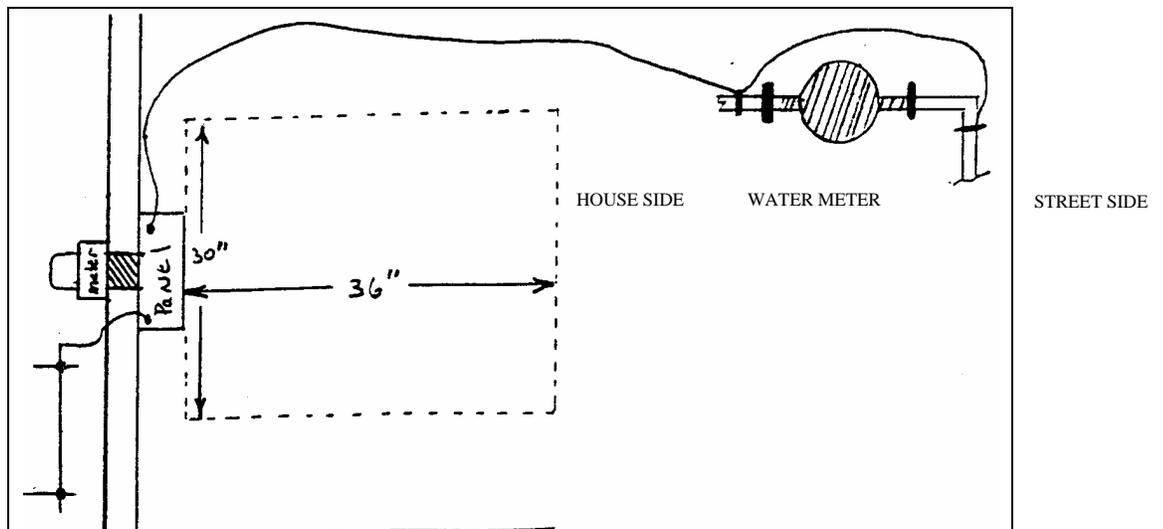
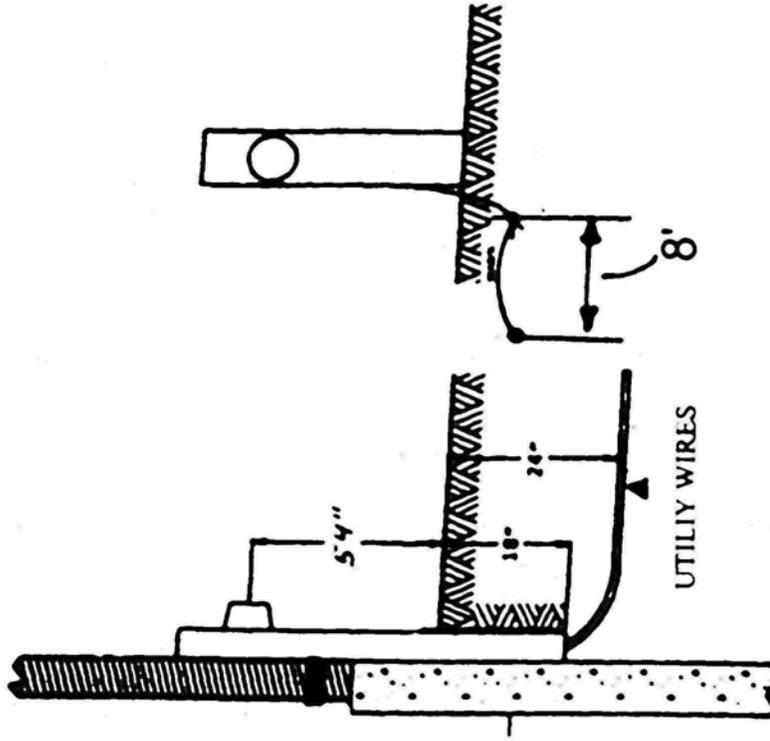
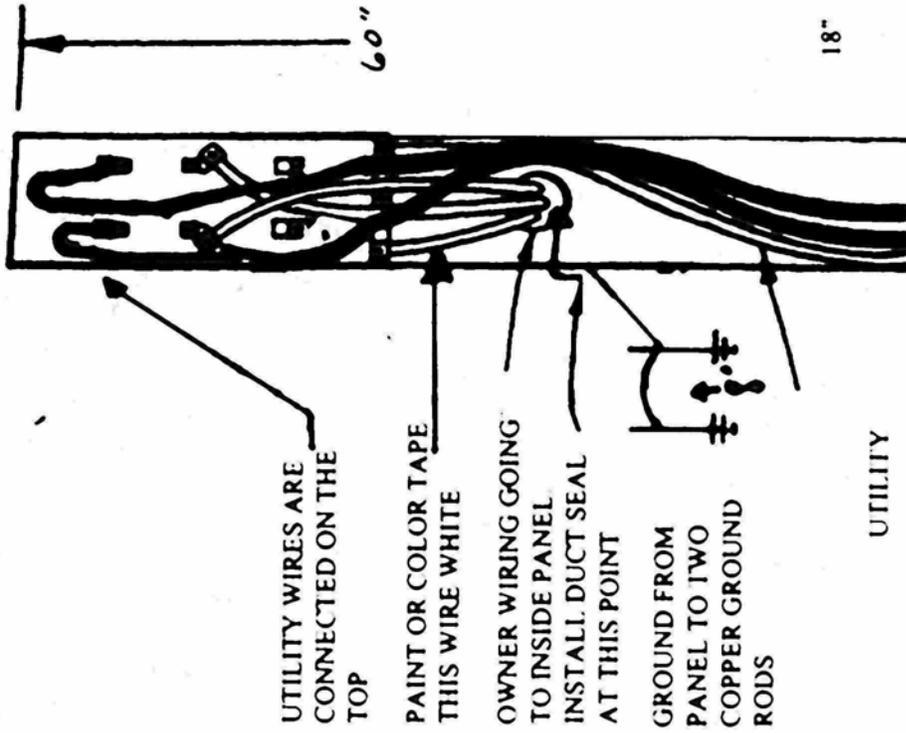


## GENERAL RULES FOR ALL SERVICES

1. A 200 amp service is required for all houses that have an electric water heater meter, an electric dryer, and an electric range.
2. Change the outside meter socket unless the utility allows the old one to be reused.
3. An unspliced #4 copper wire shall be installed from the panel to the outside and go to two copper ground rods spaced 8' apart. Protect any wire exposed above ground level with PVC electrical conduit. Use "acorn" shaped clamps that are made to be direct buried.
4. An unspliced #4 copper wire shall be installed from the panel to the street side of the water meter. This wire must be clamped on both sides of the meter with proper pipe clamps.
5. The spot where the original service panel was located may not always be reused due to sump crocks, laundry equipment, shelves etc. A minimum clearance of 30" wide by 36" deep to a height of 6'6" or the ceiling must exist in front of the new panel. Picture a cardboard refrigerator box that you slide up to the front of this panel as this required empty space. No pipes or shelves may be located directly over or under the panel itself.
6. 8' is the maximum length of conduit that can be used between the point of entry into the wall to the service panel.
7. Always use PVC electrical conduit (gray) with plastic bushings between the meter box and the service panel.
8. Install a duct scaling compound or silicon caulk (not insulation or yellow spray foam) at the outside point where the conduit enters the building. Make sure the conduit before this seal can drain water out by drilling a 3/16 or 1/4" drain hole before a seal if needed (usually in an L.B. fitting).
- 9 Be sure and install the green screw and/or ground strap in panel - **Do not throw away!**
- 10 Label all circuit breakers.
11. If this is a service upgrade, complete the required Municipal Code update - see the sheet with this heading.
12. If in doubt on anything, contact the Electrical Inspector. These rules may not apply to every situation the same.



# UNDERGROUND ELECTRICAL SERVICE



USE ELECTRICAL PVC CONDUIT WITH PLASTIC BUSHINGS  
8 FEET MAXIMUM

1. 100 AMP SERVICES REQUIRE A MINIMUM OF 1 1/4" CONDUIT AND EITHER #4 COPPER OR #2 ALUMINUM WIRES
2. 200 AMP SERVICES REQUIRE A MINIMUM OF 2" CONDUIT AND EITHER 2/0 COPPER OR 4/0 ALUMINUM WIRE
3. ONLY 8' MAXIMUM OF CONDUIT MAY BE USED ON THE INSIDE OF THE BUILDING MEASURED FROM WHERE IT PENETRATES THE OUTSIDE WALL. USE GRAY ELECTRICAL PVC ONLY.
4. INSTALL UNSPLICED #4 COPPER OR LARGER WIRE FROM THE INSIDE SERVICE PANEL TO TWO COPPER GROUND RODS SPACED A MINIMUM OF 8' APART. USE CLAMPS RATED FOR DIRECT BURIAL.
5. MAINTAIN A 3' CLEARANCE FOR GAS METERS AND TELEPHONE WIRES
6. YOU WILL NEED TO PURCHASE A SEPARATE METER EXTENSION KIT (18") IN ORDER TO ACHIEVE THE PROPER METER HEIGHT.

## CLEARANCES FOR OVERHEAD UTILITY WIRES

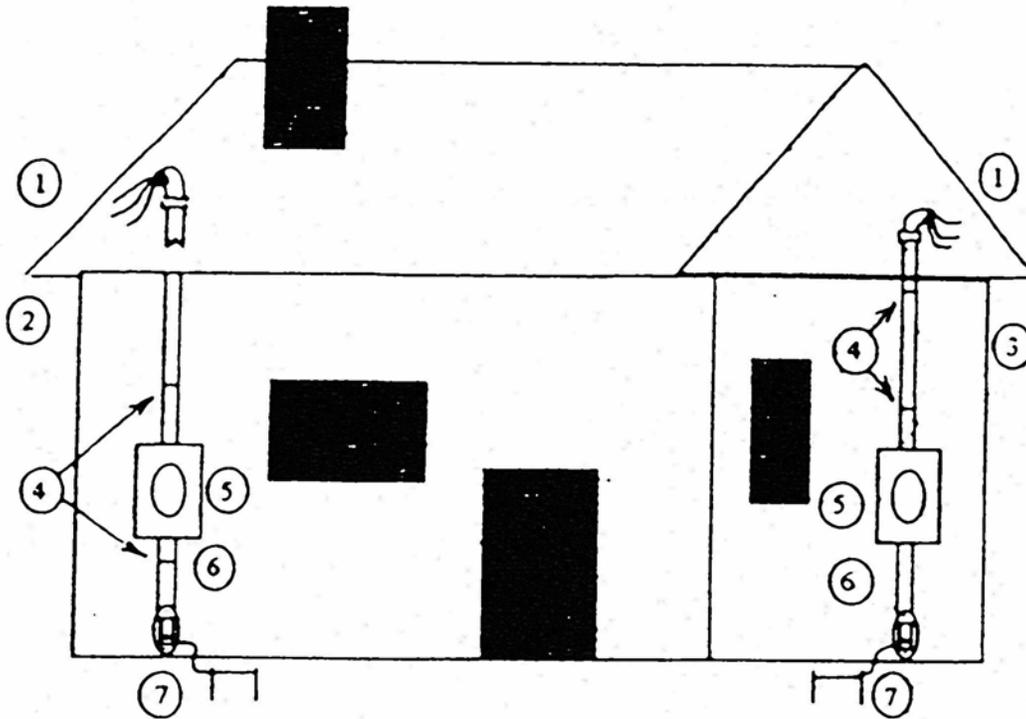
**THE OWNER OR ELECTRICIAN IS RESPONSIBLE TO PROVIDE A SERVICE HOOKUP POINT THAT MAINTAINS THESE CLEARANCES. IF IN DOUBT CONTACT THE UTILITY AND THE ELECTRICAL INSPECTOR.**

<u>Vertical Clearances Above Ground</u>	<u>Feet</u>
Lowest drip loop	12'
Sidewalks, final grade, residential driveways	12'
Roads, streets, alleys, commercial areas	18'
<u>Other Vertical Clearances</u>	<u>Feet</u>
Roofs with a slope of less than 4" in 12" (Flatter)	8'
Roofs with a slope of 4" in 12" or greater (Steeper)	3'
Balconies, chimneys, antennas etc.	3'
Windows	3'
Swimming pools	18'
<u>Horizontal Clearances (projecting to the side of.)</u>	<u>Feet</u>
Building walls and projections	3'
Windows, doors, porches, fire escapes, balconies	3'
Signs, chimneys, antennas etc.	3'
Swimming pools	10'

1. Utility wires may only pass over a maximum of 4 feet of the overhang portion of the roof for the purpose of terminating at a (through the roof) service mast.

Wires totally above the top level of a window are considered out of reach and can be directly above as long as no portion hangs below this top edge.

## OVERHEAD SERVICES



1. 36" of wire hanging out for utility connection. Wire size for 100 amp: #4 copper or #2 aluminum. Wire size for 200 amp: 2/0 copper or 4/0 aluminum. Paint or color tape the neutral white at all connection points and where the utility will make their connection.
2. 2" rigid metal conduit if mast extends above the roof. If the mast extends more than 36" above the roof, bracing or guy wiring will be required. See clearances.
3. If mast does not extend above the roof : 1 1/4" PVC or metal conduit for 100A and 2" PVC or metal conduit for 200A
4. A conduit strap is required to be no more than 3' from the meter socket or from the top of the mast unless mast is through the roof. Straps on PVC conduit shall be no farther than 5' apart. Straps on metal conduit shall be no farther than 10' apart.
5. The meter socket should be mounted so the center of the meter will be 5' from ground level.
6. Install PVC conduit between the meter socket and the circuit breaker panel. Use thread protecting plastic bushings on all conduits. **Do not** install metal conduit at this point unless you contact the electrical inspector first.
7. #4 ground wire that comes from the inside panel and goes to two copper ground rods placed at least 8' apart. Protect the wire with PVC conduit where it comes out of the building to ground level.

Note: Keep service at least 3' from gas meters. Telephone and cable TV may no longer be attached to electrical service masts. Contact these utilities and have them move these wires if redoing your mast and they are hooked to it.

8. Change the meter socket to a new one unless the utility approves of the old one.