HOUSE
**Notes:**

1. A single ground electrode shall be supplemented by an additional electrode except when the single electrode has a resistance to earth of 25 ohms or less.

2. Drawing and recommendations are intended to serve as guidance for compliance with code and utility requirements. The NEC and/or Local Code Authorities may have additional requirements to those shown. The more stringent requirement will take precedence for differences between authorities.
Notes:

1. A single ground electrode shall be supplemented by an additional electrode except when the single electrode has a resistance to earth of 25 ohms or less.

2. Clearance may be reduced to 18 inches if not more than 6 feet of conductors pass over the roof and the service mast is located within 4 feet of the edge of the roof, measured horizontally.

3. Drawing and recommendations are intended to serve as guidance for compliance with code and utility requirements. The NEC and/or Local Code Authorities may have additional requirements to those shown. The more stringent requirement will take precedence for differences between authorities.

*Conductor Sizes for General Purpose Service Equipment

<table>
<thead>
<tr>
<th>Service Rating (Ampere)</th>
<th>Typical Conduit Size</th>
<th>Ungrounded Conductor Size (Minimum)</th>
<th>Typical Grounded (Neutral) Conductor Size</th>
<th>Grounding Electrode and Bonding Conductor Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Copper</td>
<td>Aluminum</td>
<td>Copper</td>
<td>Aluminum</td>
</tr>
<tr>
<td>100</td>
<td>1.25</td>
<td>2 AWG</td>
<td>1/0 AWG</td>
<td>4 AWG</td>
</tr>
<tr>
<td></td>
<td>2.00</td>
<td>3/0 AWG</td>
<td>1/0 AWG</td>
<td>3/0 AWG</td>
</tr>
<tr>
<td></td>
<td>4.00</td>
<td>500 kcmil</td>
<td>750 kcmil</td>
<td>500 kcmil</td>
</tr>
</tbody>
</table>

This table is only a guide for some minimum conductor requirements and is not intended to be a comprehensive list of acceptable conductor sizes. The NEC should be reviewed to ensure compliance with all applicable requirements, including but not limited to conductor size, material, and insulation type.
**Wrong Location of Connection Point**

- **Existing Utility Line**
- **Connection Point**
- **Pool**
- **Shop**
- Service line must not cross over pool or other permanent structure.

**Correct Location of Connection Point**

- **Existing Utility Line**
- **Connection Point**
- **Pool**
- **Shop**
- **25’ Min**
- **10’**

**Wrong Location of Connection Point**

- **Existing Utility Line**
- **Connection Point**
- **Tree**
- Service line must not go through trees.

**Correct Location of Connection Point**

- **Existing Utility Line**
- **Connection Point**
- **Mature Tree**
- **10’**

**Meter Clearances**

**House**

- **15’ Min**
- **Meter Socket**
- **15’ Min**
- **3’ Min**
- No fences, clear shrubs, etc.

The working clearance around the meter shall have a depth of 3’, a width of 30”, and a height of 6”-6”.

**Temporary Meter Pole Placement**

**Existing Utility Line**

- **Temporary Meter Pole for Construction**
- **Less than 10’**
- **Existing Utility Pole**

Note: Exact location to be coordinated with utility.

- **New Home**
- **Under Construction**

Local code authorities may have requirements in addition to those shown.
Notes:

1. A single ground electrode shall be supplemented by an additional electrode except when the single electrode has a resistance to earth of 25 ohms or less.

2. Drawing and recommendations are intended to serve as guidance for compliance with code and utility requirements. The NEC and/or Local Code Authorities may have additional requirements to those shown. The more stringent requirement will take precedence for differences between authorities.
UNDERGROUND CLEARANCE FOR SWIMMING POOL

POOL

EXISTING UTILITY

CONNECTION POINT

$5\text{'}$ MIN.

ELECTRICAL SUPPLY CABLES CAN NEVER BE WITHIN $5\text{'}$ OF A POOL OR ITS AUXILIARY EQUIPMENT.

NOTE: UNDERGROUND CABLE ROUTES SHOULD BE AS STRAIGHT AND DIRECT AS PRACTICAL.

UNDERGROUND REQUIREMENTS FOR PAVED AREAS

ELECTRICAL LINES UNDER PAVED AREAS SHALL BE IN CONDUIT (TYPE AND SIZE AS SPECIFIED BY UTILITY)

CONNECTION POINT

HOME

EXISTING UTILITY

UNDERGROUND FACILITIES CLEARANCES

UNDERGROUND FACILITIES CLEARANCES

PADMOUNTED TRANSFORMER

$10\text{'}$ MIN

HOME

METER CLEARANCES

HOUSE

$15\text{'}$ MIN.

METER SOCKET $15\text{'}$ MIN.

$3\text{'}$ MIN.

NO FENCES, CLEAR SHRUBS ETC.

THE WORKING CLEARANCE AROUND THE METER SHALL HAVE A DEPTH OF $3\text{'}$, A WIDTH OF $30\text{'}$, AND A HEIGHT OF $6\text{'}-6\text{'}$.

CAUTION: NO GAS METERS WITHIN $3\text{'}$ RADIUS OF METER ENCLOSURE.

TEMPORARY METER POLE PLACEMENT

NOTE: EXACT LOCATION TO BE COORDINATED WITH UTILITY.

TEMPORARY METER POLE

TRANSFORMER WITHIN $3\text{'}$

DOOR WITHIN $3\text{'}$

LOCK PEDESTAL

STREET

LOCAL CODE AUTHORITIES MAY HAVE REQUIREMENTS IN ADDITION TO THOSE SHOWN.
MOBILE HOME
**Notes:**

1. The bonding conductor, commonly referred to as the 4th wire, is required for mobile homes.

2. A single ground electrode shall be supplemented by an additional electrode except when the single electrode has a resistance to earth of 25 ohms or less.

3. Drawing and recommendations are intended to serve as guidance for compliance with code and utility requirements. The NEC and/or Local Code Authorities may have additional requirements to those shown. The more stringent requirement will take precedence for differences between authorities.

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### Conductor Sizes for 120/240 Volt, Single-Phase Dwelling

<table>
<thead>
<tr>
<th>Service Rating (Amperes)</th>
<th>Typical Conduit Size (Inches)</th>
<th>Ungrounded Conductor Size (Minimum)</th>
<th>Typical Grounded (Neutral) Conductor Size</th>
<th>Grounding Electrode and Bonding Conductor Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Copper</td>
<td>Aluminum</td>
<td>Copper</td>
<td>Aluminum</td>
</tr>
<tr>
<td>100</td>
<td>1.25</td>
<td>2 AWG</td>
<td>1/0 AWG</td>
<td>4 AWG</td>
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<tr>
<td></td>
<td>2.00</td>
<td>2/0 AWG</td>
<td>4/0 AWG</td>
<td>1 AWG</td>
</tr>
</tbody>
</table>

The table is only a guide for some minimum conductor requirements and is not intended to be a comprehensive list of acceptable conductor sizes. The NEC should be reviewed to ensure compliance with all applicable requirements, including but not limited to conductor size, material, and insulation type.
**Wrong Location to Set Meter Pole**

- **Connection Point on Structure**
  - Meter Pole
  - Mobile Home

- **Existing Utility Pole**
  - Service Line Not at Closest Point to Utility Pole

**Correct Location of Meter Pole**

- **Connection Point on Structure**
  - Meter Pole
  - Mobile Home

- **Existing Utility Pole**
  - Service Line

**Wrong Location to Set Meter Pole**

- **Connection Point on Structure**
  - Meter Pole
  - Mobile Home

- **Existing Utility Pole**
  - Service Line Should Not Cross Over Structure & Is Not at Closest Point to Utility Pole

**Correct Location of Meter Pole**

- **Connection Point on Structure**
  - Meter Pole
  - Mobile Home

- **Existing Utility Pole**
  - Service Line

**Meter Clearances**

- **Pole**
  - 15" Min.
  - 15" Min.

- **Meter Socket**
  - 3" Min.

- **No Fences, Clear Shrubs Etc.**

**Clearance from Power Lines to Mobile Home**

- **Mobile Home**

15 foot boundary line to nearest Spepa power line measured horizontally. The only lines that may enter this zone is the service line to the meter pole.

No electric wires are permitted to cross over mobile home. Mobile homes are not permitted to be installed under electric lines.

Local code authorities may have requirements in addition to those shown.
OTHER
EXTEND CONDUCTORS 36" BEYOND WEATHERHEAD, NEUTRAL TO BE IDENTIFIED WITH WHITE TAPE ON BOTH ENDS

10' - 0" MIN TO VEHICULAR TRAFFIC / 8' - 0" MIN SUBJECT TO PEDESTRIANS
5' - 0" MIN TO DRAIN LOOP
8' - 0" TO BRACE ATTACHMENT
1 - 0" TO DRYWALL
3 - 0" TO 4' - 0"

18" MIN

18" MIN

5/8" x 8" COPPER CLAD GROUND ROD AND CLAMP

4" X 4" TREATED POLE OR EQUIVALENT

DIRECTION OF PULL

POLE MUST BE SUFFICIENTLY BRACED TO OFFSET SERVICE CABLE STRAIN AND SUPPORT A MAN WORKING FROM A LADDER

METER SOCKET

SEE NOTE 2

WEATHERPROOF UL APPROVED MAIN DISCONNECT PANEL (60 AMP MIN.)

SEE NOTE 1

GROUNDING ELECTRODE CONDUCTOR

Notes:
1. 125 Volt single phase, 15, 20, and 30 Amp receptacle outlets installed on the pole shall have ground-fault circuit-interrupter (GFCI) protection.
2. If non-metallic conduit is used between the meter socket and main disconnect, a bonding conductor shall be installed.
3. A single ground electrode shall be supplemented by an additional electrode except when the single electrode has a resistance to earth of 25 ohms or less.
4. Over current protection for the service equipment shall be properly sized per National Electric Code (NEC).
5. Outdoor electrical equipment shall be installed in suitable enclosures and shall be protected from accidental contact by unauthorized personnel.
6. Drawing and recommendations are intended to serve as guidance for compliance with code and utility requirements. The NEC and/or Local Code Authorities may have additional requirements to those shown. The more stringent requirement will take precedence for differences between authorities.

* Conductor Sizes for 120/240 Volt, Temporary Construction Service Equipment

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<tr>
<th>Service Rating (Amperes)</th>
<th>Ungrounded Conductor Size (Minimum)</th>
<th>Typical Grounded (Neutral) Conductor Size</th>
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<td>Copper</td>
<td>Aluminum</td>
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<tr>
<td>60</td>
<td>6 AWG</td>
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<td>6 AWG</td>
</tr>
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<td>100</td>
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</tr>
<tr>
<td>200</td>
<td>3/0 AWG</td>
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OPTION: 1

OPTION: 2

OPTION: 3

NOTE:
1. OPTION 1, 2, OR 3 ARE TYPICAL TRANSFER SWITCH CONFIGURATIONS.
2. DRAWING IS GUIDANCE FOR COMPLIANCE AND ULTIMATUM.
   EXPECTATIONS. THE NATIONAL ELECTRICAL CODE AND/OR LOCAL AUTHORITIES MAY HAVE ADDITIONAL
   REQUIREMENTS TO THOSE SHOWN. THE MORE STRINGENT REQUIREMENTS WILL TAKE PRECEDENCE FOR DIFFERENCES
   BETWEEN AUTHORITIES.
METER SOCKET DESIGNED FOR UNDERGROUND SERVICE.

* CONDUCTORS ENCLOSED IN RIGID METAL, INTERMEDIATE METAL, OR SCHEDULE 80 PVC CONDUIT. IF SCHEDULE 80 CONDUIT IS USED, FITTINGS AND ADAPTERS MAY BE SCHEDULE 40.

GROUNDING ELECTRODE CONDUCTOR

PROTECTIVE BUSHING REQUIRED ON END OF CONDUIT UNLESS COMPLETE CONDUIT SYSTEM IS USED.

MINIMUM 4"x4" SQUARE TREATED POLE OR EQUIVALENT

WEATHERPROOF UL APPROVED MAIN DISCONNECT PANEL (60 AMP MIN)

SEE NOTE 2

SEE NOTE 1

5/8" x 8'-0" COPPER CLAD GROUND ROD & CLAMP (SEE NOTE 3).

Notes:
1. 125 Volt single phase, 15, 20, and 30 Amp receptacle outlets installed on the pole shall have ground-fault circuit-interrupter (GFCI) protection.

2. If non-metallic conduit is used between the meter socket and main disconnect, a bonding conductor shall be installed.

3. A single ground electrode shall be supplemented by an additional electrode except when the single electrode has a resistance to earth of 25 ohms or less.

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5. Outdoor electrical equipment shall be installed in suitable enclosures and shall be protected from accidental contact by unauthorized personnel.

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* Conductor Sizes for 120/240 Volt, Temporary Construction Service Equipment

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