

# **INTERMOUNTAIN RURAL ELECTRIC ASSOCIATION**

**Builder/Developer  
Information**



**Revised 2009**

WELCOME TO  
INTERMOUNTAIN RURAL ELECTRIC  
ASSOCIATION!!

We understand that obtaining electrical facilities is only one of many tasks our consumers must achieve during the construction of a new residence or commercial facility. Therefore, it is our goal to provide the best customer service possible!

Please do not hesitate to contact our Engineering Services department with any questions or concerns at:

Sedalia office.....	303-688-3100
Woodland Park office.....	719-687-9277
Conifer office.....	303-674-6879
Strasburg office.....	303-622-9231

Providing us with the *work order* number or legal description of the property will help us answer your question promptly.

We look forward to serving you!

## Processing New Service Applications

There are two separate phases in the processing of each new service application. Each of the two phases requires that the applicant complete certain steps. This may involve supplying information about the requirements for electric service to the Association or completing certain actions at the construction site. In all cases, a delay in providing information needed for engineering or construction will delay the availability of electric service. Therefore, it is important that information is provided as needed, and all steps are completed as quickly as possible. This guideline is provided to assist the applicant with this process. Some requests may have unusual aspects not specifically described here. We look forward to serving you.

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### Phase I - Engineering

Initial contact with the Association will open a file, which identifies the owner as an applicant for new service. The information required in STEP 1 may be provided by fax, phone, email, or in person at our office. A *Contract Authorization* form will be submitted to the applicant requesting the items listed within STEP 1. Upon receipt of this signed document with proof of ownership and payment of the design fee, the work order will be released to the engineer.

#### STEP 1

- 1. Owner name to appear on all accounts.
- 2. Owner and builder current mailing address.
- 3. Street address of property, if available.
- 4. Legal description of property to which service is required.
- 5. Owner/builder telephone numbers, fax numbers, etc.
- 6. Overhead or underground service requirement.
- 7. Pay applicable design fee.
- 8. Proof of ownership. (Warranty Deed)

#### For commercial, industrial, and large residential services:

- 1. Copy of engineered electric one-line diagram with loads.
  - 2. Copy of site plan.
  - 3. Total electric demand.
  - 4. Largest motor(s) and type of motor starting to be used.
  - 5. Size and quantity of service entrance conductors.
- 

The engineer will contact the applicant at the phone numbers provided and arrange an on-site meeting to discuss the service requirements and explain the Association's policy and procedures. During the on-site meeting, the applicable items in STEP 2 will be discussed. Please be prepared to show plans, drawings, and building/well or septic permits to the engineer. A plat of the property may be required, and it may be necessary for the applicant to obtain right-of-way if the routing of the power line crosses a property on which the Association does not have easement. The Field Engineer will instruct the applicant in this regard, when necessary. The engineer will design, route, and stake the line extension at that time or later in certain situations.

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#### STEP 2

- 1. Location of property pins, including corner and point of line, if needed.
  - 2. Location of well, septic system, and leach field.
  - 3. Location of driveway or other access.
  - 4. Location of the house corners (REQUIRED).
  - 5. Location of the meter.
  - 7. Electric service requirements: voltage, amp size, phase.
  - 8. Right-of-way acquisition.
  - 9. Plat or property survey.
- 

### Phase II - Construction

When the design is complete, the Field Engineer will contact the applicant with a quote of the cost-of-construction. **Cost quotes are valid for 60 days. After that time, or if redesigns are required, payment of an additional design fee may be required.** The items shown within STEP 3 are required *before* a job can be released for construction. Once released, your job will be constructed as quickly as job backlog and working conditions allow.

#### STEP 3

- 1. Pay the costs of construction.
  - 2. Sign Construction Agreement or Indeterminate Contract.
  - 3. Sign a Membership Application.
  - 4. Submit signed rights-of-way, if required.
  - 5. Pay balances on other accounts, if any.
  - 6. Post the physical street address at the property.
- 

Following construction of power line facilities, the Association will set a meter in accordance with the stipulations shown in STEP 4. Typically, the meter can be set within five working days following the receipt of a meter release from the State or County Electrical Inspector. Other permitting requirements may apply to some jobs.

#### STEP 4

- 1. Meter loop constructed to current IREA specifications.
  - 2. Meter loop constructed in location approved by IREA.
  - 3. Meter loop inspected by the Electrical Inspector.
  - 4. Electrical Inspector notifies IREA of meter release.
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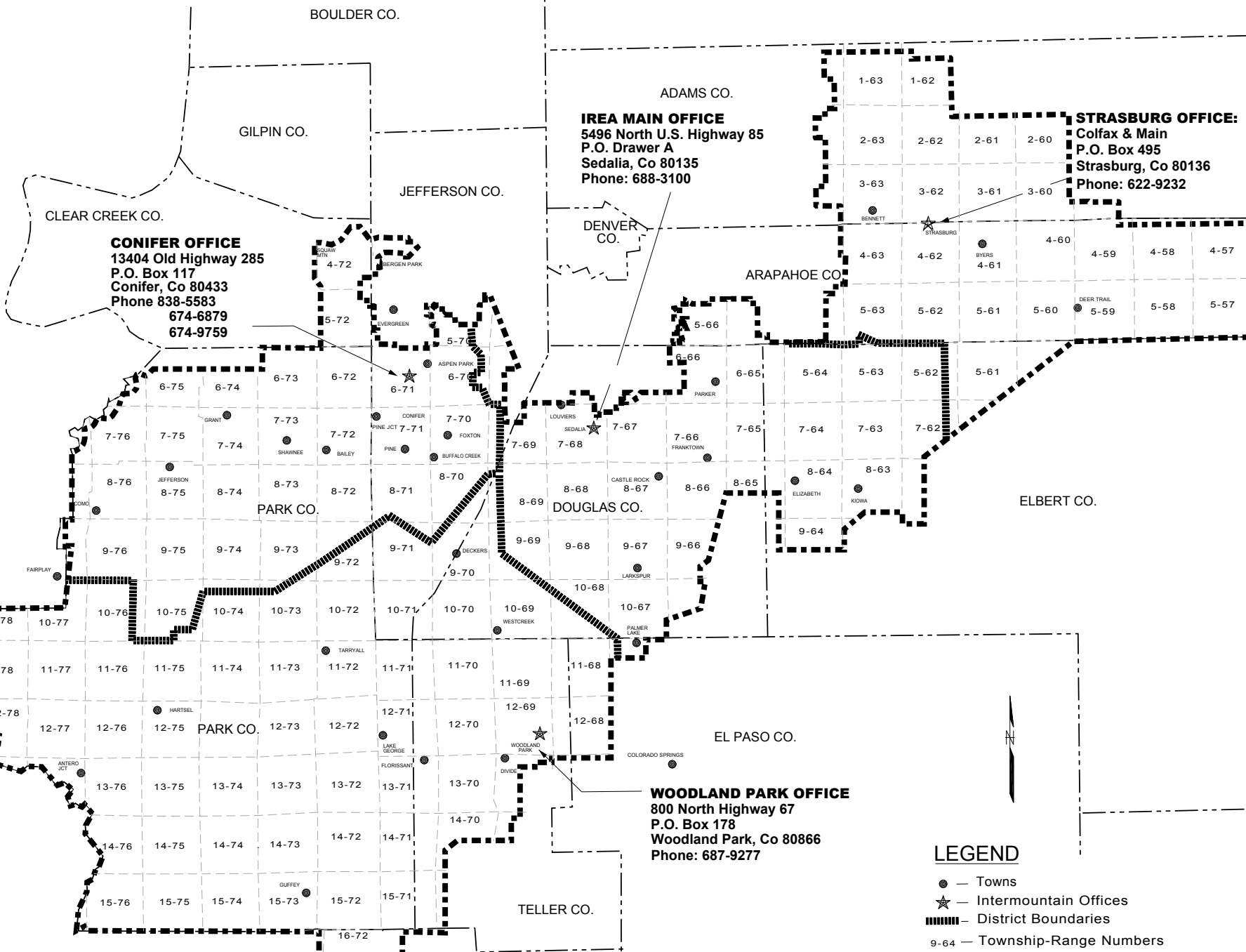
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- LEGEND**
- — Towns
  - ★ — Intermountain Offices
  - ▬ — District Boundaries
  - 9-64 — Township-Range Numbers

# IREA SERVICE AREA

# ELECTRIC SAFETY AND CODE CLEARANCES

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It is the policy of IREA to operate the transmission and distribution electric system with the highest degree of care and safety for the public and Association employees. To ensure the care and safety needed for an electrical distribution system, the National Electrical Safety Code (NESC) is used for design, construction, maintenance, and operation of the electrical transmission and distribution system by the Association. The current National Electrical Safety Code in effect at the time of distribution installation will apply. IREA reserves the right to terminate service without prior notice when a hazardous condition exists.

## Overhead/Underground Facilities:

Contact with electric lines can result in SEVERE INJURY OR DEATH! Federal OSHA standards and Colorado State Statutes require that all equipment be maintained at a minimum distance of ten (10) feet from overhead lines. If work near an overhead electric line is anticipated, contact the IREA Operations Department at (303) 688-3100 at least 24 hours in advance for assistance in avoiding contact with any energized facilities.

Any attachments to existing facilities that may violate the minimum clearances as determined by the National Electrical Safety Code must be reported (90) days prior to the Association by contacting the IREA Engineering Department at (303) 688-3100. Any person who proposes to change the grade of land that would result in conflict with minimum clearances must give ninety (90) days' prior notice of such action to the Association. If a violation has already occurred and the Association determines that relocating the existing facilities is necessary, the Association will perform this relocation at the expense of the party creating the violation. If the Association determines that relocation is not feasible, other alternatives will be considered; however, the Association will take the steps necessary to protect the safety of the public and the electric facilities at the expense of the party creating the clearance violation.

## Locating Facilities:

CALL BEFORE YOU DIG! Contact the Utility Notification Center at 1-800-922-1987 *before* you dig. Service personnel will locate Intermountain Rural Electric Association's electric facilities at no cost. Do not start grading or excavation work until an underground facilities' location has been completed.

CALL UTILITY NOTIFICATION  
CENTER OF COLORADO

**1-800-922-1987 or 811**

CALL 2 BUSINESS DAYS IN ADVANCE  
BEFORE YOU DIG, GRADE, OR EXCAVATE  
FOR THE MARKING OF UNDERGROUND  
MEMBER UTILITIES.

# RIGHTS-OF-WAY, EASEMENTS, AND ACCESS

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## Types of Easements:

The Association generally uses two types of easements:

1. A platted/dedicated easement is provided to the Association by virtue of a dedication's statement for every platted subdivision. A five-foot (5') side lot and eight-foot (8') rear lot easement are typical platted easements. However, if the subdivision is served by overhead facilities or if larger easements are necessary, the Association will require additional easements.
2. The Association requires the customer to grant, at no cost to the Association, easements for power lines and any associated equipment before any part of an electrical installation is energized. In the event the Association has to cross property other than that of the customer requesting service, the new customer will be required to obtain all easements. Please note that these easements may require a legal survey to be provided for documentation.

## General Restriction on Easements/Rights-Of-Way:

To comply with NESC requirements, easements and right-of-way grades cannot be changed more than six inches by excavation or filling without prior written approval of all utility companies involved. Full cost of any necessary alteration or relocation of utility lines will be borne by the customer requesting the change. Fences and landscaping may be installed on utility easements except where such materials would prevent access to utility lines or conflict with utility equipment. Other permanent structures or buildings are not allowed within the utility easement.

## Landscaping on Utility Easements:

Although permanent structures cannot be constructed on utility easements, landscaping within an easement is quite permissible. A minimum clearance is required around all vaults and padmounted equipment. A distance of ten (10) feet must be kept clear in front of all service doors and at least two (2) feet from the equipment pad kept clear on all sides. ***Call the Utility Notification Center at 1-800-922-1987 prior to digging!*** Trees should be planted far enough away from padmounted equipment so that, at maturity, overhanging branches will not obstruct a crane setting or removing equipment. It is best to select trees with supple branches that can be tied back without risk of breaking. Responsibility for upkeep and any landscaping maintenance in a utility easement are borne by the property owner/customer. In the event a fence must be removed by the Association to repair or maintain electrical facilities, reasonable effort will be made to replace existing fencing when repairs are completed.

# Types of Service Rates Available

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## Residential

**A or CS rate**--residential nondemand service.

**C rate**--residential demand metered service.

## Commercial

The rate for commercial accounts is determined by the size of service requested.

## Small Commercial

**E rate**--commercial nondemand service requiring 50 kVA or less of transformer capacity.  
Service charge--\$10.00 per month.

**B rate**--commercial demand metered service requiring 50 kVA or less of transformer capacity.  
Service charge--\$25.00 per month.

## Large Commercial

**P rate**--commercial demand metered service requiring greater than 50 kVA of three-phase transformer capacity.  
Service charge--\$100.00 per month.

**FP rate**--commercial nondemand service requiring greater than 50 kVA of three-phase transformer capacity.  
Service charge--\$100.00 per month.

## Industrial

**S rate**—industrial demand service requiring greater than 500 kVA of three-phase transformer capacity.  
Service charge--\$100.00 per month.

Cost per kilowatt hour and demand charges are available from any Intermountain Rural Electric Association office.

*Note: Service charge does not purchase any kilowatt-hours.*

*These rates and service charge amounts are subject to change according to the Association's current Rates, Rules and Regulations.*

*Any residential work orders that require a new metered service will be subject to a one-time system capacity charge (per meter).*

Consumers with security lights owned and maintained by the Association will be subject to security light charges determined by the number and type of lights installed.

Consumers who share security lighting within a subdivision will be assessed a security light charge based on the streetlight rate multiplied by the number of lights and then divided by the number of lots served by those lights.



## Lighting charges

# TEMPORARY CONSTRUCTION POWER

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A temporary service connection may be installed to supply electricity for a limited time (up to 18 months). Services used for construction purposes, fairs, carnivals, holiday lighting, street decorations, or other uses are considered temporary. A billing account must be established for each specific location by signing a *Membership Application/Electrical Service Agreement* with the Association. A temporary electric meter will be installed upon completion of an electrical inspection and release by an electrical inspector of the state, county, or city/town where the service is located. It is the responsibility of the applicant to obtain such an inspection and release. The meter will not be installed unless wiring is per the Association's specifications. Please refer to pages 22-24 of this handbook and contact Engineering Services with any questions.

## Overhead Power Source:

A temporary service is installed on an Association pole, preferably one equipped with a transformer. A temporary service may not be installed on a pole with risers or other special equipment on it. If a pole is available that is not equipped with a transformer, a fee will be charged to cover the cost to install and remove the transformer. Should a temporary service require poles or facilities other than a transformer, the applicant will be charged both construction and retirement costs up-front that are nonrefundable. If a meter pole is available when temporary service is required, the applicant may avoid installing two services by constructing a permanent service loop on the meter pole and using it for temporary purposes (check for county regulations).

## Underground Power Source:

Areas with underground facilities may have either metering pedestals or power pedestals available. A metering pedestal will contain the permanent meter even while the temporary loop is in use. For this reason, a main breaker large enough to protect the permanent service must be installed in the metering pedestal before a temporary service may be connected. If a double-breaker kit is required (service amperage exceeds 200 amps), the second breaker must be installed prior to the installation of the temporary meter (see page 14). If the source is a power pedestal or power transformer, the temporary stand must be located within five (5) feet of its source. The temporary stand also must be set at the permanent source as designated by the Association's maps.

The following five (5) steps are general descriptions of processing a job for construction. If there are questions at any time during this process, or if any changes occur which will affect the design or installation, please contact your appointed IREA Engineer.

## STEP 1: ENGINEERING REQUEST

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To request engineering for electric service, contact our Engineering Services Department for new construction. A work order will be initiated, and the Contract Authorization form will be provided via fax, mail or email. Complete this form and return it with the applicable design fee, proof of ownership (preferably a Warranty Deed) if it is an individual lot or the appropriate plats (CAD preferred) if it is a subdivision or development. When all necessary documentation and payments are received by the Association, the project will be assigned to an IREA Engineer who will contact you to discuss the design, inform you if any additional information is required, and answer any of your questions.

## STEP 2: DESIGN AND COST DETERMINATION

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The Association's Engineer will design your electric distribution system to provide the most reliable, satisfactory service while being conscious of economic and safety requirements. When the design is complete, the Engineering Department will determine the construction cost and provide engineering prints of the project if it is a subdivision/development showing the proposed line routes, equipment locations, and any special provisions that may be required.

## STEP 3: BUILDER/DEVELOPER CONTRACT

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During this phase of the job, the builder/developer plays a major role in the installation of electric services. After the completion of the Engineering Design (Step 2), the Association will prepare an agreement, which will be presented to you. The builder/developer should be prompt in completing all agreements and making full payment (if applicable) for the services requested. The Association will schedule construction only for those jobs of which all costs have been paid and agreements have been completed for the requested service. If payments and contracts are not returned before the expiration date (contract costs are valid for a period of 60 days from the date of the contract), the contract for service will be void and a new design will be required.

## STEP 4: SCHEDULING THE JOB/SITE READINESS

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Generally, the greater the lead time provided for the scheduling process, the easier it is to meet the goal of the consumer and the Association. Consequently, early communication of the project service requirements will help ensure as much lead time as possible for construction scheduling. The following site conditions must be met before electric facilities will be installed:

1. All necessary property pins must be in place and clearly visible.
2. All necessary water and sewer mains must be in place.
3. Grades to be occupied by the Association's facilities must be plus or minus six inches (6") from final grade.
4. Curb and gutter must be poured or adequately staked.
5. The site must be free of obstructions, which would interfere with the continuous installation of facilities.

If the installation of these facilities is delayed more than 30 days after the job release date due to these requirements or additional documentation required (easements, permits, etc.), the Association reserves the right to terminate the agreement and refund the contract price or to redetermine the contract price, at its sole discretion.

# STEP 5: PROJECT CONSTRUCTION

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Typically, larger distribution and underground commercial jobs will be assigned to Intermountain Rural Electric Association personnel responsible for coordination/inspection who will work with the developer throughout the project. Prior to the start of construction, a pre-construction meeting will be arranged on site to go over such items as:

- \* Construction dates
- \* Site preparation
- \* Location of IREA construction yard
- \* Location of show homes or priority areas
- \* Scheduling of other utilities
- \* Other considerations

After the main facilities are built, the service laterals (if required) are scheduled as each individual site's foundation has been completed. Refer to the section of this booklet on Meter Sets and Laterals for additional information.

## STREETLIGHTING

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The Association offers streetlight facilities upon request by the developer or other qualified applicant (i.e., a community homeowners' association, etc.). Ornamental streetlight facilities are used in subdivisions with underground facilities; whereas, in areas with overhead facilities, security lights are placed on wooden poles. High-pressure sodium and metal-halide lights are available in two styles. The cost of installation for a streetlight circuit is typically incorporated into the distribution design. The cost for street light facilities will vary depending upon the size of the lots, the desired location of the streetlights, and the electric sources available to serve the new streetlights. It will be the responsibility of the developer to contact the proper city or county authorities for streetlight specifications, as design requirements may vary.

Should the builder/developer wish to install ornamental lights that are not within the Association's specifications, they may do so at their own expense. The Association will provide metering points (at the builder/developer's cost) and will bill for the actual kilowatt-hours used. The builder/developer will be responsible for the acquisition, installation, and maintenance of all such facilities beyond the metering point.

## JOINT-TRENCH

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Subdivisions with underground electrical service frequently have telephone and cable television facilities in the same trench. The builder/developer may contact the Association's Engineering department for information required to coordinate joint trenching of facilities. If construction is assigned to the Association's contractor, any contracts or agreements regarding joint-trench will be made with that contractor, not the Association. Joint-trench facilities are normally used for distribution lines but can include secondary (house) laterals as well. Gas and water lines **cannot** be included in an electrical trench. All utilities requesting joint-trench use must be designed and ready to install at the time the Association's facilities are scheduled for construction.

# METER SETS

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The Association will issue an order to set a meter upon the appropriate release from the State, County, or City/Town inspector. However, for an order to be issued, an account for the new location of service must exist; therefore, the builder/customer must apply for service by requesting a *Membership Application/Electrical Service Agreement* from Engineering Services. A “Precontract Form” can be faxed or mailed to the builder/customer to be completed and returned to the Association. The builder/customer simply needs to complete the name of the subdivision, service address, and filing-block-lot per each location (as well as the name, tax identification number, and mailing address of the person or company responsible for payment of the billing, if applicable) in which a new meter is required. If the meter is to be used strictly for temporary construction purposes and then to be removed from the site, the builder/customer should indicate “temp only” on this form. Upon receipt of this form, Engineering Services will process the *Membership Application/Electrical Service Agreement* and mail it to the builder/customer for signature. Once the Association has received this documentation and the inspecting agency’s release, please allow three to five business days for the meter to be set.

Commercial services may require a deposit in the amount of an estimated 90-day bill. Such deposit may be in addition to any advance, contribution, or guarantee provided for in the extension regulations. Interest will be payable upon return of the deposit for the time such deposit was held by the Association or annually at the request of the customer. The interest rate will be based on the prior year’s average of the interest rates for money and capital markets. Deposits will be refunded after a 12-month period, provided the Association’s records show the customer has not been in arrears during that period.

# METER LOCATIONS

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- An electric meter will not be located in any area considered hazardous or inside where reading, testing, or servicing of the meter may become impracticable. A distance of four (4) feet must be maintained in front of the meter.
- The meter will be located on the front 25% of the house, *ahead of any fences*, and in a direct line with the Association’s electrical facility designated to serve that location. (See page 11)
- If the service is underground to a power pedestal, the Association will install the secondary lateral to the house, and the meter will be located on the house. (See page 12)
- If the service is underground to a meter pedestal, the meter is located within the meter pedestal, and the applicant will be required to install the secondary lateral to the house. (See page 13)
- If the service is overhead to the house, the meter will be located on the house. (See page 17)
- If the service is overhead to the meter pole and then underground to the house, the meter will remain on the meter pole, and the applicant will be required to install the secondary to the house. (See page 18)
- The meter will be located no less than four (4) feet and no more than five (5) feet above ground level.
- CT/PT metering is required for single-phase 400+ amp and three-phase 200+ amp. (See pages 25-26)
- Meter housings are not provided by the Association. Please refer to pages 27-29 for specifications.
- Only one meter will be issued per residence or business. Strip malls and warehouses with multiple suites, units, or businesses will be allowed to have a commercial multi-metering configuration with one meter per business. Contact our Metering Department for detailed information.

# LATERALS

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The Association will install the service lateral at such time that the foundation is in and backfilled to final grade (plus or minus six inches), and the location of the meter service has been marked on the foundation. To facilitate the timely installation of the service lateral and eliminate additional costs, please refer to the following procedure.

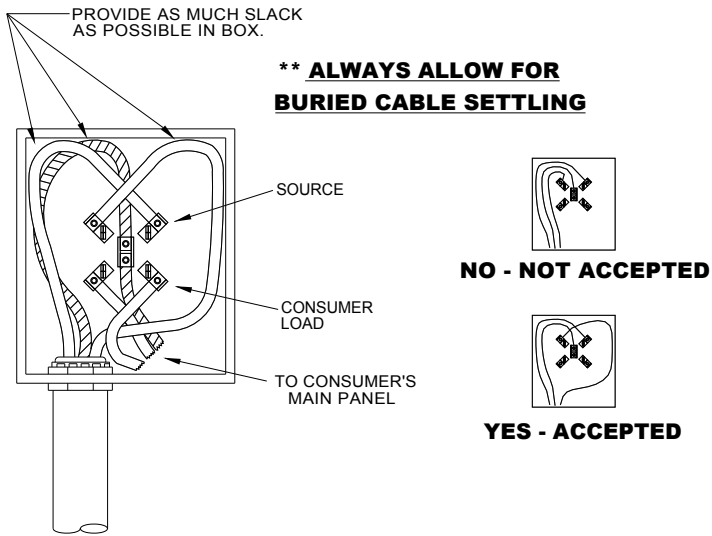
1. The Association will install a lateral from the electric power source to the foundation. The wire will be coiled next to the foundation wall. The electrical service will not be energized. Once the house has been framed and sided, an electrician can then mount the meter socket, install the riser, and terminate the wire (line side and load side) in the meter socket. Note that the wire will be color coded. It is imperative that the electrician leave the color code markings on the wire.
2. A *Membership Application/Electrical Service Agreement* for the new permanent service must be requested to initiate an account prior to ordering the lateral.
3. Mark (with paint) the location of the meter service on the foundation wall. Please remember the following guide lines when marking the location of the meter socket.
  - a. Meters will not be located in any area considered hazardous or inside where reading, testing, or servicing of the meter may become impracticable.
  - b. Meters will be located on the front 25% of the house, ***ahead of any fence***, and in a direct line with the Association's electrical facility designated to serve the house. (Please see page 11) The meter will be located not less than four feet and no more than five feet above final ground level.
4. Post the address and legal description of the property at the curb or in a visible location for locators and construction crews.
5. Notify the Association to schedule the lateral service installation by submitting (faxing or mailing) a "Builder/Developer Service Lateral Form" to Engineering Services for processing.
6. Remove all trash and building material from the area where the service lateral will be located.

Upon receipt of written notification, the requested lots will be scouted to verify readiness (site condition and foundation being marked for electric service entrance, etc.). The Association will schedule the installation of the lateral within a period not to exceed two weeks from the release of each lot per the scout. If the Association's lateral crew arrives at a site that is not ready, rescheduling the lateral could mean an additional two weeks from that date.

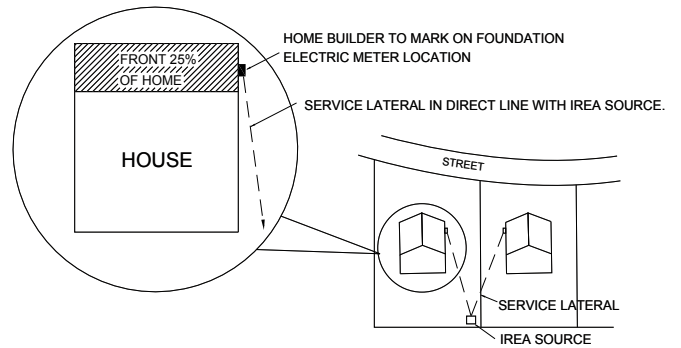
The builder/customer will be responsible for any costs incurred from:

- Cable cuts and any damages caused by the builder or their subcontractor.
- Reinstallation of lateral due to grade changes, meter housing changes, etc.
- Additional materials, i.e., conduit under retaining walls, extended laterals due to location of house, etc.
- Relocation of lateral from original design (other side of house from its source).

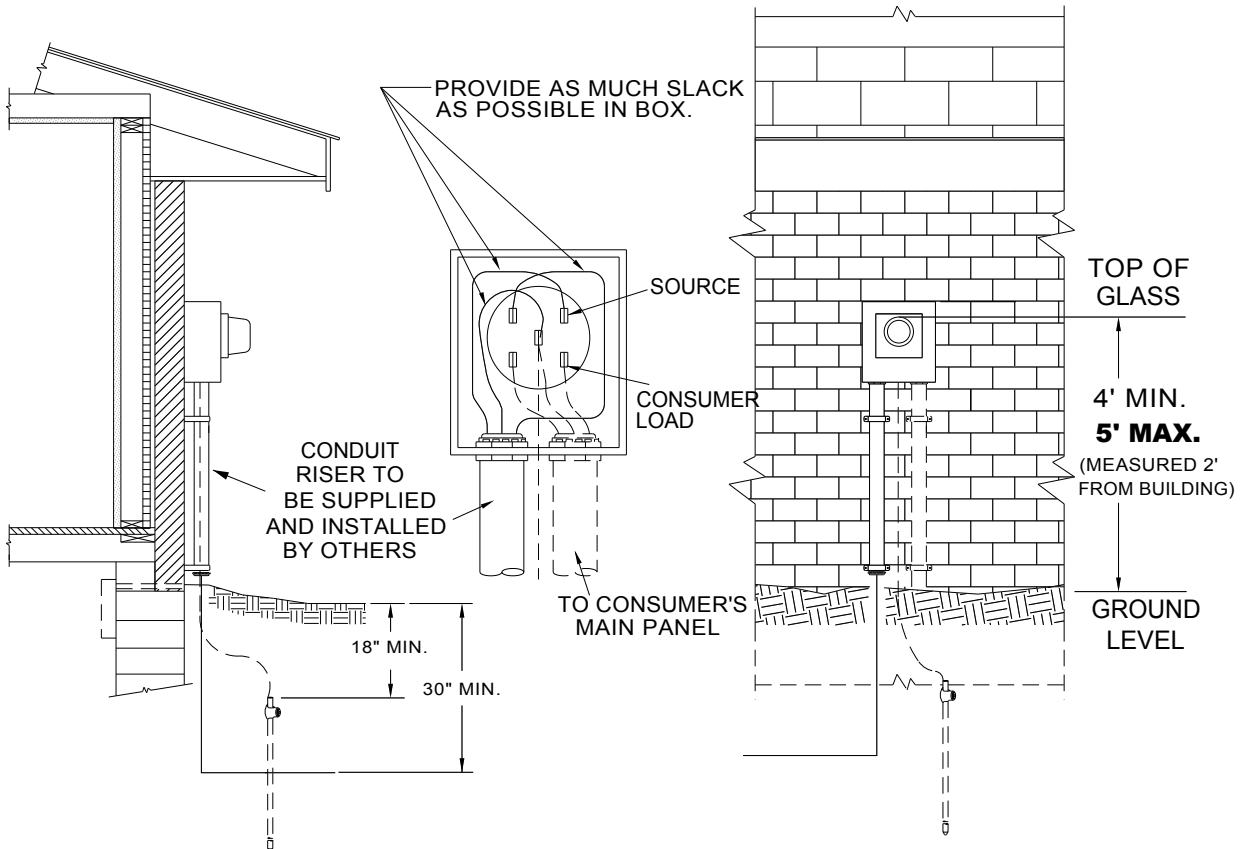
## METER WIRING DETAIL



## METER AND CONDUIT LOCATION DETAIL



## METER HOUSING DETAIL



## EXHIBIT A

# METER ON BUILDING UNDERGROUND RESIDENTIAL SINGLE-PHASE SERVICE (400 AMPS OR LESS)

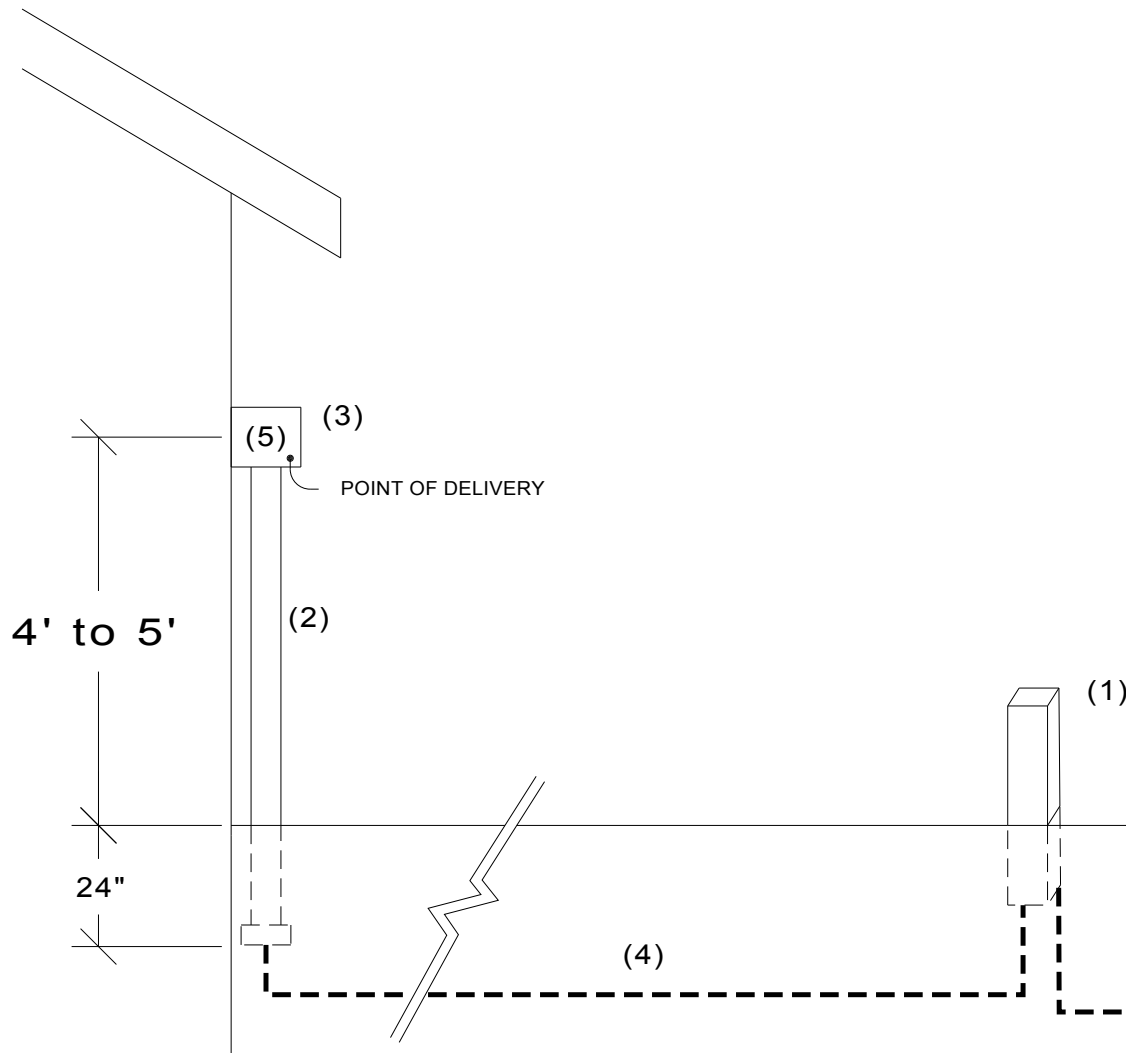


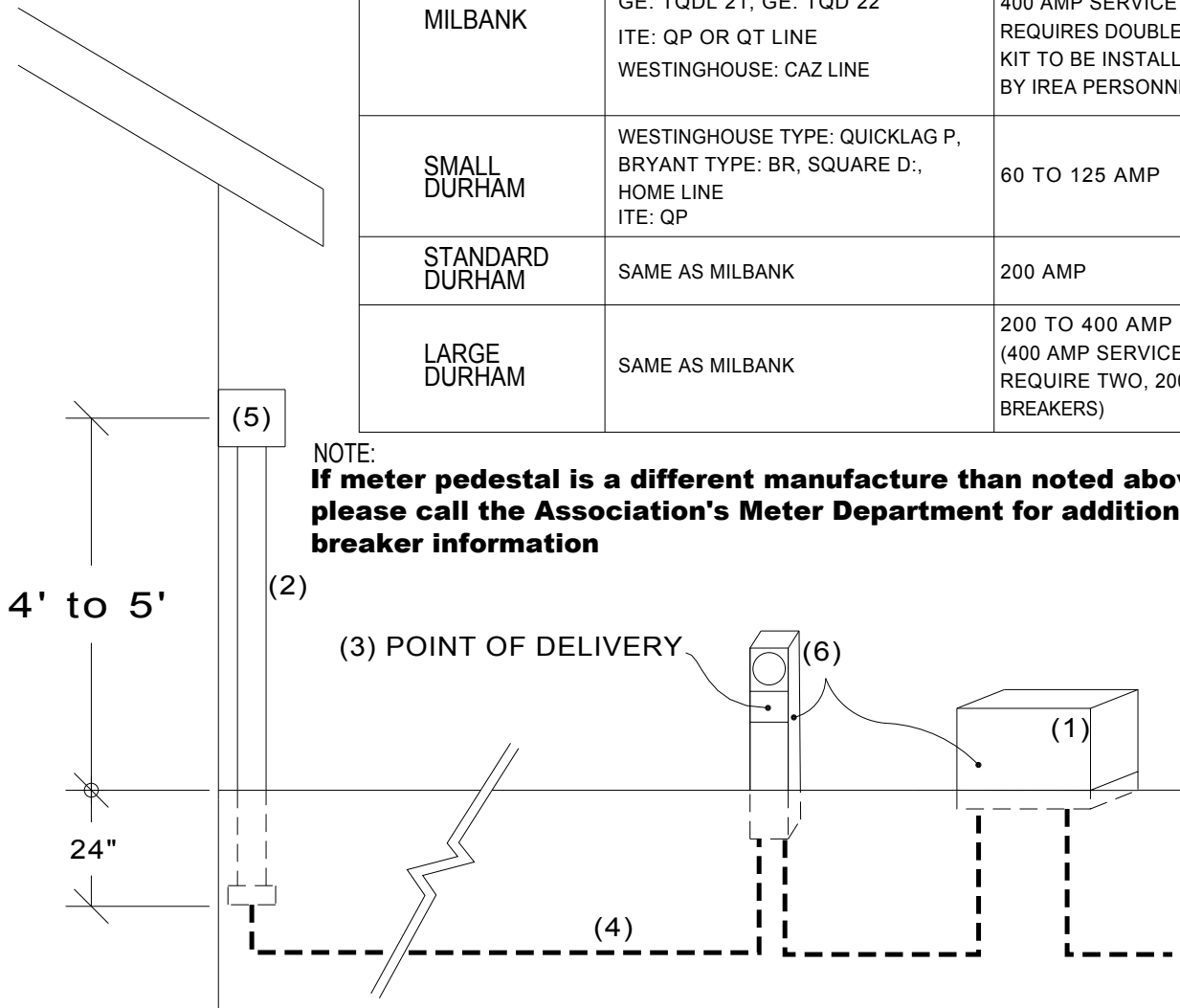
TABLE OF RESPONSIBILITY

KEY NO.	MATERIAL OR WORK DESCRIPTION	MATERIAL	INSTALLATION	OWNERSHIP AND MAINTENANCE
1	DISTRIBUTION FACILITIES (TRANS. OR PED.)	ASSOCIATION	ASSOCIATION	ASSOCIATION
2	CONDUIT SERVICE ENTRANCE	CUSTOMER	CUSTOMER	CUSTOMER
3	METER HOUSING	CUSTOMER	CUSTOMER	CUSTOMER
4	CONDUCTOR, SERVICE LATERAL	ASSOCIATION	ASSOCIATION	ASSOCIATION
5	CONNECTION, METER HOUSING	- - -	ASSOC./CUST.	- - -

# METER PEDESTAL UNDERGROUND RESIDENTIAL SINGLE-PHASE SERVICE (400 AMPS OR LESS)

## BREAKER TYPE (3R ENCLOSURE)

TYPE METER PEDESTAL	BREAKER TYPE	COMMENTS
MILBANK	BRYANT TYPE: BR/BJ LINE GE: TQDL 21, GE: TQD 22 ITE: QP OR QT LINE WESTINGHOUSE: CAZ LINE	200 AMP SERVICE 400 AMP SERVICE REQUIRES DOUBLE-BREAKER KIT TO BE INSTALLED BY IREA PERSONNEL
SMALL DURHAM	WESTINGHOUSE TYPE: QUICKLAG P, BRYANT TYPE: BR, SQUARE D., HOME LINE ITE: QP	60 TO 125 AMP
STANDARD DURHAM	SAME AS MILBANK	200 AMP
LARGE DURHAM	SAME AS MILBANK	200 TO 400 AMP (400 AMP SERVICES REQUIRE TWO, 200 AMP BREAKERS)



NOTE:

**If meter pedestal is a different manufacture than noted above, please call the Association's Meter Department for additional breaker information**

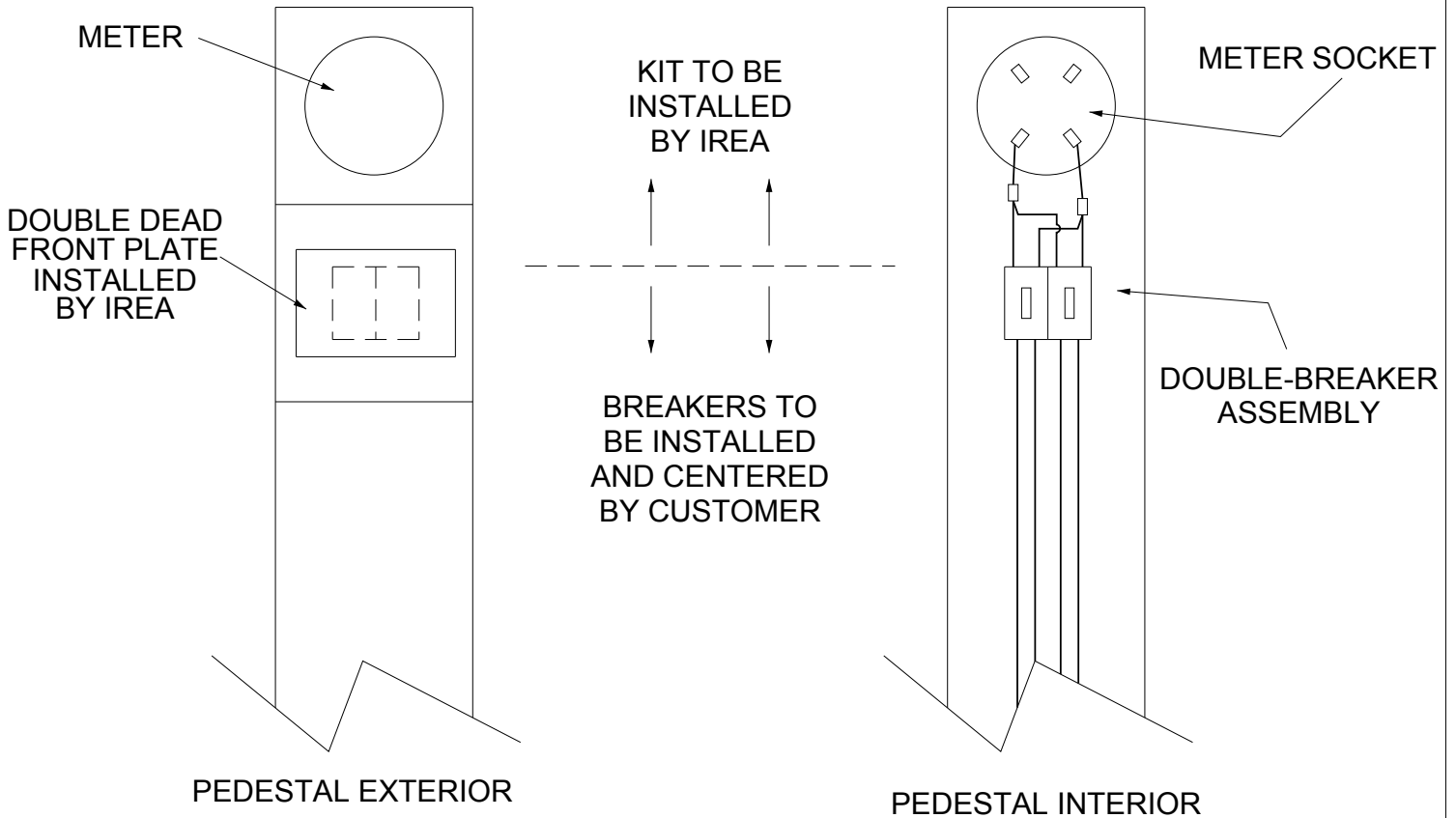
NOTE:

- 1. DOUBLE-BREAKER KIT FOR 400 AMP SERVICE ON MILBANK PEDESTALS ARE SUPPLIED AND INSTALLED BY ASSOCIATION.**
- 2. IF DOUBLE-BREAKER KIT IS REQUIRED, BOTH BREAKER ASSEMBLIES MUST BE INSTALLED AND CENTERED PRIOR TO TEMP SERVICE.**

TABLE OF RESPONSIBILITY

KEY NO.	MATERIAL OR WORK DESCRIPTION	MATERIAL	INSTALLATION	OWNERSHIP AND MAINTENANCE
1	DISTRIBUTION FACILITIES	ASSOCIATION	ASSOCIATION	ASSOCIATION
2	CONDUIT SERVICE ENTRANCE	CUSTOMER	CUSTOMER	CUSTOMER
3	BREAKER(S) IN PEDESTAL	CUSTOMER	CUSTOMER	CUSTOMER
4	CONDUCTOR, SERVICE LATERAL	CUSTOMER	CUSTOMER	CUSTOMER
5	PANEL CONNECTION	---	CUSTOMER	---
6	METER PEDESTAL AND CONNECTIONS	ASSOCIATION	ASSOCIATION	---

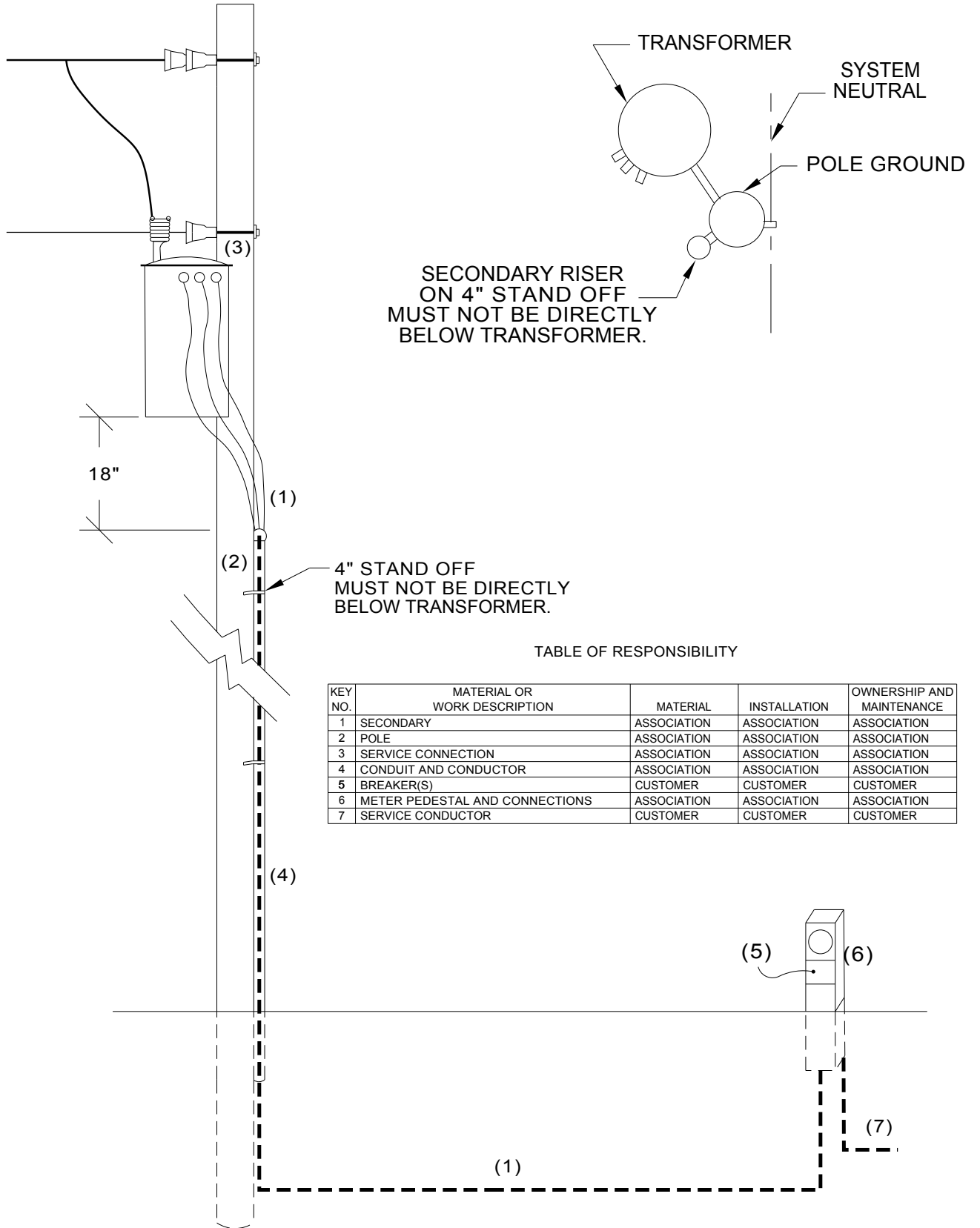
# DOUBLE-BREAKER KIT IN METER PEDESTAL 200-400 AMP SERVICE



## NOTE:

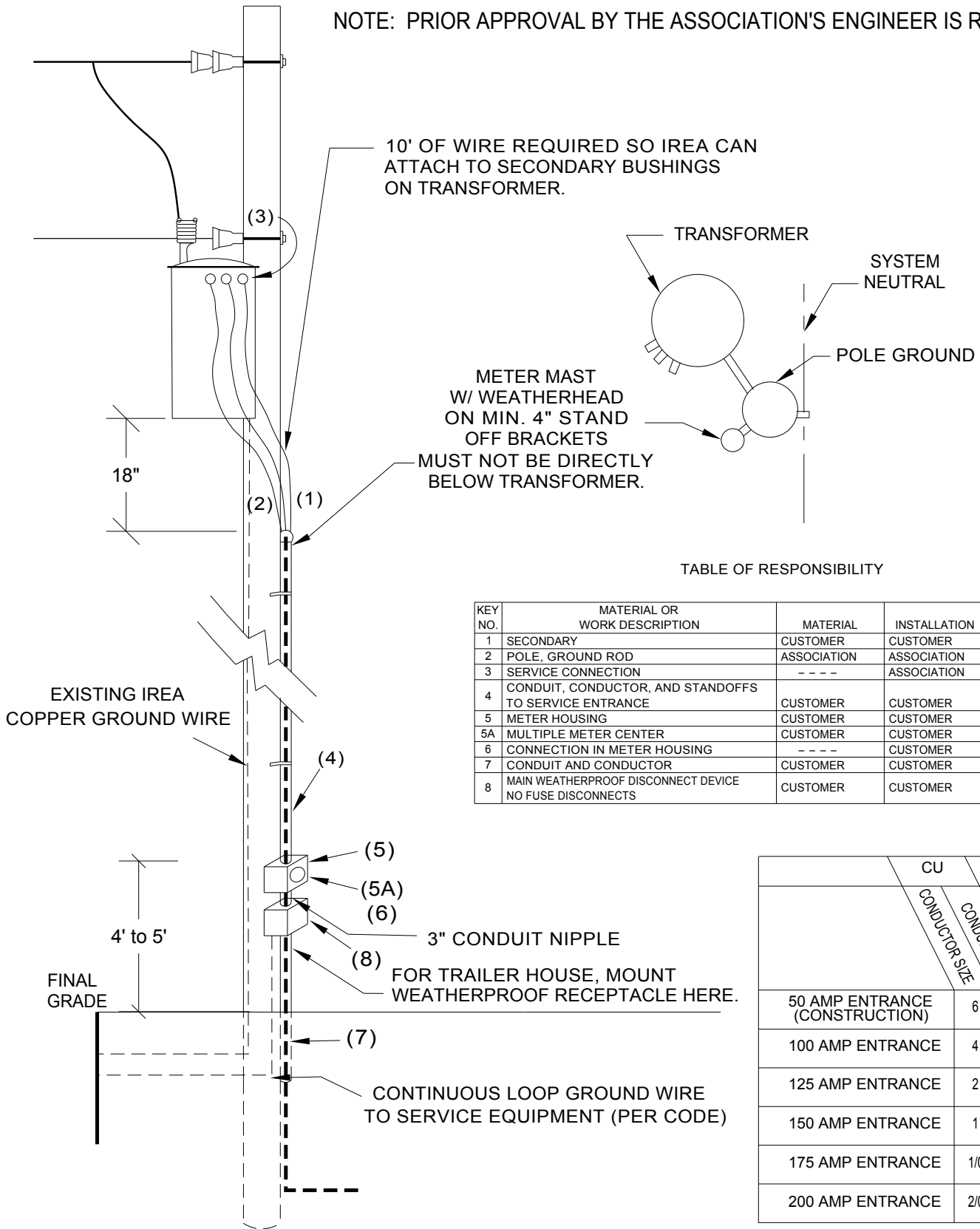
BOTH BREAKER ASSEMBLIES MUST BE INSTALLED AND CENTERED PRIOR TO TEMP SERVICE.

# SINGLE-PHASE OVERHEAD/UNDERGROUND RESIDENTIAL (METER PEDESTAL - 400 AMPS OR LESS)

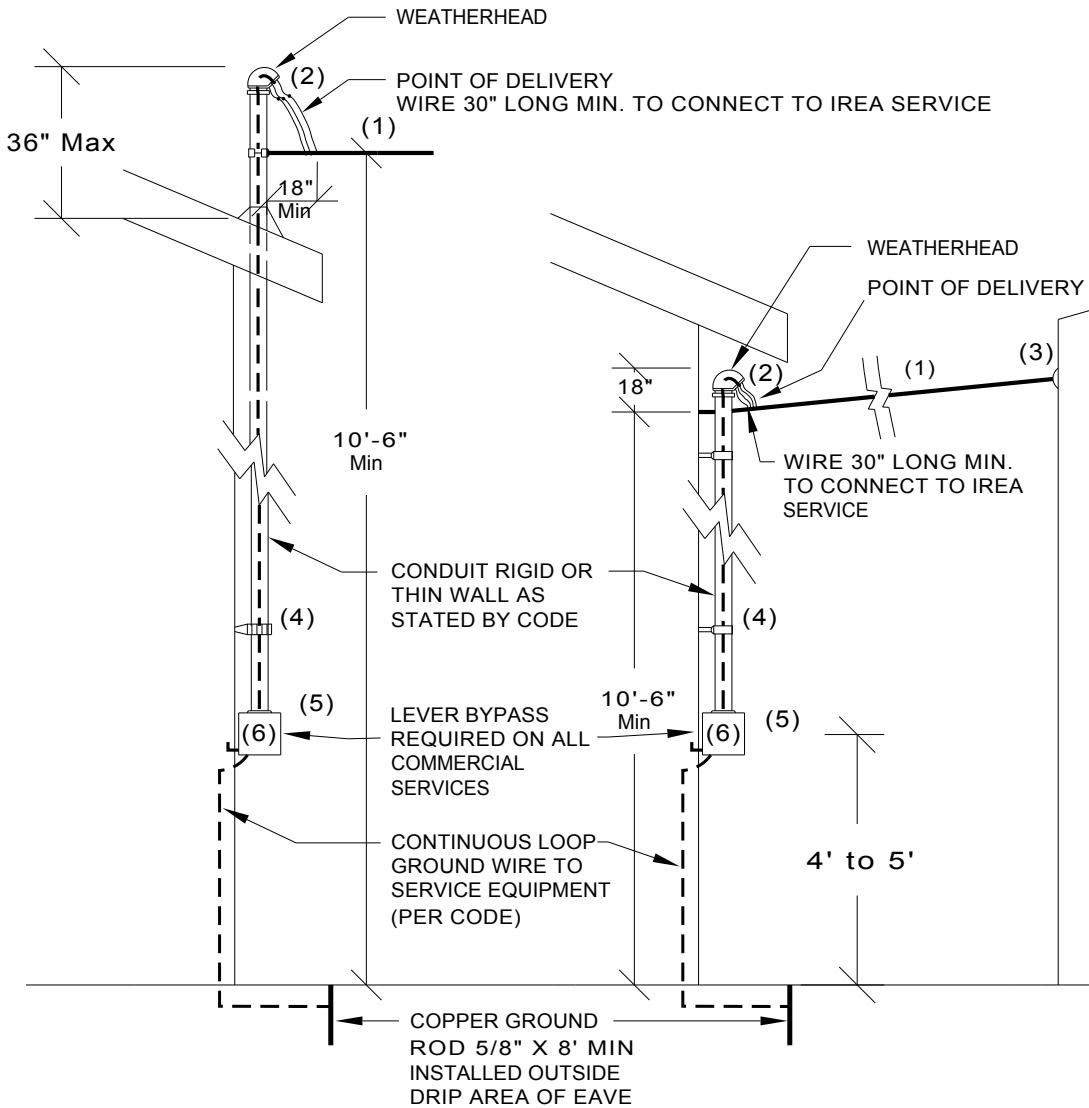


# METER ON TRANSFORMER POLE OVERHEAD/UNDERGROUND SINGLE-PHASE RESIDENTIAL (400 AMPS OR LESS)

NOTE: PRIOR APPROVAL BY THE ASSOCIATION'S ENGINEER IS REQUIRED.



# SINGLE-PHASE OVERHEAD RESIDENTIAL, COMMERCIAL OR INDUSTRIAL (400 AMPS OR LESS)



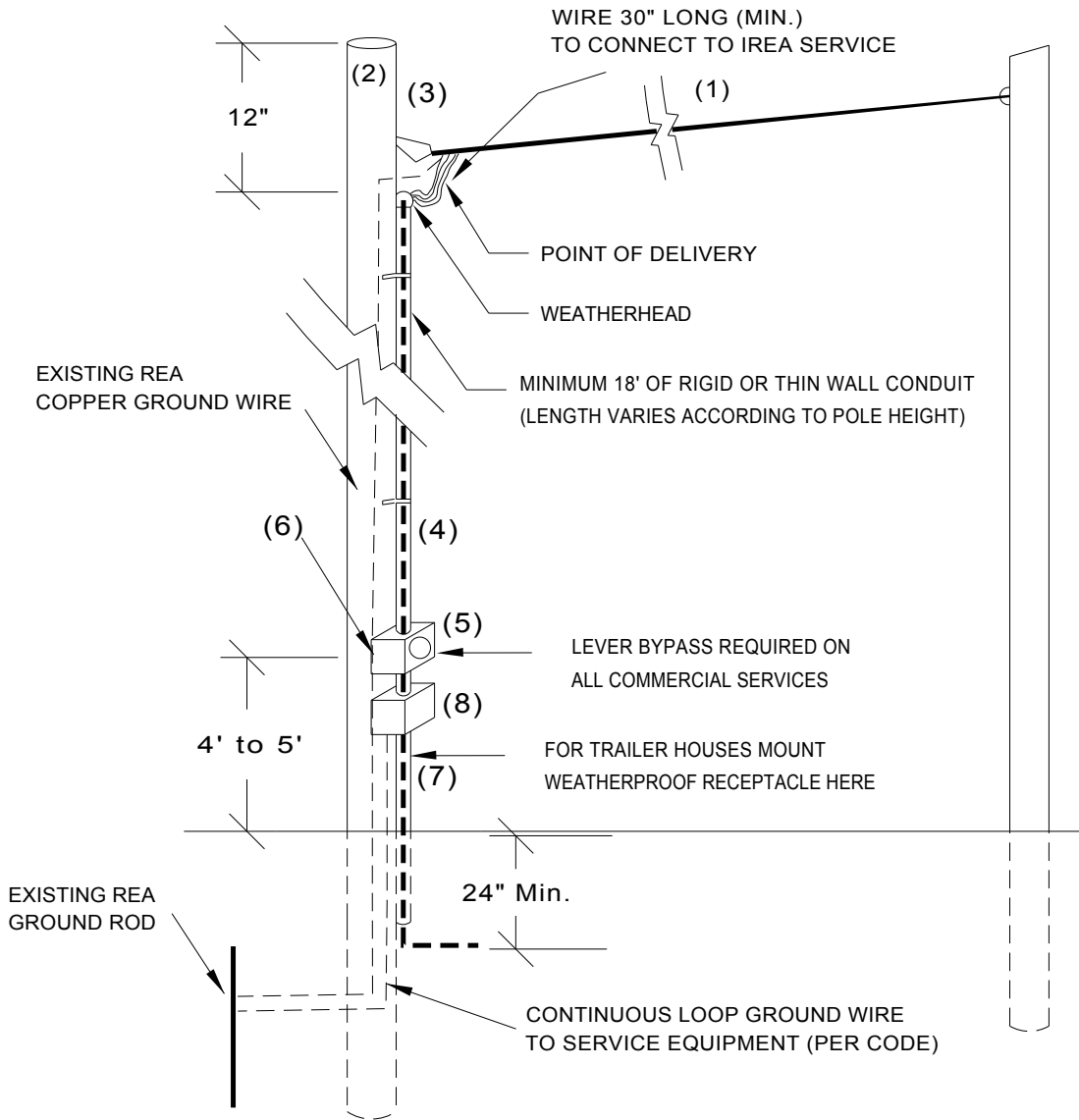
### NOTES

1. MAGNETIC CIRCUIT BREAKERS REQUIRED FOR ALL SINGLE-PHASE SERVICES UP TO 200A. FUSED DISCONNECTS NOT ALLOWED.
2. ALL METER LOOP CONDUITS ARE REQUIRED TO BE METALLIC.
3. INTERMOUNTAIN REA RESERVES THE RIGHT TO REFUSE TO CONNECT ANY UNSAFE SERVICE INSTALLATION.
4. PLEASE CHECK WITH YOUR LOCAL INSPECTOR FOR NATIONAL, STATE, OR LOCAL CODE REQUIREMENTS. THIS INFORMATION WILL NOT BE SUPPLIED BY IREA.
5. ANYONE MAKING METER BYPASSES WILL BE PROSECUTED.
6. ALL CONNECTIONS TO IREA SERVICE MUST BE MADE BY IREA PERSONNEL ONLY.

TABLE OF RESPONSIBILITY

KEY NO.	MATERIAL OR WORK DESCRIPTION	MATERIAL	INSTALLATION	OWNERSHIP AND MAINTENANCE
1	SERVICE DROP	ASSOCIATION	ASSOCIATION	ASSOCIATION
2	SERVICE CONNECTION	----	ASSOCIATION	----
3	SERVICE DROP CONNECTION	----	ASSOCIATION	----
4	CONDUIT AND CONDUCTOR TO SERVICE ENTRANCE	CUSTOMER	CUSTOMER	CUSTOMER
5	METER HOUSING WITH LEVER BYPASS	CUSTOMER	CUSTOMER	CUSTOMER
6	CONNECTION, METER HOUSING	----	CUSTOMER	----

# SINGLE-PHASE OVERHEAD - METER POLE RESIDENTIAL, COMMERCIAL OR INDUSTRIAL (400 AMPS OR LESS)



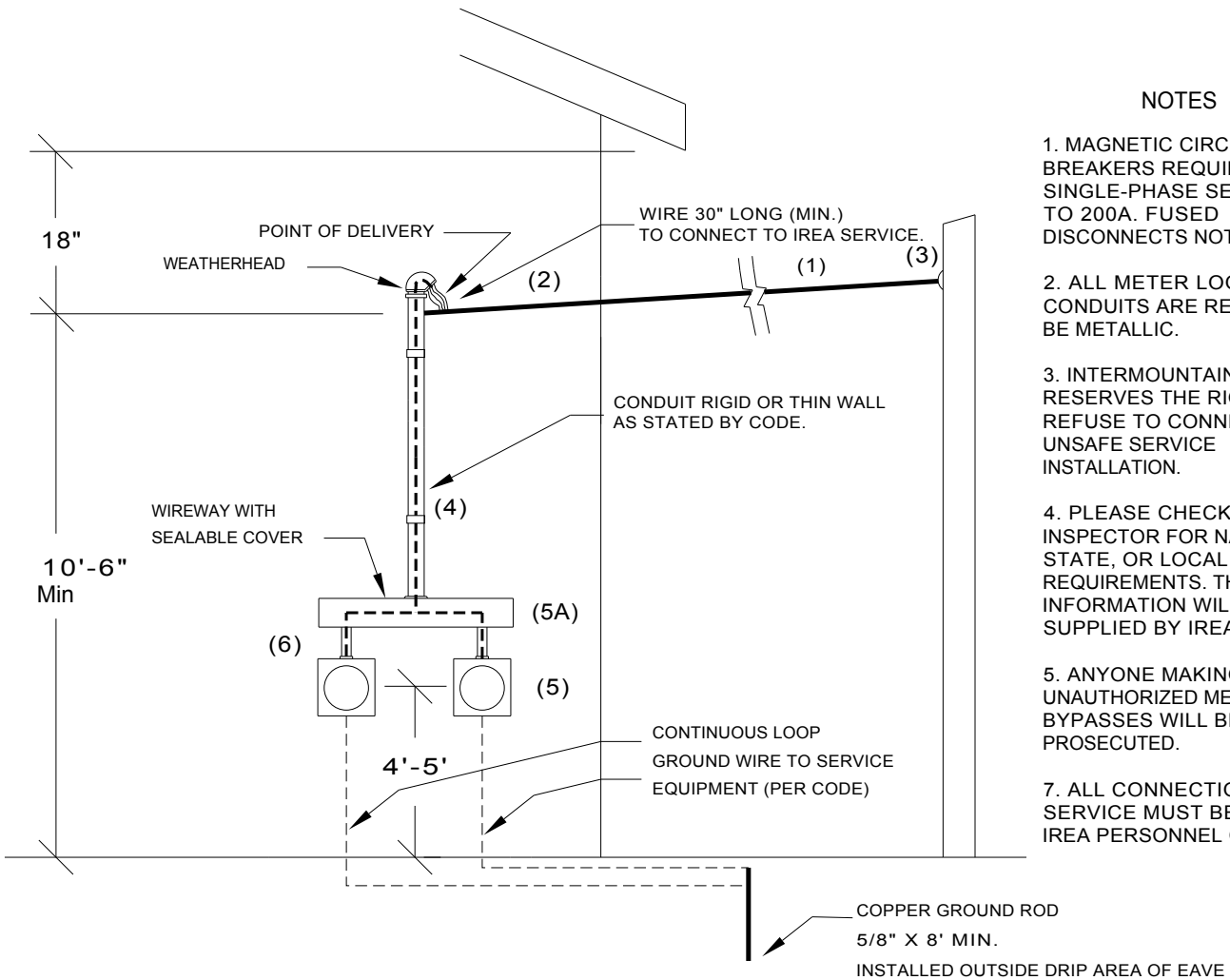
## NOTES

1. THIS LOOP CANNOT BE INSTALLED ON A PRIMARY POLE.
2. MAGNETIC CIRCUIT BREAKERS REQUIRED FOR ALL SINGLE-PHASE SERVICES UP TO 200A. FUSED DISCONNECTS NOT ALLOWED.
3. ALL METER LOOP CONDUITS ARE REQUIRED TO BE METALLIC.
4. INTERMOUNTAIN REA RESERVES THE RIGHT TO REFUSE TO CONNECT ANY UNSAFE SERVICE INSTALLATION.
5. PLEASE CHECK WITH YOUR LOCAL INSPECTOR FOR NATIONAL, STATE, OR LOCAL CODE REQUIREMENTS. THIS INFORMATION WILL NOT BE PROVIDED BY IREA.
6. ANYONE MAKING UNAUTHORIZED METER BYPASSES WILL BE PROSECUTED.
7. ALL CONNECTIONS TO IREA SERVICE MUST BE MADE BY IREA PERSONNEL ONLY.

TABLE OF RESPONSIBILITY

KEY NO.	MATERIAL OR WORK DESCRIPTION	MATERIAL	INSTALLATION	OWNERSHIP AND MAINTENANCE
1	SECONDARY	ASSOCIATION	ASSOCIATION	ASSOCIATION
2	POLE & GROUND ROD	ASSOCIATION	ASSOCIATION	ASSOCIATION
3	SERVICE CONNECTION	-----	ASSOCIATION	-----
4	CONDUIT AND CONDUCTOR TO SERVICE ENTRANCE	CUSTOMER	CUSTOMER	CUSTOMER
5	METER HOUSING WITH LEVER BYPASS	CUSTOMER	CUSTOMER	CUSTOMER
6	CONNECTION, METER HOUSING	-----	CUSTOMER	-----
7	CONDUIT AND CONDUCTOR	CUSTOMER	CUSTOMER	CUSTOMER
8	WEATHERPROOF MAIN DISCONNECT DEVICE	CUSTOMER	CUSTOMER	CUSTOMER

# MULTIPLE METER SINGLE-PHASE OVERHEAD RESIDENTIAL, COMMERCIAL OR INDUSTRIAL (400 AMPS OR LESS)



### NOTES

1. MAGNETIC CIRCUIT BREAKERS REQUIRED FOR ALL SINGLE-PHASE SERVICES UP TO 200A. FUSED DISCONNECTS NOT ALLOWED.
2. ALL METER LOOP CONDUITS ARE REQUIRED TO BE METALLIC.
3. INTERMOUNTAIN REA RESERVES THE RIGHT TO REFUSE TO CONNECT ANY UNSAFE SERVICE INSTALLATION.
4. PLEASE CHECK WITH YOUR INSPECTOR FOR NATIONAL, STATE, OR LOCAL CODE REQUIREMENTS. THIS INFORMATION WILL NOT BE SUPPLIED BY IREA.
5. ANYONE MAKING UNAUTHORIZED METER BYPASSES WILL BE PROSECUTED.
7. ALL CONNECTIONS TO IREA SERVICE MUST BE MADE BY IREA PERSONNEL ONLY.

TABLE OF RESPONSIBILITY

KEY NO.	MATERIAL OR WORK DESCRIPTION	MATERIAL	INSTALLATION	OWNERSHIP AND MAINTENANCE
1	SERVICE DROP	ASSOCIATION	ASSOCIATION	ASSOCIATION
2	SERVICE CONNECTION	-----	ASSOCIATION	-----
3	SERVICE DROP CONNECTION	-----	ASSOCIATION	-----
4	CONDUIT AND CONDUCTOR TO SERVICE ENTRANCE	CUSTOMER	CUSTOMER	CUSTOMER
5	METER HOUSING(S)	CUSTOMER	CUSTOMER	CUSTOMER
5A	WIREWAY	CUSTOMER	CUSTOMER	CUSTOMER
6	CONNECTION IN METER HOUSING	-----	CUSTOMER	-----

# SINGLE-PHASE / THREE-PHASE UNDERGROUND COMMERCIAL (200 AMPS OR LESS)

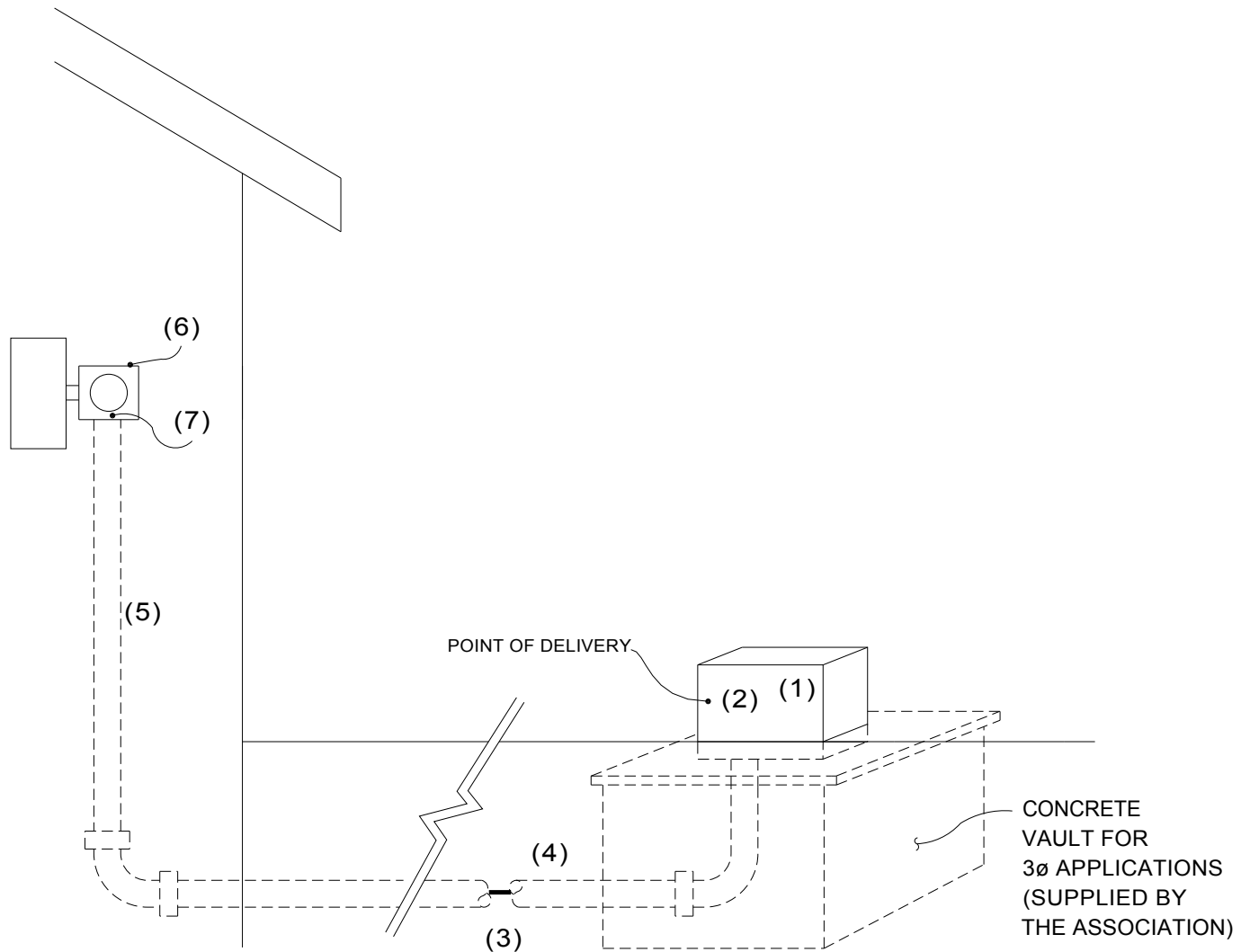
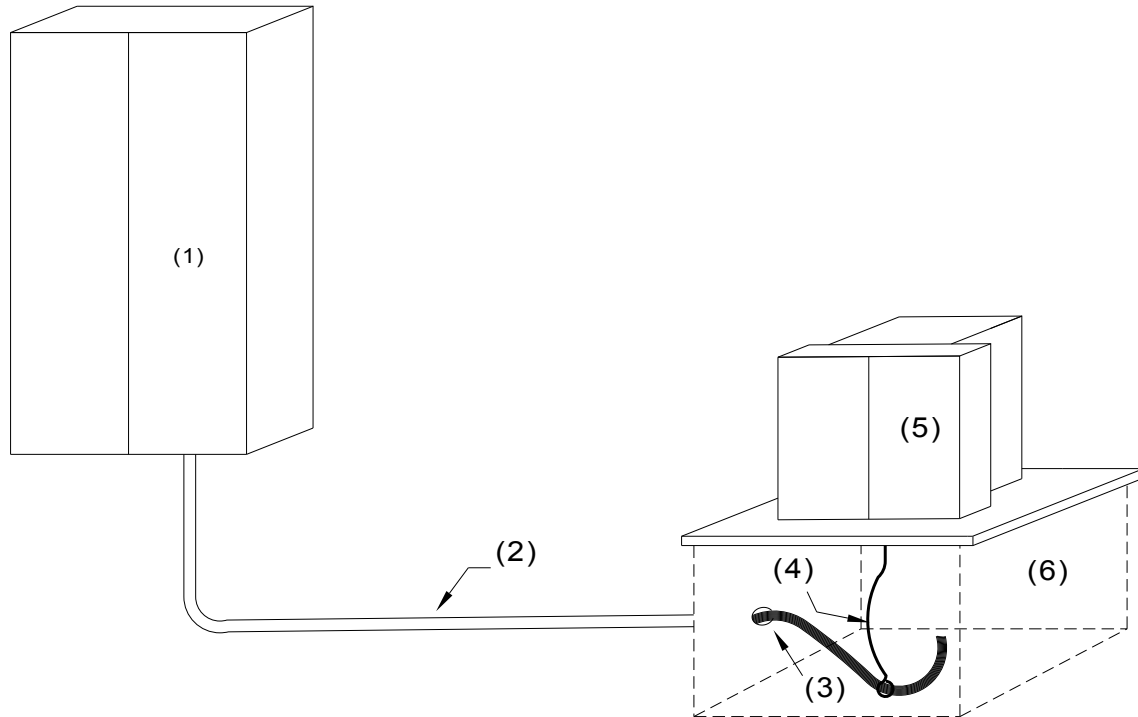


TABLE OF RESPONSIBILITY

KEY NO.	MATERIAL OR WORK DESCRIPTION	MATERIAL	INSTALLATION	OWNERSHIP AND MAINTENANCE
1	DISTRIBUTION FACILITIES (TRANS. OR PED.)	ASSOCIATION	ASSOCIATION	ASSOCIATION
2	CONNECTION, SOURCE	ASSOCIATION	ASSOCIATION	---
3	CONDUCTOR, SERVICE LATERAL	CUSTOMER	CUSTOMER	CUSTOMER
4	CONDUIT, HORIZONTAL, AND RELATED MATERIAL	CUSTOMER	CUSTOMER	CUSTOMER
5	CONDUIT SERVICE ENTRANCE	CUSTOMER	CUSTOMER	CUSTOMER
6	METER HOUSING	CUSTOMER	CUSTOMER	CUSTOMER
7	CONNECTION, METER HOUSING	---	CUSTOMER	---

**SPECIAL NOTE: KEY NO. 2 -- CONNECTORS ARE FURNISHED AND INSTALLED BY ASSOCIATION.**

# THREE-PHASE UNDERGROUND COMMERCIAL ABOVE 200-AMP SERVICE



**TABLE OF RESPONSIBILITY**

KEY NO.	MATERIAL OR WORK DESCRIPTION	MATERIAL	INSTALLATION	OWNERSHIP AND MAINTENANCE
1	EUSERC CABINET	CUSTOMER	CUSTOMER	CUSTOMER
2	CONDUIT	CUSTOMER	CUSTOMER	CUSTOMER
3	LOW VOLTAGE CONDUCTOR	CUSTOMER	CUSTOMER	CUSTOMER
4	PULL ROPE	CUSTOMER	CUSTOMER	CUSTOMER
5	DISTRIBUTION TRANSFORMER	ASSOCIATION	ASSOCIATION	ASSOCIATION
6	PRECAST CONCRETE VAULT	ASSOCIATION	ASSOCIATION	ASSOCIATION

**NOTES:**

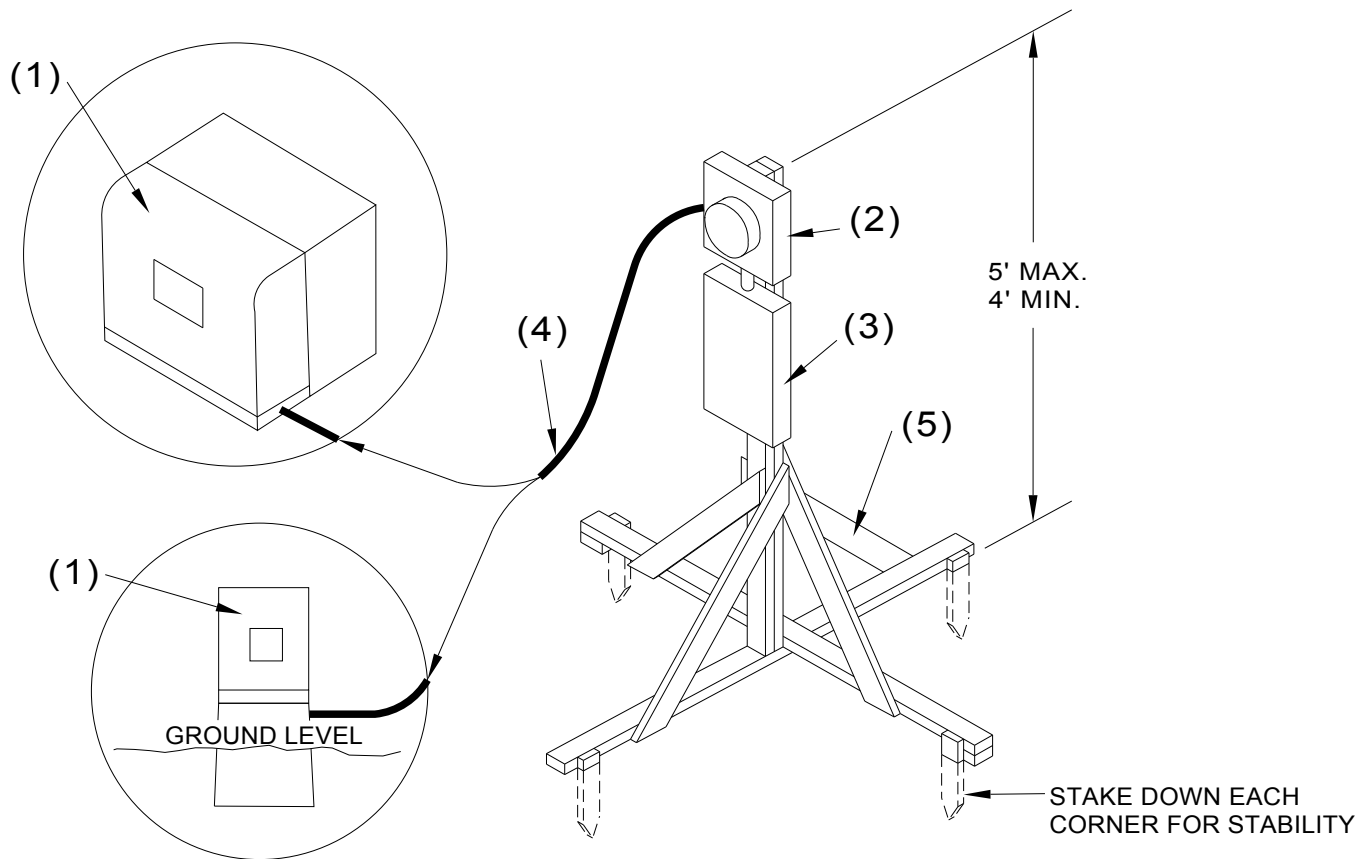
1. CUSTOMER SECONDARY CONDUCTORS ARE LIMITED TO MAXIMUM 12 RUNS & MAXIMUM 750 MCM.

2. CUSTOMER SHALL SUPPLY AND INSTALL PULL ROPE FROM END OF CONDUCTORS TO OUTSIDE OF VAULT.

3. ASSOCIATION SHALL TERMINATE LOW VOLTAGE CONDUCTORS IN TRANSFORMER.

4. CUSTOMER SHALL COIL MINIMUM OF 15 FEET PER RUN OF CONDUCTOR INSIDE VAULT.

# TEMPORARY UNDERGROUND SERVICE AT TRANSFORMER OR SECONDARY TAP ENCLOSURE SINGLE PHASE (400 AMPS OR LESS)



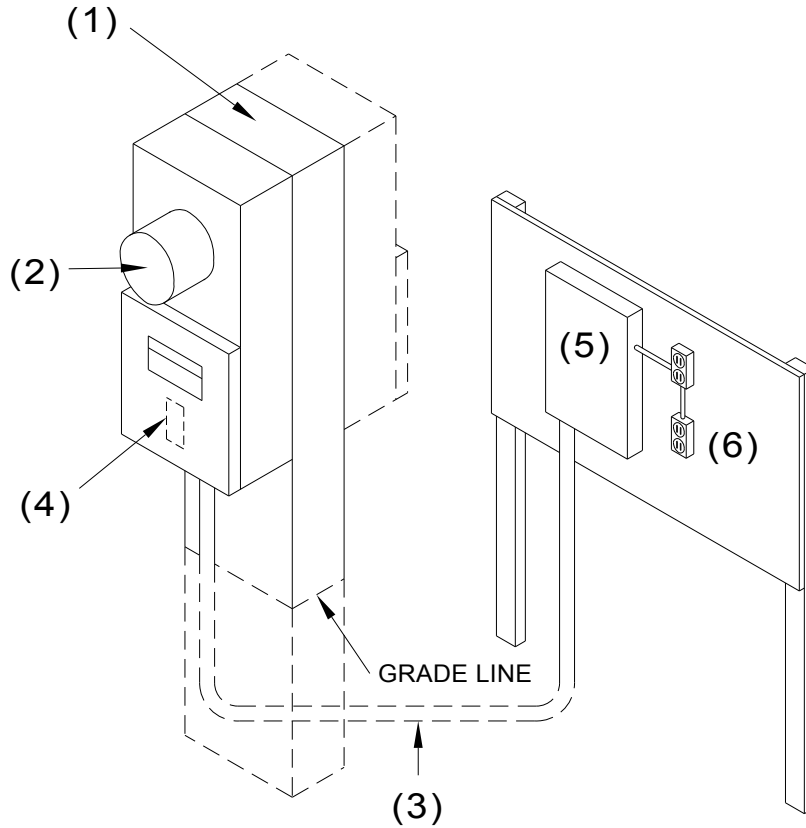
**NOTE:**

1. ALL CONNECTIONS TO IREA DISTRIBUTION EQUIPMENT MUST BE MADE BY IREA PERSONNEL ONLY.
2. INTERMOUNTAIN REA RESERVES THE RIGHT TO REFUSE TO CONNECT ANY UNSAFE INSTALLATION.
3. INSTALLATION MUST BE LESS THAN 5 FEET FROM SERVICE PEDESTAL OR RIGHT SIDE OF PADMOUNT TRANSFORMER (FACING FRONT). SERVICE GROUND PROVIDED BY CONNECTION TO DRIVEN GROUND ROD WITHIN COMPANY PEDESTAL OR TRANSFORMER WHERE PERMITTED BY LOCAL NEC CODE. (NO GROUND ROD SHALL BE DRIVEN WITHIN THE UTILITY EASEMENT).
4. WHERE FLEX CONDUIT ATTACHES TO PEDESTAL OR TRANSFORMER, A SUITABLE CONNECTOR FOR 1 1/2" FLEXIBLE CONDUIT TO 1" KNOCK-OUT MUST BE SUPPLIED BY CUSTOMER.
5. MINIMUM WIRE SIZE 3 #6 AL. OR CU.
6. SERVICE ADDRESS MUST BE PROMINENTLY DISPLAYED ON TEMPORARY SERVICE INSTALLATION.
7. TEMPORARY SERVICE LOCATION IS SUBJECT TO ASSOCIATION APPROVAL.
8. TEMPORARY SERVICE WILL BE ALLOWED FOR 18 MONTHS.

**TABLE OF RESPONSIBILITY**

KEY NO.	MATERIAL OR WORK DESCRIPTION	MATERIAL	INSTALLATION	OWNERSHIP AND MAINTENANCE
1	DISTRIBUTION FACILITY TRANSFORMER OR POWER PEDESTAL	ASSOCIATION	ASSOCIATION	ASSOCIATION
2	METER HOUSING	CUSTOMER	CUSTOMER	CUSTOMER
3	DISCONNECT DEVICE (GROUND FAULT BREAKERS REQ'D)	CUSTOMER	CUSTOMER	CUSTOMER
4	FLEXIBLE CONDUIT AND SERVICE WIRE	CUSTOMER	CUSTOMER	CUSTOMER
5	TEMPORARY STRUCTURE	CUSTOMER	CUSTOMER	CUSTOMER

# TEMPORARY UNDERGROUND SERVICE AT METER PEDESTAL, SINGLE PHASE (400 AMPS OR LESS)



**NOTE:**

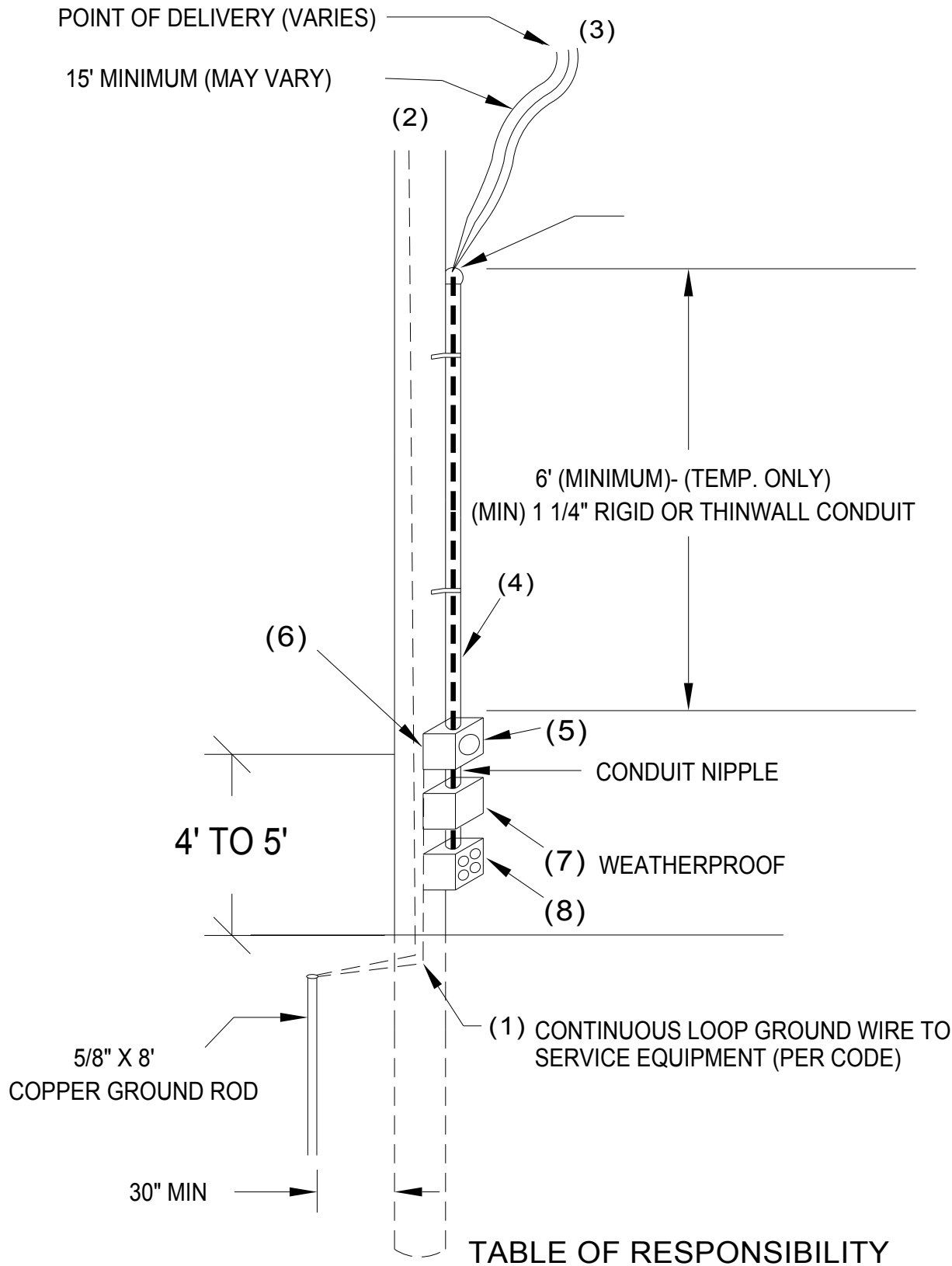
1. THE MAIN BREAKER IS REQUIRED IN THE METER PEDESTAL. (SEE PAGE 27 FOR BREAKER INFO.)
2. TEMPORARY METER WILL BE INSTALLED IN METER PEDESTAL.
3. SERVICE ADDRESS MUST BE PROMINENTLY DISPLAYED ON TEMPORARY SERVICE INSTALLATION.
4. ALL CONNECTIONS TO THE ASSOCIATIONS EQUIPMENT MUST BE MADE BY IREA PERSONNEL.
5. MIN. OF 3' AND MAX. 5' BETWEEN METER PEDESTAL AND TEMPORARY STRUCTURE.
6. TEMPORARY SERVICE WILL BE ALLOWED FOR A MAXIMUM OF 18 MONTHS.
7. INTERMOUNTAIN REA RESERVES THE RIGHT TO REFUSE TO CONNECT ANY UNSAFE INSTALLATIONS.

**TABLE OF RESPONSIBILITY**

KEY NO.	MATERIAL OR WORK DESCRIPTION	MATERIAL	INSTALLATION	OWNERSHIP AND MAINTENANCE
1	METER PEDESTAL	ASSOCIATION	ASSOCIATION	ASSOCIATION
2	ELECTRIC METER	ASSOCIATION	ASSOCIATION	ASSOCIATION
3	CONDUIT AND SERVICE CONDUCTOR	CUSTOMER	CUSTOMER	CUSTOMER
4	BREAKER(S) IN PEDESTAL	CUSTOMER	CUSTOMER	CUSTOMER
5	METER HOUSING	CUSTOMER	CUSTOMER	CUSTOMER
6	CONNECTION, METER HOUSING	CUSTOMER	CUSTOMER	CUSTOMER

# TEMPORARY CONSTRUCTION - OVERHEAD RESIDENTIAL, (LESS THAN 200 AMP)

## NOTES



1. MAGNETIC CIRCUIT BREAKERS REQUIRED FOR ALL SINGLE-PHASE SERVICES UP TO 200A. FUSED DISCONNECTS NOT ALLOWED.
2. ALL METER LOOP CONDUITS ARE REQUIRED TO BE METALLIC.
3. METER LOOP MUST BE INSTALLED ON AN IREA POLE, PREFERABLY WITH A TRANSFORMER, OR THERE WILL BE A CHARGE TO INSTALL A TRANSFORMER.
4. IF A METER POLE IS INSTALLED PRIOR TO TEMPORARY SERVICE, THE ASSOCIATION RECOMMENDS CUSTOMER INSTALL PERMANENT METER LOOP FOR TEMPORARY POWER.
5. TEMPORARY SERVICE WILL BE ALLOWED A MAXIMUM OF 18 MONTHS.
6. INTERMOUNTAIN REA RESERVES THE RIGHT TO REFUSE TO CONNECT ANY UNSAFE SERVICE INSTALLATION.
7. PLEASE CHECK WITH YOUR LOCAL INSPECTOR FOR NATIONAL, STATE, OR LOCAL CODE REQUIREMENTS. THIS INFORMATION WILL NOT BE SUPPLIED BY IREA.
8. ANYONE MAKING UNAUTHORIZED METER BYPASSES WILL BE PROSECUTED.
9. ALL CONNECTIONS TO IREA SERVICE MUST BE MADE BY IREA PERSONNEL ONLY.

KEY NO.	MATERIAL OR WORK DESCRIPTION	MATERIAL	INSTALLATION	OWNERSHIP AND MAINTENANCE
1	CONTINUOUS LOOP GROUND WIRE TO SERVICE EQUIPMENT (PER CODE)	CUSTOMER	CUSTOMER	CUSTOMER
2	POLE & GROUND ROD	ASSOCIATION	ASSOCIATION	ASSOCIATION
3	SERVICE CONNECTION	----	ASSOCIATION	----
4	CONDUIT & CONDUCTOR TO SERVICE ENTRANCE	CUSTOMER	CUSTOMER	CUSTOMER
5	METER HOUSING (IREA REQUIRED SPECS.) 100 AMP	CUSTOMER	CUSTOMER	CUSTOMER
6	WIRING/ CONNECTIONS	----	CUSTOMER	----
7	MAIN & GROUND-FAULT BREAKER REQ'D	CUSTOMER	CUSTOMER	CUSTOMER
8	WEATHER PROOF RECEPTACLES	CUSTOMER	CUSTOMER	CUSTOMER

## **CURRENT TRANSFORMER (CT) and POTENTIAL TRANSFORMER (PT) METERING**

Current and potential transformers provide the intelligence for measuring or metering power flows, such as large amperes flowing in a high-voltage circuit. More specifically, the Association will use CTs or PTs on services as listed below:

**CT –**

- 120/208V, three-phase larger than 200-Amp service entrance
- 120/240V, single-phase larger than 400-Amp service entrance

**CT/PT –**

- 277/480V, three-phase larger than 200-Amp service entrance


**If you are requiring this type of service, please contact the Association Metering Department for installation procedures, guidelines, and equipment specifications.**

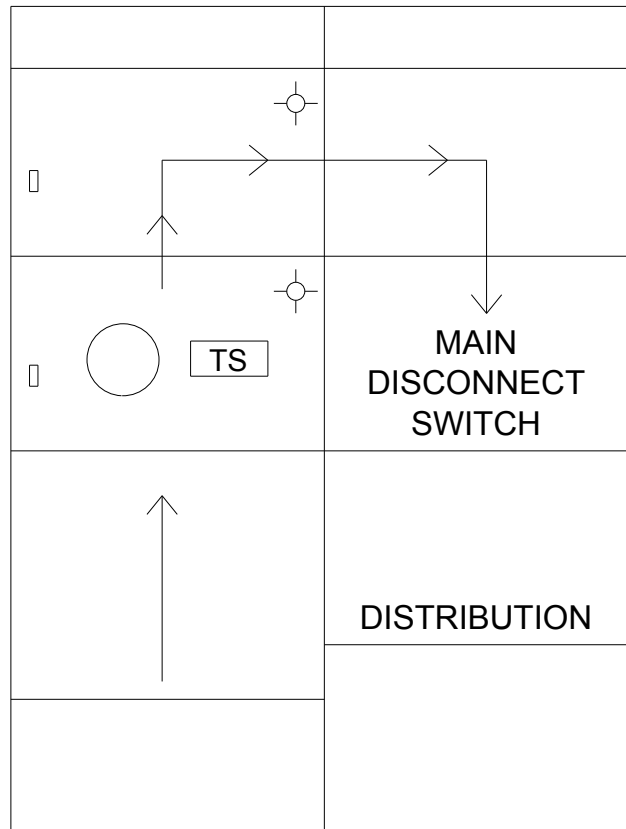
**Requirements:**

1. CT/PT cabinets must be furnished and installed by the customer, located outside in accordance to the Association's policies, and meet EUSERC standards.
2. Metering connections are performed by the Association personnel.
3. Association will install lock on CT/PT cabinet.
4. CTs/PTs are supplied by the Association (prepaid by customer) and installed by the customer's electrician.
5. Construction must follow national, state, or local code requirements.
6. Polarity of CTs/PTs toward source.
7. All existing services that are changed or upgraded because of increased loads, transformer size, wire size, or reconstruction will adhere to the EUSERC standards.

## EUSERC SINGLE METER

**NOTES:**

1. ENCLOSED BY LOCKABLE DOORS.
2.  HINGED DOORS  
CT'S & PT'S ARE LOCATED BEHIND METER AND TEST SWITCH.
3. LOCATED OUTDOORS ONLY



  
 TO IREA  
 TRANSFORMER

**UNIT DESIGNATION**

- CT-4 240V --- 1 $\emptyset$  240 VOLT OVER 400 AMP
- CT-4 208V --- 3 $\emptyset$  208 VOLT OVER 200 AMP
- CT-4 480V --- 3 $\emptyset$  480 VOLT OVER 200 AMP

STANDARD ADOPTED - 02/01/1997



ISSUE	
DATE:	11/21/97
DRAWN	
BY:	JOD
APP	
BY:	
REVISED	
DATE:	9/16/08

Single Meter -- EUSERC Spec.

**CT-4**

FILE NAME:  
I:\REA\_SPCS\005E

# **INTERMOUNTAIN RURAL ELECTRIC ASSOCIATION**

## **SPECIFICATIONS FOR THREE-PHASE 120/208, 120/240, AND 277/480 VOLT 4-WIRE SELF-CONTAINED METER HOUSINGS**

---

1. Housings shall be constructed from metal in accordance with the latest revision of Underwriters' Laboratories (UL) Standard No. 414 for meter sockets.
2. Each socket on line-side compartment shall be equipped so proper sealing of the socket can be maintained by padlock.
3. After installation and sealing are completed, the socket shall not have any openings except as permitted by NEMA type 3R construction.
4. All meter housings shall be UL listed and labeled, and they shall be installed and used in accordance with their labeling.
5. Meter-housing installations shall be installed per National Electric Code (NEC) procedures and shall be enforced by the local inspection authority.
6. Top of glass on meter housing shall be located between 4 ft. and 5 ft. above finished grade.
7. All sockets will be permanently labeled with an etched metal tag or permanent tag approved by the Association meter department personnel noting the service location that it feeds.
8. Maximum amp size to be metered by a self-contained 3Ø meter will not exceed 200 amps.
9. All polyphase sockets will have a seven-terminal mounting block with a heavy duty 200-amp locking jaw with lever-type bypass or meet the EUSERC standards for commercial metering with safety sockets.
10. All 3Ø consumers will provide their own single-phase protection.

Additional approval will be given to meter/load center combinations as well as multiple combinations, which meet all other provisions for commercial/3Ø meter housings.

It is understood that IREA approval does not mean approval in any area where there may be a conflict with any national or local code, and the local inspecting body will need to approve and will have the final authority.

It is also understood that in case of a disaster, IREA will not have spare parts and will not be responsible for the repair.

Questions can be answered by IREA meter department personnel at (303) 688-3100.

## **METER LOCATION AND INSTALLATION SPECIFICATIONS**

Subject to Association meter department personnel approval, the customer shall provide and maintain, without cost to the Association, an easily accessible metering location on or within the premises to be supplied service. All locations must comply with Association rules and regulations.

Where meters, originally installed in accessible locations satisfactory to the Association, are rendered inaccessible by virtue of alterations or new construction by the owner of the premises or his agent, such meters shall be reinstalled at a point designated by the Association at the expense of the property owner.

The location of meters and metering equipment shall be designated by the Association meter department personnel. No wiring dependent upon the meter location should be started until such location has been definitely established. Meters shall be installed outdoors in accordance with rules governing outdoor meter installations. Meters and EUSERC cabinets are to be installed outside the building either free standing (EUSERC cabinet) or against an exterior wall (EUSERC cabinet or meter) allowing unobstructed access by the Association's personnel. A minimum of a four-foot unobstructed working space in front of the cabinet is also required. Please note that the cabinet or meter may ***NOT*** be installed in an interior room, courtyard, or any other structure that could possibly have a lockable entry way. If the EUSERC cabinet, metering, and main disconnect are not installed in a proper location and manner, the Association will refuse service. Major changes may be required at the customer's cost and delay the service connection. Meter mountings and associated equipment shall be mounted securely and plumb. Where attachment is made to masonry, concrete, or plaster walls, expansion bolts, plugs, or anchors shall be used. Meter mountings shall not be placed in a location where meter reading or servicing may become impracticable or may cause damage to any part of the customer's premises.

The line-side conductors in meter-mounting devices shall be required to be separated from the load-side conductors by means of permanent barrier. Access to the line-side conductors shall be sealable. No conductors other than line-side conductors shall be permitted in line-side conduits, troughs, or lug landings.

All line-side (unmetered) conductors must be in a continuous length of conduit from the point of delivery to the meter mounting device. The use of line-side (ahead of the meter) disconnects or other open devices are not permitted with exception to commercial accounts and/or multiple-meter stacks. Association meter department personnel must approve the location of any ahead-of-the-meter devices. In general, an approved location will be limited to installation in secured switch gear or on the same surface wall directly ahead and within 24" of the meter.

Meter location, point of delivery, and service disconnect will be determined by the Association in accordance with standard practices, including the National Electrical Code, and will be accessible to the Association's service personnel at all times.

# **INTERMOUNTAIN RURAL ELECTRIC ASSOCIATION**

## **SPECIFICATIONS FOR SINGLE-PHASE 120/240 VOLT 3-WIRE METER HOUSINGS**

---

1. Housings shall be constructed from metal in accordance with the latest revision of Underwriters' Laboratories (UL) Standard No. 414 for meter sockets.
2. Each socket on line-side compartment shall be equipped so proper sealing of the socket can be maintained by padlock.
3. After installation and sealing are completed, the socket shall not have any openings except as permitted by NEMA type 3R construction.
4. All meter housings shall be UL listed and labeled, and they shall be installed and used in accordance with their labeling.
5. Meter housing installations shall be installed per National Electric Code (NEC) procedures and shall be enforced by the local inspection authority.
6. Meter housing shall be located between 4 ft. and 5 ft. above finished grade.
7. All commercial applications will have a meter socket with a heavy-duty locking jaw with lever-type bypass or meet the EUSERC standards for commercial metering with safety sockets.
8. Maximum amp size to be metered by a self-contained 1Ø meter will not exceed 400 amps. All single-phase services in excess of 200 amps, which require a class 320 meter, must have a lever bypass meter housing unless preapproved by the Association.

Additional approval will be given to meter/load center combinations as well as multiple combinations, which meet all other provisions for residential/1Ø meter housings.

It is understood that IREA approval does not mean approval in any area where there may be a conflict with any national or local code, and the local inspecting body will need to approve and will have the final authority.

It is also understood that in case of a disaster, IREA will not have spare parts and will not be responsible for the repair.

Questions can be answered by IREA meter department personnel at (303) 688-3100.

### **ADDITIONAL REQUIREMENTS FOR 1Ø UG FEED RESIDENTIAL METER HOUSINGS**

1. Minimum size permitted must be 200 amp capable of terminating 4/O aluminum wire.
2. Meter will be located on the front 25% of the house, ahead of fence, and in a direct line with the Association's electric facility designated to serve that location.

### **ADDITIONAL REQUIREMENT FOR 120/208 1Ø HOOKUPS**

Fifth (5<sup>th</sup>) terminal is required and will be allowed in the 9 o'clock position only and must be bonded within the housing. Typically used for 1Ø service fed by 3Ø transformer, 120/208 voltage.