Electrical Installation Requirements

Fixtures must be wired and installed per ODOT CMS Items 625 and 725, COC Section 1000, as well as per the current edition of the National Electrical Code (N.E.C.- NFPA 70), manufacturer's specifications, and the following requirements:

1) Conduit

a. Shall be $1\frac{1}{2}$-inch schedule 40 PVC, installed a minimum 24-inch below grade
b. Under driveways shall be located a minimum distance of 1-FT beyond pavement edge
c. All trenches shall be backfilled with suitable native material to within ninety-eight (98) percent of the maximum dry density

2) Circuit Cable (also referred to as "Street Light Wiring")

a. Conductors shall be no less than #4 THWN copper 600 Volt for the hot and neutral and not less than #8 AWG copper 600 Volt for the ground. Max. voltage drop 5%
b. 120 system shall be (HOT) black, (NEUTRAL) white, (GROUND) green
c. 240 system shall be (HOT) black, (HOT) red, (GROUND) green
d. Shall have no splices, except at noted locations. Splices shall be be made in pull boxes only where circuit crosses the street to a light pole, and shall be waterproof and have a compression connection
e. Install auxiliary ground #6 copper to a grounding electrode in pole footer. Grounding rod shall be 5/8 -inch x 8-foot rod.

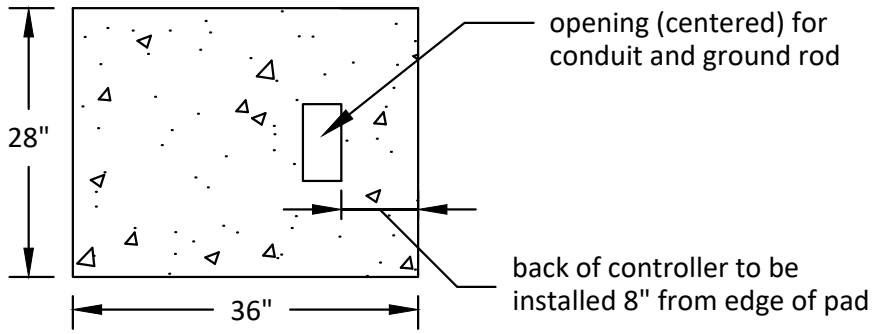
3) Cable in Pole

a. From the fuse kit to the pole shaft the cable shall be #10 THWN copper
b. Each pole shall have in-line connect kit fused with a 5-amp fuse on the hot side and in-line connector kits with a **solid** dummy slug on the neutral side. Little fuse, Homac kit brand, or approved equal
c. The circuit ground, ground from the luminaire and the ground going to the pole, shall be connected by a compression connection.

4) Controller

a. The controller cabinet shall be as follows:
   1. Milbank 12-inch commercial pedestal, slim line 63-inch tall (Model number CP3A5111WKALSP1) ; or approved equal
   2. Brushed aluminum finish with ringless meter socket with horn bypass and stainless steel latch
   3. 100 amp, 120/240 volt, single phase, 2 pole, with either a NEC compliant main breaker or 6 individual breakers with contactor, as determined by the City
   4. Pad mounted. See schematic below for details. The concrete pad base (precast or poured) shall be approximately 36" x 28" x 8" thick with a sufficient opening for the conduit and ground rod.
b. Install a $\frac{5}{8}$-Inch (five eighths) by 8-FT copper clad rod in the opening of the pad, utilizing a minimum #6 solid copper to attach the ground rod to the ground bar of the enclosure
c. Install a Hand-Off Auto (HOA) Selector Switch
d. Provide to City a break away lock to secure cabinet
e. For the photo electric control installed at the first street light, contacts shall be installed in the Milbank below the overcurrent device(s) and HOA switch(es) installed

Controller Concrete Pad Base Schematic



EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL ELECTRICAL INSTALLATION REQUIREMENTS FOR RESIDENTIAL STREET LIGHTING	ROADWAY RDWD-34.2 9/25/2025