

# *Metering Electric Service Handbook*



September 30, 2022  
Metering Department

# TABLE OF CONTENTS

## FLORIDA POWER & LIGHT NORTHWEST LOCAL OFFICES AND OPERATING HEADQUARTERS

Service Applications - Customer Service Center .....	1
Pensacola District .....	1
Fort Walton District .....	1
Panama City District .....	1
Florida Power & Light Northwest Metering Services Department .....	1
<b>INTRODUCTION</b> .....	<b>2</b>
<b>DEFINITIONS</b> .....	<b>2</b>
<b>GENERAL INFORMATION</b>	
A. Alterations and Additions .....	5
B. Application for Service .....	5
C. Availability and Classification of Service .....	6
D. Number of Meters .....	6
E. Individual and Master Meters .....	6
<b>HARDWARE MOUNTING &amp; ELECTRICAL CONNECTION REQUIREMENTS</b>	
Mounting and Labeling of Meter Sockets and Metering Cabinets .....	7
<b>INSPECTIONS</b> .....	<b>8</b>
<b>SERVICE LOCATIONS</b>	
A. General .....	8
B. Indoors .....	9
C. Multi-Occupancy Buildings .....	10
<b>GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS</b>	
A. General .....	10
B. Multi-Family Dwellings .....	11
C. Meter Sockets .....	12
D. Metering Installations for Mobile Homes or Mobile Home Parks .....	13
<b>TRANSFORMER VAULTS</b> .....	<b>13</b>
<b>GROUNDING</b> .....	<b>13</b>
<b>METER TAMPERING AND SEALS</b> .....	<b>14</b>
<b>METERING INSTALLATIONS FOR SERVICES LESS THAN 600 VOLTS</b>	
A. General .....	14
B. Installation of Self-contained Watt-hour meters .....	15
C. Installation of Instrument-transformer Watt-hour meters .....	17
<b>REQUIREMENTS FOR SERVICES GREATER THAN 600 VOLTS</b> .....	<b>18</b>
<b>CUSTOMER OWNED LIGHTNING ARRESTORS</b> .....	<b>18</b>

## **SERVICE INSTALLATION DRAWINGS**

### **TEMPORARY SERVICES**

TEMPORARY OVERHEAD SERVICE INSTALLATION .....	21
TEMPORARY UNDERGROUND SERVICE INSTALLATION .....	23

### **MOBILE HOME SERVICES**

TYPICAL OVERHEAD SERVICE TO MOBILE HOME .....	25
TYPICAL UNDERGROUND INSTALLATIONS FOR MOBILE HOMES .....	27

### **OVERHEAD SERVICE INSTALLATIONS**

TYPICAL RESIDENTIAL OVERHEAD INSTALLATION .....	29
---	----

### **METER SOCKET WIRING DIAGRAMS OVERHEAD**

SINGLE-PHASE TWO-WIRE 120V SERVICE .....	31
SINGLE-PHASE THREE-WIRE SELF-CONTAINED METER .....	33
SINGLE-PHASE SERVICE USING INSTRUMENT TRANSFORMERS .....	36

### **METER SOCKET WIRING DIAGRAMS UNDERGROUND**

SINGLE-PHASE THREE-WIRE SELF-CONTAINED METER .....	38
SINGLE-PHASE SERVICE USING INSTRUMENT TRANSFORMERS .....	41

### **MULTI-FAMILY HOUSING**

DUPLEX INSTALLATIONS OVERHEAD AND UNDERGROUND .....	43
MULTI-FAMILY HOUSING UP TO SIX UNITS .....	45
MULTI-FAMILY INSTALLATION WITH MORE THAN SIX POSITIONS .....	47

### **COMMERCIAL INSTALLATIONS SINGLE PHASE**

400 AMPS AND BELOW: SELF-CONTAINED METERS .....	49
ABOVE 400 AMPS: INSTRUMENT TRANSFORMER METERS .....	52

### **COMMERCIAL INSTALLATIONS THREE PHASE**

400 AMPS AND BELOW: SELF-CONTAINED METER .....	54
POWER LEG OR STINGER LOCATION .....	57
ABOVE 400 AMPS: INSTRUMENT TRANSFORMERS IN PADMOUNT .....	58
MULTIPLE CUSTOMERS FROM A COMMON SERVICE LATERAL .....	60
MULTIPLE CUSTOMERS FROM A SINGLE PADMOUNT TRANSFORMER .....	62

<b>Florida Power &amp; Light Northwest COMPANY LOCAL OFFICES OPERATING HEADQUARTERS</b>
---

**Customer Service Center**

1-800-225-5797 - Company Wide Information
---

**Metering Services Department**

Metering Services	9220 Pine Forest Road Pensacola, FL 32534	850-429-2742
-------------------	--	--------------

**Engineering Team**

Engineering Team Contact information is found at

<https://www.fpl.com/northwest/business/grow/contractor-and-developer-resources.html>

## INTRODUCTION

This booklet is issued primarily as a convenient reference for customers, architects, engineers, and contractors planning or constructing buildings or installing, repairing, or renewing apparatus or equipment to be connected to the Company's distribution system. Any reference herein to the Company will imply Florida Power & Light - Northwest unless otherwise stated.

The practices discussed have been derived from research, experience, and technical consideration. **As such they are supplementary to and do not intentionally conflict with the National Electrical Code or state and municipal laws and ordinances that may be in force within the cities, towns, or communities in which the Company furnishes electric service. If any conflict exists, the Code, law, or ordinance shall control.**

It is always necessary to refer to and comply with applicable codes, statutes, utility commission rules, and local ordinances. The information contained herein is general and does not include every detail or every lawful requirement.

The Company desires to serve its customers promptly and satisfactorily. It will fully endeavor to cooperate with contractors and customers in completing service connections with as little delay and inconvenience as possible and will gladly give special attention to any particularly difficult situation confronting a customer.

The Company will be pleased to confer with those desiring information concerning rates, services, etc., upon request.

## DEFINITIONS

**Ampere Rating** - The maximum allowable current that can safely pass through a device.

**Approved** - Acceptable to a qualified Florida Power & Light Northwest employee.

**Class of Service** - The voltage rating and the number of phases for a particular service.

**Company** - Florida Power & Light Northwest.

**Conduit** - A tubing or duct in which electric wires or cables are enclosed.

**Current Transformer (CT)** - A device which reduces the load current by a known ratio for metering purposes.

**CT Enclosure (Instrument Transformer Enclosure)** - A metal cabinet which houses instrument transformers.

**CT Socket (Instrument Transformer Rated Socket)** - A meter socket that is used only with instrument transformers.

**Customer** - The corporation, municipality, governmental agency, association, partnership, or individual using or planning to use electric service supplied by the Company; or the architect, engineer, or electrical contractor acting as the customer's agent.

**Electric Service** - Electrical energy that is made available to the customer at the point of delivery.

**Energy** - The measure of work done. The electrical unit of energy is the kilowatt-hour, which is 1,000 watt-hours.

**Final Grade** - Ground level after all construction and before landscaping procedures have been completed.

**Meter Equipment Group (MEG)** – An organization composed of electrical utilities which operate in the State of Florida, dedicated to standardization of metering practices and metering equipment

**Grounded Conductor** - A system or circuit conductor that is intentionally grounded.<sup>1</sup>

**Grounding Conductor, Equipment** - The conductive path installed to connect normally non-current carrying metal parts of equipment together and to the system grounded conductor or to the grounding electrode conductor or both.<sup>1</sup>

**Grounding Electrode Conductor** - A conductor used to connect the system grounded conductor or the equipment to a grounding electrode or to a point on the grounding electrode system.<sup>1</sup>

**Instrument Transformer** - A current transformer or potential transformer used in metering.

**Instrument Transformer Enclosure (CT Enclosure or CT Cabinet)** - A metal cabinet which houses instrument transformers.

**Listed Equipment**- Equipment or materials included in a list published by an organization acceptable to the authority having jurisdiction and concerned with product evaluation, such as Underwriters Laboratory (U.L.)<sup>1</sup>

**Meter** - A device that measures the amount of power and/or energy delivered to a customer or received from a customer.

**Meter Socket** - A weatherproof receptacle used for mounting a socket-type meter.

**National Electrical Code (NEC)** - ANSI/NFPA 70. The code which governs the installation of electric conductors and equipment within or on public or private buildings or other structures, and outdoor locations.

**National Electrical Safety Code (NESC)** - ANSI C2. The code which governs the installation, operation, and maintenance of electric supply and communication lines, equipment, and associated work practices employed by utilities.

**Neutral conductor** – The conductor that is connected to the neutral point of a system and that is intended to carry current under normal conditions. <sup>1</sup> The neutral conductor normally carries the current resulting from the unbalance of the currents on other conductors.

**Point of Delivery** - The point designated by the Company at which the customer's conductors are connected to the Company's conductors.

**Potential Transformer (PT)** - A device which reduces the service voltage by a known ratio for metering.

**Qualified Employee** - A Florida Power & Light Northwest employee familiar with Company safety rules and regulations and the construction, application, and operation of the equipment involved.

**Raceway** - An enclosed channel designed expressly for holding wires, cables, or bus bars. <sup>1</sup>

**Readily Accessible** - Capable of being reached quickly for operation, renewal, or inspections without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, and so forth. <sup>1</sup>

**Service** - The conductors and equipment for delivering electrical energy from the serving utility to the wiring system of the premises served. <sup>1</sup>

**Service Drop** - The overhead service conductors that extend from the Company's last pole or aerial support to and including the splices, if any, connecting the customer's service entrance conductors at the building or other structure. <sup>1</sup>

**Service Entrance** - The customer's conductors, conduit, and other associated equipment which extends from the point of delivery to the service equipment.

**Service Entrance Conductors, Overhead System** - The service conductors between the terminals of the service equipment and a point usually outside the building, clear of building walls, where they are joined by tap or splice to the service drop. <sup>1</sup>

**Service Entrance Conductors, Underground System** - The service conductors between the terminals of the service equipment and the point of connection to the service lateral. <sup>1</sup>

**Service Equipment** - The necessary equipment, usually consisting of a circuit breaker(s) or switch(es) and fuses(s), and their accessories, connected to the load end of service conductors to a building or other structure, and intended to constitute the main control and cutoff of the supply. <sup>1</sup>

**Service Lateral** - The underground service conductors, including any risers at a pole or other structure or from transformers, between the Company's distribution system and the point of delivery. <sup>1</sup>

**Special Permission** - The written consent of the Company.

**Trans Socket** – A prefabricated metering assembly containing current transformers and a pre-wired meter socket. A trans socket has conductor terminals like a standard meter socket and is installed in the same way

as a self-contained meter socket. It eliminates the need for the electrician to install the current transformers and then pull the service entrance conductors through the CTs.

**Weatherproof** - So constructed or protected that exposure to weather will not interfere with successful operation.<sup>1</sup>

<sup>1</sup> The definitions noted are copied or adapted from NFPA 70, *National Electrical Code*, 2008 Edition, published by the National Fire Protection Association

## GENERAL INFORMATION

### **Scope:**

The information contained in this booklet refers primarily to metering requirements at secondary distribution voltages (under 600 volts) for light and power installations. Metering requirements for installations requiring higher distribution voltages are subject to special negotiations between the customer and the Company. The Company is available to advise customers concerning the use of electrical equipment or situations not covered in this book.

### **A. Alterations and Additions:**

When the Company connects a customer's installations to its supply lines, arrangements are made for meters, transformers, and other equipment to fit the installation as it is at that time. For maximum safety and billing accuracy, it is essential that the customer or contractor give notice to the Company before making any changes which will significantly increase or decrease the electrical load, change conductor clearances, or enclose or restrict access to Company facilities. Notice on any of these matters should be given to the local engineering office of the Company at the phone numbers listed on Page 1 of this handbook.

### **B. Application for Service:**

The Company maintains local offices strategically placed throughout its service area as well as a companywide customer service center. Requests for new service should be directed to the Customer Service Center by calling 1-800-225-5797, or in the Pensacola area, local phone number 850-969-3111.

The customer shall provide, free of expense to the Company, suitable location(s) and space as determined by the Company for the transformer(s), meters, and other equipment owned by the Company which are necessary to supply service.

An application for service will be considered permission to cross the customer's property and install any equipment or maintain any equipment which may be necessary to provide electric service.

To avoid unnecessary delays, applications for service should be made as far in advance of required service date as possible. Specific instructions for locating the service address will help to assure prompt service.



### **C. Availability and Classification of Service:**

The customer should consult the Company well in advance of the date that service is required to determine what type of service is available in a particular location. The Company will provide the customer with one of the following standard voltages: 120/240, 120/208, or 277/480, with a frequency of 60 Hertz. A qualified company employee will determine the voltage, phase, etc., of a particular service since the availability may vary between different locations.

### **D. Number of Meters:**

Only one watt-hour meter will be installed per customer per class of service. An exception will be made if the characteristics of the customer's load or billing rate require the Company to utilize multiple meters.

On installations comprising more than six meters, a sealable main disconnect or main breaker, of a type acceptable to the Company, shall be provided by the customer as required by the National Electrical Code. The customer shall always provide and maintain any main breakers or disconnects.

### **E. Individual and Master Meters:**

The Rate Schedules of the Company contemplate the service will be supplied to each separate premise as one Customer. Where a Customer, for any reason, requires the installation of more than one meter by the Company each meter will be billed as a separate Customer. The electricity used by the same person, firm, or corporation at different premises will not be combined and billed as one Customer.

#### **In Accordance with Florida Administrative Code 25-6.049:**

Individual metering shall be required for each separate occupancy unit of a new commercial or residential establishment, including condominiums, cooperatives, marinas, trailer, and mobile home and RV parks. The default should be that all residential establishments are individually metered, regardless of who pays the bill.

However, individual metering shall not be required for:

1. Any occupancy unit for which a construction permit was issued before, and which has received master-metered service **continuously since January 1, 1981**.
2. **Specialized-use housing** such as hospitals, nursing homes, convalescent homes, college dormitories, convents, sorority and fraternity houses, and similar facilities.
3. Portions of a commercial establishment where the floor space or **physical configuration of the units is subject to alteration**, as evidenced by **non-structural partition walls** – unless the utility determines that adequate provisions can be made to modify the metering to reflect such alterations.
4. **Central heating & air conditioning** systems [For electricity used in central heating, ventilating, and air conditioning systems, or electric backup service to storage heating and cooling systems].
5. **Lodging establishments** such as hotels, motels, and similar facilities which are rented, leased, or otherwise provided to guests by providing **overnight occupancy\***.

- “Overnight occupancy” is defined as an occupancy unit for a short-term period such as per day or per week, where permanent is not established
6. **Time-share plans**, if all the occupancy units which are served by the master meter are committed to a time-share plan as defined by Chapter 721 of the F.S. (see below) and **none of the occupancy units are used for permanent occupancy**.
- Timeshare plan” means any arrangement, plan, scheme, or similar device, other than an exchange program, whether by membership, agreement, tenancy in common, sale, lease, deed, rental agreement, license, or right-to-use agreement or by any other means, whereby a purchaser, for consideration, receives ownership rights in or a right to use accommodations, and facilities, if any, for a period of time less than a full year during any given year, but not necessarily for consecutive years. The term “timeshare plan” includes:
    - (a) A “personal property timeshare plan,” which means a timeshare plan in which the accommodations are comprised of personal property that is not permanently affixed to real property; and
    - (b) A “real property timeshare plan,” which means a timeshare plan in which the accommodations of the timeshare plan are comprised of or permanently affixed to real property.
7. **Condominiums\*\*** that meet the following criteria:
- The declaration of the condo requires that at least 95 percent of the units are used solely for overnight occupancy (see above)
  - A registration desk, lobby, and central telephone switchboard are maintained; and registered to occupy the unit between check-in and check-out dates.
  - A record is kept for each unit showing each check-in and check-out date for the unit, including the names of the individual(s) registered to occupy the unit between each check-in and check-out date.
  - The owner or developer of the condo, the condo association, or the customer must attest that all requirements have been met, and that any future cost to convert to individual metering will be the responsibility of the customer.

For more details on **Florida Administrative Code 25-6.049**, please visit the link below:

<https://www.flrules.org/gateway/ruleNo.asp?id=25-6.049>

Where individual metering is not required and master metering is used in lieu thereof, reasonable apportionment methods, including sub-metering, may be used by the customer of record or the owner of such facility solely for the purpose of allocating the cost of the electricity billed by the utility. Any fees or charges collected by a customer of record for electricity billed to the customer's account by the utility, whether based on the use of sub-metering or any other allocation method, shall be determined in a manner which reimburses the customer of record for no more than the customer's actual cost of electricity.

# HARDWARE MOUNTING & LABELING REQUIREMENTS

## Mounting and Labeling of Meter Sockets and Metering Cabinets:

Metering equipment shall be surface mounted. Siding, stucco, brickwork, etc., shall not be installed around the metering equipment. Metering equipment shall be installed on top of siding, stucco, brickwork, etc.

To ensure safety, accuracy, and reliability of service it is necessary that meter sockets and metering cabinets be securely installed in a level and plumb position at a height specified in the installation drawings.

Meter sockets, metering cabinets, and conduit straps shall be installed with the following:

- Lead anchors or double helix concrete screws shall be used with brick or solid concrete surfaces.
- Toggle bolts shall be used with other masonry siding.
- Wood screws shall be used with solid wood surfaces.
- All mounting hardware shall be minimum #12 (1/4") corrosion resistant screws.
- A minimum of 4 fasteners shall be used to install any socket or cabinet unless specifically stated otherwise.

Where the exterior wall is other than brick or concrete blocks, the wall should be framed in a manner to provide a solid mounting surface for the metering equipment.

To avoid delays in providing service to multi-unit buildings (apartments, condominiums, or commercial), both the meter socket and the building unit served shall be clearly labeled before meters are installed. Each meter socket position must be labeled on the outside surface with letters and/or numbers at least one inch in height of contrasting color, indicating the apartment/unit number. Labeling shall not be done with pencils, pens or ink-based markers.

## INSPECTIONS

The wiring and appliances of the customer should be installed and maintained in accordance with the requirements of the National Electrical Code and such state, municipal, and county inspection requirements as may be in force at the time such installation is made.

Where inspection service is required, the customer shall have the wiring inspected and approved by an authorized electrical inspector and have the installation released for connection **before** the Company makes connection to its system. The Company will not inspect any wiring or equipment installed by the customer, but may refuse or terminate service if the Company actually observes any condition on the customer's installation or equipment with the Company, in its sole judgment, regards as hazardous or of such character that satisfactory service cannot be given.

Where no public inspection authorities have jurisdiction, the Company may require written notice from the wiring electrician or customer that the installation is ready for electric service. The Company will not

inspect any wiring or equipment installed by the customer but may refuse or terminate service if the Company actually observes any condition on the customer's installation or equipment which the Company, in its sole judgment, regards as hazardous or of such character that satisfactory service cannot be given.

## SERVICE LOCATIONS

### A. General:

The preferred location for ALL metering equipment is outdoors. For indoor installations, special permission must be obtained from the metering engineer.

Meters must be placed in locations readily accessible to authorized Company representatives. **Refer to Readily Accessible definition on page 4.**

All posts on which meters are to be mounted must be pressure treated with preservative with 0.4 lbs./ft<sup>3</sup> minimum concentration.

Meter sockets shall be placed so that the centerline of the meter will be not more than six feet nor less than five feet above finished grade level. An exception is made for Meter Centers; see pages 46 and 48.

Safety dictates metering equipment shall be located so Company personnel are provided level, unobstructed working space. This working space around metering or other service equipment should extend a minimum distance of 3 feet in front and 18 inches to either side of the equipment, and a height of 6 feet, 3 inches from the final grade level. **See drawing page 30.**

In certain coastal locations, local codes or Authorities Having Jurisdiction now require that meters and other electrical equipment be located above standard heights to avoid flooding during hurricanes. In these locations, the customer shall provide a permanent platform for servicing the metering equipment. Such platforms must meet the following requirements:

- Meter sockets shall be installed so that the centerline of the meter is not more than 6 feet and not less than 5 feet above the surface of the platform.
- Instrument transformer enclosures shall be installed so that the bottom of the enclosure is between 30 inches and 40 inches above the surface of the platform.
- The platform surface shall provide a minimum of three feet of working clearance out from the wall, and 1-1/2 feet of clearance sideways from each side of the metering equipment (i.e., the minimum platform dimensions shall be three feet by three feet for a meter socket only, and wider if the metering equipment includes an instrument transformer enclosure).
- Platforms must be accessible by permanent stairs.
- All platforms, stairs, railings, construction, and materials shall meet local building and electrical codes.

Meters shall not be installed within 6 feet of belts or other moving machinery which may endanger the safety of those doing work on the meter.

Metering equipment shall not be installed in an enclosure within 6 feet of a gas meter(s) unless separated by a partition and separate entrances are provided for access to metering equipment and gas meter(s).

No electric meter shall be installed where it would be necessary to climb over gas or other pipes or HVAC equipment to read or service the meter

If necessary to locate metering equipment adjacent to a driveway, walkway, parking lot, or any location that might subject the meter to damage, special permission must be obtained from a qualified employee who will have the option to require the customer to furnish and install protective barriers.

Meters shall be placed in locations that are not subject to vibration or strong magnetic fields. Metering equipment shall not be mounted on a padmount transformer, except current transformers may be installed in a padmount transformer if only one customer is served by that transformer.

Metering accuracy is of utmost importance to the Company and customers. Therefore, any location a qualified employee determines may cause erroneous registration shall not be allowed.

Typical metering installations are illustrated by drawings in this book. If questions arise, consult a qualified employee.

## **B. Indoors:**

Where special permission is obtained to locate metering equipment indoors, adequate lighting shall be provided to allow safe installation, maintenance, and testing.

Meters may not be placed in basements where the only entrance is through a trap door, on lattices, in coal or wood bins, in sheds, attics, bedrooms, bathrooms, toilet rooms, restaurant kitchens, stairways, ventilating or elevator shafts, furnace rooms (the latter at the discretion of the Company), **in any location where there is less than 6 feet, 3 inches of headroom,** or in any place where inconveniences will be caused either to the customer or to Company personnel.

## **C. Multi-Occupancy Buildings:**

All rules for outdoor or indoor meter location still apply.

In multiple occupancy (two or more occupancies) buildings, where several floors, apartments, stores, etc., are rented separately, meters and other company equipment may be located only where they are accessible at all reasonable hours to the Company's representatives for the purpose of installation, maintenance, removal, reading, inspecting, and testing. Meters shall be located all together at a single outdoor location. If there is not a suitable outdoor location, then the meters should be grouped together in a common meter room, common hallway, or a suitable location approved by the Company which is accessible to all occupants of the building and to the Company at all times for reading, testing, and servicing.

# GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS

## **A. General:**

Prior to installation, the customer, architect, or contractor shall ascertain from the Company the point of delivery on the customer's building and the location of the metering equipment. If the customer has not ascertained the location of the point of delivery from the Company, the Company may require the customer to relocate his service entrance equipment at his expense, or the Company may require payment for the additional cost of service, if any.

If, in order to comply with the requirements of governmental agencies, it becomes necessary for the Company to make any changes in the location of its equipment or to change the class of service given, the customer shall, at his expense, make such changes in his wiring, service entrance, and utilization equipment as are made necessary by these changes.

Service entrance cable or conduit containing the service entrance conductors or service lateral conductors carrying unmetered energy shall not be concealed behind a wall. The only exception is for that section of a service mast which must be installed through the building roof, and that conduit shall not have any joints.

## **Conduit & Raceways:**

To protect the service entrance conductors and prevent moisture from entering the service equipment, all conduit threads and fittings used in the service entrance raceway in outdoor locations are to be made raintight.

Where conduit is used, fittings with removable covers in the service conduit run are to be avoided if possible. If they are necessary, they must not be concealed.

## **Conductors:**

Wires carrying metered energy are not to be in the same raceways, troughs, boxes, or conduits with wires carrying unmetered energy. Wires carrying metered energy from two or more different meters shall not be enclosed in a common conduit, raceway, trough, or box.

The neutral conductor shall always be clearly marked with a white marker at the point of delivery and at the meter location.

When the service is 120/240-volt four-wire three-phase delta, the conductor with nominal voltage of 208 volts phase to neutral (high leg, power leg or stinger) shall be clearly marked with a red marker at the point of delivery and at the meter. For proper metering of four-wire, three-phase delta service, the power leg must be in the right-hand or "C"-phase position in the meter socket. See diagram on page 57.

Lightning arresters or surge protection equipment installed by the customer must be connected on the load side of the service entrance equipment. Under no circumstance can customer-owned surge protection

equipment be attached to or connected in the meter socket or connected anywhere along the service entrance cable, service entrance conductors, or service drop.

Only one set of service entrance conductors will be allowed on the load side of the meter socket unless the load-side socket connector is specifically designed for multiple conductors.

Service is to be properly grounded as per grounding section on page 13.

## **B. Multi-Family Dwellings**

When more than one metering position is needed, as in apartments or condominiums, multi-position meter sockets shall be used. These units must be installed to the following specifications:

- Maximum height of the centerline of the highest meter socket 6 feet above final grade level; minimum height of the centerline of the lowest meter socket 2 feet, 6 inches above final grade level.
- If units are installed one above the other, a minimum 2-inch space must be maintained between any two units.
- Two single-position meter sockets or a two-gang meter socket may be used on two-unit multiple occupancy buildings as shown on page 44.
- Three-unit-or-more multiple-occupancy buildings will require a ganged meter socket or meter center as required by code or local inspection authority.
- Inhibitor of the non-grit-type must be applied to conductors when aluminum conductors are used.
- Safety dictates all meter positions shall be properly covered before the meter socket is energized.
- The service entrance conductors must be run in sealable metal raceways or the equivalent.

## **C. Meter Sockets:**

### **Self-contained:**

The Company does not furnish self-contained meter sockets, including ganged meter sockets. Customers must purchase their own self-contained meter sockets. All self-contained meter sockets for commercial service, including gang sockets, must have a manual lever-operated bypass switch, except for single sockets serving only a sign or outdoor lighting. All self-contained meter sockets rated 320 amps, even for residential service, must have a manual lever-operated bypass switch. The only exception to the requirement for a manual lever-operated bypass will be single sockets serving one of the following types of load:

- Signs and billboards (but a bypass shall be required for a sign or billboard with electronic displays or moving parts)
- Outdoor lighting
- Temporary construction services (but a bypass shall be required for service to any construction office where computers will be in use)

- Residential detached garages
- Well pumps
- Gate openers
- Non-commercial agricultural barns
- Bus stops
- Boat slips

All 400-amp services, both single-phase and three-phase, shall use 320-amp self-contained meters. The Company no longer allows K-base meter sockets (i.e., bolt-in meters).

Meter sockets purchased by customers shall meet the requirements of Meter Equipment Group (MEG). The Florida Power & Light Northwest website at <https://www.fpl.com/northwest/business/grow/contractor-and-developer-resources.html> has a link to a copy of these specifications. Click on the link called “Approved Self-contained Meter Enclosures” to see a list of meter sockets that meet this specification. These sockets should be readily available from most local electrical distributors. The MEG list of meter sockets contains sockets with both aluminum enclosures and steel enclosures. The Company strongly recommends the use of aluminum enclosures in areas subject to salt spray, i.e., close to the coast; steel is acceptable in areas away from the coast.

The Florida Public Service Commission has given the authority to Florida Power & Light Northwest to accept or reject self-contained meter sockets. The Company will make the final determination of a device’s suitability.

The Customer shall be responsible for all maintenance of meter sockets not furnished by the Company.

#### **Transformer-rated:**

The Company will furnish meter sockets for instrument-transformer-rated services, including all services rated 600 amps and above. The Company will furnish the current transformers, current-transformer cabinet, and instrument-transformer-rated meter socket. The local Company engineering representative will specify the correct sizes and types of instrument-transformer-rated equipment based on information provided by the customer. The Company will furnish the appropriate equipment to the customer’s electrical contractor when authorized by the Company’s engineering representative. Meter socket enclosures and CT cabinets shall not be used as raceways for other conductors. Splices of any type are not allowed inside meter enclosures.

### **D. Metering Installations for Mobile Homes or Mobile Home Parks:**

#### **Overhead Installations**

All meter sockets shall be mounted as illustrated on page 26, in a manner that allows meters to be inserted and withdrawn without causing movement of the socket.

The mobile home feeder assembly shall terminate at the mobile home service equipment located adjacent to the mobile home. The feeder assembly shall not terminate in the meter socket.



## Underground Installations

Mobile homes served by underground distribution must provide meter pedestals for the connection of service laterals and watt-hour meters as illustrated on page 28.

Meter pedestals must be approved by the Metering Services Department before being installed. The Company does not assume ownership of meter pedestals and is not responsible for maintenance.

## TRANSFORMER VAULTS

When the customer desires to be served from transformers in a customer-owned transformer vault or room the customer shall consult the Company for requirements and specifications.

Meters should be readily accessible as defined on page 4 and pages 8, 9, and 10.

## GROUNDING

Grounding electrodes and conductors are to be sized in accordance with the National Electrical Code with the following exceptions. The minimum grounding electrode size shall be an 8-foot-long 5/8-inch-diameter galvanized ground rod. The minimum grounding conductor size shall be determined by the NEC code. The grounding conductor shall be terminated on the neutral bus in the meter socket.

Temporary service poles shall be grounded using an 8-foot ground rod as per pages 22 & 24. **(Pole bottom grounding is not permissible.)**

Transformer-rated installations must have a separate grounding provision for the meter socket (and CT cabinet, if used) as shown on pages 37, 42, 53, 59, and 63.

## METER TAMPERING AND SEALS

Unauthorized attempts to divert energy, tamper with metering equipment, or gain unauthorized access to Company electric facilities can be dangerous. Persons attempting these activities expose themselves to the risk of serious or fatal injury. These activities can also lead to fires or other property damage.

Unauthorized removal, tampering, or damaging a meter or meter enclosure, breaking the seal, or the use of any method or device which permits the flow of unmetered or unauthorized electricity into a premise is a criminal act. Violators are subject to prosecution under state and local laws.

Any damage caused by tampering with company property will be paid for by those tampering with the metering equipment.

When a customer needs a seal removed to inspect the customer's system, make repairs, or make modifications, the customer must call the Company so that company personnel can be dispatched to remove the seal. When the work is complete and the Company has received notice from the inspecting authority, if needed, the Company will again dispatch personnel to re-secure the installation.

**METERING INSTALLATIONS FOR SERVICES  
LESS THAN 600 VOLTS**

**A. General:**

The Company will furnish, install, test, and maintain adequate meters to accurately measure the customer's use of electric energy.

Self-contained meter sockets shall be furnished by the customer (See Meter Sockets, page 12) and installed by the customer. The meter socket is the property of the customer and shall be used only for metering. Along with the meter socket, the customer shall furnish and install all service entrance equipment, service circuit breakers or switches, branch circuit breakers or fuses and related equipment, together with the necessary wiring, at the customer's expense. The customer shall install and maintain the self-contained meter socket at the customer's expense.

Instrument-transformer-rated metering equipment furnished by the Company to be installed by the customer will be supplied as complete units in good operating condition. **This equipment is the property of the Company and shall be used only for metering Florida Power & Light Northwest customers.** If the instrument transformer-rated meter socket should ever need replacing, the Company will supply a replacement socket to be installed by the customer. With the exception of this provided metering equipment, the customer will furnish and install all service entrance equipment, service circuit breakers or switches, branch circuit breakers or fuses, and related equipment, together with the necessary wiring, at the customer's expense. However, the wiring required to connect the instrument transformers to the meter socket will be installed by Company personnel.

The customer shall provide suitable mounting space on the customer's building wall, pole, or other suitable structure for the Company's metering at secondary voltages. See page 53 for guidelines in mounting instrument-transformer metering equipment.

Only service entrance and grounding conductors may be run through the meter socket or meter connection box. Company-owned meter sockets or metering cabinets shall not be used as junction boxes for the connection of branch circuits or feeder conductors or the connection of subsets of service conductors supplying separate service locations for the same or different premises. Ownership of a Company-owned meter socket cannot be transferred to the customer.

Where aluminum conductors are terminated in meter sockets or other company-owned equipment, inhibitor of the non-grit type shall be used in each conductor connector and around the circumference of each conductor including the grounded conductor (neutral).

## **B. Installation of Self-contained Watt-hour Meters**

Except in those few cases where outdoor locations are not practical, meters shall be installed outdoors on all new installations and also on existing installations that are to be rearranged in any way that affects the service-entrance conductors or service circuit breaker or switch. In the cases where outdoor locations are not practical, the meters may, with the Company's permission, be installed indoors in suitable locations as previously outlined. Except as noted in General Information, Section D, p. 6, all self-contained meters shall be installed ahead of all service equipment. Where manual lever bypass sockets are required below, the only exception to the requirement will be single sockets serving one of the following types of load:

- Signs and billboards (but a bypass shall be required for a sign or billboard with electronic displays or moving parts)
- Outdoor lighting
- Temporary construction services (but a bypass shall be required for service to any construction office where computers will be in use)
- Residential detached garages
- Irrigation well pumps
- Gate openers
- Non-commercial agricultural barns
- Bus stops
- Boat slips

For grouped installations, different sockets may be required than for single meter installations. It will be necessary to consult the Company before such installations are made.

### **Meter Enclosures:**

Where service is 120 volts, 2-wire 100 amps...

The customer shall furnish an approved, four-terminal, 100 amp meter socket which shall be installed as shown in the installation drawing on page 32.

Where service is 120/240 volts, 3-wire, 200 amps and under...

The customer shall furnish an approved, four-terminal, 200 amp meter socket which shall be installed as shown in the installation drawings on pages 34 and 39. **For commercial applications the customer shall furnish an approved four-terminal class 200 socket (see page 50) with manual lever bypass** to allow meters to be more readily removed for testing and repair without interruption to the customer.

Where service is 120/240 volts, 3-wire, 320 or 400 amps...

The customer shall furnish an approved, four-terminal, 400 amp meter socket with manual lever bypass, which shall be installed as shown on page 35, 40, and 51.

Where service is 120/208 volts, 3-wire, 200 amps and under (*this service is called a “network” service and is typical of condominiums and apartment houses*) ...

The customer shall furnish an approved, five terminal, 200 amp meter socket which shall be installed in accordance with diagrams for network service on pages 34 and 50. **For commercial applications the customer shall furnish an approved five-terminal class 200 socket with manual lever bypass** to allow meters to be more readily removed for testing and repair without interruption to the customer.

Where service is 120/208 volts, 3-wire 320 or 400 amps...

The customer shall furnish an approved, five-terminal, 400-amp meter socket with manual lever bypass, which shall be installed in accordance with diagrams for network service on pages 34 and 50.

Where service is 120/240 volts 3-phase, 4-wire delta service 200 amps and under...

The customer shall furnish a approved, seven-terminal, 200 amp meter socket with manual lever bypass which shall be installed and connected as shown on the installation drawings and connection diagram for this type of service. Note that the position of the stinger leg on delta installations must be on the far-right-hand side of the meter socket, and the stinger leg must be identified. See pages 55 and 57 for drawing details.

Where service is 120/208 or 277/480 volts, 3-phase 4-wire wye service 200 amps and under...

The customer shall furnish an approved, seven-terminal, 200 amp meter socket with manual lever bypass which shall be installed and connected as shown on the installation drawing and connection diagram for this type of service on page 55. **Note: When a self-contained socket is utilized for 277/480-volt installations, the customer shall install a disconnecting means immediately adjacent to the socket on the load side of the socket. The disconnecting means must have a short-circuit current rating equal to or greater than the available short-circuit current specified for that service by Florida Power & Light Northwest engineering, and an interrupting rating equal to or greater than the maximum load current.**

Where service is 120/240 volts 3-phase, 4-wire delta service 320 or 400 amps...

The customer shall furnish an approved, seven-terminal, 400 amp meter socket with manual lever bypass which shall be installed and connected as shown on the installation drawings and connection diagram for this type of service. Note that the position of the stinger leg on delta installations must be on the far right-hand side of the meter socket, and the stinger leg must be identified. See pages 56 and 57 for drawing detail.

Where service is 120/208 or 277/480 volts, 3-phase 4-wire wye service 320 or 400 amps...

The customer shall furnish an approved seven-terminal, 400 amp meter socket with manual lever bypass which shall be installed and connected as shown on the installation drawing and connection diagram for this type of service on page 56. **Note: When a self-contained socket is utilized for 277/480-volt installations, the customer shall install a disconnecting means immediately adjacent to the socket on the load side of the socket. The disconnecting means must have a short-circuit current rating equal to or greater than the available short-circuit current**

**specified for that service by Florida Power & Light Northwest engineering, and an interrupting rating equal to or greater than the maximum load current.**

### **C. Installation of Instrument-Transformer Watt-hour Meters:**

**Instrument transformers will be wired by qualified Company personnel.** The Company will designate the location of the metering equipment. Where appropriate, the Company will furnish to the customer, for installation by the contractor, its standard instrument-transformer enclosure. These enclosures are intended to house only the transformers and meter connections to and from the transformers. In no case shall the customer's branch circuits, or feeders be supplied from the instrument-transformer enclosure. Except for installations comprising more than six meters as noted in General Information, Section D, page 6, instrument-transformer enclosures shall be installed ahead of all service equipment.

The Company will also furnish a meter socket, to be installed by the contractor. The customer shall provide sufficient space in a location approved by the Company for this meter socket as well as the instrument transformer enclosure if one is necessary. See page 53 for drawing.

The customer shall install 1-1/2" conduit between the instrument-transformer enclosure and the meter socket. Where the installation utilizes an instrument transformer enclosure, the maximum lateral distance shall be a minimum of 4 inches, but not exceed 50 inches. Where the installation utilizes a padmount transformer, the maximum lateral distance shall not exceed 30 feet. Diagrams on page 59 depict the maximum distances in each situation. A maximum of two 90-degree bends or equivalent is allowed in each run of conduit. All conduit ends shall be reamed to protect the meter control cable. If the conduit is Rigid galvanized or EMT, the conduit ends shall be equipped with a bonding bushing. If the instrument transformers are installed in an instrument transformer enclosure instead of a padmount, and if the conduit is plastic, a minimum #6 copper bonding conductor shall be run between the meter socket and the instrument transformer enclosure.

**It is not acceptable to the Company to place instrument transformers in customer-owned switchgear** unless extraordinary circumstances prevail, and it is convenient for both the Company and the customer. If instrument transformers must be in customer-owned switchgear, each installation must be coordinated with and approved by the Company's Metering Services group.

Where instrument transformers are to be in the customer's switchgear, the instrument transformers will be provided by the Company and they shall be installed by the switchgear manufacturer at the customer's expense. Such instrument transformers shall be installed **ahead of all load** and in a separate compartment with a hinged, sealable door and shall be located such that metering personnel will have clear and unobstructed access to the instrument transformers. Shipping instructions along with a one-line diagram showing the location of the instrument transformers within the switchgear shall be sent to the Metering Services group by the customer. The total length of conduit from the instrument transformers to the meter socket shall not exceed 50 feet, including all horizontal and vertical distances, and the conduit shall include no more than two 90-degree bends.

On multi-unit buildings where a wiring trough is utilized in serving customers and one or more customers are metered with instrument transformers, the company requires that a disconnecting means be installed on the load side of each instrument-transformer cabinet. The disconnecting means shall be readily accessible to the Company and accept a Company lock. See page 61 for an illustration. The purpose of the disconnecting means is to enable the Company to disconnect and reconnect service to these customers without interruption of service to other customers served from the same trough.

The wiring from the instrument transformer secondary to the meter will be installed by the Company.

When service conductors are installed through current transformers, the customer's electrical contractor shall ensure that the polarity marker (white dot and/or the designation "H1" on the face of the CT) is oriented to face towards the source end of the service conductors, i.e., the Florida Power & Light Northwest transformer. A simple way to remember this is the saying, "Dot to pot". When parallel service entrance conductors pass through current transformers, the customer's electrical contractor shall ensure that all conductors for a given phase pass through the same current transformer, and that each phase is in a separate current transformer. Failure to comply with these requirements will result in the contractor having to remove and re-install the service entrance conductors.

## **REQUIREMENTS FOR SERVICES GREATER THAN 600 VOLTS**

Service at more than 600 volts, nominal, is subject to special negotiations between the customer and the Company since the metering and service installations for such service require special engineering consideration in practically all cases. It is always advisable to consult the Company well in advance of the time such service will be required so the customer and Company's design and construction work can be coordinated.

An overhead metering installation at primary voltage may be located at the Company's option either on the customer's pole or structure or on the Company's pole or structure, but it should be located as close as practical to the point where the Company's circuits join the customer's circuits.

Underground primary metering is normally accomplished by installing a special primary metering cabinet to serve as the junction between the Company's cables and the Customer's cables. The primary metering cabinet can be configured to accept either standard 200-amp load-break elbow connections or 600-amp non load-break elbow connections.

## **CUSTOMER OWNED LIGHTNING ARRESTERS**

The Company does not allow the customer to install lightning arresters or any other device in the meter socket or CT cabinet. If a customer wishes to install a lightning arrester, the customer should have it installed in the customer's service main by a licensed electrician.

## Notes

# **SERVICE INSTALLATION DRAWINGS**

---

---

---



# TEMPORARY OVERHEAD SERVICE INSTALLATION

## A. GENERAL NOTES:

- Meter sockets shall be furnished and installed by customer in accordance with Florida Power & Light Northwest and Meter Equipment Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, “Meter Sockets”, on page 12).
- Pole length determined by service drop clearance requirements.
  - Clearance 12.5 ft. - sidewalk only (restricted traffic)
  - Requirements → 16.5 ft. - residential driveway only
  - 16.5 ft. - public driveways, alleys, and roads, construction areas

Pole specifications: 15” minimum circumference pressure treated 6” x 6” square treated timber minimum. **Shortest acceptable pole is 18 feet, set 4 feet deep.**

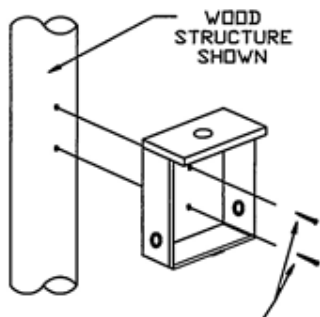
- Grounding electrode conductor shall be #4 AWG copper or greater.
- Minimum 8’ grounding electrode required (copper clad, aluminum clad, or steel).

## B. MOUNTING:

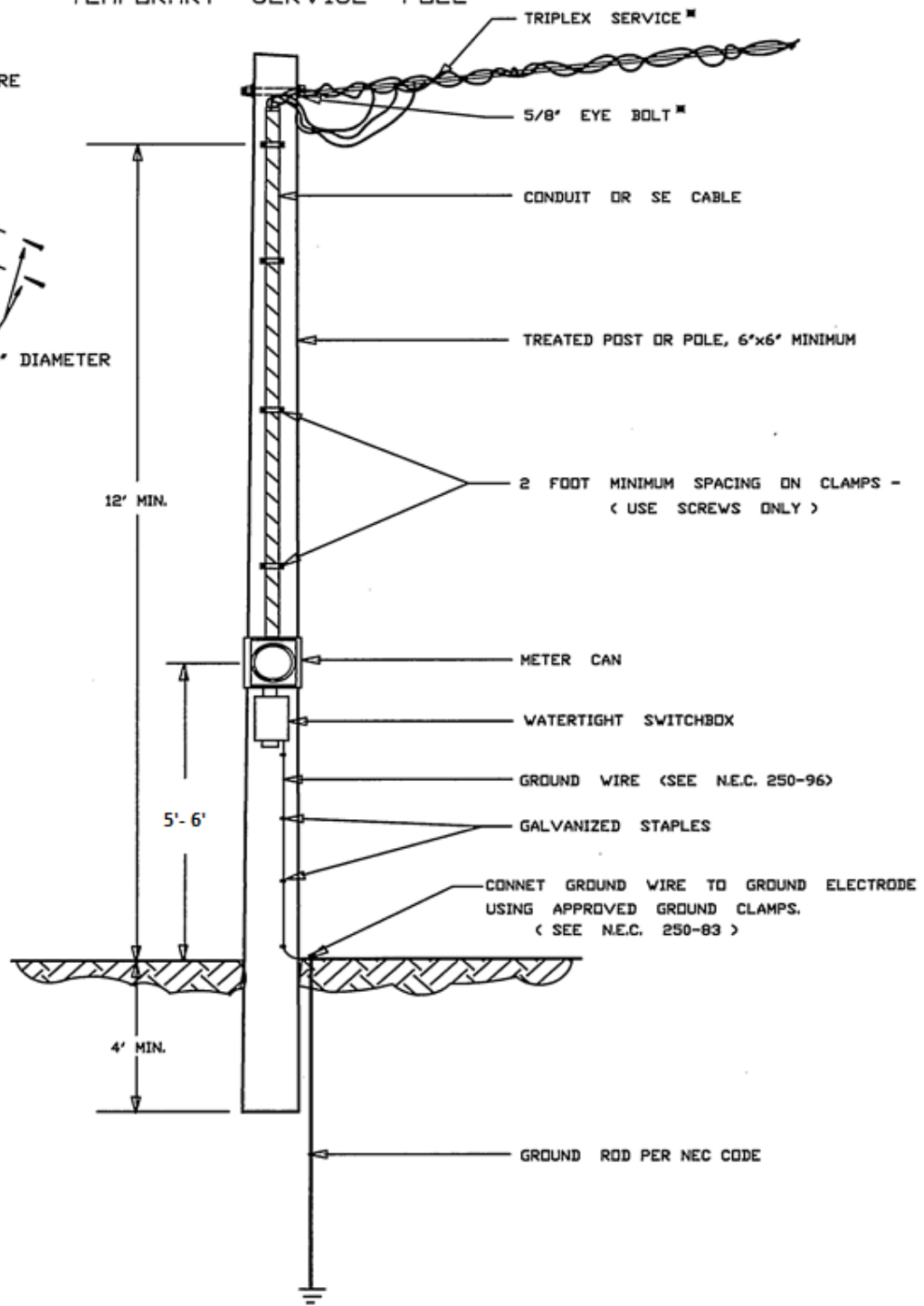
- Meter sockets, cabinets, trough, and conduits shall be surface mounted.
- All screws and bolts shall be minimum #12 x 1-1/2” corrosion resistant type screws. **Nailing to pole is not permissible.**
- Conduit ends shall be equipped with a proper bushing to protect conductors.

**C. CONNECTIONS:** Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torqueing to manufacturer’s specifications located in the enclosure. **Do not over-torque!**

TEMPORARY SERVICE POLE



1-1/2' LONG 1/4' DIAMETER WOOD SCREWS



DISTRIBUTION SPECIFICATIONS

SUBJECT CONSTRUCTION SERVICE - TEMPORARY  
 DETAIL OVERHEAD SERVICE POLE



# TEMPORARY UNDERGROUND SERVICE INSTALLATION

## **A. GENERAL NOTES:**

- Pole length 10' minimum (including below-ground portion of pole)
- Pole type specification: pressure treated 6" x 6"
- Meter sockets shall be furnished and installed by customer in accordance with Florida Power & Light Northwest and Meter Equipment Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, "Meter Sockets", on page 12).
- Grounding electrode conductor shall be #4 AWG copper or greater
- Minimum 8' grounding electrode required (copper-clad, aluminum-clad, or steel).

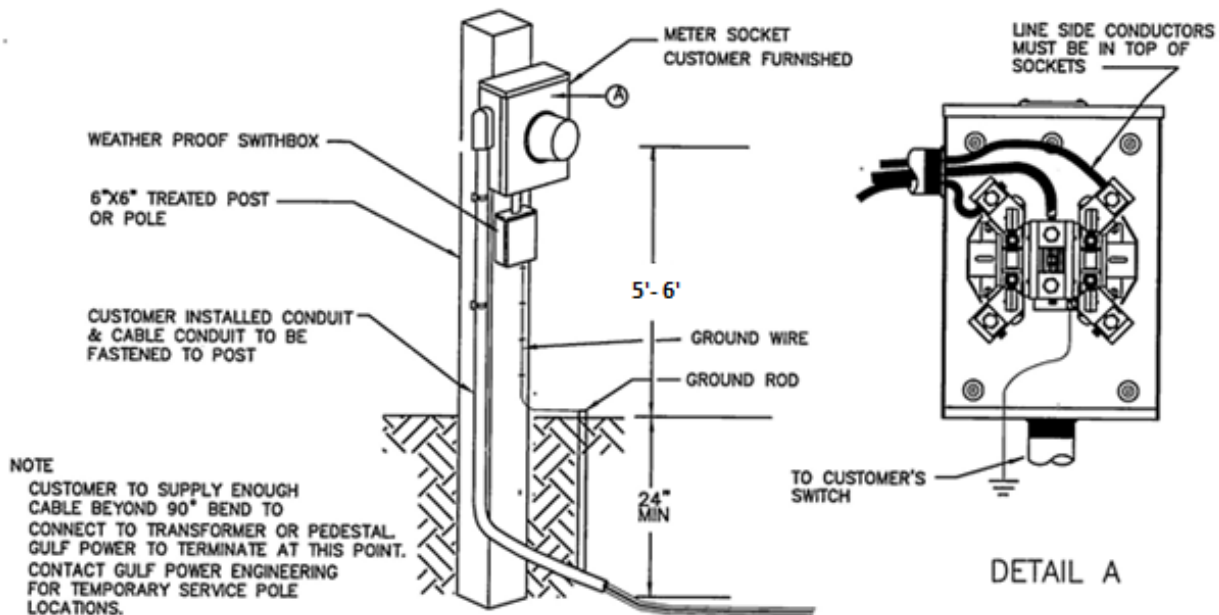
## **B. MOUNTING:**

- Meter sockets, cabinets, trough, and conduits shall be surface mounted.
- All screws and bolts shall be minimum #12 x 1-1/2" corrosion resistant. **Nailing to pole is not permissible.**
- Conduit ends shall be equipped with a proper bushing to protect conductors.

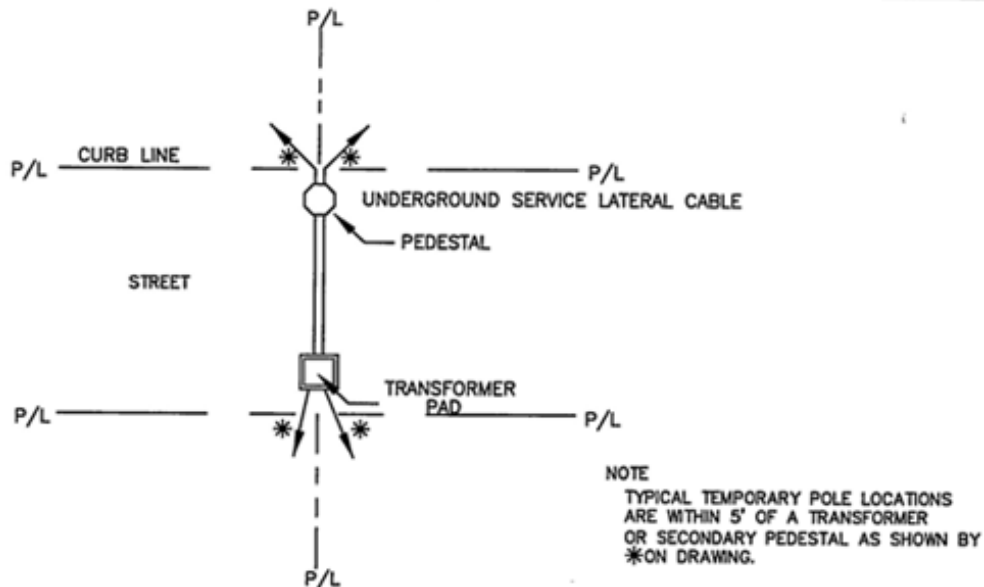
## **C. CONNECTIONS:**

- Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torquing to manufacturer's specifications located in the enclosure. **Do not over-torque!**

# SERVICE POST INSTALLATION



## TYPICAL LOCATIONS



## TEMPORARY SERVICE UNDERGROUND RESIDENTIAL



### DISTRIBUTION SPECIFICATIONS

SUBJECT TEMPORARY UNDERGROUND-RESIDENTIAL

DETAIL \_\_\_\_\_

Date 03/10/99

Page 24

File GP0016

# TYPICAL OVERHEAD SERVICE TO MOBILE HOME

## A. GENERAL NOTES:

- Meter sockets shall be furnished and installed by customer in accordance with Florida Power & Light Northwest and Meter Equipment Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, “Meter Sockets”, on page 12).
- Pole length determined by service drop clearance requirements.
  - Clearance 12.5 ft. - sidewalk only (restricted traffic)
  - Requirements → 16.5 ft. - residential driveway only
  - 16.5 ft. - public driveways, alleys, and roads, construction areas

Pole specifications: 15” minimum circumference pressure treated 6” x 6” square treated timber minimum. **Shortest acceptable pole is 18 feet, set 4 feet deep.**

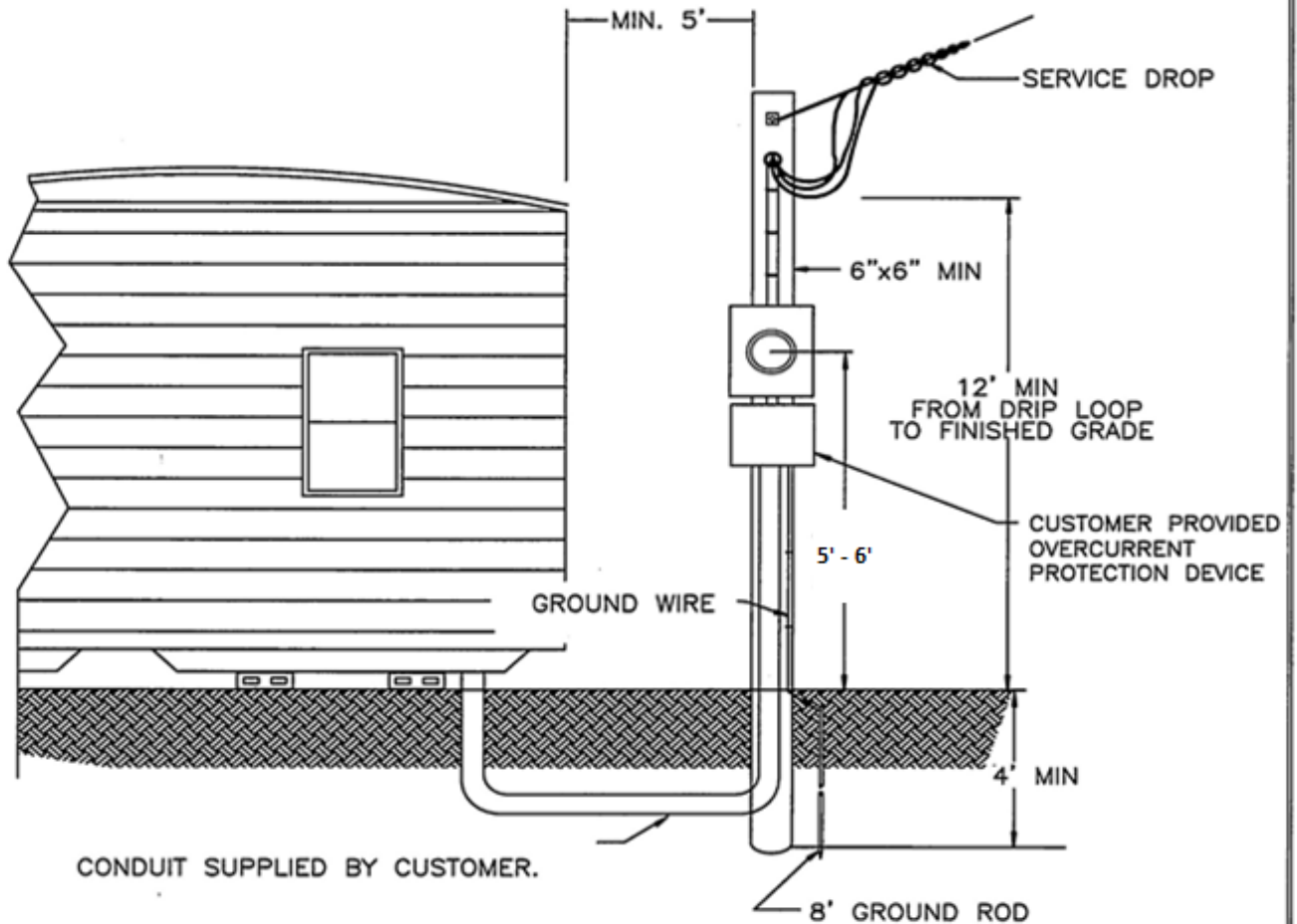
- Grounding electrode conductor shall be #4 AWG copper or greater.
- Minimum 8’ grounding electrode required (copper clad, aluminum clad, or steel).

## B. MOUNTING:

- Meter sockets, cabinets, trough, and conduits shall be surface mounted.
- All screws and bolts shall be minimum #12 x 1-1/2” corrosion resistant. **Nailing to pole is not permissible.**
- Conduit ends shall be equipped with a proper bushing to protect conductors.

## C. CONNECTIONS:

- Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torquing to manufacturer’s specifications located in the enclosure. **Do not over-torque!**



NOTE: SEE PAGE 13



DISTRIBUTION SPECIFICATIONS

SUBJECT OVERHEAD SERVICE TO MOBILE HOME

DETAIL \_\_\_\_\_

## TYPICAL UNDERGROUND INSTALLATIONS FOR MOBILE HOMES

---

### **A. GENERAL NOTES:**

- Meter sockets shall be furnished and installed by customer in accordance with Florida Power & Light Northwest and Meter Equipment Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, “Meter Sockets”, on page 12).
- Customer must provide meter pedestals for the connection of service laterals and watt-hour meters.
- Meter pedestals to be installed in a manner where they will not be subject to vehicular traffic with locations approved prior to installation by a qualified employee.
- Meter pedestal will remain the property of the customer with Florida Power & Light Northwest having no responsibility for maintenance or upkeep of the pedestal.

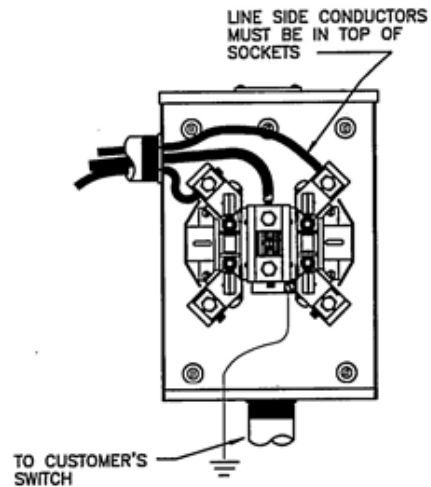
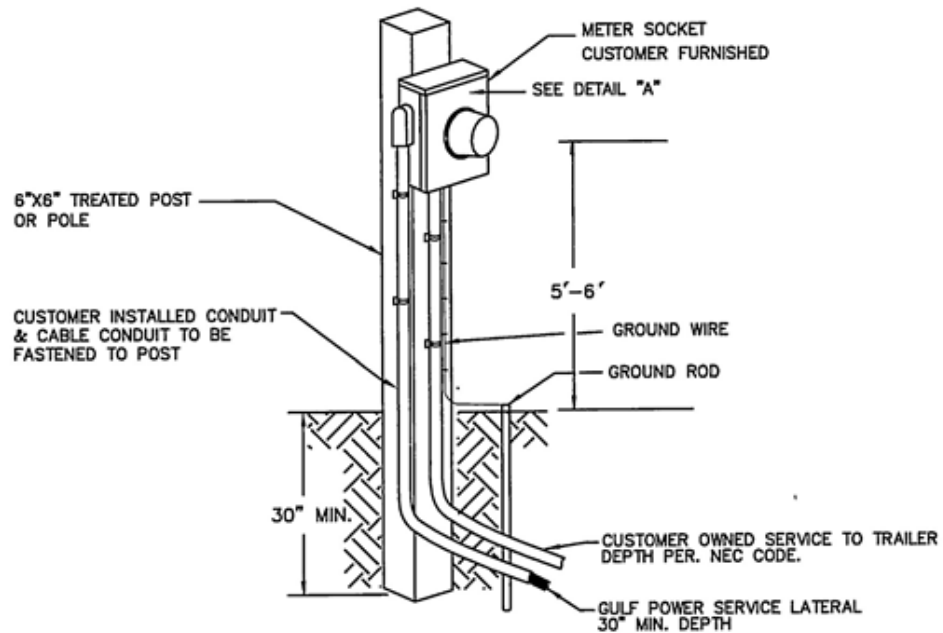
### **B. MOUNTING:**

- Meter sockets, cabinets, trough, and conduits shall be surface mounted.
- All screws and bolts shall be minimum #12 x 1-1/2” corrosion resistant. **Nailing to pole is not permissible.**
- Conduit ends shall be equipped with a proper bushing to protect conductors.

### **C. CONNECTIONS:**

- Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torquing to manufacturer’s specifications located in the enclosure. **Do not over-torque!**

# UNDERGROUND SERVICE FOR MOBILE HOMES



DETAIL A



DISTRIBUTION SPECIFICATIONS

SUBJECT UNDERGROUND SERVICE MOBILE HOMES

DETAIL \_\_\_\_\_

Date 05/21/97

Page 28

File GP0056



## TYPICAL RESIDENTIAL OVERHEAD INSTALLATION

---

### **A. GENERAL NOTES:**

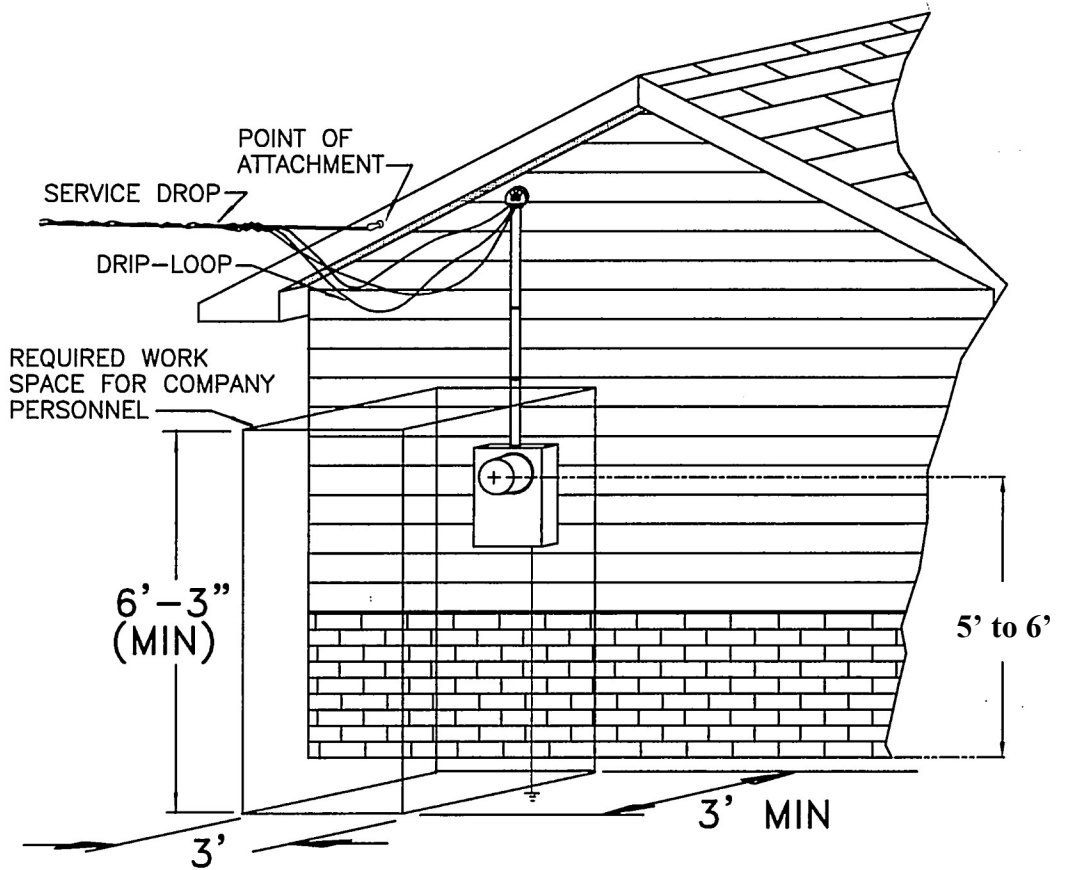
- Meter socket shall be furnished and installed by customer in accordance with Florida Power & Light Northwest and Florida Meter Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, “Meter Sockets”, on page 12).
- Meter socket shall be readily accessible and allow workspace as illustrated.
- Placement of meter socket in alley ways or areas where meter is subject to damage shall require advance approval of a qualified employee.

### **B. MOUNTING:**

- Meter socket and conduit shall be surface mounted without brick or other exterior veneers encasing the equipment.
- Meter socket and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 corrosion resistant. A minimum of four (4) fasteners shall be used to mount socket.

### **C. CONNECTIONS:**

- Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torquing to manufacturer’s specifications located in the enclosure. **Do not over-torque!**



DISTRIBUTION SPECIFICATIONS

SUBJECT TYPICAL OVERHEAD INSTALLATION

DETAIL \_\_\_\_\_

## TYPICAL WIRING OF METER SOCKET FOR SINGLE-PHASE TWO-WIRE 120V SERVICE

### A. GENERAL NOTES:

- Meter socket shall be furnished and installed by customer in accordance with Florida Power & Light Northwest and Meter Equipment Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, “Meter Sockets”, on page 12).
- Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or areas where meter is subject to damage shall require advance approval of a qualified employee.
- 120-volt 2-wire services are generally available for billboards, traffic control devices, and CATV amplifiers. Customer must have Florida Power & Light Northwest approval prior to use on other type installations.

### B. MOUNTING:

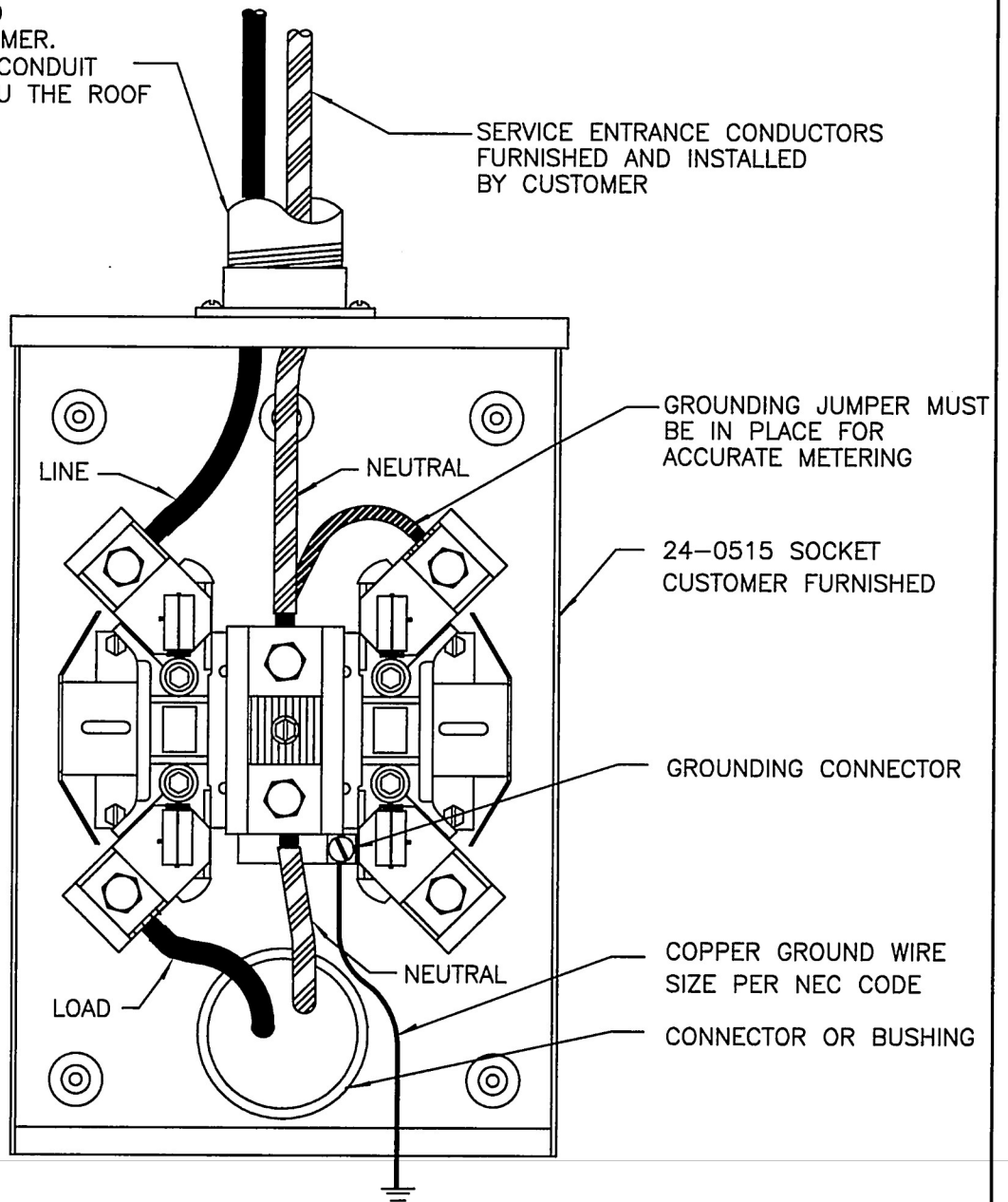
- Meter sockets and conduit shall be surface mounted without brick or other exterior veneers encasing the equipment.
- Meter socket and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 corrosion resistant. A minimum of four (4) fasteners shall be used to mount socket.

### C. CONNECTIONS:

- Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torquing to manufacturer’s specifications located in the enclosure. **Do not over-torque!**

RIGID CONDUIT FURNISHED  
AND INSTALLED BY CUSTOMER.  
TYPE SE CABLE OR PVC CONDUIT  
PERMISSIBLE IN NON THRU THE ROOF  
INSTALLATIONS

SERVICE ENTRANCE CONDUCTORS  
FURNISHED AND INSTALLED  
BY CUSTOMER



DISTRIBUTION SPECIFICATIONS

SUBJECT WIRING DIAGRAM FOR SINGLE PHASE, 2 WIRE SERVICE

DETAIL \_\_\_\_\_

# TYPICAL WIRING OF METER SOCKET FOR SINGLE-PHASE THREE-WIRE OVERHEAD SERVICE: SELF-CONTAINED METER

## A. GENERAL NOTES:

- Meter socket shall be furnished and installed by customer in accordance with Florida Power & Light Northwest and Meter Equipment Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, “Meter Sockets”, on page 12).
- For 120/208-volt service, a fifth lug shall be installed by the customer at the 9:00-o’clock position in the meter socket.
- For services greater than 200 amps but less than or equal to 400 amps, use 400 amp socket with manual lever bypass as shown on page 35.
- Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or areas where meter is subject to damage shall require advance approval of a qualified employee.

## B. MOUNTING:

- Meter socket and conduit shall be surface mounted without brick or other exterior veneers encasing the equipment.
- Meter socket and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 corrosion resistant. A minimum of four (4) fasteners shall be used to mount socket.

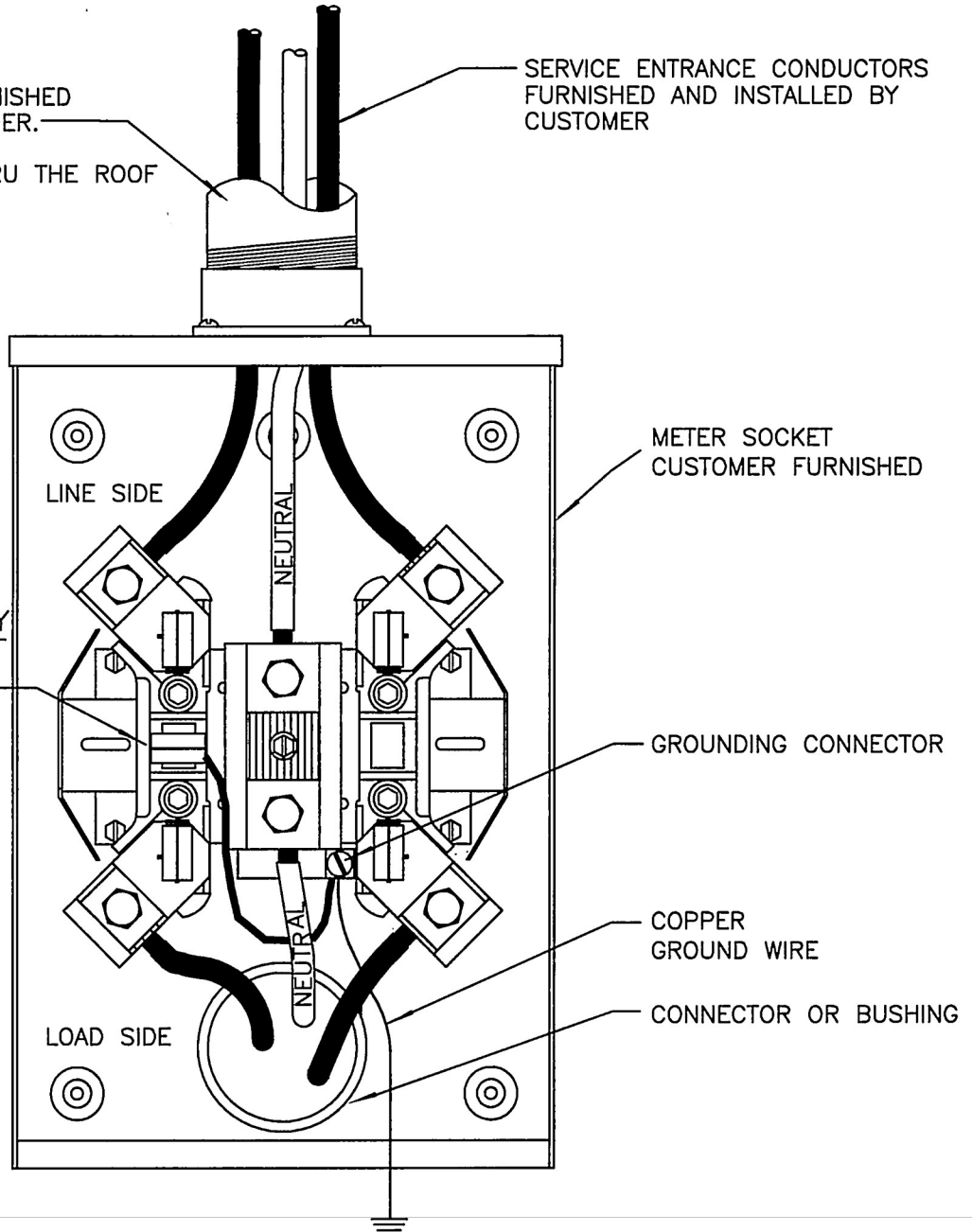
## C. CONNECTIONS:

- Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torquing to manufacturer’s specifications located in the enclosure. **Do not over-torque!**

RIGID STEEL CONDUIT FURNISHED AND INSTALLED BY CUSTOMER. TYPE SE CABLE PERMISSIBLE FOR NON THRU THE ROOF INSTALLATIONS

SERVICE ENTRANCE CONDUCTORS FURNISHED AND INSTALLED BY CUSTOMER

NETWORK METERS ONLY  
 120/208 VOLT 3 WIRE NETWORK OR FIFTH TERMINAL CONNECTION 9 OCLOCK POSITION



METER SOCKET CUSTOMER FURNISHED

LINE SIDE

NEUTRAL

GROUNDING CONNECTOR

COPPER GROUND WIRE

CONNECTOR OR BUSHING

LOAD SIDE

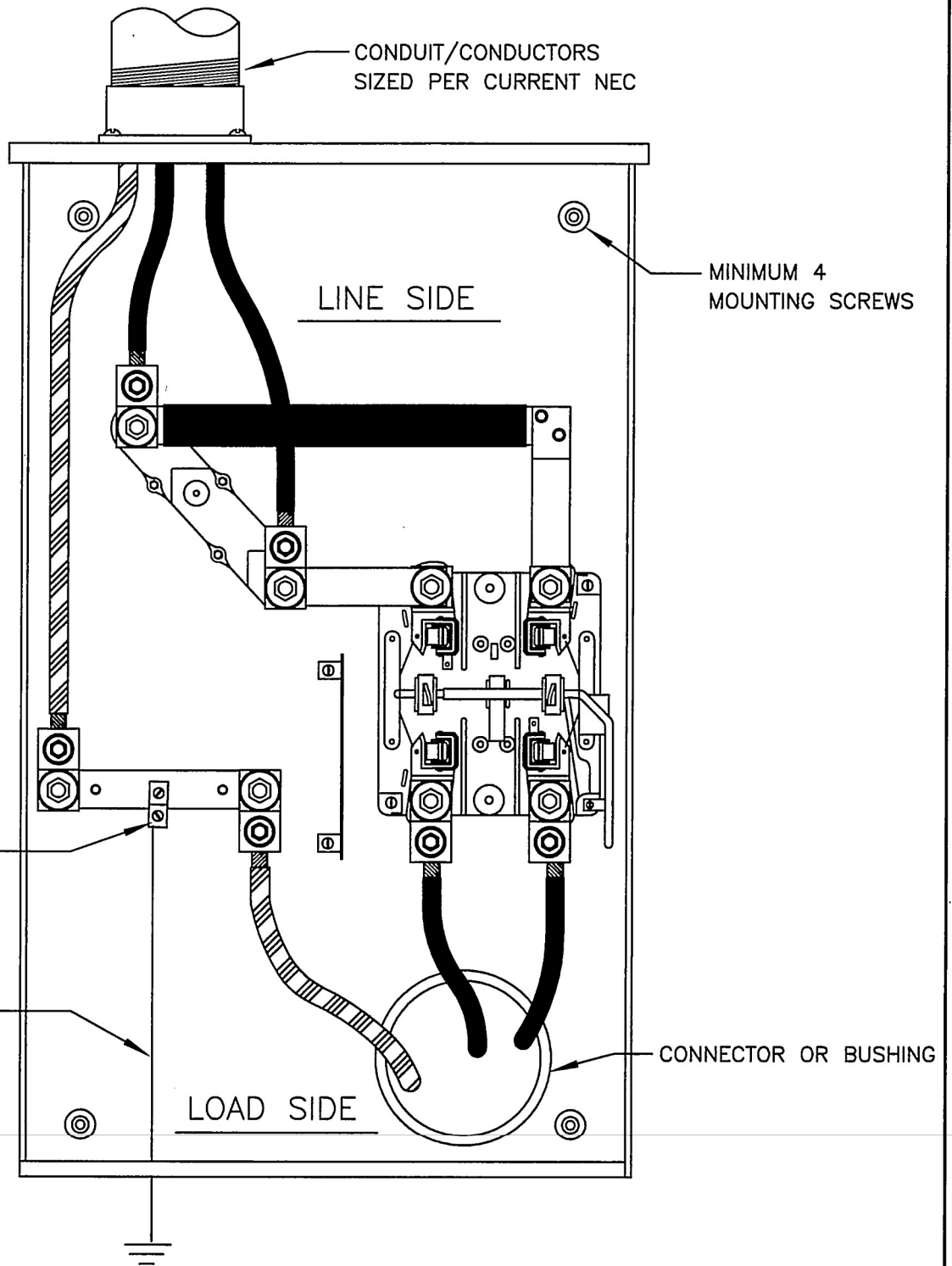
NEUTRAL

DISTRIBUTION SPECIFICATIONS

SUBJECT SINGLE PHASE, 3 WIRE OVERHEAD SERVICE

DETAIL 120/240 VOLT & 120/208 VOLT 3 WIRE





DISTRIBUTION SPECIFICATIONS

SUBJECT SINGLE PHASE 3 WIRE SERVICE USING CLASS 320 SOCKET

DETAIL 120/240 VOLT 3 WIRE

# TYPICAL INSTALLATION OF OVERHEAD, SINGLEPHASE SERVICE USING INSTRUMENT TRANSFORMERS

## A. GENERAL NOTES:

- Meter socket, instrument-transformer enclosure, and instrument transformers will be furnished by Company and shall be installed by customer.
- Conduit between instrument-transformer enclosure and meter socket shall be 1-1/2" rigid metal, intermediate metal, or PVC, furnished and installed by customer.
- Metering control cable furnished and installed by Company.
- Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or areas where meter is subject to damage shall require advance approval of a qualified employee.

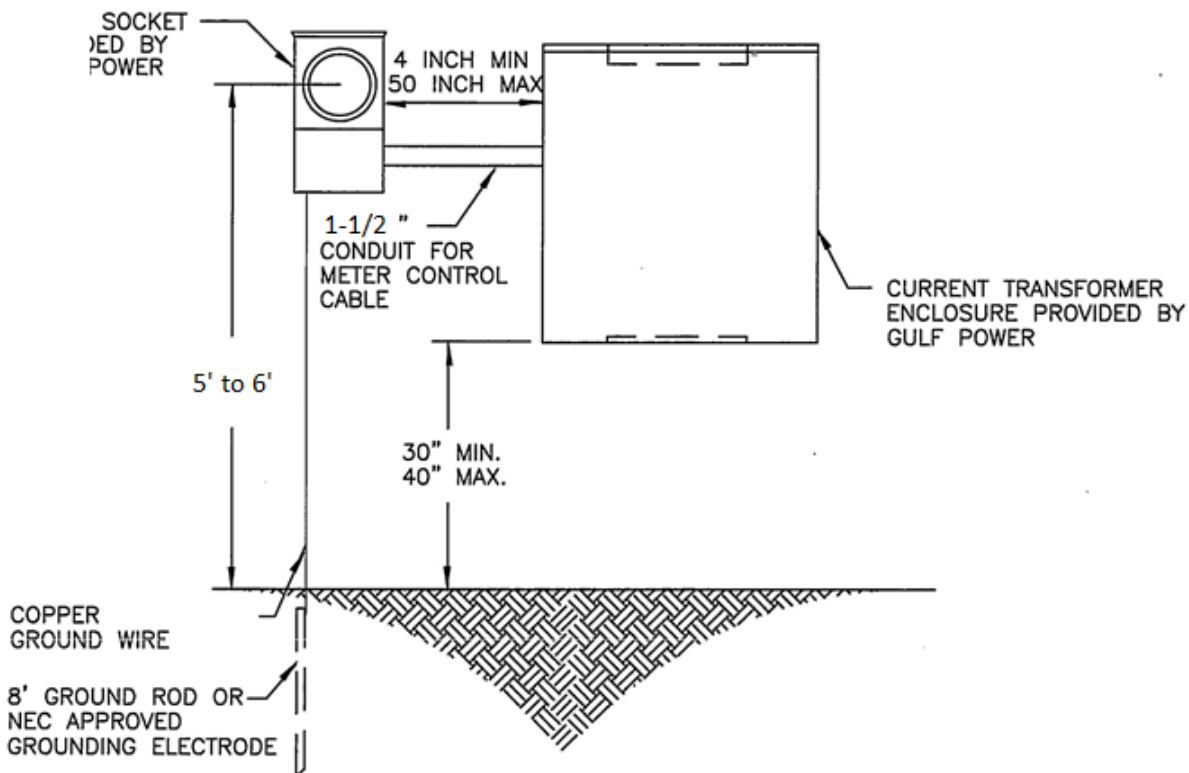
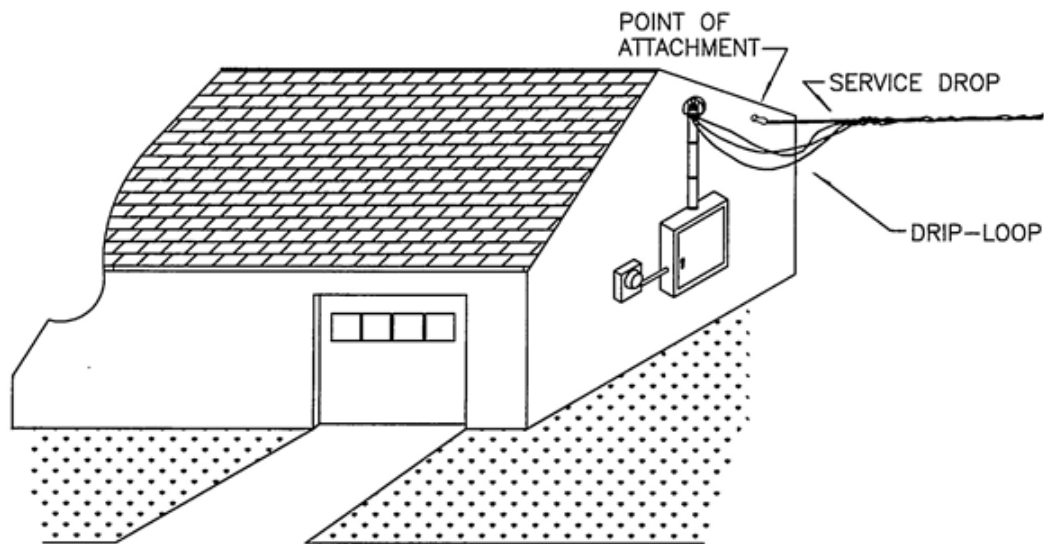
## B. MOUNTING:

- Enclosure, socket and conduits for service lateral and meter control cable shall be surface mounted without brick or other exterior veneers encasing the equipment.
- Enclosure, socket and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 corrosion resistant. A minimum of four (4) fasteners shall be used to mount both enclosure and socket.

## C. CONNECTIONS:

- Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torquing to manufacturer's specifications located in the enclosure. **Do not over-torque!**





DISTRIBUTION SPECIFICATIONS

SUBJECT SINGLE PHASE 120/240 VOLT OVERHEAD SERVICE  
 DETAIL OVER 400 AMPS USING INSTRUMENT TRANSFORMERS

# TYPICAL INSTALLATION FOR SINGLE-PHASE THREE-WIRE UNDERGROUND SERVICE: SELF-CONTAINED METER

## A. GENERAL NOTES:

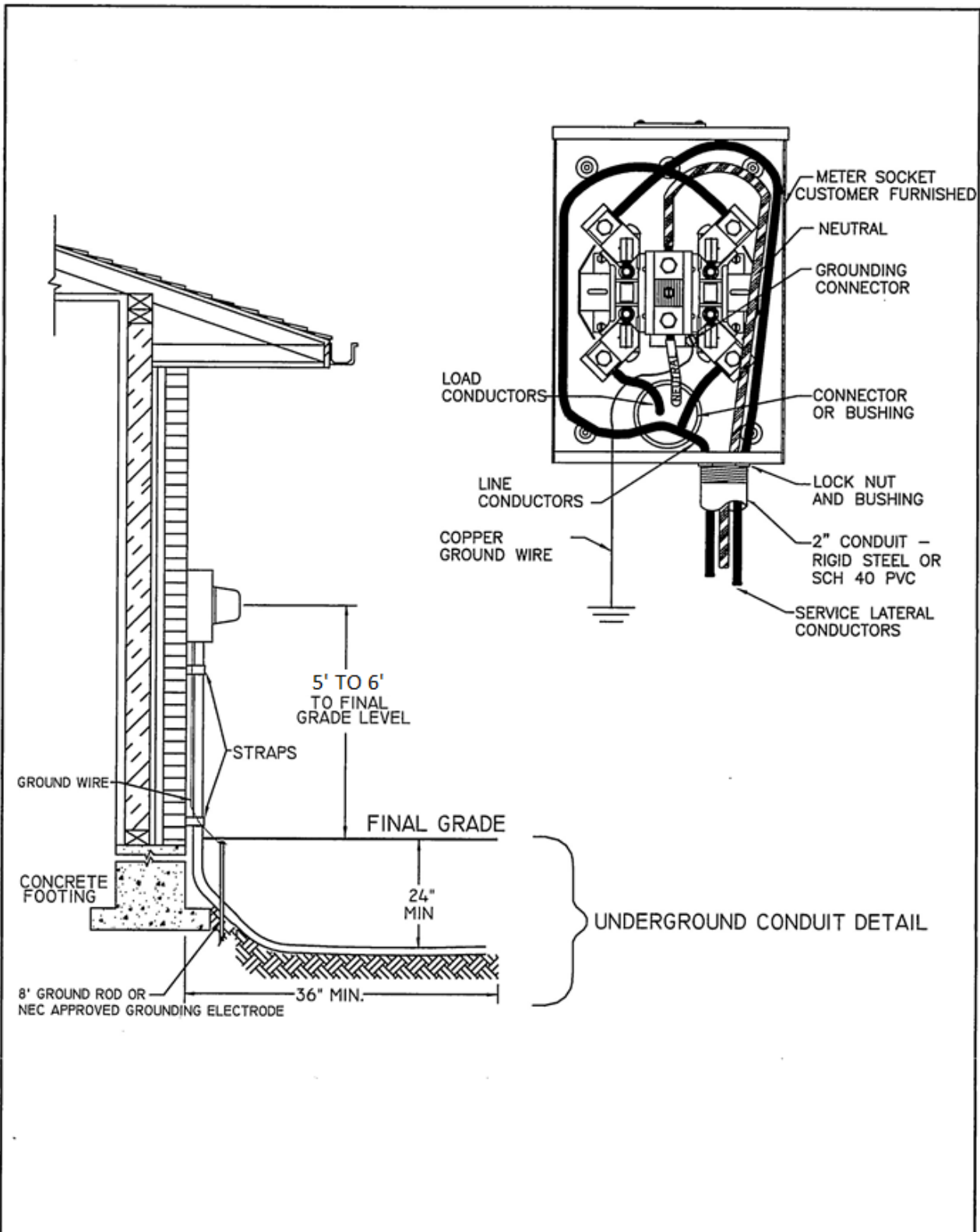
- Meter socket shall be furnished and installed by customer in accordance with Florida Power & Light Northwest and Meter Equipment Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, “Meter Sockets”, on page 12).
- For 120/208-volt service, a fifth lug shall be installed by the customer at the 9:00-o’clock position in the meter socket.
- Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or areas where meter is subject to damage shall require advance approval of a qualified employee.


## B. MOUNTING:

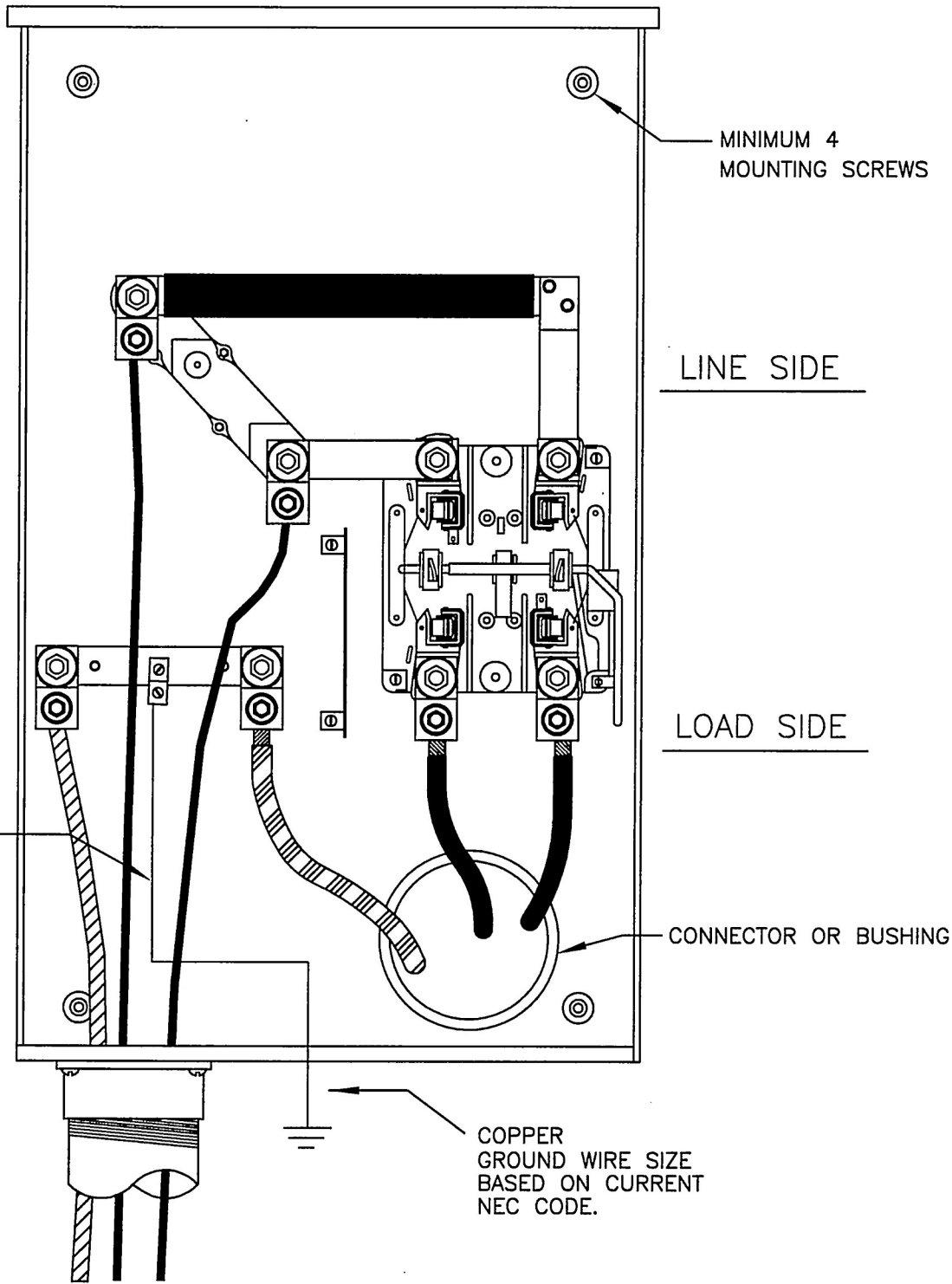
- Meter socket and conduit shall be surface mounted without brick or other exterior veneers encasing the equipment.
- Meter socket and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 corrosion resistant. A minimum of four (4) fasteners shall be used to mount socket.

## C. CONNECTIONS:

- Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torquing to manufacturer’s specifications located in the enclosure. **Do not over-torque!**



	DISTRIBUTION SPECIFICATIONS	
	SUBJECT <u>SINGLE PHASE, 3 WIRE, 200 AMP UNDERGROUND SERVICE</u>	
DETAIL _____		



DISTRIBUTION SPECIFICATIONS

SUBJECT SINGLE PHASE 3 WIRE CLASS 320 SOCKET UNDERGROUND

DETAIL 120/240 VOLT 3 WIRE

# TYPICAL INSTALLATION OF UNDERGROUND, SINGLEPHASE SERVICE USING INSTRUMENT TRANSFORMERS

## A. GENERAL NOTES:

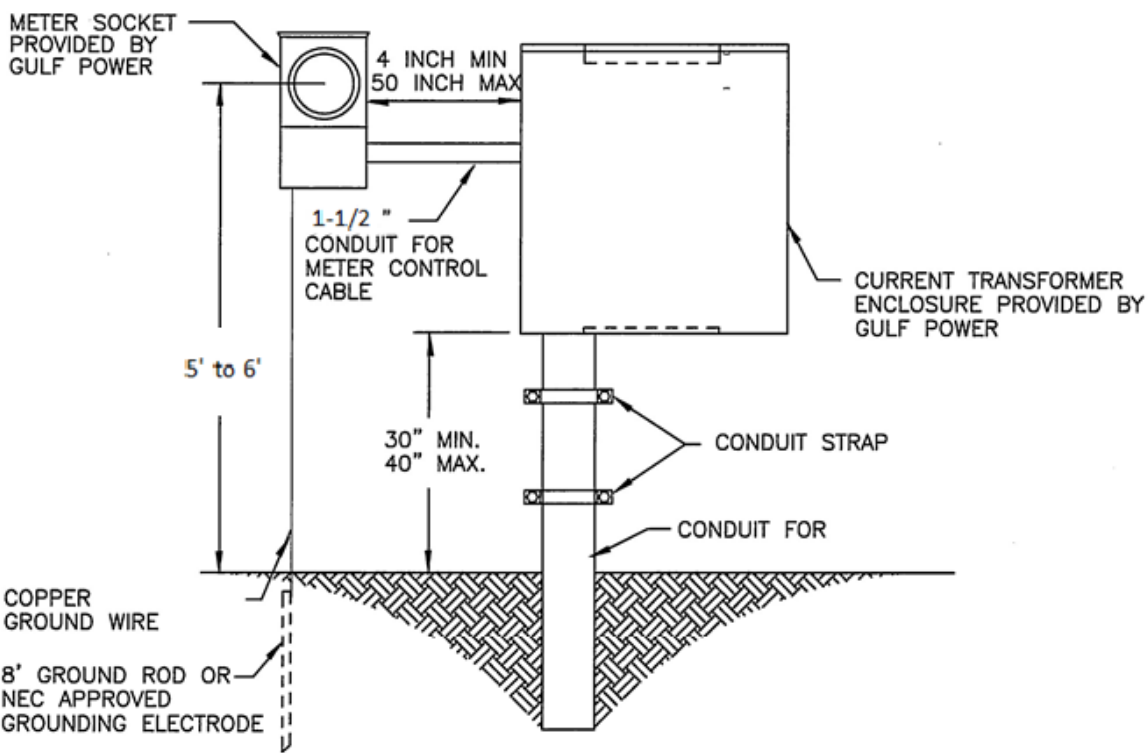
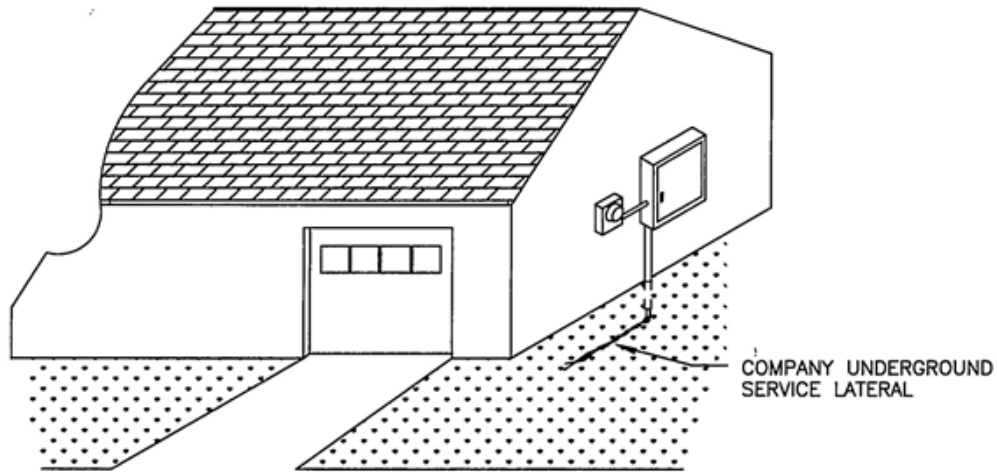
- Meter socket, instrument-transformer enclosure, and instrument transformers will be furnished by Company and shall be installed by customer.
- Conduit between instrument-transformer enclosure and meter socket shall be 1-1/2" rigid metal, intermediate metal, or PVC, furnished and installed by customer.
- Metering control cable furnished and installed by Company.
- Conduit riser for Company's service cable to instrument-transformer enclosure will be **sized by Company** and shall be furnished and installed by customer.
- Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or areas where meter is subject to damage shall require advance approval of a qualified employee.

## B. MOUNTING:

- Enclosure, socket, and conduits for service lateral and meter control cable shall be surface mounted without brick or other exterior veneers encasing the equipment.
- Enclosure, socket, and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 corrosion resistant. A minimum of four (4) fasteners shall be used to mount both enclosure and socket.

## C. CONNECTIONS:

- Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torquing to manufacturer's specifications located in the enclosure. **Do not over-torque!**



DISTRIBUTION SPECIFICATIONS

SUBJECT SINGLE PHASE 120/240 VOLT UNDERGROUND SERVICE  
 DETAIL OVER 400 AMPS USING INSTRUMENT TRANSFORMERS

# DUPLEX INSTALLATIONS – OVERHEAD AND UNDERGROUND

## **A. GENERAL NOTES:**

- A two-gang meter socket or two single meter sockets may be used when the inspection authority having jurisdiction allows for these types of meter socket applications.
- Meter sockets shall be in accordance with Florida Power & Light Northwest and Meter Equipment Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, “Meter Sockets”, on page 12).
- Requirements regarding accessibility to equipment, unobstructed working space, clearances, proper mounting, and conduit arrangement are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or areas where meter is subject to damage shall require advance approval of a qualified employee.

## **B. OVERHEAD SERVICE:**

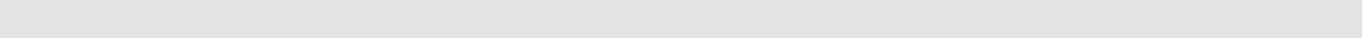
- If customer provides a single riser, customer shall provide a wiring trough and a single service lateral attachment point in trough. No other conductors, conduits, or wireways can be connected to the line-side wiring trough.
- Metering center and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 x 1-1/2” corrosion resistant. A minimum of four (4) fasteners shall be used to mount metering center.

## **C. UNDERGROUND SERVICE:**

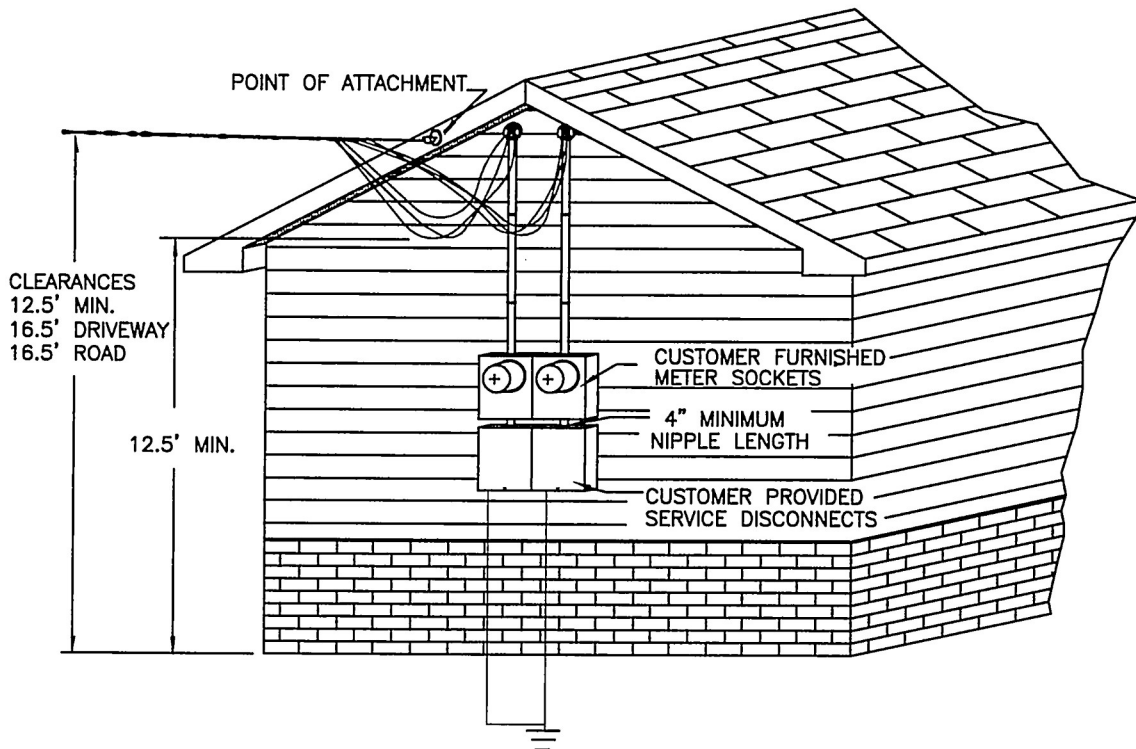
- Customer shall furnish and install wiring trough and meter sockets.
- Customer provides single service lateral attachment point in trough.
- No other conductors, conduits, or wireways can be connected to the line-side wiring trough.

## **D. MARKING:**

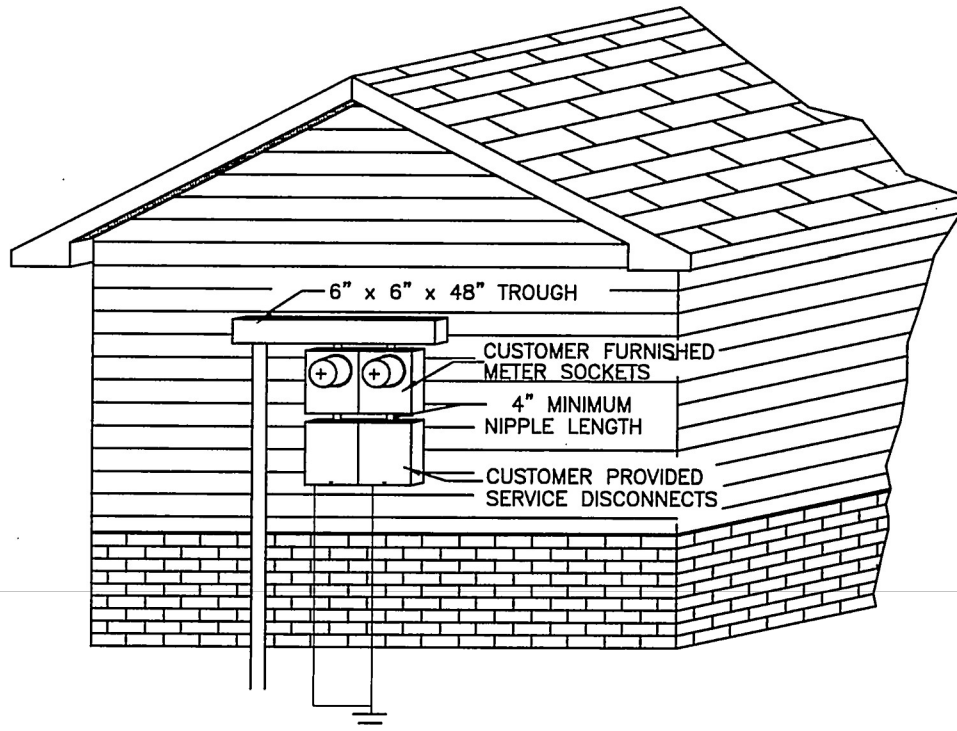
- Each socket position and the corresponding building unit served (suite, apartment, or office) shall be accurately, clearly, and permanently labeled before meters are installed.

- Letters and/or numbers shall be a minimum 1” height of contrasting color.
- 





## OVERHEAD INSTALLATION



## UNDERGROUND INSTALLATION



### DISTRIBUTION SPECIFICATIONS

SUBJECT DUPLEX INSTALLATION

DETAIL \_\_\_\_\_

Date 05/22/97

Page 44

File GP0083

# UNDERGROUND SINGLE-PHASE SERVICE FOR MULTI-FAMILY HOUSING

(with six or fewer units per building using gang meter center)

## **A. GENERAL NOTES:**

- A ganged meter socket may be used when the inspection authority having jurisdiction allows for this type of socket.
- Meter sockets shall be in accordance with Florida Power & Light Northwest and Meter Equipment Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, “Meter Sockets”, on page 12).
- Requirements regarding accessibility to equipment, unobstructed working space, clearances, proper mounting, and conduit arrangement are specified under Service Locations on page 8.
- Placement of meter sockets in alley ways or areas where meter is subject to damage shall require advance approval of a qualified employee.

## **B. UNDERGROUND SERVICE:**

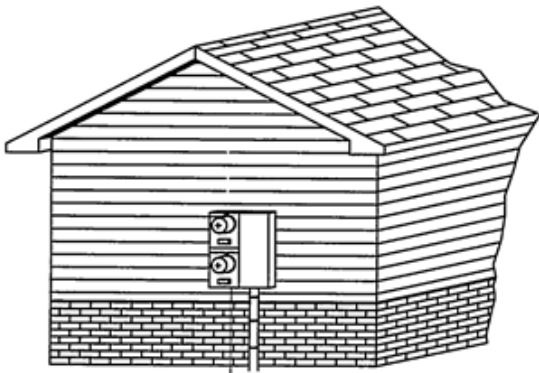
- **Wiring Space and Line-side Connections:**
- Line side studs shall be equipped with nut, flat washer, and pressure-maintaining (“Belleville”) spring washer.
- Torqueing requirements shall be clearly marked in the line-side compartment. Load-side conductors shall be properly torqued by customer. Line-side conductors will be installed and torqued by Company.
- Ganged meter sockets and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 x 1-1/2” corrosion resistant. A minimum of four (4) fasteners shall be used to mount metering center.
- **Minimum Conduit Requirements:**
- Two Positions: (1) 3” conduit
- Three or Four Positions: (1) 3” conduit
- Five or Six Positions: (2) 3” conduit or (1) 4” conduit

## **C. OVERHEAD SERVICE:**

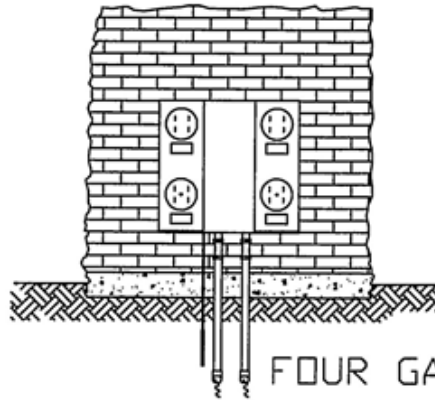
- It is unlikely that all-electric installations will utilize an overhead service entrance. Requirements for this installation are not specified but will generally follow requirements on this page with appropriate changes for overhead service. Consult a Company representative for details.

## **D. MARKING:**

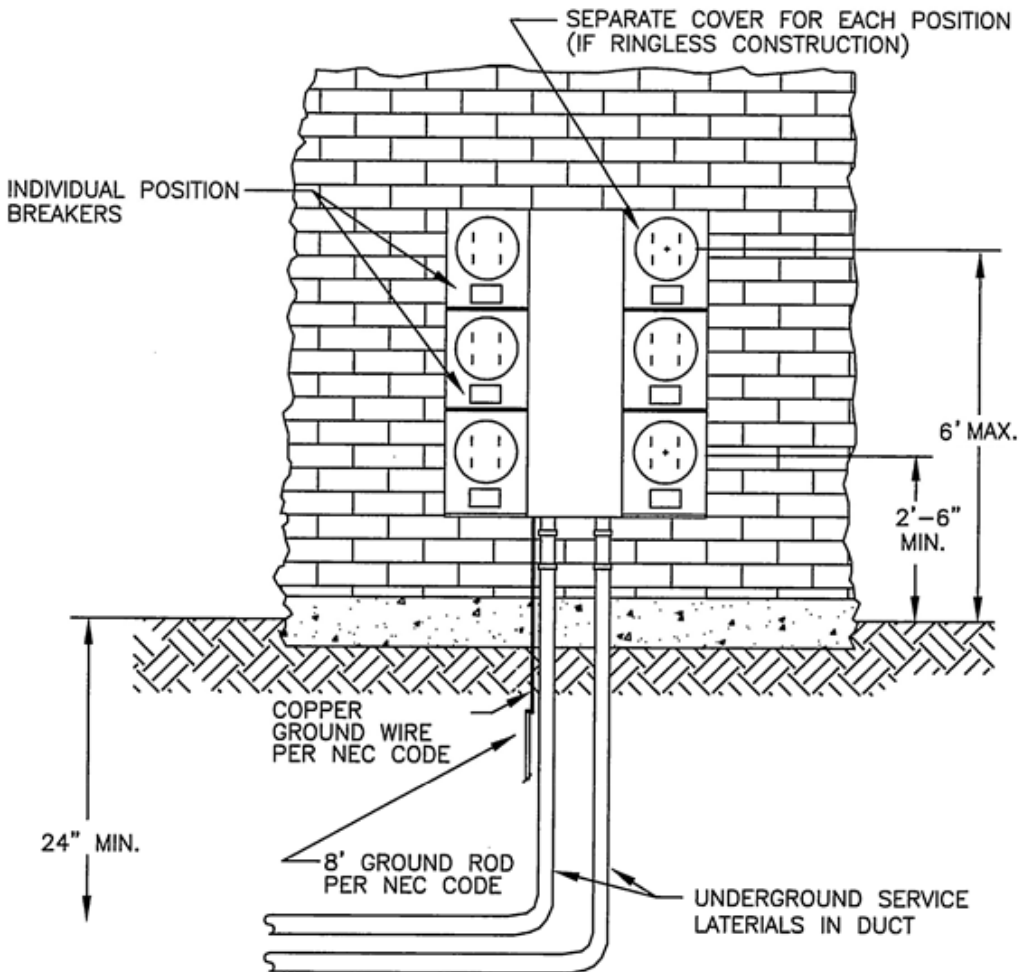
- Each socket position and the corresponding building unit served (suite, apartment, or office) shall be accurately, clearly, and permanently labeled before meters are installed.
  - Letters and/or numbers shall be a minimum 1” height of contrasting color.
-



TWO GANG



FOUR GANG



DISTRIBUTION SPECIFICATIONS

SUBJECT UNDERGROUND SINGLE PHASE FOR MULTI-FAMILY HOUSING

DETAIL \_\_\_\_\_

## MULTI-FAMILY INSTALLATION WITH MORE THAN SIX POSITIONS

### A. GENERAL NOTES:

- A meter center may be used when the inspection authority having jurisdiction requires the installation of a service disconnecting means adjacent to the meter. The customer furnishes the disconnect enclosure and socket enclosures.
- Florida Power & Light Northwest will designate the location of the meter center.
- Meter sockets shall be in accordance with Florida Power & Light Northwest and Meter Equipment Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, “Meter Sockets”, on page 12).
- Requirements regarding accessibility to equipment, unobstructed working space, clearances, proper mounting, and conduit arrangement are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or areas where meter is subject to damage shall require advance approval of a qualified employee.

### B. UNDERGROUND SERVICE:

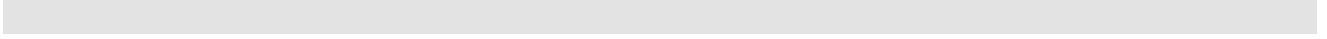
- **Wiring Space and Line-side Connections:**
- Line-side studs shall be equipped with nut, flat washer, and pressure-maintaining (“Belleville”) spring washer. All parts shall be plated to prevent corrosion. Customer-furnished connectors shall meet requirements of U.L. “486 B”.
- Torqueing requirements shall be clearly marked in the line side compartment. Load-side conductors shall be properly torqued by customer. Line-side conductors will be installed and torqued by Company.
- Metering center and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 x 1-1/2” corrosion resistant. A minimum of four (4) fasteners shall be used to mount metering center.
- **Minimum Conduit Requirements:**
- Two 3” conduits or one 4” conduit shall be supplied for each six positions or fraction thereof.

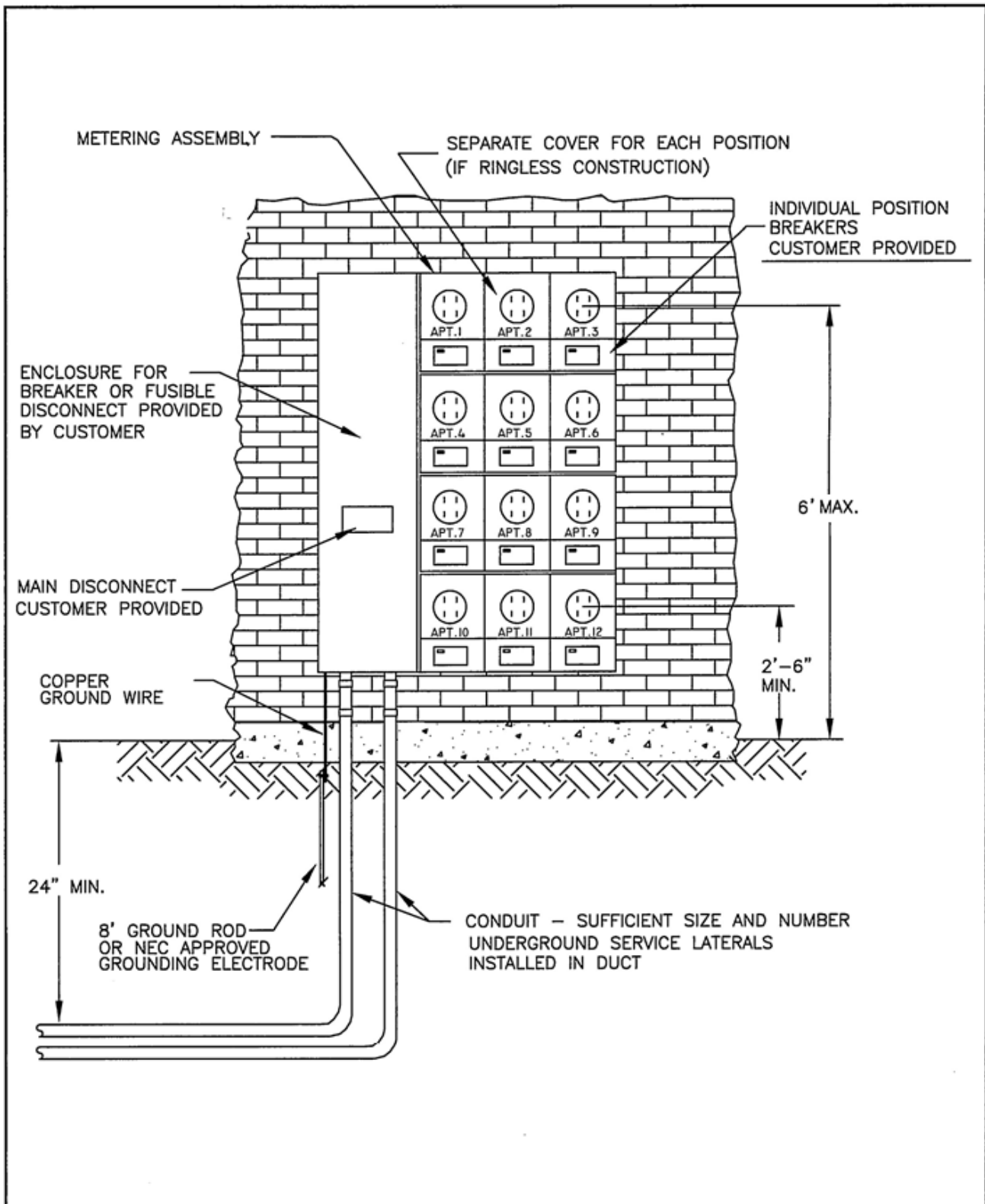
### C. OVERHEAD SERVICE:

- It is unlikely that all-electric installations will utilize an overhead service entrance. Requirements for this installation are not specified but will generally follow requirements on this page with appropriate changes for overhead service. Consult a Company representative for details.

### D. MARKING:

- Each socket position and the corresponding building unit served (suite, apartment, or office) shall be accurately, clearly, and permanently labeled before meters are installed.
- Letters and/or numbers shall be a minimum 1” height of contrasting color.





DISTRIBUTION SPECIFICATIONS

SUBJECT MULTI-FAMILY INSTALLATION GREATER THAN 6 POSITIONS

DETAIL \_\_\_\_\_

<p style="text-align: center;"><b>SINGLE-PHASE COMMERCIAL SERVICE 400 AMPS AND BELOW: SELF-CONTAINED METERS</b></p>
---

---

**A. GENERAL NOTES:**

- Meter socket shall be furnished and installed by customer in accordance with Florida Power & Light Northwest and Meter Equipment Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, “Meter Sockets”, on page 12).
- Note that all meter sockets used in commercial installations, including 200-amp (see p. 50) and 320-amp sockets (see p. 51), shall have a manual lever bypass mechanism. The only exception shall be single sockets serving certain specified customer types; see Section C on Page 12 for a list of permitted exceptions.
- For 120/208-volt service, a fifth lug shall be installed by the customer at the 9:00-o’clock position in the meter socket.
- Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or areas where meter is subject to damage shall require advance approval of a qualified employee.

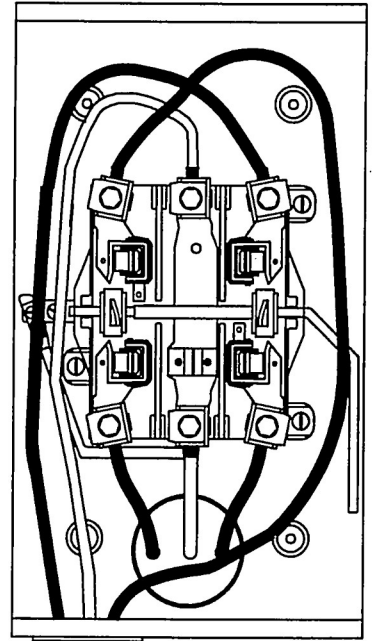
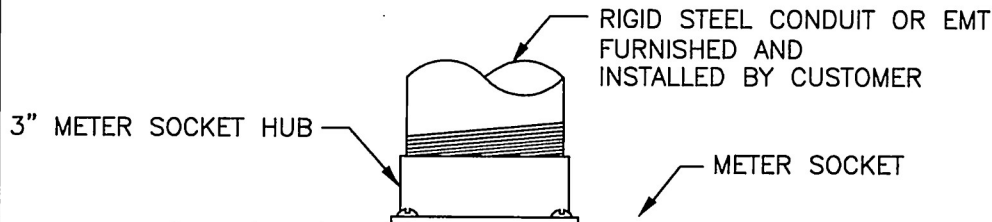
**B. MOUNTING:**

- Meter socket and conduit shall be surface mounted without brick or other exterior veneers encasing the equipment.
- Meter socket and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 x 1-1/2” corrosion resistant. A minimum of four (4) fasteners shall be used to mount socket. Only the pre-punched holes provided by the manufacturer shall be used to mount socket.

**C. CONNECTIONS:**

- Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torquing to manufacturer’s specifications located in the enclosure. **Do not over-torque!**

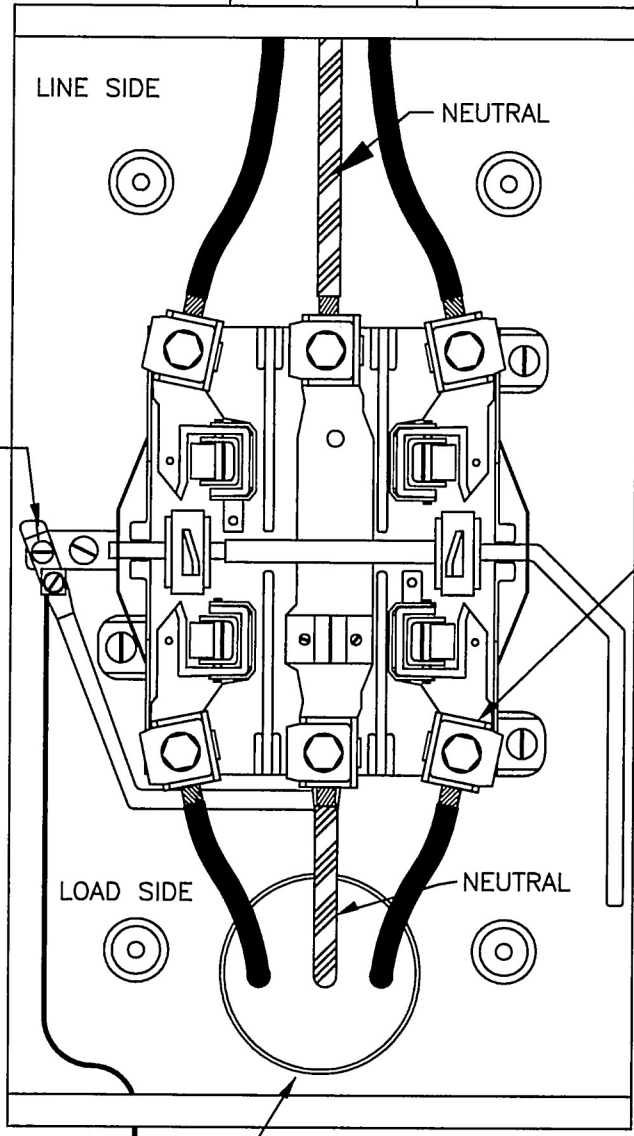




MIN. 2" CONDUIT RIGID STEEL OR SCH 40 PVC

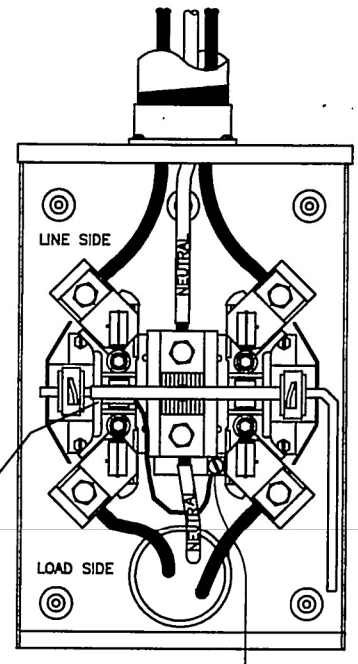
WIRING DIAGRAM FOR UNDERGROUND

LUG SIZE - #1-350MCM AL/CU



COPPER GROUND WIRE SIZE BASE ON NEC. CODE

NETWORK OR FIFTH TERMINAL CONNECTION 9 OCLOCK POSITION



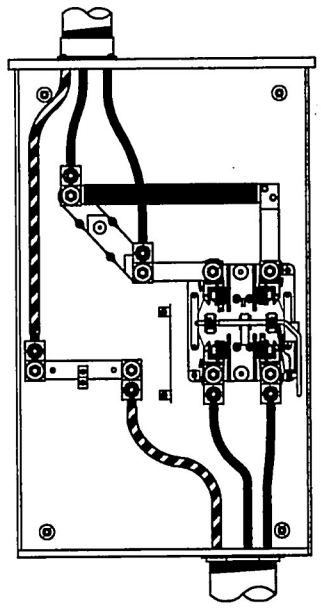
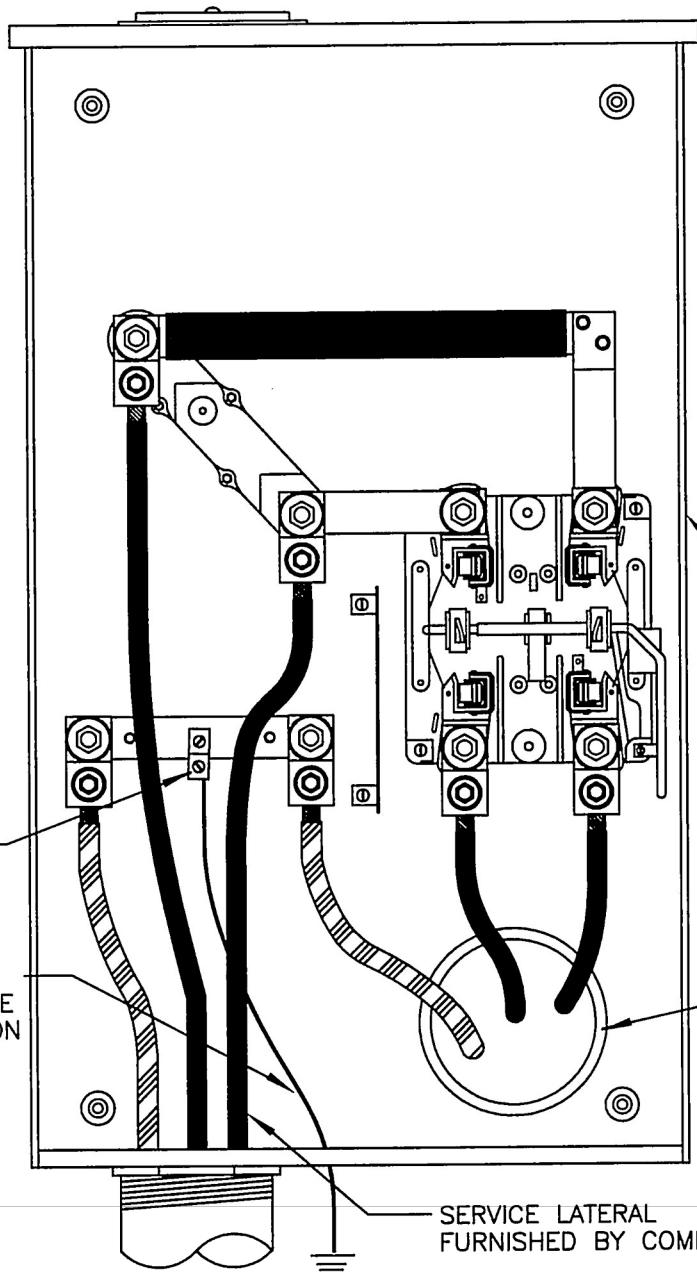
WIRING DIAGRAM FOR 120/208V NETWORK



DISTRIBUTION SPECIFICATIONS

SUBJECT SINGLE PHASE 200 AMP - 3 WIRE SERVICE

DETAIL SMALL COMMERCIAL 120/240 & 120/208 VOLT 3 WIRE



OVERHEAD WIRING DIAGRAM

SOCKET

GROUNDING CONNECTOR

COPPER GROUND WIRE SIZE BASE ON NEC CODE

CONNECTOR OR BUSHING

SERVICE LATERAL FURNISHED BY COMPANY

**\*\* NOTE:**

CONDUIT SHALL ENTER SOCKET THRU LEFT KNOCKOUT ONLY, NOT THRU CENTER OR RIGHT KNOCKOUT LOCATED ON BOTTOM OF METER SOCKET.



DISTRIBUTION SPECIFICATIONS

SUBJECT 120/240 VOLT 3 WIRE 320 AMP COMMERCIAL

DETAIL \_\_\_\_\_

<b>SINGLE-PHASE COMMERCIAL SERVICE</b>
<b>ABOVE 400 AMPS: INSTRUMENT TRANSFORMER METERS</b>

---

**A. GENERAL NOTES:**

- Meter socket, instrument transformer enclosure, and instrument transformers will be furnished by Company and shall be installed by customer.
- Customer shall install 1-1/2" rigid galvanized, intermediate metal, or schedule 40 PVC conduit from instrument-transformer meter sockets to instrument transformer enclosures. All conduit ends shall be reamed to protect the meter control cable. All conduit ends shall be equipped with a proper bushing to protect conductors. If the conduit is metal, the conduit ends shall be equipped with a bonding bushing. If the conduit is plastic, the customer shall install a minimum #6 copper bonding jumper between the meter socket and the instrument transformer enclosure.
- Metering control cable furnished and installed by Company.
- Requirements regarding accessibility to equipment, unobstructed working space, clearances, proper mounting, and conduit arrangement are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or areas where meter is subject to damage shall require advance approval of a qualified employee.

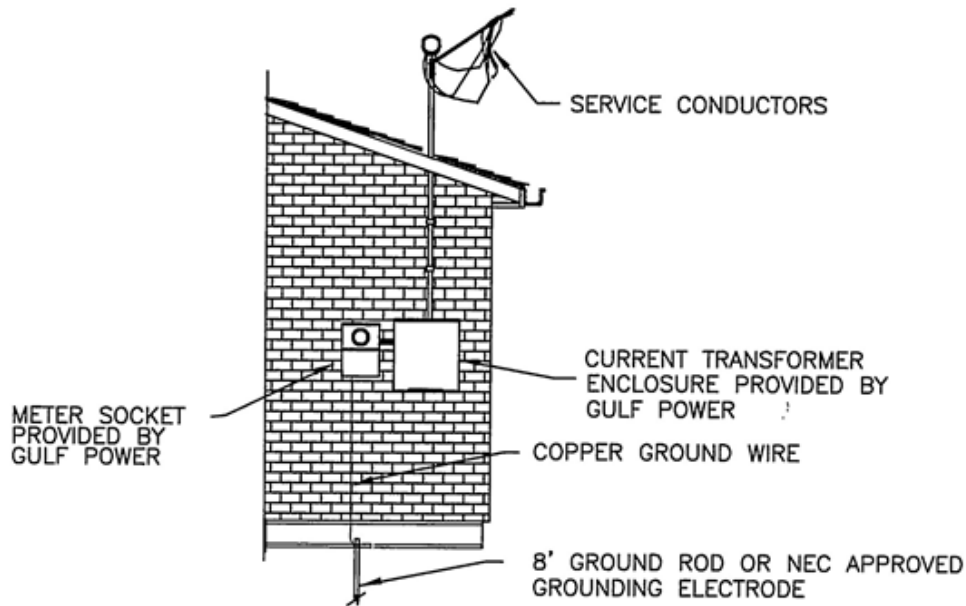
**B. MOUNTING:**

- Enclosure, socket, and conduits for service lateral and meter control cable shall be surface mounted without brick or other exterior veneers encasing the equipment.
- Enclosure, socket, and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 x 1-1/2" corrosion resistant. A minimum of four (4) fasteners shall be used to mount both enclosure and socket.
- If metering equipment is mounted on a backboard instead of a building, the backboard shall consist of at least 3/4" treated exterior-grade plywood supported on at least two 6" x 6" treated wood posts, buried at least 30 inches deep for underground service, and 48 inches deep for overhead service.

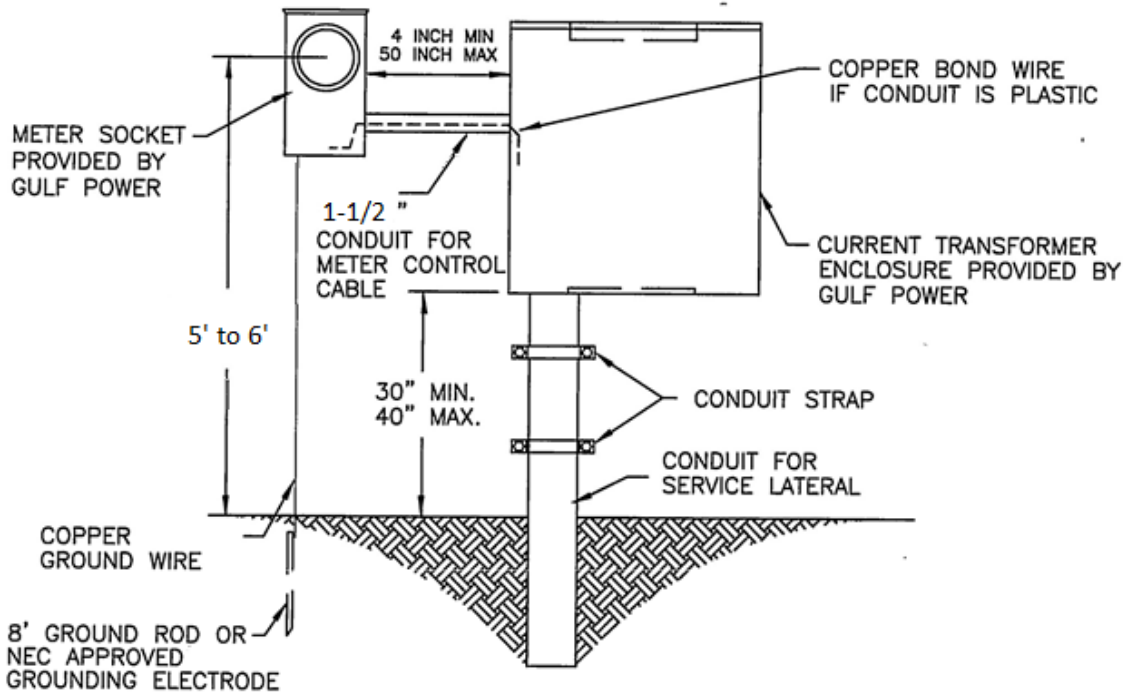
**C. CONNECTIONS:**

---

- Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torquing to manufacturer's specifications located in the enclosure. **Do not over-torque!**



OVERHEAD INSTALLATION



UNDERGROUND INSTALLATION



DISTRIBUTION SPECIFICATIONS

SUBJECT 120/240 & 120/208 VOLT 3 WIRE COMMERCIAL

DETAIL GREATER THAN 400 AMPS

Date 04/02/08

Page 53

File GP0053

<p style="text-align: center;"><b>THREE-PHASE COMMERCIAL SERVICE</b> <b>400 AMPS AND BELOW: SELF-CONTAINED</b> <b>METER</b></p>
---

**A. GENERAL NOTES:**

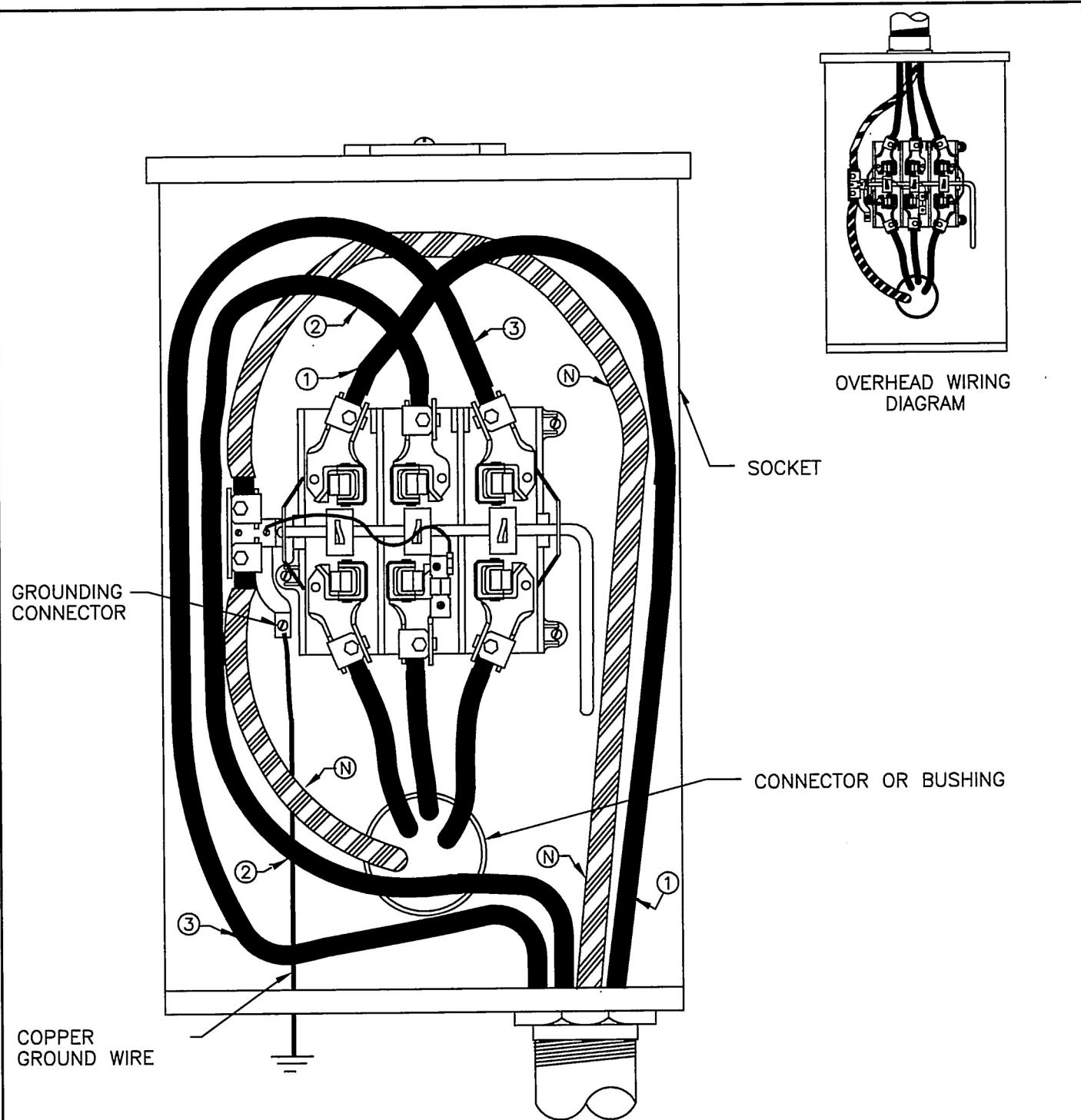
- When a self-contained socket is utilized for 277/480-volt installations, the customer shall install a disconnecting means immediately adjacent to the meter socket on the load side of the socket. The disconnecting means must have a current rating not less than the load current to be carried and must have an interrupting rating at system voltage sufficient for the current that must be interrupted.
- Meter socket shall be furnished and installed by customer in accordance with Florida Power & Light Northwest and Florida Meter Group requirements (See GENERAL REQUIREMENTS FOR SERVICES LESS THAN 600 VOLTS, Section C, “Meter Sockets”, on page 12).
- Note that all self-contained meter sockets used in commercial installations, including gang meter sockets, and including 200-amp-or-below sockets (see page 55) and 320-amp sockets (see page 56), shall have a manual lever bypass mechanism.
- See page 57 for wiring of “stinger” leg in meter sockets used in 3-phase 4-wire 120/240-volt applications.
- Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or areas where meter is subject to damage shall require advance approval of a qualified employee.

**B. MOUNTING:**

- Meter socket and conduit shall be surface mounted without brick or other exterior veneers encasing the equipment.
- Meter socket and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 x 1-1/2” corrosion resistant. A minimum of four (4) fasteners shall be used to mount socket.

**C. CONNECTIONS:**

- Customer shall apply a non-grit-type corrosion inhibitor to connections and terminate them by torquing to manufacturer's specifications located in the enclosure. **Do not over-torque!**



NOTES:

1. DELTA INSTALLATION - #3 POSITION MUST BE POWER LEG
2. CONDUIT SHALL ENTER SOCKET THRU LEFT OR RIGHT KNOCKOUT BUT NOT THRU CENTER KNOCKOUT

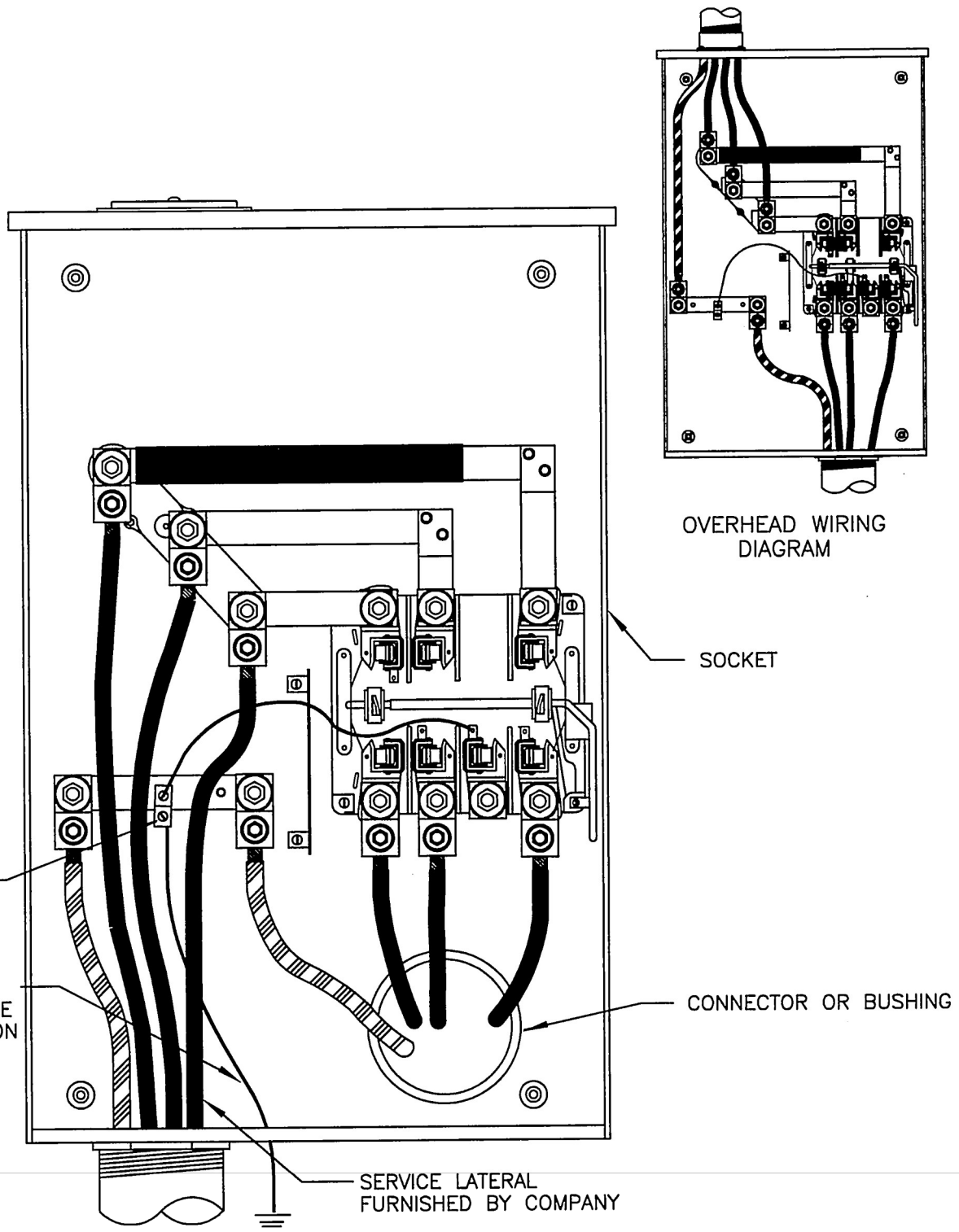


DISTRIBUTION SPECIFICATIONS

SUBJECT THREE PHASE 200 A, 120/240, 120/208 & 277/480 VOLT

DETAIL 4 WIRE SMALL COMMERCIAL SOCKET





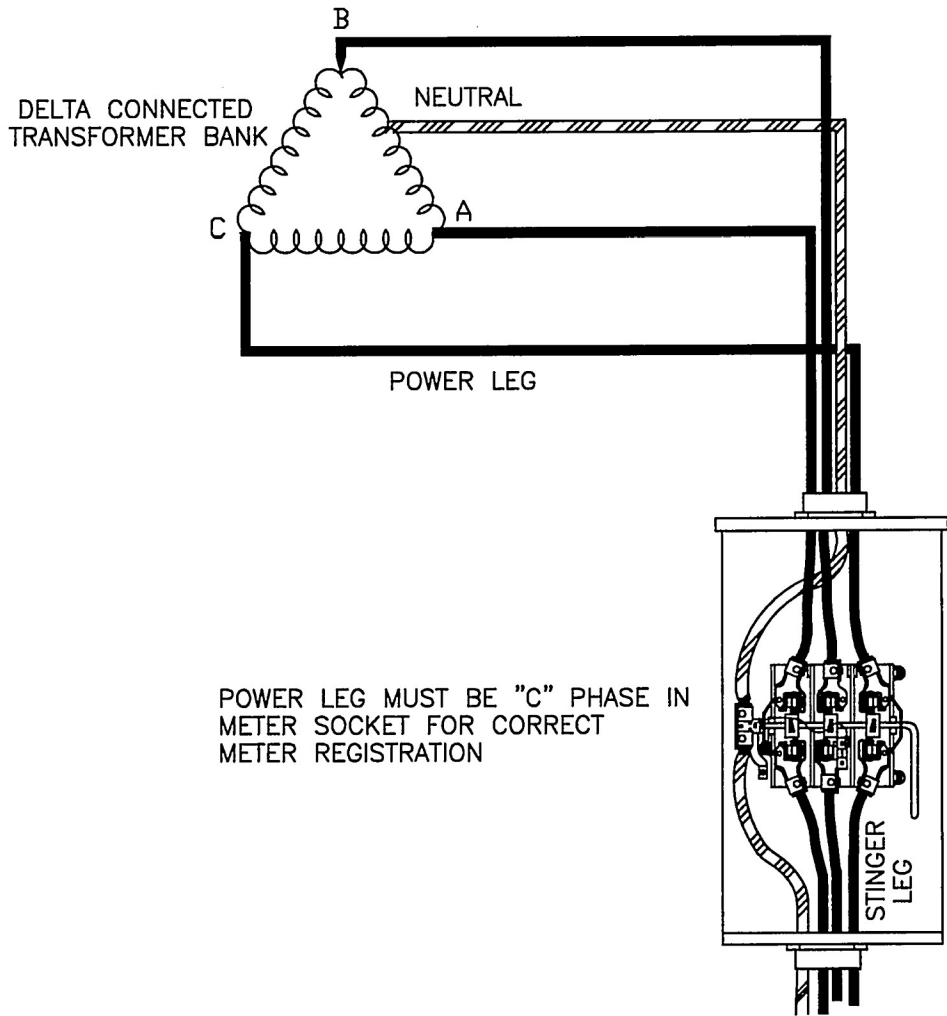
**\*\* NOTE:**  
 CONDUIT SHALL ENTER SOCKET THRU LEFT KNOCKOUT ONLY, NOT THRU CENTER OR RIGHT KNOCKOUT LOCATED ON BOTTOM OF METER SOCKET.



DISTRIBUTION SPECIFICATIONS

SUBJECT 120/240 VOLT 4 WIRE 320 AMP COMMERCIAL

DETAIL \_\_\_\_\_



POWER LEG MUST BE "C" PHASE IN METER SOCKET FOR CORRECT METER REGISTRATION

STINGER LEG MUST BE IN FAR RIGHT POSITION

CUSTOMER TO PROVIDE METER SOCKET



DISTRIBUTION SPECIFICATIONS

SUBJECT POWER LEG CONNECTION - 3 PHASE, 4 WIRE DELTA

DETAIL \_\_\_\_\_

**THREE-PHASE COMMERCIAL SERVICE  
ABOVE 400 AMPS:  
INSTRUMENT TRANSFORMERS INSTALLED IN  
PADMOUNT TRANSFORMER SERVING ONE CUSTOMER**

**A. GENERAL NOTES:**

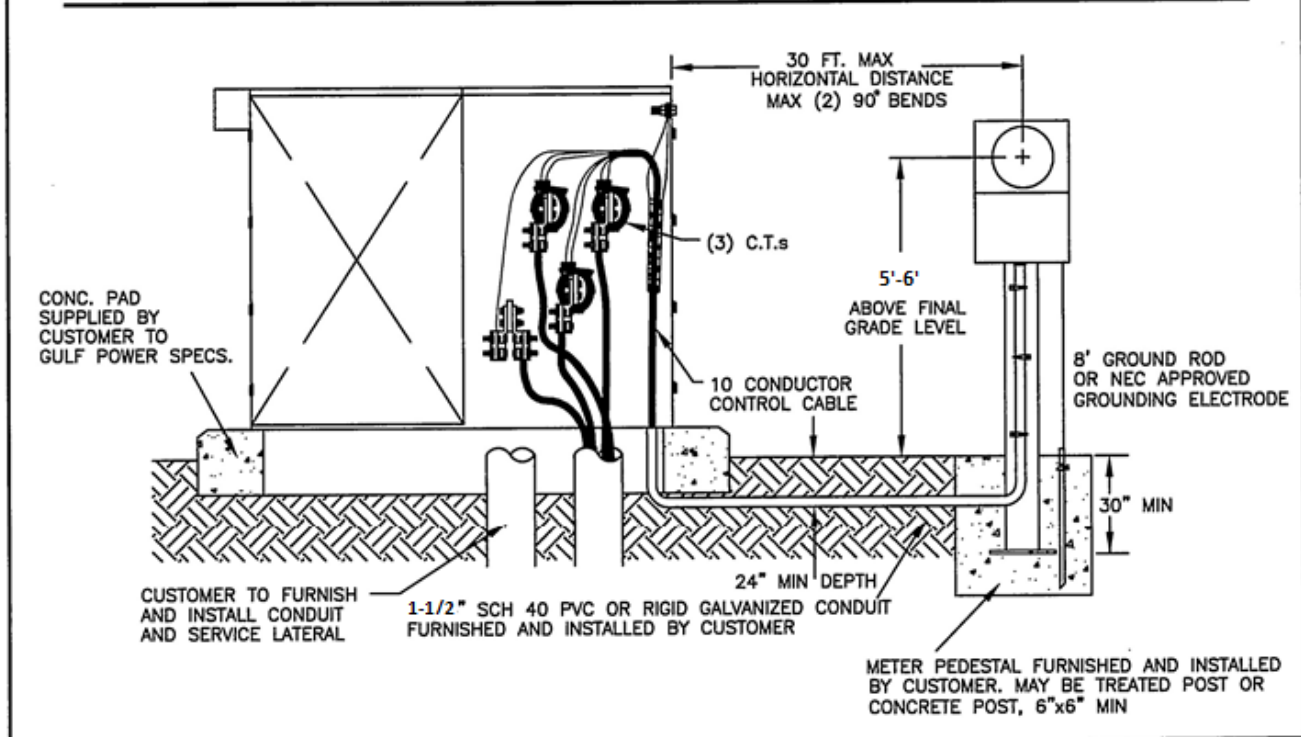
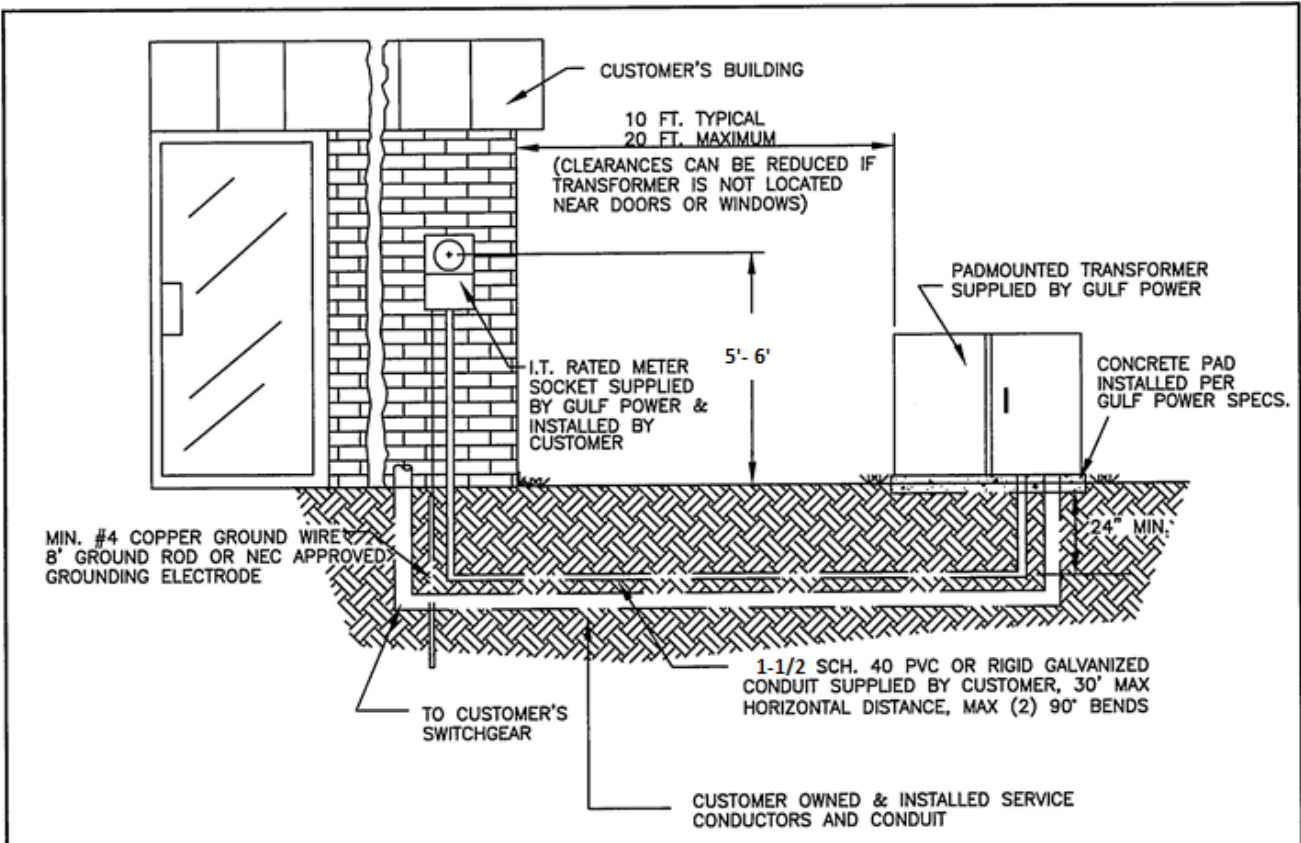
- Instrument-transformer-rated meter socket furnished by Company and installed by customer. See pages 17-18 for further detail.
- Meter socket shall be mounted on a pedestal or outside wall of building. Meter socket shall not be mounted on the padmount transformer.
- Customer shall install 1-1/2" rigid galvanized or schedule 40 PVC conduit from the meter socket to the secondary side of the padmount transformer. Conduit ends shall be equipped with a proper bushing to protect conductors.
- Current transformers on padmount transformer secondary bushings and meter control cable to be furnished and installed by Company.
- Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or area where meter is subject to damage shall require advance approval of a qualified employee.


**B. MOUNTING:**

- If using a pedestal, meter socket and conduit straps shall be fastened to the pedestal using bolts. Bolts shall be minimum #12 corrosion resistant. A minimum of four (4) fasteners shall be used to mount socket.
- For wall mounting, meter socket and conduit shall be surface mounted without brick or other exterior veneers encasing the equipment.
- For wall mounting, meter socket and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding) or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 x 1-1/2" corrosion resistant. A minimum of four (4) fasteners shall be used to mount socket.

**C. CONNECTIONS:**

- All meter wiring connections shall be made by Company only.



	DISTRIBUTION SPECIFICATIONS	
	SUBJECT	PADMOUNT TRANSFORMER INSTALLATION
	DETAIL	SERVICE ONE CUSTOMER
Date <u>04/02/09</u>	Plate <u>59</u>	File <u>GP0020X</u>

# TYPICAL THREE-PHASE PADMOUNT TRANSFORMER METERING INSTALLATION SERVING MULTIPLE CUSTOMERS FROM A COMMON SERVICE LATERAL

## **A. GENERAL NOTES:**

- Instrument-transformer-rated meter sockets, instrument transformer cabinets, and current transformers will be furnished by Company and installed by customer. See pages 17-18 for further detail.
- Customer shall install 1-1/2" rigid galvanized, intermediate metal, or schedule 40 PVC conduit from instrument-transformer meter sockets to instrument transformer enclosures. All conduit ends shall be reamed to protect the meter control cable. All conduit ends shall be equipped with a proper bushing to protect conductors. If the conduit is metal, the conduit ends shall be equipped with a bonding bushing. If the conduit is plastic, the customer shall install a minimum #6 copper bonding jumper between the meter socket and the instrument transformer enclosure.
- Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or area where meter is subject to damage shall require advance approval of a qualified employee.

## **B. MOUNTING:**

- Meter sockets, cabinets, trough and conduits shall be surface mounted.
- Meter socket, instrument transformer cabinet, and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding), or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 corrosion resistant. A minimum of four (4) fasteners shall be used to mount each socket or cabinet.
- If metering equipment is mounted on a backboard instead of a building, the backboard shall consist of at least 3/4" treated exterior-grade plywood supported on at least two 6" x 6" treated wood posts, buried at least 30 inches deep for underground service, and 48 inches deep for overhead service.

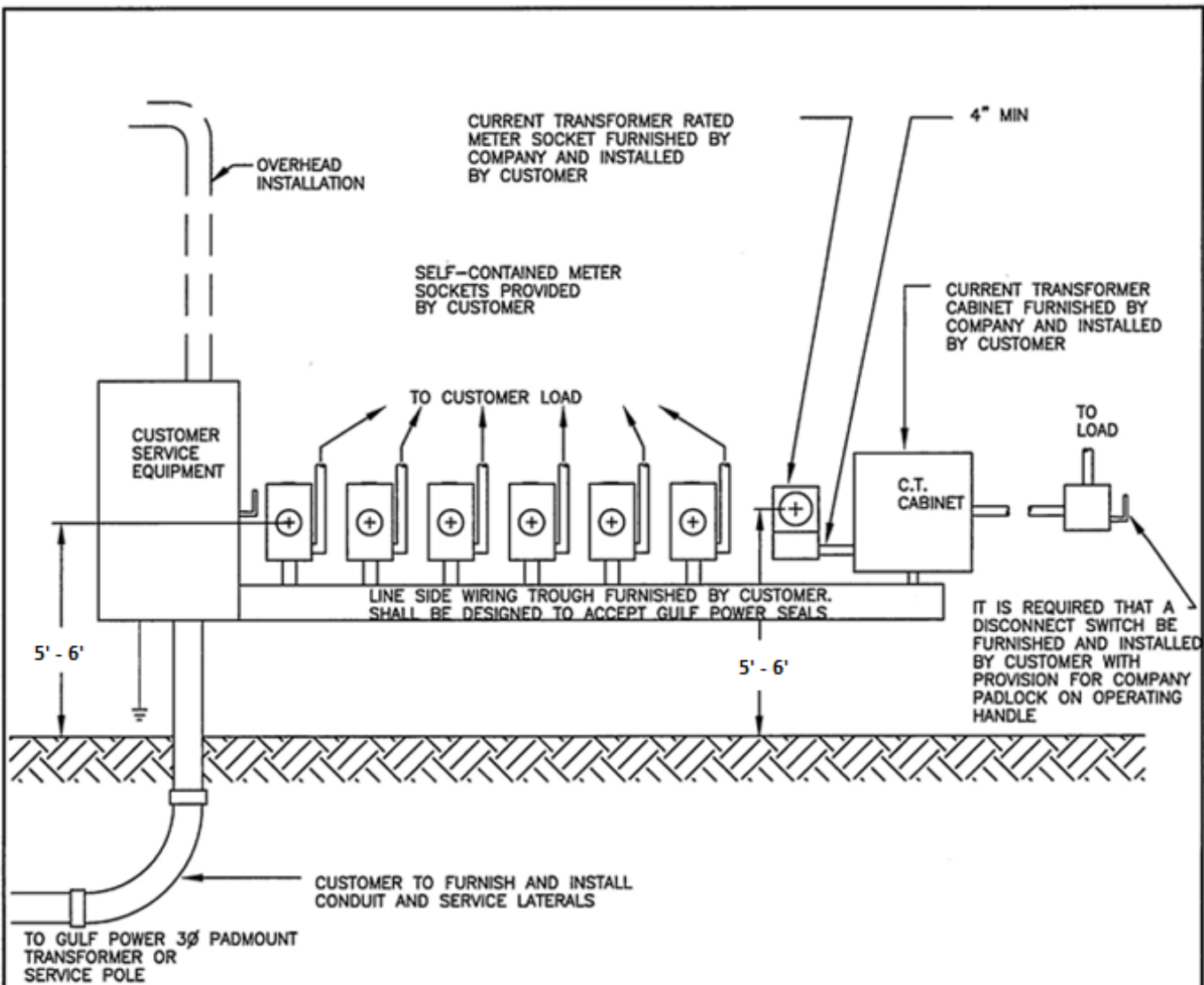
## **C. CONNECTIONS:**

- Customer shall apply a non-grit-type corrosion inhibitor to connections in self-contained meter sockets and torque to manufacturer's specifications located in the enclosure. **Do not over-torque!**
- All instrument-transformer metering connections will be made by Company.

## **D. MARKING:**

- Each socket position and the corresponding building unit served (suite, apartment or office) shall be accurately, clearly, and permanently labeled before meters are installed.
- Each meter socket position shall be labeled on both the inside and outside surfaces.

- Letters and/or numbers shall be minimum 1” in height of contrasting color.



NOTE:

1. METER SOCKET MOUNTED OUTDOORS EXCEPT WHERE SPECIAL PERMISSION OBTAINED FROM QUALIFIED EMPLOYEE OF COMPANY.
2. COMPANY TO MAKE ALL SERVICE LATERAL CONNECTIONS AT POLE OR PADMOUNT TRANSFORMER AND ALL METERING CONTROL CABLE CONNECTIONS IN METER SOCKET AND C.T. CABINET. CUSTOMER TO MAKE ALL CONNECTIONS IN WIRE TROUGH.
3. CONDUCTOR CARRYING METERED AND UNMETERED ENERGY SHALL NOT BE ALLOWED IN SAME WIRING TROUGH OR CONDUIT.



DISTRIBUTION SPECIFICATIONS

SUBJECT COMMERCIAL UNDERGROUND INSTALLATION  
 DETAIL SERVING MULTIPLE CUSTOMERS

# TYPICAL THREE-PHASE PADMOUNT TRANSFORMER METERING INSTALLATION SERVING MULTIPLE CUSTOMERS FROM A SINGLE PADMOUNT TRANSFORMER

## **A. GENERAL NOTES:**

- Instrument-transformer-rated meter sockets, instrument transformer cabinets, and current transformers furnished by Company and installed by customer. See pages 17-18 for further detail.
- Customer shall install 1-1/2" rigid galvanized, intermediate metal, or schedule 40 PVC conduit from instrument-transformer meter sockets to instrument transformer enclosures. All conduit ends shall be reamed to protect the meter control cable. All conduit ends shall be equipped with a proper bushing to protect conductors. If the conduit is metal, the conduit ends shall be equipped with a bonding bushing. If the conduit is plastic, the customer shall install a minimum #6 copper bonding jumper between the meter socket and the instrument transformer enclosure.
- Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are specified under Service Locations on page 8.
- Placement of meter socket in alley ways or area where meter is subject to damage shall require advance approval of a qualified employee.

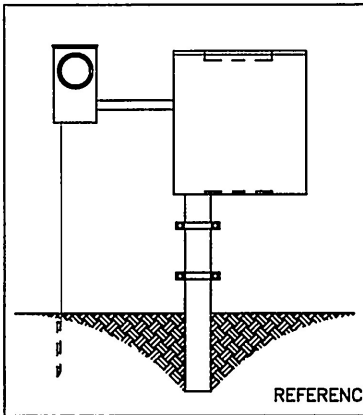
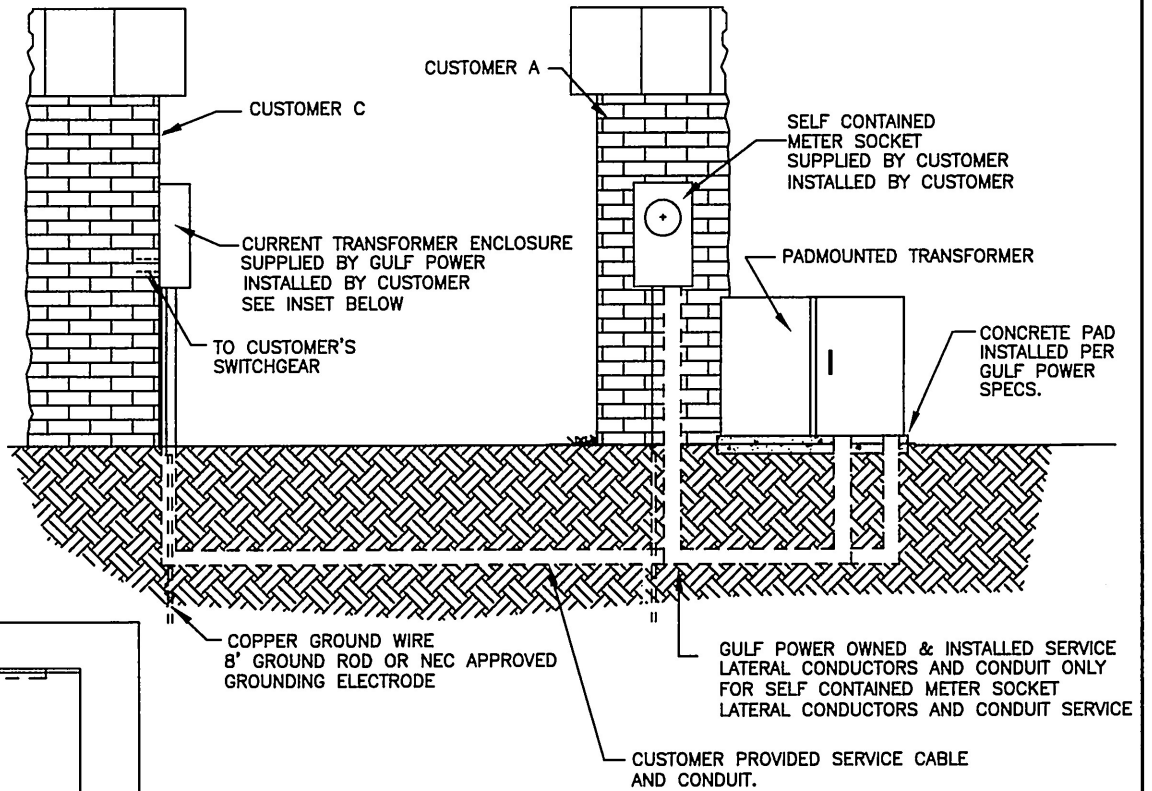
## **B. MOUNTING:**

- Meter sockets, cabinets, and conduits shall be surfaced mounted.
- Meter sockets, instrument transformer cabinets, and conduit straps shall be fastened to building using lead anchors (brick or solid masonry), toggle bolts (other masonry siding), or wood screws (studs, solid lumber). All screws and bolts shall be minimum #12 corrosion resistant. A minimum of four (4) fasteners shall be used to mount socket and cabinets.
- If metering equipment is mounted on a backboard instead of a building, the backboard shall consist of at least 3/4" treated exterior-grade plywood supported on at least two 6" x 6" treated wood posts, buried at least 30 inches deep for underground service, and 48 inches deep for overhead service.

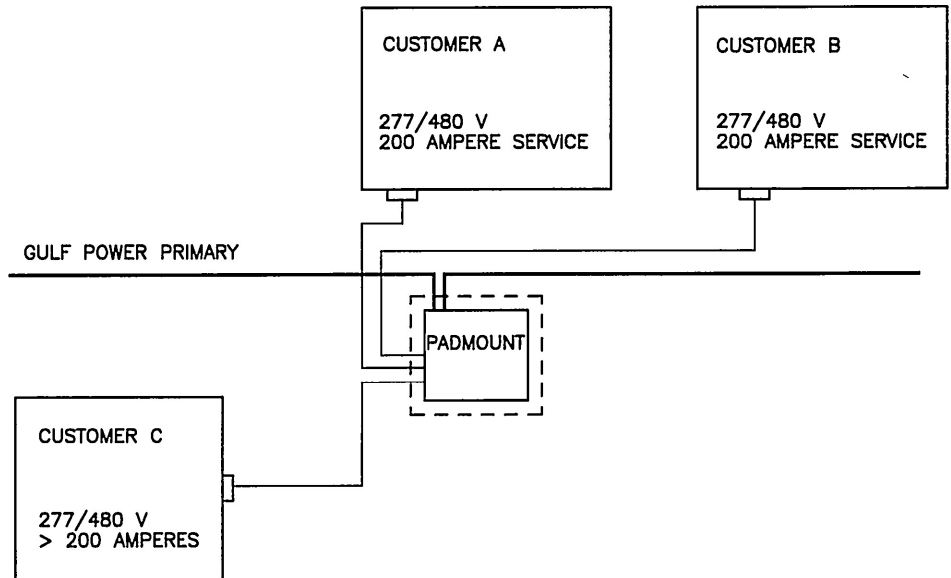
## **C. CONNECTIONS:**

- Customer shall apply a non-grit-type corrosion inhibitor to connections in self-contained meter sockets and terminate them by torquing to manufacturer's specifications located in the enclosure. **Do not over torque!**
- All instrument-transformer metering connections will be made by the Company.





REFERENCE DRAWING ON PAGE 53



DISTRIBUTION SPECIFICATIONS

SUBJECT COMMERCIAL 3 PHASE PADMOUNT

DETAIL SERVING MULTIPLE BUILDINGS (CUSTOMERS)