

SIZES IN TABLES FOR CUSTOMER SIDE OF METER ONLY

WIRE & CONDUIT SIZES FOR RESIDENTIAL ONLY

AMP	CONDUCTOR	NEUTRAL	GROUND	CONDUIT
100	#2	#2	#4	2"
200	2/0	#1	#4	2"
225	3/0	1/0	#4	2"
400	400 MCM	400 MCM	#4	3"

WIRE & CONDUIT SIZES FOR **NON-RESIDENTIAL** ONLY

AMP	CONDUCTOR	NEUTRAL	GROUND	CONDUIT
100	#2	#2	#4	2"
200	3/0	1/0	#4	2"
225	4/0	2/0	#4	2"
400	400 MCM	400 MCM	#4	3"

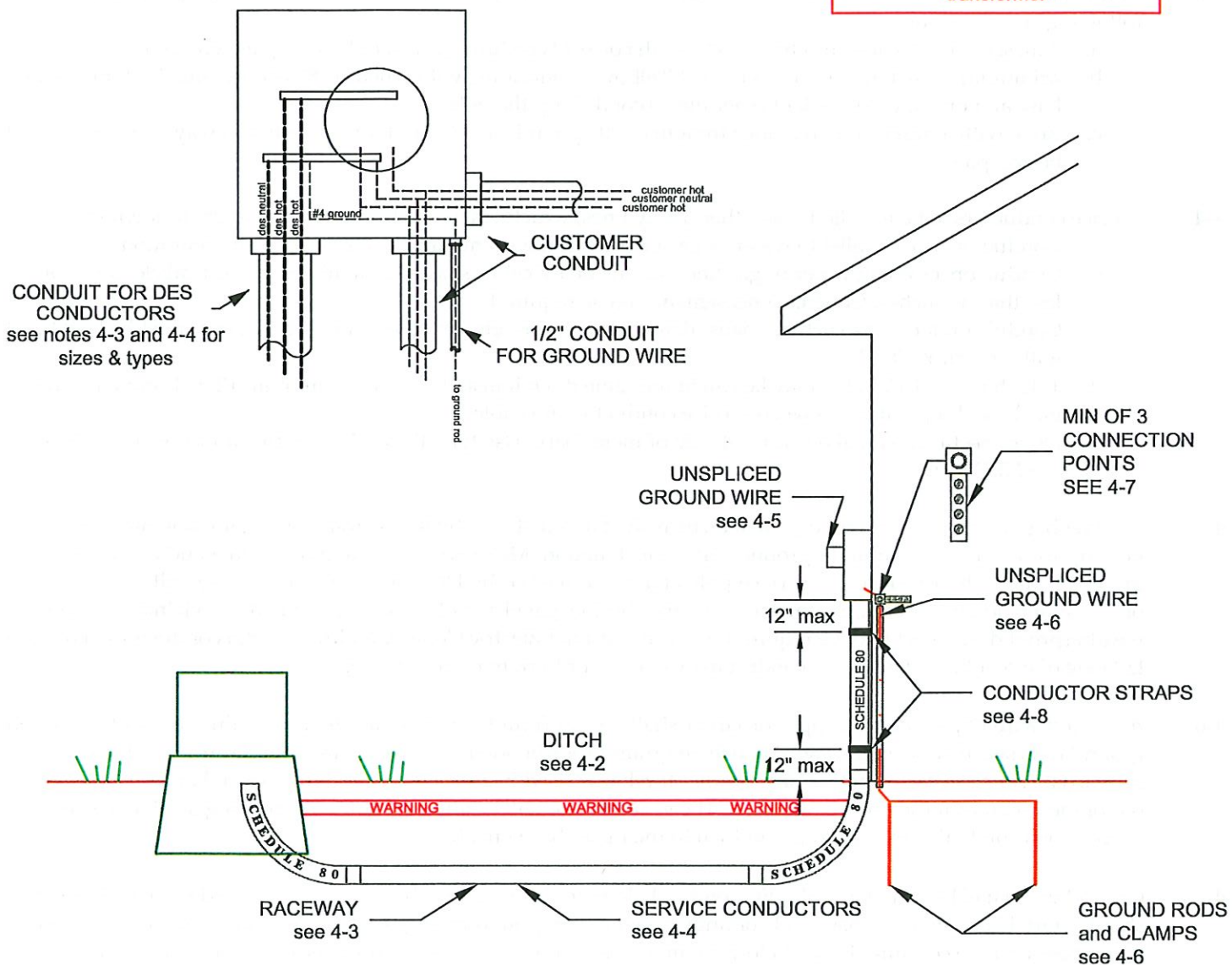
ALL WIRE SIZES GIVEN ARE FOR COPPER WIRE.  
ALL CONDUIT SIZES GIVEN ARE FOR PVC SCH 80.

NOTE: ALL EQUIPMENT & WIRING FROM THE WEATHERHEAD ON, SHALL BE INSTALLED TO THE NATIONAL ELECTRIC CODE.

FOR LIST OF MATERIALS FURNISHED BY DES, SEE 4-1.

**CAUTION**

Before digging, determine location of other underground by contacting  
**TN-1-CALL**  
**@ 1-800-351-1111.**  
Hand-dig ditch within 5 feet of transformer



**UNDERGROUND SERVICE FROM A PAD MOUNT TRANSFORMER**



DATE:

1/9/2023

FIGURE NO:

4

SCALE:

NONE

- 4-1. Where underground service will originate from a pad mount transformer, DES will furnish and install service conductor from transformer to meter base for a cost of \$10.00 per foot of conductor. Where there is not an existing transformer DES will furnish and install the pad-mounted transformer. DES will furnish and the customer shall install the preformed fiberglass box pad. See DES engineer for additional cost associated with this type of installation.
- 4-2. Customer is responsible for opening ditch from transformer to meter location as follows:
- Where ditch length will exceed 225 ft. see DES engineer.
  - Hand-dig ditch when within 5 ft. of transformer.
  - Bottom of the ditch must be flat and at least 27 in. at all points including any ditch crossings.
  - Where impractical to obtain 27 in. depth, see DES engineer.
  - Customer will backfill ditch after inspection by DES - 24 hr. notice required.
  - Warning tape must be in the ditch with the electrical conduit at a depth of 12 in. below final grade.
  - All backfill shall be free of material that may damage the conduit system. The backfill shall not be more than 2 inches in diameter.
- 4-3. Continuous raceway from transformer base to meter base will be furnished and installed by customer to the following specifications:
- 3 in. schedule 40 or 80 electrical PVC, with correct type fittings and/or bushings as required.
  - Minimum 24 in. long radius schedule 80 elbows, continuing with schedule 80 conduit into bottom of meter base and one ten foot stick of schedule 80 conduit up the pole.
  - Rope with a minimum breaking strength of 300 pounds or 1/4" pull rope inside raceway. Strings will not be accepted.
- 4-4. Service conductors to be installed near other utility lines, structures, or obstructions require the following:
- Conductors run parallel to water or gas lines must have a minimum 3 ft. horizontal separation.
  - Conductors crossing water or gas lines, phone or TV cable, shall have a minimum vertical clearance of not less than 12 inches. Concrete encasement maybe required.
  - Conduit under areas such as roads, driveways, patios, etc. may be ran in sch. 40, but must be backfilled with gravel. 3/4" TYP.
  - Telephone and TV cable may be run in the same ditch if installed with a minimum 12 in. horizontal and 12 in. vertical separation between service conductor and cable.
  - Disconnect means will be on right side of meter base. Use type W conductors (meant for wet conditions – See NEC 310.8c).
- 4-5. A meter base of proper size and type will be furnished and installed by the customer. Combination meterbases are not approved for use in an underground service installation. Meter will be located between 5 and 6 ft. above final grade, on end of house closest to service pole at a point marked by DES engineer. Meter base will not be located on or under porches, decks, or carports. If distribution panel is not located in immediate vicinity of meter, a weatherproof disconnect may be required; refer to National Electric Code. Conduit for DES conductor to enter on left side of meter base. Customer conduit to exit below or to right of meter base.
- 4-6. A ground wire of No. 4 bare copper or larger shall be run from the meter base to a to a minimum of two driven ground rods spaced 6 ft. apart. Two 8 ft. driven ground rods bonded to ground wire with clamps suitable for direct soil burial will be installed below final grade. If rebar is used in a concrete foundation the rebar shall be stubbed out of the concrete at the service entrance. The ground wire will be attached to the rebar using a suitable tear drop clamps then run to the ground rods and then to the meter base unspliced.
- 4-7. Ground wire shall be run in a 1/2" PVC conduit below grade. Conduit should not be attached to meter base, it should start 4" below meter base and continue down to the ground leaving the ground wire exposed between the meter base and the conduit. Install below the meter base an intersystem bonding terminal with a minimum of three additional termination points on the exposed bare ground wire.
- 4-8. Place one conduit strap 12 in. below meter base and second conduit strap 12 in. above final grade.