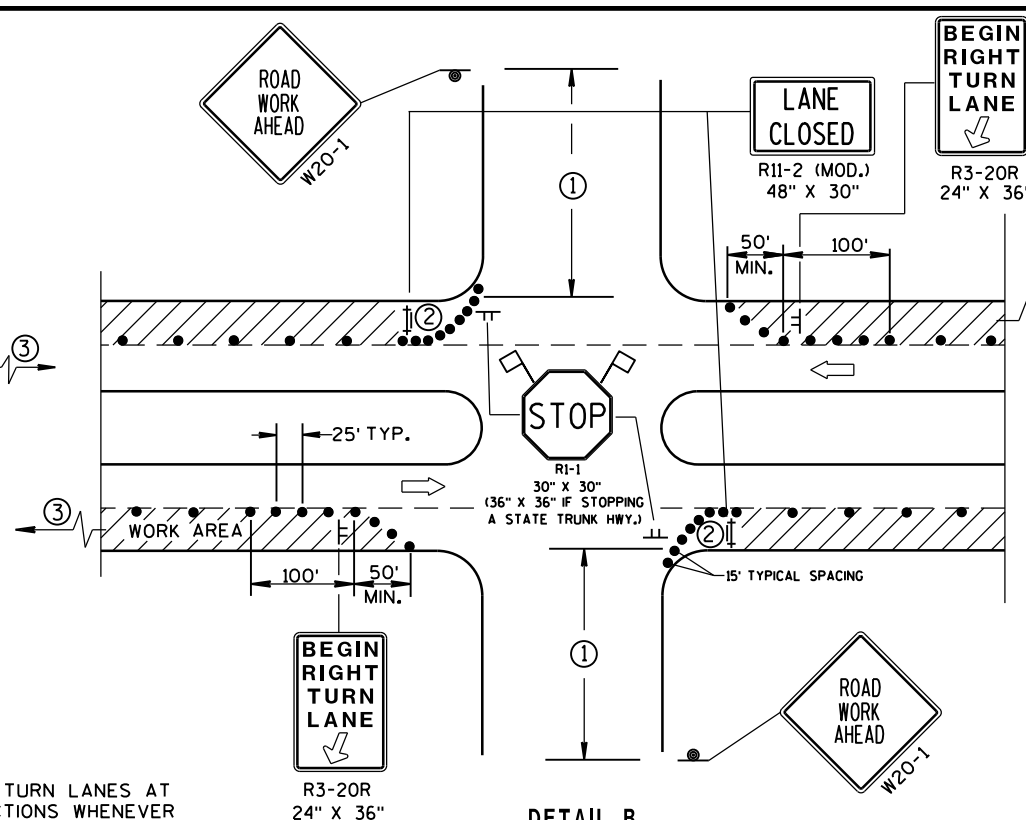
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



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.

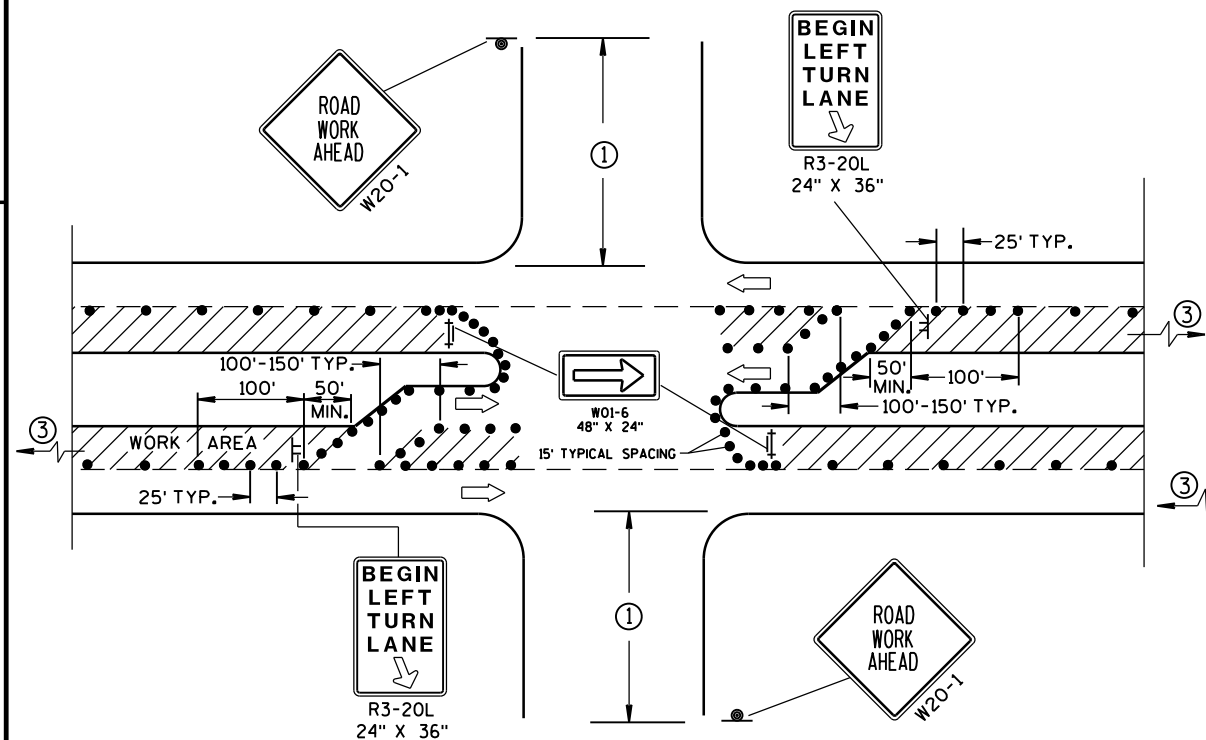
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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.

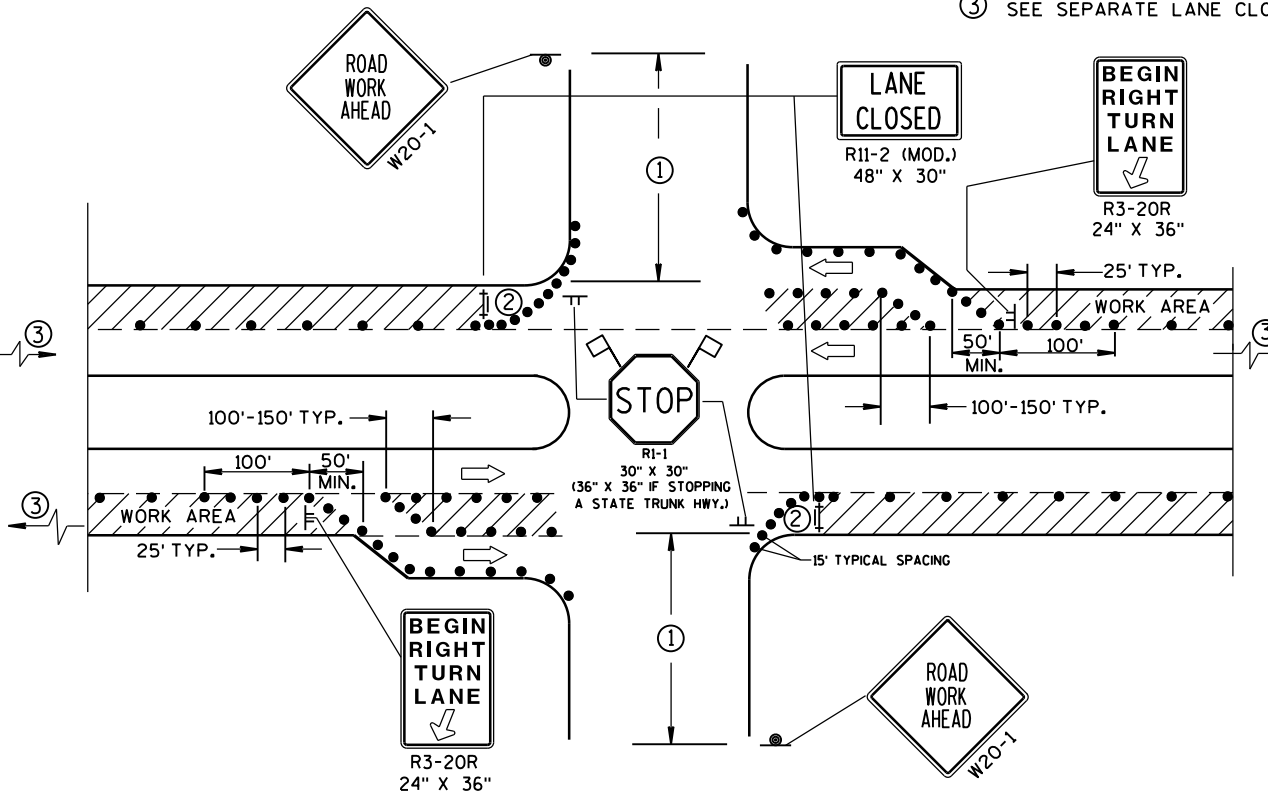
- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.
- ② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

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



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)

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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