



Department of Health and Human Services  
Maine Center for Disease Control and Prevention  
286 Water Street  
# 11 State House Station  
Augusta, Maine 04333-0011  
Tel: (207) 287-2070; Fax: (207) 287-4172  
TTY Users: Dial 711 (Maine Relay)

## SEPARATION OF WATER MAINS, SEWERS, STORM DRAINS, AND UNDER DRAINS

**PURPOSE:** This policy is written to specify requirements and recommendations regarding the separation of water mains, sewers, combined sewers, storm drains, and under drains in order to minimize the risk of contaminating drinking water.

**SCOPE:** This policy covers the physical separation of pipes and structures containing drinking water, sanitary sewerage, and storm water. This policy does not apply to water or sewer services.

**OWNER:** Chief Engineer (Norm Lamie)

### DEFINITIONS:

**Sewerage:** Sanitary sewerage

**Combined Sewer:** The combination of sanitary sewerage and storm water in one pipe, often referred to when discussing "CSO" (Combine Sewer Overflow)

**Storm Drain:** piping and collection equipment used for collecting and disposing of storm water

**Under Drain:** a perforated drain pipe, rock filled area, or other constructed drainage structure, used to collect and remove storm water.

**RESPONSIBILITIES:** It is the responsibility of Public Water Systems, Engineers, Contractors, and Drinking Water Program Staff to apply the requirements and recommendations of this policy in order to minimize the risk of contaminating drinking water.

### POLICY:

#### A. GENERAL

Design specifications (e.g. reduced separation distances, etc.) that do not meet conditions specified in this policy must be approved in writing by the Drinking Water Program.

The following factors should be considered in providing adequate separation:

- a. Materials and type of joints for water and sewer pipes.
- b. Soil conditions,
- c. Service and branch connections into the water main and sewer line,
- d. Compensating variations in the horizontal and vertical separations.
- e. Space for repair and alterations of water and sewer pipes,

- f. Ability to off-set pipes around manholes.
- g. Age of pipes
- h. Length of run water and sewer pipes run adjacent to each other

## **B. PARALLEL INSTALLATION OF WATER MAINS AND GRAVITY SEWER MAINS**

1. Normal conditions – Water mains shall be laid at least 10 feet horizontally from any sanitary sewer, or sewer manhole, whenever possible; the distance shall be measured edge-to-edge (pipe wall to pipe wall).
2. Unusual conditions – When local conditions (such as ledge, bridges, utility congestion, etc.) prevent a horizontal separation of 10 feet, a water main may be laid closer to a sanitary sewer provided that:
  - a. The bottom of the water main is at least 18 inches above the top of the sewer in a separate trench or undisturbed earth shelf and a minimum of 5 feet edge-to-edge (pipe wall to pipe wall) horizontally is provided.
  - b. Where this vertical separation cannot be obtained, the sewer shall be constructed of materials and with joints that are equivalent to water main standards-of-construction and shall be pressure tested to assure water tightness prior to backfilling.
  - c. The Department of Health and Human Services agrees that local conditions warrant less than 10 feet horizontal separation and approves the plans and specifications for the work.

## **C. SEPARATION OF WATER MAINS AND FORCE MAINS**

1. When a 10 foot horizontal separation between a water main and a force sewer main is not possible, it is recommended that the force main be constructed of fused HDPE or equivalent pipe (no couplings or joints) for the length being considered for a reduced separation. Installation of force main that cannot be separated from water main by 10 feet horizontally must be approved in writing by the Drinking Water Program.

## **D. CROSSINGS OF WATER MAINS AND GRAVITY OR FORCE SEWER MAINS**

1. Normal conditions – Water mains crossing house sewers or sanitary sewers shall be laid to provide a separation of at least 12 inches between the bottom of the water main and the top of the sewer, whenever possible.
2. Unusual conditions – When local conditions prevent a vertical separation as described in D.1 the following construction shall be used:
  - a. Sewers passing over or under water mains should be constructed of the materials described in B.2.b.
  - b. Water Mains passing under sewers shall, in addition, be protected by providing:
    1. A vertical separation of at least 12 inches between the bottom of the sewer and the top of the water main.

2. Adequate structural support for the sewers to prevent excessive deflection of joints and settling on and breaking the water mains.
3. That one full length of water pipe (minimum of 18 feet) be centered at the point of crossing so that the joints will be equidistant and as far as possible from the sewer.

#### **E. SEWER MANHOLES**

1. No water pipe shall pass through or come in contact with any part of a sewer manhole.

#### **F. SEPARATION AND CROSSINGS OF WATER MAINS, STORM DRAINS, AND UNDER DRAINS**

1. Crossings of storm drains and under drains over or under water mains are acceptable. A minimum separation of eighteen inches between the water and drain pipe, edge to edge (pipe wall to pipe wall), is recommended.
2. Running storm drain in the same trench parallel to water main is not recommended. If necessary, work to obtain a horizontal separation of three feet edge to edge (pipe wall to pipe wall).
3. Running storm drain directly on top of water main is strongly discouraged; providing at least two to three feet of horizontal separation, edge to edge (pipe wall to pipe wall), is highly recommended to allow access to the water pipe.

#### **G. COMBINED SEWER**

1. For the purpose of separation requirements, combined sewer (see definition) is considered the same as sanitary sewer and all separation requirements described in this document apply.

#### **ASSOCIATED DOCUMENTS:**

1. Maine Rules Relating to Drinking Water
2. Recommended Standards for Water Works (aka Ten States Standards) Section 8, Distribution System Piping and Appurtenances

#### **SUPERCEDED DOCUMENTS:**

Uncontrolled versions of an older, related DHHS policy

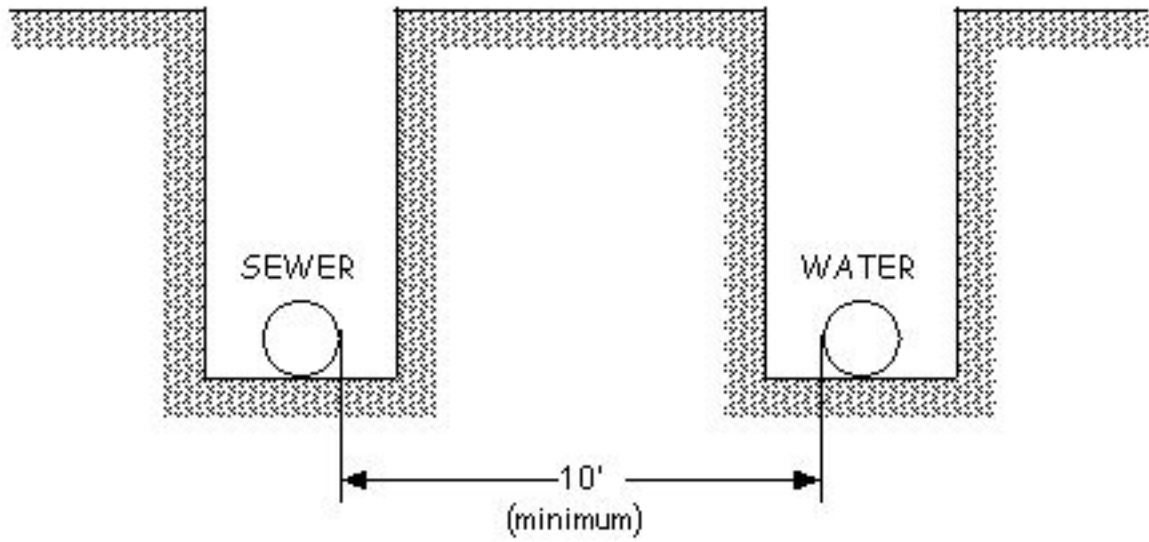
#### **RETENTION:**

1. This document is retained per the DWP Documentation Control Procedure.

## REVISION LOG

<b>Section</b>	<b>Page</b>	<b>Rev.</b>	<b>Date</b>	<b>Description Of Change</b>	<b>Approved by:</b>
		Original	6-18-2012	This is an update of an older, uncontrolled DHHS policy	Norm Lamie
Scope	1	A	3-4-2013	Added to Policy Scope: policy does not apply to water or sewer services	Norm Lamie

NORMAL CONDITIONS



UNUSUAL CONDITIONS

