TRICO
AN ENERGY COOPERATIVE

ELECTRIC SERVICE REQUIREMENTS BOOK

2020-7

TRICO
AN ENERGY COOPERATIVE

Comment and Electrical Service Requirements Book Change Form

This form may be utilized to communicate any recommended changes or any comments regarding the information contained within this book or how the information is organized. Please complete the form in sufficient detail to communicate clearly any proposed changes and please be sure to include the name, address, and telephone number of a person to contact should additional information be required. Include additional documentation if necessary.

Date: _____

Requester Name: _____ Telephone Number: _____

Business Name: _____ E-mail address: _____

Address: _____

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Comments: _____

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Please Mail to:
Trico Electric Cooperative, Inc.
Attn: Standards Committee – Justin Banales
P. O. Box 930
Marana, AZ 85653-0930

Trico Use Only

Date received: _____ ESRB Updated

Reviewed by: _____ Yes ☐ _____

Date forwarded to Standards Committee: _____ No ☐

Reviewed by: _____

Comments: _____

_____

_____

Action: ☐ Approved ☐ Under Study ☐ Not Approved

Does the Committee action impact the Public? ☐ Yes ☐ No

Will a Public notification letter need to be sent out? ☐ Yes ☐ No ☐ Sent

Comments: _____

_____

Signed by: _____ Date: _____

Table of Contents

TRICO AN ENERGY COOPERATIVE

Electric Service Requirements

NOTE:

Revisions to this book from the proceeding publication are noted by a black bar, shown in the left margin, as depicted here.

Definitions

AHJ – Authority Having Jurisdiction- A person who has the delegated authority to determine, mandate, and enforce code requirements established by jurisdictional governing bodies.

ANSI - American National Standards Institute.

Bushings - Plastic or nylon rings that attach to the ends of conduit to protect the electrical cable from sharp edges.

Bypass - A method which allows for service continuity to the Customer while the meter is removed for test or inspection.

Cooperative - The respective Cooperative providing electrical service to a Customer.

Current - Amperes

Current Transformer (CT) – A transformer that accurately ratios input current to output current to provide a low current input to devices such as meters.

Current Transformer (CT) Meter - A meter that requires Current Transformers (CT) because its current rating is not as large as the Customer's current load, also known as a transformer rated meter

Customer - The individual responsible for or requesting electrical service from the Cooperative.

Direct-burial Cable - Electrical cable that is suitable (approved by a nationally recognized testing laboratory) for direct burial in the ground without using a conduit system. Direct burial Cable no longer an approved installation.

Direct-connect Meter - Meter that is energized to line voltage and carries all the load current. Also known as a self-contained meter.

Drip Loop - The loop formed by the Customer's Service Entrance Conductors, below the Customer's weather head, that connects to the Cooperative's service drop. The conductors are formed in a downward "loop" so water will not enter the Customer's service mast (weather head).

EUSERC - Electrical Utility Service Equipment Requirements Committee

Fault Current - Maximum available current under short circuit conditions.

Grounding - Grounding must be in accordance with latest issue of NEC (Article 250-Grounding). Code enforcement agencies may require ground connection to be visible when inspection is made.

IMC - Intermediate Metallic Conduit

Definitions (Continued)

Manual Link Bypass – Meter Base Bypass facilities requiring the physical act of placing links across line and load buss studs (see Bypass) provided in the meter socket.

Manufactured Home - A factory-assembled structure or structures, site specific and transportable in one or more sections that is designed to be used as a dwelling with a permanent foundation (see section 9).

Meter - A device that measures and records the summation of electrical quantity over a period of time.

Meter Base - The mounting device consisting of jaws, connectors, and enclosure for socket-type meters. The Meter Base is also referred to as a meter socket.

Meter Base Ring - A metallic ring that secures the meter to the Meter Base that can be sealed by the Cooperative.

Meter Pedestal - A commercially built pedestal that contains a service entrance section for landing underground service conductors, a meter socket and Customer disconnect switches or circuit breaker section.

Meter Socket - Mounting device consisting of jaws, connectors, and enclosure for socket-type meters.

Mobile Home - A factory-assembled structure or structures transportable in one or more sections that is built on a permanent chassis and designed to be used as a dwelling without a permanent foundation.

Modular Home - A factory-assembled structure or structures transportable in one or more sections that is built on permanent chassis and designed to be used as a dwelling with a permanent foundation.

NEC - The most recent publication of the National Electrical Code adopted by the state.

NESC - The most recent publication of the National Electrical Safety Code- adopted by the State

NFGC - The most recent publication of the National Fuel Gas Code.

OSHA - Occupational Safety and Health Administration

Overhead Service - Electric service supplied to the Customer from the Cooperative utilizing overhead conductors.

Definitions (Continued)

Plumb - Level alignment of Customer mounted enclosures. To have the sides and front of the Meter Base perfectly vertical from both the front and side views.

Point of Delivery – (POD) The point where facilities owned, leased, or under license by a Customer connects to the Cooperative's facilities, as denoted in the Cooperative's service specifications or by written agreement. The Cooperative shall determine the Point of Delivery in all cases.

Power Factor - The cosine of the angle, expressed as a percent, between voltage and current. The ratio of the active power to the apparent power.

Primary - Over 600 volts

Primary Voltage – The Cooperatives Distribution system voltage(s)

PVC Conduit – Polyvinyl Chloride (PVC) conduit, manufactured to schedule 40 thickness, approved for use in electrical installations. Commonly referred to as plastic conduit or duct and gray in color.

Secondary - 600 volts and under.

Safety Socket – A device consisting of a manual link Bypass facility, circuit closing nut and bolt assembly which will de-energize the meter socket for meter removal.

Self-contained - See direct-connect meter.

Select Backfill Material - Material used to bed and cover direct-burial cables or conduit. It consists of screened native soil or sand free of sharp or foreign objects, also called "shading material". Direct burial Cable no longer an approved installation.

Service Drop - The Overhead Service conductors from the Cooperative pole to the Customer's house or Customer owned service pole.

Service Entrance Conductors - Overhead - The Customers service conductors between the terminals of the Service Equipment and the point where joined by tap or splice to the service drop.

Service Entrance Conductor - Underground - The Customers service conductors between the terminals of the Service Equipment and the point of connection to the Service Lateral

Service Equipment- The necessary equipment, usually consisting of a (Main) circuit breaker, switch or fuse located near the point of entrance of supply conductors to a building, structure or other defined area, intended to constitute the main control and means to cut off the supply.

Definitions (Continued)

Service Lateral - The underground service conductors between the street, alley or easement, including any risers at a pole, transformer or structure and the first point of connection to the Service Entrance Conductors in a terminal box, meter or other enclosure with adequate space. Service Lateral Conductors shall be in conduit.

Service Trench - Trench provided by Customer for Service Lateral.

Switchboard - A large panel or assembly of panels that may contain buses, Current Transformers (CT), meters, switches, and protective devices.

Test Block (TBF) - An assembly used to de-energize a self-contained meter socket without discontinuing electric service to the Customer.

Test Switch – An isolation, testing and measuring device, used by the Cooperative associated with Current Transformer (CT) metering.

UL - Underwriters Laboratory

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Electric Service Requirements

Office/Payment Locations

Main Office:

Trico Electric Cooperative, Inc.

8600 W. Tangerine Rd., Marana Az.

(520) 744-2944

Mail Billing Payments to:

Trico Electric Cooperative, Inc.

Remittance Center

P.O. Box 80072

Prescott, Az. 86304-8094

E-Bill: Pay your bill online using your checking account, VISA, MasterCard or Discover card. It's fast, simple and free! You can even view your current and past bills, payment history, and energy usage graphs. There is no need for a paper bill and you can opt out of paper bills completely if you wish.

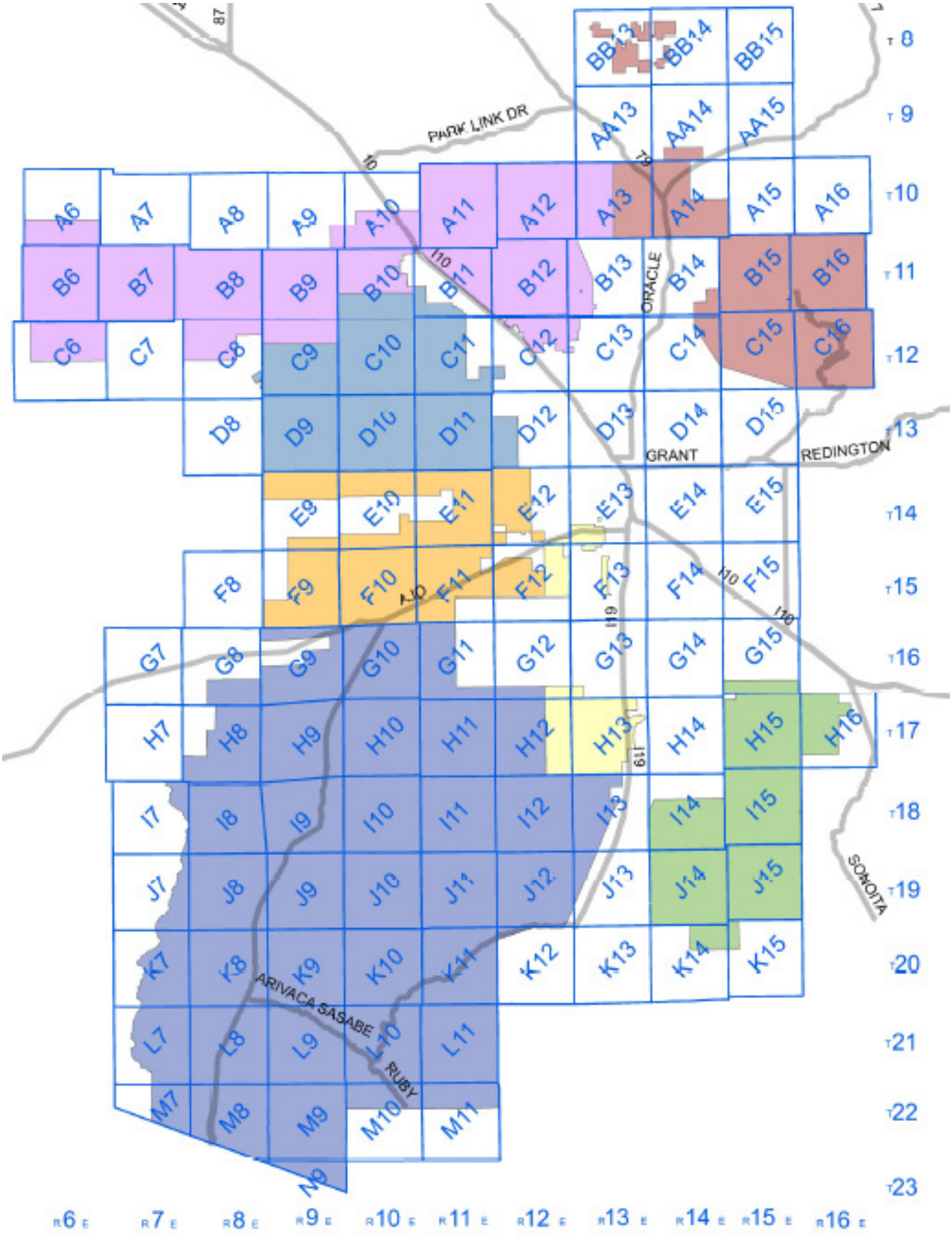
Pay By Phone: Direct connection, no menus to navigate. Inquire and make payments on your bill. Update your phone number in our records. Call toll free at 1-866-999-8441.

Automatic Payment/Bankdraft: With Bankdraft, your monthly electric bill can be paid from your checking or savings account on the date it's due. Call Trico's Member Services at 744-2944 to sign up. You can also set up an automatic payment at trico.smarthub.coop.

Wal-Mart: Pay your Trico Electric Bill at any Wal-Mart Store- Just take your Trico Electric Bill stub to the Customer service desk. You can pay with cash, Wal-Mart money order or a PIN based debit card. (Sorry no checks or credit cards) Wal-Mart asses a fee for this service.

1 of 1	SERVICE AREA AND DISTRICT MAP	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative

Electric Service Requirements



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1. General Requirements

1.1 General Definition

To prevent unnecessary repetition in this booklet, the *Cooperative* used in the following pages shall refer to Trico Electric Cooperative, Inc. (TRICO).

The *Customer* is the person or entity in whose name service is rendered, as evidenced by the signature on the application or contract for that service, or by receipt or payment of bills regularly issued in his name regardless of the identity of the actual user of the service.

The term *"consult Cooperative"* means the Customer shall obtain Cooperative approval prior to any act towards installation. This term applies to each and every installation involved. Failure to receive approval will result in denial of service until the installation meets the Cooperative's approval.

1.2 Booklet Purpose and Organization

This booklet was prepared to aid you in obtaining service from the Cooperative. This booklet applies to new services, relocated services and service alterations. If additional information is required, please call the Cooperative office.

1.3 Changes or Conflicts in Requirements

These requirements are issued with the intent of complying will all applicable codes, ordinances, and rates. However, in the case of conflict, the appropriate rate, code, or ordinance supersedes the interpretation offered in this booklet. In addition, these requirements may change if governing codes, ordinances, or rates change. The Cooperative does not assume responsibility for keeping this book *current* and should be consulted when questions arise on the applicability of any item. The Cooperative reserves the right to modify, update, and release future editions of this book as required by the Cooperative.

1.4 Maximum Available Fault Current

The maximum available fault current will depend on the ampacity and voltage class of service being provided. It is the Customer's responsibility to furnish equipment to withstand and or interrupt maximum fault currents. Upon request, and in receipt of service entrance data required and supplied by the Customer, the Cooperative will supply information on maximum available fault current at the Customer's service entrance.

1.4.1 Single Family Residential (200 Amperes)

For single family residences with services that are 200 amperes, the Customer is responsible for furnishing equipment that will withstand the maximum fault current available from the Cooperative. The Cooperative will provide the maximum available fault current to the Customer upon request.

1.4.2 Single Family Residential (Larger than 200 Amperes)

For single family residences with services that are larger than 200 amperes, the Customer is responsible for furnishing equipment that will withstand the maximum fault current available from the Cooperative. The Cooperative will provide the maximum available fault current to the Customer upon request.

1.4.3 Commercial, Industrial, Agricultural, and Multi-Family Services

The Customer is responsible for furnishing equipment that will withstand the maximum fault current available from the Cooperative. The Cooperative will provide the maximum available fault current to the Customer upon request.

1.5 Customer's Responsibility for Safety

The Customer shall comply with federal, state, and local laws and regulations concerning activities in the vicinity of the Cooperative's electrical lines and equipment. The Customer shall comply with all laws and regulations to protect themselves, their family, their employees, the Cooperative and its employees, contractors and all third parties from injury, loss, or damage.

If the Cooperative serves the Customer by means of primary voltage service or transmission voltage service on the Customer's premises or if the Customer resells power and energy furnished by the Cooperative the Cooperative may require the Customer to obtain and maintain insurance coverage which the Cooperative deems adequate to satisfy the duty of indemnification. The Cooperative may also require a separate indemnification, hold harmless, and/or additional named insured agreement.

It is the responsibility of the Customer to plan for Cooperative transformer locations with sufficient separation from buildings and obstructions. All transformer locations are subject to Cooperative approval. See Figure 5-4 for padmount transformer clearances.

1.6 Work Activity near High-Voltage Overhead Power Lines (Over 600 Volts)

Arizona Revised Statute 40-360.42 thru .45 requires that no work take place within close proximity of high-voltage overhead power line. The following are two requirements:

The responsible party must notify the Cooperative of the intended work activity a minimum of *three* working days prior to construction work. More lead time may be required depending on the work to be done.

The responsible party and the Cooperative must agree to a mutually satisfactory method to accomplish the activity safely.

1.7 Service Interruption

The Cooperative may temporarily suspend service to make repairs, replacements, maintenance, tests or inspections of Cooperative equipment or to make tests, inspections, connections or disconnections of Cooperative service. The Cooperative shall make reasonable efforts to notify the Customer about the need for and the duration of a planned service interruption, but it may suspend service in an emergency situation without prior notice to the Customer.

1.8 Grounding and Bonding

Grounding and bonding is critical for safety and electrical reliability. The Customer is responsible to ensure that the electrical Service Equipment is grounded and bonded in accordance with the applicable requirements of the local (AHJ), and NEC requirements.

1.9 Protection of Cooperative Equipment (Barrier Post)

The Customer is responsible for providing barrier posts for protection of electrical equipment. When vehicles or other equipment can be near or around Cooperative equipment, barrier post(s) constructed with four inch diameter steel, concrete filled, will be required. Consult the Cooperative for barrier post requirements for areas subject to vehicles or other equipment access. (See Figure 6.3 for more detail).

1.10 Trees and Shrubs

The Customer shall prepare the premises so that trees, shrubs, and other vegetation will not interfere with the proper access for construction, operation and maintenance of Cooperative facilities, see Section 5 *(Clearances).* Consult the Cooperative for clearance requirements of your specific installation or where electric facilities exist. For easements and rights-of-way refer to section 2.2.

1.11 Power Factor

The Cooperative's current rate specifies a charge for low Power Factor for certain commercial and industrial classes. The Cooperative recommends that the Customer install corrective devices to make the most efficient use of the electrical system. The Cooperative can provide a copy of the rate if the Customer would like to determine

potential savings during design.

1.12 Time-of-Use Metering

The Time of Use rate requires special metering for residential, commercial, and industrial loads. Time-of-Use rates may not be applicable for all Customer classes. Contact the Cooperative for special requirements and for Time of Use rate information.

1.13 Call Before You Dig

State law requires the Customer/Excavator to call for underground utility cable locations at least two full working days (48 hours) prior to excavation. Excavation must not start until all locations have been marked or the utilities have informed the excavator that they have no facilities in the area. ***Call 1-800-stakeit (782-5348) before you dig.***

1.14 Power Quality

The characteristics of the Customer's electrical equipment and devices must not cause undue interference to the Cooperative, or electric service to other Cooperative Customers. Whenever a Customer's equipment has characteristics which cause undue interference to the Cooperative or to other Cooperative Customers, the Customer must make changes in such equipment or provide, at Customer expense, additional equipment to eliminate the interference. If additional facilities are required by the Cooperative, these facilities will be installed and maintained by the Cooperative at the Customer's expense as allowed by the Cooperative's Rules, Regulations, Line Extension Policy and Rate Tariffs.

The Cooperative reserves the right to inspect and test any equipment connected to its lines and to obtain any information necessary to determine the operational characteristics of the equipment. The Customer shall submit information to the Cooperative regarding any new or repaired equipment which might cause interference with service to other Customers and/or require additional Cooperative facilities for its satisfactory operation.

Electric service supplied by the Cooperative may be subjected to voltage fluctuations which will not normally affect the performance of typical electrical equipment. These fluctuations may result in the improper operation of voltage-sensitive equipment such as computers or microprocessors. In some instances, Customer owned and operated equipment can be the cause of such voltage fluctuations. The Customer must provide any power conditioning devices needed to obtain the "quality" of power necessary for optimum performance of voltage-sensitive equipment. Consult the Cooperative for specific Rules, Regulations and Line Extension Policies.

The Customer may request additional facilities at the Customers expense (such as a

separate Cooperative transformer and a separate service) to minimize voltage fluctuations on Secondary voltage circuits for devices such as welders, induction heating equipment, and X-ray machines. A new separate service would be subject to the Cooperative's Rules, Regulations and Line Extension Policies. Where the operation of these types of equipment causes undue voltage fluctuations on Cooperative primary voltage lines, the additional equipment required may include a separate primary voltage line or the installation of primary voltage regulators. Consult the Cooperative for specific policies.

The effects of the design and operation of high-frequency equipment (such as electronic heating systems, spark discharge devices, radio transmitting equipment, etc., and equipment that generates harmonics, such as an induction furnace) must not create disturbances on the Cooperative electrical system which interferes with any other Customer's proper operation of communication, radio, television, remote control, or other equipment.

Devices which can produce harmonic distortion (such as adjustable speed drives, electronic ballasts for fluorescent lighting, and switching power supplies for computers, inverters and electric vehicles) shall be filtered such that the harmonic distortion resulting from these devices is kept within the limits set forth in IEEE 519-1992, Section 10 or the latest version thereof. Compliance with this requirement is by Cooperative measurement at the point of change of ownership between the Cooperative and the Customer, otherwise known as "the point of common coupling".

The Customer can more easily stay within these harmonic distortion limits by requiring their equipment supplier to provide "low harmonic current distortion" equipment.

1.15 Motors

1.15.1 Protection

To assure adequate safety to personnel and equipment, the Customer is responsible for providing and maintaining code-approved protective devices to protect all motors against abnormal conditions such as overloading, short circuits, ground faults, low voltage, and for protecting all three phase motors against loss of phase conditions.

1.15.2 Starting

A reduced starter acceptable to the Cooperative shall be installed by the Customer for all 200 horsepower motors and above and may be required by the Cooperative for motors 40 horsepower and above (in accordance with the Cooperatives Rules, Regulations and Line Extension policies)

The full locked rotor or starting currents permitted to be impressed upon the Cooperative's electric system depend upon the frequency of motor starting, the size and character of the Customer's load, and the design of the Cooperative's distribution system in the area. Permitted locked rotor currents will generally be equivalent to the maximum locked rotor current which, in the Cooperative's opinion, can be supplied without undue interference with service to other Customers.

The Cooperative will not install additional facilities to reduce voltage fluctuations on an individual Customer's service caused by that Customer's motor(s) locked rotor currents until after the Customer completes installation of reduced voltage starters and the voltage fluctuations as determined by the Cooperative are excessive. If the Customer still requires additional Cooperative facilities, such facilities will be installed and maintained by the Cooperative at the Customer's expense as allowed by the Cooperative's Rules, Regulations and Line Extension Policy and Rate Tariffs.

1.16 Customer Generation

A Renewable Energy guide is available on the Cooperative's website or by contacting the Cooperative for information regarding renewable generation and interconnecting with the Cooperative's system.

The Customer must provide a sealable disconnect switch with a visible air gap to isolate this generation from the Cooperative's system. Cooperative access to this disconnect switch must exist at all times with the ability to lock the switch open when needed to maintain safe electrical operating conditions.

The Cooperative must approve installation and operation of the Customer's generation system. The Cooperative will also designate metering type and location, and the method of interconnection between the Customer system and the Cooperative's system.

Contact the Cooperative for a copy of the Interconnection Requirements Document. See Section 11 of this document for additional information on Small Interconnected Distributed Generation Sources.

1.16.1 Emergency or Standby Generators

Permanently-installed emergency or standby generators must be connected to the Customer's wiring system by a permanently-installed, break before make,

transfer switch intended for that purpose. The transfer switch shall disconnect all ungrounded conductors connected to the Cooperative system that the standby generator will feed prior to connecting the generator to these conductors. Design and install the transfer switch to prevent connection of the generator to the Cooperative system during any mode of operation.

Any transfer switch rated as Service Entrance Equipment and installed as such, shall have Service Equipment that consist of a lockable service disconnecting means ahead of the transfer switch and accessible to the Cooperative. The transfer switch shall not be considered the disconnecting means for the Service Equipment.

NEVER connect portable generators to a permanent wiring system unless the interconnection uses a permanently-installed transfer switch. This can produce a hazardous situation for the Cooperative or other service personnel.

The local AHJ's electrical inspectors must approve all transfer switches and/or transfer operating schemes.

All installations shall be in accordance with the Cooperatives Rules, Regulations and Line Extension Policies.

1.16.2 Parallel Generation

Parallel generation is defined as the production of electric energy where sources of generation outside of the Cooperative connect with the Cooperative's system for distribution. Such sources, when Customer owned, may provide all or a part of a Customer's requirements or the Customer may sell directly to the Cooperative all or part of the generation output. (Customer's sources may include wind turbines, waterwheels ,steam turbines, solar and geothermal devices.) The Cooperative will handle each proposal for parallel generation on an individual basis and will require an Interconnect Agreement between the Customer and the Cooperative.

The Customer must provide a disconnect switch with a visible air gap to isolate this generation from the Cooperative's system. Cooperative access to this disconnect switch must exist at all times with the ability to lock the switch open when needed to maintain safe electrical operating conditions.

The Cooperative must approve operation of the Customer's parallel generation system. The Cooperative will also designate metering type and location, and the method of interconnection between the Customer system and the Cooperative's system. If any additional facilities are required by the Cooperative, such as additional or upgraded distribution transformers and conductors to safely and

effectively interconnect with the Customers generation, all costs associated with this work will be the responsibility of the Customer as allowed by the Cooperative's Rules Regulations and Line Extension Policies.

It is the Customers responsibility to contact the Cooperative for all documents and requirements prior to installing any parallel generation equipment.

See Section 11 for additional information on Small Interconnected Distributed Generation Sources.

1.16.3 Cogeneration Facility

Cogeneration is defined as -any facility that sequentially produces electricity, steam or forms of useful energy (e.g., heat) from the same fuel source and which are used for industrial, commercial, heating or cooling purposes. It may include gas turbines or diesel-driven generators with waste heat recovery and steam or back pressure turbines. The Cooperative will handle each proposal for Cogeneration on an individual basis by means of a special contract between the Customer and the Cooperative.

The Cooperative must approve the operation of the Customer's Cogeneration system. The Cooperative will also designate the metering location, type of metering, and the method of interconnection between the Customer system and the Cooperative's system.

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2. Permits & Easements

2.1 Codes and Ordinances

The construction of new or remodeled installations must conform to applicable provisions of the National Electrical Code (NEC), National Electrical Safety Code (NESC), State rules and regulations, city and county ordinances and codes, rules on file with or issued by AHJ, Occupational Safety Health Administration (OSHA) rules during construction and maintenance, and Cooperative requirements.

2.2 Rights-of-Way

The Cooperative shall not be obligated to bear any part of the cost of obtaining rights-of-way, easements, licenses or permits. The Customer may be required to put up a non-interest bearing cost deposit(s) before work to obtain said rights-of-way can begin or continue. It is the Customers or Applicant's responsibility to obtain the right-of-way from the third party, however, the Cooperative may assist when resources exist to do so. It is the Customer or Applicant's responsibility to notify the third party, neighbor and/or adjacent landowners of the design, surveying and construction activities that could affect them or their surroundings.

The Cooperative may install, maintain, and operate their equipment above and below ground within Public Utility Easements (PUE's). This right includes the right of safe, unobstructed access and the right to require removal of any and all obstructions including structures (temporary and permanent), trees, vegetation, fences, signs or other items. The Cooperative may require the lot owner to remove any such obstructions within the PUE at the lot owner's expense, or the Cooperative may remove such obstructions at the lot owner's expense. At no time may a permanent structure or obstruction be placed within the PUE without the prior written approval of the Cooperative and other utilities with facilities in the PUE. Without limitation, Customer shall not attach any signage, lighting, apparatus, fencing or any other attachment of any type (permanent or temporary) to the Cooperatives poles, facilities, or padmount equipment. Any such attachment will be considered a violation of the NESC and the Cooperatives right to safe, unobstructed access to it facilities.

The Cooperative shall be granted rights-of-way and easement(s) over the property of the Customer for the erection, maintenance, operation, repair, replacement, relocation, removal or use of any and all wire, poles, machinery, supplies, equipment, metering and regulating and other apparatus and fixtures necessary or convenient for the supplying of electric service to the Customer. The Cooperative's standard easement width is thirty-(30) feet. The length of the easement will vary based upon the needs of the Customer and requirements of the Cooperative. The Cooperative shall be given safe and unimpaired access at reasonable times to the premises of the Customer for the

purpose of reading meters, testing, repairing, relocating, removing or exchanging any or all equipment or facilities necessary to provide or remove electric service to the Customer. Immediate and unannounced access may be necessary if the Cooperative has an outage or emergency condition. The required easement(s) and access shall be conveyed to the Cooperative prior to service being made available to the Customer without cost to the Cooperative. The Cooperative may terminate service after proper notice is issued if there are violations of the required safe and unimpaired access.

See Trico's Rules, Regulations, and Line Extension Policy, for further explanation.

2.3 Application for Service

It is important that the applicant provide accurate load information and the requested in service date in a timely manner to the Cooperative. Requests for service to commercial and industrial Customers normally require considerable advance planning by the Cooperative in order to serve the load. All applicants should give a 60-day minimum lead time. Commercial and industrial Customers and other installations requiring special transformers or other equipment, not readily available, may require a six-month lead time or longer.

All applicants shall include a plot plan which shows the preferred service and meter location with requests for service. Commercial or industrial plot plans shall also show a single-line diagram of the electrical layout including a suggested Trico transformer location. Commercial or industrial *applicants must provide all engineered load calculations* including all motor voltage and locked rotor ratings. Residential Customers should include lighting, water heating, cooking, space heating, air conditioning, and motor loads, if any. Sufficient information on equipment operations that estimate the kilowatt demand of the equipment should also be included.

The Cooperative has staff available to advise Customers and their contractors on service requirements and concerns, as well as for issues and questions relative to electric energy utilization for new, existing, and reconstructed installations. The Cooperative will not be held liable for any personal injury or property damage if inadequate notice to and/or approval by the Cooperative was not granted.

If changes in the Electric Service Agreement are required, immediately contact the Cooperative to set up alternative arrangements.

Local ordinances or state laws require that an applicant obtain appropriate permits before the Cooperative establishes service. This may include approval of an electrical installation by the local AHJ. Establishment of electric service will be allowed only after all electric service requirements have been met. This includes all requirements referenced in section 2, as well as the requirements of this book and other Cooperative standards. Contact the Cooperative to initiate the New Service process.

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3. Services

3.1 Types of Electric Service Furnished

Available electric service in the Cooperative's approved tariffs, utility grade quality of power, and construction standards are limited to 60-hertz, alternating current, single phase or three phase (See section 3.7). The nominal Secondary voltages are given below:

Underground Service:

The following underground service voltages can be provided:

Single phase, 120/240 -volt, three-wire, grounded.

Three phase, 120/208 -volt, four-wire, grounded wye.

Three phase, 277/480 -volt, four-wire, grounded wye.

Service Entrance Conductors supplied and installed by the Customer shall not include a 5th ground conductor.

Overhead Service:

The following Overhead Service voltages can be provided:

Single phase, 120/240 -volt, three-wire, grounded.

Three phase, 120/208 -volt, four-wire, grounded wye.

Three phase, 277/480 -volt, four-wire, grounded wye.

If other types of electric service or service voltages are required, the Customer must request and the Cooperative must approve these before electric service can be provided.

3.2 Permanent Electric Service Connection

Only authorized Cooperative employees or the Cooperative's authorized contractors shall make the permanent connection or disconnection of the Cooperative's electric service or facilities. Electric service shall not be temporarily connected prior to local inspection and permanent connection by the Cooperative. Trico reserves the right to refuse permanent connection of the electric service should the Cooperative deem the service to be in a hazardous or substandard condition.

3.3 General Meter Installations

Unless otherwise specifically provided in the rate tariff or by contract, each of the Cooperative's rate tariffs are based upon the supplying of electric service to one Customer at a single point of delivery and at a single service voltage and phase classification. Additional service supplied to the same Customer at other points of delivery or at a different voltage or phase classification shall be separately metered and billed, unless otherwise provided for in the Cooperative's tariffs.

Meters must be accessible to Trico authorized personnel during all reasonable hours for meter reading, testing, inspecting, disconnecting, and connecting service. See 2.2 *(Rights-of-Way)* and 5.1 *(Meter Clearances and Locations) for additional meter access information.*

Meters ***shall not*** be installed on a drive-through service side of a commercial building. See the clearances section for more detail.

Customers or their contractors are not authorized to relocate any meter belonging to the Cooperative or interfere in any way with the meter or its connection or to break any seals or locks the Cooperative may place on such meter or electric service entrance enclosures. The Customer must contact the Cooperative for any work that involves relocation, rewire, or installation of new electric Service Equipment.

CA UTION: With some types of meter sockets, removal of the meter does NOT de-energize the service.

The Customer or their contractor must promptly notify the Cooperative upon completion of repairs or modifications so the Cooperative can inspect, reinstall, and reseal the meter or electric Service Equipment. An inspection by the local AHJ may also be required. (See the seals sub-section below and section 1 concerning Customer liabilities.)

3.3.1 Acceptable Meter Sockets

Acceptable meter sockets are manufactured in accordance with the current EUSERC requirements, standards for Safety Meter Sockets, as well as ANSI-C12 and UL/ANSI-414. The Customer must provide and install the meter socket complete with terminal lugs, meter jaws and manual link Bypasses or safety sockets (when required). Each enclosure must have a means for all sections to be sealed or locked by the Cooperative. (see Figures 7-1 & 10-1). For a list of acceptable residential meter sockets, refer to Figure 7-10.

Stainless steel meter enclosures are recommended for corrosive environments and contaminated areas.

3.3.2 Sealing Provisions

The Cooperative uses seals or locks placed on meter rings, and associated Service Equipment to prevent unauthorized access and or tampering. The Customers electric service entrance enclosures, meter socket enclosure and all enclosures containing unmetered conductors (other than mainline disconnect switches required by applicable codes) shall have provisions for sealing.

Removable sections of conduit may only be installed when approved by the Cooperative and must be sealed by the Cooperative. Unmetered conductors passing through a service disconnect compartment shall not be allowed.

3.3.3 Mounting of Meter Sockets

Verify that clearances for meter sockets meet the requirements shown in Figures 5-1 and 5-2. All electric Service Equipment and meter enclosures shall be plumb in all directions and securely mounted to a rigid surface. All conductors shall be securely connected to their respective terminals and arranged in a manner which will not interfere with the installation of Cooperative conductors, the meter or enclosure covers, or with the operation of manual link Bypasses if applicable.

Service entrance equipment enclosures or meter enclosures shall not be permitted to be flush mounted into the building wall.

The Cooperative requires 36 inches of clear working space in front of live parts. A barrier shall not be installed within 36 inches of the front of the meter panel when a meter is removed and energized parts are exposed. Locate meter sockets and other metering equipment with a minimum radius of 36 inches from a gas regulator valve or other venting source.

Unmetered service conductor and metered service conductor shall not be run in the same conduit, raceway, or gutter.

The Cooperative does not encourage the use of enclosures over meters. If permitted, enclosures shall only cover the electric meter, and not cover the service entrance or associated equipment.

Meter enclosures may be permitted when the following requirements are met:

- The meter is readily accessible for meter reading or resealing, without requiring the use of tools or the removal of the enclosure.
- The enclosure should be hinged to one side.
- The meter meets all requirements of section 5.1 *(Meter Clearances and Locations).*
- Permission to enclose the meter will remain in effect as long as the Customer maintains the enclosure in good working condition.
- Adequate protection exists for meters subject to physical damage. Barrier posts are required when metering equipment is exposed to vehicle traffic. See Figure 6.3.

3.3.4 Multi Meter Socket Identification

For apartment buildings and commercial buildings, prior to any meters being set all sockets shall be clearly identified and the wiring from the multi meter pack to the interior distribution panel shall be installed and terminated. The Cooperative will request the assistance of the Customer to verify that each meter socket within the multi meter pack or ganged socket installation is for the unit or premise being served through the socket. Permanent identification shall be made with metal tags with raised or etched letters. Tags shall maintain their identity even if painted, and shall be attached with rivets or screws.

3.4 Connection and Disconnection of Service

Connection and disconnection of any electric service will be done by the Cooperative. The Customer will be charged according to the fee schedule in effect. ***All services disconnected longer than 12 months may require inspection by the local AHJ before reconnection.*** All work must be coordinated with the Cooperative for connection and disconnection of service.

3.4.1 Customer Service Entrance Policy and Minimum Safety Standards

Customer Service Entrances shall comply with the Cooperatives standards as set forth in the current Electric Service Requirements Book and approved by the appropriate AHJ where required before being energized. If a customer's service has been physically disconnected by either customer request or other cause, and deemed to be in substandard condition at that time, the service must be brought up to the minimum safety standards as set forth in the current Electric Service Requirements Book and approved by the appropriate AHJ prior to reconnect. A panel

may be deemed substandard due to deterioration, neglect, fire, or act of nature, and as a whole shall be brought up to the Cooperatives minimum Electric Service Requirements**.** This includes but not limited to, the Meter Base, Service Equipment and or Service Entrance Conductors. This does not necessarily include disconnection for maintenance or like for like replacement of eligible electric service components as allowed by the NEC or AHJ.

3.5 Relocation of Services and Facilities

Where the meter or service line location on the Customer's premises is changed at the request of the Customer or due to alterations on the Customer's premises, the Customer shall provide and have installed at his expense all wiring materials and equipment necessary for relocating the meter and service line connection and the Cooperative may make a charge not to exceed the actual cost for moving the meter and/or service line as set forth in the Cooperative's Rules, Regulations, and Line Extension Policy.

3.6 Customer Equipment on Cooperative Poles

Customer-owned metering equipment, switching devices, conduits, conductors, luminaries, etc., *shall not* be mounted on a Cooperative primary pole. The same shall apply to Cooperative Secondary, service, and meter poles, excluding Customer-owned metering and associated equipment.

3.7 Load Requirements

3.7.1 Single phase Service

The Cooperative will limit the maximum single phase load served through one point of delivery to a capacity of 167 kVA.

The Cooperative will require the Customer use three phase service in lieu of single phase service, if in the Cooperative's judgment the Customer's connected load is excessive for single phase service.

Single phase service over 320 amps for residential and non-residential requires Current Transformer (CT) metering as described in section 10.2 *(Current Transformer (CT) Metering).*

3.7.2 Three Phase Service

Three phase service will be provided upon request to Customers in accordance with the Cooperative's Rules, Regulations, and Line Extension

Policy and present rate schedules.

Three phase service over 200 amps requires Current Transformer (CT) metering as described in section 10.2 *(Current Transformer (CT) Metering).*

The Customer's connection of single phase loads to three phase, should follow the guideline shown below in order to prevent an overloading or single-phasing condition which could damage the Customer's three phase equipment:

On 120/208 Y-volt or 277/480 Y -volt three phase services, all single phase loads should be split evenly among the three phases.

The Cooperative will endeavor to provide the type of electric service requested. However, depending upon the characteristics of the Cooperative's distribution system in the area and the Customer's electrical needs, standard offer service types and voltages may not be available.

3.8 Single Phase Residential Service-Disconnecting Means

Single Phase 100 and 200 Amp Service Equipment shall have a single disconnecting means such as a main circuit breaker that constitutes the main control of all energy registered by the meter. The disconnect shall have provisions for either locking or sealing in the OFF position or by sealing the cover after the breaker has been placed in the OFF position.

Single Phase 400 Amp (320 Amp Continuous) Service Equipment is allowed to have two disconnecting means in lieu of a single means of disconnection that constitutes the main control of all energy registered by the meter. The disconnect(s) shall have provisions for either locking or sealing in the OFF position or by sealing the cover after the breaker has been placed in the OFF position.

Single Phase Service Equipment greater than 400 Amp (320 Amp Continuous) and less than or equal to 800 Amps requiring Current Transformer (CT) metering shall have a single disconnecting means such as a main circuit breaker that constitutes the main control of all energy registered by the meter. The disconnect shall have provisions for either locking or sealing in the OFF position or by sealing the cover after the breaker has been placed in the OFF position.

Fused Single Phase 100 and 200 Amp Service Equipment disconnecting means approved on a case-by-case basis.

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4. Temporary Construction Service

4.1 General

Upon request, the Cooperative will supply temporary electric service to a Customer supplied Meter Base at a location adjacent to the Cooperative's facilities as provided for in the appropriate electric service rate schedules and sections of the Rules, Regulations & Line Extension Policy. Refer to Figure 5-3 *Residential Clearances For Overhead Services.* The Meter Base must be inspected and approved by the local AHJ before it can be energized.

Temporary services for construction work shall be located to protect the meter from accidental damage, and when practical, in a location usable throughout the entire construction period. When the Cooperative must relocate a temporary service, the Customer or their contractor must bear the relocation costs.

The meter pole must be sound and in good condition for the duration of its use. The Cooperative will not energize a temporary service if the Customer provided meter pole is not safe to climb.

4.2 Construction Criteria for Temporary Service

Figure 4-1, Figure 4-2 and Figure 4-3 show typical installations for overhead and underground temporary construction service. Figure 7-3, can also be used for a temporary installation. Standards for this type of structure must be met before the Cooperative can provide service. All notes on these installation pages must be followed. The *Cooperative has the right to refuse connection* if height, strength bracing, or other requirements are not met.

1. To ensure strength, post must be free of any sucker knobs and have spike knots no larger than 1/3 of any face, cracks greater than 1/2 inch wide are not permitted, and no visible wood decay is allowed.
2. Figure 4-1 *(Overhead Temporary Construction Service Pole)* must be pressure or thermally treated with an approved American Wood Preservatives Association standardized preservative.
3. Distance between the Cooperatives's point of attachment and the temporary service pole location, Figure 4-1, must be a minimum of 10 feet from the outside phase conductor and should be a maximum distance of 15 feet from the Cooperatives power source. If the temporary service pole location is greater than 15 feet from the power source, all additional facilities required to provide service, shall be the expense of the Customer. The Customer must provide, out of the weatherhead, sufficient conductor for a drip loop and to be connected by the Cooperative to the power source. If the service length outside of these parameters requires additional facilities, the Cooperative shall furnish and install the pole(s) at the Customer's expense.

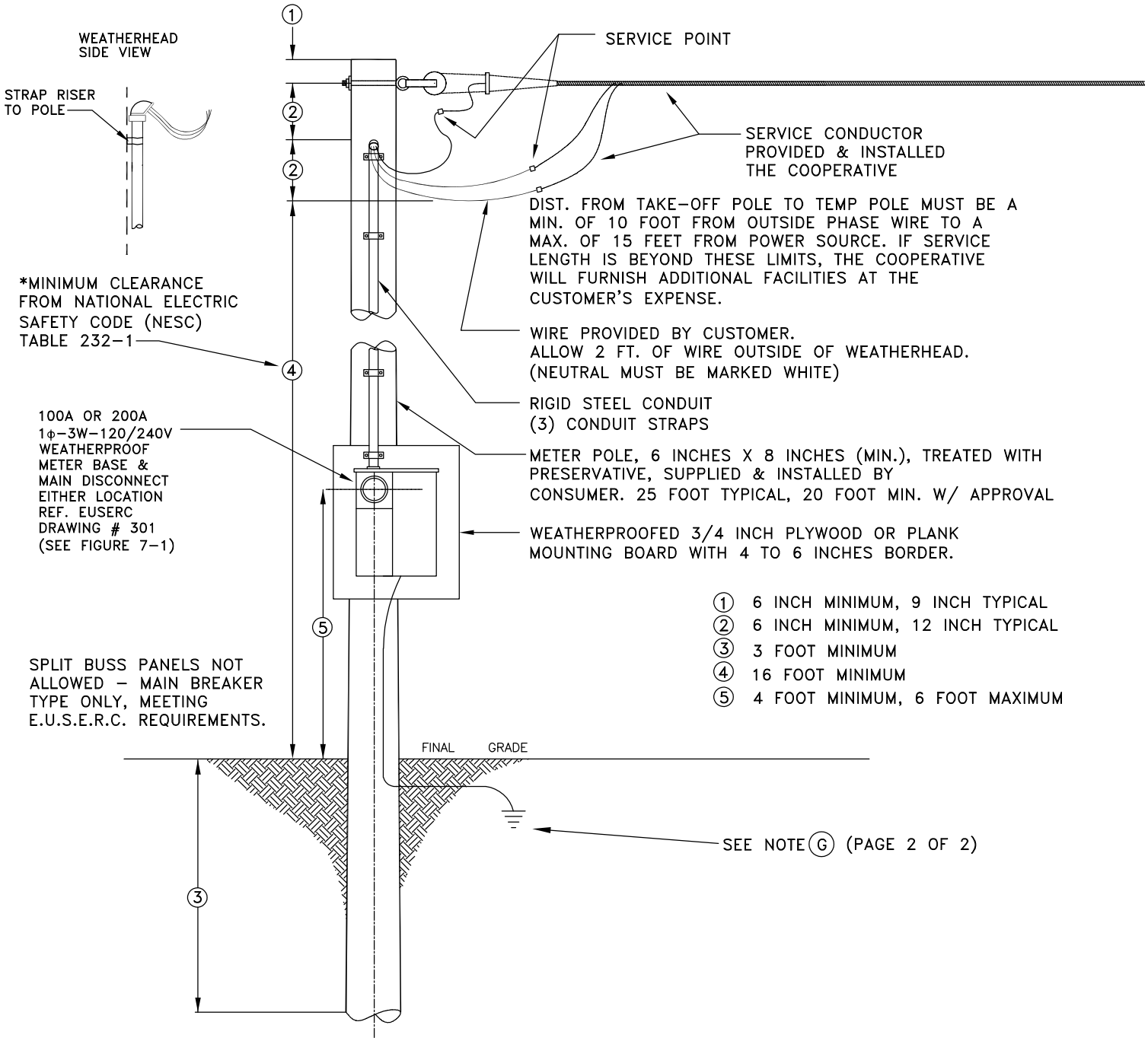
4. Distance between the Cooperative's point of attachment and the temporary post-mounted underground service (Figure 4-2) should be within 10 feet of the power source, padmounted transformer, pedestal or handhole for a temporary underground service.
5. A service conductor that crosses a driveway or road is required by the NEC and NESC to have a higher clearance above ground. See Table 5-1 for additional clearance requirements.
6. Soil surrounding post must be tamped to provide stability.
7. The local AHJ may require the Grounding connection to be visible when electrical inspection is made. However, for safety reasons, top of ground rod should be flush with or below ground level.

M8–14T	Figure 4-1	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
1 of 2	OVERHEAD TEMPORARY CONSTRUCTION SERVICE POLE	

Electric Service Requirements

******POINT OF DELIVERY (SERVICE POINT) OCCURS AT THE CONNECTION BETWEEN COOPERATIVE'S CONDUCTOR AND THE MEMBER'S SERVICE WIRE AT OR NEAR THE WEATHERHEAD.******

REFER TO NOTES ON THE NEXT PAGE FOR ADDITIONAL SPECIFICATIONS



Not To Scale

01-01-2014	09-01-2018								

M8–14T	Figure 4-1	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
2 of 2	OVERHEAD TEMPORARY CONSTRUCTION SERVICE POLE	

Electric Service Requirements

TEMPORARY OVERHEAD METER PANEL ON CUSTOMER POLE INSTALLATION GUIDE:

Notes:

A. METER SHALL NOT BE LOCATED IN AN AREA WHICH MAY BE ENCLOSED WITH BUILDING OR YARD EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES, OR FENCES.

B. A 3 FOOT X 3 FOOT PERMANENT CLEAR WORKING SPACE SHALL BE REQUIRED IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE.

C. A 3 FOOT MINIMUM CLEARANCE SHALL BE REQUIRED FROM THE CLOSEST POINT OF THE ELECTRIC SERVICE PANEL TO THE GAS OR LP REGULATOR VENT.

D. THE SERVICE MUST BE SECURELY FASTENED TO THE POLE. MOUNTING BOARD MUST BE AT LEAST 3/4 INCH THICK AND HAVE A 4 INCH TO 6 INCH BORDER AROUND ALL EQUIPMENT BOXES. THE BOARD MUST BE WEATHERPROOF BY PRESSURE TREATMENT, PAINTING OR OTHER APPROVED METHOD.

E. THE SERVICE MAIN–DISCONNECT EQUIPMENT MUST BE RATED THE SAME SIZE AS SERVICE APPLIED FOR.

F. ALL SERVICE EQUIPMENT MUST BE RATED AT NOT LESS THAN 100 AMP.

G. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

H. ALL EQUIPMENT MUST BE RATED FOR OUTDOOR USAGE.

J. ALL "TEMPORARY PANELS" MUST HAVE ONLY GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE BREAKERS (EXCEPT THE MAIN DISCONNECT BREAKER WHEN REQUIRED BY TYPE OF PANEL) UNTIL MEMBER HAS PASSED FINAL INSPECTION BY THE AHJ.

K. THE NEUTRAL MUST BE AN INSULATED CONDUCTOR AND CLEARLY MARKED WHITE.

L. IF A SEPARATE METER BASE AND MAIN DISCONNECT ARE USED, THEY MUST BE MOUNTED VERTICALLY.

M. A TEMPORARY SERVICE MUST BE CONVERTED TO A PERMANENT SERVICE WITHIN A ONE YEAR PERIOD. (UNDER CERTAIN CONDITIONS AN EXTENSION COULD BE REQUESTED.)

N. MINIMUM GROUND CLEARANCE FROM THE POINT OF ATTACHMENT IS 16 FEET–0 INCHES.

MATERIALS LIST

(1) TEMPORARY METER POLE 8 INCHES X 6 INCHES X 20 FEET–0 INCHES MINIMUM, TREATED WITH PRESERVATIVE
(1) 100A–200A WEATHERPROOF METER BASE WITH MAIN DISCONNECT/BREAKER & METER BASE HUB
- INSULATED GROUNDING BUSHINGS (REQUIRED WHERE ALL CONCENTRIC RINGS HAVE NOT BEEN KNOCKED OUT, WHERE CONDUIT IS ATTACHED)
- CONDUIT LOCKNUTS AS REQUIRED

(3) CONDUIT STRAPS
(1) WEATHERHEAD SIZED TO MATCH RISER/MAST
(1) RIGID STEEL CONDUIT RISER AS REQUIRED
(1) 3/4 INCH PLYWOOD OR PLANK MOUNTING BOARD, WEATHERPROOFED
- SERVICE WIRE, SIZE AND LENGTH AS REQUIRED

Not to Scale

01–01–2014	09–01–2018								

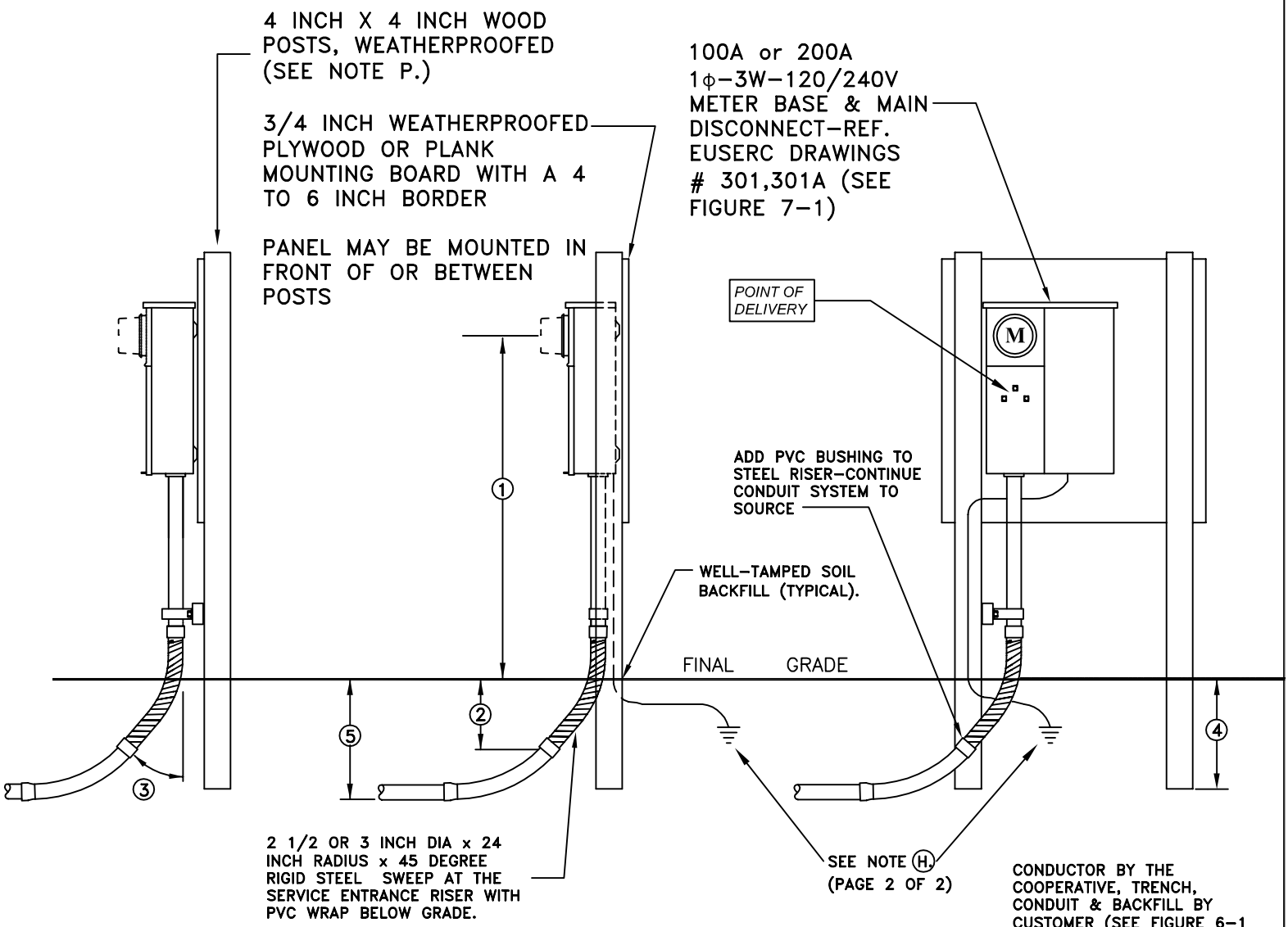
UM8–2T	Figure 4-2
1 of 2	UNDERGROUND TEMPORARY CONSTRUCTION SERVICE–POST MOUNT

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

REFER TO NOTES ON THE NEXT PAGE FOR ADDITIONAL SPECIFICATIONS

SPLIT BUSS PANELS NOT ALLOWED
––MAIN BREAKER–TYPE ONLY



SEE DISTRIBUTION DESIGN PLAN FOR CONDUIT AND RISER SIZE REQUIREMENT

① 4 FOOT MINIMUM, 6 FOOT MAXIMUM (5 FOOT PREFERRED)
② 18 INCH MINIMUM
③ 45 DEGREE SWEEP
④ 2 FOOT MINIMUM
⑤ 32 INCH MINIMUM TRENCH DEPTH

POINT OF DELIVERY (SERVICE POINT) OCCURS AT THE CONNECTION BETWEEN THE COOPERATIVE'S CONDUCTOR AND THE CUSTOMERS'S CONNECTION TERMINAL ON THE SOURCE SIDE OF THE METER.

Not to Scale

01–01–2014	01–01–2017	09–09–2019							

UM8–2T	Figure 4-2	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
2 of 2	UNDERGROUND TEMPORARY CONSTRUCTION SERVICE–POST MOUNT	

Electric Service Requirements

NOTES FOR TEMPORARY UNDERGROUND SERVICE EXTENSION & METER PANEL INSTALLATION GUIDE:

A. AT ITS DISCRETION, THE COOPERATIVE MAY INSPECT THE ELECTRIC SERVICE CONDUIT EXTENSION TO THE HOME PRIOR TO BACKFILL OF THE TRENCH. WHEN CONDUIT WORK IS APPROVED AND COVERED, THE COOPERATIVE WILL PULL IT'S SERVICE CONDUCTOR THROUGH A CONTINUOUS SPAN OF CONDUIT FROM THE TRANSFORMER TO THE METER PANEL AT THE HOME. SEE FIGURE 7–2 FOR UNDERGROUND CONDUIT SYSTEM

B. METER SHALL NOT BE LOCATED UNDER A PATIO, PORCH, CARPORT, BREEZEWAY, OR AREA WHICH MAY BE ENCLOSED WITH BUILDING EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES, OR FENCES.

C. A 3 FOOT X 3 FOOT PERMANENT CLEAR WORKING SPACE SHALL BE REQUIRED IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE. SEE FIGURE 5–2 FOR WORKING SPACE REQUIREMENTS

D. A 3 FOOT MINIMUM CLEARANCE SHALL BE REQUIRED FROM THE CLOSEST POINT OF THE ELECTRIC SERVICE PANEL TO THE GAS REGULATOR VENT.

E. THE SERVICE MUST BE SECURELY FASTENED TO THE BOARD AND/OR POST(S).

F. THE SERVICE MAIN–DISCONNECT EQUIPMENT MUST BE RATED THE SAME SIZE AS SERVICE APPLIED FOR.

G. ALL SERVICE EQUIPMENT MUST BE RATED AT NOT LESS THAN 100 AMP.

H. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

J. A 45 DEGREE SWEEP ON THE END OF THE RISER MUST BE 18 INCHES BELOW GROUND WITH A THREADED PVC BUSHING ON THE END TO TRANSITION TO THE CONDUIT SYSTEM.

K. SEE SECTION 5 FOR SERVICE ENTRANCE CLEARANCE REQUIREMENTS.

L. ALL EQUIPMENT MUST BE RATED FOR OUTDOOR USAGE.

M. ALL "TEMPORARY PANELS" MUST HAVE ONLY GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE BREAKERS (EXCEPT THE MAIN DISCONNECT BREAKER WHEN REQUIRED BY TYPE OF PANEL) UNTIL MEMBER HAS PASSED FINAL INSPECTION BY THE AHJ.

N. THE NEUTRAL MUST BE AN INSULATED CONDUCTOR AND CLEARLY MARKED WHITE.

P. 1 1/4 INCH GALVANIZED UNISTRUT IS AN ACCEPTABLE ALTERNATIVE TO WOOD POSTS AND PLYWOOD. A MINIMUM OF 3 UNISTRUT CROSSMEMBERS ARE REQUIRED FOR MOUNTING THE PANEL AND RISER ASSEMBLIES. A MINIMUM OF 1 SUBGRADE STABILIZER OF 24 INCH MINIMUM LENGTH IS REQUIRED PER VERTICAL UNISTRUT POST MOUNTED PERPENDICULAR TO THE CROSSMEMBERS AND AT LEAST 18 INCHES BELOW GRADE.

MATERIALS LIST

(1) 100A–200A WEATHERPROOF METER BASE WITH MAIN DISCONNECT/BREAKER

- INSULATED GROUNDING BUSHINGS (REQUIRED WHERE ALL CONCENTRIC RINGS HAVE NOT BEEN KNOCKED OUT, WHERE CONDUIT IS ATTACHED)
- CONDUIT LOCKNUTS AS REQUIRED

(1) 3/4 INCH PLANK OR MOUNTING BOARD, WEATHERPROOFED

(2) 4 INCH X 4 INCH WOOD POSTS, WEATHERPROOFED, LENGTH AS REQUIRED

(1) RISER STRAP (MORE MAY BE REQUIRED DEPENDING ON RISER LENGTH)

(1) 2 1/2 OR 3 INCH RIGID STEEL RISER (SEE DISTRIBUTION DESIGN PLAN)

Not to Scale

01–01–2014	01–01–2017	07–01–2020							

UM8–2T–320	Figure 4-3
1 of 2	UNDERGROUND TEMPORARY CONSTRUCTION SERVICE POST MOUNT 320 AMP

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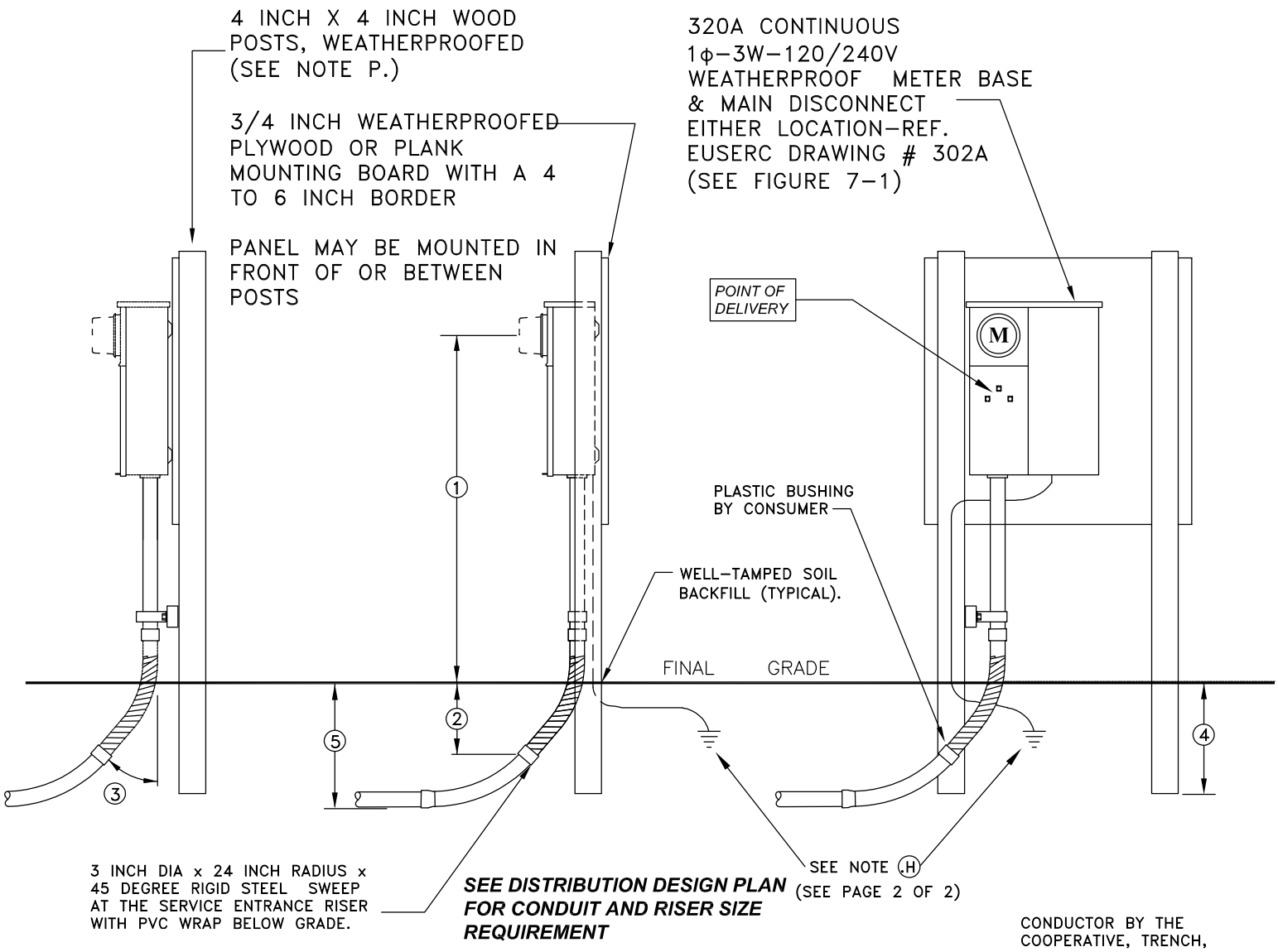
Electric Service Requirements

REFER TO NOTES ON THE NEXT PAGE FOR ADDITIONAL SPECIFICATIONS

NO K4/BOLT–INN STYLE METER BASES ALLOWED!!!

SPLIT BUSS PANELS NOT ALLOWED
––MAIN BREAKER–TYPE ONLY



SEE DISTRIBUTION DESIGN PLAN FOR CONDUIT AND RISER SIZE REQUIREMENT

CONDUCTOR BY THE COOPERATIVE, TRENCH, CONDUIT & BACKFILL BY CUSTOMER (SEE FIGURE 6–1 FOR TRENCHING SPECS)

① 4 FOOT MINIMUM, 6 FOOT MAXIMUM (5 FOOT PREFERRED)
② 18 INCH MINIMUM
③ 45 DEGREES SWEEP
④ 2 FOOT MINIMUM
⑤ 32 INCH MINIMUM TRENCH DEPTH

POINT OF DELIVERY (SERVICE POINT) OCCURS AT THE CONNECTION BETWEEN THE COOPERATIVE'S CONDUCTOR AND THE CUSTOMERS'S CONNECTION TERMINAL ON THE SOURCE SIDE OF THE METER.

Not to Scale

01–01–2014	07–01–2016	01–01–2017							

UM8-2T-320	Figure 4-3
2 of 2	UNDERGROUND TEMPORARY CONSTRUCTION SERVICE POST MOUNT 320 AMP

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

NOTES FOR TEMPORARY UNDERGROUND SERVICE EXTENSION & METER PANEL INSTALLATION GUIDE:

Notes:

A. AT ITS DISCRETION, THE COOPERATIVE MAY INSPECT THE ELECTRIC SERVICE CONDUIT EXTENSION TO THE HOME PRIOR TO BACKFILL OF THE TRENCH. WHEN CONDUIT WORK IS APPROVED AND COVERED, THE COOPERATIVE WILL PULL IT'S SERVICE CONDUCTOR THROUGH A CONTINUOUS SPAN OF CONDUIT FROM THE TRANSFORMER TO THE METER PANEL AT THE HOME. SEE FIGURE 7-2 FOR UNDERGROUND CONDUIT SYSTEM

B. METER SHALL NOT BE LOCATED UNDER A PATIO, PORCH, CARPORT, BREEZEWAY, OR AREA WHICH MAY BE ENCLOSED WITH BUILDING EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES, OR FENCES.

C. A 3 FOOT X 3 FOOT PERMANENT CLEAR WORKING SPACE SHALL BE REQUIRED IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE. SEE FIGURE 5-2 FOR WORKING SPACE REQUIREMENTS

D. A 3 FOOT MINIMUM CLEARANCE SHALL BE REQUIRED FROM THE CLOSEST POINT OF THE ELECTRIC SERVICE PANEL TO THE GAS REGULATOR VENT.

E. THE SERVICE MUST BE SECURELY FASTENED TO THE BOARD AND/OR POST(S).

F. THE SERVICE MAIN-DISCONNECT EQUIPMENT MUST BE RATED THE SAME SIZE AS SERVICE APPLIED FOR.

G. ALL SERVICE EQUIPMENT MUST BE RATED AT NOT LESS THAN 100 AMP.

H. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

J. A 45 DEGREE SWEEP ON THE END OF THE RISER MUST BE 18 INCHES BELOW GROUND WITH A THREADED PVC BUSHING ON THE END TO TRANSITION TO THE CONDUIT SYSTEM.

K. SEE SECTION 5 FOR SERVICE ENTRANCE CLEARANCE REQUIREMENTS.

L. ALL EQUIPMENT MUST BE RATED FOR OUTDOOR USAGE.

M. ALL "TEMPORARY PANELS" MUST HAVE ONLY GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE BREAKERS (EXCEPT THE MAIN DISCONNECT BREAKER WHEN REQUIRED BY TYPE OF PANEL) UNTIL MEMBER HAS PASSED FINAL INSPECTION BY THE AHJ.

N. THE NEUTRAL MUST BE AN INSULATED CONDUCTOR AND CLEARLY MARKED WHITE.

P. 1 1/4 INCH GALVANIZED UNISTRUT IS AN ACCEPTABLE ALTERNATIVE TO WOOD POSTS AND PLYWOOD. A MINIMUM OF 3 UNISTRUT CROSSMEMBERS ARE REQUIRED FOR MOUNTING THE PANEL AND RISER ASSEMBLIES. A MINIMUM OF 1 SUBGRADE STABILIZER OF 24 INCH MINIMUM LENGTH IS REQUIRED PER VERTICAL UNISTRUT POST MOUNTED PERPENDICULAR TO THE CROSSMEMBERS AND AT LEAST 18 INCHES BELOW GRADE.

MATERIALS LIST

(1) 320A CONTINUOUS WEATHERPROOF METER BASE WITH MAIN DISCONNECT/BREAKER (NO K4-BOLT-IN ALLOWED)

- INSULATED GROUNDING BUSHINGS (REQUIRED WHERE ALL CONCENTRIC RINGS HAVE NOT BEEN KNOCKED OUT, WHERE CONDUIT IS ATTACHED)
- CONDUIT LOCKNUTS AS REQUIRED

(1) 3/4 INCH PLANK OR MOUNTING BOARD, WEATHERPROOFED

(2) 4 INCH X 4 INCH WOOD POSTS, WEATHERPROOFED, LENGTH AS REQUIRED

(1) RISER STRAP (MORE MAY BE REQUIRED DEPENDING ON RISER LENGTH)

(1) 3 INCH RIGID STEEL RISER

Not to Scale

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5. Clearances

5.1. Meter Clearances and Locations

The Customer must provide suitable space and provisions for mounting a Meter Base at a location acceptable to the Cooperative. It is in the mutual interest of both the Customer and the Cooperative to provide a suitable location resulting in the most convenience to both parties for reading, testing, and replacing meters. The minimum unobstructed working space required by the Cooperative in front of a single meter is 36 inches wide, 36 inches deep and 78 inches high, (see Figures 5-1 and 5-2). The use of Current Transformers (CT) requires a minimum working space of 78 inches high, 84 inches wide and 48 inches deep. Meters or Current Transformers (CT) installed in cabinets require a minimum space of 48 inches deep to open the cabinet doors to 90 degrees. Place all meters and metering equipment at least 36 inches from a gas meter or regulator vent.

All *residential* meters and main electric service disconnect boxes shall be installed outdoors at a location acceptable to the Cooperative. Preferably locate the meter on the side of the structure closest to Cooperative lines or within 10 feet of the front (street) side to prevent meters from being located behind yard fences. The meter and Service Equipment shall not be placed where a normal day to day action, such as but not limited to a door swing, could damage the equipment and/or prevent required access. Avoid installations on exterior bedroom or bathroom walls or patios as well as exterior walls that are likely to be fenced in. Never install the meter over window wells, steps in stairways, or in other unsafe or inconvenient locations. For overhead service installations, see Figure 5-3 and Table 5-1 for additional clearance information. Keep shrubs and landscaping from obstructing access to meter.

Place *nonresidential* meters and all associated main electric Service Equipment outdoors unless the Cooperative confirms prior to installation that no acceptable outdoor location exists. Any indoor location must have prior written approval by the Cooperative. Make all meter locations accessible to the Cooperative during daytime working hours (6:00 a.m. to 6:00 p.m.). Do not locate indoor meters in show windows, closets, bathrooms, over sinks or laundry tubs, or in any location not safe, convenient, or readily accessible. Locked meter rooms are not considered to be accessible unless keyed for a Cooperative lock or equipped with a Cooperative-provided lock box for each meter room. For entry ways to meter rooms, doors must open outward.

Meter sockets located *outdoors* shall be installed so that the center of the socket is no higher than 6 feet and no lower than 4 feet above the finished grade or floor immediately in front of the meter, except for the center of meter sockets in pedestals which shall be set at 42 inches minimum above finished grade. In the case of vertical four-gang Meter Bases, the center of the lowest meter socket shall be no less than 42 inches above final grade.

If a Customer makes a meter inaccessible (in the opinion of the Cooperative) such as by installing a fence or enclosure, the Customer must, at his or her own expense, provide access acceptable to the Cooperative or move the meter socket to a location acceptable to the Cooperative.

The Cooperative will not install meters on mobile structures such as trailers, barges, cranes, dredges, draglines, or any mobile pumping equipment or on floating dwelling units such as houseboats.

1 of 2

Figure 5-1

METER SOCKET CLEARANCE REQUIREMENTS

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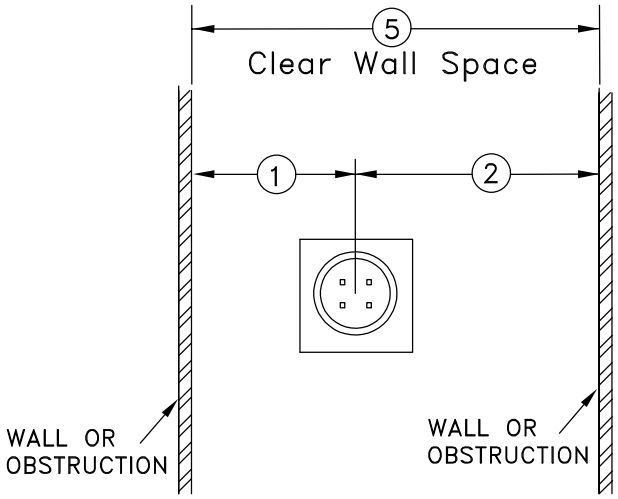
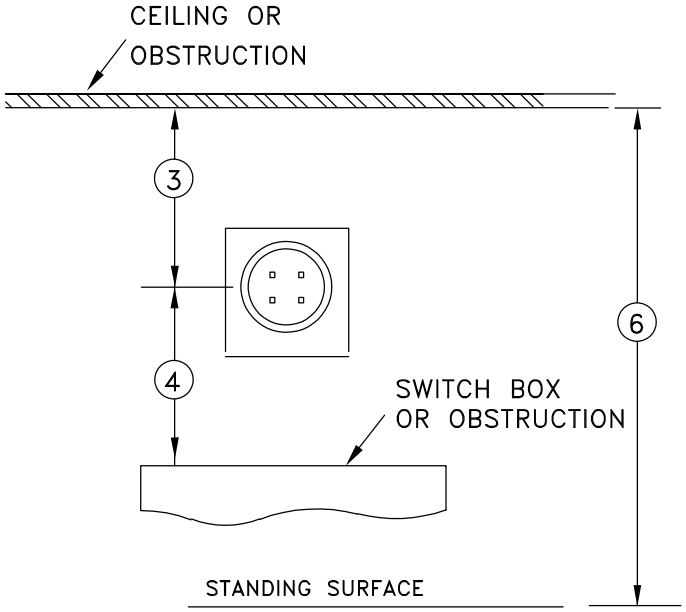
A Touchstone Energy® Cooperative

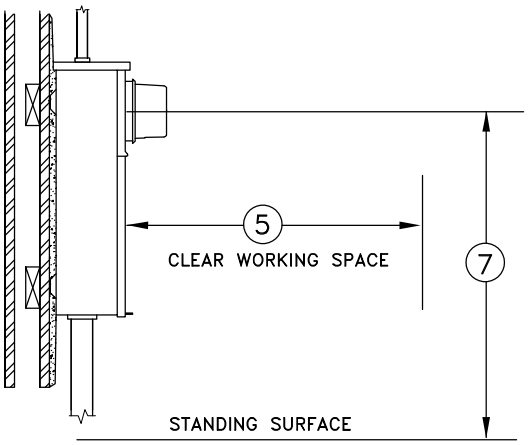
Electric Service Requirements



HORIZONTAL CLEARANCE



VERTICAL CLEARANCE



SURFACE MOUNT METER

1. 10 INCH MINIMUM
2. 26 INCH MINIMUM
3. 9 INCH MINIMUM
4. 8 INCH MINIMUM
5. 36 INCH MINIMUM
6. 78 INCH MINIMUM HEADROOM
7. 4 FOOT MINIMUM, 6 FOOT MAXIMUM

THE COOPERATIVE REQUIRES A 36 INCH WIDE, 36 INCH DEEP AND 78 INCH HIGH PERMANENT CLEAR WORKING SPACE IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE.

FOR C.T. CLEARANCES SEE FIGURE 5.2

FOR C.T. INSTALLATIONS SEE SECTION 10.2 AND FOR SWITCHBOARD INSTALLATIONS SEE SECTION 10.3

REFERENCE EUSERC DRAWING G6 & G7
FLUSH MOUNTED METER CABINETS/PANELS ARE NOT PERMITTED

Not to Scale

01-01-2014	09-01-2018								

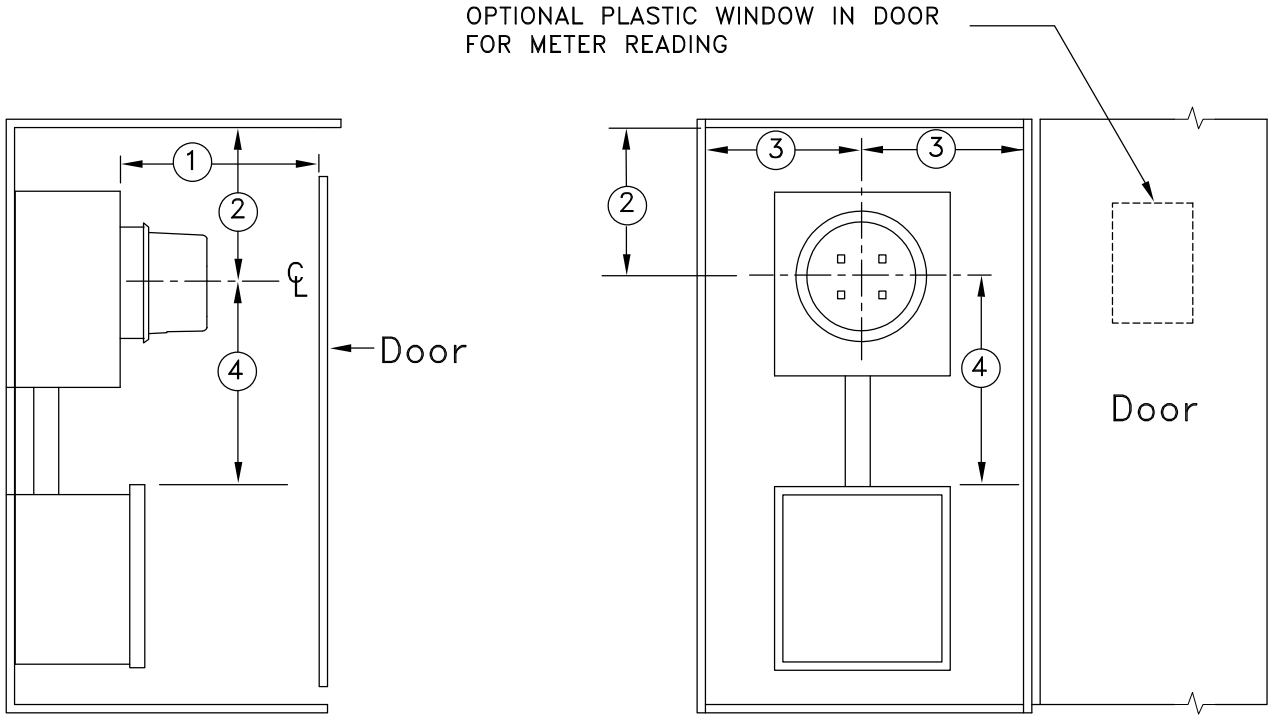
2 of 2

Figure 5-1

METER SOCKET CLEARANCE REQUIREMENTS

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements



SIDE VIEW

FRONT VIEW

(1) 11 INCHES MINIMUM – 15 INCHES MAXIMUM

(2) 9 INCHES MINIMUM TO THE EDGE OF ACCESS OPENING

(3) 10 INCHES MINIMUM TO THE EDGE OF ACCESS OPENING

(4) 8 INCHES MINIMUM FROM METER CENTERLINE TO TOP OF ANY PROTRUDING SWITCH OR BREAKER OR TO THE BOTTOM OF THE ENCLOSING CABINET

CARE SHOULD BE EXERCISED TO DESIGN CABINET SUCH THAT NEITHER THE ROOF NOR DOOR SUPPORTS WILL INTERFERE WITH THE INSTALLATION OF THE METER.

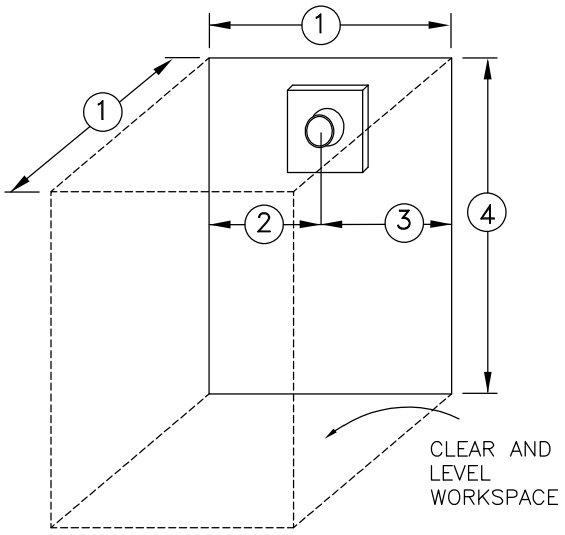
REFERENCE EUSERC DRAWING G6 & G7
FLUSH MOUNTED METER CABINETS/PANELS ARE NOT PERMITTED

Not to Scale

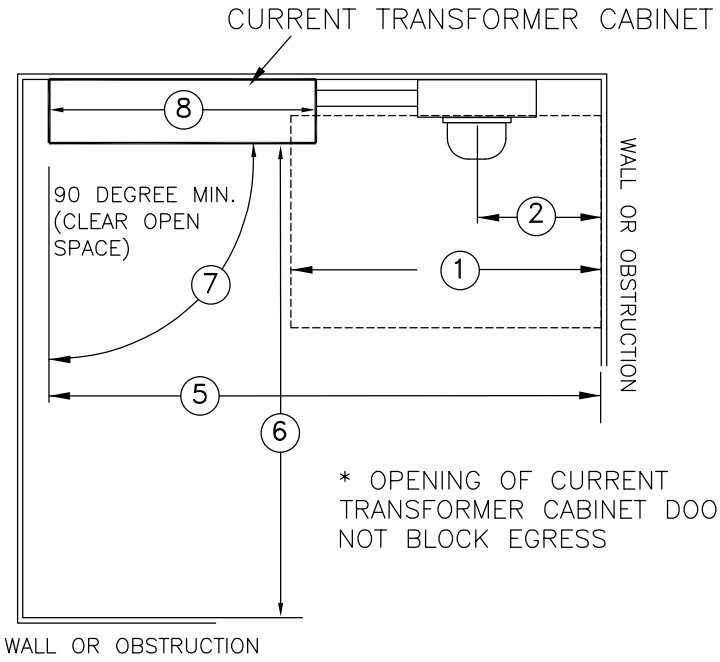
01–01–2014

1 of 1	Figure 5-2 METER WORKING SPACE	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative

Electric Service Requirements



WORKING SPACE IN FRONT OF METER OR EQUIPMENT



* OPENING OF CURRENT TRANSFORMER CABINET DOOR MUST NOT BLOCK EGRESS

METER CLEARANCES FROM OBSTRUCTIONS
PLAN VIEW

1. 36 INCH MINIMUM DEPTH & WIDTH
2. 10 INCH MINIMUM
3. 26 INCH MINIMUM
4. 78 INCH MINIMUM HEADROOM
5. 84 INCH MINIMUM
6. 48 INCH MINIMUM
7. 90 DEGREES
8. 24 INCH MINIMUM, 48 INCH MAXIMUM (1 OR 3 PHASE)

THE COOPERATIVE REQUIRES A 36 INCH WIDE, 36 INCH DEEP AND 78 INCH HIGH PERMANENT CLEAR WORKING SPACE IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE.

WHERE CURRENT TRANSFORMER CABINETS ARE INSTALLATED–CLEAR WORKING SPACE REQUIRED IS 84" WIDE 48" DEEP AND 78" HIGH.

IF OBSTRUCTIONS EXIST, OR IF SERVICE EQUIPMENT IS RATED AT 1200 AMPS OR LARGER, THESE DIMENSIONS MAY INCREASE. REFER TO THE NEC. FOR ADDITIONAL REQUIREMENTS.

DIMENSIONS DO NOT REFER TO METERS HOUSED IN EUSERC APPROVED SWITCHBOARDS OR ENCLOSURES SUCH AS EUSERC 354.

ALL MAN–DOORS MUST OPEN OUTWARD FROM ROOMS THAT CONTAIN COOPERATIVE METERING AND TERMINATION EQUIPMENT.

Not to Scale

01–01–2014	03–01–2018								

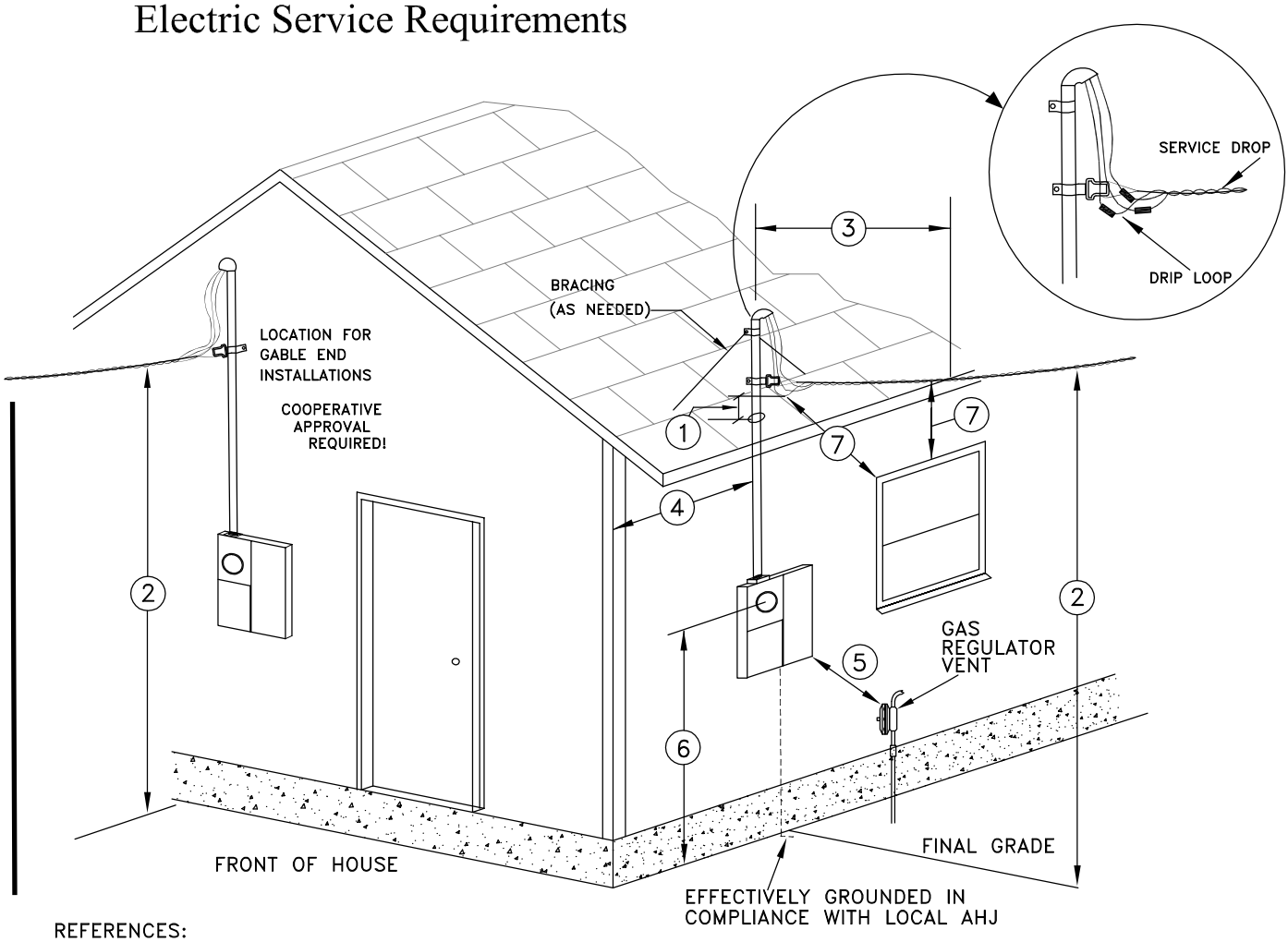
1 of 1

Figure 5-3

RESIDENTIAL CLEARANCES FOR OVERHEAD SERVICE

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements



REFERENCES:

(1) THE CABLE AND DRIP LOOP (LOWEST POINT) MUST BE AT LEAST 18 INCHES ABOVE THE ROOF. WEATHERHEAD TO BE LOCATED A MINIMUM OF 24 INCHES ABOVE THE ROOF AND WITHIN 4 FEET OF THE ROOF EDGE.

(2) MINIMUM SERVICE DROP CLEARANCES MUST MEET NATIONAL ELECTRIC SAFETY CODE (NESC) MINIMUM REQUIREMENTS. REFER TO TABLE 5-1

(3) 6 FOOT MAXIMUM AMOUNT OF SERVICE CABLE LENGTH OVER ROOF SURFACE.

(4) 10 FOOT MAXIMUM DISTANCE FROM THE CORNER OF HOUSE CLOSEST TO COOPERATIVE SERVICE LINE.

(5) 3 FOOT MINIMUM DISTANCE FROM CLOSEST PART OF METER PANEL TO THE GAS REGULATOR VENT OR METER.

(6) 4 FOOT MINIMUM, 6 FOOT MAXIMUM.

(7) 3 FOOT MINIMUM CLEARANCE FROM THE DRIP LOOP OR SERVICE DROP TRIPLEX ABOVE THE CLOSEST POINT OF A WINDOW.

NOTES:

A. METER BASE AND LOCATION MUST BE APPROVED BY THE COOPERATIVE PRIOR TO INSTALLATION.

B. BUILDINGS SHOULD NOT BE CONSTRUCTED UNDER OR ADJACENT TO LINES.

C. METER SHALL NOT BE LOCATED UNDER A PATIO, PORCH, CARPORT, BREEZEWAY, OR AREA WHICH MAY BE ENCLOSED WITH BUILDING EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES OR FENCES. SEE SECTION 5.1 FOR ADDITIONAL CLEARANCE REQUIREMENTS.

Not to Scale

01-01-2014	04-13-2015	07-01-2020							

Table 5-1 *Minimum* Clearances for Service Drops (600 Volt and Below) Loaded Conditions

Minimum service drop clearance

- Over roads, streets, and other areas subject to truck traffic. . . . . 16 Feet
- Over or along alleys, parking lots, and nonresidential driveways. . . . . .16 Feet
- Over land traveled by vehicles. . . . . 16 Feet

Minimum clearances over or along residential driveways

- If height of attachment will permit. . . . . 16 Feet
- If not;

  For service drops 120/240 & 120/208Y volt, provided trucks are not anticipated. … … 12 Feet

The Cooperative does not allow buildings or structures to be placed under Cooperative facilities. Per this document, no vertical clearance over buildings or structures is stated. If structures are built under a line that was constructed after the issuance of this document, 2014, all expense to relocate the structure or Cooperative facilities will be borne by the Customer.

Minimum clearances from buildings for service drops not attached to the building

- Vertical clearance over or under balconies and roofs-*Prior to the 2014 issuance of this document!*

  Readily accessible to pedestrians …….. . . . . 11 Feet

  Not readily accessible to pedestrians……..… 3.5 Feet

- Horizontal clearance to walls, projections, windows, balconies, and areas accessible to pedestrians

  If cabled together with grounded bare neutral. . . . . 5 Feet

  If open wire or cabled with an insulated neutral. . . . . 5.5 Feet

Minimum clearances for service drops attached to a building or other installation (over or along the installation to which they are attached)

- From the highest point of roofs, decks or balconies over which they pass-*Prior to the 2014 issuance of this document!*

  All Areas . . . . . 11 Feet

  Above a not-readily-accessible roof and terminating at a (through-the roof) service conduit or approved support, the service and its drip loops set not less than 18-inches above the roof. Not more than 6-feet of the service cable over the roof or within 4-feet of the roof edge. . . . . 1.5 Feet

  In any direction from windows designed to open (except from above) . . . . . 3 Feet

  In any direction from doors, porches, fire escape, etc . . . . . 3 Feet

Minimum clearances for drip loops only limited to 150 volts to ground. . . . . 10 Feet

5.1.1 Definition Notes for Clearance Table 5-1

A truck is any vehicle exceeding 8 feet in height. Areas not subject to truck traffic include places where truck traffic normally never occurs or is not reasonably anticipated.

Spaces and ways subject to pedestrians or restricted traffic only include those areas prohibiting equestrians, vehicles, or other mobile units that exceed 8 feet in height, through regulations, by permanent terrain configurations, or not normally encountered or reasonably anticipated.

The Cooperative considers a roof, balcony, or area to be readily accessible to pedestrians if it can be casually accessed through a doorway, ramp, window, stairway, or permanently-mounted ladder, by a person on foot who neither exerts extraordinary physical effort nor employs special tools or devices to gain entry. The Cooperative does not consider a permanently mounted ladder as a means of access if its bottom rung is eight feet or more from the ground or other permanently-installed accessible surface.

5.2 Clearances from Pools, Spas or Hot Tubs

5.2.1 Overhead Clearances

The Customer shall not install or construct a pool, spa, or hot tub, whether in-ground or above ground, underneath or within 10 feet horizontally of the Cooperative's Service Drop conductors as measured from the water's edge. Additionally, the minimum clearance to Trico's overhead Service Drop conductors measured in any direction from the water's edge on in-ground pools or from the deck and ladder on above ground pools or from the base of above ground pools having no pool deck, shall be 22.5' minimum as required in the current NESC edition. Consult the Cooperative for required clearances to facilities of voltages greater than 120/240 volts, including primary facilities. See Figure 5-5 for additional clearance information.

5.2.2 Underground Clearances

The Customer shall not install or construct a pool, spa, or hot tub, whether in-ground or aboveground, within 10 feet horizontally of the Cooperative's Service Lateral conductors as measured from the edge of the water structure. Cooperative installed conductors must be in conduit (electric grade gray Schedule 40 PVC) installed by the Customer. For trench depth, cover, and conduit requirements see section 6.

5.3 Clearance from Underground Gasoline Storage Tanks

Underground service conduits shall be located at least 10 feet from the fill opening of underground tanks containing flammable liquids. Consult the Cooperative before construction.

5.4 Clearance from Padmounted Transformer

Figure 5-4, Padmounted Transformer Clearance, shows appropriate clearances from padmounted transformers.

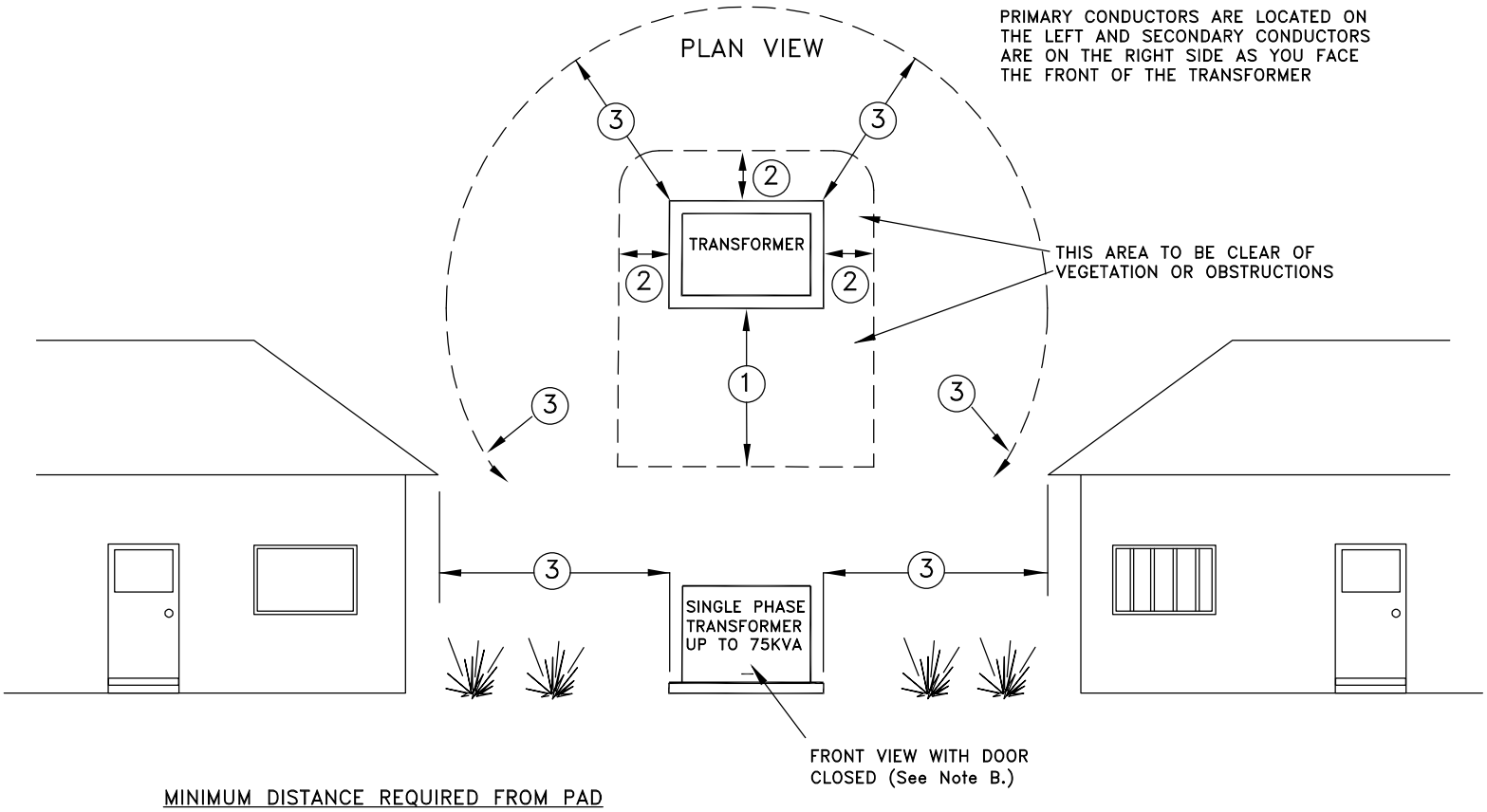
5.5 Clearance from Trees, Buildings and other Obstructions

As stated in the Rules, Regulations and Line Extension Policy as well as elsewhere in this document, Cooperative conductors shall not pass vertically over pools, buildings, trees or other permanent structures. The Customer shall not construct or install any facility under the Cooperative's existing line that are obstructions to these facilities. Examples of these obstructions are, but not limited to, stock ponds, manmade lakes, berms, trees, corrals, playgrounds or other such obstructions that either hinder the Cooperatives access to our facilities or reduce the ground clearance to these overhead facilities.

Obstructions to our padmounted equipment that hinders or impedes access are prohibited. Examples of obstructions to padmounted equipment are, but not limited to, mailboxes, signage, vegetation, and other utility structures. Anything that attempts to cover or prevent immediate identification of Cooperative equipment such as but not limited to, imitation boulders, wooden or plastic crates, boxes, etc., are prohibited. Consult the Cooperative during the planning stage of any project where such construction or installation work would take place underneath or in close proximity of the Cooperative's overhead or underground facilities.

1 of 1	Figure 5-4 PADMOUNTED TRANSFORMER CLEARANCES	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative

Electric Service Requirements



MINIMUM DISTANCE REQUIRED FROM PAD

(1) = 10 FOOT CLEAR AREA REQUIRED IN FRONT FOR SAFE AND UNIMPEDED ACCESS

(2) = 3 FOOT CLEAR AREA IN BACK AND SIDES OF UNIT TO ALLOW FOR ACCESS

(3) FOR ZERO TO 75 KVA = 10 FOOT
FOR 76 TO 333 KVA = 20 FOOT
FOR 334 KVA AND LARGER = 30 FOOT
DISTANCES ARE MINIMUM FROM ANY BUILDING, STRUCTURE OR OVERHANG

Notes:

A. CONSULT STATE REQUIREMENTS AND LOCAL BUILDING AND FIRE CODES FOR MORE CUSTOMER INFORMATION

B. PLACE FRONT OF PADMOUNTED TRANSFORMER AWAY FROM BUILDING WALLS OR OTHER BARRIERS TO ALLOW FOR SAFE WORKING PRACTICES. IF FRONT OF TRANSFORMER MUST FACE WALL, ALLOW 10 FEET FOR WORKING CLEARANCE. NO VEGETATION IN THIS WORK SPACE IS PERMITTED.

C. CONSULT THE COOPERATIVE FOR ANY ADDITIONAL REQUIRED CLEARANCES TO BUILDING DOORS, WINDOWS FIRE ESCAPES, AIR VENTS ETC.

D. WHERE EXPOSED TO MOTORIZED VEHICLES, THE CUSTOMER MUST INSTALL AND MAINTAIN COOPERATIVE APPROVED BARRIER TO PROTECT THE PADMOUNTED TRANSFORMER AND OTHER EQUIPMENT.

E. THE COOPERATIVE WILL DETERMINE THE EXACT PLACEMENT OF THE PADMOUNTED TRANSFORMER. THIS TYPICALLY WILL BE WITHIN 15 FEET OF A MAINTAINED DRIVABLE SURFACE.

F. MINIMUM CLEARANCE FROM SEWER HCS OR WATER METER (STUB) IS 10 FEET.

Not to Scale

01-01-2014	09-01-2018								

1 of 1

Figure 5-5

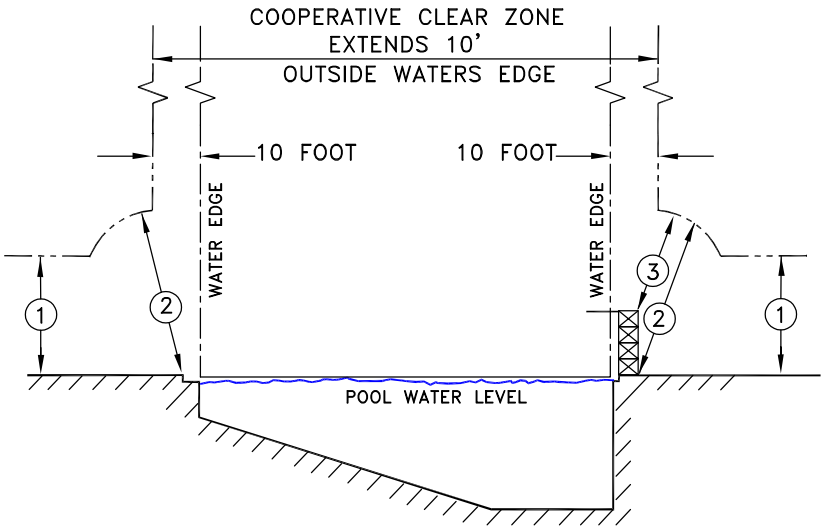
POOL CLEARANCES FROM OVERHEAD CONDUCTORS

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

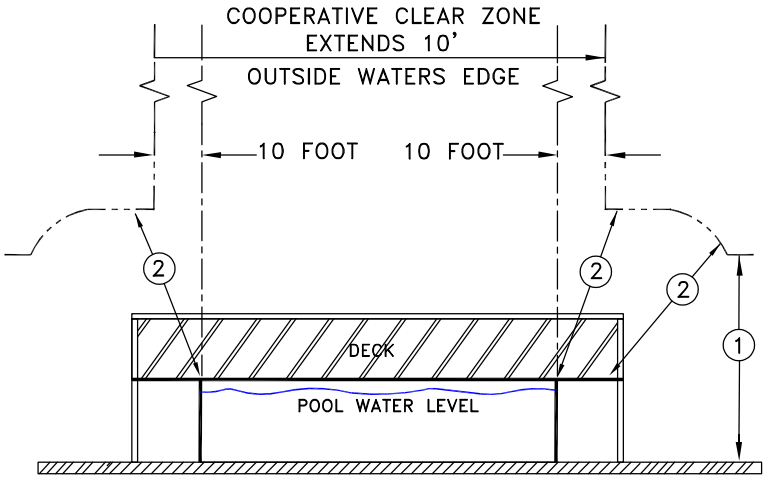
Electric Service Requirements

INFORMATION DETAILED HERE EXTRACTED FROM THE 2017 NESC SECTION 234

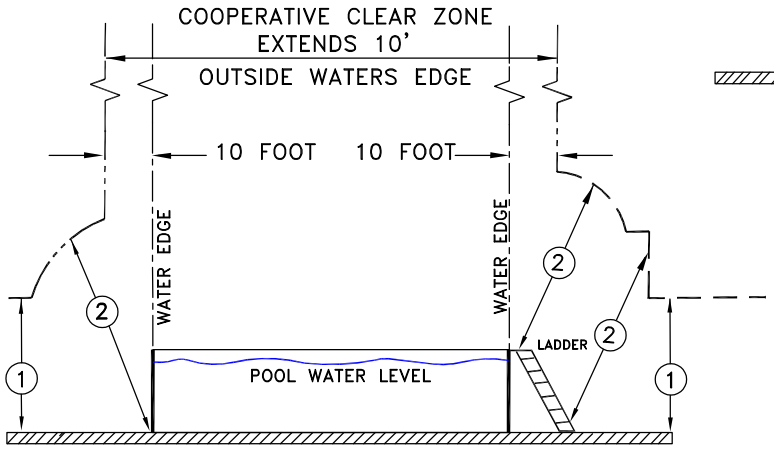
SEE SECTION 5.2.1 FOR ADDITIONAL INFORMATION



IN-GROUND SWIMMING POOL CLEARANCE



ABOVEGROUND SWIMMING POOL WITH DECK



ABOVEGROUND SWIMMING POOL WITHOUT A DECK

–REQUIRED CLEARANCE MAINTAINED ABOVEGROUND

	TPX
(1) = VERTICAL CLEARANCE OVER ADJACENT LAND	SEE TABLE 5–1
(2) = CLEARANCE IN ANY DIRECTION FROM THE WATER LEVEL, EDGE OF POOL, BASE OF DIVING PLATFORM OR ANCHORED RAFT. (VERTICAL CLEARANCE SHALL BE MEASURED FROM HIGHEST LOCATION PEOPLE CAN STAND)	22.5'
(3) = CLEARANCE IN ANY DIRECTION TO THE DIVING PLATFORM, TOWER, WATER SLIDE OR OTHER FIXED, POOL RELATED STRUCTURES. (VERTICAL CLEARANCE SHALL BE MEASURED FROM HIGHEST LOCATION PEOPLE CAN STAND)	14.5'

Not to Scale

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6. Underground Requirements

6.1 Underground Service

The Customer will have the responsibility for trenching, shading, backfilling, and compaction of Customer provided trenches. The Customer shall install conduit, basements, concrete products such as vaults and certain pads, and any other requirements to complete the construction for underground service. Any conduit installed by the Customer must be inspected prior to backfill, contact the Operations Department to schedule an inspection. The Customer shall be responsible for any problems associated with the conduit, and the conduit installation, until such time the Cooperative has installed its facilities. See also 6.4 for additional information.

The Cooperative will not install Primary electrical conductors in a common trench with sewer unless unusual conditions such as adverse soil or route restrictions exist. *The Customer must make a request to the Cooperative in writing for any deviation from this standard, and supply all supporting documentation. All such installations require the prior approval of the Cooperative and other utility involved.*

Refer to Table 6-1 *Minimum Conduit Required for Utility Conductors* for the minimum conduit acceptable for Cooperative Service Lateral conductors to be installed.

Where exposed to motorized vehicles, the Customer must install and maintain Cooperative approved barriers to protect padmounted transformers and other equipment. (See Figure 6.3)

The Cooperative will install, maintain, and own the underground Service Lateral from the Cooperative's distribution line or transformer to the point of delivery (POD), except as noted in the next paragraph.

The Customer is *required* to install and own the Service Entrance Conductors for any installation that requires Current Transformer (CT) metering. This includes single phase residential and non-residential services greater than 400 amps (320 continuous) and all three phase services over 200 amperes.

Where underground services are metered utilizing Current Transformers (CT), the point of delivery (POD) shall be the point in the circuit at which the Service Entrance Conductors exit the Cooperative provided terminations. While ownership of the service entrance conductor transfers from the Cooperative to the Customer at the (POD), the Customer is responsible for providing and installing a continuous length of properly sized and insulated Service Entrance Conductor. The Cooperative retains exclusive responsibility for connection of the Service Entrance Conductor to the (POD) and for oversight of all work activities within Cooperative controlled facilities.

6.2 Trenches Provided by the Customer

Customer must comply with OSHA rules and Cooperative trenching Standards
See Figure 6-1 for trenching specifications

The location of the service entrance on the Customer's premises is an important consideration to both the Customer and Cooperative. Customer responsibilities include:

- Consulting the Cooperative to determine the route and the point of attachment for underground Service Laterals, meter locations, service stub-out locations, Current Transformers (CT), and other enclosures. Routing conduit under buildings or other permanent obstructions shall not be allowed.

- Locating the service entrance to make the meter and service easily accessible to the Cooperative for construction, installation, operation, and maintenance of Cooperative meters and equipment.

The Customer is responsible to recognize potential surface and sub grade water flows and coordinate with the Cooperative to minimize potential run-off problems.

6.2.1 Call Before You Dig

State law requires the Customer/Excavator to call for underground utility cable locates at least two full working days (48 hours) prior to excavation. The excavation must not be started until locates have been marked or the utilities have informed the excavator that they have no facilities in the area. ***Call 1-800-STAKE IT (782-5348) or 811 before you dig.***

State Overhead Powerline Safety law also requires that if you will be working within close proximity of an energized overhead line, the Cooperative must be notified and appropriate steps taken prior to commencement of any work.

6.2.2 Backfill

The Customer will be responsible for backfilling trenches they provide. The Customer must follow the Cooperative's backfill standards and associated specifications. See Figure 6.1. Contact the Cooperative office for the backfill procedure to be used. ***The Cooperative will NOT energize conductors until the Customer completes backfill to the Cooperative's satisfaction.***

6.2.3 Service Trench

When installing conduit for service cable in the trench, follow "Secondary Trench Detail UR2-32" in Figure 6-1. When installing conduit for service cable with other utilities there is a 12 inch minimum separation from surface to surface required. Please contact the other utilities to verify their depth and separation requirements. If crossing other utilities, contact the Cooperative for guidance. Please provide existing depth of Utility to be crossed.

6.2.4 Primary Trench

Primary trench requirements may vary consult the Cooperative for trench requirements before installation. When trenching for Primary Conductor installation, refer to Figure 6-1 "Main Trench Detail Spec UR2-54". The Customer may place communication, signal and other electrical conductors in the same trench as the Cooperative conductors, provided that the installation meets Cooperative specifications, all applicable code requirements are met and all concerned parties agree on such placement.

The Cooperative will not install Primary electrical conductors in a common trench with sewer unless unusual conditions such as adverse soil or route restrictions exist. *The Customer must make a request to the Cooperative in writing for any deviation from this standard, and supply all supporting documentation. All such installations require the prior approval of the Cooperative and other utility involved.*

Backfill material shall be 1 ½ inch minus in size for the first 14 inches of backfill. It can be screened spoil material or imported sand or pea gravel. Shaded backfill shall be 2 inches below and 12 inches above the conduit. The remainder of the trench backfill shall be free of rocks larger than 4 inches diameter.

When providing trench, the Customer will be responsible for backfilling trenches and site restoration.

The Cooperative will NOT energize conductors until the Customer completes backfill to Cooperative's satisfaction

The Customer shall hand dig within 2 feet of Blue Stake marks. When nearing a transformer or Secondary junction box the Customer shall contact the Cooperative to assist with installation of conduit sweeps.

UR2–32
UR2–54

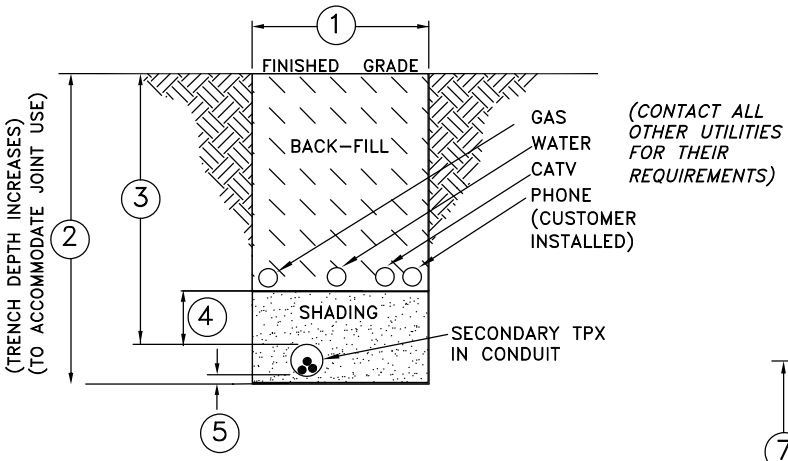
1 of 4

Figure 6-1

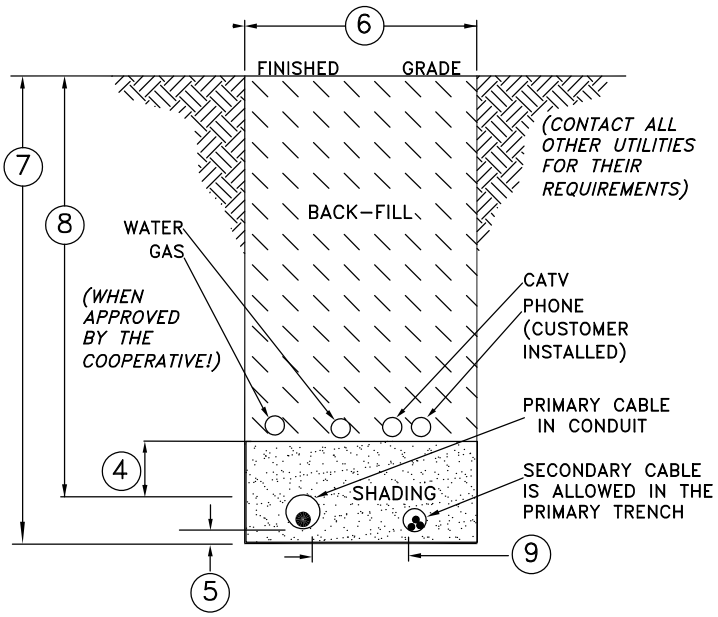
TRENCHING & CONDUIT SPECIFICATIONS

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements



SECONDARY TRENCH DETAIL, UR2–32



MAIN TRENCH DETAIL, UR2–54

1. 6 INCH TO 24 INCH MAIN TRENCH
2. 32 INCH MINIMUM TRENCH DEPTH
3. 24 INCH MINIMUM COVER
4. 12 INCH MINIMUM SHADING COVER
5. 2 INCH MINIMUM SHADING BELOW
6. 12 INCH TO 24 INCH MAIN TRENCH
7. 54 INCH MINIMUM TRENCH DEPTH
8. 48 INCH MINIMUM COVER
9. 6 INCH MINIMUM SEPERATION

THE FOLLOWING IS A LIST OF INSTRUCTIONS TO ASSIST THE CUSTOMER IN THE INSTALLATION OF AN UNDERGROUND TRENCH AND CONDUIT SYSTEM. IT IS SUGGESTED TO COORDINATE A PRE–CONSTRUCTION MEETING WITH TRICO'S INSPECTORS AND ALL PARTIES INVOLVED TO ENSURE PROPER INSTALLATION OF FACILITIES.

A. THE CUSTOMER IS RESPONSIBLE FOR OBTAINING ANY ROAD PERMITS NECESSARY TO TRENCH WITHIN A ROAD RIGHT OF WAY.

B. TO CONTACT THE BLUE STAKE CENTER DIAL 811 OR 1–800–STAKEIT (782–5348)

C. ALL OPEN TRENCHES AND OR EXCAVATION REQUIRED FOR THE PROJECT MUST MEET OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION) SHORING REQUIREMENTS.

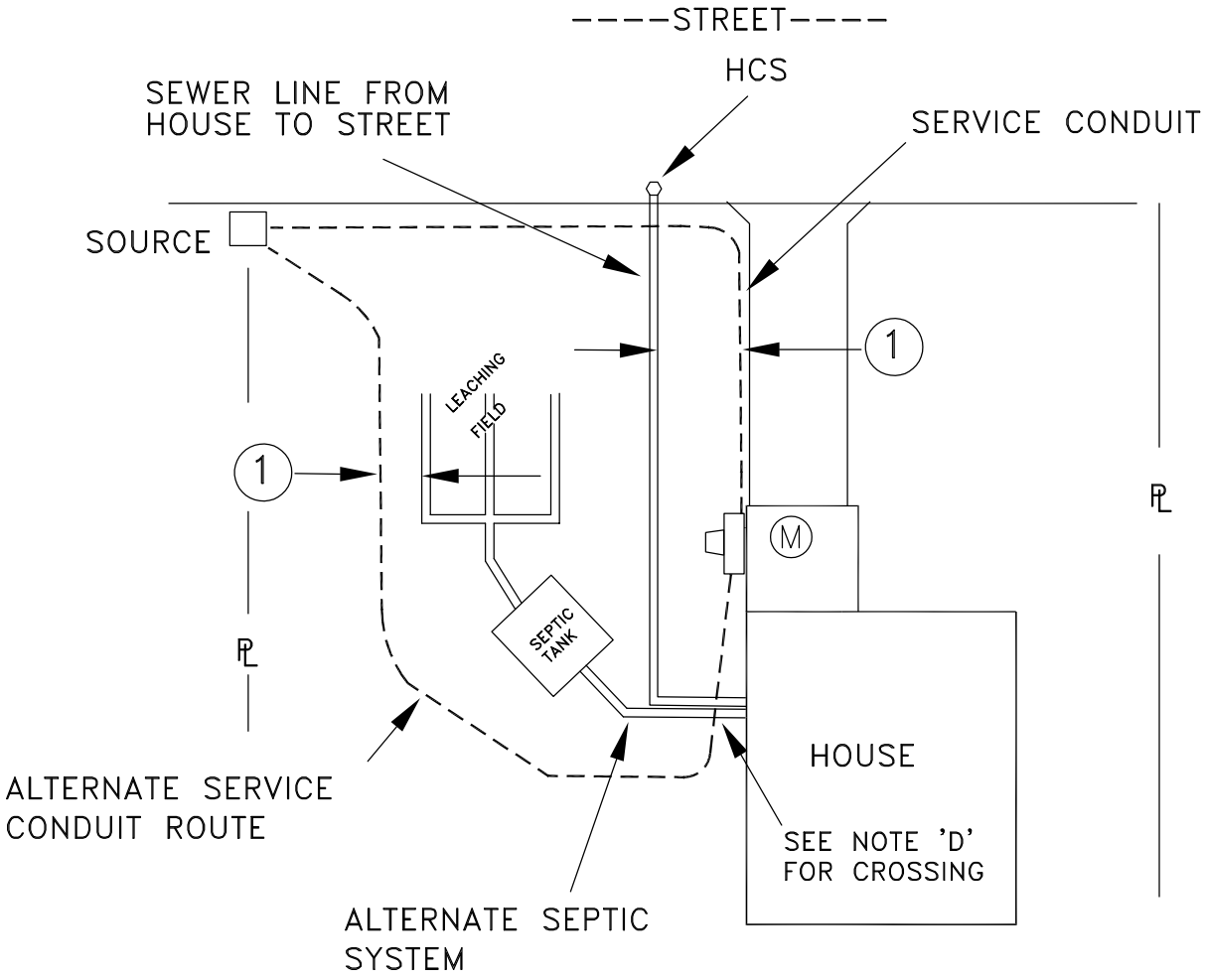
CONTINUED ON NEXT PAGE

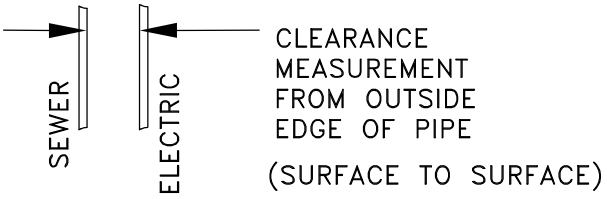
Not to Scale

01–01–2014	02–13–2015	01–01–2016							

UR2-32 UR2-54	Figure 6-1 TRENCHING & CONDUIT SPECIFICATIONS	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
2 of 4		

Electric Service Requirements
Septic/Sewer line clearances





(1) 3 FOOT MINIMUM SEPARATION (10 FOOT RECOMMENDED)

D. SECONDARY AND/OR SERVICE CONDUCTOR SHALL BE A MINIMUM OF 3 FEET FROM SEPTIC TANK AND LEACH FIELDS. IT IS RECOMMENDED THAT 10 FEET BE MAINTAINED WHERE POSSIBLE. IF A PIPE CROSSING IS REQUIRED, ELECTRIC CONDUITS SHALL BE 1 FOOT BELOW SEWER PIPE.

E. RESIDENTIAL SEWER LINES FROM THE HOUSE TO THE STREET CONNECTION (HCS) SHALL BE NO CLOSER THAN 3 FEET HORIZONTALLY FROM THE SERVICE CONDUIT.

CONTINUED ON NEXT PAGE

Not to Scale

Figure 6-1

TRENCHING & CONDUIT SPECIFICATIONS

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

F. ALL CONDUIT REQUIREMENTS FOR THE ELECTRIC DISTRIBUTION SYSTEM DESIGNED TO PROVIDE SERVICE TO THE CUSTOMERS PROJECT SHALL BE FURNISHED BY THE CUSTOMER IN ACCORDANCE WITH THE COOPERATIVES ELECTRIC DISTRIBUTION PLAN. APPROVED DUCT TYPES FOR ALL PRIMARY, SECONDARY AND SERVICE LINES IS POLYVINYL CHLORIDE (PVC) DESIGNED FOR DIRECT BURIAL INSTALLATION AND IN COMPLIANCE WITH ONE OF THE FOLLOWING STANDARDS: PVC DUCT MARKED "SCH 40" AND WHERE ALLOWED BY THE COOPERATIVE, "DB–120 TC–8 OR DB–120 ASTM F–512".

G. A TYPICAL SINGLE PHASE PRIMARY CONDUIT INSTALLATION CONSIST OF (1) 3 INCH CONDUIT AND A TYPICAL THREE PHASE PRIMARY CONSISTS OF (3) 3 INCH CONDUITS BOTH WITH A MINIMUM OF 48 INCHES OF COVER. GREATER TRENCH DEPTH MAY BE REQUIRED FOR MULTILEVEL CONDUIT RUNS OR JOINT USE WITH OTHER UTILITIES. CONTACT THE OTHER UTILITIES FOR THEIR REQUIREMENTS.

H. A TYPICAL SERVICE LATERAL CONDUIT INSTALLATION CONSIST OF (1) 2 1/2 INCH OR (1) 3 INCH CONDUIT WITH A MINIMUM OF 24 INCHES OF COVER. GREATER TRENCH DEPTH MAY BE REQUIRED FOR MULTILEVEL CONDUIT RUNS OR JOINT USE WITH OTHER UTILITIES. CONTACT THE OTHER UTILITIES FOR THEIR REQUIREMENTS. FOR THE CONDUIT TO BE AT THE CORRECT LEVEL WHEN ENTERING OR EXITING A CONCRETE OR FIBERGLASS BASEMENT TRENCH DEPTH AND COVERAGE MAY ALSO NEED TO BE INCREASED.

I. HAND DIGGING WITHIN 2 FEET OF A TRANSFORMER OR PEDESTAL IS REQUIRED TO AVOID DAMAGE TO EXISTING EQUIPMENT AND IS A BLUE STAKE REQUIREMENT.

J. THE SHADED AREA IS 14 INCHES DEEP WITH 2 INCHES OF MATERIAL (IMPORTED SAND OR PEA GRAVEL) OR SCREENED TRENCH MATERIAL TO 1 1/2 INCH MINUS) ON THE BOTTOM AND THEN SHADED WITH 12 INCHES OF MATERIAL ON TOP OF CONDUCTOR FOR PROTECTION.

K. ALL CONDUIT IS TO BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE PROPERLY JOINED TOGETHER WITH COUPLINGS AND ALIGNED SUCH THAT NO SHARP EDGES PROTRUDE ON THE INSIDE. PRIMER AND GLUE WILL BE REQUIRED AT ALL CONDUIT JOINTS. MOISTURE, DIRT OR OTHER FOREIGN MATERIAL SHALL BE KEPT FROM ENTERING THE CONDUIT SYSTEM DURING INSTALLATION. THE CONDUIT SYSTEM SHALL BE DRY AND CLEAR OF OBSTRUCTIONS WHEN COMPLETE.

L. ALL CONDUIT SHALL BE PLACED ON A SMOOTH AND LEVEL TRENCH BOTTOM TO PROVIDE EVEN SUPPORT OF THE CONDUIT. ROCK OUTCROPPINGS SHALL BE CUSHIONED WITH A LAYER OF CLEAN COMPACTED FILL TO AVOID HIGH PRESSURE POINTS. THE INITIAL BACKFILL SHADING LAYER SHALL BE TAMPED ON THE SIDES OF THE CONDUIT(S) TO DEVELOP SIDEWALL PRESSURE. MULTIPLE ELECTRIC CONDUITS IN A COMMON TRENCH AND INTERSECTING CONDUITS SHALL HAVE A 3 INCH SEPARATION BETWEEN THEM TO ENSURE THAT ALL VOIDS IN THE CONDUIT GROUP ARE ADEQUATELY FILLED WITH SHADING AND TO PREVENT PRESSURE POINTS FROM CONDUIT–TO–CONDUIT CONTACT. CONDUITS AND CONDUIT SPANS COMPRESSED OUT–OF–ROUND WILL BE REJECTED.

CONTINUED ON NEXT PAGE

Figure 6-1

TRENCHING & CONDUIT SPECIFICATIONS

TRICO
AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

M. THE COOPERATIVE WILL REQUIRE PERIODIC INSPECTION OF THE CONDUIT SYSTEM INSTALLATION OF THE ENTIRE TRENCH ROUTE. THIS WILL INCLUDE ALL CONDUIT AND SHADING AND WHERE APPLICABLE VAULTS, TRANSFORMER AND EQUIPMENT BASEMENTS, TRANSFORMER AND EQUIPMENT PADS, STUB–OUTS, CONCRETE ENCASEMENTS, AND SECONDARY PEDESTALS. THE ENTIRE CONDUIT SYSTEM INSTALLATION IS SUBJECT TO INSPECTION. EVERY EFFORT WILL BE MADE TO INSPECT THE FOLLOWING DAY THAT THE CUSTOMER OR CONTRACTOR REQUESTS INSPECTION(S). INSTALLATION AND INSPECTION OF THE DISTRIBUTION CONDUIT SYSTEM IN PHASES IS PERMISSIBLE, HOWEVER, THE COOPERATIVE WILL NOT INSTALL IT'S FACILITIES UNTIL THE ENTIRE DISTRIBUTION CONDUIT SYSTEM IS COMPLETED AND APPROVED. ANY ELECTRICAL TRENCH AND CONDUIT WORK BACKFILLED WITHOUT COOPERATIVE INSPECTION OR INSTALLED IN A SUBSTANDARD MANNER WILL BE REJECTED.

N. WHERE THE MINIMUM COVERAGE (DEPTH) OF CONDUIT CANNOT BE OBTAINED, A REDUCED COVERAGE AMOUNT MAY BE ALLOWED. IF APPROVED BY THE COOPERATIVE, THE CONDUIT SHALL BE CAPPED WITH A MINIMUM OF 6 INCHES OF CONCRETE. CONCRETE SHALL BE COLORED OR PAINTED RED. CAP SHALL CONTINUE UNTIL MINIMUM COVERAGE IS OBTAINED.

O. THE PERMISSIBLE SWEEP RADIUS FOR PRIMARY CONDUCTOR FOR 3, 4 AND 6 INCH CONDUIT SHALL BE 36 INCH MINIMUM. ALL SWEEPS FOR 2 1/2 INCH OR 3 INCH SERVICE DUCT SHALL BE 24 INCH RADIUS. SWEEP DEFLECTIONS OF 45 AND 90 DEGREE ARE PERMITTED FOR HORIZONTAL BENDS IN ANY CONDUIT RUN. THE SUM OF ALL VERTICAL SWEEP DEFLECTIONS SHALL BE 90 DEGREES AND END IN A VERTICAL ALIGNMENT.

P. THE SUM ANGLE OF ALL VERTICAL AND HORIZONTAL SWEEPS IN ANY GIVEN SPAN BETWEEN OUTLETS SHOULD NOT EXCEED 360 DEGREES. IF APPROVED BY THE COOPERATIVE, THE HORIZONTAL SWEEPS IN ANY PRIMARY RUN WITH AN ACCUMULATIVE RADIUS OF SWEEP BENDS EXCEEDING 360 DEGREES SHALL BE ENCASED IN A MINIMUM THICKNESS OF 3 INCHES AND A MAXIMUM OF 5 INCHES OF CONCRETE. CONCRETE SHALL HAVE A VALUE OF 1500 TO 2500 PSI AND A SLUMP VALUE OF 7 TO 8. CONCRETE SHOULD EXTEND A MINIMUM OF 12 INCHES BEYOND JOINTS.

Q. IT IS THE RESPONSIBILITY OF THE CUSTOMER TO FURNISH AND INSTALL ALL CONCRETE VAULTS, TRANSFORMER PADS, AND SPECIAL EQUIPMENT PADS SPECIFIED IN THE ELECTRIC DISTRIBUTION PLAN. ALL INSTALLATIONS SHALL BE TO COOPERATIVE SPECIFICATIONS AND IN COMPLIANCE WITH ROAD RIGHTS OF WAYS AND PUBLIC/PRIVATE UTILITY EASEMENTS. ALL COSTS FOR RELOCATION OF CONDUIT AND OR COOPERATIVE FACILITIES DUE TO IMPROPER CONDUIT PLACEMENT OR INSTALLATION SHALL BE BORNE BY THE CUSTOMER.

R. AT THE COMPLETION OF THE CONDUIT SYSTEM INSTALLATION, A MANDREL TEST OF ALL INDIVIDUAL CONDUIT RUNS MAY BE REQUIRED TO BE PERFORMED BY THE CUSTOMER AND WITNESSED BY THE COOPERATIVE. IF REQUIRED ALL CONDUIT RUNS SHALL BE THOROUGHLY CLEANED OF DEBRIS AND AN APPROVED MANDREL NO MORE THAN A 1/2 INCH SMALLER THAN THE I.D. OF THE CONDUIT SHALL BE DRAWN THROUGH.

S. ANY CONDUIT RUN NOT TERMINATING AT A PIECE OF EQUIPMENT MUST BE CAPPED AND MARKED.

T. SWEEPS INSTALLED WITHIN THE CONDUIT SYSTEM SHALL NOT BE CUT.

1 of 3

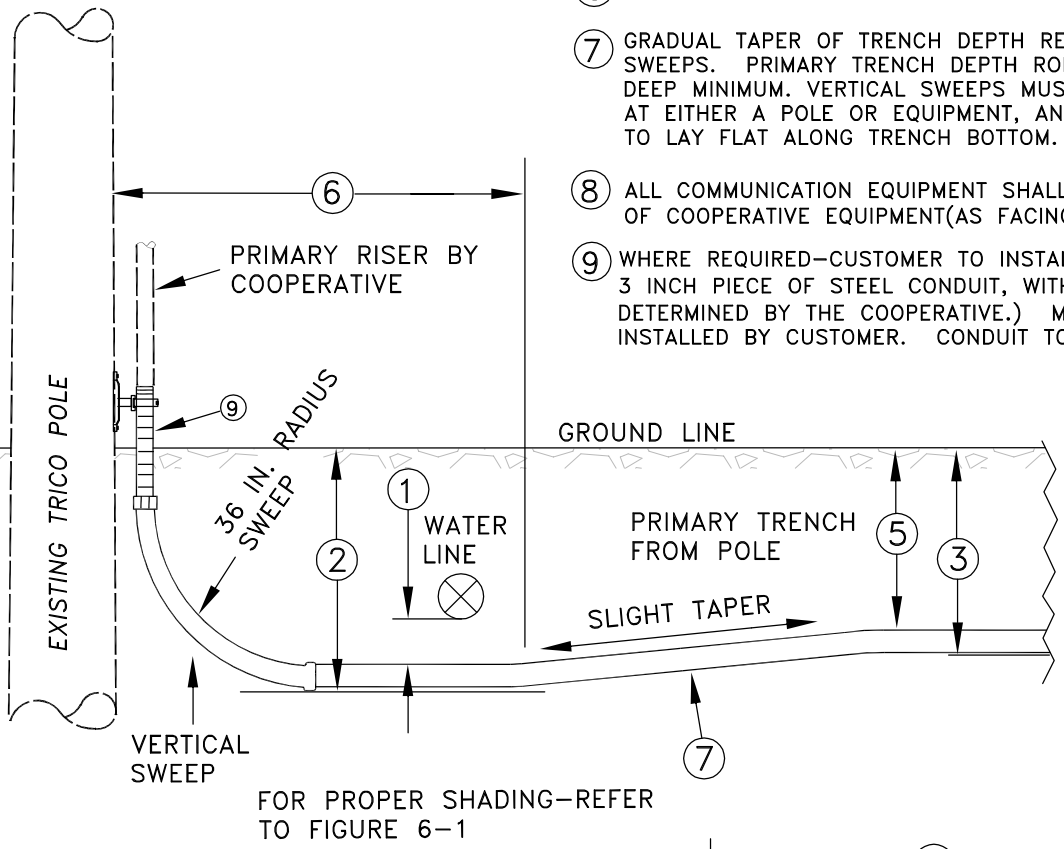
Figure 6-2

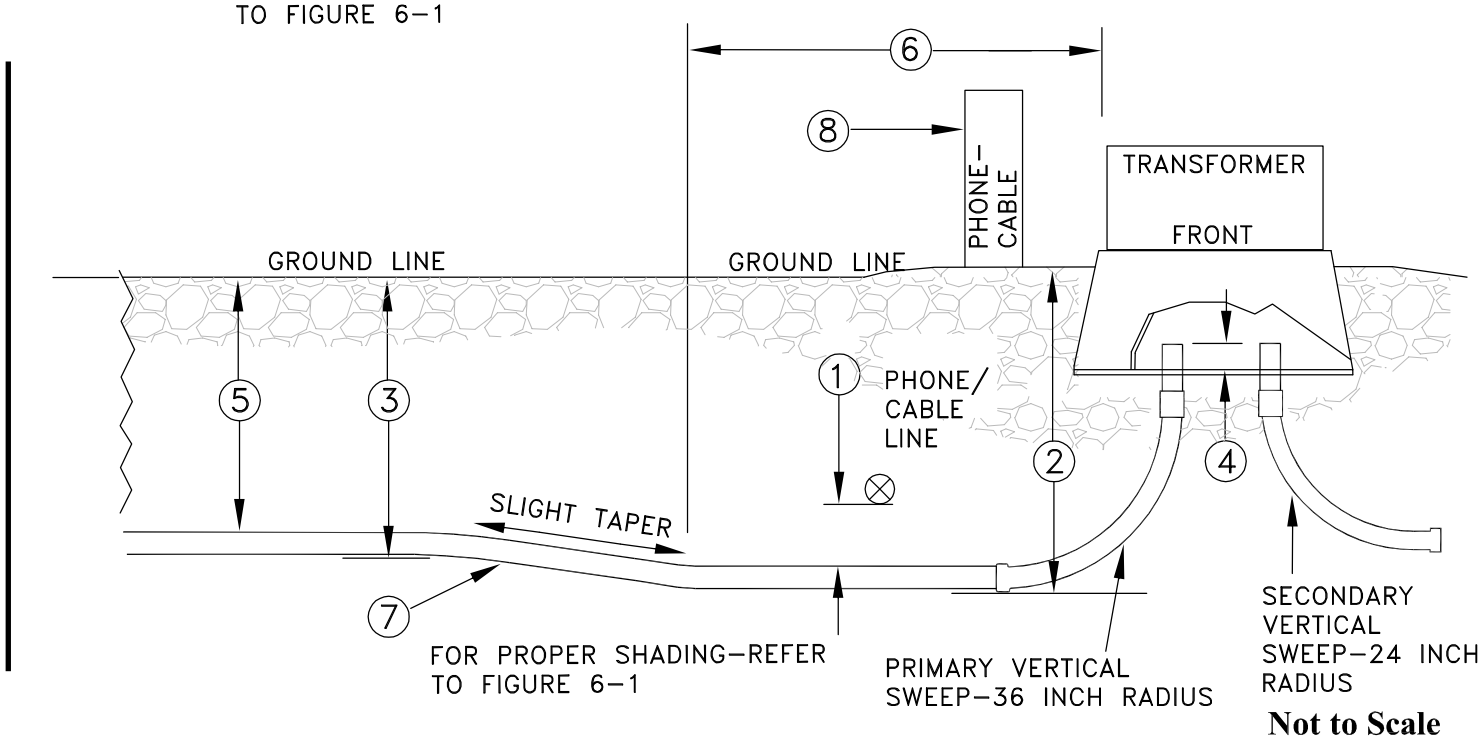
UNDERGROUND PRIMARY VOLTAGE TRENCHING AND CONDUIT INSTALLATION GUIDE

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

1. 12 INCHES MINIMUM SEPERATION
2. 60 INCHES MINIMUM
3. 54 INCHES MINIMUM TYPICAL
4. 3 INCHES
5. 48 INCHES MINIMUM
6. 15' MINIMUM TO START TAPER FROM EQUIPMENT
7. GRADUAL TAPER OF TRENCH DEPTH REQUIRED (FROM OR TO) VERTICAL SWEEPS. PRIMARY TRENCH DEPTH ROLLS FROM 54 TO 60 INCHES DEEP MINIMUM. VERTICAL SWEEPS MUST BE STRAIGHT UP AND DOWN AT EITHER A POLE OR EQUIPMENT, AND HORIZONTAL CONDUITS NEED TO LAY FLAT ALONG TRENCH BOTTOM.
8. ALL COMMUNICATION EQUIPMENT SHALL BE A MINIMUM OF 3 FT TO THE LEFT OF COOPERATIVE EQUIPMENT(AS FACING FRONT OF EQUIPMENT)
9. WHERE REQUIRED–CUSTOMER TO INSTALL A 2 FOOT IN LENGTH, TAPED, THREADED 3 INCH PIECE OF STEEL CONDUIT, WITH STAND–OFF BRACKET (QUADRANT TO BE DETERMINED BY THE COOPERATIVE.) MATERIAL SUPPLIED BY THE COOPERATIVE & INSTALLED BY CUSTOMER. CONDUIT TO BE VERTICALLY ALLIGNED.





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01–01–2014	01–01–2017	09–01–2017	07–01–2020						

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Figure 6-2

TRENCHING AND CONDUIT GUIDE
FOR INSTALLATION OF UK5 & UK6

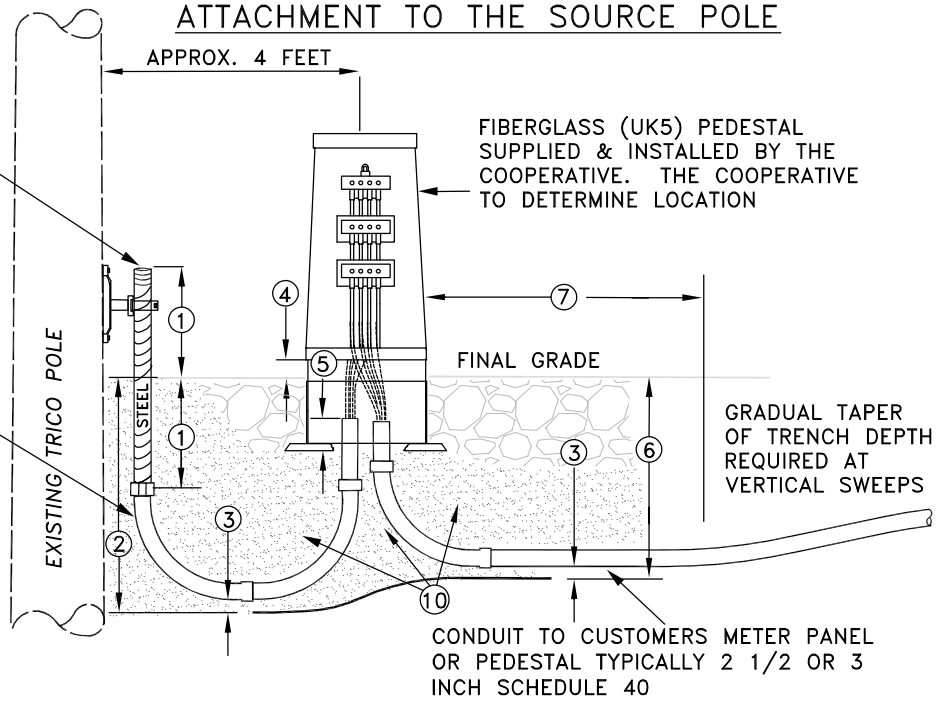
TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

UK5 – POWER PEDESTAL WITH ATTACHMENT TO THE SOURCE POLE

WHEN REQUIRED BY THE COOPERATIVE, ADD A 2 FOOT, TAPED, THREADED 3 INCH PIECE OF STEEL CONDUIT, WITH STAND-OFF BRACKET AND STEEL TO PVC ADAPTOR TO POLE. (QUADRANT TO BE DETERMINED BY THE COOPERATIVE.) MATERIAL SUPPLIED BY THE COOPERATIVE & INSTALLED BY CUSTOMER. CONDUIT TO BE VERTICALLY ALLIGNED.

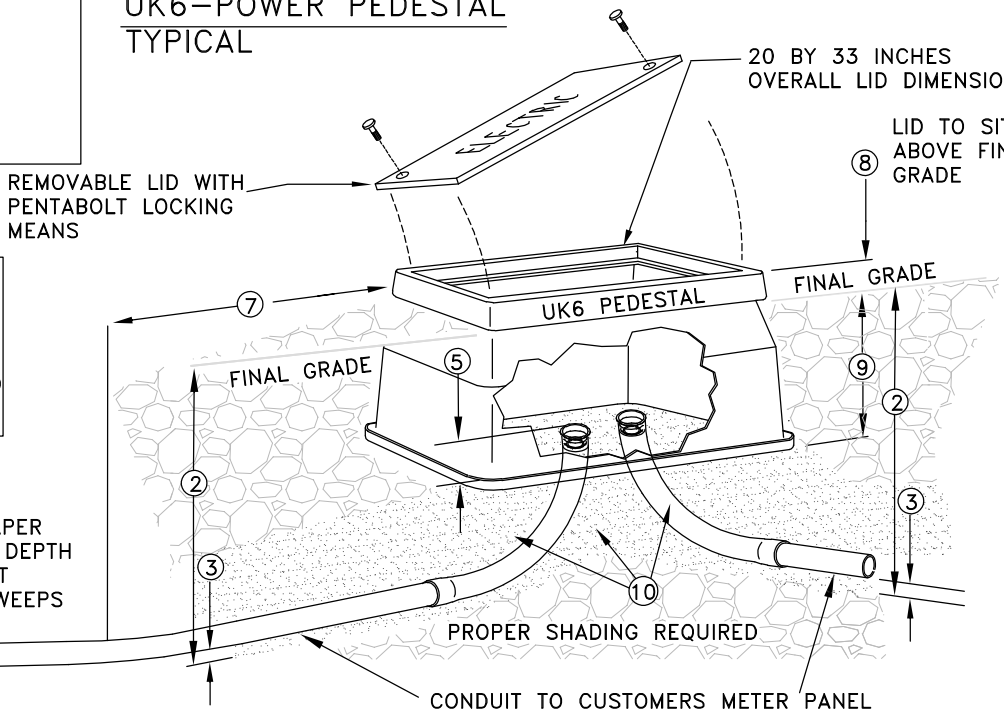
ADD (2) 3 INCH SCHEDULE 40 PVC SWEEPS (24 INCH RADIUS)-GLUE TOGETHER ATTACH TO STEEL CONDUIT WITH ADAPTOR. ADD NECESSARY LENGTH OF STRAIGHT PIECE OF 3 INCH SCHEDULE 40 CONDUIT(APPROX 10 INCHES) TO EXTEND 4 INCHES INTO BASE OF UK5-MUST BE GLUED



REFER TO FIGURE 6-1 FOR SHADING & TRENCHING DETAILS

① 12 INCHES
② 44 INCHES MINIMUM
③ 2 INCHES MINIMUM SHADING BELOW CONDUIT
④ 2 INCHES-REVEAL FROM THE BOTTOM OF THE TOP HALF TO FINISHED GRADE
⑤ 3 INCHES (SEE PAGE 1 FOR DETAILS)
⑥ 39 INCHES MINIMUM
⑦ 10' MINIMUM TO START TAPER TO/FROM EQUIPMENT
⑧ 3.5 INCHES MINIMUM
⑨ 14 INCHES TYPICAL
⑩ PROPER SHADING-REFER TO FIGURE 6-1

UK6-POWER PEDESTAL TYPICAL



VERTICAL CONDUIT SWEEPS REQUIRE ADDITIONAL TRENCH DEPTH-MAINTAIN EXTRA DEPTH A MINIMUM OF 10 FT FROM VERTICAL SWEEP BEFORE TAPERING TRENCH BACK TO STANDARD DEPTH.

REFER TO FIGURE 6-1 FOR SHADING & TRENCHING DETAILS

Not to Scale

01-01-2014	01-01-2017								

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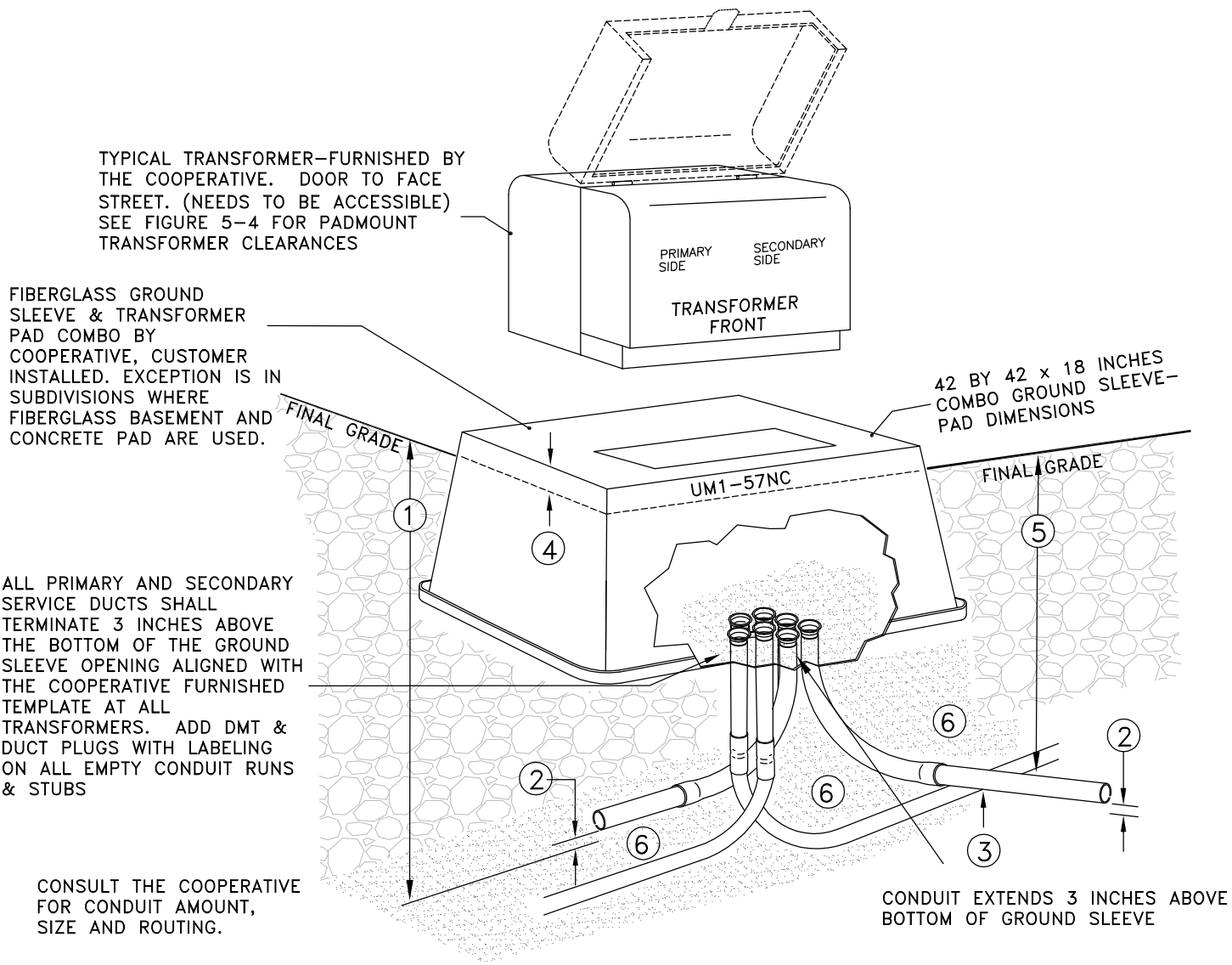
Figure 6-2

TRENCHING AND CONDUIT GUIDE
FOR INSTALLATION OF SINGLE PHASE TRANSFORMER

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

TRANSFORMER INSTALLATION GUIDE



1. 54 INCHES TYPICAL TO BOTTOM OF TRENCH FOR PRIMARY CONDUIT
2. 2 INCHES OF SHADING BELOW BOTTOM OF CONDUIT
3. 3 INCHES OF SHADING VERTICALLY BETWEEN CROSSING CONDUITS
4. 4 INCH REVEAL
5. 24 INCHES MINIMUM COVER TO SECONDARY/SERVICE CONDUITS–REFER FIGURE 6–1 FOR TRENCH DETAILS
6. PROPER SHADING–REFER TO FIGURE 6–1

Not to Scale

01–01–2014	01–01–2017	07–01–2020							

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6.3 Conduit

The Customer shall install electrical-grade Schedule 40 gray PVC conduit. DB-120 conduit may be allowed under certain conditions, but Schedule 40 sweeps are still required. Note, Figure 7-2 does allow for a DB-120 sweep, though this is an exception. If rock or other obstructions are encountered consult the Cooperative. When the conduit terminates at a Cooperative pole, consult the Cooperative for exact conduit size and correct quadrant position on the pole and to determine if a UK5 Power Pedestal is planned. If so, refer to Figure 6-2.

If service being constructed is within a duly recorded subdivision, contact the Cooperative for details regarding that specific subdivision's conduit requirements as they may be different. For all other installations, table 6-1 shows minimum conduit requirements.

Table 6-1 Minimum Conduit Required for Service Entrance Conductors Secondary Voltage (Under 600 V)

This table is to be used *typically* for up to three bends, 270 degrees or less, and generally less than 150 feet of conduit (see note E.): Refer to the distribution plan for conduit requirements for the project.-Note Consult Electrical Engineer refers to the Customer or Applicants Engineering Firm, not the Cooperative.

Service Entrance Ampacity	Single phase Three Wire	Three phase Four Wire
200 or Less	One 2 1/2 inch (see note)	One 3 inch
201 - 400	One 3 inch	Consult Electrical Eng.
401 - Up	Consult Electrical Eng.	Consult Electrical Eng.

Notes:

A. Larger conduit size or bend radius may be required for longer runs, more bends, four-wire full neutral, or direct connection to utility conduit. Customer shall consult the Cooperative for specific requirements.

B. See underground requirements for normal trench depth. Depth at sweep may be deeper depending upon how and where conduit terminates. See Figure 6-2 & 7-2 for typical termination points.

C. Customer's Service Entrance Conductors must be in a separate conduit system from the Cooperative conductors.

D. To properly select wire and conduit size, the Cooperative must take into consideration Customer load, Customer Service Equipment, and service length.

E. Secondary sweeps must be schedule 40 and have a minimum 24 inch sweep radius. All bends must be factory made.

F. Customer installed conduit runs containing more than 360 degrees of bends must be approved by the Cooperative before installation. If approved, the sweeps must be encased in a minimum of 3 inches and a maximum of 5 inches of concrete. Concrete protection shall have a strength of 1500 to 2500 lbs. per square inch with a minimum slump value of 7 and a maximum of 8. Aggregate should be small, generally half inch or less to flow readily between ducts. The concrete encasement must extend a minimum of 12 inches past the joints.

G. Mule tape or flat poly rope capable of withstanding 2500 lbs. of tension shall be provided by the Customer with 6 feet of line extending from each end of the conduit. The pull line must be one continuous piece. The tying of short pieces together to make up the full run is not allowed. The pull line shall be installed after conduit is jointed and glue is dry.

H. The Cooperative will not install conductors in a conduit if the conduit system is improperly constructed. The Customer is responsible to proof (mandrel) all conduit he has installed in the presence of the Cooperative's Inspector.

I. The use of conduit reducers such as the swedge coupling, are not allowed anywhere in the conduit system.

6.4 Concrete Pads and Vaults for Padmounted Equipment

All concrete equipment pads, boxpads and vaults to be supplied and installed by the Customer when required by the Cooperative. Three phase transformer pads shall be purchased and not poured in place. A transformer pad may be poured in place only after prior written approval has been granted by the Cooperative.

6.4.1 Barrier Post

Install 4 inch diameter steel, concrete-filled barrier post(s) around the Cooperative equipment in areas where the equipment is exposed to vehicle traffic. For additional specifications and other options contact the Cooperative office. See Figure 6.3 Equipment Barrier for further Details

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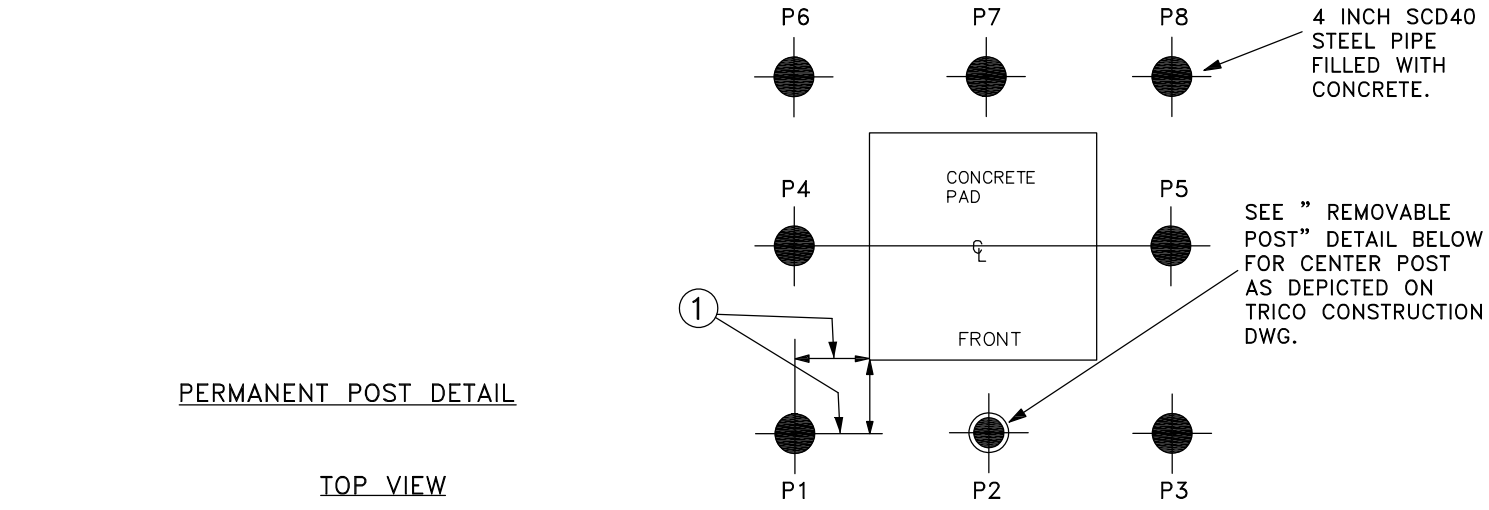
Figure 6-3

EQUIPMENT BARRIER

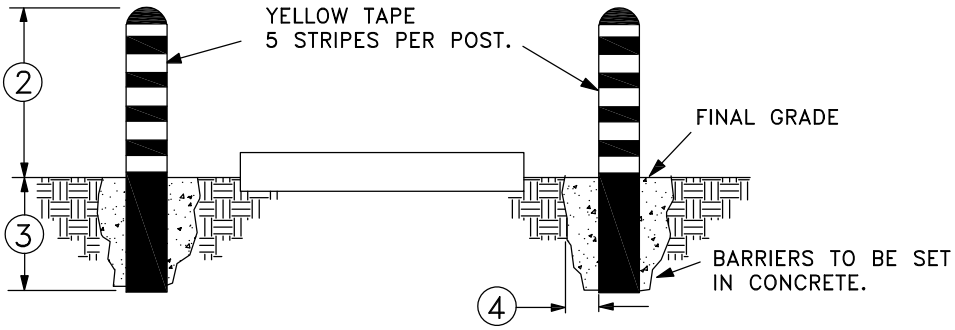
TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements



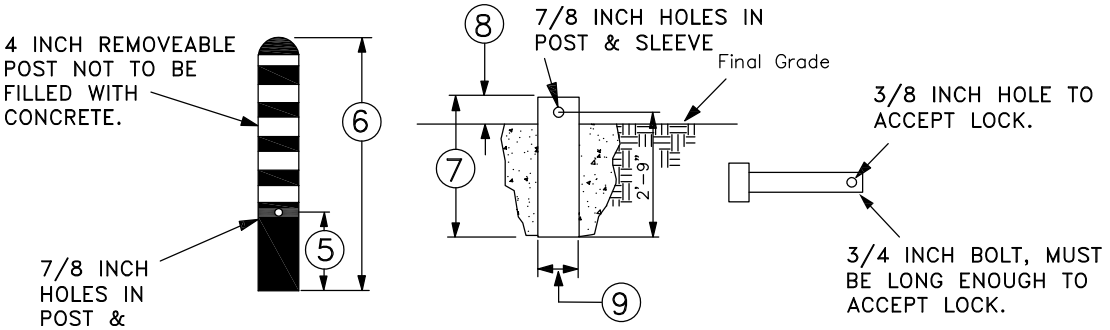
PERMANENT POST DETAIL

TOP VIEW



1. 2 FOOT (TYPICAL)
2. 3 FOOT 6 INCHES
3. 2 FOOT 6 INCHES
4. 6 INCHES TYPICAL

5. 2 FOOT 9 INCHES
6. 6 FOOT
7. 3 FOOT
8. 6 INCHES
9. 5 INCHES



REMOVABLE POST DETAIL

Notes:

A. CONCRETE MUST BE DOMED AT THE TOP OF BARRIER POST. REMOVE ANY SHARP EDGES OR BURRS.

B. PAINT ALL PIPE SURFACES WITH ONE PRIME COAT OF RED OXIDE AND ONE FINISH COAT OF DULL BLACK ENAMEL.

C. TAPE TO BE YELLOW REFLECTIVE, 4 INCHES WIDE.

D. NUMBER OF BARRIERS TO BE SPECIFIED ON CONSTRUCTION DRAWING OR CONTACT THE COOPERATIVE.

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7. Single Family Service

7.1 General

The location of the service entrance on the Customer's premises is an important consideration. For clearance and location information see section 5 *(Clearances).*

- Consult the Cooperative to determine the point of attachment for Overhead Service drops, underground Service Laterals, and meter locations.
- Position the service entrance and meter to make them more accessible from Cooperative distribution lines and convenient for the installation, reading, and maintenance of Cooperative meters.

The Customer will provide, install, and maintain all Service Equipment (including Service Entrance Conductors for Overhead Services, enclosures, and meter sockets) to include rights-of-way and space for the installation and maintenance of the Cooperative facilities. Some conditions include:

- The Customer must not terminate the principal Grounding conductor in the Cooperative's sealed termination compartment.
- Customer wires installed in Meter Bases must allow clear space for the installation of Cooperative wires. Panel covers must be secured prior to energizing.
- See section 6 for underground and conduit requirements.
- The meter socket must not be used as a junction box.

Always use ring-type meter sockets, complete with a company approved sealable ring.

7.1.1 Residential Sockets

Single phase self-contained residential sockets which have maximum current capacity of 200 and 400 amperes (320 amperes non-continuous) and are ANSI, UL, EUSERC, and Cooperative approved may be used. Services rated less than 200 amperes require prior approval by the Cooperative to allow for proper conductor and conduit size. Follow approved EUSERC drawings # 301 & 301A (200 amp maximum single phase) and EUSERC drawings # 302A (400 amp maximum (320) amp continuous) single phase. For reference see Figure 7-1. For a list of acceptable residential meter sockets, refer to Figure 7-10.

Code calculated loads greater than 320 amperes require Current Transformer (CT) metering. Refer to Section 10.2 for requirements.

7.2 Underground Service

Before preparation of underground service, the Customer must obtain approval and specifications from the Cooperative covering the proposed installation and the Customer's responsibilities.

The Customer is responsible to recognize potential surface and sub grade water flows and coordinate with Cooperative to minimize potential run-off problems.

Customers adequately served by existing overhead distribution facilities, but desiring underground service, should contact the Cooperative for details of the Cooperative policy for conversions. Special rules may apply in core areas of cities where local ordinances specify underground service.

7.2.1 Underground Service Extension

Figures 7-2, 7-4 & 7-5 show typical installations of underground service extensions from a transformer or Secondary pedestal to a house. See Section 6.3 for conduit requirements.

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Figure 7-1

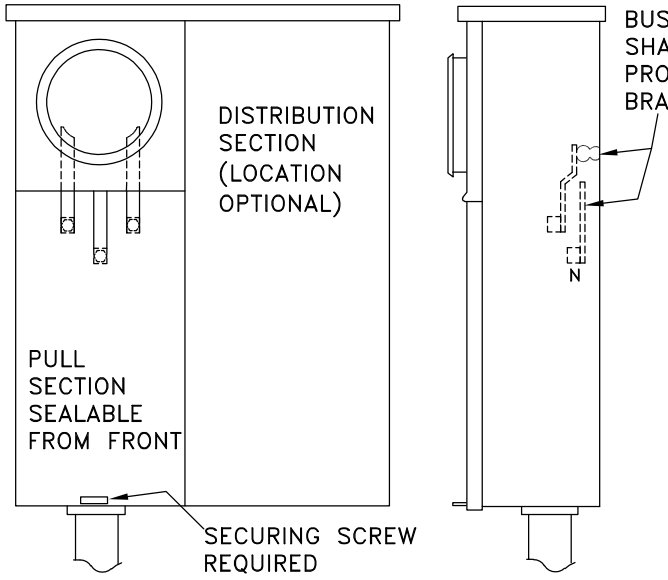
RESIDENTIAL UNDERGROUND/OVERHEAD (APPROVED SOCKETS)
SEE FIGURE 7-10 FOR AN APPROVED LIST OF RESIDENTIAL METERING EQUIPMENT

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

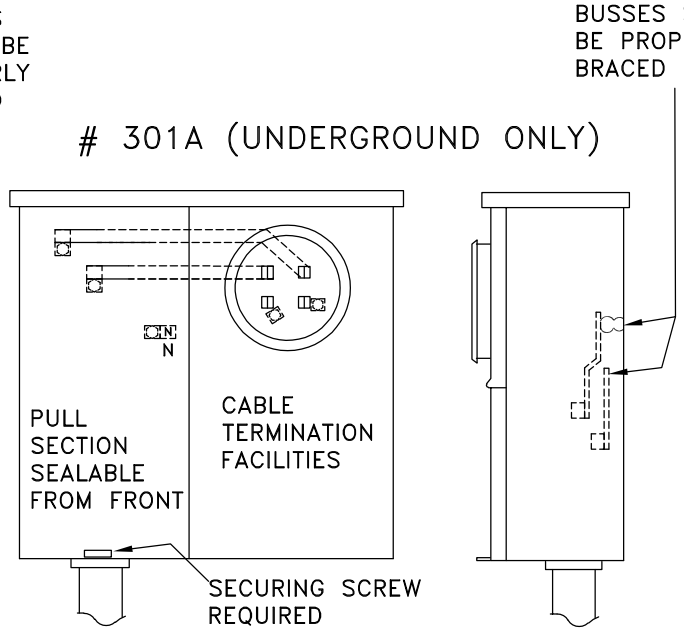
Electric Service Requirements

200 AMP MAXIMUM SINGLE PHASE UNDERGROUND SERVICE METER SOCKET REFERENCE EUSERC DRAWING 301 & 301A

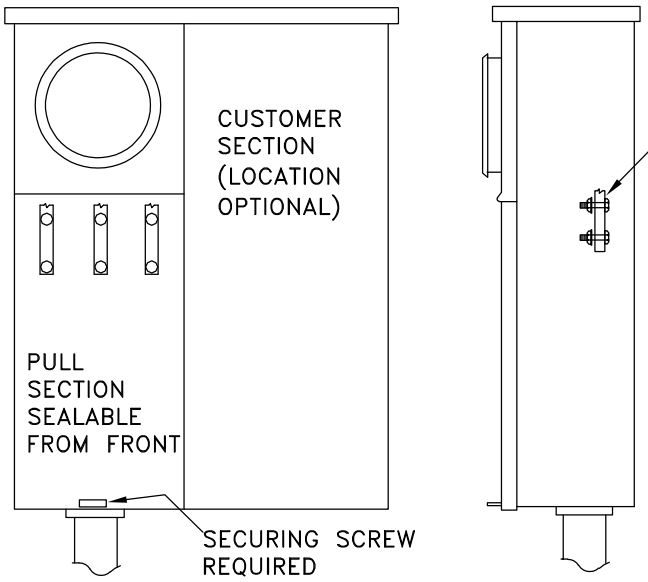
301 (UNDERGROUND AND) OVERHEAD)



301A (UNDERGROUND ONLY)



302A (UNDERGROUND ONLY)



400 AMP (320 AMP CONTINUOUS) SINGLE PHASE UNDERGROUND SERVICE METER SOCKET REFERENCE EUSERC DRAWING 302A

FOR OVERHEAD SOURCE–SEE EUSERC DRAWING 302B–RING TYPE ONLY

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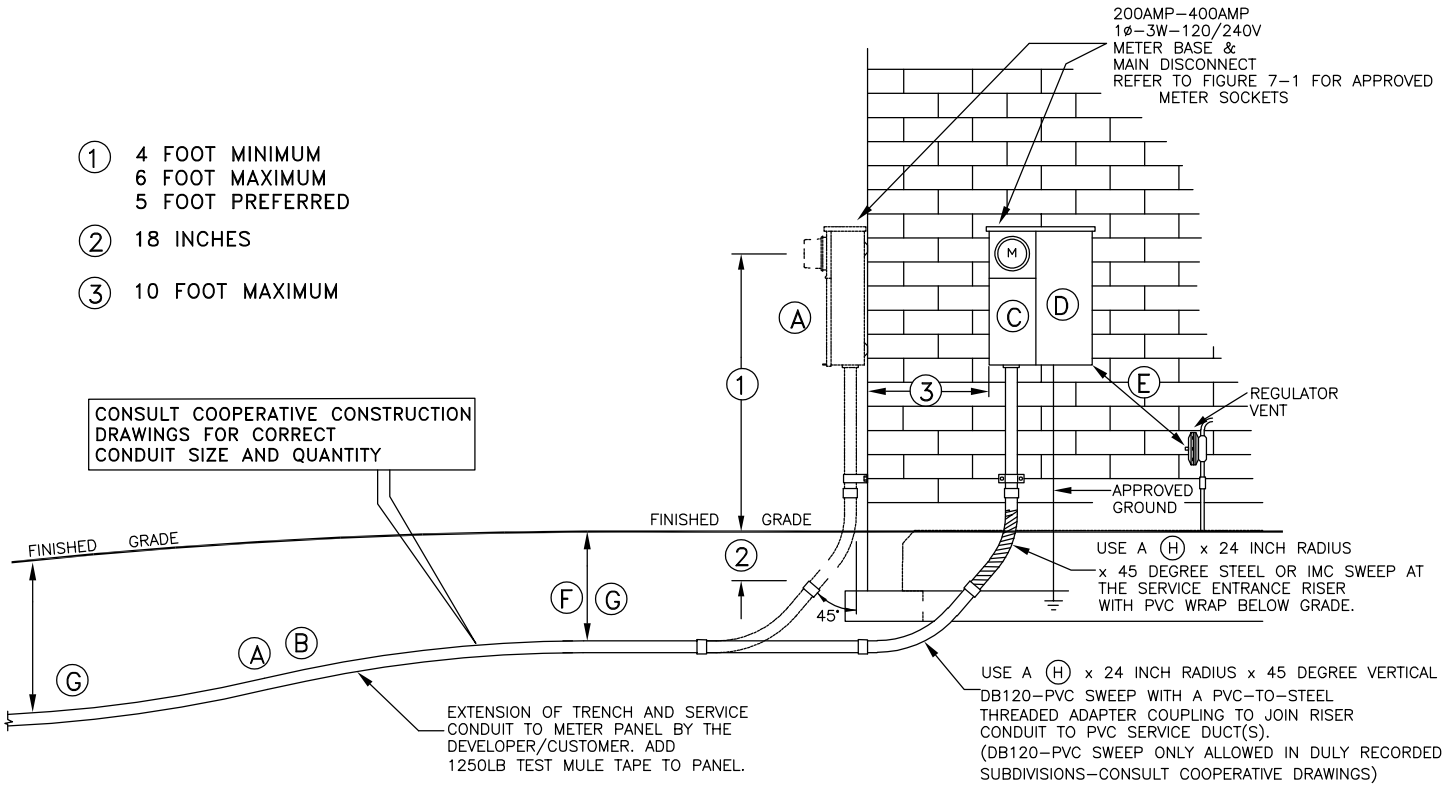
Figure 7-2

UNDERGROUND CONDUIT SYSTEM

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements



Notes:

A. AT ITS DISCRETION, THE COOPERATIVE MAY INSPECT THE ELECTRIC SERVICE CONDUIT EXTENSION TO THE HOME PRIOR TO BACKFILL OF THE TRENCH. WHEN DUCT WORK IS APPROVED AND COVERED, THE COOPERATIVE WILL PULL IT'S SERVICE CONDUCTOR THROUGH A CONTINUOUS SPAN OF CONDUIT FROM THE POINT OF CONNECTION FROM THE COOPERATIVE SYSTEM TO THE METER PANEL AT THE HOME

B. DEVELOPER/CUSTOMER SHALL COORDINATE ALL ADDITIONAL CONDUIT INSTALLATIONS FOR OTHER UTILITIES SEE FIGURE 6–1 TRENCHING SPECIFICATIONS.

C. METER SHALL NOT BE LOCATED UNDER A PATIO, PORCH, CARPORT, BREEZEWAY, OR AREA WHICH MAY BE ENCLOSED WITH BUILDING EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES OR FENCES.

D. A 3 FOOT X 3 FOOT PERMANENT CLEAR WORKING SPACE SHALL BE REQUIRED IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE. SEE FIGURE 5–1 & FIGURE 5–2 FOR METER CLEARANCES.

E. A 3 FOOT MINIMUM CLEARANCE SHALL BE REQUIRED FROM EITHER SIDE OF THE ELECTRIC PANEL TO THE NEAREST REGULATOR VENT OR GAS FACILITY.

F. 24 INCHES MINIMUM COVER TO THE TOP OF THE SERVICE DUCT IS REQUIRED. IF TRENCH IS JOINT USE WITH OTHER UTILITIES SEE FIGURE 6–1 & 6–2 FOR ADDITIONAL TRENCHING DETAILS.

G. 10 FOOT MINIMUM SEPARATION FROM ANY PARALLEL SEPTIC OR SEWER SYSTEM WILL BE REQUIRED. 12 INCHES MINIMUM SEPARATION WILL BE REQUIRED FOR A PERPENDICULAR CROSSING. SEE FIGURE 6–1

H. CONDUIT DIAMETER TYPICALLY 2 1/2 OR 3 INCHES. CONSULT COOPERATIVE FOR CORRECT CONDUIT SIZE.

Not to Scale

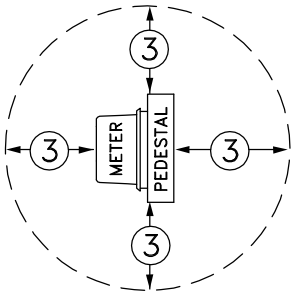
UM8–3	Figure 7-3
1 of 2	UNDERGROUND CONSTRUCTION–METER PEDESTAL

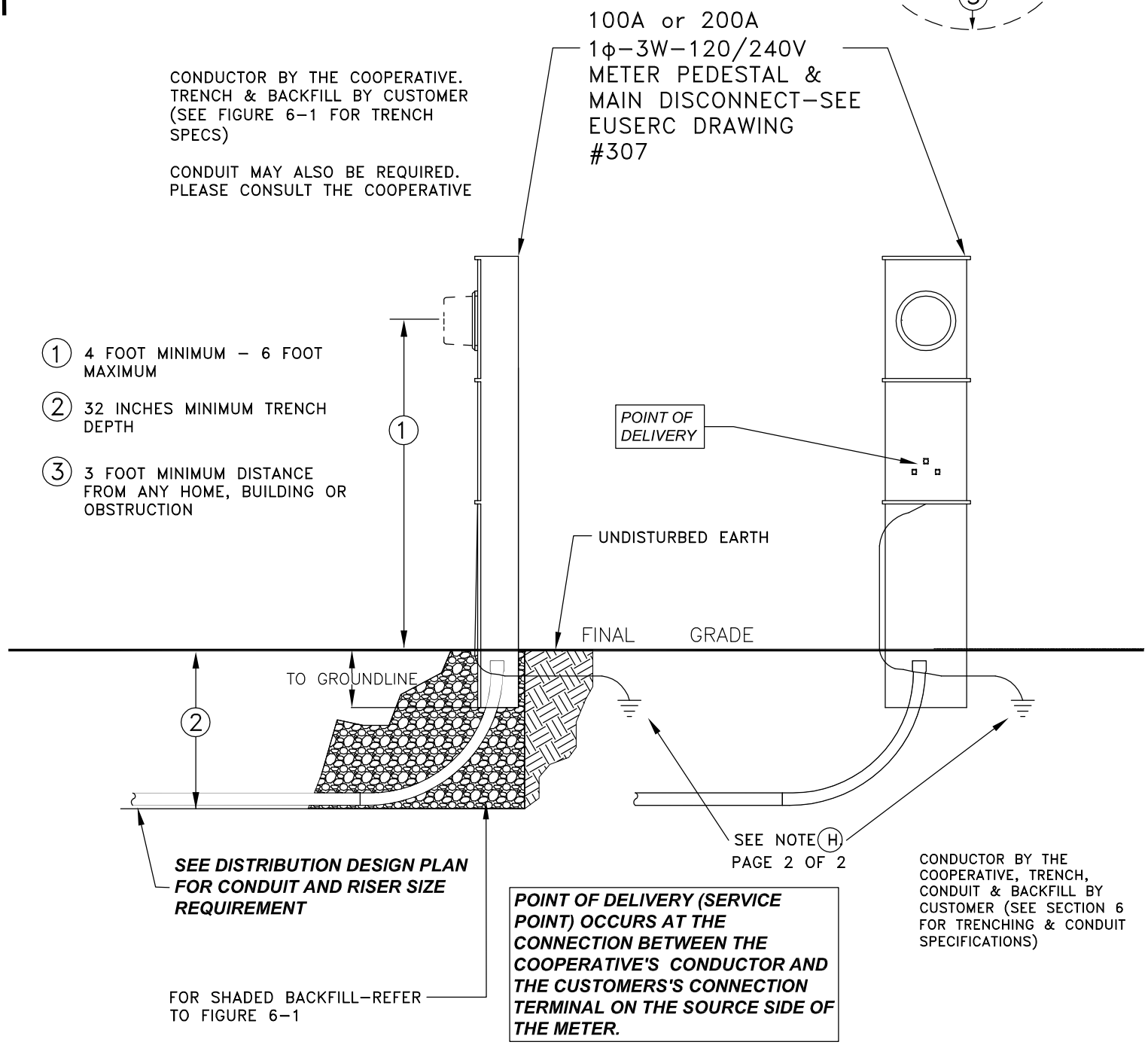
TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

REFER TO NOTES ON THE NEXT PAGE FOR ADDITIONAL SPECIFICATIONS

SPLIT BUSS PANELS NOT ALLOWED --MAIN BREAKER–TYPE ONLY





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UM8–3	Figure 7-3	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
2 of 2	UNDERGROUND CONSTRUCTION–METER PEDESTAL	

Electric Service Requirements

UNDERGROUND SERVICE EXTENSION (DIRECT BURIED OR CONDUIT) & METER PEDESTAL INSTALLATION GUIDE:

Notes:

A. AT ITS DISCRETION, THE COOPERATIVE MAY INSPECT THE ELECTRIC SERVICE CONDUIT EXTENSION TO THE PEDESTAL PRIOR TO BACKFILL OF THE TRENCH. WHEN CONDUIT WORK IS APPROVED AND COVERED, THE COOPERATIVE WILL PULL IT'S SERVICE CONDUCTOR THROUGH A CONTINUOUS SPAN OF CONDUIT FROM THE TRANSFORMER TO THE METER PEDESTAL. SEE SECTION 6.3 FOR UNDERGROUND CONDUIT SYSTEM.

B. METER SHALL NOT BE LOCATED UNDER A PATIO, PORCH, CARPORT, BREEZEWAY, OR AREA WHICH MAY BE ENCLOSED WITH BUILDING EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES, OR FENCES.

C. A 3 FOOT PERMANENT CLEAR WORKING SPACE SHALL BE REQUIRED ON ALL SIDES OF THE ELECTRIC SERVICE PEDESTAL AND SHALL NOT FACE (METER SOCKET TOWARD) THE HOME, BUILDING OR OBSTRUCTION.

D. A 3 FOOT MINIMUM CLEARANCE SHALL BE REQUIRED FROM THE CLOSEST POINT OF THE ELECTRIC SERVICE PEDESTAL TO THE GAS REGULATOR VENT.

E. THE SERVICE PEDESTAL MUST BE AT THE PROPER DEPTH AND STABLE AND NO CLOSER THAN 3 FEET TO A MOBILE HOME.

F. THE SERVICE MAIN–DISCONNECT EQUIPMENT MUST BE RATED THE SAME SIZE AS SERVICE APPLIED FOR.

G. ALL SERVICE EQUIPMENT MUST BE RATED AT NOT LESS THAN 100 AMP.

H. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

J. SEE SECTION 5 FOR SERVICE ENTRANCE CLEARANCE REQUIREMENTS.

K. ALL EQUIPMENT MUST BE RATED FOR OUTDOOR USAGE.

L. ALL "TEMPORARY PANELS" MUST HAVE ONLY GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE BREAKERS (EXCEPT THE MAIN DISCONNECT BREAKER WHEN REQUIRED BY TYPE OF PANEL) UNTIL MEMBER HAS PASSED FINAL INSPECTION BY THE AHJ.

M. THE NEUTRAL MUST BE AN INSULATED CONDUCTOR AND CLEARLY MARKED WHITE.

N. REFER TO SECTION 6 FOR TRENCHING & CONDUIT SPECIFICATIONS

MATERIALS LIST

(1) 100A–200A WEATHERPROOF METER PEDESTAL WITH MAIN DISCONNECT/BREAKER

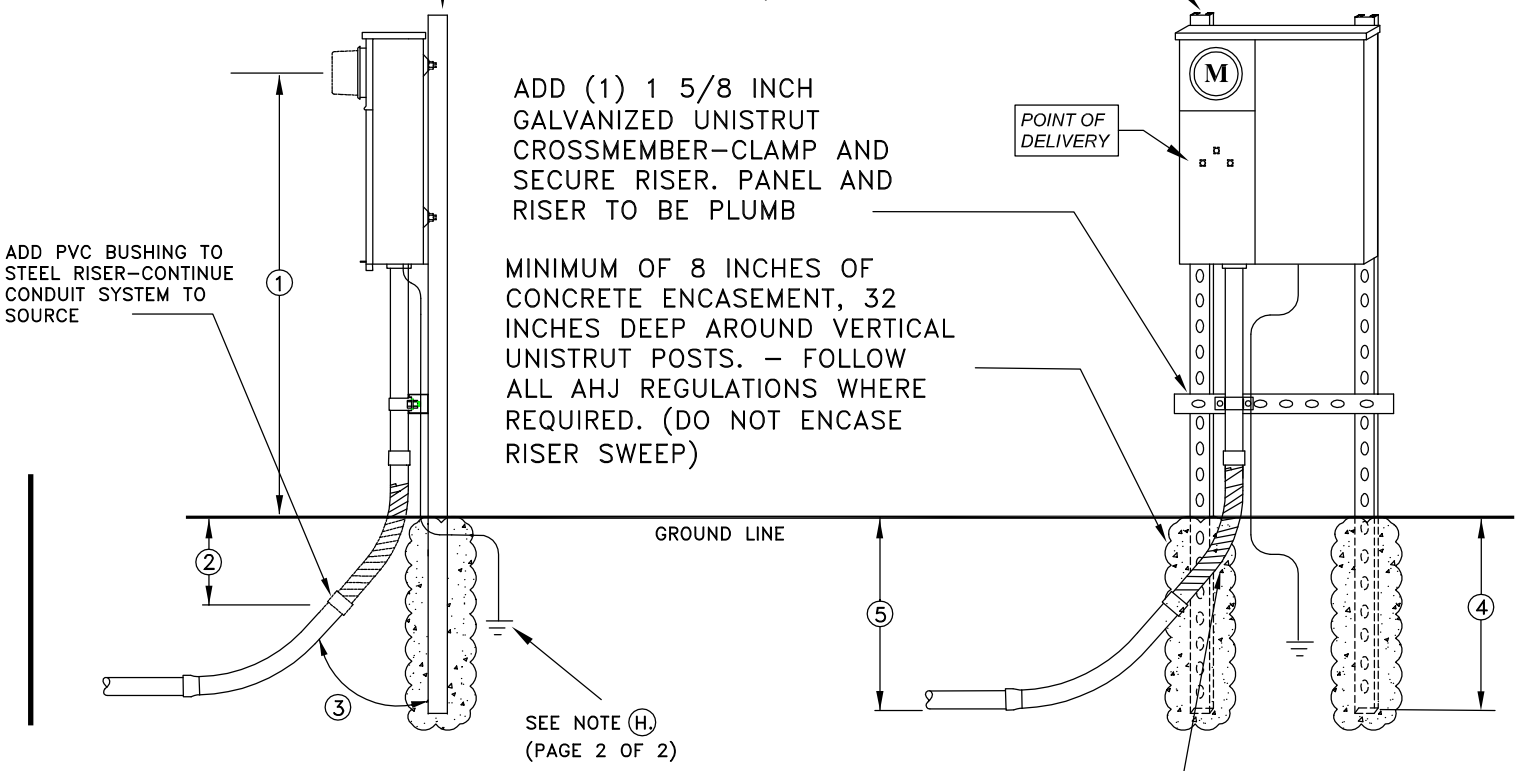
- INSULATED GROUNDING BUSHINGS (REQUIRED WHERE ALL CONCENTRIC RINGS HAVE NOT BEEN KNOCKED OUT, WHERE CONDUIT IS ATTACHED)
- CONDUIT LOCKNUTS AS REQUIRED

UM8–2U	Figure 7-3U (Unistrut Mounted)	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
1 of 2	UNDERGROUND CONSTRUCTION SERVICE– UNISTRUT POST MOUNT	

Electric Service Requirements

REFER TO NOTES ON THE NEXT PAGE FOR ADDITIONAL SPECIFICATIONS

SPLIT BUSS PANELS NOT ALLOWED ––MAIN BREAKER–TYPE ONLY



SEE DISTRIBUTION DESIGN PLAN FOR CONDUIT AND RISER SIZE REQUIREMENT

① 4 FOOT MINIMUM, 6 FOOT MAXIMUM (5 FOOT PREFERRED)
② 18 INCH MINIMUM
③ 45 DEGREE SWEEP OR (1) 90 DEGREE
④ 32 INCHES MINIMUM–OR ANY ADDIT'L AHJ REQUIREMENT
⑤ 32 INCH MINIMUM TRENCH DEPTH

POINT OF DELIVERY (SERVICE POINT) OCCURS AT THE CONNECTION BETWEEN THE COOPERATIVE'S CONDUCTOR AND THE CUSTOMERS'S CONNECTION TERMINAL ON THE SOURCE SIDE OF THE METER.

Not to Scale

05–01–2019	01–01–2020								

UM8–2U	Figure 7-3U (Unistrut Mounted)	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
2 of 2	UNDERGROUND CONSTRUCTION SERVICE–UNISTRUT POST MOUNT	

Electric Service Requirements

NOTES FOR TEMPORARY UNDERGROUND SERVICE EXTENSION & METER PANEL INSTALLATION GUIDE:

A. AT ITS DISCRETION, THE COOPERATIVE MAY INSPECT THE ELECTRIC SERVICE CONDUIT EXTENSION TO THE HOME PRIOR TO BACKFILL OF THE TRENCH. WHEN CONDUIT WORK IS APPROVED AND COVERED, THE COOPERATIVE WILL PULL IT'S SERVICE CONDUCTOR THROUGH A CONTINUOUS SPAN OF CONDUIT FROM THE TRANSFORMER TO THE METER PANEL AT THE HOME. SEE FIGURE 7–2 FOR UNDERGROUND CONDUIT SYSTEM

B. METER SHALL NOT BE LOCATED UNDER A PATIO, PORCH, CARPORT, BREEZEWAY, OR AREA WHICH MAY BE ENCLOSED WITH BUILDING EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES, OR FENCES.

C. A 3 FOOT X 3 FOOT PERMANENT CLEAR WORKING SPACE SHALL BE REQUIRED IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE. SEE FIGURE 5–2 FOR WORKING SPACE REQUIREMENTS

D. A 3 FOOT MINIMUM CLEARANCE SHALL BE REQUIRED FROM THE CLOSEST POINT OF THE ELECTRIC SERVICE PANEL TO THE GAS REGULATOR VENT.

E. THE SERVICE MUST BE SECURELY FASTENED TO THE BOARD AND/OR POST(S).

F. THE SERVICE MAIN–DISCONNECT EQUIPMENT MUST BE RATED THE SAME SIZE AS SERVICE APPLIED FOR.

G. ALL SERVICE EQUIPMENT MUST BE RATED AT NOT LESS THAN 100 AMP.

H. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

J. A 45 DEGREE SWEEP ON THE END OF THE RISER MUST BE 18 INCHES BELOW GROUND WITH A THREADED PVC BUSHING ON THE END TO TRANSITION TO THE CONDUIT SYSTEM. (1) 90 DEGREE SWEEP MAYBE SUBSTITUTED.

K. SEE SECTION 5 FOR SERVICE ENTRANCE CLEARANCE REQUIREMENTS.

L. ALL EQUIPMENT MUST BE RATED FOR OUTDOOR USAGE.

M. ALL "TEMPORARY PANELS" MUST HAVE ONLY GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE BREAKERS (EXCEPT THE MAIN DISCONNECT BREAKER WHEN REQUIRED BY TYPE OF PANEL) UNTIL MEMBER HAS PASSED FINAL INSPECTION BY THE AHJ.

N. THE NEUTRAL MUST BE AN INSULATED CONDUCTOR AND CLEARLY MARKED WHITE.

P. 1 5/8 INCH 12 GAUGE MINIMUM GALVANIZED UNISTRUT FOR VERTICAL POSTS. A MINIMUM OF 1 UNISTRUT CROSSMEMBER IS REQUIRED FOR MOUNTING RISER ASSEMBLY. POSTS TO BE ENCASED IN A MINIMUM OF 8 INCHES OF CONCRETE AND AT A MINIMUM OF 32 INCHES DEEP. DO NOT ENCASE RISER SWEEP. THESE REQUIREMENTS ARE ONLY THE MINIMUM. ANY ADDITIONAL REQUIREMENT PER THE AHJ SHALL BE FOLLOWED

MATERIALS LIST

(1) 100A–200A–320A WEATHERPROOF METER BASE WITH MAIN DISCONNECT/BREAKER

- INSULATED GROUNDING BUSHINGS (REQUIRED WHERE ALL CONCENTRIC RINGS HAVE NOT BEEN KNOCKED OUT, WHERE CONDUIT IS ATTACHED)
- CONDUIT LOCKNUTS AS REQUIRED

(2) 1 5/8 INCH MINIMUM GALVANIZED UNISTRUT VERTICAL POSTS, LENGTH AS REQUIRED

(1) 1 5/8 INCH MINIMUM GALVANIZED UNISTRUT HORIZONTAL CROSS MEMBERS

(1) RISER STRAP (MORE MAY BE REQUIRED DEPENDING ON RISER LENGTH)

(1) 2 1/2 OR 3 INCH RIGID STEEL RISER (SEE DISTRIBUTION DESIGN PLAN)

Not to Scale

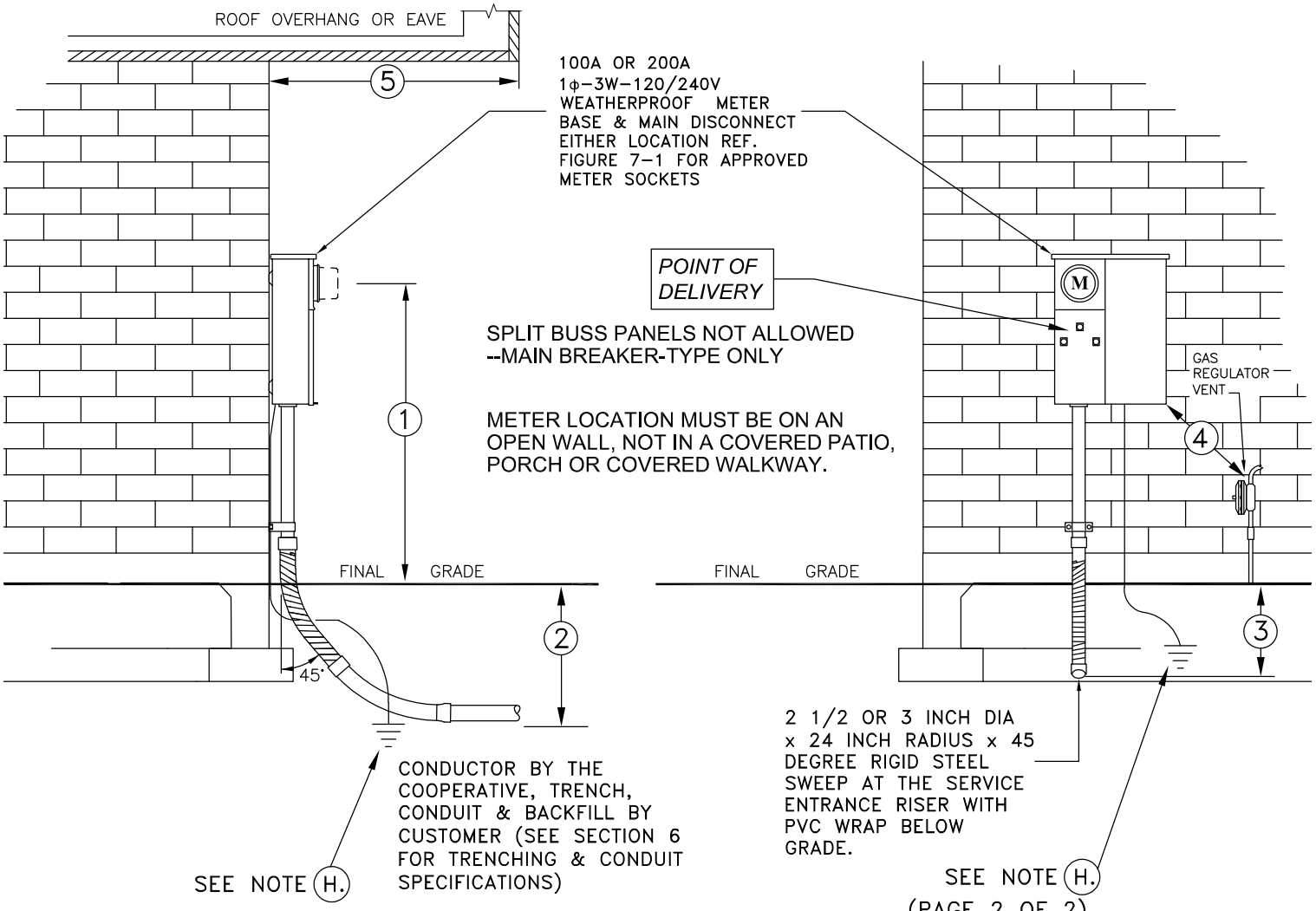
05–01–2019	01–01–2020	07–01–2020							

UM8–200	Figure 7-4	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
1 of 2	UNDERGROUND CONSTRUCTION SERVICE – METER PANEL	

Electric Service Requirements

REFER TO NOTES ON THE NEXT PAGE FOR ADDITIONAL SPECIFICATIONS

SPLIT BUSS PANELS NOT ALLOWED
--MAIN BREAKER–TYPE ONLY



SEE DISTRIBUTION DESIGN PLAN FOR CONDUIT AND RISER SIZE REQUIREMENT

1. 4 FOOT MINIMUM – 6 FOOT MAXIMUM
2. 32 INCHES MINIMUM TRENCH DEPTH–REFER TO FIGURE 6–1 FOR TRENCHING SPECIFICATIONS
3. 18 INCHES
4. 3 FOOT
5. 4 FOOT MAXIMUM

POINT OF DELIVERY (SERVICE POINT) OCCURS AT THE CONNECTION BETWEEN THE COOPERATIVE'S CONDUCTOR AND THE CUSTOMERS'S CONNECTION TERMINAL ON THE SOURCE SIDE OF THE METER.

Not to Scale

01–01–2014	01–01–2017								

UM8–200	Figure 7-4	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
2 of 2	UNDERGROUND CONSTRUCTION SERVICE – METER PANEL	

Electric Service Requirements

UNDERGROUND SERVICE EXTENSION & METER PANEL INSTALLATION GUIDE:

Notes:

A. AT ITS DISCRETION, THE COOPERATIVE MAY INSPECT THE ELECTRIC SERVICE CONDUIT EXTENSION TO THE HOME PRIOR TO BACKFILL OF THE TRENCH. WHEN CONDUIT WORK IS APPROVED AND COVERED, THE COOPERATIVE WILL PULL IT'S SERVICE CONDUCTOR THROUGH A CONTINUOUS SPAN OF CONDUIT FROM THE TRANSFORMER TO THE METER PANEL AT THE HOME. SEE SECTION 6.3 FOR UNDERGROUND CONDUIT SYSTEM

B. METER SHALL NOT BE LOCATED UNDER A PATIO, PORCH, CARPORT, BREEZEWAY, OR AREA WHICH MAY BE ENCLOSED WITH BUILDING EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES, OR FENCES.

C. A 3 FOOT X 3 FOOT PERMANENT CLEAR WORKING SPACE SHALL BE REQUIRED IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE. SEE FIGURE 5–2 FOR WORKING SPACE REQUIREMENTS

D. A 3 FOOT MINIMUM CLEARANCE SHALL BE REQUIRED FROM THE CLOSEST POINT OF THE ELECTRIC SERVICE PANEL TO THE GAS REGULATOR VENT.

E. THE SERVICE MUST BE SECURELY FASTENED TO THE WALL.

F. THE SERVICE MAIN–DISCONNECT EQUIPMENT MUST BE RATED THE SAME SIZE AS SERVICE APPLIED FOR.

G. ALL SERVICE EQUIPMENT MUST BE RATED AT NOT LESS THAN 100 AMP.

H. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

J. A 45 DEGREE SWEEP ON THE END OF THE RISER MUST BE 18 INCHES BELOW GROUND WITH A PVC BUSHING ON THE END TO TRANSITION TO THE CONDUIT SYSTEM.

K. SEE SECTION 5 FOR SERVICE ENTRANCE CLEARANCE REQUIREMENTS.

L. ALL EQUIPMENT MUST BE RATED FOR OUTDOOR USAGE.

M. ALL "TEMPORARY PANELS" MUST HAVE ONLY GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE BREAKERS (EXCEPT THE MAIN DISCONNECT BREAKER WHEN REQUIRED BY TYPE OF PANEL) UNTIL MEMBER HAS PASSED FINAL INSPECTION BY THE AHJ.

N. THE NEUTRAL MUST BE AN INSULATED CONDUCTOR AND CLEARLY MARKED WHITE.

MATERIALS LIST

(1) 100A–200A WEATHERPROOF METER BASE WITH MAIN DISCONNECT/BREAKER

- INSULATED GROUNDING BUSHINGS (REQUIRED WHERE ALL CONCENTRIC RINGS HAVE NOT BEEN KNOCKED OUT, WHERE CONDUIT IS ATTACHED)
- CONDUIT LOCKNUTS AS REQUIRED

(1) RISER STRAP (MORE MAY BE REQUIRED DEPENDING ON RISER LENGTH)

(1) 2 1/2 OR 3 INCH RIGID STEEL RISER (SEE DISTRIBUTION DESIGN PLAN)

Not to Scale

01–01–2014	01–01–2017	07–01–2020							

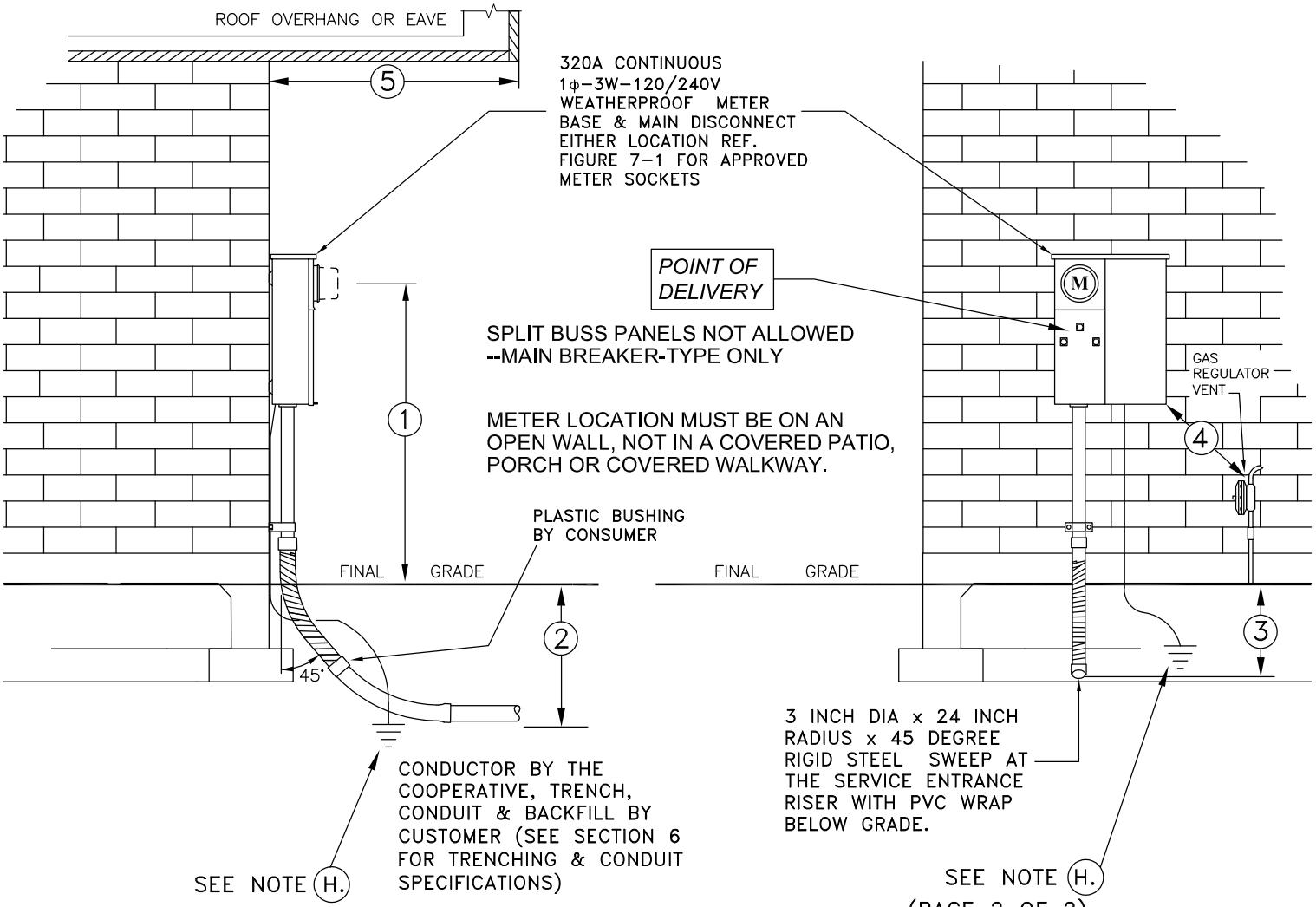
UM8–320	Figure 7-5	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
1 of 2	UNDERGROUND CONSTRUCTION SERVICE – METER PANEL	

Electric Service Requirements

REFER TO NOTES ON THE NEXT PAGE FOR ADDITIONAL SPECIFICATIONS

NO K4/BOLT–INN STYLE METER BASES ALLOWED!!!

SPLIT BUSS PANELS NOT ALLOWED
––MAIN BREAKER–TYPE ONLY



SEE DISTRIBUTION DESIGN PLAN FOR CONDUIT REQUIREMENT

1. 4 FOOT MINIMUM – 6 FOOT MAXIMUM
2. 32 INCHES MINIMUM TRENCH DEPTH–REFER TO FIGURE 6–1 FOR TRENCHING SPECIFICATIONS
3. 18 INCHES
4. 3 FOOT
5. 4 FOOT MAXIMUM

POINT OF DELIVERY (SERVICE POINT) OCCURS AT THE CONNECTION BETWEEN THE COOPERATIVE'S CONDUCTOR AND THE CUSTOMERS'S CONNECTION TERMINAL ON THE SOURCE SIDE OF THE METER.

Not to Scale

01–01–2014	01–01–2017								

UM8–320	Figure 7-5	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
2 of 2	UNDERGROUND CONSTRUCTION SERVICE – METER PANEL	

Electric Service Requirements

UNDERGROUND SERVICE EXTENSION & METER PANEL INSTALLATION GUIDE:

Notes:

A. AT ITS DISCRETION, THE COOPERATIVE MAY INSPECT THE ELECTRIC SERVICE CONDUIT EXTENSION TO THE HOME PRIOR TO BACKFILL OF THE TRENCH. WHEN CONDUIT WORK IS APPROVED AND COVERED, THE COOPERATIVE WILL PULL IT'S SERVICE CONDUCTOR THROUGH A CONTINUOUS SPAN OF CONDUIT FROM THE TRANSFORMER TO THE METER PANEL AT THE HOME. SEE SECTION 6.3 FOR UNDERGROUND CONDUIT SYSTEM

B. METER SHALL NOT BE LOCATED UNDER A PATIO, PORCH, CARPORT, BREEZEWAY, OR AREA WHICH MAY BE ENCLOSED WITH BUILDING EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES, OR FENCES.

C. A 3 FOOT X 3 FOOT PERMANENT CLEAR WORKING SPACE SHALL BE REQUIRED IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE. SEE FIGURE 5–2 FOR WORKING SPACE REQUIREMENTS

D. A 3 FOOT MINIMUM CLEARANCE SHALL BE REQUIRED FROM THE CLOSEST POINT OF THE ELECTRIC SERVICE PANEL TO THE GAS REGULATOR VENT.

E. THE SERVICE MUST BE SECURELY FASTENED TO THE WALL.

F. THE SERVICE MAIN–DISCONNECT EQUIPMENT MUST BE RATED THE SAME SIZE AS SERVICE APPLIED FOR.

G. ALL SERVICE EQUIPMENT MUST BE RATED AT NOT LESS THAN 100 AMP.

H. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

J. A 45 DEGREE SWEEP ON THE END OF THE RISER MUST BE 18 INCHES BELOW GROUND WITH A PVC BUSHING ON THE END TO TRANSITION TO THE CONDUIT SYSTEM.

K. SEE SECTION 5 FOR SERVICE ENTRANCE CLEARANCE REQUIREMENTS.

L. ALL EQUIPMENT MUST BE RATED FOR OUTDOOR USAGE.

M. ALL "TEMPORARY PANELS" MUST HAVE ONLY GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE BREAKERS (EXCEPT THE MAIN DISCONNECT BREAKER WHEN REQUIRED BY TYPE OF PANEL) UNTIL MEMBER HAS PASSED FINAL INSPECTION BY THE AHJ.

N. THE NEUTRAL MUST BE AN INSULATED CONDUCTOR AND CLEARLY MARKED WHITE.

MATERIALS LIST

(1) 320 AMP CONTINUOUS WEATHERPROOF METER BASE WITH MAIN DISCONNECT/BREAKER

- INSULATED GROUNDING BUSHINGS (REQUIRED WHERE ALL CONCENTRIC RINGS HAVE NOT BEEN KNOCKED OUT, WHERE CONDUIT IS ATTACHED)
- CONDUIT LOCKNUTS AS REQUIRED

(1) RISER STRAP (MORE MAY BE REQUIRED DEPENDING ON RISER LENGTH)

(1) 3 INCH RIGID STEEL RISER

Not to Scale

01–01–2014	01–01–2017	07–01–2020							

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7.3 Overhead Service

For Customers in an area where Overhead Service is allowed, the Cooperative will install an Overhead Service drop from Cooperative overhead distribution lines to the service entrance on the Customer's residence, building, or structure.

Consult the Cooperative for location of meter socket before rewiring service. (See section 3.5 (*Relocation of Services and Facilities.*)

The Customer must provide a single attachment point within two feet of the weatherhead which can be reached with a single span of service drop cable from an adjacent Cooperative line. For a service to be mounted on a Cooperative-owned meter pole, construct the service in accordance with Figures 7-8 or 7-9. The point of attachment must be high enough above finished grade and in proper position to provide minimum clearances as specified in Table 5-1 *(Minimum Clearances).* It is important to provide a service drop route without obstruction by buildings, trees, or other objects. Position the point of attachment on the building wall facing the nearest Cooperative line or on a service mast capable of withstanding the tension of the service drop. Extend the service mast through the roof on a typical single-story building and install proper bracing for the mast. Before installing the meter panel on the gable end of a building, contact the Cooperative for approval. (Also refer to Figure 5-3 *Residential Clearance for Overhead Service.)*

If a Customer encounters problems in meeting these clearances, the Cooperative will provide assistance in determining specific requirements that will comply with codes.

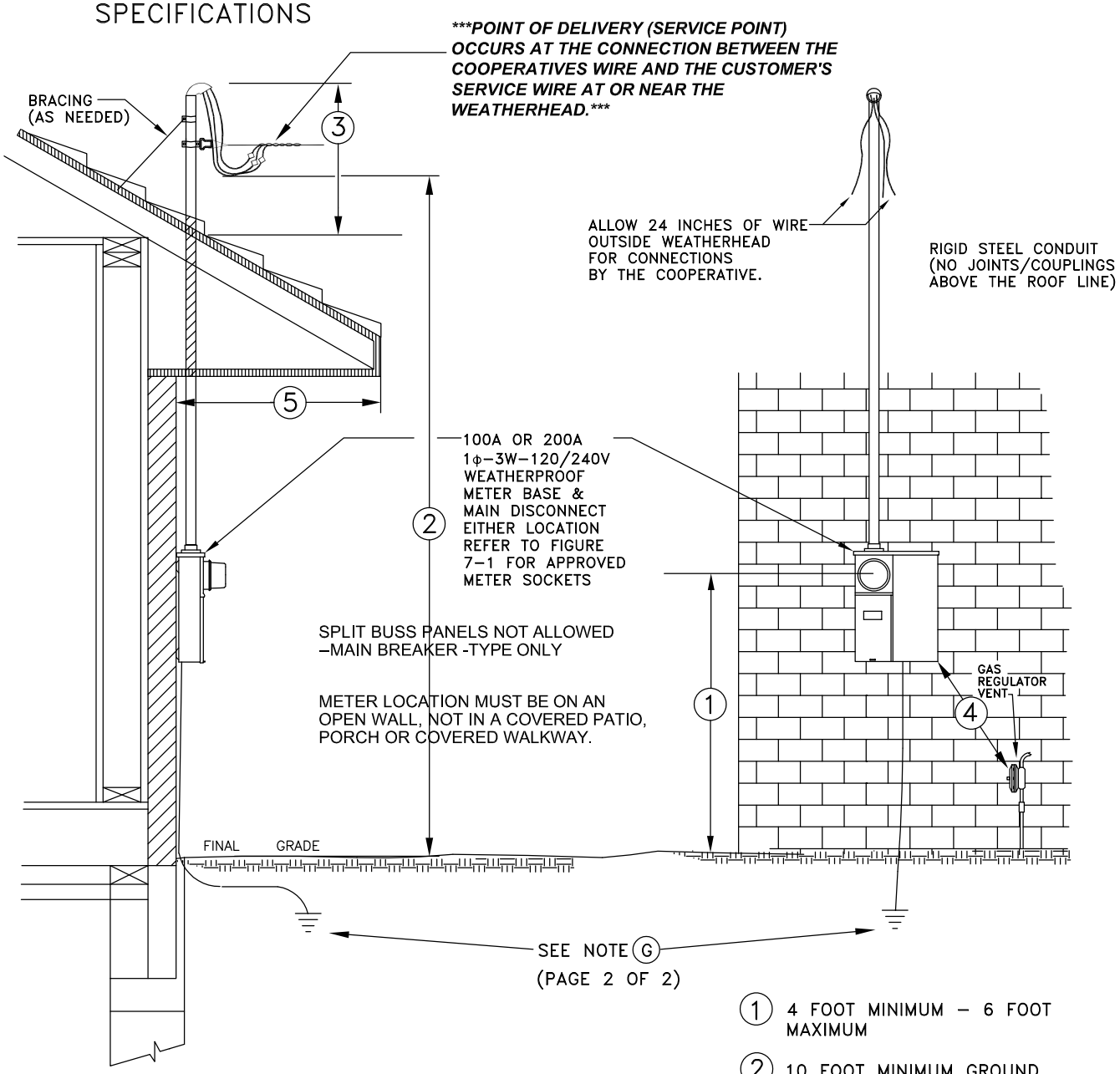
For Overhead Construction service requirements, see the following specifications:

Figure 7-6	M8-10H-200	Overhead Construction 200 Amp Meter Panel.
Figure 7-7	M8-10H-320	Overhead Construction 320 Amp Meter Panel.
Figure 7-8	M8-14-200	Overhead Construction 200 Amp to Meter Pole.
Figure 7-9	M8-14-320	Overhead Construction 320 Amp to Meter Pole

M8-10H-200	Figure 7-6	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
1 of 2	OVERHEAD CONSTRUCTION 200 AMP METER PANEL	

Electric Service Requirements

REFER TO NOTES ON FOLLOWING PAGE FOR ADDITIONAL SPECIFICATIONS



1. 4 FOOT MINIMUM – 6 FOOT MAXIMUM
2. 10 FOOT MINIMUM GROUND CLEARANCE–REFER TO TABLE 5–1 FOR OVERHEAD CLEARANCES
3. 2 FOOT MINIMUM – 3 FOOT 6 INCHES MAXIMUM
4. 3 FOOT
5. 4 FOOT MAXIMUM

Not to Scale

01-01-2014	09-01-2018								

M8-10H-200	Figure 7-6	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
2 of 2	OVERHEAD CONSTRUCTION 200 AMP METER PANEL	

Electric Service Requirements

OVERHEAD SEREVICE EXTENSION & METER PANEL INSTALLATION GUIDE:

Notes:

A. METER SHALL NOT BE LOCATED IN AN AREA WHICH MAY BE ENCLOSED WITH BUILDING OR YARD EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES, OR FENCES.

B. A 3 FOOT X 3 FOOT PERMANENT CLEAR WORKING SPACE SHALL BE REQUIRED IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE.

C. A 3 FOOT MINIMUM CLEARANCE SHALL BE REQUIRED FROM THE CLOSEST POINT OF THE ELECTRIC SERVICE PANEL TO THE GAS OR LP REGULATOR VENT.

D. THE SERVICE MUST BE SECURELY FASTENED TO THE WALL

E. THE SERVICE MAIN-DISCONNECT EQUIPMENT MUST BE RATED THE SAME SIZE AS SERVICE APPLIED FOR.

F. ALL SERVICE EQUIPMENT MUST BE RATED AT NOT LESS THAN 100 AMP.

G. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

H. SEE SECTION 5 FOR SERVICE ENTRANCE CLEARANCE REQUIREMENTS.

J. ALL EQUIPMENT MUST BE RATED FOR OUTDOOR USAGE.

K. ALL "TEMPORARY PANELS" MUST HAVE ONLY GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE BREAKERS (EXCEPT THE MAIN DISCONNECT BREAKER WHEN REQUIRED BY TYPE OF PANEL) UNTIL MEMBER HAS PASSED FINAL INSPECTION BY THE AHJ.

L. THE NEUTRAL MUST BE AN INSULATED CONDUCTOR AND CLEARLY MARKED WHITE.

M. REFER TO FIGURE 5-3 FOR RESIDENTIAL CLEARANCES FOR OVERHEAD SERVICES

MATERIALS LIST

(1) 100A – 200A WEATHERPROOF METER BASE WITH MAIN DISCONNECT/BREAKER

– INSULATED GROUNDING BUSHINGS (REQUIRED WHERE ALL CONCENTRIC RINGS HAVE NOT BEEN KNOCKED OUT, WHERE CONDUIT IS ATTACHED)

– CONDUIT LOCKNUTS AS REQUIRED

(1) CONDUIT STRAP (MORE MAY BE REQUIRED DEPENDING ON CONDUIT LENGTH)

(1) WEATHERHEAD SIZED TO MATCH RISER/MAST

(1) RIGID STEEL CONDUIT RISER AS REQUIRED

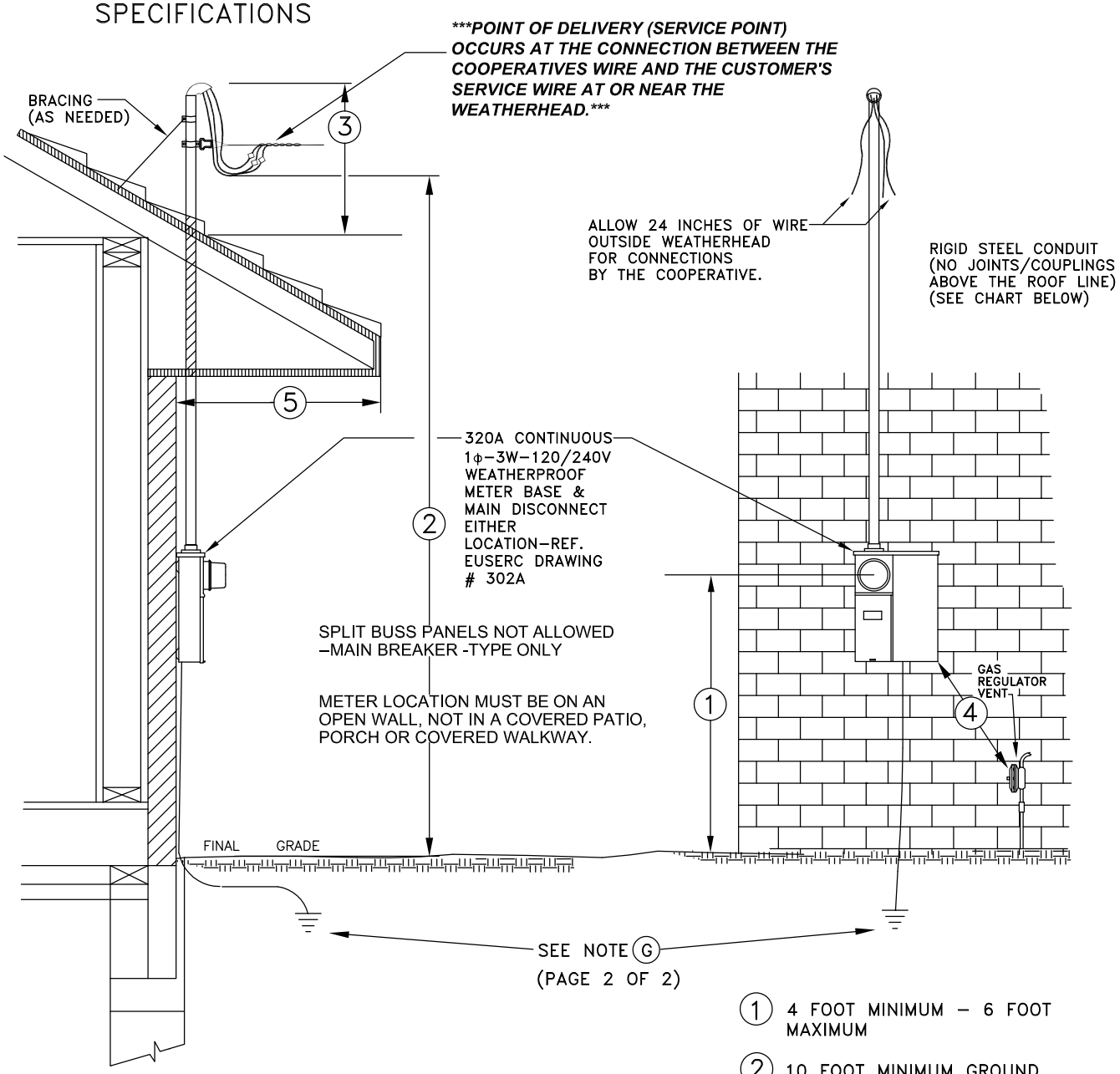
– SERVICE WIRE, SIZE AND LENGTH AS REQUIRED

M8–10H–320	Figure 7-7	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
1 of 2	OVERHEAD CONSTRUCTION 320 AMP METER PANEL	

Electric Service Requirements

REFER TO NOTES ON FOLLOWING PAGE FOR ADDITIONAL SPECIFICATIONS

NO BOLT-IN STYLE METER BASES!!!!



1. 4 FOOT MINIMUM – 6 FOOT MAXIMUM
2. 10 FOOT MINIMUM GROUND CLEARANCE–REFER TO TABLE 5–1 FOR OVERHEAD CLEARANCES
3. 2 FOOT MINIMUM – 3 FOOT 6 INCHES MAXIMUM
4. 3 FOOT
5. 4 FOOT MAXIMUM

Not to Scale

01–01–2014	09–01–2018								

M8-10H-320	Figure 7-7	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
2 of 2	OVERHEAD CONSTRUCTION 320 AMP METER PANEL	

Electric Service Requirements

OVERHEAD SEREVICE EXTENSION & METER PANEL INSTALLATION GUIDE:

Notes:

A. METER SHALL NOT BE LOCATED IN AN AREA WHICH MAY BE ENCLOSED WITH BUILDING OR YARD EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES, OR FENCES.

B. A 3 FOOT X 3 FOOT PERMANENT CLEAR WORKING SPACE SHALL BE REQUIRED IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE.

C. A 3 FOOT MINIMUM CLEARANCE SHALL BE REQUIRED FROM THE CLOSEST POINT OF THE ELECTRIC SERVICE PANEL TO THE GAS OR LP REGULATOR VENT.

D. THE SERVICE MUST BE SECURELY FASTENED TO THE WALL

E. THE SERVICE MAIN-DISCONNECT EQUIPMENT MUST BE RATED THE SAME SIZE AS SERVICE APPLIED FOR.

F. ALL SERVICE EQUIPMENT MUST BE RATED AT NOT LESS THAN 100 AMP.

G. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

H. SEE SECTION 5 FOR SERVICE ENTRANCE CLEARANCE REQUIREMENTS.

J. ALL EQUIPMENT MUST BE RATED FOR OUTDOOR USAGE.

K. ALL "TEMPORARY PANELS" MUST HAVE ONLY GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE BREAKERS (EXCEPT THE MAIN DISCONNECT BREAKER WHEN REQUIRED BY TYPE OF PANEL) UNTIL MEMBER HAS PASSED FINAL INSPECTION BY THE AHJ.

L. THE NEUTRAL MUST BE AN INSULATED CONDUCTOR AND CLEARLY MARKED WHITE.

M. REFER TO FIGURE 5-3 FOR RESIDENTIAL CLEARANCES FOR OVERHEAD SERVICES

MATERIALS LIST

(1) 320A CONT. WEATHERPROOF METER BASE WITH MAIN DISCONNECT/BREAKER (NO BOLT-IN/K4 STYLE ALLOWED!)

- INSULATED GROUNDING BUSHINGS (REQUIRED WHERE ALL CONCENTRIC RINGS HAVE NOT BEEN KNOCKED OUT, WHERE CONDUIT IS ATTACHED)
- CONDUIT LOCKNUTS AS REQUIRED

(1) CONDUIT STRAP (MORE MAY BE REQUIRED DEPENDING ON CONDUIT LENGTH)

(1) WEATHERHEAD SIZED TO MATCH RISER/MAST

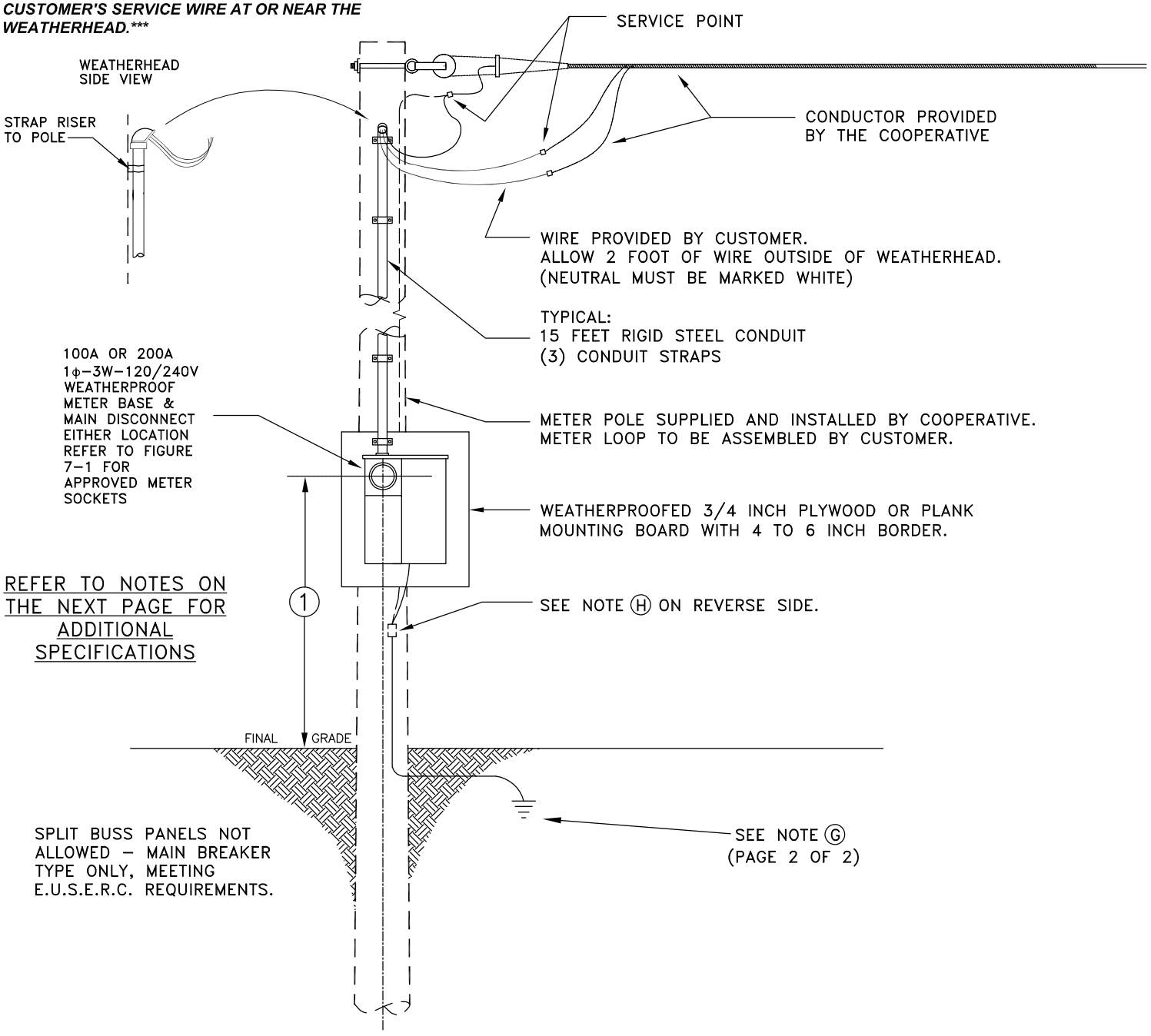
(1) RIGID STEEL CONDUIT RISER AS REQUIRED

- SERVICE WIRE, SIZE AND LENGTH AS REQUIRED

M8-14-200	Figure 7-8	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
1 of 2	OVERHEAD CONSTRUCTION TO METER POLE	

Electric Service Requirements

******POINT OF DELIVERY (SERVICE POINT) OCCURS AT THE CONNECTION BETWEEN THE COOPERATIVES CONDUCTOR AND THE CUSTOMER'S SERVICE WIRE AT OR NEAR THE WEATHERHEAD.******



(1) 4 FOOT MINIMUM – 6 FOOT MAXIMUM

Not to Scale

01-01-2014	09-01-2018								

M8-14-200	Figure 7-8	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
2 of 2	OVERHEAD CONSTRUCTION TO METER POLE	

Electric Service Requirements

OVERHEAD METER PANEL ON COOPERATIVE POLE INSTALLATION GUIDE:

Notes:

A. METER SHALL NOT BE LOCATED IN AN AREA WHICH MAY BE ENCLOSED WITH BUILDING OR YARD EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES, OR FENCES.

B. A 3 FOOT X 3 FOOT PERMANENT CLEAR WORKING SPACE SHALL BE REQUIRED IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE.

C. A 3 FOOT MINIMUM CLEARANCE SHALL BE REQUIRED FROM THE CLOSEST POINT OF THE ELECTRIC SERVICE PANEL TO THE GAS OR LP REGULATOR VENT.

D. THE SERVICE MUST BE SECURELY FASTENED TO THE POLE. MOUNTING BOARD MUST BE AT LEAST 3/4 INCH THICK AND HAVE A 4 TO 6 INCH BORDER AROUND ALL EQUIPMENT BOXES. THE BOARD MUST BE WEATHERPROOF BY TREATMENT, PAINTING OR OTHER APPROVED METHOD.

E. THE SERVICE MAIN-DISCONNECT EQUIPMENT MUST BE RATED THE SAME SIZE AS SERVICE APPLIED FOR.

F. ALL SERVICE EQUIPMENT MUST BE RATED AT NOT LESS THAN 100 AMP.

G. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

H. THE COOPERATIVE MAY CONNECT ITS POLE GROUND WIRE TO THE MEMBER'S APPROVED GROUND OUTSIDE THE METER BASE.

J. ALL EQUIPMENT MUST BE RATED FOR OUTDOOR USAGE.

K. ALL "TEMPORARY PANELS" MUST HAVE ONLY GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE BREAKERS (EXCEPT THE MAIN DISCONNECT BREAKER WHEN REQUIRED BY TYPE OF PANEL) UNTIL MEMBER HAS PASSED FINAL INSPECTION BY THE AHJ.

L. THE NEUTRAL MUST BE AN INSULATED CONDUCTOR AND CLEARLY MARKED WHITE.

M. IF A SEPARATE METER BASE AND MAIN DISCONNECT ARE USED, THEY MUST BE MOUNTED VERTICALLY.

MATERIALS LIST

(1) 100A-200A WEATHERPROOF METER BASE WITH MAIN DISCONNECT/BREAKER

- INSULATED GROUNDING BUSHINGS (REQUIRED WHERE ALL CONCENTRIC RINGS HAVE NOT BEEN KNOCKED OUT, WHERE CONDUIT IS ATTACHED)
- CONDUIT LOCKNUTS AS REQUIRED

(3) CONDUIT STRAPS (MORE MAY BE REQUIRED FOR TALLER POLES.)

(1) WEATHERHEAD SIZED TO MATCH RISER/MAST

(1) RIGID STEEL CONDUIT RISER AS REQUIRED.

(1) 3/4 INCH PLYWOOD OR PLANK MOUNTING BOARD, WEATHERPROOFED

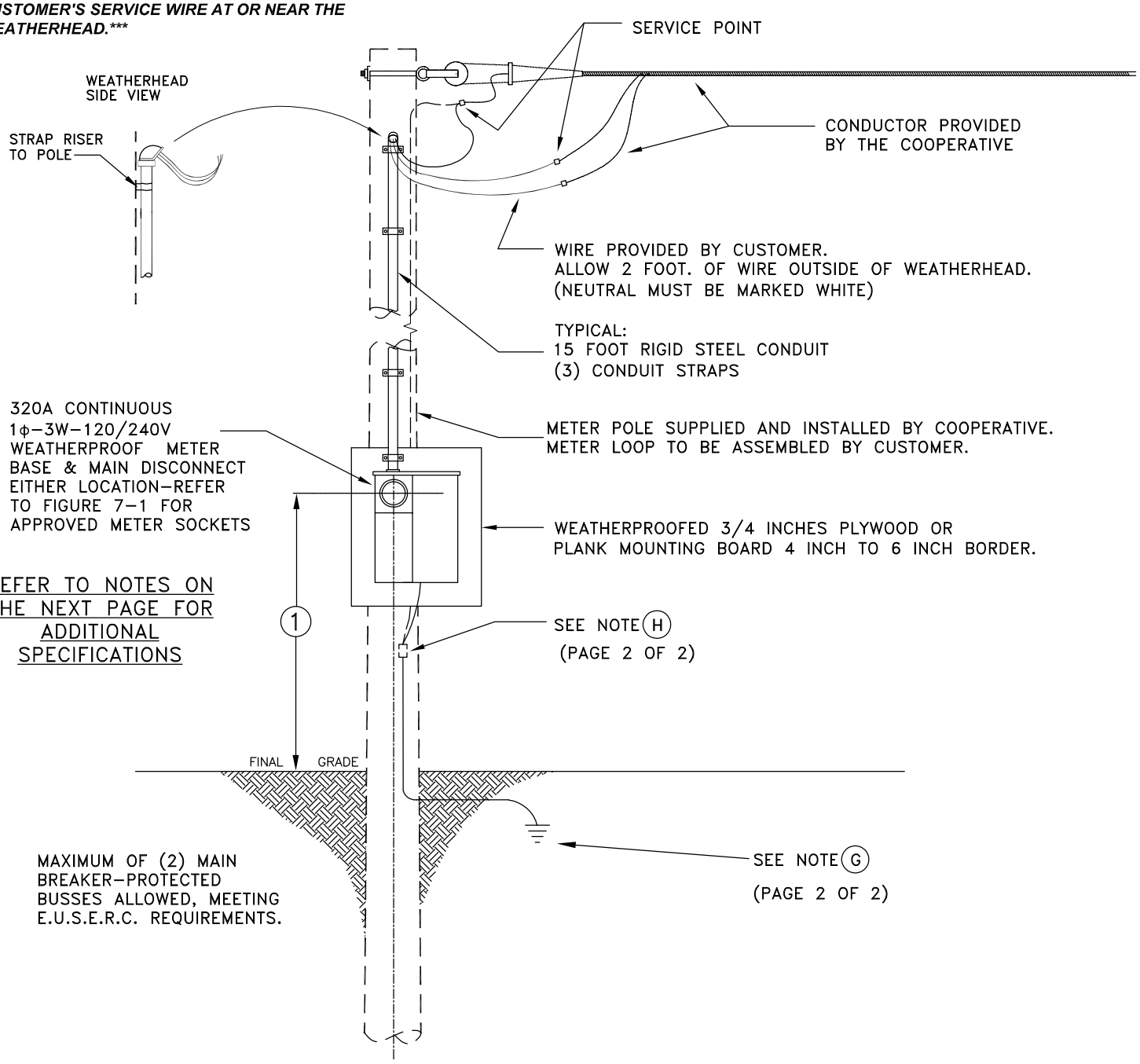
- SERVICE WIRE, SIZE AND LENGTH AS REQUIRED

M8-14-320	Figure 7-9	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
1 of 2	OVERHEAD CONSTRUCTION TO METER POLE-320 AMP	

Electric Service Requirements

NO BOLT-IN/K4 STYLE METER BASES ALLOWED!!!

******POINT OF DELIVERY (SERVICE POINT) OCCURS AT THE CONNECTION BETWEEN THE COOPERATIVES CONDUCTOR AND THE CUSTOMER'S SERVICE WIRE AT OR NEAR THE WEATHERHEAD.******



(1) 4 FOOT MINIMUM – 6 FOOT MAXIMUM

Not to Scale

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M8-14-320	Figure 7-9	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
2 of 2	OVERHEAD CONSTRUCTION TO METER POLE-320 AMP	

Electric Service Requirements

OVERHEAD METER PANEL ON COOPERATIVE POLE INSTALLATION GUIDE:

Notes:

A. METER SHALL NOT BE LOCATED IN AN AREA WHICH MAY BE ENCLOSED WITH BUILDING OR YARD EXPANSION. THE METER SHALL ALWAYS BE ACCESSIBLE FOR READING, CONNECTING, DISCONNECTING, AND MAINTENANCE WITHOUT PASSAGE THROUGH RESTRICTED AREAS, LOCKED GATES, OR FENCES.

B. A 3 FOOT X 3 FOOT PERMANENT CLEAR WORKING SPACE SHALL BE REQUIRED IN FRONT OF THE ELECTRIC SERVICE PANEL, AS MEASURED FROM THE CENTER POINT OF THE METER SOCKET FACE.

C. A 3 FOOT MINIMUM CLEARANCE SHALL BE REQUIRED FROM THE CLOSEST POINT OF THE ELECTRIC SERVICE PANEL TO THE GAS OR LP REGULATOR VENT.

D. THE SERVICE MUST BE SECURELY FASTENED TO THE POLE. MOUNTING BOARD MUST BE AT LEAST ¾" THICK AND HAVE A 4 TO 6 INCH BORDER AROUND ALL EQUIPMENT BOXES. THE BOARD MUST BE WEATHERPROOF BY TREATMENT, PAINTING OR OTHER APPROVED METHOD.

E. THE SERVICE MAIN-DISCONNECT EQUIPMENT MUST BE RATED THE SAME SIZE AS SERVICE APPLIED FOR.

F. ALL SERVICE EQUIPMENT MUST BE RATED AT NOT LESS THAN 100 AMP.

G. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

H. THE COOPERATIVE MAY CONNECT ITS POLE GROUND WIRE TO THE MEMBER'S APPROVED GROUND OUTSIDE THE METER BASE.

J. ALL EQUIPMENT MUST BE RATED FOR OUTDOOR USAGE.

K. ALL "TEMPORARY PANELS" MUST HAVE ONLY GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE BREAKERS (EXCEPT THE MAIN DISCONNECT BREAKER WHEN REQUIRED BY TYPE OF PANEL) UNTIL MEMBER HAS PASSED FINAL INSPECTION BY THE AHJ.

L. THE NEUTRAL MUST BE AN INSULATED CONDUCTOR AND CLEARLY MARKED WHITE.

M. IF A SEPARATE METER BASE AND MAIN DISCONNECT ARE USED, THEY MUST BE MOUNTED VERTICALLY.

MATERIALS LIST

(1) 320A CONTINUOUS WEATHERPROOF METER BASE WITH MAIN DISCONNECT/BREAKER (NO BOLT-IN/K4 STYLE ALLOWED)

- INSULATED GROUNDING BUSHINGS (REQUIRED WHERE ALL CONCENTRIC RINGS HAVE NOT BEEN KNOCKED OUT, WHERE CONDUIT IS ATTACHED)
- CONDUIT LOCKNUTS AS REQUIRED

(3) CONDUIT STRAPS (MORE MAY BE REQUIRED FOR TALLER POLES.)

(1) WEATHERHEAD SIZED TO MATCH RISER/MAST

(1) RIGID STEEL CONDUIT RISER AS REQUIRED (ADDITIONAL LENGTH REQUIRED FOR TALLER POLES.)

(1) 3/4 INCH PLYWOOD OR PLANK MOUNTING BOARD, WEATHERPROOFED

- SERVICE WIRE, SIZE AND LENGTH AS REQUIRED

Figure 7-10

APPROVED RESIDENTIAL METERING EQUIPMENT

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

APPROVED RESIDENTIAL METERING EQUIPMENT

THE FOLLOWING LIST CONTAINS APPROVED SELF CONTAINED METERING EQUIPMENT FOR RESIDENTIAL INSTALLATIONS UP TO 400 AMPS (320 CONTINUOUS). THIS LIST IS A REFERENCE FOR ACCEPTABLE METERING EQUIPMENT AND IS NOT INTENDED TO LIST EVERY POSSIBLE METER SOCKET THAT MEETS THE COOPERATIVES REQUIREMENTS. FOR APPROVAL OF A METER SOCKET OR PANEL THAT IS NOT LISTED, FILL OUT THE FORM ON PAGE TWO OF THIS PUBLICATION. PLEASE PROVIDE THE CATALOG NUMBER, MANUFACTURER NAME, PRODUCT DATA AND TECHNICAL SHEETS. FORWARD THE FORM AND DOCUMENTATION TO THE COOPERATIVE FOR REVIEW.

Notes:

THE GENERAL GUIDELINES FOR SELECTING METERING EQUIPMENT IS:

A. EQUIPMENT TO BE CLASSIFIED AS EUSERC, UL AND ANSI APPROVED. SEE FIGURE 7–1 FOR ADDITIONAL EUSERC INFORMATION.

B. AIC RATING TO BE 10,000 AMPS OR GREATER.

C. "K" BASE (BOLT IN) METER SOCKETS ARE NOT ALLOWED.

D. METERING EQUIPMENT SHALL BE SURFACE MOUNTED. FLUSH OR SEMI–FLUSH MOUNTED METERING EQUIPMENT IS NOT ALLOWED.

E. ALL METER SOCKETS SHALL BE RING TYPE. RINGLESS SOCKETS ARE NOT ALLOWED.

F. MANUAL LINK BYPASSES ARE ALLOWED BUT NOT REQUIRED FOR RESIDENTIAL SERVICES. LEVER BYPASSES AND AUTOMATIC BYPASSES ARE NOT ALLOWED.

G. IT IS THE RESPONSIBILITY OF THE CUSTOMER TO PURCHASE THE APPROPRIATE KIT, IF ONE IS REQUIRED, TO SERVE AN UNDERGROUND SOURCE SUPPLIED PANEL WITH AN OVERHEAD SOURCE. REFER TO THE MANUFACTURER FOR DETAILS. NOT ALL PANELS CAN BE USED FOR BOTH SOURCES.

AS PRODUCTS CAN CHANGE OVER TIME, IT IS THE RESPONSIBILITY OF THE CUSTOMER TO VERIFY THAT THE ABOVE MINIMUM REQUIREMENTS ARE MET IF SELECTING METERING EQUIPMENT FROM THIS LIST.

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Figure 7-10

APPROVED RESIDENTIAL METERING EQUIPMENT

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

PANEL STYLE	PANEL SIZE–IN AMPS	MANUFACTURER	CATALOG NUMBER	PHASE	FAULT RATING (* KAIC)	O.H.	U.G.	TERMINALS
ALL–IN–ONE	100	EATON CUTLER–HAMMER	MBE1224B100BTS	1	10	X	X	4
ALL–IN–ONE	100	EATON CUTLER–HAMMER	MBE1224B100TS	1	10	X		4
ALL–IN–ONE	100	EATON CUTLER–HAMMER	MBE1224PV100BTS	1	10	X	X	4
ALL–IN–ONE	100	GE	TSM1610CSCU	1	22	X	X	4
ALL–IN–ONE	100	SIEMENS	MC1020B1100SZ	1	22	X		4
ALL–IN–ONE	100	SIEMENS	MC1224B1100ESC	1	22	X	X	4
ALL–IN–ONE	100	SIEMENS	MC1224B1100SEC	1	22	X	X	4
ALL–IN–ONE	100	SQUARE D	SC1624M100S	1	10	X	X	4
ALL–IN–ONE	100	SQUARE D	SO1020M100S	1	10	X		4
ALL–IN–ONE	100	SQUARE D	SO1020M100VP	1	10	X		4
ALL–IN–ONE	125	EATON CUTLER–HAMMER	CMBE2222B125BS	1	10		X	4
ALL–IN–ONE	125	EATON CUTLER–HAMMER	MBE1224B125BTS	1	10	X	X	4
ALL–IN–ONE	125	EATON CUTLER–HAMMER	MBE1224PV125BTS	1	10	X	X	4
ALL–IN–ONE	125	GE	TSM1212CSCU	1	22	X	X	4
ALL–IN–ONE	125	MURRAY	JA1632B1125SEC	1	22	X	X	4
ALL–IN–ONE	125	SIEMENS	MC1224B1125ESC	1	22	X	X	4
ALL–IN–ONE	125	SIEMENS	MC1224B1125SEC	1	22	X	X	4
ALL–IN–ONE	125	SIEMENS	MM0406L1125SEC	1	22	X	X	4
ALL–IN–ONE	125	SQUARE D	SC1624M125S	1	10	X	X	4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	CMBE1212L200BS	1	10/22		X	4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	CMBE1212L200TS	1	10/22	X		4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	CMBE24B200TSR	1	35	X		4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	CMBE4242B200BS2	1	35		X	4

* KAIC – THOUSAND AMPERE INTERRUPTING CAPACITY

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Figure 7-10

APPROVED RESIDENTIAL METERING EQUIPMENT

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

PANEL STYLE	PANEL SIZE–IN AMPS	MANUFACTURER	CATALOG NUMBER	PHASE	FAULT RATING (* KAIC)	O.H.	U.G.	TERMINALS
ALL–IN–ONE	200	EATON CUTLER–HAMMER	CMBE4242B200BTS	1	22	X	X	4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	CMBE4242B200TS	1	35	X		4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	CMBE4242PV200BS	1	22	X	X	4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	CMBE4242PV200TS	1	22	X		4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	CMBE88B200BTS	1	22	X	X	4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	MBE1212L200BS	1	10/22		X	4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	MBE2040B200BTS	1	22	X	X	4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	MBE2040B200TS	1	10	X		4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	MBE2040PV200BTS	1	10	X	X	4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	MBE4040B200BTS	1	22	X	X	4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	MBE4040B200TS	1	10	X		4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	MBE4040PV200BTS	1	22	X	X	4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	MBE88B200BTS	1	10/22	X	X	4
ALL–IN–ONE	200	EATON CUTLER–HAMMER	MBEB200BTS	1	10	X	X	4
ALL–IN–ONE	200	GE	TSM2020CSCU	1	22	X	X	4
ALL–IN–ONE	200	GE	TSM2420US42	1	22		X	4
ALL–IN–ONE	200	GE	TSM3220UWCU	1	22		X	4
ALL–IN–ONE	200	GE	TSM4020UWCU	1	22		X	4
ALL–IN–ONE	200	MURRAY	JA1212L1200SED	1	22		X	4
ALL–IN–ONE	200	MURRAY	JC0406L1200H	1	22	X	X	4

* KAIC – THOUSAND AMPERE INTERRUPTING CAPACITY

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Figure 7-10

APPROVED RESIDENTIAL METERING EQUIPMENT

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

PANEL STYLE	PANEL SIZE–IN AMPS	MANUFACTURER	CATALOG NUMBER	PHASE	FAULT RATING (* KAIC)	O.H.	U.G.	TERMINALS
ALL–IN–ONE	200	SIEMENS	MC1212L1200SED	1	22		X	4
ALL–IN–ONE	200	SIEMENS	MC2040B1200ESC	1	22	X	X	4
ALL–IN–ONE	200	SIEMENS	MC2040B1200S	1	22	X		4
ALL–IN–ONE	200	SIEMENS	MC2040B1200SED	1	22		X	4
ALL–IN–ONE	200	SIEMENS	MC2040B1200SZ	1	22	X		4
ALL–IN–ONE	200	SIEMENS	MC2442B1200ESC	1	22	X	X	4
ALL–IN–ONE	200	SIEMENS	MC2442B1200SEC	1	22	X	X	4
ALL–IN–ONE	200	SIEMENS	MC2442S1200SC	1	22	X	X	4
ALL–IN–ONE	200	SIEMENS	MC3040B1200SECW	1	22	X	X	4
ALL–IN–ONE	200	SIEMENS	MC3040S1200SC	1	22	X	X	4
ALL–IN–ONE	200	SIEMENS	MC3042B1200SED	1	22		X	4
ALL–IN–ONE	200	SIEMENS	MC4040B1200SECW	1	22	X	X	4
ALL–IN–ONE	200	SIEMENS	MC4040S1200SC	1	22	X	X	4
ALL–IN–ONE	200	SIEMENS	MM0406L1200SEC	1	22	X	X	4
ALL–IN–ONE	200	SIEMENS	MC2040S1200SZ	1	22	X		4
ALL–IN–ONE	200	SIEMENS	MC0816B1200EST	1	22	X	X	4
ALL–IN–ONE	200	SIEMENS	MC0816S1200SCT	1	22	X	X	4

* KAIC – THOUSAND AMPERE INTERRUPTING CAPACITY

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Figure 7-10

APPROVED RESIDENTIAL METERING EQUIPMENT

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

PANEL STYLE	PANEL SIZE–IN AMPS	MANUFACTURER	CATALOG NUMBER	PHASE	FAULT RATING (* KAIC)	O.H.	U.G.	TERMINALS
ALL–IN–ONE	200	SQUARE D	SC2040M200C	1	10	X	X	4
ALL–IN–ONE	200	SQUARE D	SC2040M200S	1	22	X	X	4
ALL–IN–ONE	200	SQUARE D	SC3040M200S	1	22	X	X	4
ALL–IN–ONE	200	SQUARE D	SC3042M200PS	1	22	X	X	4
ALL–IN–ONE	200	SQUARE D	SC40M200S	1	22	X	X	4
ALL–IN–ONE	200	SQUARE D	S02040M200S	1	22	X		4
ALL–IN–ONE	200	SQUARE D	S02040M200VP	1	22	X		4
ALL–IN–ONE	200	SQUARE D	SU3040M200R	1	10	X	X	4
ALL–IN–ONE	200	SQUARE D	SC42M200PS	1	22	X	X	4
ALL–IN–ONE	200	SQUARE D	SC816F200PS	1	22	X	X	4

* KAIC – THOUSAND AMPERE INTERRUPTING CAPACITY

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Figure 7-10

APPROVED RESIDENTIAL METERING EQUIPMENT

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

PANEL STYLE	PANEL SIZE–IN AMPS	MANUFACTURER	CATALOG NUMBER	PHASE	FAULT RATING (* KAIC)	O.H.	U.G.	TERMINALS
ALL–IN–ONE	320	MILBANK	M400–APS	1	10	X		4
ALL–IN–ONE	320	MILBANK	U3251–0–200–CB	1	10		X	4
ALL–IN–ONE	400	EATON CUTLER–HAMMER	CG1212P400BS	1	22		X	4
ALL–IN–ONE	400	EATON CUTLER–HAMMER	CG403242SH	1	22		X	4
ALL–IN–ONE	400	EATON CUTLER–HAMMER	CG40SH	1	22		X	4
ALL–IN–ONE	400	EATON CUTLER–HAMMER	H816P400BS	1	10/22		X	4
ALL–IN–ONE	400	EATON CUTLER–HAMMER	HP40	1	10/22		X	4
ALL–IN–ONE	400	EATON CUTLER–HAMMER	HP402442	1	10/22		X	4
ALL–IN–ONE	400	EATON CUTLER–HAMMER	HP404040SH	1	10/22		X	4
ALL–IN–ONE	400	EATON CUTLER–HAMMER	HP40SH	1	10/22		X	4
ALL–IN–ONE	400	GE	TMH2440RMS	1	22		X	4
ALL–IN–ONE	400	GE	TSDA2440UC42	1	22		X	4
ALL–IN–ONE	400	MURRAY	JA0816B1400SCS	1	22	X	X	4
ALL–IN–ONE	400	MURRAY	JA3042B1400SCS	1	22	X	X	4
ALL–IN–ONE	400	MURRAY	JC0404L1400SCS	1	22	X	X	4
ALL–IN–ONE	400	SQUARE D – CSED	SU3040D400CN	1	25		X	4
ALL–IN–ONE	400	SQUARE D – CSED	SU3040D400CB	1	25		X	4
METER PAK–ALL–IN–ONE	125	SQUARE D	WEP6611 w/ NEMA STUD KIT	1	65	X	X	4
METER PAK–ALL–IN–ONE	125	SQUARE D	MP66125 w/LUG KIT MMSK2	1	42	X	X	4

* KAIC – THOUSAND AMPERE INTERRUPTING CAPACITY

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Figure 7-10

APPROVED RESIDENTIAL METERING EQUIPMENT

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

PANEL STYLE	PANEL SIZE–IN AMPS	MANUFACTURER	CATALOG NUMBER	PHASE	FAULT RATING (* KAIC)	O.H.	U.G.	TERMINALS
ALL–IN–ONE	400	SIEMENS	MC0816B1400SCS	1	22	X	X	4
ALL–IN–ONE	400	SIEMENS	MC3040MB22	1	22		X	4
ALL–IN–ONE	400	SIEMENS	MC3042B1200SPV	1	22		X	4
ALL–IN–ONE	400	SIEMENS	MC3042B1400SCS	1	22	X	X	4
ALL–IN–ONE	400	SIEMENS	MC3042B1400SC	1	22	X	X	4
ALL–IN–ONE	400	SIEMENS	MM0404L1400SCS	1	22	X	X	4
ALL–IN–ONE	400	SIEMENS	MC3042S1400SC	1	22	X	X	4
ALL–IN–ONE	400	SIEMENS	MC3042S1400SCS	1	22	X	X	4
ALL–IN–ONE	400	SIEMENS	MC3042S1400SDS	1	22	X	X	4
PEDESTAL	100	MILBANK	MPAP–100–MB–78	1	10 MIN.		X	4
PEDESTAL	200	MILBANK	MPAP–200–MB–78	1	10 MIN.		X	4
PEDESTAL	200	MIDWEST	M281C1P6H	1	10 MIN.		X	4

* KAIC – THOUSAND AMPERE INTERRUPTING CAPACITY

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8. Multiple Family Service

8.1 General

This section describes grouped service locations that provide separate metered services, for multi-family units, such as duplexes or apartments. ***The Cooperative requires grouping of service entrances at a common location.*** *See Section 5 for clearances.*

8.2 Underground Service

Conduit is required for multiple family underground services. Refer to section 6 for underground and conduit requirements. See Figure 8-1 for typical Multiple Meter Socket installations

8.3 Overhead Service

The Customer is responsible to bring Service Entrance Conductors from the service head to the Cooperative's point of attachment. The Cooperative will not extend conductors from the point of attachment to individual service heads. Only in extreme situations should the Customer consider Overhead Service to Multi-Family installations. Consult the Cooperative if you are planning Overhead Service for this application.

8.4 Meter Socket Identification

Refer to Section 3.3.4 for information on proper identification of multi meter socket installations.

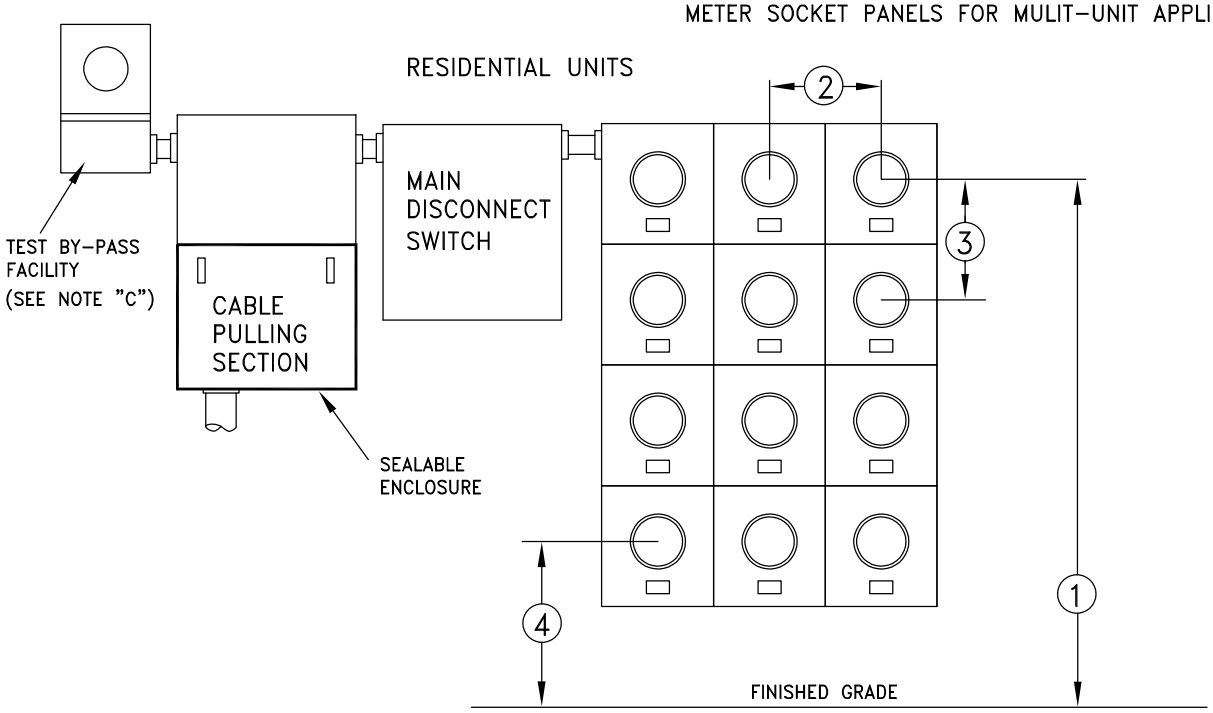
8.5 Service Entrance Enclosure/Terminating Pull Section

The Service Entrance Conductors shall terminate in a separate sealable compartment. See Section 10.1.1 for additional information.

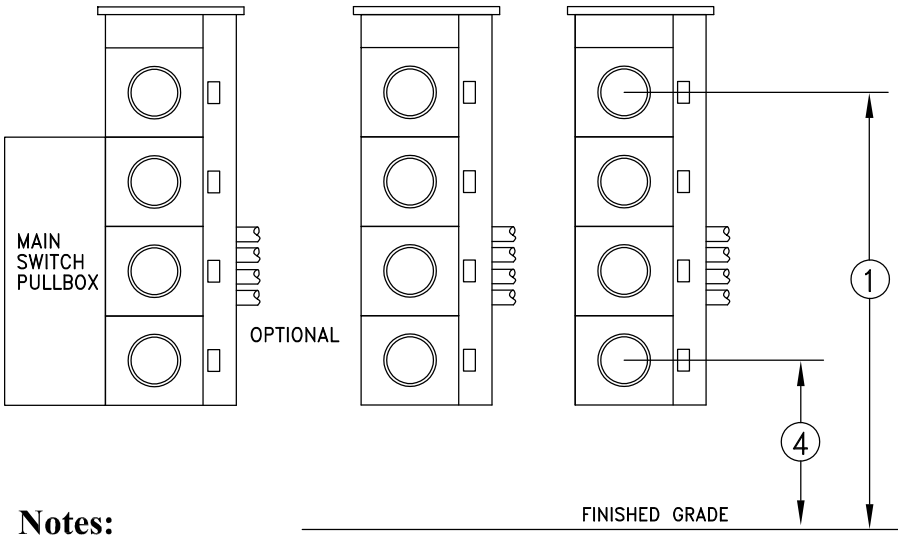
1 of 1	Figure 8-1 MULTIPLE RESIDENTIAL METER SOCKET–INSTALLATIONS FOR UNDERGROUND	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative

Electric Service Requirements

TYPICAL COMBINATION SERVICE TERMINATION ENCLOSURE AND METER SOCKET PANELS FOR MULIT–UNIT APPLICATIONS.



METER SOCKET MODULES



1. 72 INCHES MAXIMUM
2. 7 1/2 INCHES
3. 8 1/2 INCHES
4. 42 INCHES MINIMUM OUTDOOR
   36 INCHES MINIMUM INDOOR

Notes:

A. CABLE PULLING SECTION MUST BE SIZED FOR COOPERATIVE SERVICE TERMINATION. REFER TO SECTION 10.1.1 AND SEE EUSERC DRAWING 343. NEC REQUIRES MAIN DISCONNECT WHEN MORE THAN 6 SERVICES ARE CONNECTED.

B. EACH METERED SERVICE MUST BE PERMANENTLY LABELED TO IDENTIFY CUSTOMER LOCATION BY MEANS OF A METAL TAG. REFER TO SECTION 3.3.4 FOR ADDITIONAL INFORMATION.

C. NON–RESIDENTIAL METERED SERVICES MUST HAVE A TEST BY–PASS FACILITY UNLESS SERVICE ONLY FOR LIGHTING LOAD.

Not to Scale

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9. Manufactured and Mobile Home Service

9.1 Underground Service Information

Refer to section 6 *(Underground Requirements)* and to Figures 4-2, 4-3 & 7-3, 7-3U for requirements that pertain to installation of underground Secondary (less than 600 volts) service.

9.2 Underground Service to Manufactured Homes Sockets

Underground service to Manufactured Homes will be provided under the same requirements as single-family service (see section 7 *Single Family Service),* ***because the home is site specific, occupies a private lot, and the service entrance is factory built with the construction of the home..***

Keep in mind the meter height and position requirements in section 5.1 *(Meter Clearances and Locations).* When the meter socket is improperly located, the Customer is responsible for all modifications to relocate or locate the meter to Cooperative requirements.

9.3 Underground Service to Mobile Homes

For underground service to a Mobile Home, locate the Customer's service entrance equipment either in an approved pedestal, see Figure 7-3, or Figure 4-3 mounted on wood posts. Service can also be installed on steel Unistrut, see Figure 7-3U. The Customer must furnish, install, and maintain the pedestal, unistrut or wood posts. The bottom of the enclosure containing the Service Equipment should be not less than 24 inches above the finished grade. For a meter subject to physical damage, the Customer must install and maintain barrier posts or other suitable protection approved by the Cooperative (see barrier post requirements Figure 6.3). Mobile Home pedestals shall be installed a minimum of 3 feet from the home.

After approval, the Cooperative will provide service to the Meter Pedestal for permanent metered service to Mobile Homes located in parks. Each Mobile Home must have a separate Meter Pedestal service approved by the Cooperative for termination of the Cooperative's service conductors.

In Mobile Home Parks, position Cooperative trenches and conduit per the Cooperative's distribution design plan, away from the pad (never underneath), foundation, or area provided for the Manufactured Home.

9.4 Installation of Pedestal and Post Meters for Underground Service

Refer to Figure 7-3, Figure 7-3U and Figure 4-3 for underground metered services installed for a Mobile Home.

9.5 Overhead Service Information

The Cooperative will supply new Overhead Service to any building or premises except in an area designated by local government jurisdiction and/or the Cooperative as an underground district, restricted to underground service.

Refer to section 7 *(Overhead Service)* for service drop information.

9.6 Overhead Service to Manufactured Homes

The Cooperative will provide Overhead Service to Manufactured Homes using the same requirements as residential occupancies listed in Section 7.3 *(Overhead Service)* ***because the home is site specific, occupies a private lot, and the service entrance is factory built with the construction of the home.***

The Customer must make provision for meter height and placement as described in Section 5.1 *(Location of Meters).* When the meter socket is improperly located the Customer is responsible for all modifications to relocate or locate meter to Cooperative requirements.

9.7 Overhead Service to Mobile Homes

The Customer must install the Meter Base and Service Equipment on a Cooperative owned wood pole. See Figure 7-8, or Figure 7-9 for Overhead Construction to a Meter Pole in Section 7.3.

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10. Commercial, Industrial, Agricultural Services

This section describes the Cooperative requirements for commercial, industrial, and agricultural services. This section covers single phase and three phase services for self-contained and Current Transformer (CT) type metering. The Customer is responsible to coordinate service requirements with the Cooperative before purchase of material and installation.

Residential services 400 amps (320 amps continuous) or less that are converted to a non-residential or commercial use will not be required to make the existing service compliant with the current Electric Service Requirements Book unless an upgrade or relocation of the service is required and will need an inspection by the AHJ. Non-residential or commercial services with self-contained metering are subject to de-energizing of the service at the discretion of the Cooperative for testing and maintenance purposes.

All commercial, industrial, or agricultural Customers must coordinate their service requirements with the Cooperative before purchase and installation of equipment.

Single phase service over 400 amps (320 amps continuous) and three phase services over 200 amps require Current Transformer (CT) metering. **For all services that require Current Transformer (CT) metering, the Customer shall provide, install and own the Secondary conductor and conduit (see paragraph 6.1 in section 6.0 Underground Requirements for additional important information regarding transfer of ownership at the point of delivery).** The Customer shall terminate the Secondary conductor on the line and load side of the Current Transformers (CT). The Cooperative shall provide, install and own the Current Transformers (CT). The Cooperative shall terminate the Secondary conductors in the transformer. The Customer shall coordinate with the Cooperative to schedule the termination of the Secondary conductor in the transformer. The Cooperative shall wire, own and operate meter wiring from the Current Transformers (CT)'s to the meter. The Cooperative shall also install and own the meter.

Primary service refers to delivery at greater than 600 volts. The Cooperative must be consulted before installation of primary service.

The Customer must not terminate the principal Grounding conductor in the Cooperative's sealed termination compartment.

10.1 Self-contained Metering

The Cooperative requires a self-contained safety socket-type meter when the ampacity of a single phase service is 400 amps (320 amps continuous) or less, or three phase service 200 amperes continuous or less.

Limit the continuous duty on self-contained meter sockets for motor loads to:

- 60 hp at 208Y/120-volt, three phase.
- 125 hp at 480Y/277-volt three phase

Motor sizes above these horsepower values will be metered with Current Transformers (CT). (see Section 10.6)

1 of 1

Table 10-1

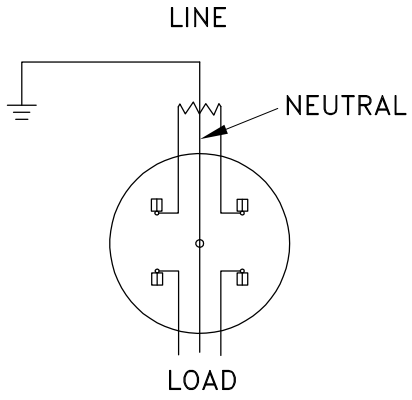
COMMERCIAL METER SOCKET REQUIREMENTS

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

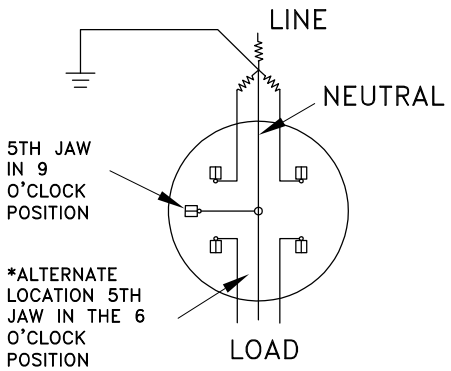
Electric Service Requirements

TYPE OF SERVICE	SOCKET TYPE
120/240 VOLT SINGLE PHASE 3 WIRE	4 JAW
120/208 VOLT SINGLE PHASE (NETWORK) 3 WIRE	5 JAW
120/208 THREE PHASE 4 WIRE	7 JAW
277/480 THREE PHASE 4 WIRE	7 JAW

SINGLE PHASE

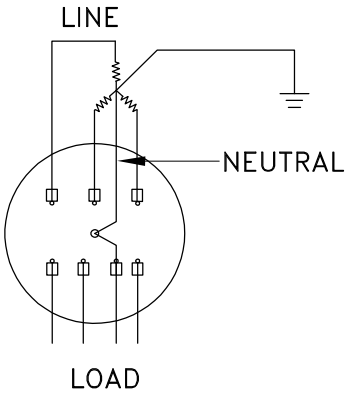


120/240 VOLT 3 WIRE



120/208 VOLT 3 WIRE–WYE

THREE PHASE



120/208 VOLT 4 WIRE–WYE
277/480 VOLT 4 WIRE–WYE

Notes:

A. FOR NETWORK METERS, THE 5TH JAW MAY BE IN THE 9 O'CLOCK POSITION, WITH AN ALTERNATE 6 O'CLOCK POSITION

B. FOR SAFETY SOCKET REQUIREMENTS REFER TO FIGURE 10–1.

Not to Scale

1 of 2	Figure 10-1 COMMERCIAL SINGLE & THREE PHASE (100 & 200 AMP) SELF CONTAINED–APPROVED SAFETY METER SOCKETS	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative

Electric Service Requirements

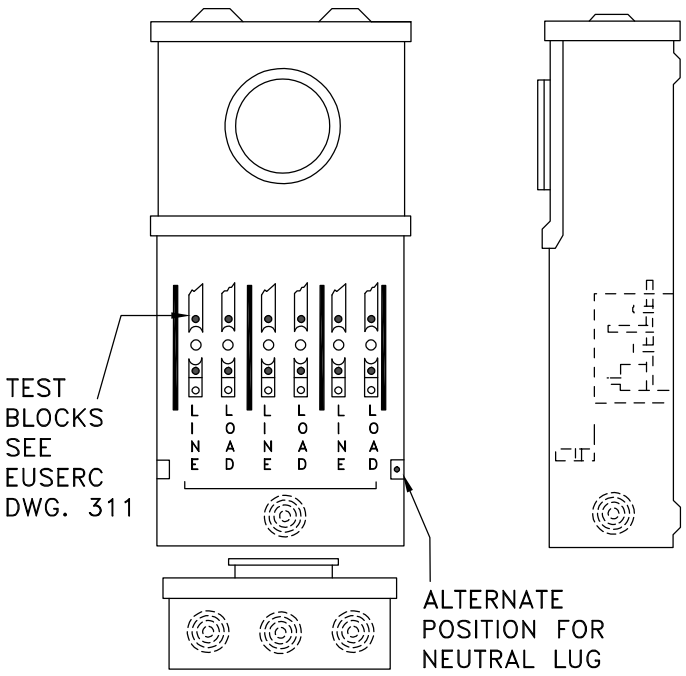
100 AMP SINGLE & THREE PHASE
OVERHEAD & UNDERGROUND SERVICE
SAFETY SOCKET

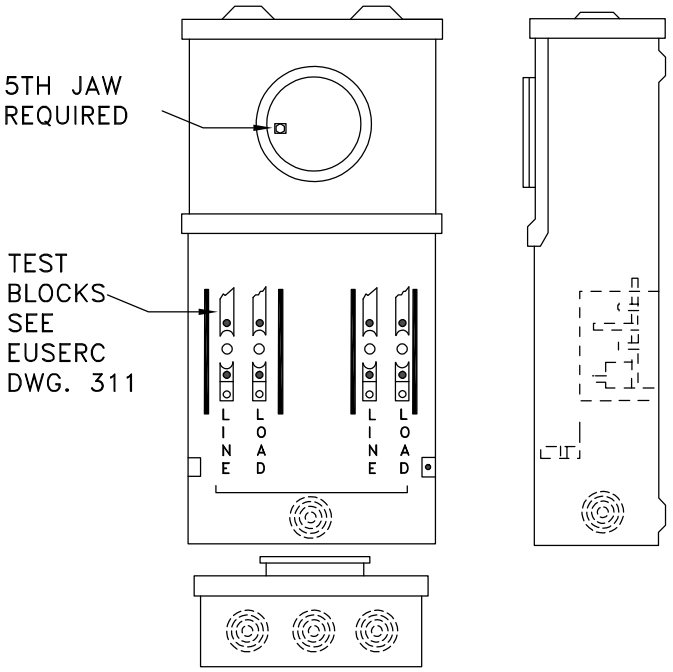
REFERENCE EUSERC DRAWING 304

200 AMP SINGLE & THREE PHASE
OVERHEAD & UNDERGROUND SERVICE
SAFETY SOCKET

REFERENCE EUSERC DRAWING 305

NETWORK METER – 120/208
SINGLE PHASE





Notes:

A. REFER TO SECTION 3 FOR APPROPRIATE VOLTAGES

B. RINGLESS PANELS ARE NOT APPROVED.

Not to Scale

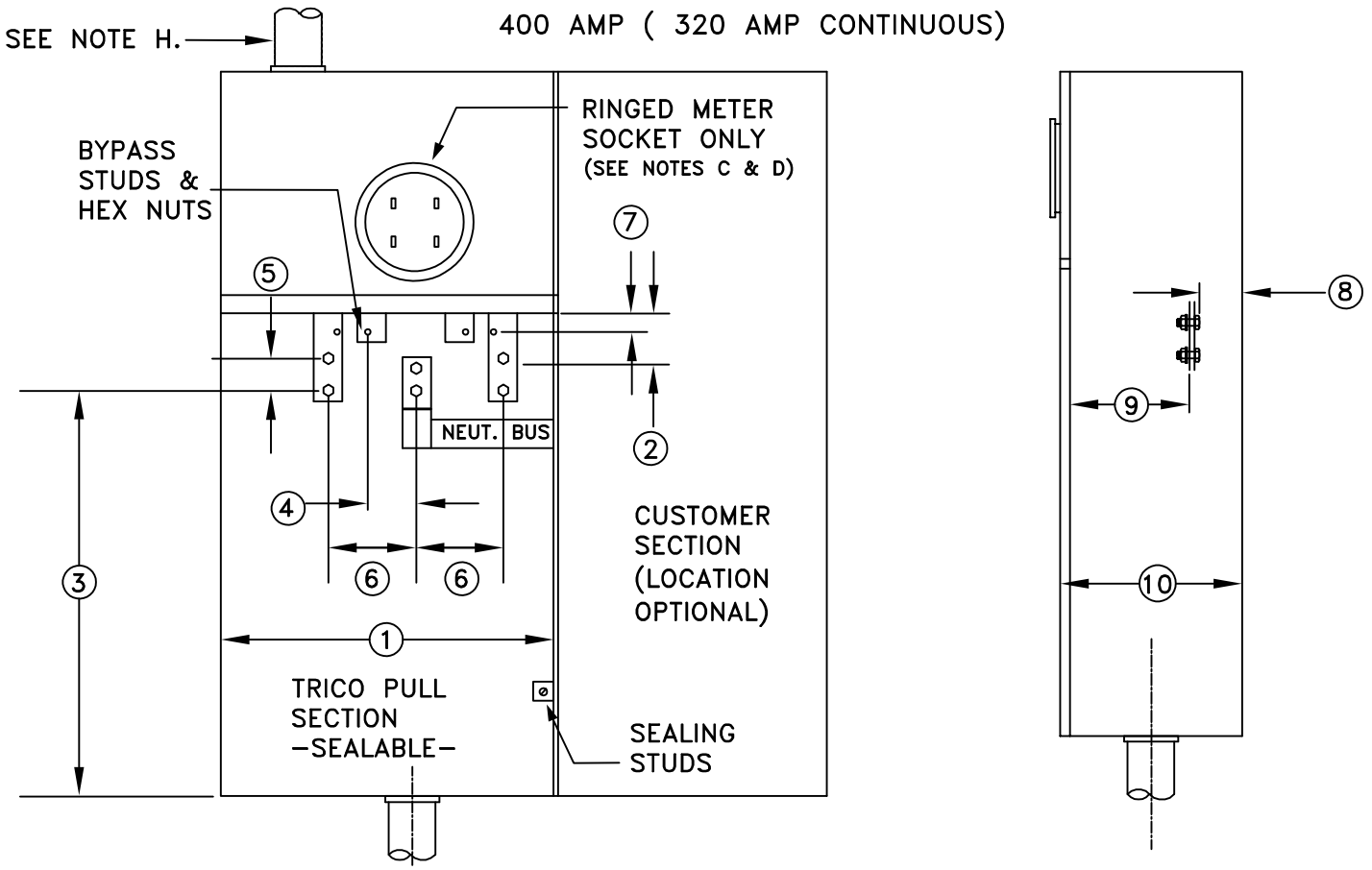
01–01–2014	09–01–2017	03–01–2018							

	Figure 10-1	
2 of 2	COMMERCIAL SINGLE PHASE 400 (320 AMP CONTINUOUS) UNDERGROUND OR OVERHEAD–COMBINATION METER SOCKET AND DISTRIBUTION SECTION	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative

Electric Service Requirements

REFERENCE – EUSERC DRAWING 302B
RING TYPE METER ONLY

400 AMP (320 AMP CONTINUOUS)



①	10 1/2 INCH MIN	④	1 1/2 INCH MIN	⑦	1 1/8 INCH MIN	⑩	6 INCH MIN
②	3 1/4 INCH MIN	⑤	1 3/4 INCH MIN	⑧	1 INCH MIN		
③	22 INCH MIN	⑥	4 3/4 INCH MIN	⑨	4 INCH MIN		

Notes:

A. EQUIPMENT SHALL BE LABELED AS 400 AMPS (320 AMPS CONTINUOUS)

B. ALTHOUGH MANUAL BYPASS FACILITIES ARE REQUIRED, SERVICE MAY BE DE–ENERGIZED FOR ANY SERVICE WORK PERFORMED BY THE COOPERATIVE AT THE COOPERATIVES DISCRETION.

C. RINGLESS PANELS ARE NOT APPROVED.

D. RING TYPE SOCKET COVER SHALL BE REMOVABLE, SEALABLE AND RAINPROOF.

E. PULL SECTION FOR THE COOPERATIVES FACILITIES SHALL BE A SEPARATE SEALABLE SECTION.

F. CUSTOMER OWNED FACILITIES SHALL NOT PASS THROUGH ANY COOPERATIVE SEALED SECTION.

G. PULL SECTION COVER PANEL SHALL BE REMOVABLE, SEALABLE AND PROVIDED WITH 2 LIFTING HANDLES. COVER SHALL BE LIMITED TO NINE (9) SQUARE FEET IN AREA. SEALING PROVISIONS SHALL BE DRILLED STUD AND WING NUT ASSEMBLIES ON OPPOSITE SIDES OF PANELS. ALL SECURING SCREWS SHALL BE CAPTIVE.

H. OVERHEAD SOURCE–CONSULT WITH ELECTRICAL ENGINEER OR NEC FOR CONDUIT AND SERVICE ENTRANCE CONDUCTORS.

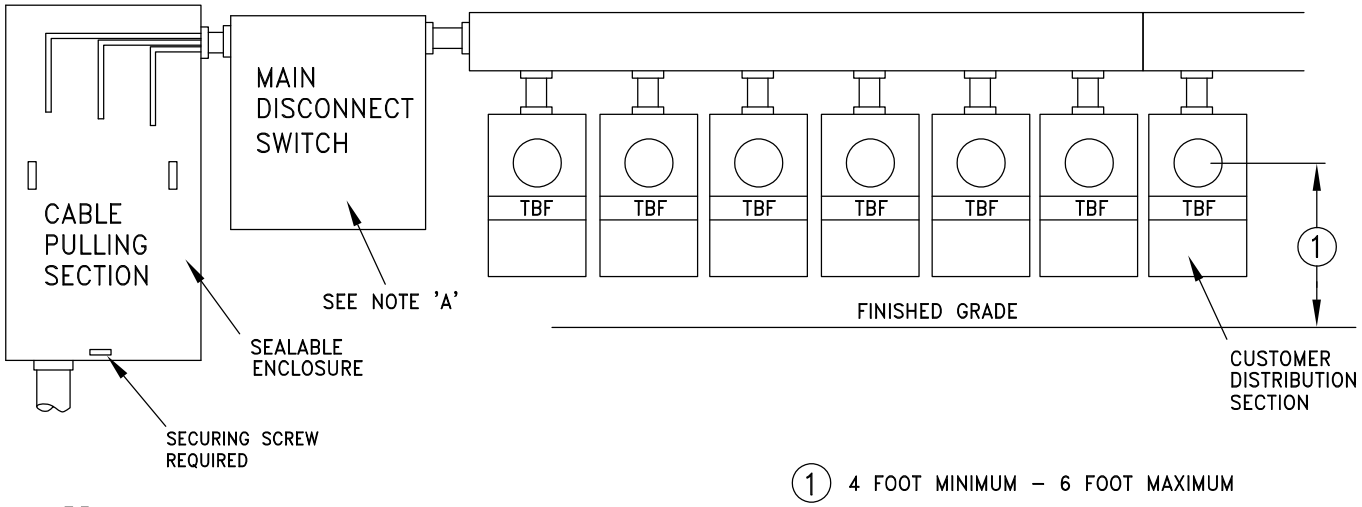
Not to Scale

03–01–2018	09–01–2018	09–01–2019							

1 of 1	Figures 10-2 & 10-3 COMMERCIAL GANGED METER SOCKET INSTALLATIONS & COMMERCIAL MODULE SOCKET INSTALLATIONS	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative

Electric Service Requirements

Figure 10-2 Commercial Ganged Meter Socket Installation



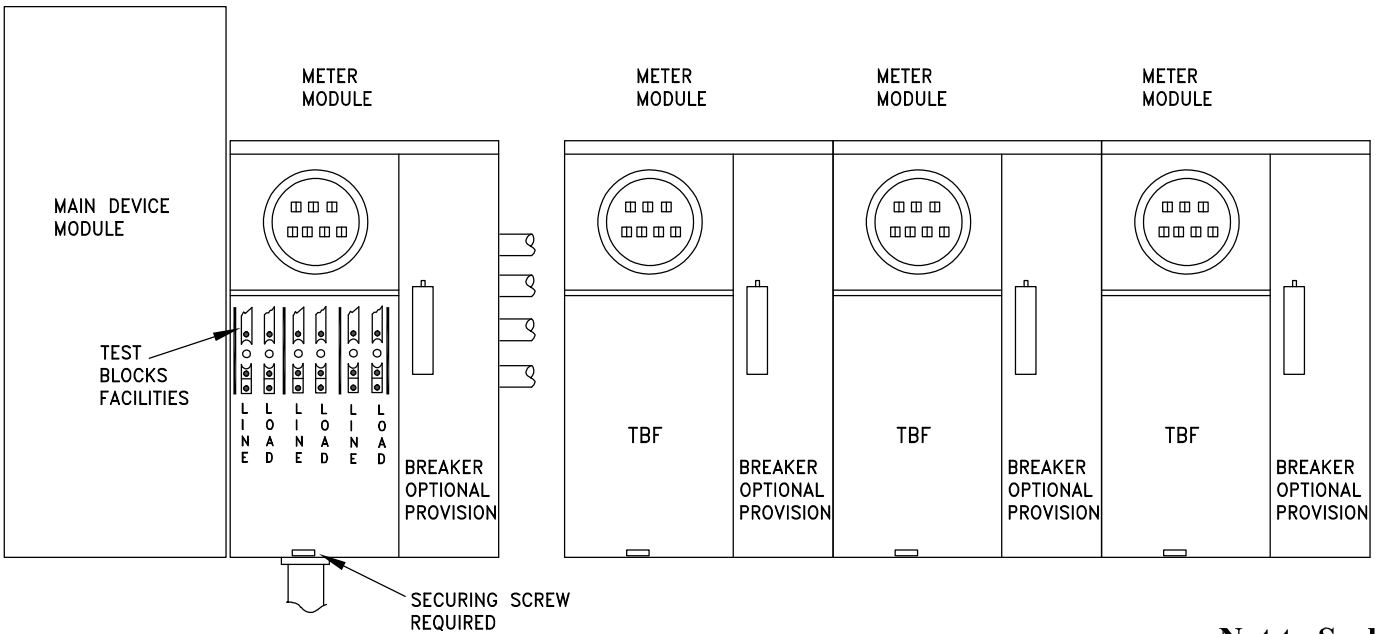
Notes:

A. CABLE PULLING SECTION MUST BE SIZED FOR APPROPRIATE SERVICE TERMINATION, SEE FIGURE 10–7 AND EUSERC DRAWING 343. MUST HAVE BUS EXTENSION DRILLED FOR LANDING LUGS. NEC REQUIRES MAIN DISCONNECT WHEN MORE THAN 6 SERVICES ARE CONNECTED. WHEN THE SUM OF THE DISTRIBUTION SECTION AMPACITIES EXCEED THE PULLING SECTION AMPACITIES THE CUSTOMER WILL BE RESPONSIBLE TO PROVIDE NEC APPROVED LOAD CALCULATIONS. SEE FIGURE 10–15 FOR A GROUNDING AND BONDING GUIDE.

B. METERS MUST BE ACCESSIBLE DURING NORMAL WORK HOURS FOR METER READING AND TESTING.

C. EACH METERED SERVICE MUST BE PERMANENTLY LABELED TO IDENTIFY CUSTOMER LOCATION BY MEANS OF A METAL TAG. REFER TO SECTION 3.3.4 FOR ADDITIONAL INFORMATION.

Figure 10-3 Commercial Module Meter Socket Installation



Not to Scale

01–01–2014	06–01–2015								

1 of 1

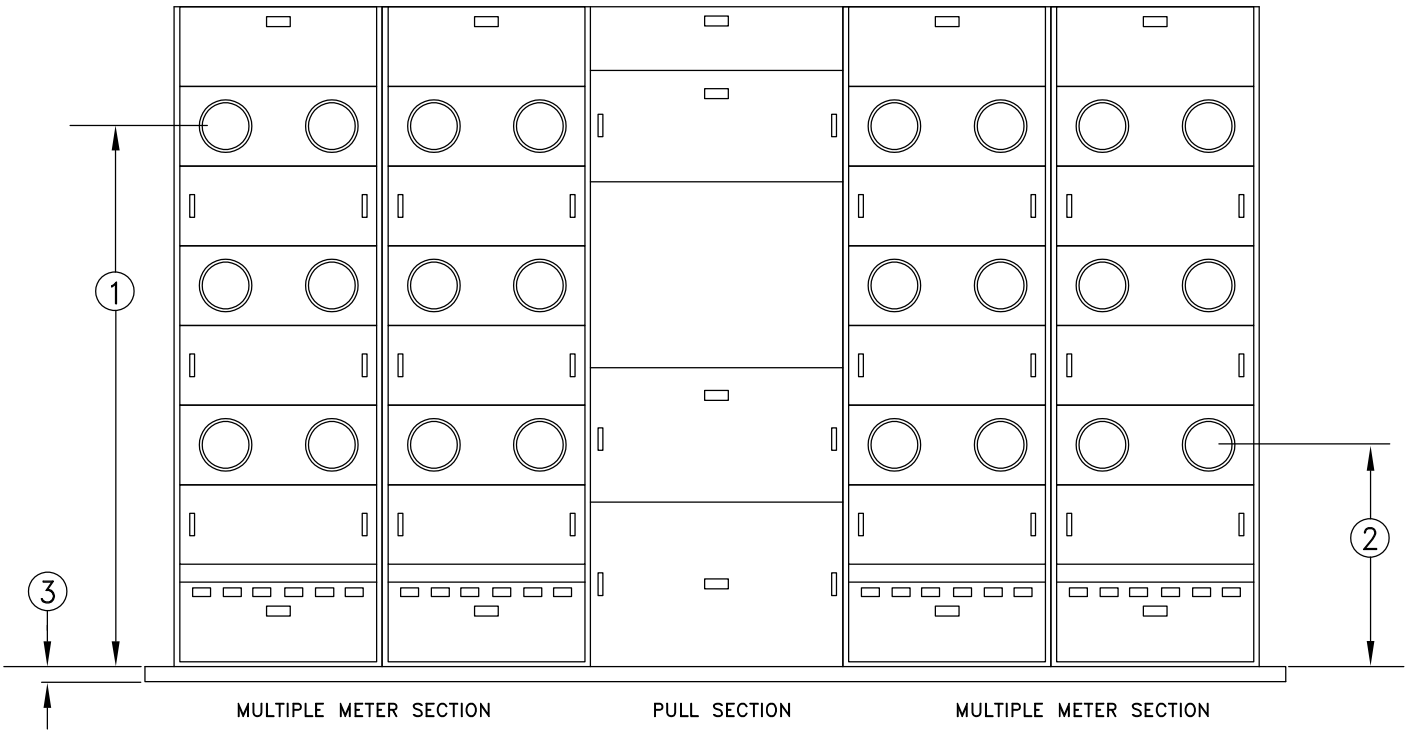
Figure 10-4

MULTIPLE COMMERCIAL METER SOCKET INSTALLATIONS
FOR UNDERGROUND (SELF CONTAINED,FLOOR MOUNTED)

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

REFERENCE EUSERC DRAWING 306



1. 6 FOOT MAXIMUM
2. 42 INCH MINIMUM OUTDOOR – 36 INCH MINIMUM INDOOR
3. 4 INCHES MINIMUM CONCRETE BASE

Notes:

A. ALL REMOVABLE PANELS AND COVERS TO COMPARTMENTS USED FOR METERING SHALL BE SEALABLE.

B. METERING CONDUCTORS SHALL NOT PASS THROUGH ADJACENT METERING COMPARTMENTS EXCEPT IN ENCLOSED WIREWAYS.

C. TEST BLOCKS WITH RIGID INSULATING BARRIERS SHALL BE FURNISHED, INSTALLED AND WIRED OR BUSSED TO THE METER SOCKETS. SEE EUSERC DRAWINGS 311 OR 312. TEST BLOCK COVER PANELS SHALL BE SEALABLE AND FITTED WITH A LIFTING HANDLE.

D. METER PANELS SHALL BE REMOVABLE BUT SHALL BE NON–REMOVABLE WHEN METER IS IN PLACE.

E. EACH METERED SERVICE MUST HAVE A PERMANENTLY ENGRAVED METAL TAG TO INDENTIFY THE CUSTOMERS ADDRESS OR SUITE NUMBER. REFER TO SECTION 3.3.4 FOR ADDITIONAL INFORMATION.

F. FOR PULL BOX DETAILS WHEN USED ON UNDERGROUND SERVICES SEE FIGURE 10–7 OR EUSERC 343.

G. THE CUSTOMER MUST PROVIDE AN ACCEPTABLE CONCRETE PAD FOR ALL SWITCHBOARD METERING SERVICES SECTIONS AND PULL BOXES.

H. EACH METERED SERVICE MUST HAVE SAFETY SOCKET TEST BYPASS FACILITIES.

J. IF FREE STANDING UNIT CAN BE EXPANDED BEYOND 6 SOCKETS, (FROM LOAD GROWTH) THEN A MAIN DISCONNECT WILL BE REQUIRED IN THE INITIAL INSTALLATION.

K. VACANT METER POSITIONS SHALL BE FACTORY SEALED OR THE METER SOCKET SHALL BE IN POSITION BEFORE THE PANEL IS ACTIVATED.

Not to Scale

01–01–2014	06–01–2015	09–01–2017							

Figure 10-5

APPROVED COMMERCIAL METERING EQUIPMENT

1 of 3

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

APPROVED COMMERCIAL METERING EQUIPMENT (PEDESTAL)

THE FOLLOWING LIST CONTAINS APPROVED SELF CONTAINED METERING EQUIPMENT (PEDESTALS) FOR COMMERCIAL INSTALLATIONS UP TO 200 AMPS CONTINUOUS (TYPICALLY FOR SERVICE WITHIN PUBLIC R-O-W OR COMMON AREAS). THIS LIST IS A REFERENCE FOR ACCEPTABLE METERING EQUIPMENT AND IS NOT INTENDED TO LIST EVERY POSSIBLE COMMERCIAL PEDESTAL THAT MEETS THE COOPERATIVES REQUIREMENTS. FOR APPROVAL OF A PEDESTAL THAT IS NOT LISTED, FILL OUT THE FORM ON PAGE TWO OF THIS PUBLICATION. PLEASE PROVIDE THE CATALOG NUMBER, MANUFACTURER NAME, PRODUCT DATA AND TECHNICAL SHEETS. FORWARD THE FORM AND DOCUMENTATION TO THE COOPERATIVE FOR REVIEW.

Notes:

THE GENERAL GUIDELINES FOR SELECTING METERING EQUIPMENT IS:

A. EQUIPMENT TO BE CLASSIFIED AS EUSERC, UL AND ANSI APPROVED.

B. AIC RATING TO BE 22,000 AMPS OR GREATER.

C. "K" BASE (BOLT IN) METER SOCKETS ARE NOT ALLOWED.

D. METER SHALL BE ENCLOSED BY A HINGED COVER OR FIXED TOP IF FRONT IS REMOVABLE

E. ALL METER SOCKETS SHALL BE RING TYPE. RINGLESS SOCKETS ARE NOT ALLOWED.

F. PEDESTALS SHALL BE FURNISHED WITH TEST-BYPASS BLOCKS WITH RIGID BARRIERS AND WIRED OR BUSSED TO THE METER SOCKET BY THE MANUFACTURER. TEST BY-PASS COVERS SHALL BE SEALABLE.

AS PRODUCTS CAN CHANGE OVER TIME, IT IS THE RESPONSIBILITY OF THE CUSTOMER TO VERIFY THAT THE ABOVE MINIMUM REQUIREMENTS ARE MET IF SELECTING METERING EQUIPMENT FROM THIS LIST.

REFERENCE EUSERC DRAWING 308

PANEL STYLE	PANEL SIZE-IN AMPS	MANUFACTURER	CATALOG NUMBER	PHASE	FAULT RATING (* KAIC)	O.H.	U.G.	TERMINALS
COMMERCIAL PEDESTAL	100	MILBANK	CP3B11115A22	1	22		X	4
COMMERCIAL PEDESTAL	100	MILBANK	CP3B11119A22	1	22		X	4
COMMERCIAL PEDESTAL	200	MILBANK	CP3B12115A22	1	22		X	4
COMMERCIAL PEDESTAL	200	MILBANK	CP3B12119A22	1	22		X	4
COMMERCIAL PEDESTAL	200	TESCO CONTROLS	MODEL 27-100	1 OR 3	10 MIN		X	4,5/7
COMMERCIAL PEDESTAL	200	TESCO CONTROLS	MODEL 27-100	3	10 MIN		X	7
COMMERCIAL PEDESTAL	200	TESCO CONTROLS	MODEL 24-200	1 OR 3	10 MIN		X	4,5/7
COMMERCIAL PEDESTAL	200	TESCO CONTROLS	MODEL 24-200	3	10 MIN		X	7

Figure 10-5

APPROVED COMMERCIAL METERING EQUIPMENT

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

APPROVED COMMERCIAL METERING EQUIPMENT 100 AMP & 200 AMP SAFETY SOCKETS AND 400 AMP (320 AMP CONTINUOUS) ALL IN ONE PANELS

THE FOLLOWING LIST CONTAINS APPROVED SELF CONTAINED METERING EQUIPMENT FOR COMMERCIAL INSTALLATIONS UP TO 400 AMPS (320 CONTINUOUS). THIS LIST IS A REFERENCE FOR ACCEPTABLE METERING EQUIPMENT AND IS NOT INTENDED TO LIST EVERY POSSIBLE METER SOCKET THAT MEETS THE COOPERATIVES REQUIREMENTS. FOR APPROVAL OF A METER SOCKET OR PANEL THAT IS NOT LISTED, FILL OUT THE FORM ON PAGE TWO OF THIS PUBLICATION. PLEASE PROVIDE THE CATALOG NUMBER, MANUFACTURER NAME, PRODUCT DATA AND TECHNICAL SHEETS. FORWARD THE FORM AND DOCUMENTATION TO THE COOPERATIVE FOR REVIEW.

Notes:

THE GENERAL GUIDELINES FOR SELECTING METERING EQUIPMENT IS:

A. EQUIPMENT TO BE CLASSIFIED AS EUSERC, UL AND ANSI APPROVED. SEE TABLE 10–1 FOR ADDITIONAL METER PANEL INFORMATION.
B. AIC RATING TO BE 22,000 AMPS OR GREATER.
C. "K" BASE (BOLT IN) METER SOCKETS ARE NOT ALLOWED.
D. METERING EQUIPMENT SHALL BE SURFACE MOUNTED. FLUSH MOUNTED METERING EQUIPMENT IS NOT ALLOWED.
E. ALL METER SOCKETS SHALL BE RING TYPE. RINGLESS SOCKETS ARE NOT ALLOWED.
F. MANUAL LINK BYPASSES ARE REQUIRED FOR ALL SELF CONTAINED COMMERCIAL SERVICES. LEVER BYPASSES AND AUTOMATIC BYPASSES ARE NOT ALLOWED.
G. IT IS THE RESPONSIBILITY OF THE CUSTOMER TO PURCHASE THE APPROPRIATE KIT, IF ONE IS REQUIRED, TO SERVE AN UNDERGROUND SOURCE SUPPLIED PANEL WITH AN OVERHEAD SOURCE. REFER TO THE MANUFACTURER FOR DETAILS. NOT ALL PANELS CAN BE USED FOR BOTH SOURCES.

AS PRODUCTS CAN CHANGE OVER TIME, IT IS THE RESPONSIBILITY OF THE CUSTOMER TO VERIFY THAT THE ABOVE MINIMUM REQUIREMENTS ARE MET IF SELECTING METERING EQUIPMENT FROM THIS LIST.

PANEL STYLE	PANEL SIZE–IN AMPS	MANUFACTURER	CATALOG NUMBER	PHASE	FAULT RATING (* KAIC)	O.H.	U.G.	TERMINALS
METER SOCKET	100	COOPER B–LINE	114TB	1		X	X	4
METER SOCKET	100	COOPER B–LINE	117TB	3		X	X	7
METER SOCKET	200	COOPER B–LINE	124TB	1		X	X	4
METER SOCKET	200	COOPER B–LINE	127TB	3		X	X	7
ALL–IN–ONE	200	SIEMENS	MC2440B1200CEY	1	22	X	X	4
ALL–IN–ONE	400 (320 CONTINUOUS)	SIEMENS	MC3042B1400SCS	1	22	X	X	4

Figure 10-5

APPROVED COMMERCIAL METERING EQUIPMENT

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

PANEL STYLE	PANEL SIZE–IN AMPS	MANUFACTURER	CATALOG NUMBER	PHASE	FAULT RATING (* KAIC)	O.H.	U.G.	TERMINALS
METER SOCKET	100	COOPER B–LINE	114TB	1		X	X	4
METER SOCKET	100	COOPER B–LINE	117TB	3		X	X	7
METER SOCKET	200	COOPER B–LINE	124TB	1		X	X	4
METER SOCKET	200	COOPER B–LINE	127TB	3		X	X	7
ALL–IN–ONE	100	EATON B–LINE	214 MTBH	1/3	65	X	X	4
ALL–IN–ONE	200	EATON B–LINE	224 MTBH	1/3	42	X	X	4
ALL–IN–ONE	100	SIEMENS	MC1224B1100CEY	1	22	X	X	4
ALL–IN–ONE	200	SIEMENS	MC2440B1200CEY	1	22	X	X	4
ALL–IN–ONE	400 (320 CONTINUOUS)	SIEMENS	MC3042B1400SCS	1	22	X	X	4

10.1.1 Pull Section Requirements

Locate and make accessible all compartments for termination of the Cooperative's Service Laterals as close as possible to where the conductors enter the building. When connecting two or more sets of Service Equipment to a single-Service Lateral, the Customer must provide a sealable terminal box complete with terminating positions. The Customer must also provide an approved method in which to make multiple taps. Do not install Customer-owned devices (such as limiters, fuses, etc.) in terminal boxes. The Customer must supply any terminal blocks. Each Cooperative owned conductor must terminate at a single conductor lug. Multiple conductors will not be landed in one terminating lug, regardless if the lug states that it can accept more than one conductor. When parallel service conductors are specified by Design, double barrel lugs shall be provided.

The Cooperative requires a ground floor location for termination of load-carrying conductors. Any equipment located on the second floor will require *prior written approval* from the Cooperative.

The termination compartment for Cooperative conductors must meet EUSERC 343 requirements shown in Figure 10-7, (*Pull Section Requirements*). The Customer must supply any terminal blocks used. All doors must open outward from rooms that contain Cooperative metering or termination equipment, see Figure 5-2 for additional clearance information.

Cable pulling section must be sized for the Cooperative service termination per Figure 10-7 and must have bus extension drilled for landing lugs. *NEC requires main disconnect when more than 6 services are connected.* (When the sum of distribution section ampacities exceed the pulling section ampacities the Customer will be responsible to provide NEC approved load calculations).

1 of 1

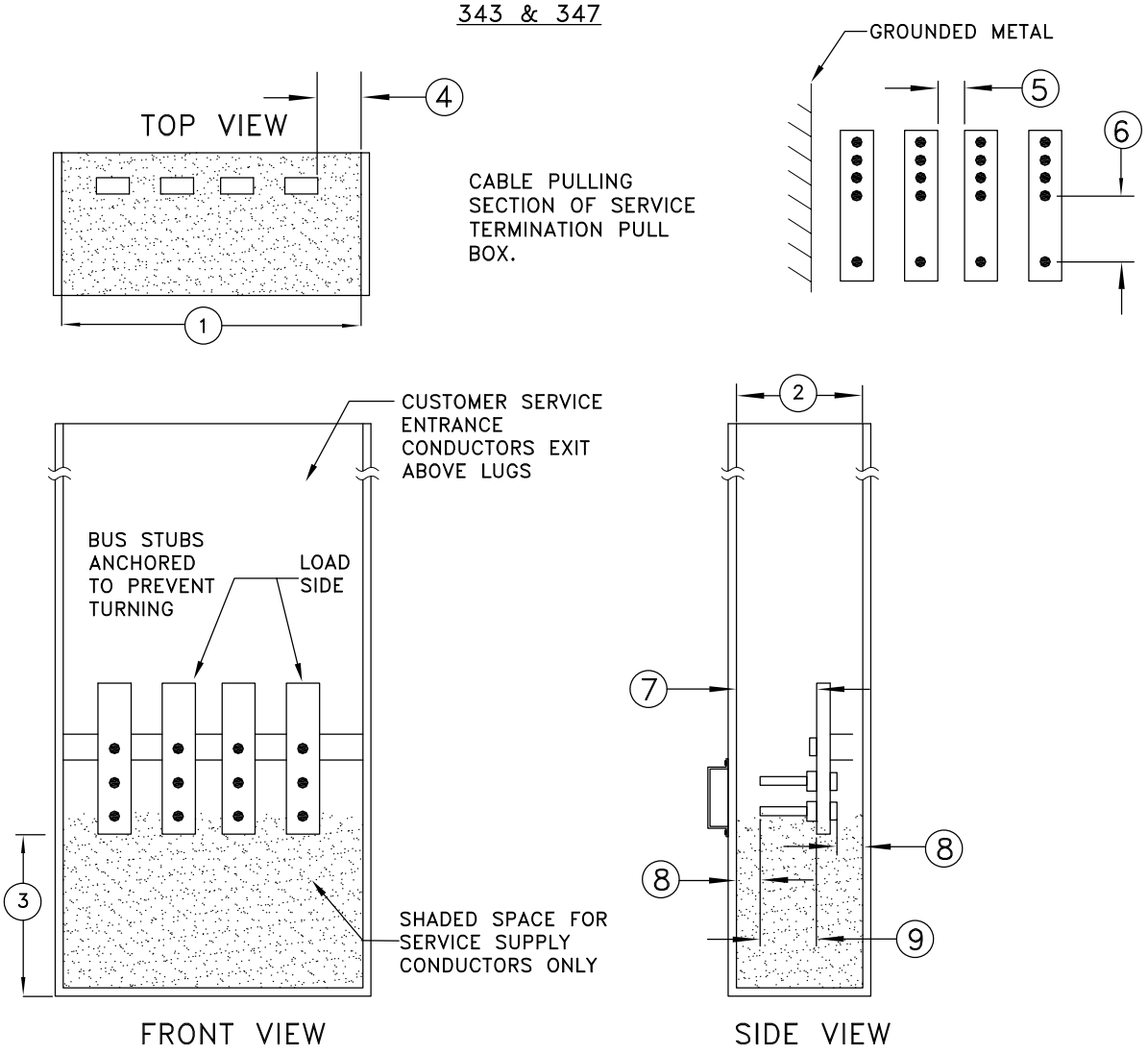
Figure 10-7

PULL SECTION REQUIREMENTS, 0–600 VOLTS, 0–1200 AMPS

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

REFERENCE EUSERC DRAWING
343 & 347



MINIMUM PULL SECTION DIMENSIONS IN INCHES

(APPLIES ONLY TO COOPERATIVE PORTION OF PULL BOX)

TOTAL SERVICE AMPS	① 3 WIRE	① 4 WIRE	② DEPTH	③ LUG HEIGHT
0–200	10 1/2	14	6	11
201–400	10 1/2	14	6	22
401–800	16 1/2	22	11	26
801–1200	22 1/2	30	11	26

④ 3/4 INCH MINIMUM

⑤ 1 1/2 INCH MINIMUM TYPICAL

⑥ 1 3/4 INCH MINIMUM

⑦ 4 INCH MINIMUM

⑧ 1 INCH MINIMUM

⑨ 2 INCH MINIMUM–2 1/2 INCH MAXIMUM

Not to Scale

10.2 Current Transformer (CT) Metering

Current Transformer (CT) metering is required when a three phase service exceeds 200 amperes or when a single phase residential or non-residential service exceeds 400 amperes (320 amperes continuous). **For all services that require Current Transformer (CT) metering, the Customer shall provide, own, and install the Secondary conductor and conduit.**

It is preferred that the Current Transformer (CT) /Cabinet and meter socket be mounted outside of the building within 50 feet of the transformer.

If access to metering requires entrance into a building, and this location has been approved by the Cooperative, a lockbox and key shall be provided and installed by the Customer.

10.2.1 The Customer will provide and install:

- Provide, own, and install line and load side service conductors on the Current Transformer (CT) mounting base. Provide, own, and install a weather tight NEMA 3R rated metallic cabinet securely mounted on a rigid surface. The door is to be *hinged and* capable of being sealed. The cabinet is to be sized in accordance with Table 10-3, *Current Transformer (CT) Cabinet.*
- Current Transformer (CT) mounting base, meeting EUSERC requirements and rated to the applicable ampere fault duty. See Figures 10-13 & 10-14.
- The meter socket enclosure drilled and tapped for a Cooperative Test Switch. See Figure 10-8 for approved sockets.
- The conduit between the meter socket enclosure and Current Transformer (CT) mounting base.
- Barrier post (4 inch diameter) required where metering equipment is installed in vehicle traffic area. Refer to Figure 6.3.
- Grounding must meet applicable requirements of the local AHJ or in absence of an AHJ, NEC requirements. Lugs for terminating the Customer's ground wire (or other Grounding conductors) shall be located outside of the sealable section. See Figure 10-15 for a Grounding and bonding guide.
- Both the Current Transformer (CT) cabinet and meter socket must be mounted plumb in both directions.
- See Section 5 for required clearances.

10.2.2 The Cooperative will:

- Provide, own, and install the meter, Current Transformers (CT) and Test Switch, with their associated wiring. The Test Switch will be provided and installed by the Cooperative.

Note: *Cooperative equipment shall not be located higher than the Current Transformer (CT) cabinet to minimize water drainage into the Customers' equipment.*

10.2.3 Current Transformer (CT) Metering Conduit

The Customer must provide conduit between meter socket and the Current Transformer (CT) cabinet. Use the following guidelines to install the conduit:

- Rigid 1 inch diameter galvanized steel conduit shall be used. Conduits shall have proper fittings and bushings when entering enclosures to protect metering conductors.
-
- Conduit must be of sufficient length to insure a minimum distance of 10 inches between the center of the meter socket and the closest edge of the Current Transformer (CT) cabinet. The conduit should not exceed 12 inches in length.

If the standard location is not suitable or workable, an alternate location may be approved. Any alternate location must have prior written Cooperative approval and must adhere to the following guidelines:

- Conduit runs shall be 50 feet or less, with no more than three bends totaling 270°. No one bend greater than 90° will be allowed. Runs longer than 50 feet must be approved by the Cooperative.
- Pull lines are required in all conduits as specified in table 6-1 note G.
- Use rigid steel, 1 inch minimum diameter, with appropriate fittings and connectors.

10.2.4 Current Transformer (CT) Cabinets

- Only electric Service Entrance Conductors, load side conductors and associated metering conductors shall be permitted in the Current Transformer (CT) enclosure. No connections shall be made in any Current Transformer (CT) enclosure to supply any other meter.
- If the line side conductors enter the bottom of the cabinet, the load side conductors shall exit in the top or upper sides. If the line side conductors enter the top of the cabinet, the load side conductors shall exit the bottom or lower sides. Refer to Figure 10-9. Any proposed change to this must be approved by the Cooperative. For other underground service applications, a separate terminating pull box will be provided for the Cooperative Service Lateral. See Figure 10-7 for pull box requirements.
- The cabinet must be mounted in a readily accessible location acceptable to the Cooperative. Current Transformers (CT) shall be installed by the Cooperative.
- The top of the Current Transformer (CT) mounting bracket shall not be more than 6 feet above floor level. The cover shall have factory installed hinges for side opening with sealing provisions and shall be able to hold the cover in the open position at 90° or more. Refer to Figure 10-9 for additional information.
- The Customer will connect conductors to the line and load-side of the mounting base, see Figures 10-13 and 10-14. Line and load-side terminations on Current Transformer (CT) landing pads require two half inch bolts per connector. Each bolt shall be furnished with a spring washer and nut. The spring washer may be cone-type (belleville) or a split-ring washer and a flat washer.

1 of 1

Figure 10-8

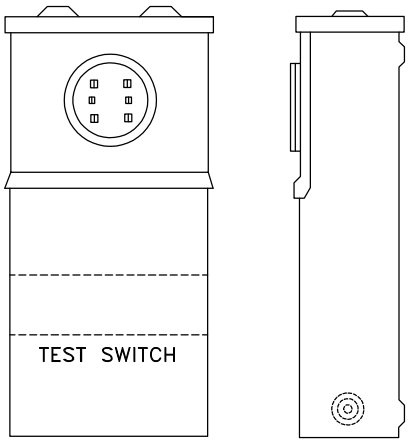
REMOTE SOCKET FOR CURRENT TRANSFORMER METERS

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

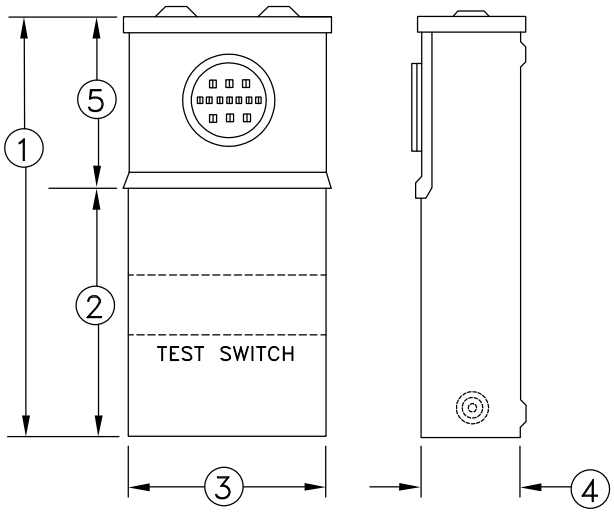
Electric Service Requirements

REFERENCE EUSERC DRAWING 339

SINGLE PHASE – 6 JAW



THREE PHASE – 13 JAW



Notes:

USE A METER SOCKET ENCLOSURE FOR CURRENT TRANSFORMER METERING WITH A SPACE RESERVED BELOW THE SOCKET FOR A TEST SWITCH 9 1/2 INCHES IN LENGTH. USE THE FOLLOWING GUIDELINES FOR THE ENCLOSURE AND METER SOCKET:

APPROVED METER SOCKET–SINGLE PHASE MILBANK UC3436–XL (6 JAW) OR EQUIVALENT.
APPROVED METER SOCKET–THREE PHASE MILBANK UC3433–XL (13 JAW) OR EQUIVALENT.
THE COOPERATIVE WILL FURNISH AND INSTALL THE TEST SWITCH

ALL UNUSED OPENINGS MUST BE COVERED AND SECURED BY THE CUSTOMER.

(1) 20 INCH MINIMUM
(2) 11 INCH MINIMUM
(3) 12 INCH MINIMUM TYPICAL
*(4) 5 1/8 INCH MINIMUM
(5) 9 INCH MINIMUM

* 5 1/8 INCH MINIMUM IS LARGER THAN THE 4 1/2 INCHES REQUIRED BY EUSERC DWG 339

Table 10-2 Current Transformer Meter Socket Requirement

TYPE OF SERVICE	SOCKET TYPE	MILBANK CATALOG # OR EQUIVALENT
120/240 VOLT SINGLE PHASE 3 WIRE	6 JAW	UC3436–XL
120/208 VOLT THREE PHASE 4 WIRE	13 JAW	UC3433–XL
277/480 VOLT THREE PHASE 4 WIRE	13 JAW	UC3433–XL

Not to Scale

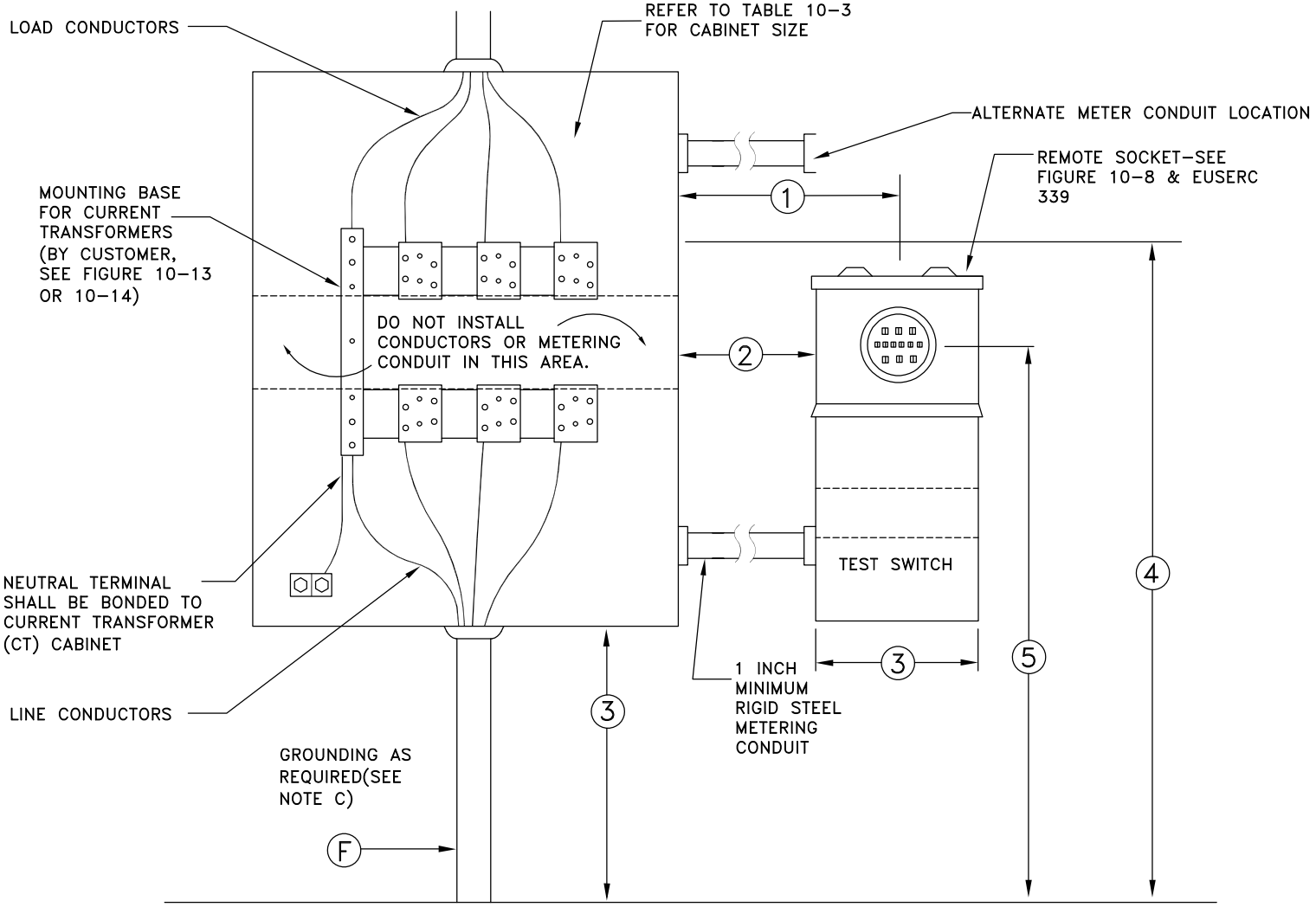
1 of 2

Figure 10-9 Underground Source

CURRENT TRANSFORMER METERING–WALL MOUNT–
0–600 VOLTS, 201–800 AMPS

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements



Notes:

A. THE LOAD SIDE CONDUCTORS & CONDUIT MUST EXIT THE ENCLOSURE ON THE LOAD SIDE OF THE CURRENT TRANSFORMER AND OPPOSITE THE SIDE OF THE SOURCE CONDUIT & CONDUCTORS.

B. CURRENT TRANSFORMER CABINET DOOR MUST BE HINGED.

C. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

D. METER SOCKETS SHALL NOT BE LOCATED ABOVE THE CURRENT TRANSFORMER CABINET DUE TO SAFETY OF WORKING IN FRONT OF LIVE BUS.

E. REFER TO SECTION 5 FOR CLEARANCES

F. RIGID STEEL CONDUIT REQUIRED FOR LINE SIDE (UNMETERED) CONDUCTORS

(1) 10 INCH MINIMUM
(2) 12 INCH MAXIMUM PREFERRED
(3) 12 INCH MINIMUM
(4) 6 FOOT MAXIMUM
(5) 4 FOOT MINIMUM–6 FOOT MAXIMUM

Not to Scale

01–01–2014	06–01–2015	10–01–2015							

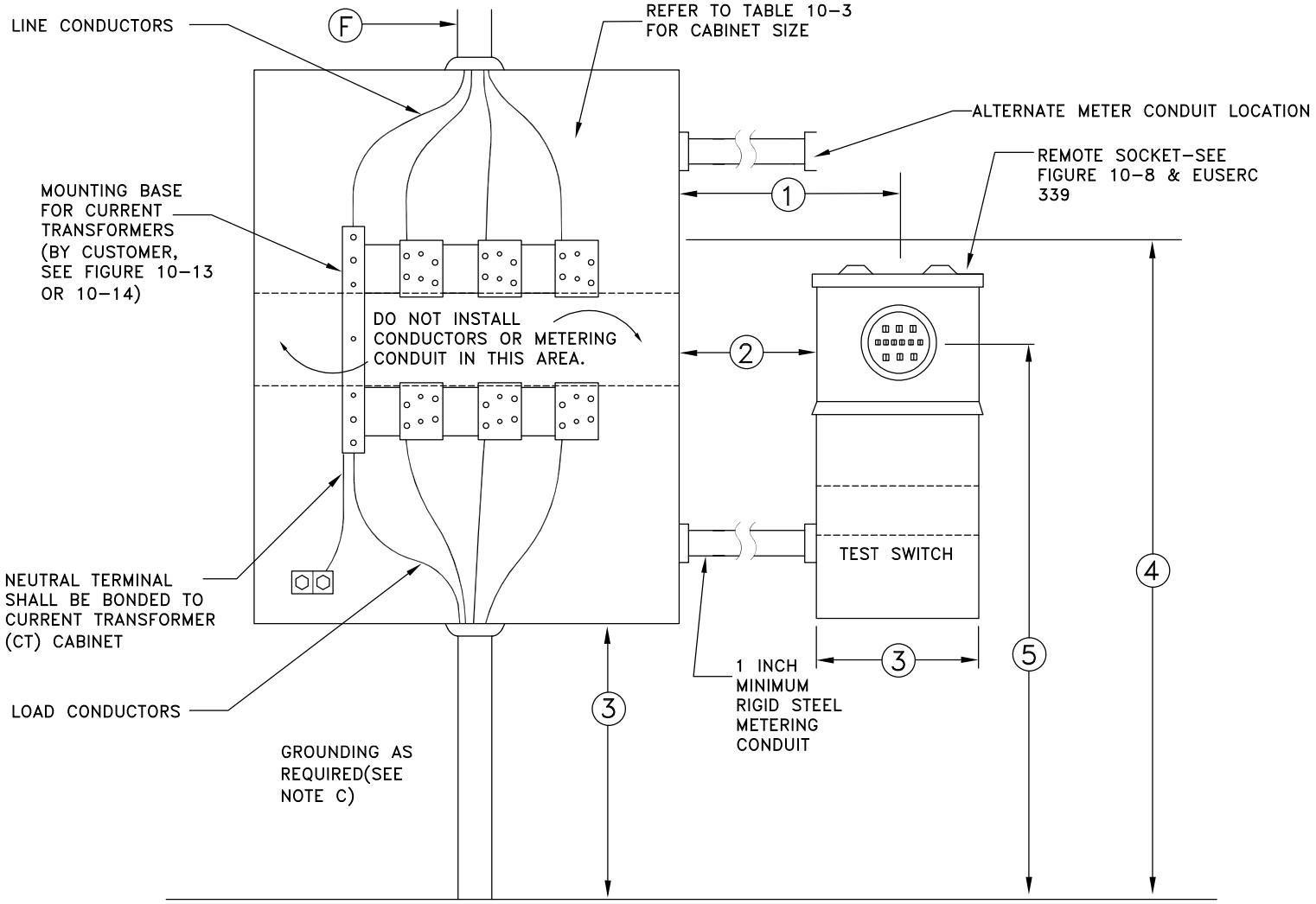
2 of 2

Figure 10-9 Overhead Source

CURRENT TRANSFORMER METERING–WALL MOUNT–
0–600 VOLTS, 201–800 AMPS

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements



Notes:

A. THE LOAD SIDE CONDUCTORS & CONDUIT MUST EXIT THE ENCLOSURE ON THE LOAD SIDE OF THE CURRENT TRANSFORMER AND OPPOSITE THE SIDE OF THE SOURCE CONDUIT & CONDUCTORS.

B. CURRENT TRANSFORMER CABINET DOOR MUST BE HINGED.

C. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

D. METER SOCKETS SHALL NOT BE LOCATED ABOVE THE CURRENT TRANSFORMER CABINET DUE TO SAFETY OF WORKING IN FRONT OF LIVE BUS.

E. REFER TO SECTION 5 FOR CLEARANCES

F. RIGID STEEL CONDUIT REQUIRED FOR LINE SIDE (UNMETERED) CONDUCTORS

(1) 10 INCH MINIMUM
(2) 12 INCH MAXIMUM PREFERRED
(3) 12 INCH MINIMUM
(4) 6 FOOT MAXIMUM
(5) 4 FOOT MINIMUM–6 FOOT MAXIMUM

Not to Scale

01–01–2014	06–01–2015	10–01–2015							

1 of 1

Table 10-3

CURRENT TRANSFORMER CABINETS

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

TYPE OF SERVICE	EUSERC DRAWING #	MINIMUM CABINET DIMENSIONS IN INCHES			C.T. MOUNTING BASE
		WIDTH	HEIGHT	DEPTH	
SINGLE PHASE 3 WIRE 201–800 AMPS	317	24	48	12	EUSERC 328A OR 328B
THREE PHASE 4 WIRE 201–400 AMPS	318	36	48	12	EUSERC 329A OR 329B
THREE PHASE 4 WIRE 401–800 AMPS	318	36	48	12	EUSERC 329A OR 329B
801 & UP –REQUIRES COOPERATIVE APPROVAL		48	48	12	

ALSO APPROVED

ERICKSON ELECTRICAL EQUIPMENT CAT.

1076–1	SINGLE PHASE 3 WIRE 201–800 AMPS	24 X 48 X 11 (INCHES)
1076–2	THREE PHASE 4 WIRE 201–400 AMPS	24 X 48 X 11 (INCHES)

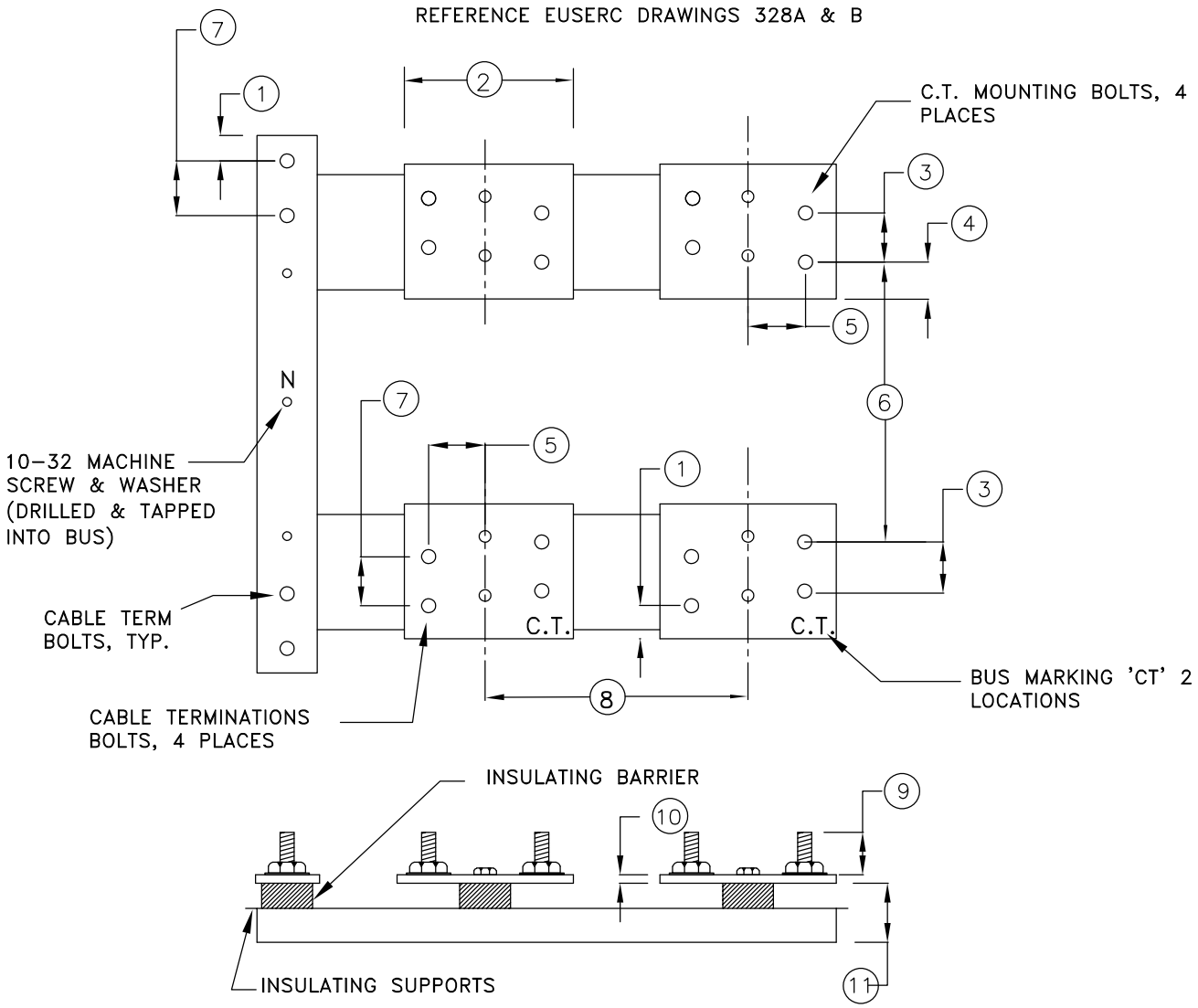
SUN VALLEY ELECTRIC MFG. CAT.

SVCT1200–1	SINGLE PHASE 3 WIRE 201–800 AMPS	24 X 48 X 12 (INCHES)
SVCT1200–4	THREE PHASE 4 WIRE 201–800 AMPS	36 X 48 X 12 (INCHES)

Not to Scale

	Figure 10-13	
1 of 1	CURRENT TRANSFORMER MOUNTING BASE FOR INSTALLATION IN CURRENT TRANSFORMER ENCLOSURE – SINGLE PHASE, 3 WIRE.	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative

Electric Service Requirements



1. 3/4 INCH
2. 5 INCHES
3. 1 3/8 INCH
4. 7/8 INCH
5. 1 1/2 INCHES
6. 8 1/8 INCHES
7. 1 3/4 INCHES
8. 8 INCHES MIN
9. 2 INCH MINIMUM– 2 1/2 INCH MAXIMUM
10. 1/4 INCH
11. 3 1/2 INCHES

Notes:

A. THE CUSTOMER MUST FURNISH ALL LUGS AND CONNECT CONDUCTORS TO THE LINE AND LOAD TERMINALS OF THE CURRENT TRANSFORMER MOUNTING BASE.

B. MOUNTING BASE ACCEPTS BAR–TYPE CURRENT TRANSFORMERS ONLY.

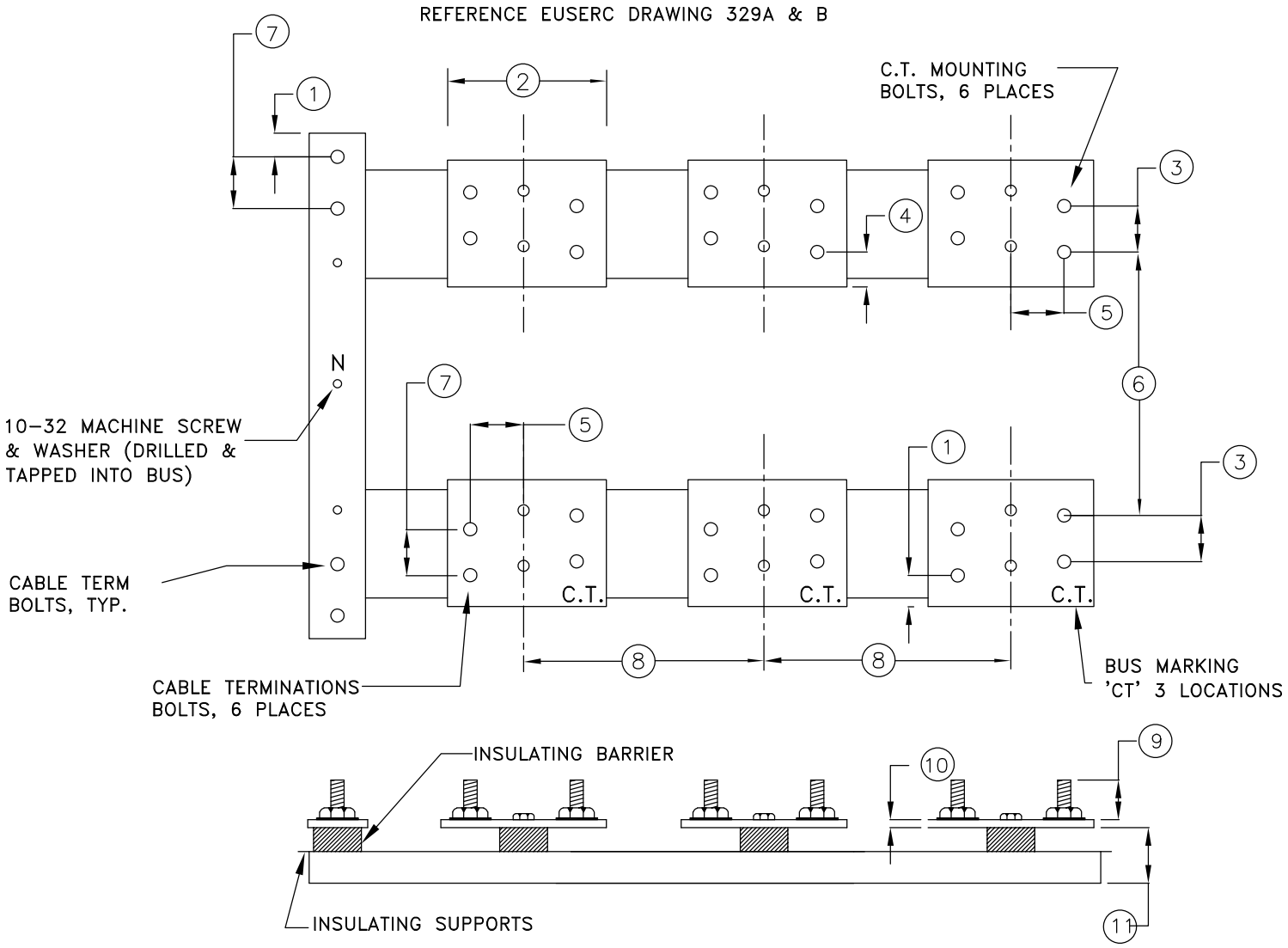
C. LINE AND LOAD SIDE TERMINATIONS ON CURRENT TRANSFORMER LANDING PADS REQUIRE TWO BOLTS PER CONNECTOR.

Not to Scale

01–01–2014	03–01–2016	06–30–2016							

	Figure 10-14	
1 of 1	CURRENT TRANSFORMER MOUNTING BASE FOR INSTALLATION IN CURRENT TRANSFORMER ENCLOSURE – THREE PHASE, 4 WIRE.	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative

Electric Service Requirements



(1)	3/4 INCH	(4)	7/8 INCH	(7)	1 3/4 INCHES	(10)	1/4 INCH
(2)	5 INCHES	(5)	1 1/2 INCHES	(8)	7 INCHES MIN	(11)	3 1/2 INCHES
(3)	1 3/8 INCH	(6)	8 1/8 INCHES	(9)	2 INCH MINIMUM– 2 1/2 INCH MAXIMUM		

Notes:

A. THE CUSTOMER MUST FURNISH ALL LUGS AND CONNECT CONDUCTORS TO THE LINE AND LOAD TERMINALS OF THE CURRENT TRANSFORMER MOUNTING BASE.

B. MOUNTING BASE ACCEPTS BAR–TYPE CURRENT TRANSFORMERS ONLY.

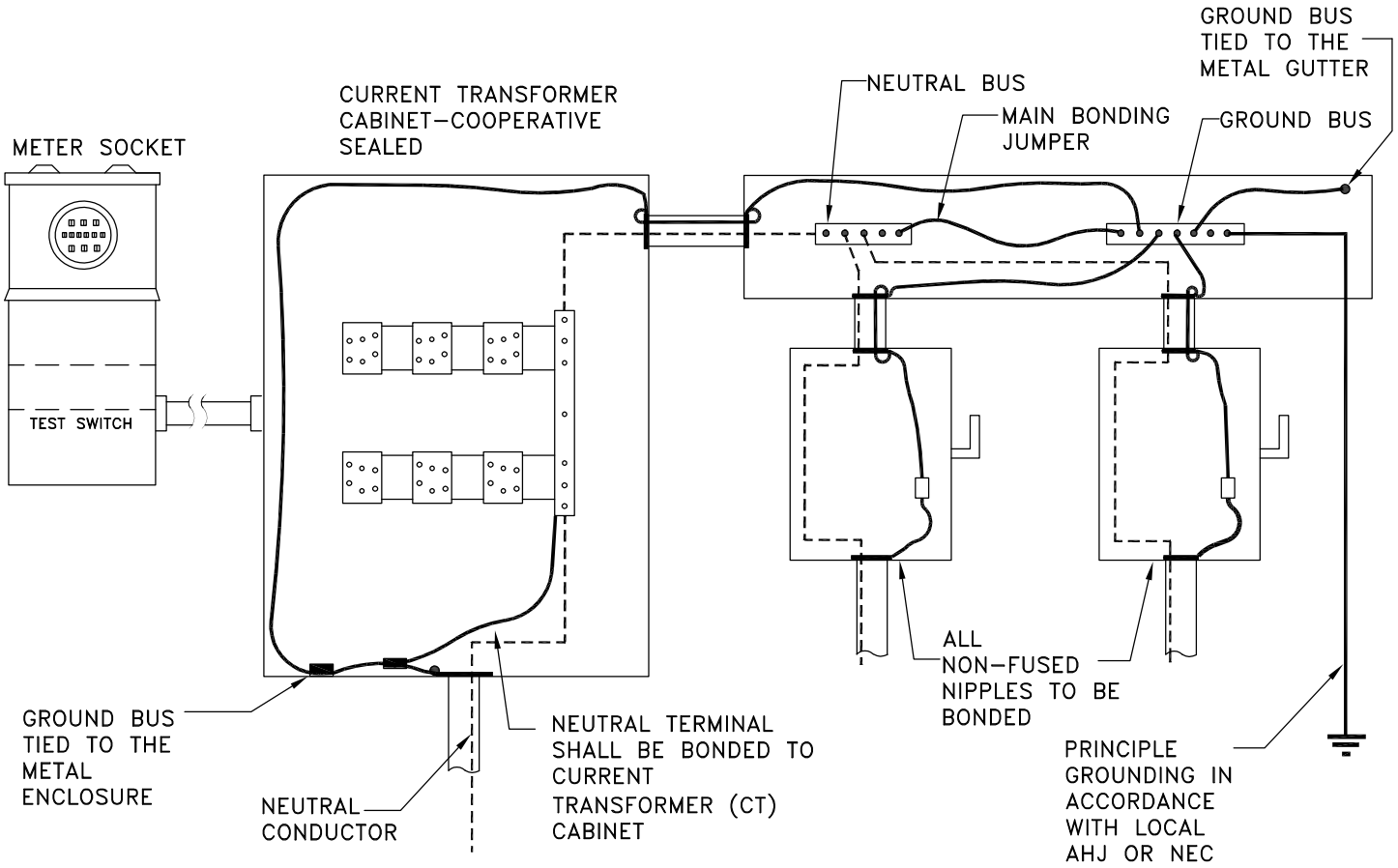
C. LINE AND LOAD SIDE TERMINATIONS ON CURRENT TRANSFORMER LANDING PADS REQUIRE TWO BOLTS PER CONNECTOR.

Not to Scale

01–01–2014	06–30–2016								

	Figure 10-15	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative
1 of 1	GROUNDING AND BONDING GUIDE FOR ENCLOSURES	

Electric Service Requirements



Notes:

A. THE CUSTOMER MUST NOT TERMINATE THE PRINCIPLE GROUNDING CONDUCTOR IN THE COOPERATIVES SEALED TERMINATION COMPARTMENT.

B. THE METER SOCKET, ENCLOSURE, OR SERVICE ENTRANCE SHALL BE EFFECTIVELY GROUNDED IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A RECOGNIZED LOCAL AUTHORITY, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE SHALL APPLY.

Not to Scale

01–01–1014	06–01–1015	10–01–1015							

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10.3 Switchboard Metering

A Switchboard metering section, meeting EUSERC requirements, should be used when the service entrance rating is greater than 800 amperes. Switchboard metering sections may also be used for three phase services over 200 amperes and single phase service over 320 amperes. See Figure 10-16 for general Switchboard information.

All Switchboard service entrance plans and site plans shall be submitted by the Customer to the Cooperative for approval by the Cooperative prior to the Customer constructing the Switchboard. Switchboard plans and diagrams submitted for approval shall show and detail all proposed Service Entrance Conductor pull and landing sections, Current Transformer (CT) section, and meter socket and meter Test Switch doors or sections.

The instrument transformer compartment shall be completely separated by a rigid barrier from the rest of the Switchboard. It shall have hinged doors which are sealable with pad lock type sealing devices. It shall be large enough to contain the required number of through-type Current Transformers (CT). The design shall be such that the transformers can be readily installed or changed after the Switchboard is in place. Removable sections of bus bar shall be provided as the primary conductor of the Current Transformers (CT) and shall be the same ampacity as the bus bar entering and exiting the compartment.

If the Cooperative approves the submitted Switchboard plans, the Cooperative shall provide to the Customer written notice of such approval.

The Cooperative will not accept or provide electric service to Switchboard service entrance gear unless the Customer has received approval of submitted plans from the Cooperative.

The metering Current Transformers (CT) shall be located in the Current Transformers (CT) compartment. The meter socket and Test Switch may be mounted within the Switchboard on an exposed panel face or remotely. It is preferred by the Cooperative that the Switchboard and metering be located on the outside of the building and the Service Entrance Conductor section, the Current Transformers (CT) section and the metering section be housed within the main Switchboard assembly. If the Switchboard is located within a building it is preferred that it be located in an electrical room that limits access to unqualified persons. If the metering socket and meter Test Switch are not housed on or within the Switchboard, a remote meter shall be mounted on the exterior of the Switchboard, (see Figure 10-18). A remote meter can be installed on the exterior of

the building, with the Switchboard located inside the building, if agreed upon by the Cooperative. Under no circumstances shall the linear length of metering conductors from the Current Transformers (CT) to the meter be greater than 50 feet.

The Cooperative shall be given safe and unimpaired access at reasonable times to the premises of the Customer for the purpose of reading meters, testing, repairing, relocating, removing or exchanging any or all equipment or facilities necessary to provide or remove electric service to the Customer. Immediate and unannounced access may be necessary if the Cooperative has an outage or emergency condition. The Current Transformers (CT) section shall be on the supply side of the main switch or circuit breaker.

Mounting pad for all Switchboard metering enclosures will be a minimum 4" thick concrete pad.

10.3.1 Switchboard Service Termination

- The Customer will provide the Switchboard section, instrument transformer mounting base(s), panels, and meter socket, with provisions for a Test Switch.
- Meter and Test Switch are to be owned, provided, and installed by the Cooperative at or near the Customer-owned metering compartment of the Switchboard. With a remote meter location, approved meter sockets shall have provisions for a Cooperative installed a Test Switch, see Figure 10-8.
- Window or doughnut type Current Transformers (CT) for Switchboards are provided and installed by the Cooperative. Current Transformer (CT) line and load side connections are to be installed by the Customer and electrical connections are to be tightened to the switchgear manufacturers torque specification. For underground service, the Customer will terminate the service conductors on lug landings in the pull section.
- The Customer locking mechanism for the metering enclosure must provide for independent access by the Cooperative.
- Terminating bolts must be secured in place and shall be provided with nuts, flat washer, and a spring washer, and all parts must be resistive to corrosion. Bus bars are required from the pull section into the service section.
- The Cooperative requires a minimum clear work space of 78 inches high by 36 inches minimum width by 48 inches deep in front of Switchboards containing metering equipment.
- Grounding must meet applicable requirements of the local AHJ or in absence of an AHJ, NEC requirements. Terminals for terminating the

Customer's Grounding conductors shall be located outside of the pull, service entrance, Current Transformers (CT), or meter socket & Test Switch sections. See Figure 10-15 for a Grounding and bonding guide.

- All Switchboard removable panels and covers to the compartments or sections containing unmetered conductors or bus, the Current Transformer (CT) section and if applicable the metering section shall have provisions for the installation of a Cooperative sealing device .
- All pull and termination sections shall be full front access. Cover panels shall be removable, sealable, provided with two lifting handles, and limited to a maximum size of 9 square feet in area.

Figure 10-16

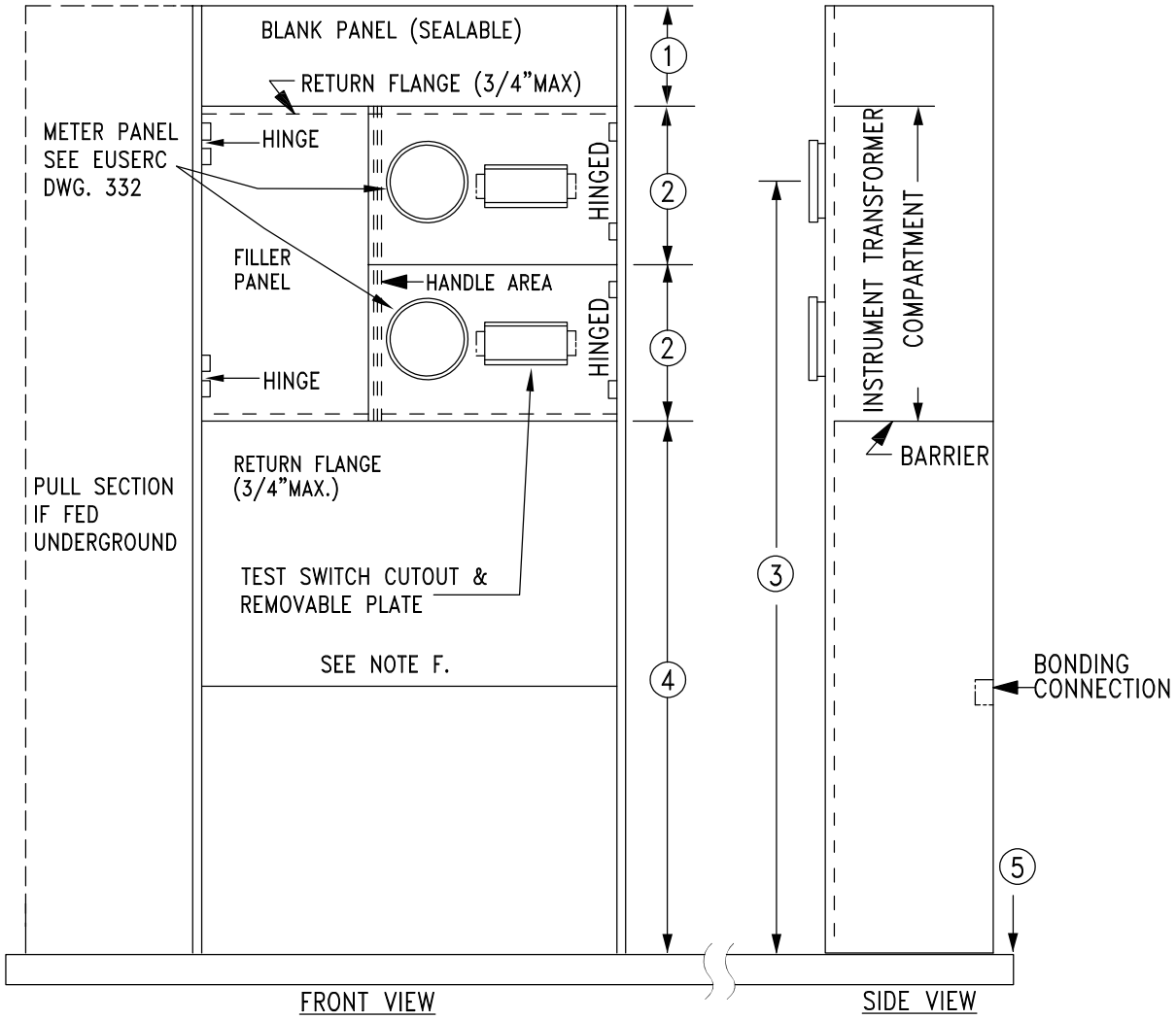
SWITCHBOARD, GENERAL INFORMATION, 0 – 600 VOLTS

1 of 1

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

DESIGNED FOR SECONDARY VOLTAGES TO 600 VOLTS, THE WIDTH AND DEPTH ARE DETERMINED BY THE TYPE AND AMPERAGE OF SERVICE.



① 10 INCHES MINIMUM ② 15 INCHES ③ 6 FOOT MAXIMUM ④ 50 INCHES MAXIMUM 45 INCHES MINIMUM ⑤ 4 INCH MINIMUM CONCRETE BASE

Notes:

A. INSTRUMENT TRANSFORMER COMPARTMENTS SHALL BE BUSSED WITH RECTANGULAR BUS BAR.

B. THE GROUND CONNECTION SHALL BE MADE IN THE MAIN SWITCH OR BREAKER COMPARTMENT.

C. METER PANELS SHALL BE CONSTRUCTED OF 12 GAUGE STEEL (MINIMUM) AND SHALL BE REVERSIBLE, SEALABLE, HINGED AND INTERCHANGEABLE.

D. METER PANELS SHALL HAVE A HANDLE ATTACHED AT THE UNSUPPORTED END.

E. WIDTH OF METER PANELS, MAY IN SOME CASES REQUIRE THE SERVICE SECTION TO BE WIDER THAN THE MINIMUM ALLOWABLE WIDTH OF THE TRANSFORMER COMPARTMENT. FOR MINIMUM DIMENSIONS IF THE INSTRUMENT TRANSFORMER COMPARTMENTS REFER TO EUSERC DRAWINGS:

0 TO 1000 AMPS	REFER TO EUSERC DWG 319 & 320
1001 TO 3000 AMPS	REFER TO EUSERC DWG 321 & 322
3001 AMPS AND ABOVE	REFER TO EUSERC DWG 324

F. WHEN USED AS A BOTTOM FED SERVICE TERMINATING SECTION, SEE FIGURE 10-17 AND REFER TO EUSERC 345

Not to Scale

1 of 1

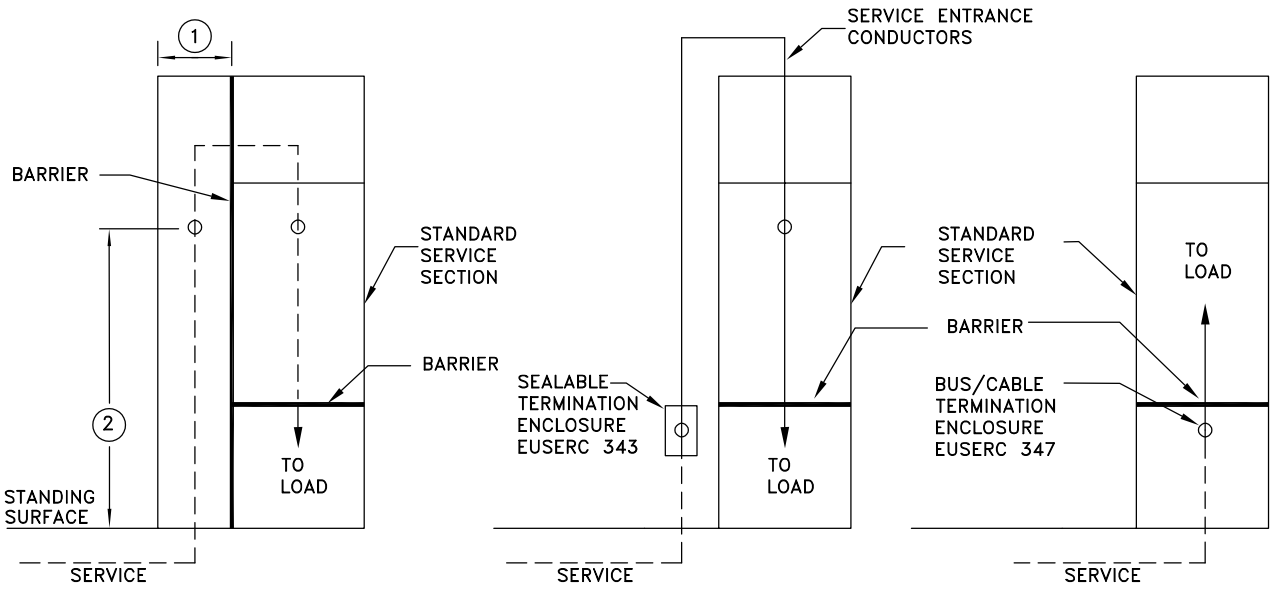
Figure 10-17

UNDERGROUND SERVICE TERMINATION SWITCHBOARD SERVICE SECTION, 0 – 600 VOLTS, 400 – 4000 AMPS

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

REFERENCE EUSERC DRAWING 345



SWITCHBOARD PULL SECTION

FRONT VIEW

SEPARATE TERMINATION ENCLOSURE
(1200 AMP MAXIMUM)

FRONT VIEW

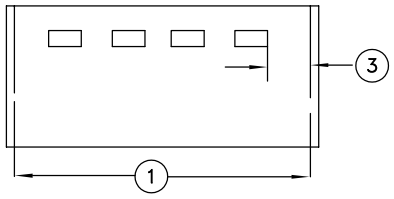
BOTTOM (REVERSE) FEED
(2000 AMP MAXIMUM)

FRONT VIEW

MINIMUM PULL SECTION DIMENSIONS IN INCHES

SWITCHBOARD RATING AMPS	MINIMUM WIDTH (1)		MINIMUM DIMENSION (2)
	3 WIRE	4 WIRE	
401–800	24	24	42
801–1200	24	30	42
1201–2000	30	35	42
2001–3000	–	42	60
3001–4000	–	48	60

TYPICAL TOP VIEW



(3) 3/4 INCHES MINIMUM

Notes:

A. A SWITCHBOARD PULL SECTION, A SEPARATE TERMINATION ENCLOSURE, OR BOTTOM FEED SERVICE SECTION SHALL BE PROVIDED FOR ALL SWITCHBOARD UNDERGROUND SERVICES.

B. BUS BARS, WITH PROVISIONS FOR TERMINATION LUGS PER EUSERC 347, ARE REQUIRED FROM THE PULL SECTION INTO THE SERVICE SECTION WHEN THE MAIN IS RATED ABOVE 800 AMPS, OR WHEN MULTIPLE METERING IS TO BE SUPPLIED.

C. SIDE OR REAR ENTRY OF THE SERVICE CONDUCTOR INTO THE PULL SECTION MAY REQUIRE GREATER DIMENSION THAN SHOWN IN THE TABLE.

D. ALL PULL AND TERMINATION SECTIONS SHALL HAVE FULL ACCESS. COVER PANELS SHALL BE REMOVABLE, SEALABLE, PROVIDED WITH TWO LIFTING HANDLES, AND LIMITED TO A MAXIMUM SIZE OF 9 SQUARE FEET.

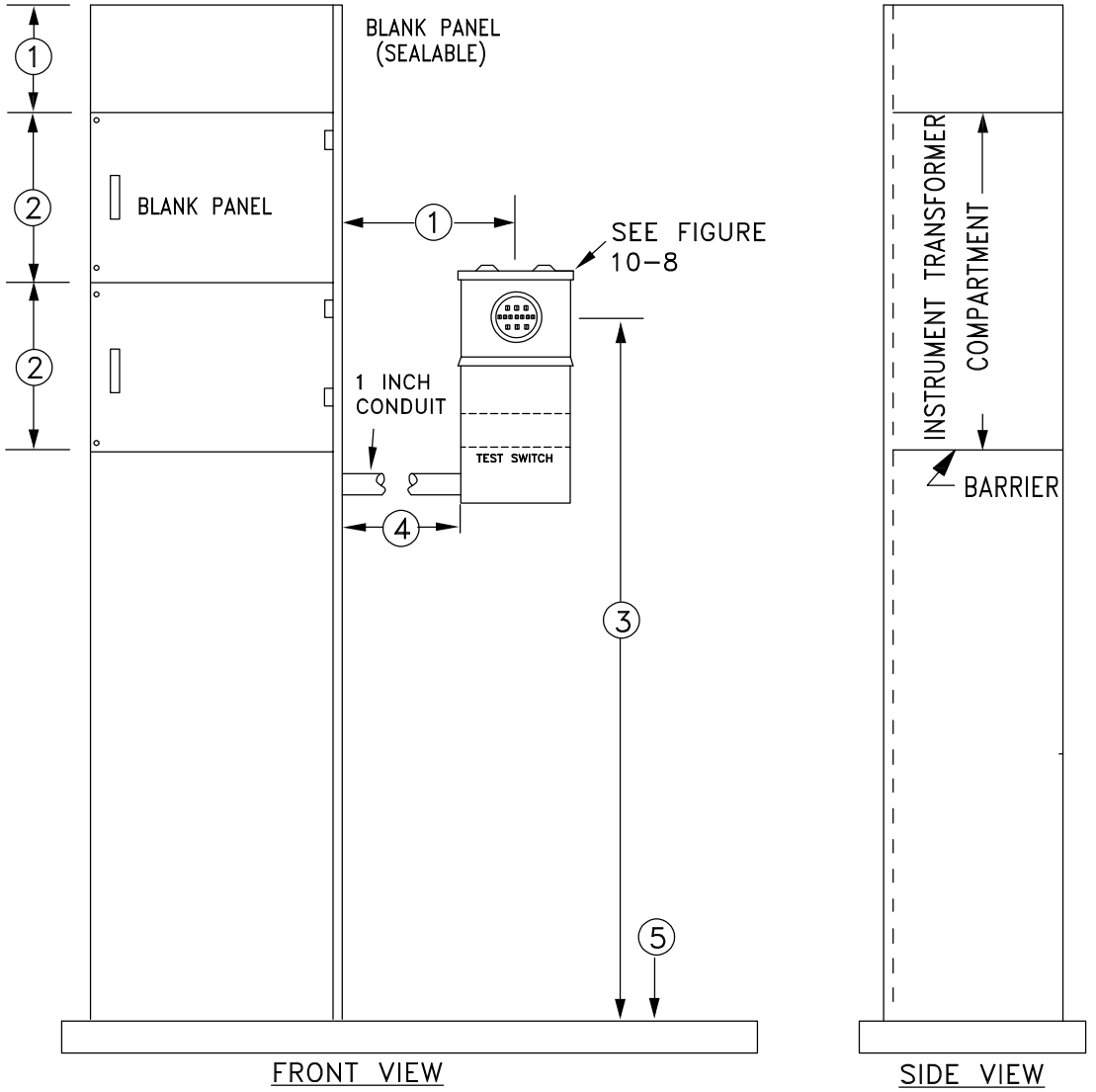
E. CUSTOMER SHALL PROVIDE A DRAWING WITH DIMENSIONS OF PROPOSED SERVICE EQUIPMENT.

Not to Scale

1 of 1	Figure 10-18 REMOTE SWITCHBOARD METERING ENCLOSURE	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative

Electric Service Requirements

REFERENCE EUSERC DRAWING 325



① 10 INCHES MINIMUM ② 15 INCHES ③ 4 FOOT MINIMUM 6 FOOT MAXIMUM ④ 12 INCHES MAXIMUM ⑤ 4 INCH MINIMUM CONCRETE BASE

Notes:

A. THE SERVICE TERMINATION AND METERING EQUIPMENT SHOULD BE LOCATED OUTSIDE NEAR THE TRANSFORMER. IF THE COOPERATIVE ALLOWS THE SERVICE TERMINATION TO BE LOCATED INSIDE THE BUILDING, THE METERING ENCLOSURE SHOULD BE HOUSED WITHIN THE SWITCHBOARD, OR WITHIN 12 INCHES

B. IF, IN THE OPINION OF THE COOPERATIVE, THE SWITCHBOARD SERVICE SECTION IS INACCESSIBLE FOR METER TESTING AND MAINTENANCE, THE CUSTOMER MUST PROVIDE DIRECT ACCESS BETWEEN THE REMOTE METER AND THE CURRENT TRANSFORMER. THIS MAY REQUIRE A CUSTOMER SUPPLIED LOCKBOX AND KEY.

C. THE CUSTOMER MUST PROVIDE AND INSTALL THE REMOTE SOCKET ENCLOSURE, METERING SWITCHBOARD SECTION AND 1 INCH CONDUIT FOR METERING SECONDARY CONDUCTORS. REFER TO 10.2.3 (CURRENT TRANSFORMER METERING CONDUIT) FOR CONDUIT REQUIREMENTS.

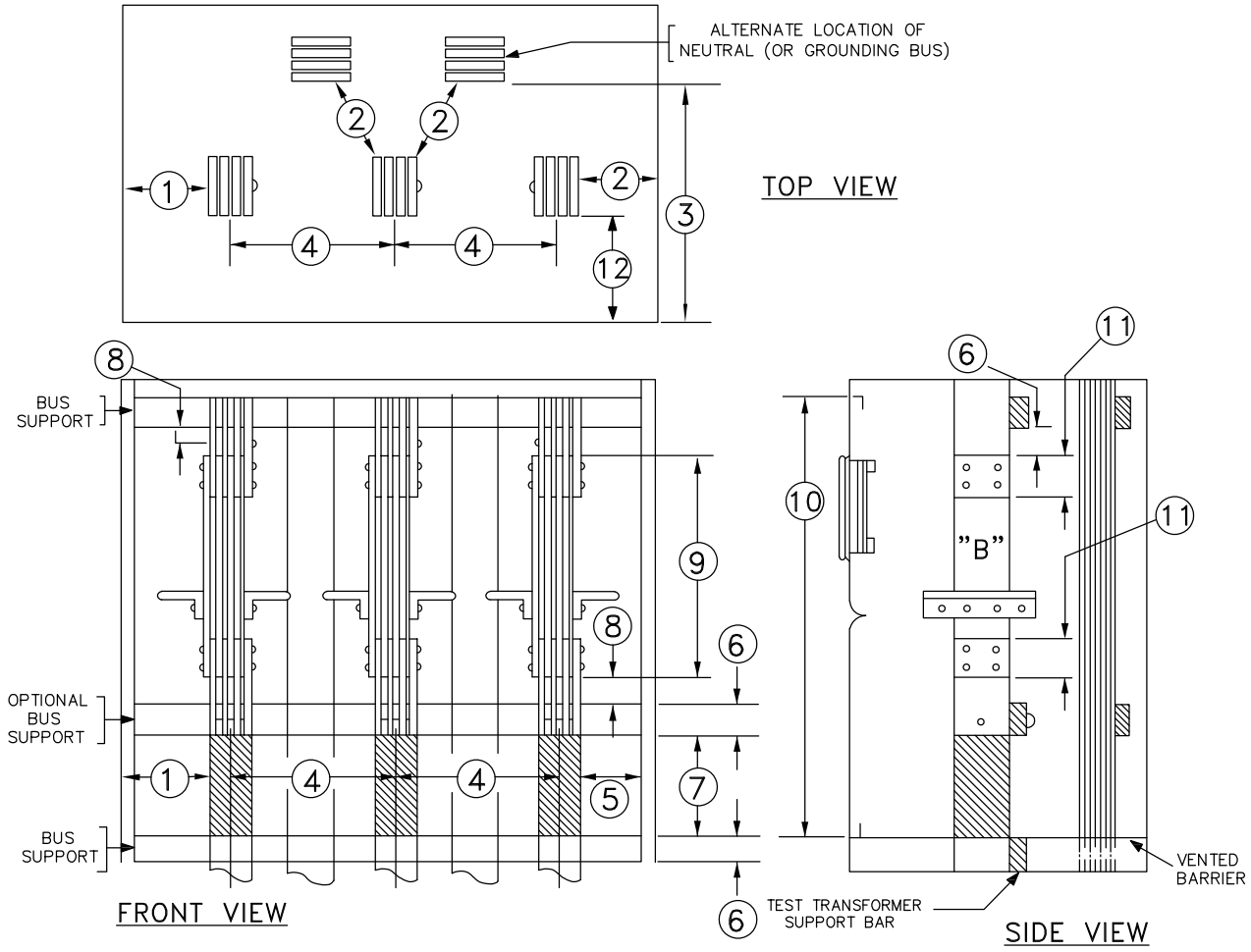
Not to Scale

01–01–2014	06–01–2015								

1 of 1	Figure 10-19 CURRENT TRANSFORMER COMPARTMENT FOR SWITCHBOARDS 1001 TO 3000 AMPS MAXIMUM, 0–600 VOLTS, THREE PHASE 4 WIRE	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative

Electric Service Requirements

REFERENCE EUSERC DRAWING 322



1. 5 INCH MINIMUM TO ANY OBSTRUCTION
2. 5 INCH MINIMUM
3. 24 INCH MAXIMUM
4. 11 1/2 INCHES
5. 4 INCHES
6. 2 INCHES
7. 7 INCHES
8. 1 INCH
9. 14 1/2 INCHES
10. 30 INCH OPENING
11. 2 13/16 INCHES
12. 7 INCHES MINIMUM 11 INCHES MAXIMUM

Notes:

A. BUSWAYS MUST REMAIN IN POSITION WHEN THE REMOVABLE SECTION "B" IS OUT

B. NO OTHER CONDUCTORS SHALL PASS THROUGH THIS COMPARTMENT. WHEN HORIZONTAL–CROSS BUSWAYS SUPPLY THE SERVICE SECTION PHASE BUSES, A NEUTRAL BUS EXTENSION SHALL BE PROVIDED IN THE INSTRUMENT TRANSFORMER COMPARTMENT ABOVE THE LOWER C.T. BUS SUPPORT.

Not to Scale

1 of 1

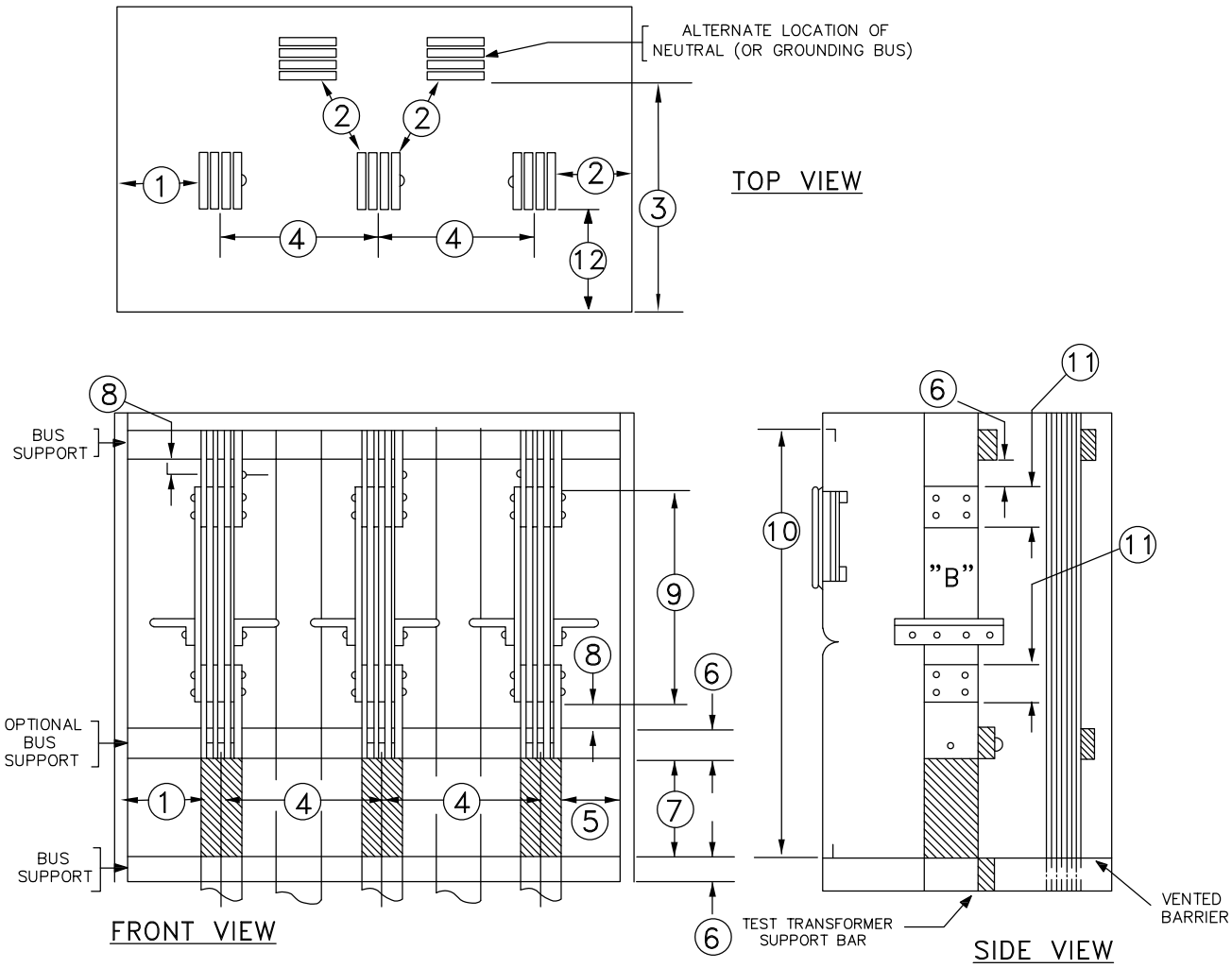
Figure 10-20

CURRENT TRANSFORMER COMPARTMENT FOR SWITCHBOARDS 3001 AMPS AND ABOVE, 0–600 VOLTS, THREE PHASE 4 WIRE

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

REFERENCE EUSERC DRAWING 324



1. 8 INCH MINIMUM TO ANY OBSTRUCTION
2. 8 INCH MINIMUM
3. 24 INCH MAXIMUM
4. 14 1/2 INCHES
5. 7 INCHES
6. 2 INCHES
7. 7 INCHES
8. 1 INCH
9. 14 1/2 INCHES
10. 30 INCH OPENING
11. 2 13/16 INCHES
12. 7 INCHES MINIMUM 11 INCHES MAXIMUM

Notes:

A. THE BUS UNITS MAY BE SUPPLIED FROM THE TOP OR BOTTOM.

B. BUS UNITS SHALL BE ANCHORED SO THAT BUSES WILL REMAIN IN POSITION WHEN SECTION "B" IS REMOVED. CONSULT THE COOPERATIVE FOR THE USE OF BUSES LARGER THAN 5 INCHES. BUS SUPPORTS SHALL BE CONSTRUCTED OF A CONTINUOUS BAR OF INSULATING MATERIAL.

C. WHEN THE COMPARTMENT IS SUPPLIED FROM THE HORIZONTAL CROSS–BUSSING, THE BUSSING SHALL PASS THRU THE COMPARTMENT OR IN THE SEALED AREA ABOVE THE COMPARTMENT. NO OTHER CONDUCTORS SHALL PASS THROUGH THE COMPARTMENT.

Not to Scale

10.4 Primary Voltage Service (Over 600 Volts)

10.4.1 General

High-voltage instrument transformers and transformer rated meters are required for Customers taking service at primary voltage under provisions of the Cooperative's rate schedule. To establish a mutually satisfactory location for the Point of Delivery (POD) and metering details, the Customer must consult the Cooperative before construction begins.

The Cooperative will provide primary voltage delivery to Customers directly, in accordance with the Cooperatives Rules, Regulations and Line Extension Policy, without transformation, from the high voltage or "primary" distribution system standard for the location in which service is requested.

10.4.2 Customer Equipment

The Customer receiving service at primary voltage may own poles, conductors, cables, transformers, and associated protective devices in accordance with the filed rate schedule or special contract. The Cooperative reserves the right to approve of or require modification of the Customer’s distribution system prior to installation.

10.4.3 Cooperative Equipment

The Cooperative will install a pole or a padmounted enclosure (both at Customer expense), containing the primary metering equipment in accordance with the current filed Rules, Regulations & Line Extension Policy and rate schedule and, in addition, will normally provide a disconnecting means at or near the Point of Delivery (POD) to separate the Customer system from the Cooperative system. The Cooperative may provide one span of overhead primary conductors, from the primary metering pole, to the Customer’s facility. The disconnecting means at or near the Point of Delivery or the padmounted primary metering enclosure when the service is underground, shall be designated as the Point of Delivery unless otherwise determined by the Cooperative.

11: Small Interconnected Distributed Generation Sources

11.1 General Information

The intent of these electric service requirements is to provide guidance, information and criteria to the Cooperative employees and Members regarding the interconnection and parallel operation of small distributed generation sources with the Cooperative's distribution system. The information contained here is in addition to, and in support of, the information provided within the Cooperative's Sun Watts Interconnection Applications and the Cooperative's current interconnection policy "Trico Electric Cooperative, Inc. Interconnection Requirements for Distributed Generation", parts of which have been included within this section. All documents can be found on the Cooperatives website www.trico.coop.

It is the Customers responsibility to submit to the Cooperative through the Sun Watts Program a distributed generation Interconnection Application prior to the installation of any interconnection facilities. Required documentation is detailed in the Interconnection Application. Such documentation may include, but is not limited to an electrical one-line and three-line diagram, AC and DC control schematics, site plan and a generation facility location diagram. Once the Cooperative has approved the plans, any changes or modifications to the plan by the Customer shall be resubmitted to the Cooperative, and if necessary to the AHJ.

This document applies to all single phase and three phase distributed generation sources, less than or equal to 50 kWac nameplate rating, that would be capable of parallel operation with the Cooperative's distribution system.

11.2 Additional Definitions

Back feed: To energize a section of the Cooperatives distribution system from another source other than the Cooperative.

DG Service Disconnect: Visible gang operated load break disconnect switch capable of being locked in a visibly "open" position by a standard Cooperative padlock that will completely isolate the GF from the Cooperative's system. Customer's disconnect switch shall be clearly labeled with a permanent placard stating "DG Service Disconnect".

Distributed Generator (DG): Any type of electrical generator or static inverter producing alternating current that (a) has the capability of parallel operation with the utility distribution system, or (b) is designed to operate separately from the Cooperative system

and can feed a load that can also be fed by the Cooperative's electrical system. A distributed generator is sometimes referred to simply as "generator".

Generating Facility (GF): All or part of the Customer's distributed electrical generator(s) or inverter(s) together with all protective, safety, and associated equipment necessary to produce electric power at the Customer's facility.

Interconnection Agreement: An agreement, together with appendices, signed between the Cooperative and the Customer (Generating Facility) covering the terms and conditions governing the interconnection and operation of the Generating Facility with the Cooperative.

Islanding: A condition occurring when a generator and a portion of the utility system separate from the remainder of the utility system and continue to operate in an energized state (copyright EPRI).

Metering Service: All functions related to measuring electricity consumption.

Parallel Operation: The operation of a GF that is electrically interconnected to a bus common with the utility electrical system, either on a momentary or continuous basis.

Points of Interconnection: The physical location where the utility's service conductors are connected to the Customer's service conductors, at which point the power transfer occurs between the Customer's electrical system and the utility distribution system, also commonly referred to as the Point of Common Coupling.

Relay: An electric device that is designed to interpret input conditions in a prescribed manner and after specified conditions are met to respond to cause contact operation or similar abrupt change in associated electric control circuits.

Small Power Production Facility: A facility that uses primarily biomass, waste or renewable resources, including, but not limited to wind, solar, and water to produce electric power.

Static Inverter: A dc to ac device that converts energy to ac energy for utility interconnection. The inverter contains many control functions, such as voltage and frequency monitoring and protection against islanding. Inverter(s) must be listed and in compliance with Underwriters Laboratories (UL) Subject 1741, Standard for Static Inverters and Charge Controllers for Use in Photovoltaic Systems. Utility-interactive inverters that pass the tests of the new UL 1741 standard will be, by definition, "non-islanding" inverters and will comply with all elements of the new IEEE 929-2000

interconnection standard. The 2005 National Electrical Code requires that all utility-interactive photovoltaic systems use listed inverters that pass UL 1741

Utility: The electric utility entity (Cooperative) that constructs, operates and maintains the electrical distribution system for the receipt and/or delivery of power, also referred to as the Utility Distribution Company (UDC).

11.3 Parallel System

A parallel, or interconnected, generator is connected to a bus common with the Cooperative's system, which may result in a transfer of power between the two systems. In interconnected operations a Customer's generator becomes an integral part of the utility system that must be considered in the electrical protection and operation of the utility system.

Parallel generators encompass any type of distributed generator or generating facility that can electrically parallel with, or potentially back feed the Cooperative's system. Additionally, any generator system using a "closed transition" type transfer switch or a multi-breaker transfer scheme, or an electrical inverter that can be configured or programmed to operate in a "utility interactive mode" constitutes a potential back feed source to the utility system, and is classified as an interconnected generator.

For a Customer to interconnect its generator to the Cooperative's system, specific interconnection and contractual requirements must be met, and information must be submitted for all interconnected generators as is specified within the Interconnection Agreement and supplemental Sun Watts program documentation. Requirements include a DG Service Disconnect, as well as protective relaying, metering, communication links, and other safety and information requirements as required. Cooperative personnel will inspect the system, and the Cooperative reserves the right to witness testing of these protective schemes. The Customer must enter into an Interconnection Agreement.

11.4 Standards

All customer equipment shall conform to all nationally recognized standards and recommendations. These include but are not limited to:

- UL 1741 – Standard for Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Resources
- UL 1703 - PV Panels

- UL 2200 – Microturbines
- IEC 61400 – Wind Turbines
- UL 1008 – Transfer Switches
- IEEE 519 – Harmonics
- IEEE 1547 – Interconnecting Distributed Resources with Electric Power Systems
- IEEE 929-2000 - Recommended Practice for Utility Interface of Photovoltaic Systems
- NFPA70- National Electric Code - NEC

11.5 DG Service Disconnect

The Customer shall install and maintain a DG Service Disconnect in order to isolate all ungrounded conductors of the Customer's (GF) generating facility from the Cooperative's system.

The DG Service Disconnect is required to be accessible, installed within 10 feet of and on the same wall (where applicable), and in sight of the Customer's electrical service entrance section and Service Equipment. In the case of extraordinary circumstances this dimension may be increased but only with the Cooperatives approval.

In a supply side interconnection, the DG Service Disconnect shall be fused unless the interconnection is made at a breaker in a solar ready service entrance panel designed for a dedicated alternate power source connection.

The DG Service Disconnect must be rated for the voltage and current requirements of the generation facility, and must meet all applicable UL, ANSI and IEEE standards. The DG Service Disconnect shall meet the requirements of the National Electric Code (NEC), and shall be properly grounded.

The DG Service Disconnect shall be a load break switch. The switch blades, jaws and the air-gap between them shall all be clearly visible when the switch is in the "open" position. It is not acceptable to have any of the "visible open" components obscured by the switch case or an arc-shield, etc. Only switches specifically designed to provide a true "visible open" are acceptable. Cooperative shall have the right to lock open the switch without notice to the Customer when interconnected operation of the Customer's generating facility with the Cooperative's system could adversely affect the utility system or endanger life or

property, or upon termination of the Interconnection Agreement. For multi-phase systems, the switch shall be gang-operated.

The DG Service Disconnect shall be mounted at a height between 30 and 72 inches.

11.6 Meter Installations

The customer shall provide and install all necessary metering sockets, cabinets and conduit in accordance with the Cooperatives service requirements. The Cooperative will install the revenue and generator production output meters.

11.7 Labeling Requirements

(a) General Requirements
The Customer shall conform to the NEC for labeling of generation equipment, switches, breakers, etc. The Cooperative will assume the responsibility for labeling any Cooperative owned equipment.

(b) DG Service Disconnect
The Customer shall label the DG Service Disconnect by means of a permanently attached placard with clearly visible and permanent letters. Such Label shall say "DG DISCONNECT". In addition, the Cooperative may attach its own label to the DG Disconnect.

(c) Service Entrance
The NEC requires a permanent directory, denoting all electrical power sources on or in the premises, shall be installed at each Service Equipment location and at locations of all electric power production sources capable of being interconnected.

(d) Generation Meter
The generation meter socket shall be labeled "Distributed Generation Meter"

Labels required may be purchased at Border States Electric. They are:
At Service Entrance-TUC047-W-AE-X42
At DG Disconnect – TUC046-W-AE-C22
At DG Output Meter – TUC045-W-AE-E12

11.8 Dedicated Transformer

Customer generators with a combined total rating of over 10 kW, as measured at the service entrance, may be required to be isolated from other customers fed off the same utility transformer by a dedicated power transformer connecting to the utility distribution feeder. The primary purpose of the dedicated transformer is to ensure that (a) the generator cannot become isolated at the secondary voltage level with a small amount of other-customer load, and (b) the generator does not contribute any significant fault current to other customers' electrical systems.

11.9 Power Quality

Customer shall ensure that the electrical characteristics of its load and generating equipment will maintain the Cooperatives normal power quality requirements. Any deviation from sine wave form or unusual short interval fluctuations in power demand or production shall not be such as to result in impairment of service to other customers or in interference with operation of computer, telephone, television or other communication systems or facilities. Those power quality items will generally include the following:

- Current Imbalance
- Harmonics
- Voltage Flicker
- Power Factor

The Customer should verify actual requirements before designing/installing GF.

11.10 Voltage Requirements

Customer generating equipment must deliver at the Point of Interconnection, 60 Hertz, either single or three-phase power at one standard Cooperative voltage as may be agreed upon by the Customer and the Cooperative subject to availability at the premises.

11.11 Interconnection Requirements

The NEC requirements for Interconnected Electric Power Production Sources allow for both load side and supply (or line) side taps for interconnection. Both types of interconnections have rules that apply to them as set forth by the NEC and the Authority

Having Jurisdiction (AHJ). Supply side taps are interconnected between the load side of the revenue meter and on the supply (Cooperative) side of the service disconnecting means.

Supply side interconnections shall be made without modification to the existing factory installed and/or factory listed equipment or components per the NEC. Contact the Cooperative for guidance when considering a supply side interconnection.

- Insulation piercing connectors, splices, split bolts, tap connectors and other similar type connectors shall not be used for any interconnection tap.

- When intercepting the conduit & conductors between the meter socket and the Service Equipment for a supply side tap, an approved junction box with insulated Polaris type or equivalent conductor lugs shall be used.

The DG Service Disconnect is required to be accessible, installed within 10 feet of and on the same wall (where applicable), and in sight of the Customer's electrical service entrance section and Service Equipment.

11.12 Minimum Protection Requirements

The minimum protection required is an under-voltage contactor.

For all synchronous generators and forced commutated inverters, either a manual or automatic synchronizing scheme is required.

Static Inverters must conform to UL 1741 standard.

11.13 Customer Operating Requirements

Customer will at no time energize a de-energized Cooperative circuit.

The Customer is not prohibited from isolating their GF from the Cooperative to supply their premise wiring while the Cooperative circuit is de-energized.

If the Customers GF disconnects from the Cooperative, the Customer shall not attempt to reconnect until the cause has been determined and the protective device mis-operation has been corrected by a certified person. The Cooperative shall be notified and may inspect the GF operation as well.

Electric Service Requirements

The Customer shall notify the Cooperative if any modifications or upgrades are being planned to the existing distributed generation or if any additional GF's are being proposed to an already approved system.

The Customer will be held responsible for damage caused to other Customers or the Cooperative for any malfunction of the Customers GF.

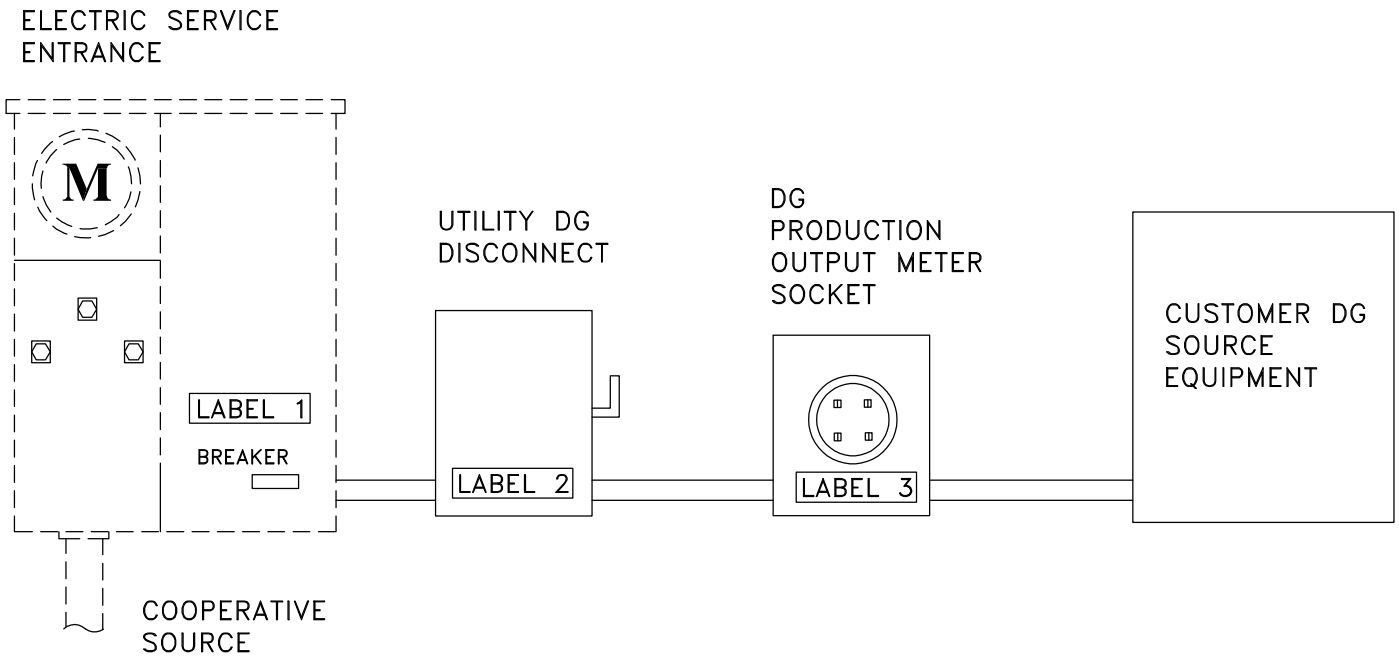
The Customer shall notify the Cooperative if any modifications or upgrades are being planned to the existing distributed generation or if any additional GF's are being proposed to an already approved system.

The Customer will be held responsible for damage caused to other Customers or the Cooperative for any malfunction of the Customers GF.

1 of 1	Figure 11-1 TYPICAL LOAD SIDE RESIDENTIAL INTERCONNECTION DIAGRAM GUIDE	TRICO AN ENERGY COOPERATIVE A Touchstone Energy® Cooperative

Electric Service Requirements

SINGLE PHASE 400 AMPS OR LESS AND THREE PHASE 200 AMPS OR LESS



Notes:

A. THE DG DISCONNECT SHALL BE ACCESSIBLE, INSTALLED WITHIN 10 FEET OF AND ON THE SAME WALL (WHERE APPLICABLE), AND IN SIGHT OF THE CUSTOMERS ELECTRICAL SERVICE ENTRANCE SECTION OR SERVICE EQUIPMENT.

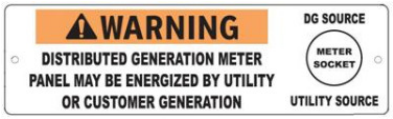
B. REVENUE AND DG PRODUCTION OUTPUT METERS SUPPLIED AND INSTALLED BY THE COOPERATIVE.

C. INSPECTION CLEARANCE FROM THE AHJ REQUIRED BEFORE COOPERATIVE INSPECTION AND INTERCONNECTION.

D. LABEL EQUIPMENT AS REQUIRED BY THE NEC. LABELS CAN BE PURCHASED AT BORDER STATES ELECTRIC 294-1414.

TUC047-W-AE-X42
LABEL 1

TUC046-W-AE-C22
LABEL 2



TUC045-W-AE-E12
LABEL 3

Not to Scale

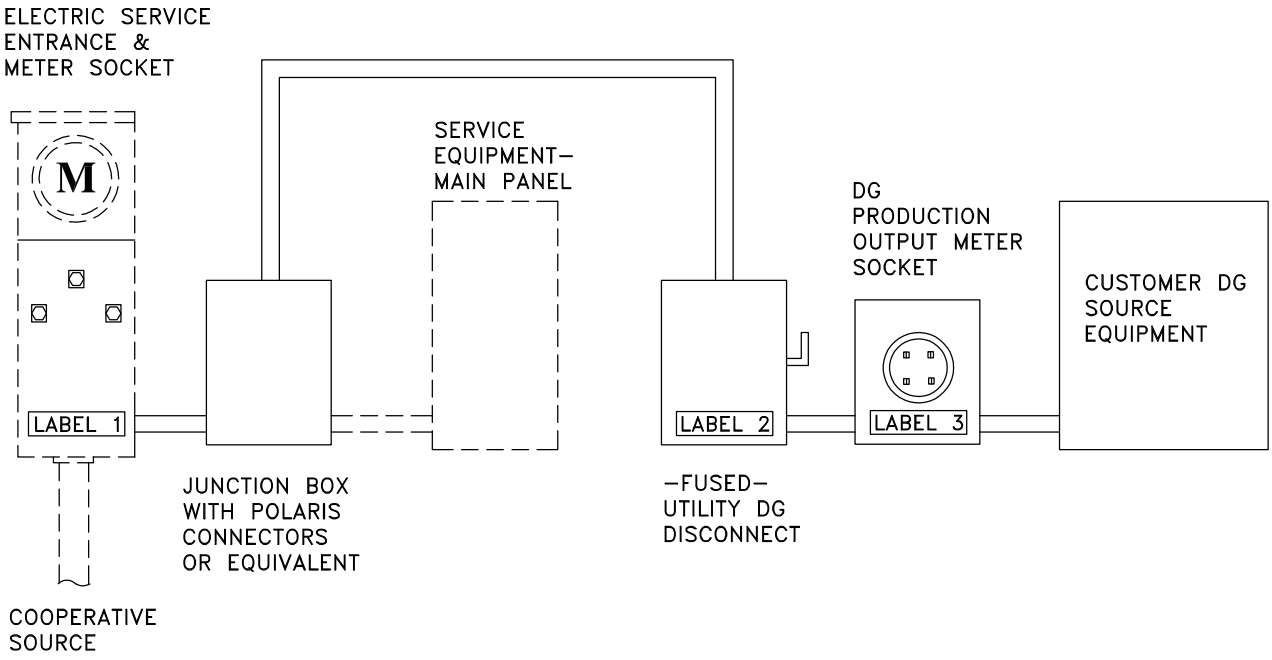
10-01-2017	03-01-2018								

1 of 1	Figure 11-2 TYPICAL SUPPLY (LINE) SIDE RESIDENTIAL INTERCONNECTION DIAGRAM GUIDE

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements

SINGLE PHASE 400 AMPS OR LESS AND THREE PHASE 200 AMPS OR LESS



Notes:

A. THE DG DISCONNECT SHALL BE ACCESSIBLE, INSTALLED WITHIN 10 FEET OF AND ON THE SAME WALL (WHERE APPLICABLE), AND IN SIGHT OF THE CUSTOMERS ELECTRICAL SERVICE ENTRANCE SECTION OR SERVICE EQUIPMENT.

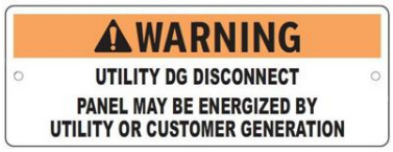
B. REVENUE AND DG PRODUCTION OUTPUT METERS SUPPLIED AND INSTALLED BY THE COOPERATIVE.

C. INSPECTION CLEARANCE FROM THE AHJ REQUIRED BEFORE COOPERATIVE INSPECTION AND INTERCONNECTION.

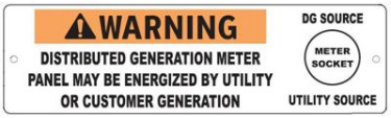
D. LUG CONNECTORS REQUIRED IN JUNCTION BOX. INSULATION PIERCING CONNECTORS ARE NOT ALLOWED. TAPS ARE NOT ALLOWED INSIDE CUSTOMER SERVICE ENTRANCE.

E. LABEL EQUIPMENT AS REQUIRED BY THE NEC. LABELS CAN BE PURCHASED AT BORDER STATES ELECTRIC 294–1414.

TUC047–W–AE–X42
LABEL 1



TUC046–W–AE–C22
LABEL 2



TUC045–W–AE–E12
LABEL 3

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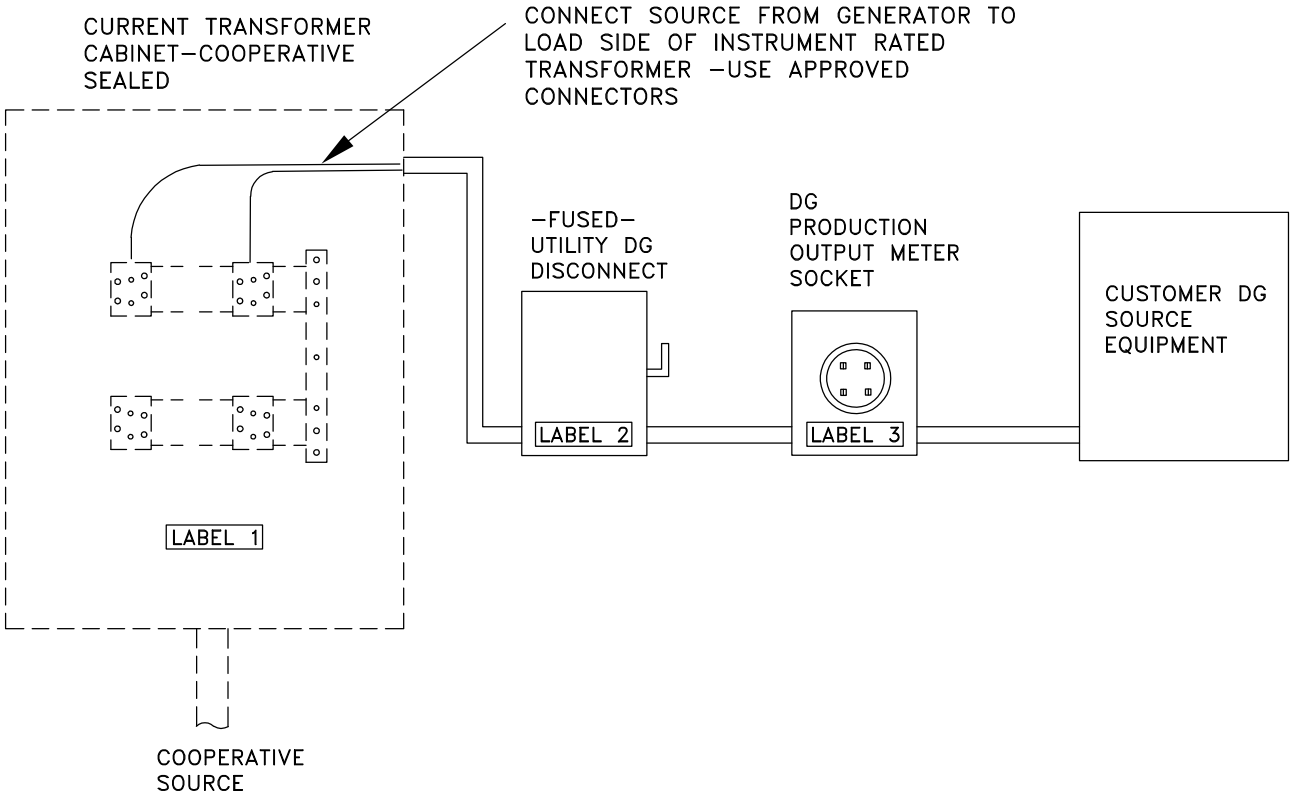
1 of 1

Figure 11-3

SUPPLY (LINE) SIDE INTERCONNECTION
TO CURRENT TRANSFORMER CABINET DIAGRAM GUIDE

TRICO AN ENERGY COOPERATIVE
A Touchstone Energy® Cooperative

Electric Service Requirements



Notes:

A. THE DG DISCONNECT SHALL BE ACCESSIBLE, INSTALLED WITHIN 10 FEET OF AND ON THE SAME WALL (WHERE APPLICABLE), AND IN SIGHT OF THE CUSTOMERS ELECTRICAL SERVICE ENTRANCE SECTION OR SERVICE EQUIPMENT.

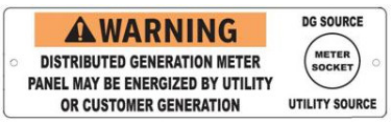
B. REVENUE AND DG PRODUCTION OUTPUT METERS SUPPLIED AND INSTALLED BY THE COOPERATIVE.

C. INSPECTION CLEARANCE FROM THE AHJ REQUIRED BEFORE COOPERATIVE INSPECTION AND INTERCONNECTION.

D. LABEL EQUIPMENT AS REQUIRED BY THE NEC. LABELS CAN BE PURCHASED AT BORDER STATES ELECTRIC 294–1414.

TUC047–W–AE–X42
LABEL 1

TUC046–W–AE–C22
LABEL 2



TUC045–W–AE–E12
LABEL 3

Not to Scale

10–01–2017	03–01–2018								