

### **At your work place:**

It is the facility owner's responsibility to make sure that every cross connection situation on the property is eliminated or properly protected by a backflow preventer and each backflow preventer has been properly installed and permitted by The Department of Public Infrastructure. It is also the property owner's responsibility to ensure that each backflow preventer is in working order and that the permit is renewed annually.

*What can I do to make sure my water supply is protected from cross connections?*

### **At home:**

- Contact the DPI to find out more on preventing cross connection contamination incidents.
- Survey your home to make sure you are not unknowingly creating a cross connection.
- Have all changes to your plumbing system performed by a licensed plumber
- Do not attach any pesticide, chemical, or other non-potable liquid applicators to your water line.
- Install hose bibb vacuum breakers on all outside faucets. The hose bibb vacuum breaker isolates garden hose applications, protecting your drinking water supply from contaminants that could be drawn into your home through the hose.

### **At work:**

- Contact your supervisor and/or maintenance personnel and find out if all cross connections within your workplace are protected
- Find out when/if all backflow preventers have been tested.
- Ask your facility to provide you with information on its cross connection program.

*Find out all you can about cross connection control from MassDEP, the New Bedford DPI or a plumbing inspector.*

### **Contact Numbers:**

New Bedford Department of Public Infrastructure  
508-979-1550

DEP– Division of Water Supply,  
One Winter Street,  
Boston, MA  
1-617-292-5770



**Jonathan F. Mitchell**  
**Mayor**  
**City of New Bedford**

**Euzebio Arruda**  
**Commissioner**

**City of New Bedford**  
**Department of Public Infrastructure**

## **City of New Bedford Department of Public Infrastructure**



## **Protecting Your Drinking Water From Cross Connections**

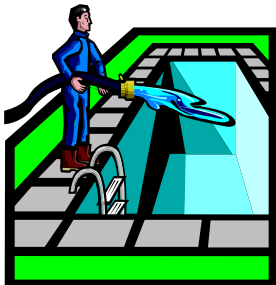


**City of New Bedford**  
**Department of Public Infrastructure.**  
**1105 Shawmut Avenue**  
**New Bedford, MA 02746**

Telephone Number 508-979-1150

## What is Cross Connections?

A cross connection occurs whenever a potable drinking water line is directly or indirectly linked to a piece of equipment or piping containing non-potable water



Swimming Pools are a Leading cause of cross connection contamination.

### **Why should I be concerned about cross connections?**

An unprotected or inadequately protected cross connection in your home or workplace could contaminate the drinking water

not only in your building, but in neighboring businesses and homes. Severe illnesses and injuries—even deaths—have been caused by cross connection contamination events that could have been prevented. Unprotected and inadequately protected cross connections have been known to cause outbreaks of hepatitis A, gastroenteritis, Legionnaire's disease, chemical poisoning, body lesions (from exposure through showering), damage to plumbing fixtures, and explosions.

### **How can a cross connection contamination event occur?**

Non-potable water or chemical used in equipment or a plumbing system can end up in the drinking water line as a result of backpressure or backsiphonage.

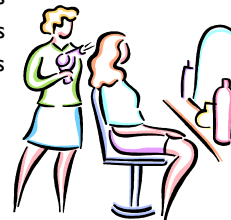
Backpressure occurs when the pressure in the equipment or system such as a boiler or air conditioning unit is greater than the pressure inside the drinking water line. Backsiphonage occurs when the pressure in the drinking water line drops due to fairly routing occurrences such as main breaks, nearby fires and unusually heavy water demand. Contaminants are then sucked out from the equipment or system and into the drinking water line.

### **Have cross connections been a problem in Massachusetts?**

Yes, there have been several incidents in which public drinking water contamination occurred due to cross connections. One of the most severe incidents took place at a Massachusetts college. The entire football team became infected with hepatitis A due to cross connection contamination at a drinking water fountain that was hooked up to an unprotected water line. For more details on this, or a list of other incidents, please contact the Division of Water Supply at the address listed on the reverse side.

### **What types of potential cross connections can I encounter at home?**

The outside watering tap and garden hose tend to be the most common sources of cross connections at home. The garden hose creates a hazard when submerged in non-potable water such as a swimming pool or when attached to a chemical sprayer for weed-killing. Garden hoses are also often left laying on the ground and may be contaminated by fertilizer, cesspools or garden chemicals. Other potential household cross connections can occur when a private well is brought on line or when lawn irrigation systems, boilers, dishwaters, fire protection systems, and other appliances are connected to plumbing. Home businesses such as photo labs and beauty salons can also be a source of cross connections.



### **What types of cross connections can I encounter at work?**

Areas where cross connections can occur at work include: air conditioning or cooling systems, fire protection systems, lawn irrigation systems and high pressure boilers. In a factory, cross connections may occur within process equipment such as chemical mixing tanks, plating tanks, private wells used for process water and heat exchangers. Other types of businesses that must be protected from cross connections include hospitals, laboratories, mortuaries, piers, docks, marinas, chemical plants and metal plating industries.

### **How is the public drinking water protected from cross connections?**

The best way to protect drinking water is to eliminate every cross connection. When this is not possible, drinking water lines are protected from cross connections by the installation of backflow preventers. There are several types of backflow preventers required and regulated by the Massachusetts Department of Environmental Protection—Division of Water Supply (DEP/DWS). Backflow preventers come in various sized and types. The device required depends on the health risk associated with the cross connection condition and must be permitted by DEP.

### **Who is responsible for protecting the public drinking water supply from cross connections?**

In your neighborhood:

The New Bedford Department of Public Infrastructure (DPI) Water Division is responsible for protecting the public drinking water supply from cross connections. The DPI surveys all industrial, commercial and institutional facilities to make sure that all potential cross connections are identified and eliminated or protected by a backflow preventer. The DPI also inspects and tests each backflow preventer to make sure that it is providing maximum protection.