

Service Requirements

General

Contact Idaho Power before beginning work on any new service.

Exception: If the service meets the requirements described in the *Reduced Charge Option for Underground Electrical Service* (DFE-071) pamphlet and the customer will be installing the trench and conduit, Idaho Power does not need to be notified until the service is ready for the cable and meter to be installed.

All meter installations must meet current electrical code requirements and display the proper electrical permit.

To help prevent damage, always call **Dig-Line** for locations at least **2 business days** before digging, excavating, or driving a ground rod.

Dial **811** (Nationwide)

Be sure to connect to the proper equipment. Refer to the *Definitions* section or contact Idaho Power for clarification.

Burial Depth

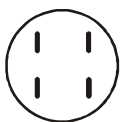
A 30" minimum burial depth is required for cables up to 750 volts line-to-line. Contact Idaho Power if this depth cannot be achieved.

Standard Service Voltages

Single Phase (1-Ø) 120/240 volts
240/480 volts
120/208 volts ("network")

NOTE. Use the correct meter base for 1-Ø, 120/208 volt "Network" applications.

120/240 Volt
240/480 Volt



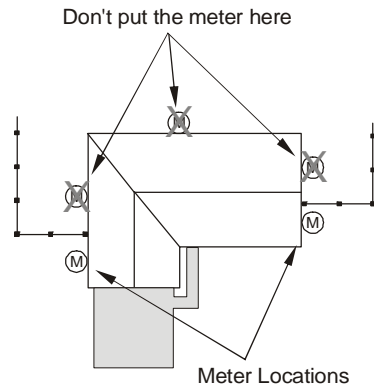
120/208 Volt
"Network Meter"



1-Ø Self-contained Meter
Lug Arrangements

Meter Location

The meter and any associated equipment must be located so that the installation and any future maintenance can be performed without undue inconvenience to the customer or Idaho Power. Locate residential as shown below.



The meter must be located in a reasonably protected area so that the risk of inadvertent damage is minimized.

Placing the meter in front of the fence keeps the meter reader out of the back yard.

The meter base, conduit, and any CT enclosure must be adequately supported on the outside of an outside structure wall so that it will be readily accessible to Idaho Power. Do not cover or enclose the meter.

Recessed meter bases. See page 4.

Meter Height

Permanent meters must be 5'-6" (+/- 6") above the finished grade or other accessible surface such as a deck or stairs, except as noted below.

- ◆ Multiple meter bases must be installed so that the lowest meter is at least 4'-0" above the finished grade.
- ◆ Meters installed on pedestals must be 3'-0" to 6'-0" above the finished grade.

Special Meter Base Requirements

480 volt meter bases. A EUSERC-approved safety socket meter base with factory installed test bypass facilities is required for any self-contained meter over 250 volts line-to-line to provide a means to de-energize and isolate the meter. These meter bases must have an interlocking device, a screw-type meter ring, and be capable of being sealed by Idaho Power.

1-Ø, 400 amp meter bases. These meter bases must not have a link bypass or a lever bypass. Locking jaws are acceptable.

Meter Base Guidelines

Refer to the *Meter Base Identification Guidelines* located on www.idahopower.com.

Multiple Meters

Each meter base or service disconnect that is part of an installation with more than one meter is required to be plainly and permanently marked with numbers or letters that corresponds to the address, suite, office, or room it serves.

Meter Rooms for Multiple Meters

Multiple meter installations may be located in a meter room provided that all of the following criteria are met:

1. A plan for the meter room must be submitted to Idaho Power for approval before any wiring is done.
2. The meter room must be accessible to Idaho Power through an exterior metal door with a lock box. The door must be permanently labeled with the words "Electrical Room".
3. The meter room may only be used for electrical equipment and communication equipment that does not interfere with the electrical equipment. No storage of any kind will be allowed.
4. Lighting, drainage and health issues are the responsibility of the customer.

Sealing for Moisture and Gas on Underground Services

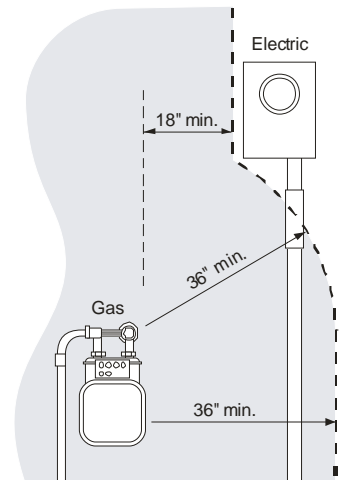
Each meter base that is connected to an underground service where the service cables are installed in conduit must have all opening(s) between the meter base and the interior of a building permanently sealed to prevent any liquids or vapors from passing into the building. See NEC 230.8, *Raceway Seal*.

Clearances

Separation between Electric and Gas.

The electric meter, CT enclosure, or any other electrical equipment must be separated from a gas meter by at least 36" measured in any direction, except that the horizontal separation shall not be less than 18".

The electrical conduit is not considered electrical equipment.



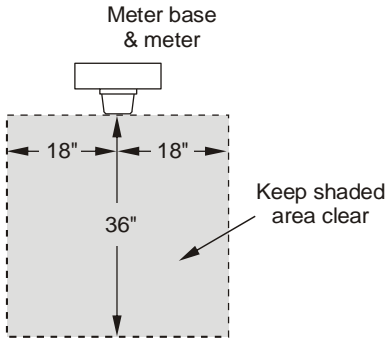
Keep all electrical equipment out of the shaded area

Propane Tanks. Any regulator, pressure relief valve, or fill connection associated with a propane tank or its delivery system must be at least 10' away from any source of ignition, which includes the electric meter, air conditioning unit, etc. Keep the service cable and conduit at least 3' away from the tank.

NOTE. Propane tanks used for dispensing must be at least 20' from any source of ignition.

Requirements for Single-Phase (1-Ø) Underground Electric Service

Working Space. Keep the 36" x 36" area directly in front of the meter clear of any equipment, landscaping or other obstacles that could interfere with access to the meter.



Caution: Portable Generators

Do not connect a portable generator to a building's electrical wiring unless a transfer switch has been installed per NEC 702. The transfer switch prevents the generator from feeding back into the Idaho Power electrical system which produces unexpected high voltage on an otherwise de-energized circuit, exposing workers to unforeseeable hazards. The generator can also be damaged if the electrical system becomes energized while the generator is operating.

Connect appliances and tools directly to the generator using the plug-ins provided.

Who Provides the Connectors?

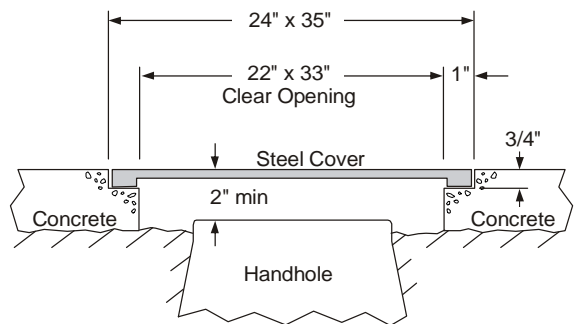
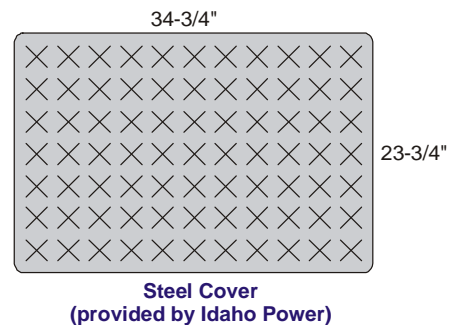
Generally, the owner of the enclosure or equipment will provide the electrical connectors (lugs or terminals) within that piece of equipment necessary to connect the electrical cables, regardless of who owns the cables. The number, size, and type of cables must be known so that the proper lugs or terminals can be provided.

For example, Idaho Power will connect its service cable to the customer's equipment, such as a meter base or CT enclosure, using the customer-provided connectors.

Placing a Handhole in a Driveway

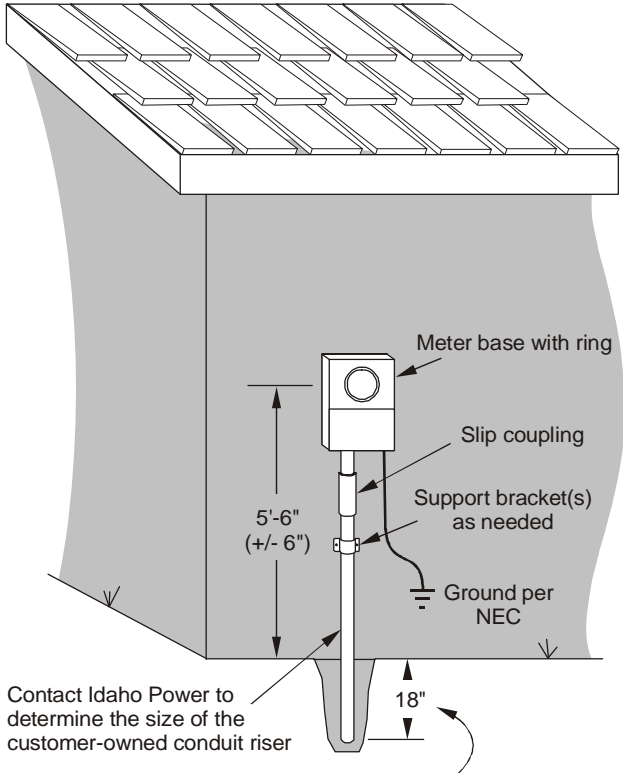
A customer has three options when a concrete driveway or other concrete surface that could be driven on conflicts with the location of a handhole.

1. The customer can shape or move the driveway so that the handhole will not be located within the paved area, thus avoiding the conflict.
2. The customer can pay Idaho Power to install a heavy duty handhole that is rated for a driveway surface.
3. The customer can frame a 24" x 35" opening in the driveway around the handhole and pay Idaho Power for a steel cover that fits in the opening.
 - ◆ The opening must have a 3/4" x 1" recess on all four sides to accept the lid and allow it to be flush with the surface of the driveway.
 - ◆ The top surface of the driveway must be at least 2" above the top of the handhole.



Requirements for Single-Phase (1-Ø) Underground Electric Service

1-Ø Underground Service to a Building



Contact Idaho Power to determine the size of the customer-owned conduit riser

Extend the riser conduit 18" below ground if Idaho Power is installing the trench & conduit. Refer to the **Reduced Charge Option** pamphlet (DFE-071) if the customer is installing the trench and conduit.

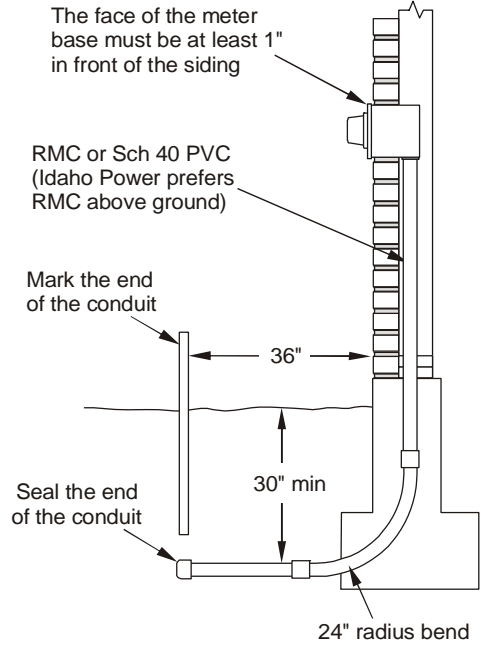
Idaho Power Provides

- Meter
- Service wires and conduit
- Connects the service wires at the meter base

Customer Provides

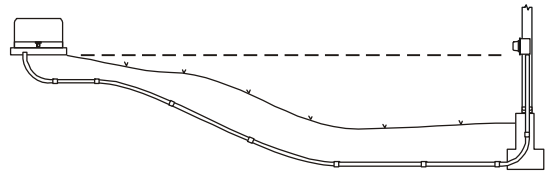
- Meter base
- Connectors for the service wires at the meter base
- Conduit riser from the meter base to 18" below ground
- Ground electrode(s), ground wires, and connections to ground the meter base per NEC

Recessed Meter Bases. Requires advance approval from Idaho Power.



Stub the conduit 36" from the building if Idaho Power is installing the trench & conduit. Refer to the **Reduced Charge Option** pamphlet (DFE-071) if the customer is installing the trench and conduit.

To prevent water from flowing through the service conduit into the building, make sure that the elevation of the bottom of the meter base is higher than the end of the conduit at Idaho Power's equipment. Contact Idaho Power if this situation cannot be avoided.



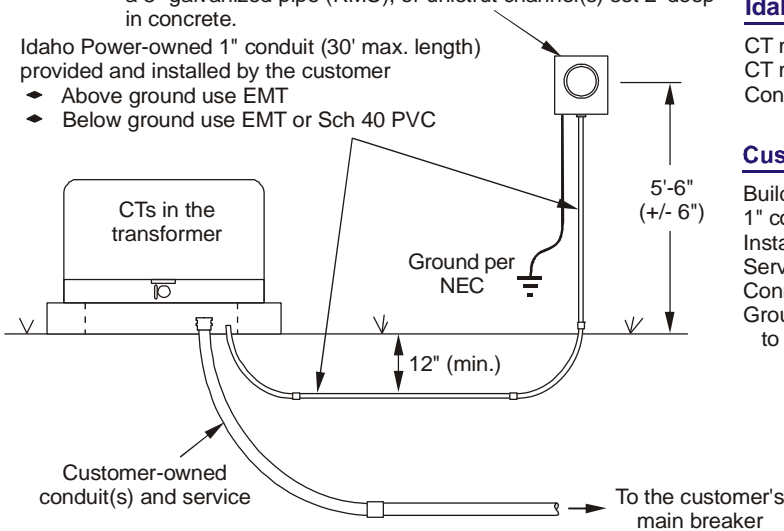
Requirements for Single-Phase (1-Ø) Underground Electric Service

Customer-owned 1-Ø Underground CT Service

Idaho Power-owned meter base is installed by the customer and must be adequately supported on a building wall, or on a 3" galvanized pipe (RMC), or unistrut channel(s) set 2' deep in concrete.

Idaho Power-owned 1" conduit (30' max. length) provided and installed by the customer

- ◆ Above ground use EMT
- ◆ Below ground use EMT or Sch 40 PVC



Idaho Power Provides

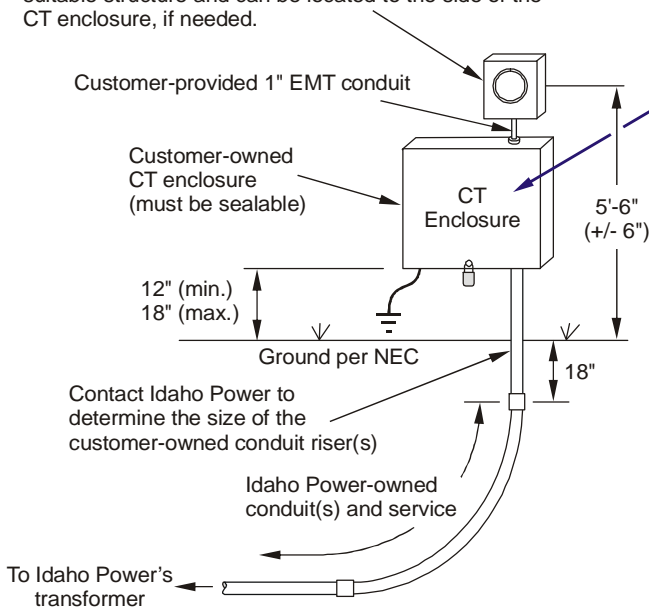
- CT meter base, CTs and meter
- CT metering wires and connections
- Connectors for the service wires at the transformer

Customer Provides

- Building or structure to attach the CT meter base
- 1" conduit for CT wires
- Installs the CT meter base and 1" conduit
- Service wires and conduit(s)
- Connects the service wires at the transformer
- Ground electrode(s), ground wire and connections to ground the CT meter base per NEC

Idaho Power-owned 1-Ø Underground CT Service

Idaho Power-owned meter base is installed by the customer and must be adequately supported on a building wall or suitable structure and can be located to the side of the CT enclosure, if needed.



Service Entrance Ampacity	Enclosure Dimensions (W x H x D)	Maximum Runs of Cable
Up to 400 amps	24" x 24" x 11"	1
Up to 800 amps	36" x 48" x 11"	2
Up to 1200 amps	36" x 48" x 14"	4
Over 1200 amps	Contact Idaho Power	

Idaho Power Provides

- CT meter base, CTs and meter
- CT metering wires and connections
- Service wires and conduits
- Connects the service wires at the CT enclosure

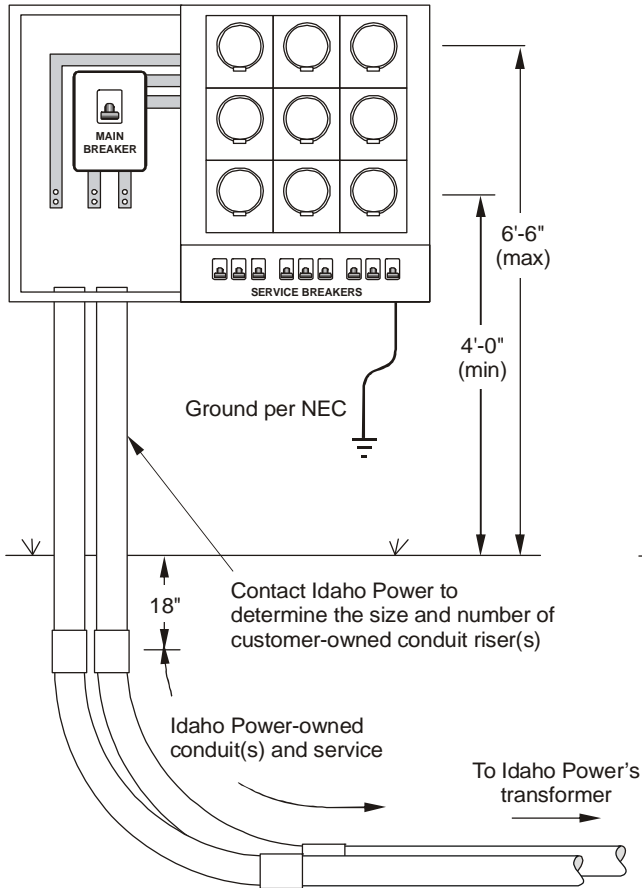
Customer Provides

- Building or structure to attach the CT enclosures and CT meter base
- CT enclosure (must meet IPCo specifications)
- 1" EMT conduit for CT wires
- Installation of the CT meter base and 1" EMT conduit
- Connectors for the service wires at the CT enclosure
- Conduit riser(s) from CT enclosure to 18" below ground
- Ground electrode(s), ground wire and connections to ground the meter base per NEC

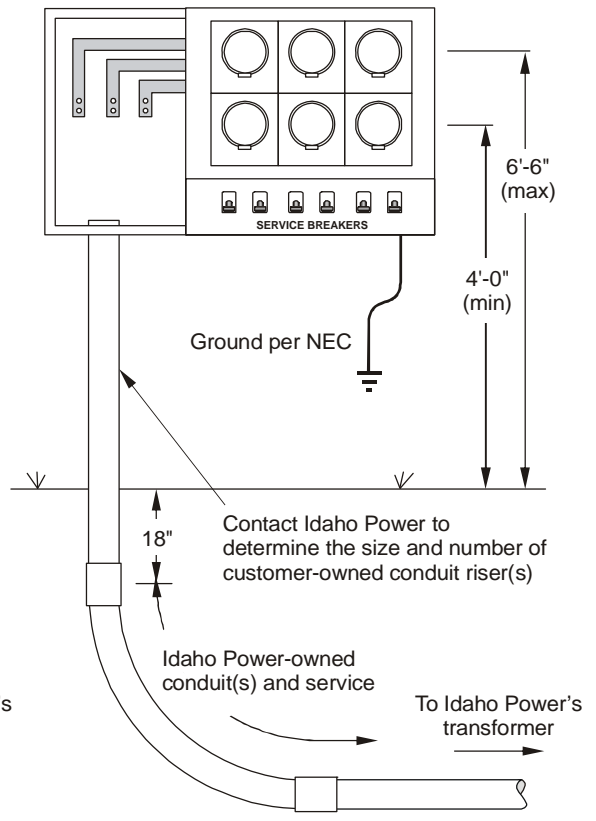
NOTE. There is an additional charge for CT metering when the customer's main breaker or panel size is 400 amps or less.

**Idaho Power-owned
1-Ø Underground Service to Multiple Meters**

**MAIN BREAKER REQUIRED
FOR 7 OR MORE METERS**



2 TO 6 METERS



Idaho Power Provides

- Meters
- Service wires and conduit(s)
- Connects the service wires at the meter bus or main breaker

Customer Provides

- Meter base and main breaker (if needed)
- IMPORTANT NOTE:** The connection point for Idaho Power's service wires must be on terminals that extend away from the main breaker connectors for the service wires at the meter base or main breaker
- Service conduit from the meter base to 18" below ground
- Ground electrode(s), ground wires, and connections to ground the meter base per NEC