

220 CMR: DEPARTMENT OF PUBLIC UTILITIES

220 CMR 111.00: CONSTRUCTION OF STREETS, PLACES AND WAYS, EXCEPT RESIDENTIAL DRIVEWAYS, OVER, ALONG OR ACROSS HIGH-PRESSURE GAS MAINS OPERATING AT PRESSURES IN EXCESS OF 200 PSIG

Section

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111.01: Application

220 CMR 111.00 shall apply only to the laying out or construction of any street, place or way, except a residential driveway, over, across or along that portion of high-pressure gas mains located within a right of way which the gas company holds in fee or by easement.

111.02: Definitions

For the purposes of 220 CMR 111.00, the following definitions apply:

Department. Department of Public Utilities, Commonwealth of Massachusetts.

Gas Company. Any person, firm or corporation engaged in the transmission or delivery of gas through high-pressure gas mains or pipelines.

Person. Any individual, firm, joint venture, partnership, corporation, association, state agency, municipality, cooperative association, or joint stock association, and including any trustee, receiver, assignee, or personal representative thereof.

Construction. Shall include repair, reconstruction and alteration.

High-pressure Gas Main. Any gas main or pipeline subjected to, or to be subjected to, an internal pressure in excess of 200 pounds per square inch gauge (psig).

111.03: General Provisions

Unless otherwise ordered by the Department in any particular case, no street, place or way subject to the provisions of 220 CMR 111.00 shall be constructed over a high-pressure gas main except where it is necessary for said street, place or way to

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cross said main. Whenever such crossings are required, they shall be made as nearly as practicable to an angle of 90E to the center line of said main. The main shall be enclosed in a casing and constructed in a manner which meets the requirements of the specifications issued by the American Petroleum Institute, API RP 1102 (7<sup>th</sup> ed.), *Steel Pipelines Crossing Railroads and Highways*, except that the minimum distance from the top of the casing to the used surface of the road shall be four feet six inches and the casing shall extend beyond the edges of the pavement or used surface of the street, place or way where there is no pavement a distance of not less than 25 feet or to the line of the right of way for the street, place, or way, whichever is the lesser. In cases where said right of way is not defined, the casing shall extend 25 feet beyond the edges of the pavement or the used surface of the street, place or way where there is no pavement. The Department will ordinarily grant a reduction in depth of cover limitations provided that all such construction be in accordance with the specifications for excavation and backfill set forth in 220 CMR 111.04, and the Department will also grant a variance from the requirement of casing if the pipeline facility can be adequately safeguarded and such installation is made in accordance with 220 CMR 111.04.

### 111.04: Specifications for the Installation of Pipe under a Road

- (1) Construction Method. (Refer to Figure 1.)
  - (a) Excavation. Excavate trench sides as nearly vertical as practical. Make trench width at least 12 inches, but not more than 24 inches wider than the diameter of the pipe (where practicable).
  - (b) Bed Fill. Place, compact and shape the bed fill. Locate the bed so that the pipe will lie in the center of the trench.
  - (c) Pipe: Lay pipe on bed.
  - (d) Side Fill. Fill both sides of the pipe simultaneously in six-inch lifts. Compact each lift.
  - (e) Top Fill. Place the top fill at the same time the last lift of side fill is placed. Do not compact top fill for first six inches over pipe.
  - (f) Back Fill. Place in six-inch lifts and compact above six-inch layer.
- (2) Compaction.
  - (a) The bed side and top fill must be compacted by any one of the following methods:
    1. Three-inch lifts and two coverages with a hand tamper weighing from 15 to 25 pounds having an area of tamping face 50 to 90 inches.
    2. Four-inch lifts with two coverages of a pneumatic compactor or a jackhammer fitted with a plate six to eight inches in diameter.
    3. Six-inch lifts of fill with two coverages of a rubber-tired roller

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or the wheels of a rubber-tired earth-moving equipment.

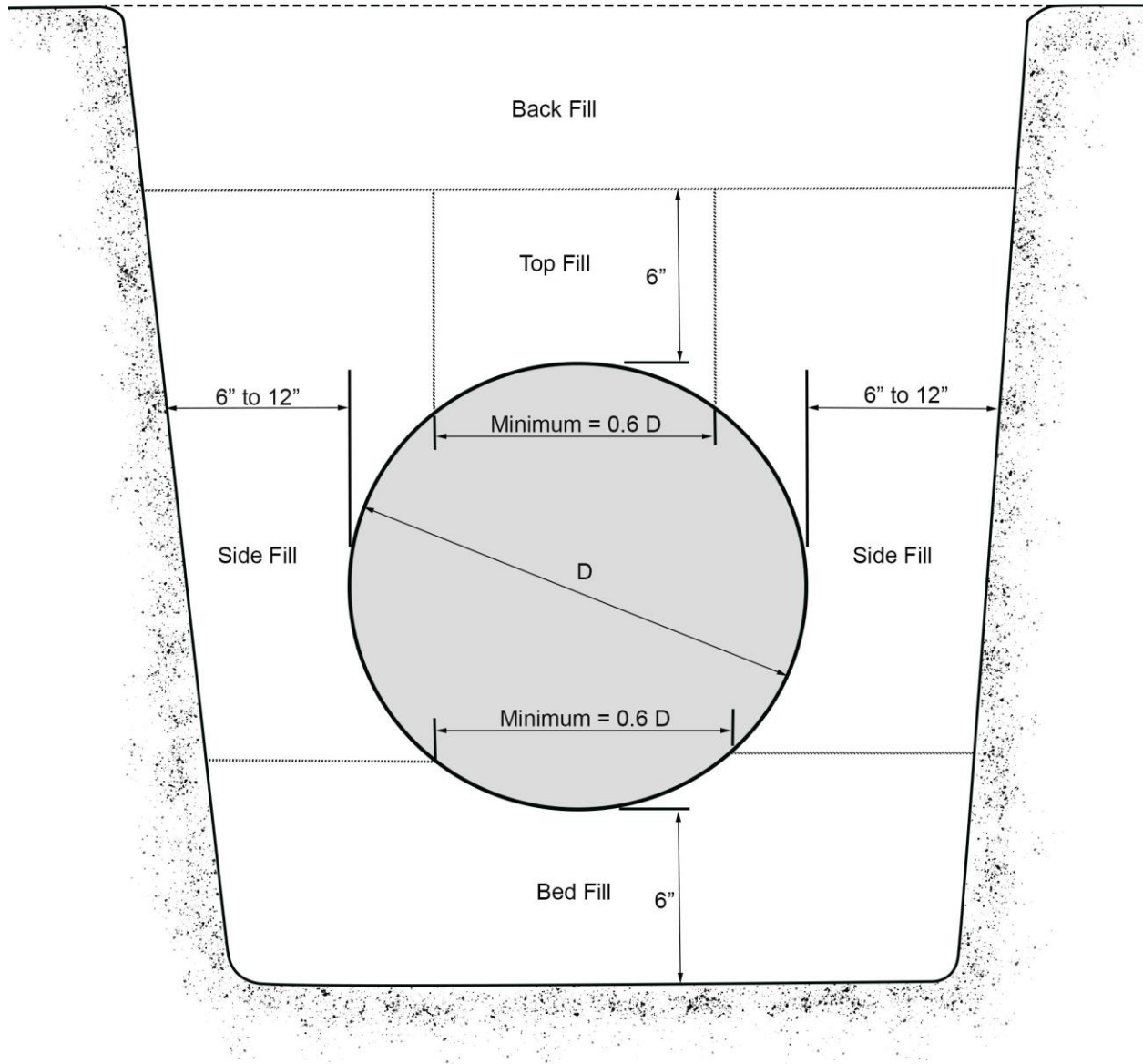
- (b) The backfill must be placed in six-inch lifts with each lift being compacted by at least one coverage of a mechanical compactor or of construction equipment. That portion of the backfill within the subgrade and base of a road or railroad must be compacted to the standard specified for the particular base or subgrade.

(3) Fill Materials.

- (a) Bed, Side and Top Fill. Use a natural granular soil (concrete sand, asphalt course base sand) having the following size characteristics:
  - 1. 100% finer than 3/4 inches.
  - 2. 30% to 90% finer than No. 10 sieve.
  - 3. 10% to 40% finer than No. 40 sieve.
  - 4. Less than 10% finer than No. 200 sieve.
- (b) Backfill. Use a soil having:
  - 1. No particles larger than 12 inches.
  - 2. No concentrated organic matter.
- (c) Backfill. Within the depth of road, subgrade and base must meet the specifications in force for the particular base or subgrade.
- (d) No person or municipality shall uncover, disturb, change or otherwise alter or interfere with the safety of any high-pressure gas main or portion thereof subject to the provisions of 220 CMR 111.00.
- (e) Any person or municipality laying out or intending to construct a street, way, or place over, across or along a high-pressure gas main subject to the provisions of 220 CMR 111.00 shall so notify in writing the Department and the owner of the high-pressure pipeline at least 30 days before undertaking such construction. The notice shall accurately describe the location of the street, place or way in sufficient detail as to width, length, grade and proposed date of construction. Upon request the gas company shall within seven days have a qualified representative inspect the location and describe to said person or municipality the work necessary to effect compliance with 220 CMR 111.00 and the gas company shall, upon request, provide an estimate of the cost of said construction within 30 days.
- (f) Any person, municipality or gas company may make written request to the Department for exception from or modification of any of the provisions of 220 CMR 111.00.

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FIGURE 1: INSTALLATION OF PIPE UNDER ROAD



REGULATORY AUTHORITY

220 CMR 111.00: M.G.L. c. 164, §§ 66, 76, 76B, 76C and 105A.