

Long Form Specification for Underground Installation of Plastic Drainage Pipe

1. The minimum width of the trench should be the pipe OD (outside diameter) plus 16 inches or the pipe outside diameter times 1.25 plus 12 inches. This will allow adequate room for joining the pipe, snaking the pipe in the trench to allow for expansion and contraction where appropriate and space for backfilling and compaction of backfill. The space between the pipe and trench wall must be wider than the compaction equipment used to compact the backfill.
2. Provide a minimum of 4 inches of firm, stable and uniform bedding material in the trench bottom. If rock or unyielding material is encountered a minimum of 6 inches of bedding shall be used. Blocking should not be used to change pipe grade or to intermittently support pipe over low sections in the trench.
3. The pipe should be surrounded with an aggregate material which can be easily worked around the sides of the pipe. Backfilling should be performed in layers of 6 inches with each layer being sufficiently compacted to 85% to 95% compaction.
4. A mechanical tamper is recommended for compacting sand and gravel. These materials contain fine-grains such as silt and clay. If a tamper is not available, compacting should be done by hand.
5. The trench should be completely filled. The backfill should be placed and spread in uniform layers to prevent any unfilled spaces or voids. Large rocks, stones, frozen clods, or other large debris should be removed. Stone backfill shall pass through an 1-1/2" sieve. Rock size should be about 1/10th of the pipe outside diameter. Heavy tampers or rolling equipment should only be used to consolidate the final backfill.
6. To prevent damage to the pipe and disturbance to pipe embedment, a minimum depth of backfill above the pipe should be maintained. Pipe should always be installed below the frost level. Typically, it is not advisable to allow vehicular traffic or heavy construction equipment to traverse the pipe trench.

Plastic pipe should always be buried in strict accordance with the ASTM standard relevant to the type of plastic piping system being installed. Those standards are:

ASTM D2321	Standard practice for Underground Installation of Thermoplastic Pipe for Sewers and other Gravity-Flow Applications
ASTM D2774	Standard Practice for Underground Installation of Thermoplastic Pressure Piping
ASTM F1668	Standard Guide for Construction Procedures for Buried Plastic Pipe

Note: In addition to these standards, pipe should always be installed in accordance with all local code requirements.

Short Form Specification for Underground Installation of Plastic Drainage Pipe

Install PVC Pipe and fittings in strict accordance with the installation recommendations of the pipe and fittings manufacturer, Appendix X1 of ASTM D2265 (Storage and Installation Procedures for PVC Plastic Drain, Waste, and Vent Piping) and for buried pipe ASTM D2321 (Standard practice for Underground Installation of Thermoplastic Pipe for Sewers and other Gravity-Flow Applications)

Such instructions shall include but are not limited to cutting, solvent cementing and priming, joints, connections, transitions, alignment and grade, trenching, bedding, backfill and compaction, supports and spacing and allowance for thermal expansion.