

RESIDENTIAL SERVICES

General

The Power Department will determine the exact location of meters that do not meet the criteria established in this manual. If the customer is unsure if the meter location is acceptable, the Power Department should be contacted.

The location of the service entrance on the customer's premises is an important consideration. Consult the Power Department to determine the point of attachment for overhead service drops and underground service laterals.

Install residential meters outdoors at a location acceptable to the Power Department. Locate the meter within ten feet of the street side (front side) of the residence, on the side of the residence closest to the Power Department's source. Avoid installations near windows or exterior walls that are likely to be fenced in. Never install the meter over window wells, steps in stairways, or in other unsafe or inconvenient locations. Keep shrubs and landscaping from obstructing access to the meter.

Written approval from the Power Department is required, prior to installation, for alternative meter socket locations when:

1. Conditions prohibit placing the meter base within ten feet of the front of the building.
2. Alley-fed services have access for meter reading.
3. Metering pedestals or poles are used.
4. Other special conditions exist.

Figure 2 below shows where an overhead residential meter socket should be located.



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ELECTRIC 3.1

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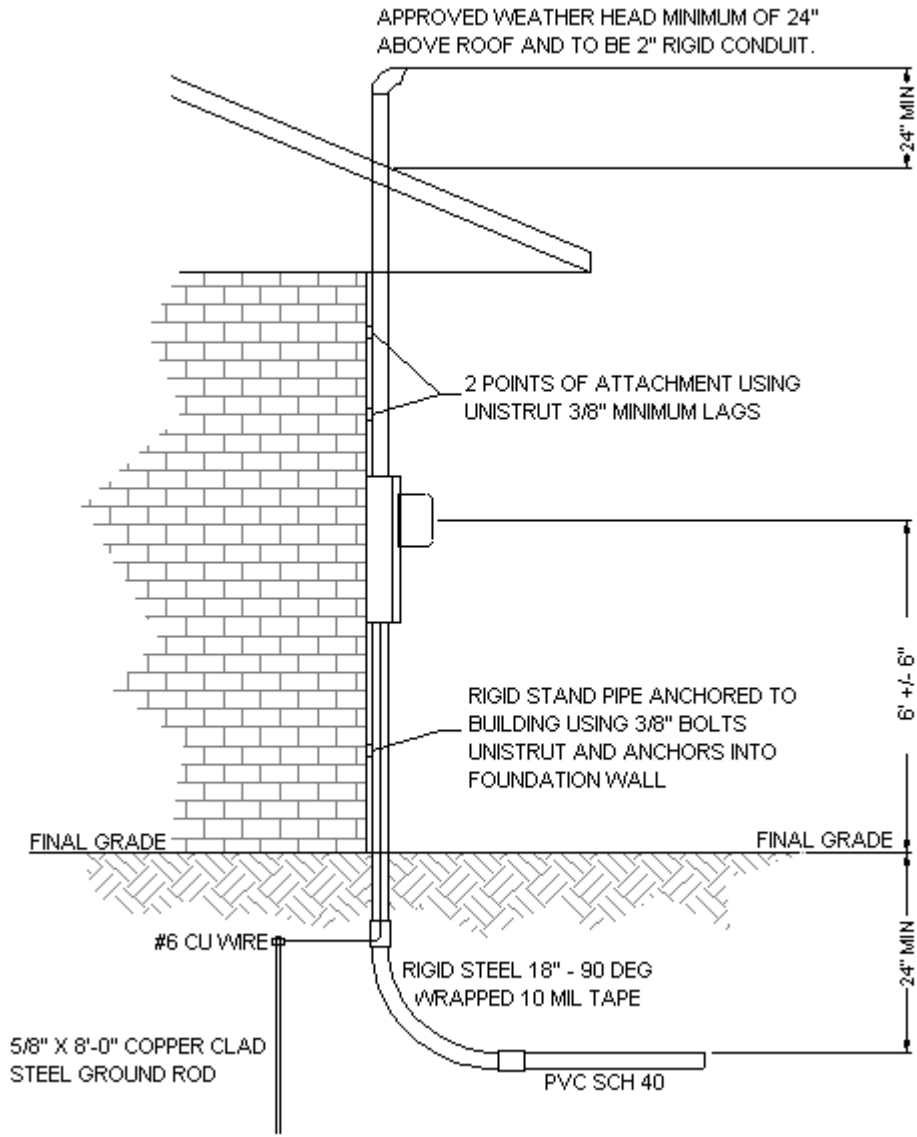


Figure 1 – Meter Socket Installation



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Overhead Service (150 amp or smaller, 200 amp aerial will not be accepted)

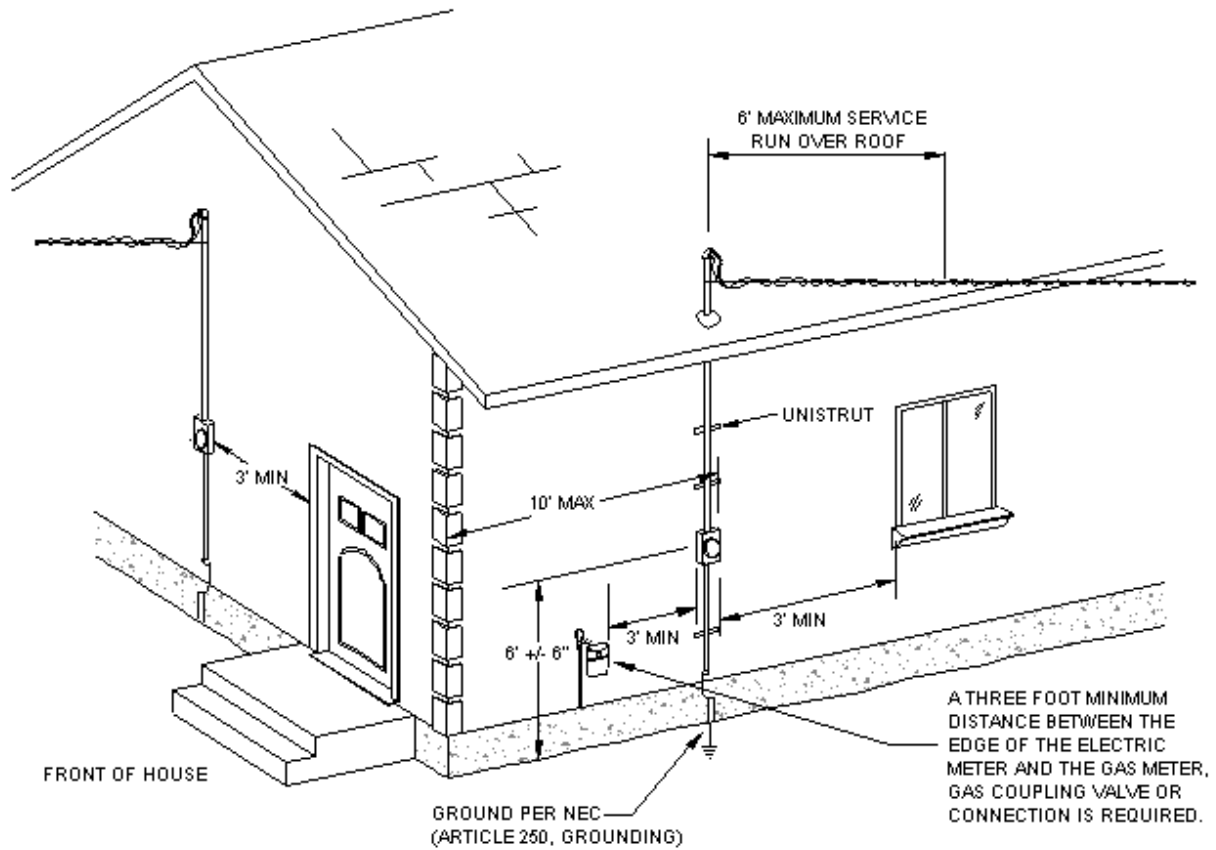
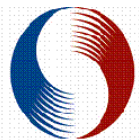


Figure 2 – Residential Meter Location for an Overhead Service



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Underground Service

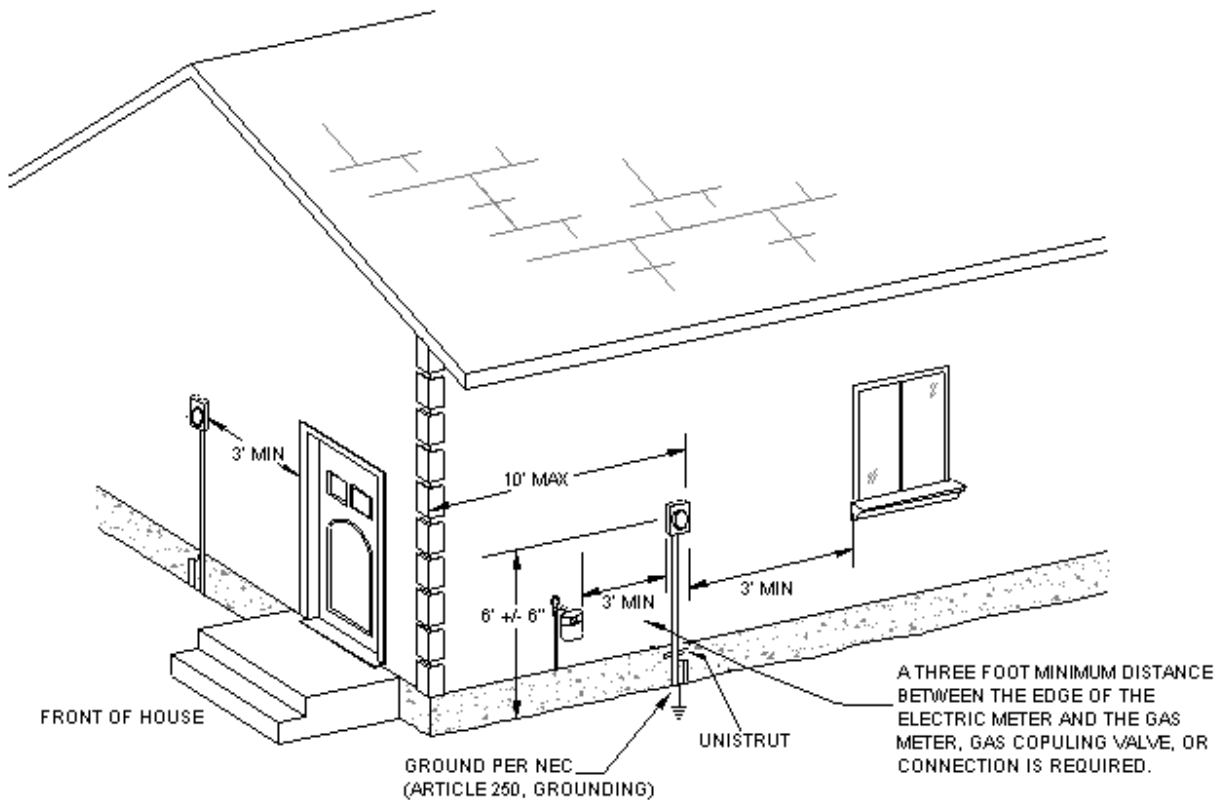


Figure 3 – Residential Meter Location for an Underground Service

Underground service can be provided to the customer from either an overhead or an underground distribution system.

All residential underground services shall be installed in Power Department approved, customer installed conduit per Section 2 of this standards manual. The Power Department will determine and install the appropriate size service conductor from its distribution line to the service point.

The Power Department owns and maintains the underground service lateral from its distribution line to the customer's service point. The Power Department also owns and maintains the meter. The customer owns the meter socket, the meter base, and all wiring beyond the meter socket.

Customer Responsibilities - Single-Family Underground Service Requirements:

Utah Law Section 54-8A-1 through 54-8A-11 requires the Blue Stakes One Call Location Center be notified at least two working days prior to excavation. The excavation must not be started until locations have been made. The trench should be a minimum of 12 inches wide.

The customer shall furnish and install a meter socket suitable for an underground service and provide and install the conduit from the meter socket to the Power Department's point of source. The customer shall provide all sweeps which will have a minimum radius of 36 inches. The length of the service should be no more than 150 feet with no more than 270 degrees of total bend in the conduit. The conduit shall be Schedule 40 gray PVC. Metallic conduit shall be used from the meter socket to the first 90 degree sweep which shall also be metallic. Below ground metallic conduit must be wrapped with 10 mil corrosion tape suitable for the application. Conduit shall be terminated at the open ends with plastic bushings. The conduit shall be properly glued. A 500-pound test or greater pull line shall be left in the conduit with at least 6 feet of line extending from each end.

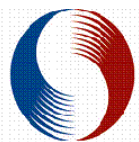
Services of 100 to 150 Amps require 2 inch conduit and 200 Amp services require 2 1/2 inch conduit. Call the Power Department for assistance with services greater than 200 Amps.

Prior to backfilling, the customer must notify the Power Department for an inspection. There are two inspections. The first one will be for conduit depth and the conduit must be in the trench. There must be 24 inches of cover from the top of the conduit to the final grade. There must be 4 inches of sand under the conduit unless existing soil is approved by the inspector. Following the inspection the Power Department shall issue a notice to proceed, allowing backfill of sand. A second inspection is required to check for at least 1 foot of sand on top of the conduit and red caution ribbon stating "CAUTION POWER BURIED BELOW" on top of the sand. After the second inspection backfilling may be completed. The trench can have no rocks or foreign material in the backfill other than specified in section 2.7. All trenches shall be backfilled within 48 hours after the conduit is installed.

The customer must identify and remediate all potential surface or subsurface problems that may damage the Power Department's facilities including but not limited to, surface or sub-grade water flows, or frost heaves. The customer shall provide the trench, sand, backfill, compaction, and, where required, surface restoration.

In order for the permanent power to be connected, the main breaker panel cover must be in place on the meter base and secured as designed for the base being used. Also the outside cover must be in place over this cover with at least one screw in each corner. The inside breaker panel must also be covered with at least one screw in each corner of the cover.

The water pipe bond must be made to metallic water pipes. The ground wire is required to be one run of wire with no splices #6 wire or larger. Ground rods must be five eighths of an inch in



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diameter, eight feet long, copper clad steel ground rods. If two ground rods are used for grounding they must maintain a minimum separation of six feet apart for the entire length of both rods. Separate #6 or larger ground wires must be used for each ground rod from the rod to the ground bus bar with no splices.

Ufer grounds are required. Ufer must be marked and identified in the garage. Mark the concrete with green paint to show the location of the Ufer ground. If residence plans do not include a garage, the connection must be within 5 feet of the meter base with outside access.

If a compression fitting is used to attach the conduit to the meter base, a bonding bushing and bonding jumper are required. The jumper must go to the customer side of the meter base unless the base is designed to accept the jumper on the utility side, and utilize a hole in the ground bus of its own.

For temporary power while still under construction, a 120 Volt ground fault circuit interrupter must be in place somewhere in the house as required by the NEC. The most practical place to install it is in the laundry room.

On underground installations, there must be a ninety degree elbow in the junction box with a riser that terminates a minimum of three inches above the dirt floor of the junction box and not closer than ten inches from the bottom of the lid.

To prevent the riser from pulling out of the meter base during settling of the ground the conduit must be anchored to the foundation using unistrut, bolts, 3/8 inch minimum anchors, and a unistrut clamp.

The location of the meter base shall be on the side of the house closest to the power source and no more than 10 feet from the front wall. Contact dispatch at (801) 489-2750 Ext. 10 if the power source needs to be located.

The height of the meter base shall be 6 feet plus or minus 6 inches above ground at the center of the meter base opening.

On service changes the old main breaker must be saved for the inspector. Where no increase in amperage is paid for, the same size service must be used. Department policy allows for a maximum impact fee credit of 100 amps for any service that does not have a main breaker installed.

The first two inspections (temporary inspection, trench inspection, permanent power inspection, service change inspection) will be at no cost; all inspections after that will be \$50.00 per inspection.



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The following figures show the installation of an underground service extension from the house to a transformer, junction box, and power pole. The customer shall consult the Power Department to determine the conduit location adjacent to a Power Department pole, transformer, or junction box. The Power Department will assist with placement of conduit into Power Department facilities other than secondary junction boxes. Only licensed electrical contractors can access secondary junction boxes.

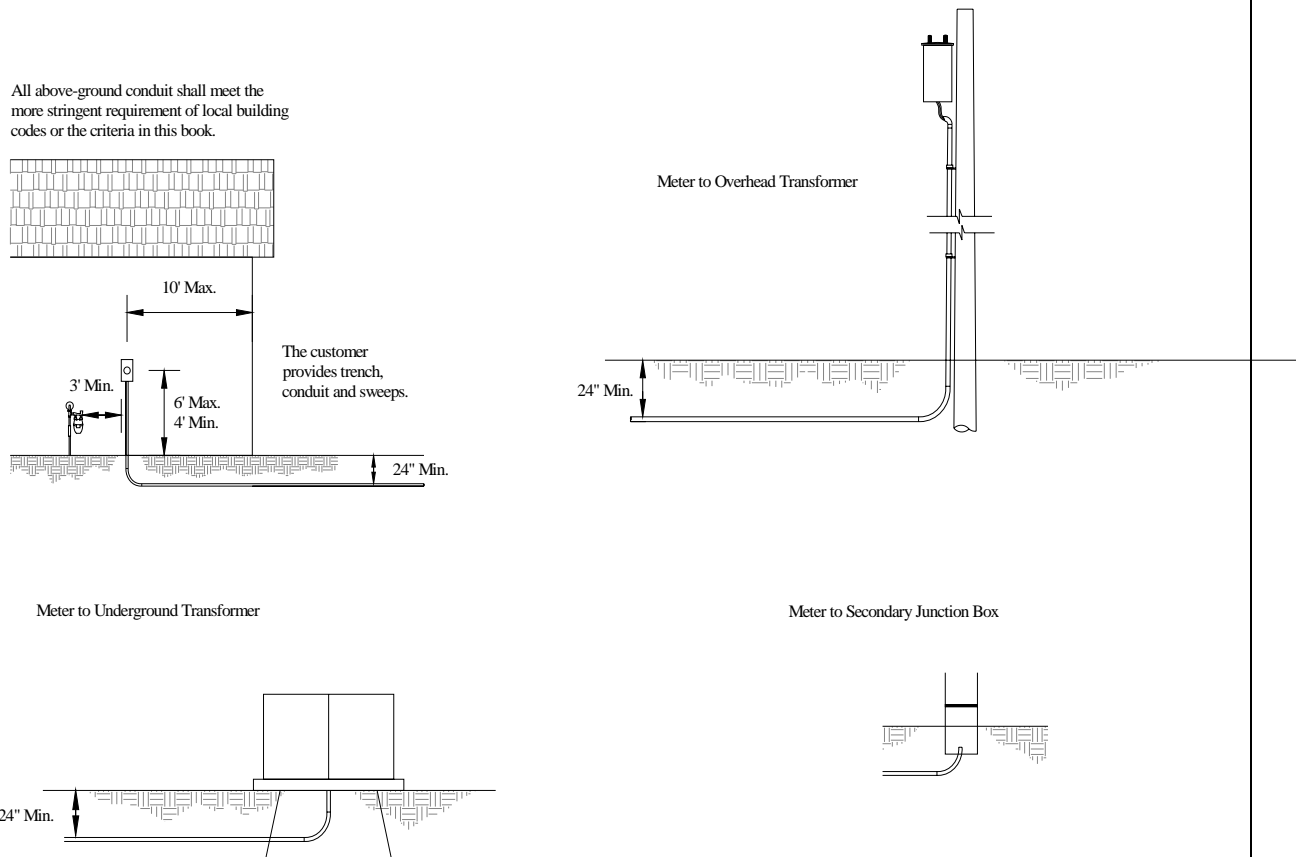
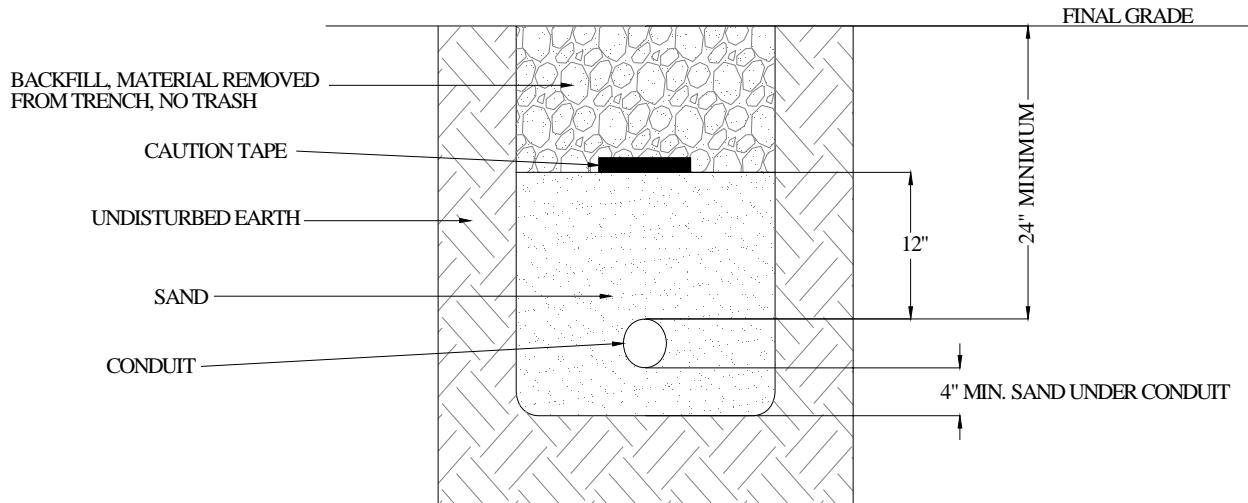


Figure 3 – Installation of Underground Service Extension



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UNDISTURBED EARTH



BACKFILL COMPACTED TO 95%



SAND



RED BURIED ELECTRICAL CAUTION (WARNING) TAPE / WEIGHED DOWN EVERY 5-10 FT



CONDUIT 2" FOR 150 AMPS & SMALLER, 2.5" CONDUIT FOR 200 AMPS SERVICES

Figure 4 – Service Trench Detail