2019 CPS Energy Service Standards

Site Ready

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Underground Service – Site Ready Process

Follow the steps to prepare your site for inspection:

☐ Install all equipment in compliance with the diagrams below.

☐ If you are digging your own trench, ensure it complies with Trench Design diagram below.

☐ Ensure the grade along the underground service route is within 6 inches of final grade.

☐ Securely mount electric meter loop and meter can on the structure's wall.

☐ Stub gas structure pipe out 26 inches above final grade.

☐ If you are installing gas service, ensure your home interior lines and appliances are ready for either your city's Gas Inspection or CPS Energy's Gas Rough-in Inspection, depending on your location.

In addition to infrastructure preparation, ensure that you:

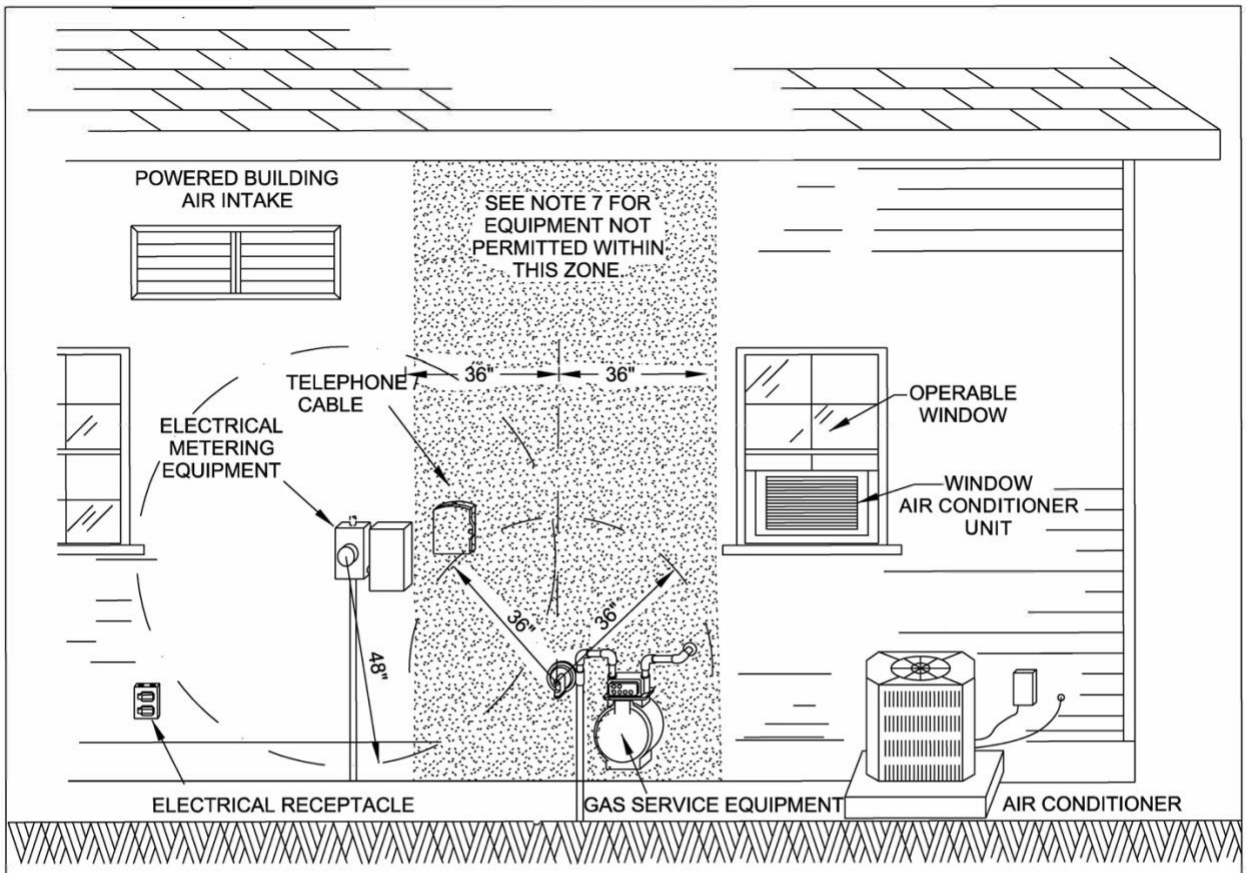
☐ Clear the service location of all water and drain lines, and underground facilities; including septic systems, culverts, irrigation systems, underground wiring, and other impediments.

☐ Clear all obstructions and/or debris from cable, gas, transformer, secondary enclosure, and meter location route.

☐ Sign and return any required easements to CPS Energy.

Underground Service – Site Ready Diagrams

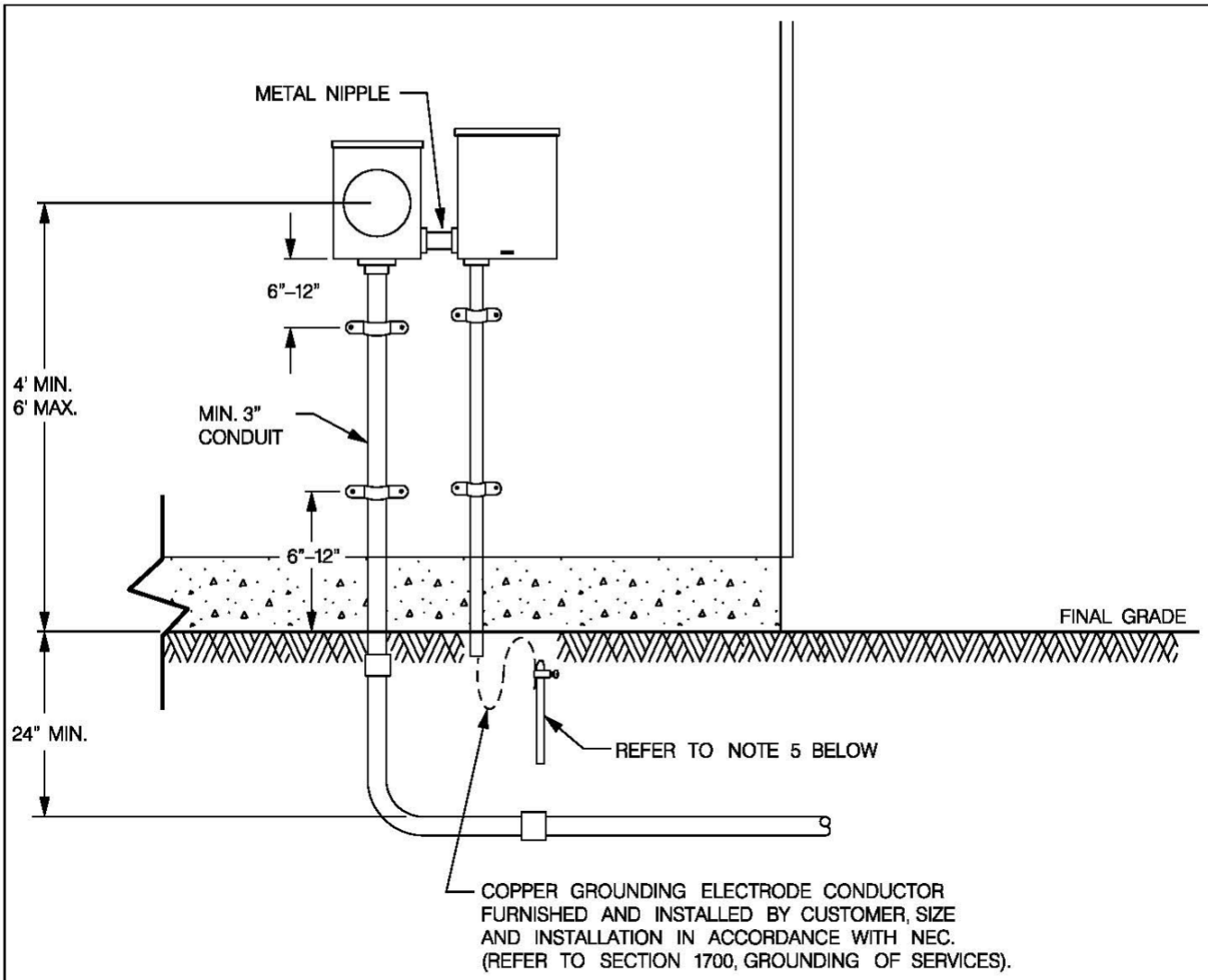
FIGURE 1800.21
CLEARANCE REQUIREMENTS
ELECTRIC SERVICE EQUIPMENT AND GAS SERVICE EQUIPMENT



NOTES

1. A MINIMUM OF 48" RADIAL DISTANCE SHALL BE MAINTAINED BETWEEN ELECTRIC METERS AND RECEPTACLES.
2. A MINIMUM OF 36" RADIAL DISTANCE SHALL BE MAINTAINED BETWEEN THE GAS REGULATOR VENT AND ELECTRIC EQUIPMENT INCLUDING RECEPTACLES.
3. GAS METER, GAS REGULATOR, AND ASSOCIATED GAS SERVICE EQUIPMENT SHALL NOT BE LOCATED BENEATH ELECTRIC METER OR ELECTRIC SERVICE EQUIPMENT.
4. THE WORKING CLEARANCE IN FRONT OF THE SERVICE EQUIPMENT INCLUDING THE METERING EQUIPMENT SHALL NOT BE LESS THAN 3 FEET FOR SELF-CONTAINED METER SOCKETS AND NOT LESS THAN 4 FEET FOR TRANSFORMER RATED EQUIPMENT.
5. THE WIDTH OF THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT SHALL BE THE WIDTH OF THE EQUIPMENT OR 30 INCHES WHICHEVER IS GREATER , IN ALL CASES THE SPACE SHALL PERMIT AT LEAST A 90 DEGREE OPENING OF EQUIPMENT DOORS OR HINGED PANELS.
6. THE WORK SPACE SHALL BE CLEAR AND EXTEND FROM THE GRADE , FLOOR , OR PLATFORM TO A HEIGHT OF 6 FEET 6 INCHES OR THE HEIGHT OF THE EQUIPMENT WHICHEVER IS GREATER.
7. COMBUSTION AIR INTAKES, EXHAUST FANS, VENT AND / OR OPERABLE WINDOWS AND DOORS SHALL MAINTAIN A 3 FOOT HORIZONTAL ZONE MEASURED FROM THE REGULATOR AND SUCH ZONE SHALL EXTEND VERTICALLY TO THE EAVE OF THE ROOF.
8. THE GAS METER CANNOT BE LOCATED WITHIN 3 FEET OF ANY DOOR OR UNDER AND / OR WITHIN 3 FEET OF ANY WINDOW THAT OPENS.
9. THE GAS METER CANNOT BE LOCATED WITHIN 10 FEET OF A MECHANICAL AIR INTAKE OR WINDOW INSTALLED AIR CONDITIONER.
10. IF LOCATED TO THE RIGHT OF A WINDOW , THE GAS SERVICE RISER MUST BE A MINIMUM OF 8 INCHES FROM WINDOW FRAME. IF TO THE LEFT OF THE WINDOW, THE CUSTOMER PIPING ENTERING THE STRUCTURE MUST BE A MINIMUM OF 8 INCHES TO THE LEFT OF THE WINDOW FRAME.

FIGURE 700.1
UNDERGROUND RESIDENTIAL DISTRIBUTION SERVICE, ONE METER



NOTES:

1. 200–AMPERE, SINGLE–PHASE METER SOCKET WITHOUT HUB FURNISHED BY AND INSTALLED BY CUSTOMER (REFER TO FIGURE 1800.1). CPS ENERGY MAKES CONNECTIONS IN METER SOCKET ONLY TO THE SERVICE LATERAL CONDUCTORS. CUSTOMER MAKES THE CONNECTIONS ON THE LOAD–SIDE OF SOCKET. (REFER TO FIGURE 1800.3).

2. SERVICE RACEWAY MUST BE MINIMUM 3 INCHES. IT MAY BE SCHEDULE 40 PVC CONDUIT, OR WHERE SUBJECT TO PHYSICAL DAMAGE, SCHEDULE 80 PVC CONDUIT SHALL BE USED. TWO 2–HOLE PIPE STRAPS MUST BE INSTALLED BY CUSTOMER TO MOUNT THE SERVICE RACEWAY TO THE STRUCTURE. SPACING WILL BE BETWEEN 6 AND 12 INCHES FROM BOTH THE METER SOCKET AND THE GROUND LEVEL. CUSTOMER SHALL PROVIDE A 2 1/2– INCH OR 3– INCH PVC MALE ADAPTER TO CONNECT SERVICE LATERAL CONDUIT TO EITHER A 200– AMPERE OR 320– AMPERE METER SOCKET RESPECTIVELY.

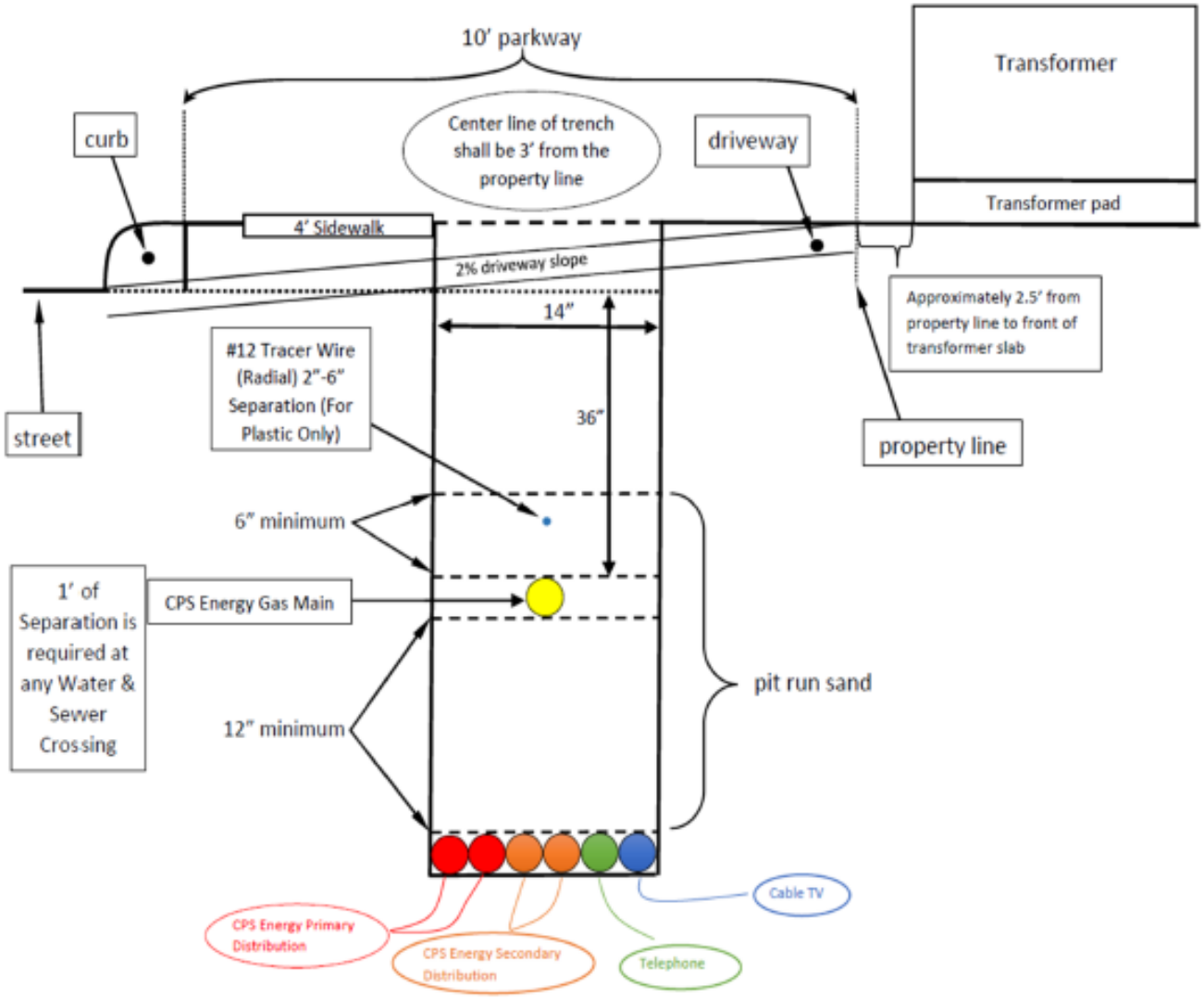
3. SERVICE EQUIPMENT SUITABLE FOR THE CONDITIONS FURNISHED AND INSTALLED BY CUSTOMER.

4. GROUNDING ELECTRODE SYSTEM INSTALLED AS PER NEC TO INCLUDE 5/8–IN X 8–FT GROUND ROD AS REQUIRED BY CPS ENERGY AT ALL CUSTOMER SERVICE LOCATIONS (REFER TO SECTION 1700).

5. CLEARANCES SHALL BE MAINTAINED FROM GAS METERS AND REGULATORS IN ACCORDANCE WITH SECTION 1800 AND FIGURE 1800.19..

DS-1

Gas & Electric Trench Joint with Other Utilities



Overhead Service – Site Ready Process

Follow the below steps to prepare your site for inspection:

☐ Install all equipment in compliance with the diagrams below or with the design approved by your CPS Representative.

☐ Ensure the grade along the underground service route is within 6 inches of final grade.

☐ Securely mount electric meter loop and meter can on the structure's wall.

☐ Stub gas structure pipe out 26 inches above final grade.

☐ If you are installing gas service, ensure your home interior lines and appliances are ready for either your city's Gas Inspection or CPS Energy's Gas Rough-in Inspection, depending on your location.

In addition to infrastructure preparation, ensure that you:

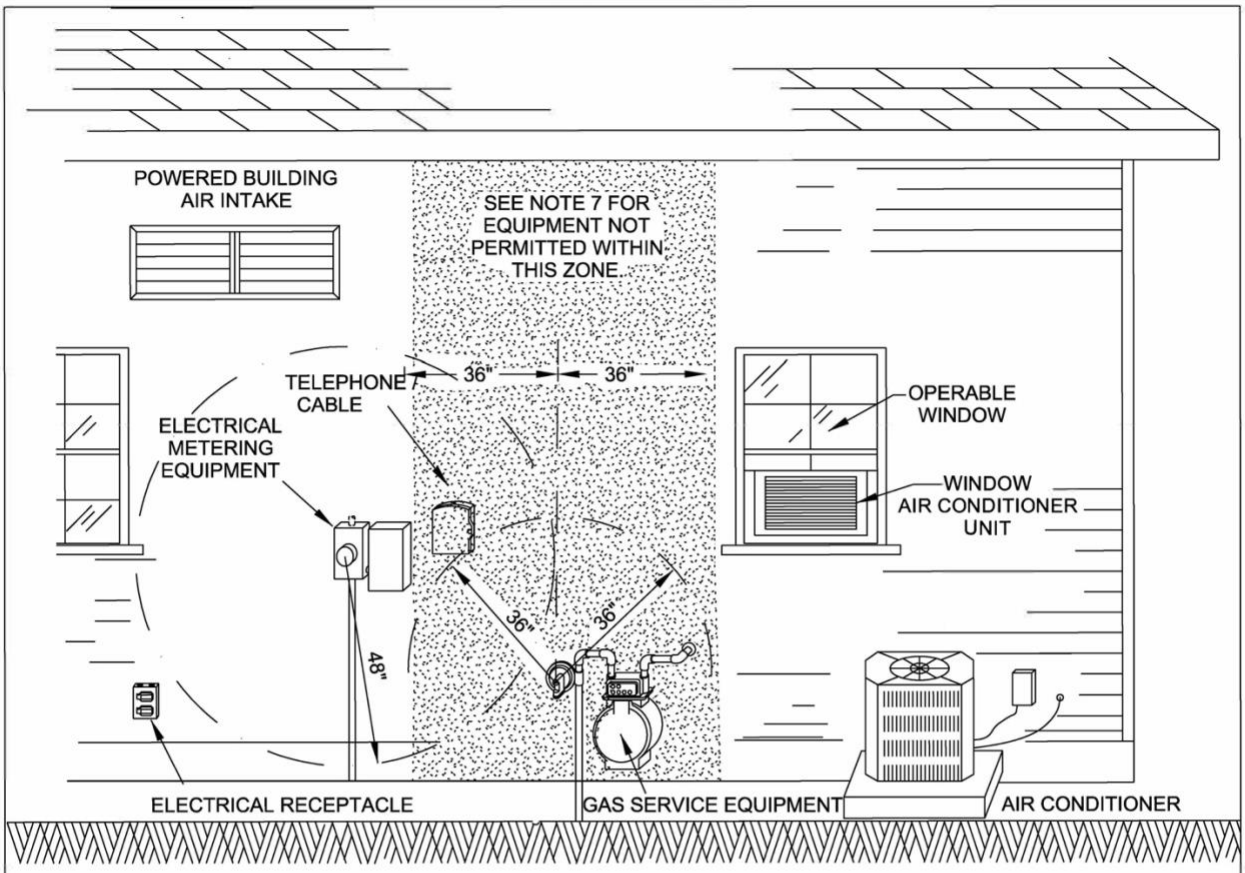
☐ Clear the service location of all water and drain lines, and underground facilities; including septic systems, culverts, irrigation systems, underground wiring, and other impediments.

☐ Clear all obstructions and/or debris from cable, gas, transformer, secondary enclosure, and meter location route.

☐ Sign and return any required easements to CPS Energy.

Overhead Service – Site Ready Diagrams

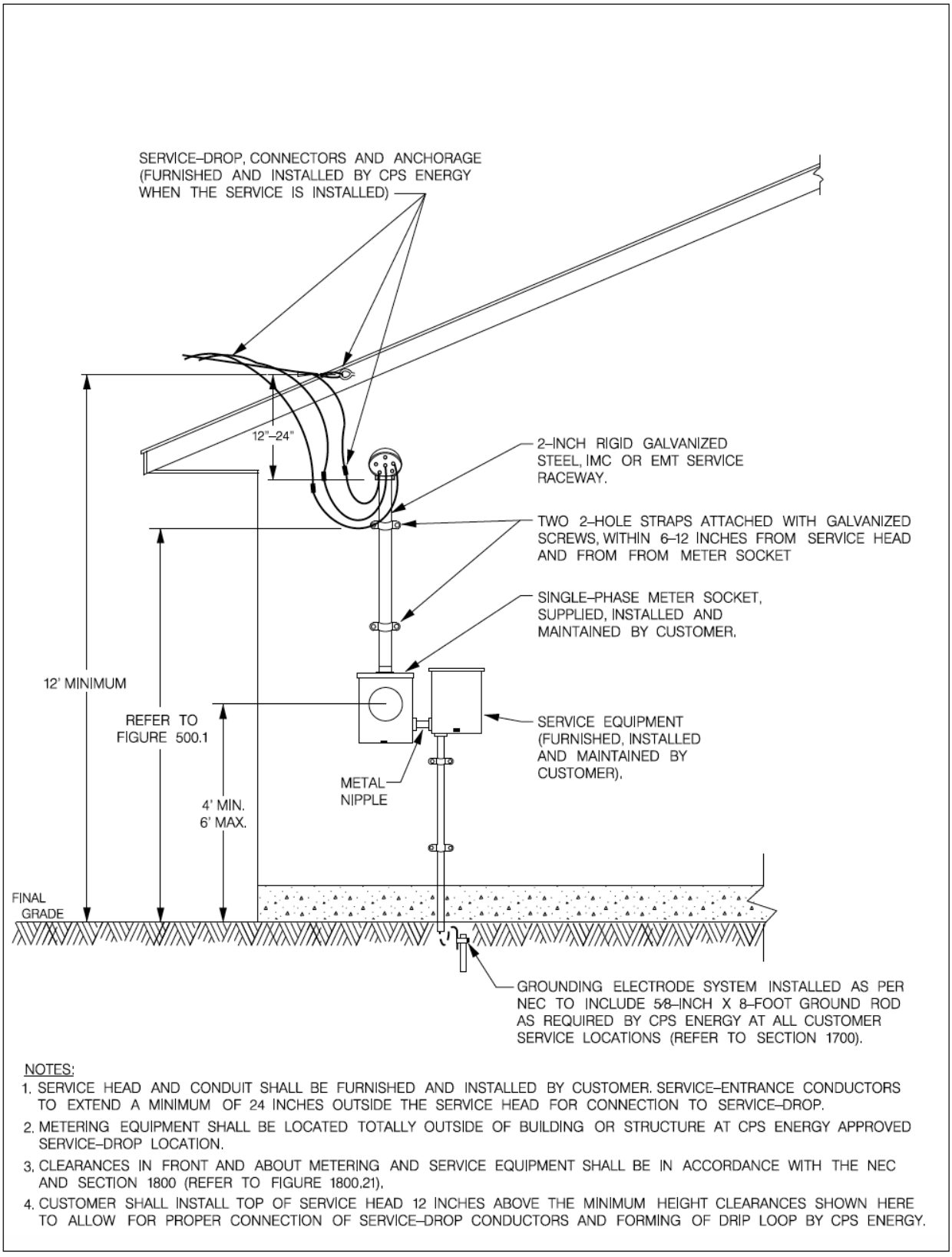
FIGURE 1800.21
CLEARANCE REQUIREMENTS
ELECTRIC SERVICE EQUIPMENT AND GAS SERVICE EQUIPMENT



NOTES

1. A MINIMUM OF 48" RADIAL DISTANCE SHALL BE MAINTAINED BETWEEN ELECTRIC METERS AND RECEPTACLES.
2. A MINIMUM OF 36" RADIAL DISTANCE SHALL BE MAINTAINED BETWEEN THE GAS REGULATOR VENT AND ELECTRIC EQUIPMENT INCLUDING RECEPTACLES.
3. GAS METER, GAS REGULATOR, AND ASSOCIATED GAS SERVICE EQUIPMENT SHALL NOT BE LOCATED BENEATH ELECTRIC METER OR ELECTRIC SERVICE EQUIPMENT.
4. THE WORKING CLEARANCE IN FRONT OF THE SERVICE EQUIPMENT INCLUDING THE METERING EQUIPMENT SHALL NOT BE LESS THAN 3 FEET FOR SELF-CONTAINED METER SOCKETS AND NOT LESS THAN 4 FEET FOR TRANSFORMER RATED EQUIPMENT.
5. THE WIDTH OF THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT SHALL BE THE WIDTH OF THE EQUIPMENT OR 30 INCHES WHICHEVER IS GREATER , IN ALL CASES THE SPACE SHALL PERMIT AT LEAST A 90 DEGREE OPENING OF EQUIPMENT DOORS OR HINGED PANELS.
6. THE WORK SPACE SHALL BE CLEAR AND EXTEND FROM THE GRADE , FLOOR , OR PLATFORM TO A HEIGHT OF 6 FEET 6 INCHES OR THE HEIGHT OF THE EQUIPMENT WHICHEVER IS GREATER.
7. COMBUSTION AIR INTAKES, EXHAUST FANS, VENT AND / OR OPERABLE WINDOWS AND DOORS SHALL MAINTAIN A 3 FOOT HORIZONTAL ZONE MEASURED FROM THE REGULATOR AND SUCH ZONE SHALL EXTEND VERTICALLY TO THE EAVE OF THE ROOF.
8. THE GAS METER CANNOT BE LOCATED WITHIN 3 FEET OF ANY DOOR OR UNDER AND / OR WITHIN 3 FEET OF ANY WINDOW THAT OPENS.
9. THE GAS METER CANNOT BE LOCATED WITHIN 10 FEET OF A MECHANICAL AIR INTAKE OR WINDOW INSTALLED AIR CONDITIONER.
10. IF LOCATED TO THE RIGHT OF A WINDOW , THE GAS SERVICE RISER MUST BE A MINIMUM OF 8 INCHES FROM WINDOW FRAME. IF TO THE LEFT OF THE WINDOW, THE CUSTOMER PIPING ENTERING THE STRUCTURE MUST BE A MINIMUM OF 8 INCHES TO THE LEFT OF THE WINDOW FRAME.

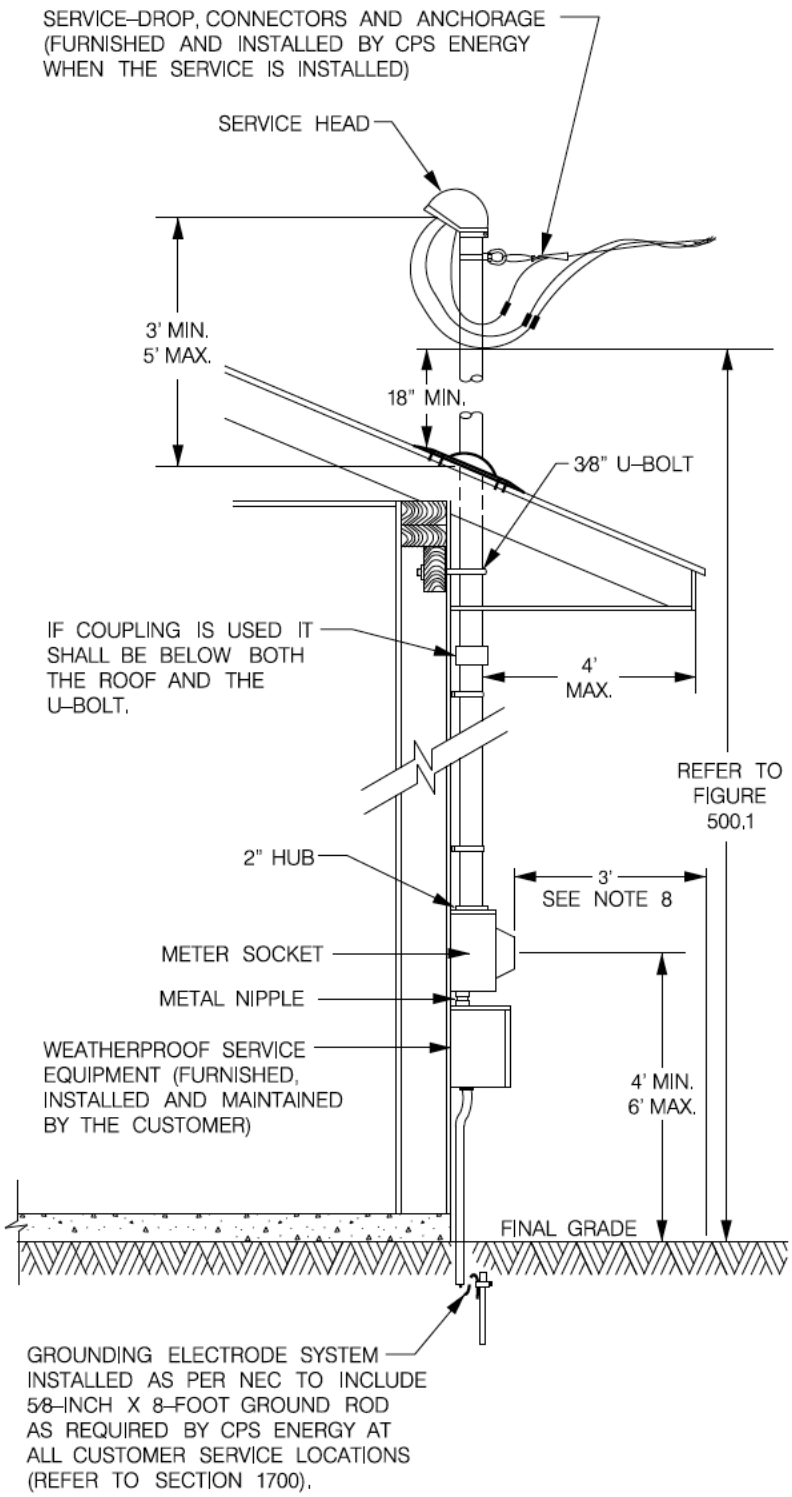
FIGURE 500.2
OVERHEAD RESIDENTIAL SERVICE, ONE METER



NOTES:

1. SERVICE HEAD AND CONDUIT SHALL BE FURNISHED AND INSTALLED BY CUSTOMER. SERVICE–ENTRANCE CONDUCTORS TO EXTEND A MINIMUM OF 24 INCHES OUTSIDE THE SERVICE HEAD FOR CONNECTION TO SERVICE–DROP.
2. METERING EQUIPMENT SHALL BE LOCATED TOTALLY OUTSIDE OF BUILDING OR STRUCTURE AT CPS ENERGY APPROVED SERVICE–DROP LOCATION.
3. CLEARANCES IN FRONT AND ABOUT METERING AND SERVICE EQUIPMENT SHALL BE IN ACCORDANCE WITH THE NEC AND SECTION 1800 (REFER TO FIGURE 1800.21).
4. CUSTOMER SHALL INSTALL TOP OF SERVICE HEAD 12 INCHES ABOVE THE MINIMUM HEIGHT CLEARANCES SHOWN HERE TO ALLOW FOR PROPER CONNECTION OF SERVICE–DROP CONDUCTORS AND FORMING OF DRIP LOOP BY CPS ENERGY.

FIGURE 500.3
OVERHEAD RESIDENTIAL SERVICE, ONE METER WITH A SERVICE MAST



NOTES:

1. SERVICE OUTLET SHALL BE FURNISHED AND INSTALLED BY THE CUSTOMER. TWENTY–FOUR INCHES OF WIRE ENDS MUST BE EXTENDING OUT OF SERVICE HEAD.

2. SERVICE MAST SHALL BE SUPPLIED WITH APPROVED WEATHERPROOF ROOF FLASHING AND BE SUPPORTED BY ONE OF THE FOLLOWING:
   (A) 3/8–INCH GALVANIZED U–BOLT ATTACHED TO WALL FRAMING MEMBER BELOW ROOF EAVE OR TO ROOF OR CEILING RAFTER.
   (B) BY ELECTRIC CHANNEL MATERIAL SUCH AS KINDORF THAT IS SECURED TO TWO OR MORE WOODEN STUDS WITH LAG BOLTS.

3. ROOF SLOPE SHALL NOT BE LESS THAN 4 INCHES IN 12 INCHES AND NOT BE READILY ACCESSIBLE TO PEDESTRIAN TRAFFIC FOR THE DRIP LOOP CLEARANCES SHOWN ON THIS FIGURE (REFER TO FIGURE 500.1 FOR SPECIFIC INFORMATION)

4. SERVICE MAST SHALL ALSO BE SUPPORTED BY 2 STANDARD HEAVY–DUTY 2–HOLE PIPE STRAPS OR EQUIVALENT. SERVICE MAST SHALL BE 2–INCH RIGID METAL CONDUIT (RMC) OR INTERMEDIATE METAL CONDUIT (IMC).

5. SINGLE PHASE METER SOCKET, SUPPLIED, INSTALLED AND MAINTAINED BY CUSTOMER.

6. THE SERVICE MAST SHOWN HERE IS TYPICAL AND UTILIZED WHERE ADDITIONAL CLEARANCE IS REQUIRED BETWEEN THE SERVICE–DROP AND FINAL GRADE. WHERE THE SERVICE MAST MUST EXTEND ABOVE A ROOF OR ROOF PARAPET, IT SHALL EXTEND ABOVE THAT POINT A MINIMUM OF 36 INCHES AND MAXIMUM OF 60 INCHES MEASURED TO THE TOP OF THE CONDUIT. CONDUIT SHALL BE OF 2 INCHES MINIMUM, RIGID METAL CONDUIT (RMC) ,OR INTERMEDIATE METAL CONDUIT (IMC) ANCHORAGE AND MAST MUST BE DESIGNED TO WITHSTAND 750 POUNDS OF LOAD–TENSION INDUCED FROM THE WEIGHT OF THE SERVICE–DROP CONDUCTORS.

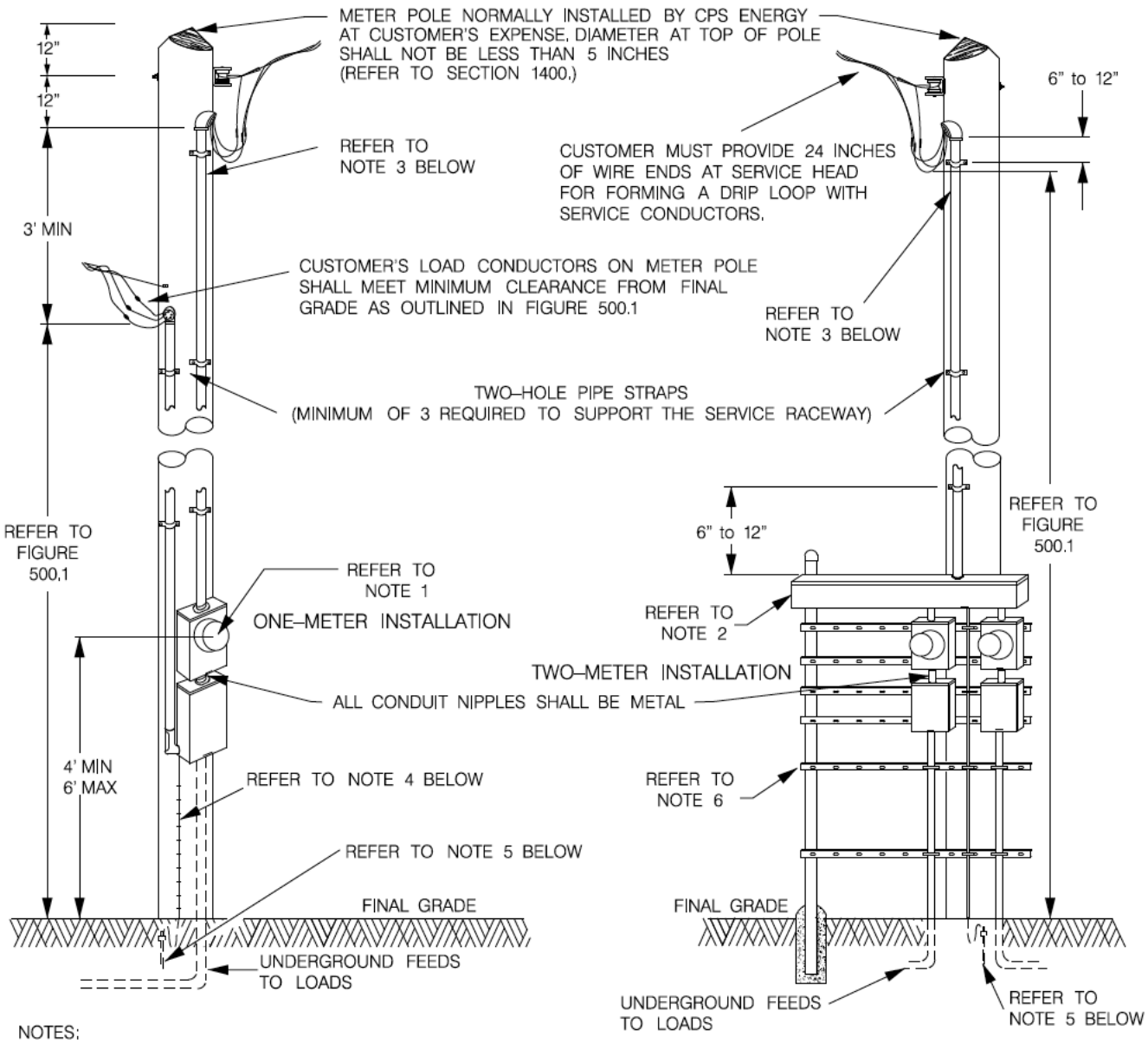
7. METERING EQUPMENT SHALL BE LOCATED TOTALLY OUTSIDE AT CPS ENERGY APPROVED SERVICE–DROP LOCATION.

8. CLEARANCES IN FRONT AND ABOUT METERING AND SERVICE EQUIPMENT SHALL BE IN ACCORDANCE WITH THE NEC AND SECTION 1800 (REFER TO FIGURE 1800.21).

9. CUSTOMER SHALL INSTALL TOP OF SERVICE HEAD 12 INCHES ABOVE THE MINIMUM HEIGHT CLEARANCES SHOWN HERE TO ALLOW FOR PROPER CONNECTION OF SERVICE–DROP CONDUCTORS AND FORMING OF DRIP LOOP BY CPS ENERGY.

FIGURE 1400.1

OVERHEAD SERVICE, SELF–CONTAINED METER(S) ON CUSTOMER–OWNED METER POLE



NOTES:

1. CPS ENERGY APPROVED SINGLE–PHASE SELF–CONTAINED METER SOCKET WITH BOLT–ON HUB FURNISHED AND INSTALLED BY CUSTOMER REFER TO FIGURE 1800.1. METER SOCKET, ETC, MUST BE MOUNTED DIRECTLY TO POLE OR TO METAL BRACES; WOODEN BACKERS ARE NOT PERMITTED. METERS MUST BE MOUNTED SO THAT THEY WILL FACE THE STREET.

2. METER GUTTER WITH WEATHERPROOF CONDUIT HUB FURNISHED AND INSTALLED BY CUSTOMER. CUSTOMER MAKES ALL CONNECTIONS IN GUTTER. SIZING OF GUTTERS SHALL BE AS PER NEC BUT IN NO CASE LESS THAN 8 INCHES HIGH WITH 3 /0 AWG CONDUCTORS OR SMALLER AND NOT LESS THAN 10 INCHES HIGH WITH CONDUCTORS LARGER THAN 3 /0 AWG OR ANY COMBINATION OF PARALLELED CONDUCTORS.

3. SERVICE RACEWAYS FURNISHED AND INSTALLED BY CUSTOMER SHALL NOT BE LESS THAN 1 1/4–INCHES AND SHALL BE EITHER IMC, RIGID OR EMT.

4. COPPER GROUNDING ELECTRODE CONDUCTOR (FURNISHED AND INSTALLED BY CUSTOMER, SIZE AND INSTALLATION IN ACCORDANCE WITH NEC. CONDUCTORS SMALLER THAN NO. 6 MUST BE ENCLOSED IN CONDUIT OR CABLE ARMOR.)

5. GROUNDING ELECTRODE SYSTEM INSTALLED AS PER NEC TO INCLUDE 5/8–INCH X 8–FOOT GROUND ROD AS REQUIRED BY CPS ENERGY AT ALL CUSTOMER SERVICE LOCATIONS (REFER TO SECTION 1700)

6. EQUIPMENT RACK USED IN CONJUCTION WITH METER POLE FOR SUPPORT OF EQUIPMENT MUST BE CONSTRUCTED IN ACCORDANCE WITH FIGURE 1800.18.