

METER LOOP SPECIFICATIONS FOR SINGLE PHASE SERVICE

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Sam Houston Electric Cooperative requires that its consumers be responsible for providing all material (except the meter base) and labor for installing and maintaining their meter loops. The location of the meter loop must be in a mutually acceptable location to the consumer and Sam Houston Electric. Each consumer's meter loop must be inspected by Sam Houston Electric's Inspector and must be approved in its entirety before the Cooperative will extend and connect its service conductors and install its meter.

APPROVAL OF ANY METER LOOP DESIGN OR SPECIFICATION NOT SHOWN OR MENTIONED IN THIS SPECIFICATION SHEET SHALL BE AT THE SOLE DISCRETION OF THE COOPERATIVE.

METER LOOPS SHALL NOT BE ALLOWED ON MANUFACTURED HOMES OR MOBILE HOMES.

These specifications contain guidelines for meter loops for both overhead and underground service extensions. Several examples of meter loop construction are shown on drawings in these specifications. These specifications are for meter loops rated 200 amps or less. For larger service, contact Sam Houston Electric.

NOTE! NEW SERVICE WILL NOT BE PROVIDED TO ANY CONSUMER WHEN THE CONSUMER'S FACILITIES (METER POLE, MOBILE HOME, HOUSE, BARN, SIGN, STRUCTURE, ETC.) ARE WITHIN 10 FEET IN ANY DIRECTION OF SAM HOUSTON EC'S POLE, OR WITHIN THE COOPERATIVE'S PRIMARY DISTRIBUTION LINE RIGHT-OF-WAY WHICH IS AT LEAST 10 FEET AND UP TO 15 FEET ON EITHER SIDE OF THE CENTER LINE BETWEEN TWO CONSECUTIVE POLES. THE PURPOSE OF THIS RULE IS FOR THE CONSUMER'S SAFETY.

(Some Counties require that consumers obtain a permit before receiving electric service.)

SPECIFICATIONS APPLYING TO BOTH OVERHEAD AND UNDERGROUND METER LOOPS

1. **SERVICE-ENTRANCE CONDUCTORS** shall be copper only. Aluminum is not acceptable. The minimum size "hot" conductors shall be #6 except when the service is for any dwelling and in that case the minimum size shall be #4. The consumer shall be responsible for determining

whether larger conductors are required based upon load requirements. The NEUTRAL conductor shall be the same size as the "hot" conductors or one standard size smaller. No conductors shall be smaller than #6. The ampacity of all conductors shall be per the National Electric Code. See the Conductor Chart for minimum size "hot" conductors. Each conductor shall extend a minimum of 18" out from the weatherhead.

2. **GROUNDING CONDUCTORS** shall be copper and shall be #6 minimum for up to 150 amp service and #4 for 200 amp service. The Grounding Conductor for larger service shall be sized according to Table 250-94 of the National Electric Code. Attaching the Grounding Conductor to the neutral bus bar or a lug in the service disconnect is preferred. A Grounding Conductor attached to the grounding lug in the meter base may be acceptable. **IF PVC CONDUIT IS USED THROUGH THE WALL BETWEEN THE METER BASE AND THE SERVICE DISCONNECT THEN THE GROUNDING CONDUCTOR MUST BE ATTACHED TO THE NEUTRAL BAR IN THE SERVICE DISCONNECT.** The Grounding Conductor shall be protected by securing the conductor every 6 inches (to existing grade) or by installing it in 1/2" thinwall EMT conduit securely attached to the building or pole.
3. **SERVICE DISCONNECTS** shall be manually operable and shall have overcurrent protection (either fuses or circuit breakers) rated not greater than the ampacity of the Service Entrance Conductors and shall be UL listed for use as service equipment. It shall be located within 3 feet of the meter base. Where the meter loop is mounted on a pole, the Service Disconnect shall be on the pole. It shall consist of no more than 6 circuit breakers or 6 sets of fuses. A circuit breaker panel with more than 6 positions for single pole circuit breakers shall be required to have a **MAIN** circuit breaker. If located outside it shall have a weatherproof enclosure. **Make sure all unused holes are closed with approved knockout closers. If located inside, access must be provided for inspection.**
4. **GROUND RODS** shall be 5/8" galvanized steel or iron or 1/2" copper, 8 feet long, driven full length into the ground. Attach the grounding conductor by means of an approved ground rod clamp. Rebar or galvanized pipe shall not be accepted.
5. **CONDUIT** shall be used to protect all service entrance and underground service drop conductors. All exposed (visible) conduit shall be metallic types such as Electrical Metallic Tubing (EMT), Rigid Galvanized Steel (RGS), and Intermediate Metal Conduit (IMC). A minimum of 2" conduit is required between the meter base and the service disconnect. Where the conduit extends above the roof, EMT shall NOT be used. Conduit rising out of the ground shall be RGS ONLY. Underground conduit shall be Schedule 40 PVC (gray) electrical conduit. Water pipe (white) is not allowed. All conduit connections shall be made weathertight with connectors made for the application. All conduit straps shall be full straps. Half straps are not allowed.

6. **METER BASES** will be furnished by Sam Houston Electric, or the consumer may choose to purchase a meter base elsewhere. If the consumer chooses to purchase a meter base, it must be of the following manufacture and specifications: **(MILBANK S7021-DL-TG OVERHEAD)** Sam Houston EC has available meter bases rated for a maximum of 200 amps and 400 amps, for overhead service, and underground meter bases rated for 200 amps. The consumer's need for a 400 amp meter base **must be approved by Sam Houston EC**. Meter bases rated for 200 amps shall be supplied with a hub size of 2". Only one set of conductors shall be allowed under the lugs of a 200 amp meter base. *Meter bases shall be installed by the consumer, or the consumer's electrician.*

SPECIFICATIONS APPLYING TO OVERHEAD METER LOOP ONLY

7. **NEUTRAL CONDUCTORS** shall be continuous from the weatherhead to the service disconnect. Strip the insulation away from the neutral conductor and connect at the neutral lug of the meter base. **DO NOT CUT THE NEUTRAL**. Mark the neutral at the weatherhead by using white color coded tape where the neutral exits the weatherhead.
8. **METER POLES** shall be pressure treated, round wood poles, 16' long minimum, 5" diameter minimum throughout, 4" x 6" timbers are not acceptable, even for temporary or construction power poles. Taller poles may be required to obtain proper code clearances. Meter poles shall not be located any closer than 10' to any existing Sam Houston Electric pole or within the Cooperative's distribution line right-of-way. **BE SURE TO TAMP THE POLE SOLIDLY IN THE GROUND**. Guying of the meter pole may also be required for additional support.
9. **WEATHERHEADS** shall be located high enough to provide the required vertical clearance of Sam Houston EC's service drop cable between Sam Houston EC's pole and the weatherhead as indicated below:

12 feet – areas where only pedestrians have access. This area includes porches, decks, balconies, etc. It also includes areas where horses and vehicles are not normally expected to be.

16 feet – over driveways, parking lots, areas used by special use equipment and trucks, and areas where horses are ridden.

Weatherhead must also be located so that the weatherhead and Sam Houston Electric's service drop cable shall have a clearance of not less than 3' from any windows, door, porch, or similar accessible location.

When the weatherhead is to be extended above the roof, the conduit shall be 2" minimum diameter and shall be RGS or IMC. It should be continuous without joints. If joints are necessary only threaded connections below the roof line will be approved. All clearances specified herein are minimum safety clearances prescribed by the National Electrical Safety Code and the National Electrical Code.

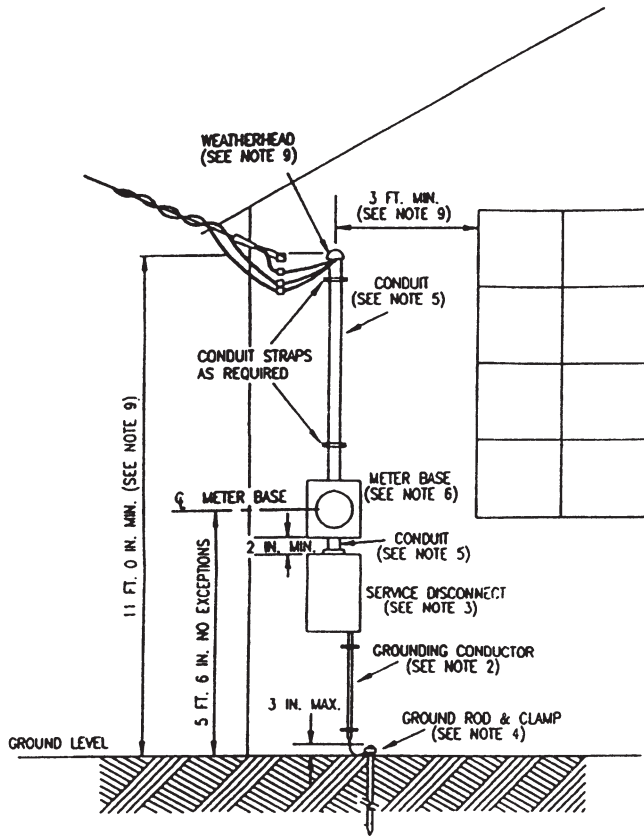
10. **SERVICE ATTACHMENTS** shall be provided and installed by Sam Houston Electric except where the attachment is to be located on a metal building, in which case the consumer shall install a 5/8" eye bolt securely fastened. Sam Houston EC will furnish the eye bolt to the consumer if needed.

SPECIFICATIONS APPLYING TO UNDERGROUND METER LOOPS ONLY

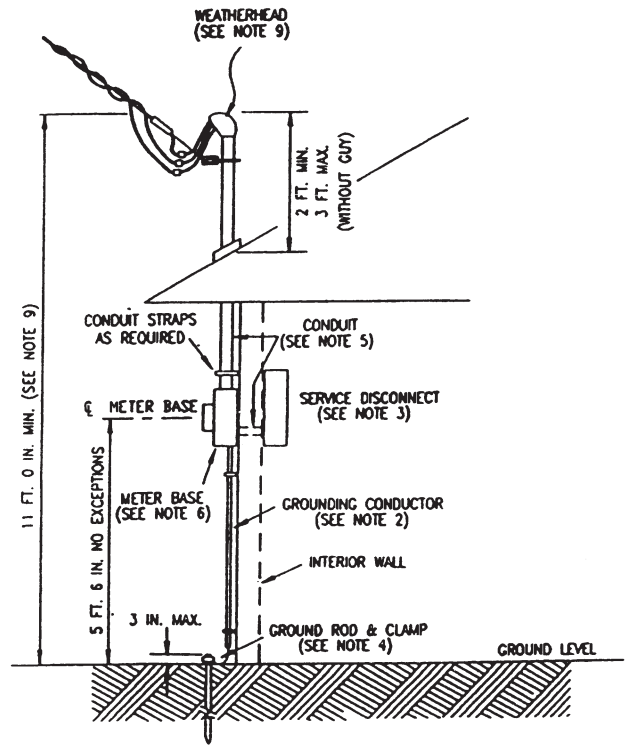
11. **METER POLES** shall be pressure treated 4" x 6" timbers, 8' long for underground services only.
12. **FOR TEMPORARY SERVICES** in subdivisions with underground distribution lines, set the meter pole 5' away from and into the property from the pedestal or pad mounted transformer. Sam Houston EC will finish digging the trench and install all the underground service conductors. **CAUTION! DO NOT SET THE METER POLE WITHIN SAM HOUSTON ELECTRIC COOPERATIVE EASEMENT. HIGH VOLTAGE LINES ARE BURIED AND ARE DANGEROUS.** Temporary underground service is not available where distribution lines are overhead.
13. **TRENCHING** may be provided by the Consumer or will be provided by Sam Houston Electric if the Consumer is willing to pay a contribution in aid of construction based on the Cooperative's current line extension policy. The trench shall be a minimum of 30 inches deep. **CAUTION! ROUTING OF THE TRENCH MUST BE APPROVED BY SAM HOUSTON ELECTRIC BEFORE THE TRENCH IS DUG.** All existing buried lines (water, sewer, etc.) shall be exposed by the Consumer before Sam Houston EC will trench. Consumer provided trenching shall extend to within 1 foot of Sam Houston EC's pole or 5 feet of the Cooperative's pad mounted transformer or service pedestal. Conduit (see note 15) shall be installed by the person doing the trenching. If the Consumer provides the trenching and conduit, they shall install a pull rope in the conduit and may spot cover the conduit until it has been inspected. All conduit for underground service shall be 2-1/2".
14. **LONG SWEEP ELBOWS** shall be at least 24" radius and may be Schedule 40 PVC (gray) conduit if no part of the elbow is less than 6 inches below the groundline. For permanent service to a meter pole, a long sweep elbow shall be installed.
15. **RISER CONDUIT** shall be RGS conduit only, 2-1/2" diameter minimum.
16. **NEUTRAL** conductor will only be attached to the lower lug of the meter base for underground service only.

CONDUCTOR CHART

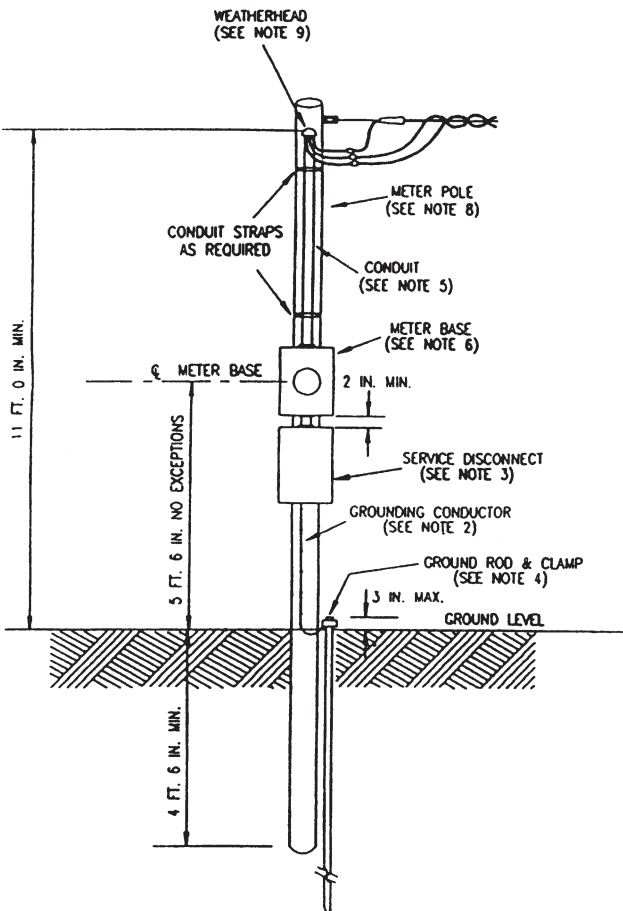
Size of Main Disconnect	Minimum Size Conductor		Minimum Size Conduit
	Dwelling	Non-Dwelling	
60 amp	Not Allowed	#6	1"
100 amp	#4	#3	1-1/4"
125 amp	#2	#1	1-1/4"
150 amp	#1	#1/0	1-1/2"
200 amp	#2/0	#3/0	2"



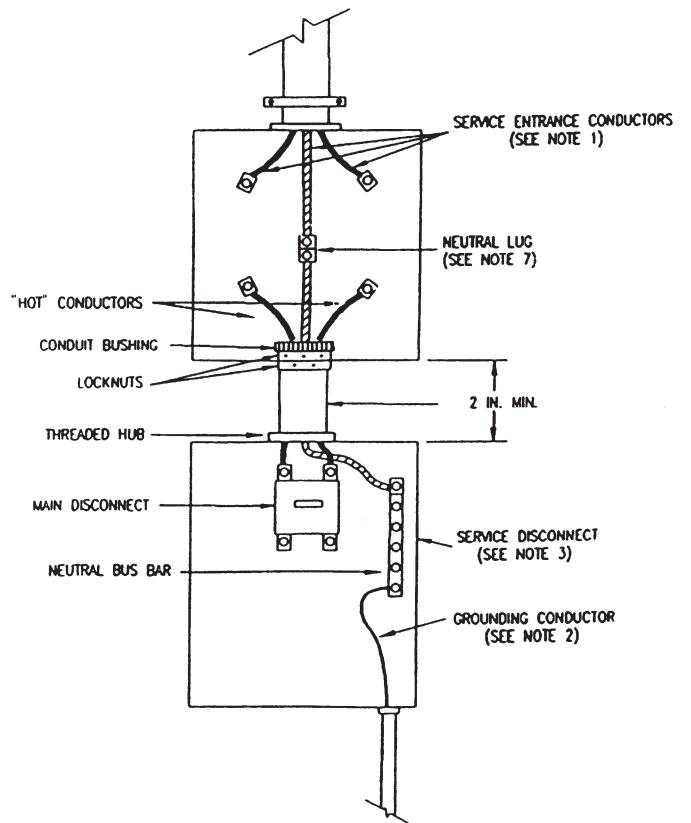
OVERHEAD METER LOOP ON BUILDING



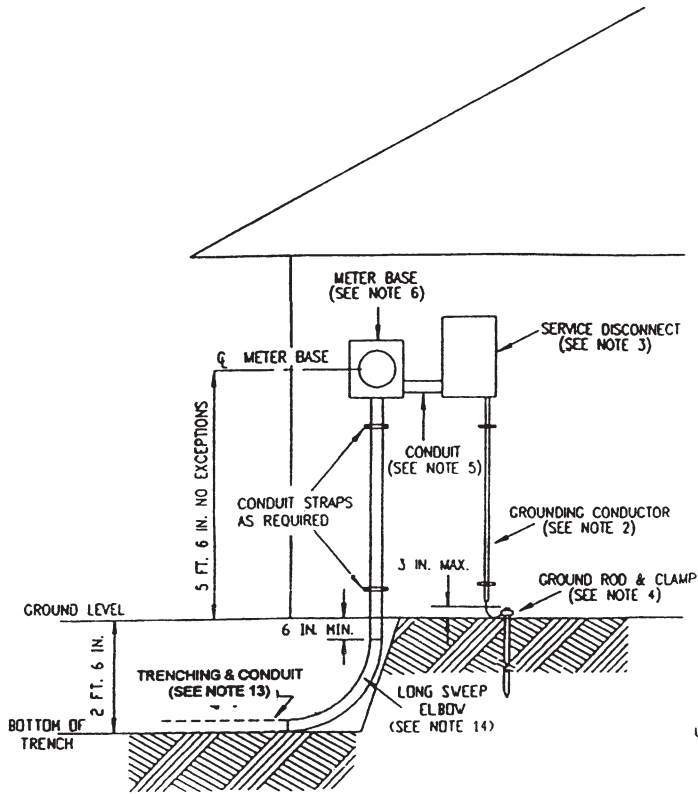
OVERHEAD METER LOOP WITH MAST



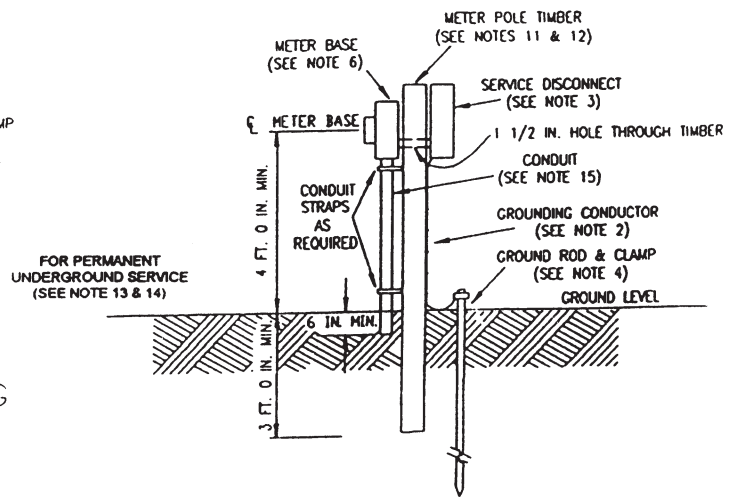
OVERHEAD METER POLE



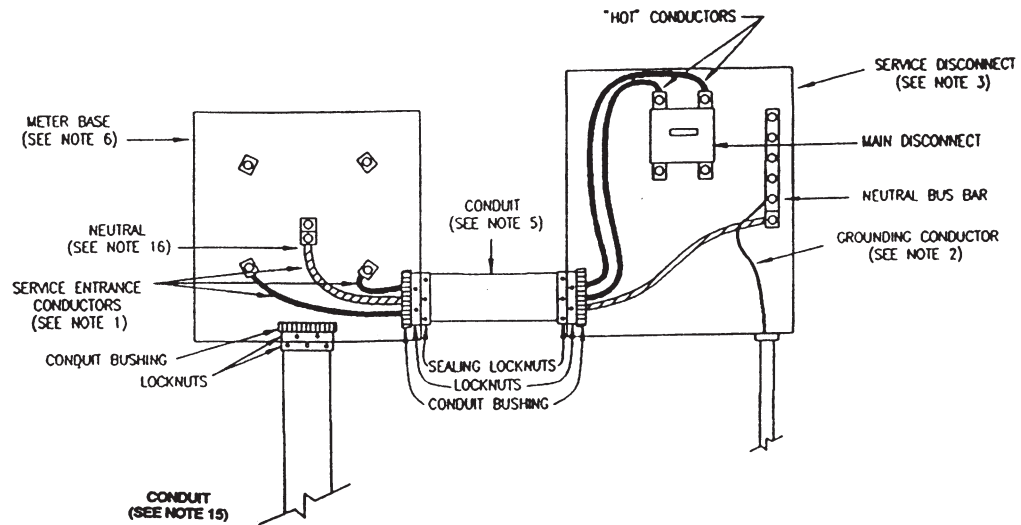
WIRING DETAIL - OVERHEAD METER LOOP



UNDERGROUND METER LOOP ON BUILDING



UNDERGROUND METER POLE



WIRING DETAIL - UNDERGROUND METER LOOP