

STAFF REPORT: ENGINEERING AND PUBLIC WORKS DEPARTMENT

REPORT TO: Infrastructure and Recreation
 Committee

MEETING DATE: July 9th 2013

REPORT NO.: EPW.13.066

SUBJECT: Water Backflow Prevention By-
 law and Control Program

PREPARED BY: John Caswell, Manager of Water
 and Wastewater Operations

A. Recommendations

THAT Council receive Staff Report EPW.13.066, entitled “Water Backflow Prevention By-law and Control Program”;

AND THAT Council enact a By-law to protect the Town’s drinking water supply and distribution system from backflow and cross-contamination hazards.

B. Background

On May 27th 2013, a Public Information Session occurred prior to the Council Meeting and a Public Meeting took place in front of Council to receive the public’s comments and input for the proposed Water Backflow Prevention By-law and Cross Connection Control Program (Attachment 1), as required under the Municipal Act. This By-law and Control Program will regulate cross connection and backflow prevention on plumbing systems as required to protect the Town of The Blue Mountains drinking water supply and distribution system from contamination.

This proposed By-law stems from the need to address backflow and cross-contamination in the Town’s drinking water supply. Currently, there is no comprehensive by-law that fully addresses backflow and cross contamination of the potable water distribution systems within the Town. The Town’s Water By-law, 2008-02 deals only generally with cross connections and the Town does not have a detailed registry of the backflow prevention devices in place. The implementation of a Backflow Prevention Program would provide a system for tracking all backflow prevention devices and allow for annual testing to ensure proper functioning.

Staff held a Public Information Session (PIS) on May 27th 2013 that was attended by two people who had a few questions to ask of Staff. Those questions were answered by Staff at the PIS.

Staff have received no comments from the public in regards to the proposed Water Backflow Prevention and Control Program from the Public Information Session and Public Meeting.

As a result, Staff recommend that Council enact the attached Water Backflow Prevention By-law.

C. The Blue Mountains' Strategic Plan

The acceptance of The Water Backflow Prevention By-law and Control Program, in the Town of The Blue Mountains, furthers the Strategic Plan Goal #2. – “Addressing the Town’s Municipal Infrastructure needs through protecting the integrity of the drinking water distribution system.”

D. Environmental Impacts

The Water Backflow Prevention By-law and Cross Connection Control Program will help ensure continued access to safe, clean drinking water for the residents and visitors of the Town of The Blue Mountains.

E. Financial Impact

This By-law should not provide a net cost to the Town, as the intent is to fund the program through user fees. However, it is difficult to accurately forecast costs at this time and therefore; an annual review will be conducted to ensure that any fees and charges reflect the cost of administration. At this time, no new staffing will be required as the Water Meter Technician will coordinate the Backflow Prevention Program.

F. In Consultation With

John Metras, Town Solicitor

G. Attached

Attachment #1 Proposed Backflow Prevention By-law 2013-

Respectfully submitted,

John Caswell
John Caswell
Manager of Water & Wastewater Services

Engineering & Public Works
Office: 519-599-3131 Ext. 226
Fax: 519-599-7723
icaswell@thebluemountains.ca

Reg Russwurm
Reg Russwurm
Director, Engineering and Public Works

THE CORPORATION OF THE TOWN OF THE BLUE MOUNTAINS

BY-LAW NO. 2013-XX

Being a By-law to regulate Cross Connection and Backflow Prevention on plumbing systems as required to protect the Town of The Blue Mountains' Drinking Water Supply and Distribution System from Contamination

WHEREAS Section 11 of the Municipal Act 2001, c.25, as amended (the "Act") provides that lower-tier municipalities may pass by-laws respecting matters within the public utilities sphere of jurisdiction;

AND WHEREAS Part III of the Act under the heading "Public Utilities" provides for specific municipal powers within the public utilities sphere of jurisdiction;

AND WHEREAS Section 11 of the *Safe Drinking Water Act* requires that municipalities ensure that their respective drinking water system meets prescribed drinking water standards to the point where the system is connected to a user's plumbing system;

AND WHEREAS Part 7 of the *Ontario Building Code* requires potable water systems to be protected from contamination, but limited to specific building uses;

AND WHEREAS the Act further authorizes the Town of The Blue Mountains, amongst other things, to delegate its authority, to impose fees and charges on persons for services or activities provided or done by or on behalf of it, to provide for inspections and inspection orders, and to make orders to discontinue activity or to do work;

AND WHEREAS the Town of The Blue Mountains has developed regulations for Cross Connection and Backflow Prevention on plumbing systems as required to protect the Town of The Blue Mountains' Drinking Water Supply and Distribution System from contamination;

NOW THEREFORE the Council of The Corporation of the Town of The Blue Mountains hereby enacts as follows:

By-Law Index

**Part 1
Definitions**

1. Definitions

- ASSE – defined
- AWWA - defined
- Auxiliary water supply – defined
- Authorized functions list - defined
- Backflow – defined
- Backflow prevention device – defined
- Building – defined
- Building Code – defined
- Chief Building Official –defined
- Commercial – defined
- Cross connection – defined
- Cross connection survey - defined
- CSA Standard – defined
- Director - defined

Enclosure - defined
Fire protection system – defined
Hazard – defined
Industrial – defined
Institutional – defined
Multi-Residential – defined
Municipal Law Enforcement Officer - defined
Occupant – defined
Owner - defined
Person – defined
Plumbing – defined
Plumbing system – defined
Potable water system – defined
Premises – defined
Premise isolation - defined
Property – defined
Property isolation - defined
Qualified person – defined
Residential - defined
Tester’s certificate - defined
Town - defined
Water distribution system – defined
Water service connection - defined

Part 2

Application and Interpretation of By-Law

Part 3

Protection from Contamination and Backflow Prevention

Part 4

Cross Connection Inspection Reports

Part 5

Premise Isolation

Part 6

Cross Connection Compliance (Including Premise Isolation)

Part 7

Maintenance and Field-Testing of Backflow Prevention Devices

Part 8

Removal of Backflow Prevention Devices Prohibited

Part 9

Inspection Report, Implementation and Retesting Schedule

Part 10

Enforcement

Part 11

Penalties

Part 12

Qualified Persons

Part 13

General Provisions

Schedule A

List of Authorized Functions

Appendix B

Registration Requirements for Persons on Authorized Functions List

SHORT TITLE

Backflow Prevention By-Law

**Part 1.
Definitions**

1. Definitions

For the purposes of this Schedule, the following terms shall have the corresponding meanings:

“ASSE” means the American Society of Sanitary Engineering;

“AWWA” means the American Water Works Association;

“*auxiliary water supply*” means any water supply on or available to the premises other than the Town’s approved public water supply;

“*authorized functions list*” means the list of functions and the persons authorized to carry out such functions as set out in Schedule “A” of this by-law;

“*backflow*” means the flowing back or reversal of the normal direction of flow of water;

“*backflow prevention device*” means a device that prevents backflow, certified to the CAN/CSA Standard

“*building*” shall have the same meaning as set out in the Building Code Act, S.O. 1992, c23, as amended, or any successor thereof;

“*building code*” means regulations made under Section 34 of the Building Code Act, as amended or re-enacted from time to time;

“*Chief Building Official*” means the Chief Building Official appointed by the Town of The Blue Mountains under Section 3 of the Act;

“*commercial*” means the use of land, building or structure for the purpose of buying, selling, leasing and renting commodities or accommodations, and/or supplying of services as distinguished from such uses as manufacturing or assembling of goods, warehousing, transport terminals, construction and other similar uses;

“*cross-connection*” means any actual or potential connection between a potable water supply or system and any source of pollution or contamination and includes any by-pass, jumper connection, removable section of pipe, swivel or changeover device and any other temporary or permanent connection arrangement through which backflow may occur;

“*cross-connection survey*” means a complete review of the potable water system or systems on the premises to determine if any cross connection exists and includes existing backflow prevention devices, cross-connections discovered, corrective measures and recommendations submitted on the Town’s standard cross-connection inspection report form;

“*CSA Standard*” means the document entitled *CAN/CSA-B64.10-11/CAN/CSA-B64.10.1-11 - Manual for the Selection and Installation of Backflow Prevention Devices/Manual for the Maintenance and Field Testing of Backflow Prevention Devices* including all appendices published by the Canadian Standards Association, or any successor thereof;

“*Director*” means the person holding the title of Director of Engineering and Public Works for the Town or his/her designate.

“*enclosure*” means an above ground structure, certified to *ASSE Standard 1060 for Outdoor Enclosures for Backflow Prevention Assemblies*, designed to accommodate a backflow prevention device, which incorporates positive drainage to prevent submergence of the backflow prevention device, provides security, increases accessibility for testing and repair, and provides freeze protection;

“*fire protection system*” means any system within a Building or Structure for the suppression of a fire, including but not limited to any system consisting of a water sprinkler system or dry foam, or a system described in the CSA Standard;

“*hazard*” means one of three levels of hazard: minor, moderate and severe as defined by CAN/CSA B64.10;

“industrial” means premises used for warehousing of goods and materials, the assembly of manufactured goods, the manufacturing of goods, the repair and servicing of goods and similar uses;

“institutional” means a use that caters to the social, educational or religious needs of humans including places of worship, schools, senior’s residences, hospitals, recreation centers, libraries or municipal / provincial / federal offices, etc.;

“multi-residential” means a dwelling unit in a building containing four or more dwelling units, each of which has an independent entrance directly from the outside or through a common vestibule or common corridor;

“municipal law enforcement officer” means a property standards officer who has been assigned the responsibility of administering and enforcing by-laws under section 15.1 of the Building Code Act 1992;

“occupant” means any lessee, tenant, owner, the agent of a lessee, tenant or owner, or any person in possession of or occupying a property;

“person” includes a corporation and their heirs, executors, administrators, successors, or other legal representatives of a person to whom the context can apply according to law;

“owner” means any person, firm or corporation having control over property to which this by-law applies and includes the owner registered on the title of the property and any occupant of any building located on such property;

“plumbing” means plumbing as defined in the Building Code Act and includes a private water main, a water service extension and a plumbing system but does not include the water system;

“plumbing system” means the system of connected piping, fittings, valves, equipment, fixtures and appurtenances contained in plumbing and connected to the water meter or a water service pipe that conveys water to water supply outlets, fixtures, plumbing fixtures and devices from immediately after the curb stop;

“potable water” means water that is safe for human consumption;

“premises” means any house, tenement, building, lot, or part of a lot, or both, in, through, or past which water service pipes run;

“premise isolation” means separation of the plumbing system within a building or structure from the Town’s water distribution system;

“property” means each separately assessed parcel of land connected to the water system or fronting on the water system and includes a condominium unit in a condominium corporation and the common elements in a condominium corporation;

“property isolation” means isolation of a property from the Town’s water distribution system immediately after the curb stop;

“qualified person” means a person with approved qualifications set out in schedule “A” of this by-law;

“residential” means the use of land, buildings or structures for human habitation, but excluding temporary human habitation uses such as short term accommodation, bed and breakfast establishment, tourist cabin or cottage , hotel or motel;

“tester’s certificate” means a current Cross Connection Control Specialist certificate issued by a participating Canadian section of the AWWA;

“Town” means the Corporation of the Town of The Blue Mountains and includes its employees, servants and agents;

“water distribution system” means the water system and the plumbing including a plumbing system;

“water service connection” means a piping connection that conveys water from the water distribution system to the plumbing system”.

Part 2. Application, Interpretation and Administration of By-Law

2.1 This By-law applies to existing buildings, buildings subsequent to occupancy and future industrial, commercial, institutional and multi-residential buildings and structures and in-ground irrigation systems, except buildings of residential occupancies as described in Division A, Article 1.1.2.4. of Ontario Regulation 350/06 (the Ontario Building Code) or any successor (“the Ontario Building Code”).

2.2 In addition to and notwithstanding Part 2.1 of this By-law, this By-law applies where a condition exists in any building or structure that may be hazardous or detrimental to the potable water supply as determined by the Director.

2.3 In the event of a conflict between the provisions of this By-law and the provisions of any other statute, regulation or by-law, the provisions that are the most restrictive prevail.

2.4 The following Schedules are attached to and form part of this By-Law:

Schedule A - Authorized Functions List

Schedule B - Town of The Blue Mountains Registration Requirements for Persons on Authorized Functions List

2.5 This By-law shall be administered on behalf of the Town by the Director unless another Town official is specifically referred to in this By-law. Where under the terms of this By-law decisions, approvals, notices and certificates are to be made, given or issued by the Town, such decisions, approvals, notices and certificates shall be made, given or issued by the Director or other named Town official.

Part 3. Protection from Contamination and Backflow Prevention

3.1 No person, shall connect, cause to be connected, or allow to remain connected to the plumbing system or water distribution system any piping, fixture, fitting, container or appliance, in a manner which under any circumstances, may allow untreated water, wastewater, any source of pollution or any other liquid, chemical or substance to enter the water plumbing system or water distribution system. The means for “protection from contamination” shall be in accordance with the requirements of the Building Code Act as amended.

3.2 Premises isolation shall be provided for all buildings within the Town of The Blue Mountains in addition to any plumbing or building code requirements for individual or zone protection because backflow into the water system can still occur if the individual protection fails. At the discretion of the Director alternative methods may be utilized to ensure protection of the potable water supply.

3.3 Backflow Preventer Standards

The selection, installation, maintenance, and field testing of backflow preventers must follow the CAN/CSA B64.10 Standard (CSA, November 2011 or latest amendment). All approved backflow preventers must conform to the following, and shall be certified by the CSA or a certification body recognized by the Standards Council of Canada:

- (a) CAN/CSA-B64 SERIES-11 Backflow Preventers and Vacuum Breakers which comprises B64.0, B64.1.1, B64.1.2, B64.2, B64.2.1, B64.2.2, B64.3, B64.3.1, B64.4, B64.4.1, B64.5, B64.5.1, B64.6, B64.6.1, B64.7, B64.8, and B64.9; and,
- (b) ASME A112.18.1/CAN/CSA-B125-01 or CSA-B125.3 Plumbing Fittings; and,
- (c) The Ontario Building Code

Part 4. Cross Connection Inspection Reports

4.1 Inspection reports

The owner(s) responsible for any buildings billed for water as a “Municipal Water Service Account”, being Institutional, Commercial, Industrial (I.C.I.), high density residential use building or having in-ground irrigation systems, shall retain a Qualified Person as indicated in Part 13 to prepare a Cross Connection Inspection Report in the form prescribed by the Director.

4.2 Notwithstanding Part 2.1, owners of residential buildings within the scope of Part 9 of the Ontario Building Code that have access to an auxiliary water supply shall, every five (5) years or upon request, provide the Director with a Cross Connection Inspection Report completed by a qualified person.

4.3 Inspection report – submission date

The Cross Connection Inspection Report shall be submitted to the Town before the date stated in Part 9. The Cross Connection Inspection Report shall include existing backflow prevention devices, cross connections discovered, corrective measures, recommendations and a schedule of work to be completed. The method of cross connection control or selection and installation of backflow prevention devices shall be in accordance with the Ontario Building Code. In the case of premises with access to an auxiliary water supply, a written confirmation by a qualified person stating that a physical separation exists is an approved alternative to a backflow prevention device.

4.4 Access – reasonable notice

Notwithstanding the obligations for persons to undertake a Cross Connection Inspection Report, the Director shall be allowed access, with reasonable notice, to any premises that are connected to the water distribution system for the purpose of performing inspections to locate possible cross connections. The Director may require a routine cross connection inspection of the premises (at the owner’s expense) to be performed by a qualified person.

4.5 Access not provided

Where access is not provided, a written notice by the Director may be issued providing the time frame to allow access. If access is not provided within this time frame, the Director may, at their discretion, shut off the supply of water to the premises until such time as access is provided.

4.6 Compliance notice

If a condition is found to exist which is contrary to Part 3 of this By-law, the Director may issue such notices to the person and take actions as the case may be, as may be required to obtain compliance with these regulations, including shutting off the supply of water to the premises until such time as compliance is obtained.

Part 5.
Premise Isolation

5.1. Where, in the opinion of the Director, a risk of possible contamination of the water distribution system exists, a person on notice from the Director shall install premise isolation within the building or complete property isolation in an ASSE 1060 certified enclosure on the property line in addition to any other source of protection devices on the premises.

5.2 Premise isolation shall be installed:

(a) in buildings of moderate or severe hazard in accordance with premise isolation requirements as stated in the Ontario Building Code Part 7 Plumbing; or

(b) as specified by the Director based on Part 3 of this By-law.

5.3 Three levels of protection shall be recognized for premises isolation, according to the hazard ratings as in CSA B64.10, as follows:

(a) Premises with a minor hazard classification shall be isolated with a Dual Check Valve (DuC) backflow preventer.

(b) Premises with a moderate hazard classification shall be isolated with a Double Check Valve Assembly (DCVA) backflow preventer.

(c) Premises with a severe hazard classification shall be isolated with a Reduced Pressure Principle (RP) backflow preventer.

5.4 Where, in the opinion of the Director, a risk of possible contamination of the water distribution system may exist, the owner shall have an approved backflow prevention device installed and tested by a qualified person(s).

Part 6.
Cross Connection Compliance (Including Premise Isolation)

6.1 The Director shall review the submitted Cross Connection Inspection Reports specified in Part 4 and issue a 'Compliance Notice' that may support the recommendations contained in the Cross Connection Inspection Report. The 'Compliance Notice' may contain additional or alternative requirements deemed necessary by the Director in accordance with the provisions of this By-law.

6.2 If work is required, the owner receiving the 'Compliance Notice' shall retain a qualified person(s) to undertake the stated works before the date stated in the 'Compliance Notice' and advise the Director, in writing, of completion of the work within thirty(30) days of the date stated.

6.3 If the owner to whom the Director has issued a Notice fails to comply with the 'Compliance Notice', the Director, at their discretion, may:

(a) Instruct the owner to correct the fault at their expense within a specified time period and if the Notice is not complied with, the Director may then shut off the water service or services; and/or

(b) Request that the Chief Building Official consider issuing an unsafe order under unsafe requirements in accordance with the Ontario Building Code Act, in a condition that could be hazardous to the health or safety of persons in the normal use of the building, persons outside the building or persons whose access to the building has not been reasonably prevented; and/or

(c) Without notice to the owner, shut off water service, where the Director has determined, in their sole discretion that an immediate threat of contamination to the water system exists that may endanger public safety or health.

Part 7.
Maintenance and Field-Testing of Backflow Prevention Devices

7.1 The owner responsible for properties, premises or buildings containing backflow prevention devices shall retain a qualified person, per Part 12, to annually inspect and test, at the expense of the owner, and submit a Backflow Device Test Report on a form prescribed by the Director to demonstrate that the device is in good working condition. All equipment used to test backflow preventers shall be verified or calibrated for accuracy, as described in CAN/CSA B64.10.

7.2 If the results of a test show that a back flow prevention device is not in good working condition, the owner shall make repairs or replace the device within five (5) working days.

7.3 If an owner does not make the appropriate repairs or replace the defective device within the five (5) working days, the Director may shut the water service or services off.

7.4 If the owner fails to have a backflow prevention device tested, the Director may notify the owner that the back flow prevention device must be tested within a specified time.

7.5 If an owner fails to have a backflow prevention device tested within the specified time of the notice, when requested by the Director, the Director may shut off the water service or water services until the backflow prevention device has been tested and approved.

Part 8.
Removal of Backflow Prevention Devices Prohibited

8.1 No person shall remove a backflow prevention device or part thereof after it has been installed, and no owner of a building or structure in which a backflow prevention device is installed shall cause or permit the removal of such device, unless such removal is:

- (a) To facilitate the repair of the device and such device is replaced immediately after such repair is carried out; or
- (b) To replace the device with another device that meets or exceeds the provisions of this By-law.

In no instance shall the property, premise or building be without a backflow prevention device for more than five (5) days.

Part 9.
Inspection Report, Implementation and Retesting Schedule

9.1 The requirements under this regulation shall be undertaken as follows;

- (a) **Municipal Water Service Accounts (Institutional, Commercial, Industrial and Multi-Residential Buildings)**
 - (i) Submission of Cross Connection Inspection Report; within six months of the date of contact by the Director.
 - (ii) Implementation of Report recommendations as determined by the Director in a Compliance Notice, but not to exceed one (1) year from submission of Cross Connection Inspection Report
 - (iii) Cross Connection Re-inspection Report: every five (5) years from the date of the first report that was requested and upon change of use of the property, change of ownership or as required by the Director.
 - (iv) Testing of Back Flow Prevention Devices with test reports submitted to the Town: annually or as required by the Director.

(b) **Residential Accounts:**

(i) All new dwelling units must have a dual check valve installed, at the property owner's cost, prior to connection to the Town of The Blue Mountains Drinking Water System.

(ii) Inspection reports and scheduled testing of back flow prevention devices shall not be required for residential units except in accordance with Part 4.2 and Part 5.4 of this By-law or when the building code requires individual or zone protection devices to be installed.

**Part 10.
Enforcement**

10.1 This By-law shall be enforced by a Building Official appointed by the Chief Building Official or a Municipal Law Enforcement Officer employed by the Town.

**Part 11.
Penalties**

11.1 Every person who contravenes any provision of this By-law, or an officer or director of a corporation who knowingly concurs in such a contravention by the corporation, upon conviction, is guilty of an offence and upon conviction is liable to any penalty as provided by the Provincial Offences Act.

11.2 Where a person has been convicted of an offence, the court in which the conviction has been entered and any court of competent jurisdiction thereafter may, in addition to any other remedy and to any penalty imposed, make an order prohibiting the continuation or repetition of the offence by the person convicted.

11.3 In this By-law where the Town is given the power to direct or require a person to do a matter or thing, the Town may do the matter or thing at the person's cost if the person defaults in doing it and the Town may recover the costs of doing the matter or thing by action or in accordance with Section 446 of the Municipal Act.

**Part 12.
Qualified Persons**

12.1 Only those persons listed in the following Authorized Functions List (Schedule A) shall carry out the corresponding functions set out in such list.

**Part 13.
General Provisions**

13.1 A building permit is required to be obtained pursuant to the Building Code Act to install a backflow prevention device. The provisions of the Building Code Act and the regulations pertaining to such building permit continue to apply to each installation in addition to the provisions of this By-law.

13.2 Every owner of property upon which a backflow prevention device is installed shall ensure that such device is in good repair at all times.

13.3 In addition to any other provision of the By-law, the Chief Building Official or Director may at any time order an owner, at the owner's expense, to conduct tests, provide reports and undertake any other measures required for the prevention of backflow or cross connection.

13.4 Where a time frame is set out in this By-law for carrying out any action, the Town may extend the time for compliance beyond the established time frame on approval by the Director or Chief Building Official.

13.5 This By-law shall come into force and take effect from the enactment thereof.

ENACTED AND PASSED this ____ day of _____, 2013

DRAFT COPY

Ellen Anderson – Mayor

DRAFT COPY

Corrina Giles - Clerk

**SCHEDULE "A"
AUTHORIZED FUNCTIONS LIST**

ITEM	FUNCTION	Professional Engineer (P.Eng.) with Tester's Certificate	* Certified Engineering Technologist (C.E.T.) with Tester's Certificate	Licensed Master Plumber with Contractor and Tester's Certificate	** Journeyman Plumber with Tester's Certificate	*** Apprentice Plumber with Tester's Certificate	Fire System Sprinkler Fitter with a Tester's Certificate	Lawn Irrigation System Installer with Tester's Certificate	Municipal staff within Water and Wastewater Division with Tester's Certificate
1	Carry out Cross Connection Survey	✓	✓	✓	✓				✓
2	Install, Relocate or Replace Backflow Prevention Device			✓	✓	✓			
3	Repair of Backflow Prevention Device	✓	✓	✓	✓	✓			
4	Test Backflow Prevention Device	✓	✓	✓	✓	✓		✓	✓
5	Items 1, 2, 3 & 4 above in Relation to Fire Protection Systems			✓	✓	✓	✓		
6	Items 3 & 4 above in Relation to Lawn Sprinkler Systems	✓	✓	✓	✓	✓		✓	
7	Items 1, 2, 3 & 4 in relation to municipally owned and operated facilities	✓	✓	✓	✓				✓

* Required to be under the direction of a Professional Engineer. ** Required to be employed by a Licensed Plumbing Contractor.

*** Required to be employed by a Licensed Plumbing Contractor and under the direct supervision of a Journeyman Plumber or Master Plumber.

SCHEDULE "B"

Town of The Blue Mountains' Registration Requirements for Persons on Authorized Functions List

Category	Required Registrations	Documentation Required	Authorized Functions	Registration Number and Fees
Plumbing Companies <i>Registration done by Master Plumber</i>	Master plumber with tester's certificate as well as all journeyman plumbers with a tester's certificate and all apprentice plumbers with tester's certificate under his/her direction or direct supervision.	Master Plumbers License Journeyman Plumbers: Journeyman's License with Tester's certificate issued by participating Canadian section of the AWWA. Apprentice Plumbers: Apprenticeship contract with Tester's certificate issued by participating Canadian section of the AWWA. Calibration certificate for backflow device testing equipment.	<ol style="list-style-type: none"> 1. Carry out cross connection surveys. 2. Install, relocate or replace backflow preventer. 3. Test backflow preventer. 4. Repair backflow preventer. 5. Complete Items 1, 2, 3, and 4 in relation to fire protection systems. 6. Complete Items 3 and 4 in relation to lawn sprinkler systems. 	Pay one fee for all persons registered. Receive one registration number for all persons registered.
Fire and Sprinkler Companies	Master sprinkler and fire protection installer license as well as all journeyman sprinkler and fire protection installers with a tester's certificate and all apprentice sprinkler and fire protection installer with a tester's certificate who are under his/her direction or direct supervision.	Master sprinkler and fire protection installer license. Journeyman: Journeyman's License with Tester's certificate issued by participating Canadian section of the AWWA. Apprentice: Apprenticeship contract with Tester's certificate issued by participating Canadian section of the AWWA. Calibration certificate for backflow device testing equipment.	In relation to Fire Protection Systems Only <ol style="list-style-type: none"> 1. Carry out cross connection surveys. 2. Install, relocate or replace backflow preventer. 3. Test backflow preventer. 4. Repair backflow preventer. 	Pay one fee for all persons registered. Receive one registration number for all persons registered.
Irrigation Contractors	Irrigation contractor as well as all irrigation installers with a tester's certificate under his/her direction or direct supervision.	Lawn irrigation installer: Tester's certificate issued by participating Canadian section of the AWWA. Calibration certificate for backflow device testing equipment.	<ol style="list-style-type: none"> 1. Repair and test backflow preventers on irrigation systems. 	Pay one fee for all persons registered. Receive one registration number for all persons registered.
Professional Engineers / Certified Engineering Technologists	Professional Engineer with tester's certificate as well as all Certified Engineering Technologists with a tester's certificate under his/her direction or direct supervision	Professional engineer: PEO License Number. Tester's certificate issued by participating Canadian section of the AWWA. C.E.T. under direct supervision of Professional Engineer: Tester's certificate issued by participating Canadian section of the AWWA. Calibration certificate for backflow device testing equipment.	<ol style="list-style-type: none"> 1. Carry out cross connection surveys. 2. Repair and test backflow prevention device. 	Pay one fee for all persons registered. Receive one registration number for all persons registered.
Municipal Staff	All water and wastewater division employees with a tester's certificate operating under the direction of Professional Engineer	Tester's certificate issued by participating Canadian section of the AWWA. Calibration certificate for backflow device testing equipment.	In relation to Town facilities <ol style="list-style-type: none"> 1. Carry out cross connection surveys. 2. Install, relocate or replace backflow preventer. 3. Repair backflow preventer. 4. Test backflow preventer. 	Receive one registration number for all persons registered.