

BY-LAW NO. 146-03

OF THE

CORPORATION OF THE CITY OF CAMBRIDGE

Being a by-law of the Corporation of the City of Cambridge to regulate the time, manner, extent and nature of the supply of water within the City of Cambridge in order to secure to the inhabitants of the City a continued and abundant supply of pure and wholesome water and to repeal By-law 1839.

WHEREAS s.11(2) of the Municipal Act, 2001, S.O. 2001, c.25 (the "Act") provides for the non exclusive assignment of the sphere of water distribution to upper and lower tier municipalities.

AND WHEREAS the Corporation of the City of Cambridge is a lower tier municipality.

AND WHEREAS s. 9 of the Municipal Act, 2001, S.O. 2001, c. 25 (the "Act") provides as follows:

- (1) That sections 8 and 11 (of the "Act") shall be interpreted broadly so as to confer broad authority on municipalities,
 - (a) to enable them to govern their affairs as they consider appropriate; and
 - (b) to enhance their ability to respond to municipal issues.
- (2) That in the event of ambiguity in sections 8 and 11 (of the "Act"), those sections shall be interpreted broadly to include, rather than exclude, municipal powers that existed on December 31, 2002.
- (3) That without limiting the generality of subsections (1) and (2), a by-law under section 11 (of the "Act") respecting any matter may,
 - (a) regulate or prohibit respecting the matter; and
 - (b) as part of the power to regulate or prohibit respecting the matter, require persons to do things respecting the matter, provide for a system of licences, permits, approvals or registrations respecting the matter and impose conditions as a requirement of obtaining, continuing to hold or renewing a licence, permit, approval or registration.

AND WHEREAS the Council of the Corporation of the City of Cambridge wishes to regulate the time, manner, extent and nature of the supply of water, the building or person to which and to whom the water shall be furnished and the price to be paid thereof and every other matter or thing related to or connected therewith that it may be

necessary or proper to regulate, in order to secure to the inhabitants of the municipality a continued and abundant supply of pure and wholesome water and to prevent the practicing of frauds upon the City with regard to the water so supplied and for providing that for a contravention of any such by-law the offender is guilty of an offence.

AND WHEREAS the Council of the Corporation of the City of Cambridge deems it desirable to provide regulations for Backflow Prevention.

NOW THEREFORE THE MUNICIPAL COUNCIL OF THE CORPORATION OF THE CITY OF CAMBRIDGE ENACTS AS FOLLOWS:

1. In this by-law:

- a) "Air Conditioning Apparatus" means equipment which controls the temperature, humidity or cleanliness of the air inside a building;
- b) "Applicable Fee(s)" means flat rate, fixed or variable fees as determined from time to time by the Council of the Corporation of the City of Cambridge;
- c) "Authorized Employee" means any City employee authorized by the Commissioner of Transportation and Public Works;
- d) "Automatic Fire Sprinkler Systems" means a system of water pipes inside a building and provided with sprinklers or valves which open automatically when the temperature rises to a predetermined level;
- e) "Backflow" means a flowing back or reversal of the normal direction of flow.
- f) "Backflow Preventer" means a device or a method that prevents backflow in a water distribution system per CSA standards.
- g) "Back Siphonage" means backflow caused by negative pressure in a water distribution system.
- h) "Back Siphonage Preventer" means a device or method that prevents back siphonage in a water distribution system per CSA standards.
- i) "Building" means any building, which can be occupied as a dwelling, meeting place, or for commercial, industrial or warehousing purposes;
- j) "By-pass" means a pipe that is connected to the service pipe in such a manner as to permit water to be used without registering on the water meter.
- k) "City" shall mean the Corporation of the City of Cambridge;

- l) "Commissioner of Transportation and Public Works means the Chief Municipal Engineer for the City or his authorized representative;
- m) "Consumer" means any Owner, occupant, lessee, tenant or any person or company purchasing water from the City;
- n) "Control Valve" means a valve for turning the water off and on located on the water services ahead of the Meter within the Building;
- o) "Council" means the Council of the Corporation of the City of Cambridge;
- p) "Cross-connection" means any actual or potential connection between the potable water supply and a non-potable system through which backflow or back siphonage can occur. Bypass arrangements, jumper connections, removable sections, swivel or changeover devices, or any other temporary or permanent connecting arrangements through which backflow may occur are considered to be cross-connections.
- q) "CSA Standard" means the document entitled National Standard of Canada – CAN/CSA-B64.10-01 and Amendments – Manual for the Selection, Installation, Maintenance and Field Testing of Backflow Prevention Devices – Plumbing Products and Materials – A National Standard of Canada published in 1994 by the Canadian Standards Association or any successor thereof;
- r) "Curb Stop" means apparatus installed by the City outside a building, normally on the street line and used for turning on or shutting off the water supplied to such a building;
- s) "Detector Check Valve" means a single check valve assembly per CSA standard, which is designed for fire prevention systems only.
- t) "Deposit" means the sum of money deposited with the City;
- u) "Fire Department" means the Fire Department of the City;
- v) "Hydrant" means fire plugs or standpipes installed by the City for the use of the Fire Department or any other City department;
- w) "Meter" means an apparatus for measuring the quantity of water and includes the piping that is part of the meter installation and wiring and dials for remote reading.

- x) "Owner" means the person who owns the building to which the water is being supplied;
- y) "Property" means the parcel of land on which the end users building(s) is (are) located.
- z) "Refrigeration Apparatus" means any equipment used for the purpose of lowering the temperature of a liquid or gas and utilizing water for cooling purposes;
- aa) "Reservoir" means a place where water is stored or accumulated;
- bb) "Service Pipe" shall mean the conduit for transporting water from the watermain to the building.
- cc) "Standards" means current standards of the City of Cambridge, or as may be required by other regulating agencies.
- dd) "Street Line" means the line of demarcation between any private property and the adjoining street, utility easement, lane, thoroughfare or other public place.
- ee) "Street" means any public highway, road, street, lane, alley, square, place, thoroughfare or way within the City;
- ff) "Valve" means an apparatus for turning the water off or on; and
- gg) "Watermain" means a pipe that transports water within public property.

2. APPLICATION FOR SERVICE

- a) The Owner or authorized agent of the building for which a supply of water is required shall make written application for such water supply services to the City before the Service Pipe is extended from the main to the street line. The application shall include the desired location and size of service pipe and meter required, fixtures to be supplied or quantity of water required (supported by water requirement calculations), if a special application; the use or class of occupancy of the building and any other information which shall aid the City in providing an adequate water supply but in no case shall the diameter of the service pipe be less than 19 millimetres ("mm") (3/4 inches) per the Ontario BUILDING CODE.

The City may charge an applicable fee as may be determined from time to time by Council prior to preparing an estimate for the service installation. If the service

application proceeds within one (1) year, part or all of any fees paid may be credited towards the cost of the service installation.

The city shall not be responsible for inadequate or improper installation resulting from lack of information in the application.

By accepting the supply of water from the City, the Owner agrees to abide by the Rules, Regulations, Standards and Rate Schedules of the City as they now exist or as they hereinafter may be amended.

Before an application for the supply of water is accepted, the Owner shall make a deposit of an amount sufficient to cover the estimated cost of connecting the service pipe to the watermain and any other connections required including the meter if larger than 25mm (1 inch). In the case of a connection of a 19 mm (3/4 inch) service pipe, the deposit shall be an applicable fee as may be determined from time to time by Council.

For the connection of a service pipe larger than 19 mm (3/4 inch), the Commissioner of Transportation and Public Works shall estimate the cost of such connection and the Owner shall make a deposit of such estimated cost. When the work is completed, the Commissioner of Transportation and Public Works shall establish the exact cost thereof, including overhead, supervision and benefits, and an adjustment will be made by way of a refund or an additional charge as the case may be.

For the purpose of determining charges for the connection of water supply services, a connection shall mean the connection to watermain, the service pipe from watermain to the street line including valves and fittings with these limits plus the water meter if larger than 25 mm (1 inch). All pipe, valves, fittings and other equipment between the watermain and the street line plus the meter, shall remain the property of the City.

An applicable fee as may be determined from time to time by Council for a connection of a 19 mm (3/4 inch) service pipe is based on a normal connection from the watermain to the street line on street right-of-way 20 metres in width. The Owner shall pay any costs of the city incurred as a result of unusual conditions.

- b) The Commissioner of Transportation and Public Works may demand that a plan of the building showing the interior piping or laterals connected to the City water system be supplied.

- c) New development not utilizing existing water connections would require the abandoned water service pipes to be capped at the watermain. The owner shall pay any costs incurred by the City as a result of these conditions.
- d) New development utilizing existing water connections may be required to upgrade the service to present City standards.
- e) New development, which is an internal expansion of an existing water service connection, is subject to all Rules, Regulations, Standards and Rate Schedules of the City.

3. INSTALLATION OF SERVICE

- a) The City shall supply all labour and materials necessary to install the connection from the watermain to the street line at the cost of the Owner;

Service pipes will be laid clear of driveways and other obstructions unless otherwise approved and to a minimum depth of 2 meters.

- f) All new altered or replaced service pipes shall have a meter placed upon them.
- g) Each property will require one water service pipe unless otherwise approved by the Commissioner of Transportation and Public Works. All water service pipes will be equipped with a water meter.
- h) Meters shall remain the property of the City, its successors and assigns and will be located in a safe and convenient space, free of charge or rent, in the basement or in a heated room suitable for this purpose or in a water meter chamber constructed per current standards. The meter shall not be boxed in such a manner as to prohibit it being read, examined or removed and shall be placed as close as possible to the entrance of the service pipe into the building per current standards for Water Meter installation. The City supplies and maintains all meters 25mm (1 inch) or less required for meter installations. Every owner of a water service that requires a meter of nominal size larger than 25mm (1 inch) shall provide at his own expense a meter of a type specified by the Commissioner of Transportation and Public Works, which specification shall be based on sound engineering practice. If more than one building is located on the property, the meter is to be installed in the building closest to the property line. All meters installed or required by the City may be provided with outside reading devices. Contractors will be required to pre-wire all commercial, industrial, institutional, single and multiple residential buildings for the outside reading device.

- i) Where separate fire and domestic services are provided, metering will be provided as follows:
- i. an entirely metered service may be used for both domestic and fire service;
 - ii. a combined service with meter on the domestic branch only may be used where the fire service is used solely for supply of a closed circuit sprinkler system controlled by alarm valves or supervisory service;
 - iii. a combined service with standard meter on the domestic branch and a detector check valve of a type specified by the Commissioner of Transportation and Public Works, which specification shall be based on sound engineering practice; on the fire service branch where the fire service branch supplies any open sprinkler system, standpipes, hose connection outlets, external fire hydrants or other outlets. In all cases involving metering of combined services, the meters shall be installed as close as practical to the point of branching.

Free access shall be afforded to such meters and their connections for authorized employees, their servants or agents, whenever such access is required by such authorized employees in the performance of their duty. The consumer will be responsible for the meters and other City equipment, which is necessary to provide such water supply service. This responsibility covers damage or destruction other than normal wear and tear and the consumer shall pay the City the value of such meters or equipment or the cost of repairing and replacing same should any damage or loss, in the opinion of the Commissioner of Transportation and Public Works is due to circumstances beyond normal wear or tear. Except where a person is responsible for damage to a meter, the City will bear the cost of repairing, testing and maintaining all meters. The City may remove and test any meter at any time. No one who is not an authorized employee or agent or otherwise lawfully entitled to do so, shall be permitted to remove, inspect or tamper with the meters or equipment of the City;

- j) The consumer is responsible for any volume charges that the Commissioner of Transportation and Public Works deems attributable to the account but not recorded due to damaged equipment and/or lack of free access provided to the City's authorized employees. In the case of a residential consumer the volume charges will not be less than 20 cubic meters per month. In the case of an Industrial or commercial consumer the Commissioner of Transportation and Public Works will use the past consumption history of this consumer or a similar consumer to determine the appropriate volume charges. Only an authorized employee or agent lawfully entitled to do so shall be permitted to remove or

inspect the meters or equipment of the City. If the consumer is not the owner and the owner has not located the meter in such a manner as to permit the meter being read, examined or removed or if the owner has not permitted access to the City's authorized employees, the owner may become responsible for any volume charges the Commissioner of Transportation and Public Works determines to be attributable to the consumer.

If there is no Building or if the length of the Service Pipe between the Street Line and the Building exceeds 30 metres, the Owner shall build to City specifications, at his own expense, a chamber protected against frost and theft, easily accessible and close as practical to Street Line for the purpose of housing the meter; except for single family residences in which case the installation will be done at City cost.

- k) The City reserves the right to determine the location, size, components and method of installation of the service pipes and meter, to limit the number of buildings in the area of land to be supplied by one connection, and to refuse water supply service if it considers such water supply service to be detrimental to existing water supply services or to the interests and operations of the City. The City shall reserve the right to determine the class of water supply service, taking into consideration the type of building, the use of the water supply service, volume of water used and other pertinent factors.
- l) The use of a temporary water supply service by a contractor or other person is allowed, provided application is made to the City and a meter is installed. The said user shall deposit with the City an applicable fee as may be determined from time to time by Council. The fee shall include the installation and removal of the meter and the estimated amount of water usage. Upon removal of the temporary meter, an adjustment shall be made for the amount of water used by way of a refund or additional charge as the case may be. The user shall be responsible to protect the meter from frost or damage.
- m) Applicants desiring a change in location, arrangement or size of water supply service or meter must pay all costs incurred in carrying out such change.
- n) The Owner or accepted applicant of the building or property to be or being supplied shall, if not already provided, install a gate-type control valve or compression stop on the house service between the wall or floor of the building serviced and the City's meter per current standards for water meter installation. This control valve will be in addition to the curb stop located on the service pipe at the property line that is included in the equipment supplied by the City in the

fee charged for connection. The City prohibits the installation of a bypass around the water meter in residential applications.

- o) Grounding shall conform to the latest requirements of the Electrical Code
- p) The Owner or customer will be held liable for any damage to the property of the City which may be wilfully caused by him or result from carelessness or negligence on his part or on the part of any person or entity acting for or on behalf of such Owner or accepted applicant, and in particular, without limiting the foregoing, for damage occasioned by operating the City's curb stop in lieu of a control valve; for damage due to ground wire attachments and for damage to the meter caused by hot water or steam from the building or frost. In the event payment for such damage is not properly made, the City reserves the right to limit or disconnect the water supply service to the building until all claims are satisfied.
- q) No person shall wilfully alter any meter placed upon any service pipe or other pipe, either within or outside any building or other place so as to lessen or alter the amount of water registered on the meter.
- r) No person shall lay or cause to be laid, any pipe or conduit connecting with any pipe or conduit of the City Waterworks System or in any way obtain or use the water without the consent of the City. All buildings to which a service pipe exists shall be connected to a meter.

4. FIRE SERVICE

Water supply service for automatic fire sprinkler systems or for fire protection of any kind, will be classed as a fire service, provided such fire service is required by or conforms to the regulations of the Fire Department and the Building Division. Connection for water supply other than fire service shall not be made to a fire protection system. The City shall be notified of any testing carried out by or for Underwriters. Where a potable water supply serves a fire protection system, the fire protection system shall be isolated from the City's potable water supply per the Ontario BUILDING CODE and in accordance with the applicable NFPA standard so as to prohibit any contamination of the City water supply. No bypass around a backflow preventer is permitted under any circumstances. All materials and connections are to be supplied and installed at the owner's expense.

5. SERVICE OUTSIDE THE MUNICIPALITY

It is not within the provisions of the City to supply water outside the boundaries of the City. The City will, however, consider application for water supply service from individuals or others located outside the limits of the City and where approval by the water authority in the adjacent municipality has been obtained and submit them to Council for approval. Special arrangements for the payment of costs incurred in providing the water supply service, including the recovery of expenditures, must be made prior to the approval of such water supply service.

6. HYDRANTS

- a) No person, firm or corporation shall use the hydrants located within the City or connected to the City's water system except the following:
 - i. members of the Fire Department;
 - ii. employees of the Transportation and Public Works Department of the City; and
 - iii. Persons, firms or corporations having written permission from the City and using the hydrants under the supervision of the City.
- b) If water is desired through hydrants, a permit must be obtained from the City. This permit and application will be processed on payment of an applicable charge as may be determined from time to time by the City. The applicant will then be supplied with a hydrant connection, which must be used and carefully preserved by the applicant at all times. Permits will not be issued for the purpose of filling a private swimming pool.

7. WATER SUPPLY

- a) Council may take such measures, as it deems necessary to regulate any or all use of water through a hose or other attachment, or for use for street, lawn, or gardening sprinkling, or for any fountain or jet or for any purpose whatsoever.
- b) No person shall water or sprinkle, or cause or permit the watering or sprinkling of any lawn, garden, tree, shrub or other outdoor plant in the City of Cambridge through a hose or other attachment except between the hours of 7:00 a.m. and 10:00 a.m., and between the hours of 7:00 p.m. and 11:00 p.m. subject to the following:
 - i. premises with municipal addresses having even numbers may sprinkle or water within the designated times only on even-numbered calendar days;

- ii. premises with municipal addresses having odd numbers may sprinkle or water within the designated times only on odd-numbered calendar days.
- c) Notwithstanding section 2, watering is permitted for the following:
 - i. newly planted sod, trees, ornamental shrubs and flower gardens while being installed and during the next following 24 hours after the completion of installation; and
 - ii. lawns being treated with any pesticide, herbicide spray or fertilizer which requires water while being treated and during the next following 24 hours after the application.
- d) Notwithstanding the provisions of this By-law, upon a water supply emergency being declared by The Regional Municipality of Waterloo pursuant to its by-law, the operation of this by-law shall be suspended and the provisions of the said Regional by-law shall govern. When the emergency is ended the provisions stated in this by-law shall apply.

8. REFRIGERATION AND AIR CONDITIONING

- a) This by-law shall not apply to refrigeration apparatus used solely for cooling or freezing of foodstuffs and the motor of such refrigeration apparatus shall not exceed three (3) horsepower in size.

9. USING WATERWORKS PRESSURE FOR POWER

No person, firm or corporation shall use the pressure of the City water system to power turbines or similar devices.

10. PROTECTION OF THE PUBLIC WATER SUPPLY

- a) The Commissioner of Transportation and Public Works to take such measures as are necessary and proper to ensure an adequate and continuous supply of water and to safeguard the hygienic purity thereof within the drinking water objectives as established by the Ministry of the Environment of Ontario.
- b) The Commissioner of Transportation and Public Works shall, in the case of an emergency, which may imperil the supply or quality of water, take such remedial action as may be necessary or proper, reporting thereon to council as soon as it is practical. Remedial action may include limiting or stopping up of the supply of water in any area or restricting the use of water for any specific purpose:

- c) No person, except as authorized by the Commissioner of Transportation and Public Works, shall dump or throw any material into the water reservoirs or open water channels of the City, or place any foreign materials in any hydrant, water pipe or outlet.
- d) All Plumbing shall conform to the rules of the City and the Ontario BUILDING CODE and to the legal requirements of the Ministry of the Environment or other authority having jurisdiction.
- e) No person or owner shall connect, cause to be connected, or allow to remain connected the City's water supply and an auxiliary water supply without the approval of the Commissioner of Transportation and Public Works.
- f) Backflow and Cross Connection Prevention measures, including the installation, testing and maintenance of Backflow Prevention devices shall be carried out in accordance with the provisions of Schedule "A" attached hereto and forming part of this by-law.
- g) Failure to comply with the requirements relative to the protection of the public water supply will be sufficient reason for immediate discontinuance of any water supply service until such time as it is determined that the requirements of the City and the Ontario BUILDING CODE have been met.

11. WASTE

- a) No person shall wilfully let off or discharge water so that the water runs waste or useless out of the City water system.
- b) No person shall damage or allow the deterioration of any appliance, which will result in a waste of water.
- c) It is prohibited to permit water to run into the street or any other area or place where it is wasted.
- d) Upon detection of leaky valves, improper pipes or imperfect fixtures, any of which are creating a waste of water in any building, the Commissioner of Transportation and Public Works will immediately notify the occupant or owner of the repairs required to cease the wastage of water and where the necessary repairs are not made within seven (7) calendar days thereafter, the Commissioner of Transportation and Public Works shall have the authority to cut off the supply of water by closing the City's curb stop or by detaching the service pipe from the watermain. Also, where the conditions of such pipes or fixtures shall be such as to cause a waste of water or damage to property, then without

notice, the Commissioner of Transportation and Public Works shall have the authority to cut off the supply of water by closing the City's curb stop or by detaching the service pipe from the watermain.

Before the water is turned on again, the leaky or faulty pipes and/or fixtures shall be repaired or altered to the satisfaction of the Commissioner of Transportation and Public Works and the charges for detaching and reattaching or turning the water off and on shall be at applicable fees as may be determined from time to time by Council. These fees shall be paid by the person occupying or owning the building or premises and no person supplied from such service pipe shall have any claim against the City, its officers or servants by reason of such cutting off of the water.

Where damages occur to property by cause of faulty fixtures or pipes, the City will not be held responsible for the water not being shut off.

12. RATES AND PAYMENTS

- a) Water rates on the consumption of water as set from time to time by Council and as measured by the meters, are payable by residential consumers on a bi-monthly basis and by general service consumers on a monthly basis.

Payments are due on the date noted on the water bill and there is a penalty for late payment as revised from time to time by Council.

In the event of non-payment of a water bill before the date on which said bill becomes due, the Commissioner of Transportation and Public Works or his authorized representative, will advise the owner or occupant within three (3) days after the due date that the bill is overdue.

If, after ten (10) days past the due date, the bill is still not paid, the Commissioner of Transportation and Public Works or his authorized representative may advise the owner or occupant that unless the bill is paid within seven (7) days, the said Commissioner of Transportation and Public Works or authorized representative may discontinue water supply to the house, store, office building or lot upon which the rate shall be due, and in the event the water is turned off, it shall be turned on again until such time as all the arrears are paid together with costs incurred by the City for turning the water off and on. Said costs for turning the water off and on shall be at the rates as set from time to time by Council.

- b) Water taken by tankers for construction purposes or any other reason, is obtainable at the Public Works Garage at 1310 Bishop Street, Cambridge,

Ontario, only and the rates for the bulk taking of water shall be set by Council from time to time and is payable upon receipt of said water.

- c) Any other rates relative to water usage shall be as set down by Council from time to time.

13. FAULTY METERS

Any consumer having doubt as to the accuracy of the meter installed in his building may request the said meter be removed and tested by making a deposit at the office of the Commissioner of Transportation and Public Works. If the meter is found to be accurate within plus five per cent (+5%) or minus five per cent (-5%), the deposit will be forfeited to the City. However, if the meter is found to be inaccurate by more than plus five per cent (+5%) or minus five per cent (-5%), the deposit will be returned and adjustments made to the subject account.

The deposit will be in accordance with rates as set from time to time by Council.

14. TURNING WATER OFF AND ON

Any person desiring to have his or her water turned off or on for any reason whatsoever, must contact the Public Works Division who will direct the water be turned off or on. An applicable fee as may be determined from time to time by Council for turning water off or on shall be charged.

15. OVER/UNDER RESIDENTIAL AND GENERAL SERVICE BILLINGS

- a) Where billing errors have resulted in over-billing, the consumer will be credited with the amount erroneously overpaid for a period not exceeding six (6) years.
- b) Where the billing errors have resulted in under-billing, the consumer shall be charged with the amount erroneously not billed for a period not exceeding:
 - i) two (2) years in a case of a residential consumer who was not responsible for the error.
 - ii) six (6) years in all other cases.

16. GENERAL

- a) No person shall tap or make any connection with the City watermain or turn off or on or interfere with in any manner, any valve or appurtenance of the City waterworks system.

- b) No person shall wilfully hinder or interrupt or cause or procure to be hindered or interrupted, the City or any of its officers, contractors, agents, servants or workers in the exercise of any powers under this by-law.
 - a) No person shall, without lawful authority, wilfully open or close any hydrant or obstruct the fire access to any hydrant, stop works, chamber, pipe or hydrant by placing on it any building, material, rubbish or other obstruction.
17. If any of the provisions of this by-law are inconsistent with the Ontario BUILDING CODE or Electrical Code and amendments thereto, then the Ontario BUILDING CODE or Electrical Code shall prevail.
18. If the provisions of any other by-law, resolution or action of Council are inconsistent with this by-law, then this by-law shall prevail.
19. Any person who contravenes any of the provisions of this by-law is guilty of an offence and upon conviction is liable to a fine as provided for in the Provincial Offences Act.
20. That By-law 1839 is hereby repealed.

READ A FIRST, SECOND AND THIRD TIME.

ENACTED AND PASSED, THIS 14TH DAY OF JULY, 2003.

MAYOR

CLERK

SCHEDULE A

1. " Backflow Prevention Regulations"

2. INTERPRETATION

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

"**ASSE**" means the American Society of Sanitary Engineering;

"**AWWA**" means the American Water Works Association;

"**Authorized Functions List**" means the list of functions and the persons authorized to carry out such functions as set out as Appendix A of this Schedule;

"**auxiliary water supply**" means any water source or system other than the City's direct water supply that may be available in a building or on any property, including any recycled water or cistern;

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

"**backflow prevention device**" means a device that prevents backflow and includes a reduced pressure principle assembly, dual check valve, double check valve and the like;

"**Building**" shall have the same meaning as set out in the Ontario BUILDING CODE Act, S.O. 1997, Chap. 23, as amended, or any successor thereof.

"**Chief Building Official**" means a chief building official appointed or constituted under sections 3 or 4 of the Ontario BUILDING CODE Act;

"**City**" means the Corporation of the City of Cambridge and includes its employees, servants and agents;

"**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 connecting arrangement through which backflow may occur;

"**Cross Connection Survey Form**" means the form set out in Appendix B of this Schedule;

"**CSA Standard**" means the document entitled National Standard of Canada – CAN/CSA-B64.10-01 and Amendments – Manual for the Selection, Installation, Maintenance and Field Testing of Backflow Prevention Devices – Plumbing Products and Materials – A National Standard of Canada published in 1994 by the Canadian Standards Association or any successor thereof;

"**high or severe hazard**" means any cross connection or potential cross connection involving any substance that could be a danger to health. Examples shall include hospitals, all establishments involving chemical usage, high hazard uses as defined by the Ontario BUILDING CODE and any use where protection is deemed required by the Commissioner of Transportation and Public Works;

"**owner**" means any person, firm or corporation having control over property to which this Schedule applies and includes the owner registered on the title of the property and any occupant of any building or structure located on such property;

"**potable water**" means water that is safe for human consumption;

"**premise isolation**" means isolation of the water located within a building or structure from the City's water supply;

"**source isolation**" means isolation of the water located within or having flowed through a source or potential source of contamination within a building or structure, including a device, machine, water system or the like, from any potable water system;

"**structure**" means anything constructed or built permanently or temporarily which is provided with a source of potable water;

"**survey**" means a complete review of the potable water system or systems located within a building or structure to determine if any cross connection exists;

"**tester**" means a person who is a certified backflow prevention device tester who has successfully completed a cross connection course in backflow prevention device testing at an accredited school or college as defined in the CAN/CSA B64.10-94 and is licensed as a tester of backflow prevention devices under the City of Cambridge Licensing By-law or any successor thereof;

"**Test Report**" means a report in the form set out as Appendix C of this Schedule;

"**Test Tag**" means a tag in the form set out as Appendix D of this Schedule;

"**water meter**" means the water meter installed within a premises to record the amount of water supplied to such premises by the City; and

"**zone isolation**" means the isolation of the water located within an area of a building or structure from any potable water system located within such building or structure.

3. APPLICATION OF SCHEDULE

3.1. This Schedule applies to existing industrial, commercial, institutional and multi-residential buildings and structures, except buildings of residential occupancies within the scope of Part 9 of Ontario Regulation 403/97 (the Ontario BUILDING CODE) and except for lawn sprinkler systems.

3.2. In addition to and notwithstanding Section 3.1 of this Schedule, this Schedule applies where a condition exists in any building or structure that may be hazardous or detrimental to the potable water supply.

4. CROSS CONNECTION PROHIBITED

4.1 No person or owner shall connect, cause to be connected or allow to remain connected to the City's water supply or any other potable water system any piping, fixture, fitting, container, appliance, vehicle, machine or the like in a manner which may under any circumstance allow water, waste water or any other liquid, chemical or substance to enter such supply or system except in compliance with the provisions of this Schedule.

4.2 Except as provided in 4.4, premise isolation shall be required on all buildings except buildings of residential occupancies within the scope of Part 9 of the Ontario BUILDING CODE (Ontario Regulation 403/97 as amended).

4.3 In addition to Section 4.1 and 4.2 and in accordance with all other provisions of this Schedule, every owner of property to which this Schedule applies shall ensure that a backflow prevention device is installed in respect of source isolation and/or zone isolation in every building or structure where a City water supply or other potable water exists.

4.4. Premise isolation shall be required where an auxiliary water supply is accessible from within the building.

5. PERSONS PERMITTED TO CARRY OUT WORK

5.1 Only the persons listed in the Authorized Functions List, Appendix A, shall carry out the corresponding functions set out in such List.

6. APPLICATION OF CSA STANDARD

6.1 Except as otherwise set out in this Schedule, the installation, maintenance and field-testing of backflow prevention devices shall be in accordance with the CSA Standard.

6.2 Wherever the CSA Standard and this Schedule are in conflict the provisions of this Schedule shall prevail.

7. SELECTION OF BACKFLOW PREVENTION DEVICES

7.1. Every owner of a building or structure of a type set out in Section 3 of this Schedule shall, every three years or as otherwise ordered by the Chief Building Official, cause to be carried out a Survey, Appendix B, of each of his or her buildings and structures with respect to all existing cross connections and all existing and required backflow prevention devices and

7.1.1. shall ensure that such survey is carried out on a Cross Connection Survey Form, Appendix B, by a person permitted to do so pursuant to the Authorized Functions List, Appendix A; and

7.1.2. shall ensure that the completed Cross Connection Survey Form, Appendix B, is provided to the City within 14 days of the survey being conducted.

7.2. Every owner shall ensure that every backflow prevention device required for premise isolation on his or her property is a testable device and is the proper device to be used pursuant to the provisions of this Schedule.

7.3. Backflow prevention devices for premise, source or zone isolation shall be determined

7.3.1. using the Selection Guide in CAN/CSA B164.10; or any successor thereof; or

7.3.2. when the type of cross connection is not identified in the Selection Guide, by a professional engineer using the CSA standard.

7.4. Despite Section 7.3, when the type of cross connection is not identified in the Selection Guide, the Chief Building Official may require that a particular backflow prevention device be used in respect of any cross connection.

7.5. Despite Section 4.3.4.2(a) of the CSA Standard a dual check valve device shall not be used for premise isolation.

7.6. Despite Section 7.3 of this Schedule, where a source isolation backflow prevention device has been installed by the manufacturer of equipment, the cross connection is required to be reviewed to determine if the backflow prevention device meets the requirements of the Selection Guide. These cross connections are to be indicated on the Cross Connection Survey.

8. INSTALLATION OF BACKFLOW PREVENTION DEVICES

8.1. Every person installing a backflow prevention device shall ensure that:

8.1.1. such device is installed in accordance with acceptable engineering practices and the requirement of the Ontario BUILDING CODE (Ontario Regulation 403/99), as amended, this Schedule, the Installation Guide and the CSA Standard;

8.1.2. such device is installed in a building or structure;

8.1.3. such device is located in such a manner so that in the event of backflow the device prevents contamination of the City's water supply and any other potable water system.

8.1.4. where such device is installed in respect of premise isolation, such device is located within a maximum of 3.0 metres downstream of the water meter, except where circumstances require the device to be installed in another location and such location is to the satisfaction of the Commissioner of Transportation and Public Works;

8.1.5. where such device is installed in respect of premise isolation, all piping between the water meter and such device is clearly labeled "no connection permitted"; and

8.1.6. where such device is installed in respect of source or zone isolation, all piping between the point of contamination and the point at which the device is located is labeled "non-potable water".

8.1.7. where such device is installed in a public pool as defined in the Ontario BUILDING CODE (Ontario Regulation 403/97) as amended, all exposed water piping and chlorine piping within the water treatment service room shall be colour coded by means of:

- (a) painting the entire outer surface of the piping, or
- (b) coloured bands at least 25 mm (1 in) in width that are spaced along the piping at intervals of not more than 1,200 mm (4 ft. 1 in.).
- (c) colour coding referred to in (a) and (b) shall be yellow for chlorine and green for potable water.

8.2. Every owner of property upon which a backflow prevention device is installed shall ensure that such device is in proper working order at all times.

9. TESTING OF DEVICES

9.1 Every owner who has a backflow prevention device located on his or her property shall ensure that:

9.1.1. such device is tested by a tester when it is first installed and annually thereafter or earlier if requested by the City and also when it is cleaned, repaired, overhauled or relocated.

9.1.2. when such device is tested that a Test Report, Appendix C, of such test is provided to the City within 14 days of the test being conducted; and

9.1.3 in the event that such device is malfunctioning or otherwise not in proper working order, the device is immediately repaired or replaced.

9.2. Every person who tests a backflow prevention device shall carry out such testing in accordance with this Schedule and the CSA Standard.

9.3. In addition to the testing methods set out in Section 6 of the CSA Standard, test procedures established by the ASSE or AWWA for testing backflow prevention devices may be employed.

9.4. Despite Section 6.3.1 of the CSA Standard, every person who tests a backflow prevention device shall enter the results of such test on a Test Report, Appendix C.

9.5. Every person who tests a backflow prevention device shall:

9.5.1. within 14 days of carrying out such test provide a legible Test Report to the City in respect of such test.

9.5.2. upon completing such test, complete and affix a Test Tag, Appendix D, to the device or immediately adjacent to the device on the piping connected thereto; and

9.5.3. upon finding that such device is malfunctioning or otherwise not in proper working order, immediately notify the owner of the premises and the City of such condition.

10. INSPECTIONS

10.1. The City may at any reasonable time enter onto the property of any owner to inspect for compliance with this Schedule.

10.2. Where the City finds that a condition exists on any property that may allow contamination of the City's water supply or the contamination of any other potable water system on such property, including any residential building or structure, the Chief Building Official may:

10.2.1. order the owner to eliminate the condition and in so doing may prescribe the time period for compliance with such Order; or

10.2.2 notify the Commissioner of Transportation and Public Works who may shut off the water supply to the property or any portion thereof until the condition is eliminated.

10.3 A building permit is required pursuant to the Building Code Act to install a backflow prevention device. The provisions of the Act and the regulations pertaining to such building permit continue to apply to each installation in addition to the provisions of this Schedule.

11. GENERAL PROVISIONS

11.1. In addition to any other provision of this Schedule, the Chief Building Official may at any time order an owner to conduct tests, provide reports and undertake any other measures required for the prevention of backflow or cross connection.

11.2 Where a time frame is set out in this Schedule for carrying out any action, the City may extend the time for compliance beyond the established time frame provided such extension is required and is acceptable to the Commissioner of Transportation and Public Works and Chief Building Official.

11.3 Where any person contravenes any provision of this Schedule, in addition to any other measures permitted to be taken by the City to address such contravention, the City may shut off the water to the affected property or any portion thereof until the contravention is rectified.

12. REMOVAL OF BACKFLOW PREVENTION DEVICES PROHIBITED

12.1. No person shall remove a backflow prevention device 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

12.1.1. to facilitate the repair of the device and such device is replaced immediately after such repair is carried out.

12.1.2. to replace the device with another device that meets or exceeds the provisions of this Schedule.

13. BACKFLOW PREVENTION DEVICE PERMIT AND TAG FEES

13.1. All fees shall be in conformance with Appendix E attached to this Schedule.

14. APPENDICES FORM PART OF SCHEDULE

Appendices A through E inclusive and the CSA Standard shall form part of this Schedule.

15. DATE OF COMPLIANCE

Compliance with this Schedule shall occur prior to the date set out below for the degree of hazard:

| Degree of Hazard According to Selection Guide | Compliance Date |
|---|-----------------|
| Severe | January 1, 2001 |
| Moderate and Minor | January 1, 2002 |

APPENDIX “A”

AUTHORIZED FUNCTIONS LIST

| FUNCTION | Prof. Eng. With Tester License. | Licensed Master Plumber with Contractor & Tester License | Journeyman Plumber with Tester License. (see note below) | ApprenticePlumber with Tester License. (see note below) | Fire System Sprinkler Fitter with Tester License. | Lawn Irrigation System Installer with Tester License. |
|----------|---------------------------------|--|---|--|---|---|
| “A” | YES | YES | YES | NO | NO | NO |
| “B” | NO | YES | YES | YES | NO | NO |
| “C” | YES | YES | YES | YES | NO | NO |
| “D” | YES | YES | YES | YES | NO | NO |
| “E” | NO | NO | NO | NO | YES | NO |
| “F” | NO | NO | NO | NO | NO | YES |

NOTES TO APPENDIX “A”

FUNCTIONS:

“A” Carry out Cross Connection Survey.

“B” Install, Relocate or Replace Backflow Prevention Device.

“C” Repair of Backflow Prevention Device.

“D” Test Backflow Prevention Device.

“E” Items A, B, C, &D above in relation of Fire Protection System.

“F” Items B, C, &D above in respect of Lawn Sprinkler System.

* A Journeyman Plumber shall be employed by a Licensed Plumbing Contractor.

* An Apprentice Plumber shall be employed by a Licensed Plumbing Contractor and under the direct supervision of a Journeyman Plumber or Master Plumber.

PLEASE SEE APPENDIX "B" and "C" IN VAULT

APPENDIX "D"

BACKFLOW PREVENTION ASSEMBLY TAG

Date Installed:

Address:

Type of Assembly

BP DCVA PVB Air Gap Manufacturer: Size:

Model Number: Serial Number:

Location:

DO NOT REMOVE

APPENDIX “E”

Backflow Prevention Device Permit Fee: \$50.00 per device.

(Includes replacement, and new installation)

Approval Authority of Certified Testing \$25.00 per Tag.

Completion:

(Issuance of Test Tag, per device as described in Appendix “D” to this schedule.)