



COMMONWEALTH OF PENNSYLVANIA • DEPARTMENT OF ENVIRONMENTAL PROTECTION

WATER MAIN BREAKS

If a water main or pipe owned by a public water system breaks, the affected supplier must act quickly to prevent serious problems to the area and surface water surrounding the break site.

When individuals think of a water main break, most imagine the physical damage caused by the flood of escaping water when a large diameter water pipe breaks. This can erode soil, destroy roads and building foundations, wash away other utilities and contaminate nearby bodies of water with debris and chlorinated water. It also can cause a loss of water pressure throughout the system and result in a boil water advisory since micro-organisms can enter the water system as a result of the break.

Although large pipe breaks are obvious and require immediate action to prevent physical damage to the surroundings, loss of treated drinking water from smaller pipe breaks or routine maintenance or construction, also requires the prompt action of a public water supplier.

If treated water is allowed to enter a nearby stream, lake, river, pond or reservoir, chlorine or other chemicals that may have been added to make the water safe to drink can harm the sensitive aquatic organisms that are living in the body of water.

Chlorine is toxic to fish and other sensitive aquatic organisms after a one hour average exposure of only 0.019 milligrams per liter (mg/L).

All water system pipe breaks and routine pipe maintenance need to be handled as quickly as possible in order to prevent environmental damage and to restore service to a water system's customers.

A public water supplier can reduce or eliminate the risk of injury to sensitive aquatic life as well as loss of service by taking preventive measures to avoid pipe failure. Department of Environmental Protection (DEP) regulations require a public water supplier to develop and implement an Operation and Maintenance Plan (O & M Plan). Every O & M Plan should include a program for line replacement based on such factors as the age of the water line(s), pipe material and proximity to surface water as well as procedures to follow during line installation.

In addition, every public water supplier should have a procedure in place such as Section 6.2 of the American Water Works Association (AWWA) Standard for Disinfecting Water Mains (ANSI/AWWA Standard C651-92) to properly handle the discharge of heavily chlorinated water that is used for disinfection after pipe installation or repair.

The measures used to handle any discharges of treated drinking water should include best management practices, such as tablet dechlorination, hay bales to reduce water velocity, blocking of storm sewers, etc. Water suppliers should contact their local county conservation district office in advance to obtain information on these practices.

The information on the opposite side of this sheet is provided to assist in a water supplier's response to a loss of treated drinking water. Water suppliers are encouraged to include this checklist information in their O & M Plan as a "Water Line Break Incident Response Report".

