

**Engineering Service Specifications**  
**Commercial Underground Primary Requirements**

# SLEMCO

## Specifications for Commercial Underground Primary Requirements

*It should be noted that electrical pipe is the gray pipe and white water pipe is not acceptable. Therefore, schedule 40 or 80 electrical pipe discussed in this section is approved electrical conduit.*

Items marked with ③ ⑩ ⑮ ⑯ ⑳ are indicated on the following drawings:

- ③ Drawing No.3 – *Single-Phase Underground Service Requirements from a new Padmount Transformer*
- ⑩ Drawing No.10 – *Single-Phase Current Transformer Metering Requirements from a new Padmount Transformer*
- ⑮ Drawing No.15 – *Three-Phase Current Transformer Metering Requirements from a New Padmount Transformer for a Single Customer*
- ⑯ Drawing No.16 – *Three-Phase Current Transformer Metering Requirements from a New Padmount Transformer*
- ⑳ Drawing No.20 – *Three-Phase Service Requirements from a New Padmount Transformer*

1.
  - 1.1 Single-Phase Underground Primary: When it is determined that underground primary will be necessary, SLEMCO will provide up to 300' of primary conductors ③ ⑩, a padmount transformer ③ ⑩, and associated transformer pad (*slab*) at no additional cost to the customer. Padmount transformer foundation (*slab*) constructed and grounded by SLEMCO according to *Drawing No. 8 - Single-Phase Switch Can or Padmount Transformer Foundation*.
  - 1.2 Three-Phase Underground Primary: When it is determined that underground primary will be necessary, SLEMCO will provide up to 300' of primary conductors and a padmount transformer at no additional cost to the customer ⑮ ⑯ ⑳. Padmount transformer foundation constructed and grounded by customer according to *Drawing No. 14 - Three-Phase Padmount Transformer Foundation*.

The Customer is required to trench and install all electrical conduit. After trenching, the trench may be backfilled and covered. The primary conductors shall be installed and terminated in padmount transformer by SLEMCO.
2.
  - 2.1 Single-Phase Underground Primary: For distances beyond 300', there will be a \$1.00 per foot charge for underground primary conductors in excess of 300'.
  - 2.2 Three-Phase Underground Primary: For distances beyond 300', there will be a \$3.00 per foot charge (*\$1.00/phase/foot*) for underground primary conductors in excess of 300'.
3. Primary conduit furnished and installed by customer. Conduit must be 2" electrical conduit. Schedule 40 pipe is acceptable for below ground use. ③ ⑩ ⑮ ⑯ ⑳
4. Customer will install a polypropylene pull string (*minimum strength of 210 lbs.*) in all electrical conduit that will require SLEMCO to install primary conductors.
5. Customer must maintain a depth of 48" when installing electrical conduit for primary conductors. ③ ⑩ ⑮ ⑯ ⑳

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6. The customer will stub up at the SLEMCO pole 36" above ground with 2" electrical schedule 80 pipe. ⑮ ⑯ ⑳
  - 6.1 Single-Phase Underground Primary: The customer will also be required to leave three (3) joints of 2" electrical schedule 40 pipe near the pole to be used by SLEMCO to install the riser up the pole three (3) feet below pothead bracket or crossarm.
  - 6.2 Three-Phase Underground Primary: The customer will also be required to leave nine (9) joints (*3 per phase*) of 2" electrical schedule 40 pipe near the pole to be used by SLEMCO to install the riser up the pole three (3) feet below pothead bracket or crossarm.
7. Standoff brackets furnished and installed by SLEMCO. ③ ⑩ ⑮ ⑯ ⑳
8. 8.1 Single-Phase Underground Primary: The customer shall stub up the secondary and primary electrical conduit next to each other at the location of new padmount transformer. ③ ⑩
  - 8.2 Three-Phase Underground Primary: The customer shall stub up the primary electrical conduit as indicated on *Drawing No. 14 - Three-Phase Padmount Transformer Foundation* at the location of new padmount transformer.
9. A maximum distance of 700' will be allowed before a switch can is required. The SLEMCO Engineering department field engineer will advise the customer in the event a switch can is required. If switch cans are required, then customer must stub up the primary electrical conduits next to each other at each switch can location. Switch cans are furnished and installed by SLEMCO.
10. A maximum of three (3) 90° (*degree*) elbows will be allowed in a primary conduit run before a switch can is required. If switch cans are required, then the customer must stub up the primary electrical conduits next to each other at each switch can location. Switch cans are furnished and installed by SLEMCO. Below are conditions for 90° elbows within a primary conduit run. ③ ⑩ ⑮ ⑯ ⑳

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10.1 Conditions:

Number of 90° turns: **3**  
Length of Conduit Run: **any length**  
Conductor size: **smaller than 350 MCM**

Customer Responsibility: **use standard steel 90° elbows with an 18" turn radius**

10.2 Conditions:

Number of 90° turns: **1-2**  
Length of Conduit Run: **300' or more**  
Conductor size: **smaller than 350 MCM**

Customer Responsibility: **use standard steel 90° elbows with an 18" turn radius**

10.3 Conditions:

Number of 90° turns: **1-2**  
Length of Conduit Run: **less than 300'**  
Conductor size: **smaller than 350 MCM**

Customer Responsibility: **use PVC long radius 90° elbows with a 36" turn radius**

10.4 Conditions:

Number of 90° turns: **1-3**  
Length of Conduit Run: **less than 500'**  
Conductor size: **350 MCM or larger**

Customer Responsibility: **use PVC long radius 90° elbows with a 36" turn radius**

10.5 Conditions:

Number of 90° turns: **1-3**  
Length of Conduit Run: **500' or more**  
Conductor size: **350 MCM or larger**

Customer Responsibility: **use PVC long radius 90° elbows with a 48" turn radius**