New York Electrical Inspection Agency

Residential Underground Service Requirements

2017 National Electrical Code

This reference sheet is intended to provide general guidance on common minimum best practices for installing underground residential electrical services. It is not a substitute for local codes, utility requirements, or the National Electrical Code (NEC). Requirements may vary by jurisdiction. Please consult your local utility company and/or electrical inspector to verify any additional regulations or specific requirements that may apply in your area.

Electric Metering Equipment Location (Meter Socket Enclosure)

- A. Height of the Meter (above final grade to the horizontal centerline of the meter)
 - 1. RGE Between 3'-6' above final grade
 - 2. NYSEG Between 5'-6' above final grade
 - 3. National Grid Between 3'6"-5'6" above final grade
 - 4. Fairport Electric Between 3'6"-5" above final grade
- B. Meter must be adequately supported, securely fastened, level and plumb.
- C. Working Clearance A minimum of 30" wide by 48" deep clearance in front of the meter must be always maintained. This included all permanent structures, fences, shrubs, etc.
- D. Meter Separation from a Gas Regulating Vent
 - 1. RGE / NYSEG Minimum 12" on all sides of the meter.
 - 2. National Grid Minimum 36" on all sides of the meter.

2) Conductors Inside Meter Socket Enclosure

- A. Conductors must enter and exit the bottom of the Meter Socket Enclosure.
- B. Both entrance conductors must be "looped" and enter at the top of the line side lugs.
- C. Approved antioxidant compound must be used on the lugs.
- D. Grounding Electrode Conductors may not terminate in the Meter Socket Enclosure.
- E. Splices are not permitted inside the Meter Socket Enclosure.

3) Residential Underground Service Lateral (Underground Residential Distribution (URD) Conductors)

- A. Depth of Underground Conductors must be 24" Minimum to 30" Maximum.
- B. Schedule 80 PVC Conduit must be used under roads, driveways, etc.
- C. Conductors Emerging from Grade
 - 1. Must be in Schedule 40 PVC Conduit (or Schedule 80 PVC if subject to damage)
 - 2. An Expansion Joint is required on the conduit below the meter.
 - 3. The Conduit must extent at least 18" below grade.
 - 4. Bushing (or an equivalent seal) must be installed to protect conductors where the direct burial conductors emerge into the conduit.
- D. A Frost Loop or Settlement Loop must be present underground in the area directly beneath the meter. (either an "S" loop or an 18-inch coil). The loop must be arranged in a way that allows the conductor to flex and uncoil as the ground settles or shifts.
- E. Backfill
 - 1. Clean Sandfill Padding must be a minimum of 6" below and 6" above the buried conductors and a minimum of 4" on each side of the conductors.
 - 2. Clean Backfill with no debris or rocks over 2" in diameter for the first 12" over the Clean Sandfill Padding and no rocks over 6" in diameter for the remainder.
 - 3. A Warning Ribbon must be in place at least 12" above the buried conductors.

4) Residential Underground Service Lateral in Conduit

- A. Schedule 40 or Schedule 80 PVC Conduit must be used.
 - 1. Schedule 80 PVC Conduit must be used under roads and driveways.
- B. Depth of Underground Conduit must be 24" Minimum to 48" Maximum.
- C. Conductors Emerging from Grade
 - 1. Must be in Schedule 40 PVC Conduit (or Schedule 80 if subject to damage)

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- 2. An Expansion Joint is required on the conduit below the meter.
- D. Clean Backfill
 - 1. Clean Backfill must be used which is free of any debris or material that may damage the conduit.

5) Other Utilities in the Common Utility Trench

- A. CATV and Communication Cables are Allowed without Separation.
- B. Gas Lines are allowed with a Minimum of a 12" Separation.
 - 1. All other Utilities including Water, Sewer, Drainage, Branch Circuit Wiring, or Customer Fuel Lines are not permitted in the Common Trench and must be located at least 8" from the Common Trench.

6) Utility connection

- A. Cable at pole
 - 1. Standpipe Conduit must be Schedule 80 PVC or Galvanized.
 - 2. Must be mounted on the field side of the pole (opposite the streetside right-of-way).
 - 3. Conduit must extend up the pole between 8' and 11' above grade.
 - 4. Conduit must contain at least 5 straps on the pole.
 - 5. Wire Length extending out of the conduit must be of sufficient length to reach the utility connection, plus 48".
- B. Cable At Transformer
 - 1. At least 9' of additional conductors must be left at the transformer to accommodate the utility connections.

