

CROSS CONNECTION CONTROL PROGRAM PLAN

CCCPP

8/13/2012
THE TOWN OF WRENTHAM
WATER DIVISION



PREFACE

The purpose of this Cross connection Plan is to protect the public water supply from any actual or potential contaminations. This is done with backflow prevention devices, education and awareness. Compliance to this plan will protect the integrity of the water supply system which in turn will protect the public health.

This report was written by:

John F. Rivers

March 2012

The Town of Wrentham
Cross Connection Control Program Plan

INDEX

CHAPTER 1 – DEFINITIONS

Section 1.1 Definitions

CHAPTER 2 – ADMINISTRATION

Section 2.1 Authority to Implement a Cross Connection Control Program Plan

Section 2.2 Inspection and Surveying of Premise

Section 2.3 Notification Procedures for New Installations

Section 2.4 Notification Procedures for Semi-Annual/Annual Testing

2.3.1 Annual Testing by the Town of Wrentham

2.3.2 Annual Testing by an Outside Agency

CHAPTER 3 – INSTALLATION PROCEDURES

Section 3.1 Procedures and Activity Sequence

3.1.1 Commercial Customers

3.1.2 Residential Customers

3.1.3 All Customers

Section 3.2 Assembly Selection

Section 3.3 Installation Requirements

3.3.1 General Requirements

3.3.2 Existing Services

3.3.3 Irrigation Services

3.3.4 Pit Installation

3.3.5 Fire Services

APPENDICES

Cross Connection Survey Notice.....	1
Cross Connection Report Form and Violation Notice.....	2
Cross Connection Approval Form.....	3
Cross Connection Compliance Notice.....	4
Backflow Prevention Device Inspection and Maintenance Report Form.....	5
Notification of Backflow Prevention Device Passing.....	6
Notification of Backflow Prevention Device Failure.....	7
Second Violation Notice.....	8
Residential Cross Connection Survey Form.....	9

CHAPTER 1

DEFINITIONS

SECTION 1.1 DEFINITIONS

- 1.1.1 Annual Testing:** Yearly testing of the backflow prevention assembly, to ensure the assembly is working properly, as required by MassDEP 310 CMR 22.22(13)(d).
- 1.1.2 Atmospheric Vacuum Breaker:** A backflow device used to prevent back siphonage which is not designed for use under static line pressure.
- 1.1.3 Backflow:** The flow of water or other liquids, mixtures, or substances, under positive or reduced pressure into the water distribution system from any unauthorized source.
- 1.1.4 Backflow Prevention Assembly (a/k/a Backflow Prevention Device):** Device designed to prevent backflow or back-siphonage.
- 1.1.5 Back Pressure:** Pressure created by mechanical means or other means which causes water or other liquids or substances to flow or move in a direction opposite to that which is intended.
- 1.1.6 Back-Siphonage:** The flow of water or other liquids, mixtures or substances into the distribution of a public water supply system from any unauthorized source, caused by the sudden reduction or loss of pressure in the public water supply system.
- 1.1.7 Compliance Date:** The date the backflow assembly is due for testing.
- 1.1.8 Contaminant:** Any unauthorized substance.
- 1.1.9 Cross-Connection:** Any actual or potential physical connection or structural arrangement between a public water supply and any source or system through which it is possible to introduce any part of the potable water system any non-potable water supply, piping arrangement or equipment including, but not limited to, waste pipe, soil pipe, sewer, drain, lakes other sources.
- 1.1.10 Cross Connection Control Program Plan (CCPP):** A plan submitted to the MassDEP by the water supplier describing the current and proposed cross connection program and including information on staffing, training, testing, surveying, fees, structure etc.
- 1.1.11 Double Check Valve Assembly (DCVA):** An assembly of two (2) independent spring loaded check valves with shut off valves on each side of the check valves, plus properly located test ports for the testing of each check valves.
- 1.1.12 Fire Protection System:** A piping arrangement between the public water supply and the user designated for extinguishing fires only.
- 1.1.13 Health Hazard:** An actual or potential threat of contamination to the potable water in a public water system, which, in the opinion of this Department or its Designee would endanger health.
- 1.1.14 High Degree of Hazard:** Having the potential to endanger health or safety.
- 1.1.15 Hose Bibb Vacuum Breaker:** An atmospheric vacuum breaker designed to be used on outlets with a hose connection thread.
- 1.1.16 Non-Compliance:** One who which is not following the regulation and or by-laws of this Department or the laws of the Commonwealth of Massachusetts.
- 1.1.17 Owner:** Any person maintaining a cross connection installation or owning or occupying premises on which cross connection can or do exist.

- 1.1.18 Potable Water:** Water from any source that has been approved by this Department for human consumption.
- 1.1.19 Reduced Pressure Backflow Preventer (RPBP):** An assembly consisting of two (2) independent check valves with an automatic differential relief valve located between the two (2) check valves, shut-off valves on each side of the check valves, plus properly located test ports for the testing of the check valves and the relief valve.
- 1.1.20 Thermal Expansion:** The expansion of water that is heated.
- 1.1.21 Unapproved Source:** A source or distribution system for any water or other liquid or substance which has not been approved by this Department as being of safe sanitary quality for human consumption, including but not limited to any waste pipe soil pipe, sewer, drain or non-acceptable potable water system material.

CHAPTER 2

ADMINISTRATION

SECTION 2.1 AUTHORITY TO IMPLEMENT A CROSS CONNECTION CONTROL PROGRAM PLAN

1. The Town of Wrentham will administer a Cross Connection Control Program Plan, which fulfills the requirements of the MassDEP 310 CMR 22.22.
2. The MassDEP 310 CMR 22.22 requires that The Town of Wrentham prevents water from unapproved sources, or any other substances, from entering the public water supply.
3. Article 15 of the WATER RULES, REGULATIONS AND FEES OF THE TOWN OF WRENTHAM DEPARTMENT OF PUBLIC WORKS section 15.1 CROSS CONNECTIONS “ no person shall maintain, upon premises which they own or occupy, a cross connection between the distribution system of the public water supply, the water which is being used for drinking, domestic, or culinary purposes and the distribution system of any unapproved water source, unless the installation has been approved by the appropriate reviewing authority and permits have been issued”.
4. The Town of Wrentham is responsible for protecting the public water supply from contamination due to the backflow or back-siphonage of contaminants or pollutants. If the Town of Wrentham determines that a backflow prevention assembly is required, the Customer shall install the required assembly(s) at their expense within the specified time limit. Failure to install the assembly(s) within the specified time limit will be considered an act of non-compliance and shall constitute grounds for termination of water supply to such device(s) has been properly installed and inspected.
5. The Town of Wrentham requires at a minimum a Pressure Vacuum Breaker (PVB) on all irrigation system.

SECTION 2.2 INSPECTION AND SURVEYING OF PREMISE

1. It is the responsibility of the Town of Wrentham to inspect all industrial, commercial, and institutional premises. This determination is whether a cross connection exist and whether all cross connections are either properly protected by an appropriate control device or eliminated. This responsibility applies to both privately and publicly owned facilities.
2. To indentify between Industrial, Commercial, and Institutional facilities, use the following guidelines:
 - a. Industrial facility is a facility which is used in connection with, or as part of, any process or system for industrial production or output.

- b. Commercial facility is a privately owned non-residential facility involved in commercial activity, such as a factory, warehouse, corporate office building or other facility in which employment may accrue.
 - c. Institutional facility is a hospital or other facilities that include but not limited to, convalescent homes, developmental facilities and nursing homes.
3. The owner of the backflow device and/or the occupier of the premise will allow the Town of Wrentham Cross Connection Coordinator or his/her designee access to the entire property for surveying or resurveying of the premise. This surveying will be at the minimum of once in a twelve (12) month period or more, depending on the actual or potential degree of hazard. (Appendix 1,2)

SECTION 2.3 NOTIFICATION PROCEDURES FOR NEW INSTALLATIONS

1. It is the responsibility of the owner or authorized agent of the owner to submit a Cross Connection Plan Approval Form, filled out in its entirety with all necessary plans and documents, to The Department of Public Works Water Division. (Appendix 3)
2. In the event that the Cross Connection Plan Approval Form with all necessary plans and documents is not received by The Department of Public Works, water from the public water system will not be provided to the facility until such plans are reviewed and approved.
3. Once a new device has been approved by The Department of Public Works and installed, the customer will have 14 calendar days to notify the Department of the installation and to have the Department test the device and to survey the premises. (Appendix 4)
4. The customer will be required to allow The Town of Wrentham or its designee, access to the device for semi-annual/annual testing as outlined in the MassDEP 310 CMR 22.22.

SECTION 2.4 NOTIFICATION PROCEDURES FOR ANNUAL TESTING

2.3.1 Annual Testing by the Town of Wrentham

1. The Department of Public Works will make arrangements at the time of the initial testing with the owner/occupier of the facility for semi-annual/annual testing of the backflow device.
2. The frequency of the testing will be every six (6) or twelve (12) months depending on the type of device and the degree of hazard. This testing frequency may be changed at any time by the Department if the Department feels that the degree of hazard warrants such testing. (Appendix 5)
3. After the testing of the device the owner will be notified of the results in writing. (Appendix 6)
4. In the event the assembly fails or is found to be defective the Department will notify the owner of the facility in writing that the device failed and within 14 calendar days of the

failure or from the discovery of the defect they must have the device repair and retested by the Department. (Appendix 7)

5. All repairs and testing fees will be the responsibility of the owner of the facility.
6. Owner/occupier must maintain a spare parts kit and any special tools required for removal and reassembly of the backflow prevention device.
7. If any device that has failed and has not been repaired and retested within 14 calendar days then the water service will be terminated until such repairs and testing is complete. Any and all cost associated in termination will be the owner's responsibility. (Appendix 8)
8. At the time of testing the owner will, if requested by the Department, allow access to the entire facility for resurveying of the premise.

2.3.2 Annual Testing by an Outside Agency

The Town of Wrentham does not allow or recognize any outside agency testing of the backflow device. All backflow devices will **only** be tested by The Town of Wrentham's Cross Connection Coordinator or by his/her designee.

CHAPTER 3

INSTALLATION PROCEDURES

Section 3.1 PROCEDURES AND ACTIVITY SEQUENCE

3.1.1 Commercial Customers

1. Complete and submit a Cross Connection Plan Approval Form.
2. The Cross Connection Coordinator or his/her designee will review the plan to determine if the backflow device is adequate for the type of hazard involved. (Appendix 3)

3.1.2 Residential Customers

All new customers will be required to complete a Residential Cross Connection Survey, which will be reviewed, and the Cross Connection Coordinator or his/her designee will advise the customer of what type of backflow assembly is required. (Appendix 9)

3.1.3 All Customers

1. All customers will pay any and all fees pertaining to the water service, which include backflow devices. A copy of the current fee schedule can be obtained on The Town of Wrentham Department of Public Works website: www.wrentham.ma.us.
2. Customer must complete and submit either a Cross Connection Plan Approval Form or a Residential Cross Connection Survey Form.
3. After the approval of form(s) and installation of the device, the Department of Public Works Water Division will activate water service and within 14 calendar days will inspect and test the backflow assembly.
4. Testing of the device will be required as outline in Section 2.3.

SECTION 3.2 ASSEMBLY SELECTIONS

1. All backflow prevention assemblies must be an approved Device for use in Commonwealth of Massachusetts. See MassDEP 310 CMR 22.22(9)(a)(10).
2. List of protection devices:
 - a. Air Gap
 - b. Reduced Pressure Backflow Preventer (RPBP)
 - c. Double Check Valve Assembly (DCVA)
 - d. Atmospheric Vacuum Breaker (AVB)
 - e. Pressure Vacuum Breaker (PVB)
 - f. Backflow Preventer with Intermediate Atmospheric Vent (BPIAV)

SECTION 3.3 INSTALLATION REQUIREMENTS

3.3.1 General Requirements

1. Backflow prevention assemblies must be inspected and tested by the Cross Connection Coordinator or his/her designee within 14 calendar days of water service activation.
2. Backflow prevention assembly installations must be on private property between the meter, and the first downstream connection, and must be readily accessible for inline maintenance and testing.
3. Backflow prevention assemblies must be installed according to the manufacturer's instructions.
4. Backflow prevention assemblies must be installed in a rigid and stable manner.
5. Reduced Pressure Backflow Assemblies must be installed in accordance with MassDEP 310 CMR 22.22(11)(a). The device and shut off valves must be installed in a horizontal alignment between three (3) and four (4) feet from the floor to the bottom of the device and a minimum of twelve (12) inches from the wall. Vertical installation of devices shall be so there is the ability to inspect and test the device for which one would not need the use of any device (i.e. ladder).
6. Double Check Valve Assemblies two (2) inch or smaller must be installed in accordance with the Town of Wrentham Standard Water System Requirements Part 2.7(L). Double Check Valve Assemblies two and one half (2 ½) inch or larger must be installed in accordance with MassDEP 310 CMR 22.22(11)(b). The Double Check Valve Assembly must be installed horizontally and the top of the Double Check Valve Assembly must be between twelve (12) inches and forty eight (48) inches from the floor and a minimum of twelve (12) inches from the wall. Vertical installation of devices shall be so there is the ability to inspect and test the device for which one would not need the use of any device (i.e. ladder).

3.3.2 Existing Services

For existing facilities and assemblies the Wrentham Department of Public Works Water Division Cross Connection Coordinator or his/her designee will perform evaluations and inspections to advise the customer of any and all correct action required, the method of correcting the deficiency, and the time allowed for the correction to be made.

3.3.3 Irrigation Services

All low hazard irrigation services will be equipped with a minimum of an Atmospheric Vacuum Breaker that is installed at least six (6) inches above the highest fixture or a Pressure Vacuum Breaker on pressurized systems. It will be under the discretion of the Plumbing Inspector, Health Inspector, Water Supplier or the Cross Connection

Coordinator of what type of device that will be required depending on the degree of hazard.

3.3.4 Pit Installation

The Town of Wrentham does not allow for the installation of any backflow device to be install below ground level in a pit, concrete or otherwise, heated or not.

3.3.5 Fire Services

1. All fire suppression systems that use the Public Water System will be required to install a Double Check Valve Assembly (DCVA) on low hazard systems and a Reduced Pressure Backflow Preventer (RPBP) on high hazard systems.
2. All fire suppression systems will be installed in accordance with, but limited to, Section 3.3.1, MassDEP 310 CMR 22.22(a)(d)2,6 and all state and local plumbing and fire codes.