



WE'RE READY TO HELP!

When you are considering installing new service or revising your existing service, ComEd is ready to help. Call us or visit our website.

 **866-639-3532**

 **ComEd.com/NewBusiness**

Quick Reference for Other ComEd Needs:

Power Outages: 800-334-7661

Website: www.ComEd.com

Customer Service: 800-334-7661

TTY: 800-572-5789

CALL BEFORE YOU DIG

Critical utility services are buried near your home. Before you dig, call for free underground utility locating service at least 48 hours before you begin.

Striking a buried utility line not only can result in interrupted service to you and your neighbors, it also is likely to result in severe injuries or fatalities.

Chicago Residents: Call DIGGER 312-744-7000

Outside Chicago: Call JULIE 1-800-892-0123

THE RED BOOK 8th Edition

**A GUIDE TO INSTALLING
OR REVISING YOUR RESIDENTIAL
ELECTRIC SERVICE**

Commonwealth Edison Company
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Whether you are installing new service or revising your existing service, we look forward to helping you complete your project in a timely, professional and, most importantly, safe manner.

We have developed this book to help you work with your electrician and ComEd through each step of your project. We have outlined ComEd's minimum requirements; please check with your city or municipality for any additional requirements that may need to be met.

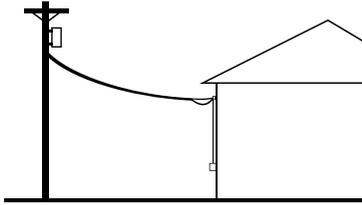
Safety is at the forefront of every project we undertake. So please take a moment to review these important safety tips before tackling any electrical project.

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BASIC SERVICE TYPES

OVERHEAD

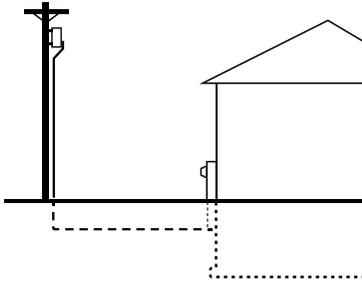
If your property is adjacent to ComEd overhead facilities, in most cases your service will be an overhead service wire installed between the pole and your service wire attachment.



OVERHEAD TO UNDERGROUND

If you desire direct buried cable because of obstructions or aesthetics, ComEd will provide such installation if practical. ComEd may elect to install a service pedestal near the base of the pole.

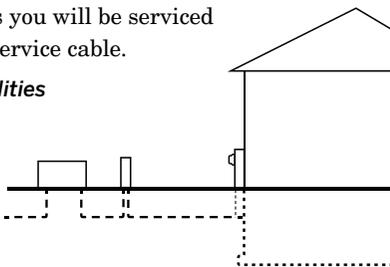
Note: Some municipalities require conduit.



UNDERGROUND

If your property is adjacent to a ComEd underground facility, in most cases you will be serviced by an underground service cable.

Note: Some municipalities require conduit.



Note:

Charges may apply to any of the above installations.

For specific service installation details, see the applicable section in this booklet.

For overhead service wire length limitations and considerations, see page 7.

For underground service considerations, see page 31.

INSTALLING OR REVISING ELECTRIC SERVICE

There are five simple steps you must take to have electric service installed for the first time or revised at your residence.

STEP 1: PLAN YOUR PROJECT

STEP 2: APPLY FOR SERVICE

STEP 3: COORDINATE WITH PROJECT LEAD

STEP 4: FINALIZE YOUR PROJECT

STEP 5: ELECTRIC SERVICE INSTALLATION

Before you begin, you should have a clear idea of what you want to accomplish. You also should look ahead and decide if you're likely to make future improvements that could affect the work you're about to do. If, for example, a room addition, deck, patio or pool is in your future, where is it likely to be and how will it co-exist with your current project? Even if your future intentions are only vague notions at this stage, you should talk about them with your electrician and ComEd; they can suggest alternatives that can avoid costly relocations or future problems with service restorations or even having to undo all the work you are about to undertake.

Note:

This booklet contains some of ComEd's policies, rules and requirements as of the date of this publication.

Because this booklet is not intended to be complete and guidelines are subject to change, ComEd should be contacted for the latest and most complete requirements as they pertain to your residence.

*All electrical work performed by the customer must follow the National Electrical Code (NEC). Detailed information for all types of service installations can be obtained on the Construction and Remodeling website at **ComEd.com/NewBusiness**.*

STEP 1: PLAN YOUR PROJECT

Work with your electrician or contractor to organize your project information before you contact ComEd.

Hiring a licensed, bonded electrician can ensure quality and safety in your project. They can be the go-to contact for you and ComEd, helping streamline the communications and expedite the process. The Better Business Bureau is one place to start your research for a qualified electrician.

STEP 2: APPLY FOR SERVICE

Complete a residential service application on ComEd.com to apply for your new or upgraded service. To submit the application, register online through the New Business Portal at ComEd.com/NewBusiness if you haven't already. Or, you can also call our dedicated customer care line at 866-NEW-ELEC (866-639-3532) to get started. When calling, please have the following information:

- Address where service is needed
- Your contact information
- Your SSN or Tax ID
- Your electrician's or contractor's contact information
- The type of work you are doing, such as installing a deck, a pool, an addition, or a new home
- City of Chicago permit number (if you live within the City of Chicago)

For more information on how to get started or how to navigate the New Business portal, view a short video tutorial at [ComEd.com/NBvideo](https://www.comed.com/NBvideo).

STEP 3: COORDINATE WITH PROJECT LEAD

You will be assigned a Project Lead who will determine how we can best meet your electric service needs and will contact you to learn more about your project. Be prepared to discuss:

- Project timeline
- The type of service request (overhead or underground)
- Your preferred meter location
- Voltage and amperage requirements

If needed, the assigned Project Lead will meet you at the project site to take measurements and evaluate equipment. They will create an agreement, a summary of any applicable charges, and diagrams depicting the service and will mail or email the documents to you.

STEP 4: FINALIZE YOUR PROJECT

Before ComEd can schedule your project, be sure to complete the following:

Obtain Permit and Final Inspection

Obtain the appropriate permits and complete any inspections required by your village, city, or municipality. Notify your ComEd Project Lead when the final inspection is complete.

Sign and Pay

Review, sign, and return all documents to your Project Lead, along with any required payment, to authorize work to begin.

Ensure ComEd has Access to Project Site

Provide access to the project site to allow ComEd to connect your electric service and install any necessary equipment. Review the Residential Electric Service Checklist (see page 6) to ensure your site is ready.

STEP 5: ELECTRIC SERVICE INSTALLATION

ComEd will schedule your service connection when your electrician's work is complete and project requirements are fulfilled. We'll contact you prior to construction to notify you when ComEd crews will be coming to your project site.

Please keep in mind unanticipated events such as severe weather or other emergencies may impact our work efforts.

RESIDENTIAL PROJECT CHECKLIST

Use this simple checklist to help you keep track of key steps of your project.

Your Role

Hire an electrician or contractor (Refer to the Better Business Bureau when selecting a qualified electrician)

Contact & coordinate with other utilities, such as cable TV, telephone and internet providers

Complete your ComEd Service Application

Sign & return agreement with payment to the ComEd Project Lead

Obtain permits & arrange inspections

Provide access to jobsite for ComEd

*Call to locate underground facilities prior to digging.
Within the Chicago city limits call 312-744-7000
Outside the Chicago city limits call 800-892-0123*

Restore landscaping

Complete customer satisfaction survey after ComEd completes work

ComEd's Role

Assigns a Project Lead for ongoing project communications

Prepares documents, including agreement(s) & an estimate of applicable charges

Notifies you prior to the start of construction

Completes agreed upon work

Contacts you to confirm completion



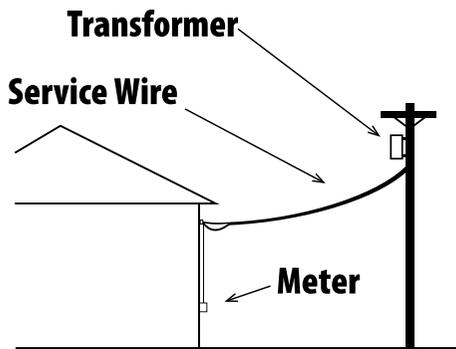
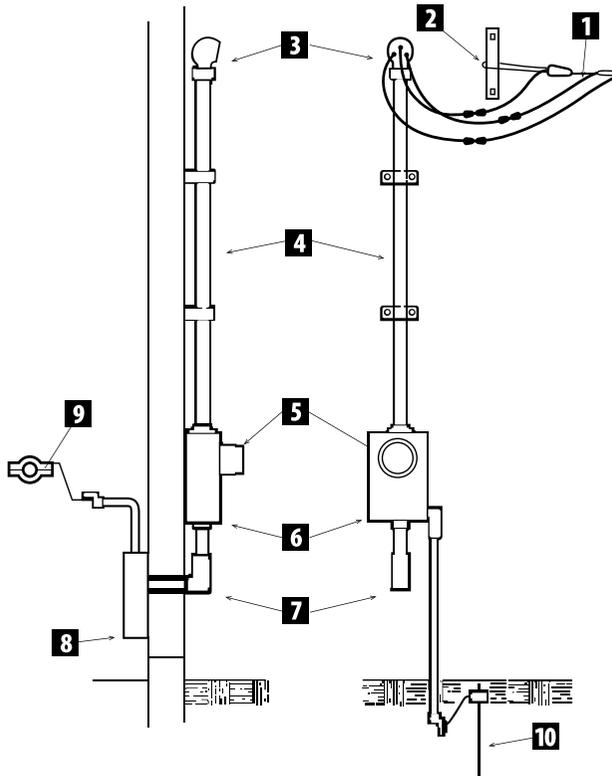
OVERHEAD SERVICE

ITEMS TO CONSIDER

The maximum length of the service wire from the ComEd pole to the point of attachment on your residence is 150 feet if practical.

Your service wire head or attachment must be no more than 25 feet above the ground and be positioned so that it may be reached safely from a ladder on solid ground.

See page 26 for clearances. If your plans don't meet the minimums, see pages 20–25 for ways to gain additional height.



GLOSSARY OF TERMS ELECTRIC SERVICE ENTRANCE EQUIPMENT

- 1 Overhead service wire** – the wire from the pole that attaches to the house
- 2 Service wire attachment** – a metal plate, bolt or insulator service wire holder, aka “house knob,” that supports the service wire to the building
- 3 Service head** – a weather-tight fitting attached to the end of the service run to prevent water from entering the pipe
- 4 Service run** – also referred to as service riser—the wires installed between the service head and the meter fitting
- 5 Meter** – a device that measures the amount of electricity used by a customer
- 6 Meter fitting** – a device that the meter plugs into
- 7 Service entrance** – the wires installed between the meter fitting connection device and the disconnecting means*
- 8 Disconnecting means** – the main breaker, fuse box or breaker panel inside your home*
- 9 Water pipe ground** – a safety connection to provide an electrical path to ground*
- 10 Driven ground** – a safety connection to provide an electrical path to earth*

Note:

For clearances, see pages 26–29.

For grounding reference, see page 49.

*Check local codes for requirements.

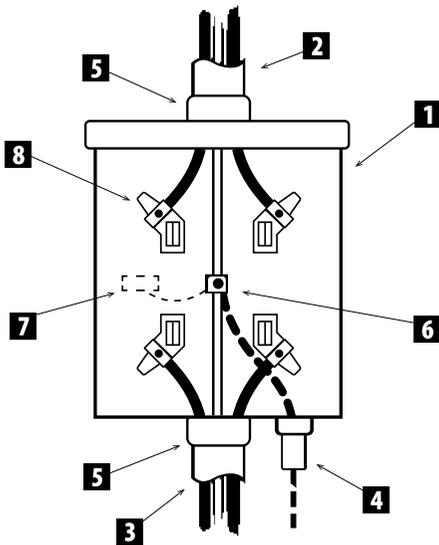
OVERHEAD METERING

Self-Contained Meter Fitting

Single Phase, Three-Wire 120/240 or 120/208 Volts

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

- 1 Meter fitting (200 amperes maximum)
- 2 Conduit and conductors of service run (line)
- 3 Conduit and conductors of service run (load)
- 4 Ground connection per local code
- 5 Insulated metallic bushing on line and load conduits
- 6 Neutral terminal
- 7 Fifth terminal with potential tap (#12 copper wire or equivalent) from neutral terminal (120/208 volt service only)
- 8 Horn-type bypass (provided so that service will not be interrupted when a meter is removed from the socket)



Note:

Only meter connection devices labeled by the manufacturer with the letters CECHA are approved for use in the ComEd service area.

OVERHEAD METERING

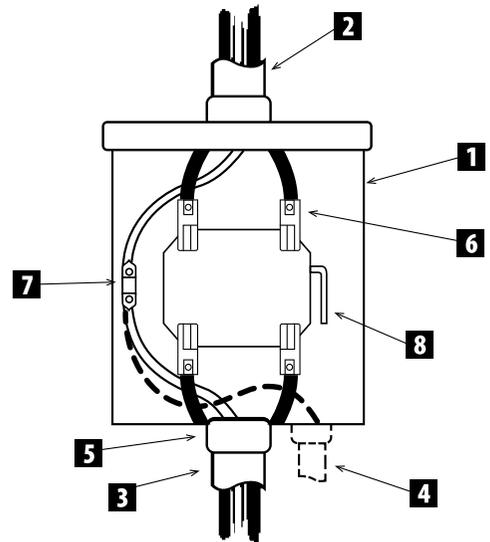
Self-Contained Outdoor Class 320

Single Position Meter Fitting

Single-Phase, Three-Wire 120/240 Volts

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

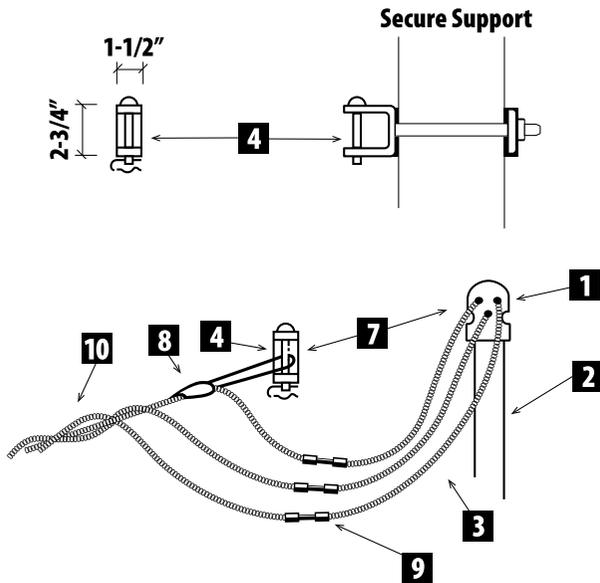
- 1 Meter connection device with lever-actuated bypass (320 amperes maximum)
- 2 Conduit and conductors (line)
- 3 Conduit and conductors (load)
- 4 Ground connection per local code
- 5 Insulated metallic bushing on line and load conduits
- 6 Compression lugs for line and load conductors
- 7 Neutral terminal
- 8 Bypass arm



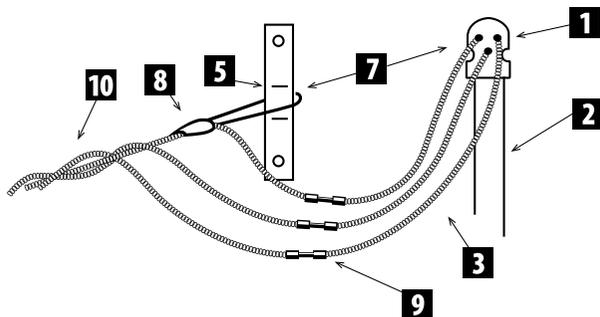
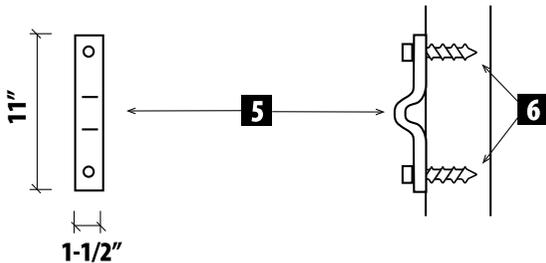
OVERHEAD SERVICE ATTACHMENT

Fork Bolt and I-Plate

Fork Bolt



I-Plate



OVERHEAD SERVICE ATTACHMENT

Fork Bolt and I-Plate

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

- 1 Service head
- 2 Service run conduit and conductors (load)
- 3 Service run wires (allow a minimum of 18 in. beyond the service head to make connections to service drop wires)
- 4 Service attachment (house knob approved for existing homes only)
- 5 I-plate
- 6 Securely install I-plate
- 7 A 4 in. to 18 in. clearance (in any direction) must be maintained between the service head and the center of the service attachment

COMED FURNISHES, INSTALLS AND MAINTAINS:

- 8 Service drop dead-end
- 9 Connectors for connecting customer wires to service drop

For an existing structure where it is impractical to install a fork bolt, ComEd will provide an I-plate to be installed by the customer.

- 10 Service wire

Note:

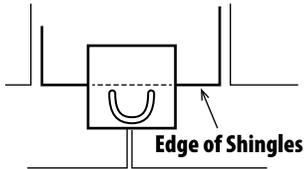
Under no circumstances shall a service attachment be added to a parapet or a chimney. The service head and attachment shall be located so that:

- a) *The exposed wires will adequately clear all building components, including downspouts, gutters, etc.*
- b) *The wires will be out of reach from windows, porches, or any other part of the building accessible to the occupants or the public.*

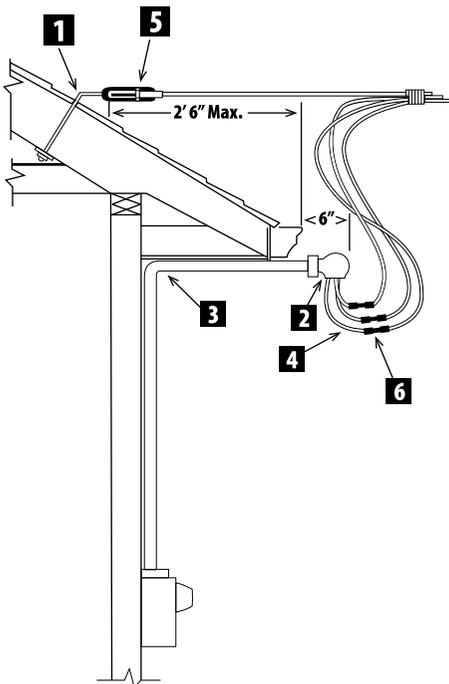
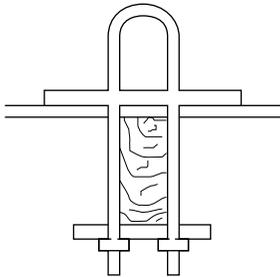
OVERHEAD SERVICE ATTACHMENT

Roof Plate

Top View



Front View



OVERHEAD SERVICE ATTACHMENT

Roof Plate

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

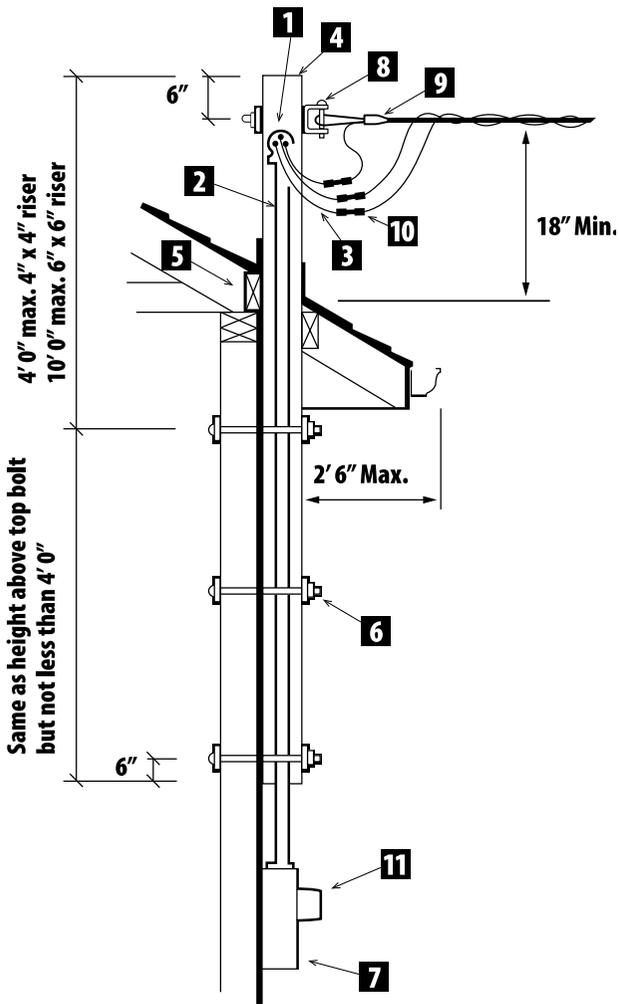
- 1** Roof plate
- 2** Service head
(If the service run extends through the roof, the service head shall be so located that it is 6 in. on either side of the service drop and extends 18 in. above the roof.)
- 3** Service run
- 4** Service run wires
(Allow a minimum of 18 in. beyond the service head to make connections to service drop wires.)

COMED FURNISHES, INSTALLS AND MAINTAINS:

- 5** Service drop dead-end
- 6** Connectors for connecting customer's wires to service drop

OVERHEAD SERVICE DETAILS

Wood Riser



OVERHEAD SERVICE DETAILS

Wood Riser

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

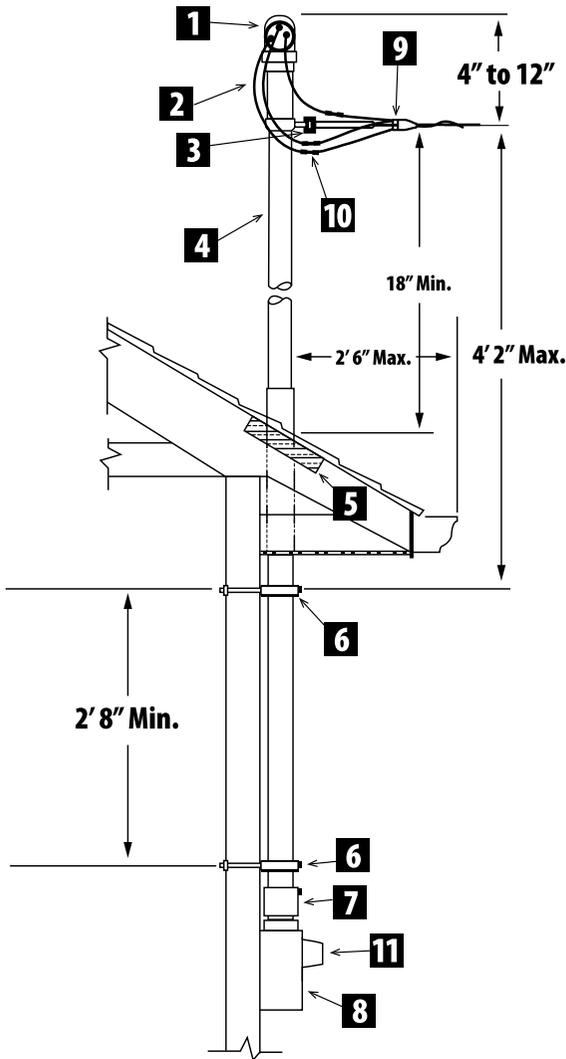
- 1** Service head
- 2** Service run
- 3** Service run wires
(allow a minimum of 18 in. beyond the service head to make all connections to service drop wires)
- 4** 4 in. x 4 in. or 6 in. x 6 in. preservative-treated wood post
- 5** 2 in. x 4 in. blocking solidly installed between rafters
- 6** 5/8 in. galvanized mounting bolts (with nuts and washers)
- 7** Meter fitting
- 8** Service attachment

COMED FURNISHES, INSTALLS AND MAINTAINS:

- 9** Service drop dead-end
- 10** Connectors for connecting customer's wires to service drop
- 11** Meter

OVERHEAD SERVICE DETAILS

Steel Conduit Riser



OVERHEAD SERVICE DETAILS

Steel Conduit Riser

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

- 1** Service head
- 2** Service run wires
(allow a minimum of 18 in. beyond the service head to make connections to service drop wires)
- 3** Service attachment
- 4** Rigid steel conduit
(2-1/2 in. for 100 ampere or smaller, or 3 in. for larger service entrance equipment)
- 5** 2 in. x 4 in. blocking, solidly installed between rafters
- 6** Mounting clamp with 1/2 in. bolts, nuts and washers
- 7** Steel conduit reducer
- 8** Meter fitting

COMED FURNISHES, INSTALLS AND MAINTAINS:

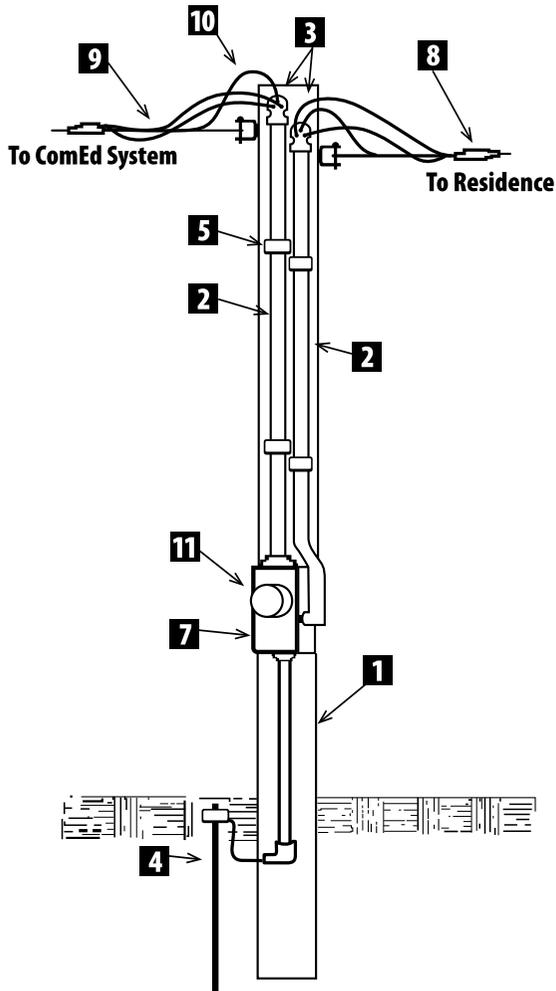
- 9** Service drop dead-end
- 10** Connectors for connecting customer's wires to service drop
- 11** Meter

Note:

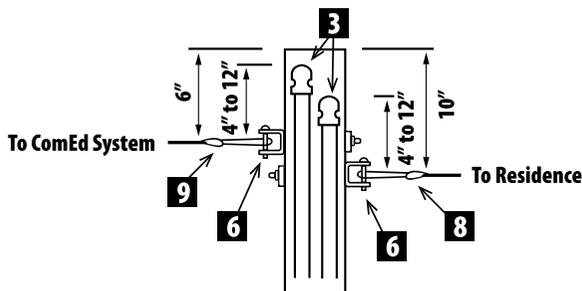
All metal parts exposed to weather shall be hot galvanized or non-ferrous.

OVERHEAD SERVICE DETAILS

Customer Service Pole and Outdoor Fitting



Pole Top Detail



OVERHEAD SERVICE DETAILS

Customer Service Pole

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

- 1** Treated pole
(minimum requirements: class #7, length 25 ft.).
Customer shall consult ComEd for minimum setting depth for the class and length of pole installed.
- 2** Service entrance cable or conductors in conduit.
Allow sufficient wire to make connection to service drop wire.
- 3** Service heads
- 4** Ground rod
- 5** Cable clamps. Maximum spacing 3 ft.
- 6** Fork bolt
- 7** CECHA-approved meter fitting
- 8** Service wire dead-end

COMED FURNISHES, INSTALLS AND MAINTAINS THE FOLLOWING EQUIPMENT ONLY IF A SERVICE DROP TERMINATES AT THE POLE:

- 9** Service drop dead-end
- 10** Connectors for connecting customer wire to service drop

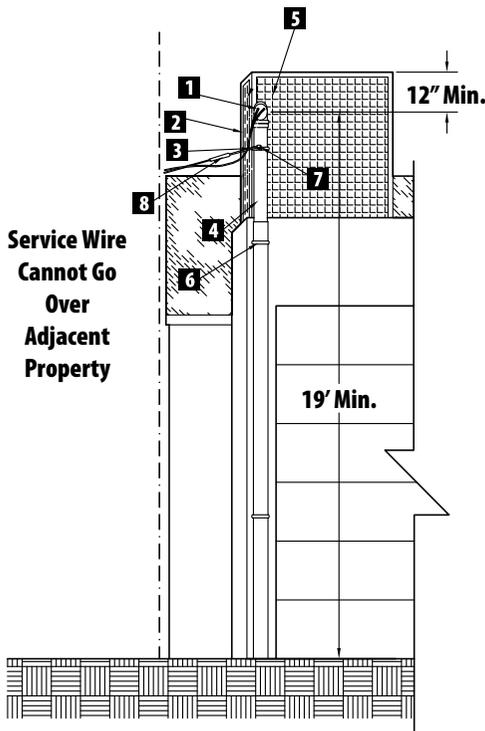
COMED FURNISHES, INSTALLS AND MAINTAINS:

- 11** Meter

OVERHEAD SERVICE DETAILS

New Garage with Rooftop Deck

Service Feed to Garage

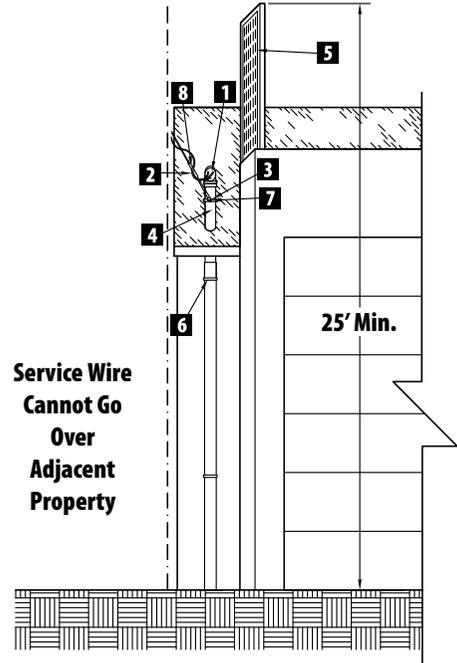


- 1** Service head
- 2** Service run wires
- 3** Service attachment
- 4** Rigid steel conduit (2-1/2 in. for 100 ampere or smaller, or 3 in. for larger service entrance equipment)
- 5** Lattice structure (5 ft. min. horizontal coverage from service head)
- 6** Mounting clamp with 1/2 in. bolts, nuts and washers
- 7** Connectors for connecting customer's wires to service drop
- 8** Service drop dead-end

OVERHEAD SERVICE DETAILS

Existing Garage with New Rooftop Deck

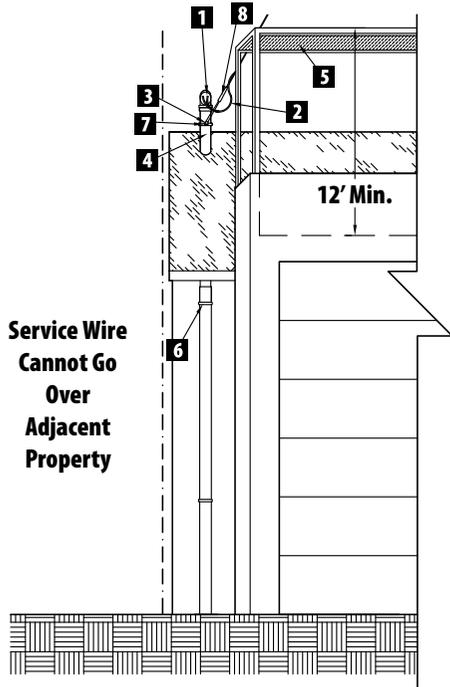
Service Feed Through Walkway



- 1** Service head
- 2** Service run wires
- 3** Service attachment
- 4** Rigid steel conduit (2-1/2 in. for 100 ampere or smaller, or 3 in. for larger service entrance equipment)
- 5** Lattice structure (1 ft. min. vertical coverage from service wire)
- 6** Mounting clamp with 1/2 in. bolts, nuts and washers
- 7** Connectors for connecting customer's wires to service drop
- 8** Service drop dead-end

OVERHEAD SERVICE DETAILS

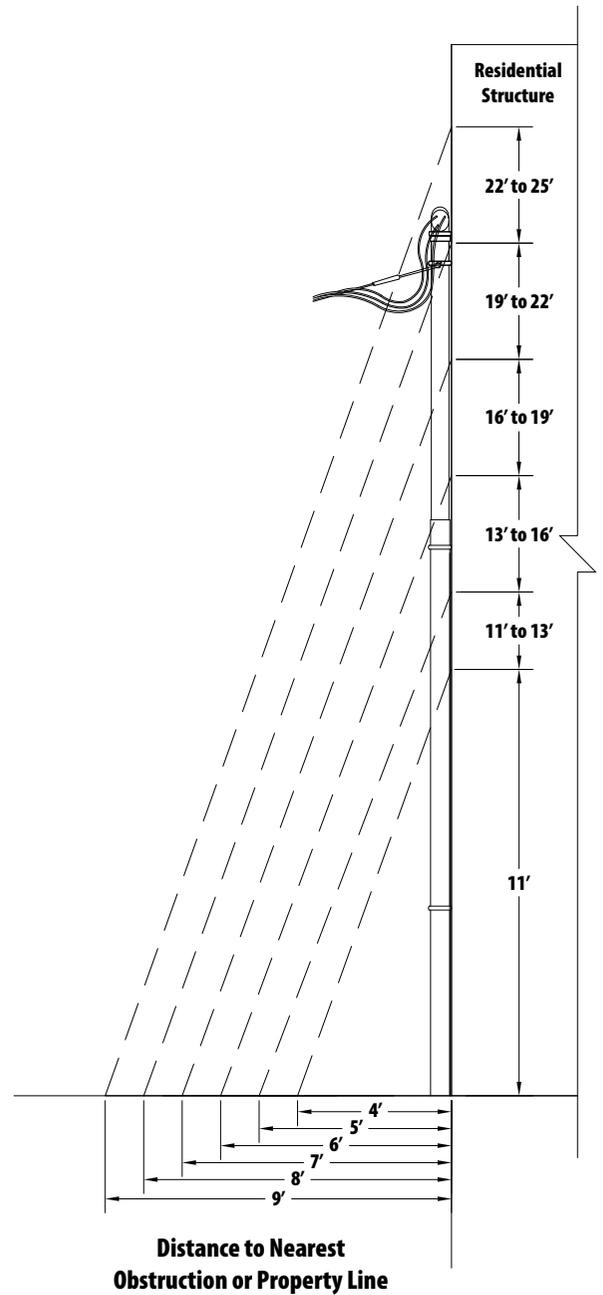
Existing Garage with New Rooftop Deck Service Feed Over Roof Deck



- 1** Service head
- 2** Service run wires
- 3** Service attachment
- 4** Rigid steel conduit (2-1/2 in. for 100 ampere or smaller, or 3 in. for larger service entrance equipment)
- 5** Lattice structure (1 ft. min. vertical coverage from service wire)
- 6** Mounting clamp with 1/2 in. bolts, nuts and washers
- 7** Connectors for connecting customer's wires to service drop
- 8** Service drop dead-end

OVERHEAD SERVICE DETAILS

Ladder Access Clearance Guide



Note:

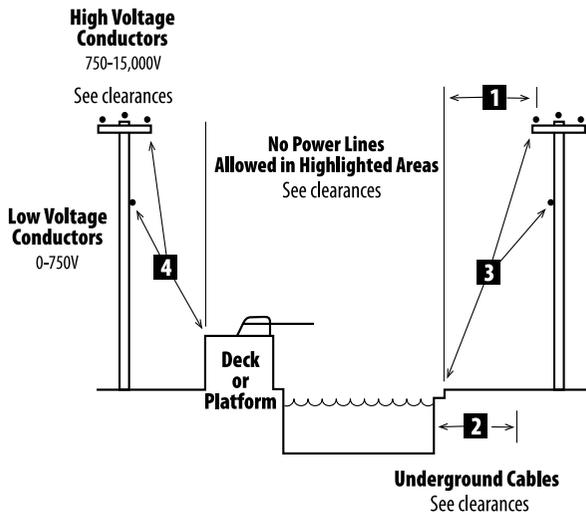
For non-vehicle-accessible area, minimum service wire clearance is 12 ft.

For vehicle-accessible area minimum service wire clearance is 18 ft.

SERVICE CLEARANCES

Minimum Clearances Near Swimming Pools

- 1** Horizontal limit of aerial clearance will not measure less than 10 ft. from the inside wall of the pool.
- 2** Underground service cable shall not be permitted under the pool or within 5 ft. of the inside wall of the pool. When space limitations prevent service cables from being routed 5 ft. or more from the pool, such cables must be installed 24 in. deep in 4 in. conduit at customer's expense.



Swimming Pool Clearances

	0-750 V	750-15,000 V
3 Clearance in any direction from the edge of the pool	22' 6"	25'
4 Clearance in any direction to a platform	14' 6"	17'

EXERCISE EXTREME CAUTION NEAR LIVE WIRES
Do not attempt to measure exact distances to live wires due to danger of electrocution.

METERING CLEARANCES

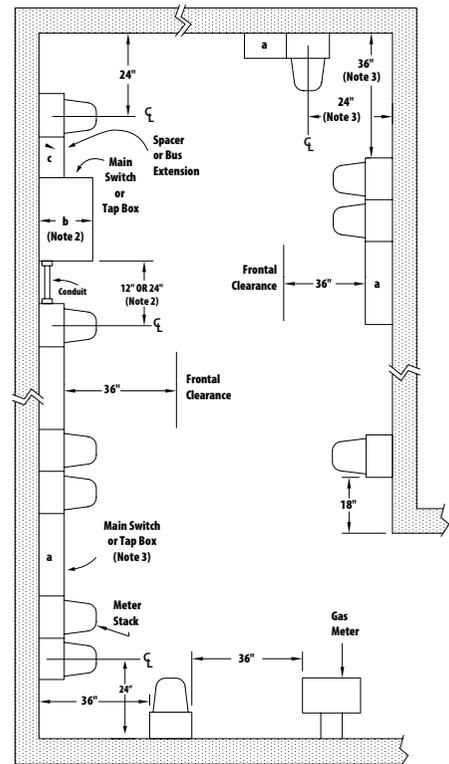
Clearances for Meter Connection Devices

(Note: For motor rooms contact ComEd.)

Meters are not to be installed over, under or adjacent to windows.

OUTDOOR HORIZONTAL CLEARANCES

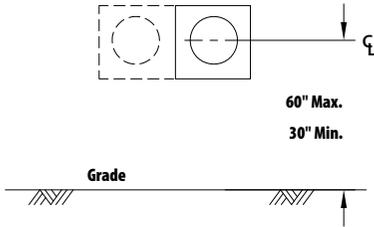
- a This dimension applies to the second meter fitting when two or more are mounted on adjacent corners.
- b Meters are not to be installed over a sidewalk, driveway or paved areas without protective barriers. Meters are not to be installed in locations susceptible to vehicle damage.



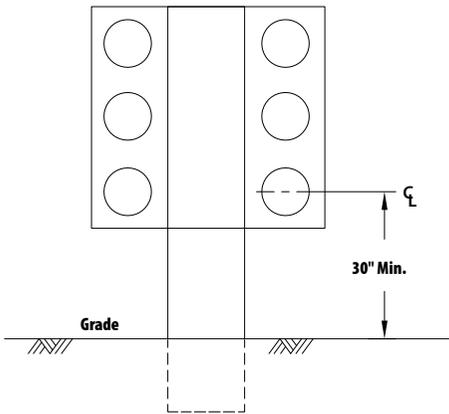
Notes:

- 1) All dimensions shown are minimum dimensions.
- 2) Separation will be required by spacer, conduit or bus ext. (c) when main switch or tap box (b) extends beyond adjacent meter stack as follows:
 - a) If depth of main switch or tap box is 15 in. or less, a side clearance of 12 in. to center line of adjacent meter stack is required.
 - b) If depth of main switch or tap box is greater than 15 in., a side clearance of 24 in. will be required.
- 3) These dimensions apply when meter stacks are mounted on adjacent corner walls.

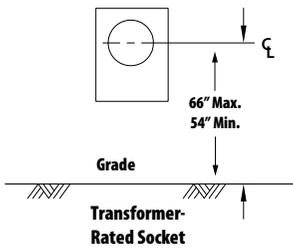
OUTDOOR HORIZONTAL CLEARANCES



Single Socket or Single Row of Horizontally Grouped Sockets (Indoor & Overhead Outdoor)

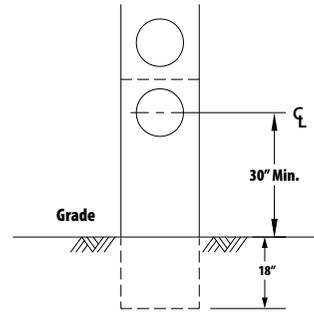


All-In-One Metering Panel With Underground Service Raceway

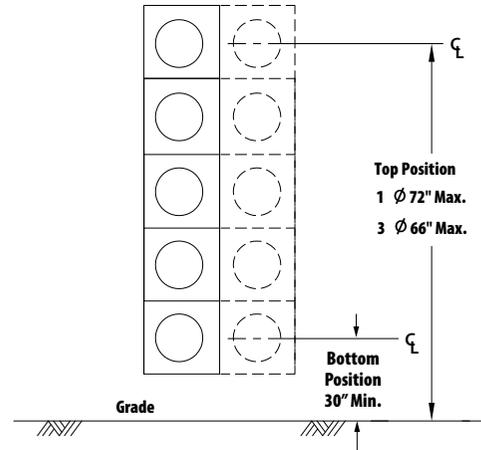


Transformer-Rated Socket

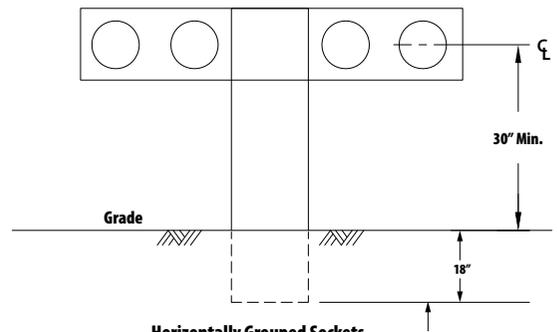
OUTDOOR HORIZONTAL CLEARANCES



Single or Double Position With Underground Service Raceway



Vertically Grounded Sockets (Indoor & Overhead Outdoor)



Horizontally Grouped Sockets With Underground Raceway

SERVICE CLEARANCES

Minimum Clearances for Overhead Service Cable (120, 120/208 or 120/240 Volts)

Location	Minimum Clearances
Over streets, alleys, parking lots, public driveways, or over commercial, industrial, and farm private property driveways	18 ft.
Over residential private property driveways	12 ft. 6 in.
Spaces accessible to pedestrians only	10 ft. 6 in.
Above or below balconies and roofs* accessible to pedestrians	11 ft.
Above or below roofs* not accessible to pedestrians	3 ft. 6 in.
Horizontal clearance from windows, porches, balconies, fire escapes, signs or any part of a building normally accessible to individuals (including access for maintenance)	5 ft.
Horizontal clearance from communication or signal wires at the building	1 ft.

Conductors are not permitted to pass over any swimming pools or tanks containing flammable materials.

Service wire attachment shall not exceed 25 ft. above the ground at final grade.

Note:

* A roof, balcony or area is considered accessible to pedestrians if the means of access is through a doorway, window, ramp, stairway or permanently-mounted ladder.

For higher voltages or variance from these clearances, contact your local ComEd representative.



UNDERGROUND SERVICE

ITEMS TO CONSIDER

If your trenching route has to be dug by hand, or if a cable must be installed under a paved surface, additional charges apply.

If your service cable has to be moved later to make room for a new swimming pool, patio, deck, etc., new charges apply. Plan ahead!

Underground cable will be buried only in a ComEd easement or in the property that it serves. The standard trench route to your meter location will generally attempt to follow the property line. Additional charges apply if your secondary service cable route is longer than 100 feet.

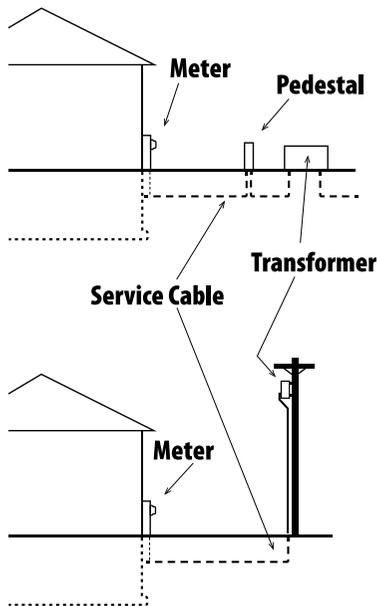
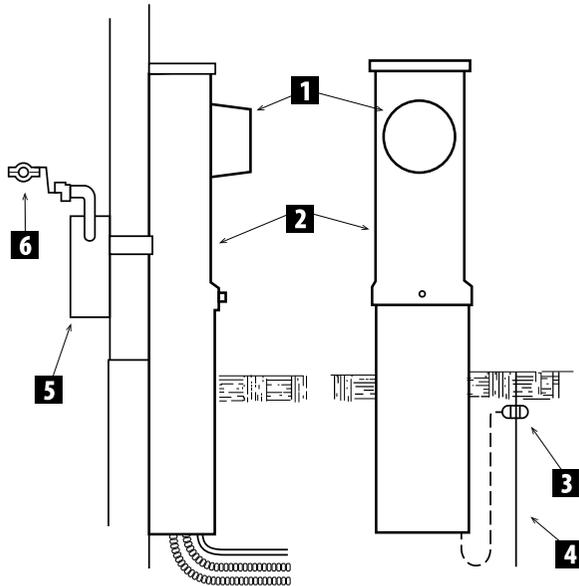
There will be charges from ComEd if you convert from overhead to underground service.

You are responsible for marking or exposing underground sprinkler systems, private wiring, sewers, drain tiles, etc.

The trench route must be within 4 inches of final grade and clear of all obstacles (sheds, swing sets, tree stumps, landscaping, fencing, etc.).

Generally, restoration of landscaping is the customer's responsibility.

ComEd may require conduit under roads/pavement. Your municipality may have additional conduit-location requirements.



- 1 Meter** – a device that measures the amount of electricity used by a customer
 - 2 Upper protective cover of the meter fitting**
 - 3 Grounding connection**
 - 4 Grounding electrode (ground rod)**
 - 5 Disconnecting means** – the main breaker, fuse box or breaker panel inside your home
 - 6 Water pipe grounding connection** – a safety connection to provide an electrical path to ground
- Conduit** – PVC pipe that service cable is installed in. Must be a minimum of 3 in. schedule 40 or per local code.

Note:

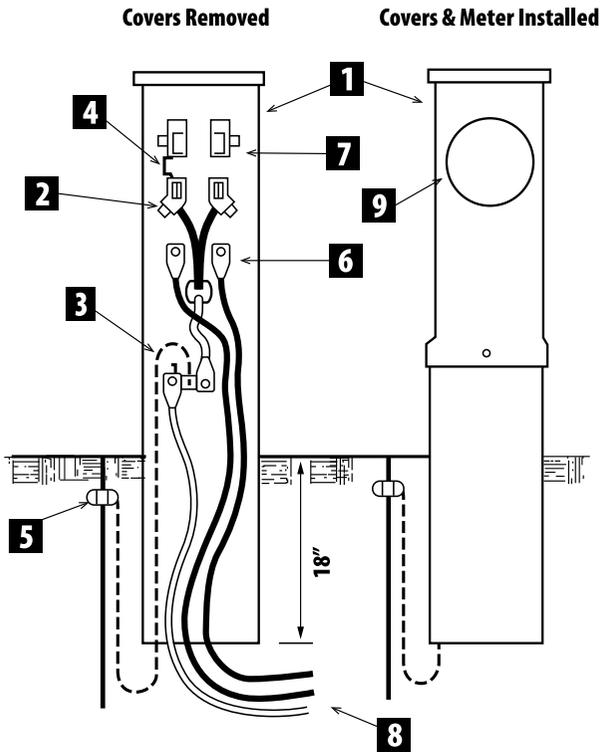
For important clearances that must be observed, see pages 26–30.

Check local codes for requirements, such as conduit requirements.

For grounding reference, see page 49.

UNDERGROUND METERING

Underground Meter Fitting and Raceway



UNDERGROUND METERING

Underground Meter Fitting and Raceway

Single-Phase, Three-Wire 120/240 or
120/208 Volts, 200 Amps Maximum Rating

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS*:

- 1** Single position combination meter fitting and raceway (200 amps maximum per meter position)
- 2** Meter socket load wire terminals
- 3** Neutral terminal
- 4** Fifth terminal with potential tap (#12 copper wire or equivalent) from neutral terminal (120/208 volt service only)
- 5** Ground connection per local code
- 6** Compression lug connectors for phase and neutral cables**
- 7** Horn-type bypass

COMED USUALLY FURNISHES, INSTALLS AND MAINTAINS:

- 8** Underground secondary service cables (slack in cables of at least 12 in. must be provided)

COMED FURNISHES, INSTALLS AND MAINTAINS:

- 9** Meter

Note:

*See pages 41, 44 and 45 for some exceptions.

Raceway also available with factory-installed main circuit breaker.

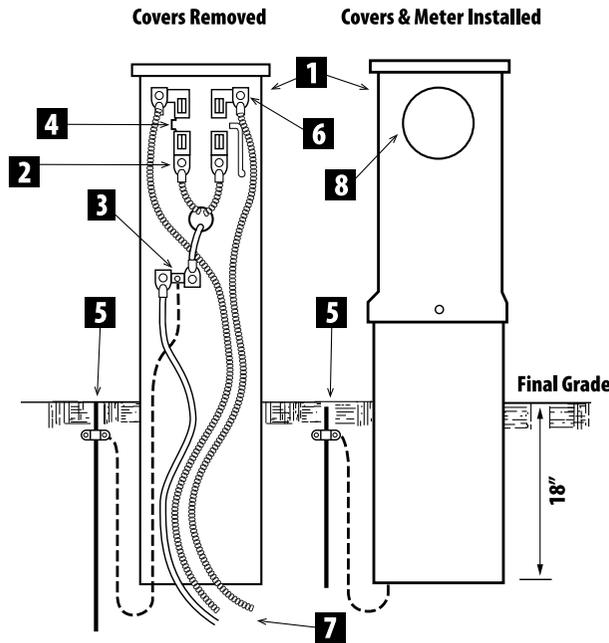
Meter fittings must be CECHA-approved.

**Customer to install lugs only when secondary service cables are provided by the customer.

For overhead-to-underground installations, ComEd will supply cable protection on pole at customer's expense.

UNDERGROUND METERING

Class 320 Meter Fitting and Raceway



UNDERGROUND METERING

Class 320 Meter Fitting and Raceway

Single-Phase, Three-Wire 120/240

400 Amps Maximum Rating

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS*:

- 1** Combination meter fitting and raceway with lever-actuated bypass
- 2** Compression lug connectors for load conductors
- 3** Neutral terminal
- 4** Fifth terminal with potential tap (#12 copper wire or equivalent) from neutral terminal (120/208 volt service only)
- 5** Ground connection, per local code
- 6** Compression lug connectors for phase and neutral cables**

COMED USUALLY FURNISHES, INSTALLS AND MAINTAINS:

- 7** Underground secondary service cables (slack in cables of at least 12 in. must be provided)

COMED FURNISHES, INSTALLS AND MAINTAINS:

- 8** Meter

Note:

*See pages 41, 44 and 45 for some exceptions.

Raceway also available with factory-installed main circuit breaker.

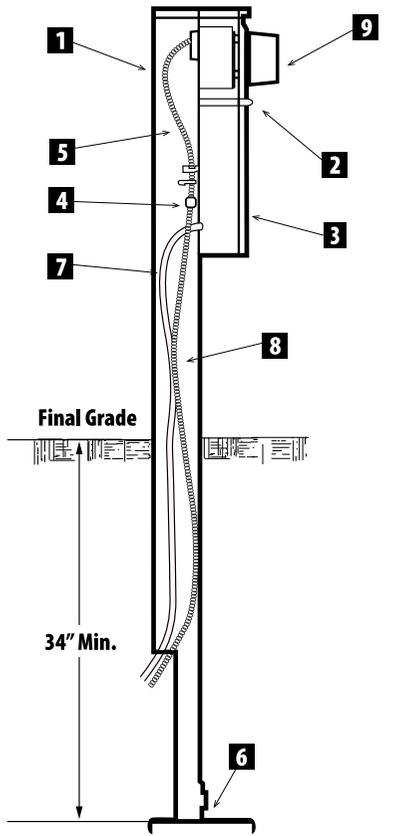
Meter fittings must be CECHA-approved.

**Customer to install lugs only when secondary service cables are provided by the customer.

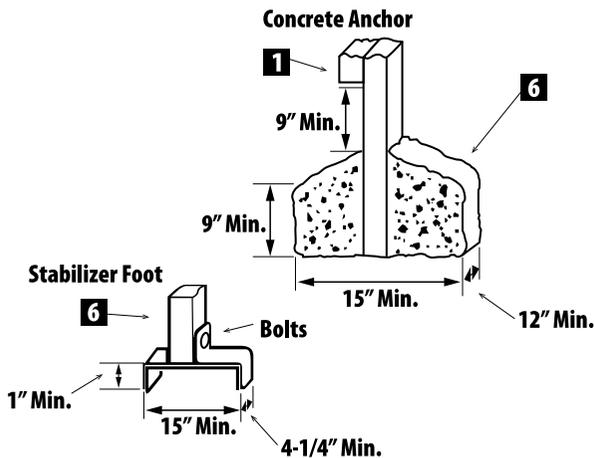
For overhead-to-underground installations, ComEd will supply cable protection on pole at customer's expense.

UNDERGROUND METERING

Meter Connection for Mobile Homes



Free-standing, remote from mobile home



UNDERGROUND METERING

Meter Connection for Mobile Homes

Single-Phase, Three-Wire 120/240 or
120/208 Volts, 200 Amps Maximum Rating

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

- 1** Combination meter fitting, raceway and pedestal (200 amperes maximum)
- 2** Meter connection device
- 3** Enclosure for disconnecting device and receptacles
- 4** Block for terminating secondary service cables
- 5** Conductors or bus extending from terminating block to meter socket line terminals
- 6** Stabilizer foot (#10 gauge metal) or 9 in. x 12 in. x 15 in. concrete anchor
- 7** Ground connection, per local code

COMED USUALLY FURNISHES, INSTALLS AND MAINTAINS:

- 8** Underground secondary service cables with compression lug connectors. Slack in cables of at least 12 in. must be provided.

COMED FURNISHES, INSTALLS AND MAINTAINS:

- 9** Meter

Note:

Raceway also available with factory-installed main circuit breaker.

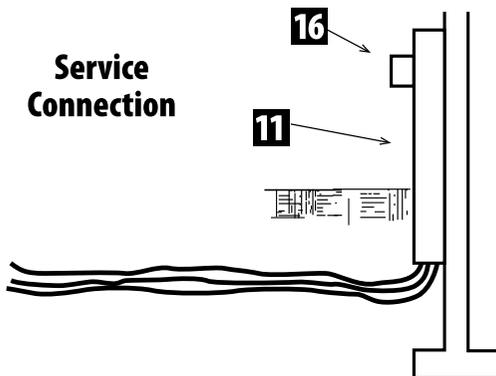
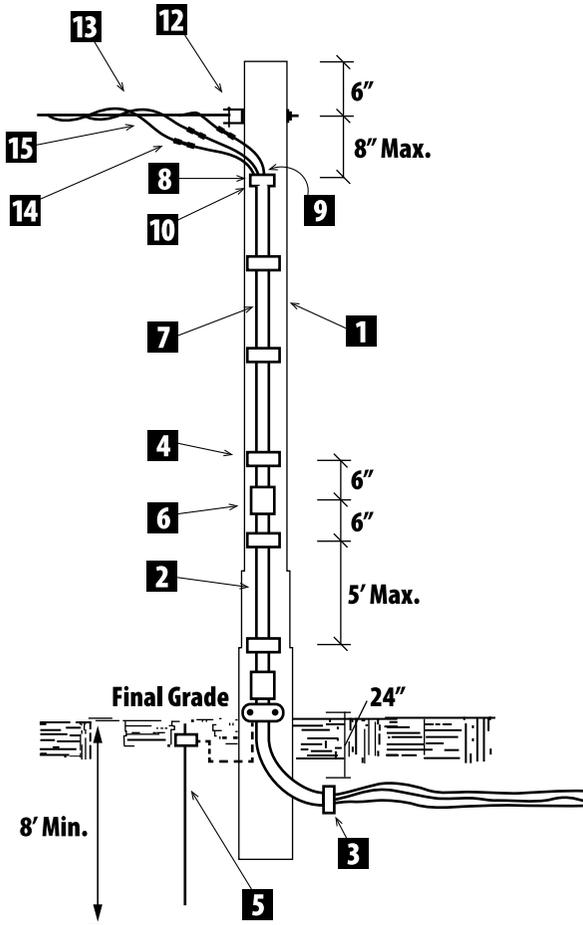
Meter fittings must be CECHA-approved.

For overhead-to-underground installations, ComEd will supply cable protection on pole at customer's expense.

Fifth terminal with potential tap (#12 copper wire or equivalent) from neutral terminal (120/208 volt service only).

UNDERGROUND SERVICE

Customer's Cable Pole



UNDERGROUND SERVICE

Customer's Cable Pole

CUSTOMER'S CABLE POLE WITH UNDERGROUND SECONDARY SERVICE CONNECTION

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

- 1** Treated pole (Minimum requirements: Class #7, length 25 ft.). Customer shall consult ComEd for minimum setting depth for the class and length of pole installed.
- 2** Galvanized rigid metal conduit
- 3** Conduit bushing
(if buried portion of cable is not in duct)
- 4** Galvanized conduit straps and/or lag screws as required

INSTALLATION OF CUSTOMER'S CABLE POLE AND UNDERGROUND SECONDARY SERVICE CONNECTION

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

- 5** Ground rod, conductor and clamps for grounding metallic conduit on pole
- 6** Outdoor adapter coupling for metallic to non-metallic conduit. (Conduit bushing to be installed if "U" guard is used above first 10 ft. section.)
- 7** Non-metallic rigid conduit or "U" guard
- 8** Cable support
- 9** Cable in conduit. Cable to extend beyond conduit with enough extra to make connections on pole.

10 Sealing compound

11 Meter fitting

12 Fork bolt

COMED FURNISHES, INSTALLS AND MAINTAINS:

13 Service drop dead-end

14 Connectors for connecting customer cable

15 Service drop cable

16 Meter



TEMPORARY SERVICE

ITEMS TO CONSIDER

Notify ComEd as soon as possible to allow ample lead time to meet your requirements.

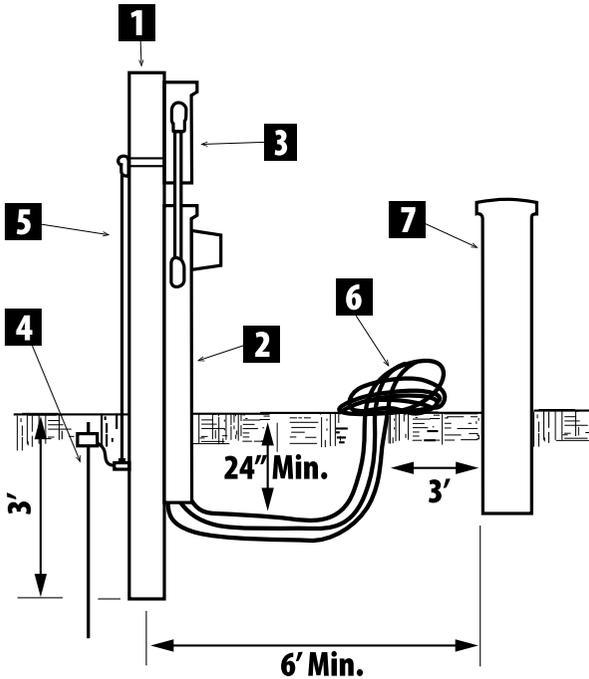
Charges will apply. Your ComEd representative will provide actual costs based on your requirements.

REQUIRED INFORMATION

- Address where service is needed
- Your contact information
- Your SSN or Tax ID
- Your electrician's or contractor's contact information
- The type of work you are doing, such as installing a deck, a pool, an addition, or a new home
- City of Chicago permit number (if you live within the City of Chicago)
- Date service is needed
- Estimated duration of temporary service

TEMPORARY SERVICE

Underground Service & Outdoor Meter Fitting



CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

- 1** Service support, treated timber (4 in. x 4 in. x 8 ft. minimum) to be set a minimum of 3 ft. in the ground on private property.
- 2** CECHA-approved meter fitting
- 3** Lockable, weather-tight service disconnect for disconnecting means and distribution facilities
- 4** Ground rod, conductor and associated conduit and clamps per local code
- 5** Conduit, service conductors, insulated bushings and conduit clamps per local code

TEMPORARY SERVICE

Underground Service & Outdoor Meter Fitting

6 Service cable

Sized to conform to local code requirements.

Customer will direct bury cable as shown but not closer than 3 ft. from ComEd's transformer pad or pedestal.

Any trenching by customers in easement shall be done as directed by ComEd.

Before digging call at least 48 hours in advance for cable-locating.

Seal cable ends from moisture.

Mark cable end to identify neutral conductor.

Customer to provide an additional 10 ft. of cable for ComEd to make connections inside the transformer or pedestal.

COMED FURNISHES, INSTALLS AND MAINTAINS:

- 7** ComEd service pedestal or transformer located in easement. ComEd will provide connectors for and connect customer's cables within the ComEd closure.

Customer shall not move or tamper with temporary service facilities as long as service is energized.

Customer is responsible to lock the service disconnect equipment to protect persons from electrical contact.

Note:

All work performed and equipment provided by ComEd will be at the customer's expense.

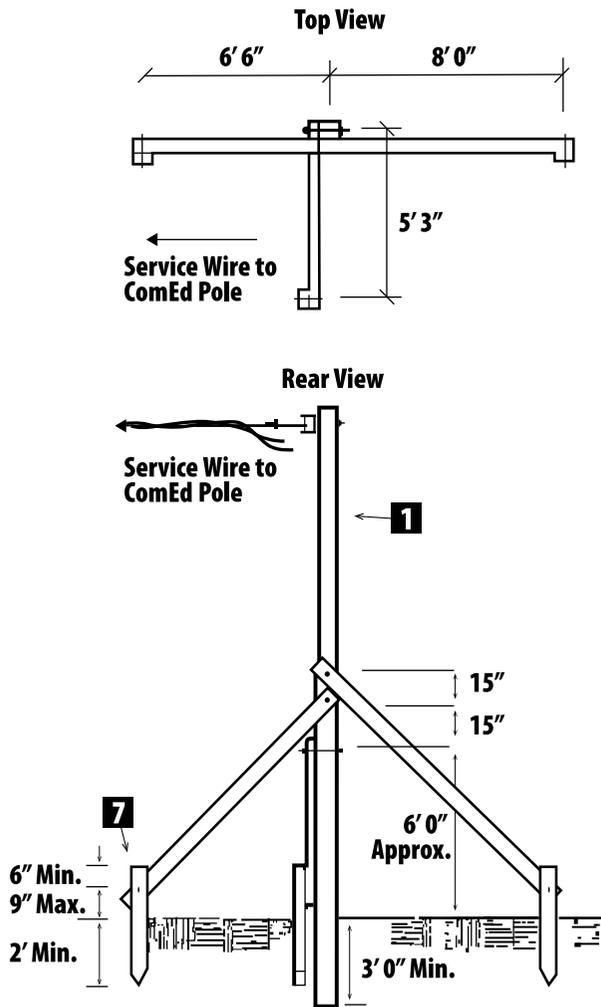
ComEd may require conduit under roads/pavement. Your municipality may have additional conduit-location requirements.

Service trench must be backfilled with clean material.

Customer shall notify ComEd promptly when service is no longer required.

TEMPORARY SERVICE

Temporary Service Pole Bracing



Note:

Braced, 6 in. x 6 in. timber is not approved for locations at which people congregate, such as picnic or carnival grounds.

For a detailed view of the temporary service pole, see page 46.



GROUNDING

ITEMS TO CONSIDER

Grounding is one of the most important, but least understood, aspects of a home electric system. It is a safety system that helps protect you and your family from dangerous shocks and devastating fires. Make certain that your electrician is careful to follow all grounding provisions of the electrical code that apply to your home.

The National Electrical Code is the minimum standard by which grounding systems are judged. Local ordinances often are more strict and must be satisfied before service will be connected by ComEd.

GROUNDING

All metallic components and conductors of the service entrance equipment must be permanently grounded so that if a metallic component should come in contact with any wire, no dangerous current will pass through a person who may touch it.

Check the local codes for your area regarding details of how the ground connection should exist. ComEd adopted the minimum acceptable standard as outlined in the National Electrical Code. The more stringent of the two governing bodies will apply when determining if the ground connection is acceptable.

The minimum standards as described by the National Electrical Code are as follows:

The other end of the ground wire should, whenever possible, be connected to a continuous underground water piping system such as a municipal water system. Your electrician should measure the effectiveness of your water piping system as a ground by testing its resistance to electric current. The resistance will usually measure less than 0.1 ohms, thereby ensuring effectiveness. If your water piping system cannot effectively be used as a ground, the utilization of a ground electrode (ground rod) will be necessary.

GROUNDING

The proper installation of a grounding system to an underground water piping system is as follows:

- The ground wire will originate from the grounding screw in the cabinet of the first disconnect or fuse.
- The metallic protection of the ground wire must be connected to the cabinet that it originates from.
- The ground wire size must conform to the National Electrical Code standards.
- The ground wire will be identified by using green insulation.
- The other end of the ground wire will attach to a cold water pipe.
- An approved ground clamp shall be used to attach the wire to the pipe.
- A metal tag shall be installed to the ground clamp with the words “Do not disconnect—Caution” stamped into it.
- If a water meter is present in your residence, it is required to install a wire equal in size to the ground wire as a bypass around the meter. This bypass wire will be secured to the pipes connected to each side of the water meter. An approved ground clamp must be used to attach the wire to the pipe.

GROUNDING

The proper installation of a grounding system when utilizing a ground electrode (ground rod) is as follows:

- The ground wire will originate from the grounding screw located in the cabinet of the first disconnect or fuse.
- The metallic protection of the ground wire must be connected to the cabinet that it originated from.
- If the metallic protection of the ground wire is connected to the meter fitting, the grounding wire shall be connected to the ground stud in that cabinet.
- The ground wire size must conform to the National Electrical Code standards.
- The ground wire will be identified by using green insulation.
- The ground electrode shall be made of one of the following materials:
 - a) A galvanized pipe made of iron or steel not smaller than 3/4 in. trade size.
 - b) A galvanized rod made of iron or steel not smaller than 5/8 in. diameter.
 - c) A copper or stainless steel rod not less than 1/2 in. diameter.
- Aluminum electrodes shall not be permitted.
- The electrode must be installed to a depth not less than 8 ft.
- The upper end of the electrode shall be flush with final grade unless the above-ground end and the grounding electrode conductor attachment are protected against physical damage.
- The electrode must test to have a resistance to ground of 25 ohms or less to be effective.
- The electrode must not be inside or in front of the meter fitting.

SERVICE PROJECT WORKSHEET

This page is provided to help you organize your information before you call for service.

CUSTOMER INFORMATION

Customer Name

For new customers, Social Security Number or Tax ID

ComEd account number

Daytime telephone

Home telephone

Electrician/contractor's name

Telephone

Name of inspector/contact at local governing body

Telephone

Electrical permit #:

SERVICE INFORMATION

ADDRESS WHERE SERVICE IS TO BE PROVIDED

Street

City

New Service

Revise Existing Service (Relocate)

Upgrade Existing Service

TYPE OF SERVICE

Overhead

Underground

Overhead to Underground

VOLTAGE

120/240

120/208

AMPERAGE

100

200

320

Other

Size of customer cable

Preferred meter location

Date electrician will complete work

Date you want ComEd to complete service installation

POSSIBLE FUTURE IMPROVEMENTS TO BE CONSIDERED:

Shed

Garage

Deck

Patio

Pool

Room Addition

Fence

Other

Notify your local phone, cable TV and other utilities if your project will involve their facilities.

SERVICE PROJECT WORKSHEET

NOTES

This page is provided to help you organize your information before you call for service.

CUSTOMER INFORMATION

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Electrician/contractor's name

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Shed

Garage

Deck

Patio

Pool

Room Addition

Fence

Other

Notify your local phone, cable TV and other utilities if your project will involve their facilities.

When the lights go out on a stormy night, how long are you willing to wait?

Imagine yourself walking alone in a storm, searching in the dark through strange backyards for a camouflaged 3 ft. x 3 ft. steel box. Perhaps it is hidden by a fence, under a bush or behind a garden. All you know for sure is that it's near the property line. Your family and neighbors are waiting for you to find it, unlock it, open it and use a 8-foot long pole to actuate a 12,000-volt switch and turn everyone's lights back on.

Power lines, underground cables, poles and ground-level equipment need space. To maintain and operate our equipment, and to avoid damage to your property, we need your cooperation in where you place flower beds, gardens, bushes and fences.

Help us keep your power on and trouble-free. Leave 10 feet open in front of ground-level transformers (the side with numbers) and allow access to poles and underground cables so our repair crews can find and repair electrical equipment without damaging your property.