FOUNDATION NOTES:

1. Concrete: Class IV (Drilled Shaft) with a minimum 4,000 psi compressive strength at 28 days for all environment classifications.
2. Reinforcing Steel: ASTM A615 Grade 60.
3. Anchor Bolts: ASTM F1554 Grade 55 with ASTM A563 Grade A heavy-hex nuts and plate washers. ASTM F2329 galvanization.
4. Install Anchor Bolts in accordance with Section 649-5 of the Specifications.
5. Foundation applies to slopes 1:4 or flatter.
6. The foundation for the CCTV structure shall be constructed in accordance with Section 455 of the Specifications except that no payment for the foundation shall be made under Section 455.

INSTALLATION NOTES:

1. Cable Supports: Electrical Cable Guides and Eyebolts.
   a. Locate top and bottom cable guides within the pole aligned with each other.
   b. Position one cable guide 2" below the handhole.
   c. Position other cable guide 1" directly below the top of the tenon.
   d. Position Park Stands 2" below the top of the handhole.
2. Lowering Device Installation Notes:
   a. Place the lowering cable that moves within the pole in an interior conduit to prevent it from tangling or interfering with any electrical wire that is in the pole. Ensure that any electrical wire within the pole is routed securely and free from slack.
   b. Mount lowering arm perpendicular to the roadway or as shown in the plans. Position CCTV pole so that the camera can be safely lowered without requiring lane closures.
   c. Coordinate all lowering device hardware requirements (including Tenon, Tenon mounting plates, parking stands, etc.) with lowering device manufacturer.
3. Pole Installation Notes:
   a. Install pole plumb.
   b. The pole shall not be erected until the foundation concrete has achieved 70% of the minimum specified 28 day compressive strength.
4. Refer to Index No. 18108 for conduit and cabinet mounting details.

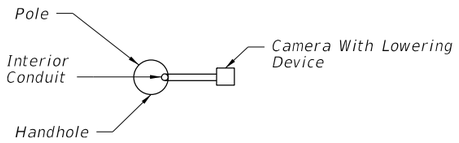
POLE NOTES:

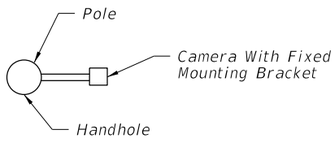
1. The pole shaft shall be round or 16 sided or more with a constant taper of 0.14 inches per foot.
2. Pole shaft may be either One or Two sections (with telescopic field splice).
3. Use only circumferential welds at base.
4. Up to two longitudinal seam welds are permitted.
5. Longitudinal seam welds within 6" of circumferential welds shall be complete penetration welds. Longitudinal seam welds on female section of telescopic field splices shall be complete penetration welds for the splice length plus six inches. All other areas, size the partial penetration welds to at least 60% of the pole tube thickness.
6. Perform all welding in accordance with the American Welding Society Structural Welding Code (Steel) ANSI/AWS D1.1 (current edition). For additional welding requirements see AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Section 5.15, Welded Connections.
7. Identification tag:
   Furnish each pole with a 2"x4" (max.) aluminum identification tag, secured to pole with stainless steel screws.
   Locate inside pole and visible from handhole.
   Provide Financial Project ID, pole height, manufacturer's name, yield strength (Fy of steel) and pole base wall thickness.
8. Except for Anchor Bolts, all bolt hole diameters shall be equal to the bolt diameter plus 1/16", prior to galvanizing. Hole diameters for anchor bolts shall not exceed the bolt diameter plus 1/2".
9. This Design Standard is considered fully detailed and no shop drawings are necessary. Submit Shop Drawings for minor modifications not detailed in the plans.
10. Pole Material Specifications:
    a. Pole:
       ASTM A1011 Grade 50, 55, 60 or 65 (less than 1/4") or
       ASTM A572 Grade 50, 60 or 65 (greater than or equal to 1/4") or
       ASTM A595 Grade A (55 ksi yield) or Grade B (60 ksi yield).
    b. Steel Plates and Pole Cap: ASTM A36 or ASTM A709 Grade 50.
    c. Weld Metal: E70XX.
    d. Bolts: ASTM A325, Type 1.
       Nuts: ASTM A563.
       Washers: ASTM F-436.
    e. Handhole frame: ASTM A709 Grade 36 or ASTM A36.
    f. Handhole cover: ASTM A1011 Grade 50, 55, 60 or 65.
    g. Stainless steel screws: AISI Type 316.
    h. Galvanization:
       Nuts, bolts and washers: ASTM F2329.
       All other steel: ASTM A123.
11. Additional wire access holes not shown in this Design Standard shall not exceed 1½" in diameter.
12. Verify CSL access tubes will not interfere with anchor bolt installation before excavating the shaft. When CSL access tube locations conflict with anchor bolt locations, move the CSL access tube location ± two inches along the inner circumference of the reinforcing cage. Notify the Engineer before excavating the shaft if the CSL access tube locations cannot be moved out of conflict with anchor bolt locations.

6/10/2015 10:40:50 AM

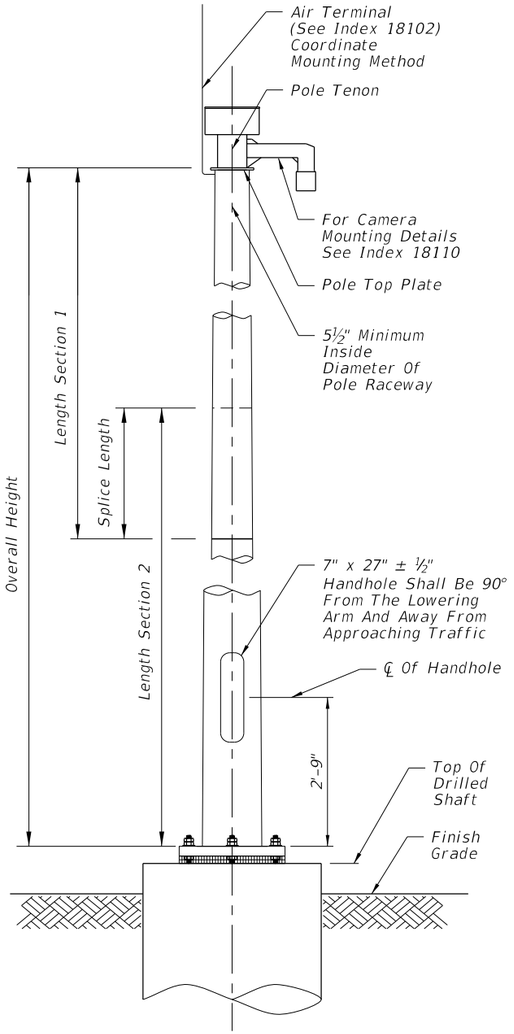
GENERAL NOTES

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/13			FDOT 2016 DESIGN STANDARDS	STEEL CCTV POLE	18111	1 of 4



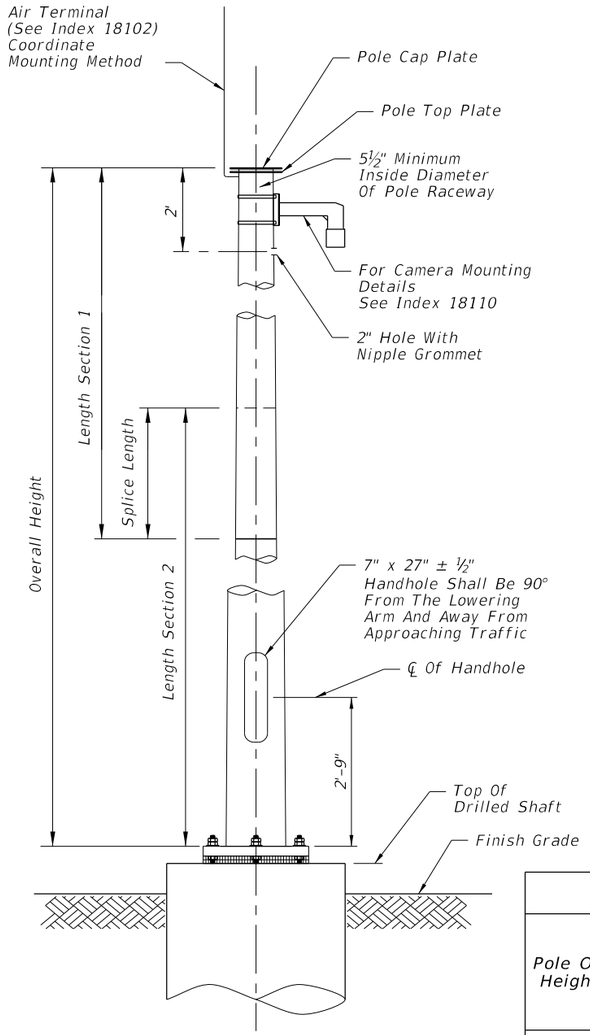


ORIENTATION VIEW



ELEVATION
WITH LOWERING DEVICE

ORIENTATION VIEW



ELEVATION
WITHOUT LOWERING DEVICE

SHAFT DESIGN TABLE			
Pole Overall Height (ft)	Shaft Diameter	Shaft Length	Longitudinal Reinforcement
50	4'-0"	10'-0"	(12) #11
55	4'-0"	10'-6"	(12) #11
60	4'-6"	11'-0"	(16) #11
65	4'-6"	12'-0"	(16) #11
70	5'-0"	12'-6"	(18) #11

BASE PLATE AND ANCHOR BOLT DESIGN TABLE							
Pole Overall Height (ft)	Base Plate Diameter (in.)	Base Plate Thickness (in.)	Anchor Bolt Circle (in.)	No. Bolts	Anchor Bolt Diameter (in.)	Anchor Bolt Embedment (in.)	Minimum Anchor Bolt Projection (in.)
50	27	2.5	22	6	1.25	31	8.5
55	28	2.5	23	6	1.25	33	8.5
60	33	2.5	27	6	1.5	34	9.5
65	35	2.5	29	6	1.5	35	9.5
70	40	2.5	33	6	1.75	38	10.5

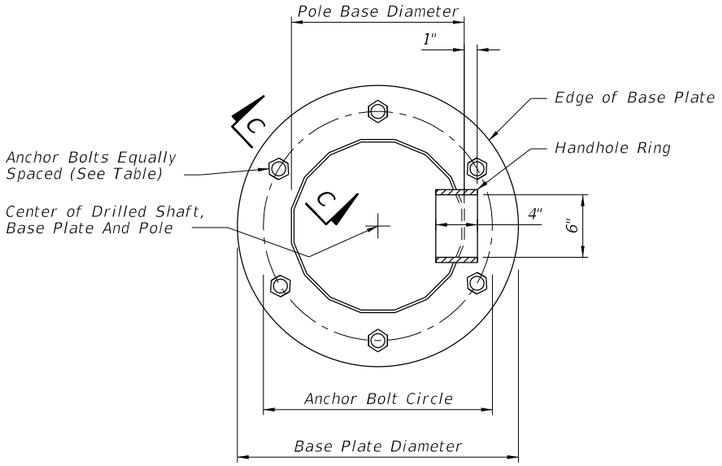
POLE DESIGN TABLE*									
Pole Overall Height (ft)	Section 1 (Top)				Section 2 (Bottom)				Joint
	Length	Wall Thickness (in.)	Tip Dia. (in.)	Base Dia. (in.)	Length	Wall Thickness (in.)	Tip Dia. (in.)	Base Dia. (in.)	Minimum Splice Length (in)
50	---	---	---	---	50'-0"	0.25	10	17	---
	24'-0"	0.25	10.5	13.875	28'-3"	0.25	13.031	17	21
55	30'-0"	0.25	10.781	15	27'-6"	0.3125	14.125	18	24
60	35'-0"	0.25	13.094	18	27'-9"	0.3125	17.094	21	27
65	34'-0"	0.25	14.406	19.188	34'-0"	0.3125	18.219	23	30
70	33'-3"	0.25	16.719	21.375	40'-0"	0.3125	20.375	26	33

* Diameter Measured Flat to Flat

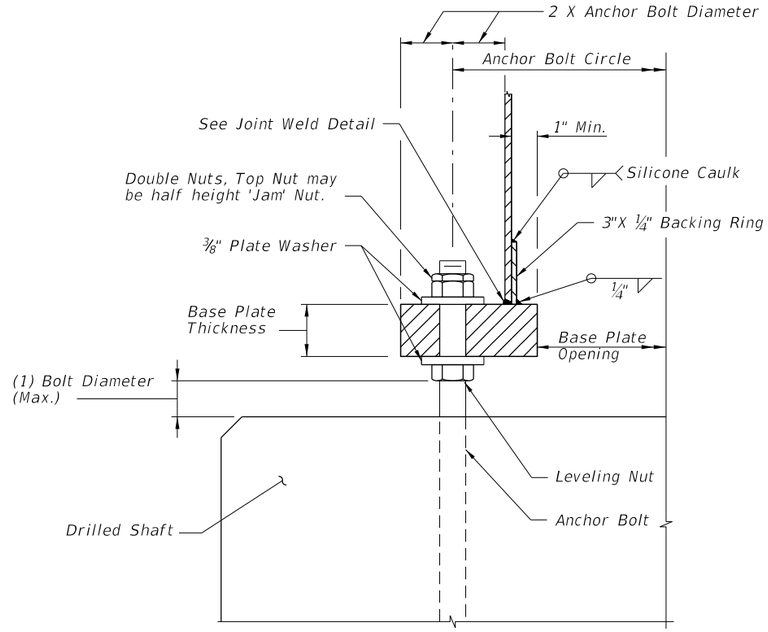
POLE DESIGN TABLES

6/10/2015 10:40:51 AM

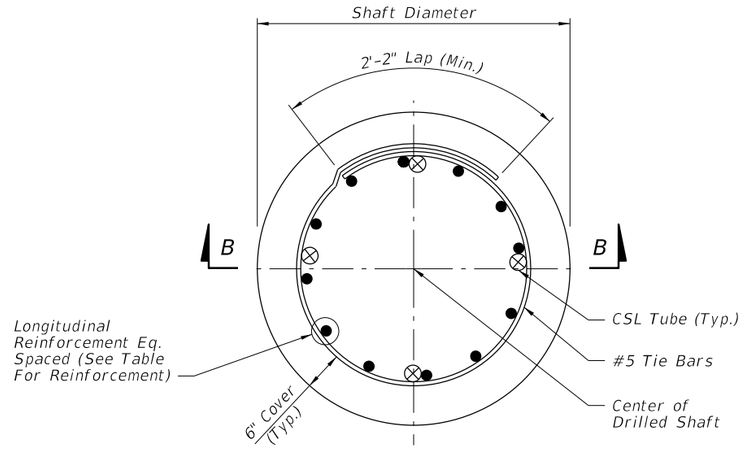
LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/13			FDOT 2016 DESIGN STANDARDS	STEEL CCTV POLE	18111	2 of 4



SECTION A-A

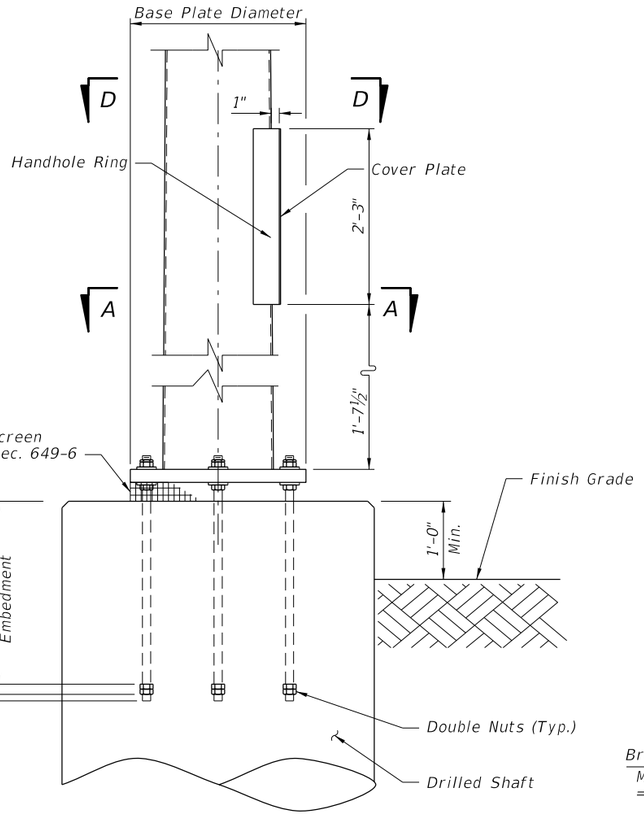


SECTION C-C



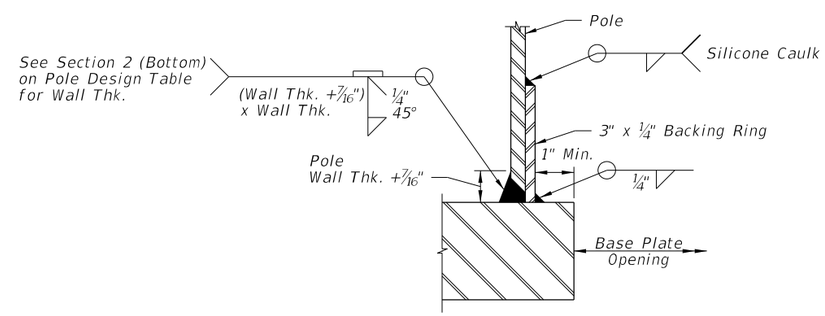
FOUNDATION PLAN

(Anchor Bolts and Conduits Not Shown)

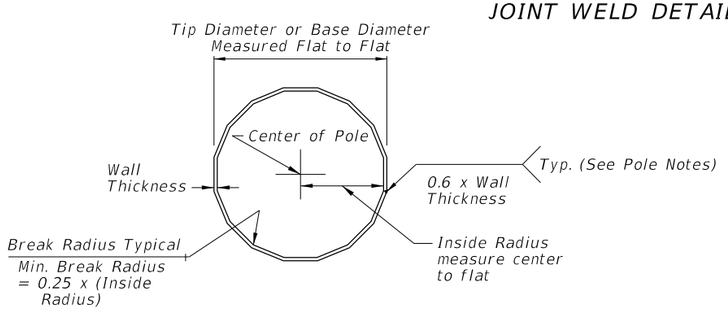


BASE PLATE AND ANCHORAGE ELEVATION

(Conduits, Reinforcement, and CSL Tubes Not Shown)

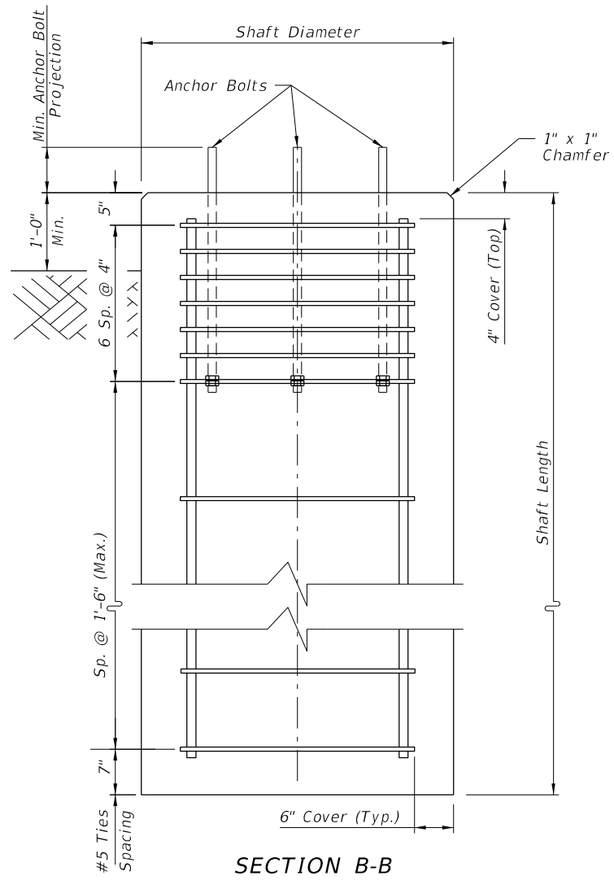


JOINT WELD DETAIL



SECTION D-D

(16-Sided Pole Shown, 18-Sided and Round Pole Similar)



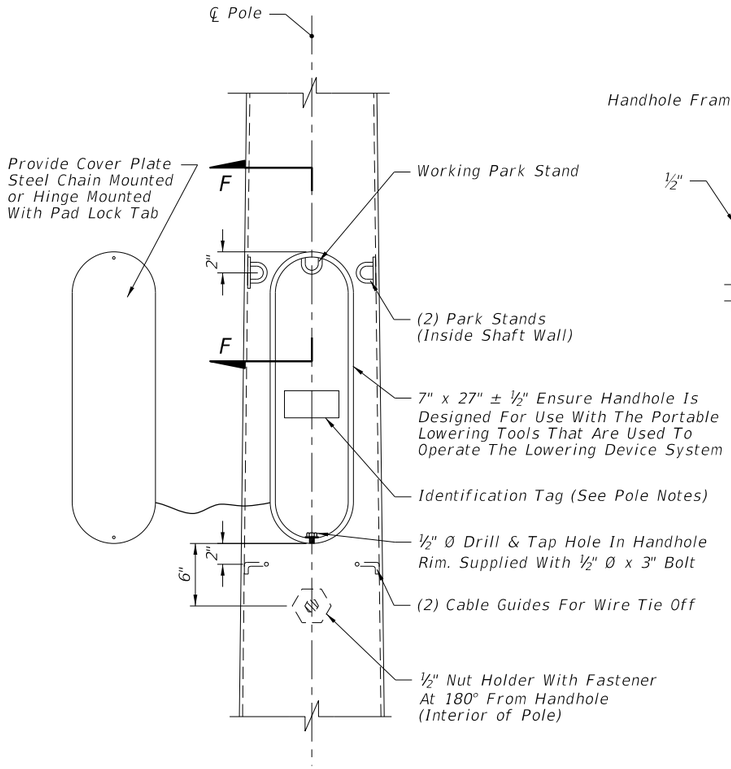
SECTION B-B

(Conduits and CSL Tubes Not Shown)

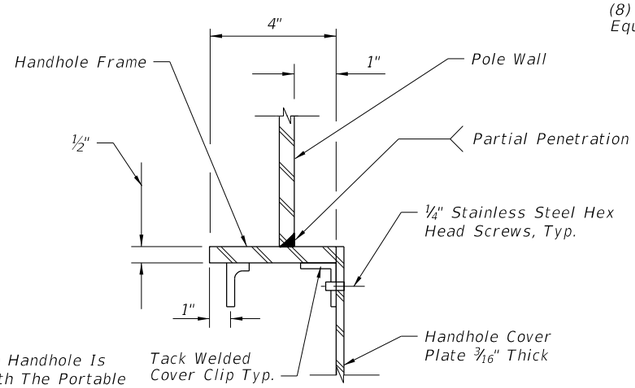
BASE PLATE AND FOUNDATION DETAILS

6/10/2015 10:40:54 AM

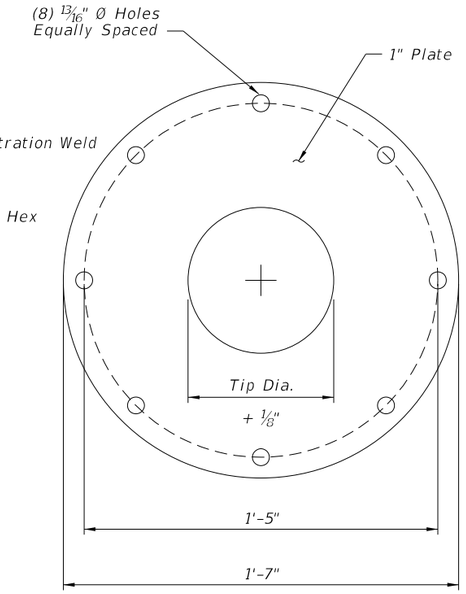
LAST REVISION	REVISION	DESCRIPTION:			
07/01/13			FDOT 2016 DESIGN STANDARDS	STEEL CCTV POLE	INDEX NO. 18111 / SHEET NO. 3 of 4



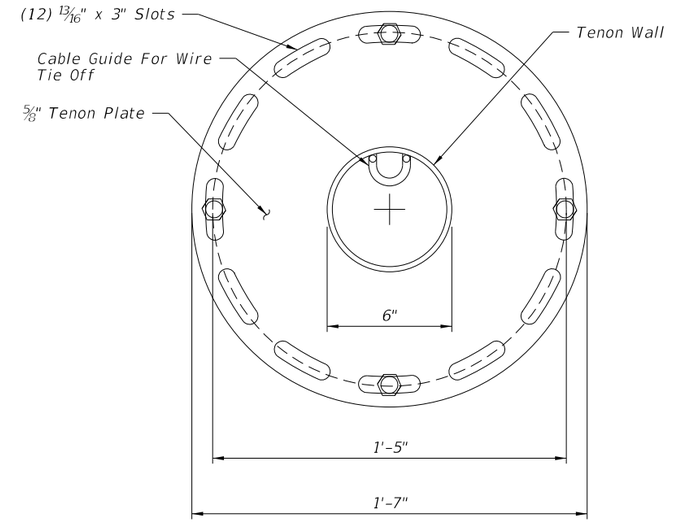
HANDHOLE DETAIL



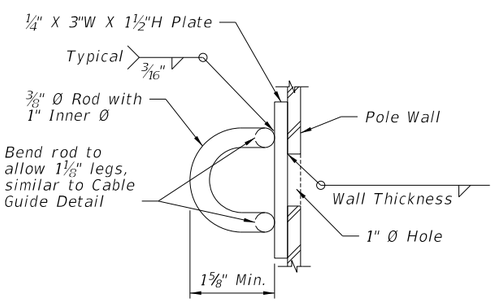
SECTION F-F



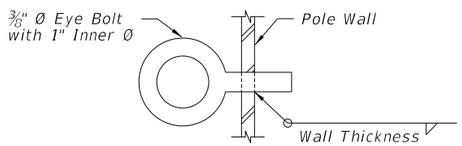
POLE
TOP PLATE DETAIL



SECTION E-E

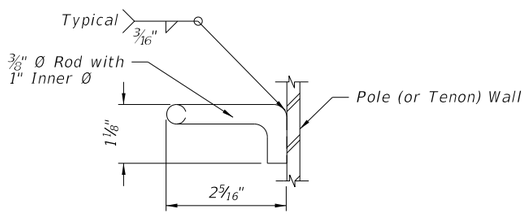


ROD OPTION

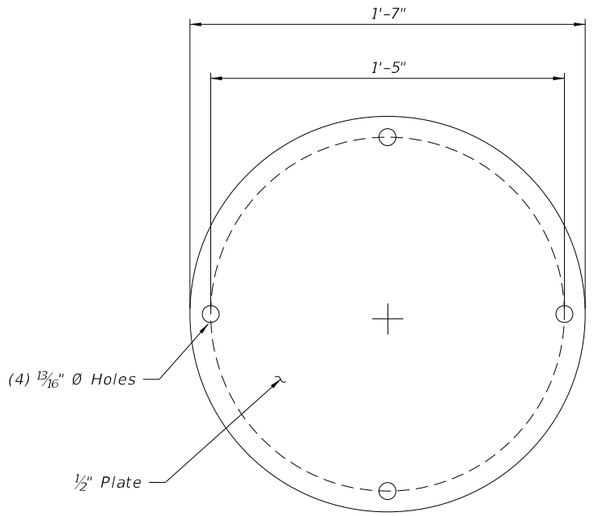


EYE BOLT OPTION

PARK STAND DETAIL

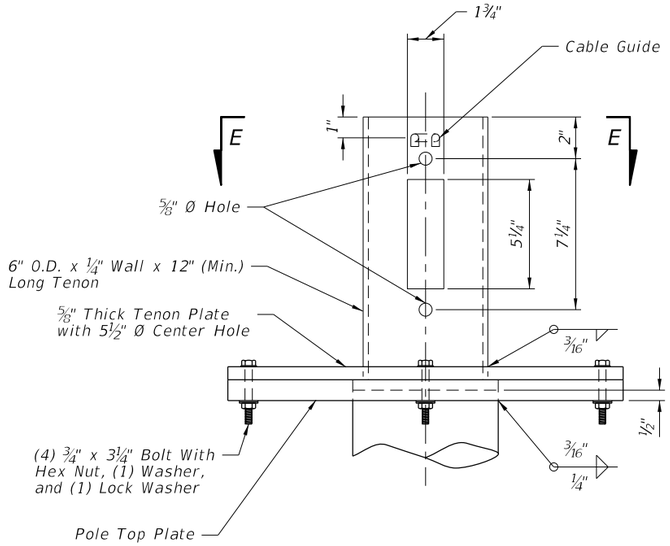


CABLE GUIDE DETAIL



POLE CAP PLATE

(POLE WITHOUT LOWERING DEVICE)



POLE TENON ASSEMBLY DETAIL

(POLE WITH LOWERING DEVICE)

Note: Install all handhole and opening covers prior to shipping. For Poles with Lowering Device, install Pole Cap Plate when Tenon Assembly is not installed.

POLE DETAILS

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/13			2016 DESIGN STANDARDS	STEEL CCTV POLE	18111	4 of 4

6/10/2015 10:40:54 AM