

NO: **R141**

COUNCIL DATE: **July 22, 2013**

REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **July 18, 2013**

FROM: **General Manager, Engineering**

FILE: **5600-15**

SUBJECT: **New Surrey Waterworks Cross Connection Control By-law**

RECOMMENDATION:

The Engineering Department recommends that Council:

1. Authorize the City Clerk to bring forward for the required readings the Surrey Waterworks Cross Connection Control By-law, 2013, No. 17988 (the "By-law"), a copy of which is attached as Appendix I to this report, which if adopted will replace the current Waterworks Cross Connection Control By-law; and
2. Authorize the City Clerk to bring forward for the required readings a by-law to amend Surrey Municipal Ticket Information Utilization By-law, 1994, No. 12508, as documented in Appendix II attached to this report, to support enforcement of the By-law.

INTENT

The purpose of this report is to obtain approval of a replacement Waterworks Cross Connection Control By-law, and approval of amendments to Municipal Ticket Information Utilization By-law, 1994, No. 12508 to support enforcement of the new By-law.

BACKGROUND

Objective of the Cross Connection Control Program (CCC Program)

The Cross Connection Control Program (the "Program") is a joint effort between the City and water consumers to protect the City's water system from contamination originating on private property. Contaminants may enter the City's water system through cross connections during a backflow event when the pressure in the City's water system is low or negative or by way of a malfunction of a private machine that is directly connected to the water system. Such low or negative pressure conditions exist when there is a water main breakage or extraordinary demand on the water system such as during a major fire fighting event. The risk posed by private plumbing systems to the City's water distribution system can be reduced through the installation, testing and maintenance of backflow preventers on connections to private properties.

In October 2005, Council endorsed Metro Vancouver's Drinking Water Management Plan, which recommended that each member municipality implement a Cross Connection Control Program. Shortly thereafter, the City enacted a Waterworks Cross Connection Control By-law, 2007, No. 16335 (the "current By-law") in order to effectively manage backflow prevention and cross connections in public and private water systems.

To support the current By-law, additional resources and effort were provided to the Program. Since then, the number of backflow preventers in Surrey has increased from approximately 3,000 to 8,500. The By-law requires that the owner of property in which a backflow preventer has been installed must test the backflow preventers annually to confirm that it is working properly and then submit documentation to the City that demonstrates that the appropriate testing has been completed and that the backflow preventer is functioning properly.

All potential or actual cross connections in new construction require the installation of a backflow preventer as stipulated in the British Columbia Building Code and the Surrey Waterworks Cross Connection Control By-law. The current By-law is administered by the Planning and Development Department and the Engineering Department.

DISCUSSION

Red Tape Reduction Initiative

The existing By-law requires that any backflow testing agency use a form supplied by the City to record the annual test result for every backflow preventer. Following the completion of the test, the testing agency is to submit the form to the City in person or by mail with a fee payment. The City then manually enters the results of the test in a database, processes the payment, and subsequently files the test form.

In an effort to reduce the effort (red tape) required by both the testing agency and the City, staff has developed an online test reporting system, which will be launched this Fall to allow the testing agencies to submit the results of any test and make the related fee payment online. This will save time and effort for the testers and for the City by eliminating the current manual processes.

To implement the online test reporting system, to clarify some of the responsibilities that are not well defined in the current By-law, and to address a number of other housekeeping matters, a replacement By-law has been developed.

The differences between the current By-law and the proposed By-law are summarized below and with more specific details highlighted in Appendix III attached to this report.

1. Refinements of the requirements for the installation of backflow preventers in new construction, retrofitting and existing facilities;
2. Clarification of the responsibilities of the consumer;
3. Requirements in relation to different types of hazards and remedies have been transferred from the By-law to the standards and specifications;
4. The certification requirement for testers is more specifically referenced;
5. Duplicate clauses in the By-law have been deleted and clauses in the By-law that are duplicated from other by-laws have been deleted; and

6. Other minor housekeeping amendments have been incorporated.

1. Refinements of the Requirements for the installation of Backflow Preventers in New Construction, Retrofitting and Existing Facilities

Under the proposed replacement By-law, all new and retrofitted facilities will be required to comply with the Building Code of British Columbia, the Waterworks Cross Connection Control By-law and the related Standards and Specifications. This will prevent backflow of contaminants from entering the water system both from within private property and from the City's water system.

The current Waterworks Cross Connection Control By-law requires the consumer to install a backflow preventer to isolate all existing cross connections within private property; however, some of the potential cross connections may have conformed to the applicable regulations in effect at the time they were installed and the piping would be either buried or covered in a ceiling or partitions. The identification of the cross connection will require a detailed inspection of the plumbing system within existing facilities, which would require significant resources. Also, the subsequent installation of backflow preventers would cause major disruption to the operation of the businesses, and would be very expensive. The City's water system can be protected from contamination originating from private property by the installation of backflow preventers on the main water service connection isolating the property from the City's water system.

As such, the replacement By-law deletes the requirement to install backflow preventers to isolate existing cross connections that were previously reviewed through the plumbing permit process. However, backflow preventers will need to be installed to isolate all service connections when existing buildings/structures undergo major renovations.

Water quality within private property and the installation of backflow preventers to isolate existing cross connections within private property are the responsibility of the consumer and are not proposed to be regulated under the proposed By-law.

2. Clarification of the Responsibilities of the Consumer

The Program is a joint effort between the City and the water consumer. It is critical that the water consumer recognize their responsibilities in cross connection control. A new part, Part 4, is included in the proposed By-law that outlines the responsibilities of the water consumer such as the requirement to install a pressure relief valve as part of the installation of a backflow preventer.

3. Requirements in relation to different types of hazards and remedies have been transferred from the By-law to a new Standards and Specifications document

A new Standards and Specifications document has been prepared that supports the proposed By-law. Some of the requirements, previously documented in the By-law, are better addressed through the Standards and Specifications document. For example, the provision of premise isolation for a construction site is now documented in the Standards and Specifications document rather than the By-law.

4. Specifying the Certification Requirements for Testers

The proposed replacement By-law explicitly states that all testers shall be certified by the British Columbia Water and Waste Association which is the only agency that has a recognized testing and certification program.

5. Deleting Duplicate Clauses in the By-law and Removing Clauses in the By-law that are Duplicated Within Other By-laws

The proposed By-law eliminates clauses that were duplicated within the current By-law or duplicated within other by-laws.

6. Other Housekeeping Amendments

Other minor housekeeping amendments have been proposed to provide further clarification, remove ambiguity, and simplify wording in the By-law. Some regrouping and renumbering of clauses has been incorporated in the proposed By-law.

Municipal Ticket Information Utilization By-law, 1994, No. 12508 (MTI By-law)

A number of housekeeping amendments are being recommended in relation to the MTI By-law to reflect the requirements and clause numbering in the proposed Waterworks Cross Connection Control By-law. The proposed amendments to MTI By-law are documented in Appendix II attached to this report.

Legal Services Review

This report and the proposed By-law have been reviewed by Legal Services.

SUSTAINABILITY CONSIDERATIONS

The City's Cross Connection Control Program will assist in achieving the objectives of the City's Sustainability Charter, more particularly, the following scope action items:

- EC3: Sustainable Infrastructure Maintenance and Replacement;
- EN8: Sustainable Engineering Standards & Practices; and
- EN16: Land, Water and Air Quality Management.

The Program supports Metro Vancouver's Drinking Water Management Plan by assisting to ensure the provision of clean, safe drinking water to Surrey residents.

CONCLUSION

Based on the above discussion, it is recommended that Council:

- Authorize the City Clerk to bring forward for the required readings the Surrey Waterworks Cross Connection Control By-law, 2013, No. 17988 (the “By-law”), a copy of which is attached as Appendix I to this report, which if adopted will replace the current Waterworks Cross Connection Control By-law; and
- Authorize the City Clerk to bring forward for the required readings a by-law to amend Surrey Municipal Ticket Information Utilization By-law, 1994, No. 12508, as documented in Appendix II attached to this report, to support enforcement of the By-law.

Vincent Lalonde, P.Eng.
General Manager, Engineering

VL/KKL/brb

- Appendix I - Proposed Surrey Waterworks Cross Connection Control By-law, 2013, No. 17988
Appendix II - Proposed Amendments to Municipal Ticket Information Utilization By-law, 1994, No. 12508
Appendix III - Waterworks Cross Connection Control By-law - Summary of Proposed Changes

APPENDIX I

Surrey Waterworks Cross Connection Control By-law, 2013, No. 17988

CITY OF SURREY



Surrey Waterworks Cross Connection Control By-law, 2013, No. 17988

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CITY OF SURREY
BY-LAW NO. 17988

A By-law to protect *water* supplied by the *City* from contamination
due to *cross connections*.

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PART 1 - CITATION

WHEREAS pursuant to its powers under the Community Charter, S.B.C. 2003, c. 26 the City of Surrey has established a self-liquidating utility for *water* distribution to supply *water* to the inhabitants of the *City* and adjacent localities;

AND WHEREAS provisions are required to protect the *water* from contamination resulting from *backflow* through *cross connections* within the *waterworks system* and within *real property* by the use of *backflow preventers*; and

AND WHEREAS it is desirable that *cross connections* be controlled by regulation.

THEREFORE the City Council of the City of Surrey in open meeting assembled enacts as follows:

1. This By-law shall be cited for all purposes as “Surrey Waterworks Cross Connection Control By-law, 2013, No. 17988”.

PART 2 - DEFINITIONS

2. In the construction and for the purposes of this By-law, unless the context otherwise requires, the following words and terms shall have the following meanings:

“ACCEPTABLE” means in accordance with the *standard* or as accepted by the *General Manager, Engineering*.

“AIR GAP” means an *acceptable* piping arrangement designed to be a *backflow preventer* and as defined by the *Plumbing Code*.

“AREA ISOLATION” means protection of the *waterworks* from *backflow* provided by the isolation of a water piping system or systems of a building, unit, area or parcel or within a *real property* where the *real property* has a greater degree of hazard than would be *acceptable* using existing or proposed *premise isolation* measures.

“BACKFLOW” means a flowing back or reversal of the normal direction of flow.

“BACKFLOW PREVENTER” means an *acceptable* device or method that is designed to prevent *backflow*.

“CERTIFIED TESTER” means a *person* who is certified to inspect and field test *backflow preventers* by an *acceptable person*.

"CITY" means the City of Surrey.

"CONSUMER" means any *person* who is the *owner*, or agent of the *owner*, of any premises to which *water* is supplied or made available from any of the *works* and shall include any *person* who is the occupier of such premises and any *person* who is a user of *water* supplied to any premises or by any *service* from the *works*.

“CROSS CONNECTION” means any actual or potential physical connection between the *waterworks system* or any *potable water system* connected to the *waterworks system* and any auxiliary water source or pipe, vessel, machine or other source that may contain a non-potable fluid or other contaminates, such that it is possible to enter the *waterworks system* or any *potable water system* due to *backflow*.

“CROSS CONNECTION SURVEY” means the process to determine if *cross connection* exists in consumer’s water system and recommend a method or *backflow preventer* to prevent *backflow*.

“FIRE HYDRANT USE BACKFLOW PREVENTER” means a *testable backflow prevention device* that is owned by the *City* and connected to the *waterworks* for permitted or operational short-term *water* usages at changing locations.

"GENERAL MANAGER, ENGINEERING" means the General Manager, Engineering for the *City* and shall include his or her duly appointed assistants and representatives.

"OWNER" means an owner of a *parcel of real property* including:

- (a) the registered owner of an estate in fee simple;
- (b) the tenant for life under a registered life estate;
- (c) the registered holder of the last registered agreement for sale; and
- (d) the holder or occupier of land held in the manner referred to in the definition of "Owner" in the Schedule to the Community Charter, S.B.C. 2003, c.26 as amended from time to time.

"PARCEL" means any lot, block, or other area in which *real property* is held or into which *real property* is subdivided.

"PERSON" shall, when necessary, mean and include natural persons of either sex, associations, corporations, bodies politic, co-partnerships whether acting by themselves or by a servant, agent, or employee and the heirs, executors, administrators and assigns or other legal representatives of such person to whom the context can apply according to law.

"PLUMBING CODE" means the Plumbing Services provisions of the British Columbia Building Code enacted pursuant to Section 692 of the Local Government Act, R.S.B.C., 1996, c.323 and as may be amended or replaced from time to time.

"POTABLE WATER" means any water safe for human consumption as defined by the British Columbia Drinking Water Protection Act, S.B.C. 2001, c.9 and Regulation and as may be amended or replaced from time to time.

"PREMISE ISOLATION" means the practice of protecting the *waterworks* from contamination due to *backflow* by the installation of one or more *backflow preventers* immediately downstream of the *service connection* on the connecting pipe conveying *water* on a *real property* and upstream of the first outlet or connecting *water pipe*.

"REAL PROPERTY" means land, with or without improvements so affixed to the land as to make them in fact and in law a part of it.

"REGISTERED AIR GAP" means an *air gap* that is identified by the *General Manager, Engineering* or by definition in the *standard*.

"SERVICE" means the supply of *water* from the *works* to any *person*, including all pipes, taps, valves, connections, meters and other appurtenances necessary to or actually used for the purpose of the supply.

"SERVICE CONNECTION" means the connecting pipe and appurtenances between any *water* main and the property line of the premises served and shall include the necessary *City* valves and meters.

"STANDARD" means the document issued by the *General Manager, Engineering* and titled 'City of Surrey Cross Connection Control Standards & Specifications' as may be amended or replaced from time to time.

"TEST REPORT" means the currently approved form owned by the *City* and issued by the *General Manager, Engineering* for the purpose of reporting the status, field test and inspection results, and other relevant information regarding a *testable backflow prevention device* or a *registered air gap*.

"TESTABLE BACKFLOW PREVENTION DEVICE" means a *backflow preventer* designed to be tested and repaired in line, fitted with properly located, tightly closing, resilient seated test cocks and tightly closing, resilient seated shutoff valves located at each end of the assembly.

"WATER" means water supplied by the *City*.

"WATERWORKS" or "WORKS" means the *waterworks system* of the *City* of Surrey.

"WATERWORKS SYSTEM" means all *waterworks* and all appurtenances thereto, including *water mains, service connections, pumping stations, wells, water storage facilitation and treatment plants, and owned, controlled, maintained and operated by the City or by agreement between the City and others.*

PART 3 – GENERAL PROVISIONS

3. The *General Manager, Engineering* may from time to time amend the *standard* in whole or in part and may without limiting the generality of the foregoing establish or amend policies and criteria.
4. Nothing in this By-law will relieve or exempt a *person* from the requirements of any other by-laws of the *City* or any other applicable laws, regulations or enactments.

Applicability of By-law

5. This By-law shall have reference and apply to all the *waterworks system* and any *real property* that:
 - (a) is provided with *service*;
 - (b) is under application for *service*; or
 - (c) has had *service* temporarily discontinued.

Role of the *General Manager, Engineering*

6. For the purposes of this By-law the *General Manager, Engineering* shall have charge and control of the *waterworks system* and the authorization to direct the implementation of measures to protect the *waterworks system* and existing systems supplied with *water* and those systems that have applied for *service* from contamination through *cross connections*.

City Not Liable

7. The *City* shall not be liable to any *person* for injury or damages, or for reduction or loss of *water* pressure which may result from:
 - (a) the installation of *backflow preventers*;
 - (b) the interruption of *water* pressure or supply within a *real property* or the interruption or discontinuance of *service* to a *real property*;

- (c) an omission to notify a *consumer* to correct an inadequately controlled *cross connection*; or
- (d) pressure fluctuation due to thermal expansion.

PART 4 - RESPONSIBILITIES OF THE CONSUMER

Consumer Responsible for Control of Cross Connection, Backflow Preventer

- 8. The *consumer* shall control every *cross connection* on a *real property* in an *acceptable* manner and shall maintain every *backflow preventer* in good working order.
- 9. When it becomes known or suspected that a *backflow preventer* is not in good working order, whether from inspection or field test results or other indications, the *consumer* shall arrange for the immediate repair or replacement of the *backflow preventer*.
- 10. The purchase, installation, operation, maintenance, field testing, field inspection, repair, installation, removal or replacement of a *backflow preventer* including the meter as part of the detector type *backflow preventer* and of *registered air gaps* shall be at the sole expense of the *consumer*.

Change of Use

- 11. The *consumer* shall notify the *General Manager, Engineering*, of any change of use of the premises, facilities, or alteration, addition or removal of any part of the private water distribution system, its appurtenance and fixtures. The *consumer* shall install, upgrade, replace or remove *backflow preventers* to control the changed *cross connections* in compliance with this By-law and the *standard*.

Testing and Test Report

- 12. The *consumer* shall be responsible to:
 - (a) retain a *Certified Tester* to carry out the field test of testable backflow prevention device and inspection of *registered air gaps*;
 - (b) ensure that the *Certified Tester* has submitted the *test report, acceptable* to the City, within the time specified in this By-law; and
 - (c) maintain all necessary records on *backflow preventers*, the *cross connections* they control, and copies of *test reports*.

Access for Inspection

- 13. In the event that the *General Manager, Engineering* has reason to believe that:

- (a) a condition exists within a *real property* that could be a danger to the public health or that may cause physical damage to the *waterworks* due to *backflow*, whether within the *real property* or through transmission by the *waterworks*; or
- (b) an incident involving *backflow* has occurred on a *real property* and that the results of such an incident could cause damage to the *waterworks* or pose a risk to the public health,

the *consumer* shall, at all hours, allow, suffer and permit the *General Manager, Engineering* to enter the *real property* to inspect all *backflow preventers*, piping, connections, fixtures and other apparatus to determine if such a condition exists or incident is occurring or has occurred.

- 14. The *General Manager, Engineering* may from time to time and with notice enter the *real property* at all reasonable hours for inspection of any and all existing *cross connections* and *backflow preventers* and any records thereof. The *consumer* shall make all reasonable accommodations for such an inspection under notice by the *General Manager, Engineering*.
- 15. For the purposes of inspection of this By-law, the *City Plumbing Inspector* or the *General Manager, Engineering* may cause the momentary interruption to either the *service* to the *real property* or the *water* pressure or supply to piping within the *real property*. The *consumer* shall make all reasonable accommodations to allow, suffer and permit these interruptions.

Rectification of Contraventions

- 16. Upon notice by the *City*, any condition found on a *real property* that is in contravention of this By-law, the *standard* or the *Plumbing Code* shall be rectified by the *consumer* to the acceptance of the *General Manager, Engineering*. All such rectifications shall be solely at the expense of the *consumer*. The *consumer* shall complete all rectifications within a time period specified by the *General Manager, Engineering*.

Backflow Notification

- 17. The *consumer* shall immediately notify the *General Manager, Engineering* if there is any reason to believe that *backflow* has or may have occurred on or from a *real property*, including any *backflow* in or from a private *water* distribution system, its appurtenance and fixtures, that are connected to the *City's waterworks system*.

Damages Resulting From Backflow

- 18. Any and all costs, damages or losses sustained by the *City* as a result of an incident involving *backflow* originating from a *real property* of a *consumer* shall be borne by the *consumer*, and the *consumer* shall indemnify and hold harmless the *City*, its agents, employees and officers from and against any and all claims, demands, losses, costs, damages, actions, suits or proceedings arising out of the *backflow*.

Thermal Expansion

19. The *consumer* is responsible for the installation of pressure or air release devices to prevent pressure fluctuation within the private *water* distribution system due to thermal expansion.

PART5 – PREVENTION OF CONTAMINATION OF POTABLE WATER FROM BACKFLOW

Control of Cross Connection

20. No *person* shall create a *cross connection* that is not controlled in an *acceptable* manner without the immediate installation of a *backflow preventer*.
21. Any *consumer* who is aware of a *cross connection* that is contaminating or has the potential to contaminate the *waterworks* system shall immediately give notice to the *General Manager, Engineering*.

Backflow Preventers, General

22. The selection, installation, removal, replacement, repair, maintenance, field testing and inspection of *backflow preventers* shall comply with this By-law, the *standard* and the *Plumbing Code* or be otherwise *acceptable* to the *General Manager, Engineering*.

Backflow Preventers Requirements, New Construction

23. *Backflow preventers* shall be installed on each of the domestic, fire and irrigation *service connections* for *premise isolation* and all on internal *cross connections* for any newly constructed facilities as mandated by the BC Building Code, CSA B64.10, this By-law and the *standard*.

Backflow Preventers Requirements, Retrofitting of Existing Facilities

24. *Backflow preventers* shall be installed on each of the domestic, fire and irrigation *service connections* for *premise isolation*, regardless of whether the *service connections* form part of the retrofitting, whenever improvements, alterations or replacements are made to a building on a *parcel* where the value of the construction of the improvement, alteration or replacement is equal to or exceeds \$400,000, including applicable taxes, as estimated by the Chief Building Inspector of the *City*, or whenever an additional service connection is requested. .
25. *Backflow preventers* shall be installed on each of the domestic, fire and irrigation *service connections* for *premise isolation* or *backflow preventers* shall be provided through *area isolation*,, regardless of whether the *service connections* form part of the retrofitting, whenever improvements, alterations or replacements are made to a building on a *parcel* where the value of the construction of the improvement, alteration or replacement exceeds \$10,000 but is less than \$400,000, including applicable taxes, as estimated by the Chief Building Inspector of the *City*.

26. *Backflow preventers* shall be installed on each of the domestic, fire and irrigation *service connections* for *premise isolation*, regardless of whether the *service connections* form part of the retrofitting, whenever a new *service connection* is installed or one or more of the existing *service connections* is upgraded. New *service* or upgraded *service* to a *real property* will be provided only when the *General Manager, Engineering* is satisfied that the *consumer* has installed *backflow preventers* to address the *premise isolation* requirements to all existing and new *service connections*.
27. *Backflow preventers* shall be installed to isolate internal *cross connections* where retrofitting is made to that portion of the plumbing system as part of the plumbing permit process.

Backflow Preventers Requirements, Existing Facilities

28. Cross Connection Surveys of existing facilities may be conducted by the *City* of existing institutional, commercial, industrial zoned, and multi-family residential properties.
29. The *consumer* shall be required to install *backflow preventers* for *premise isolation* of domestic, fire and irrigation *service connections* following the conduct of Cross Connection Survey. The *consumer* shall be required to install new *backflow preventers*, and correct deficiencies of existing *backflow preventers* for *premise isolation*, as described by the report of the Cross Connection Survey, within the time specified in the notice to the *consumer* from the *City*.
30. It is the sole responsibility of the *consumer* to install *backflow preventers* for internal isolation and to rectify *cross connections* or deficiencies whenever notified of a potential harmful circumstance that could represent a health threat to the *potable water* distribution system within a private property.

Cross Connections Without Plumbing Permits

31. The *City* may issue a notice to the *consumer* requesting a Cross Connection Survey be conducted by qualified *persons* acceptable to the *City*, or by a professional engineer, at the expense of the *consumer* upon receipt of report of deficiency to a *cross connection* that had not been inspected and passed as part of the plumbing permit process. The report of the Cross Connection Survey shall be completed and submitted to the *City* within ten days of receipt of the notice from the *City*. The *City* may shut down the *service* to the *real property* if the report is not submitted to the *City*.
32. The *consumer* shall be required to install new *backflow preventers* and correct any deficiencies to isolate all *cross connections* that are identified in the Cross Connection Survey and are not previously inspected by *City's* Plumbing Inspectors.

Backflow Preventers Requirements, Backflow Incident

33. The *General Manager, Engineering* may issue a notice to the *consumer* requesting a Cross Connection Survey be conducted by qualified *persons* acceptable to the *City*, or by a professional engineer, at the expense of the *consumer* following a *backflow* incident.

The *consumer* shall be required to install *backflow preventers* as *premise isolation* at all *service connections* and *cross connections* causing the *backflow* incident.

Removal of *Backflow Preventer*

34. Other than for the required replacement of a *testable backflow prevention device*, once installed, no *person* shall remove a backflow preventer from any *potable water* piping system without the prior written approval of a *City Plumbing Inspector*.

Damage to or Alteration of *Backflow Preventer*

35. No *person* shall damage, destroy, or otherwise render inoperative a *backflow preventer*. No *person* shall alter, modify, or otherwise retrofit a *backflow preventer* such that the *backflow preventer* no longer meets the requirements of the *Plumbing Code* or the *standard*.

PART 6 – DISCONTINUANCE OF A WATER SERVICE

Discontinuance of *Service*

36. In the event that the *General Manager, Engineering* has determined that there is an immediate threat to the public health or that the *waterworks* is at risk of contamination or damage due to a *cross connection* located on a *real property*, the *General Manager, Engineering* may immediately discontinue *service* to the *real property*.

Reconnection of *Service*

37. Prior to the reconnection of any *service* that had been shut off by order of the *General Manager, Engineering* due to a *cross connection* related incident, the *consumer* shall demonstrate to the *General Manager, Engineering* that:
- (a) all provisions of this By-law have been complied with; and
 - (b) all outstanding fees and penalties have been paid to the *City*.

PART 7 – BACKFLOW PREVENTER TESTING AND INSPECTION

Consumer to Commission Field Test of Testable Backflow Prevention Device

38. The *consumer* shall be responsible for the commissioning of any and all field tests performed on a testable backflow prevention device and inspections of *registered air gaps*. A field test shall be conducted by a *certified tester* on a *testable backflow prevention device* and a *test report* shall be submitted to the *General Manager, Engineering*:
- (a) within three (3) days after a *backflow* incident;

- (b) within fourteen (14) days of a new installation and prior to inspection by a *City* Plumbing Inspector or the *General Manager, Engineering*;
- (c) in the case of a *fire hydrant use backflow preventer*, annually, but shall not require a field test to be conducted upon installation;
- (d) within fourteen (14) days after a replacement of a *backflow preventer*;
- (e) within the time specified in a notice issued by the *City* that, for any reason, requires a testable backflow prevention device be tested;
- (f) annually or a more frequent periodic cycle as required by the *City* or as determined in the *standard*;
- (g) in the case of a double check valve assembly providing isolation for irrigation system of single family dwellings, upon installation, but shall not require a field test annually; and
- (h) upon notice by the *General Manager, Engineering*.

Consumer to Commission Inspection of Registered Air Gap

39. An inspection shall be conducted by a *certified tester* on a *registered air gap*:
- (a) within thirty (30) days of the issue date of a notice to the *consumer* issued by the *City* that, for any reason, requires a *registered air gap* to be inspected; and
 - (b) annually or more frequently if required by the *General Manager, Engineering* or as determined in the *standard*.

Eligibility of Certified Tester to Field Test, Inspect and Report

40. All *Certified Testers* shall possess a valid BCWWA Cross Connection Control Tester Certificate showing a certificate number and comply with the business licensing requirements as described in the Surrey Business License By-law, 1999, No. 13680.

Testable Backflow Prevention Device Field Testing

41. No *person*, other than a *Certified Tester*, shall conduct a field test to a *testable backflow prevention device* or inspection of the piping of *registered air gap*, complete or sign a *test report*.
42. A *test report* will not be accepted by the *City* if the *Certified Tester* is unable to provide proof, within a time specified by the *City*, that he or she is a BCWWA Cross Connection Control Tester and that the certificate has not expired prior to the date of conducting the field test.

Inspection, Field Testing and Reporting

43. Each *Certified Tester* shall:
- (a) conduct every field test of a testable backflow preventer device in accordance with the *standard*;
 - (b) accurately complete a *test report*, either on line or written test report in paper format, with all required information regarding the inspection and field test results of the *backflow preventer*, the *cross connection* it controls and all other information requirements indicated on the *test report*;
 - (c) where a *backflow preventer* passes the field test or inspection, complete, sign and affix the test passed tag on or adjacent to the *backflow preventer* and ensure that the completed and signed *test report* is submitted to the *City* within the time specified by the *City*;
 - (d) where a *backflow preventer* fails the field test or inspection and is not repaired successfully on the same day, immediately notify the *consumer* and notify, as described in the *standard*, the *General Manager, Engineering* of a failed testable backflow preventer device or *registered air gap* within three (3) business days of the initial field test or inspection date of the failing condition of the *backflow preventer*; and
 - (e) pay to the *City* the submission fee as stated in Surrey Plumbing By-law, 1981, No. 6569 for each *test report* submitted under this By-law.

Cross Connection Control Tags

44. The *City* may from time to time issue tags as described in the *standard* to be installed on or adjacent to *backflow preventers* or equipment supplied with *backflow preventers* for the purpose of acceptance, identification and other purposes.

False Information

45. No *person* shall make a false statement in a *test report* prepared pursuant to this By-law.

Interference

46. No *person* shall hinder a *Certified Tester* from complying with this By-law.

Rejection of *Test Report*

47. The *General Manager, Engineering* may reject any *test report* submitted to the *City* that:
- (a) contains false or misleading information;
 - (b) is completed and signed by a *person* other than a *Certified Tester*;

- (c) is incomplete;
 - (d) has not been submitted to the *City* within the time specified in this By-law or the *standard*;
 - (e) is received by the *City* 90 calendar days or more after the date the field test was conducted; or
 - (f) is not conducted in accordance to this By-law and the *standard*.
48. The rejection of a *test report* as described in this By-law shall invalidate the field test or inspection of the *backflow preventer* to which the field *test report* applies.

PART 8 – OFFENCES AND PENALTIES

Offences

49. Every *person* who violates any of the provisions of this By-law or who suffers or permits any act or thing to be done in contravention of any of the provisions of this By-law, or who neglects to do or refrains from doing anything required to be done by any of the provisions of this By-law, or who does any act, or who violates any of the provisions of this By-law, shall be deemed to be guilty of an infraction and liable to the penalties imposed in this By-law.

Penalties

50. Every *person* who violates any of the provisions of this By-law, or who suffers or permits any act or thing to be done in contravention of this By-law, or who refuses, omits, or neglects to fulfill, observe, carry out, or perform any duty or obligation imposed by this By-law is liable, on summary conviction, to a fine of not less than the sum of One Hundred Dollars (\$100.00), but not exceeding the sum of Ten Thousand Dollars (\$10,000.00).
51. Where there is an offence that continues for more than one day, separate fines may be issued for each day or part thereof in respect of which the offence occurs or continues.
52. Any *person* who contravenes any provision of this By-law is liable to the *City* for and must indemnify and hold harmless the *City*, its agents, employees and officers from and against any and all claims, demands, losses, costs, damages, actions, suits or proceedings resulting from the contravention. This does not in any way limit any other provision or any other remedy the *City* may have under this By-law or otherwise at law.
53. The *City* may enforce compliance with the stipulations within this By-law or non-payment of fines by:
- (a) refusing to accept *test reports* from a *person*; and/or
 - (b) refusing to accept the validity of *test reports* submitted by a *Certified Tester*; and/or

- (c) requiring the immediate installation of the appropriate *backflow preventers* on the *service connection* located on the *City* property at the expense of the *consumer*.
54. All costs incurred by the *City* pursuant to Sections 18, 52 and 53(c) of this By-law may be recovered by the *City* in the same manner as unpaid property taxes.
55. Nothing in this By-law limits the *City* from utilizing any other remedy that is otherwise available to the *City* at law.

PART 9 – EFFECTIVE DATE

56. This By-law shall come into effect on the 1st day of September, 2013.

PART 10 – SEVERABILITY

57. Each provision of this By-law is severable from each other provision, and, if any provision is determined to be void or unenforceable in whole or in part, this determination shall not be deemed to affect or impair the validity of any other provision, unless a Court determines otherwise.

PART 11 – REPEAL

58. Surrey Waterworks Cross Connection Control By-law, 2007, No. 16335 and amendments thereto are hereby repealed.

READ A FIRST TIME on the ____ day of _____, 20__.

READ A SECOND TIME on the ____ day of _____, 20__.

READ A THIRD TIME on the ____ day of _____, 20__.

RECONSIDERED AND FINALLY ADOPTED, signed by the Mayor and Clerk, and sealed with the Corporate Seal on the ____ day of _____, 20__.

MAYOR

CITY CLERK

APPENDIX II

Proposed Amendments to Municipal Ticket Information
Utilization By-law, 1994, No. 12508

APPENDIX II

Proposed Amendments to Surrey Municipal Ticket Information Utilization By-law, 1994, No. 12508, as amended (the "By-law")

That the By-law be further amended as follows:

1. By deleting existing Section 27 of Schedule 1 in its entirety and replacing it with a new Section 27 of Schedule 1, as follows:

SCHEDULE 27 OF SCHEDULE 1 to BY-LAW NO. 12508

27. Surrey Waterworks Cross Connection Control By-law, 2013 No. xxxxx.
 - Manager, Administration & By-law
 - Senior By-law Enforcement Officer
 - By-law Enforcement Officer
 - License Inspector
 - Member of Royal Canadian Mounted Police

2. By deleting existing Schedule 28 in its entirety and replacing it with a new Schedule 28 as follows:

SCHEDULE 28 to BY-LAW NO. 12508

SURREY WATERWORKS CROSS CONNECTION CONTROL BY-LAW, 2013, NO. 17988

	<u>SECTION</u>	<u>FINE</u>
1. Fail to control cross connection	8	\$300.00
2. Fail to maintain backflow preventer	8	\$300.00
3. Fail to repair backflow preventer	9	\$300.00
4. Fail to provide access	13	\$500.00
5. Fail to provide access	14	\$500.00
6. Fail to rectify contravention	16	\$300.00
7. Fail to install backflow preventer	20	\$300.00
8. Removal of backflow preventer	34	\$500.00
9. Alter/damage backflow preventer	35	\$300.00
10. Fail to test backflow preventer	38	\$200.00

SURREY WATERWORKS CROSS CONNECTION
CONTROL BY-LAW, 2013, NO. 17988

	<u>SECTION</u>	<u>FINE</u>
11. Unauthorized test report	41	\$200.00
12. Tester not eligible	42	\$300.00
13. Fail to conduct test correctly	43(a)	\$200.00
14. Fail to complete report correctly	43(b)	\$200.00
15. Fail to report correctly	43(c)	\$200.00
16. Fail to submit report	43(c)	\$500.00
17. Fail to notify of failed backflow preventer	43(d)	\$500.00
18. Falsify test report	45	\$1,000.00
19. Hinder tester	46	\$500.00
Fail to notify change of use	11	\$300.00
Fail to notify backflow	17	\$300.00
Fail to notify cross connection	21	\$300.00
Fail to install backflow preventers	23	\$300.00
Fail to install backflow preventers	24	\$300.00
Fail to install backflow preventers	25	\$300.00
Fail to install backflow preventers	26	\$300.00
Fail to install backflow preventers	27	300.00

APPENDIX III

Waterworks Cross Connection Control By-law - Summary of Changes

APPENDIX III

Waterworks Cross Connection Control By-law Summary of Changes

2013 By-law	2007 By-law	Proposed Change	Reasons for Change
Policy Defining the Requirement for Backflow Preventer for New Construction, Retrofitting and Existing Facilities			
Clause 20, Control of Cross Connections.	Clause 7	<ul style="list-style-type: none"> • Remove 'or allow the continuance of • Delete 'to adequately eliminate the possibility of backflow from the cross connection'. 	<ul style="list-style-type: none"> • Existing cross connections within private property are the responsibility of the Consumer and would not be regulated under this By-law. • Delete phrase to reflect that backflow would not be eliminated, but only be minimized.
Clause 23, Backflow Preventers Requirements, New Facilities	N/A	New clause	Specify requirement for premise isolation and internal isolation of all cross connections for new facilities.
Clause 24, Backflow Preventers Requirements, Retrofitting of Existing Facilities	Clauses 10 & 11	Clause re-written	Specify requirement for premise isolation at all proposed and existing service connections when the value of retrofitting works exceeds \$400,000.
Clause 25, Backflow Preventers Requirements, Retrofitting of Existing Facilities		New clause	Specify requirement for premise isolation at all proposed and existing service connections when the value of retrofitting works exceeds \$10,000 but is less than \$400,000.
Clause 26, Backflow Preventers Requirements, Retrofitting of Existing Facilities		New clause	Specify requirement for premise isolation at all proposed and existing service connections when one or more of the existing service connections is upgraded or new service connection is required.
Clause 27, Backflow Preventers Requirements, Retrofitting of Existing Facilities		New clause	Specify requirement for internal isolation of retrofitting works.
Clause 28, 29, 30, Backflow Preventers Requirements, Existing Facilities	Clauses 10 & 11	Clause re-written	Specify requirements for premise isolation of existing facilities: <ul style="list-style-type: none"> • City to conduct cross connection survey; • Consumer to install backflow preventers providing premise isolation of all existing service connections.
Clauses 31 & 32, Cross Connections Without Plumbing Permits		New clause	Specify requirement for backflow preventers providing isolations for cross connections that have not been previously reviewed by City.

2013 By-law	2007 By-law	Proposed Change	Reasons for Change
Clause 33, Backflow Preventers Requirements, Backflow Incident		New clause	Specify requirement for backflow preventers after a backflow incident occurs.

Clarifying the Responsibilities of the Public/Owner/Consumer			
Create new Part 4: Responsibilities of the Public /Owner /Consumer	No separate Part	New Part 4	Identify the role of the consumer.
Clauses 8, 9, & 10 Responsibilities of Consumer	Clauses 17, 18 & 19	<ul style="list-style-type: none"> Grouped under Part 4 Replace 'in an acceptable manner' by 'as required in C.C. Building Code , this By-law, and Standards and Specifications' Add 'purchase, operation' and 'and registered air gaps'. 	<ul style="list-style-type: none"> Housekeeping; Clarify the requirement of backflow preventers; Clarify the consumer is responsible for the expense of purchasing and operation.
Clause 11, Change of Use		New clause	Specify requirement of backflow preventer when there is change of use of facility.
Clause 12, Testing and Test Report		New clause	Clarify the responsibilities of the Consumer on testing and submission of test report.
Clauses 13, 14 & 15, Access for Inspection, is re-numbered and grouped under Part 4	Clauses 21, 22 & 23	Clause re-numbered	Housekeeping.
Clause 16, Rectification of Contraventions,	Clause 25	Clause grouped under Part 4 and re-numbered	Housekeeping.
Clause 17, Backflow Notification		New clause	Ensure that the City is notified and takes appropriate actions to install backflow preventers and flushing of private and City distribution system.
Clause 18, Damages Resulting from Backflow	Clause 26	Grouped under Part 4 and re-numbered	Housekeeping.
Clause 19, Thermal Expansion		New clause	Clarify consumer's responsibilities to install device to mitigate pressure fluctuation due to thermal expansion.

Transferring Requirements from By-law to Standards and Specifications			
	Clause 12, Premise Isolation	Delete	Requirements for backflow preventers for premise isolation for construction site and vacant property are addressed in Standard.
	Clause 37, Removal of Passed Test/ Inspection Tag	The clause is deleted.	Regulation to restrict personnel to attach, remove or alter tags is not required.

2013 By-law	2007 By-law	Proposed Change	Reasons for Change
	Clauses 29 & 30, Identification of Backflow Preventer	Delete	The requirement regarding identification of backflow preventers is addressed in Standard.
Clause 44, Cross Connection Control Tags.	Clause 38	Clause re-numbered	Housekeeping.

Specifying the Certification Requirement of Testers			
Clause 40, Eligibility of Certified Tester to Field Test, Inspect and Report	Clauses 40, 41 & 42	<ul style="list-style-type: none"> • Clause re-written • Testers shall be certified by BCWWA • Testing companies shall have a Surrey business licence. 	<ul style="list-style-type: none"> • Delete redundant Clause 40; • Clearly specify tester certification requirement; • Business licence requirement shall follow Business Licence By-law, and delete quoting of the Business Licence By-law.

Deleting Duplicating Clauses in this By-law, and Duplication with Other By-laws			
	Clause 13, Premise Isolation	Delete	The discontinuance of a water service, including that of construction site or vacant property, is addressed in Clause 36.
	Clause 14, Connection to the Waterworks	Delete	There is a similar clause in Waterworks By-law (Clause 22).
	Clauses 15 & 16, Real Property Inspection for New Service	Delete	The requirement of backflow preventer for new service application is provided in Clauses 11, 23 & 26.
Clause 34, Removal of Backflow Prevention Assembly	Clause 20	Delete second sentence	Plumbing permit application is described in Standards and Specifications.
	Clause 34, Backflow Preventer Assembly Field Testing	Delete	Included in Clause 10.
	Clause 35, Backflow Preventer Assembly Field Testing	Delete	Included in Clause 41.
Clause 43, Inspection, Field Testing and Reporting	Clause 44	<ul style="list-style-type: none"> • Sub-clauses b, d & e deleted. 	<ul style="list-style-type: none"> • Existing sub-clause 44 (b) is deleted because it is included in proposed sub-clause 43 (d); • Existing sub-clause 44 (d) is not required because the tester is not an auditor or inspector of the backflow preventer installation; • Existing sub-clause 44 (e) is deleted because it is included in proposed sub-clause 43 (c); • 30 days, instead of 14 days, is allowed for the submission of the test report.

2013 By-law	2007 By-law	Proposed Change	Reasons for Change
Other Housekeeping Amendments			
Clause 7, City Not Liable	Clause 31	<ul style="list-style-type: none"> • Relocated under General Provision • Add sentence to limit liability of City due to pressure fluctuation 	<ul style="list-style-type: none"> • Clause relocated to match Water By-law; • Adding backflow preventer would cause pressure fluctuation due to thermal expansion which may result in damage to water fixtures.
Clause 21, Control of Cross Connection	Clause 8	Clause re-written and clarified as to who is responsible for notification to the City	The Consumer has obligation, under the By-law, to report any violation. Public, including the tester, is not regulated to report under the By-law.
Clause 22, Backflow Preventers, General	Clause 9	Clause re-numbered	Housekeeping.
Clause 35, Damage to or Alteration of Backflow Preventer	Clause 28	Clause re-numbered	Housekeeping.
Clauses 36 & 37, Discontinuance of a Water Service	Clauses 24 & 27	Clauses grouped under Part 6 and re-numbered	Housekeeping.
Clause 38, Consumer to Commission Field Test of Backflow Prevention Assembly	Clause 32	<ul style="list-style-type: none"> • Require test report to be submitted • Amend permissible days for report submission 	<ul style="list-style-type: none"> • Clarification. • Clarify the permissible days.
Clause 39, Consumer to Commission Inspection of Registered Air Gap	Clause 33	Clause re-numbered	Housekeeping.
Clauses 41 & 42, Testable Backflow Prevention Device Field Testing	Clause 36	<ul style="list-style-type: none"> • Clause to include the inspection of registered air gap • Tester is required to provide proof of certification and validity date. 	<ul style="list-style-type: none"> • Registered air gap inspection requires certified tester. • Clarify tester's certification requirements.
	Clause 39, Cross Connection Control Tags	Delete	Regulation to restrict personnel to attach, remove or alter tags is not required.
	Clause 43, Conduct of Certified Tester	Delete	Definition of acceptable conduct is not provided and the requirement is vague.
Clause 45, False Information, and Clause 46, Interference	Clause 45 & 46 respectively	Clause re-numbered	Housekeeping.
Clauses 47 & 48, Rejection of Test Report	Clause 47 Clause 48	Delete reference to clauses	Clarify test report to be signed by a Certified Tester.
OFFENCES & PENALTIES Clauses 49 to 57	Clauses 49 to 58	Clause re-numbered	Housekeeping.
Clause 53 (a)	Clause 53 (a)	Delete revoking the City business licence and issue of test report	Penalty such as municipal ticket or termination of water service is a sufficient penalty.