



SERVICE CHANGE REQUIREMENTS
ELECTRICAL INFORMATION
Based on the 2011 NEC
One-Family Residential

In accordance with Municipal Code Section 4-416 an electrical permit is required before any electrical work is performed. Inspections are required for electrical wiring before insulating or covering.

GENERAL

Service conductors shall be installed to allow clearance of service drops to conform to code as follows:

1. A minimum of 12 feet above grade
2. Not less than 36 inches from windows, doors, porches, or fire escapes.
3. Consult the local utility for service locations.
4. Existing location may not be according to code.

The service disconnect switch shall be installed at the first accessible location nearest the point of entrance of the service wires. If an obstruction exists and the panel cannot be placed at the nearest accessible location, then you may extend no more than 8' into the structure. Prior approval from an electrical inspector is required in order to use this exception.

Service entrance conductors must be installed in a raceway system. (That is PVC, EMT, Rigid, etc.).

Service disconnect or panel must not be in a closet or bathroom.

A clear working space, 30 inches wide and 36 inches deep, is required in front of the service panel.

Service head must be above the service drop conductor attachment point. If this is impracticable to do, the service head may be located no more than 24" below the attachment point. Prior approval from an electrical inspector is required in order to use this exception.

GROUNDING & BONDING

When available on the premises, the metal underground water pipe shall always be used as the grounding electrode. For a 100 amp service the grounding electrode size is a #6 awg copper wire. A 200 amp service requires a #4 awg copper wire. The water pipe ground shall be supplemented by two (2) ground rods and bonded to the service entrance panel with a #4 awg copper wire.

A bonding jumper shall be installed around the water meter to assure continuity when the meter is removed or a non-metallic one is installed.

All interior metallic water and gas piping which may become energized shall be bonded together and made electrically continuous. If the gas piping system is a corrugated stainless steel tubing (CSST) type gas line, then the bonding of that gas line must be performed per the National Fire Protection Agency (NFPA) 54. Please discuss this with the electrical inspector so that the proper bonding is done based on the type of CSST that is installed.

The bonding requirements above are also required when the service is changed to a larger size and the grounding conductor does not meet the present code requirements.

CONDUIT

PVC support is required within 3 feet of each outlet box, junction box, device box, conduit body, or other conduit termination. PVC support spacing is 3 feet for conduit sizes 1/2, 3/4, and 1 inch and 5 feet for 1-1/4, 1-1/2, and 2 inch.

CONDUCTORS

100 amp service: #4 copper or #2 aluminum
200 amp service: 2/0 copper or 4/0 aluminum

URD and USE conductor insulation types are not permitted inside a structure.

If using aluminum conductors, each termination must be made up with an antioxidant compound.

Overhead service conductors must be rated sunlight resistant.

The grounded conductor (neutral wire) of the service needs to be identified by a white or gray marking. This can be accomplished by either purchasing a wire that has a continuous outer covering with this color or by taping the conductor near its termination.

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