1. Where possible, the trench spoil shall be placed to the opposite side of the access to the trench. Adequate protection shall be provided to protect employees from loose rock or soil that could pose a hazard by falling or rolling into the excavation. Protection can be provided by placing and keeping such materials at least two (2) feet from the edge of the excavation, or by other means that provide equivalent protection. This two (2) ft. area shall be level and free of debris to permit safe footing during inspection.

2. On-site inspections by Service Provider are required for open trench, bedding, and shading. Contact Design Services to schedule required inspections.

3. When modifying and existing cable-in-conduit (CIC) installation, a 2 ft. x 5 ft. bell hole is required. Bell holes for service trenches must comply with the requirements of SR-312 and SR-210 where applicable.

4. The minimum horizontal radius in a trench prepared for installation of wave rib conduit system shall be 4 ft. and a minimum horizontal radius of 12 ft.-6 inches on a schedule 40 PVC continuous conduit system.

5. Service trenches for the continuous conduit system must be 36 inches in depth.

6. Under no circumstances is a trench to be dug closer than 3 ft. to a down guy anchor rod.

7. See SR-210 for sleeve installation where a trench can not remain open.

8. The service conduit shall be installed into the equipment sites at the same time when the primary and/or secondary conduits are installed. All conduits are to be tied up per the equipment detail, and prior to calling for the trench and conduit inspection.

9. Conduit sweeps into existing equipment shall be 2.5" x 36" x 90 degree, Grey PVC Electrical Grade, Schedule 40. Wave-rib conduit is NOT approved to be used in existing Company equipment.

10. Do not trench under Company owned pad-mounted equipment without Service Provider personnel present. Service Provider's access crew can be scheduled to assist with conduit placement and/or if trenching is required under Company owned equipment. Arrangements must be made by calling 520-918-8300 (TEP) or 520-761-7951 (UES), a minimum of five working days in advance.

11. See SR-207 for bedding and backfill requirements.
TRANSFORMER PAD

OFFSET EASEMENT - TRANSFORMER PAD

With 6'-0" strip easement, 4'-0" x 10'-0" additional easement required

STRIP EASEMENT - TRANSFORMER PAD

*For 6'-0" strip easement only
**OFFSET EASEMENT - PEDESTAL**

- **Pedestal** (36"x36")
- **Easement Line** (10'-0" x 10'-0")
- **TELCO Pedestal placement**
- **CATV Pedestal placement**
- **Street Side**
- **Trench**

**STRIP EASEMENT - PEDESTAL**

- **Pedestal** (36"x36")
- **Easement Line**
- **TELCO Pedestal placement**
- **CATV Pedestal placement**
- **Offset/Bench**
- **Street Side**
- **Trench**

* For 6'-0" strip easement only
TRENCHING, URD EQUIPMENT PLACEMENT

OFFSET EASEMENT
OPTIONAL SECONDARY JUNCTION BOX

With 6'-0" strip easement, 4'-0" x 10'-0" additional easement required

STRIP EASEMENT
OPTIONAL SECONDARY JUNCTION BOX

* For 6'-0" strip easement only
TRENCHING, URD
EQUIPMENT PLACEMENT

OFFSET EASEMENT
J - 1 CABINET

With 6'-0" strip easement, 4'-0" x 10'-0" additional easement required

STRIP EASEMENT
J - 1 CABINET

* For 6'-0" strip easement only
CONDUIT PLACEMENT
EXISTING SINGLE PHASE
STEEL PEDESTAL

Profile View

Final Grade

Install the pull rope for the entire service run

Refer to SR-218 for all service stubs

Duct Plug

2 1/2" x 36" x 90º
Schedule 40
Electrical PVC sweep

Duct Plug

2 1/2" x 5'-0" Schedule 40
Electrical PVC stub

Secondary Connectors

Pedestal Stake

Front View

Final Grade

Duct Plug

6"

6"

Conduit
Schedule 40 Electric PVC
2 1/2" x 36" x 90º and 5'-0" stub

Front

Top View

Pedestal Stake

Secondary Connectors

Pedestal Stake

Secondary Connectors
SERVICE CONDUITS 2 1/2" / 4" FOR 1 TO 2 LOT APPLICATIONS

PAD MOUNTED TRANSFORMER

PAD MOUNTED TRANSFORMER

NOTE:
GROUND RODS ARE NOT PERMITTED TO BE CUT UNDER ANY CIRCUMSTANCE. IF SOIL CONDITIONS PROHIBIT DRIVING THE GROUND ROD PER THE SR, CONTACT THE DESIGN DEPARTMENT.

NEW EQUIPMENT SITES ONLY:
IF USING WAVE-RIB CONDUIT, LEAVE 4 TO 5 EXTRA FEET TO ASSIST WITH SHAPING AND HOLDING THE CONDUIT IN PLACE. TRIM THE CONDUIT AFTER THE TRANSFORMER BACKFILL INSPECTION HAS PASSED.

EXISTING UNDERGROUND EQUIPMENT:
The conduit shall be 2 1/2" x 36" x 90°, schedule 40, electrical PVC sweep. WAVE-RIB conduit is NOT permitted to be installed directly into existing underground equipment.

CONTACT ACCESS: TEP (520) 918-8300 OR UES (520) 761-7952, TO ASSIST WITH THE CONDUIT PLACEMENT.
NOTES:
TRENCHING, URD EQUIPMENT PLACEMENT FOR CONDUIT INSTALLATION

1. EASEMENT / EQUIPMENT IDENTIFICATION
   Customer is to provide property pins and / or swing ties (stakes) to the center of equipment at the UG equipment (Transformer, Pedestal, J-10, J-1, J-2, etc.) location. These pins / stakes will be in place for the trench / conduit inspection and backfill / mandrel inspection.

2. CONDUIT PLACEMENT / TRANSFORMER PAD SITE PREPARATION
   A) Pad and trench sites shall be level and at final grade before calling TEP for a trench / duct inspection. Driven ground rod to be 6 inches above final grade.
   B) Customer to utilize the approved TEP conduit template (purchased through TEP) during the backfill process to ensure proper conduit and ground rod placement final grade. Duct plugs are required for all conduits (no duct tape).
   C) After the conduits (SR-205) and ground rods are in place, the customer is to install a #6 solid soft drawn copper conductor for Telco bonding from the ground rod 2 ft. above the pad (at the ground rod), 12 inches away from the front of the pad and 36 inches to the right of the pad site. Bury the conductor 12 inches below final grade and coil up approximately 2 ft. of conductor. With the template in place, pour concrete on the conduit (see SR-205 & 215, Pg. 1 of 2) if using PVC and call for an inspection. After passing the inspection, backfill and compact (95%), level the equipment site and install the transformer pad. The conduit shall be cut 1 inch above the top of the pad and covered with the appropriate duct plug. See SR-208 for equipment site preparations, including sites with slopes.
   D) The customer to call for a transformer pad site, pedestal site, and mandrel inspection, upon approval the customer will pour a slurry of concrete (1/2 inch thick) inside the entire opening for rodent protection.

3. PEDESTAL SITES
   TEP to provide the pedestal. The customer is to excavate and install per SR-209 page 9. After the conduits (SR-205) are in place, the customer is to install a #6 solid soft drawn copper conductor for Telco bonding from 2 ft. above the sub grade (next to the right side of the conduits), 12 inches away from the front of the pedestal and 24 inches to the right of the equipment site. Bury the conductor 12 inches below final grade and coil up approximately 2 ft. of conductor.

4. J-1 CABINET SITES
   TEP to provide the subsurface base. The customer is to excavate and install per SR-235. Install ground wire per note 3 on this page.

5. J-2 CABINET SITES
   TEP to provide the subsurface base. The customer is to excavate and install per SR-234.

6. SECONDARY JUNCTION BOX SITES (J-10) - CUSTOMER OPTION (in place of pedestals)
   The customer to provide and install the 20K rated J-10 box per SR-209 page 9. Install ground wire per note 3 on this page.
   A) After the conduit (SR-205) is installed, the customer to provide, install and level an approved TEP secondary junction box (see below) so the top of the box is 1 inch above final grade. Place the lid on the box.
   B) Approved secondary junction box (17"x30"):
      Armorcast Products Co. - Cat. No. 6001640-AS
      CDR Systems - Cat. No. PA30-1730-18S
      Christy Concrete Products - Cat. No. FL36BOX18
      Electrimold Inc. - Cat. No. ECAA-173018-100
      New Basis - Cat. No. FMA173018TN20001P212N00000
      Quazite - PT1730BA (Box), PT1730CA00 (Cover)

   TEP will furnish the transformer pads, pedestals, and ground rods to the job site at the customers' request. Please give TEP a 2 week notice and specify a contact name, phone number and the material staging area. It's the customers' responsibility for the care of this material. The customer must sign for the delivered material. Any lost, or damaged material will be the responsibility of the customer to replace with approved TEP material.

Note: Ground Rods are Not Permitted to be cut under any circumstance. If soil conditions prohibit driving the ground rod per the SR, contact TEP's design department.
Note: Ground Rods are Not Permitted to be cut under any circumstance. If soil conditions prohibit driving the ground rod per the SR, contact TEP's design department.