Application

This standard describes the requirements for underground residential services.

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Terms

<table>
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<th>Term</th>
<th>Definition</th>
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<tr>
<td>Electrical Inspector</td>
<td>Tacoma Power electrical inspection staff that inspect for compliance to the Tacoma Power standards, Tacoma Electrical Code, NEC, WAC and Electric Service Handbook requirements.</td>
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<td>Electrical Secondary</td>
<td>Conduit and cables (less than 600 volts) that connect from the transformer to the SSB.</td>
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<tr>
<td>Electrical Service</td>
<td>Conduit and cables from the SSB to the meter base.</td>
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<tr>
<td>New Services Engineering Office</td>
<td>Tacoma Power engineering staff that provide design, cost estimates, and coordination of the residential underground secondary service project.</td>
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<tr>
<td>Secondary Service Box (SSB)</td>
<td>A plastic vault designed to contain the point of connection for the electrical service which connects the electrical secondary cables to the electrical service cables.</td>
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Responsibilities & Inspections

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<th>Construction Area</th>
<th>Responsibility</th>
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<td>Location of SSB</td>
<td>The New Services Engineering Office will work with the customer or their electrical contractor to determine the location of the SSB on the customer’s property.</td>
<td>New Services Engineering Office</td>
</tr>
<tr>
<td>Installation of SSB</td>
<td>The New Services Engineering Office will work with the customer or their electrical contractor to determine the installation of the SSB on the customer’s property.</td>
<td>New Services Engineering Office</td>
</tr>
<tr>
<td>Electrical Service</td>
<td>The customer or their electrical contractor will install the electrical service.</td>
<td>Electrical Inspector</td>
</tr>
<tr>
<td>Electrical Secondary</td>
<td>Tacoma Power T&amp;D Construction Staff</td>
<td>Not needed</td>
</tr>
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## Underground Service to SSB

<table>
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<th>Step</th>
<th>Procedure</th>
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| 1    | Establish location and final grade for the SSB.  
• The SSB is usually found or placed at the property lot corner. If not, contact the New Services Engineering Office.  
• SSB’s shall not be located in driveways or other areas subject to vehicular loading.  
• SSB’s shall not be placed in a depression or in low areas that would tend to fill with water or silt.  
• Ensure there are no rocks between SSB base and cover to avoid damage to the cover.  
• The top of the SSB cover shall be 2 inches above final grade. |
| 2    | Dig trench from the meter base to the nearest side or end of the SSB.  
• The trench shall be deep enough:  
  o at the SSB so the conduit elbow can be terminated vertically within the SSB.  
  o to maintain a minimum of 24 inches of cover over the conduit.  
• The trench should be dug as straight as possible and the trench bed leveled and free of rocks larger than 2 inches in diameter.  
Note: Permanent structures are never to be constructed or moved on top of buried Tacoma Power conduit or cable. |
| 3    | Install conduit for electrical service.  
• Conduit shall be 1 – 2.5” Sch. 40 gray PVC for 200A panel or 2 – 2.5” Sch. 40 gray PVC for 320A panel.  
• Excavate beneath the SSB and insert the 90° conduit elbows.  
• All conduit must be at the same end of the SSB and grouped closely together (property side of the SSB preferred).  
• Conduit ends shall extend vertically 2 inches above the bottom of the SSB.  
• Identify conduit ends with customer house address.  
• Install bell ends on the conduit ends. Do not glue bell ends inside SSB.  
• If the elevation of the SSB requires adjustment, contact New Services Engineering Office for assistance. |
| 4    | The electrical service conduit in the trench must be inspected and approved by the Electrical Inspector (BEFORE Backfill). |
| 5    | Backfill the trench.  
• Use available clean material.  
• Pieces of scrap cable and other construction items must not be buried in the trench.  
• Large rocks must be removed and if native soil is rock, sand bedding may be required.  
• Tamp the soil, leaving a slight mound to allow for settling. |
| 6    | Pull in electrical service cables from the meter base to the SSB.  
• Leave 4 feet minimum of cable, measured from the top of the SSB, left inside the SSB.  
• Ensure any parallel cables have matching phase tapes.  
• Identify cables with customer house address. |
| 7    | Ensure the following has been done:  
• All applicable fees are paid.  
• All inspections have been passed. |
| 8    | **Tacoma Power T&D Construction Staff** will:  
• install the SSB as necessary.  
• pull in electrical secondary cables from the transformer to the SSB.  
• energize the service. |
Figure 1  Typical Installation of SSB

Figure 2  Residential SSB Dimensions and Part #’s

**Large SSB**
- Base
  - PenCell Part# PE-30GS
  - Tacoma Power MID# 37920
- Cover
  - PenCell Part# PE-30PLX-TAC
  - Tacoma Power MID# 37921

**Small SSB**
A small SSB is available ONLY when maximum 2 conduits of 2.5” size enter the SSB.
- Base
  - PenCell Part# PE-20GS-2X
  - Tacoma Power MID# 19118
- Cover
  - PenCell Part# PE-20PL-2X-TAC
  - Tacoma Power MID# 19437