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		Revision #	003
		Implementation Date	10/10/2018
		Last Reviewed/Update Date	March 2020
		Approval	*General Manager*

Standard Operating Procedure

1. *Purpose*

The purpose of this SOP is to ensure that new service inspections and wiring standards are communicated to Members fairly and consistently in order to promote a safe electrical distribution system.

2. *Scope*

This SOP applies to all inspection requests for new construction or modifications to the existing distribution system whether the request was made by the Member or as a requirement of AECI.

3. *Procedure*

Wiring Standards:

A) All wiring for Members must conform to AECI's requirements and accepted modern standards. These standards are set by The National Electrical Safety Code and The National Electrical Code.

Point of Delivery: Location on Member's premises where current is to be delivered.

A) The point of delivery shall be designated by AECI.
B) All wiring and equipment beyond the point of delivery shall be provided and maintained by the Member.

Inspections:

A) AECI shall have the right, but shall not be obligated, to inspect any installation before electricity is introduced. AECI reserves the right to reject any wiring or appliances not in accordance with AECI standards. Acceptable inspections, failure to inspect, or rejected inspections shall not render AECI liable. AECI shall not be responsible for any loss or damage resulting from the defects in the installation, wiring or from violation of AECI rules or procedures.
B) Inspections will be scheduled through the Member Services Department in coordination with Electric Supply and Maintenance.
C) If a Member inspection is not acceptable, ES&M will communicate corrections required to ensure compliance with the National Electrical Safety Code and AECI standards.

Please see attachments for basic installation specs:

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Typical Overhead Installation
Location of meter base must be specified by The Electric Supply & Maintenance Supervisor before meter base is installed on the house.

All new services and upgrades will required to have an outside disconnect. This disconnect shall be equivalent to the service amp size.

400 AMP Installation:

3 - # 500 MCM Copper Insulated or
3 - # 750 MCM Alum Insulated
#2 Solid Bare Copper Ground

320 AMP Installation:

Parallel 3/0 Copper or 4/0 Alum

200 AMP Installation:

3 - # 4/0 Alum Insulated OR (Neutral may be downgraded to #2/0 Alum Insulated)
3 - # 3/0 Copper Insulated (Neutral may be downgraded to #1/0 Copper Insulated)
#4 Solid Bare Copper Ground

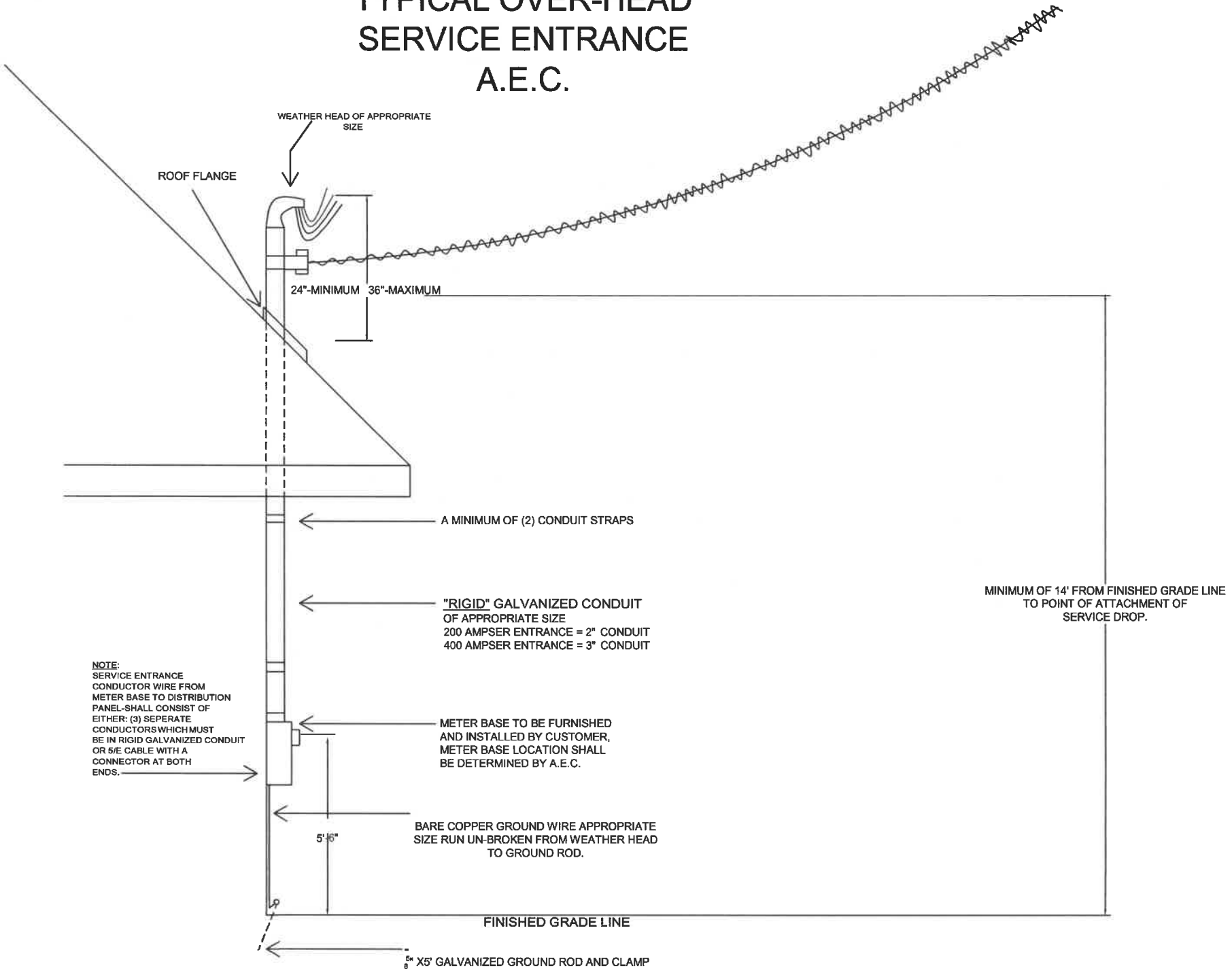
100 AMP Installation:

3 - #2 Alum Insulated OR
3 - #2 Copper Insulated
#4 Solid Bare Copper Ground

Conduit: Must be rigid galvanized
IMC conduit cannot be used for an overhead conduit mast.

100 AMP = 2 inch 200 AMP = 2 inch 400 AMP = 3 inch

TYPICAL OVER-HEAD SERVICE ENTRANCE A.E.C.



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Service to an Individual Mobile Home

The Arab Electric Cooperative defines a mobile home to be the following:

•A factory assembled structure or structures, equipped with the necessary connections for water, sewer, gas and electric services.
•Made so as to be capable of being moved as a unit or units on their own running gear.

The mobile home service equipment shall be installed in accordance with any and all provisions of the Arab Electric Cooperative, in conjunction with The National Electrical Code. The service equipment shall be installed in such a manner that is acceptable to the local authority having jurisdiction, this being the Arab Electric Cooperative. The main disconnect shall be located adjacent to be NOT MOUNTED ON THE MOBILE HOME, EXCEPT IN THOSE CASES WHERE THE MEMBER HAS COMPLIED WITH CURRENT COOPERATIVE POLICIES TO BRING SAID MOBILE HOME UP TO MINIMUM STANDARDS, TO BE CONSIDERED A PERMANENT STRUCTURE BY THE ARAB ELECTRIC COOPERATIVE. The minimum standards are as follows:

1. Tongue or tongues must be cut off or disconnected from mobile home frame.
2. All wheels and axles must be removed from mobile home frame.
3. A permanent MASONARY foundation or either rock, brick or block must be installed around entire perimeter of the mobile home.

The installation of the mobile home service pole is the member or the member's contractor responsibility. The service pole shall be installed adjacent to an outside wall of the mobile home. The location of the service pole will be determined by The Electric Supply & Maintenance Supervisor. The pole shall be no closer than 2 feet to the mobile home and no more than 30 feet from the mobile home. The service entrance and disconnect on the pole shall match the type and size of the distribution panel inside the mobile home. A drawing showing the required specifications of a typical mobile home service pole can be obtained from a Member Services Specialist at AECI.

Any additional cost to provide the member with service beyond the 200 feet of secondary must be paid by the member. If this is the case an estimation of said cost to member will be prepared by the Cooperative Engineering Office. The estimated cost plus a 25% contingency fee will be invoiced to the member and this amount must be paid in full before any work is started by the Cooperative. After the work order has been completed and closed-out the Cooperative Accounting Department will then compare actual cost of building the line extension to the estimated cost given to the member, if the actual cost is less than estimated cost the member will be refunded the difference. However, if the actual cost is more than estimated cost the member will be charged the difference. It will be 90 days from the time the work order is completed until this information is determined. If the member owes Arab

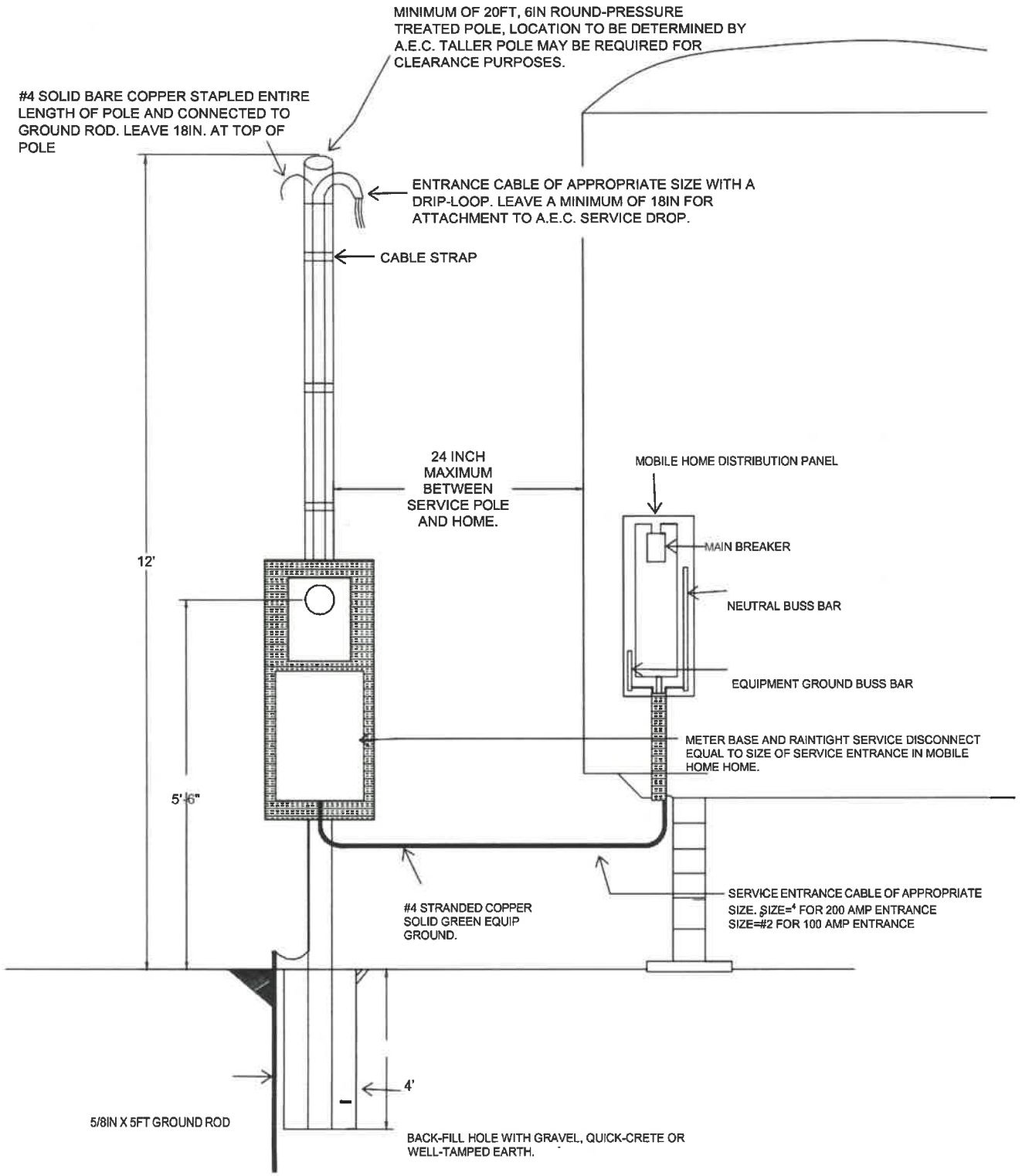
Electric Cooperative additional moneys they shall have 30 days from the date of invoice to pay said amount.

200 AMP Installation
3 - # 4/0 Alum Insulated or (Neutral may be downgraded to #2/0 Alum Insulated) 3 - # 3/0 copper insulated (Neutral may be downgraded to # 1 /0 Copper Insulated)
#4 Solid Bare copper ground
Service entrance cable is also accepted – no galvanized pipe required with service entrance cable

100 AMP installation
3 - #2 Alum insulated OR
3 - #2 Copper insulated
#4 Solid Bare Copper Ground
Conduit: Must be ridged galvanized
Service entrance cable is also accepted – no galvanized pipe required with service entrance cable

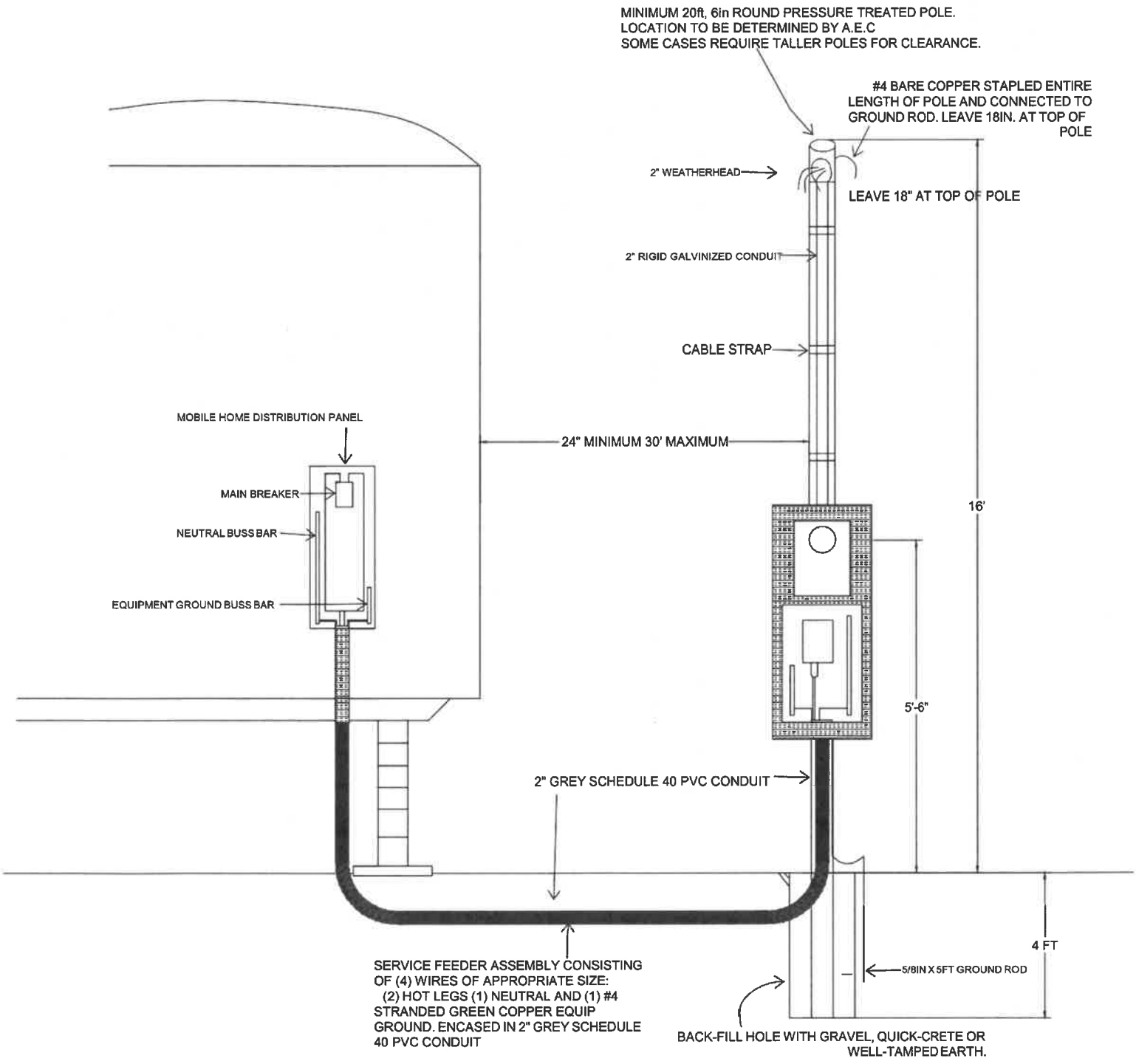
IMC conduit cannot be used for an overhead conduit mast.

100 AMP= 2 inch
200 AMP = 2 inch
400 AMP = 3 inch



Typical Mobile Home Service Pole Using service entrance cable

TYPICAL MOBILE HOME SERVICE POLE USING CONDUIT



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Notes & specifications for underground services single phase

IMPORTANT – AECI WILL NOT BEGIN WORK ON SERVICE UNTIL ALL CONDUIT IS IN THE APPROPRIATE PLACE.

All new services and upgrades will require an outside disconnect. This disconnect shall be equivalent to the service amp size.

All underground service maintained by AECI must be installed in conduit from AECI's pole to the residence or business. All conduit must be furnished and installed by customer. All 90 degree elbows are to be GALVANIZED CONDUIT.
The depth of this conduit shall be as follows:
PRIMARY = 3 feet minimum on schedule 40 grey PVC conduit.
= 2 feet minimum on rigid galvanized conduit with one foot by one foot of concrete cover.
=2 feet minimum on schedule 40 grey PVC with one foot by one Of concrete cover.

All above ground conduit installed on customer's premises for primary installation must be galvanized conduit of the appropriate size. All underground conduit installed on customer's premises can be schedule 40 grey pvc conduit if ditch is 3 feet deep.

It shall be of appropriate size as to accommodate the requirements for the single phase primary line. Sizes are as follows:
Up to 300 feet will be a minimum of 2 inch conduit
300 – 500 feet will be a minimum of 3 inch conduit
Over 500 feet will require a primary feed through cabinet

SECONDARY = 24 inch minimum on schedule 40 grey PVC conduit.
= 18 inch minimum on rigid galvanized conduit with one foot by one Foot of concrete cover
= 18 inch minimum on schedule 40 grey PVC with one foot by one Foot of concrete cover.

= 3 feet if cable or telephone line to be in same ditch.

First joint of conduit, at AEC pole, must be galvanized of the appropriate size and at meter base. All other conduit should be grey scheduled 40 pvc of the appropriate size. Amount and size is to be determined by AECI. All secondary installations must have a weather head.

It shall be of appropriate size as to accommodate the requirements for the single phase service entrance. Sizes are as follows:

100 amp – 2 inch conduit with #4 Solid Bare copper ground wire.
200 amp – 2 inch conduit with #4 Solid Bare copper ground wire.

400 amp – 3 inch conduit with #2 Solid Bare copper ground wire.
600 amp – 3 inch conduit parallel with # 1/0 stranded cooper ground wire.

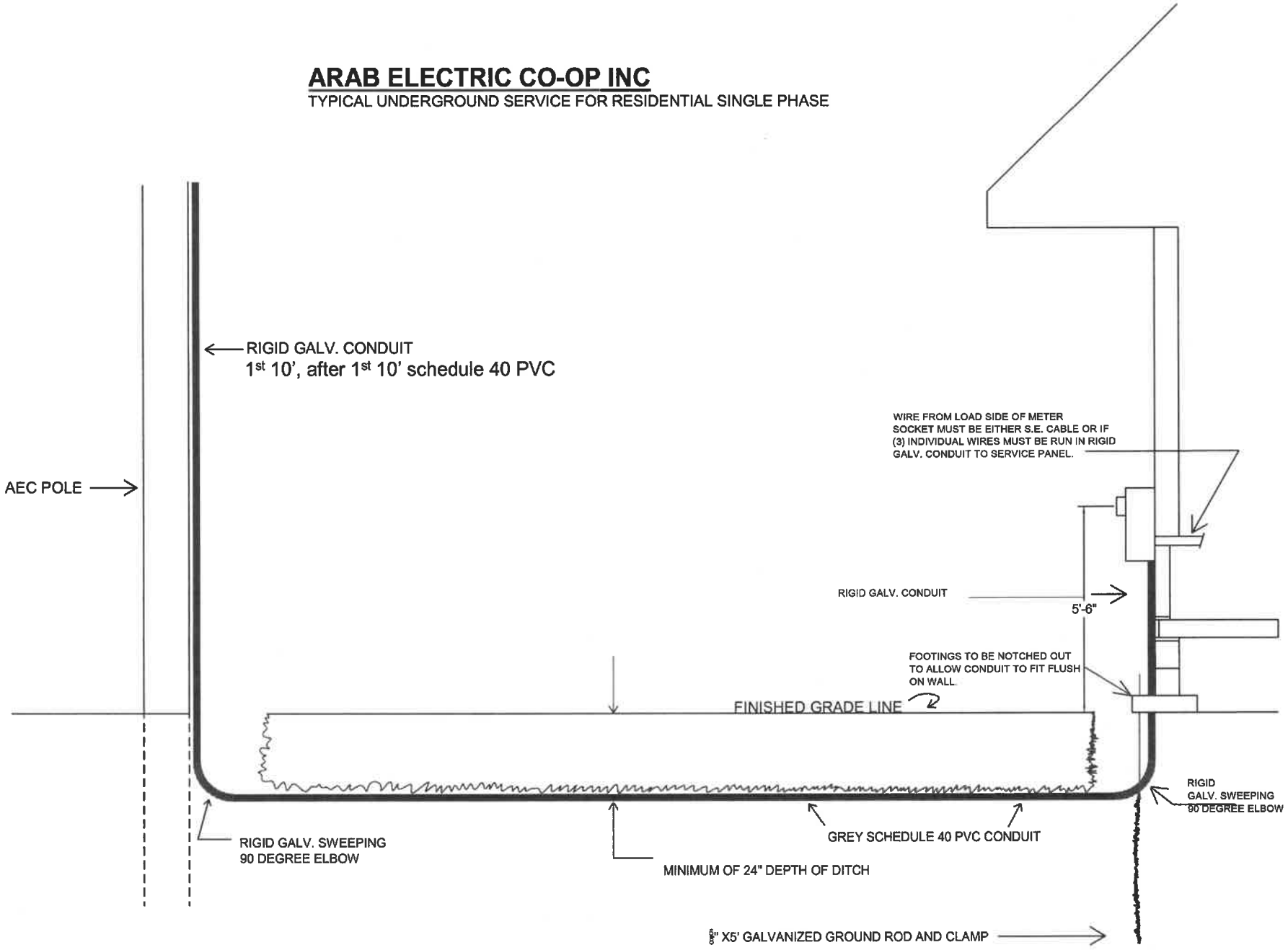
It shall be of appropriate size as to accommodate the requirements for the three phase service entrance. Sizes are as follows:
200 amp – 3 inch conduit with #4 Solid Bare copper ground wire.
400 amp – 4 inch conduit with #2 Solid Bare copper ground wire.
600 amp 4 inch conduit parallel with # 1/0 stranded copper ground wire.

The above requirements also apply to CT metering installations.

When conduit is installed, it must contain a pull string to facilitate installation of wire. AECI can furnish to the member or his designated contractor such string. The string can be picked up any time between 7:30 a.m. and 3:30 p.m. at the AEC Warehouse. Customer or his contractor is responsible for furnishing an approved type underground service meter base and disconnect The meter base location MUST be determined by the AECI Electric Supply & Maintenance Supervisor. Customer should not install any service entrance equipment without PRIOR APPROVAL by AECI; this could lead to possible relocation of entrance at the CUSTOMER'S expense. Customer or his contractor is responsible for furnishing an approved type underground service meter base and disconnect The meter base location MUST be determined by the AECI Electric Supply and Maintenance Supervisor. Customer should not install any service entrance equipment without PRIOR APPROVAL by AECI; this could lead to possible relocation of entrance at the CUSTOMER'S expense. Customer or his contractor is responsible for opening and closing ditch or trench from AECI's pole to house or building. This must be coordinated thru AECI operations office so as to avoid any problems or added expense. When conduit has been installed, this installation MUST BE INSPECTED by AECI. At the time of inspection, AECI will furnish to the customer or contractor underground marking tape to be installed in the ditch or trench before it is covered. In no instance shall water, gas or sewer lines to be contained in this trench of ditch however these utilities can cross-over electrical trench or ditch.
All three phase underground services MUST BE APPROVED BY AECI MANAGEMENT. Any customer desiring this service should make application and obtain prior approval before proceeding in this area. Additional information and specifications on three phase underground service may be obtained from the AECI Electric Supply and Maintenance Supervisor.

ARAB ELECTRIC CO-OP INC

TYPICAL UNDERGROUND SERVICE FOR RESIDENTIAL SINGLE PHASE



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TYPICAL TEMPORARY SERVICE

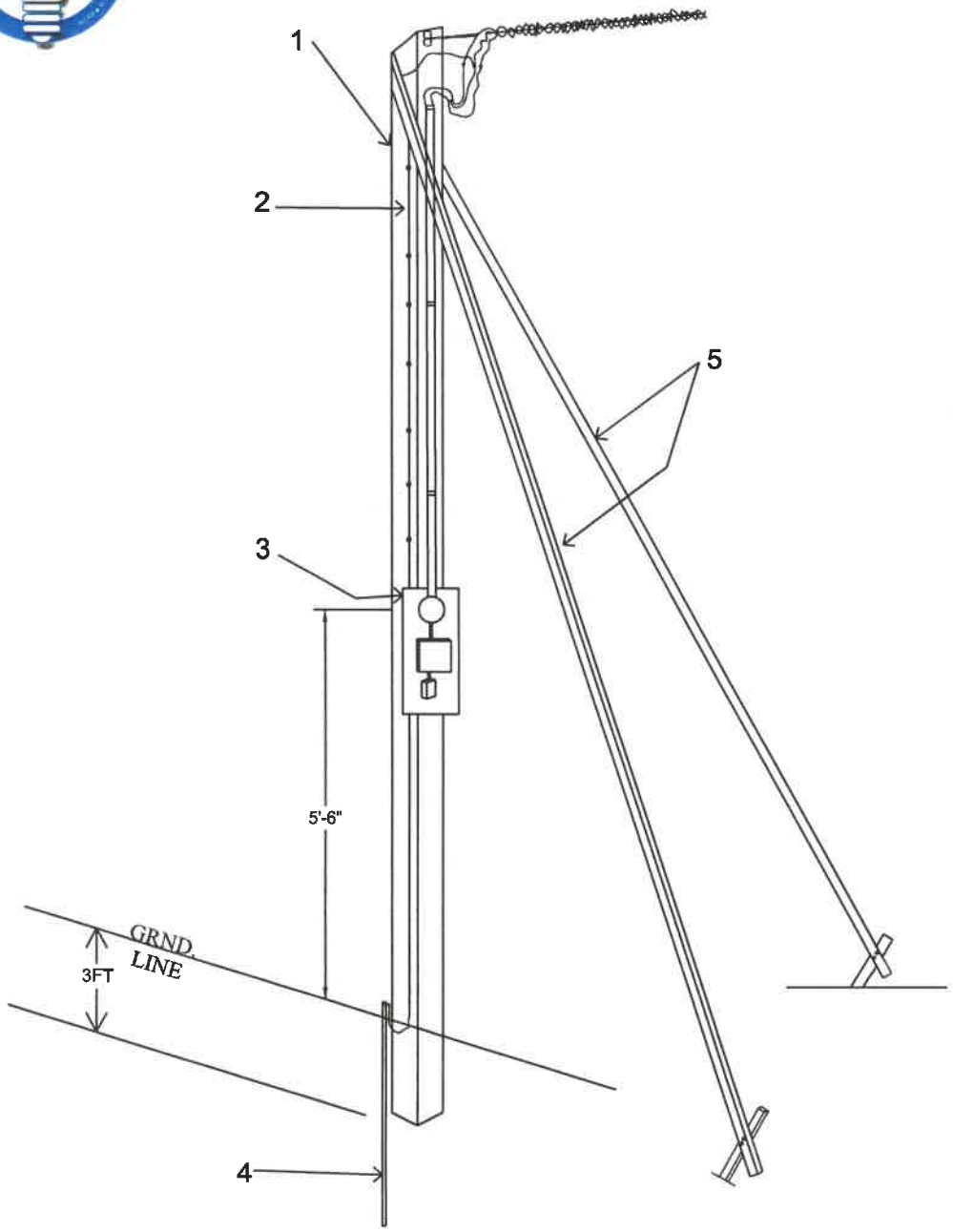
WIRE = # 6 Bare Copper Ground or #4 Bare Copper Ground
6 Entrance Cable

POLE = Customer may use a 16' treated pole or a 4 x 4 treated post. If a 4 x 4 is used, it must be sufficiently braced.

Either a fuse panel or a circuit breaker may be used, preferably with ground fault interrupter. The use of fuse panel or circuit breaker is entirely at the customer's option. Location of the service pole will be determined by AEC before installation.

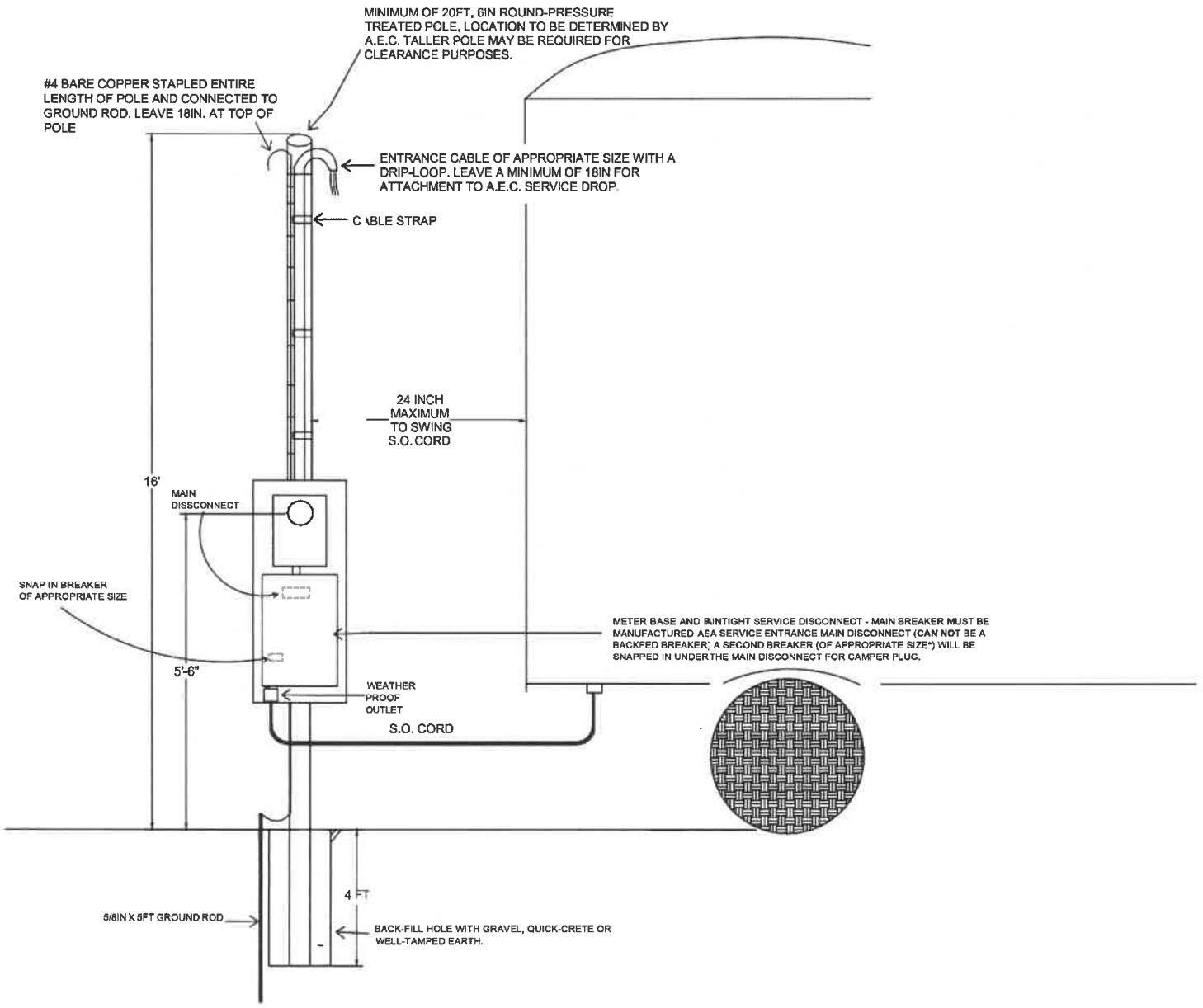
****THIS IS FOR A TEMPORARY SERVICE TO BUILD A NEW STRUCTURE ONLY, AND WILL NOT MEET THE REQUIREMENTS FOR A PERMANENT MOBILE HOME SERVICE.**

Typical Temporary Service



1. TREATED - 4x4 - 16' IN LENGTH
2. #4 BARE COPPER GRND WIRE - STAPLED LENGTH OF POLE CONNECTED TO GRND ROD.
3. MINIMUM OF 100 AMP SERVICE PANEL WITH METER SOCKET AND RAIN TIGHT DISCONNECT.
4. GRND ROD AND CLAMP
5. 2x4 BRACES

AEC TYPICAL CAMPER SERVICE POLE
USING SERVICE ENTRANCE (S.E.) CABLE



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4. References

Arab Electric Cooperative Application for Service
The National Electrical Safety Code
The National Electrical Code

My signature above indicates that I have received this SOP, and I understand that I am encouraged to discuss any concerns with my supervisor.