FOUNDATION NOTES:
1. Concrete Class IV (Drilled Shaft) with a minimum 6,000 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 galvanzation.
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:
3. 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.
4. 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.
   d. Lowering arm should be aligned with each other.
5. 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.
   c. Refer to Index No. I3108 for conduit and cabinet mounting details.

POLE NOTES:
1. The pole 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 spliced).
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.
7. Identification tag:
   Furnish each pole with a 2½" (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 1/16”.
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 A555 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: E701X.
   d. Bolts: ASTM F320, Grade A325, Type 1
   e. Washers: ASTM F-436.
   f. Handhole frame: ASTM A709 Grade 36 or ASTM A36.
   g. Handhole cover: ASTM A1011 Grade 50, 55, 60 or 65.
   h. Stainless steel screws: AISI Type 316.
   i. Galvanization:
      Galvanize, bolts and washers: ASTM F2329.
      All other steel: ASTM A123.
11. Additional wire access holes not shown in this Design Standard shall not exceed 1/2" 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.

GENERAL NOTES

INDEX NO. 18111
STEEL CCTV POLE
DESEIGN STANDARDS
FY 2017-18
FOOT
1 of 4
SHEET NO.
01/01/16
DESCRIPTION:
LAST REVISION
### SHAFT DESIGN TABLE

<table>
<thead>
<tr>
<th>Pole Overall Height (ft)</th>
<th>Shaft Diameter</th>
<th>Shaft Length</th>
<th>Longitudinal Reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>4'-0&quot;</td>
<td>11'-0&quot;</td>
<td>(14) #11</td>
</tr>
<tr>
<td>55</td>
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<tr>
<td>60</td>
<td>4'-6&quot;</td>
<td>13'-0&quot;</td>
<td>(16) #11</td>
</tr>
<tr>
<td>65</td>
<td>4'-6&quot;</td>
<td>13'-0&quot;</td>
<td>(16) #11</td>
</tr>
<tr>
<td>70</td>
<td>5'-0&quot;</td>
<td>14'-0&quot;</td>
<td>(18) #11</td>
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</table>

### BASE PLATE AND ANCHOR BOLT DESIGN TABLE

<table>
<thead>
<tr>
<th>Pole Overall Height (ft)</th>
<th>Base Plate Dia. (in.)</th>
<th>Base Plate Thickness (in.)</th>
<th>Anchor Bolt Circle (in.)</th>
<th>No. Bolts</th>
<th>Anchor Bolt Diameter (in.)</th>
<th>Anchor Bolt Embedment (in.)</th>
<th>Minimum Anchor Bolt Projection (in.)</th>
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<tbody>
<tr>
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<td>3.5</td>
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<tr>
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<td>3.5</td>
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<td>6</td>
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<td>33</td>
<td>6</td>
<td>1.75</td>
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<td>10.5</td>
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### POLE DESIGN TABLE

<table>
<thead>
<tr>
<th>Pole Overall Height (ft)</th>
<th>Section 1 (Top)</th>
<th>Section 2 (Bottom)</th>
<th>Joint</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wall Thickness (in.)</td>
<td>Base Dia. (in.)</td>
<td>Length</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------</td>
<td>-----------------</td>
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<tr>
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<td>38'-0&quot;</td>
</tr>
<tr>
<td>70</td>
<td>40'-0&quot;</td>
<td>0.25</td>
<td>40'-0&quot;</td>
</tr>
</tbody>
</table>

* Diameter Measured Flat to Flat
Provide Cover Plate
Steel Chain Mounted or Hinge Mounted With Pad Lock Tab

Working Park Stand

Park Stand

Hand Hole Frame

Handhole Cover Plate 1/2 Thick

Hand Hole Cover Clip Typ.

(8)-1/8" Holes Equally Spaced

Partial Penetration Weld

1/8 Stainless Steel Hex Head Screws, Typ.

Identification Tag (See Pole Notes)

1/8" Drill & Tap Hole In Handhole Rim Supplied With 1/8" x 3" Bolt

(2)-Cable Guides For Wire Tie Off

1/8" Nut Holder With Fastener At 180° From Handhole (Interior of Pole)

(2)-Park Stands Inside Shaft Wall

2" x 22" x 1/8" Ensure Handhole Is Designed For Use With The Portable Lowering Tool That Are Used To Operate The Lowering Device System

EYE BOLT OPTION

With 1" Inner Ø

1/8" Ø Rod With 1" Inner Ø

Bend rod to allow 1/2" legs, similar to Cable Guide Detail

POLE DETAILS

POLE TENON ASSEMBLY DETAIL

POLE CAP PLATE

(POLE WITHOUT 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

STEEL CCTV POLE

FY 2017-18

DESIGN STANDARDS

REVISION

DESCRIPTION:

INDEX

NO.

SHEET

NO.

18111

4 of 4