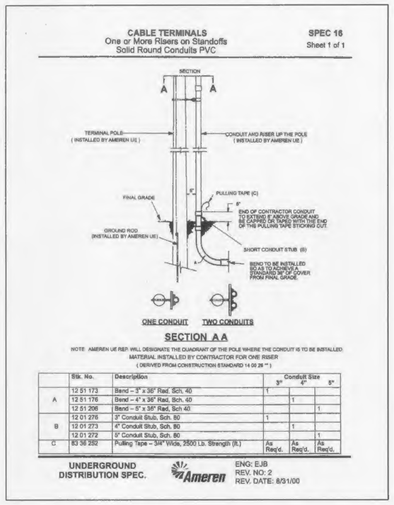


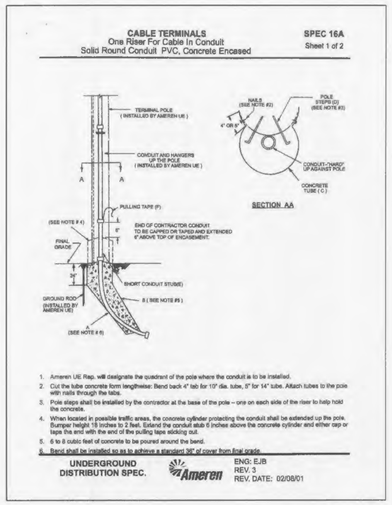
NOTE: AMEREN UE REP. WILL DESIGNATE THE QUADRANT OF THE POLE WHERE THE CONDUIT IS TO BE INSTALLED.

MATERIAL INSTALLED BY CONTRACTOR FOR ONE RISER

(DERIVED FROM CONSTRUCTION STANDARD 14 00 26 **)

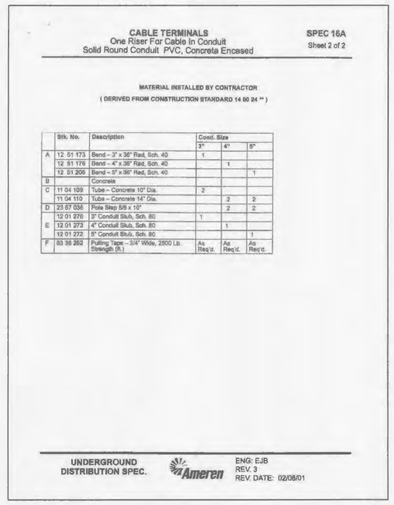
	Stk. No.	Description	Conduit Size 3"	4"	5"
	12 51 173	Bend – 3" x 36" Rad, Sch. 40	1		
A	12 51 176	Bend – 4" x 36" Rad, Sch. 40		1	
	12 51 206	Bend – 5" x 36" Rad, Sch 40			1
	12 01 276	3" Conduit Stub, Sch. 80	1		
B	12 01 273	4" Conduit Stub, Sch. 80		1	
	12 01 272	5" Conduit Stub, Sch. 80			1
C	83 56 282	Pulling Tape – 3/4" Wide, 2500 Lb. Strength (ft.)	As Req'd.	As Req'd.	As Req'd.

UNDERGROUND DISTRIBUTION SPEC. — Ameren — ENG: EJB REV. NO: 2 REV. DATE: 8/31/00



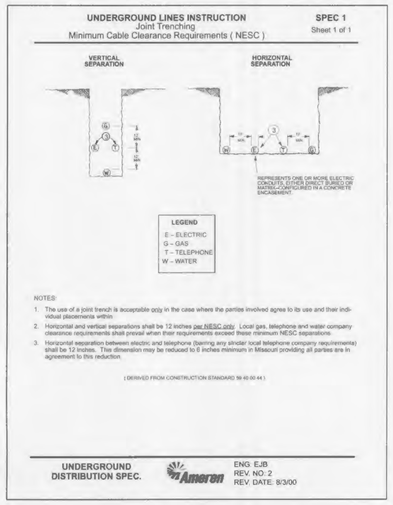
1. Ameren UE Rep. will designate the quadrant of the pole where the conduit is to be installed.
2. Cut the tube concrete form lengthwise: Bend back 4" tab for 10" dia. tube, 8" for 14" tube. Attach tubes to the pole with nails through the tabs.
3. Pole steps shall be installed by the contractor at the base of the pole – one on each side of the riser to help hold the concrete.
4. When located in possible traffic areas, the concrete cylinder protecting the conduit shall be extended up the pole. Bumper height 18 inches to 2 feet. Extend the conduit stub 6 inches above the concrete cylinder and either cap or tape the end with the end of the pulling tape sticking out.
5. .6 to .8 cubic feet of concrete to be poured around the bend.
6. Bend shall be installed so as to achieve a standard 36" of cover from final grade.

UNDERGROUND DISTRIBUTION SPEC. — Ameren — ENG: EJB REV. 3 REV. DATE: 02/08/01



	Stk. No.	Description	Cond. Size 3"	4"	5"
A	12 51 173	Bend – 3" x 36" Rad, Sch. 40	1		
	12 51 176	Bend – 4" x 36" Rad, Sch. 40		1	
	12 51 206	Bend – 5" x 36" Rad, Sch. 40			1
B		Concrete			
C	11 04 109	Tube – Concrete 10" Dia.	2		
	11 04 110	Tube – Concrete 14" Dia.		2	2
D	23 67 036	Pole Step 5/8 x 10"		2	2
	12 01 276	3" Conduit Stub, Sch. 80	1		
E	12 01 273	4" Conduit Stub, Sch. 80		1	
	12 01 272	5" Conduit Stub, Sch. 80			1
F	83 56 282	Pulling Tape – 3/4" Wide, 2500 Lb. Strength (ft.)	As Req'd.	As Req'd.	As Req'd.

UNDERGROUND DISTRIBUTION SPEC. — Ameren — ENG: EJB REV. 3 REV. DATE: 02/08/01



NOTES:

1. The use of a joint trench is acceptable only in the case where the parties involved agree to its use and their individual placements within.
2. Horizontal and vertical separations shall be 12 inches per NESC only. Local gas, telephone and water company clearance requirements shall prevail when their requirements exceed these minimum NESC separations.
3. Horizontal separation between electric and telephone (barring any shielder local telephone company requirements) shall be 12 inches. This dimension may be reduced to 6 inches minimum in Missouri providing all parties are in agreement to this reduction.

(DERIVED FROM CONSTRUCTION STANDARD 19 40 00 44)

UNDERGROUND DISTRIBUTION SPEC. — Ameren — ENG: EJB REV. NO: 2 REV. DATE: 8/3/00

3.4 Final Grade. As a general rule, approximate final grade within 6 inches should be established where possible and conditions permit, before trenching is started.

3.5 Burial Depths. **Standard burial depths are 36" of cover from final grade for conduits housing primary voltage cables and 24"–36" of cover from final grade for conduits housing secondary voltage cables.** The Company Representative shall approve any exceptions to the specified burial depths. In those cases where these depths cannot be maintained along the entire route, the Company Representative may require means such as concrete encasement in order to protect the Distribution System.

3.6 Trench Floor. The trench floor shall consist of firm, well–compacted, undisturbed dirt, or backfill that is supplied for leveling or grading purposes. The bottom of the trench shall be leveled to plus/minus 2" in order to avoid "humps" in the conduit (especially in direct–buried conduit installations), and shall be at an elevation necessary to satisfy the standard burial depth requirements.

Conduit Bends and Sweeps

4.1 Bend Specification. Bends shall be made of Schedule 40 PVC with belled or coupled ends. If couplings are used, they also shall be Schedule 40 PVC. All bends and couplings shall be UL listed and sunlight–resistant. The Company specifies the following manufactured bends for conduit:

24" radius bends at 90°
36" radius bends at 90°, 45° or 22½°
60" radius bends at 45°
120" radius bends at 45°

4.2 Bend Radii. All primary voltage conduit bends shall have a minimum radius of 36", and secondary voltage conduit bends shall have a minimum radius of 24". Larger radius bends, as specified above, may be required to accommodate longer pulls, larger cable sizes, field obstructions or future considerations, and shall be called out specifically by the Company on the Drawings.

4.3 Bend Reinforcement. Horizontal and vertical bends that require reinforcement for cable pulling purposes shall be so noted on the Drawings and shall be stabilized by means of concrete encasement (ref. SPEC 2).

4.4 Sweep Bends. Sweep bends may be formed with a combination of straight duct sections and 5' couplings. The couplings shall have a minimum radius of 36" (subject to approval by the Company Representative) and the overall sweep shall have a minimum bending radius of ten feet.

4.5 Sweep Bend Stabilization. Sweep bends must be staked to prevent opening of the couplings during installation. Care must be taken to prevent any duct deformation at the stakes. No other operations producing visible stress on the couplings shall be allowed. Visible stress exists when there is more than 2" of offset on the coupling or where significant in–line offset is observed.

4.6 Conduit Caps. All vertical bends penetrating grade, whether through any type of concrete or fiberglass pad, or at a terminal or riser pole, shall have their open ends closed off with duct plugs, conduit caps, or duct tape. This will serve as a deterrent to wildlife and will minimize the entry of moisture and solid debris. The pulling tape shall extend out the end of each bend regardless of its being capped, with the minimum 10 feet exposed.

Direct Buried Conduit Installations

5.1 Conduit

5.1.1 Conduit Specification. **Electrical grade, rigid, nonmetallic, Schedule 40 PVC conduit with internal beveled ends in 3', 4' or 5' sizes,** as specified on the Drawings, shall be installed. It shall be 90° C rated PVC and meet the latest revision of NEMA Standard TC2. The Company specifies lengths of either 10' or 20', with belled or coupled ends.

5.1.2 Conduit Arrangement and Spacing. Multiple conduit installations shall be such that they are all laid directly on the trench floor with a minimum 2" horizontal separation, not only between the ducts themselves but also between the outside ducts and the walls of the trench. The spacing allows for proper heat dissipation, while the horizontal arrangement helps eliminate backfill voids between the conduits that could result in settling and the collection of water. No two conduits shall be rolled or crossed in the trench midway between two endpoints.

5.1.3 Conduit Joining. Individual duct sections shall be joined with couplings and PVC cement to ensure a continuous, leak–free duct with a consistent internal diameter throughout. No internal protrusions or obstructions are allowed. All male sections shall be cut straight and beveled on the inside approximately ½" from ends to provide a smooth internal transition between pieces including pieces that are field cut. The Customer shall ensure that no foreign material enters the ducts to be joined. The end of the duct shall be plugged with approved end plugs whenever work on the duct installation is stopped.

5.1.4 Pulling Tape Installation. **A flat pulling tape rated a minimum 2500 lbs. shall be installed in all completed duct sections, with a minimum of 10 feet left extending out each duct end.** The tape shall be blown into the conduit after the duct section has been completed and the conduit cement is completely dry. During installation, the tape reel should be placed on a pay out stand in order to allow the tape to pay out flatly into the duct in a single continuous piece. Neither knots nor frays shall be permitted inside a duct section.

Terminal Poles and Risers

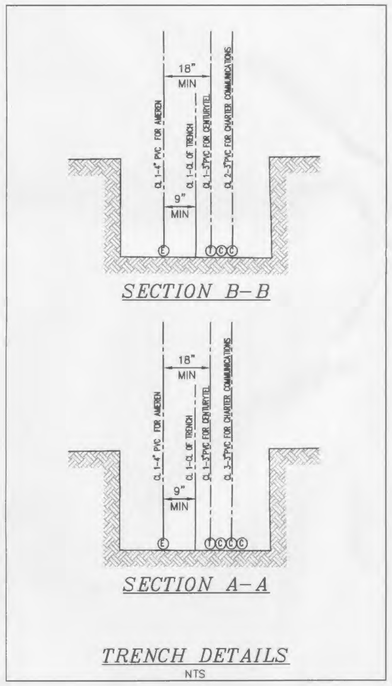
8.1 Customer Responsibility. **The Customer's responsibility at terminal (i.e. "riser") poles, regardless of voltage, includes installing the riser bend(s), extending the conduit(s) above grade, and backfilling the excavation. The Company will extend the conduit riser(s) up and attach to the pole.** All secondary voltage riser cable (less than 600V) will be installed by the Customer, while all primary voltage riser cable (greater than 600V) will be installed by the Company. The Company will terminate riser cables overhead in all cases.

8.2 Riser Bend Location. The Company Representative shall determine the proper location of the riser bend(s) on the pole (i.e. the quadrant) and specify this location on the Drawings. In the case where a riser bend is to be extended by the Customer to a location requiring pole setting, replacement or alteration by the Company, the extension shall not be made until the pole work is completed, unless other arrangements are made with the Company Representative.

8.3 Bend and Stub Specification. The Customer shall take special care to extend the conduit(s) out of the ground at the particular pole quadrant designated on the Drawings. The conduit bend(s) brought up at the riser pole shall be rigid Schedule 40 PVC as specified in Section 4.3. Each bend shall be buried below grade in its entirety, with a short conduit stub (Schedule 80 PVC or equivalent) penetrating the surface to at least 6" above grade at the pole. The stub(s) coming out shall be squared and plumb in order to facilitate extending the riser(s) up the pole.

8.4 Pole Clearance. For direct buried conduit installations, **the conduit(s) shall penetrate the grade with 6" of clearance between it and the pole (ref. SPEC 16). For concrete–encased conduit installations, the conduit shall penetrate the grade "hard against" the pole for the sake of extending the encasement to at least grade level (ref. SPEC 16A).**

8.5 Concrete–Encased Riser. Conduit risers that are to be concrete–encased shall be encased using a fiber concrete–forming tube sized for the diameter of the conduit being installed (ref. SPEC 16A). The tube shall be cut lengthwise and tabs bent back for purposes of nailing to the pole and completing the form. Pole steps shall also be driven into the base of the pole (one on each side of riser) prior to cementing in order to hold the encasement against the pole.



ST. CHARLES ENGINEERING & SURVEYING, INC.
801 S. FIFTH STREET, SUITE 202
ST. CHARLES, MO 63301
TEL: (636) 947-0007
FAX: (636) 947-4446

PANERA BREAD BAKERY
CAFE #692
CONSTRUCTION PLANS

ENGINEER SIGNATURE BLOCK

STATE OF MISSOURI — MICHAEL NEWELL MEINERS — NUMBER E-22483 — CIVIL ENGINEER — 10/14

ELECTRONIC SEAL
MICHAEL NEWELL MEINERS
CIVIL ENGINEER PE–22483

Developer / Owner Information
K PROPERTIES HOLDINGS, LLC
1704 NORTH FOURTH STREET
ST. CHARLES, MO 63301
CONTACT: MIKE THOELE
(314) 220-1205

UTILITY CONSTRUCTION DETAILS

P&Z No. 1812.03

Approval Date: 5/2/2013
City No. 14-63CP

Page No.
11