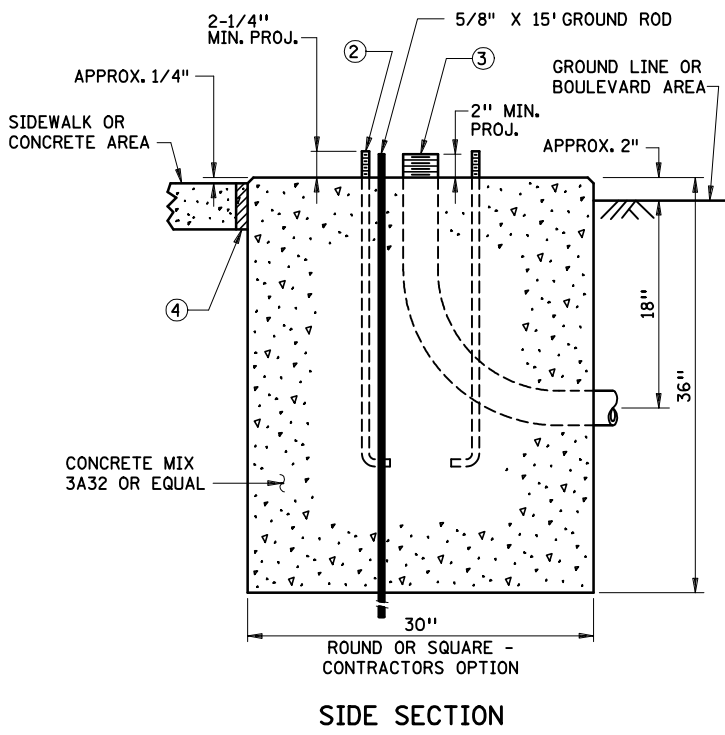


REQUIRED PEDESTAL WASHER OPTIONS ②



NOTES:

SIZE OF FOUNDATION MAY BE CHANGED IN THE PLANS OR SPECIAL PROVISIONS, OR IN THE FIELD AS DIRECTED BY THE ENGINEER.

ANCHOR RODS SHALL BE SET ACCORDING TO PEDESTAL MANUFACTURERS' RECOMMENDATIONS.

A FIBER FORMING TUBE MAY BE USED IN FORMING A ROUND FOUNDATION.

THE UPPER PART OF THE FOUNDATION SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER IN THE FIELD.

THE OPEN END OF ALL CONDUIT INTO THE FOUNDATION SHALL BE CAPPED BEFORE SIGNAL CABLES ARE INSTALLED.

- ① 4 ANCHOR RODS EQUALLY SPACED ON 12-3/4" BOLT CIRCLE POSITIONED SUCH THAT THE PEDESTAL BASE ACCESS DOOR IS CONVENIENTLY LOCATED ON THE SIDE AWAY FROM TRAFFIC (IF POSSIBLE).
- ② FOUR (4) 3/4" DIA. X 18" MIN. ANCHOR RODS, NUTS AND WASHERS PER SPEC. 3385 (TYPE A), OR APPROVED PEDESTAL MANUFACTURERS' EQUAL. THE WASHERS SHALL BE PER SPEC. 3832.2C3, EXCEPT THAT THE DIMENSIONS OF THE WASHERS SHALL BE ONE OF OPTIONS SHOWN.
- ③ CONDUIT PER SPEC. 3801 OR 3803. SIZE AND NUMBER AS REQUIRED IN PLANS OR SPECIAL PROVISIONS.
- ④ PREFORMED JOINT FILLER BETWEEN FOUNDATION AND SIDEWALK OR CONCRETE AREA

PLANS SYMBOL	
TRAFFIC SIGNAL PEDESTAL	☒

APPROVED MAY 22, 2009

Milakus
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

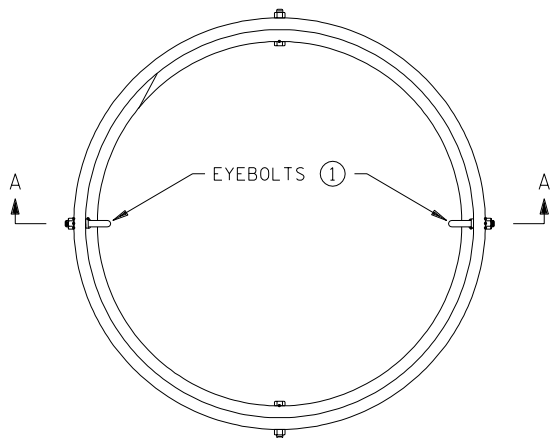
PEDESTAL FOUNDATION
(TRAFFIC CONTROL SIGNALS)

SPECIFICATION
REFERENCE

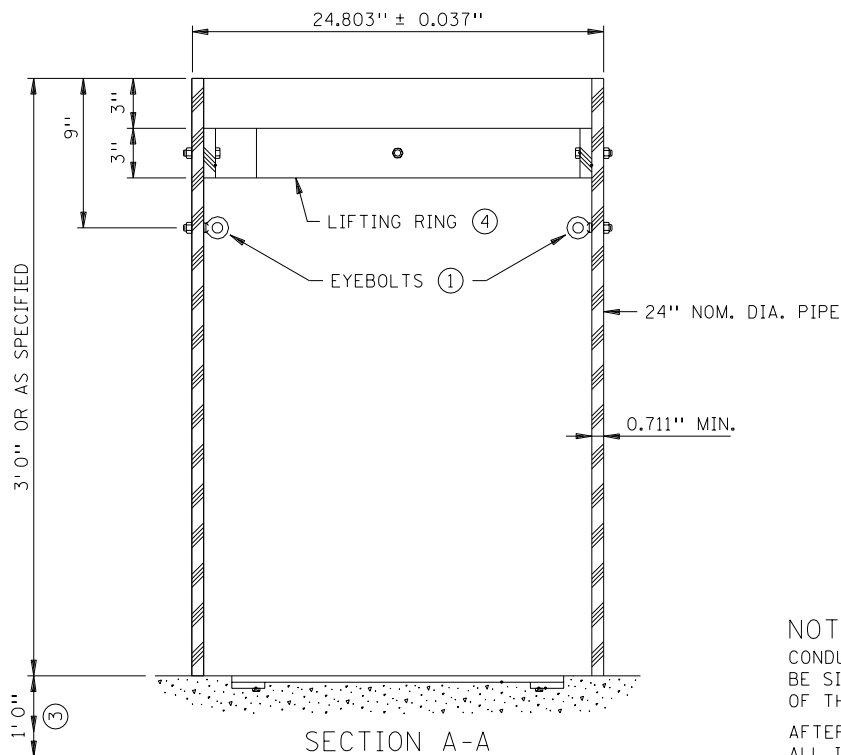
2461
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STANDARD
PLATE
NO.

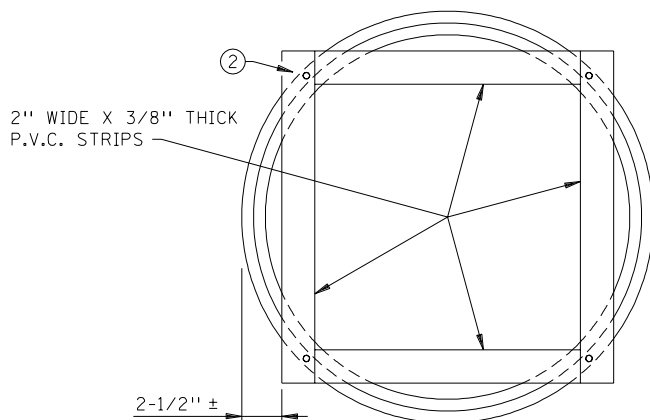
8112F



TOP VIEW



SECTION A-A



BOTTOM VIEW

NOTES:

CONDUIT HOLES LOCATED IN BARREL SECTION SHALL BE SIZED NO MORE THAN 1" LARGER THAN THE SIZE OF THE CONDUIT BEING USED.

AFTER THE HANDHOLE AND CONDUIT INSTALLATION, ALL INSIDE WALLS AND COVER SHALL BE MADE WATER TIGHT TO THE SATISFACTION OF THE ENGINEER.

P.V.C. PIPE SHALL MEET THE REQUIREMENTS OF ASTM F679T-1 OR EQUAL.

HEX HEAD BOLTS AND NUTS SHALL BE STAINLESS STEEL PER SPEC. 3391. OTHER FASTENERS SHALL BE GALVANIZED PER SPEC. 3392.

- ① TWO TYPE 2 SHOULDER EYEBOLTS, 3/8" DIA. X 1-1/4" SHANK LENGTH, AND HEX NUTS 180° APART (FOR SUPPORTING ELECTRIC CABLE)
- ② SCREW THE ASSEMBLY TOGETHER WITH FOUR 1/4" X 1-1/4" LONG GALVANIZED LAG SCREWS.
- ③ PLACE COMPACTED 1' 0" THICK AGGREGATE DRAIN BED BELOW THE BOTTOM OF THE HANDHOLE TO THE SATISFACTION OF THE ENGINEER. USE SPEC. 3149.2H COARSE FILTER AGGREGATE.
- ④ ATTACH SPLIT 24" NOM. DIA. P.V.C. LIFTING RING WITH FOUR 3/8" DIA. X 2" LONG HEX HEAD STAINLESS STEEL BOLTS WITH HEX NUTS AT 90° APART. BOLT ASSEMBLY TOGETHER.

APPROVED JAN. 3, 1997

Gerald J. Robrecht

STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

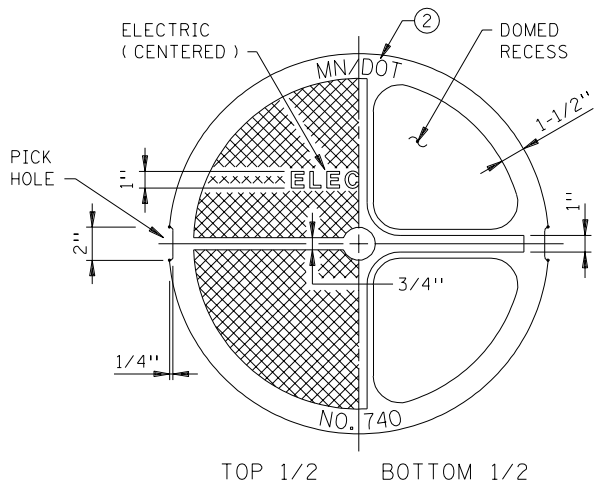
P.V.C. HANDHOLE / PULLBOX
NO VEHICLE LOAD

SPECIFICATION
REFERENCE

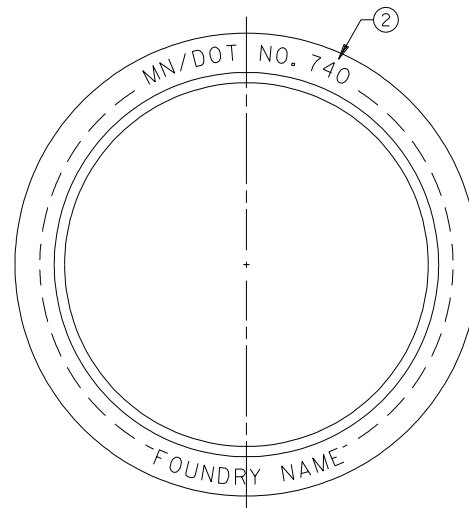
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STANDARD
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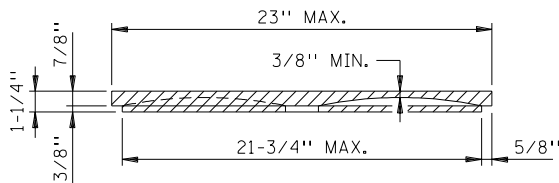
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1 OF 2



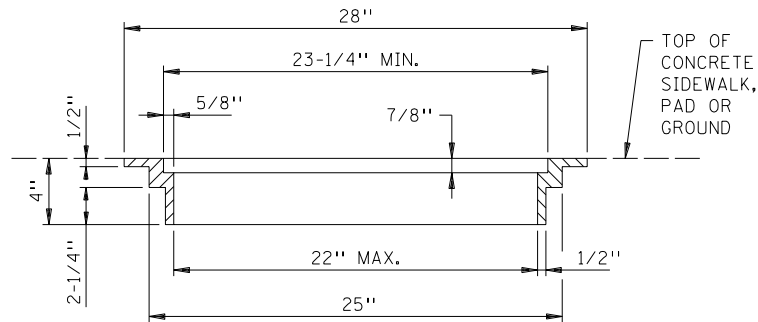
TOP 1/2 BOTTOM 1/2



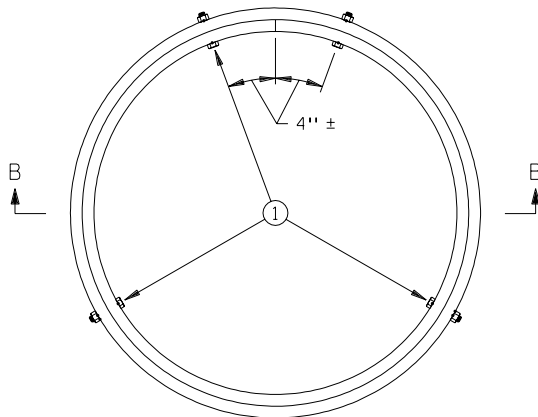
HALF TOP VIEW



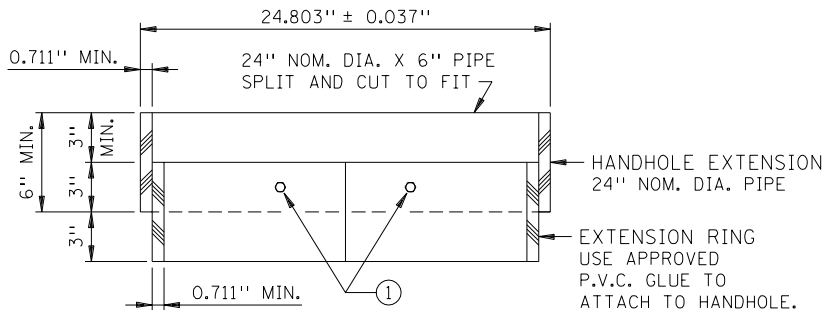
SECTION METAL COVER CASTING



SECTION METAL FRAME CASTING



TOP VIEW



SECTION B-B
EXTENSION RING ASSEMBLY
FUTURE ADJUSTMENT

NOTES:

ALL CASTINGS SHALL BE GRAY IRON PER SPEC. 3321, CLASS 35B.

- ① ATTACH THE EXTENSION RING (A 6" PIECE OF 24" NOM. DIA. P.V.C. PIPE, SPLIT AND CUT TO FIT INSIDE THE P.V.C. PIPE OF THE HANDHOLE) TO THE INSIDE OF THE P.V.C. HANDHOLE EXTENSION WITH FOUR 3/8" DIA. X 2" LONG STAINLESS STEEL HEX HEAD BOLTS AND HEX NUTS AT 120° APART.
- ② LETTERS AND NUMBERS TO BE 3/4" HIGH AND DEPRESSED 1/8 INCHES.

CASTING ASSEMBLY NO. 740

APPROVED JAN. 3, 1997

Gerald J. Rodensch

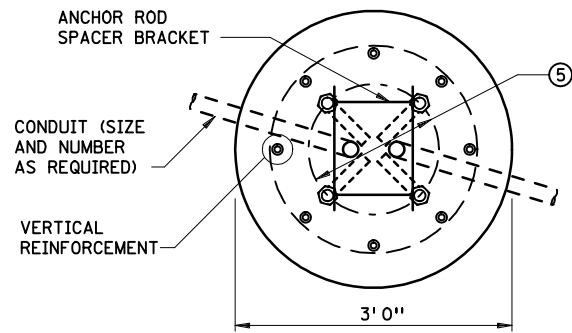
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
P.V.C. HANDHOLE / PULLBOX
(EXTENSION RING AND METAL COVER)
NO VEHICLE LOAD

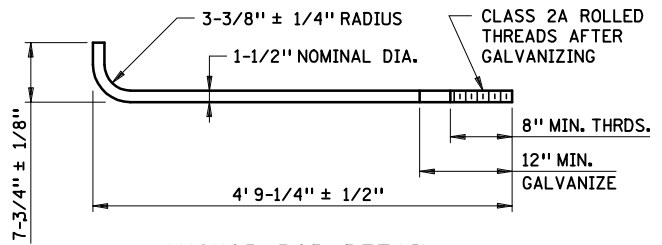
SPECIFICATION
REFERENCE
2545
2565

REVISED
3-27-98

STANDARD
PLATE
NO.
8114A
2 OF 2



TOP VIEW



ANCHOR ROD DETAIL
(ROD MATERIAL IS SPEC. 3385 TYPE C)

NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

REINFORCING BARS SHALL BE GRADE 60 AND MEET THE REQUIREMENTS OF ASTM A 706 (WELDABLE REBARS) AND ARE IDENTIFIED BY A DISTINGUISHING MARK OF "W" ROLLED ONTO THE SURFACE OF ONE SIDE OF THE BAR. WELDING SHALL BE PER ANSI/AWS D1.4. USE 8-NO. 22 BARS FOR VERTICAL REINFORCEMENT, SPACED ON A 27" DIA. CIRCLE. HORIZONTAL (CIRCULAR) BARS TO BE NO. 13 SPACED AT 1' 0" MAXIMUM VERTICAL SPACING. SECURELY TIE OR WELD (OR COMBINATION) ALL REINFORCEMENT TOGETHER.

ANCHOR RODS SHALL BE GALVANIZED IN ACCORDANCE WITH SPEC. 3392 AND SHALL BE 1-1/2" NOMINAL DIA. AND CUT LENGTH OF 60" BEFORE BENDING. (SEE ANCHOR ROD DETAIL). ANCHOR ROD CAGES SHALL BE DESIGNED WITHOUT WELDING ONTO THE ANCHOR RODS.

CONCRETE MIX 3Y43.

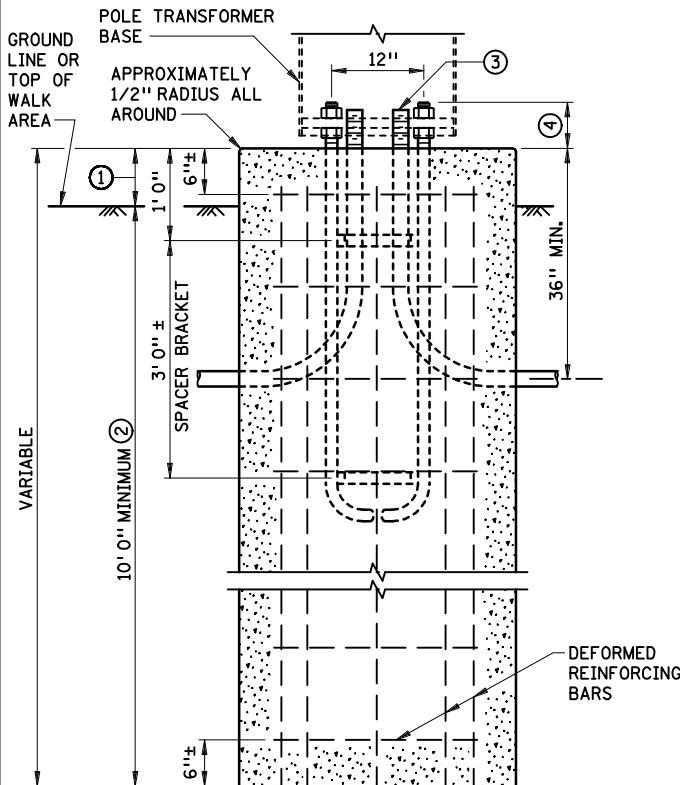
PREFORMED JOINT FILLER SHALL BE USED BETWEEN FOUNDATION AND SIDEWALK OR CONCRETE AREAS.

A FIBER FORMING TUBE SHALL BE USED IN FORMING THE FOUNDATION, OR AS APPROVED BY THE ENGINEER.

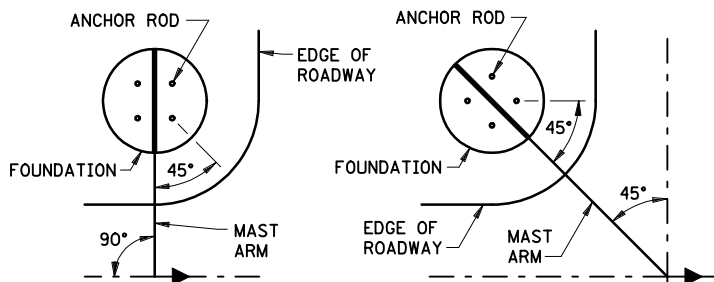
OPEN ENDS OF ALL CONDUIT INTO FOUNDATION SHALL BE POSITIONED INSIDE THE ANCHOR ROD BOLT CIRCLE, AND CAPPED UNTIL CABLES ARE INSTALLED.

MAST ARM POLE STANDARDS SHALL NOT BE INSTALLED ON FOUNDATIONS UNTIL AT LEAST SEVEN DAYS OF CURING PERIOD HAVE ELAPSED.

- ① THE ELEVATION OF THE TOP OF THE FOUNDATION SHALL ASSURE THE VERTICAL CLEARANCE FROM THE BOTTOM OF ALL SIGNAL HEADS (INCLUDING BACKGROUND SHIELDS) TO THE PAVEMENT IS NOT LESS THAN 17 FT. NOR GREATER THAN 19 FT.. THE TOP OF THE FOUNDATION MUST BE A MINIMUM OF 6" ABOVE THE GROUND LINE OR TOP OF SIDEWALK.
- ② DEPTH OF FOUNDATION MAY BE CHANGED IN PLANS OR SPECIAL PROVISIONS. DEPTH OF FOUNDATION MAY BE REDUCED 2 FEET WHEN INSTALLED IN SIDEWALK OR CONCRETE RAISED MEDIAN. FOUNDATION DEPTHS ARE BASED ON A SOIL FRICTION OF 30° AND A SOIL WEIGHT OF 120 LB/CF, AND NO GROUNDWATER WITHIN THE GROUND SURFACE TO A DEPTH OF TWO TIMES THE WIDTH OR DIAMETER OF BOTTOM OF POLE FOUNDATION. A SOIL BORING OR CONE PENETRATION TEST (CPT) SOUNDING IS RECOMMENDED WHERE IN-SITU STRATIGRAPHY IS UNKNOWN OR QUESTIONABLE. ANY VARIATION IN THE DEPTH OF THE FOUNDATION REQUIRES AN APPROVAL BY THE SOILS ENGINEER.
- ③ CONDUIT PER SPEC. 3801 OR 3803, SIZE AND NUMBER AS REQUIRED IN PLANS OR SPECIAL PROVISIONS. 4" MINIMUM PROJECTION ABOVE FOUNDATION, AND CAPPED UNTIL WIRING IS INSTALLED.
- ④ 6" ANCHOR ROD PROJECTION (THREADED). SOME POLES (SUCH AS ROTATABLE T-BASE) MAY REQUIRE GREATER PROJECTION.
- ⑤ FOUR ANCHOR RODS EQUALLY SPACED ON 16.97" DIA. BOLT CIRCLE (12" C. TO C.). EACH ANCHORAGE ROD SHALL HAVE TWO (2) HEAVY HEX LEVELING NUTS. AS PER ASTM A563 GRADE DH.



VERTICAL SECTION



TYPE A
MAST ARM POLE

TYPE B
MAST ARM POLE

ANCHOR ROD PLACEMENT
(WHEN USED WITH MAST ARM POLE)

APPROVED MAY 22, 2009

Milakus
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

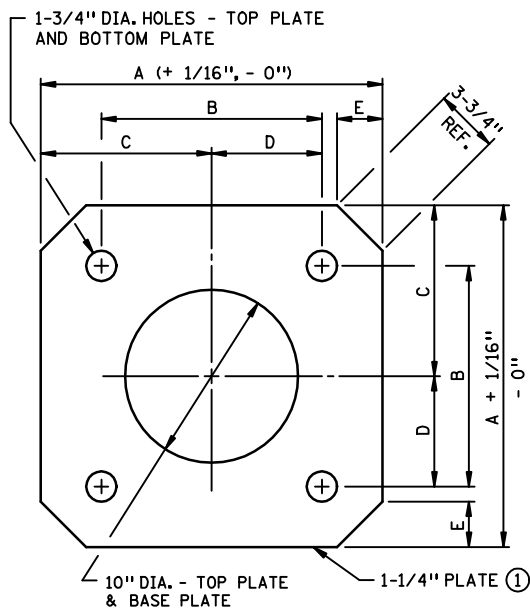
POLE FOUNDATION
(PA85)

SPECIFICATION
REFERENCE

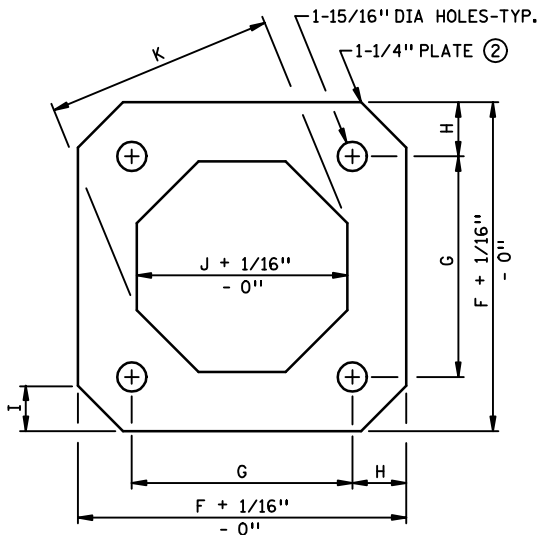
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STANDARD
PLATE
NO.

8120N

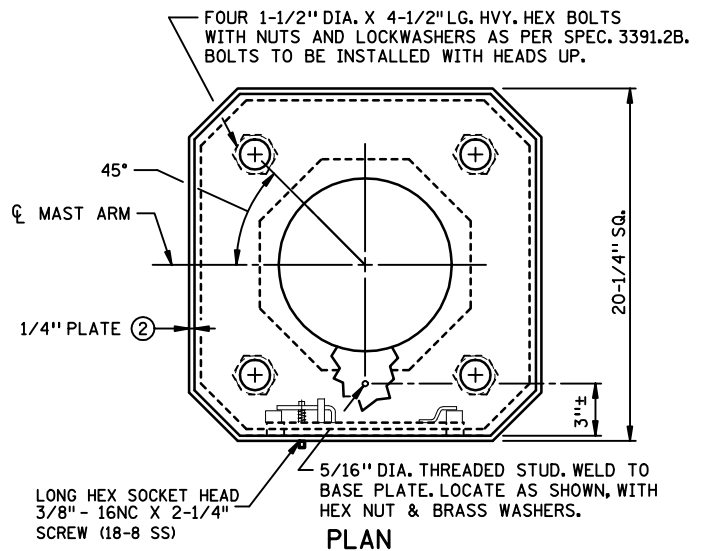


TOP & BASE PLATE DETAIL

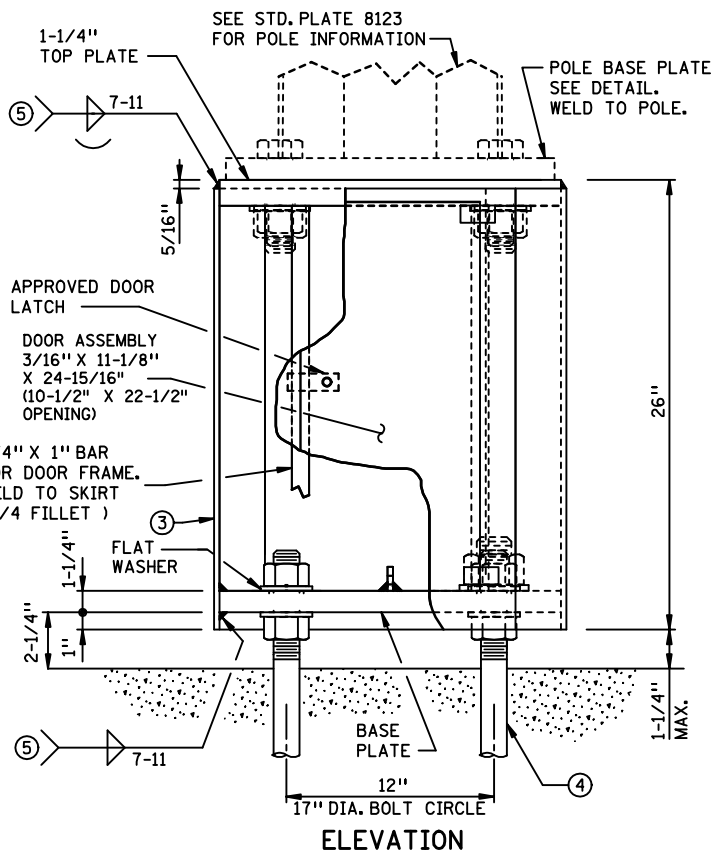


POLE BASE PLATE DETAIL

DIMENSION	TOP PLATE ①	BASE PLATE ①	POLE BASE PLATE ②
A	19-3/4"	19-3/4"	
B	12-3/4"	12"	
C	9-7/8"	9-7/8"	
D	6-3/8"	6"	
E	2-5/8"	2-5/8"	
F			19"
G			12-3/4"
H			3-1/8"
I			2-5/8"
J			13-3/16"
K			13"



PLAN



ELEVATION

NOTES:

BRUSH-ON ANTI-SEIZE COMPOUND MUST BE USED ON ALL THREADED FITTINGS.
FOR SUBSTITUTION OF MATERIALS, SEE SPEC. 1605.

- ① STRUCTURAL STEEL AS PER SPEC. 3306.
- ② STRUCTURAL STEEL AS PER SPEC. 3309.
- ③ GALVANIZE TRANSFORMER BASE AS PER SPEC. 3394 AFTER FABRICATION. GALVANIZE ALL HARDWARE AS PER SPEC. 3392, EXCEPT STAINLESS STEEL AND BRASS.
- ④ SEE STANDARD PLATE 8120 FOR POLE FOUNDATION DETAILS.
- ⑤ FABRICATE STRUCTURAL METALS PER SPEC. 2471.

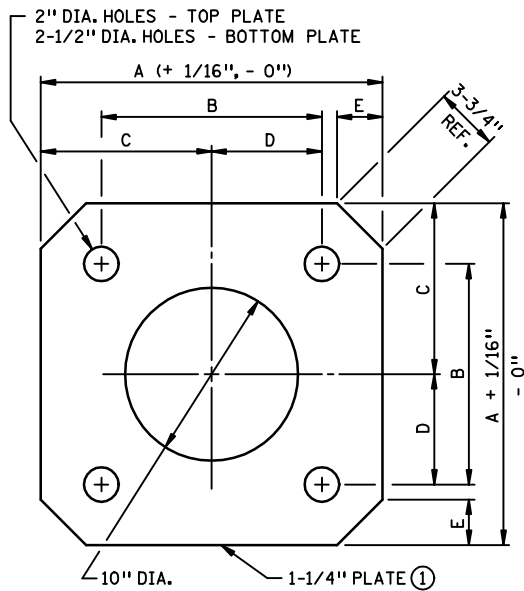
APPROVED MAY 22, 2009

Milakus
STATE DESIGN ENGINEER

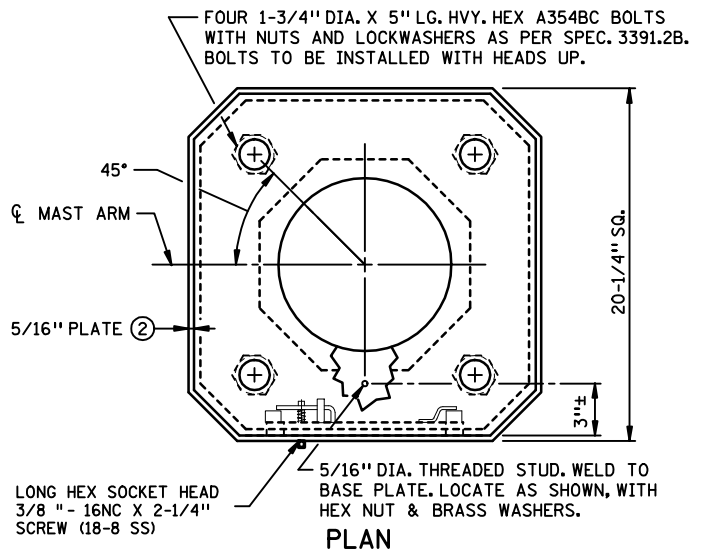
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
**TRANSFORMER BASE
AND POLE BASE PLATE**
(PA85)

SPECIFICATION
REFERENCE
2565

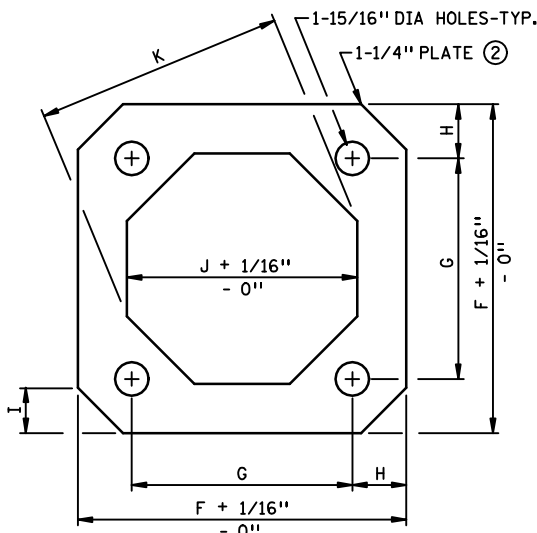
STANDARD
PLATE
NO.
8121F
1 OF 2



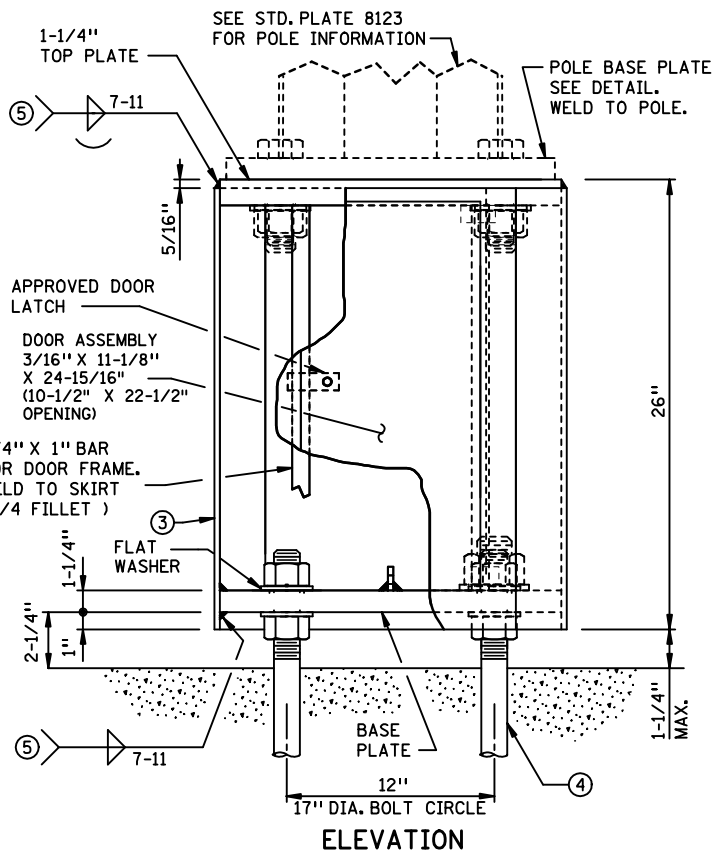
TOP & BASE PLATE DETAIL



PLAN



POLE BASE PLATE DETAIL



ELEVATION

DIMENSION	TOP PLATE ①	BASE PLATE ①	POLE BASE PLATE ②
A	19-3/4"	19-3/4"	
B	12-3/4"	12"	
C	9-7/8"	9-7/8"	
D	6-3/8"	6"	
E	2-5/8"	2-5/8"	
F			19"
G			12-3/4"
H			3-1/8"
I			2-5/8"
J			13-3/16"
K			14"

NOTES:

- BRUSH-ON ANTI-SEIZE COMPOUND MUST BE USED ON ALL THREADED FITTINGS. FOR SUBSTITUTION OF MATERIALS, SEE SPEC. 1605.
- ① STRUCTURAL STEEL AS PER SPEC. 3306.
- ② STRUCTURAL STEEL AS PER SPEC. 3309.
- ③ GALVANIZE TRANSFORMER BASE AS PER SPEC. 3394 AFTER FABRICATION. GALVANIZE ALL HARDWARE AS PER SPEC. 3392, EXCEPT STAINLESS STEEL AND BRASS.
- ④ SEE STANDARD PLATE 8126 FOR POLE FOUNDATION DETAILS.
- ⑤ FABRICATE STRUCTURAL METALS PER SPEC. 2471.

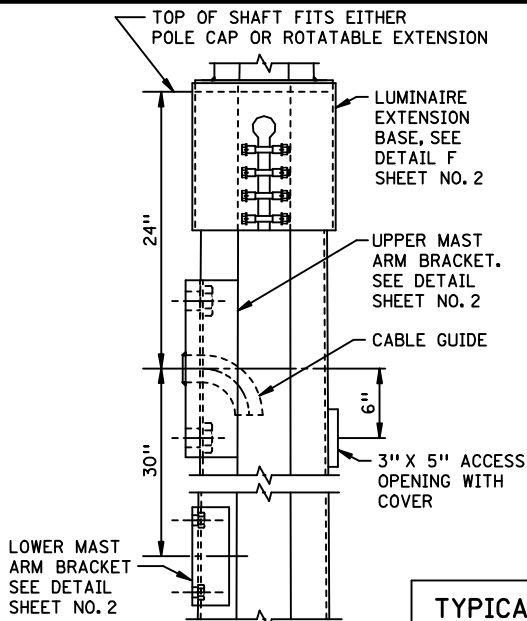
APPROVED MAY 22, 2009

Milakus
STATE DESIGN ENGINEER

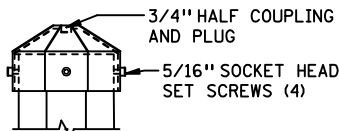
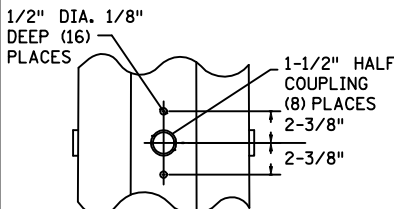
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
**TRANSFORMER BASE
AND POLE BASE PLATE**
(PA90 AND PA100)

SPECIFICATION
REFERENCE
2565

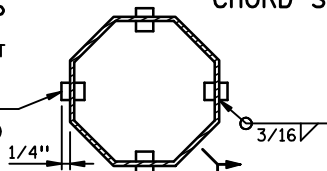
STANDARD
PLATE
NO.
8121F
2 OF 2



ENLARGED DETAIL A



SIGNAL HUB COUPLINGS AT RIGHT ANGLE TO THE ϕ OF ROADWAY. PLUGS SHALL BE PROVIDED FOR ALL COUPLINGS FOUR (4) 1-1/2" DIA. COUPLINGS, INSIDE THREADED

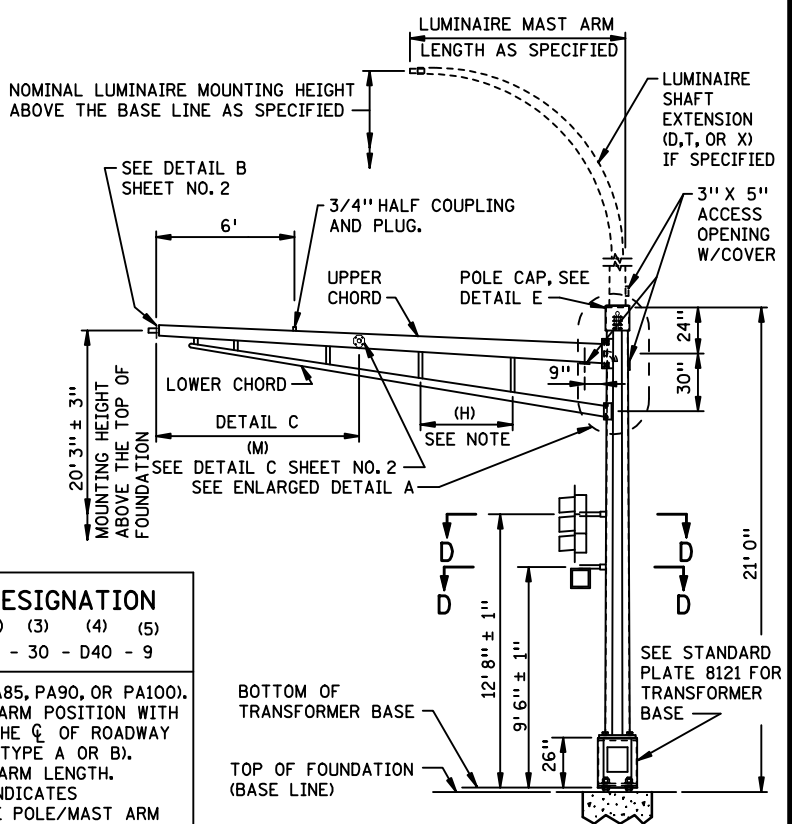


TYPE "A" MAST ARM AT RIGHT ANGLE TO ϕ OF ROADWAY, 0°, 90°, 180°, 270°
 TYPE "B" MAST ARM AT 45° FROM ϕ OF ROADWAY 45°, 135°, 225°, 315°

SECTION D-D
POLE MOUNTED SIGNAL HUB (2)

TAPERED OCTAGONAL MAST ARM TRUSS AND POLE DIMENSIONS

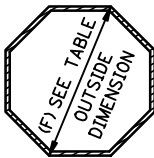
POLE TYPE	MAST ARM LENGTH NOTE (I)	VERTICAL POLE SEE NOTE (F)			UPPER CHORD SEE NOTE (F)			LOWER CHORD SEE NOTE (F)		
		LARGE END	SMALL END	WALL THICK	LARGE END	SMALL END	WALL THICK	LARGE END	SMALL END	WALL THICK
PA85	15'-30'	13.0"	11.8"	0.179"	9.6"	4.0"	0.120"	5.6"	2.8"	0.120"
PA90	30'-40'	14.0"	11.8"	0.250"	10.9"	5.0"	0.179"	5.6"	2.8"	0.120"
PA100	40'-55'	14.0"	11.8"	0.312"	11.6"	5.0"	0.250"	5.6"	2.8"	0.120"



POLE AND MAST ARM

NOTES:

- (A) MATERIAL: HIGH STRENGTH LOW ALLOY STEEL SPEC. 3310 50,000 PSI MINIMUM YIELD.
- (B) GALVANIZED STRUCTURAL STEEL AS PER SPEC. 3394 AFTER FABRICATION. GALVANIZE ALL HARDWARE AS PER SPEC. 3392. PROVIDE VENT HOLES FOR GALVANIZING.
- (C) VERTICAL POST AND MAST ARM ELEMENTS SHALL BE OCTAGONAL TUBE, FABRICATED BY LONGITUDINAL SEAM WELDING WITH 60% PENETRATION.
- (D) EACH MAST ARM POLE STANDARD CONSTRUCTED IN ACCORDANCE WITH THIS SPECIFICATION SHALL BE IDENTIFIED BY THE MARKING "PA85, PA90 OR PA100" IMPRINTED INTO THE VERTICAL POST SHAFT APPROXIMATELY 6 FEET ABOVE THE BOTTOM OF THE TRANSFORMER BASE ON THE ZERO DEGREE FACE WITH RESPECT TO THE TRAFFIC SIGNAL TRUSS-TYPE MAST ARM. THE IMPRINTED "PA85, PA90 OR PA100" SHALL BE CLEARLY LEGIBLE AFTER GALVANIZATION.
- (E) THE BASE LINE OR TOP OF FOUNDATION IS ESTABLISHED AT TOP OF THE FINISHED PAVEMENT BENEATH THE OUTER END OF THE MAST ARM.
- (F) DIMENSION MEASURED OUTSIDE POINT TO OUTSIDE POINT THROUGH OCTAGON CENTER.
- (G) ADJUST POLE WITH LEVELING NUTS SO THAT THE POLE IS VERTICAL.
- (H) VERTICAL BRACES SHALL BE SPACED AT 5' INTERVALS.
- (I) ALL ARMS SHALL BE SUPPLIED IN FIVE FOOT INCREMENTS OF LENGTH.
- (J) SEE SPEC. 1605 FOR SUBSTITUTION OF MATERIALS.
- (K) SEE SPEC. 2471 FOR FABRICATION REQUIREMENTS.
- (L) THE MOUNTING HEIGHTS OF LUMINAIRES ARE MEASURED FROM THE BASELINE, WHICH PROVIDE MOUNTING HEIGHTS OF 30' TO 50'.
- (M) ONE MID MAST ARM MOUNT SHALL BE PLACED AT 11' FROM THE END FOR 30', 35' AND 40' LENGTH MAST ARMS. TWO MID MAST ARM MOUNTS SHALL BE PLACED AT 11' AND 23' FROM THE END FOR 45', 50' AND 55' LENGTH MAST ARMS. ALL MID MAST ARMS SHALL BE CAPPED AND GALVANIZED. KEEP UNUSED MID MAST ARM MOUNTS CAPPED AND GALVANIZED.



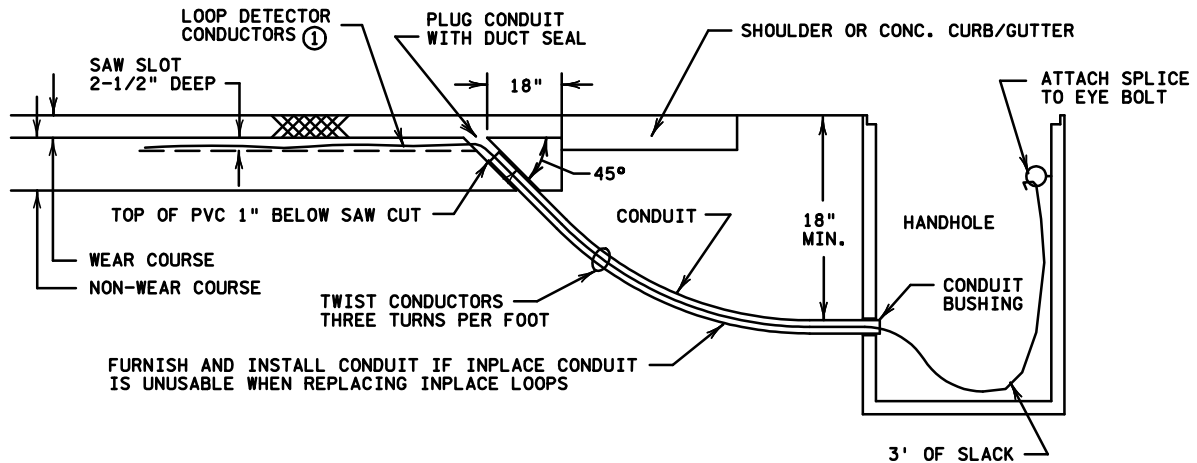
APPROVED MAY 22, 2009

 STATE DESIGN ENGINEER

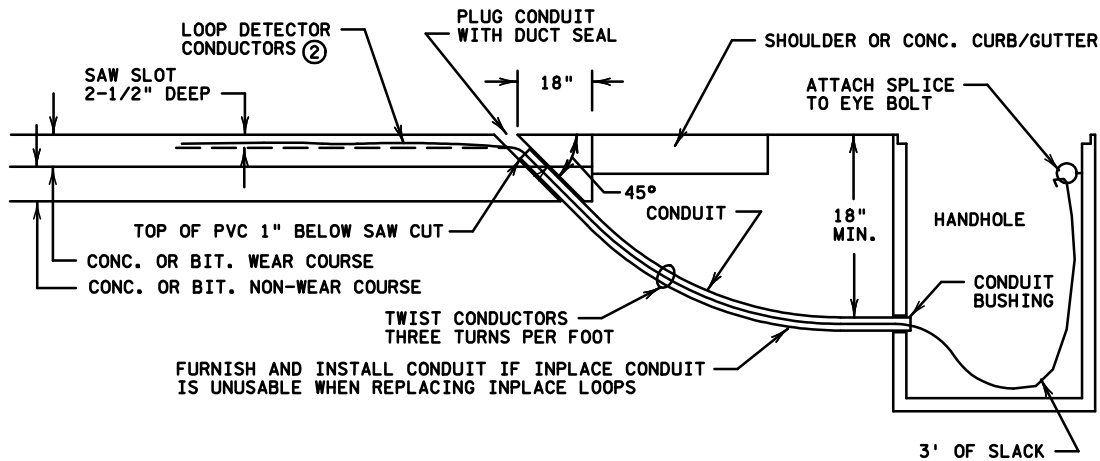
STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
POLE AND MAST ARM
 LUMINAIRES AND TRAFFIC LIGHTS ASSEMBLY
 (FOR ALL POLE TYPES)

SPECIFICATION REFERENCE	STANDARD PLATE NO.
2565	8123F
	1 OF 2

MILL & OVERLAY CONSTRUCTION



INPLACE ROADWAYS



NOTES:

SEE SHEET 3 FOR ADDITIONAL NOTES

- ① SAW CUT LOOP DETECTOR BETWEEN NON-WEAR AND WEAR COURSES
- ② SAW CUT LOOP DETECTOR INTO WEAR COURSE OR CONC. SURFACE

APPROVED DECEMBER 11, 2009

Milakus
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
SAW CUT LOOP DETECTORS
LOOP/HANDHOLE INSTALLATION

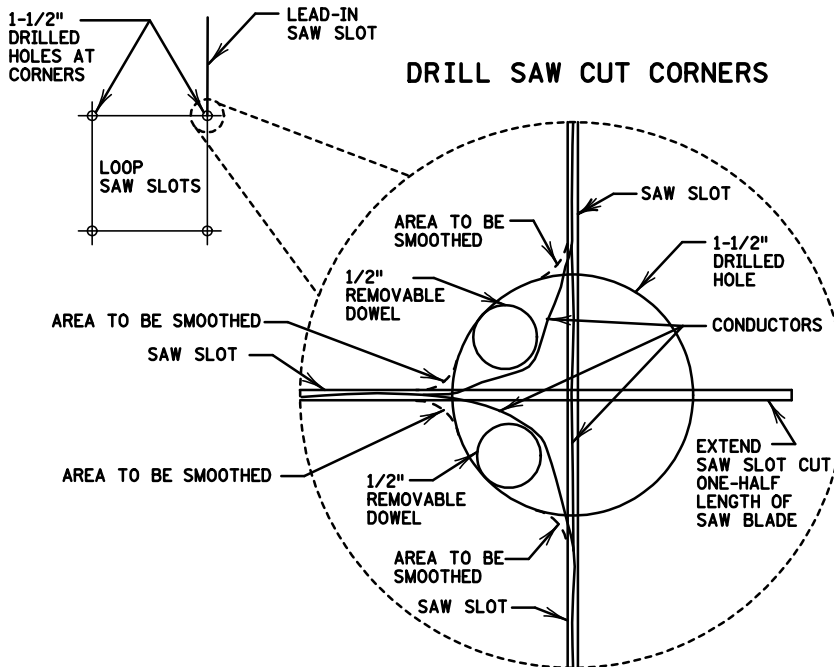
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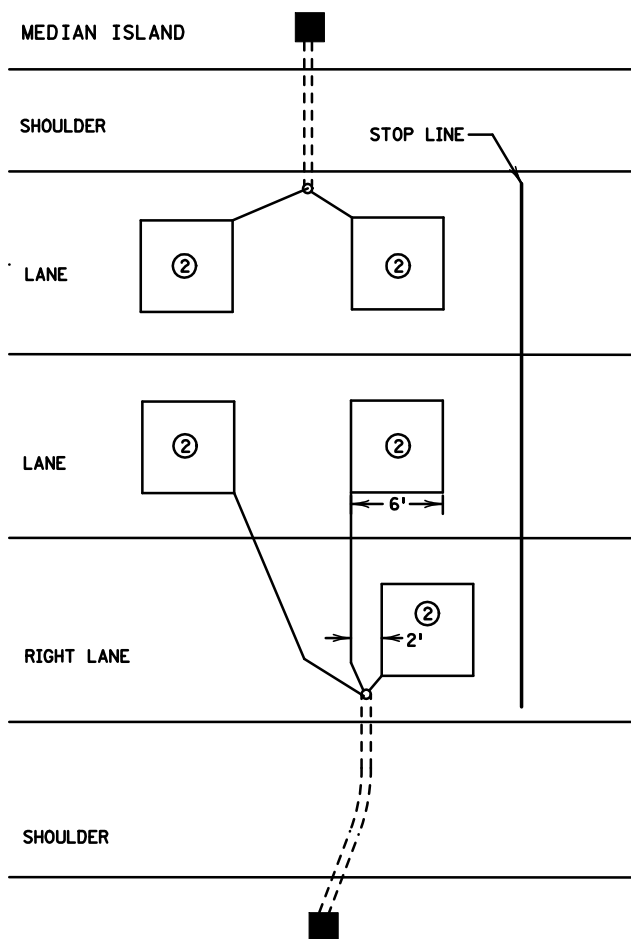
STANDARD
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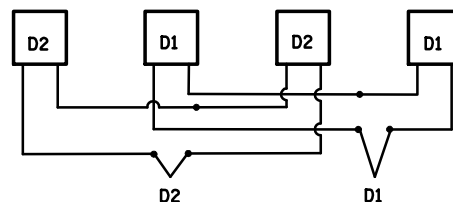
1 OF 3



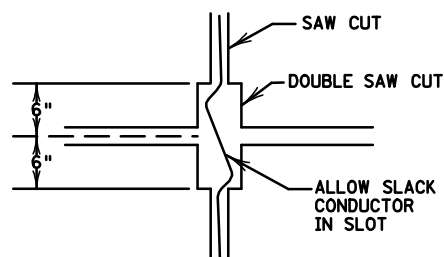
TYPICAL APPROACH DETECTORS ②



MULTIPLE LOOP SERIES HOOKUP



JOINT/CRACK INSTALLATION ①



NOTES:

SEE SHEET 3 FOR ADDITIONAL NOTES.

- ① LOOP LEADS SHALL NOT CROSS TRANSVERSE JOINTS IN CONCRETE PAVEMENT. MOVE A LOOP TO THE NEXT PANEL AND INSTALL A SEPARATE CONDUIT TO THE HANDHOLE IF ALL LOOPS WILL NOT FIT ONE PANEL AND MAINTAIN SEPARATIONS SHOWN.
- ② SEE PLAN LAYOUT FOR ACTUAL DETECTOR SIZE AND PLACEMENT LOCATION.

APPROVED DECEMBER 11, 2009

Milakus
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
SAW CUT LOOP DETECTORS
DETAILS

SPECIFICATION
REFERENCE

2565

STANDARD
PLATE
NO.
8130E
2 OF 3

NOTES:

1. WHERE LOOP DETECTORS ARE TO BE FURNISHED AND INSTALLED AND THE ROADWAYS ARE TO BE SURFACED WITH NEW BITUMINOUS PAVEMENT, THE LOOP DETECTORS SHALL BE SAW CUT IN THE ROADWAY AND SEALANT MATERIAL PLACED TO THE SATISFACTION OF THE ENGINEER BEFORE THE BITUMINOUS WEARING COURSE IS PLACED BY THE BITUMINOUS PAVING CONTRACTOR; HOWEVER, THE ENGINEER MAY DIRECT THE CONTRACTOR NOT TO PLACE THE LOOP DETECTORS IN THE ROADWAY UNTIL PAVEMENT MARKINGS AND LANE STRIPING HAS BEEN DETERMINED AND/OR PLACED.
2. AREA TO BE SAW CUT SHALL BE THOROUGHLY CLEANED BY SWEEPING, WASHING, OR BLOWING SURFACE CLEAR OF DIRT AND DEBRIS.
3. LOOP DETECTORS AND LOOP DETECTOR HOME-RUN WILL BE MARKED ON PAVEMENT BY THE ENGINEER OR BY THE CONTRACTOR AS DIRECTED.
4. LOOP DETECTOR SAW CUTS SHALL BE A UNIFORM DEPTH OF 2-1/2" +/- 1/4" AND 1/8" WIDER THAN THE OUTER DIAMETER OF THE TUBING.
5. THE CONTRACTOR SHALL AVOID CROSSING CONCRETE JOINTS OR CRACKS. HOWEVER, IF A CONCRETE JOINT OR CRACK MUST BE CROSSED, THE CONTRACTOR SHALL USE THE JOINT/CRACK DETAIL SHOWN ON SHEET 2 OF 3.
6. ALL LOOP CORNERS SHALL BE SQUARE. CORNERS SHALL BE DRILLED WITH 1-1/2" DIAMETER DRILL TO A DEPTH OF 1/4" DEEPER THAN SAW CUT. CORNERS SHALL BE ROUNDED TO PREVENT DAMAGE TO THE CONDUCTORS OR TUBING.
7. ALL LOOP DETECTOR SAW CUTS SHALL BE CLEANED AND FLUSHED OF FOREIGN MATERIAL USING A COMBINATION OF AIR AND WATER, AND DRIED WITH COMPRESSED AIR PRIOR TO INSTALLATION OF LOOP DETECTOR CONDUCTORS. DRY SAWING DOES NOT REQUIRE WATER FLUSHING, HOWEVER, THE SAW CUT SHALL BE CLEANED OF ALL FOREIGN MATERIAL.
8. THE CONTRACTOR SHALL FURNISH AND INSTALL FROM THE END OF THE SAW-CUT TO THE ADJACENT HANDHOLE A MINIMUM OF A 3/4" CONDUIT FOR A SINGLE LOOP DETECTOR OR AN APPROPRIATE SIZED CONDUIT BASED ON N.E.C. FILL RATIOS FOR 2 OR MORE LOOP DETECTORS.
9. BEFORE INSTALLATION OF LOOP DETECTOR CONDUCTORS, THE CONTRACTOR SHALL PLACE A BEAD OF APPROVED LOOP DETECTOR SEALANT IN SAW CUT SLOT TO WITHIN 6" OF THE CONDUIT THAT RUNS FROM THE END OF THE SAW-CUT TO THE ADJACENT HANDHOLE.
10. THE CONTRACTOR SHALL PLACE THE CLEAN AND DRIED LOOP DETECTOR CONDUCTORS CONTINUOUS WITH 4 TURNS OF WIRE AND WOUND IN A CLOCKWISE DIRECTION.
11. THE LOOP DETECTOR CONDUCTORS SHALL BE PUSHED TO THE BOTTOM OF THE SAW-CUT WITH A BLUNT INSTRUMENT TO AVOID DAMAGING TUBING OR CONDUCTORS. THE CONTRACTOR SHALL INSTALL 3/4" DIAMETER BY 2" BACKER ROD AT 2' INTERVALS TO ENSURE THAT THE CONDUCTORS ARE AT THE BOTTOM OF THE SAW CUT.
12. LOOP DETECTOR CONDUCTORS SHALL BE TWISTED 3 TURNS PER FOOT THROUGH THE CONDUIT TO THE SPLICE IN THE HANDHOLE.
13. LOOP DETECTOR LEAD-IN CONDUIT SHALL BE SEALED WITH DUCT SEAL OR OTHER APPROVED SEAL TO PREVENT LOOP DETECTOR SEALANT FROM ENTERING CONDUIT.
14. SEAL LOOP DETECTOR CONDUCTORS WITH A MN/DOT APPROVED LOOP DETECTOR SEALANT AS LISTED ON THE MN/DOT APPROVED PRODUCTS LIST (APL) AND IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
15. THE LOOP DETECTOR ROADWAY CONDUCTORS AND THE LOOP DETECTOR LEAD-IN CABLE CONDUCTORS SHALL BE PROPERLY PREPARED AND CLEANED BEFORE SPLICING. ROUGHEN CABLE JACKET WITH SAND PAPER TO ENSURE GOOD ADHESION WITH SPLICE KIT.
16. LOOP DETECTORS SHALL BE SPLICED USING AN APPROVED SPLICE KIT AS LISTED ON THE MN/DOT APPROVED PRODUCTS LIST (APL). MN/DOT APPROVED SPLICE KITS SHALL BE INSTALLED, EITHER ACCORDING TO MANUFACTURES INSTRUCTIONS, OR BY AN ALTERNATE METHOD APPROVED BY THE ENGINEER.
17. PRIOR TO FURNISHING AND INSTALLING THE APPROVED LOOP DETECTOR SPLICE KIT, THE CONTRACTOR SHALL SOLDER THE ENDS OF THE LOOP DETECTOR LEAD-IN CONDUCTORS TO THE ROADWAY LOOP DETECTOR CONDUCTORS, AND SHALL FURNISH AND INSTALL AN APPROPRIATE SIZED WIRE NUT TO THE SOLDERED ENDS PRIOR TO INSTALLATION OF THE SPLICE KIT.
18. SPLICE KITS SHALL BE FURNISHED AND INSTALLED IN HANDHOLES IN SUCH A MANNER AS TO ENSURE THAT EACH SPLICE KIT IS SUSPENDED AND/OR SECURED NEAR THE TOP OF THE HANDHOLE TO THE SATISFACTION OF THE ENGINEER (PLACING SPLICE KITS ON TOP OF THE ELECTRICAL CABLES AND CONDUCTORS IS NOT ACCEPTABLE).

APPROVED DECEMBER 11, 2009



STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

SAW CUT LOOP DETECTORS
NOTES

SPECIFICATION
REFERENCE

2565

STANDARD
PLATE
NO.

8130E

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