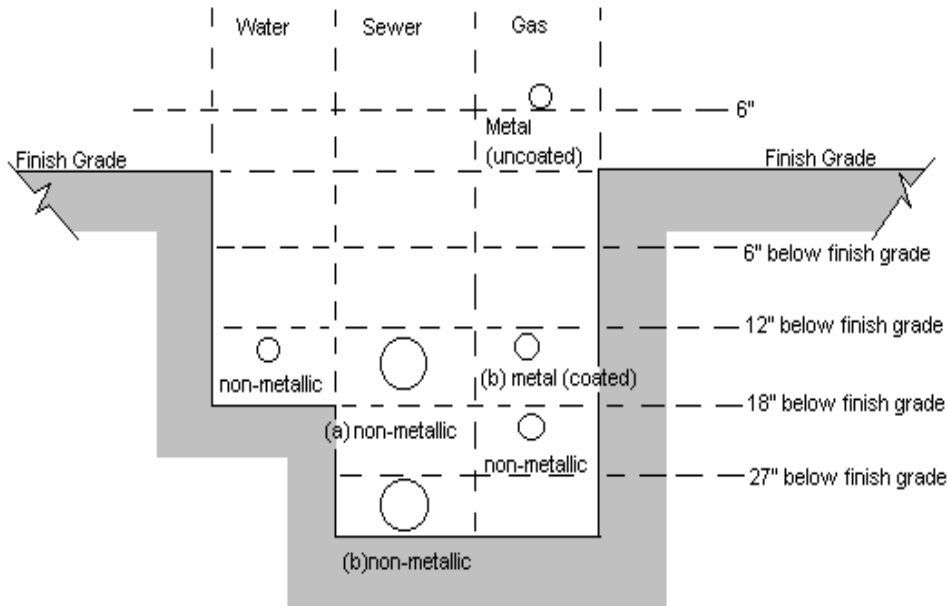


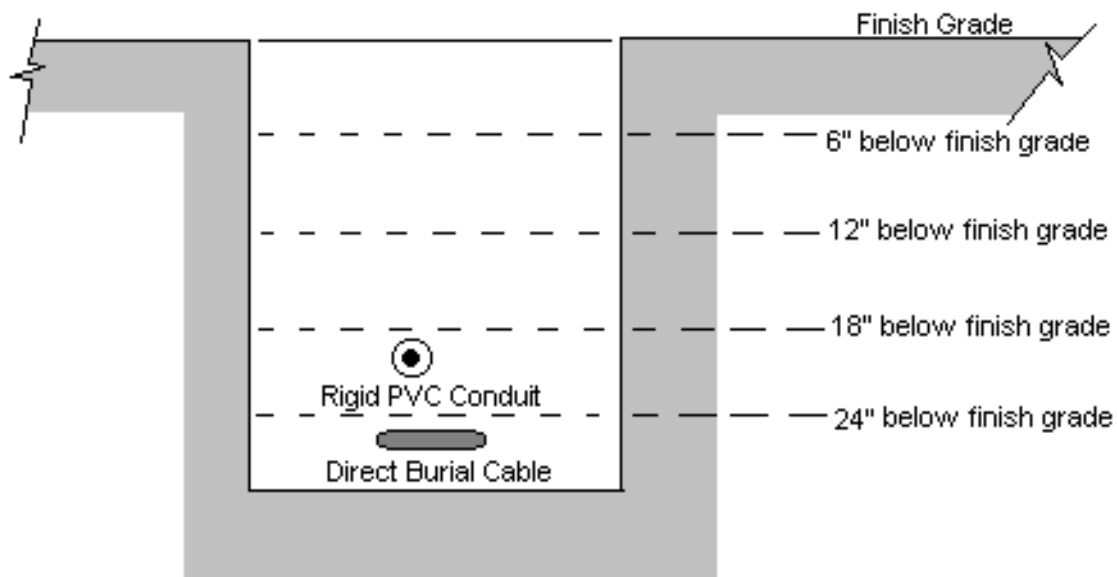
BURIAL DEPTHS For Yard Piping B-12

- These burial depths apply outside of buildings within private property subject to the following provisions:
- These are not applicable to public utility piping.
 - Pipes may be laid in the same trench without horizontal separation except as noted for water and sewer lines.
 - These depths are not applicable in mobilehome parks.



WATER Piping	DRAIN - Waste Piping	FUEL GAS Piping
Metallic piping shall be a minimum of 12" below finish grade.	Metallic piping shall be a minimum of 12" below finish grade.	Metallic piping must be 6" minimum above finish grade or factory wrapped w/ protective coating
Non - Metallic piping shall be a minimum of 12" below finish grade	(a) 12" minimum below finish grade (b) For pipe not listed to be used inside buildings, the sewer must be 12" below the water piping. The water pipe shall be to one side on a solid shelf - total depth to the top of the sewer 27"	Non-metallic gas piping must be 18" minimum below finish grade. Note: riser to be metallic. Horizontal metallic portion of the riser shall extend 30" minimum before connecting to the plastic piping. Use of a factory transition fitting is required. All metal fittings must be primed and wrapped with minimum of 40 mils of approved pipe wrap tape. Number 14 awg copper tracer wire shall be attached to non-metallic piping and shall terminate above grade at both ends. Pipe depths may be reduced by 6" when a minimum of 4" of concrete is placed over the trench.

Burial Depths for ELECTRICAL Lines on Private Property	
Rigid Non-metallic Conduit	18" Minimum 24" Under areas subject to vehicular traffic
Direct Burial Cable	24 " Minimum Note: A reduction to 12" deep is allowed for any wiring method for a 120 V, 20 Ampere or less rated circuit that is GFCI protected
Metallic Conduit	Not recommended except per San Diego ICBO Newsletter 345-346-348
Note: These depths may be reduced 6 " when minimum of 2" of concrete cover is placed in the conduit trench	



The above burial depths are not applicable for the following uses:

- Mobilehome Parks
- SDG&E Service Laterals
- Exterior concrete slabs or Underneath building slabs a minimum of 3 ½ " thick. (conduit may be installed directly underneath slabs)
- Locations where solid rock is encountered. Check with field inspector for possible solutions
- Vehicular traffic areas

Any trenching near or through septic systems must be reviewed by the County Health Department as well as the Building Division.

type. Provision shall be made to absorb thermal changes by the use of expansion joints of the bellows type, or by the use of "ball" or "swivel" joints. Expansion joints of the slip type shall not be used inside buildings or for thermal expansion. Where expansion joints are used, anchors or ties of sufficient strength and rigidity shall be installed to provide for end forces due to fluid pressure and other causes. [NFPA 54: 5.13.1.1]

Pipe alignment guides shall be used with expansion joints according to the recommended practice of the joint manufacturer. [NFPA 54: 5.13.1.2]

1209.11.2 Special Local Conditions. Where local conditions include earthquake, tornado, unstable ground, or flood hazards, special consideration shall be given to increased strength and flexibility of piping supports and connections. [NFPA 54: 5.13.2]

1210.0 Excess Flow Valve. When automatic excess flow gas shutoff devices (valves) are used, they shall be listed and approved and shall be sized for the maximum flow anticipated for the main or branch of the fuel gas system in which the excess flow valve is installed.

1211.0 Gas Piping Installation.

1211.1 Piping Underground.

1211.1.1 Clearances. Underground gas piping shall be installed with sufficient clearance from any other underground structure to avoid contact therewith, to allow maintenance, and to protect against damage from proximity to other structures. In addition, underground plastic piping shall be installed with sufficient clearance or shall be insulated from any source of heat so as to prevent the heat from impairing the serviceability of the pipe. [NFPA 54: 7.1.1]

1211.1.2 Protection Against Damage.

(A) Cover Requirements. Underground piping systems shall be installed with a minimum of 18 inches (460 mm) of cover. Where external damage to the pipe is not likely to result, the minimum cover shall be 12 inches (300 mm). Where a minimum of 12 inches (300 mm) of cover cannot be provided, the pipe shall be installed in conduit or bridged (shielded). [NFPA 54: 7.1.2.1]

(B) Trenches. The trench shall be graded so that the pipe has a firm, substantially continuous bearing on the bottom of the trench. [NFPA 54: 7.1.2.2]

(C) Backfilling. Where flooding of the trench is done to consolidate the backfill, care shall be exercised to see that the pipe is not floated from its firm bearing on the trench bottom. [NFPA 54: 7.1.2.3]

1211.1.3 Protection Against Corrosion. Gas piping in contact with earth or other material that could corrode the piping shall be protected against corrosion in an approved manner. When dissimilar metals are joined underground, an insulating coupling or fitting shall be used. Piping shall not be laid in contact with cinders. Uncoated threaded or socket-welded joints shall not be used in piping in contact with soil or where internal or external crevice corrosion is known to occur. [NFPA 54: 7.1.3]

1211.1.4 Protection Against Freezing. Where the formation of hydrates or ice is known to occur, piping shall be protected against freezing. [NFPA 54: 7.1.4]

1211.1.5 Piping Through Foundation Wall. Underground piping, where installed through the outer foundation or basement wall of a building, shall be encased in a protective pipe. The space between the gas piping and the building shall be sealed to prevent entry of gas or water. [NFPA 54: 7.1.5]

1211.1.6 Piping Underground Beneath Buildings. Where the installation of gas piping underground beneath buildings is unavoidable, the piping shall be encased in an approved conduit designed to withstand the superimposed loads. [NFPA 54: 7.1.6] The conduit shall extend into a normally usable and accessible portion of the building and, at the point where the conduit terminates in the building, the space between the conduit and the gas piping shall be sealed to prevent the possible entrance of any gas leakage. Where the end sealing is of a type that will retain the full pressure of the pipe, the conduit shall be designed for the same pressure as the pipe. The conduit shall extend at least 4 inches (100 mm) outside the building, be vented above grade to the outside, and be installed so as to prevent the entrance of water and insects. [NFPA 54: 7.1.6.1]

1211.1.7 Plastic Pipe.

(A) Connection of Plastic Piping. Plastic pipe shall be installed outside, underground only. [NFPA 54: 7.1.7.1]

Exception No. 1: Plastic pipe shall be permitted to terminate aboveground where an anodeless riser is used.

Exception No. 2: Plastic pipe shall be permitted to terminate with a wall head adapter aboveground in buildings,