

UNDERGROUND CONDUIT FOR SERVICE CONNECTIONS PLACING AND TERMINATING DUCTS

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1. DEPTH OF TRENCH

1.01 Conduit shall be laid in a trench sufficiently deep so that the conduit will have not less than 18 inches of cover at any point. This depth is necessary in order to protect the conduit from mechanical injury due to the digging of the ground in planting shrubs, etc. This depth will also permit of slight changes in grading without disturbing the conduit.

1.02 The trench shall be graded to allow a fall of 3 inches per 100 feet toward the conduit boxes or drainage pockets. (See Part 5, Section G44.120.)

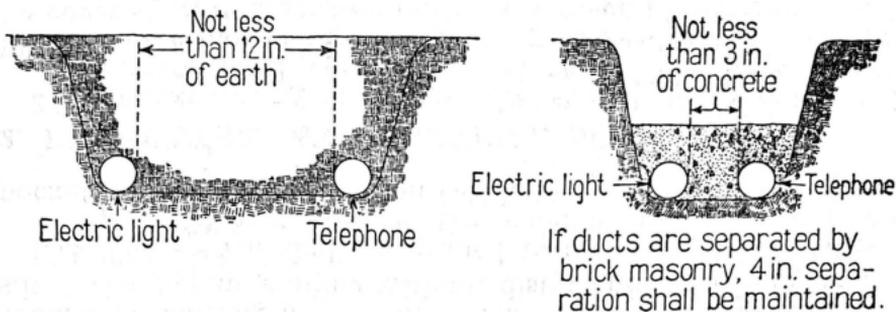
2. EXCAVATING AND BACKFILLING

2.01 In excavating in lawns, the sod shall be cut out in squares and carefully preserved. The top soil shall likewise be removed separately and preserved. The lawn shall be covered with canvas or burlap wherever the excavated sub-soil is placed on the lawn.

2.02 In backfilling, the trench shall be thoroughly tamped as filling progresses in order to prevent future settling. The top soil and sod or paving material shall be carefully replaced unless other arrangements have been made with the customer.

3. SEPARATION FROM ELECTRIC LIGHT CONDUITS

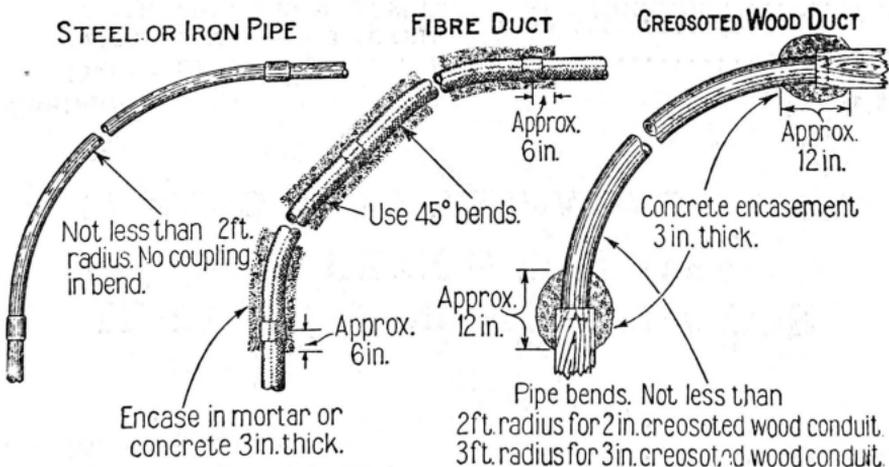
3.01 Telephone conduit shall be separated from electric light or power conduit by not less than 3 inches of concrete, 4 inches of brick masonry, or 12 inches of well tamped earth.

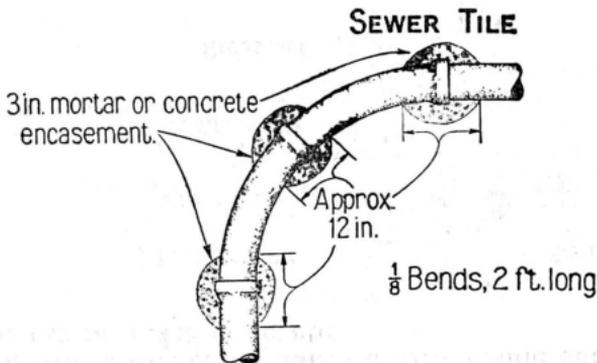


3.02 The clearances specified in Paragraph 3.01 apply likewise at crossings of one service over the other.

4. BENDS IN CONDUIT RUNS

4.01 Bends in conduit runs employing approved types of duct shall be made as illustrated. Where bends are constructed of duct other than steel or iron pipe, the joints in such bends shall be encased in cement mortar of 1:3 proportions or concrete of 1:4:8 proportions.





5. DUCT JOINTS

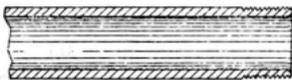
5.01 Care shall be exercised in making the joints in the various types of duct used in order to prevent the entrance of silt, dirt, etc., into the conduit.

5.02 Where concrete or cement mortar is required to encase the joints or a part of the conduit run, concrete of 1:4:8 proportions or 1:3 mortar shall be used.

5.03 Observe the following procedure in coupling steel or iron pipe duct.

- (a) Ream both ends of steel pipe or iron pipe duct.
- (b) Screw both pieces of pipe tight in coupling, using white lead or approved equivalent in making the joints.

PIPE



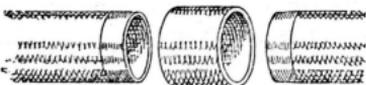
Both ends of each piece of pipe must be reamed.



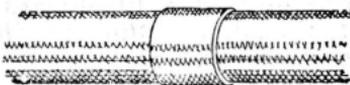
In coupling two pieces of pipe, screw both sections in tight. Use white lead or approved equivalent in making joint.

5.04 In making joints in fibre duct, force both pieces of duct well into the coupling, and exercise care to prevent the separation of the duct units, which might result from moving the conduit after the joint has been made. Where fibre duct is placed in swampy ground or in very fine sand, the tenons of the joints should be coated with Bitumastic No. 4 Paint before making the joints.

FIBRE DUCT



In swampy ground or in very fine sand, coat tenons with Bitumastic No. 4 Paint before making joint.



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5.05 Creosoted wood duct joints shall be made by driving the pieces of conduit together. Exercise care to avoid injury to the mortise and tenon while driving. Where creosoted wood duct is placed in swampy ground or very fine sand, the tenons should be coated with No. 2 P. and B. Compound before driving.

CREOSOTED WOOD DUCT

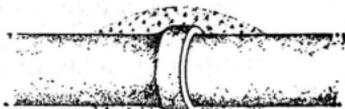
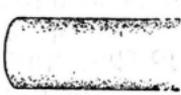
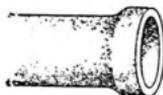


No compound necessary except in swampy ground and in very fine sand, where tenons should be coated with #2 P. & B. Compound before driving.

Drive ducts close together so as to make a tight joint.

5.06 Sewer tile joints shall be packed with oakum, rope, paper or similar material to center the tile. These joints shall be encased in mortar of 1:3 proportions or 1:4:8 concrete.

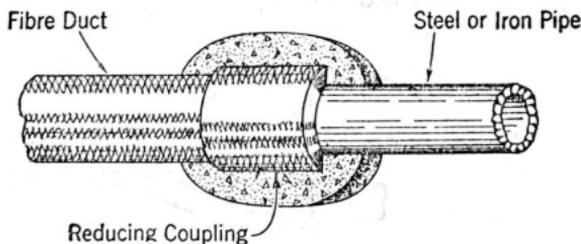
SEWER TILE

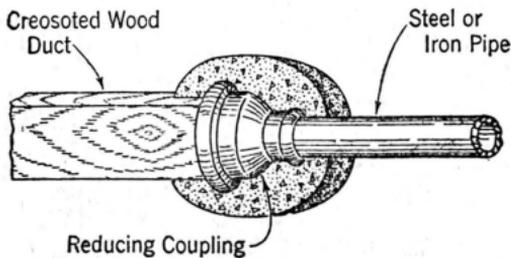


Pack joints with rope, oakum, paper or similar material to center tile.

Cover each joint with stiff 1:3 mortar 1 1/2 inch thick and extending 3 inches on either side of joint.

5.07 Where two types of conduit are joined together, the joint between the two types of conduit shall be encased in 1:3 cement mortar or 1:4:8 concrete. If a reducing coupling is placed between the two types of conduit, the reducing coupling and 6 inches of duct on either side shall be encased in 1:3 mortar or 1:4:8 concrete.



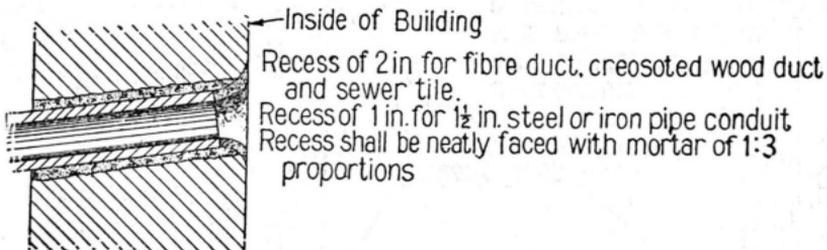


6. PULLING-IN WIRE

6.01 Wire each duct while laying same, with a wire not smaller than No. 12 B. W. G. Galvanized Wire, making the wire fast at each end of conduit run in order to prevent its being pulled out through accident or carelessness.

7. TERMINATING CONDUITS IN BUILDINGS

7.01 At the point where the conduit enters the building it shall be recessed from the surface of the wall and the wall surrounding the conduit shall be rounded to provide an easy turn for the cable. The section of conduit entering the wall shall be cemented in with 1:3 cement mortar. Steel or iron pipe passing through the building wall shall be kept free from contact with reinforcing rods or other conducting materials in the building wall or within the building.

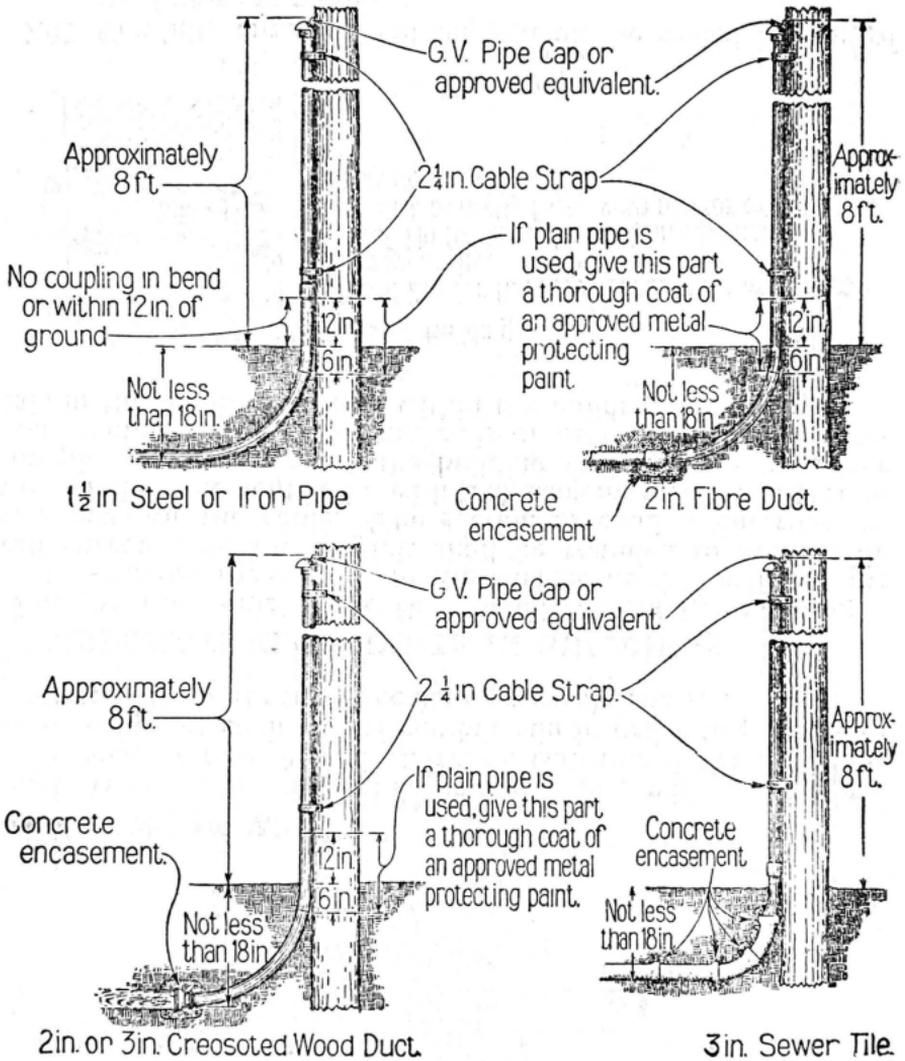


7.02 Conduits entering buildings should be sealed by one of the following methods:

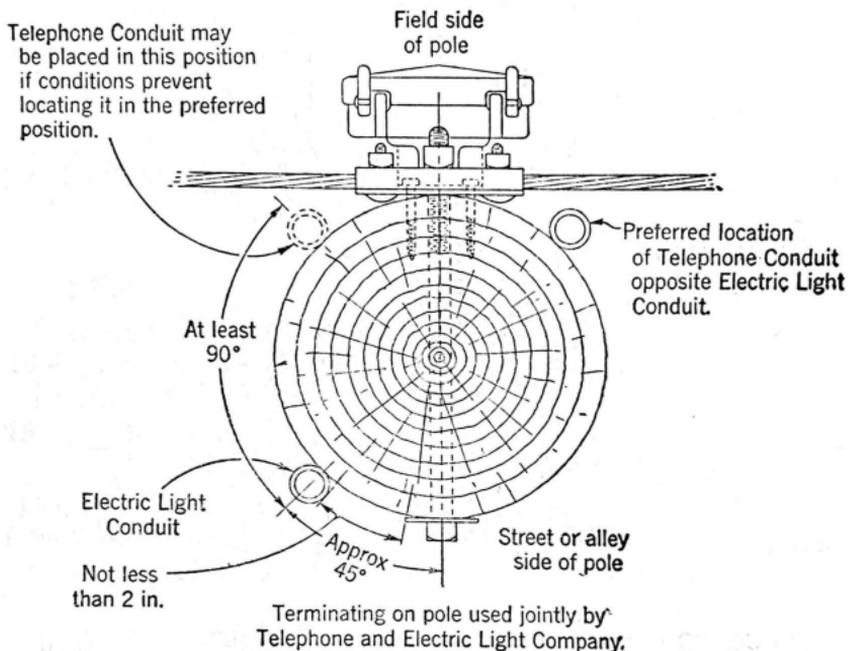
- (a) Plug the ducts with oakum and cover the oakum with a 1-inch layer of Rugby cement.
- (b) Plug the ducts with oakum and cover the oakum with a 1-inch layer of mortar composed of one part sand and one part plaster of Paris.
- (c) Plug the ducts with oakum and cover the oakum with a 3/8-inch layer of mortar composed of one part cement and 3 parts sand.

8. TERMINATING CONDUITS ON POLES

8.01 Conduits for service connections should be terminated on poles as shown in the following illustrations. The vertical riser should be located on the field side of the pole where practicable and should be supported by 2-1/4 inch Cable Straps attached to the pole with 1/4 inch x 2-1/2 inch Galvanized Drive Screws or approved equivalent.



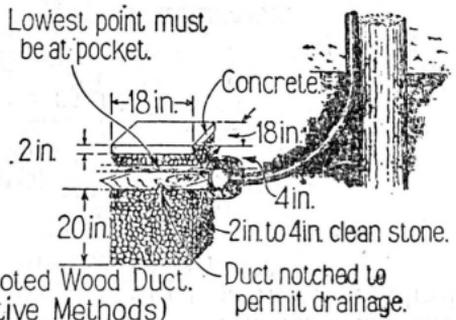
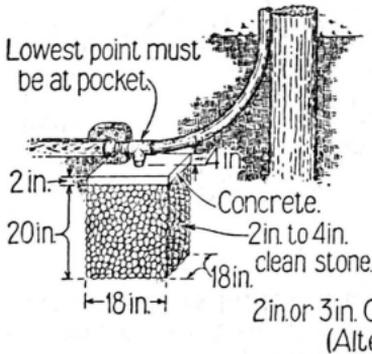
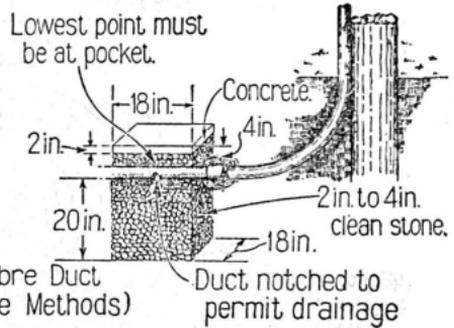
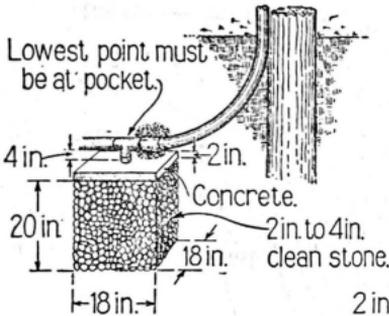
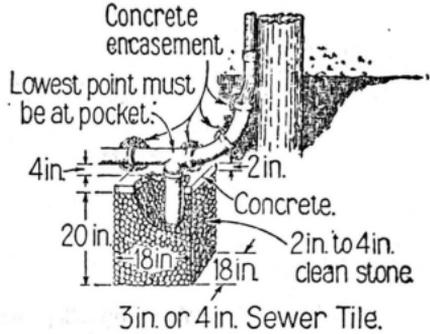
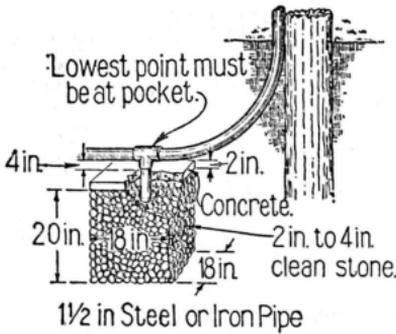
8.02 While it is preferable that telephone and electric light conduits should not be terminated on the same pole, if such construction is necessary, the two conduits should preferably be placed opposite to each other on the pole, with the telephone conduit on the field side. In no case, however, shall the two conduits be less than 90° apart on the pole.



9. DRAINAGE POCKET CONSTRUCTION

9.01 Drainage pockets, if required (see Part 5 of Section G44.120), shall be constructed as shown in the following illustrations:

* DRAINAGE POCKETS



* Note: Positive drainage from pocket must be provided in all cases.
(See Sect. G44.120)