

Electric Service Requirements

INTERNAL SERVICE STANDARDS

The Benton Rural Electric Association shall strive to meet the needs of members and member requests based upon the following service standard schedule:

1. The Association will schedule an appointment in response to all member requests for new services or upgrades within three (3) working days of initial contact.
2. Once the initial contact has been made with the member or applicant in the field, the Association will respond with an estimate and a contract within five (5) working days from the date of the site visit. If an estimate is unavailable at this time, the Association will contact the member with an explanation for the delay.
3. In the event an estimate is still not available ten (10) working days after the above 5-day period, contact with the member **shall occur every 10 working days** until an estimate is available and has been sent to the member. If the delay is due to waiting for additional information from the member, contact will still be made as a reminder that this information is required to complete the estimate.
4. Upon receipt of a signed contract and/or money being paid by the member on a specific project, the Association shall respond within 10 working days from receipt of the contract or payment of money with construction activity on the member's site.
5. If twenty (20) working days have passed from the date which the estimate was sent with no response, the Association will contact the member in writing. The letter will state that the job will be classified as inactive unless we hear from the member.

Preferred contact with the member shall be a letter, but a phone call or email is acceptable if there has been repeat contact with the member via this medium. Record of this contact shall be kept in the Work Order file.

Member phone calls shall be returned as soon as possible. If information is not available to answer a member's question, a phone call shall be returned that day with an explanation and an estimated return call time.

**ELECTRIC SERVICE REQUIREMENTS
RESIDENTIAL AND COMMERCIAL**

INFORMATION FOR USE BY—

MEMBERS • CUSTOMERS • ARCHITECTS
ENGINEERS • CONTRACTORS • ELECTRICIANS
AND THOSE ENGAGED IN THE PLANNING AND
CONSTRUCTION OF ELECTRIC SERVICE
AND METER INSTALLATIONS

BENTON RURAL ELECTRIC ASSOCIATION

Line Extension Procedure Checklist

The following information summarizes the action required by both the member and Benton REA. Please read through these steps and provide the needed information and fees. This will speed the process, allowing us to serve you efficiently.

1. **Line Extension Applications:** Please complete a Line Extension Request Application and submit to the Benton REA Engineering Department and pay any applicable engineering fee.
2. **Service Location:** Please provide a service location on a site plan. The plan should depict the building(s) outline(s), any future building(s), the property layout, and the location of the electric service.
3. **Electrical Drawings:** If available, please provide Benton REA with drawings which show service entrance equipment and distribution panel information.
4. **Load Estimates:** Commercial and industrial customers shall provide estimated load information.

ONCE THE ABOVE ITEMS ARE COMPLETED, BENTON REA CAN BEGIN THE NECESSARY DESIGN WORK.

5. **New Accounts:** Applicants must become a member of Benton REA and establish an account for each meter. For information or questions please contact any Benton REA office shown on the following Welcome page.
6. **Fees, Deposits, Construction Costs & Easements:** Applicant must pay all applicable fees, deposits, and construction costs and provide necessary easements.
7. **Inspections:** Contact the State of Washington Department of Labor & Industries for an electrical inspection of your electric installation.
Benton County - 509-735-0138 Yakima County - 509-454-3760

Once items five through seven have been completed, Benton REA construction crews or contractors can begin electric service construction.

Should you require more detailed information, please consult the appropriate section in this booklet or contact Benton REA.

Engineering Department - 509-786-4940

Operations Department - 509-786-7305

WELCOME

TO THE BENTON REA SERVICE AREA

Benton REA is a not for Profit Electrical Cooperative owned by those customers/members that it serves.

Benton REA is committed to supplying it's members with reliable electrical service. Every employee's goal is to serve the members who own the REA. This is YOUR utility. We look forward to serving you.

Please contact Benton REA if you have any questions or need additional information not covered by this service requirements guide.

Main Prosser Office	(509) 786-2913
402 7 th St.	1-800-221-6987
PO Box 1150	FAX (509) 786-2231
Prosser, WA 99350	

Office hours 8:00 A.M. - 5:00 P.M.; Monday through Friday

West Richland	(509) 967-2921
6102 W Van Giesen	Fax (509) 967-2950
West Richland, WA 99353	

*Office hours 8:00 A.M. - Noon and 12:30 - 4:30 P.M.;
Monday through Friday*

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1. GENERAL INFORMATION

1.01 PURPOSE

This booklet was prepared to aid you in establishing new or upgraded electric service. We recognize that you may require personal assistance from our staff, and we would encourage you to contact us by calling your nearest Benton Rural Electric Association office to discuss your electric service requirements. Additional copies of this booklet are available at any office. It is the goal of Benton REA to provide high-quality, safe electric service.

In order to avoid unnecessary repetition, the words “Benton REA or Association” as used in the following pages shall mean Benton Rural Electric Association.

This booklet is intended to provide the necessary requirements to allow Benton REA to provide you electric service. The safety of the member’s wiring and equipment remains with the member.

1.02 SERVICE AREA

Benton REA provides electricity to any applicant within its service area who is willing to become a member of the Association and abide by its Articles of Incorporation, by-laws and policies. The general service area of Benton REA is defined by West Richland on the east, White Pass on the west, Hanford Reach on the north, and as far south as Whitcomb Island on the Columbia River. The cooperative provides electrical service to over 1,000 square miles in Benton and Yakima Counties.

1.03 APPLICATION FOR SERVICE

Benton REA is a not for profit electric cooperative, and membership therein is a condition of receiving electric service. Membership is available upon application, to individuals, husband and wife jointly, partnerships, associations, public or private corporations, or a governmental organization.

New members may be required to pay a deposit. In some instances, the waiver of this deposit is possible with an approved letter of credit from another utility.

If the electric service requires an extension of facilities, the member will pay an engineering fee that is refundable if the project proceeds.

1. GENERAL INFORMATION

1.03 APPLICATION FOR SERVICE (cont.)

The member may be requested to sign a line extension contract, provide easements and, if necessary, pay Aid to Construction or advance on construction where applicable.

It will take approximately two weeks after receipt of the above items before construction will start. Since construction schedules change, the member can receive updates on their schedule by contacting the Operations Department at 786-7305 between 7:00 am and 5:00 PM on normal workdays.

Prior agreement should be obtained from Benton REA for service to three-phase loads larger than 1,000 kilowatts.

1.04 LOCATIONS OF SERVICES

Before providing any electrical service, Benton REA will determine the location for your meter equipment.

1.05 TYPES OF SERVICES

Electric service available is 60-hertz, alternating current, single or three-phase. The normal voltages supplied by Benton REA to it's members are given below. Service may be supplied by either overhead or underground distribution lines at these voltages. Residential service will be limited to 120/240 volt, single phase service, unless the service exceeds 600 Amps.

Single phase, 120/240 volts	Three phase, 120/208 volts
Single phase, 240/480 volts	Three phase, 277/480 volts

Three phase, 120/240, 240/480, 2400/4160 and 7200/12,470 GrY volts may be provided under special conditions.

1.06 CODES AND ORDINANCES

It is necessary that the construction of new or upgraded installations conform to current and applicable provisions of the National Electrical Code, the National Electrical Safety Code, Federal and State regulations, as well as Benton REA policies.

Prior to any new electric service being connected, the electric facilities of the member will need a Washington State Electrical Inspection.

1.07 CHANGES OR CONFLICTS IN REQUIREMENTS

Some of the information contained in this booklet is based on state and national codes and is subject to change. Benton REA should be consulted in case of doubt on the applicability of any item.

1. GENERAL INFORMATION

1.08 EASEMENTS

Benton REA will construct, own, operate and maintain facilities only on easements or rights-of-way satisfactory to Benton REA. As a condition of service, Benton REA may require the execution of an easement, or easements, providing suitable right-of-way for the construction and maintenance of the distribution lines. Easements are to be kept clear of all obstacles restricting access for maintaining the electrical facilities. No foliage may be planted within 6 feet of pad mounted transformers. (See Drawing SR-2 and SR-7)

1.09 METER SEALS

The purpose of meter seals placed by Benton REA on meters and associated service equipment is to prevent injury and/or tampering.

Seals are not to be removed except by Benton REA. If an emergency should require seal removal without prior notification, Benton REA must be notified as soon as possible, so the installation can be inspected and the seal replaced. Any seals removed without prior approval can subject member/owner to a financial penalty as set forth by applicable policy.

2. SERVICES

2.01 GENERAL

The location of the service entrance on the member's premises is an important consideration to both the member and Benton REA. The service entrance shall be located to make the meter and service easily accessible from Benton REA distribution lines and convenient for the installation, operation, and maintenance of meters and equipment. Benton REA shall be consulted in order to designate the point of attachment for all service equipment.

For secondary voltage service, Benton REA will provide, install, and maintain transformers, meters, and service drop or lateral conductors. The member will provide, install, and maintain all service equipment, including switches, raceways, enclosures, and meter sockets, and will provide right-of-way and access for the installation and maintenance of Benton REA's facilities.

Normally, a building will be supplied with electricity through only one set of main service conductors.

2.02 POINT OF DELIVERY

The "point of delivery", unless otherwise specified by Benton REA is that location where the Association's circuit and the member's system are interconnected. The exact location of the point of delivery and metering equipment will be determined by Benton REA.

Benton REA will provide the conduit and conductor from the transformer to the point of delivery, the member is responsible for any necessary trenching per 4.05. Benton REA also provides all poles, pole attachments, transformers, preformed transformer pads, meters and primary voltage facilities.

2.03 LOCATION OF METERS

The member shall install the necessary meter base at a location acceptable to Benton REA and which is accessible to Benton REA representative at all times. The minimum unobstructed wall space for a single meter is 14 x 30 inches. No foliage may be planted within 6 feet of pad mounted transformers. (See Drawing SR-1)

2. SERVICES

2.03 LOCATION OF METERS (cont.)

On ganged meter installations, the distance from the outside of the enclosure shall not be less than 7 inches from a wall or obstruction. Additional wall space for instrument transformers may be required when the capacity of the service entrance exceeds 200 amperes, three-phase, or 300 amperes, single-phase. The size of the space required will also be larger when more than one meter is required.

A 36-inch working space shall be maintained in front of self contained metering installations and a 48-inch working space shall be maintained for installations requiring instrument transformer cabinets. Meter and metering equipment must be at least 36-inches horizontally from a gas meter. (see Drawing SR-2)

The meter socket shall be mounted to a pole or building five to six feet above the finished grade or floor. Meter sockets in mobile home pedestals shall not be less than 42 inches above finished grade. (see Drawing SR-3) Meters in pedestals should be suitably protected from physical damage.

The meter should be located on the side of the structure closest to Benton REA lines or within 10 feet of that side. It is recommended that exterior bathroom walls, patios, or carports be avoided. The meter shall not be installed over window wells, steps in stairways, or in other unsafe or inconvenient locations.

All meters shall be located outdoors unless Benton REA confirms prior to installation that an acceptable outdoor location is not available. An indoor meter must be accessible to the Association during daytime working hours (8:00 a.m. to 5:00 p.m.) (Locked meter rooms are not considered accessible unless keyed for a Benton REA lock.)

If, in the opinion of Benton REA, a meter is made inaccessible, such as by the installation of a fence or enclosure, the member shall, at their expense, move the meter socket to an accessible location, or remove the obstruction.

2. SERVICES

2.04 TEMPORARY SERVICES

Temporary service may be supplied when requested. State inspection is required before connection can be made. In addition to the cost of energy used, the member may be billed for the cost of installation and removal.

Temporary services for construction work must be located such that the meter is protected from mechanical injury. Should relocation of a temporary service become necessary, the relocation cost will be borne by the contractor or member. (See Drawing SR-4 and SR-6)

Unmetered temporary single phase services are available (with prior approval by the Association's engineering department), limited to a single building and a 60 amp service, there is a non refundable fee that is good for 90 days, and renewable for additional 90 day periods with additional charge. These unmetered temporary services are intended to serve loads related to construction needs and will not be used for construction job shacks, recreational vehicles any type of heating systems or area lighting these require a Metered temporary

2.05 DISCONNECTION AND RECONNECTION OF SERVICE

For safe working conditions, Benton REA will disconnect and reconnect any service supplying member-owned electric service equipment that must be de-energized prior to modification. There will be no charge for the disconnection if done during normal work hours. The reconnection will be done without charge, if no more than two trips are scheduled during regular working hours and at Benton REA's convenience; otherwise, the member will be billed a reconnection charge according to the fee schedule then in effect.

Any modifications to metering equipment will require a state electrical inspection. Benton REA cannot reconnect unless the modifications have been certified by the State. (For your safety, only authorized Benton REA representatives will disconnect or reconnect facilities.

2.06 RELOCATION OF SERVICES AND FACILITIES

If a member requests a relocation of Benton REA's facilities, there may be a charge for such relocation.

2.07 MEMBER EQUIPMENT ON UTILITY POLES

Member-owned metering equipment, switching devices, conduits, conductors, luminaries, etc. are not to be mounted on Benton REA's poles, except by special written permission of Benton REA.

2.08 CABINET AND GUTTER SEALS

All cabinets and gutters containing unmetered conductors, must be sealed with a Benton REA seal.

Unmetered conductors through a service disconnect compartment in mobile home service equipment must be in an enclosed raceway and sealed with a Benton REA seal.

3. OVERHEAD SERVICE

3.01 SERVICE DROP

In areas served from overhead lines, an overhead service drop will be installed by Benton REA from Benton REA's distribution line to the service entrance conductors of the member's service equipment.

The point of attachment shall be high enough above both initial and finished grade and in a proper position to provide not less than minimum clearances as indicated on appropriate drawing. Benton REA limits the length of service drops to 165 circuit feet. The route of the service drop must be without obstruction by buildings, trees, or other objects. The point of attachment will normally be on the building wall facing the nearest Benton REA line or on a service mast capable of withstanding the tension of the service drop. Supports for service drops must be extended from and tied into the main structural supports of the building. The service mast should extend through the roof on a typical single-story building.

If a member encounters problems in determining these clearances, Benton REA will aid in determining specific requirements that will comply with the NESC code.

3.02 RESIDENTIAL OCCUPANCIES

It is the responsibility of the member to bring the service entrance conductors to Benton REA's service drop. Benton REA will make the final electrical connection.

3.03 MULTIPLE-FAMILY OVERHEAD SERVICE

Benton REA prefers the grouping of service heads at a common location and will not extend service drop conductors from the point of attachment to the individual weather heads. It will be the member's responsibility to bring the service entrance conductors to Benton REA's service drop. If more than one service drop to a building is required, it will be the member's responsibility to obtain permission from the electrical code enforcing authority having jurisdiction.

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

3. OVERHEAD SERVICE

3.04 OVERHEAD SERVICE TO MOBILE HOMES

The member must install a meter base and service equipment on a wood pole supplied by the Association. The State Electrical Department of Labor and Industries requires either the meter base or an approved main disconnect be installed within thirty feet of a Mobile Home.

3.05 NON-RESIDENTIAL OVERHEAD SERVICE

The service entrance(s) must be grouped so they may be served from the same service drop, when more than one service entrance of the same voltage and phase to a building is necessary.

4. UNDERGROUND SERVICES

4.01 UNDERGROUND SERVICES

Before preparing for underground service, the member or designated representative must obtain approval and specifications from Benton REA covering the proposed installation and the member's responsibilities.

All service laterals must be designed for surface mount meter installation. Deviation from surface mounted meter installation will require prior approval. (See drawing SR-1)

Members adequately served by existing overhead distribution facilities, but desiring underground service will pay for all costs.

4.02 TRENCHES PROVIDED BY MEMBER

Call 48 Hours Before You Dig

Benton County (Phone 1-800-424-5555)
Yakima County

The member is to provide the trench for the Association to install the cable and conduit system. Washington law requires that all utilities be notified at least 48 hours prior to excavation and that excavation must not be started until locates have been made or the utility has notified the excavator they have no facilities in the area. (See drawing SR-7 and SR-18)

When you are ready to provide your service trench, please contact the Operations Department between 7:00 a.m. and 5:00 p.m. The Association needs a minimum of three working days advance notice before you trench to allow for scheduling. If the crew can't complete the work because the member wasn't ready, then additional charges may be assessed.

Location - Member's trench shall not be closer than three feet to Benton REA equipment or poles.

Depth - The trench shall be a minimum of 42 inches deep for high voltage primary and 36 inches deep for low voltage secondary. If depth requirements are not possible, please contact Benton REA's Engineering Department for alternatives. (see drawing SR-18)

Width - Trenches shall be a minimum of 18 inches wide unless a narrower width is approved by the Benton REA. Consult Benton REA if an 18 inch trench cannot be obtained. (see drawing SR-18)

4. UNDERGROUND SERVICES

4.02 TRENCHES PROVIDED BY MEMBER (cont.)

Backfill - The member will be responsible for backfilling the trenches. The selected backfill material must not contain any sharp or foreign objects. Selected backfill around the conduit must be sand, loam or other approved rock-free material. Place the backfill material 4 inches below and above the conduit. Contact Benton REA for the method to be used to protect conductors to be placed in rocky ground. Conductors shall not be energized until backfill is complete. (see drawing SR-18)

Joint Use - Telephone, cable TV, and other electrical conductors may be placed in the same trench as the Benton REA's conductors, if the installation is in accordance with Benton REA specifications and is mutually agreed to by all parties concerned. (See drawing SR-18)

Benton REA will not install electrical conductors in a common trench with nonelectric utilities such as water, gas, and sewer, unless unusual conditions such as adverse soil or route restrictions exist. All such installations require the prior written approval of Benton REA.

4.03 RACEWAYS

Benton REA will install all underground raceways and conduit systems in member provided trenches. Benton REA will connect this conduit system to member provided surface mounted meter base or CT cabinet. (see drawing SR-19)

4.04 CLEARANCES FROM SWIMMING POOLS

Underground raceways and conductors shall not be located under a swimming pool or within 10 feet of the inside wall of a pool.

4.05 UNDERGROUND SERVICE - RESIDENTIAL OCCUPANCIES

For underground service to residential occupancies, including single and multiple-family dwellings and mobile home parks, Benton REA's underground conductors will be installed in a conduit system. Benton REA limits the conduit bends to not more than 270 degrees, which includes bends at transformers and metering equipment. Benton REA will furnish and install conduit and conductor. (See Drawing SR-7) The member or developer will be responsible for the cost of all trenching, sand, excavation, and backfill on the premises or within the confines of the projects or subdivision to be served and, in some cases, for a distance outside the project to connect to Benton REA facilities.

4. UNDERGROUND SERVICES

4.05 UNDERGROUND SERVICE - RESIDENTIAL OCCUPANCIES (cont.)

When a pad-mounted transformer is installed in a location where it might be struck by a motorized vehicle, the member is to install and maintain Benton REA approved barrier posts to protect the transformers. (see Drawing SR-7)

The underground service lateral will be installed, owned, and maintained by Benton REA from the Benton REA's main distribution facilities to the member's point of delivery. Benton REA limits the length of secondary voltage service runs to 165 circuit feet. Benton REA will also install, own, and maintain the transformer and the primary voltage cable.

(A) 200 Amp or Less Rated Services

Benton REA will connect its conduit system to the member's meter base. Benton REA will pull underground service conductors through conduit system and make appropriate electrical connections.

(B) 320 Amp Rated Services

For single-phase service entrance equipment with a NEC code calculated load of less than 321 amperes, a 320-ampere, continuous rated surface mounted meter socket is required. Benton REA will connect the service lateral on the line side of the meter socket if the socket conforms to Electric Utility Service Equipment Requirements Committee EUSERC 302.

The member's point of delivery must be located on the outside of the building, meter pedestal or service pole as shown on Drawings SR-3, and SR-8. The member or Contractor should contact Benton REA for the location and routing of the service lateral prior to the start of construction.

(C) Greater Than 320 Amp Services

Consult Benton REA Engineering Department.

For NEC code-calculated loads greater than 320 amperes, current transformer metering will be required. The member is to provide and install a current transformer cabinet. This cabinet should be located on the exterior of the building. If no satisfactory exterior location is available, by special permission of Benton REA, the cabinet may be located inside the building. (See Article 5.04 for cabinet size)

4. UNDERGROUND SERVICES

- 4.05 UNDERGROUND SERVICE - RESIDENTIAL OCCUPANCIES (cont.)** Where a current transformer cabinet is installed for underground service, the Association will connect the service conductors on the current transformer mounting base. (See Drawing SR-9)
- 4.06 UNDERGROUND SERVICE TO MOBILE HOMES** For underground service to a mobile home, the member's service entrance equipment must be located no further than 30 feet from the mobile home and the pedestal must be approved for the purpose. When the meter may be subject to physical damage, barrier posts or other suitable protection must be installed and maintained by the member.
- Benton REA will install a conduit system to meter pedestal in member furnished trench. Benton REA limits the conduit bends to not more than 270 degrees, which includes bends at transformers and metering equipment. Benton REA will make service conductor termination after member's service equipment has been certified by a state electrical inspection.
- Raceways and conduits in mobile home parks provided for Benton REA conductors must be located so as to avoid passing under the pad, foundation, or area provided for the mobile home.
- 4.07 UNDERGROUND SERVICE TO MANUFACTURED HOMES WITH FACTORY INSTALLED METER BASES** Underground service to manufactured homes, with factory installed meter bases, will be provided under the same requirements as residential occupancies (Article 4.05) provided the home is site specific, occupies a private lot and has a permanent foundation.
- 4.08 NON-RESIDENTIAL UNDERGROUND SERVICE** For underground service to commercial or industrial buildings or projects, the member or developer is responsible for all trenching and backfilling within the project. If a transformer installation is necessary, the member is to provide space for the transformer, which meets the requirements of Benton REA. Consult with Benton REA for specific applications.
- Where a pad-mounted transformer, current transformer enclosure, or other equipment is installed in a location where it might be struck by a motorized vehicle, the member is to install and maintain Benton REA approved barrier posts to protect this equipment. (See Drawing SR-7)

4. UNDERGROUND SERVICES

4.08 NON-RESIDENTIAL UNDERGROUND SERVICE (cont.)

Benton REA will install necessary conduits and raceways in member furnished trench.

(A) 200 Amp or Less Rated Services

Benton REA will connect its conduit system to the member's meter base. Benton REA will pull underground service conductors through the conduit system and make appropriate electrical connections. Benton REA will determine whether it is acceptable to pull electrical cables prior to backfilling of the trench, although cables will not be energized until the trench has been backfilled. Service lateral will be connected within the meter base by Benton REA after member installed equipment has been certified by a state electrical inspection.

(B) 320 Amp Rated Services

For single-phase service entrance equipment with a code-calculated load of less than 321 amperes, a 320-ampere, continuous rated surface mounted meter socket is required. Benton REA will connect the service lateral on the line side of the meter socket if the socket conforms to EUSERC 302.

The member's point of delivery must be located on the outside of the building, meter pedestal or service pole as shown on Drawings SR-3 and SR-8. The member or Contractor should contact Benton REA for the location and routing of the service lateral prior to the start of building construction.

(C) Greater Than 320 Amp Services

Consult Benton REA Engineering Department.

5. METER INSTALLATION

5.01 GENERAL

Benton REA's rate schedules require that each class and type of electrical service must be separately metered.

Members are not authorized to relocate any meter belonging to Benton REA or interfere in any way with the meter or its connection.

The member is responsible to provide and install an exterior mounted approved meter base. When a three phase service exceeds 200 amps, or for a single phase service that exceeds 320 amps, an exterior mounted current transformer cabinet with mounting bracket is required in addition to the required meter base as shown on Drawings SR-11 and SR-12.

5.02 ACCEPTABLE METER SOCKETS

Acceptable meter sockets shall be manufactured in accordance with the current standards of the American National Standards Institute (ANSI) and Underwriters Laboratory (UL). The meter socket - complete with terminal lugs, meter jaws, manual circuit-closing devices when required, and provision for sealing - shall be provided by the member. All conductors are to enter and leave the enclosure through the appropriate openings. All meter sockets shall be ring type complete with sealable ring.

Services requiring current capacity greater than 320 amperes will need to be metered through current transformers. It is the member's responsibility to procure and install the current transformer cabinet and mounting bracket. For service greater than the 320 amperes, the member can buy a pre-wired meter base from Benton REA at cost. Contact the Engineering Department for specific meter applications.

The member's meter base needs to conform to the following:

Three wire single phase 320 amp or less requires a 4 jaw base.

Three wire single phase greater than 320 amp uses a 6 jaw base with current transformer.

Four wire three phase 200 amp or less requires a 7 jaw base.

Four wire three phase greater than 200 amps requires a 13 jaw base with current transformer.

5. METER INSTALLATION

5.03 MOUNTING OF METER SOCKETS

Sockets must be level, plumb in all directions, and securely mounted to a rigid surface. Conductors must be securely fastened to their respective terminals and must be arranged in a manner, which will not interfere with the installation of the meter or cover or with the operation of a circuit-closing device.

Meter sockets mounted on buildings must have clearances as shown on Drawing SR-1. The Occupational Safety and Health Code requires 36 inches of clear working space in front of live parts. No barrier shall be installed that will be within 36 inches of the front of the meter panel. Meter sockets and other metering equipment must be located at least 36 inches horizontally from a gas meter. (See drawing SR-2)

If subject to physical damage, the meter shall be adequately protected.

Benton REA does not allow enclosures over meters.

5.04 CURRENT TRANSFORMER METERING

Current transformer metering is required where the ampacity of three-phase service entrances exceeds 200 amperes and the ampacity of single-phase entrances exceeds 320 amperes.

The current transformers will be provided by Benton REA. A sealable steel cabinet, provided by the member, will be securely mounted on a rigid surface. This cabinet is to contain only the service conductors and Benton REA equipment. It is to be mounted in a readily accessible location acceptable to Benton REA. The acceptable minimum current transformer cabinet sizes are:

TYPE OF SERVICE	MINIMUM CABINET SIZE W x H x D	MOUNTING BASE
3 Wire (Single-Phase) greater than 320 Ampacity	24" x 48" x 11"	2 CT BASE, EUSERC 328A
3 or 4 Wire (Three-Phase) 201-400 Ampacity	36" x 48" x 11"	3 CT BASE, EUSERC 329A (see page Q)
Above 400 Ampacity (all facilities)	Consult Benton REA	Consult Benton REA

(See Drawing SR-9 and SR-10)

5. METER INSTALLATION

5.04 CURRENT TRANSFORMER METERING (cont.)

In the case of an upgrade of an existing service where limited space makes installation of standard-size boxes impractical, consult Benton REA to determine the size of an acceptable box, which will meet all NEC code requirements.

The member is to provide the meter socket and the conduit between the current transformer cabinet and meter socket. Conduit will be limited to maximum runs of 50 feet with not over 270 degrees in bends. Condulet or other means that allow access to the wiring is not permitted. All conduit runs shall be metallic with a minimum diameter of 1¼ inches. Only the Benton REA conductors will be permitted in metering conduit.

5.05 SOCKET FOR REACTIVE DEMAND METER

If reactive metering is required by Benton REA, a thirteen-jaw meter base will be installed by the member.

5.06 METERING ON BENTON REA POLE

Benton REA may provide a pole for member installed metering equipment at the member's expense in accordance with the policy and schedule of charges. Where a current transformer or other equipment is installed in a location where it might be struck by a motorized vehicle, the member is to install and maintain Benton REA approved barrier posts to protect this equipment.

(See drawings SR-13, SR-14 and SR-15)

6. MEMBER EQUIPMENT AND DEVICES AND CHARACTER OF SERVICE

6.01 GENERAL

The member's electrical equipment and devices are to have characteristics such that the Benton REA distribution system is efficiently utilized and undue interference with Benton REA service to other members does not occur.

The member's equipment shall be designed to perform satisfactorily within the standard voltage ranges and frequency provided on Benton REA's system. Insofar as is practical, Benton REA will endeavor to maintain standard voltages and frequency on its distribution systems, subject to variations within reasonable limits.

Benton REA reserves the right to inspect and test any equipment connected to its lines and to require any information necessary to determine the operation characteristics of the equipment. *The member shall submit information to Benton REA regarding any equipment, which might cause interference with service to other members, or require additional facilities for its satisfactory operation.*

Electric service supplied by Benton REA may be subjected to voltage disturbances, which will not normally affect the performance of lighting, appliances, heating, motors or other typical electrical equipment, but may result in the improper operation of voltage-sensitive equipment such as computers or microprocessors. Voltage-sensitive equipment is defined as equipment, which is adversely affected by power disturbances (i.e., sags, spikes, harmonic interruptions). It is the responsibility of the member to provide those power conditioning devices that may be required to provide the quality of "power" necessary for optimum performance of voltage-sensitive equipment.

6.02 SINGLE-PHASE SERVICE

Service shall be 120/240 or 240/480 volt and the load shall be balanced on the ungrounded conductors as closely as practical.

6.03 THREE-PHASE SERVICE

Three-phase service, if available, will normally be provided at 208Y/120-volt or 480Y/277-volt, all single-phase loads should be split evenly among the three phases.

Three-phase service, if available, will be supplied to residential members upon request, provided three-phase service is necessary, such as to operate a motor larger than 5 horsepower.

6. MEMBER EQUIPMENT AND DEVICES AND

CHARACTER OF SERVICE

6.04 MOTOR PROTECTION

To assure adequate safety to personnel and equipment, it is recommended that the member provide and maintain NEC code approved protective devices to protect motors against overloading, short circuits, ground faults and low voltage, and to protect all three-phase motors against single-phasing.

6.05 MOTOR STARTING

Reduced-voltage starters are usually required on all motors rated in excess of 50 horsepower.

Upon request and following evaluation, authorization may be granted by Benton REA to allow across line starting.

No additional Benton REA facilities will be installed to reduce voltage fluctuations on an individual member's service, caused by the starting of motors, until approved reduced-voltage starters have been installed by the member. If additional facilities are required, they will be installed at the member's expense.

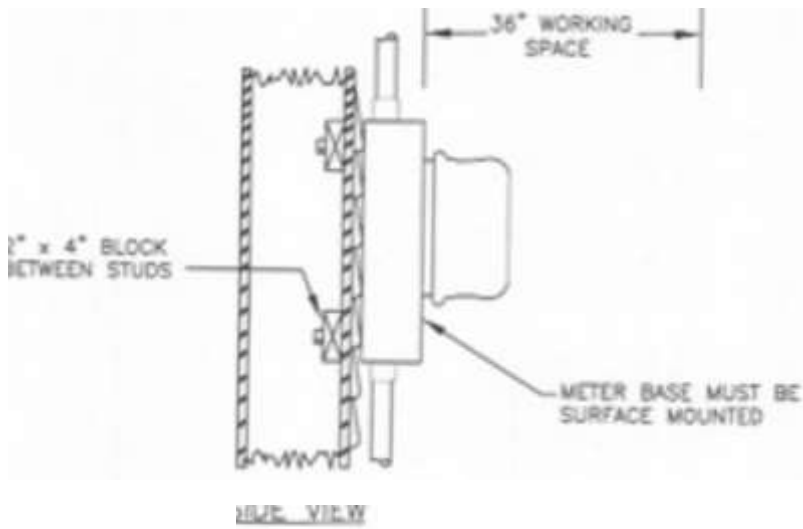
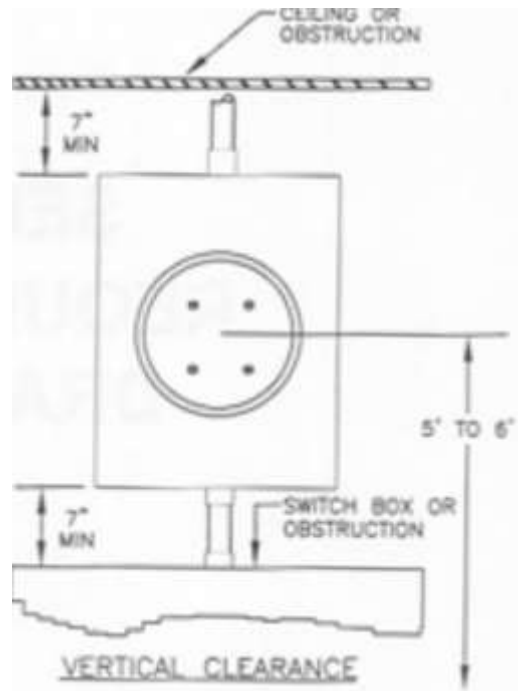
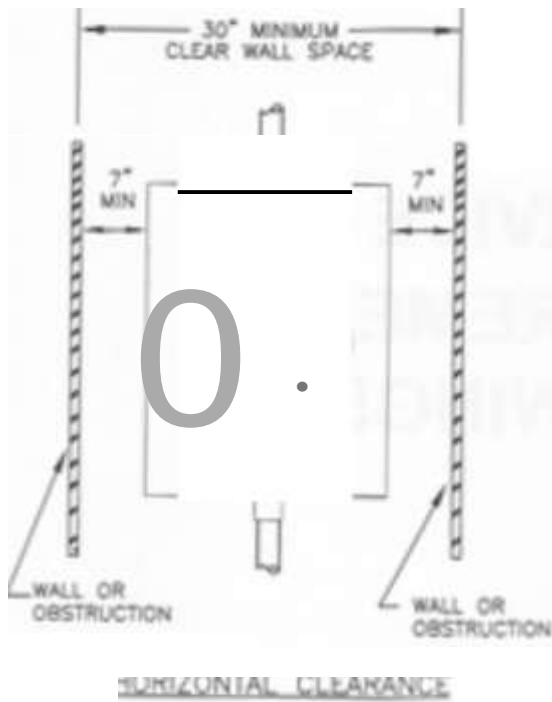
6.06 INTERFERING LOADS

Whenever a member's equipment has characteristics, which cause undue interference with Benton REA's service to other members, the member shall make changes in such equipment or provide, at member expense, additional equipment to eliminate the interference.

Additional facilities such as separate Benton REA transformers and a separate service can be used to minimize voltage fluctuations on secondary voltage circuits for devices such as welders, induction heating equipment, and X-ray machines. Where the operation of this type of equipment causes undue voltage fluctuations on Benton REA's primary voltage lines, the additional equipment required may include a separate primary voltage line.

High-frequency equipment such as electronic heating equipment, spark discharge devices, radio transmitting equipment, etc., and equipment that generates harmonics, such as an induction furnace, and variable speed pump drives, shall be designed and operated so as not to create disturbances on the Benton REA's electrical system which might interfere with the proper operation of communication, radio, television, remote control, or other utilization equipment of other members. Power quality shall meet the IEEE 519 standard.

**SERVICE
REQUIREMENT
DRAWINGS**

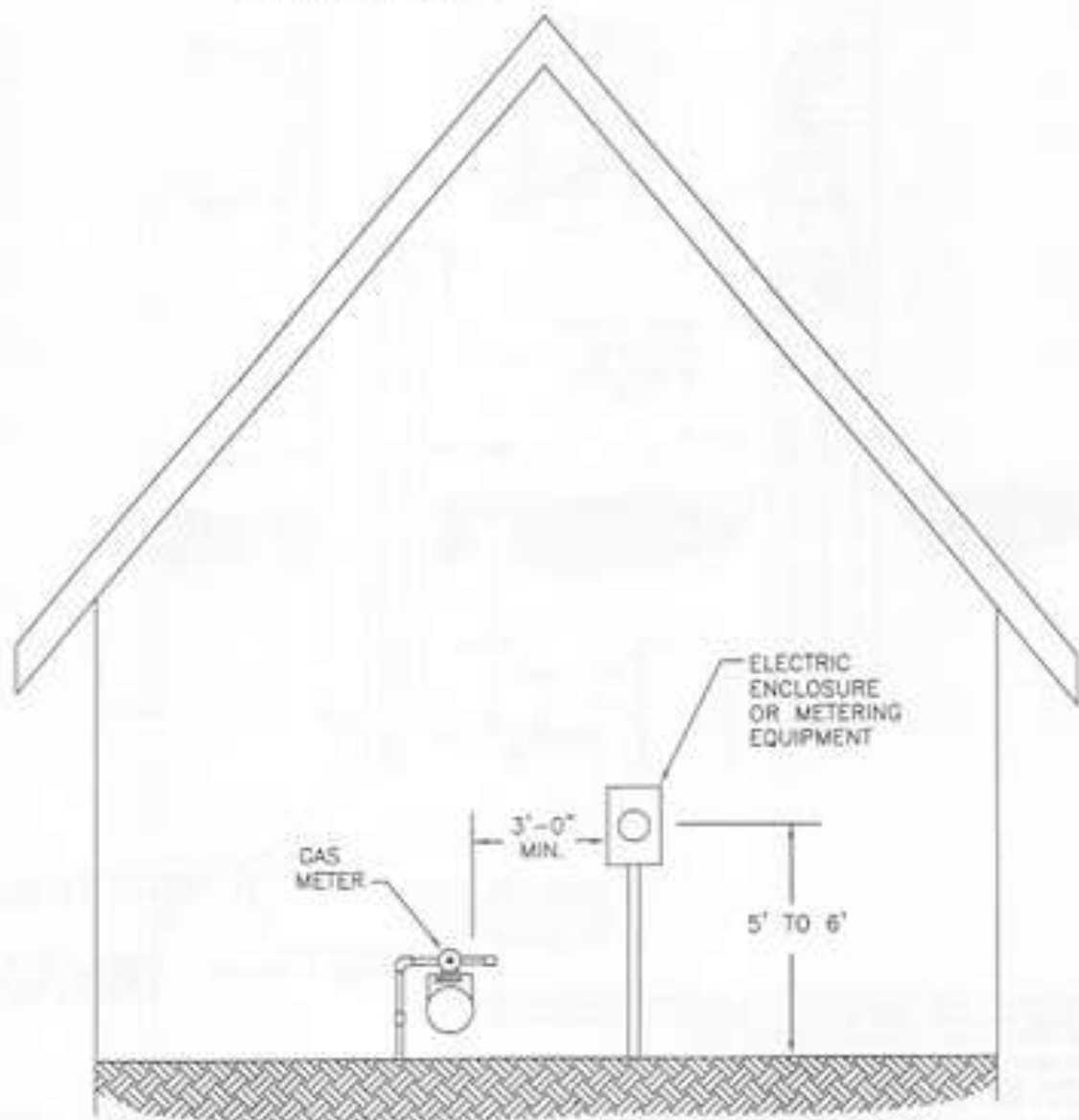


Scale: No Scale
Revision Date: 09/29/04
Drawn by: C. Isley
Drawing Name: MS-01.dwg

er Socket
 Clearance Requirements

BENTON REA THE COOPERATIVE WAY
Page: SR-1

UNDERGROUND / OVERHEAD RESIDENTIAL SERVICES



* 3'-0" MINIMUM CLEARANCE REQUIRED BETWEEN
ELECTRIC METER AND GAS METER.

Scale: No Scale
Revision Date: 09/29/04
Drawn by: C. Isley
Drawing Name: MS-02.dwg

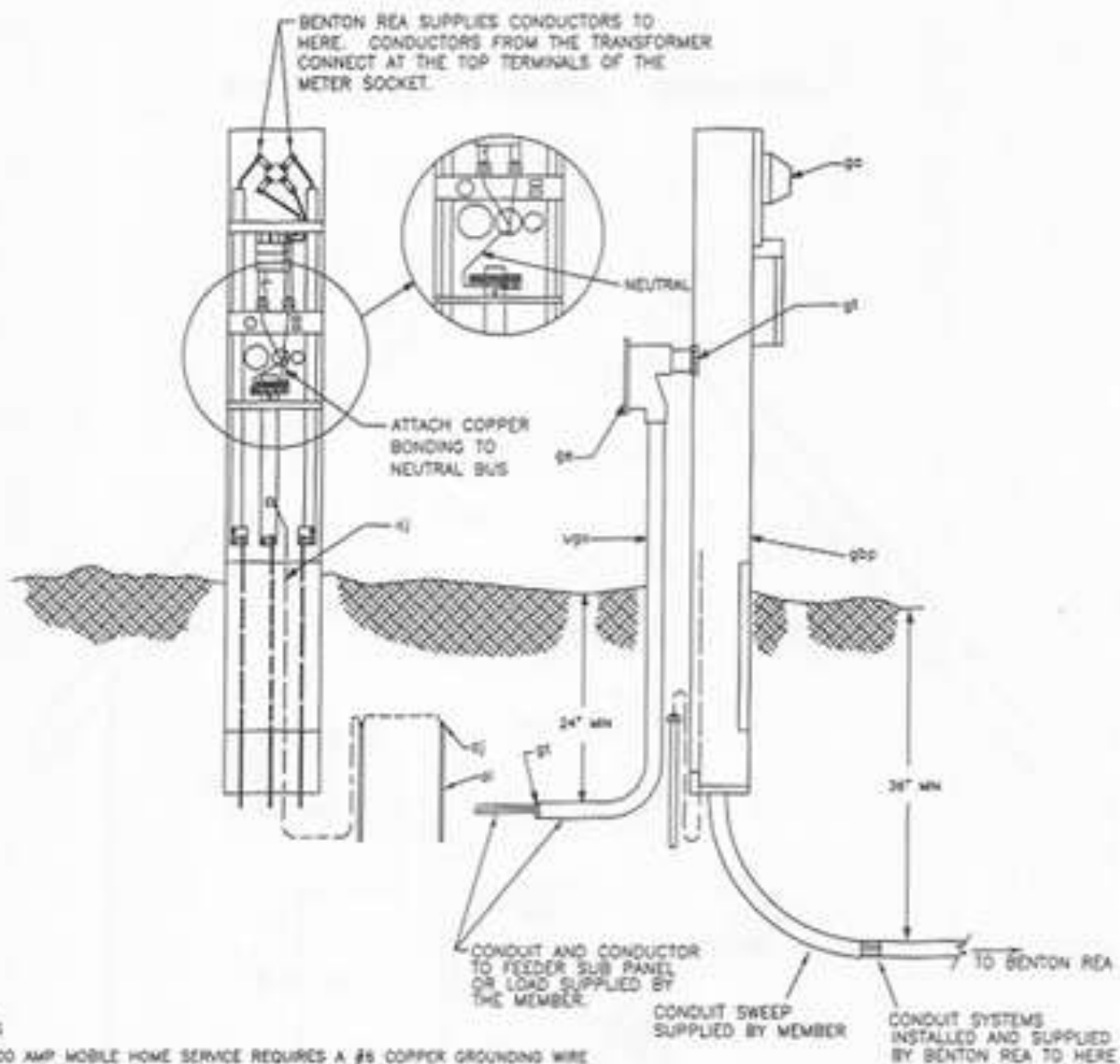
Clearance Between Electric
Meter Base and Gas Meter

Sheet 1 of 1

**BENTON
REA**

THE COOPERATIVE WAY

Page: SR-2



NOTES

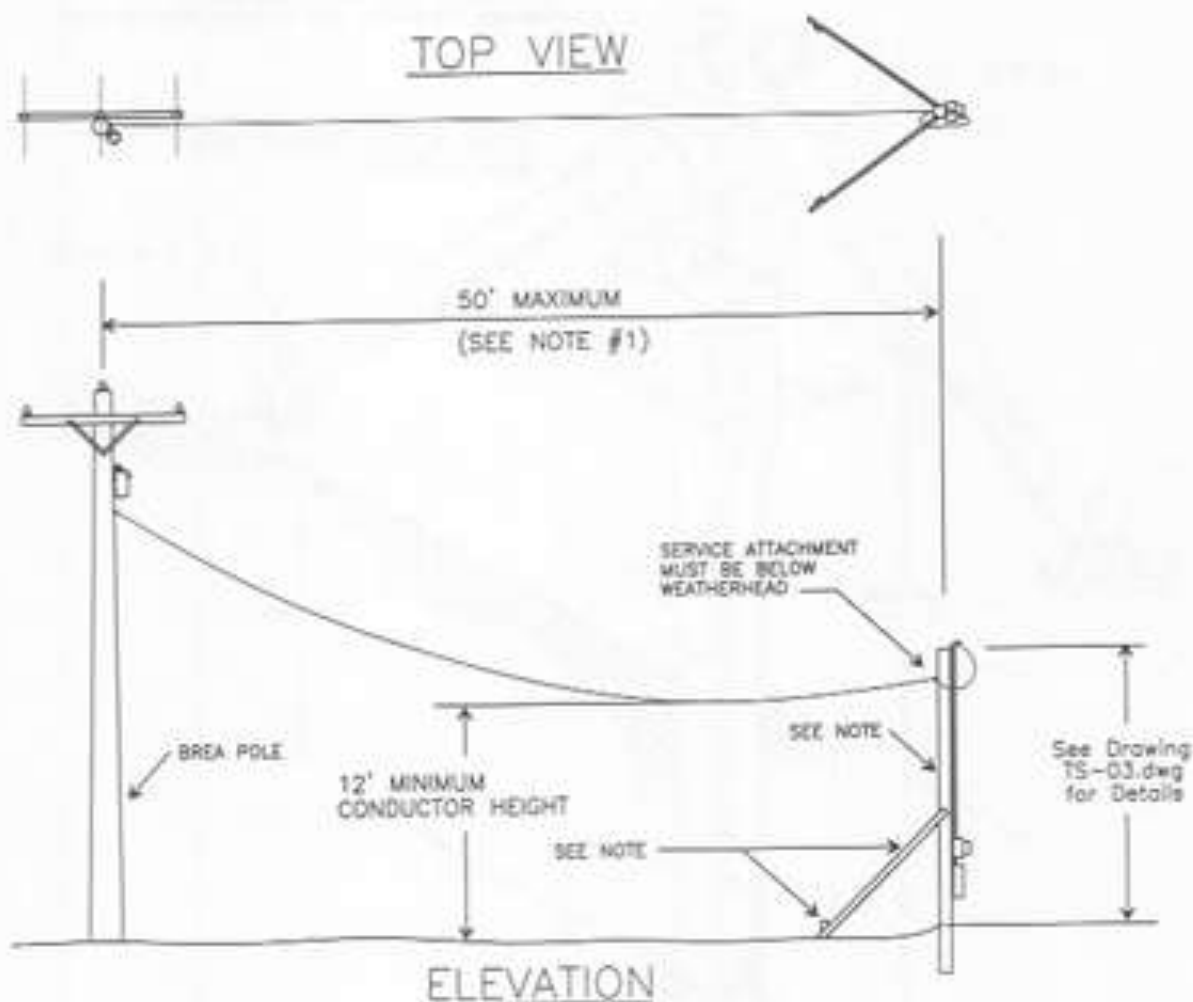
1. 200 AMP MOBILE HOME SERVICE REQUIRES A #8 COPPER GROUNDING WIRE WITH GREEN INSULATION, FROM MEMBER'S DISCONNECT TO SERVICE PANEL TO THE MOBILE HOME, TO MEMBER'S NEUTRAL WIRE.
2. SERVICE MUST BE GROUNDED PRIOR TO BENTON REA ENERGIZING SERVICE.
3. ELECTRICAL INSPECTION PERMIT TAG MUST BE OBTAINED PRIOR TO BEING PLACED ON THE CONSTRUCTION SCHEDULE OR ENERGIZING THE SERVICE.
4. CONDUIT ATTACHMENTS ARE SHOWN FOR RIGID STEEL CONDUIT OR SCHEDULE 80 RNC.
5. METER INSTALLATION SHALL NOT BE ON DRIVEWAY SIDE OF HOUSE OR POLE.
6. THE TWO REQUIRED GROUND RODS SHALL BE PLACED 6' APART.
7. LUGS ARE CONSIDERED PART OF THE METER BASE.
8. MEMBER INSTALLED CONDUIT MUST BE INSPECTED BY WASHINGTON STATE L&I.

ITEM NO.	MATERIAL	ITEM NO.	MATERIAL
gdd	1 METER PEDESTAL	gc	2 CLAMP, GROUND ROD
ga	1 METER	gc	2 GROUND ROD, 5/8"x6'
gt	1 INSULATED BUSHING	gc	1 #8 COPPER GND WIRE
gpc	1 CONDUIT	gc	1 CONDUIT BODY - LB
	LENGTH AS REQ'D		SIZE AS REQ'D

Scale: No Scale
 Revision Date: 09/29/04
 Drawn by: C. Isley
 Drawing Name: MS-03.dwg

Meter Installation Guide for
 Single Phase Underground Pedestal

**BENTON
 REA**
 THE COOPERATIVE WAY



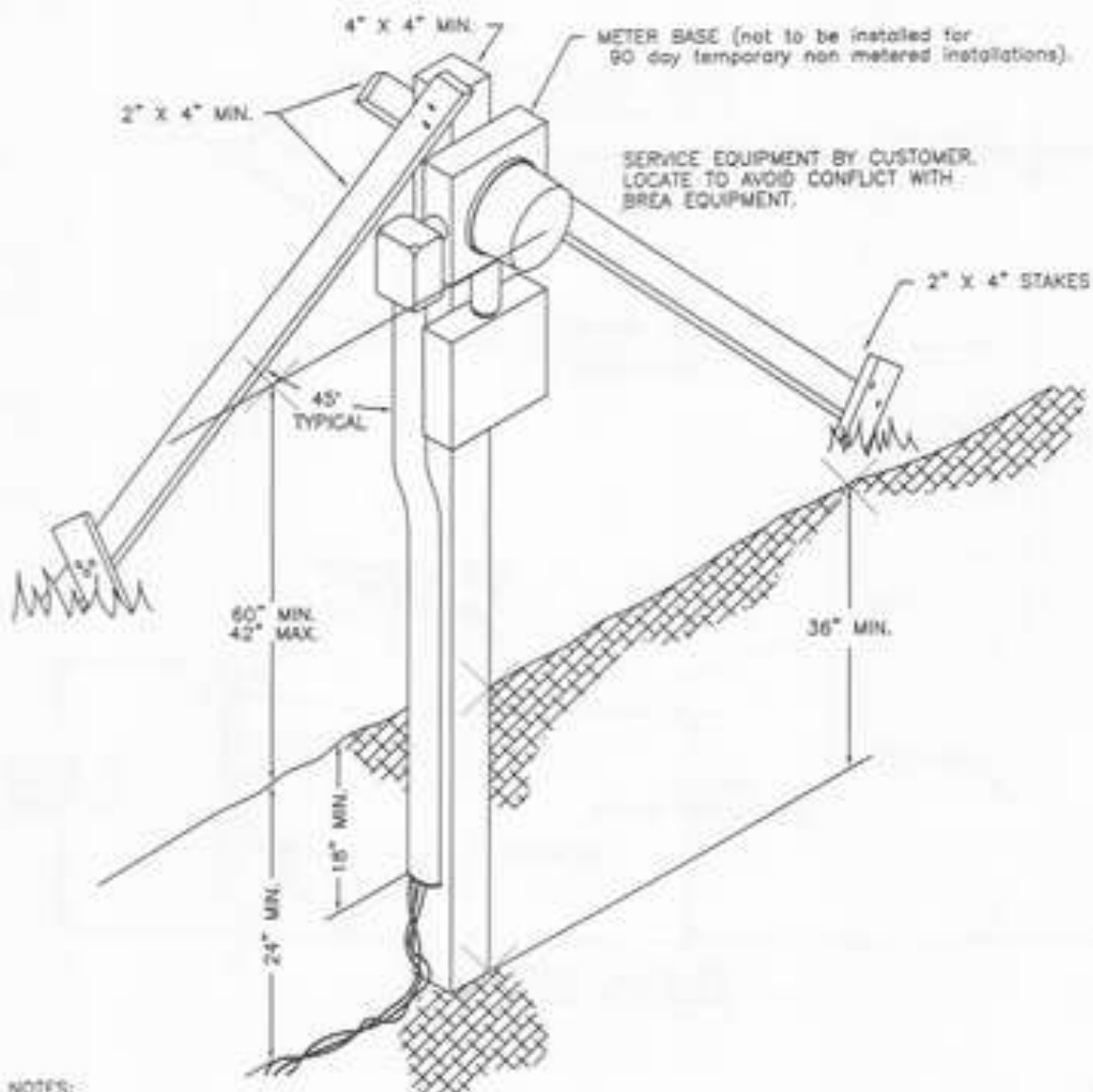
Notes:

- Any Service That Exceeds The 50' Maximum Must Be Reviewed By BREX Engineering. Any Exceptions Will Be On A Case By Case Basis.
- Customer's Temporary Service Pole May Be Of 4" x 4" Solid Lumber or Two 2" x 4" Laminated Together. (4" x 4" Overall Will Be The Minimum Acceptable.)
- Braces Should Be Of 2" x 4" Lumber With Stakes Solidly Driven Into Ground And Firmly Attached To Braces.
- Temporary Service Arrangement And Equipment To Be "Approved For Service" By The State Electrical Inspector Before BREX Will Connect.
- The Member Shall Notify BREX As To When Service Is Requested.
- Details Shown Reflect the Minimum BREX Requirements And Are Not Intended To Depict Washington State Labor And Industries Requirements.
- Non metered temporary service is available for 90 days with a non refundable fee. Please contact BREX for details. (See Section 2.04)

Scale: No Scale
Revision Date: 10/13/04
Drawn by: C. Isley
Drawing Name: TS-01.dwg

Temporary Service Requirements
Overhead Feed

**BENTON
REA**
THE COOPERATIVE WAY



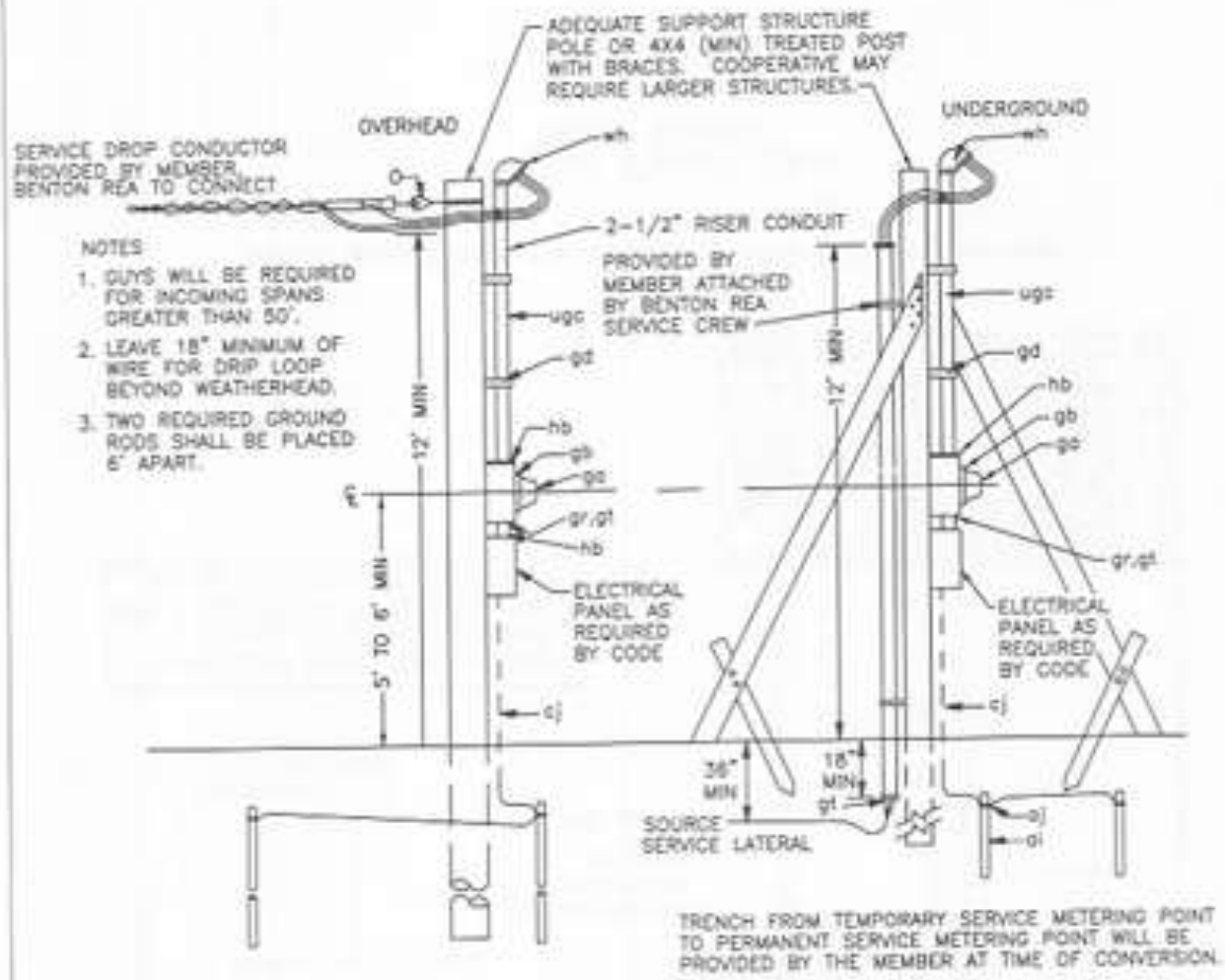
NOTES:

- 48 HOURS PRIOR TO DIGGING PHONE 1-800-424-5555 FOR CABLE LOCATE IN BENTON COUNTY
1-800-553-4344 FOR CABLE LOCATE IN YAKIMA COUNTY
- THE MEMBER SHALL PROVIDE ALL TRENCH AND BACKFILL TO WITHIN 3" OF TRANSFORMER. CONTACT BENTON REA REPRESENTATIVE PRIOR TO TRENCHING, FOR COORDINATION.
- TEMPORARY SERVICE ARRANGEMENT AND EQUIPMENT MUST BE "APPROVED FOR SERVICE" BY THE STATE ELECTRICAL INSPECTOR BEFORE BENTON REA WILL CONNECT THE SERVICE.
- THE MEMBER SHALL NOTIFY BENTON REA A MINIMUM OF 2 WEEKS PRIOR TO WHEN SERVICE IS REQUIRED.
- TEMPORARY POWER CONNECTIONS SHALL NOT BE MADE THROUGH PERMANENT SERVICE STUB-OUTS.
- DETAILS SHOWN HEREON REFLECT MINIMUM BENTON REA REQUIREMENTS AND ARE NOT INTENDED TO DEPICT WASHINGTON STATE LABOR AND INDUSTRIES REQUIREMENTS.
- NON METERED TEMPORARY SERVICE IS AVAILABLE FOR 90 DAYS WITH A NON REFUNDABLE FEE. PLEASE CONTACT BENTON REA FOR DETAILS. (SEE SECTION 2.04)

Scale: No Scale
Revision Date: 10/13/04
Drawn by: C. Isley
Drawing Name: TS-02.dwg

Temporary Service Requirements
for Underground Service

**BENTON
REA**
THE COOPERATIVE WAY



ITEM	OH	UG	MATERIAL	ITEM	OH	UG	MATERIAL
gb	1	1	METER BASE	g9		1	INSULATED BUSHING WITH GROUND, SIZE AS REQUIRED
go	1	1	METER				
uqc			CONDUIT, DIAMETER AND LENGTH AS REQUIRED	wh	1	1	WEATHERHEAD
hb	2	2	HUB	o	1		EYEBOLT
gr	2	2	CONDUIT LOCKNUTS, SIZE AS REQUIRED	oi	2	2	GROUND ROD, 5/8" x 8'
gt	1	2	INSULATED BUSHING	oj	2	2	CLAMP, GROUND ROD
gd			PIPE STRAP, AS REQUIRED	cj			#6 COPPER GROUND WIRE

Scale: No Scale
 Revision Date: 09/29/04
 Drawn by: C. Isley
 Drawing Name: TS-03.dwg

Temporary Service

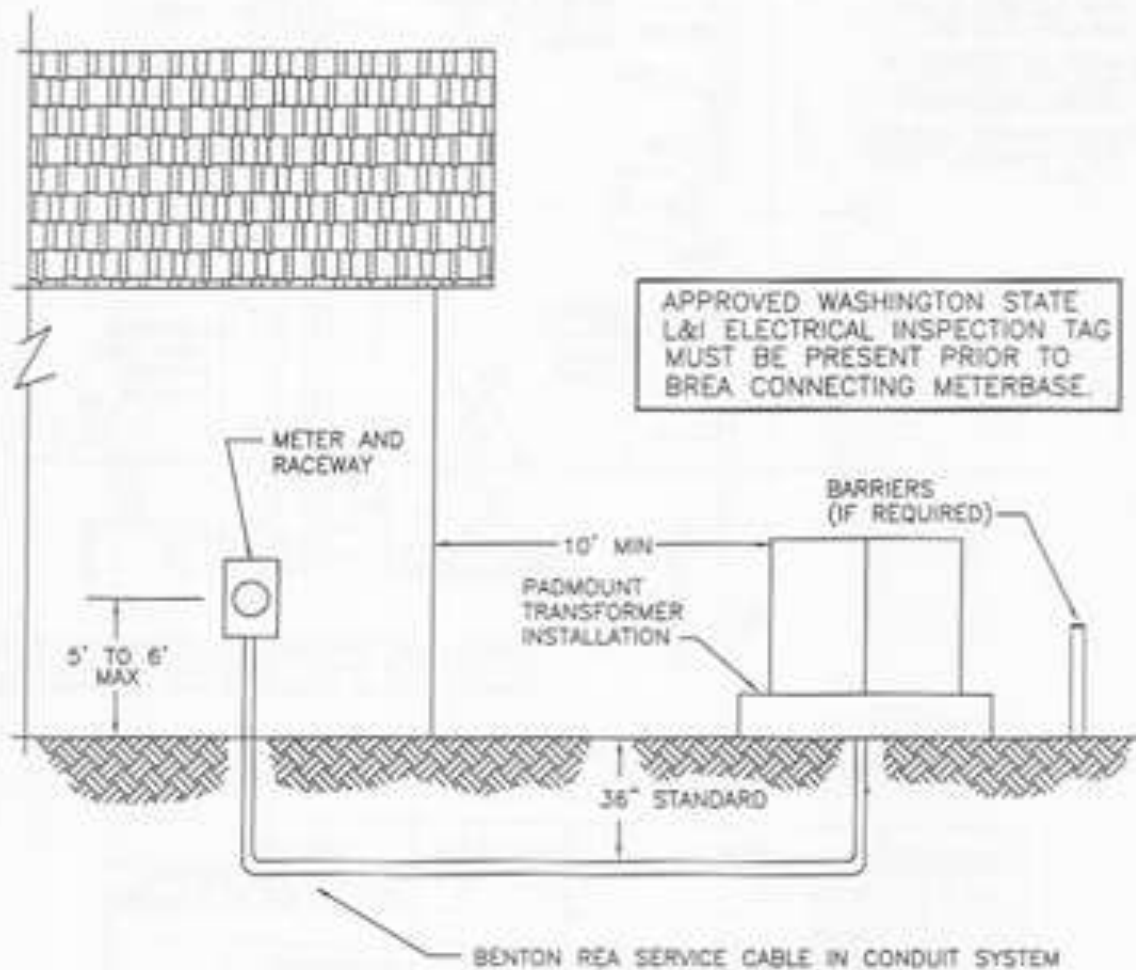
120/240 Volt Single Phase

**BENTON
REA**
THE COOPERATIVE WAY

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SERVICE DETAIL
SINGLE-FAMILY DWELLING

MEMBER-SUPPLIED TRENCH AND BENTON REA UNDERGROUND SERVICE



NOTE:

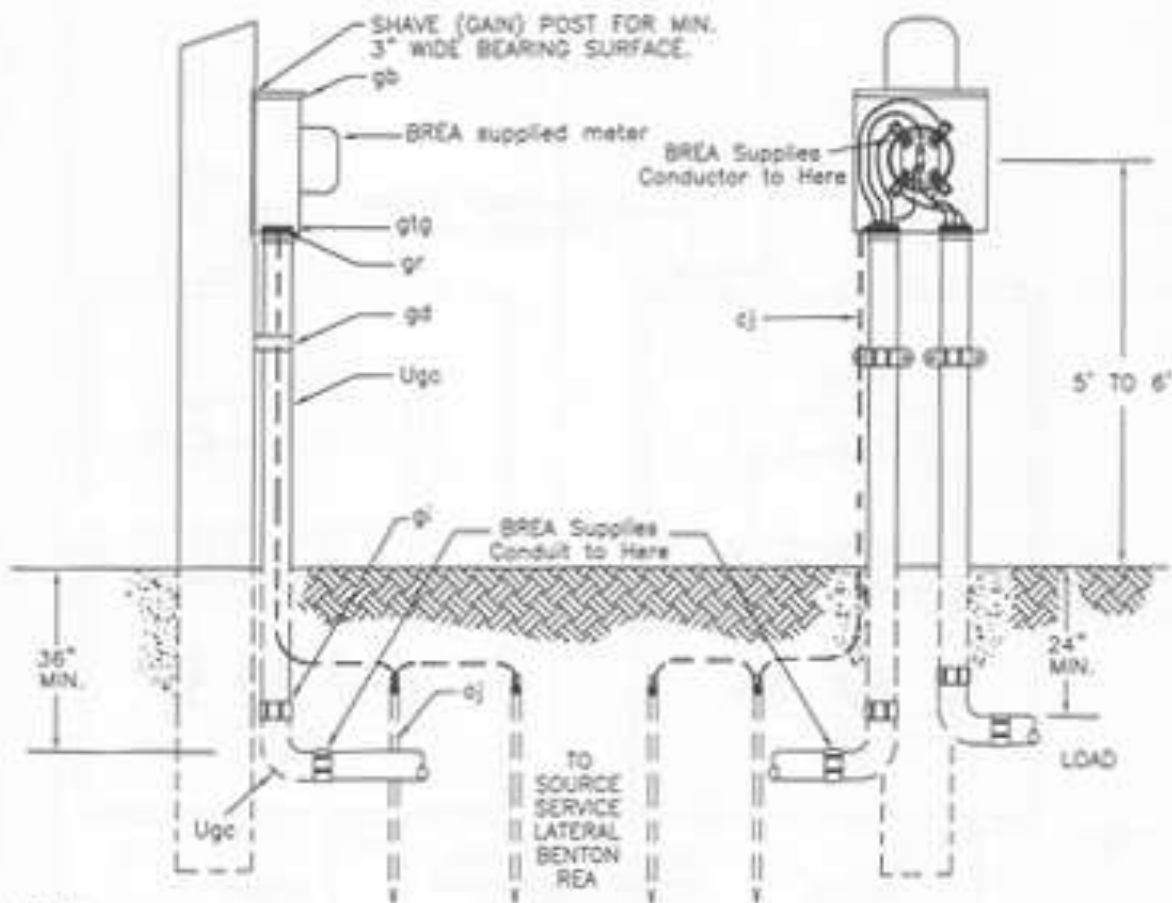
BENTON REA TO INSTALL CONDUIT AND CONDUCTOR IN MEMBER FURNISHED TRENCH.
BENTON REA MAY ALLOW LESS THAN 10' CLEARANCE NEXT TO NON COMBUSTIBLE BUILDINGS
CONSULT BENTON REA ENGINEERING DEPARTMENT BEFORE PLACEMENT.

Scale: No Scale
Revision Date: 09/29/04
Drawn by: G. Isley
Drawing Name: MS-04.dwg

Underground Service

**BENTON
REA**
THE COOPERATIVE WAY

Sheet 1 of 1 Page: SR-7



NOTE :

1. SERVICE MUST BE GROUNDED PRIOR TO BENTON REA ENERGIZING SERVICE.
2. ELECTRICAL INSPECTION PERMIT TAG MUST BE OBTAINED PRIOR TO BEING PLACED ON THE CONSTRUCTION SCHEDULE OR ENERGIZING THE SERVICE.
3. CONDUIT ATTACHMENTS ARE SHOWN FOR STEEL CONDUIT.
4. METER INSTALLATION SHALL NOT BE ON DRIVEWAY SIDE OF HOUSE OR POLE.
5. 3" CONDUIT FOR 200 AMP SERVICE.
6. 4" CONDUIT FOR 400 AMP SERVICE.
7. THE TWO REQUIRED GROUND RODS SHALL BE PLACED 6' APART.
8. MEMBER INSTALLED CONDUIT MUST BE INSPECTED BY WASHINGTON STATE L&I.

ITEM NO.	MEMBER SUPPLIED MATERIAL
	1 WOOD POST - TREATED.
gb	1 METER BASE
Ugc	CONDUIT, 3" MIN. (OR AS REQ'D BY CODE) DIA., GRS. OR SCHEDULE 80 PVC AND IMC.
Ugs	90° CONDUIT SWEEP, SIZED TO NEC CODE REQUIREMENTS, MIN. RADIUS 24"
gr	CONDUIT LOCKWIRE, SIZE AS REQUIRED
gc	CONDUIT COUPLING
grg	INSULATED BUSHING WITH GROUND, SIZE AS REQUIRED.
gd	PIPE STRAPS
oj	GROUND ROD, 5/8" x 6", WITH CLAMP
cj	#6 COPPER GROUND WIRE

CONTACT BENTON REA FOR CONDUIT SIZE.

Scale: No Scale

Revision Date: 09/29/04

Drawn by: C. Bley

Drawing Name: MS-05.dwg

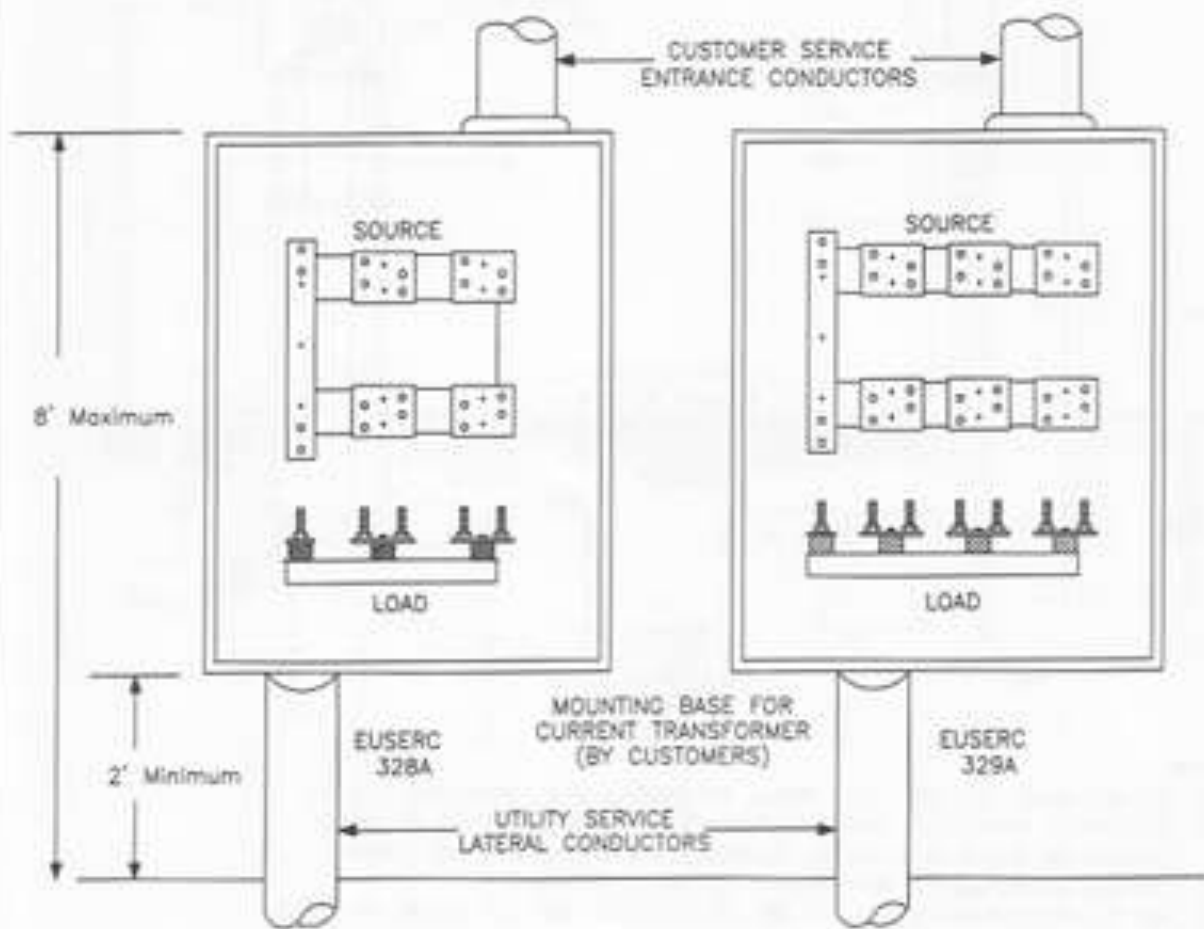
Meter Pedestal Wood Post

**BENTON
REA**
THE COOPERATIVE WAY

Sheet 1 of 1

Page:

SR-8



<u>PHASE</u>	<u>AMPACITY</u>	<u>MINIMUM ENCLOSURE SIZE</u>	<u>50,000 AIC MOUNTING BASE</u>
1	800 Amps Maximum	24 X 48 X 11	EUSERC 328A
3	800 Amps Maximum	36 X 48 X 11	EUSERC 329A

NOTE:

WHEN THE SERVICE SIZE EXCEEDS 800 AMP, CONSULT BRE ENGINEERING DEPARTMENT, INCLUDE PANEL SCHEDULE, NUMBER OF AND SIZE OF CONDUCTORS ON LOAD SIDE OF C.T. COMPARTMENT.

Scale: No Scale

Revision Date: 09/29/04

Drawn by: C. Isley

Drawing Name: CT-01A.dwg

Current Transformer (C.T.) Compartment Requirement

**BENTON
REA**
THE COOPERATIVE WAY

Sheet 1 of 2

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Notes: (Consult Benton REA Regarding Any Exceptions To These Requirements.)

1. Consult BREA For Available Fault Current Before Purchasing Electric Service Equipment.
2. Cabinet Covers Shall Be Sealable.
3. Cabinets Shall Be Raintight.
4. Cabinets of 30 X 48 X 11, Or Larger, Shall Have Hinged Cover.
5. Benton REA Will Provide CTs For Member To Install.
6. Member Shall Provide And Install Cabinet Enclosure And C. T. Mounting Brace.
7. The Maximum Number Of Load Conductors Per Phase Into The Cabinet, Itself, Is Limited To Two (2) Without BREA Engineering Approval.
8. Benton REA Will Make Up The Line Side Connections. Check With BREA Regarding The Load Side Connections.
9. Check With BREA For Alternate Conduit Locations.
10. Only Conductors Associated With Metering Or Grounding Shall Be Permitted In The Current Transformer Enclosure. No Connections Shall Be Made In Any Current Transformer Enclosure To Supply Any Other Meter.
11. Consult With BREA Engineering On CT Compartment Location. If Possible, Meter Base Shall Be Located Within Two Feet (2') Of CT Compartment. No Condulets or Junctions Are Allowed In Meter Conductor Conduit, And Not More Than 270 Degrees In Bends Will Be Allowed.
12. Where Current Transformers Or Other Equipment Is Installed In A Location Where It Might Be Struck By A Motorized Vehicle, The Customer Is To Install And Maintain BREA Approved Barrier Posts To Protect The Equipment.

Scale: No Scale

Revision Date 09/29/04

Drawn by: C. Isley

Drawing Name CT-01B.dwg

Current Transformer (C.T.)
Compartment Requirement

Sheet 2 of 2

**BENTON
REA**
THE COOPERATIVE WAY

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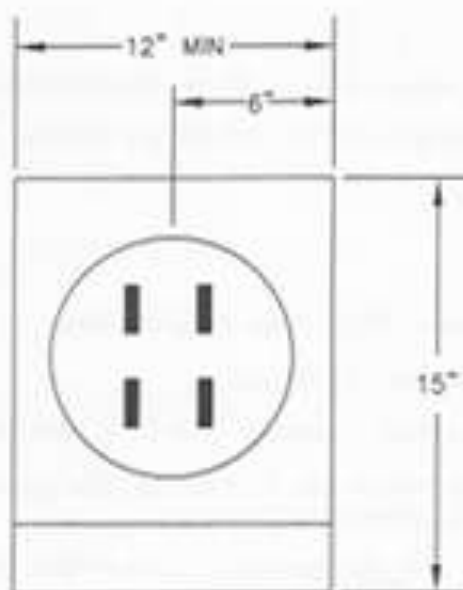


FIGURE 1
4 TERMINAL

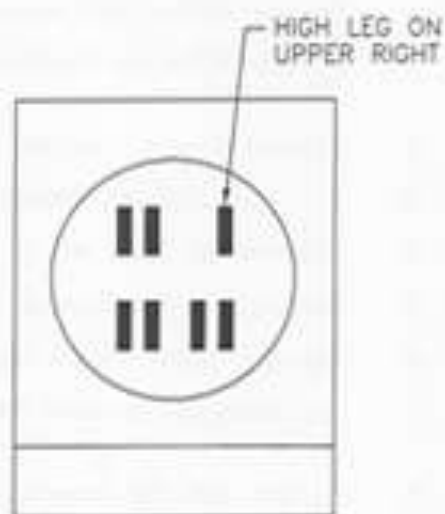


FIGURE 2
7 TERMINAL

- 120/240V, 1 PHASE, 3 WIRE
- 240/480V, 1 PHASE, 3 WIRE
- 120/208V, 3 PHASE, 4 WIRE
- 277/480V, 3 PHASE, 4 WIRE
- 120/240V, 3 PHASE, 4 WIRE

200 AMP APPROVED METER BASES OR EQUAL

MILBANK U4518-XL-W
CIRCLE AW U204
CIRCLE AW UG204-F-M582
CIRCLE AW UG204 - M582
MILBANK U4015 - O

MILBANK U3328-RXL
CIRCLE AW U207

320 AMP APPROVED METER BASES OR EQUAL

MILBANK U3548-O or U3548-X
CIRCLE AW 324N

Note: Provided for Residential Use Only Under Special Conditions
See 1.05 TYPES OF SERVICES

Scale: No Scale

Revision Date: 09/29/04

Drawn by: C. Isley

Drawing Name: MB-01.dwg

Meter Bases
100 to 320 Amp Service

**BENTON
REA**
THE COOPERATIVE WAY

Sheet 1 of 1

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FIGURE 3

6 TERMINAL
CURRENT TRANSFORMER

- 120/240V, 1 PHASE, 3 WIRE

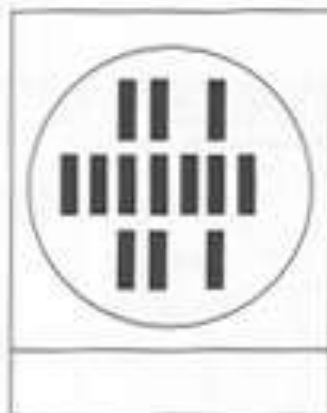


FIGURE 4

13 TERMINAL
CURRENT TRANSFORMER

- 120/208V, 3 PHASE, 4 WIRE
- 277/480V, 3 PHASE, 4 WIRE
- 120/240V, 3 PHASE, 4 WIRE

APPROVED METER BASES OR EQUAL

MILBANK UC3436-XL

CIRCLE AW 12146

MILBANK UC3433-XL

CIRCLE AW 121413

NOTES:

1. ALL C.T. METER BASES MUST BE EXCHANGED FOR A PREWIRED BASE FROM BENTON REA OR MAY BE PURCHASED FROM BENTON REA. IT IS THE INSTALLERS RESPONSIBILITY TO NOTIFY BENTON REA 3 WORKING DAYS PRIOR TO DATE OF REQUESTED METER BASE EXCHANGE.
2. BENTON REA WILL NOT WIRE TEST SWITCHES IN THE FIELD.
3. THE REQUIRED CURRENT TRANSFORMERS WILL BE PROVIDED WITH THE PREWIRED EXCHANGED METER BASE.

Scale: No Scale

Revision Date: 09/29/04

Drawn by: C. Isley

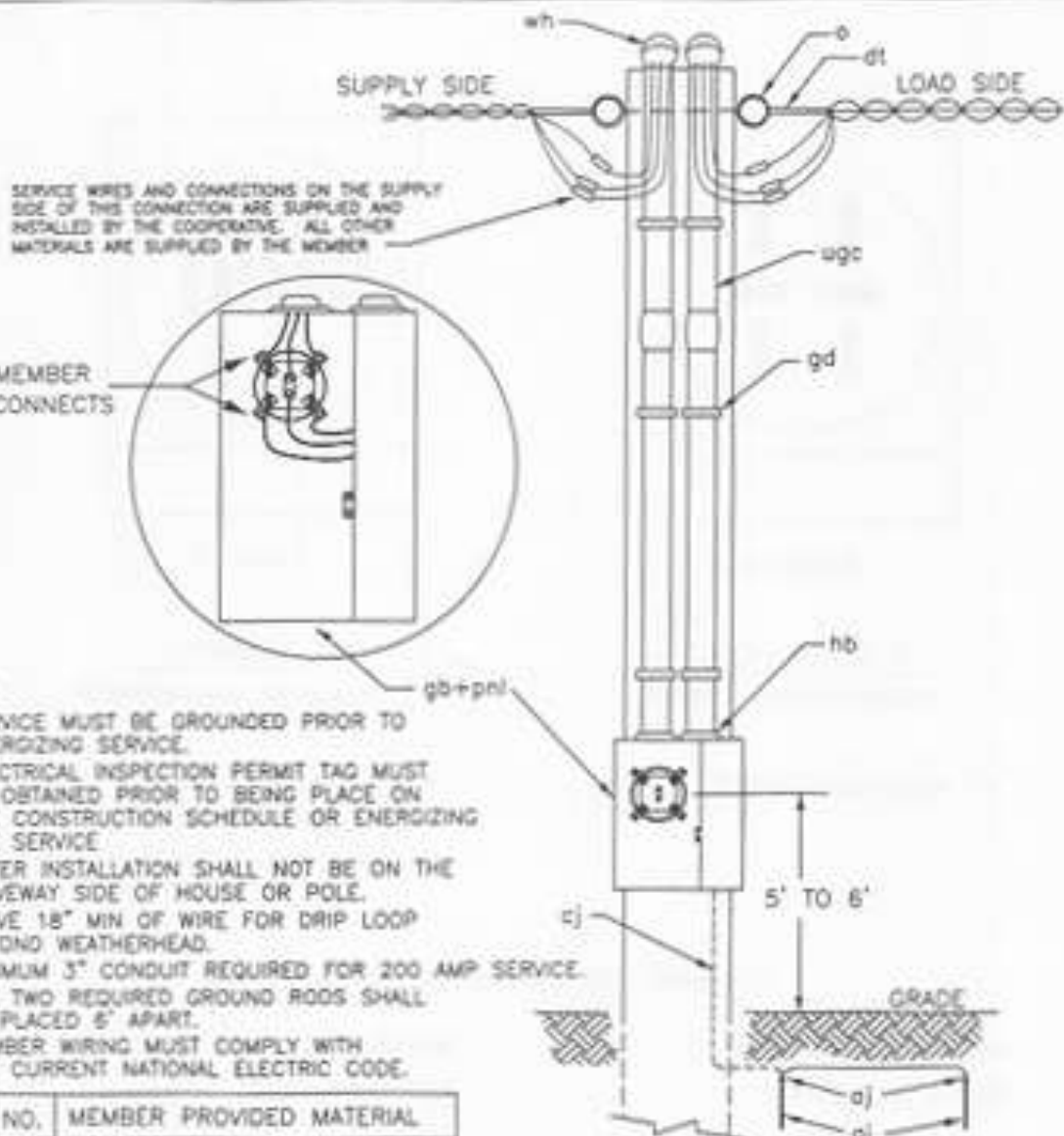
Drawing Name: MB-02.dwg

Meter Bases
for
Current Transformer Installations

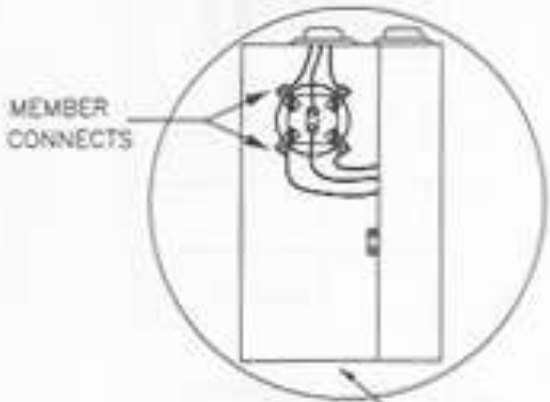
Sheet 1 of 1

**BENTON
REA**
THE COOPERATIVE WAY

Page: SR-12



SERVICE WIRES AND CONNECTIONS ON THE SUPPLY SIDE OF THIS CONNECTION ARE SUPPLIED AND INSTALLED BY THE COOPERATIVE. ALL OTHER MATERIALS ARE SUPPLIED BY THE MEMBER



NOTES:

1. SERVICE MUST BE GROUNDED PRIOR TO ENERGIZING SERVICE.
2. ELECTRICAL INSPECTION PERMIT TAG MUST BE OBTAINED PRIOR TO BEING PLACE ON THE CONSTRUCTION SCHEDULE OR ENERGIZING THE SERVICE.
3. METER INSTALLATION SHALL NOT BE ON THE DRIVEWAY SIDE OF HOUSE OR POLE.
4. LEAVE 18" MIN OF WIRE FOR DRIP LOOP BEYOND WEATHERHEAD.
5. MINIMUM 3" CONDUIT REQUIRED FOR 200 AMP SERVICE.
6. THE TWO REQUIRED GROUND RODS SHALL BE PLACED 5' APART.
7. MEMBER WIRING MUST COMPLY WITH THE CURRENT NATIONAL ELECTRIC CODE.

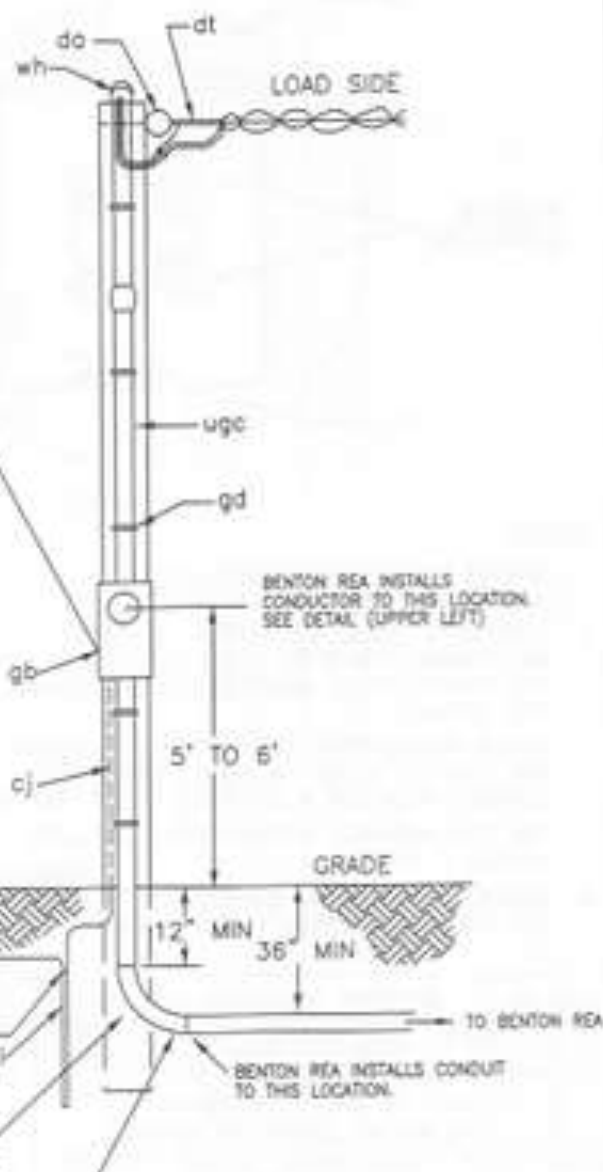
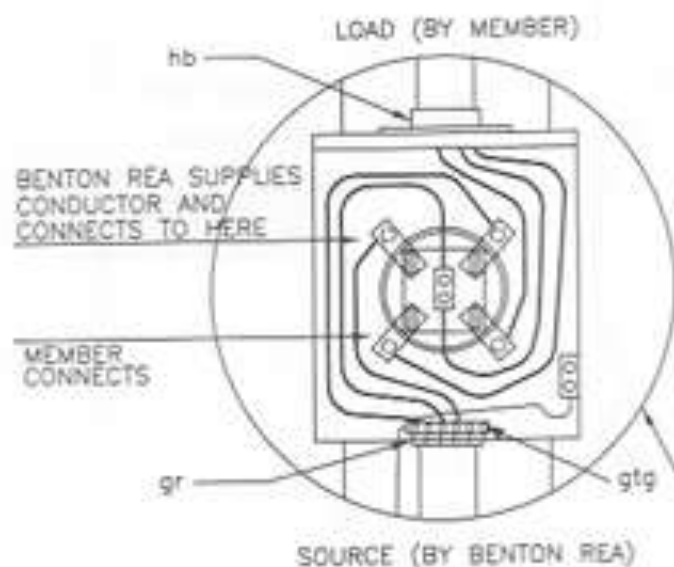
ITEM	NO.	MEMBER PROVIDED MATERIAL
gb+pnl	1	METER BASE W/PANEL
hb	2	HUB
ugc	as req'd	CONDUIT, 3" MIN. (OR AS REQ'D BY CODE) DIA. GALVANIZED RIGID CONDUIT
qs	as req'd	PIPE STRAPS
o	1	EYEBOLT WITH INSULATED SPOOL
wh	2	WEATHERHEAD
gr	2	GROUND ROD, 5/8" x 8'
aj	2	CLAMP, GROUND ROD
cj	as req'd	#6 COPPER GROUND WIRE
dt	1	WEDGE CLAMP, SERVICE DEADEND (OTHER SUPPLIED BY BREA)

0-320 AMP

Scale: No Scale
 Revision Date: 09/29/04
 Drawn by: C. Isley
 Drawing Name: MS-06.dwg

Meter With Panel Installation
 Guide For Overhead Source
 And Overhead Load

**BENTON
 REA**
 THE COOPERATIVE WAY



NOTES:

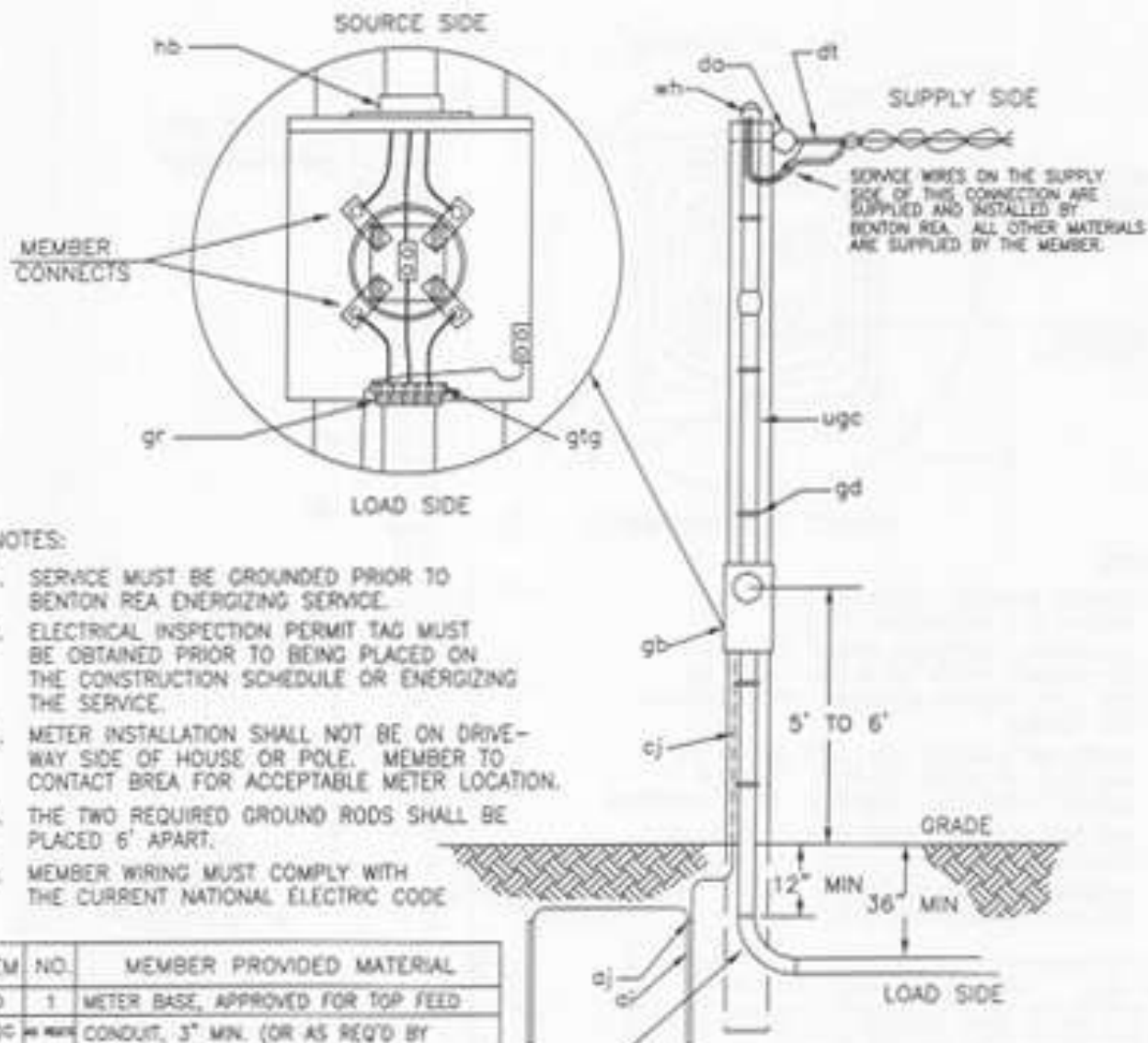
1. SERVICE MUST BE GROUNDED PRIOR TO BENTON REA ENERGIZING SERVICE.
2. ELECTRICAL INSPECTION PERMIT TAG MUST BE OBTAINED PRIOR TO BEING PLACED ON THE CONSTRUCTION SCHEDULE OR ENERGIZING THE SERVICE.
3. METER INSTALLATION SHALL NOT BE ON DRIVEWAY SIDE OF HOUSE OR POLE. MEMBER TO CONTACT BREA FOR ACCEPTABLE METER LOCATION.
4. THE TWO REQUIRED GROUND RODS SHALL BE PLACED 6' APART.
5. MEMBER WIRING MUST COMPLY WITH THE CURRENT NATIONAL ELECTRIC CODE.

ITEM NO.	MEMBER PROVIDED MATERIAL
qb	1 METER BASE, APPROVED FOR BOTTOM FEED
ugc	as req'd CONDUIT, 3" MIN. (OR AS REQ'D BY CODE) DIA. GRS. OR SCHEDULE 80 PVC AND IMC, LENGTH AS REQUIRED
ugc	1 CONDUIT SWEEP, 24" MIN RADIUS
gr	2 CONDUIT LOCKNUTS, SIZE AS REQ'D
gtg	1 INSULATED BUSHING W/GROUND
hb	1 HUB
gd	as req'd PIPE STRAPS
wh	1 WEATHERHEAD
g	2 GROUND ROD, 5/8" x 8'
aj	2 CLAMP, GROUND ROD
cj	as req'd #6 COPPER GROUND WIRE
do	1 EYEBOLT WITH INSULATED SPOOL
dt	1 WEDGE CLAMP, SERVICE DEADEND

Scale: No Scale
 Revision Date: 09/29/04
 Drawn by: C. Jolley
 Drawing Name: MS-07.dwg

Meter Installation Guide
 Underground Source to
 Overhead Load

**BENTON
 REA**
 THE COOPERATIVE WAY



NOTES:

1. SERVICE MUST BE GROUNDED PRIOR TO BENTON REA ENERGIZING SERVICE.
2. ELECTRICAL INSPECTION PERMIT TAG MUST BE OBTAINED PRIOR TO BEING PLACED ON THE CONSTRUCTION SCHEDULE OR ENERGIZING THE SERVICE.
3. METER INSTALLATION SHALL NOT BE ON DRIVEWAY SIDE OF HOUSE OR POLE. MEMBER TO CONTACT BREA FOR ACCEPTABLE METER LOCATION.
4. THE TWO REQUIRED GROUND RODS SHALL BE PLACED 6' APART.
5. MEMBER WIRING MUST COMPLY WITH THE CURRENT NATIONAL ELECTRIC CODE

ITEM NO.	MEMBER PROVIDED MATERIAL
gb	1 METER BASE, APPROVED FOR TOP FEED
ugc	CONDUIT, 3" MIN. (OR AS REQ'D BY CODE) DIA. ORS. OR SCHEDULE 80 PVC AND IMC, LENGTH AS REQUIRED
ugc	1 90° CONDUIT SWEEP, 3" MIN. SIZED TO FIT CONDUIT. MINIMUM RADIUS OF 24".
gr	2 CONDUIT LOCKNUTS, SIZE AS REQ'D.
gtg	1 INSULATED BUSHING W/GROUND
hb	1 HUB
gd	PIPE STRAPS
wh	1 WEATHERHEAD
dl	2 GROUND ROD, 5/8" x 8'
dj	2 CLAMP, GROUND ROD
cj	#6 COPPER GROUND WIRE

MEMBER SUPPLIED 90° SWEEP WITH 24" MINIMUM RADIUS

Scale: No Scale

Revision Date: 09/29/04

Drawn by: C. Isley

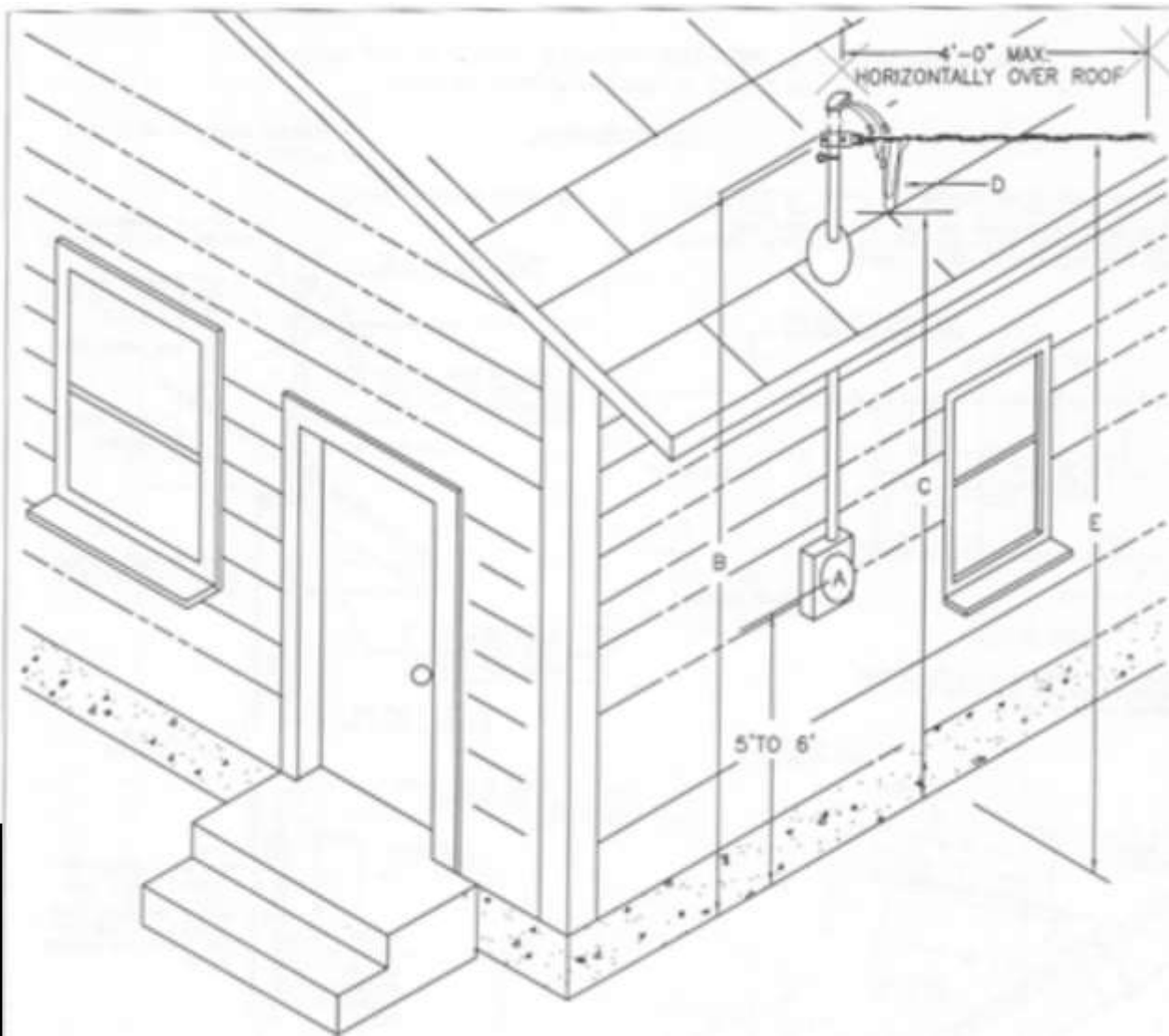
Drawing Name: MS-08.dwg

Meter Installation Guide
Overhead Source to
Underground Load

**BENTON
REA**
THE COOPERATIVE WAY

Sheet 1 of 1

Page: SR-15



METER LOCATION MUST BE APPROVED BY BENTON REA PRIOR TO INSTALLATION. SEE ARTICLE 2.03.
 POINT OF ATTACHMENT 12 FEET MINIMUM ABOVE FINISHED GRADE, OR FROM ANY PLATFORM OR PROJECTION FROM WHICH CONDUCTORS MAY BE REACHED.

THE OPEN CONDUCTORS OF THE SERVICE ENTRANCE MUST BE A MINIMUM OF 10 FEET ABOVE FINISHED GRADE, OR FROM ANY PLATFORM OR PROJECTION FROM WHICH THEY MAY BE REACHED.

THE CABLE AND DRIP LOOP MUST BE AT LEAST 18 INCHES ABOVE THE ROOF.

12 FOOT ABOVE FINISHED GRADE AND OVER RESIDENTIAL DRIVEWAYS, 18 FOOT OVER STREETS, AND AREAS SUBJECT TO TRUCK TRAFFIC.

NOTE: CLEARANCES B,C,D AND E ARE BASED ON THE CURRENT NATIONAL ELECTRIC CODE AND ARE APPLIED WHERE THE VOLTAGE IS LIMITED TO 150 VOLTS TO GROUND.

Scale: No Scale
Revision Date: 09/29/04
Drawn by: C. Isley
Drawing Name: LOC-01.dwg

Typical Residential Overhead Service

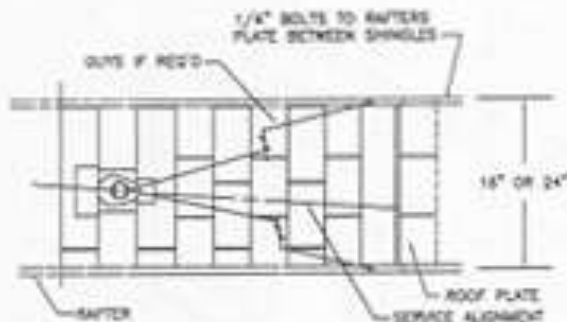
**BENTON
 REA**
 THE COOPERATIVE WAY

**SUGGESTED METHOD OF INSTALLING OVERHEAD SERVICE TO LOW BUILDINGS
(SELF-CONTAINED METERING-EXTERIOR METHOD)**

GUYED EXAMPLE

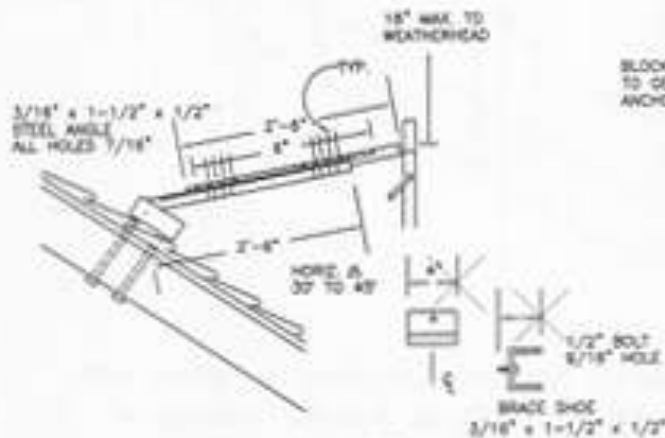
NOTE:

SERVICE MAST MUST BE MOUNTED ON SIDE NEAREST DISTRIBUTION POLE. CAN BE LOCATED NEAR REAR CORNER IF CLEAR PATH EXISTS BETWEEN SERVICE ATTACHMENT AND POLE. AVOID SERVICE WIRE OVERHANG OVER ROOF. OR PROVIDE CLEARANCE REQUIRED OVER ROOF. SERVICE ENTRANCE MUST BE RIGIDLY SECURED.

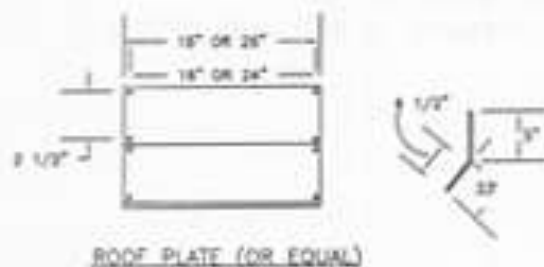


GUY DETAIL

ROOF PLATE MUST BE INSTALLED SO THAT SERVICE ALIGNMENT EXTENSION FALLS WITHIN ANGLE OF GUY.

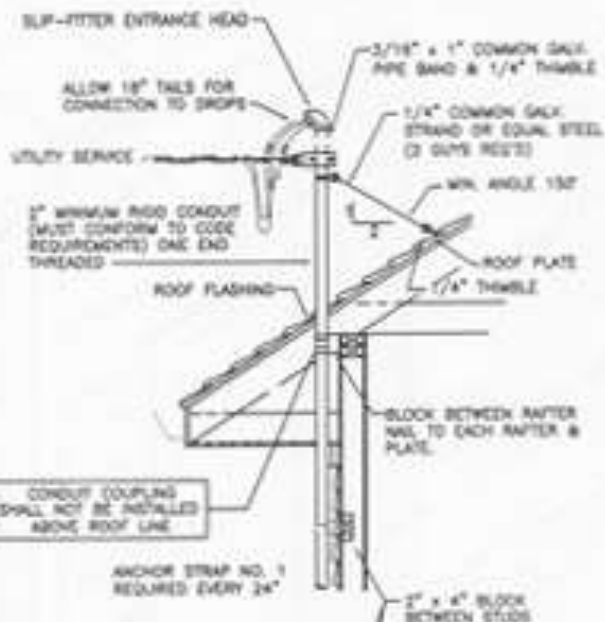


PUSH BRACE (2 REQ'D)
(OR EQUAL)



ROOF PLATE (OR EQUAL)

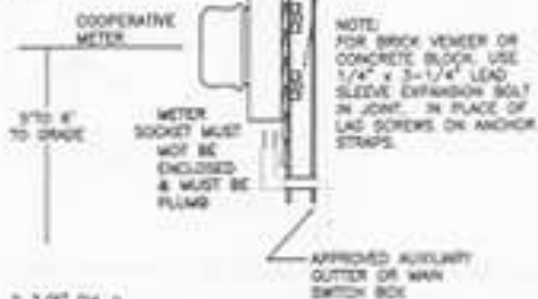
ALL FERROUS HARDWARE TO BE HOT DIP GALVANIZED



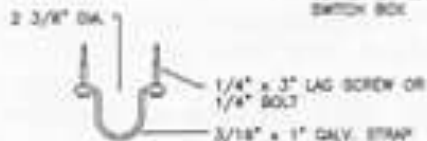
CONDUIT COUPLING SHALL NOT BE INSTALLED ABOVE ROOF LINE

ANCHOR STRAP NO. 1 REQUIRED EVERY 24"

BLOCK ON SIDING IF NECESSARY TO GET SOLID BEARING FOR ANCHOR STRAP.



NOTE: FOR BRICK VENEER OR CONCRETE BLOCK, USE 1/4\"/>



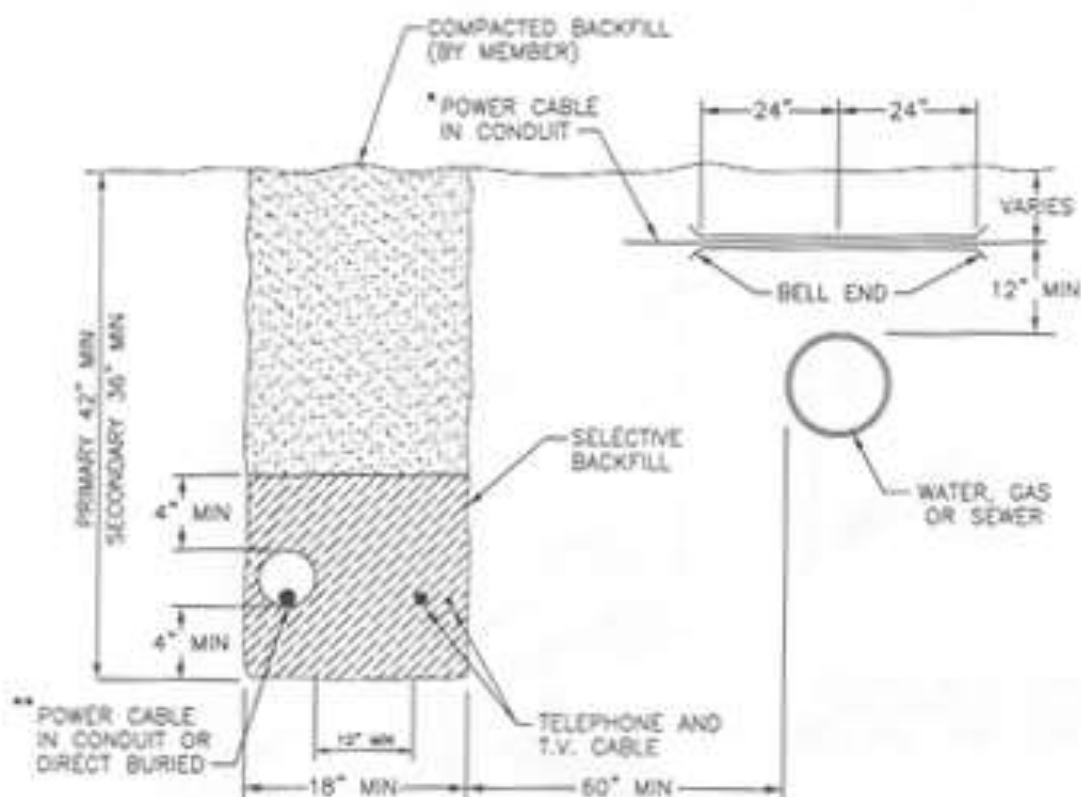
ANCHOR STRAP NO. 1
(OR EQUAL)

3/8\"/>

Scale: No Scale
Revised Date: 09/29/04
Drawn by: C. Isley
Drawing Name: MD-02.dwg

**Self-Contained Metering
Exterior Method**

**BENTON
REA**
THE COOPERATIVE WAY



NOTE: ALL TRENCHES ARE TO BE INSPECTED PRIOR TO BACKFILLING.

- * WHEN ELECTRICAL CONDUCTORS CROSS OVER OR UNDER WATER AND/OR GAS PIPES THERE SHALL BE A MINIMUM OF 12 INCHES VERTICAL SEPARATION. IN ADDITION, THE ELECTRICAL CONDUCTORS SHALL BE PROTECTED WITH NOT LESS THAN 48" OF SUITABLE P.V.C. OR RIGID STEEL CONDUIT WITH NO LESS THAN 24" ON EITHER SIDE OF THE CROSSING.

** P.V.C. SUITABLE WHERE PERMITTED.

Acceptable Primary Trench Depths:

18" TO 24"	RIGID STEEL WITH 6" CONCRETE SLURRY OVER CONDUIT.
24" TO 36"	SCHEDULE 80 PVC WITH 6" CONCRETE SLURRY OVER CONDUIT.
36" TO 42"	SCHEDULE 80 PVC
42" or More	SCHEDULE 40 PVC

Acceptable Secondary Trench Depths:

6" TO 18"	RIGID STEEL CONDUIT
18" TO 36"	SCHEDULE 40 PVC WITH 6" CONCRETE SLURRY OVER CONDUIT.
36" or MORE	SCHEDULE 40 PVC

* MEMBER INSTALLED CONDUIT MUST BE INSPECTED BY WASHINGTON STATE L&I.

Scale: No Scale

Revised Date: 09/29/04

Drawn by: C. Jolley

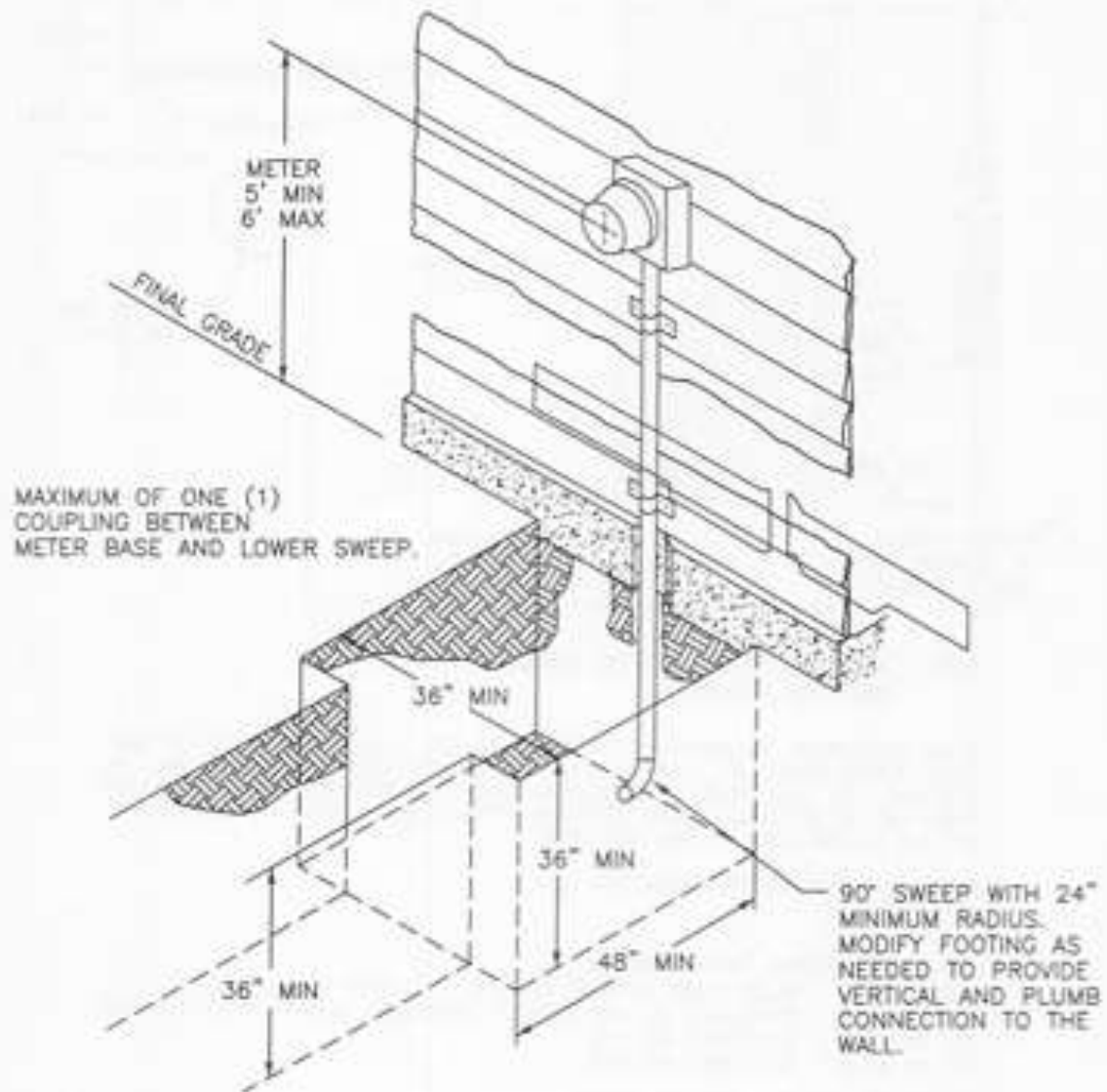
Drawing Name: TD-01.dwg

Underground Trench And Conduit Requirements

**BENTON
REA**
THE COOPERATIVE WAY

Sheet 1 of 1

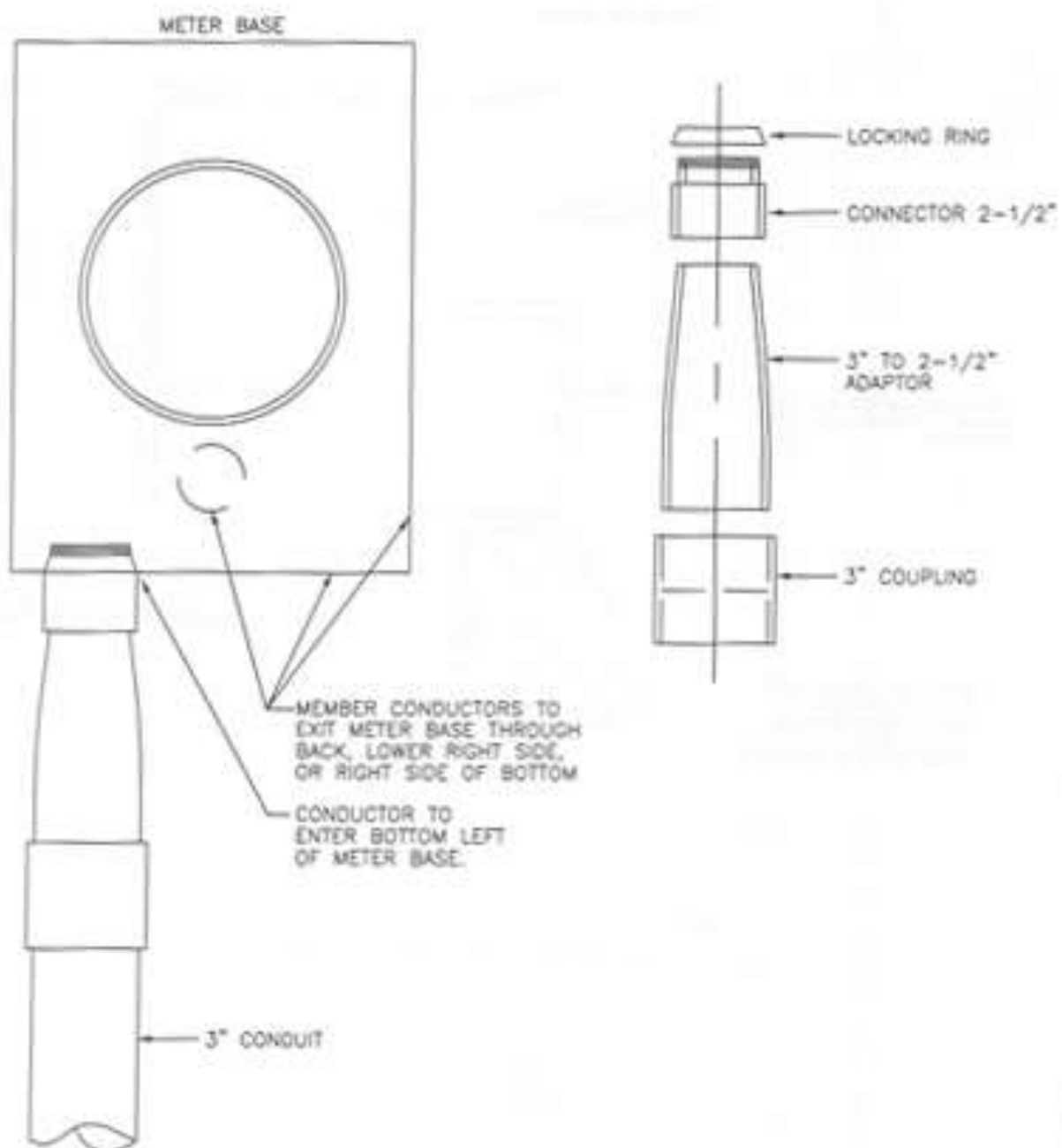
Page: SR-18



Scale: No. Scale	Residential Service Entrance Working Space (Provided by Member)	BENTON REA THE COOPERATIVE WAY
Revision Date: 09/29/04		
Drawn by: C. Isley		
Drawing Name: TD-02.dwg		
Sheet 1 of 1		Page: SR-19

NOTE:

CONDUIT ADAPTERS ARE REQUIRED WHENEVER THE MEMBER'S METER BASE DOES NOT HAVE PROVISIONS FOR 3 INCH CONDUIT.



Scale: No Scale

Revision Date: 09/29/04

Drawn by: C. Jaley

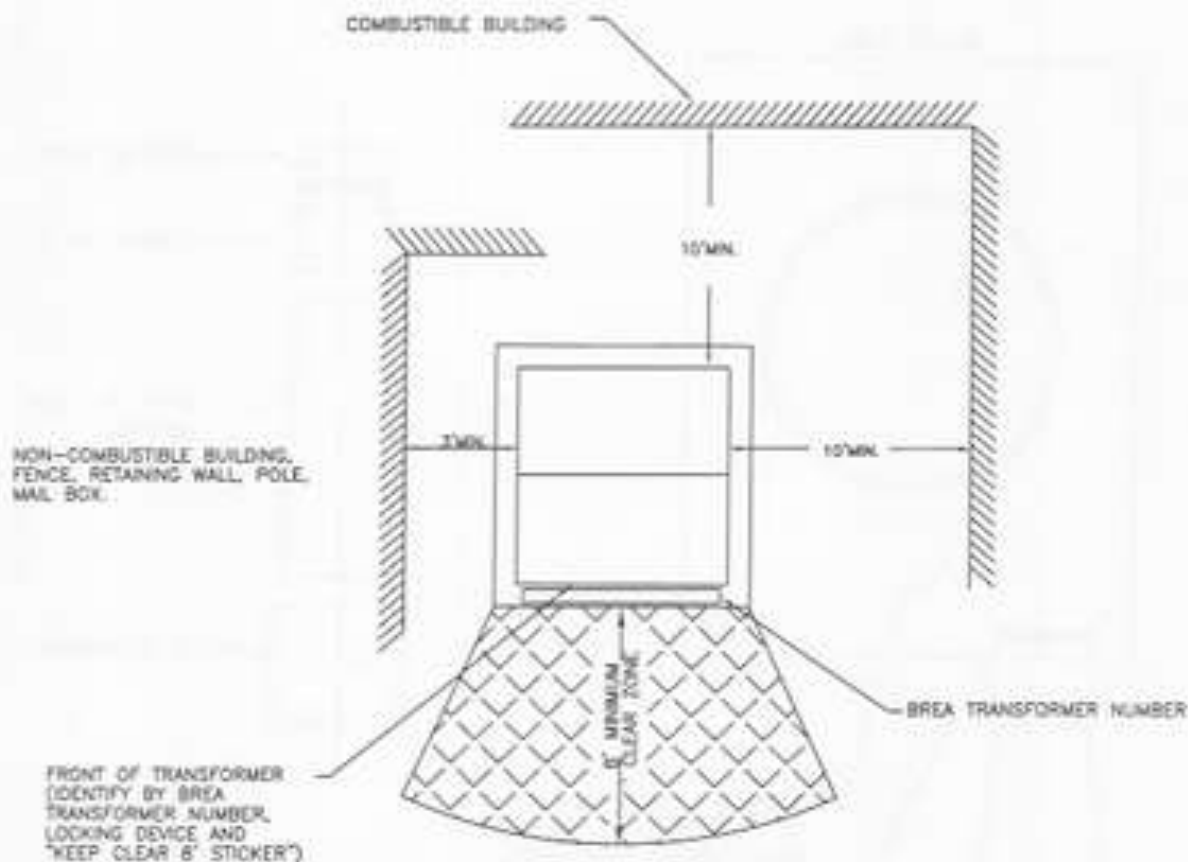
Drawing Name: MB-03.dwg

2.5" to 3" Conduit Adapter
for 200 Amp Meter Base

**BENTON
REA**
THE COOPERATIVE WAY

Sheet 1 of 1

Page: SR-20



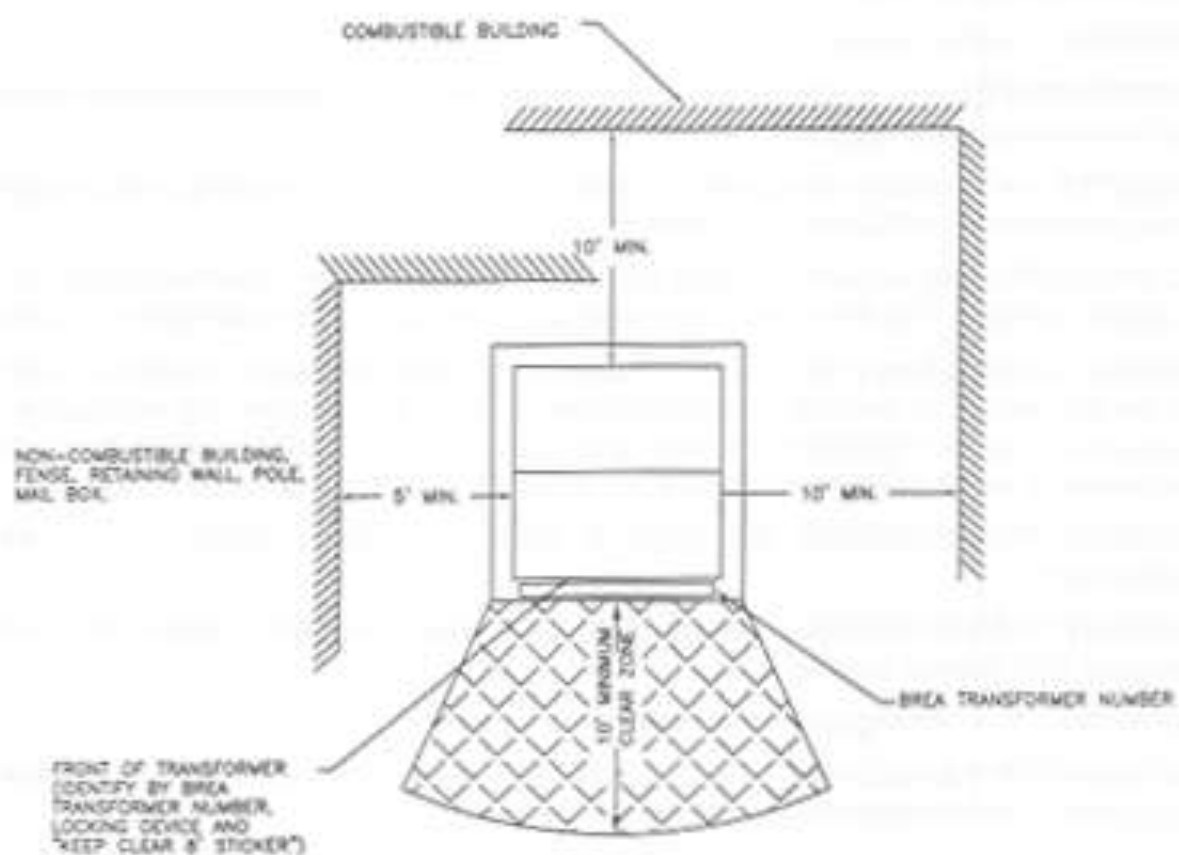
NOTES:

- NO OBSTRUCTIONS ALLOWED OVER TRANSFORMER

Scale: No Scale
Revision Date: 09/29/04
Drawn by: C. Isley
Drawing Name: TL-01.dwg

Typical Minimum Transformer
Clearance Requirements
Residential

**BENTON
REA**
THE COOPERATIVE WAY



NOTE:

- NO OBSTRUCTIONS ALLOWED OVER TRANSFORMER

Scale: No Scale

Revision Date: 09/29/04

Drawn by: C. Jaley

Drawing Name: TL-02.dwg

Typical Minimum Transformer
Clearance Requirements
Commercial

**BENTON
REA**
THE COOPERATIVE WAY

Sheet 1 of 1 Page: SR-22

GLOSSARY

AID TO CONSTRUCTION: A non-refundable sum of money that the member may be required to pay towards the construction of electrical facilities.

AMPACITY: The current-carrying capacity, expressed in amperes, of an electric conductor under stated thermal conditions.

AMPERES: A unit of current.

BARRIER POST: A post or structure strategically placed to physically protect electrical equipment from vehicular or other impact.

CABINETS: An enclosure designed for either surface or flush mounting, and provided with a frame on which hinged doors are fastened.

CONDUCTOR: A wire or combination of wires not insulated from one another, suitable for carrying an electric current. The conductor, depending upon application, may be bare or insulated.

CONDUIT: A hollow tube or duct used to house and protect electrical conductors. Note: Conduit may be designated as iron-pipe conduit, tile conduit, etc. If it contains only one tube or duct it is called single-duct; if it contains more than one tube or duct it is called multiple duct, usually with the number of tubes or ducts as a prefix, for example, two-duct multiple conduit.

CURRENT TRANSFORMER CABINET: A specially designed cabinet to enclose current transformers.

CURRENT TRANSFORMER: A device utilized to connect measuring instruments to either high voltage or high current conductors.

DISCONNECT: To disengage electric energy.

DISTRIBUTION PANEL: Also distribution center is the equipment wherein protective devices are located to protect low voltage and branch circuits.

GLOSSARY

EASEMENTS: A right or privilege a person or entity may have to access and to utilize for specific purposes another's property.

ENCLOSURE: A containment or structure designed to protect equipment and minimize the possibility, under normal conditions, of dangerous approach or accidental contact with equipment by persons or objects.

EUSERC: An acronym referring to the Electric Utility Service Equipment Requirements Committee that promotes uniform electric service requirements among utilities.

FAULT CURRENT: The minimum current that will be available if one energized conductor contacts another energized conductor or to ground.

GANGED METER INSTALLATION: An installation wherein more than one electric meter is installed and is connected to a single energy supply from the utility.

GUTTERS: A type of enclosure that is normally used for physically interconnecting cabinets.

INITIAL GRADE: The existing elevation of the earth or a structure before starting any construction activity.

FINISHED GRADE: The final elevation upon completion of the construction.

LUMINARIES: A complete lighting unit consisting of a lamp together with the parts designed to distribute light, to position and protect the lamp and to connect the lamp to the power supply.

METER SOCKET: The portion of the member's service entrance equipment that is designed to contain the electrical meter.

METERED LOAD: Any energy consumption that is metered and/or recorded.

PAD-MOUNTED TRANSFORMER: A general term describing enclosed transformers, which are installed at ground level and positioned at final grade.

PEDESTAL: An enclosure wherein the connection of underground conductors can be made.

PRIMARY VOLTAGE FACILITIES: Any facilities that involve voltage in excess of 600 volts.

RACEWAY: Any channel designed expressly and used solely for holding or enclosing conductors.

RATE CLASS: The definition of member/customer such as residential, seasonal, commercial, industrial, irrigation and street lighting, to which a specific rate is applied.

REACTIVE METERING: Measuring required to determine the power factor of the metered load.

RECONNECT: To engage electric energy.

RIGHT OF WAY: A strip of land authorized or identified for use by utilities.

SEAL: A locking device to prevent access or tampering of electric equipment.

SELF CONTAINED METERING INSTALLATION: A meter installation that does not require other devices such as current or potential transformers.

SERVICE DROP: The low voltage conductors between the electric supply and building or structure being served.

GLOSSARY

SERVICE MAST: The required parts and hardware to provide for electrical interconnection with the service drop and the member owned facilities which interconnect with the service entrance equipment with the building.

SERVICE ENTRANCE EQUIPMENT: The member supplied equipment that is necessary to interconnect with Benton REA.

SERVICE LATERALS: Conductors or circuits that extend from the utility's transformers.

SERVICE TRENCH: The member provided ditch or trench dug to association's specifications utilized for the placement of electrical conductors or conduits from the utility's transformer to the member's service entrance equipment.

SITE PLAN: A drawing that shows the building outline in relation to the property layout and reflects the point where electrical connections to buildings will be made..

SURFACE MOUNT: A term used to describe any electrical equipment or material that is mounted to the surface of a structure.

TEMPORARY SERVICE: A metered electric service to be used during construction of new facilities or other purposes for a short period of time. (normally not to exceed 90 days)

TRANSFORMER: A device normally used to increase or decrease voltage levels.

TRANSFORMER PAD: A concrete, fiberglass or other solid material slab that is used to support a pad-mounted transformer.

UNGROUNDING CONDUCTORS: Any conductor that is not connected to ground.

UNMETERED CONDUCTORS: Any conductors attached to the utility's conductors ahead of the metering device and therefore provides electrical service without being recorded.

WEATHER HEAD: A conduit cap placed upon the open end of a conduit through which conductors pass and is so constructed to prevent moisture from entering the conduit.