

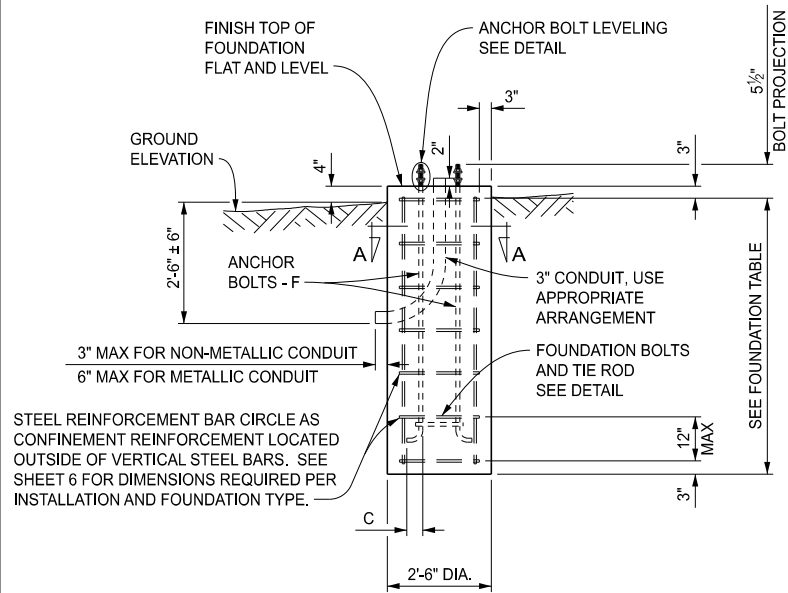
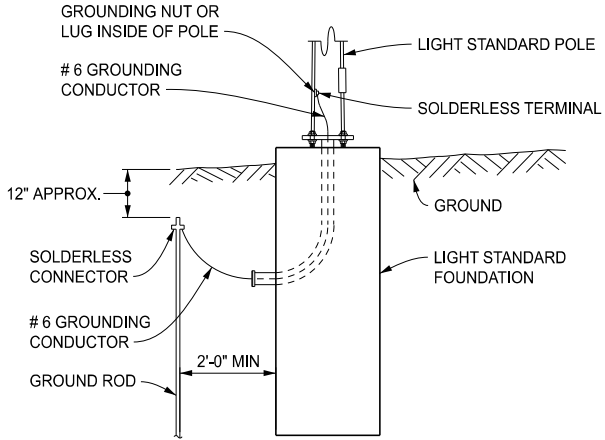


APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES		 Michigan Department of Transportation	STANDARD PLAN FOR LIGHT STANDARD DETAILS				
APPROVED BY: _____ DIRECTOR, BUREAU OF DEVELOPMENT			DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	(SPECIAL DETAIL) FHWA APPROVAL	11/13/2024 PLAN DATE	R-130-A	SHEET 1 OF 6

<div> Michigan Department of Transportation</div> <div>DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE</div>		STANDARD PLAN FOR LIGHT STANDARD DETAILS			
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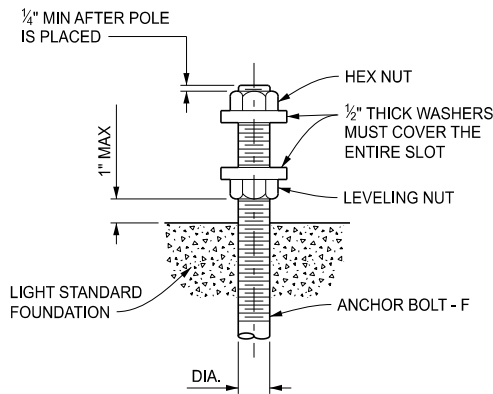


LIGHT STANDARD FOUNDATION DETAIL



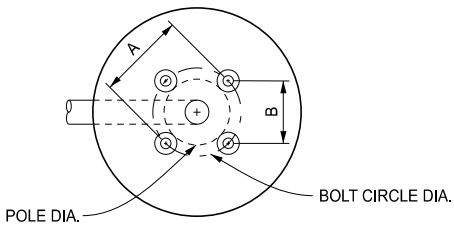
LIGHT STANDARD GROUNDING DETAIL

NOTE:
IF CONDUIT EXTENDS TO HAND HOLE, DRIVE GROUND ROD
IN OR NEAR HANDHOLE.

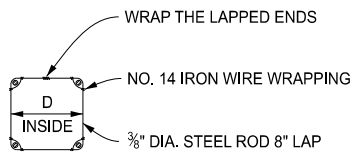


ANCHOR BOLT LEVELING DETAIL

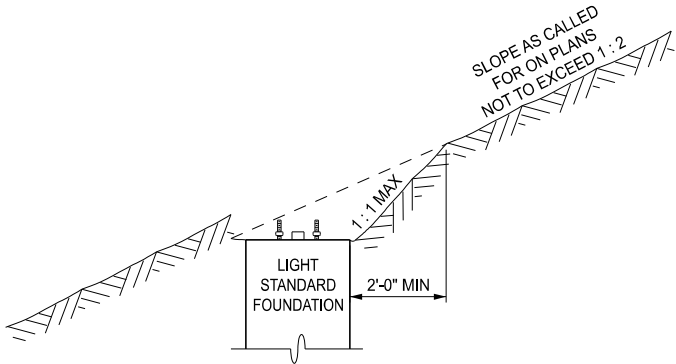
THIS DETAIL DOES NOT APPLY WHEN USING
FRANGIBLE TRANSFORMER BASE. SEE
FRANGIBLE TRANSFORMER BASE DETAIL
ON SHEET 4.



TOP OF FOUNDATION DETAIL



ANCHOR BOLTS AND TIE ROD

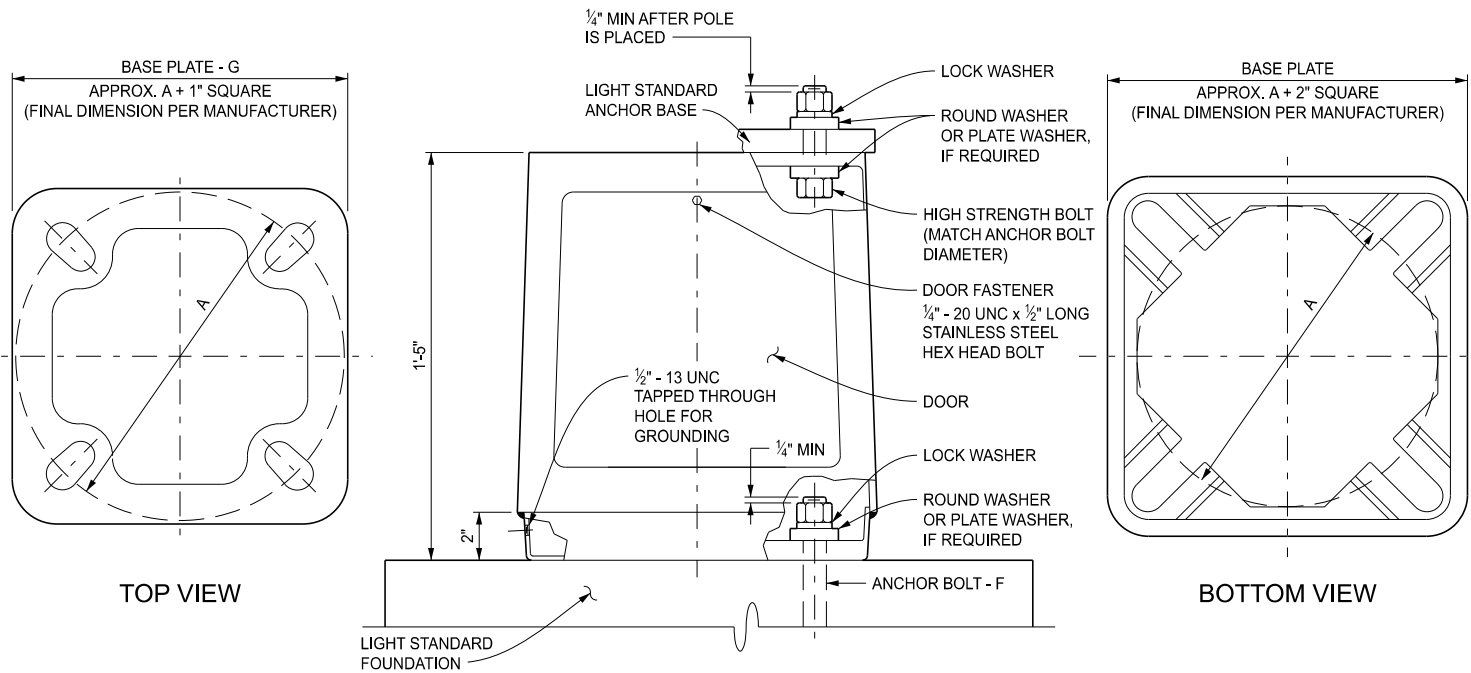


SLOPE DETAIL AT FOUNDATION

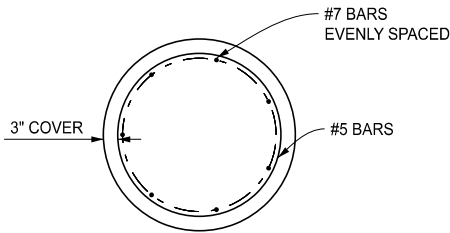
ON FILL OR CUT SLOPE

NOTE:
DO NOT COVER HANDHOLES. PLACE PERPENDICULAR
TO SLOPE AT SAME ELEVATION AS FOUNDATION.

DO NOT PLACE SOIL ABOVE TOP OF FOUNDATION.

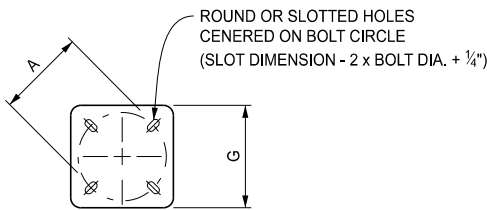


FRANGIBLE TRANSFORMER BASE FOR POLES WITH BOLT CIRCLE DIAMETER - A

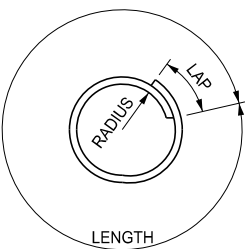


SECTION A-A

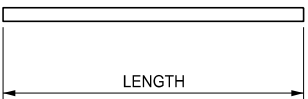
ANCHOR RODS NOT SHOWN FOR CLARITY



ANCHOR BASE DETAIL



CONFINEMENT
REINFORCEMENT



VERTICAL
REINFORCEMENT

REINFORCEMENT DETAILS



DEPARTMENT DIRECTOR
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BRADLEY C. WIEFERICH, PE

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BASE AND POLE DATA TABLE

LIGHT STANDARD FOR	A	B	C	D	E	STEEL POLES GAGE (MIN)	** F	ALUM. POLES GAGE (MIN)	POLE DIAMETER AT BASE	G
20 FT NOMINAL MOUNTING HEIGHT (WITHOUT TRANSFORMER BASE)	11"	7¾"			2"		1" Ø x 3'-4"	0.188"		12.2"
20 FT NOMINAL MOUNTING HEIGHT (WITH TRANSFORMER BASE)	* 11"	7¾"			2"		1" Ø x 3'-4"	0.188"		12.2"
30 FT MOUNTING HEIGHT WITH 4 OR 6 FT SINGLE OR DOUBLE BRACKET ARM	1'-3" (A) 1'-0" (S)	10⅝" (A) 8½" (S)	5⅝"	11⅞" (A) 9½" (S)	2"	7	1¼" Ø x 3'-4"	0.188"	9" ±½"	15.38" (A) *** 13.26" (S)
30 FT MOUNTING HEIGHT WITH 8, 10 OR 12 FT SINGLE OR DOUBLE BRACKET ARM	1'-3" (A) 1'-0" (S)	10⅝" (A) 8½" (S)	5⅝"	11⅞" (A) 9¾" (S)	2"	7	1¼" Ø x 5'-0"	0.188"	9" ±½"	15.38" (A) *** 13.26" (S)
30 FT MOUNTING HEIGHT WITH 15 FT SINGLE OR DOUBLE BRACKET ARM	1'-3" (A) 1'-0" (S)	10⅝" (A) 8½" (S)	6¾"	1'-0⅞" (A) 10" (S)	2"	7	1½" Ø x 5'-0"	0.25"	9" ±½"	15.73" (A) *** 13.61" (S)
30 FT MOUNTING HEIGHT WITH 17 FT SINGLE OR DOUBLE BRACKET ARM	1'-3" (A) 1'-0" (S)	10⅝" (A) 8½" (S)	6¾"	1'-0⅞" (A) 10" (S)	2"	7	1½" Ø x 5'-0"	0.25"	9" ±½"	15.73" (A) *** 13.61" (S)
40 FT MOUNTING HEIGHT WITH 4, 6, 8, 10, 12, 15 OR 17 FT SINGLE OR DOUBLE BRACKET ARM	1'-4" (A) 1'-3" (S)	11⅜" (A) 10⅝" (S)	7⅞"	1'-1⅞" (A) 1'-0⅝" (S)	2"	7	1¾" Ø x 5'-0"	0.313"	10" ±½"	16.79" (A) *** 16.09" (S)
45 FT MOUNTING HEIGHT WITH 4, 6, 8, 10, 12, 15 OR 17 FT SINGLE OR DOUBLE BRACKET ARM	1'-5" (A) 1'-6" (S)	1'-0" (A) 1'-0¾" (S)	7⅞"	1'-1¾" (A) 1'-2½" (S)	2" (A) 2⅞" (S)	7	1¾" Ø x 5'-0"	0.375"	11" ±½" (A) 10" ±½" (S)	17.5" (A) *** 18.21" (S)

* THE 11" BOLT CIRCLE SHALL APPLY FOR BOTH THE POLE TO TRANSFORMER BASE AND FOR THE TRANSFORMER BASE TO FOUNDATION.
** LENGTH GIVEN IS LENGTH PRIOR TO BENDING.
*** FINAL BASEPLATE WIDTHS FOR ALUMINUM STRUCTURES ARE PER MANUFACTURER
(A) = DIMENSION CORRESPONDS TO ALUMINUM
(S) = DIMENSION CORRESPONDS TO STEEL

FOUNDATION DATA TABLE

GROUND SLOPE	SINGLE ARM MAXIMUM LUMINAIRE STRUCTURE SIZE	30 FT MOUNTING HEIGHT, 6 FT ARM	30 FT MOUNTING HEIGHT, 17 FT ARM	45 FT MOUNTING HEIGHT, 17 FT ARM
		L (FT)	L (FT)	L (FT)
	HORIZONTAL	8.5	9	10
	SLOPED	16.5	17.5	18.5

GROUND SLOPE	DOUBLE ARM MAXIMUM LUMINAIRE STRUCTURE SIZE	30 FT MOUNTING HEIGHT, 6 FT ARM	30 FT MOUNTING HEIGHT, 17 FT ARM	45 FT MOUNTING HEIGHT, 17 FT ARM
		L (FT)	L (FT)	L (FT)
	HORIZONTAL	9	10	11

L = EMBEDDED LENGTH OF THE SHAFT FOUNDATION
* SLOPED GROUND SLOPE CASE NOT TO BE USED FOR DOUBLE ARM LUMINAIRE STRUCTURE.

BRACKET ARM TABLE

	BRACKET LENGTH, L	6'-0"	12'-0"	15'-0"	17'-0"
STEEL	TOP MEMBER O.D.	2" DIA.	2½" DIA.	2½" DIA.	3¼" DIA.
	BOTTOM MEMBER O.D.	1½" DIA.	1½" DIA.	2" DIA.	2" DIA.
ALUMINUM	TOP MEMBER O.D.	2" DIA.	3" DIA.	3" DIA.	3" DIA.
	BOTTOM MEMBER O.D.	1½" DIA.	2" DIA.	2¼" DIA.	2¼" DIA.

REINFORCEMENT DATA TABLE

MAXIMUM LUMINAIRE STRUCTURE SIZE	FOUNDATION DIAMETER (IN)	VERTICAL REINFORCEMENT				CONFINEMENT REINFORCEMENT			
		BAR SIZE	NUMBER OF BARS	BAR LENGTH		BAR RADIUS	BAR SIZE	BAR SPACING	BAR LENGTH
				HORIZONTAL	SLOPED				
30 FT MOUNTING HEIGHT, 6 FT ARM	30	7	12	8'-0" (SINGLE ARM) 8'-6" (DOUBLE ARM)	16'-0"	12"	5	12" (MAX)	6'-4"
30 FT MOUNTING HEIGHT, 17 FT ARM				8'-6" (SINGLE ARM) 9'-6" (DOUBLE ARM)	17'-0"				
45 FT MOUNTING HEIGHT, 17 FT ARM				9'-6" (SINGLE ARM) 10'-6" (DOUBLE ARM)	18'-0"				

PROVIDE A 2'-8" LAP FOR #5 BAR CIRCLES.

MATERIALS TABLE (ANCHOR BASE)


MATERIAL	SPECIFICATION	DIMENSIONS	QUANTITY (PER FOUNDATION)
ANCHOR BOLTS	MDOT 908.14	DETERMINED BY LIGHT STANDARD CHART	4
ANCHOR NUTS	MDOT 908.14	DETERMINED BY ANCHOR BOLT DIAMETER	8
FLAT WASHERS **** (1¼" DIA. ANCHOR BOLT)	MDOT 908.14	2¾" O.D. x 1⅝" I.D. x ½" THICK	8 (IF REQUIRED ****)
FLAT WASHERS **** (1½" DIA. ANCHOR BOLT)	MDOT 908.14	2¾" O.D. x 1⅝" I.D. x ½" THICK	8 (IF REQUIRED ****)
FLAT WASHERS **** (1¾" DIA. ANCHOR BOLT)	MDOT 908.14	4" O.D. x 1⅞" I.D. x ½" THICK	8 (IF REQUIRED ****)
PLATE WASHERS **** (1¼" DIA. ANCHOR BOLT)	ASTM A1018	1⅝" I.D. x ½" THICK	8 (IF REQUIRED ****)
PLATE WASHERS **** (1½" DIA. ANCHOR BOLT)	ASTM A1018	1⅝" I.D. x ½" THICK	8 (IF REQUIRED ****)
PLATE WASHERS **** (1¾" DIA. ANCHOR BOLT)	ASTM A1018	1⅞" I.D. x ½" THICK	8 (IF REQUIRED ****)

MATERIALS TABLE (FRANGIBLE BASE)

MATERIAL	SPECIFICATION	DIMENSIONS	QUANTITY (PER FOUNDATION)
ANCHOR BOLTS	MDOT 908.14	DETERMINED BY LIGHT STANDARD CHART	4
ANCHOR NUTS	MDOT 908.14	DETERMINED BY ANCHOR BOLT DIAMETER	4
FLAT WASHERS **** (1¼" DIA. ANCHOR BOLT)	MDOT 908.14	2¾" O.D. x 1⅝" I.D. x ½" THICK	12 OR 14 (****)
FLAT WASHERS **** (1½" DIA. ANCHOR BOLT)	MDOT 908.14	2¾" O.D. x 1⅝" I.D. x ½" THICK	12 OR 14 (****)
FLAT WASHERS **** (1¾" DIA. ANCHOR BOLT)	MDOT 908.14	4" O.D. x 1⅞" I.D. x ½" THICK	12 OR 14 (****)
LOCK WASHERS	ANSI B18.21.1	¼" THICK	8
HIGH STRENGTH BOLTS	MDOT 906.07	LENGTH DETERMINED BY THE CONTRACTOR DIAMETER TO BE SAME AS ANCHOR BOLT	4
CONNECTING NUTS	MDOT 906.07	DETERMINED BY HIGH STRENGTH BOLT DIAMETER	4
PLATE WASHERS **** (1¼" DIA. ANCHOR BOLT)	ASTM A1018	1⅝" I.D. x ½" THICK	8 (IF REQUIRED)
PLATE WASHERS **** (1½" DIA. ANCHOR BOLT)	ASTM A1018	1⅝" I.D. x ½" THICK	8 (IF REQUIRED)
PLATE WASHERS **** (1¾" DIA. ANCHOR BOLT)	ASTM A1018	1⅞" I.D. x ½" THICK	8 (IF REQUIRED)
FRANGIBLE TRANSFORMER BASE	SELECT FROM THE MDOT QUALIFIED PRODUCTS LIST	ACCESS DOOR OPENING: 8½" x 9" x 11"	1

**** IF LIGHT STANDARDS BASE PLATE HAS SLOTTED HOLES, PLATE WASHERS ARE REQUIRED IN LIEU OF CIRCULAR WASHERS AND MUST COVER ENTIRE SLOT.

ALL ANCHOR BOLTS, NUTS, WASHERS AND PLATE WASHERS MUST BE HOT DIP GALVANIZED ACCORDING TO AASHTO M232.



Michigan Department of Transportation

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