

LOCATION OF STRAIN INSULATORS

CABLE GUYS IN PROXIMITY

ILLUSTRATIONS

<u>Contents</u>	<u>Page</u>
1. General	1
2. Non-Joint Construction	2
3. Joint Construction	4
Cable on Cable Arms	4
Cable Attached to Pole (Less than 6 feet below power)	9
Cable Attached to Pole (6 to 8 feet below power)	14
4. Joint Construction Plus Other "Exposure"	21
Cable on Cable Arms	21
Cable Attached to Pole (Less than 6 feet below power)	25
Cable Attached to Pole (6 to 8 feet below power)	29
5. Joint Construction Plus Other "Proximity"	33
Cable on Cable Arms	33
Cable Attached to Pole (Less than 6 feet below power)	36
Cable Attached to Pole (6 to 8 feet below power)	39

1. GENERAL

- 1.01 This section contains illustrations showing the location of strain insulators in cable guys in proximity

in accordance with the requirements given in Section G23.140.1, Grounding or Insulating Guys, General Requirements.

1.02 The illustrations contained herein cover the conditions most generally encountered. For other conditions, insulators, if required, should be located in accordance with the instructions given in Section G23.140.1.

2. NON-JOINT CONSTRUCTION

2.01 (a)

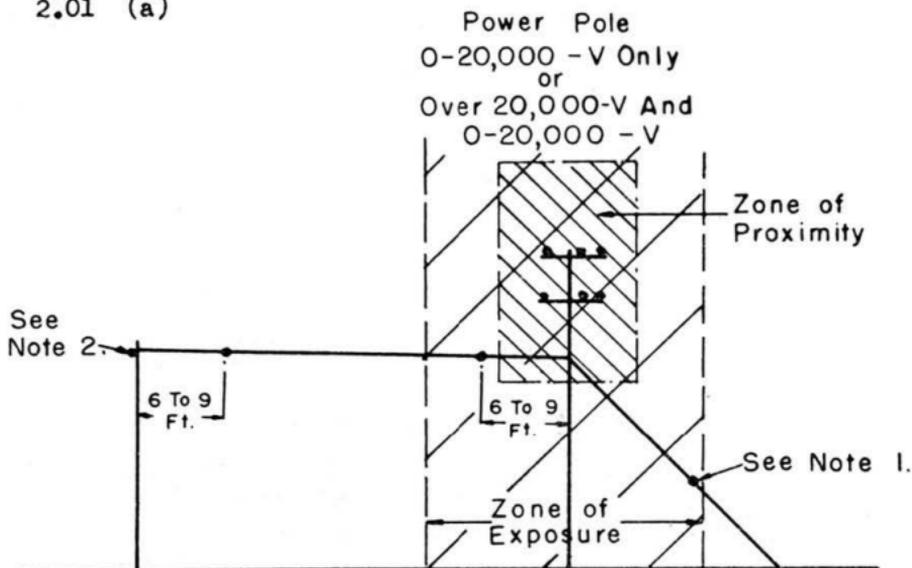


FIG. 701

Note 1: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

Note 2: An electrical separation of 4 inches of pole surface must be maintained between metallic parts of overhead guy and suspension strand and cable if any part of overhead guy is exposed to voltages over 20,000.

(b)

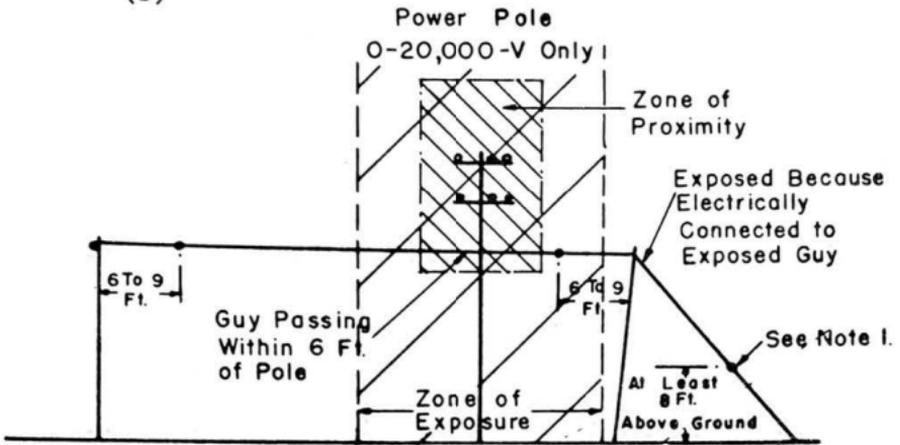


FIG. 702

Note 1: This insulator may be omitted if anchor guy is not directly exposed and an electrical separation of 4 inches of pole surface is maintained between metallic parts of anchor guy and exposed portion of overhead guy.

(c)

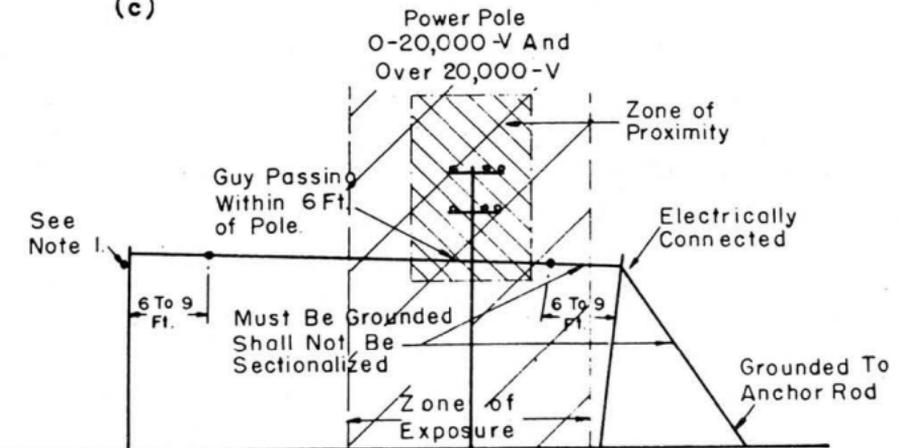


FIG. 703

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and suspension strand and cable.

LOCATION OF STRAIN INSULATORS
CABLE GUYS IN PROXIMITY
ILLUSTRATIONS

3. JOINT CONSTRUCTION

3.01 Cable on Cable Arms

(a)

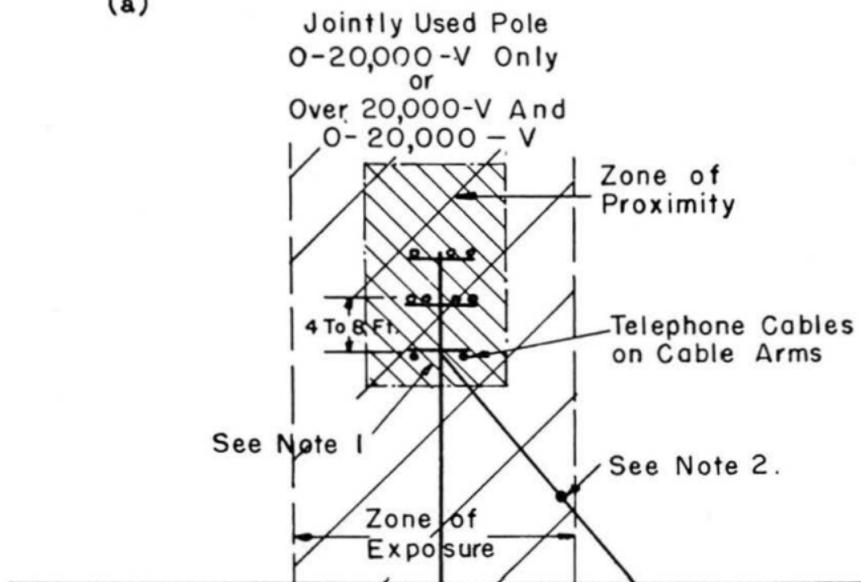


FIG. 704

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of guy and suspension strand or cable sheath.

Note 2: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

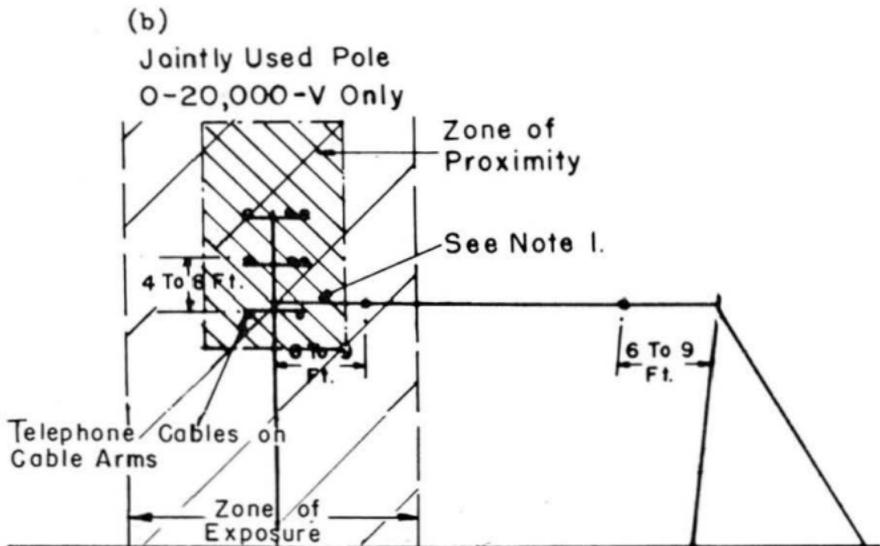


FIG. 705

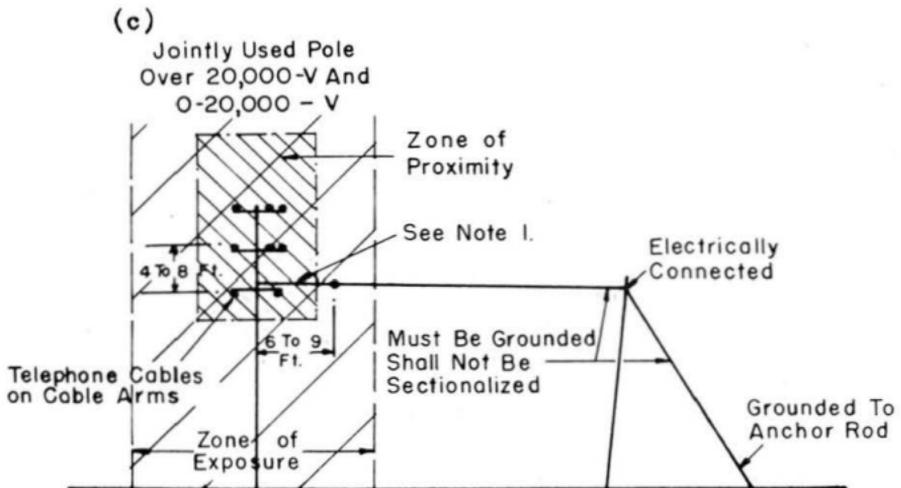


FIG. 706

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of guy and any stub cable, terminal, or drop wires attached to poles.

(d)

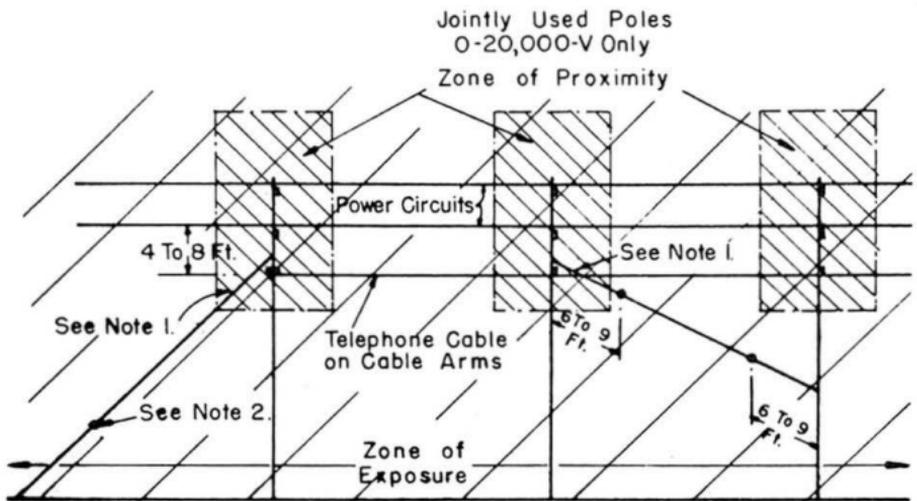
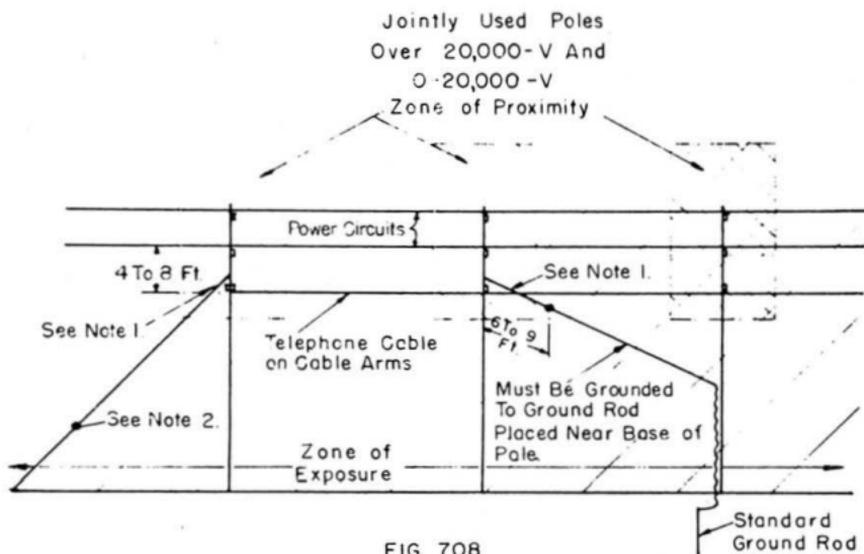


FIG. 707

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of guy and any stub cable, terminal, or drop wires attached to pole.

Note 2: At least 8 feet above ground and either, (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

(e)



Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of guy and any stub cable, terminal, or drop wires attached to pole.

Note 2: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

LOCATION OF STRAIN INSULATORS
CABLE GUYS IN PROXIMITY
ILLUSTRATIONS

(f)

Jointly Used Poles
 0-20,000-V Only
 or
 Over 20,000-V And
 0-20,000-V

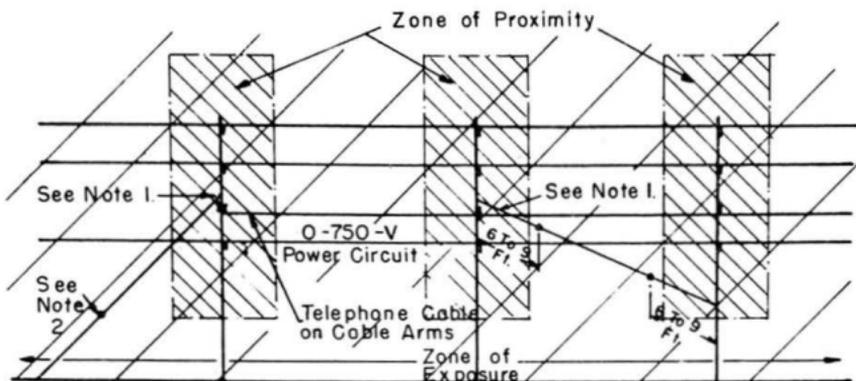


FIG. 709

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of guy and any stub cable, terminal, or drop wires attached to pole.

Note 2: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

3.02 Cable Attached to Pole (Less than 6 feet below power)

(a)

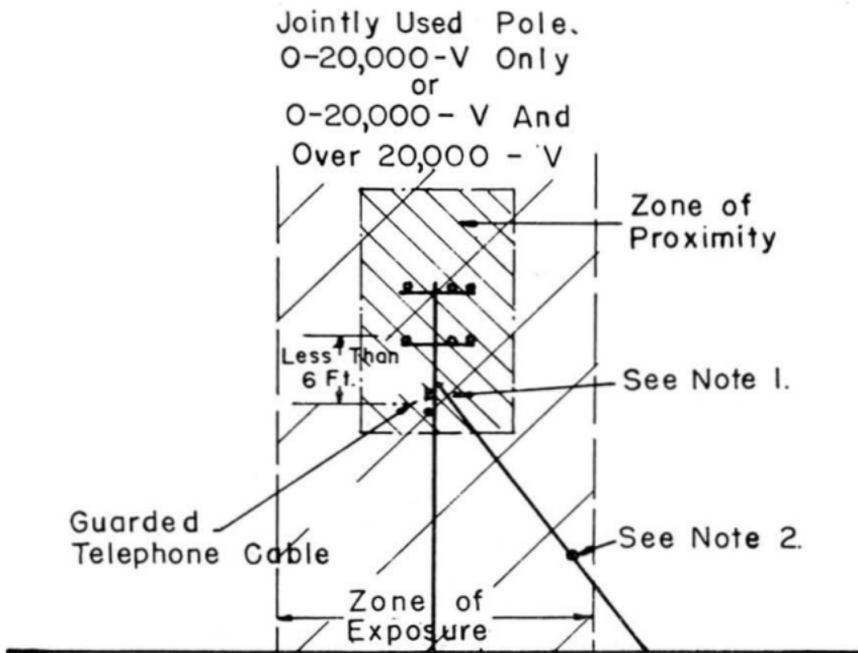


FIG. 710

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of anchor guy and suspension strand or cable.

Note 2: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

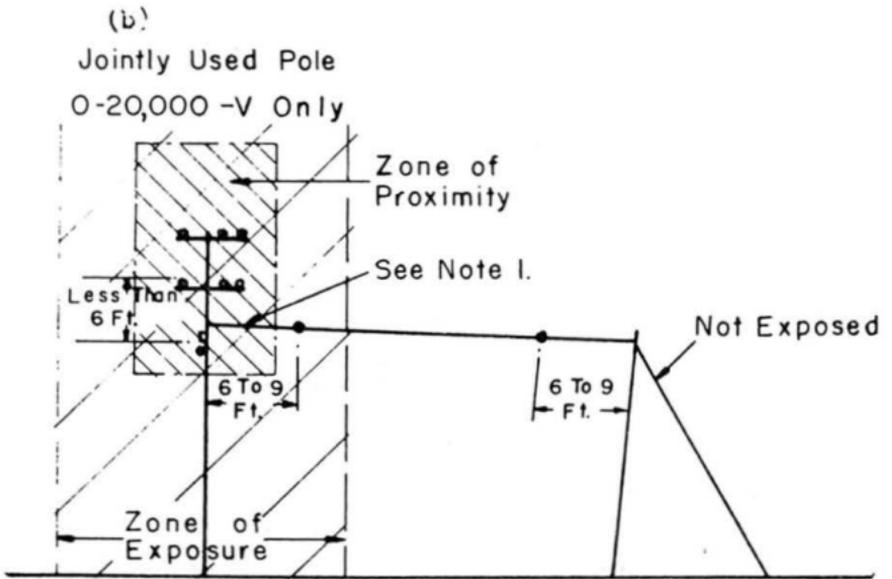


FIG. 711

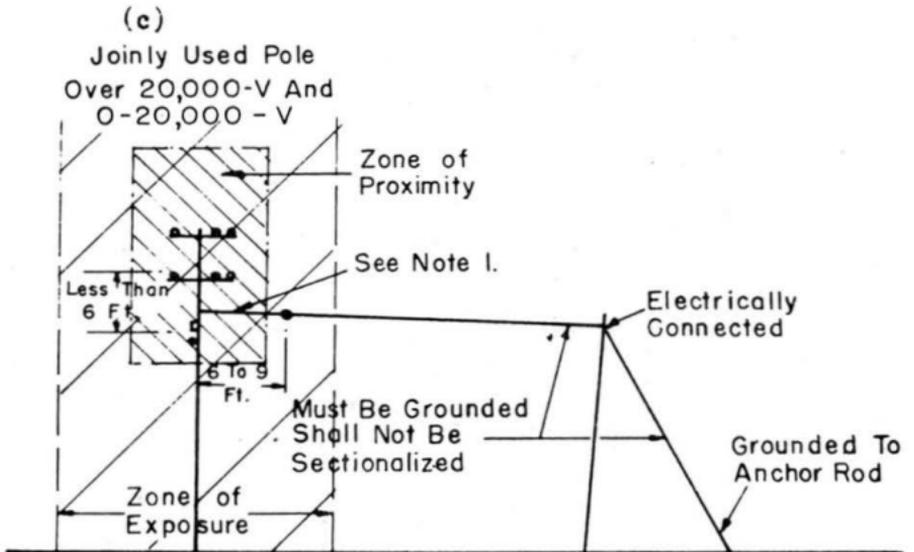


FIG. 712

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of guy and suspension strand or cable sheath.

(d)

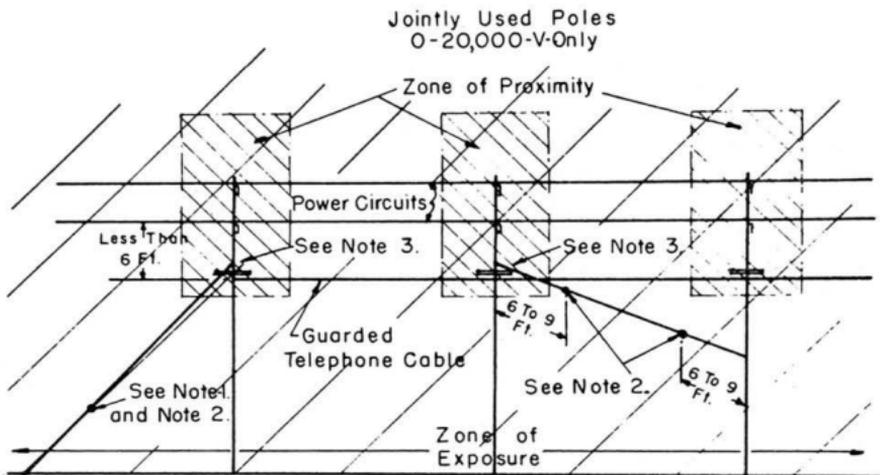


FIG. 713

Note 1: At least 8 feet above ground and either, (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

Note 2: Insulators may be omitted provided that guys are extensions of or are attached to a grounded cable messenger, are in same vertical plane as messenger, and are below guard arms. Grounding the guy is preferable to placing insulators when the guy can be connected to a grounded cable messenger.

Note 3: Guy must not be grounded by connection to messenger or cable sheath except if guy is attached at or below level of cable messenger.

LOCATION OF STRAIN INSULATORS
CABLE GUYS IN PROXIMITY
ILLUSTRATIONS

(e)

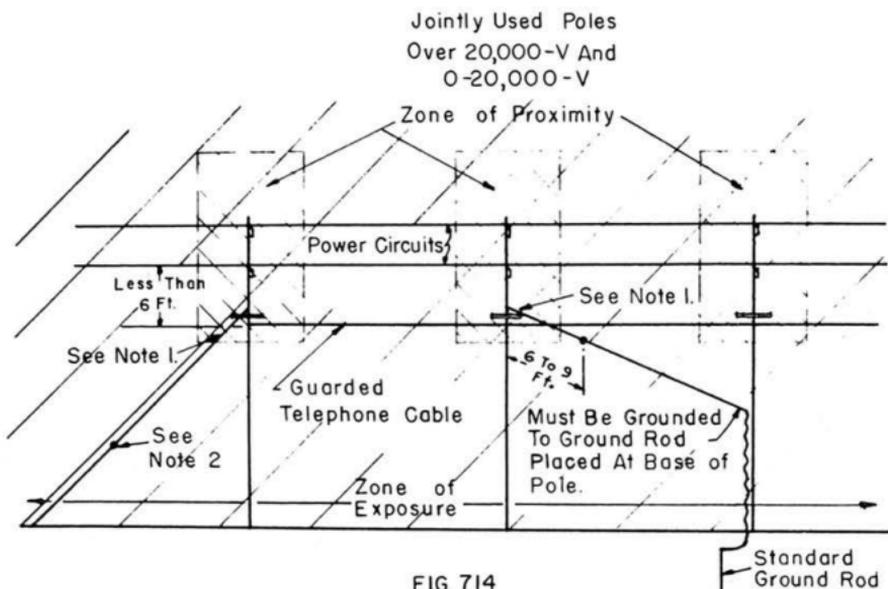


FIG. 714

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of anchor guy and suspension strand or cable.

Note 2: At least 8 feet above ground and either, (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

(f)

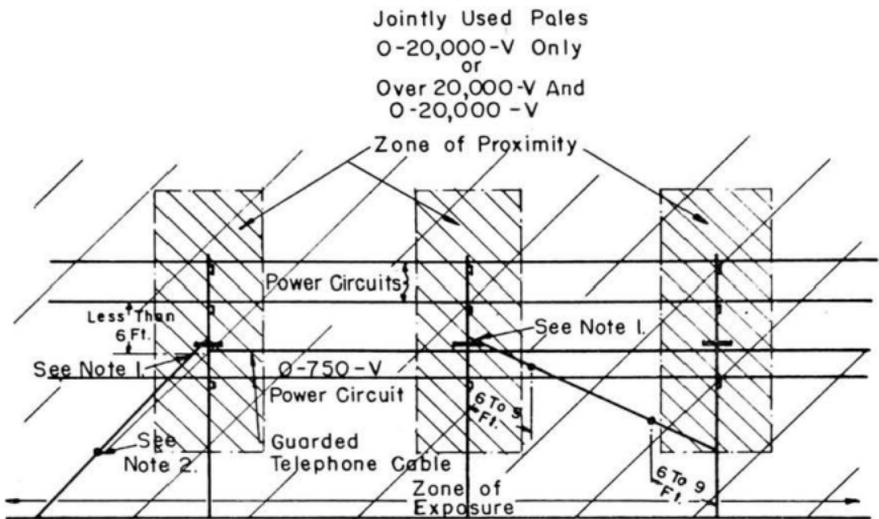


FIG. 715

- Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of guy and suspension strand, cable or drop wires.
- Note 2: At least 8 feet above ground and either, (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

3.03 Cable Attached to Pole (6 to 8 feet below power)

(a) Jointly Used Pole
0-20,000-V Only

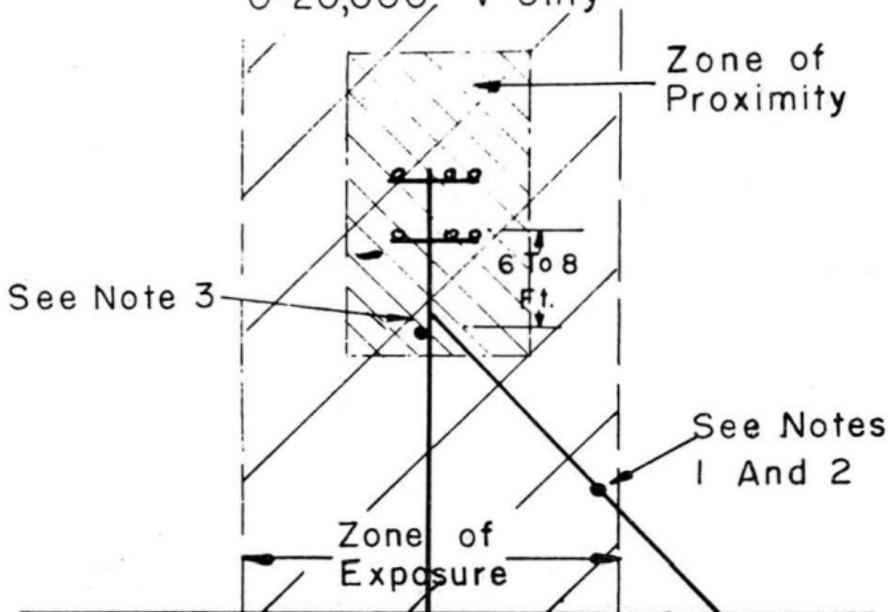


FIG. 716

Note 1: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

Note 2: This insulator may be omitted if guy attachment to pole is at or below the level of cable messenger and guy is electrically connected to a grounded cable messenger. Grounding the guy is preferable to placing insulators when the guy can be connected to a grounded cable messenger.

Note 3: Guy must not be grounded by connection to messenger or cable sheath except if guy is attached at or below level of cable messenger.

(b)

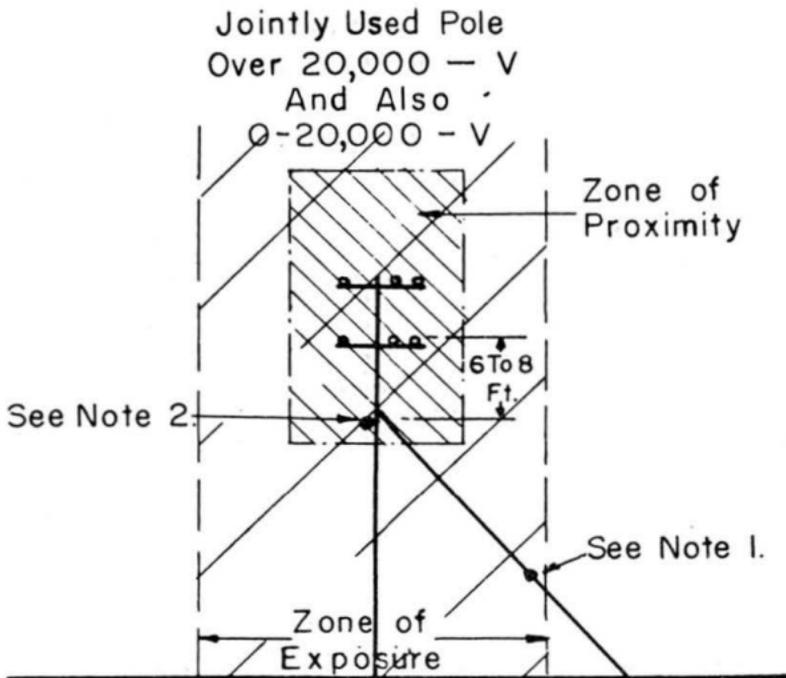


FIG. 717

Note 1: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

Note 2: Maintain an electrical separation of 4 inches of pole surface between metallic parts of anchor guy and suspension strand and cable. (This electrical separation is required whether guy is attached above or below level of cable messenger.)

LOCATION OF STRAIN INSULATORS
CABLE GUYS IN PROXIMITY
ILLUSTRATIONS

(c)

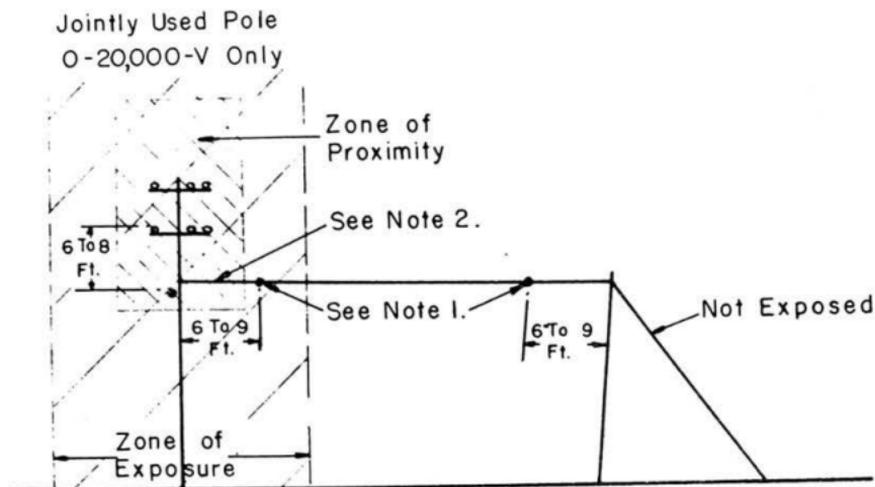


FIG. 718

Note 1: Both insulators may be omitted if guy attachment to pole is at or below the level of the cable messenger and guy is electrically connected to a grounded cable messenger. In this case no electrical separation is required between anchor guy and overhead guy. Grounding the guy is preferable to placing insulators when the guy can be connected to a grounded cable messenger.

Note 2: Guy must not be grounded by connection to messenger or cable sheath except if guy is attached at or below level of cable messenger.

(d)

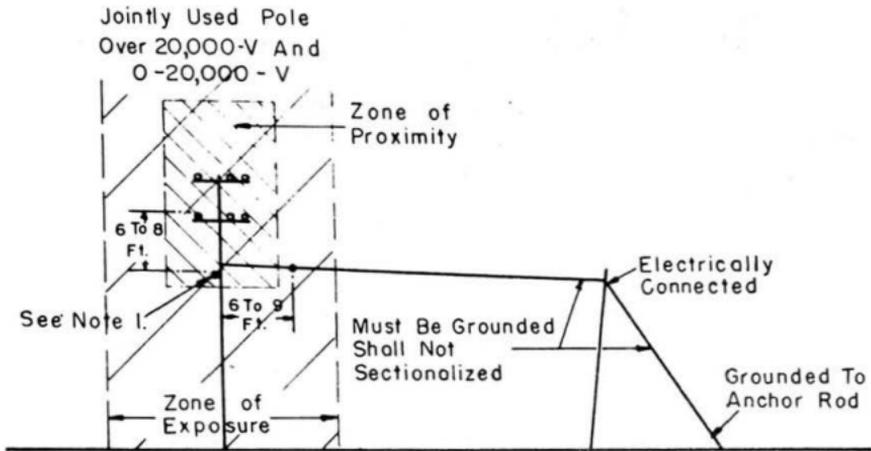


FIG. 719

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and suspension strand and cable. (This electrical separation is required whether guy is attached above or below level of cable messenger.)

(e)

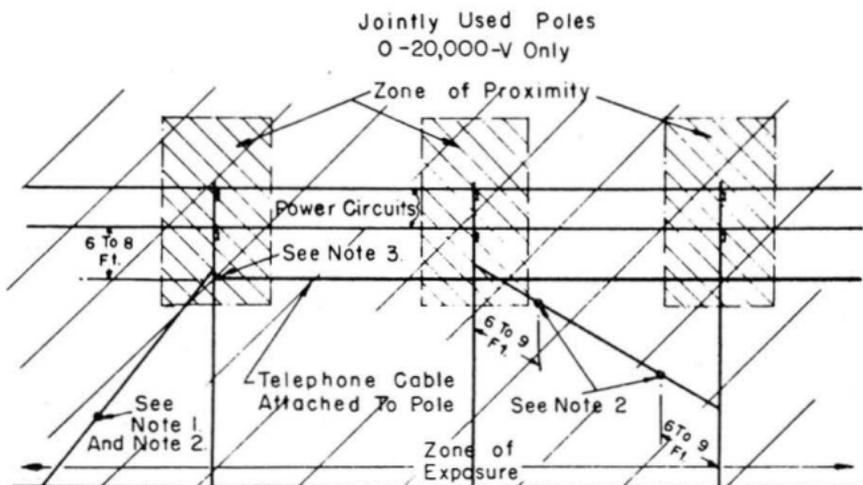


FIG 720

Note 1: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

Note 2: Insulator may be omitted if guy attachment to pole is at or below level of the cable messenger and guy is electrically connected to a grounded cable messenger. Grounding the guy is preferable to placing insulators when the guy can be connected to a grounded cable messenger.

Note 3: Guy must not be grounded by connection to messenger or cable sheath except if guy is attached at or below level of cable messenger.

(f)

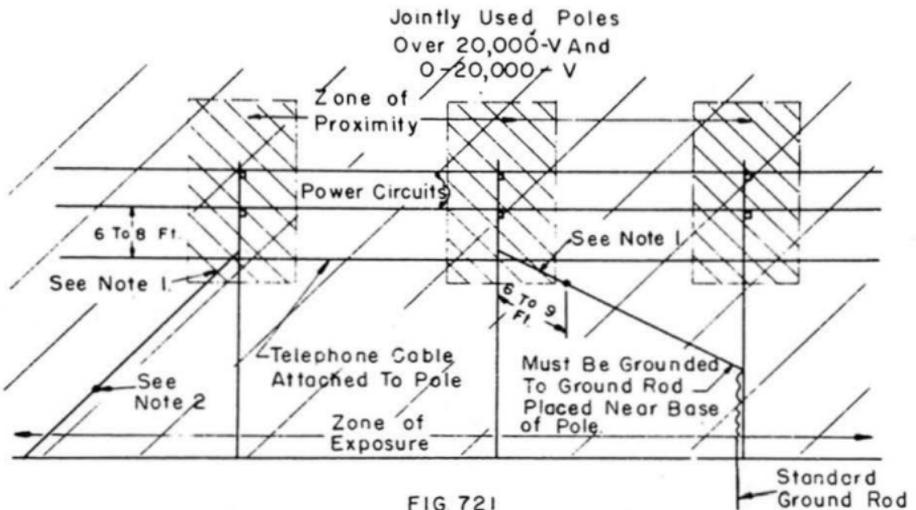


FIG 721

- Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of anchor guy and suspension strand or cable.
- Note 2: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

(g)

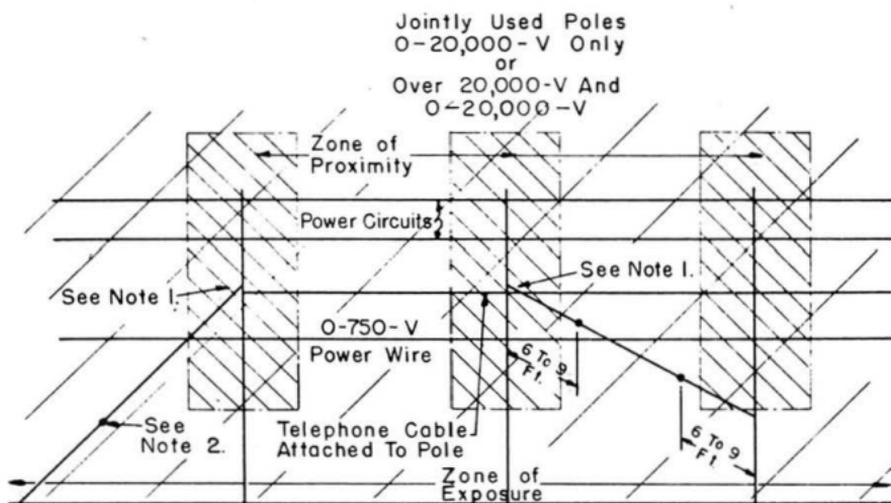


FIG. 722

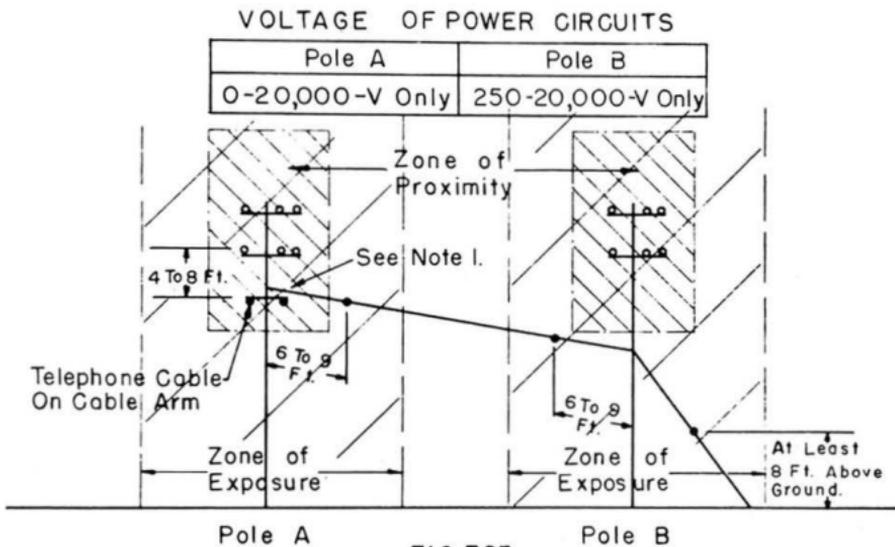
Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of guy and suspension strand or cable.

Note 2: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

4. JOINT CONSTRUCTION PLUS OTHER "EXPOSURE"

4.01 Cable on Cable Arms

(a)



Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts or guy and any stub cable, terminal, or drop wires attached to pole.

LOCATION OF STRAIN INSULATORS
CABLE GUYS IN PROXIMITY
ILLUSTRATIONS

(b)

VOLTAGE OF POWER CIRCUITS

Pole A	Pole B
0-20,000-V	Over 20,000 -V
	Over 20,000 -V And 250-20,000 -V
Over 20,000-V And 0-20,000 - V	Over 20,000 -V
	250-20,000 -V
	Over 20,000-V And 250-20,000 -V

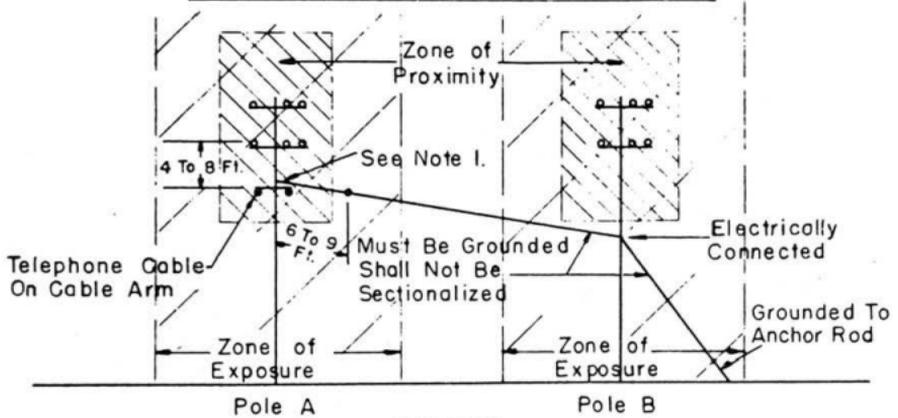


FIG. 724

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of guy and any stub cable, terminal, or drop wires attached to pole.

(d)

VOLTAGE OF POWER CIRCUITS

Pole A	Pole B
0-20,000-V	Over 20,000-V
	Over 20,000-V And 250-20,000-V
	Over 20,000-V
Over 20,000-V And 0-20,000-V	250-20,000-V
	Over 20,000-V And 250-20,000-V

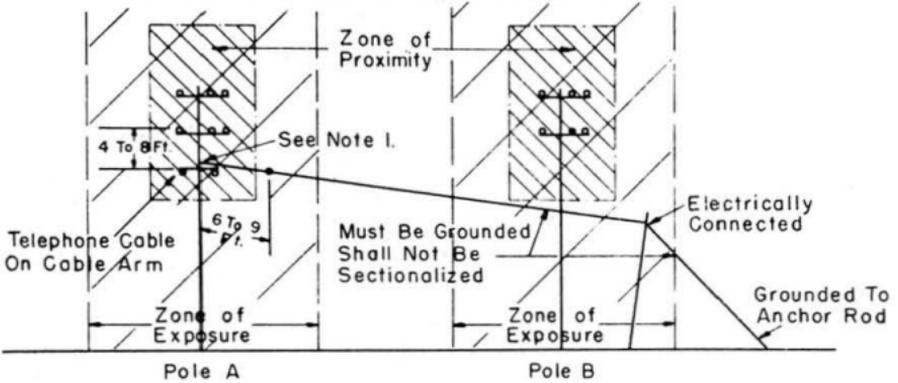
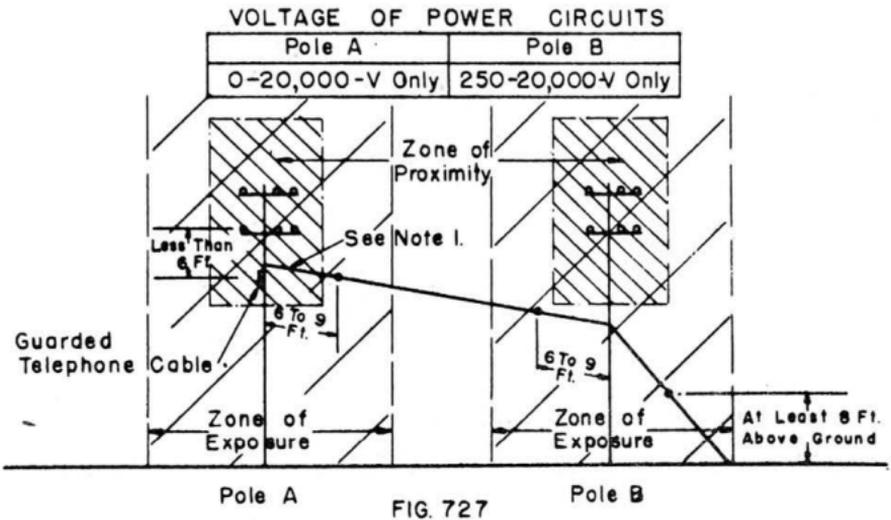


FIG. 726

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of guy and any stub cable, terminal, or drop wires attached to pole.

4.02 Cable Attached to Pole (Less than 6 feet below power)

(a)



Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of guy and suspension strand or cable sheath. (This electrical separation is required whether guy is attached above or below level of cable messenger.)

(b)

VOLTAGE OF POWER CIRCUITS

Pole A	Pole B
0-20,000 -V	Over 20,000 -V
	Over 20,000 -V And 250-20,000-V
Over 20,000 -V And 0-20,000 -V	Over 20,000 -V 250-20,000 -V
	Over 20,000 -V And 250-20,000 -V

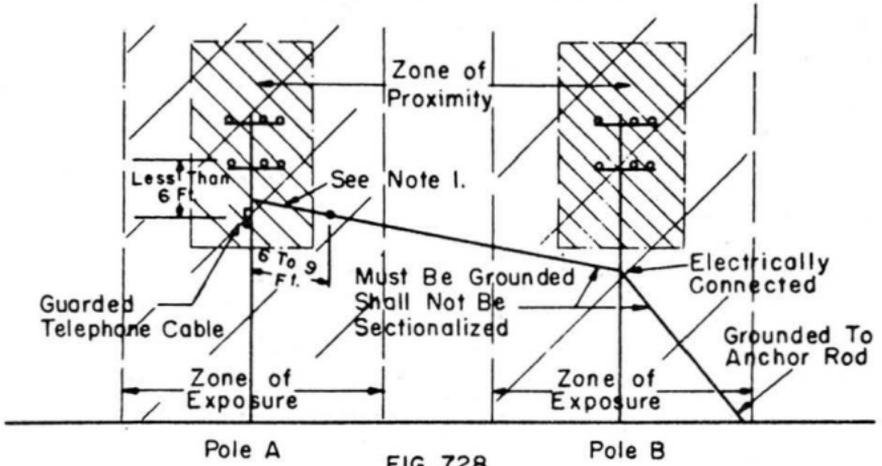


FIG. 728

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and suspension strand and cable. (This electrical separation is required whether guy is attached above or below level of cable messenger.)

(c)

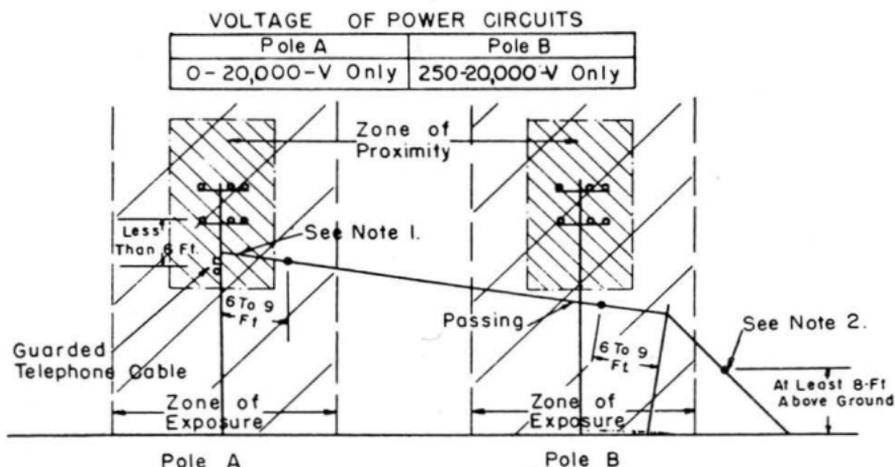


FIG. 729

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of guy and suspension strand or cable sheath. (This electrical separation is required whether guy is attached above or below level of cable messenger.)

Note 2: This insulator may be omitted if anchor guy is not directly exposed and an electrical separation of 4 inches of pole surface is maintained between metallic parts of anchor guy and overhead guy.

LOCATION OF STRAIN INSULATORS
CABLE GUYS IN PROXIMITY
ILLUSTRATIONS

(d)

VOLTAGE OF POWER CIRCUITS

Pole A	Pole B
0-20,000-V Only	Over 20,000-V Only
	Over 20,000-V And 250-20,000 -V
Over 20,000- V And 0 -20,000 - V	Over 20,000-V Only
	250-20,000-V Only
	Over 20,000-V And 250-20,000-V

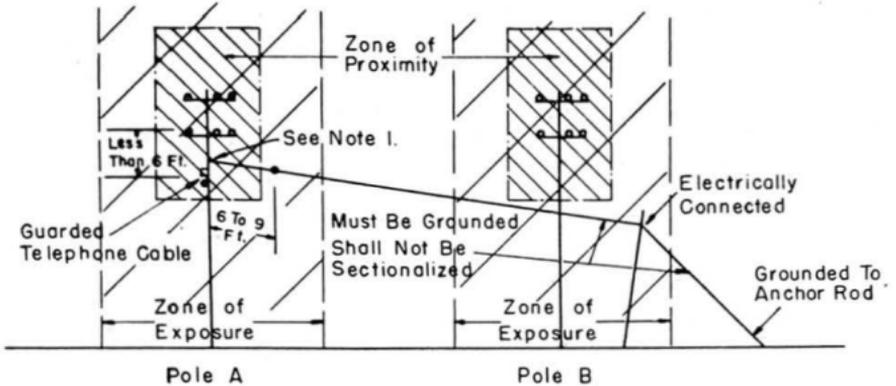
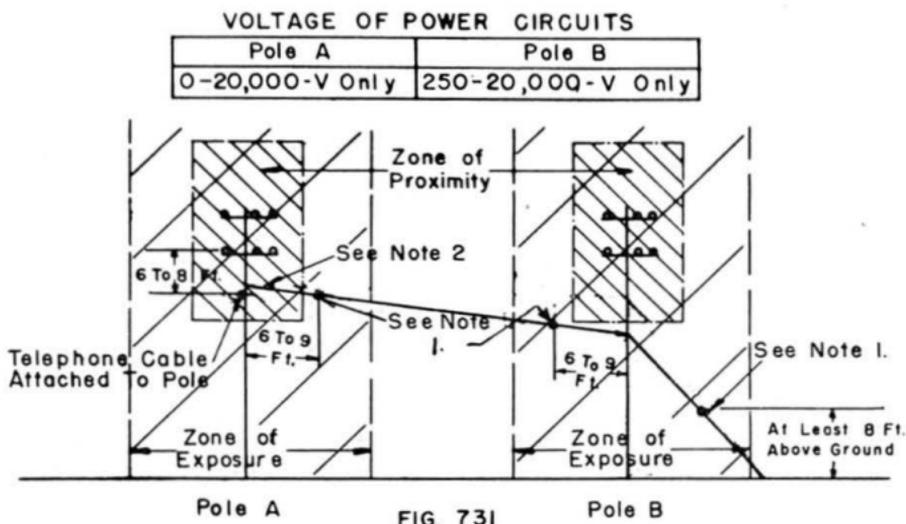


FIG. 730

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and suspension strand and cable.

4.03 Cable Attached to Pole (6 to 8 feet below power)

(a)



Note 1: Insulators may be omitted if guy attachment to Pole A is at or below the level of cable messenger and guy is electrically connected to a grounded cable messenger. Grounding the guy is preferable to placing insulators when the guy can be connected to a grounded cable messenger.

Note 2: Guy must not be grounded by connection to messenger or cable sheath except if guy is attached at or below level of cable messenger.

(b)

VOLTAGE OF POWER CIRCUITS

Pole A	Pole B
0-20,000-V Only	Over 20,000 -V Only
	Over 20,000 -V And 250-20,000 -V
Over 20,000-V And 0-20,000-V	Over 20,000-V Only
	250-20,000-V Only
	Over 20,000 -V And 250-20,000-V

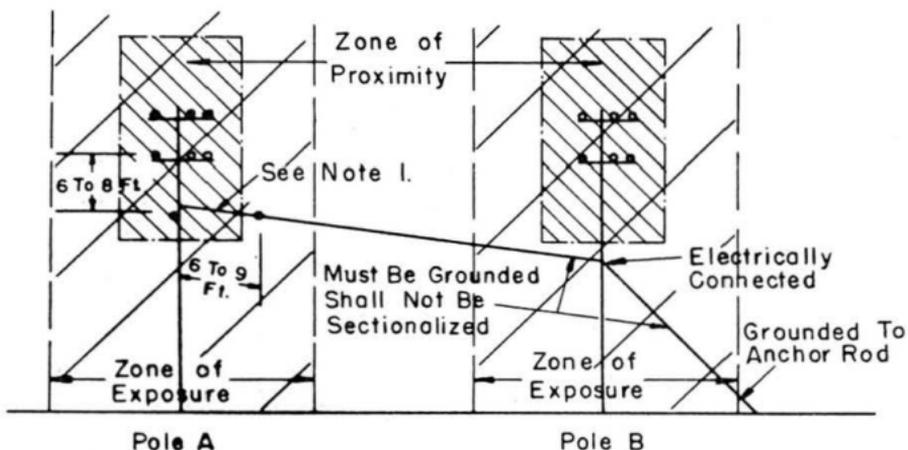


FIG. 732

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and suspension strand and cable. (This electrical separation is required whether guy is attached above or below level of cable messenger.)

(c)

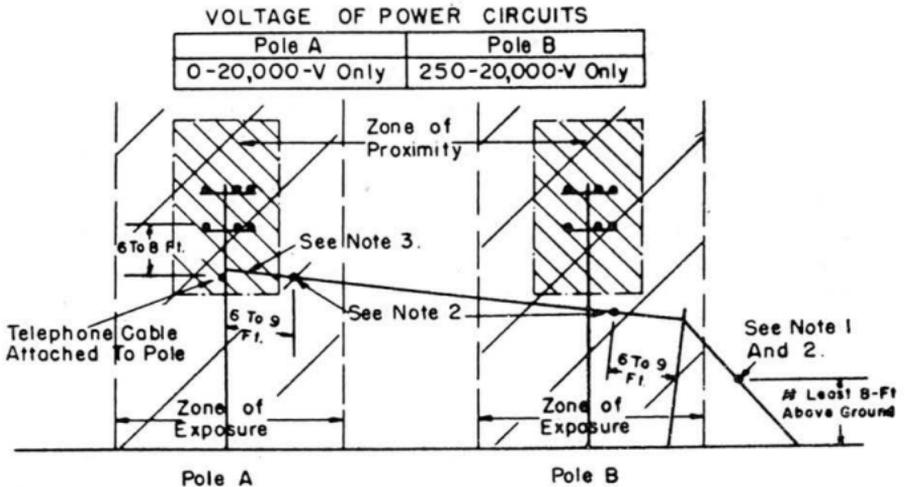


FIG. 733

- Note 1: This insulator may be omitted if anchor guy is not directly exposed and an electrical separation of 4-inches of pole surface is maintained between metallic parts of anchor guy and overhead guy.
- Note 2: All insulators may be omitted if guy attachment to Pole A is at or below level of cable messenger and guys are electrically connected to a grounded cable messenger. Grounding the guy is preferable to placing insulators when the guy can be connected to a grounded cable messenger.
- Note 3: Guy must not be grounded by connection to messenger or cable sheath except if guy is attached at or below level of cable messenger.

LOCATION OF STRAIN INSULATORS
CABLE GUYS IN PROXIMITY
ILLUSTRATIONS

(d.)

VOLTAGE OF POWER CIRCUITS

Pole A	Pole B
0-20,000-V Only	Over 20,000-V Only Over 20,000-V And 250-20,000-V
Over 20,000-V And 0-20,000-V	Over 20,000-V Only 250-20,000-V Only Over 20,000-V And 250-20,000-V

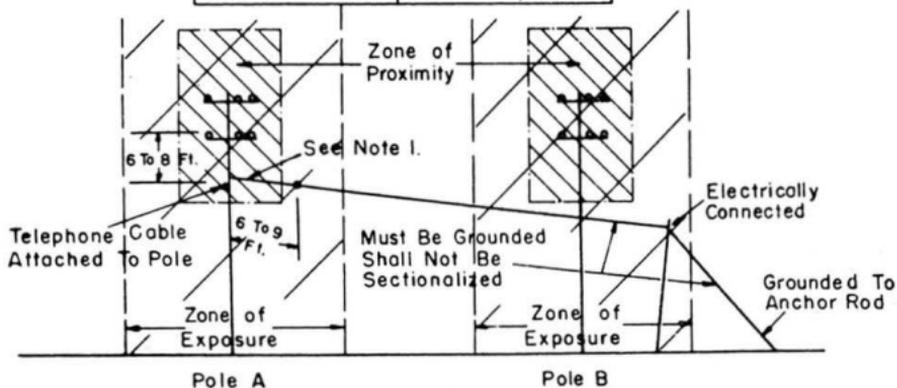


FIG. 734

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and suspension strand and cable. (This electrical separation is required whether guy is attached above or below level of cable messenger.)

5. JOINT CONSTRUCTION PLUS OTHER "PROXIMITY"

5.01 Cable on Cable Arms

(a)

VOLTAGE OF POWER CIRCUITS

Pole A	Pole B
0-20,000 -V Only or Over 20,000 -V And 0-20,000 -V	0-20,000 -V Only or Over 20,000 -V And 0-20,000 -V

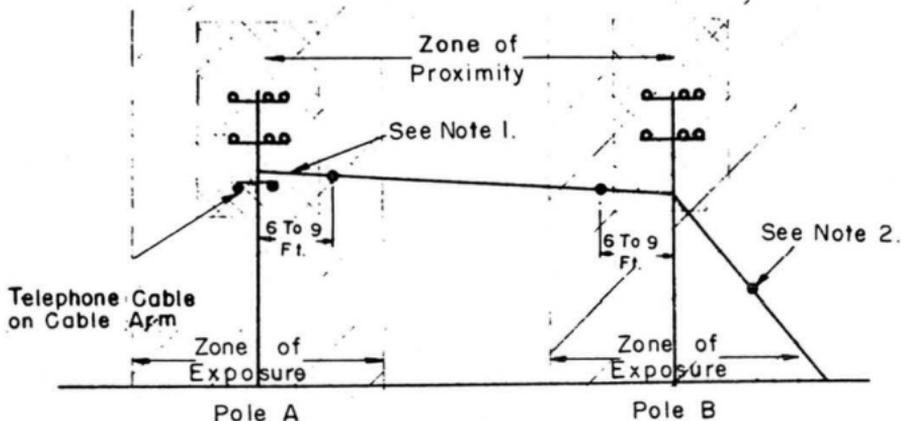
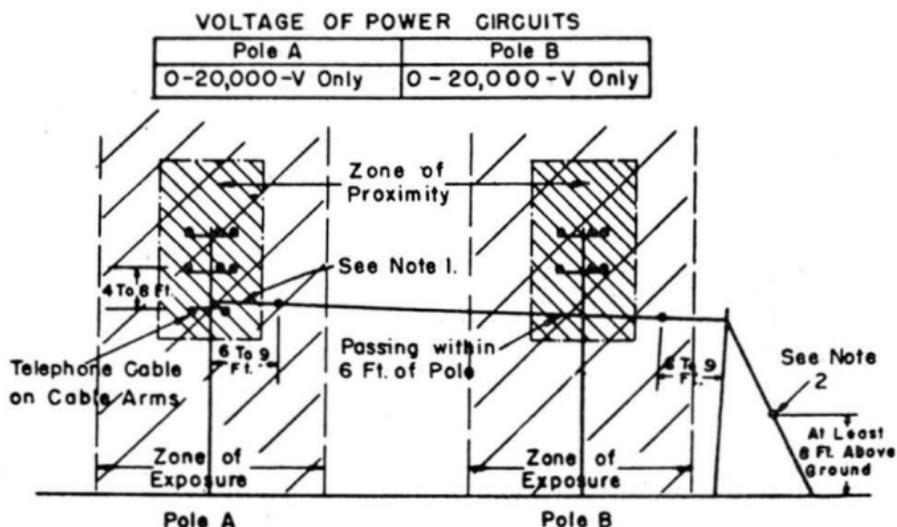


FIG. 735

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and any stub cable, terminal or drop wires attached to pole.

Note 2: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

(b)



Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and any stub cable, terminal, or drop wires attached to pole.

Note 2: This insulator may be omitted if anchor guy is not directly exposed and is not electrically connected to exposed portion of overhead guy.

(c)

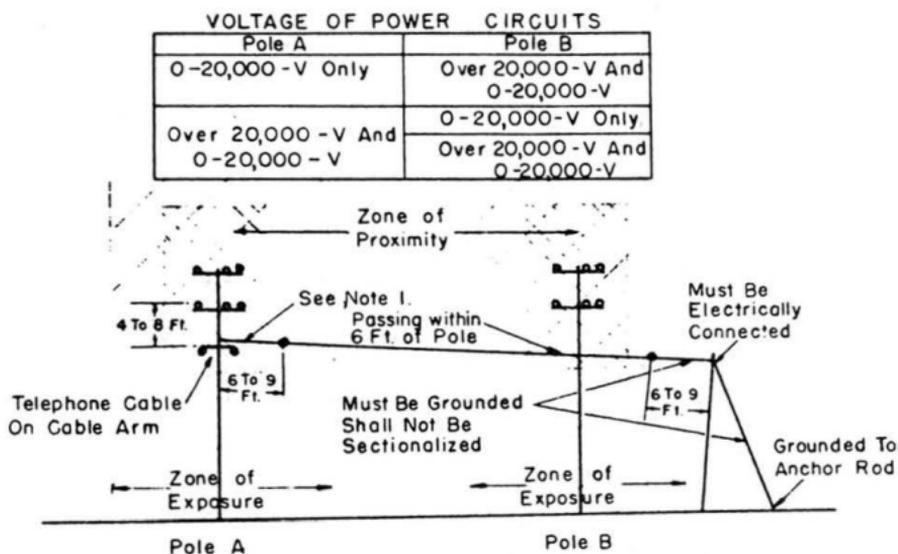


FIG. 737

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and any stub cable, terminal, or drop wires attached to pole.

LOCATION OF STRAIN INSULATORS
CABLE GUYS IN PROXIMITY
ILLUSTRATIONS

5.02 Cable Attached to Pole (Less than 6 feet below power)

(a)

VOLTAGE OF POWER CIRCUITS

Pole A	Pole B
0-20,000 -V Only or Over 20,000 -V And 0-20,000-V	0-20,000 -V Only or Over 20,000-V And 0-20,000-V

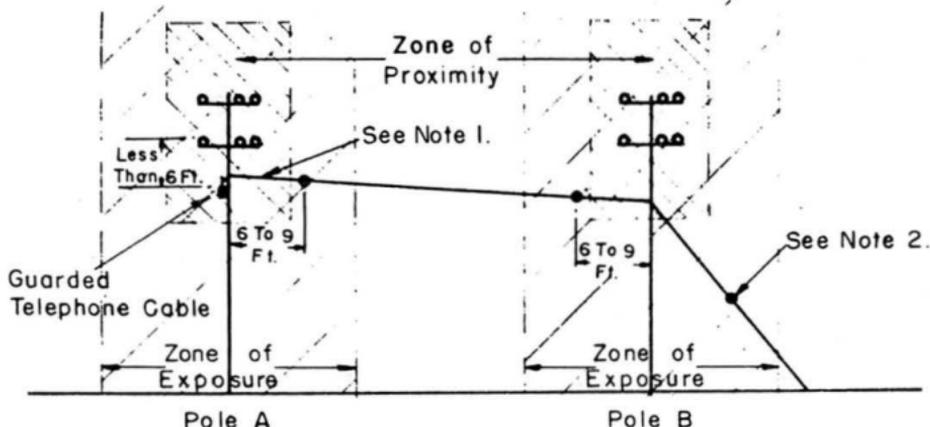


FIG. 738

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and suspension strand and cable. (This electrical separation is required whether guy is attached above or below level of cable messenger.)

Note 2: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below lowest power wire.

(e)

VOLTAGE OF POWER CIRCUITS

Pole A	Pole B
0-20,000-V Only	Over 20,000-V And 0-20,000-V
Over 20,000-V And 0-20,000-V	0-20,000-V Only Over 20,000-V And 0-20,000-V

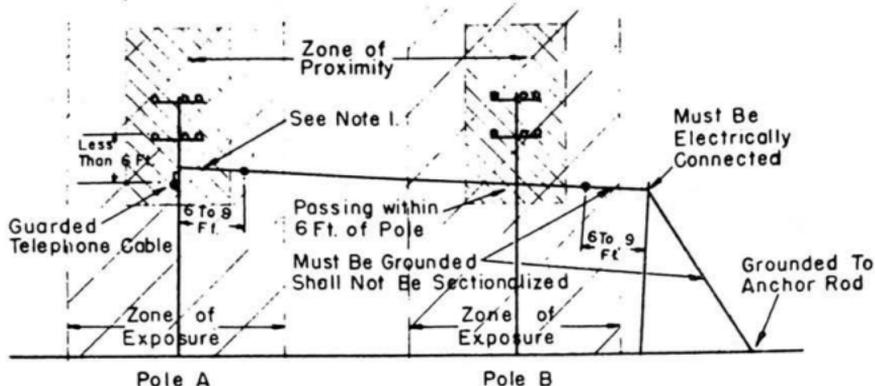


FIG. 740

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and suspension strand or cable sheath. (This electrical separation is required whether guy is attached above or below level of cable messenger.)

5.03 Cable Attached to Pole (6 to 8 feet below power)

(a)

VOLTAGE OF POWER CIRCUITS

Pole A	Pole B
0-20,000 -V Only or Over 20,000 -V And 0-20,000-V	0-20,000 -V Only or Over 20,000-V And 0-20,000-V

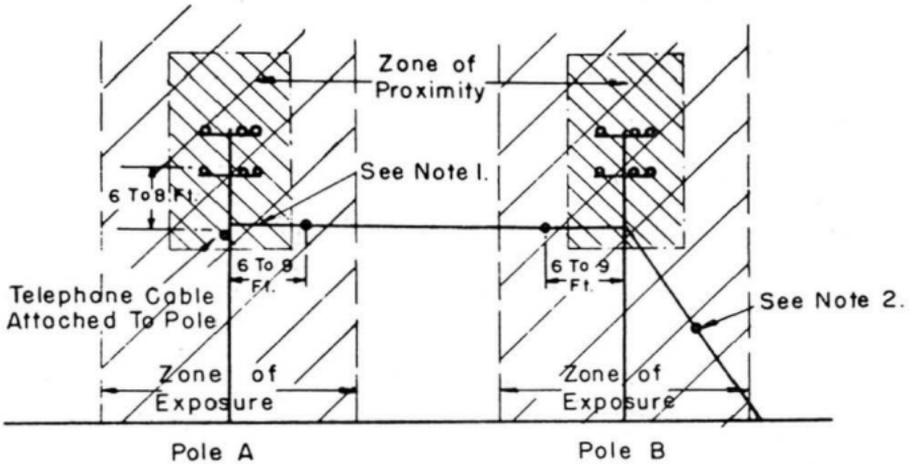


FIG. 741

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and suspension strand and cable. (This electrical separation is required whether guy is attached above or below level of cable messenger.)

Note 2: At least 8 feet above ground and either (1) not less than 8 feet below lowest power wire, or (2) not less than 6 feet from pole and one foot below power wire.

LOCATION OF STRAIN INSULATORS
CABLE GUYS IN PROXIMITY
ILLUSTRATIONS

(b)

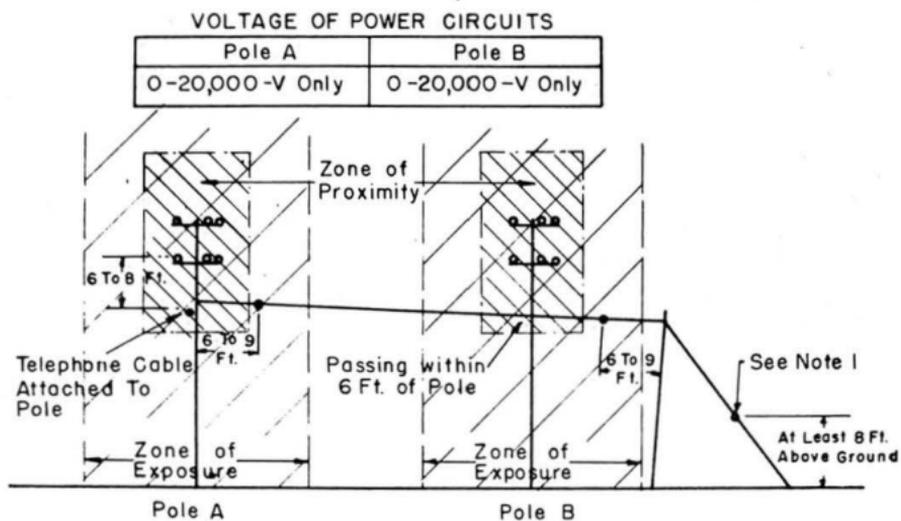


FIG. 742

Note 1: This insulator may be omitted if anchor guy is not directly exposed and is not electrically connected to exposed portion of overhead guy.

(c)

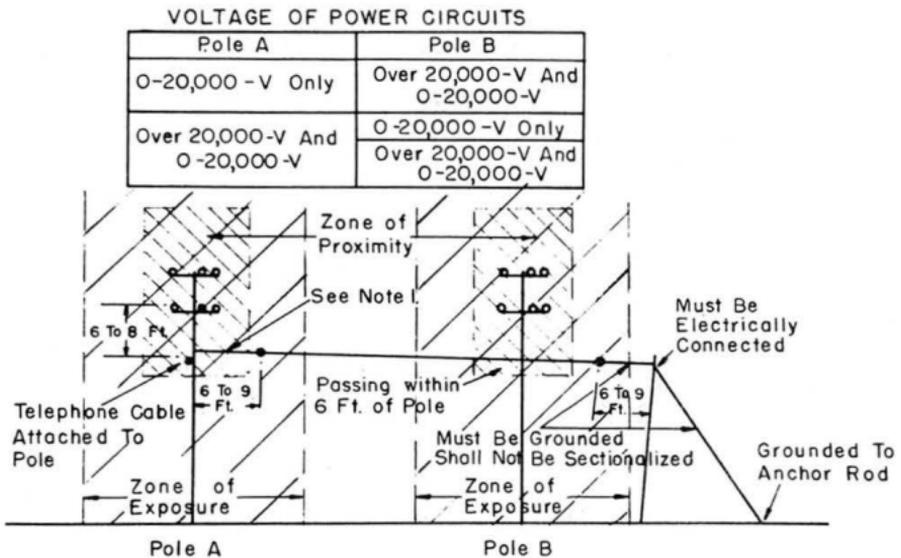


FIG. 743

Note 1: Maintain an electrical separation of 4 inches of pole surface between metallic parts of overhead guy and suspension strand or cable. (This electrical separation is required whether guy is attached above or below level of cable messenger.)