

Commercial/Industrial Power Requirements

Joe Wheeler EMC

Underground Primary & Secondary Conduits

1. Customer/developer is responsible for all underground conduit, both primary and secondary, to include the trench. JWEMC should be notified for an inspection when the ditch is open and conduit installed.
2. Customer/developer is responsible for furnishing and installing, including transformer connections, all underground secondary wiring.
3. JWEMC is responsible for providing all underground primary wiring to include the cable and the necessary connectors.
4. Three-phase primary conduit is to be 5" conduit and be buried 48" to the top of conduit minimum unless other suitable means, such as concrete cover, is utilized. Variation from the 48" cover requirement should be approved in writing by JWEMC prior to the conduit being installed. The in-ground conduit may be PVC gray stick conduit, red HDPE roll-type conduit, or galvanized stick conduit, but all elbows are to be long-radius sweeping galvanized elbows.
5. Single-phase primary conduit is the same as the three-phase conduit only in 2 ½" size.
6. All underground conduit is to be marked with red marking tape or similar installed approximately 1' above the top of conduit. JWEMC will furnish the marking tape if requested.
7. Customer/developer is responsible for providing the conduit for all primary dip pole risers. This conduit is to be 5" galvanized rigid conduit. Customer/developer is also responsible for furnishing a 5" grounding bushing for the conduit as well as the hardware to mount the pipe to the riser pole. JWEMC will install the pipe up the pole with the furnished hardware.
8. Customer/developer is responsible for sizing all secondary conduit and wire. The secondary conduit is to be buried 36" to the top of conduit unless other suitable means, such as concrete cover or similar, is utilized.
9. Customer/developer is responsible for installing a pull string in each conduit.
10. Where conduit will be under concrete or paved surfaces, installation of a spare conduit is highly recommended.

Transformers and Metering

1. JWEMC is responsible for installing all transformers and metering.
2. 200 Amp services will utilize plug-in meters and the customer/developer is responsible for providing and installing the plug-in meter base.
3. 400-600 Amp services will utilize bolt-in meters and the customer/developer is responsible for providing and installing the bolt-in meter base.
4. 800 Amp services and above will be secondary CT metered and JWEMC is responsible for furnishing all of the necessary equipment for the metering facility.

5. If metering is via a plug-in or bolt-in meter base, customer/developer is responsible for providing and installing grounding using an 8' copper or copper-clad ground rod at the meter point. On CT meter jobs, JWEMC will install the grounding at the meter.
6. If metering is via a plug-in or bolt-in meter base, the meter base is to be mounted such that the center of the meter is approximately 5' above ground.
7. On plug-in or bolt-in meter jobs, if the main breaker is more than 10' from the meter then a suitable disconnect switch must be mounted immediately adjacent to the meter base.
8. Customer/developer is responsible for providing a concrete transformer pad per JWEMC construction specifications as necessary for three-phase transformers. JWEMC will provide the pad for all single-phase transformers.

General Information

1. Customer/developer is responsible for the cost of any and all work required by JWEMC to provide adequate facilities for the proposed service to the project, including any work required not actually on the project site.
2. JWEMC will design and construct any overhead line modifications required as necessary.
3. Desired features such as two-way feeds or throw-over schemes and such should be discussed with JWEMC early to ensure decisions on project design work can adequately account for these type of requirements.
4. Any generator/transfer switch installations need to be discussed with JWEMC on a case by case basis.
5. JWEMC will install protective devices to protect our equipment and facilities. It is up to the customer/developer to install adequate protective devices to protect your facilities for things such as over-current, over/under-voltage, or single-phasing occurrences.
6. Once known, customer/developer is responsible for furnishing protective device settings to JWEMC so that proper coordination between protective devices can be assured. If necessary, settings on customer/developer protective devices will be adjusted to assure proper coordination with JWEMC protective devices.
7. JWEMC will require the customer/developer to pay an aid-to-construction (ATC) amount based on the cost to install any necessary new equipment and any modifications to existing facilities.
8. The customer/developer will be required to post a security deposit based on the estimated monthly billing, with the average being approximately two times the anticipated monthly bill. This security deposit requirement can be satisfied with cash, check, surety bond, or an irrevocable bank letter of credit..

Easements

1. JWEMC will require that utility easements be designated for projects where primary and/or service lines for one customer cross common property or the property of another customer or entity.
2. JWEMC requires a 40' easement for three phase overhead power lines, 20' each side of the powerline centerline.

3. JWEMC requires a 30' easement for overhead single phase overhead powerlines, 15' each side of the powerline centerline.
4. JWEMC requires a 10' easement for overhead service lines, 5' each side of the service line centerline.
5. JWEMC requires a 15' easement for underground primary or secondary lines.

Inspections

1. In the JWEMC service territory, the cities of Decatur and Hartselle provide electrical inspections. JWEMC will not connect a new service in these cities or their respective police jurisdictions without proof of an approved inspection.

Motor Loads

1. The maximum motor size to be operated single-phase at 120 VAC via an across the line starter is $\frac{3}{4}$ horse power.
2. The maximum motor size to be operated single phase at 240 VAC via an across the line starter is 2 horse power.
3. The maximum motor size to be operated single phase at 240 VAC using a capacitor, repulsion induction, or repulsion start motor starter is 7 $\frac{1}{2}$ horse power.
4. Any single phase motors larger than those listed above will require the use of a variable speed drive or some other type of soft start.
5. Three phase motors, (10) ten horsepower to (75) seventy five horsepower inclusive, shall be provided with a current limiting starting device which will limit the starting current to 250 percent of the full load current. This will permit the average normal current, normal torque NEMA Design "B" squirrel cage motor of (10) ten horsepower or less to be started with magnetic full-voltage starter. Most squirrel cage induction motors, 10 to 75 HP, inclusive, may be started with an auto transformer type starter connected to give a starting voltage of 80 percent of full voltage.
6. Induction motors larger than 75 HP shall be of the wound rotor type and shall be started with an increment type starter which will limit the starting current to 150 percent of the full load running current.
7. All three phase motors shall be protected by approved devices which will protect the motor from overload, single-phasing, under- and over- voltage, and ground faults.
8. All motor installations, both single-phase and three-phase, shall comply with Article 430 of the latest version of the NEC ®.