

Community Development Department

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CITY of NAPA

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DEPTH OF PIPE IN TRENCH ELECTRICAL

California Plumbing Code 2001 609.1 Installation.

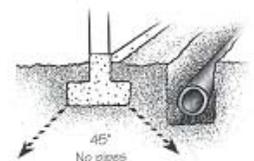
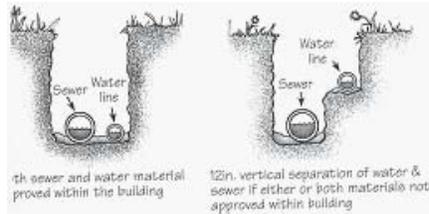
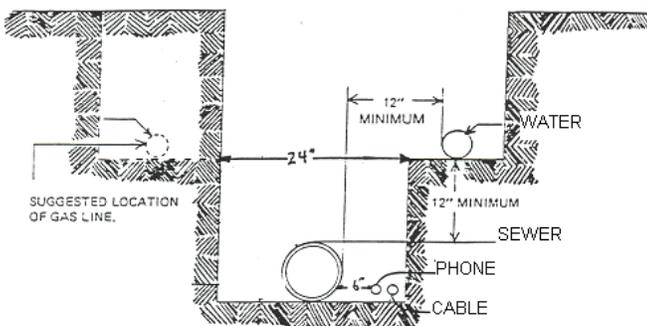
All water piping shall be adequately supported to the satisfaction of the Administrative Authority. Burred ends shall be reamed to the full bore of the pipe or tube. Changes in direction shall be made by the appropriate use of fittings, except that changes in direction in copper tubing may be made with bends, provided that such bends are made with bending equipment which does not deform or create a loss in the cross-sectional area of the tubing. Changes in direction are allowed with flexible pipe and tubing without fittings in accordance with the manufacturer's installation instructions. Provisions shall be made for expansion in hot water piping. All piping, equipment, appurtenances, and devices shall be installed in a workman-like manner in conformity with the provision and intent of the Code. All water service yard piping shall be at least twelve (12) inches below the average local frost depth. The minimum cover shall be twelve (12) inches below finish grade.

609.2 Water pipes shall not be run or laid in the same trench as building sewer or drainage piping constructed of clay or materials which are not approved for use within a building unless both of the following conditions are met:

609.2.1 The bottom of the water pipe, at all points, shall be at least twelve (12) inches above the top of the sewer or drain line.

609.2.2 The water pipe shall be placed on a solid shelf excavated at one side of the common trench with a minimum clear horizontal distance of at least twelve (12) inches from the sewer or drain line.

Water pipes crossing sewer or drainage piping constructed of clay or materials which are not approved for use within a building shall be laid a minimum of twelve (12) inches above the sewer or drain pipe.



Piping Support and Depth in trench.

Pipe fully supported along entire length	314.3
No rocks supporting pipes	315.4
No rocks in first 12in. tamped earth backfill over pipe	315.4
Trench not allowed < 45 degrees of bearing footing	313.3
Water pipe min. 12in. deep and 6in. below frost line	609.1

All forms and handouts are available on www.cityofnapa.org

ELECTRICAL DEPTH TRENCH

Table 300-5. Minimum Cover Requirements, 0 to 600 Volts, Nominal, Burial in Inches (Cover is defined as the shortest distance in inches measured between a point on the top surface of any direct-buried conductor, cable, conduit, or other raceway and the top surface of finished grade, concrete, or similar cover.)

Location of Wiring Method or Circuit	Type of Wiring Method or Circuit				
	Column 1 Direct Burial Cables or Conductors	Column 2 Rigid Metal Conduit or Intermediate Metal Conduit	Column 3 Nonmetallic Raceways Listed for Direct Burial Without Concrete Encasement or Other Approved Raceways	Column 4 Residential Branch Circuits Rated 120 Volts or Less with GFCI Protection and Maximum Overcurrent Protection of 20 Amperes	Column 5 Circuits for Control of Irrigation and Landscape Lighting Limited to Not More than 30 Volts and Installed with Type UF or in Other Identified Cable or Raceway
All locations not specified below	24	6	18	12	6
In trench below 2-in. thick concrete or equivalent	18	6	12	6	6
Under a building	0 (in raceway only)	0	0	0 (in raceway only)	0 (in raceway only)
Under minimum of 4-in. thick concrete exterior slab with no vehicular traffic and the slab extending not less than 6 in. beyond the underground installation	18	4	4	6 (direct burial) 4 (in raceway)	6 (direct burial) 4 (in raceway)
Under streets, highways, roads, alleys, driveways, and parking lots	24	24	24	24	24
One- and two-family dwelling driveways and outdoor parking areas, and used only for dwelling-related purposes	18	18	18	12	18
In or under airport runways, including adjacent areas where trespassing prohibited	18	18	18	18	18

Notes:

1. For SI units, 1 in. = 25.4 mm.
2. Raceways approved for burial only where concrete encased shall require concrete envelope not less than 2 in. thick.
3. Lesser depths shall be permitted where cables and conductors rise for terminations or splices or where access is otherwise required.
4. Where one of the wiring method types listed in Columns 1–3 is used for one of the circuit types in Columns 4 and 5, the shallower depth of burial shall be permitted.
5. Where solid rock prevents compliance with the cover depths specified in this table, the wiring shall be installed in metal or nonmetallic raceway permitted for direct burial. The raceways shall be covered by a minimum of 2 in. of concrete extending down to rock.