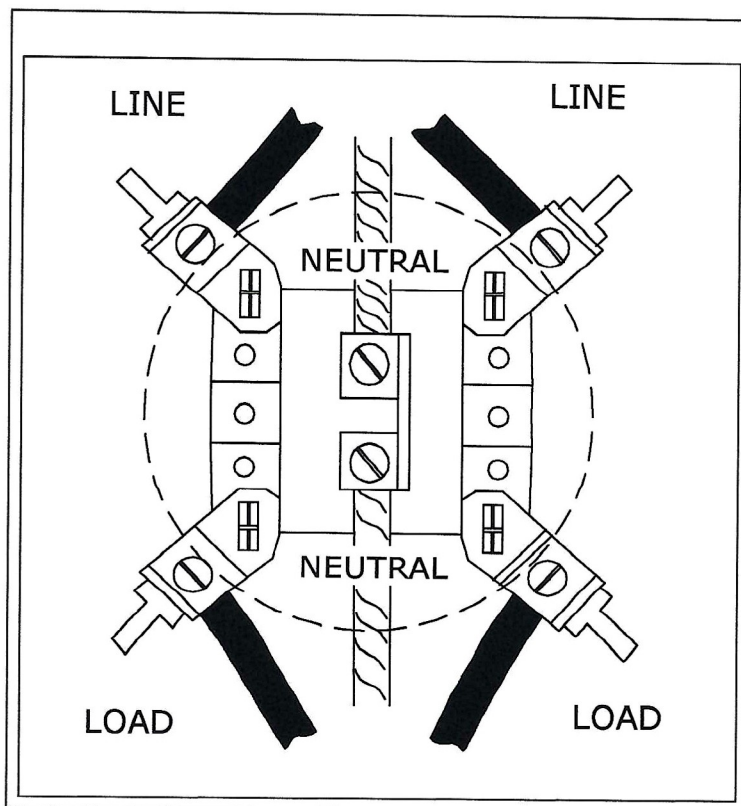
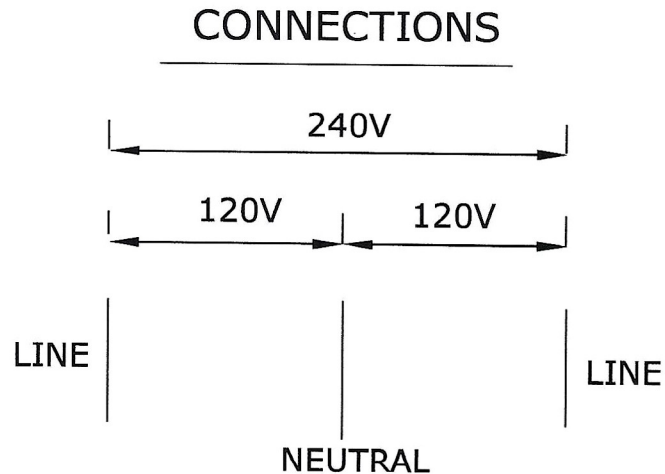


OVERHEAD SINGLE PHASE METER BASE

- Single phase meter bases will be provided by the member (except ETS 2-gang and Multi-phase bases which the Cooperative provides).
- Meter bases will be ringless, minimum of NEMA type 3R design, weather-tight, and the socket lugs will be of bypass horn type construction for use by the Cooperative during meter maintenance.
- Meter bases will be rated between 100 and 320 Amps. Overhead sockets will require a hub opening at the top for overhead entry. Overhead service must utilize this hub opening.

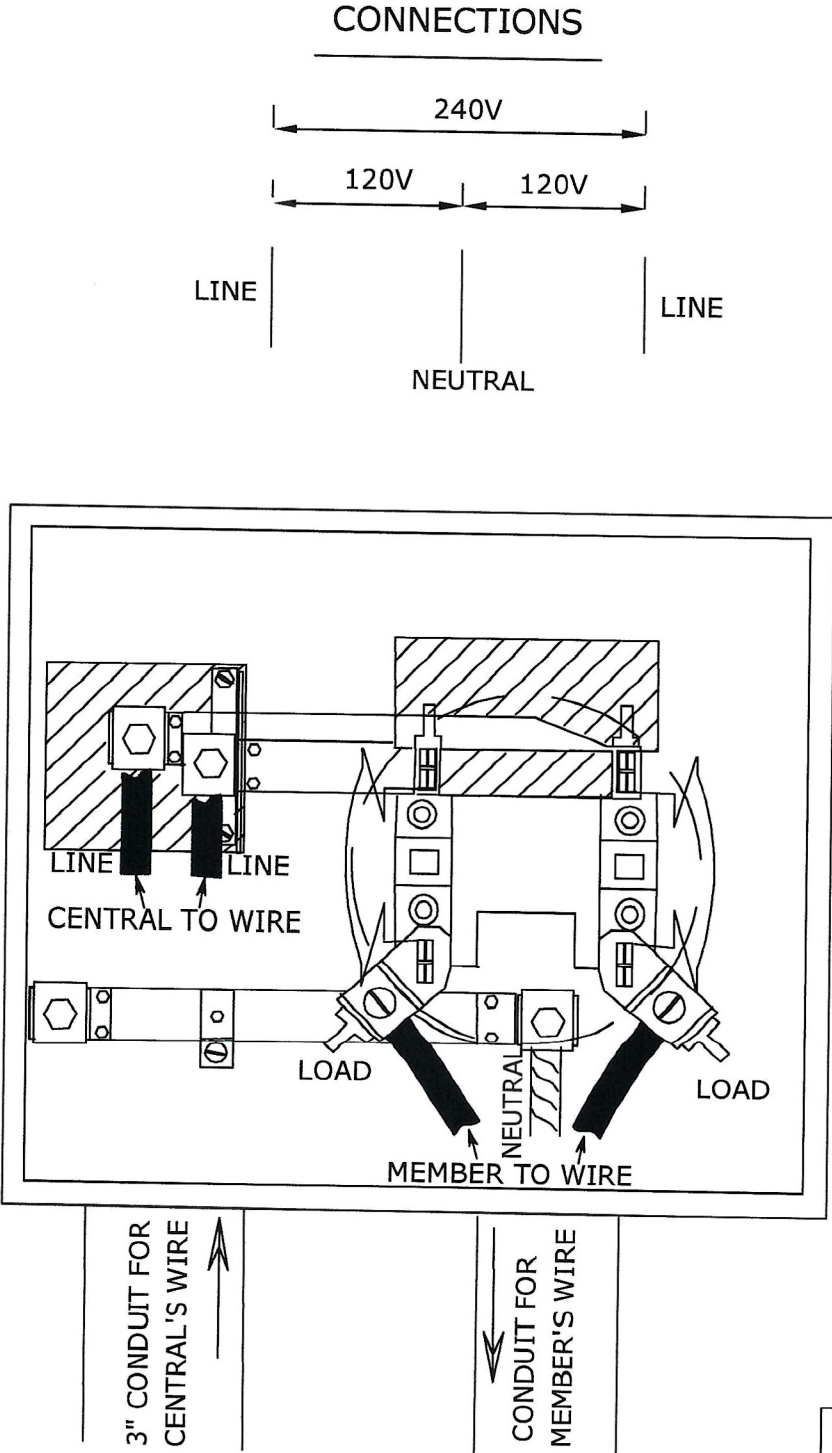


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FIGURE 1

SINGLE PHASE METER BASE FOR UNDERGROUND SERVICE

- Single phase meter bases will be provided by the member (except ETS 2-gang and Multi-phase bases which the Cooperative provides).
- Meter bases will be ringless, minimum of NEMA type 3R design, weather-tight, with side mounted by-pass, horn-type socket lugs which must accept 4/0 conductor, and bottom knockouts for 3" conduit. Installed height -- 3 ft. minimum.



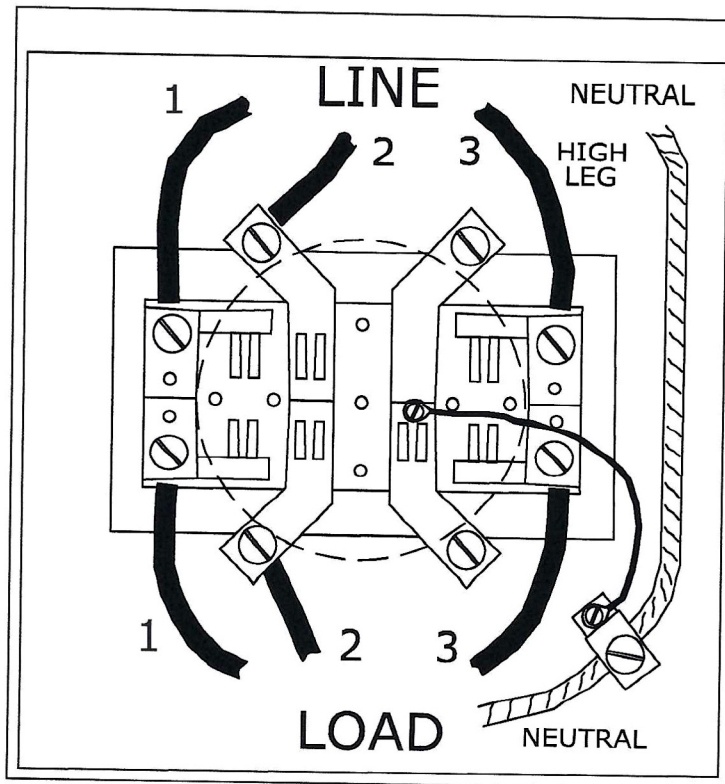
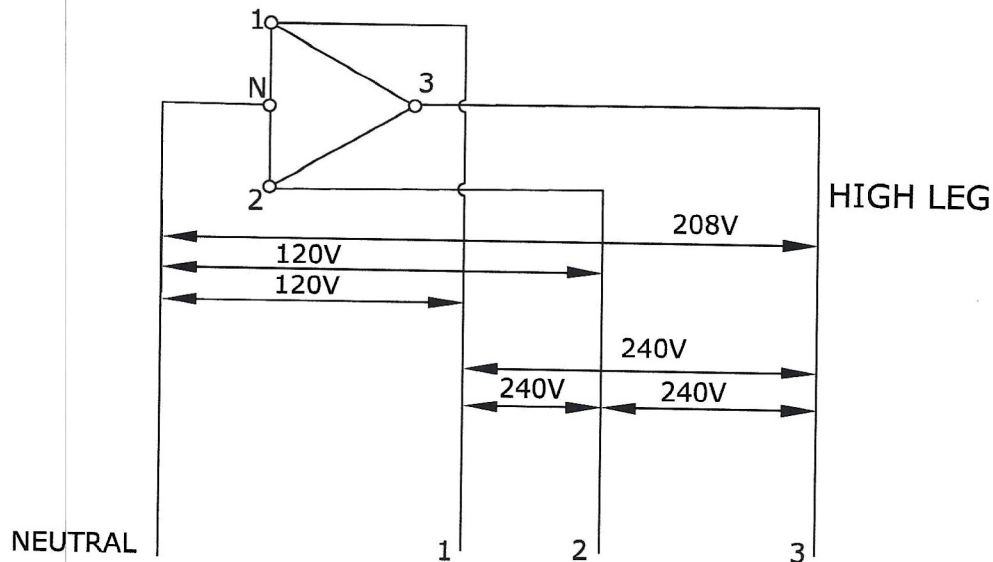
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FIGURE 1.1

THREE-PHASE DELTA SELF CONTAINED METERING

- Meter base will be provided by the Member, Bypass Lever Type.
- Maximum 320 amp service. For larger services, transformer rated metering will be used (contact the Engineering Department).
- HIGH LEG must be marked with red or orange at the weatherhead, in the meter base, and in the main disconnect.

CONNECTIONS



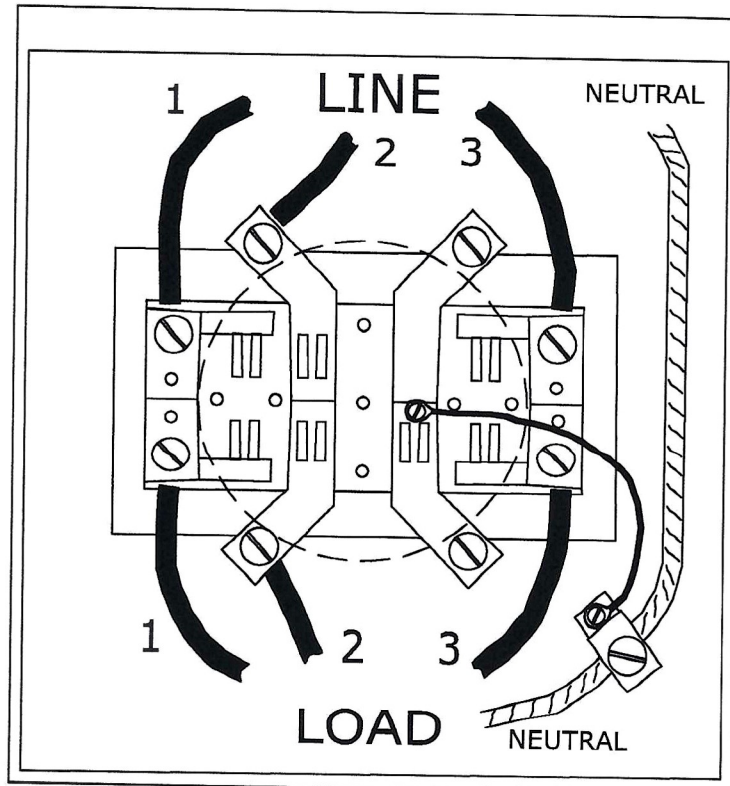
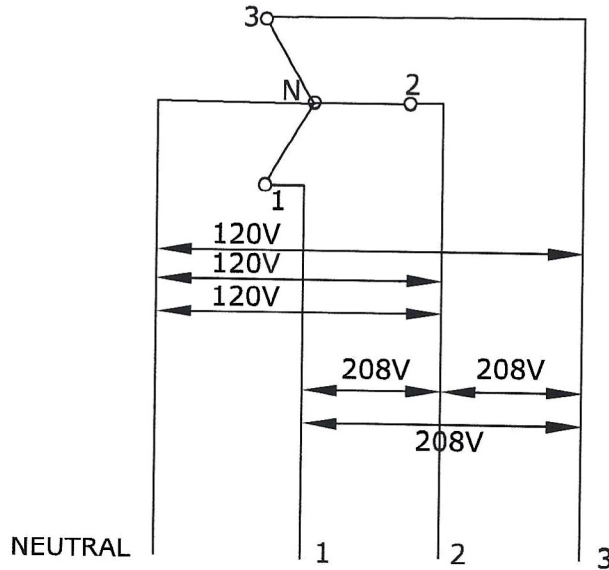
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FIGURE 2

THREE-PHASE WYE SELF CONTAINED METERING

- Meter base will be provided by the Member, Bypass Lever Type.
- Maximum 320 amp service. For larger services, transformer rated metering will be used (contact the Engineering Department).

CONNECTIONS

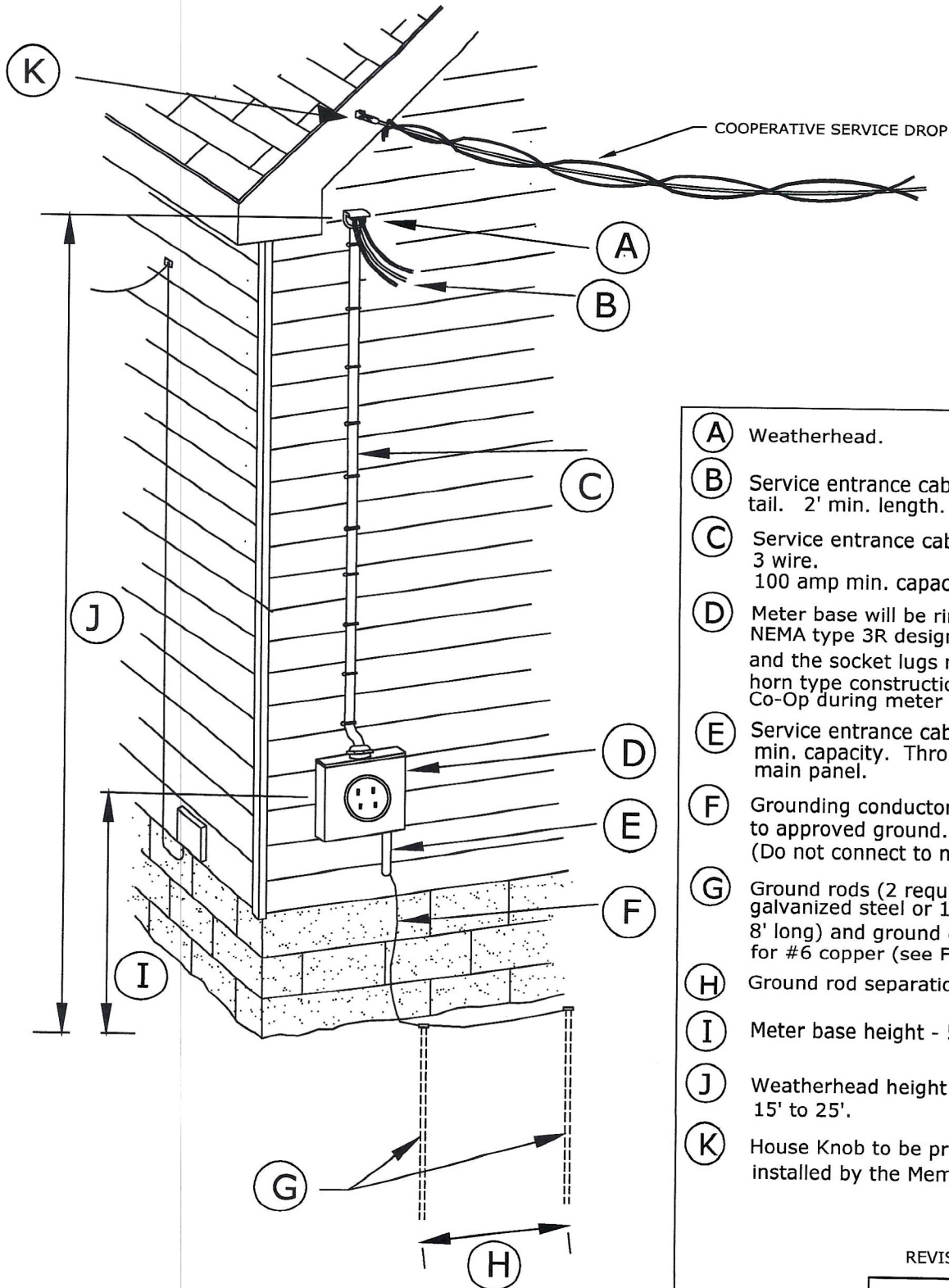


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FIGURE 3

TYPICAL OVERHEAD PERMANENT SERVICE

- An inspection by a Municipality approved inspector is required (per UCC code).
- ALL EQUIPMENT SHOWN (except the service drop and its attachment) WILL BE PROVIDED AND INSTALLED BY THE MEMBER.
- Cooperative service drop max. length - 150' from nearest pole (250' from transformer).



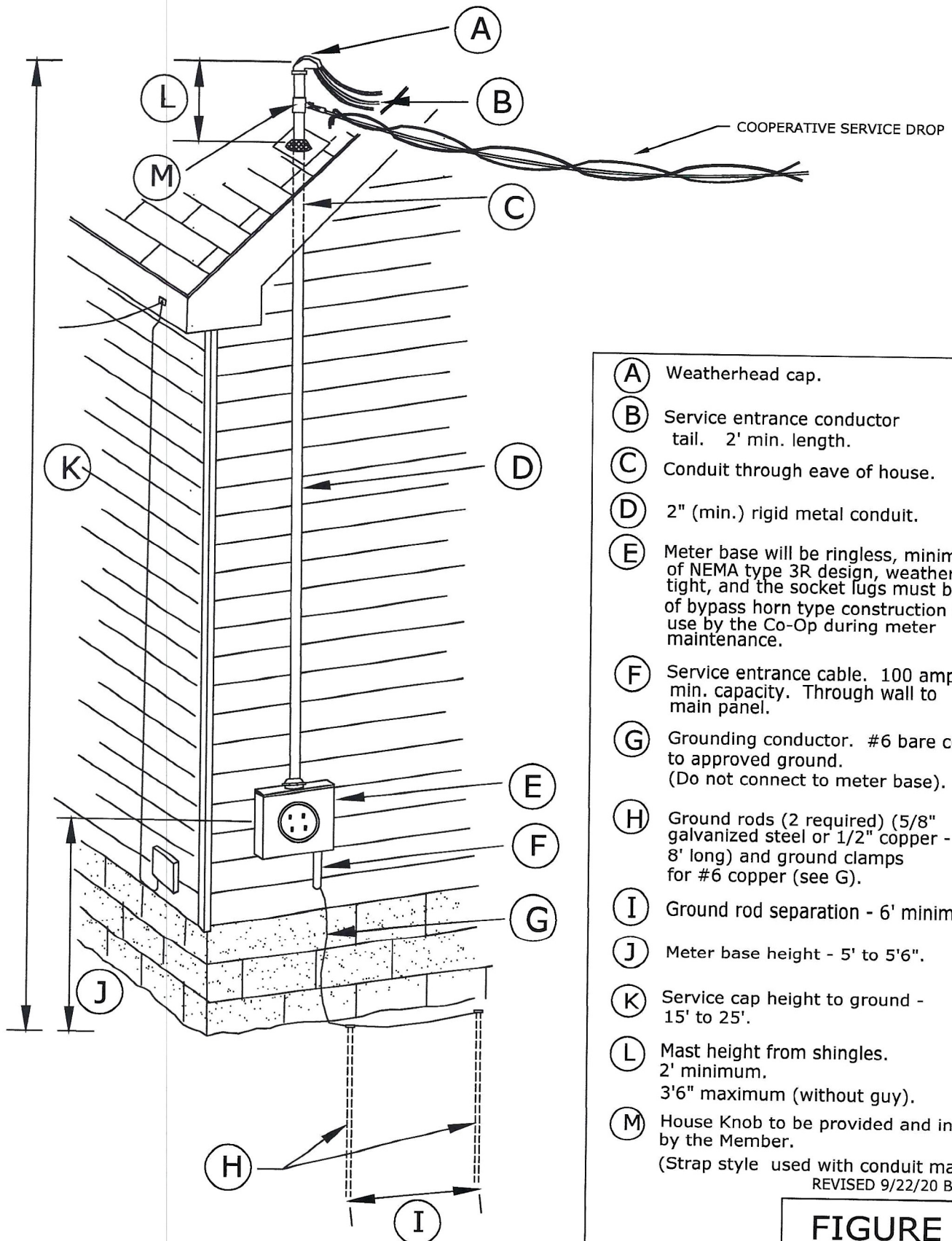
- (A) Weatherhead.
- (B) Service entrance cable tail. 2' min. length.
- (C) Service entrance cable. 3 wire. 100 amp min. capacity.
- (D) Meter base will be ringless, minimum of NEMA type 3R design, weather-tight, and the socket lugs must be of bypass horn type construction for use by the Co-Op during meter maintenance.
- (E) Service entrance cable. 100 amp min. capacity. Through wall to main panel.
- (F) Grounding conductor. #6 bare copper to approved ground. (Do not connect to meter base).
- (G) Ground rods (2 required) (5/8" galvanized steel or 1/2" copper - 8' long) and ground clamps for #6 copper (see F).
- (H) Ground rod separation - 6' minimum.
- (I) Meter base height - 5' to 5'6".
- (J) Weatherhead height to ground - 15' to 25'.
- (K) House Knob to be provided and installed by the Member.

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FIGURE 4

TYPICAL OVERHEAD MAST TYPE SERVICE

- An inspection by a Municipality approved inspector (per UCC code).
- ALL EQUIPMENT SHOWN (except the service drop and its attachment) WILL BE PROVIDED AND INSTALLED BY THE MEMBER.
- Cooperative service drop max. length - 150' from nearest pole (250' from transformer).



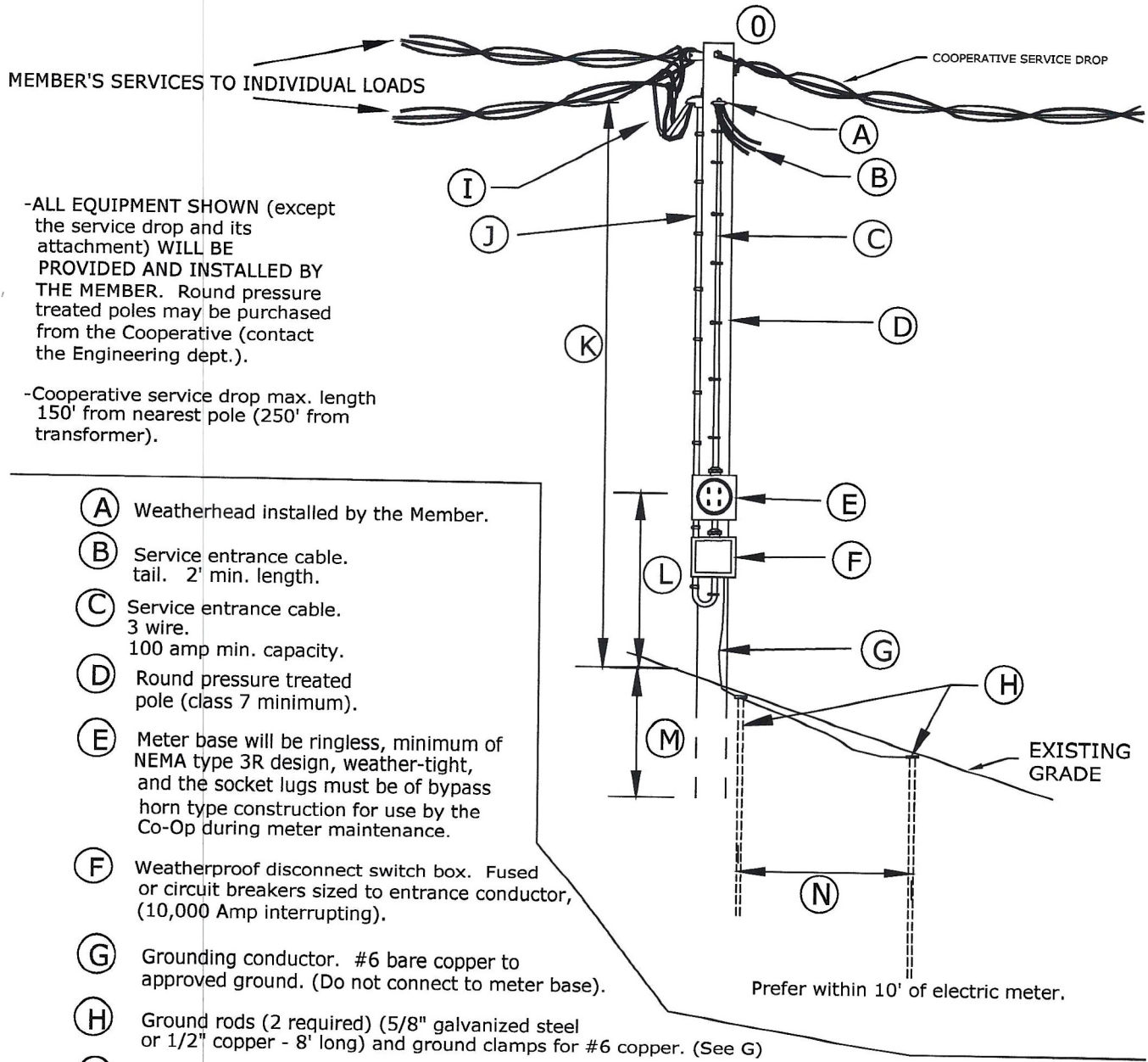
- (A) Weatherhead cap.
- (B) Service entrance conductor tail. 2' min. length.
- (C) Conduit through eave of house.
- (D) 2" (min.) rigid metal conduit.
- (E) Meter base will be ringless, minimum of NEMA type 3R design, weather-tight, and the socket lugs must be of bypass horn type construction for use by the Co-Op during meter maintenance.
- (F) Service entrance cable. 100 amp min. capacity. Through wall to main panel.
- (G) Grounding conductor. #6 bare copper to approved ground. (Do not connect to meter base).
- (H) Ground rods (2 required) (5/8" galvanized steel or 1/2" copper - 8' long) and ground clamps for #6 copper (see G).
- (I) Ground rod separation - 6' minimum.
- (J) Meter base height - 5' to 5'6".
- (K) Service cap height to ground - 15' to 25'.
- (L) Mast height from shingles. 2' minimum. 3'6" maximum (without guy).
- (M) House Knob to be provided and installed by the Member. (Strap style used with conduit mast)

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FIGURE 5

CENTER METER POLE (TYPICAL)

- Available where multiple services are required within a single facility (such as farm use).
- An inspection by a Municipality approved inspector (per UCC code).



-ALL EQUIPMENT SHOWN (except the service drop and its attachment) WILL BE PROVIDED AND INSTALLED BY THE MEMBER. Round pressure treated poles may be purchased from the Cooperative (contact the Engineering dept.).

-Cooperative service drop max. length 150' from nearest pole (250' from transformer).

- (A) Weatherhead installed by the Member.
- (B) Service entrance cable. tail. 2' min. length.
- (C) Service entrance cable. 3 wire. 100 amp min. capacity.
- (D) Round pressure treated pole (class 7 minimum).
- (E) Meter base will be ringless, minimum of NEMA type 3R design, weather-tight, and the socket lugs must be of bypass horn type construction for use by the Co-Op during meter maintenance.
- (F) Weatherproof disconnect switch box. Fused or circuit breakers sized to entrance conductor, (10,000 Amp interrupting).
- (G) Grounding conductor. #6 bare copper to approved ground. (Do not connect to meter base).
- (H) Ground rods (2 required) (5/8" galvanized steel or 1/2" copper - 8' long) and ground clamps for #6 copper. (See G)
- (I) Weatherhead. Load side of meter.
- (J) Service entrance cable. Load side of meter.
- (K) Weatherhead height from ground - 15' minimum.
- (L) Meter base height - 5' to 5'6".
- (M) Pole setting depth - 2' plus 10 percent of total pole length.
- (N) Ground rod separation - 6' minimum.
- (O) House Knob to be provided and installed by the Member.

Prefer within 10' of electric meter.

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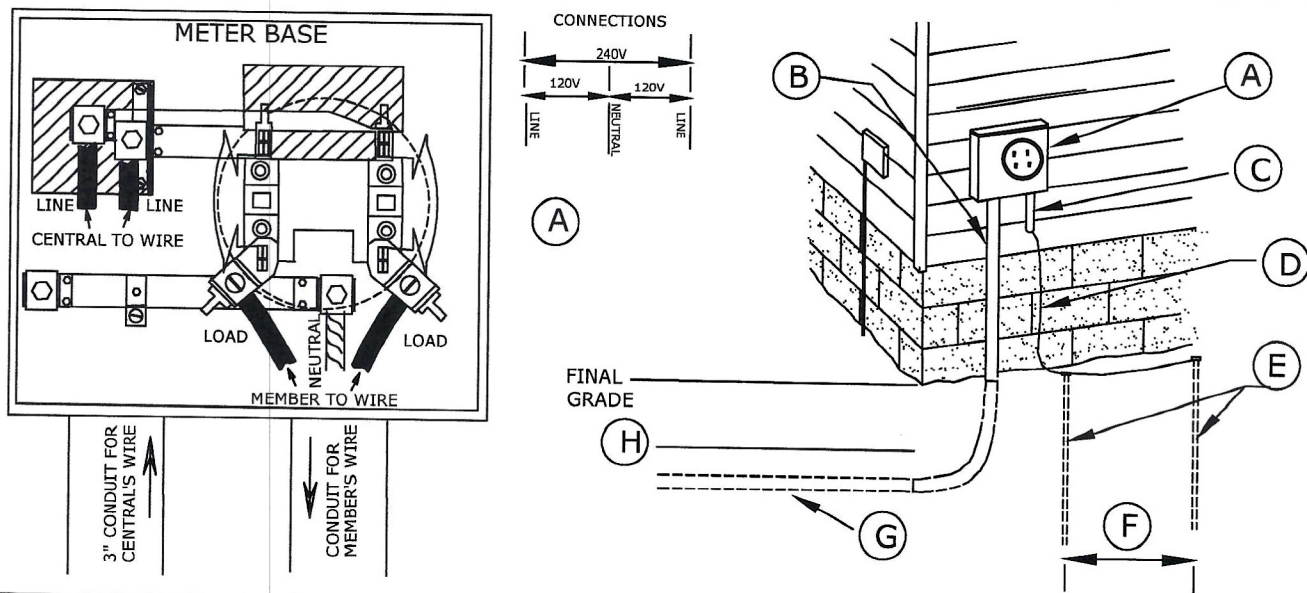
FIGURE 6

UNDERGROUND PERMANENT SERVICE

- > An Inspection by a Municipality approved inspector is required (per UCC code).
- > Cooperative service drop will have a maximum distance of 250 ft. when originating from a pole mounted transformer, or when originating from a pad mount transformer.
- > Site should be graded to within 6" of final grade prior to trenching.
- > Member must excavate trench for service cable from transformer to meter, provide 3" PVC Schedule 40 rigid electrical conduit the entire length of the ditch including 36" radius sweep and 3" Schedule 80 riser conduit into the meter base with a 1/2" min. diameter pull rope inside. (A 1/4" weep hole drilled above ground line of final grade is suggested).
- > Telephone, television and other communication lines may be installed in the same trench, however, require a minimum of 12" separation.

*Water, sewer, and gas lines may NOT be placed in the ditch.

- > ALL EQUIPMENT SHOWN WILL BE PROVIDED AND INSTALLED BY MEMBER EXCEPT WHERE NOTED.



- (A) Meter base: 200 AMP min. capacity, ringless, min. of NEMA type 3R design, weather-tight, with side mounted by-pass horn-type socket lugs which must accept 4/0 conductor, & knockouts for 3" conduit. Installed at a minimum height of 3ft.
- (B) 3" PVC Schedule 80 service wire riser conduit into bottom of meter base.
- (C) Conduit & entrance conductor from meter base to panel will be sized according to service panel.
- (D) Grounding conductor-#6 bare copper to approved ground.(Do not connect to meter base).
- (E) Two-5/8" galvanized steel or 1/2" copper - 8 ft. long ground rods and ground clamps for #6 copper.
- (F) Ground rod separation must be minimum of 6 ft.
- (G) 3" Schedule 40 rigid PVC electrical conduit the entire length of the ditch including 36" radius sweep at each end (A 1/4" weep hole drilled above ground line of finished grade is suggested). Member will connect at meter base and Cooperataive will connect at pole. Conduit depth will be 30" to 36".
- (H) Underground cable caution tape to be installed 12" above conduit.

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FIGURE 7

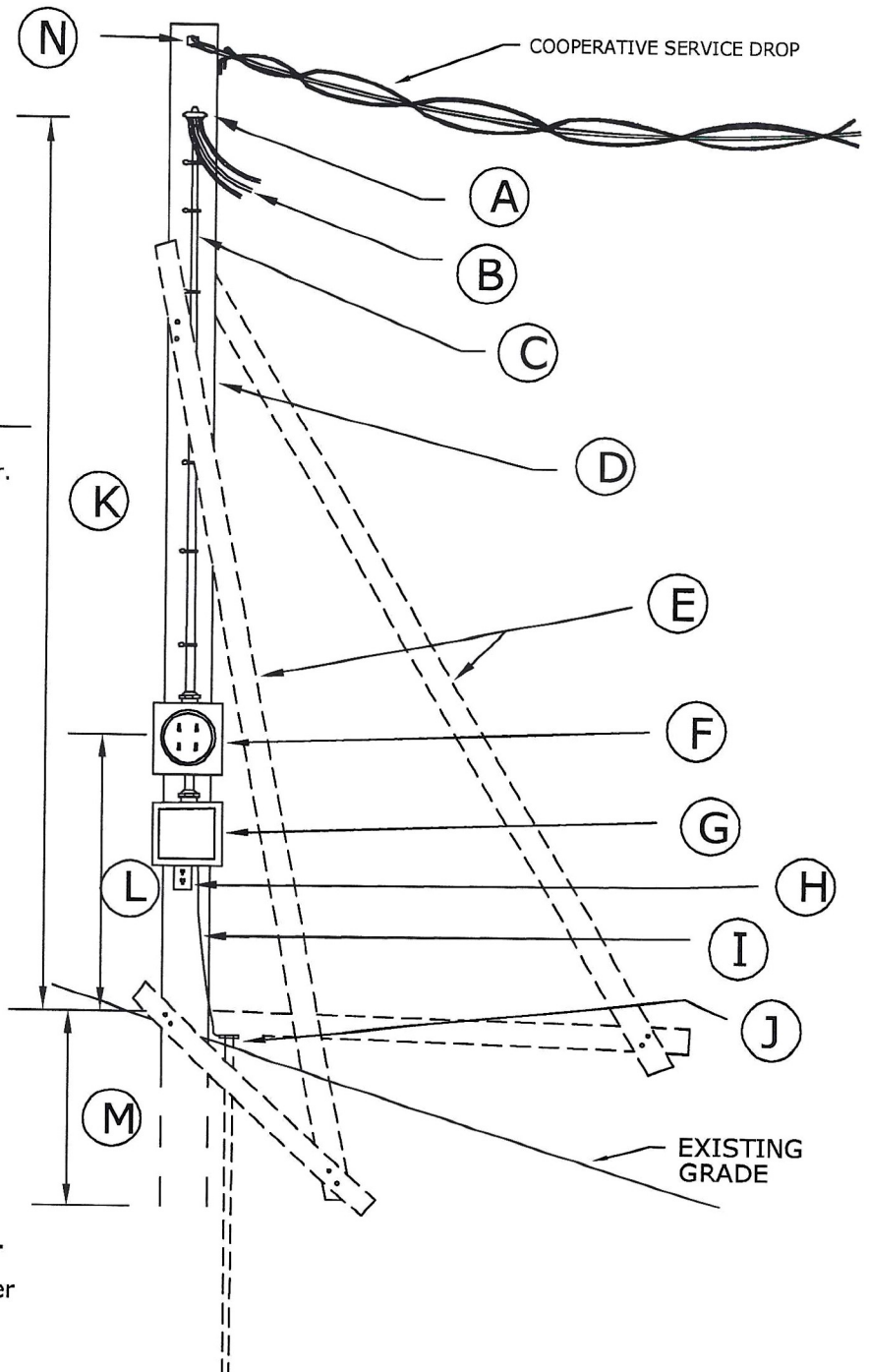
OVERHEAD TEMPORARY SERVICE

- Available for a period of 1 year maximum.
- All temporary service locations must be preapproved by the Cooperative - locate so service wire can swing to permanent without splicing. (Contact the Engineering Dept.)
- Cooperative service drop will have a maximum length of 75' when timbers are used for support post, 150' maximum when a round pressure treated pole is used.

-A formal (agency) inspection will not be required for temporary services (contact the Engineering dept. for service drop installation when all requirements are complete).

-ALL EQUIPMENT SHOWN (except the service drop and its attachment) WILL BE PROVIDED AND INSTALLED BY THE MEMBER. Round pressure treated poles may be purchased from the Cooperative (contact the Engineering dept.).

- (A) Weatherhead installed by the Member.
- (B) Service entrance cable with minimum 2' length tail.
- (C) Service entrance cable. 3 wire. 30 Amp min. capacity.
- (D) Support post. Round pressure treated pole. (Required when the service drop crosses a public road). 6" X 6" timber or three three continuous 2" X 6" 's nailed together.
- (E) 2" x 4" Braces. (not required on a round pressure treated pole)
- (F) Meter base. 30 amp min. capacity.
- (G) Weatherproof disconnect switch box. Fused or circuit breakers sized to entrance conductor. (10,000 amp interrupting)
- (H) Weatherproof receptacle with ground fault circuit interruption (GFI).
- (I) Grounding conductor. #6 bare copper to approved ground. (Do not connect to meter base).
- (J) Ground rod (5/8" galvanized steel or 1/2" copper - 8' long) and ground clamp for #6 copper (see I).
- (K) Weatherhead height from ground - 15' minimum.
- (L) Meter base height - 5' to 5'6".
- (M) Post setting depth - 2' plus 10 percent of total post length (40" minimum).
- (N) House Knob to be provided and installed by the Member.

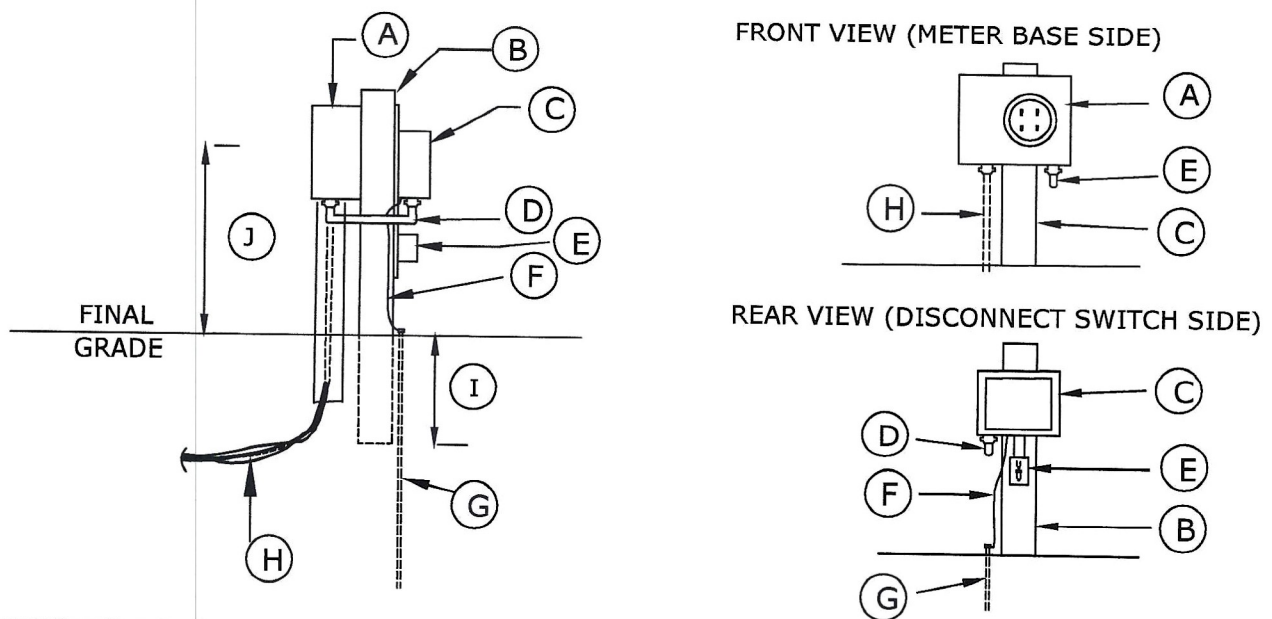


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FIGURE 8

UNDERGROUND TEMPORARY SERVICE (FROM AN UNDERGROUND TRANSFORMER VAULT ONLY)

- Available for a maximum period of 1 year.
- A formal inspection will not be required for temporary services (contact the Engineering Department for connection when all requirements are complete).
- ALL EQUIPMENT SHOWN WILL BE PROVIDED AND INSTALLED BY MEMBER.
- The permanent service drop will have a maximum length of 250 ft. (total distance from pad mount transformer to meter).



- (A) Meter base. 30 amp minimum capacity.
- (B) Support post. 4" x 4" min. timber or section of round pole.
- (C) Weatherproof disconnect switch box. Fused or circuit breakers sized to entrance conductor. (10,000 amp interrupting)
- (D) Conduit and entrance conductors. 30 amp minimum capacity.
- (E) Weatherproof receptacle with ground fault circuit interruption (GFI).
- (F) Grounding conductor. #6 bare copper to approved ground. (Do not connect to meter base).
- (G) Ground rod (5/8" galvanized steel or 1/2" copper - 8' long) and ground clamp for #6 copper (see G).
- (H) Service cable provided by the member should be sized according to the service panel.
THE COOPERATIVE WILL MAKE ALL CONNECTIONS AT THE TRANSFORMER.
- (I) Post setting depth - 30" minimum.
- (J) Meter base height - 3' minimum.

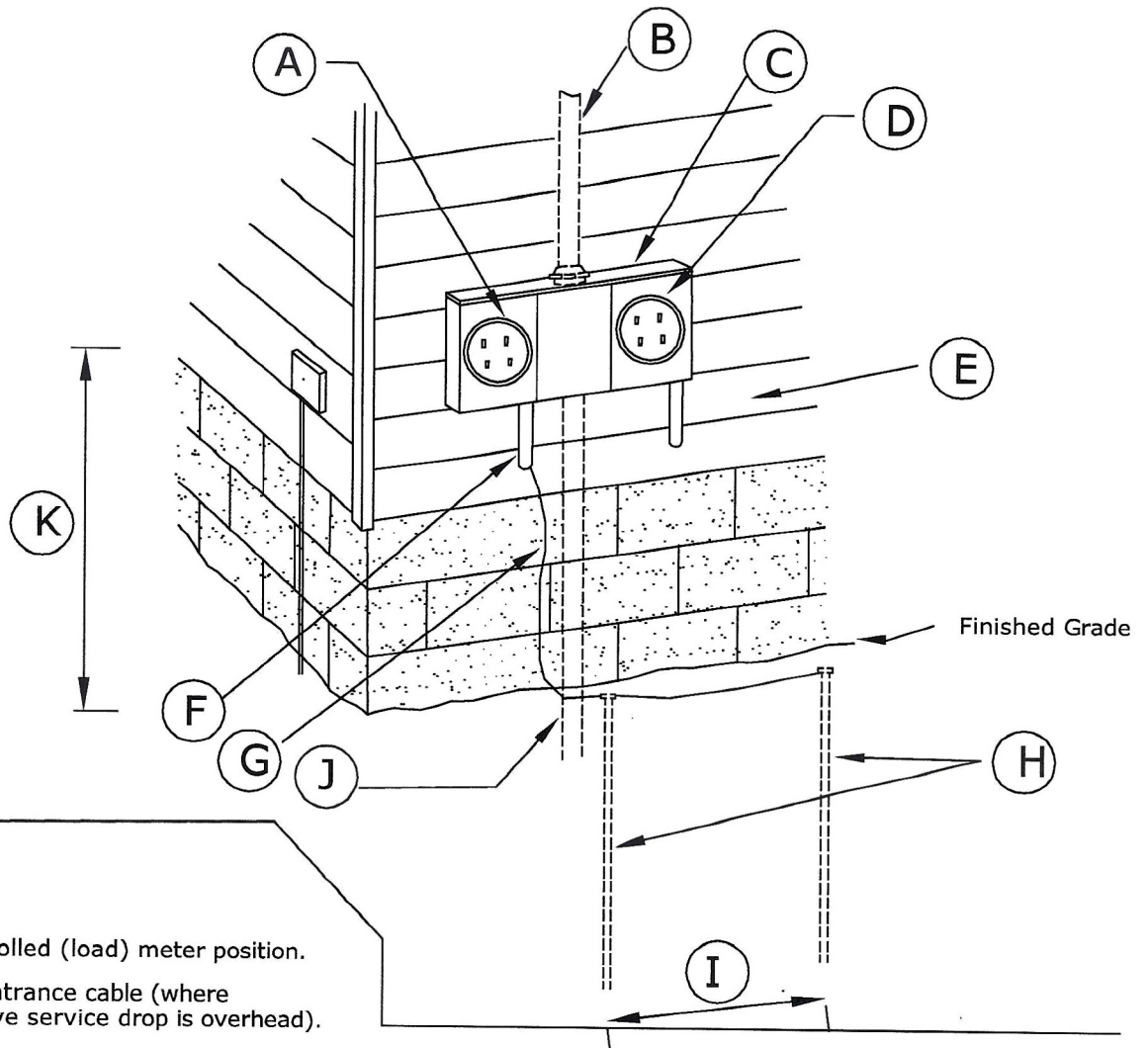
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FIGURE 9

ETS INSTALLATION (TYPICAL)

-An inspection by a Municipality approved inspector is required (per UCC code).

-ALL EQUIPMENT SHOWN WILL BE PROVIDED AND INSTALLED BY MEMBER EXCEPT WHERE NOTED.



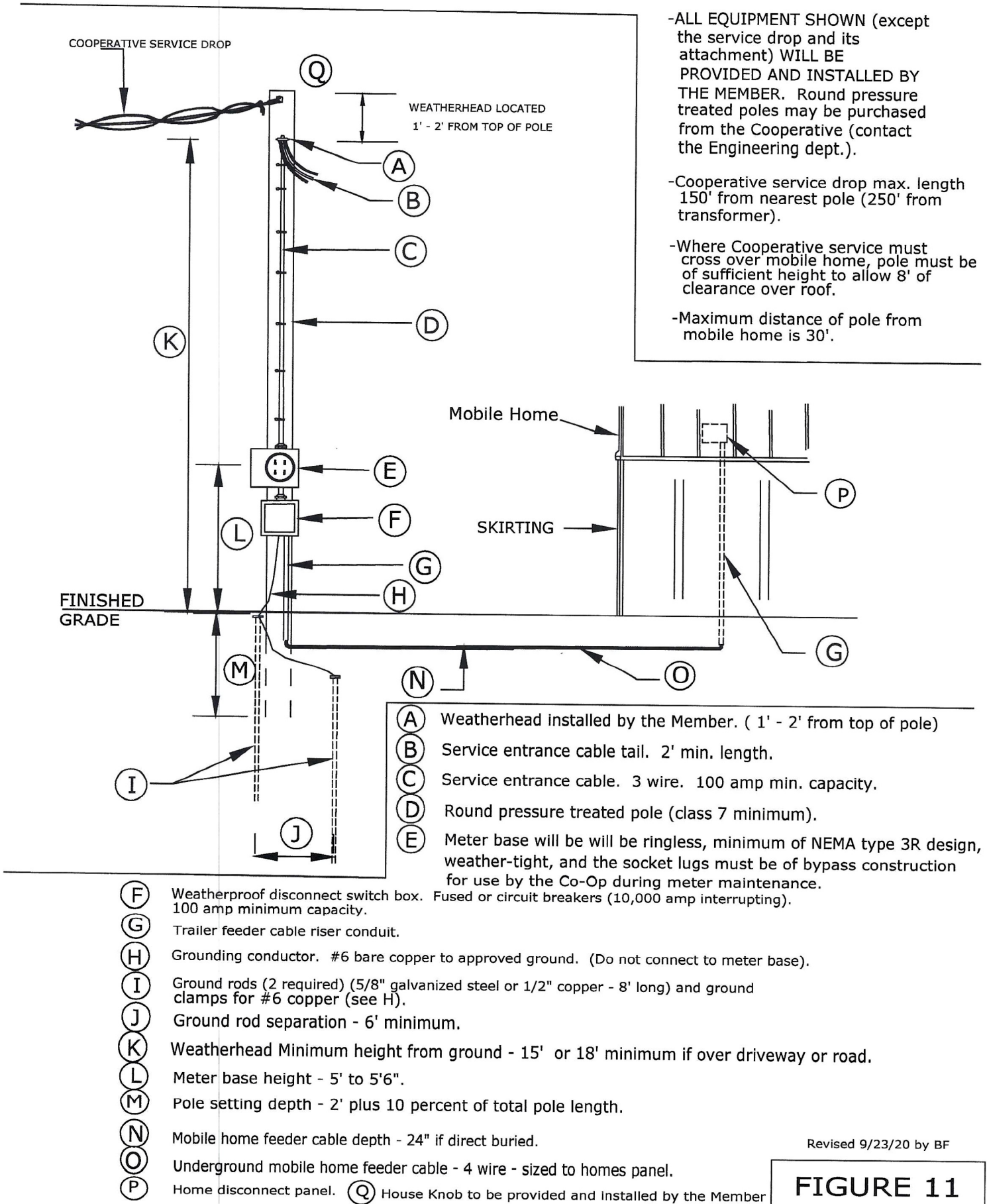
- (A) Non-controlled (load) meter position.
- (B) Service entrance cable (where Cooperative service drop is overhead).
- (C) 2 position meter base (provided by the Cooperative and installed by the member). May be used for overhead or underground service drops.
- (D) Controlled (heating load) meter position.
- (E) Service entrance cable to controlled (heating) panel. 200 amp maximum capacity.
- (F) Service entrance cable to non-controlled panel. Sized to load.
- (G) Grounding conductor. #6 copper to approved ground. (This wire will ground both panels, bonding will be between the panels; external of either panel). (Do not connect to meter base).
- (H) Ground rods (2 required) (5/8" galvanized steel or 1/2" copper - 8' long) and ground clamps for #6 copper (see H).
- (I) Ground rod separation - 6' minimum.
- (J) Service cable riser conduit (where Cooperative service drop is underground). (Provided and installed by the member).
- (K) Meter base height - 5' to 5'6".

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FIGURE 10

TYPICAL OVERHEAD PERMANENT MOBILE HOME SERVICE

-An inspection by a Municipality approved inspector is required (per UCC code).



-ALL EQUIPMENT SHOWN (except the service drop and its attachment) WILL BE PROVIDED AND INSTALLED BY THE MEMBER. Round pressure treated poles may be purchased from the Cooperative (contact the Engineering dept.).

-Cooperative service drop max. length 150' from nearest pole (250' from transformer).

-Where Cooperative service must cross over mobile home, pole must be of sufficient height to allow 8' of clearance over roof.

-Maximum distance of pole from mobile home is 30'.

- (A) Weatherhead installed by the Member. (1' - 2' from top of pole)
- (B) Service entrance cable tail. 2' min. length.
- (C) Service entrance cable. 3 wire. 100 amp min. capacity.
- (D) Round pressure treated pole (class 7 minimum).
- (E) Meter base will be ringless, minimum of NEMA type 3R design, weather-tight, and the socket lugs must be of bypass construction for use by the Co-Op during meter maintenance.

- (F) Weatherproof disconnect switch box. Fused or circuit breakers (10,000 amp interrupting). 100 amp minimum capacity.
- (G) Trailer feeder cable riser conduit.
- (H) Grounding conductor. #6 bare copper to approved ground. (Do not connect to meter base).
- (I) Ground rods (2 required) (5/8" galvanized steel or 1/2" copper - 8' long) and ground clamps for #6 copper (see H).
- (J) Ground rod separation - 6' minimum.
- (K) Weatherhead Minimum height from ground - 15' or 18' minimum if over driveway or road.
- (L) Meter base height - 5' to 5'6".
- (M) Pole setting depth - 2' plus 10 percent of total pole length.
- (N) Mobile home feeder cable depth - 24" if direct buried.
- (O) Underground mobile home feeder cable - 4 wire - sized to homes panel.
- (P) Home disconnect panel. (Q) House Knob to be provided and installed by the Member

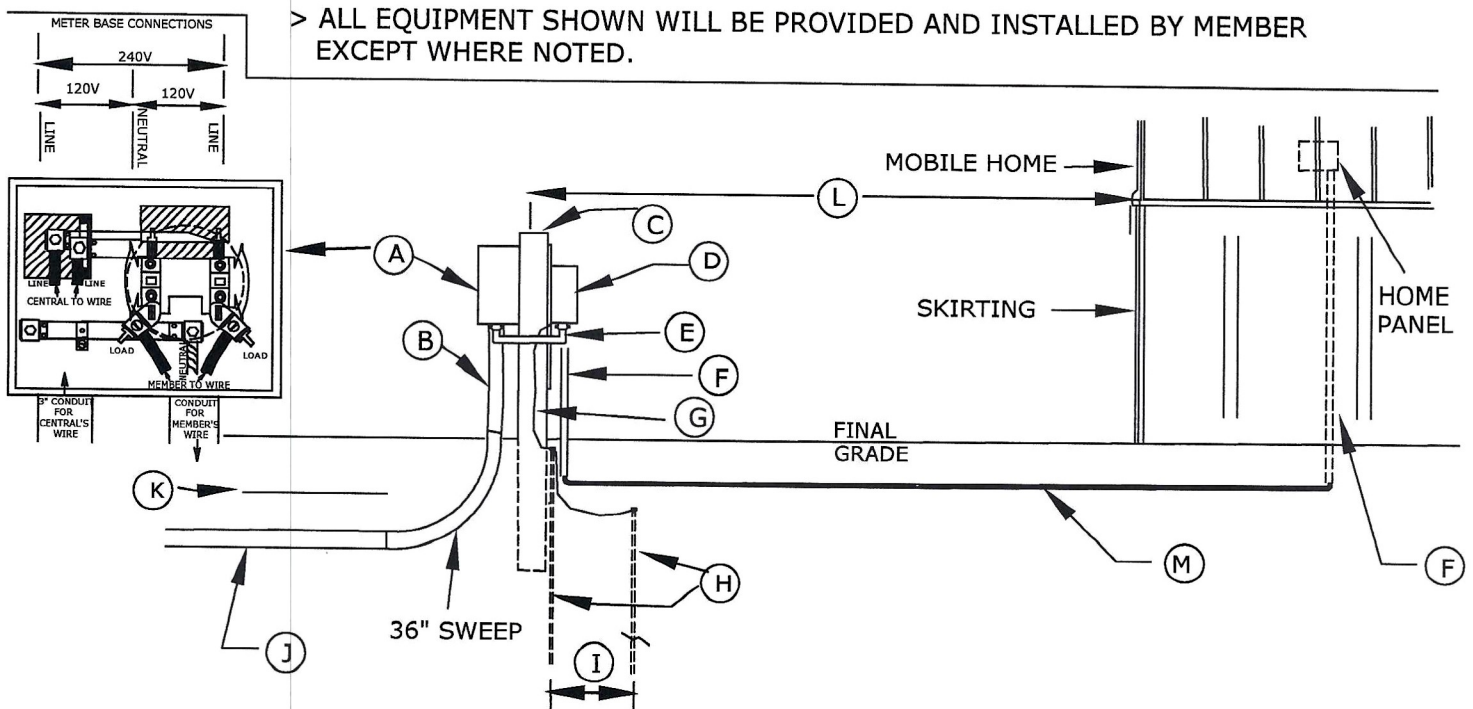
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FIGURE 11

UNDERGROUND PERMANENT MOBILE HOME SERVICE

- > An Inspection by a Municipality approved inspector is required (per UCC code).
- > Cooperative service drop will have a maximum distance of 250 ft. when originating from a pole mounted transformer, or when originating from a pad mount transformer.
- > Site should be graded to within 6" of final grade prior to trenching.
- > Member must excavate trench for service cable from transformer to meter and provide conduit. Schedule 40 rigid PVC electrical conduit the entire length of the ditch including 36" radius sweep & 3" Sch. 80 riser conduit into the meter base with a 1/2" min. diameter pull rope inside. (A 1/4" weep hole drilled above ground line of finished grade is suggested).
- > Telephone, television and other communication lines may be installed in the same trench, however, require a minimum of 12" separation.

*Water, sewer, and gas lines may not be placed in the ditch.



> ALL EQUIPMENT SHOWN WILL BE PROVIDED AND INSTALLED BY MEMBER EXCEPT WHERE NOTED.

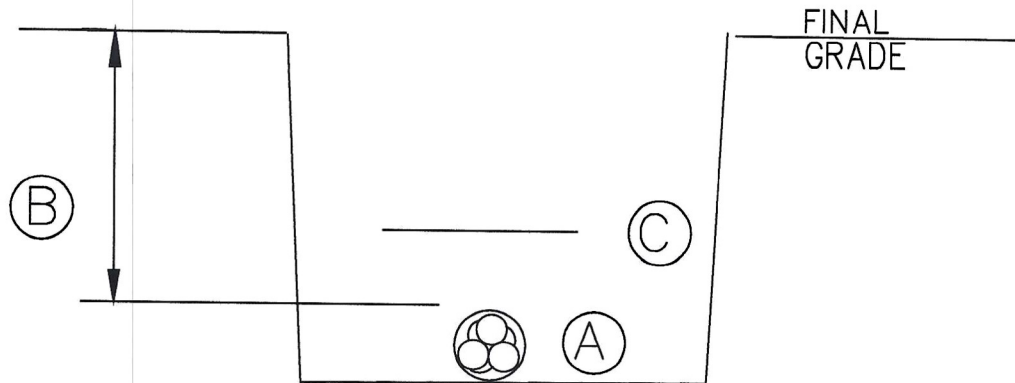
- (A) Meter base: 200 AMP min. capacity, ringless, min. of NEMA type 3R design, weather-tight, with side-mounted by-pass horn-type socket lugs which must accept 4/0 conductor, & knockouts for 3" conduit, installed at a height of 3ft. minimum.
- (B) 3" PVC Schedule 80 service wire riser conduit into bottom of meter base. (A 1/4" weep hole drilled above ground line of final grade is suggested).
- (C) Support post. 6"X6" min. treated timber or section of round pressure treated pole.
- (D) Weatherproof disconnect switch box. Fused or Circuit breakers (10,000 AMP interrupting), 100 AMP min.
- (E) Conduit & entrance conductor from meter base to panel will be sized according to service panel.
- (F) Schedule 80 riser conduit for feeder cable out of bottom of disconnect panel.
- (G) Grounding conductor, #6 bare copper to approved ground. (Do not connect to meter base).
- (H) Two - 5/8" galvanized steel or 1/2" copper - 8 ft. long ground rods and ground clamps for #6 copper.
- (I) Ground rod separation must be minimum of 6 ft.
- (J) 3" Schedule 40 or DB 60 rigid PVC electrical conduit the entire length of the ditch including a 36" radius sweep at each end. Member to connect into meter base and Cooperative will connect at pole. Conduit depth will be 30" to 36".
- (K) Underground cable caution tape to be installed 12" above conduit.
- (L) Maximum distance between mobile home and entrance on the pole is 30 ft.
- (M) Underground mobile home feeder cable will be 4-wire, sized to home panel and 24" deep if direct buried.

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FIGURE 12

UNDERGROUND PRIMARY TRENCHING

-Applies to member provided trenching - pre-approved by the Cooperative.



- (A) Underground primary cable provided by Central Electric Cooperative.
- (B) Cable depth - 36" to 48" below finished grade.
- (C) Underground cable caution tape installed 12" above cable.

DO NOT INSTALL CONDUIT IN PRIMARY DITCH.

MEMBER MUST PROVIDE ACCESS FOR COOPERATIVE VEHICLES FOR THE ENTIRE LENGTH OF OPEN DITCH.

-Care must be taken during backfill to avoid crushing cable. Cable should be covered with select fine material (avoiding stones) prior to rough backfill. Where cable is crushed, member will be responsible for repair costs.

-Excavation of a level hole (60" wide x 60" long x 36" deep) at the transformer location will be required.

-Level hole must have 6" of stone placed in the bottom.

-The Cooperative reserves the right to refuse installation if the specifications above are not met.

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FIGURE 13