SUMMARY

This bulletin illustrates the service requirements for the specifically designed steel streetlight pole that is to be used when communication antenna attachments are needed. This bulletin also includes installation information and the required foundation for this pole.

Level of Use: Informational Use

REFERENCE DOCUMENTS

027911, Installation Details for Service to Pole-Mounted Communication Equipment

TD-027911B-002, SmartPole Meter for Service to Pole-Mounted Communication Equipment

TARGET AUDIENCE

Utility employees, electric construction employees, electric restoration employees, customer service representatives, service planning employees, electric estimators, PG&E contractors and applicant installers

WHAT YOU NEED TO KNOW

General Information

1. The street light pole is designed to support two communication radios, the antenna and a disconnect switch. See pole details in Figure 1 PG&E Steel Street Light Pole with Attachments on page 3.

2. Install a 2-wire (1-hot, 1-neutral) 1-phase 120 volt service (#6 Cu, 600 V insulated) or a 2-wire (1-hot, 1-neutral) 1-phase 240 volt service along with a #6 bare Cu ground wire to the street light pole with the SmartPole meter.

3. A 3-wire 1-phase 120/240 volt service is allowed with SmartPole metering if requested for the antenna and communication equipment.

4. The metering provision contained herein is an exception to the Greenbook requirement and is designed primarily for CATV power supplies and other telecom equipment requiring metering (reference Tariff Application Guide – Electric Rule 9).

5. Power supplies or any communication equipment which has/is connected to a backup power supply, must have a disconnecting device to separate it from PG&E’s system. Power units are to have the communication company’s name and emergency phone number on them.

6. Antennas: Antennas must have an ownership label with a contact number, site identification information, and a disconnect switch which will shut off RF transmission. The disconnect switch is to be used when it is required as part of the normal or emergency shutdown protocols required in G.O 95, Rule 94.
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

7  All materials noted as “Communication” shall be furnished and installed by the requesting communication company.

Streetlight Pole Foundation

8  The foundation must be poured in place. Concrete shall be poured directly against the soil. If casing is used, remove the casing as concrete is placed.

9  Concrete shall have a minimum compressive strength of 4000 pounds per square inch in 28 days.

10  Verify all dimensions and any existing elements in the field prior to starting work.

11  Pipes and sleeves shall not pass through structural members except as shown in Figure 13.

12  Steel items other than reinforcing steel bars shall be hot-dipped galvanized in accordance with ASTM A153.

13  Headed reinforcing steel bars, per HRC 555 or equivalent, shall be used.

14  Use non-shrink grout that meets ASTM C1107 requirements. Grout shall have a minimum compressive strength of 5000 pounds per square inch when mixed to the flowable condition.
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*Fiber may be installed through the PG&E splice box

Figure 1 – PG&E Steel Streetlight Pole with Attachments
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

Figure 2 – PG&E Steel Streetlight Pole with 4G and 5G Antennas and Communication Equipment - Underground Services
# Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

## Table 1 Bill of Material to be Furnished and Installed by PG&E

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Street Light Pole with Antenna Provisions</td>
<td>See Tables 3A &amp; 3B (in this document)</td>
</tr>
<tr>
<td>2</td>
<td>#6 Al Duplex-UG (XLP) Service, Street Light only</td>
<td>M294347</td>
</tr>
<tr>
<td>3</td>
<td>#6 Al Duplex-UG (XLP) Service, Communications and Antenna Equipment only</td>
<td>M294347</td>
</tr>
<tr>
<td>4</td>
<td>Triplex-UG (XLP) Service, Communications and Antenna Equipment only</td>
<td>As Required</td>
</tr>
<tr>
<td>5</td>
<td>SmartPole Meter</td>
<td>As Required</td>
</tr>
<tr>
<td>6</td>
<td>Photo Cell</td>
<td>As Required</td>
</tr>
<tr>
<td>7</td>
<td>Luminaire</td>
<td>As Required</td>
</tr>
</tbody>
</table>

1. Includes contractors or applicant installers hired by PG&E.

## Table 2 Bill of Material to be Furnished and Installed by Communication Company

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Breaker Box/Load Center</td>
</tr>
<tr>
<td>9</td>
<td>#12 Cu 600V (Hot, Neutral, Ground)</td>
</tr>
<tr>
<td>10</td>
<td>#2 Cu 600 V Ground</td>
</tr>
<tr>
<td>11</td>
<td>Micro Maxcell Innerduct or Equivalent</td>
</tr>
<tr>
<td>12</td>
<td>Radios or Relay Units</td>
</tr>
<tr>
<td>13</td>
<td>Fiberglass Shroud</td>
</tr>
<tr>
<td>14</td>
<td>Diplexers</td>
</tr>
<tr>
<td>15</td>
<td>Terminal Block/Splice Connection</td>
</tr>
<tr>
<td>16</td>
<td>Hoist Grip for cable support</td>
</tr>
<tr>
<td>17</td>
<td>RF Sign (Minimum 3 feet below bottom of antenna)</td>
</tr>
<tr>
<td>18</td>
<td>0.5&quot; Coaxial Cables</td>
</tr>
<tr>
<td>19</td>
<td>Shutoff Sign</td>
</tr>
<tr>
<td>20</td>
<td>Ground Rod</td>
</tr>
<tr>
<td>21</td>
<td>Antenna</td>
</tr>
<tr>
<td>22</td>
<td>Fiber from communication network</td>
</tr>
</tbody>
</table>
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

### Table 3A – PG&E Material Codes for Streetlight Poles with Antenna Provisions

<table>
<thead>
<tr>
<th>Material Code</th>
<th>Style / Post Height</th>
<th>Arm Length</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M150392</td>
<td>Steel / 26 Ft.- 6 In.</td>
<td>4 foot</td>
<td>Antenna streetlight pole, Steel, 26.5 foot, 4 foot arm, Smooth, Galvanized</td>
</tr>
<tr>
<td>M150393</td>
<td>Steel / 26 Ft.- 6 In.</td>
<td>6 foot</td>
<td>Antenna streetlight pole, Steel, 26.5 foot, 6 foot arm, Smooth, Galvanized</td>
</tr>
<tr>
<td>M150395</td>
<td>Steel / 26 Ft.- 6 In.</td>
<td>8 foot</td>
<td>Antenna streetlight pole, Steel, 26.5 foot, 8 foot arm, Smooth, Galvanized</td>
</tr>
<tr>
<td>M150396</td>
<td>Steel / 31 Feet</td>
<td>6 foot</td>
<td>Antenna streetlight pole, Steel, 31 foot, 6 foot arm, Smooth, Galvanized</td>
</tr>
<tr>
<td>M150399</td>
<td>Steel / 31 Feet</td>
<td>8 foot</td>
<td>Antenna streetlight pole, Steel, 31 foot, 8 foot arm, Smooth, Galvanized</td>
</tr>
</tbody>
</table>

Note: The base plate on these poles may be redesigned in the future and any stocked poles could become obsolete, therefore it is suggested a minimal quantity of poles should be stocked.
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

Figure 3 - Wiring Schematic
(by Communications Company unless note as by PG&E)
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

Figure 4 - Pole Top Detail
NON EMERGENCY NODE SITE POWER SHUT DOWN PROCEDURES

1. FOR NON EMERGENCY/SCHEDULED POWER SHUT DOWN
   • CALL <INSERT NAME OF COMMUNICATION COMPANY AND PROVIDE PHONE NUMBER>
   • 24 HRS PRIOR TO SCHEDULED POWER SHUT OFF PROVIDE THE FOLLOWING INFORMATION:
     • SITE NUMBER IDENTIFIED ON SITE NUMBERING STICKER
     • YOUR NAME AND REASON FOR POWER SHUTOFF
     • PROVIDE DURATION OF OUTAGE
   • PULL DISCONNECT HANDLE TO “OFF” POSITION
   • POWER SHUT OFF VERIFICATION WITH APPROVED PG&E PROCEDURES
   • NOTIFY <INSERT NAME OF COMMUNICATION COMPANY> UPON COMPLETION OF WORK
   • RESTORE POWER BY PLACING POWER DISCONNECT HANDLE IN THE “ON” POSITION
   • REINSTALL LOCK ON POWER HANDLE

2. EMERGENCY POWER SHUT OFF
   • CALL <INSERT NAME OF COMMUNICATION COMPANY AND PROVIDE PHONE NUMBER>
   • PROVIDE THE FOLLOWING INFORMATION:
     • SITE NUMBER IDENTIFIED ON SITE NUMBERING STICKER
     • YOUR NAME AND REASON FOR POWER SHUTOFF
     • PROVIDE DURATION OF OUTAGE
   • PULL DISCONNECT HANDLE TO “OFF” POSITION
   • POWER SHUT OFF VERIFICATION WITH APPROVED PG&E PROCEDURES
   • NOTIFY <INSERT NAME OF COMMUNICATION COMPANY> UPON COMPLETION OF WORK
   • RESTORE POWER BY PLACING POWER DISCONNECT HANDLE IN THE “ON” POSITION
   • REINSTALL LOCK ON POWER HANDLE

Figure 5 - Shut Down Procedure Sign

ILSCO PBTD-2-1/0 MULTI TAP
TWO SIDED TERMINAL CONNECTOR
(FOR CONDUCTOR SIZES 14-1/0 AWG)

Figure 6
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

Figure 7 - Sample RF Sign

Figure 8 - Micro Maxcell Innerduct Inside Pole Section Without Cables

NOTE: All street light, power, and communication cables are to be isolated using Micro Maxcell Innerduct throughout the pole.
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

Street Light Pole Details

<table>
<thead>
<tr>
<th>GENERAL NOTES</th>
<th>MATERIAL SPECIFICATIONS</th>
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<tbody>
<tr>
<td>SHAFT</td>
<td>STEEL OF 48 KSI YIELD AFTER FORMING</td>
</tr>
<tr>
<td>BASE &amp; MISC PLATES</td>
<td>ASTM A36</td>
</tr>
<tr>
<td>PIPE</td>
<td>ASTM A53 GR B or A500 GR B</td>
</tr>
<tr>
<td>ANCHOR BOLTS</td>
<td>ASTM F1554 GR 55</td>
</tr>
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<table>
<thead>
<tr>
<th>MANUFACTURING PROCESSES</th>
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<tbody>
<tr>
<td>BUTT WELDS</td>
</tr>
<tr>
<td>LONGITUDINAL WELDS</td>
</tr>
<tr>
<td>FINISH COATING</td>
</tr>
<tr>
<td>STRUCTURE</td>
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<tr>
<td>HARDWARE</td>
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<th>DESIGN CRITERIA</th>
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<tr>
<td>STRUCTURE AND HARDWARE</td>
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<tr>
<td>WELDING</td>
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</table>

Table 3B - Pole Data

<table>
<thead>
<tr>
<th>PG&amp;E MATERIAL CODE</th>
<th>POLE DESCRIPTION</th>
<th>SHAFT DIMENSIONS</th>
<th>BASE PLATE DATA</th>
<th>ANCHOR BOLTS</th>
<th>ARM LENGTH &quot;E&quot;</th>
<th>NOMINAL MFG HEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>150392</td>
<td>PL-ANT-264</td>
<td>26'-6&quot; 7 1/8&quot; 4 1/4&quot;</td>
<td>0.1196&quot;</td>
<td>11 1/2&quot; 11 1/2&quot; 11&quot;</td>
<td>1&quot; 1&quot; 36&quot; 11&quot;</td>
<td>4'-0&quot; 27'-6&quot;</td>
</tr>
<tr>
<td>150393</td>
<td>PL-ANT-268</td>
<td>26'-6&quot; 7 1/8&quot; 4 1/4&quot;</td>
<td>0.1196&quot;</td>
<td>11 1/2&quot; 11 1/2&quot; 11&quot;</td>
<td>1&quot; 1&quot; 36&quot; 11&quot;</td>
<td>6'-0&quot; 28'-0&quot;</td>
</tr>
<tr>
<td>150394</td>
<td>PL-ANT-269</td>
<td>26'-6&quot; 7 1/8&quot; 4 1/4&quot;</td>
<td>0.1196&quot;</td>
<td>11 1/2&quot; 11 1/2&quot; 11&quot;</td>
<td>1&quot; 1&quot; 36&quot; 11&quot;</td>
<td>8'-0&quot; 28'-0&quot;</td>
</tr>
<tr>
<td>150396</td>
<td>PL-ANT-316</td>
<td>31'-0&quot; 8 1/2&quot; 4 1/4&quot;</td>
<td>0.1196&quot;</td>
<td>11 1/2&quot; 11 1/2&quot; 11&quot;</td>
<td>1&quot; 1&quot; 36&quot; 11&quot;</td>
<td>6'-0&quot; 32'-6&quot;</td>
</tr>
<tr>
<td>150399</td>
<td>PL-ANT-318</td>
<td>31'-0&quot; 8 1/2&quot; 4 1/4&quot;</td>
<td>0.1196&quot;</td>
<td>11 1/2&quot; 11 1/2&quot; 11&quot;</td>
<td>1&quot; 1&quot; 36&quot; 11&quot;</td>
<td>8'-0&quot; 32'-6&quot;</td>
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</table>
Table 4 - Arm Data

<table>
<thead>
<tr>
<th>ARM LENGTH &quot;C&quot;</th>
<th>ARM TUBE DIMENSIONS</th>
<th>RISE</th>
<th>θ</th>
</tr>
</thead>
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<tr>
<td>4'-0&quot;</td>
<td>3&quot;</td>
<td>2 3/8&quot;</td>
<td>0.1196&quot;</td>
</tr>
<tr>
<td>6'-0&quot;</td>
<td>3 5/16&quot;</td>
<td>2 3/8&quot;</td>
<td>0.1196&quot;</td>
</tr>
<tr>
<td>8'-0&quot;</td>
<td>3 11/16&quot;</td>
<td>2 3/8&quot;</td>
<td>0.1196&quot;</td>
</tr>
</tbody>
</table>

Figure 9 – Street Light Pole with Antenna Provisions - Elevation
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

Figure 10 – Foundation – Elevation View

Figure 11 – Foundation – Plan View
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

ANCHOR BOLT DETAIL

EACH BOLT WITH (2) HEAVY HEX NUTS & (2) FLAT WASHERS AT TOP AND (2) HEAVY HEX NUTS & (1) SQUARE PLATE WASHER AT BOTTOM

ANCHOR BOLTS (THREADED 16” AT TOP END & 3' AT BOTTOM END & GALVANIZED FULL LENGTH). FOR LENGTH AND DIAMETERS SEE "ANCHOR BOLT" COLUMN IN POLE DATA TABLE. (TYPICAL-4 REQUIRED)

BASE PLATE DETAIL

HANDHOLE RIM SEE DETAIL "G"

1/2”-13NC TAP IN ANGLE FOR GROUNDING

THK

THK+1/8"

SQUARE

(4) SLOTS SEE DETAIL "G"

HANDHOLE DETAIL

HANDHOLE COVER
LOCKING CLAMP
(16 GA x 1” WIDE)

1/2”-13NC TAP IN HANDHOLE RIM FOR GROUNDING

POLE SHAFT (REF) 1/4”

HANDHOLE RIM 1/4” PL x 2” WIDE

HANTIGHT

HANDHOLE COVER (11 GA)

-1/4”-20NC x 1 1/2” LG ALLEN HD CAP SCREW

THICKNESS OF FILLER RING (IF REQUIRED) TO MATCH DIFFERENCE IN TAPERED TUBE THICKNESS

FULL PENETRATION

1/8” NOMINAL or THICKER BACK-UP RING

WHEN REQUIRED BASED UPON MATERIAL AVAILABILITY

splice detail

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Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

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**Detail E**  
**ARM CONNECTION DETAIL**

- 1/2"-13NC x 1 1/4" LG HEX HD CAP SCREW WITH PLAIN & LOCK WASHERS
- 2-BOLT SIMPLEX ARM ATTACHMENT

**Detail F**  
**COUPLING DETAIL**

- 1 1/2" COUPLING

(SEE NOTE 5 FOR PLUGS)

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**Detail O**  
**SLOT DETAIL**

- 11/2"-3C1

**Detail H**  
**SHAFT TOP DETAIL**

- (4) 7/16" DIA HOLES ON 8" BOLT CIRCLE FOR SECURING ANTENNA MOUNT
- 4 5/16" DIA CUTOUT
- 3/16" THK COVER PLATE & HARDWARE (4)
- 3/8"-16 X 1 1/2" BOLTS & (4) 3/8"-16 NUTS (SEE NOTE 6)
- PL 3/4" x 10" DIA
- T-K THK=1/8"
AMERON TO SUPPLY (1) 2” AND (2) 1 1/2” PLUGS TO BE INCLUDED WITH EACH POLE.

AMERON TO SUPPLY COVER PLATE & HARDWARE (A307 GALV) FOR TOP OF POLE.
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

DOCUMENT APPROVER

Marlon Viduya, Manager, Electric Distribution Engineering Standards

DOCUMENT CONTACT

Daniel Jantz, Engineering Standards Technical Specialist, Principle, Electric Distribution Engineering Standards

INCLUSION PLAN

There is no inclusion plan for this document at this time.